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March 12, 2002
Project No. J076-22-01

**Prepared For:**

City of Springfield
Planning Department
City Hall, 33 Court Street
Springfield, Massachusetts

Attention: Ms. Katie Galuzzo

# Environmental Site Assessment

Indian Orchard Brownfield Project
Former Chapman Valve Site
Springfield, Massachusetts

**Prepared By:**

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J076-22-01
March 12, 2002

City of Springfield
Planning Department
City Hall, 33 Court Street
Springfield, Massachusetts 01103

Attn.: Ms. Katie Galuzzo

Re: Environmental Site Assessment
Indian Orchard Brownfield Project
Former Chapman Valve Site
Springfield, Massachusetts

Dear Ms. Galuzzo:

Attached is the Environmental Site Assessment report for the Indian Orchard Brownfield Project located on Goodwin and Pinevale Streets in Springfield, Massachusetts. The site assessment addressed two properties which were formerly part of the Crane Company (previously known as Chapman Valve) factory site. These parcels consist of the former Steel Foundry located at 225 Goodwin Street (referred to as the Goodwin Street property), and a former shipping and receiving building located at 121 Pinevale Street (referred to as the Pinevale Street property). Both properties are presently owned by the City of Springfield. This report was prepared in accordance with our proposal dated February 14, 2000, and an addendum to the proposal dated June 2, 2000.

We hope this report satisfies your current needs. If you have any questions, please do not hesitate to call.

Very truly yours,
O'Reilly, Talbot & Okun Associates, Inc.

Michael J. Talbot, LSP
Principal

James Gagnon, LSP
Sr. Environmental Specialist

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## 1.0 INTRODUCTION

This report presents the results of an Environmental Site Assessment conducted for the Indian Orchard Brownfield (IOBF) site. The site is located in the Indian Orchard section of Springfield, Massachusetts. The IOBF site consist of two properties which were part of the former Crane Company Manufacturing Complex, the former Steel Foundry Site (located at 225 Goodwin Street), and a former shipping and receiving building (located at 121 Pinevale Street). Both properties are presently owned by the city of Springfield.

The site assessment included a review of historic and of regulatory file information for the site, a limited subsurface investigation, and an evaluation of the site buildings for the presence of asbestos containing materials and other hazardous materials. This report was prepared in accordance with the scope of work in our proposal dated February 14, 2000 and an addendum dated June 2, 2000. This report is subject to the limitations in Appendix A.

### 1.1 STUDY ACTIVITIES

The following tasks were undertaken as part of this study:

- preparation of a Quality Assurance Project Plan (QAPP) according to United States Environmental Protection Agency Guidelines;
- a review of site history;
- a reconnaissance of exterior areas of the site;
- a reconnaissance of interior portions of the steel foundry building and the Pinevale Street building;
- a review of Environmental Data Resources, Inc. report for the site, which contained a search of federal and state regulatory agency databases and files;
- conversations with local agency officials and review of public files;
- review of subsurface explorations and testing previously performed by others;
- subsurface explorations and testing of soil and groundwater;
- collection of dust samples from building interiors for metals analysis;
- preparation of this report.

The results of asbestos and interior dust sampling will be presented under a separate cover.

### 1.2 INFORMATION SOURCES

Information reviewed included:

1. Building plans provided by Crane Company personnel;
2. Environmental data base search for the site completed by Environmental Data Resources, Inc.;

3. Conversations with of local agency officials and review of public files;

4. "Technical Report for 225 Goodwin Street, Indian Orchard, MA", prepared for American Dream Modular Homes, Inc., prepared by Corporate Environmental Advisors, Incorporated, 453 Center Street, Ludlow, MA 01056 and dated February 9, 1989.

5. "Phase II Comprehensive Site Assessment Conducted at Crane Co. Indian Orchard Facility, Pinevale, Goodwin, and Moxon Streets, Indian Orchard, Springfield, MA", prepared for Crane Company, prepared by Con-Test, Inc., East Longmeadow, MA and dated January 9, 1991.

6. "Phase II - Comprehensive Site Assessment, Foundry Waste Disposal Area, Volume 1, DEP Site #1-607, Waiver Submittal, prepared for Crane Company, Springfield Massachusetts", prepared by Con-Test, Inc., 39 Spruce Street, East Longmeadow, MA and dated March 3, 1992.

7. "Phase II - Comprehensive Site Assessment, Foundry Waste Disposal Area, Volume 2, DEP Site #1-607", prepared for Crane Company, Springfield, MA, prepared by Con-Test, Inc., 39 Spruce Street, East Longmeadow, MA and dated March 3, 1992.

8. "Supplemental Site Investigation to the Phase II-Comprehensive Site Assessment; Radiological Survey of the Foundry Waste Disposal Area at Indian Orchard", prepared for Crane Company, Oak Street, Springfield, MA, prepared by Con-Test and dated February 2, 1993.

9. "Report, Preliminary Response Actions at Former American Dream Modular Homes, 225 Goodwin Street, Springfield, Massachusetts, Site #1-0616", prepared for Crane Company, Stamford, CT, prepared by Con-Test, Inc. 39 Spruce Street, East Longmeadow, MA 01028 and dated August 5, 1994.

10. "Licensed Site Professional Opinion, former American Dream Modular Homes, Former Crane Company Steel Foundry, Former Chapman Valve Mfg. Company, Former Department of Defense Facility, 225 Goodwin Street, Springfield, MA, Non-Priority Confirmed Transition Site No. 1-0616", prepared for Crane Company, Stamford CT., prepared by ATC Environmental Inc., 39 Spruce Street, East Longmeadow, MA 01028 and dated 31 July 1996.

11. "Immediate Response Action Completion Report, Former American Dream Modular Homes, 225 Goodwin Street, Springfield, Massachusetts, Tier II Site No.1-0616", prepared for Crane Co., Stamford, CT., prepared by ATC Associates, Inc. and dated December 22, 1997.

12. "Phase II Comprehensive Site Assessment Addendum Volume I, Crane Co. Manufacturing Facility, Pinevale, Goodwin, and Moxon Streets, Indian Orchard, Springfield, Massachusetts", prepared for Crane Co., Stamford, CT., prepared by ATC Associates, Inc. 39 Spruce Street, East Longmeadow, MA 01028 and dated 20 May 1998

13. "Phase II Comprehensive Site Assessment Addendum Volume II, Risk Assessment Report, Crane Co. Manufacturing Facility, Pinevale, Goodwin, and Moxon Streets, Indian Orchard, Springfield, Massachusetts", prepared for Crane Co., Stamford, CT., Prepared by ATC Associates, Inc., 39 Spruce Street, East Longmeadow, MA 01028 and dated 20 May 1998
14. "Phase I Environmental Site Assessment of Former American Dream Modular Homes, 225 Goodwin Street, Springfield, MA 01151", prepared for Pioneer Valley Planning Commission, prepared by Matthew Lloyd, Environmental Sciences Program Students, University of Massachusetts, Amherst, MA 01103 and dated April 28, 1999.
15. "Draft Site Inspection Report for Crane Company (Former), Springfield Massachusetts, CERCLIS NO. MAD985279421, Site Inspection, Response Action Contract (RAC), Region I", prepared for Environmental Protection Agency, Region 1, prepared by Tetra Tech NUS, Inc., 55 Jonspin Road, Wilmington, MA 01887 and dated December 1999.

## 2.0 GENERAL SITE INFORMATION

### 2.1 SITE VICINITY INFORMATION

The relative locations of the sites are shown on Figure 2. The site vicinity contains a mixture of residential and light industrial development, consisting of single and multi-family housing, with some light industrial activities. The two properties are not contiguous, but are located within 1,000 feet of each other. Undeveloped portions of the former Chapman Valve/Crane Company manufacturing complex separate the two properties.

The Goodwin Street property (former steel foundry site) abutters consist of:

- The Truss Engineering Corporation to the east;
- Goodwin Street followed by vacant land which was formerly part of the Chapman Valve manufacturing facility to the north;
- Residential properties to the west; and
- The former Chapman Valve casting sand landfill to the south.

The Pinevale Street property abutters consist of:

- Undeveloped portions of the former Chapman Valve manufacturing complex to the east and south;
- Pinevale Street followed by residential properties to the west; and
- The "OK" Pet Supply Company to the north.

Both properties are serviced by public water, sewer, electricity and natural gas. Inactive railroad spurs, for which most of the rails and ties have been removed, are located on both parcels.

## 2.2 TOPOGRAPHY AND DRAINAGE

### 2.2.1 Goodwin Street Property

The Goodwin Street property is situated at between elevation 210 and 220 feet above mean sea level. Regional topography slopes gently upward towards the north, with the site and immediate vicinity showing relatively little relief. Locally, the ground elevation slopes gently away from the site building on the west and south sides, then rises more quickly near the property line to the west and in the landfill area to the south.

The facility is located in the Chicopee River drainage basin and is characterized by Zone X of the Flood Insurance Rate Map (as an area outside of the 500 year flood plain). Regional groundwater flow direction is expected to be to the north and northwest towards the Chicopee River, located approximately 3,500 feet north of the site. Run-off from paved areas drains toward on-site storm water catch basins, while precipitation in unpaved areas likely infiltrates into the ground. Given the granular nature of site soils, we would anticipate significant infiltration in unpaved areas. No surface waters or wetlands are located at the site. The nearest surface water and wetlands are approximately 1,500 feet south east of the site at Dimmock Pond. This pond is likely located upgradient of the site.

### 2.2.2 Pinevale Street Property

The Pinevale Street property is situated at an elevation of approximately 210 feet above mean seal level. There appears to be approximately 8 feet of topographic relief across the site, since the eastern edge of the site building is at grade, and the western edge of the site building is approximately 8 feet above Pinevale Street.

The site is located in the Chicopee River drainage basin and is characterized by Zone X of the Flood Insurance Rate Map, as an area outside of the 500 year flood plain. Regional groundwater flow direction is expected to be to the north and northwest towards the Chicopee River located approximately 1,500 feet north of the site. Run-off from the building roof likely enters storm drains in Pinevale street or drains to the vacant land to the east and south. No surface waters or wetlands are located at the site. The nearest surface water is the Chicopee River, while the nearest wetlands are present in association with Long Pond, approximately 1,500 feet west of the site.

## 2.3 PROPERTY DESCRIPTIONS

### 2.3.1 Goodwin Street Property

The Goodwin Street property is the former steel foundry site at 225 Goodwin Street. The foundry site is an 11.9 acre parcel containing a 141,000 square foot, generally rectangular, industrial building. The site is industrial zoned land and is located within a mixed industrial/commercial/residential zoned section of Springfield. Site coordinates are 42° 09' 07" north latitude by 72° 29' 57" west longitude. Universal Transverse Mercator (UTM) coordinates are 4,669,460 meters north by 706640 meters east.

The site building includes a single story manufacturing area and a small two story office area. The manufacturing portion of the building is a large open space with high ceilings and a concrete slab on grade. At least two small basements are located in the south east and southwest corners of the manufacturing area. The building is of steel frame construction. Most of the exterior walls are constructed of transite board. The roof has multiple levels and is constructed with an asphalt membrane.

The land around the site building is generally overgrown with brush and small trees. An abandoned railroad siding is present on the east and west sides of the building. The railroad tracks have been removed, however the stone ballast is still present. Significant quantities of construction debris, electrical equipment, miscellaneous manufacturing equipment, miscellaneous trash, and concrete rubble are located around the building exterior.

### 2.3.2 Pinevale Street Property

The Pinevale Street property is a former manufacturing building located on the east side of Pinevale Street. The building is approximately 55,000 square feet in area and is nearly rectangular, with approximate dimensions of 150 feet by 370 feet. The building covers essentially all of the land associated with the site. Most of the building consists of a single room with high ceilings with no basement. Separate rooms are located along the northern and the eastern edge of the building. A small mezzanine is located in the southwest portion of the building. The building is constructed of various materials. Most of the building is wood framed construction with either wood or concrete floorslabs. A one story, concrete block addition is located along the eastern edge of the building. In general, the southern part of the building has wood floors with a crawl space below. The northern part of the building has a concrete slab on grade. An abandoned railroad spur is located on the west side of the property.

## 2.4 SITE HISTORY

This section provides and overview of site history information. Information sources used to develop this section included records available at the city of Springfield Assessors office, street directories available at the Connecticut Valley Historical Museum, plans

provided by the Crane Company, and Sanborn Insurance Maps dated 1911, 1931, 1950 and 1970.

### 2.4.1 Overview of Chapman Valve Operations

This section presents an overview of site history information. Both of the subject properties were once part of the Chapman Valve (Crane Company) manufacturing facility. Chapman Valve operated a fully integrated mill involved in the manufacture of iron, brass and steel valves, manifolds, hydrants and miscellaneous parts associated with water supply, treatment and transportation. Specialty valves and associated parts (such as ship valves) were also manufactured for the U. S. Military and for the electrical power industry (such as large valves for hydroelectric power stations). In general, Chapman Valve operations involved the melting of metal ingots, the casting of parts in sand molds, machining and assembly. Associated manufacturing operations such as the design, testing and inspection were also performed at the facility.

The Chapman Valve manufacturing complex began operations in Indian Orchard beginning in approximately 1880. A Sanborn Map from 1911 shows the Chapman Valve Manufacturing Company located between East Street (later Moxon Street) and Pine Street (later Pinevale Street). When fully operating, the Chapman Valve manufacturing complex included three separate parcels, the main manufacturing facility (which is not part of this study) located on Pinevale Street covering approximately 16 acres, the foundry facility located on Goodwin Street covering approximately 12 acres, and a 22 acre landfill (which is not part of this study) located south of the foundry site. Figure 1 presents a locus map of the area. Figure 2 presents a plan of the three parcels formerly operated by Chapman Valve.

The Crane Company purchased the operations from Chapman Valve in the early 1950s and operated until the early 1980s, when all manufacturing operations at the site ended. The complex was mostly vacant and inactive throughout the remainder of the 1980s and the 1990s. In 1997 and 1998, the Crane Company demolished the former industrial buildings on the main portion of the manufacturing facility. As of the time of this study, the Crane Company still owns the main manufacturing property.

A Chapman Valve Manufacturing Company plan from 1953 shows both the Goodwin Street and Pinevale Street sites. The Goodwin Street building is labeled as being the steel foundry. The 121 Pinevale Street building is labeled as being occupied by the Mansfield Paper Company.

### 2.4.2 Goodwin Street Property

Historic maps and assessors records indicate that the subject property was undeveloped until 1942, when the Department of Defense built the foundry for the production of steel valves. The facility was apparently operated by Chapman Valve during World War II under contract with the U. S. Navy. In 1947, Chapman Valve purchased the property

from the Department of Defense and continued to produce steel valves. The property ownership changed in the 1950s when the entire Chapman Valve operation was sold to the Crane Company. Chapman Valve/Crane operations apparently consisted of the production of sand molds the casting of steel parts. A small X-ray inspection lab was also present in the northeast corner of the foundry building.

Crane continued the production of steel valves until 1983 when the facility was closed. In 1983, the Goodwin Street property was sold to the Oak Hill Industrial Realty Trust, which owned the property until 1985 but apparently did not perform any activities on the site. In 1985, the site was purchased by Stephen Gray and operated by American Dream Modular Homes for the manufacture of modular homes. During this period, manufacturing operations in the building apparently consisted of woodworking, painting and the fabrication of modular homes. American Dream Homes reportedly operated in the site building until 1989, when it ceased operations and declared bankruptcy. For a short period of time after American Dream Homes ceased operations, a second company owned by Mr. Gray operated a recycling business on the site. Much of the debris and trash in the site building reportedly dates from this period. On December 1, 1992, Country Bank for Savings foreclosed on the property and in turn sold it to the TJF Realty Corporation. On December 16, 1997 the City of Springfield foreclosed on the property for non payment of taxes. Reportedly, the TJF Realty Corporation did not perform any activities on the site during its ownership. Since 1997 the site has been vacant.

### 2.4.3 Pinevale Street Property

This building appears to have been constructed by Chapman Valve in the 1880s. The site was apparently owned by Chapman Valve/Crane from the 1880s until 1966, when it was sold to the Mansfield Paper Company. As was discussed above, a 1955 Chapman Valve facility plan indicated that the Pinevale site building was occupied by the Mansfield Paper Company, indicating that the building may have been leased by Chapman Valve/Crane prior to sale.

Historic Sanborn Maps indicate that manufacturing operations conducted in this building consisted of the assembly, packaging and shipping of valves. Chapman Valve/Crane site operations likely included, light machining, woodworking for the construction of shipping containers and painting. Little is known regarding the Mansfield Paper operations at the site.

The site building was shown on each of the Sanborn Maps reviewed. The Sanborn Map for 1911 shows the subject building as part of the Chapman Valve Manufacturing Company and designates the building as an "erecting shop". The Sanborn Maps for 1931, 1950 and 1970 designate the building as "Assembling, Storage & Shipping". On the 1955 Chapman Valve plan, the Pinevale site building was referred to as Department 14. Sanborn maps and the 1955 Chapman Valve drawing also indicate the nature of other Chapman Valve/Crane operations abutting the property. These include a machine shop

(Department 48) to the east, the facility maintenance shop to the southeast, a machine shop (Department 39) to the south. An additional Chapman Valve factory building (referred to only as Department 50) was located to the north.

According to records in the Springfield Assessors office, the Pinevale site building was sold by the Crane Company to the Mansfield Paper Company in 1966. In turn Mansfield Paper sold the building to C&J Industries in April 1983. During the period when C&J Industries owned the site, two commercial businesses occupied portions of the property. A1 Recycling occupied the southern part of the site building for its recycling operations. A small discount retailer, the Crafters Outlet, was apparently located in the northwest portion of the building during this period. In September 1987, the Park West Bank took possession of the property. In turn, the City of Springfield foreclosed on the building in 1990, for the non payment of taxes.

## 3.0 REGULATORY INFORMATION

This section provides an overview of local and state regulatory file review information for the subject sites. We contacted local officials and reviewed selected state and local file information available at the Massachusetts Department of Environmental Protection Western Region Office in Springfield, Massachusetts. In addition, we reviewed underground storage tank (UST) records at the Springfield Fire Department and contacted officials at the Springfield Board of Health. Information gathered in these reviews is discussed below.

