

**REMOVAL PROGRAM
AFTER ACTION REPORT
FOR THE
FORMER CHAPMAN VALVE/CRANE CO. SITE
SPRINGFIELD (INDIAN ORCHARD), HAMPDEN COUNTY, MASSACHUSETTS
24 August through 3 November 2015**

Prepared For:

U.S. Environmental Protection Agency
Region I
Emergency Planning and Response Branch
5 Post Office Square, Suite 100
Boston, Massachusetts 02109-3912

CONTRACT NO. EP-S3-15-01

TO/TDD NO. TO1-01-15-07-0046

SITE ID. 01HD

TASK NO. 0048

DC NO. R-00136

Submitted By:

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1.0 INTRODUCTION

The following report, entitled *Removal Program After Action Report for the Former Chapman Valve/Crane Co. Site, Springfield (Indian Orchard), Hampden County, Massachusetts, 24 August through 3 November 2015*, is a chronological summary of the response actions taken by the U.S. Environmental Protection Agency (EPA), Region I, Emergency Planning and Response Branch (EPRB). The report details the situation as it developed, actions taken, and resources committed.

Site activities included: excavation of soil grids and debris piles containing asbestos; conducting daily particulate air monitoring and asbestos air sampling; and transportation and disposal of asbestos-contaminated soil and debris at an EPA-approved facility.

2.0 SITE CONDITIONS AND BACKGROUND

2.1 Site Location and Description

The Former Chapman Valve/Crane Co. Site (the site) is located adjacent to 121 Pinevale Street in the village of Indian Orchard, Springfield, Hampden County, Massachusetts (MA) (see Figure 1 – Site Location Map) [1]. The site does not have a specific street number address, but is referred to as a commercial property along Pinevale Street on the City of Springfield Property Record Card, Map Identification Number 097550086. The geographic coordinates of the approximate center of the site are 42° 09' 17" north latitude and 72° 29' 59" west longitude. The original property was 54 acres, but the site now only covers approximately 16 acres. The original 12 factory buildings have all been demolished, leaving only the foundation slabs, most of which were demolished by 1996. The site is bordered by Moxon Street and residential properties to the east; Pinevale Street and residential properties to the west; an industrial property owned by the city of Springfield to the north; and Goodwin Street, a Solar Panel Farm, and vacant lots that were part of the original 54 acres to the south (see Figure 2 – Excavation Area Map) [2]. The site is currently owned by the City of Springfield.

2.2 Site History/Previous Actions

In 1874, Chapman Valve Manufacturing Company (Chapman) moved from Boston to Springfield at the current site location. Chapman was one of the world's largest manufacturers of valves, especially for fire hydrants.

In 1948, Brookhaven Laboratory contracted Chapman to manufacture uranium metal. The work was associated with government defense-related projects conducted under the Manhattan Engineer District (MED) and the Atomic Energy Commission (AEC). Upon termination of the contract, the MED and AEC decontaminated the Site in accordance with the standards and survey methods in use at the time. In 2004, U.S. Department of Energy (DOE) issued a Certification of Radiological Condition for the site. The certification provided assurance that reasonably foreseeable future use of the site would not result in radiological exposure above current DOE radiological criteria and standards for protecting members of the general public and occupants of the property.

In 1959, Crane Company (Crane Co.) purchased Chapman. Crane Co. continued valve manufacturing operations on site. Crane Co. ceased all on-site operations in the 1980s, and sold all but 16 acres to various parties. Prior to 1996, Crane demolished the original 12 factory

all but 16 acres to various parties. Prior to 1996, Crane demolished the original 12 factory buildings, leaving only the slab foundations on-site.

In October 2003, ATC Associates of West Springfield, on behalf of the Crane Company, prepared a Post-Audit Completion Statement and Addendum Risk Characterization Report demonstrating that a level of No Significant Risk had been