### 3.1 LOCAL INFORMATION

We reviewed records available at the Springfield Fire Department in regard to underground storage tank (UST) file information for the site and vicinity. Fire Department files contained no information regarding underground storage tanks on the sites.

We contacted Ms. Pat Cignoli, the director of the Springfield Health, regarding environmental concerns at the site. Ms. Cignolil indicated that both properties are served by public water, gas, and sewer, and that she knew of no public or private water supply wells within 500 feet of the site. She also indicated that the site area does not lie within a water supply protection district. Ms. Cignoli knew of no environmental or public health related concerns at the property.

### 3.2 STATE FILE INFORMATION

Ms. Debra Morrow and Mr. Michael J. Talbot of O'Reilly, Talbot & Okun Associates, Inc. (OTO) performed a review of information sources available at the Western Region Office of the Department of Environmental Protection (DEP) in Springfield, Massachusetts on several occasions. Table 1 provides a summary of the various available sources along with the minimum search distances used. Information obtained is discussed

below. Various other sites were identified on state lists within the ASTM search distances, however, due to the nature and locations of the sites, none are likely to impact the subject site.

This section provides an overview of a search of federal and state regulatory agency databases and files contained in the Environmental Data Resources, Inc. (EDR) report for the site. A copy of the EDR report is attached in Appendix B.

No sites on the following federal and state databases were identified within the applicable ASTM Standard Practice for Environmental Site Assessments, E 1527-00 distances: NPL, delisted NPL, DERC-NFRAP, RCRIS-TSD, RCRIS-LQG, RCRIS-SQG, ENRS, UST, CONSENT, ROD, FINDS, HMIRSM MLTSM MINES, NPL lien, PADS, RAATS, TRIS, TSCA, AST, MA spills, release, COAL GAS.

The BWSC GIS map indicates that the sites are not within:

- a mapped potentially productive aquifer,
- an interim well ahead protection area, or
- a mapped zone II of a public water supply well.

Based on this information, and that obtained from local sources, it is our opinion that the groundwater reporting classification for the sites would be RCGW-2 under Section 40.0362 of the Massachusetts Contingency Plan. The soil reporting category would likely be RCS-1 due to residential property within 500 feet of both the sites.

DEP files concerning the Goodwin Street site were extensive and are summarized below. The discussion is divided into two components, reported on-site releases of oil or hazardous materials, and reported releases on adjacent Crane Company sites.

### 3.2.1 Goodwin Street Property

The site is listed on the Massachusetts Department of Environmental Protection (DEP) List of Transition and Tier Classified Sites under the name American Dream Modular Homes and tracking number 1-0616. It is listed as a confirmed Tier II, non-prority disposal site. The site was not listed on any other state or federal data bases that were searched.

ATC Environmental Inc. prepared a Licensed Site Professional Opinion for the foundry property in July 1996. The ATC report presents a detailed chronology of the DEP Site status. Highlights of the chronology are:

- February 1989 - CEA Site Investigation Report documents soil and groundwater contamination at the site. Report is submitted to DEP;
- October 1990 - DEP issues Notice of Responsibility to site owner Stephen Gray; site to be listed as LTBI;

- August 1991 - DEP requests Short Term Measure to address imminent hazards at site;
- May 1994 - DEP issues Notice of Responsibility Letters to; Asst. Secretary of the Navy, Crane Company, TJF Realty Corp., and Stephen Gray;
- August 1994 - Crane Company submits Report for Preliminary Response Actions, and IRA Plan to DEP;
- June 1996 - Crane Company agrees to conduct response actions at the site; and
- July 1996 - LSP Opinion and Tier Classification as Tier II.

Copies of important reports for the Goodwin Street site are attached in Appendix C.

The earliest environmental site investigation at the site was completed by Corporate Environmental Advisors, Incorporated (CEA) for American Dream Modular Homes, Inc. in 1989. CEA installed 7 groundwater monitoring wells and 4 shallow soil borings to assess soil and groundwater conditions. Low concentrations (highest concentration detected was 0.385 mg/l 1,1,1-trichloroethhane) of volatile organic compounds (VOCs) were detected in groundwater samples collected from wells CEA-5 and CEA-6. Petroleum hydrocarbons were detected in CEA-6 at a concentration of 1,240 ppm. Elevated concentrations of PCBs were detected in three of four shallow soil samples. These sample points were located near a scrap metal area, an electrical transformer, and the railroad tracks on the east side of the foundry building. Elevated concentrations of Polyaromatic Hydrocarbons (PAHs) were also detected at the railroad tracks. CEA also identified suspected asbestos containing material on piping in the building.

CEA's main conclusion was that the presence of the detected compounds required notification of the Massachusetts DEQE (now DEP). DEP documents indicate the site was first listed as a site on January 15, 1991.

In 1994, Con-Test completed preliminary response actions at the site for Crane Company in response to a determination by DEP that three imminent hazard conditions existed. The actions are summarized in an August 5, 1994 report titled, Preliminary Response Actions at Former American Dream Modular Homes, 225 Goodwin Street, Springfield, MA, Site #1-0616.

Con-Test completed the following actions: repaired gaps in the fence and posted warning signs; further identified the extent of PCB contamination at the transformer pad located at the southeast corner of the foundry building; identified the contents of two drums of waste material; and identified the contents of 6 underground storage tanks as degraded #6 fuel oil and #2 fuel oil.

In July 1996, ATC Environmental Inc. prepared a Licensed Site Professional Opinion and Tier classification report for the site. According to ATC, a release subject to the notification requirements of 310 CMR 40.0300 occurred or may have occurred at the site, and further Response Actions were necessary pursuant to 310 CMR 40.000. The site was classified as Tier II. Release conditions identified by ATC include elevated PCB

concentrations detected in the scrap metal area on the south side of the foundry building and elevated PAH concentrations in the railroad tracks identified by CEA in 1989, as well as elevated PCB concentrations at the transformer pad detected by ATC in 1994. ATC also considered the TPH concentration detected in groundwater by CEA in CEA-6 (1,240 mg/l) to be a release condition, even though testing by ATC in July 1996 failed to confirm the release condition (1.96 mg/l in CEA-6).

The ATC report presents a chronology of reports, documents, and communications concerning the site over the period from February 1989 to July 1996. This section of the ATC report is presented in Appendix B since it provides a good review of activities and potentially responsible parties at the site.

From July 1996 through September 1997, Immediate Response Actions (IRA's) were performed at the site for Crane Company by ATC. IRA activities included the removal of abandoned waste drums, electrical transformers, surficial soils impacted by releases of petroleum products, PCBs, polycyclic aromatic hydrocarbons (PAHs) and lead, in the area of on-site electrical transformers and scrap metal piles located along the south side of the foundry building, the removal of soils impacted by surfical releases of TPH and PAHs during former railroad activities, the removal of TPH-containing peastone roofing material, and the removal of piles of waste sheet rock.

These response actions were summarized in an Immediate Response Action Completion Report prepared by ATC for Crane Company in December 1997. The IRA completion report concludes that an Imminent Hazard to human health, safety, public welfare, and the environment as defined by the MCP, does not currently exist at the site, and that ongoing monitoring of site conditions is not warranted. The report also concludes that continuation of response actions will be required to address remaining site conditions (elevated TPH adjacent to transformer pad, TPH in CEA-6, and fuel oil USTs).

In December 1997, Crane submitted an IRA Completion Report for response actions conducted in conformance with the approved IRA Plan.

File information found in DEP files indicate that at this time the site is classified as Tier II. No persons are conducting response actions at the site, no Phase II Comprehensive Site Assessment, Phase III Remedial Action Plan, Response Action Outcome Report, Tier II Extension Request, or other MCP required documents have been submitted to DEP as required by MCP compliance deadlines.

On January 10, 2001, the City of Springfield submitted a Release Notification form to the DEP regarding a release of petroleum hydrocarbons from the underground storage tanks located near the northwest corner of the site building. This notification was based upon subsurface information collected for this study (which is discussed in Section 4.0). These data indicate that petroleum constituents are present in soil adjacent to the underground storage tanks above the RCS-1 reportable standard.

### 3.2.2 Pinevale Street Property

The Pinevale Street property was not listed on any state or federal data bases that were searched. No file for the Pinevale Street property was found in DEP, Waste Site Cleanup files.

### 3.2.3 Off Site Locations

Two nearby sites, the former main Crane Company site on Goodwin and Oak Streets (DEP Tracking # 1-0170) and the former Crane waste disposal area on Goodwin and Oaks Streets (DEP Tracking Number 1-0607) were identified on state lists. The former main Crane Company site was also identified on the federal CERCLIS list. These two sites are discussed in Section 3.2.3.

Former Main Crane Company Site: DEP Tracking # 1-0170

The approximate limits of the main Crane Company manufacturing complex are shown on Figure 2. Various site assessment reports for this off-site location were reviewed. Copies of important reports for the main Crane Company manufacturing complex are attached in Appendix D. These included a Phase II Comprehensive Site Assessment completed by Con-Test, Inc. in 1991, Phase II Comprehensive Site Assessment Addendum, Volume I and Volume II completed by ATC Associates, Inc. in May 1998, and a Draft Site Inspection Report for Crane Company completed by Tetra Tech NUS in December 1999.

In summary, the main Crane Company manufacturing site was first designated a site by the Massachusetts DEP due to several releases from underground storage tanks at the facility. These releases were first reported to the Massachusetts DEP in 1987. Subsequently, the Crane Company performed response actions under a waiver of DEP approvals. A waiver Completion Statement was submitted to the DEP in May 1998. The completion statement maintains that a condition of "no significant risk" has been achieved at the site, and that identified release sources have been removed and impacted media has been remediated to a level such that no substance of concern will present a significant risk of damage to health, safety, public welfare, or the environment during any foreseeable period. This waiver completion statement is potentially subject to an audit by the Massachusetts DEP, although none has yet occurred. Important findings of the studies performed by Crane Company are summarized below.

- Groundwater flow was measured to be towards the north/northwest. A groundwater contour plan developed by ATC from August 1996 measurements is attached in Appendix D. The northerly flow direction would place the Goodwin Street property upgradient of the subject site. The Pinevale Street site would be located downgradient of the main factory site. As such, releases on the main factory site would be more likely to impact the Pinevale Street site.

- Nineteen (19) underground storage tanks were present at the main manufacturing facility. These tanks were removed by the Crane Company during 1987. Releases were identified at three underground storage tank locations, on the north site of the former power plant (approximately 150 feet southeast of the Pinevale Street property), on the south side of former Building 7 (approximately 230 feet south of the Pinevale Street property) and near the southeast corner of former Building 23 (approximately 800 feet south of the Pinevale Street property). The approximate locations of these releases are shown on Figure 2. The leaking underground storage tanks reportedly contained No. 2, No. 4 or No. 6 fuel oil.
- During 1996 and 1997, the Crane Company excavated approximately 2,400 tons of petroleum contaminated soil from the vicinity of former underground tanks 1 though 4 (located on the north side of the power plant). At the time of this excavation, approximately 55,000 gallons of contaminated groundwater was also recovered, treated and discharged into the City of Springfield sanitary sewer system. Prior to groundwater recovery, an oil sheen was reportedly present on the groundwater table.
- Two areas of oil stained near surface soils were identified, one area near the northeast corner on former Building 1 (approximately 200 feet east of the Pinevale Street property), and one on the east side of former Building 10 (approximately 600 feet southeast of the Pinevale Street property). Approximately 115 cubic yards (total) of contaminated soil was removed from these areas. Remaining concentrations of petroleum hydrocarbons present in these areas following the soil excavation were below 500 mg/kg.
- Thirty nine (39) groundwater monitoring wells were installed on the main factory site between 1986 and 1997. Groundwater samples were collected and analyzed for volatile organic compounds (VOCs), total petroleum hydrocarbons and dissolved metals. Summary tables from the ATC reports are attached in Appendix D. These data indicate no exceedances of current MCP standards.
- ACT performed an environmental risk characterization to assess potential impacts from the remaining concentrations of oil and hazardous materials on the former main factory site. They concluded that a condition of "No Significant Risk" exists. Based upon this conclusion a Waiver Completion Statement was issued.

Former Crane Company Waste Disposal Area: DEP Tracking Number 1-0607

The former Crane Company landfill abuts the Goodwin Street property to the south. Given the northerly groundwater flow direction measured in the site vicinity, the landfill is located hydraulically upgradient of both the Goodwin Street and Pinevale Street sites. However, since it is located over 1,000 feet from the Pinevale Street property, it appears unlikely that soil or groundwater quality at the Pinevale Street site would be impacted. Various site assessment reports for this off-site location were reviewed. Copies of important reports for the former Crane Company landfill are attached in Appendix D. These include Phase II Comprehensive Site Assessment Volume 1 and 2 completed by Con-Test, Inc. in 1992, Supplemental Site Investigation to the Phase II-Comprehensive Site Assessment; Radiological Survey of the Foundry Waste Disposal Area at Indian

Orchard completed by Con-Test in 1993, and a Draft Site Inspection Report for Crane Company completed by Tetra Tech NUS in December 1999.

The approximate limits of the former Crane Company landfill are shown on Figure 2. Various site assessment reports for this off-site location were reviewed. These included a Phase II Comprehensive Site Assessment completed by Con-Test, Inc. in 1991, a Phase II Comprehensive Site Assessment Addendum, Volume I and Volume II completed by ATC Associates, Inc. in May 1998, and a Draft Site Inspection Report for Crane Company completed by Tetra Tech NUS in December 1999.

The assessment reports reviewed indicated that the landfill covers approximately 22 acres of land, which was used by Chapman Valve/Crane for the disposal of casting sand and other industrial wastes from approximately 1940 until 1980. According to the Con-Test report from 1992, wastes deposited in the landfill included mold sand, cinders, slag, steel spills, fire brick, glass, coal ash, wood molds, pipe, metal cans, concrete rubble and steel scrap.

Con-Test reported that at least two previous environmental studies of the landfill had been completed; in 1981, Newtown Associates of Worthington, Massachusetts performed a limited subsurface investigation of the waste disposal area. In this early investigation, soil and groundwater samples were tested for the hazardous waste characteristic of EP Toxicity. Analytical results indicated that none of the samples exhibited the EP Toxicity hazardous waste characteristic. Con-Test also reported that in 1986, ENSR conducted a Phase I environmental review of the Crane facility including the landfill. ENSR's investigation included detailed laboratory analysis of groundwater samples, near surface soil samples, and foundry sand samples. ENSR concluded that no soil or groundwater remediation was necessary.

Con-Test completed additional assessment of soils and groundwater, including a radiological assessment. Con-Test completed a risk assessment for the landfill utilizing available environmental data and concluded that conditions at the site do not exceed DEP criteria for excess risk.

Groundwater flow direction at the landfill has been reported to be to the northwest, which is towards the Goodwin Street site. However, since no constituents were detected above current MCP standards in wells located on the landfill parcel, the potential for an adverse impact to the Goodwin Street site from the landfill is considered low.

## 4.0 OTO SUBSURFACE EXPLORATIONS AND TESTING

As part of this study, we conducted a subsurface exploration program consisting of the installation of soil borings and groundwater monitoring wells and the analysis of selected soil and groundwater samples. Our objective was to evaluate whether oil or hazardous materials (OHM) may be present in site soil or groundwater.

Our subsurface investigation and testing program was conducted. The explorations performed consisted of the following:

- Eleven (11) soil borings (OTO-1 through OTO-11) each of which was completed as a monitoring well;
- Six (6) geoprobe soil borings (GP-1 through GP-6);
- Three shallow soil sample collected from adjacent to former transformer pads or from soil piles suspected of containing contaminated soils;
- The screening of soil samples for Volatile Organic Compounds (VOCs) using a Photoionization Detector;
- Laboratory analysis of selected soil samples; and
- The collection and laboratory analysis of groundwater samples from the eleven newly installed monitoring wells and five previously installed monitoring wells located on the Goodwin Street property.

## 4.1 SOIL BORINGS AND MONITORING WELL INSTALLATION

### 4.1.1 Goodwin Street Property

On August 3 and 4, 2000, fourteen (14) soil borings were performed on the Goodwin Street site by Seaboard Environmental Drilling of Chicopee, Massachusetts. Eight of the borings (OTO-1 through OTO-8) were performed using a truck mounted drill rig equipped with hollow stem augers. Six of the soil borings (EP-1 through EP-6) were performed using a Geoprobe (direct push) drill rig. Refer to the Figure 3 site plan for boring locations.

In the hollow stem auger borings, samples were collected using a 24-inch long, 2-inch diameter, split spoon sampler. In general, soil samples were collected in the hollow stem auger borings at five-foot intervals. In the Geoprobe borings, soil samples were collected continuously using a one-inch diameter sampler equipped with acetate liners.

The soil borings were logged by Mr. James Gagnon and Debra Morrow of OTO, who collected soil samples. Soil samples were screened in the field using a TEI Model 580B photoionization detector (PID).

Monitoring wells were installed in borings OTO-1 through OTO-8. Wells were constructed of 2-inch diameter PVC pipe, with 10-foot long well screens. The well screens were placed to span the groundwater table, to allow detection of a separate phase floating product layer, if present. The annular space between the well screen and boring wall was back filled with filter sand. Soil boring logs and details of monitoring well construction and subsurface materials encountered are presented on boring logs located in Appendix E.

4.1.2 Pinevale Street Property

On August 25, 2000, 4 soil borings were performed on the Pinevale Street site by Seaboard Environmental Drilling of Chicopee, Massachusetts. The borings (designated OTO-9 through OTO-11, and B-1) were performed using a truck mounted drill rig equipped with hollow stem augers. Refer to the site plan in Figure 4 for boring locations.

Soil samples were collected using a 24-inch long, 2-inch diameter, split spoon sampler. Soil samples were collected at five-foot intervals. The soil borings were logged by Mr. James Gagnon of OTO, who collected soil samples. Soil samples were screened in the field using a TEI Model 580B photoionization detector (PID).

Monitoring wells were installed in three borings (OTO-9 through OTO-11). Boring B-1 was performed in the center of the site building to collect soil samples from just beneath the floorslab. Wells were constructed of 2-inch diameter PVC pipe, with 10-foot long well screens. The well screens were placed to span the groundwater table, to allow detection of a separate phase floating product layer, if present. The annular space between the well screen and boring wall was backfilled with filter sand. Soil boring logs and details of monitoring well construction and subsurface materials encountered are presented on boring logs located in Appendix E.

## 4.2 SOIL AND GROUNDWATER CONDITIONS

### 4.2.1 Goodwin Street Property

Soil conditions at the Goodwin Street site consisted of predominately native granular soils overlying glacial till. No significant amounts of fill were observed with the exception of around the underground storage tanks located near the northwest corner of the site building. In general, subsurface soil conditions starting at the ground surface consist of approximately 17 to 20 feet of fine to coarse sand, underlain by a red-brown mixture of sand and clay (which is possibly a reworked glacial till). The near surface sand was light brown in color and contained trace amounts of fine gravel and silt. Drilling refusal was encountered in two borings, at 22 feet in boring OTO-2 and at 17 feet in boring OTO-7. Borings OTO-2 and OTO-7 are both located in the northern part of the site. Between 9 and 13 feet of silty, fine sand was observed in geoprobe borings EP-1 through EP-4, each of which was located in the vicinity of the underground storage tanks. This material appears to be backfill placed to fill the excavation made during installation of the underground storage tanks.

With the exception of geoprobe borings EP-1 and EP-4 no odors or staining were observed in the borings. In these borings, oil stained soils and odors were observed between a depth of 9 and 17 feet.

Groundwater elevation measurements were collected at the time of groundwater sampling. Measurements are presented in Table 2. In most monitoring wells, the depth to

groundwater varies between approximately 15 and 19 feet below ground surface (the exception being (OTO-5 and OTO-8, which are located in localized low areas). Groundwater elevation measurements indicate groundwater flow at the site to be generally towards the north/northwest.

#### 4.2.2 Pinevale Street Property

Soil conditions at the Pinevale Street site consisted of a thin layer of native granular soils overlying glacial till. With the exception of boring OTO-9, no fill was observed. In boring OTO-9, which was located on the exterior or the site building, approximately three feet of black to brown fine to coarse sand was observed just below the surface asphalt layer. The top two feet of fill at OTO-9 exhibited an oil odor. Drilling refusal was observed in borings OTO-9 at a depth of 10 feet and in boring OTO-10 at a depth of 12 feet.

Groundwater was present at approximately 8 feet below ground surface in two of the monitoring wells (OTO-10 and OTO-11) at the Pinevale Street. In monitoring well OTO-9, which was located in the northwest corner of the site, no groundwater was encountered above the bedrock surface (which was present at approximately 10 feet below ground surface).

### 4.3 ANALYTICAL TESTING PROGRAM

#### 4.3.1 Goodwin Street Property

Field Screening Soil Analyses

Each of the soil samples collected was screened in the field for Volatile Organic Compounds (VOCs) using a TEI Model 580B PID. The PID provides a indication of the presence of VOCs in a sample (referenced to a benzene in air standard). PID measurements are presented on the boring logs attached in Appendix E. The calibration of the PID was checked at the beginning and end of each day using calibration standards prepared by the instrument manufacturer. If necessary, the meter was adjusted at the beginning of each day. At the end of each field day the meter was observed to be within acceptable limits. No PID readings were observed in soil samples collected from the Goodwin Street site.

Laboratory Soil Analyses

Selected soil samples were submitted to Amro Environmental Laboratories of Merrimack, New Hampshire for laboratory analyses. Analytical parameters were selected based upon site history and our knowledge of oils and hazardous materials which might have been used at the site. Parameters analyzed included Volatile Organic Compounds (VOCs), Extractable and Volatile Petroleum Hydrocarbons (EPH/VPH), Polychlorinated Byphenyls (PCBs), and total concentrations of the RCRA-8 metals. Laboratory data sheets are attached in Appendix F.

Soil analytical data are presented in Table 3. Eleven VOCs, six VPH compounds, sixteen EPH compounds, one PCB, and four metals were detected. Samples were selected for laboratory analyses based upon site history, field observations of soil staining or odors and to provide areal coverage of the site. Data are summarized below and compared to the RCS-1 reportable standard contained in the Massachusetts Contingency Plan (MCP).

Five compounds were detected in at least one boring above their respective RCS-1 standard, (1,1 Dichloroethene, C9-C10 Aromatic Hydrocarbons, C11-C22 Aromatic Hydrocarbons, Methylene chloride, 2-Methylnaphthalene, and Benz(a)anthracene). These compounds were detected in samples from borings EP-1 or EP-4, both of which were located near the USTs. 1,1 Dichloroethene is a chlorinated VOC, which is most commonly seen in the environment as a degradation byproduct of the common industrial solvent trichloroethylene (TCE).

Summary of Soil Analytical Results (in mg/kg)

| Compound | Location of Maximum Detection | Maximum Concentration Detected | RCS-1 Reportable Standard |
|---|---|---|---|
| **Volatile Organic Compounds (VOCs)** | | | |
| 1,1 Dichloroethene | EP-1 | 0.11 | 0.1 |
| 1,2,4-Trimethylbenzene | EP-1 | 0.28 | 1000 |
| 1,3,5-Trimetheylbenzene | EP-1 | 0.17 | 10 |
| 4-Isopropyltolunene | EP-1 | 0.14 | No Standard |
| Isopropylbenzene | EP-1 | 0.15 | 1000 |
| Methylene chloride | EP-1 | 0.17 | 0.1 |
| Naphthalene | EP-4 | 2.9 | 4 |
| n-Propylbenzene | EP-1 | 0.49 | No Standard |
| sec-Butylbenzene | EP-1 | 0.13 | No Standard |
| tert-Butylbenzene | EP-1 | 0.06 | No Standard |
| Tetrachloroethene | HA-3 | 0.07 | 0.5 |
| **Volatile Petroleum Hydrocarbons (VPH)** | | | |
| C5-C8 Aliphatic Hydrocarbons | EP-4 | 18 | 100 |
| C9-C12 Aliphatic Hydrocarbons | EP-4 | 48 | 1000 |
| C9-C10 Aromatic Hydrocarbons | EP-1 | 180 | 100 |
| Ethylbenzene | EP-4 | 0.41 | 500 |
| Xylenes | EP-4 | 1.63 | 500 |
| **Extractable Petroleum Hydrocarbons (EPH)** | | | |
| C9-C18 Aliphatic Hydrocarbons | EP-4 | 590 | 1,000 |
| C19-C36 Aliphatic Hydrocarbons | EP-4 | 2,100 | 2,500 |
| C11-C22 Aromatic Hydrocarbons | EP-4 | 800 | 200 |
| 2-Methylnaphthalene | EP-4 | 9.2 | 4 |
| Acenaphthene | EP-4 | 0.61 | 20 |
| Acenaphthylene | EP-4 | 0.29 | 100 |
| Anthracene | EP-4 | 0.53 | 1,000 |

Summary of Soil Analytical Results (in mg/kg)

| Compound | Location of Maximum Detection | Maximum Concentration Detected | RCS-1 Reportable Standard |
|---|---|---|---|
| **Extractable Petroleum Hydrocarbons (EPH)** | | | |
| Benz(a)anthracene | EP-4 | 1.6 | 0.7 |
| Benzo(a)pyrene | EP-4 | 0.6 | 0.7 |
| Benzo(b)fluoranthene | EP-5 | 0.29 | 0.7 |
| Chrysene | EP-4 | 0.59 | 7 |
| Fluoranthene | EP-5 | 0.31 | 1,000 |
| Fluorene | EP-4 | 0.85 | 400 |
| Phenanthrene | EP-4 | 3.3 | 100 |
| Pyrene | EP-4 | 0.73 | 700 |
| **Polychlorinated Byphenyls (PCBs)** | | | |
| Aroclor 1260 | HA-1 | 0.13 | 2 |
| **Total Metals** | | | |
| Barium | OT-6 | 48 | 1,000 |
| Chromium | OT-7 | 22 | 1,000 |
| Lead | OT-6 | 50 | 300 |
| Mercury | OT-3 | 10.3 | 20 |

Low levels of chlorinated VOCs have historically been detected in groundwater at the site. C9-C10 Aromatic Hydrocarbons, C11-C22 Aromatic Hydrocarbons, 2-Methylnaphthalene and Benz(a)anthracene are petroleum products which are likely associated with leaks from the nearby underground storage tanks. Petroleum stained soils were observed in both borings EP-1 and EP-4, indicating that at least one of the underground storage tanks in the area has leaked. As a result of these detections, during January 2001 a Release Notification Form was submitted to the Massachusetts DEP by the City of Springfield.

Near Surface Soil Sampling

Four near surface soil samples were collected to assess soil quality at other locations on the site. Sample T-1 was collected from adjacent to a transformer pad near the northeast corner of the site building. Sample HA-1 was collected from the large soil and debris pile in the southern part of the site, and samples HA-2 and HA-3 were collected from a soil pile in the western part of the site. Sample locations are shown on Figure 3. Sample results are presented in Table 3. There were no detections above reportable concentrations in the MCP.

Groundwater Sampling and Analyses

Groundwater samples were collected from each of the eight new monitoring wells and from five previously installed monitoring wells. Samples were collected using a pre-cleaned single use PVC bailer. Prior to sampling, the depth to groundwater was

measured, and three times the column of standing water was purged to permit collection of a sample representative of formation water. Groundwater samples were submitted for analysis to Amro.

Groundwater samples were screened in the field for pH and specific conductivity. The calibration of the pH and specific conductivity meters were checked at the beginning and end of each day. Field measurements for pH and specific conductivity are summarized in Table 4. The pH was measured between 6.2 and 7.4 units and specific conductivity was measured between 78 and 416 units. Observed levels are within the range typically observed in developed areas.

Each sample was analyzed for volatile organic compounds by EPA method 8260, for extractable petroleum hydrocarbons and volatile petroleum hydrocarbons (VPH/EPH) and for dissolved concentrations of the RCRA-8 metals. Groundwater analytical data are presented in Table 5. Three VOCs, two VPH compounds, four EPH compounds, and two metals were detected. Data are summarized below and compared to the RCGW-2 reportable standard contained in the Massachusetts Contingency Plan (MCP).

As can be seen above, there were no detections above the RCGW-2 standard. Of note is that no petroleum hydrocarbons were detected in well CEA-6, where elevated concentrations of petroleum hydrocarbons had previously been detected by others.

Summary of Groundwater Analytical Results (in ug/l)

| Compound | Location of Maximum Detection | Maximum Concentration Detected | RCS-1 Reportable Standard |
|---|---|---|---|
| **Volatile Organic Compounds (VOCs)** | | | |
| 1,1-Dichoroethane | CEA-2 | 4.9 | 9,000 |
| 1,1,1-Trichloroethane | OT-5 | 3.2 | 4,000 |
| Acetone | CEA-2 | 62 | 50,000 |
| **Volatile Petroleum Hydrocarbons (VPH)** | | | |
| C5-C8Alphatic Hydrocarbons | CEA-2 | 200 | 1,000 |
| C9-C10 Aromatic Hydrocarbons | CEA-2 | 43 | 4,000 |
| **Extractable Petroleum Hydrocarbons (EPH)** | | | |
| 2-Methylnaphthalene | CEA-4 | 2.6 | 3,000 |
| C9-C18 Aliphatic Hydrocarbons | CEA-4 | 200 | 1,000 |
| C19-C36 Aliphatic Hydrocarbons | CEA-4 | 730 | 20,000 |
| C11-C22 Aromatic Hydrocarbons | CEA-4 | 940 | 30,000 |
| **Dissolved Metals** | | | |
| Arsenic | CEA-4 | 42 | 400 |
| Barium | CEA-3 | 280 | 30,000 |

### 4.3.2 Pinevale Street Property

Field Screening Soil Analyses

Soil samples collected from each of the borings performed on the Pinevale Street site were screened in the field for VOCs using a TEI Model 580B PID. The PID provides a indication of the presence of VOCs in a sample (referenced to a benzene in air standard). The calibration of the PID was checked at the beginning and end of each day using calibration standards prepared by the instrument manufacturer. If necessary, the meter was adjusted at the beginning of each day. At the end of each field day the meter was observed to be within acceptable limits. Screening results are presented on the soil boring logs located in Appendix E.

VOC screening results varied between none detected and 150 parts per million (PPM). The 150 PPM result was collected from the near surface sample in boring OT-9. Boring OT-9 was performed though the center of railroad tracks which passed along the west side of the building. This sample was oil stained and odorous and appears to reflect a surface oil spill. PID readings in the other soil samples collected were less than 10 PPM.

Laboratory Soil Analyses

Selected soil samples were submitted to Amro Environmental Laboratories of Merrimack, New Hampshire for laboratory analyses. Analytical parameters were selected based upon the observed oil staining in boring OT-9, upon site history, and on our knowledge of oils and hazardous materials which might have been used at the site. Parameters analyzed included VOCs, EPH/VPH, PCBs, and total concentrations of the RCRA-8 metals. Laboratory data sheets are attached in Appendix F.

Soil analytical data are presented in Table 6. Eleven VOCs, six VPH compounds, sixteen EPH compounds, one PCB and four metals were detected. Samples were selected for laboratory analyses based upon site history, field observations of soil staining or odors and to provide areal coverage of the site. Data are summarized below and compared to the RCS-1 reportable standard contained in the Massachusetts Contingency Plan (MCP).

One VPH fraction and 11 EPH constituents were detected above their respective RCS-1 standard. As can be seen above, petroleum hydrocarbons were detected above reportable concentrations in shallow soil samples from locations OT-9 and B-1. Boring OT-9 was located at the northwest corner of the building exterior, where the surface soils were oil stained. Boring B-1 was located beneath the floor in the interior of the building, where the wood was oil stained from waste oil spills apparently associated with the former recycling operation. Based upon the site location and the levels of contamination detected, it is our opinion that these detections would constitute a reportable condition under the Massachusetts contingency Plan (MCP).

Floor Sampling

A large area of oil stained flooring and pooled waste oil is present in the central part of the Pinevale Street building. Numerous tanks, drums and containers of waste oil and paint are located in the area of the floor staining. A sample of oil and sediment (which was designated "Floor Grab") was collected and submitted to the laboratory for analysis for EPH, PCBs and total concentrations of the RCRA-8 metals. Laboratory data are summarized in Table 6. The sample contained elevated levels of petroleum hydrocarbons (approximately 10,000 mg/kg), approximately 2 mg/kg of PCBs and elevated levels (approximately 2,400 mg/kg) of chromium. Since the sample was from the floor surface in the interior of the building, these detections would not constitute a reportable release under the MCP. However, as was discussed above, the soil (in boring B-1) immediately below the stained area also contained reportable concentrations of petroleum hydrocarbons.

Groundwater Sampling and Analyses

Groundwater samples were collected from two of the three monitoring wells installed for this study. Monitoring well OT-9 was dry at the time of this study. Since the boring at this location encountered drilling refusal on what appears to be bedrock at a depth of ten feet, it appears that there is no overburden groundwater present at this location. Samples from monitoring wells OT-10 and OT-11 were collected using a pre-cleaned single use PVC bailer. Prior to sampling, the depth to groundwater was measured, and three times the column of standing water was purged to permit collection of a sample representative of formation water. Groundwater samples were submitted to Amro for analysis.

Groundwater samples were screened in the field for pH and specific conductivity. Field measurements for pH and specific conductivity are summarized in Table 7. The pH was measured between 6.6 and 6.7 units and specific conductivity was measured between 232 and 315 units. Observed levels are within the range typically observed in developed areas.

Summary of Soil Analytical Results (in mg/kg)

| Compound | Location of Maximum Detection | Maximum Concentration Detected | RCS-1 Reportable Standard |
|---|---|---|---|
| Volatile Organic Compounds (VOCs) | | | |
| cis-1,2 Dichloroethene | OT-9 | 0.088 | 2 |
| 1,2,4-Trimethylbenzene | OT-9 | 12.0 | 1,000 |
| 1,3,5-Trimetheylbenzene | OT-9 | 4.6 | 10 |
| 4-Isopropyltolunene | OT-9 | 0.33 | No Standard |
| Isopropylbenzene | OT-9 | 0.22 | 1,000 |
| Toluene | OT-9 | 0.65 | 90 |
| Naphthalene | OT-9 | 3.7 | 4 |
| n-Propylbenzene | OT-9 | 0.58 | No Standard |
| sec-Butylbenzene | OT-9 | 0.41 | No Standard |

Summary of Soil Analytical Results (in mg/kg)

| Compound | Location of Maximum Detection | Maximum Concentration Detected | RCS-1 Reportable Standard |
|---|---|---|---|
| **Volatile Organic Compounds (VOCs)** | | | |
| Ethylbenzene | OT-9 | 0.39 | 80 |
| Xylenes | OT-9 | 4.20 | 500 |
| **Volatile Petroleum Hydrocarbons (VPH)** | | | |
| C5-C8 Aliphatic Hydrocarbons | OT-9 | 17 | 100 |
| C9-C12 Aliphatic Hydrocarbons | OT-9 | 20 | 1,000 |
| C9-C10 Aromatic Hydrocarbons | OT-9 | 180 | 100 |
| **Extractable Petroleum Hydrocarbons (EPH)** | | | |
| C9-C18 Aliphatic Hydrocarbons | OT-9 | 140 | 1000 |
| C19-C36 Aliphatic Hydrocarbons | OT-9 | 6,300 | 2,500 |
| C11-C22 Aromatic Hydrocarbons | B-1 | 12,000 | 200 |
| 2-Methylnaphthalene | B-1 | 19 | 4 |
| Acenaphthene | B-1 | 26 | 20 |
| Acenaphthylene | B-1 | 220 | 100 |
| Anthracene | B-1 | 280 | 1,000 |
| Benz(a)anthracene | B-1 | 330 | 0.7 |
| Benzo(k)fluoranthene | B-1 | 54 | 0.7 |
| Benzo(a)pyrene | B-1 | 270 | 0.7 |
| Benzo(b)fluoranthene | B-1 | 310 | 7 |
| Chrysene | B-1 | 240 | 1,000 |
| Fluoranthene | B-1 | 850 | 1,000 |
| Fluorene | B-1 | 180 | 500 |
| Phenanthrene | B-1 | 1200 | 100 |
| Indeno(1,2,3-cd)pyrene | B-1 | 170 | 0.7 |
| Benzo(g,h,I)perylene | B-1 | 150 | 7 |
| Dibenz(a,h)anthracene | B-1 | 17 | 1,000 |
| Pyrene | B-1 | 680 | 700 |
| **Polychlorinated Byphenyls (PCBs)** | | | |
| Aroclor 1254 | -- | ND | 2 |
| Aroclor 1260 | -- | ND | 2 |
| **Total Metals** | | | |
| Barium | OT-9 | 69 | 1,000 |
| Chromium | OT-9/OT-11 | 19 | 1,000 |
| Lead | OT-9 | 14 | 300 |

Each sample was analyzed for volatile organic compounds by EPA method 8260, for extractable petroleum hydrocarbons and volatile petroleum hydrocarbons (VPH/EPH) and for dissolved concentrations of the RCRA-8 metals. Groundwater analytical data are presented in Table 8. No VOCs or VPH compounds were detected. One EPH compound (Phenanthrene) and one metal (Arsenic) were detected. There were no detections above

the RCGW-2 reportable standard contained in the Massachusetts Contingency Plan (MCP).

4.3.3 Quality Control Evaluation

The Quality Control Evaluation consisted of the Laboratory's standard quality control procedures and the analyses of duplicate samples, spike duplicates, equipment blanks and Performance Evaluation Samples (PES). PES data are summarized in Tables 9 and 10. Each laboratory report included a Work Order Sample Summary, Chain of Custody document, sample receipt checklist, state certificates, case narrative, description of laboratory modifications to the MADEP VPH and EPH methods, sample results, method blank results, matrix spike and matrix spike duplicate results, and laboratory control spike results. The complete laboratory reports are presented in Appendix F. A summary discussion of quality control evaluation for each sample set is presented below.

Soil Samples Collected August 2, 3, and 4, 2000

- The cooler temperature upon receipt at the laboratory was 12°C. This is not considered significant since a PES sample for VOC analysis was included with the shipment. All target compounds in the PES sample were detected by the laboratory within the performance acceptance limits.
- Two samples had a recovery for at least one surrogate that was outside the upper laboratory control limits. These are not considered significant since it would indicate sample results might be conservatively high.
- Two samples had a recovery for at least one surrogate that was outside the lower laboratory control limits. These are not considered significant since the data at this point was intended for identification of release conditions. Adjusting sample results for a possible low result allowed for evaluation of the potential for a release condition.
- Other quality control measures produced acceptable results.

Groundwater Samples Collected August 17, 2000

- PES sample results for VOC were detected by the laboratory within the performance acceptance limits, except for two compounds that were detected above the upper limit. This is not considered significant since it would indicate a result might be conservatively high.
- Several samples had a recovery for a surrogate that was outside the laboratory control limits. These are not considered significant since the data at this point was intended for identification of release conditions. Adjusting sample results for a possible low result allowed for evaluation of the potential for a release condition.
- Other quality control measures produced acceptable results.

Soil Samples Collected August 25, 2000

- The samples were received at the laboratory with ice and ice packs, as indicated on the sample receipt checklist, however, the case narrative indicated the samples were received at ambient temperature. This may indicate that VOC and VPH results could be somewhat suspect, however, with methanol preservation of VOC soil samples, as is the case for these samples, temperature is considered less significant. Also, data at this point was intended for identification of release conditions and receipt of samples at ambient temperature would not likely affect such a determination. See also the discussion above concerning the PES sample shipped with samples collected on August 2, 3, and 4, 2000.
- Surrogate recovery for some PCB analyses were below the laboratory control limits. These are not considered significant since the data at this point was intended for identification of release conditions. Adjusting sample results for a possible low result allowed for evaluation of the potential for a release condition.
- Other quality control measures produced acceptable results.

Groundwater Samples Collected August 25, 2000

- Quality control measures produced acceptable results.

## 5.0 SITE RECONNAISSANCE

Between July 2000 and July 2001, Mr. Michael Talbot, Mr. James Gagnon and Mr. Robert Kirchherr of OTO visited the sites on several occasions to observe conditions and evidence of the presence of oil and hazardous materials. The reconnaissance consisted of a walking tour of interior and exterior portions of the sites. Several photographs were taken during the site visits. These are attached in Appendix G. A copy of the asbestos and hazardous material survey is attached in Appendix H. The following specific information was obtained during the site reconnaissance.

### 5.1 GOODWIN STREET PROPERTY

#### 5.1.1 Exterior

- Most exterior areas around the building were overgrown with tall grasses or small shrubs. The perimeter of the site is enclosed with a chain link fence, however footprints and bike tracks were observed, indicating that the site is accessible to the general public.
- A large pile of debris was present in the southeast corner of the site (approximate limits shown on Figure 3). The pile contains large amounts of demolition debris such as brick, concrete, and wood. Materials from the former recycling operation in the site building, such as metal pieces and wire, were also present.

- The railroad tracks along the east side of the building had been removed. The former railroad track bed contained crushed stone with some coal clinkers.
- Two depressions were observed on the east side of the site building. These depressions appear to be the result of contaminated soil excavations previously performed by the Crane Company. The soils in the base and sidewalls of the excavation were free of staining, odors or other obvious indications of contamination.
- Several pieces of concrete, piles of wood and pieces of metal were observed along the southern edge of the site.
- The fill pipes for the six underground storage tanks were observed. Little or no staining was evident around the fill pipes.
- The transformer pads on the south side and near the northeast corner of the site building were observed. The concrete pads and soils around the pads were free of obvious staining.

5.1.2 Interior Areas

- In general, the eastern half of the building interior was filled with large quantities of debris from the former site recycling operation, and the western half of the building interior was mostly open. Debris was observed to consist mostly of wire insulation, wood, and cloth with minor amounts of metal debris. The debris appears to have been sorted and was generally in small piles according to material type.
- The building roof was in a moderate state of disrepair. Water was observed to be entering the building through several holes in the roof and through various vents and other penetrations.
- The former foundry furnace area was evident in the southern part of the site building. The floor in this area contained fire brick and the walls appear to have been scarred by intense heat.
- Insulating materials which contain asbestos were observed on pipes and other building materials throughout the building. In some areas the asbestos containing materials were in poor condition and pieces of asbestos containing material were present on the floor in certain areas. A copy of our detailed asbestos survey is attached in Appendix H.
- Dust and debris were observed on rafters and beams in the former manufacturing area. In some areas the dusts were up to several inches thick. Eight samples of dust and debris from the rafters and two samples from roof mounted dust collectors were analyzed for extractable concentrations of the RCRA-8 metals. Two of the rafter dust samples and both samples from the dust collectors contained leachable lead above the federal hazardous waste standard. These analyses are documented in Appendix H.
- Several heavy gauge metal plates were present in the western part of the building. These plates may cover penetrations in the concrete floorslab for former machine pits or for the casting sand distribution system.

- The former maintenance area was located in the southeast corner of the building. This area was mostly empty, with the exception of minor amounts of old tools and replacement parts. A small basement is present in this area. Water covered the basement floor, which limited our ability to enter the basement. The water appeared to be free of odors or sheens indicative of significant contamination.
- A basement was located in the southwest portion of the building. The basement was accessible via a set of stairs and a large table was observed in the basement, indicating it may have been utilized as a work area or break room. Several feet of water covered the basement floor, which limited our ability to enter the basement. The water appeared to be free of odors or sheens indicative of significant contamination.
- The office mezzanine along the western side of the building was in disrepair. Glass, sheet rock, and ceiling materials were present on the floors.
- The former boiler room in the northwest corner of the building was observed. The boilers had been removed and the area was generally clean. A sump for the former oil distribution system was observed in the southern part of the area. The sump was free of oil or oil staining.
- The former X-ray inspection room in the northeast portion of the building was observed. The area was clean, with little or no equipment or residues evident.

## 5.2 PINEVALE STREET PROPERTY

### 5.2.1 Exterior Areas

The only exterior area of this site was along the western side of the building. Less than 15 feet of exterior area was present between the side of the building and Pinevale Street. In general the area was overgrown with small trees and brush. With the exception of a small area of staining near the northwest corner of the building (at boring location OT-9), the area was free of significant amounts of debris, staining or obvious indications of contamination. No fill or vent pipes were evident along the west side of the building. The southern, eastern and northern sides of the building exterior are within the perimeter fence for the former main Crane Company manufacturing facility, and thus were not accessible.

### 5.2.2 Interior Areas

- The southern portion of the building interior consists of a large open room. Three small rooms are present in the northern and northeast corner of the building.
- Three types of flooring are present in the building, a concrete slab on grade, wood block over a concrete slab and wood planking. In general the northern half of the building has a concrete slab, the central part of the building is wood block and the southern part of the building is wood plank.
- The interior of the building contained significant amounts of debris, plastic, tires and waste oil from the former A1 Recycling operations.

- Ten 275-gallon above ground tanks, approximately thirty 55-gallon drums and approximately seventy-five 1-gallon paint cans are present in the central portion of the site building. Most of these contain varying amounts of waste oil or paint collected during the A1 recycling operations. The wood floor around the tanks and drums were oil stained. As was discussed above, a sample (designated "Floor Grab") of oil and sediment from around the tanks was collected and analyzed for petroleum hydrocarbons, PCBs and metals. Laboratory data are presented in Table 6.
- Approximately 200 tires are present in the northern part of the building.
- An asbestos survey was conducted of the building interior. A significant amount of asbestos containing materials were identified, including floor tiles, thermal pipe insulation, mastic beneath wood floors, transite siding panels, and window glazing and caulking. A copy of our detailed asbestos survey is attached in Appendix H.

## 6.0 SUMMARY AND CONCLUSIONS

An Environmental Site Assessment was conducted of two portions of the former Crane Company/Chapman Valve manufacturing facility in the Indian Orchard section of Springfield, Massachusetts. The assessment consisted of a review of site history, a review of prior site environmental reports and regulatory agency files, conversations with local officials, a reconnaissance, advancement of soil borings and monitoring well installations, soil and groundwater analysis, and preparation of this report.

A summary of our findings and conclusions is presented below.

### 6.1 GOODWIN STREET PROPERTY

Description and Setting

The Goodwin Street property consists of the former Chapman Valve/Crane steel foundry, and is located at 225 Goodwin Street. The site covers approximately 12 acre of land and contains a 141,000 square foot, generally rectangular, industrial building. The site is industrial zoned land and is located within a mixed industrial/commercial/residential zoned section of Springfield.

The site building includes a single story, steel framed manufacturing area and a small two story office area. The manufacturing portion of the building is a large open space with high ceilings and a concrete slab on grade. At least two small basements are located in the eastern part of the manufacturing area. Most of the exterior walls are constructed of transite board.

The land around the site building is generally overgrown with brush and small trees. Abandoned railroad sidings are present on the east and west sides of the building. The railroad tracks have been removed, however the stone ballast is still present. Significant quantities of construction debris, electrical equipment, miscellaneous manufacturing

equipment, miscellaneous trash, and concrete rubble are located around the building exterior.

The elevation of the Goodwin Street property is between 210 and 220 feet above mean sea level. Regional topography slopes gently upward towards the north, with the site and immediate vicinity showing relatively little relief. Locally, the ground elevation slopes gently away from the site building on the west and south sides, then rises more quickly near the property line to the west and in the landfill area to the south.

Regional groundwater flow direction is expected to be to the north and northwest towards the Chicopee River, located approximately 3,500 feet north of the site. Run-off from paved areas drains toward on-site storm water catch basins, while precipitation in unpaved areas will likely infiltrate into the ground. Given the sandy nature of site soils, it is anticipated that a significant amount of infiltration would occur at the site. No surface waters or wetlands are located at the site. The nearest surface water and wetlands are approximately 1,500 feet south east of the site at Dimmock Pond. This pond is likely located upgradient of the site.

The site is within a Non-Potential Drinking Water Source Area. There are no known drinking water supply wells within a mile of the site. Based on this information, site groundwater would be classified as RCGW-2 for release reporting purposes. Since the property is located within 500 feet of a residence, site soil would be classified as RCS-1.

Seven underground storage tanks were formerly located at the facility. Six 15,000-gallon tanks, which were used to store heating oil, are located near the northwest corner of the site building. These tanks are still in place and apparently contain varying amounts of product. Since these tanks are no longer used and are considered to be abandoned, removal is required under Massachusetts regulations (310 CMR 9.0). A 10,000-gallon gasoline storage tank was also located on the west side of the site building. A memorandum found in Massachusetts DEP files indicates that the gasoline tank may have been removed during the early 1980s. Regardless, a soil boring and groundwater monitoring well were installed at the apparent location of the former gasoline tank, and no release conditions were identified at that location.

History

Historic maps and assessors records indicate that this property was undeveloped prior to 1940. In 194,2 the Department of Defense built the existing foundry building for the production of steel valves. The facility was apparently operated by Chapman Valve during World War II under contract with the U. S. Navy. In 1947, Chapman Valve purchased the property and continued to produce steel valves. The property ownership changed in the 1950s when the entire Chapman Valve operation was sold to the Crane Company. Chapman Valve/Crane operations apparently consisted of the production of sand molds and the casting of steel parts. Crane closed the facility in 1983.

From 1983 until 1985 the building was vacant. From 1985 until 1989, American Dream Modular Homes manufactured modular homes inside the site building. During this period, manufacturing operations in the building apparently consisted of woodworking, painting and the fabrication of modular homes. American Dream Homes reportedly ceased operations and declared bankruptcy in 1989. For a short period of time thereafter, a recycling business operated on the site. Much of the debris and trash in the site building reportedly dates from this period. Since approximately 1990 the site has been vacant. On December 16, 1997, the City of Springfield foreclosed on the property. Since 1997 the city has not performed any activities on the site.

Regulatory File Information

A DEP file review indicated that there have been documented releases at the site. Extensive investigations have been conducted by Mr. Stephen Gray and the Crane Company since 1989 to comply with DEP regulations. The site is listed on the Massachusetts Department of Environmental Protection (DEP) List of Transition and Tier Classified Sites under the name American Dream Modular Homes and tracking number 1-0616. It is listed as a confirmed Tier II, non-prority disposal site. The site was not listed on any other state or federal data bases that were searched.

The consultants for the Crane Company, Con-Test, Inc. and ATC Environmental Inc. (ATC) conducted several investigations. Highlights of the chronology are:

- February 1989 - CEA Site Investigation Report documents soil and groundwater contamination at the site. Report is submitted to DEP;
- October 1990 - DEP issues Notice of Responsibility to site owner Stephen Gray; site to be listed as LTBI;
- August 1991 - DEP requests Short Term Measure to address imminent hazards at site;
- May 1994 - DEP issues Notice of Responsibility Letters to; Asst. Secretary of the Navy, Crane Company, TJF Realty Corp., and Stephen Gray;
- August 1994 - Crane Company submits Report for Preliminary Response Actions, and IRA Plan to DEP;
- June 1996 - Crane Company agrees to conduct response actions at the site;
- July 1996 - LSP Opinion and Tier Classification as Tier II; and
- December 1997 - IRA Completion Report.

The earliest environmental site investigation at the site was completed by Corporate Environmental Advisors, Incorporated (CEA) for American Dream Modular Homes, Inc. in 1989. CEA installed 7 groundwater monitoring wells and 4 shallow soil borings to assess soil and groundwater conditions. Low concentrations of Volatile Organic Compounds (VOC) were detected in two groundwater wells, and petroleum hydrocarbons were detected in one well. Elevated concentrations of PCBs were detected in three shallow soil samples located near a scrap metal area, an electrical transformer, and the railroad tracks on the east side of the foundry building. Elevated concentrations of

Polyaromatic Hydrocarbons (PAHs) were also detected along the railroad tracks. CEA's main conclusion was that the presence of the detected compounds required notification of the Massachusetts DEQE (now DEP). DEP documents indicate the site was first listed as a site on January 15, 1991.

In 1994, Con-Test completed preliminary response actions at the site for Crane Company in response to a determination by DEP that three imminent hazard conditions existed. The actions are summarized in the August 5, 1994 report. Con-Test apparently addressed the imminent hazard conditions.

In July 1996, ATC Environmental Inc. prepared a Licensed Site Professional Opinion and Tier classification report for the site. According to ATC, a release had occurred or may have occurred at the site, and further Response Actions were necessary. The site was classified as Tier II. Release conditions identified by ATC included elevated PCB concentrations detected in the scrap metal area on the south side of the foundry building and elevated PAH concentrations in the railroad tracks and at the transformer pad. ATC also considered the TPH concentration detected in groundwater in well CEA-6.

From July 1996 through September 1997, Immediate Response Actions (IRA's) were performed at the site for Crane Company by ATC. IRA activities included the removal of abandoned waste drums, electrical transformers, surficial soils impacted by releases of petroleum products, PCBs, polycyclic aromatic hydrocarbons (PAHs) and lead, in the area of on-site electrical transformers and scrap metal piles located along the south side of the foundry building, the removal of soils impacted by surfical releases of TPH and PAHs during former railroad activities, the removal of TPH-containing peastone roofing material, and the removal of piles of waste sheet rock.

These response actions were summarized in an Immediate Response Action Completion Report prepared by ATC for Crane Company in December 1997. The IRA completion report concluded that an Imminent Hazard to human health, safety, public welfare did not exist at the site, and that ongoing monitoring of site conditions is not warranted. The report also concluded that continuation of response actions will be required to address remaining site conditions (elevated TPH adjacent to transformer pad, TPH in well CEA-6, and fuel oil USTs).

File information found in DEP files indicate that at this time the site is classified as Tier II. No persons are conducting response actions at the site, no Phase II Comprehensive Site Assessment, Phase III Remedial Action Plan, Response Action Outcome Report, Tier II Extension Request, or other MCP required documents have been submitted to DEP as required by MCP compliance deadlines. No documentation was found in DEP files that the three conditions identified by ATC have been addressed.

On January 10, 2001 the City of Springfield submitted a Release Notification form to the DEP regarding a release of petroleum hydrocarbons from the underground storage tanks located near the northwest corner of the site building. This notification was based upon

subsurface information collected for this study. These data indicate that petroleum constituents are present in soil adjacent to the underground storage tanks above the RCS-1 reportable standard.

OTO Subsurface Exploration and Testing Program

As part of this study, we conducted a subsurface exploration program consisting of the installation of soil borings and groundwater monitoring wells and the analysis of selected soil and groundwater samples. Our objective was twofold, to evaluate whether OHM may be present in site soil or groundwater in areas not previously identified, and to further define the limits of soil and groundwater contamination in the vicinity of the site underground storage tanks. As part of this study, we conducted a subsurface exploration program consisting of the installation of soil borings and groundwater monitoring wells and the analysis of selected soil and groundwater samples. Our objective was to evaluate whether oil or hazardous materials (OHM) may be present in site soil or groundwater.

Our subsurface investigation and testing program consisted of the following:

- Eight soil borings (OTO-1 through OTO-8) each of which were completed as a monitoring well;
- Six (6) geoprobe soil borings (GP-1 through GP-6);
- Three shallow soil samples collected adjacent to the former transformer pads or from soil piles suspected of containing contaminated soils;
- The screening of soil samples for VOCs using a PID;
- Laboratory analysis of selected soil samples; and
- The collection and laboratory analysis of groundwater samples from the eight newly installed monitoring wells and five previously installed monitoring.

Soil conditions consisted of predominately native granular soils overlying glacial till. No significant amounts of fill were observed with the exception of around the underground storage tanks located near the northwest corner of the site building.

With the exception of two borings located adjacent to the underground storage tanks, no odors or staining were observed in the borings. In these borings, oil stained soils and odors were observed between a depth of 9 and 17 feet.

Groundwater elevation measurements were collected at the time of groundwater sampling. Groundwater elevation measurements indicate groundwater flow at the site to be generally towards the north/northwest.

Each of the soil samples collected was screened in the field for VOCs using a PID. No PID readings were observed in soil samples collected from the Goodwin Street site.

Selected soil samples were analyzed for VOCs, EPH/VPH, PCBs, and total concentrations of the RCRA-8 metals. Eleven VOCs, six VPH compounds, sixteen EPH

compounds, one PCB and four metals were detected. Samples were submitted for laboratory analysis. Six compound,s above their respective RCS-1 standard, were detected in at least one boring. Each of the detections above reportable concentrations were from borings located between the underground storage tanks located near the northwest corner of the site building. As a result of these detections, a Release Notification Form was submitted to the Massachusetts DEP by the City of Springfield.

Groundwater samples were collected from each of the eight new monitoring wells and from five previously installed monitoring wells. Each sample was analyzed for volatile organic compounds by EPA method 8260, for extractable petroleum hydrocarbons and volatile petroleum hydrocarbons (VPH/EPH) and for dissolved concentrations of the RCRA-8 metals. There were no detections above the RCGW-2 standard.

Building Survey

A survey was completed of site building to evaluate the potential presence of hazardous materials and asbestos containing materials. Dusts containing lead above the federal hazardous waste limits were found on rafters in the former foundry area and in dust collectors on the roof of the building. In addition, a significant amount of asbestos containing material (including thermal insulation, transite wall boards and roofing materials) was found. These materials will need to be abated prior to any demolition or renovation of the building.

Conclusions and Recommendations

The significant findings of our study was the identification of a release of petroleum hydrocarbons in the vicinity of the six underground storage tanks located near the northwest corner of the site building, and the identification of significant quantities of lead containing dusts and asbestos containing materials in the building interior. To address the petroleum release condition near the underground storage tanks, we recommend that the underground storage tanks be removed and that any contaminated soils be removed. This work can be accomplished under the MCP as a Release Abatement Measure (RAM). In addition, a Phase I Report and Tier Classification must be submitted within one year of the release notification.

## 6.2 PINEVALE STREET PROPERTY

Description and Setting

The Pinevale Street property is a former shipping/manufacturing building located on the east side of Pinevale Street. The building is approximately 55,000 square feet in area and is nearly rectangular. The building covers essentially all of the land associated with the site. Most of the building consists of a single room with high ceilings with no basement. Most of the building is wood framed construction with either wood or concrete floorslabs.

The Pinevale Street property is situated at an elevation of approximately 210 feet above mean seal level with the immediate vicinity showing relatively little relief. There appears to be approximately 8 feet of topographic relief across the site, since the eastern edge of the site building is at grade, and the western edge of the site building is approximately 8 feet above Pinevale Street.

The site is located in the Chicopee River drainage basin and regional groundwater flow direction is expected to be to the north and northwest towards the Chicopee River located approximately 1,500 feet north of the site. Run-off from the building roof likely enters storm drains in Pinevale Street or drains to the vacant land to the east and south. No surface waters or wetlands are located at the site. The nearest surface water is the Chicopee River, while the nearest wetlands are present in association with Long Pond, approximately 1,500 feet west of the site.

The site is within a Non-Potential Drinking Water Source Area. There are no known drinking water supply wells within one mile of the site. Based on this information, site groundwater would be classified as RCGW-2 for release reporting purposes. Since the property is located within 500 feet of a residence, site soil would be classified as RCS-1.

History

This building appears to have been constructed by Chapman Valve in the 1880s. The site was apparently owned by Chapman Valve/Crane from the 1880s until 1966, when it was sold to the Mansfield Paper Company. A 1953 Chapman Valve facility plan indicated that the Pinevale site building was occupied by the Mansfield Paper Company, indicating that the building may have been leased by Chapman Valve/Crane prior to sale.

Manufacturing operations conducted in this building consisted of the assembly, packaging and shipping of valves. Chapman Valve/Crane site operations also likely included light machining, woodworking and painting for the construction of shipping containers. Little is known regarding potential Mansfield Paper operations at the site.

According records in the Springfield Assessors office, the Pinevale site building was sold by the Crane Company to the Mansfield Paper Company in 1966. In turn, Mansfield Paper sold the building to C&J Industries in April 1983. During the period when C&J Industries owned the site, two commercial businesses occupied portions of the property. A1 Recycling occupied the southern part of the site building for its recycling operations. A small discount retailer, the Crafters Outlet, was apparently located in the northwest portion of the building during this period. In September 1987 the Park West Bank took possession of the property. In turn, the City of Springfield foreclosed on the building in 1990, for the non payment of taxes.

Regulatory File Information

The Pinevale Street property was not listed on any state or federal data bases that were searched. No file for the Pinevale Street property was found in DEP, Waste Site Cleanup properties.

OTO Subsurface Exploration and Testing Program

As part of this study, we conducted a subsurface exploration program consisting of the installation of soil borings and groundwater monitoring wells and the analysis of selected soil and groundwater samples. Our objective was to evaluate whether oil or hazardous materials (OHM) may be present in site soil or groundwater in areas.

Our subsurface investigation and testing program was conducted. The explorations performed consisted of the following:

- Three soil borings (OTO-9 through OTO-11) each of which were completed as a monitoring well;
- One soil boring (B-1) to evaluate subsurface conditions beneath the building floorslab,;The screening of soil samples for Volatile Organic Compounds (VOCs) using a Photo-ionization Detector;
- Laboratory analysis of selected soil samples; and
- The collection and laboratory analysis of groundwater samples from the two of the three monitoring wells. No overburden groundwater present at boring location OTO-9.

Soil samples collected from each of the borings at the Pinevale Street site were screened in the field for VOCs using a PID. The VOC screening results varied between none detected and 150 parts per million (PPM). The 150 PPM result was collected from the near surface sample in boring OTO-9, which was performed though the center of railroad tracks which passed along the west side of the building. This sample was oil stained and odorous and appears to reflect a surface oil spill. PID readings in the other soil samples collected were less than 10 PPM.

Selected soil samples were analyzed for VOCs, EPH/VPH, PCBs, and total concentrations of the RCRA-8 metals. Eleven VOCs, six VPH compounds, sixteen EPH compounds, one PCB and four metals were detected. Petroleum hydrocarbons were detected above reportable concentrations in shallow soil samples from locations OTO-9 and B-1. Boring OTO-9 was located at the northwest corner of the building exterior, where the surface soils were oil stained. Boring B-1 was located beneath the floor in the interior of the building, where the wood was oil stained from waste oil spills apparently associated with the former recycling operation. One VPH and eleven EPH compounds were detected above their respective RCS-1 standard. Based upon the site location and the levels of contamination detected, it is our opinion that these detections would constitute a reportable condition under the Massachusetts contingency Plan (MCP).

An area of oil stained flooring and pooled waste oil is present in the central part of the Pinevale Street building. Numerous tanks, drums and containers of waste oil and paint are located in the area of the floor staining. A sample of oil and sediment was collected and submitted to the laboratory for analysis for EPH, PCBs, and total concentrations of the RCRA-8 metals. The sample contained petroleum hydrocarbons, PCBs, and chromium. Since the sample was from the floor surface in the interior of the building, these detections would not constitute a reportable release under the MCP. However, as was discussed above the soil (in boring B-1) immediately below the stained area also contained reportable concentrations of petroleum hydrocarbons.

Groundwater samples were collected from two of the three monitoring wells installed for this study. Both samples were analyzed for VOCs, for VPH/EPH and for dissolved concentrations of the RCRA-8 metals. Three VOCs, two VPH compounds, four EPH compounds, and two metals were detected. Samples were submitted for laboratory analysis. There were no detections above the RCGW-2 reportable standard contained in the MCP.

Building Survey

A survey was completed of site building to evaluate the potential presence of hazardous materials and asbestos containing materials. Several 275 gallon above ground storage tanks, and numerous full and partially full one to five gallon containers of oils, solvents and paints are present in the site building. In addition, a significant amount of asbestos containing material (including thermal insulation, mastic beneath wood floors, and transite wall boards) was found. These materials will need to be removed or abated prior to any demolition or renovation of the building.

Conclusions and Recommendations

The significant finding of our study at the Pinevale Street site was the identification of a release of petroleum hydrocarbons in the vicinity of borings OTO-9 and B-1. Location OTO-9 is an area of surface stained soil near the northwest corner of the site. Location B-1 is located near the center of the site building, where waste oil has spilled onto the floor and apparently penetrated into the underlying soil. Stained and odorous soils were observed at both locations and several petroleum compounds were detected above their respective RCS-1 standard. We recommend that a Release Notification Form be submitted to the Massachusetts DEP by the City of Springfield. There were no reportable conditions identified in groundwater downgradient of this location. To address this release condition, we recommend that the contaminated soil be removed under a Release Abatement Measure (RAM). Since location OT-9 is located on the exterior of the site building, this work can be done at any time. Since location B-1 is located beneath he building, it does not appear feasible to remove soil from this location until the building is demolished.

## 7.0 LIMITATIONS

Our Site Assessment was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same geographic area. Our findings and conclusions must not be considered as scientific certainties, but rather as our professional opinion concerning the potential significance of the data obtained during the coarse of our study. We do not and cannot represent that the site contains no hazardous material or oil, or that the site is free from latent conditions not observed in our assessment. Our report is subject to the additional Limitations contained in Appendix A.

This assessment and report was prepared on behalf of and for the exclusive use of the City of Springfield, solely for the purpose of rendering an opinion as to the presence of oil or hazardous materials in site soil and groundwater subject to requirements of M.G.L. Chapter 21E. This report shall not, in whole or in part, be disseminated or conveyed to any other party, or used or relied upon by any other party without the prior written consent of O'Reilly, Talbot & Okun Associates, Inc.

## Table 1
## DEP File Sources

| Reference | Date | Description | Search Radius |
|---|---|---|---|
| A | October 1993 | List of Confirmed Disposal Sites and Locations to Be Investigated | 0.5 miles |
| B | March 1994 | Addendum to (A) | 0.5 miles |
| C | August 1999 | List of Transition Sites and Tier Classified Sites | 0.5 miles |
| D | April 1996 | CERCLIS and NPL | 1 mile |
| E | October 1996 | RCRA Generators List | Site/Abutters |
| F | October 1996 | RCRA Treatment, Storage and Disposal facilities (TSD) | 1 mile |
| G | August 1999 | Standard Release Report | 0.5 miles |
| H | 1993 | Bureau of Waste Site Cleanup (BWSC) Spills List | Site/Abutters |
| I | April 1999 | BWSC GIS Maps | 1 mile |

Table 2
Groundwater Elevation Measurements, Goodwin Street Site
September 2000

| Well | Reference Elevation (Feet) | Depth to Water (ft) | GW Elev. (ft) |
|---|---|---|---|
| OT-1 | 100.0 | 16.6 | 83.4 |
| OT-2 | 101.3 | 16.5 | 84.8 |
| OT-3 | 103.2 | 16.0 | 87.2 |
| OT-4 | 99.6 | 12.1 | 87.5 |
| OT-5 | 104.3 | 9.2 | 95.1 |
| OT-6 | 101.5 | 11.9 | 89.6 |
| OT-7 | 99.7 | 13.7 | 86.0 |
| OT-8 | 96.7 | 9.5 | 87.2 |
| CEA-1 | 99.3 | 14.4 | 84.9 |
| CEA-2 | 100.8 | 17.6 | 83.2 |
| CEA-3 | 102.8 | 18.9 | 83.9 |
| CEA-4 | 100.2 | 15.5 | 84.7 |
| CEA-5 | 100.8 | 13.6 | 87.2 |

| Boring/Depth | EP-1 S-5 | EP-4 S-5 | HA-2 | HA-3 |
|---|---|---|---|---|
| **Volatile Organic Compounds (VOCs)** | | | | |
| 1,1 Dichloroethene | 0.11 | -- | | |
| 1,2,4-Trimethylbenzene | 0.28 | -- | -- | ND |
| 1,3,5-Trimetheylbenzene | 0.17 | -- | -- | ND |
| 4-Isopropyltolunene | 0.14 | -- | -- | ND |
| Isopropylbenzene | 0.15 | -- | -- | ND |
| Methylene chloride | 0.17 | -- | -- | ND |
| Naphthalene | 0.80 | -- | -- | ND |
| n-Propylbenzene | 0.49 | -- | -- | ND |
| sec-Butylbenzene | 0.13 | -- | -- | ND |
| tert-Butylbenzene | 0.06 | -- | -- | ND |
| Tetrachloroethene | ND | -- | -- | ND |
| **Volatile Petroleum Hydrocarbons (VPH)** | | | -- | 69 |
| C5-C8 Aliphatic Hydrocarbons | ND | 18 | | |
| C9-C12 Aliphatic Hydrocarbons | 26 | 48 | -- | ND |
| C9-C10 Aromatic Hydrocarbons | 180 | 110 | -- | ND |
| Ethylbenzene | ND | 0.41 | -- | ND |
| m,p-Xylene | ND | 1.2 | -- | ND |
| Naphthalene | 0.36 | 1.7 | -- | ND |
| o-Xylene | ND | 0.43 | -- | ND |
| **Extractable Petroleum Hydrocarbons (EPH)** | | | -- | ND |
| C9-C18 Aliphatic Hydrocarbons | 470 | 590 | | |
| C19-C36 Aliphatic Hydrocarbons | 90 | 2100 | ND | 64 |
| C11-C22 Aromatic Hydrocarbons | 290 | 800 | ND | 80 |
| 2-Methylnaphthalene | ND | 9.2 | ND | ND |
| Acenaphthene | 0.37 | 0.61 | ND | ND |
| Acenaphthylene | ND | 0.29 | ND | ND |
| Anthracene | ND | 0.53 | ND | ND |
| Benz(a)anthracene | ND | 1.6 | ND | ND |
| Benzo(a)pyrene | ND | 0.6 | ND | ND |
| Benzo(b)fluoranthene | ND | ND | ND | ND |
| Chrysene | ND | 0.59 | ND | ND |
| Fluoranthene | ND | ND | ND | ND |
| Fluorene | 0.51 | 0.85 | 0.33 | ND |
| Naphthalene | ND | 2.9 | ND | ND |
| Phenanthrene | 1 | 3.3 | ND | ND |
| Pyrene | ND | 0.73 | ND | ND |
| **Polychlorinated Byphenyls (PCBs)** | | | ND | ND |
| Aroclor 1260 | ND | ND | | |
| **Total Metals** | | | ND | ND |
| Barium | -- | 47 | | |
| Chromium | -- | 10 | ND | -- |
| Lead | -- | 8 | 7.1 | -- |
| Mercury | -- | ND | 16 | -- |
| | | | ND | -- |

Note:

1. Concentrations in mg/kg.
2. Only compounds detected are shown.

Table 4
Field Screening Results, Goodwin Street Site
September 2000

| | pH (Standard Units) | Specific Conductance (umohs/cm) |
|---|---|---|
| OT-1 | 6.9 | 162 |
| OT-2 | 7.4 | 78 |
| OT-3 | 6.7 | 190 |
| OT-4 | 6.8 | 188 |
| OT-5 | 6.5 | 215 |
| OT-6 | 6.2 | 171 |
| OT-7 | 7.1 | 416 |
| OT-8 | 7.1 | 112 |
| CEA-1 | 6.9 | 235 |
| CEA-2 | 6.9 | 403 |
| CEA-3 | 7.4 | 260 |
| CEA-4 | 7.1 | 335 |
| CEA-5 | 6.6 | 395 |

Table 6
Pinevale Street Property
Soil Quality Data

| Boring/Depth | OT-9 0-2 | OT-11 0-2 | OT-11 10-12 | B-1 0-2 | B-1 2-4 | Floor Grab |
|---|---|---|---|---|---|---|
| **Volatile Organic Compounds (VOCs)** | | | | | | |
| cis-1,2 Dichloroethene | 0.088 | -- | ND | -- | -- | -- |
| 1,2,4-Trimethylbenzene | 12.00 | -- | ND | -- | -- | -- |
| 1,3,5-Trimetheylbenzene | 4.6 | -- | ND | -- | -- | -- |
| 4-Isopropyltolunene | 0.33 | -- | ND | -- | -- | -- |
| Isopropylbenzene | 0.22 | -- | ND | -- | -- | -- |
| Toluene | 0.64 | -- | ND | -- | -- | -- |
| Naphthalene | 3.00 | -- | ND | -- | -- | -- |
| n-Propylbenzene | 0.58 | -- | ND | -- | -- | -- |
| sec-Butylbenzene | 0.41 | -- | ND | -- | -- | -- |
| Ethylbenzene | 0.34 | -- | ND | -- | -- | -- |
| Xylenes | 4.20 | -- | ND | -- | -- | -- |
| **Volatile Petroleum Hydrocarbons (VPH)** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 17 | -- | ND | -- | -- | -- |
| C9-C12 Aliphatic Hydrocarbons | 20 | -- | ND | -- | -- | -- |
| C9-C10 Aromatic Hydrocarbons | 180 | -- | ND | -- | -- | -- |
| Toluene | 0.65 | -- | ND | -- | | |
| Ethylbenzene | 0.39 | -- | ND | -- | -- | -- |
| m,p-Xylene | 2.1 | -- | ND | -- | -- | -- |
| Naphthalene | 3.7 | -- | ND | -- | -- | -- |
| o-Xylene | 1.9 | -- | ND | -- | -- | -- |
| **Extractable Petroleum Hydrocarbons (EPH)** | | | | | | |
| C9-C18 Aliphatic Hydrocarbons | 140 | ND | ND | 69 | ND | 3200 |
| C19-C36 Aliphatic Hydrocarbons | 6300 | ND | ND | 230 | ND | 3200 |
| C11-C22 Aromatic Hydrocarbons | 290 | 86 | ND | 12000 | ND | 3800 |
| 2-Methylnaphthalene | 1.6 | ND | ND | 19 | ND | 1.4 |
| Acenaphthene | ND | 0.46 | ND | 26 | ND | 5 |
| Acenaphthylene | ND | 0.61 | ND | 220 | 0.27 | 8.8 |
| Anthracene | 0.42 | 2.2 | ND | 280 | ND | 22 |
| Benz(a)anthracene | 1.5 | 6.7 | 0.37 | 330 | ND | 230 |
| Benzo(k)fluoranthene | 0.81 | 2.4 | ND | 54 | ND | 100 |
| Benzo(a)pyrene | 0.94 | 5.7 | 0.32 | 270 | ND | 270 |
| Benzo(b)fluoranthene | 0.79 | 6.8 | 0.39 | 310 | ND | 420 |
| Chrysene | 2.9 | 5.1 | 0.45 | 240 | ND | 170 |
| Fluoranthene | 1.9 | 15 | 1.1 | 850 | 0.31 | 200 |
| Fluorene | 0.29 | 0.63 | ND | 180 | ND | 3.6 |
| Naphthalene | 1.6 | ND | ND | 27 | ND | 1.8 |
| Phenanthrene | 1.3 | 8.1 | 0.85 | 1200 | 0.28 | 64 |
| Indeno(1,2,3-cd)pyrene | 0.38 | 3.2 | ND | 170 | ND | 80 |
| Benzo(g,h,I)perylene | 0.65 | 3.2 | ND | 150 | ND | 69 |
| Dibenz(a,h)anthracene | ND | 0.97 | ND | 17 | ND | 32 |
| Pyrene | 2.4 | 12 | 0.9 | 680 | ND | 580 |
| **Polychlorinated Byphenyls (PCBs)** | | | | | | |
| Aroclor 1254 | ND | ND | -- | ND | ND | 1.3 |
| Aroclor 1260 | ND | ND | -- | ND | ND | 1.0 |
| **Total Metals** | | | | | | |
| Arsenic | ND | ND | ND | -- | -- | 48 |
| Barium | 69 | 49 | 58 | -- | -- | 470 |
| Cadmium | ND | ND | ND | -- | -- | 320 |
| Chromium | 19 | 19 | 16 | -- | -- | 2400 |
| Lead | 14 | 6.3 | 6.2 | -- | -- | ND |
| Mercury | ND | ND | ND | -- | -- | 42 |

Note:
1. Concentrations in mg/kg.
2. Only compounds detected are shown.

**Table 7**
**Field Screening Results, Pinevale Street Site**
**September 2000**

| | pH (Standard Units) | Specific Conductance (umohs/cm) |
|---|---|---|
| OT-9 | dry | --- |
| OT-10 | 6.6 | 232 |
| OT-11 | 6.7 | 315 |

# Table 8
## Pinevale Street Property
## Groundwater Quality Data

| Monitoring Well | OT-10 | OT-11 |
|---|---|---|
| **Volatile Organic Compounds (VOCs)** | ND | ND |
| **Volatile Petroleum Hydrocarbons (VPH)** | ND | |
| **Extractable Petroleum Hydrocarbons (EPH)** | | |
| Phenabnthrene | 2.1 | ND |
| C9-C18 Aliphatic Hydrocarbons | ND | ND |
| C19-C36 Aliphatic Hydrocarbons | ND | ND |
| C11-C22 Aromatic Hydrocarbons | ND | ND |
| **Dissolved Metals** | | |
| Arsenic | 28 | 37 |
| Barium | ND | ND |

Note:
1. Concentrations in ug/l.

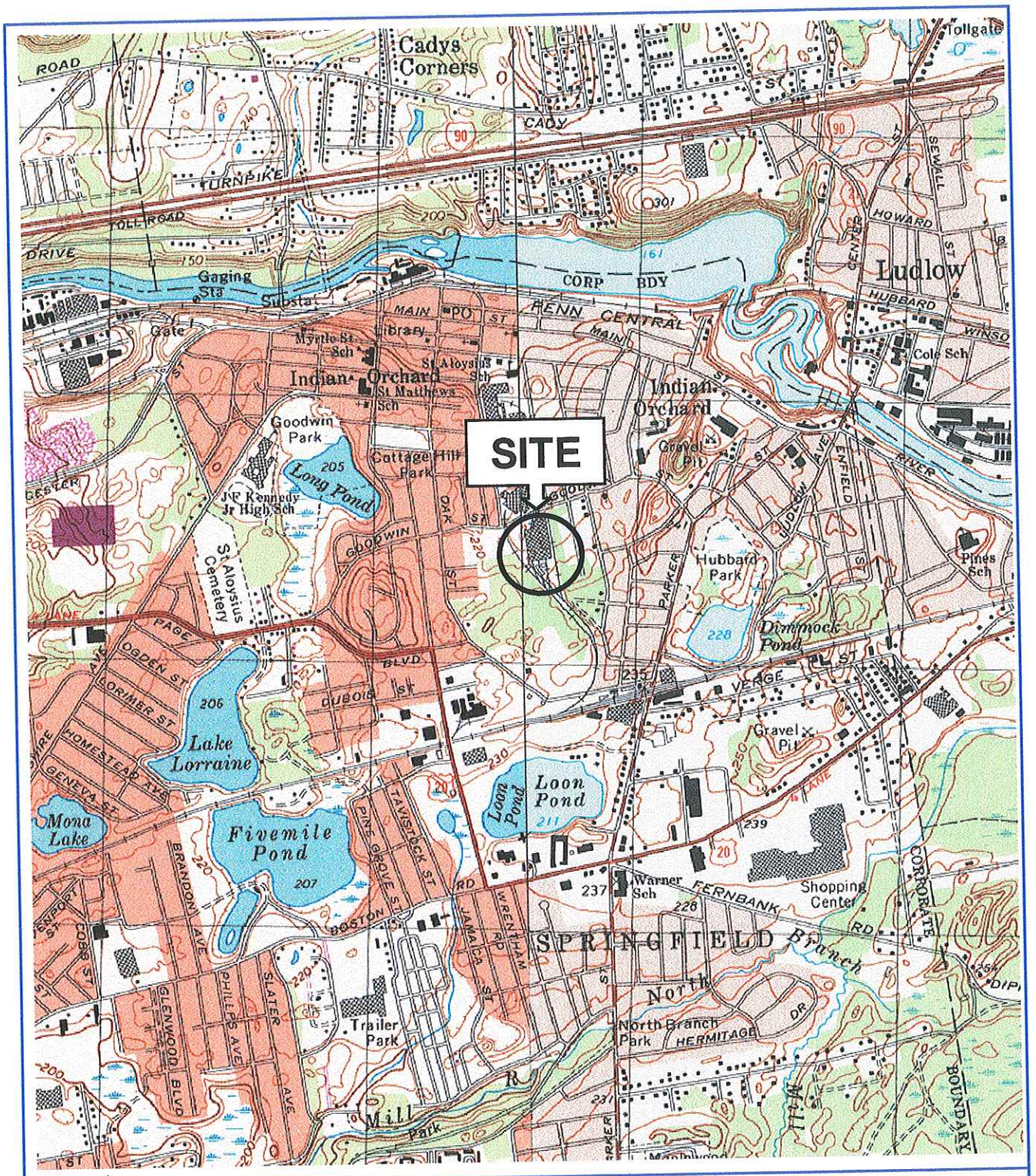
Table 9
Goodwin Street Property
PES Soil Sample Results
Concentrations in µg/l

| Parameter | Laboratory Result | Certified Value | Performance Acceptance limits |
|---|---|---|---|
| Benzene | 1900 | 2050 | 1370 - 2810 |
| Bromodichloromethane | 1600 | 2180 | 1480 – 2960 |
| Bromoform | 920 | 1340 | 856 – 1960 |
| Carbon Tetrachloride | 1800 | 2300 | 1400 – 3290 |
| Chlorobenzene | 1300 | 1280 | 919 – 1720 |
| Chlorodibromomethane | 530 | 771 | 505 – 1080 |
| Cloroform | 770 | 901 | 592 – 1240 |
| 1,2-Dichlorobenzene | 3000 | 2970 | 1930 – 4130 |
| 1,3-Dichlorobenzene | 940 | 936 | 601 – 1310 |
| 1,4-Dichlorobenzene | 530 | 494 | 314 – 712 |
| 1,2-Dichloroethane | 3500 | 4940 | 3250 – 6820 |
| Ethylbenzene | 580 | 602 | 413 – 836 |
| Methylene Chloride | 850 | 821 | 405 – 1220 |
| 4-Methyl-2-Pentanone | 2000 | 1550 | 797 – 2500 |
| 1,1,2,2-Tetrachloroethane | 1200 | 1420 | 782 – 2090 |
| Tetrachloroethylene | 2000 | 1700 | 1080 – 2430 |
| Toluene | 570 | 577 | 401 – 761 |
| 1,1,1,-Trichloroethane | 650 | 931 | 594 – 1280 |
| 1,1,2-Trichloroethane | 1400 | 1430 | 1030 – 1940 |
| Trichloroethylene | 570 | 569 | 347 – 774 |
| Xylene, total | 880 | 869 | 593 - 1220 |
| 1,1-Dichloroethene | 86 | NA | NA |
| 2-Butanone | 580 | NA | NA |
| Note:<br>All constituents within Performance Acceptance Limits | | | |

**Table 10**
**Goodwin Street Property**
**PES Water Sample Results**
**Concentrations in µg/l**

| Parameter | Laboratory Result | Certified Value | Performance Acceptance limits |
|---|---|---|---|
| Benzene | 19 | 16.5 | 13.2 – 19.8 |
| Carbon Tetrachloride | 3.8 | 3.18 | 1.91 – 4.45 |
| Chlorobenzene | 4.7 | 4.16 | 2.50 – 5.82 |
| 1,2-Dichlorobenzene | 6.3 | 6.08 | 3.65 – 8.51 |
| 1,4-Dichlorobenzene | 17 | 16.1 | 12.9 – 19.3 |
| 1,2-Dichloroethane | 10 | 9.7 | 5.82 – 13.6 |
| 1,1-Dichloroethylene | 21* | 15.8 | 12.6 – 19.0 |
| cis-1,2-Dichloroethylene | 16 | 14.6 | 11.7 – 17.5 |
| trans-1,2-Dichloroethylene | 23 | 20.6 | 16.6 – 24.7 |
| 1,2-Dichloropropane | 10 | 9.51 | 5.71 – 13.3 |
| Ethylbenzene | 19 | 17.6 | 14.1 – 21.1 |
| Methylene Chloride | 13 | 11.5 | 9.20 – 13.8 |
| Styrene | 12 | 11.9 | 9.52 – 14.3 |
| Tetrachloroethylene | 15 | 15.0 | 12.0 – 18.0 |
| Toluene | 19 | 17.2 | 13.8 – 20.6 |
| 1,2,4-Trichlorobenzene | 10 | 11.8 | 9.44 – 14.2 |
| 1,1,1-Trichloroethane | 13 | 11.4 | 9.12 – 13.7 |
| 1,1,2-Trichloroethane | 6.1 | 6.12 | 3.67 – 8.57 |
| Trichloroethylene | 11 | 9.31 | 5.59 – 13.0 |
| Vinyl Chloride | 10* | 6.67 | 4.00 – 9.34 |
| Xylene, total | 48 | 44.9 | 35.9 – 53.9 |

Note:
"*" indicates that Value is outside the Performance Acceptance Limits




O'Reilly, Talbot & Okun Associates, Inc.

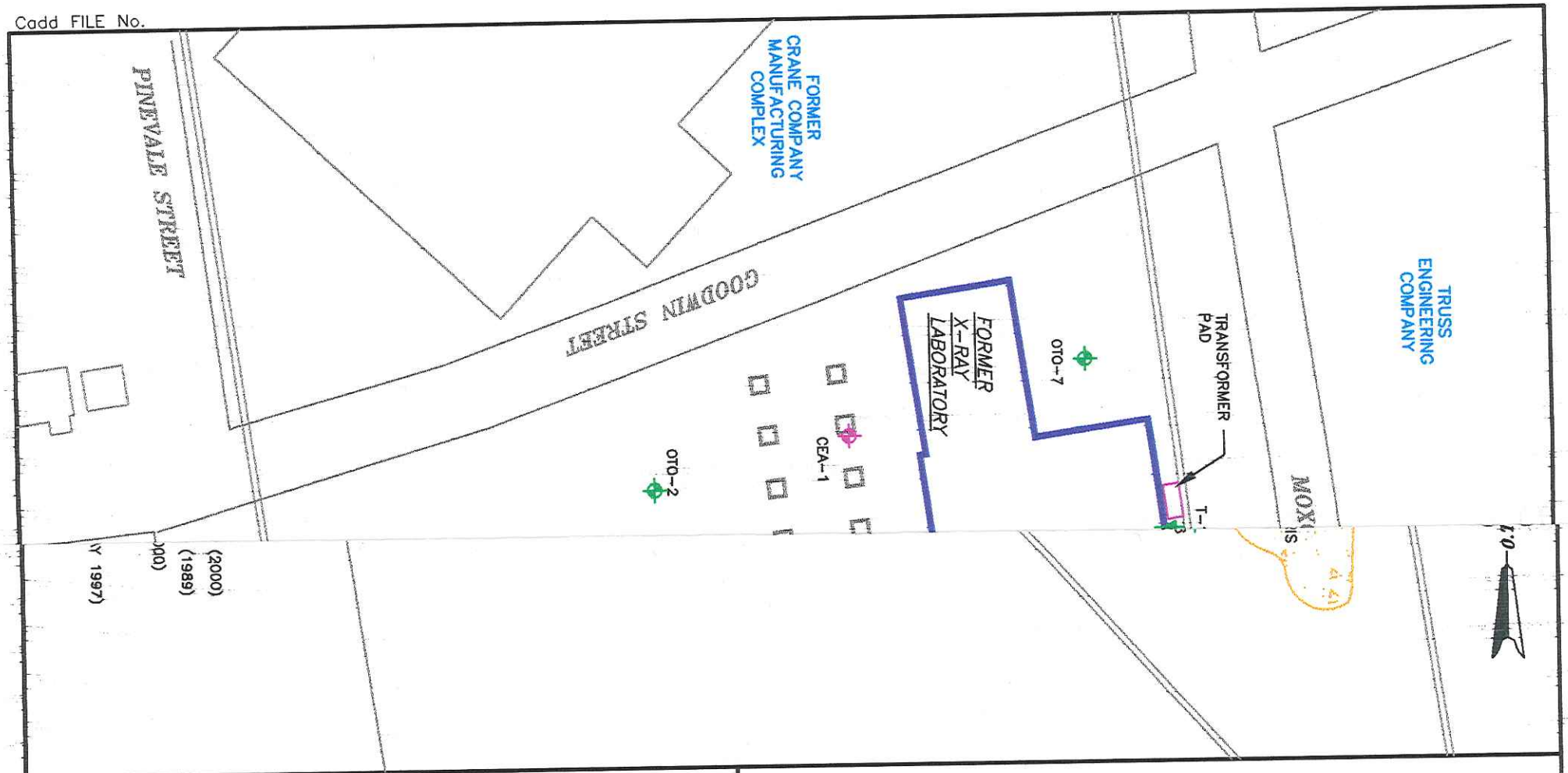
**225 Goodwin Street**
**Springfield, Massachusetts**

# Site Locus

March 2002

Figure 1

Cadd FILE No.




**INDIAN ORCHARD BROWNFIELDS SITE**

SPRINGFIELD, MASSACHUSETTS

# SITE PLAN
# GOODWIN STREET PROPERTY

SCALE IN FEET

1"= 80'

0' 40' 80' 160'

DESIGNED BY: JEG DRAWN BY: CDA

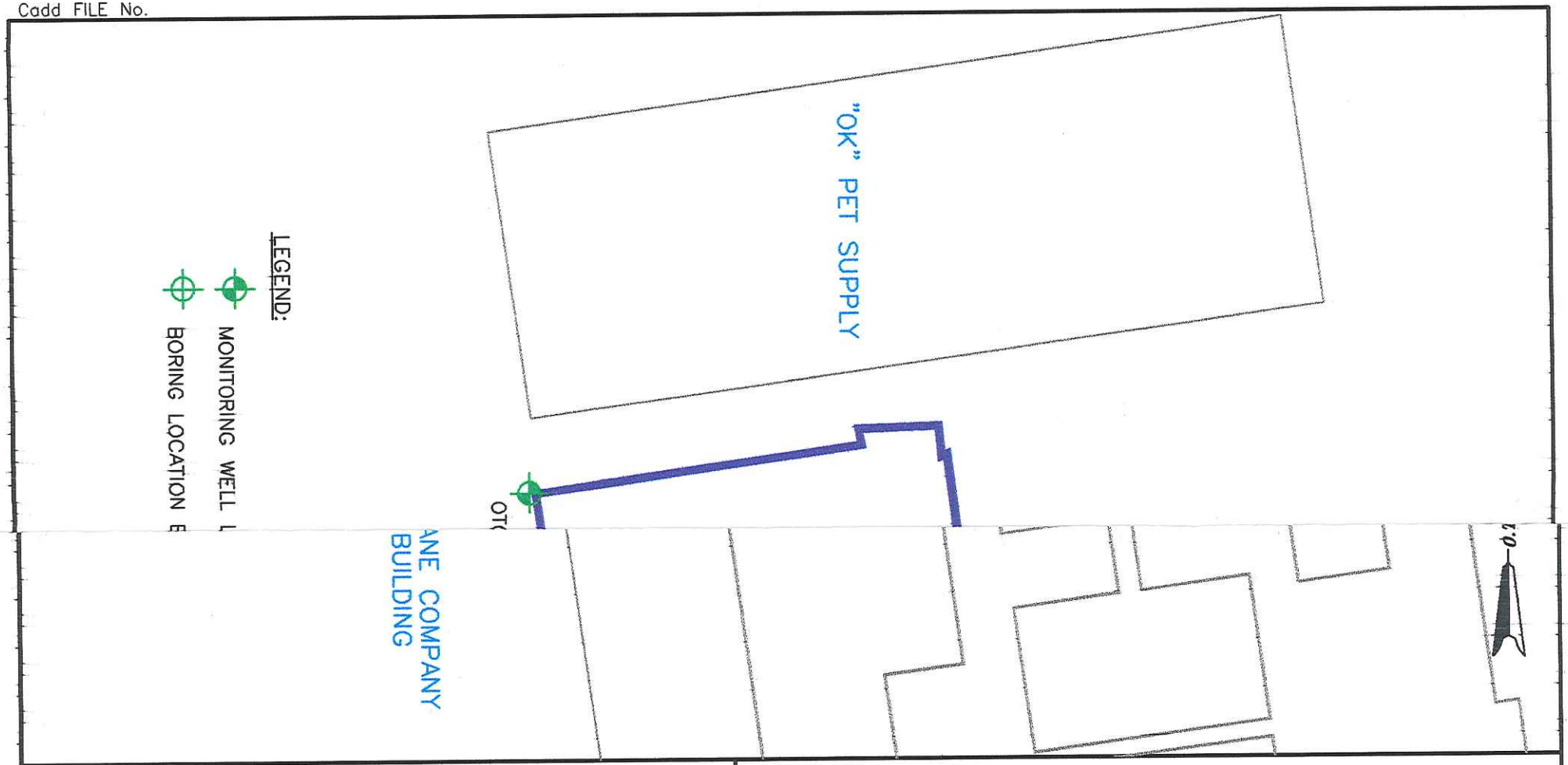
REVIEWED BY: DJM DATE: DEC. 5, 2000

*O'REILLY, TALBOT & OKUN ASSOCIATES, Inc.*

PROJECT No. J76-22-01

FIGURE No. 3

Cadd FILE No.




**INDIAN ORCHARD BROWNFIELDS SITE**

SPRINGFIELD, MASSACHUSETTS

# SITE PLAN
# PINEVALE STREET PROPERTY

SCALE IN FEET

1"= 60'

0' 30' 60' 120'

DESIGNED BY: JEG DRAWN BY: CDA

REVIEWED BY: DJM DATE: DEC. 5, 2000

*O'REILLY, TALBOT & OKUN ASSOCIATES, Inc.*

PROJECT No. J76-22-01

FIGURE No. 4

# Appendix A

# LIMITATIONS

1. Our report does not present scientific certainties, but rather our professional opinions on the data obtained through our assessment. Our report was prepared for the exclusive benefit of our client. Reliance upon the report and its conclusions is not made to third parties or future property owners. We would be pleased to discuss extension of reliance to third parties through execution of a written contract with such parties.
2. The observations presented in this report were made under the conditions described herein. The conclusions presented in this report were based solely upon the services described in the report and not on scientific tasks or procedures beyond the scope of the project or the time and budgetary constraints imposed by the client. The work described in this report was carried out in accordance with the contract Terms and Conditions.
3. In preparing the report O'Reilly, Talbot, Okun & Associates, Inc. relied on certain information provided by state and local officials and other parties referenced herein, and on information contained in prior site reports. Although there may have been some degree of overlap in the information provided by these sources, O'Reilly, Talbot, Okun & Associates, Inc. did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this assessment.
4. Observations were made of the site and of the structures on the site as indicated within the report. Where access to portions of the site or to structures on the site was unavailable or limited, we render no opinion as to the presence of hazardous materials or oil, or to the presence of indirect information relating to hazardous materials or oil in that portion of the site. In addition, we render no opinion as to the presence of hazardous materials or oil, where direct observations of portions of the site were obstructed by objects or coverings on or over these surfaces.
5. Unless otherwise specified in the Report, we did not perform testing or analyses to determine the presence or concentration of asbestos at the site or in the environment at the site.
6. The purpose of this Report was to assess the physical characteristics of the subject site with respect to the presence of hazardous material or oil in soil or groundwater at the site. No specific attempt was made to check on the compliance of present or past owners or operators of the site with federal, state, or local laws and regulations, environmental or otherwise.

# The EDR-Radius Map
## with GeoCheck®

Former Chapman Valve
225 Goodwin Street
Springfield, MA 01151

Inquiry Number: 511704.1s

June 27, 2000

Environmental Data Resources, Inc.
an edr company

*The* Source For Environmental Risk Management Data

3530 Post Road
Southport, Connecticut 06490

**Nationwide Customer Service**

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

# TABLE OF CONTENTS



## GEOCHECK ADDENDUM



*Thank you for your business.*
Please contact EDR at 1-800-352-0050
with any questions or comments.

# EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-00. Search distances are per ASTM standard or custom distances requested by the user.

## TARGET PROPERTY INFORMATION

### ADDRESS

225 GOODWIN STREET
SPRINGFIELD, MA 01151

### COORDINATES

| | |
|---|---|
| Latitude (North): | 42.153100 - 42° 9' 11.2" |
| Longitude (West): | 72.498900 - 72° 29' 56.0" |
| Universal Tranverse Mercator: | Zone 18 |
| UTM X (Meters): | 706650.2 |
| UTM Y (Meters): | 4669589.0 |

### USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

| | |
|---|---|
| Target Property: | 2442072-B4 LUDLOW, MA |
| Source: | USGS 7.5 min quad index |

### TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following government records. For more information on this property see page 5 of the attached EDR Radius Map report:

| Site | Database(s) | EPA ID |
|---|---|---|
| AMER. DREAM MODULAR HOMES<br>225 GOODWIN ST.<br>SPRINGFIELD, MA | SHWS | N/A |

### DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ( "reasonably ascertainable ") government records either on the target property or within the ASTM E 1527-00 search radius around the target property for the following databases:

### FEDERAL ASTM STANDARD

| | |
|---|---|
| NPL | National Priority List |
| Delisted NPL | NPL Deletions |
| CERC-NFRAP | Comprehensive Environmental Response, Compensation, and Liability Information System |
| RCRIS-TSD | Resource Conservation and Recovery Information System |
| RCRIS-LQG | Resource Conservation and Recovery Information System |
| RCRIS-SQG | Resource Conservation and Recovery Information System |
| ERNS | Emergency Response Notification System |

### STATE ASTM STANDARD

| | |
|---|---|
| UST | Summary Listing of all the Tanks Registered in the State of Massachusetts |

# EXECUTIVE SUMMARY

## FEDERAL ASTM SUPPLEMENTAL

**CONSENT**..... CONSENT
**ROD**..... ROD
**FINDS**..... Facility Index System/Facility Identification Initiative Program Summary Report
**HMIRS**..... Hazardous Materials Information Reporting System
**MLTS**..... Material Licensing Tracking System
**MINES**..... Mines Master Index File
**NPL Lien**..... NPL Liens
**PADS**..... PCB Activity Database System
**RAATS**..... RCRA Administrative Action Tracking System
**TRIS**..... Toxic Chemical Release Inventory System
**TSCA**..... Toxic Substances Control Act

## STATE OR LOCAL ASTM SUPPLEMENTAL

**AST**..... Summary Listing of All the Tanks Registered in the State of Massachusetts
**MA Spills**..... Historical Spill List
**Release**..... Release Tracking Report

## EDR PROPRIETARY DATABASES

**Coal Gas**..... Former Manufactured gas (Coal Gas) Sites.

## SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

Elevations have been determined from the USGS 1 degree Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. EDR's definition of a site with an elevation equal to the target property includes a tolerance of +/- 10 feet. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property (by more than 10 feet). Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

## FEDERAL ASTM STANDARD

**CERCLIS:** The Comprehensive Environmental Response, Compensation and Liability Information System contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).
CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

A review of the CERCLIS list, as provided by EDR, and dated 02/14/2000 has revealed that there is 1 CERCLIS site within approximately 0.5 miles of the target property.

| Equal/Higher Elevation | Address | Dist / Dir | Map ID | Page |
|---|---|---|---|---|
| *CRANE COMPANY* | *GOODWIN & OAK STREETS* | *1/8 - 1/4 W* | *A4* | *6* |

# EXECUTIVE SUMMARY

**CORRACTS:** CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity.

A review of the CORRACTS list, as provided by EDR, and dated 09/07/1999 has revealed that there is 1 CORRACTS site within approximately 1 mile of the target property.

| Equal/Higher Elevation | Address | Dist / Dir | Map ID | Page |
|---|---|---|---|---|
| *NOVA CHEMICALS INC* | *950 WORCESTER ST* | *1/2 - 1 WNW* | *C15* | *19* |

STATE ASTM STANDARD

**SHWS:** The State Hazardous Waste Sites records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. The data come from the Department of Environmental Protection's List of Confirmed Disposal Sites & Locations to be Investigated.

A review of the SHWS list, as provided by EDR, has revealed that there are 11 SHWS sites within approximately 1 mile of the target property.

| Equal/Higher Elevation | Address | Dist / Dir | Map ID | Page |
|---|---|---|---|---|
| C & J INDUSTRIES | 165 PINEVALE ST. | 1/8 - 1/4 NW | 2 | 5 |
| CRANE WASTE DISPOSAL AREA | GOODWIN / OAK STS. | 1/8 - 1/4 W | A3 | 6 |
| HODGE CARPET | 34 FRONT ST. | 1/2 - 1 NW | 7 | 11 |
| *FL ROBERTS SERVICE STATION* | *1313 BOSTON RD* | *1/2 - 1 S* | *8* | *11* |
| REXEL CORP. | 203 WEST AVE. | 1/2 - 1 NNE | 9 | 13 |
| MOBIL OIL STATION | 1828 BOSTON RD. | 1/2 - 1 ESE | B10 | 13 |
| MOBIL OIL CORP SS#01-E43 | 1828 BOSTON RD | 1/2 - 1 ESE | B11 | 14 |
| NOVACOR CHEMICALS | 950 WORCESTER ST | 1/2 - 1 WNW | C12 | 15 |
| NOVACOR CHEMICALS INC | 950 WORCESTER ST | 1/2 - 1 WNW | C13 | 16 |
| *POLYSAR* | *950 WORCESTER STREET* | *1/2 - 1 WNW* | *C14* | *16* |
| *NOVA CHEMICALS INC* | *950 WORCESTER ST* | *1/2 - 1 WNW* | *C15* | *19* |

**SWF/LF:** The Solid Waste Facilities/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data come from the Department of Environmental Protection's Solid Waste Facility Database/Transfer Stations.

A review of the SWF/LF list, as provided by EDR, and dated 04/04/2000 has revealed that there is 1 SWF/LF site within approximately 0.5 miles of the target property.

| Equal/Higher Elevation | Address | Dist / Dir | Map ID | Page |
|---|---|---|---|---|
| GAGLIARDUCCI CONSTRUCTION | 295 PASCO RD | 1/4 - 1/2 SSW | 6 | 10 |

**LUST:** The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Environmental Protection's List of Confirmed Disposal Sites & Locations to be Investigated.

A review of the LUST list, as provided by EDR, and dated 03/20/2000 has revealed that there are 2 LUST sites within approximately 0.5 miles of the target property.

| Equal/Higher Elevation | Address | Dist / Dir | Map ID | Page |
|---|---|---|---|---|
| *CRANE COMPANY* | *GOODWIN & OAK STREETS* | *1/8 - 1/4 W* | *A4* | *6* |

# EXECUTIVE SUMMARY

| Equal/Higher Elevation | Address | Dist / Dir | Map ID | Page |
|---|---|---|---|---|
| *UNIFIRST CORP* | *295 PARKER ST* | *1/4 - 1/2 SSE* | *5* | *7* |

# EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

| Site Name | Database(s) |
|---|---|
| PARKSIDE CLEANERS | SHWS |
| BAYSTATE COLOR & DYE, INC. | SHWS |
| MMWEC | SHWS |
| JET LINES INC LUDLOW | FINDS,RCRIS-LQG,SHWS |
| CATAD CHEMICAL | SHWS |
| PROPERTY NE MERCY HOSPITAL | SHWS |
| CHESTNUT/FRANK B. MURRAY | SHWS |
| PROPERTY (LOTS 2 & 3) | SHWS |
| JOY MINISTRIES/LOT #6 | SHWS |
| MAIN/NOBLE | SHWS |
| CONRAIL | MA Spills,SHWS |
| AMERICAN LIQUID ASPHALT | SHWS |
| UNITED TECH. EAST SITE | LUST |
| UNITED TECH WEST SIDE | LUST |
| FORMER COCA-COLA PLANT | MA Spills,LUST |
| INDIAN MOTORCYCLE ASSOC. | LUST |
| FORMER A&P WAREHSE-297 PLAINFIELD ST | ERNS |
| FORMER PLANT 3 | Release |
| FORMER SOLID WASTE DISPOSAL AR | Release |
| FORMER PRESTIGE AUTO | MA Spills |
| FORMER UNITED TECHNOLOGIES | MA Spills |
| FORMER DUROCHER'S AUTO BODY | MA Spills |
| COCA-COLA BOTTLING - FORMER | MA Spills |

# OVERVIEW MAP - 511704.1s - O`Reilly, Talbot & Okun


0 1/4 1/2 1 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Coal Gasification Sites (if requested)
- National Priority List Sites
- Landfill Sites
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Wetlands per National Wetlands Inventory (1994)
- Areas of Critical Environmental Concern

N

| | | | |
|---|---|---|---|
| TARGET PROPERTY: | Former Chapman Valve | CUSTOMER: | O`Reilly, Talbot & Okun |
| ADDRESS: | 225 Goodwin Street | CONTACT: | Michael Talbot |
| CITY/STATE/ZIP: | Springfield MA 01151 | INQUIRY #: | 511704.1s |
| LAT/LONG: | 42.1531 / 72.4989 | DATE: | June 27, 2000 2:04 pm |

# DETAIL MAP - 511704.1s - O`Reilly, Talbot & Okun


- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- Coal Gasification Sites (if requested)
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Areas of Critical Environmental Concern

| | | | |
|---|---|---|---|
| TARGET PROPERTY: | Former Chapman Valve | CUSTOMER: | O`Reilly, Talbot & Okun |
| ADDRESS: | 225 Goodwin Street | CONTACT: | Michael Talbot |
| CITY/STATE/ZIP: | Springfield MA 01151 | INQUIRY #: | 511704.1s |
| LAT/LONG: | 42.1531 / 72.4989 | DATE: | June 27, 2000 2:06 pm |

# MAP FINDINGS SUMMARY

| Database | Target Property | Search Distance (Miles) | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total Plotted |
|---|---|---|---|---|---|---|---|---|
| **FEDERAL ASTM STANDARD** | | | | | | | | |
| NPL | | 1.000 | 0 | 0 | 0 | 0 | NR | 0 |
| Delisted NPL | | 1.000 | 0 | 0 | 0 | 0 | NR | 0 |
| CERCLIS | | 0.500 | 0 | 1 | 0 | NR | NR | 1 |
| CERC-NFRAP | | 0.250 | 0 | 0 | NR | NR | NR | 0 |
| CORRACTS | | 1.000 | 0 | 0 | 0 | 1 | NR | 1 |
| RCRIS-TSD | | 0.500 | 0 | 0 | 0 | NR | NR | 0 |
| RCRIS Lg. Quan. Gen. | | 0.250 | 0 | 0 | NR | NR | NR | 0 |
| RCRIS Sm. Quan. Gen. | | 0.250 | 0 | 0 | NR | NR | NR | 0 |
| ERNS | | TP | NR | NR | NR | NR | NR | 0 |
| **STATE ASTM STANDARD** | | | | | | | | |
| State Haz. Waste | X | 1.000 | 0 | 2 | 0 | 9 | NR | 11 |
| State Landfill | | 0.500 | 0 | 0 | 1 | NR | NR | 1 |
| LUST | | 0.500 | 0 | 1 | 1 | NR | NR | 2 |
| UST | | 0.250 | 0 | 0 | NR | NR | NR | 0 |
| **FEDERAL ASTM SUPPLEMENTAL** | | | | | | | | |
| CONSENT | | 1.000 | 0 | 0 | 0 | 0 | NR | 0 |
| ROD | | 1.000 | 0 | 0 | 0 | 0 | NR | 0 |
| FINDS | | TP | NR | NR | NR | NR | NR | 0 |
| HMIRS | | TP | NR | NR | NR | NR | NR | 0 |
| MLTS | | TP | NR | NR | NR | NR | NR | 0 |
| MINES | | 0.250 | 0 | 0 | NR | NR | NR | 0 |
| NPL Liens | | TP | NR | NR | NR | NR | NR | 0 |
| PADS | | TP | NR | NR | NR | NR | NR | 0 |
| RAATS | | TP | NR | NR | NR | NR | NR | 0 |
| TRIS | | TP | NR | NR | NR | NR | NR | 0 |
| TSCA | | TP | NR | NR | NR | NR | NR | 0 |
| **STATE OR LOCAL ASTM SUPPLEMENTAL** | | | | | | | | |
| AST | | TP | NR | NR | NR | NR | NR | 0 |
| MA Spills | | TP | NR | NR | NR | NR | NR | 0 |
| Release | | TP | NR | NR | NR | NR | NR | 0 |
| **EDR PROPRIETARY DATABASES** | | | | | | | | |
| Coal Gas | | 1.000 | 0 | 0 | 0 | 0 | NR | 0 |

AQUIFLOW - see EDR Physical Setting Source Addendum

TP = Target Property

NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

**Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.**

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**1** **AMER. DREAM MODULAR HOMES** **SHWS** **S100830685**
**Target** **225 GOODWIN ST.** **N/A**
**Property** **SPRINGFIELD, MA**

SHWS:

| | | | |
|---|---|---|---|
| Facility ID: | 1-0000616 | | |
| Site Status: | Tier 2 Classification | | |
| Current Status: | PHASE 2 - Comprehensive Site Assessment. | | |
| Transition Status: | CONFIRMED | | |
| Site Product: Hazardous | | Site Type: | 21E |
| Pub Involvement: Not reported | | LTBI Listing Date: | 07/15/1989 |
| Initiating Agency: | SAB - Information that has been discovered by the Site Assessment Branch of the Bureau of Waste Site Cleanup of the Massachusetts Department of Environmental Protection (DEP). | | |
| Action Taken by: | RP ONLY | | |
| REQ Type: Not reported | | REQ Due: | Not reported |
| Date Confirmed: Not reported | | Date Deleted: | Not reported |
| Date Listed: Not reported | | Region: | Western |
| ERB Number: Not reported | | EPA Number: | Not reported |
| Response Action Submitted: | 08/07/1996 | | |
| Response Action Type: | TCLASS | | |
| Response Action: | Not reported | | |
| Response Action Outcome: | Not reported | | |
| Activity and Use Limitation: | / / | | |
| AUL Restriction Type: | Not reported | | |
| LSP Number: | 8261 | | |
| Action Taken: | Not reported | | |

Contained in Leaking Underground Storage Tank: No

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**2** **C & J INDUSTRIES** **SHWS** **S100043107**
**NW** **165 PINEVALE ST.** **N/A**
**1/8-1/4** **SPRINGFIELD, MA**
**1038**
**Higher**

SHWS:

| | | | |
|---|---|---|---|
| Facility ID: | 1-0000255 | | |
| Site Status: | Not A Disposal Site | | |
| Current Status: | PHASE 1 L | | |
| Transition Status: | L.T.B.I. | | |
| Site Product: Hazardous | | Site Type: | 21E |
| Pub Involvement: Not reported | | LTBI Listing Date: | 07/15/1987 |
| Initiating Agency: | SAB - Information that has been discovered by the Site Assessment Branch of the Bureau of Waste Site Cleanup of the Massachusetts Department of Environmental Protection (DEP). | | |
| Action Taken by: | RP ONLY | | |
| REQ Type: Not reported | | REQ Due: | Not reported |
| Date Confirmed: Not reported | | Date Deleted: | Not reported |
| Date Listed: Not reported | | Region: | Western |
| ERB Number: Not reported | | EPA Number: | Not reported |
| Response Action Submitted: | 12/18/1995 | | |
| Response Action Type: | DEP-NDS | | |
| Response Action: | Not reported | | |
| Response Action Outcome: | Not reported | | |
| Activity and Use Limitation: | / / | | |
| AUL Restriction Type: | Not reported | | |
| LSP Number: | Not reported | | |
| Action Taken: | Other (e.g., replacement of a water line, disconnecting improper sewer connections, drainage improvements, and flood protection). | | |

**C & J INDUSTRIES (Continued)** **S100043107**

Contained in Leaking Underground Storage Tank: No

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**A3 West 1/8-1/4 1214 Higher** **CRANE WASTE DISPOSAL AREA** **SHWS** **S100830691**
**GOODWIN / OAK STS.** **N/A**
**SPRINGFIELD, MA**

SHWS:

| | | | |
|---|---|---|---|
| Facility ID: | 1-0000607 | | |
| Site Status: | No Further Action | | |
| Current Status: | PHASE 2 - Comprehensive Site Assessment. | | |
| Transition Status: | WAIVER | | |
| Site Product: | Hazardous | Site Type: | 21E |
| Pub Involvement: | Not reported | LTBI Listing Date: | 04/15/1989 |
| Initiating Agency: | SAB - Information that has been discovered by the Site Assessment Branch of the Bureau of Waste Site Cleanup of the Massachusetts Department of Environmental Protection (DEP). | | |
| Action Taken by: | DEP ONLY | | |
| REQ Type: | Not reported | REQ Due: | Not reported |
| Date Confirmed: | Not reported | Date Deleted: | Not reported |
| Date Listed: | Not reported | Region: | Western |
| ERB Number: | Not reported | EPA Number: | Not reported |
| Response Action Submitted: | 02/23/1995 | | |
| Response Action Type: | WCS-PERM | | |
| Response Action: | Not reported | | |
| Response Action Outcome: | Not reported | | |
| Activity and Use Limitation: | / / | | |
| AUL Restriction Type: | Not reported | | |
| LSP Number: | Not reported | | |
| Action Taken: | Not reported | | |

Contained in Leaking Underground Storage Tank: No

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**A4 West 1/8-1/4 1214 Higher** **CRANE COMPANY** **CERCLIS** **1000443691**
**GOODWIN & OAK STREETS** **FINDS** **MAD985279421**
**SPRINGFIELD, MA 01151** **LUST**

CERCLIS Classification Data:

| | | | |
|---|---|---|---|
| Site Incident Category: | Not reported | Federal Facility: | Not a Federal Facility |
| Ownership Status: | Private | NPL Status: | Not on the NPL |

CERCLIS Assessment History:

| | | | |
|---|---|---|---|
| Assessment: | DISCOVERY | Completed: | 19900806 |
| Assessment: | PRELIMINARY ASSESSMENT | Completed: | 19910201 |

CERCLIS Site Status:
Low
CERCLIS Alias Name(s):
CRANE COMPANY

**CRANE COMPANY (Continued)** **1000443691**

LUST:
Facility ID: 1-0000170
Site Status: Tier 2 Classification
Current Status: PHASE 2 - Comprehensive Site Assessment.
Transition Status: WAIVER
Initiating Agency: SAB - Information that has been discovered by the Site Assessment Branch of the Bureau of Waste Site Cleanup of the Massachusetts Department of Environmental Protection (DEP).
Action Taken by: RP ONLY
Site Product: Both Hazardous and Petroleum
Site Type: 21E
Pub Involvement: Not reported
LTBI Listing Date: 04/15/1987
Date Confirmed: Not reported
Date Deleted: Not reported
Date Listed: Not reported
Region: Western
REQ Type: Not reported
REQ Due: Not reported
ERB Number: Not reported
EPA Number: MAD985279421
Response Action Submitted: 05/26/1998
Response Action Type: WCS-PERM
Response Action: Not reported
Response Action Outcome: Not reported
Activity and Use Limitation: / /
AUL Restriction Type: Not reported
LSP Number: Not reported
Action Taken: Not reported
Contained in Leaking Underground Storage Tank: Yes

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**5** **UNIFIRST CORP** **UST** **U001005805**
**SSE** **295 PARKER ST** **LUST** **N/A**
**1/4-1/2** **INDIAN ORCHARD, MA 01151**
**2430**
**Higher**

LUST:
Facility ID: 1-0000211
Site Status: TIER 1A
Current Status: PHASE 2 - Comprehensive Site Assessment.
Transition Status: PRIORITY CONFIRMED
Initiating Agency: SAB - Information that has been discovered by the Site Assessment Branch of the Bureau of Waste Site Cleanup of the Massachusetts Department of Environmental Protection (DEP).
Action Taken by: RP ONLY
Site Product: Both Hazardous and Petroleum
Site Type: 21E
Pub Involvement: Not reported
LTBI Listing Date: 04/15/1987
Date Confirmed: Not reported
Date Deleted: Not reported
Date Listed: Not reported
Region: Western
REQ Type: Not reported
REQ Due: Not reported
ERB Number: Not reported
EPA Number: MAD019414606
Response Action Submitted: 07/03/1996
Response Action Type: PHASEII
Response Action: CSRCVD
Response Action Outcome: Not reported
Activity and Use Limitation: / /
AUL Restriction Type: Not reported
LSP Number: 4813
Action Taken: Not reported
Contained in Leaking Underground Storage Tank: Yes

UST:
Facility ID: 7706
Tank ID: 1
Tank Status: Removed
Tank Use: Not reported
Capacity: 10000
Facility Phone: Not reported
Owner: UNIFIRST CORPORATION

**UNIFIRST CORP (Continued)** **U001005805**

Owner Address: 15 OLYMPIA AVE
WOBURN, MA 01888
Owner Phone: Not reported
Serial Num: Not reported
Aboveground: No
Contents: Not reported
Tank Material: Steel
Tank Contents: Not reported
Tank Leak Detect: Not reported
Pipe Leak Detect: Not reported
Use of Tank: Not reported

Facility ID: 7706
Tank Status: Removed
Capacity: 8000
Owner: UNIFIRST CORPORATION
Owner Address: 15 OLYMPIA AVE
WOBURN, MA 01888
Owner Phone: Not reported
Serial Num: Not reported
Aboveground: No
Contents: Not reported
Tank Material: Steel
Tank Contents: Not reported
Tank Leak Detect: Not reported
Pipe Leak Detect: Not reported
Use of Tank: Not reported
Tank ID: 2
Tank Use: Not reported
Facility Phone: Not reported

Facility ID: 7706
Tank Status: Removed
Capacity: 1500
Owner: UNIFIRST CORPORATION
Owner Address: 15 OLYMPIA AVE
WOBURN, MA 01888
Owner Phone: Not reported
Serial Num: Not reported
Aboveground: No
Contents: Not reported
Tank Material: Steel
Tank Contents: Not reported
Tank Leak Detect: Not reported
Pipe Leak Detect: Not reported
Use of Tank: Not reported
Tank ID: 3
Tank Use: Not reported
Facility Phone: Not reported

Facility ID: 7706
Tank Status: Removed
Capacity: 3000
Owner: UNIFIRST CORPORATION
Owner Address: 15 OLYMPIA AVE
WOBURN, MA 01888
Owner Phone: Not reported
Serial Num: Not reported
Aboveground: No
Contents: Not reported
Tank Material: Steel
Tank Contents: Not reported
Tank Leak Detect: Not reported
Tank ID: 4
Tank Use: Not reported
Facility Phone: Not reported

**UNIFIRST CORP (Continued)** U001005805

Pipe Leak Detect: Not reported
Use of Tank: Not reported

Facility ID: 7706
Tank Status: Removed
Capacity: 1500
Owner: UNIFIRST CORPORATION
Owner Address: 15 OLYMPIA AVE
WOBURN, MA 01888
Owner Phone: Not reported
Serial Num: Not reported
Aboveground: No
Contents: Not reported
Tank Material: Steel
Tank Contents: Not reported
Tank Leak Detect: Not reported
Pipe Leak Detect: Not reported
Use of Tank: Not reported
Tank ID: 5
Tank Use: Not reported
Facility Phone: Not reported

Facility ID: 7706
Tank Status: Removed
Capacity: 2000
Owner: UNIFIRST CORPORATION
Owner Address: 15 OLYMPIA AVE
WOBURN, MA 01888
Owner Phone: Not reported
Serial Num: Not reported
Aboveground: No
Contents: Not reported
Tank Material: Steel
Tank Contents: Not reported
Tank Leak Detect: Not reported
Pipe Leak Detect: Not reported
Use of Tank: Not reported
Tank ID: 6
Tank Use: Not reported
Facility Phone: Not reported

Facility ID: 7706
Tank Status: Removed
Capacity: 6000
Owner: UNIFIRST CORPORATION
Owner Address: 15 OLYMPIA AVE
WOBURN, MA 01888
Owner Phone: Not reported
Serial Num: Not reported
Aboveground: No
Contents: Gasoline
Tank Material: Steel
Tank Contents: Not reported
Tank Leak Detect: Not reported
Pipe Leak Detect: Not reported
Use of Tank: Not reported
Tank ID: 7
Tank Use: Not reported
Facility Phone: Not reported

Facility ID: 7706
Tank Status: Removed
Capacity: 1000
Owner: UNIFIRST CORPORATION
Owner Address: 15 OLYMPIA AVE
WOBURN, MA 01888
Tank ID: 8
Tank Use: Not reported
Facility Phone: Not reported

**UNIFIRST CORP (Continued)** U001005805

Owner Phone: Not reported
Serial Num: Not reported
Aboveground: No
Contents: Gasoline
Tank Material: Steel
Tank Contents: Not reported
Tank Leak Detect: Not reported
Pipe Leak Detect: Not reported
Use of Tank: Not reported

Facility ID: 7706
Tank Status: Removed
Capacity: 10000
Owner: UNIFIRST CORPORATION
Owner Address: 15 OLYMPIA AVE
WOBURN, MA 01888
Owner Phone: Not reported
Serial Num: Not reported
Aboveground: No
Contents: Diesel
Tank Material: Steel
Tank Contents: Not reported
Tank Leak Detect: Not reported
Pipe Leak Detect: Not reported
Use of Tank: Not reported

Tank ID: 9
Tank Use: Not reported
Facility Phone: Not reported

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**6 SSW 1/4-1/2 2595 Higher** **GAGLIARDUCCI CONSTRUCTION** SWF/LF S101827578
**295 PASCO RD** N/A
**SPRINGFIELD, MA 01151**

LF:
Site Type: Recycling facility; materials recovery facility or other recycling operation that does not require site assignment. RECYCL does not include Recycling Drop-off Centers
Operator: GAGLIARDUCCI CONSTRUCTION
Operator Addr: 295 PASCO RD

SPRINGFIELD, MA 01151
Operator Phone: Not reported
Contact: JERRY GAGLIARDUCCI
Owner: GAGLIARDUCCI CONSTRUTION
Owner Addr: 295 PASCO RD

SPRINGFIELD, MA 01150
Owner Contact: BARRY CHRISTMAN
Owner Phone: Not reported
Owner Type: Private
Facility Contact: Not reported
Facility Status: Active
ID Number: RE0281.011
Site Lined: Unknown
Capping: Unknown

Facility Phone: Not reported
Region: Western
Assign Date: / /

Closure Date: / /

Days of Operation: AVE. 200 TPD; ABC CRUSHING
Hours of Operation: PRE-PROCESSING STORAGE MAX 15000 TONS, 5500 POST-PROCESSING
Base Case or Projected Closing Date: 0
Acres Assigned by Board of Health: 0
DEQE Plan Approved Acreage: 16
DEQE Approved Daily Tonnage Limit: 700

**GAGLIARDUCCI CONSTRUCTION (Continued)** S101827578

| | |
|---|---|
| Bureau of Waste Site Cleanup 21e ID: | 0.00000 |
| Leachate Collection System in Place: | Not reported |
| Tons Year of MSW Disposed in 1995: | 0.00000 |
| Tons Year of MSW Disposed in 1996: | 0.00000 |
| Tons Year of MSW Disposed in 1997: | 0.00000 |
| Tons Year of MSW Disposed in 1998: | 0.00000 |
| Tons Year of MSW Disposed in 1999: | 0.00000 |
| Tons Year of MSW Disposed in 2000: | 0.00000 |
| Date Landfill Opened: | 0 |
| Is There An Operation Approval Date: | Not reported |
| Date of opertional Approval, Granted by DEP: | / / |
| Is There An Operation Plan: | Not reported |
| Operation Type: | Private |
| Back End Recycling at WTE Facility: | False |
| Front End Recycling at WTE Facility: | Not reported |
| Has DEP verified that Site Exists: | Yes |
| Site Approval Date Granted by DEP: | / / |
| Interim Wellhead Protection Area: | Not reported |
| Comments on Zone II: | Not reported |

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**7**
**NW**
**1/2-1**
**3338**
**Higher**

**HODGE CARPET** SHWS S100362220
**34 FRONT ST.** N/A
**SPRINGFIELD, MA 01151**

SHWS:

| | | | |
|---|---|---|---|
| Facility ID: | 1-0000179 | | |
| Site Status: | No Further Action | | |
| Current Status: | PRE - M.C.P. | | |
| Transition Status: | REMEDIAL | | |
| Site Product: Hazardous | | Site Type: | 21E |
| Pub Involvement: Not reported | | LTBI Listing Date: | Not reported |
| Initiating Agency: | SAB - Information that has been discovered by the Site Assessment Branch of the Bureau of Waste Site Cleanup of the Massachusetts Department of Environmental Protection (DEP). | | |
| Action Taken by: | RP ONLY | | |
| REQ Type: Not reported | | REQ Due: | Not reported |
| Date Confirmed: Not reported | | Date Deleted: | Not reported |
| Date Listed: 04/15/1987 | | Region: | Western |
| ERB Number: Not reported | | EPA Number: | Not reported |
| Response Action Submitted: | Not reported | | |
| Response Action Type: | Not reported | | |
| Response Action: | Not reported | | |
| Response Action Outcome: | Not reported | | |
| Activity and Use Limitation: | Not reported | | |
| AUL Restriction Type: | Not reported | | |
| LSP Number: | Not reported | | |
| Action Taken: | Removal of the contamination source (such as drums, tanks or contaminated soil) to a licensed facility. Monitoring (i.e., via groundwater wells). | | |

Contained in Leaking Underground Storage Tank: No

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**8**
**South**
**1/2-1**
**4645**
**Higher**

**FL ROBERTS SERVICE STATION** SHWS S101505687
**1313 BOSTON RD** Release N/A
**SPRINGFIELD, MA 01119**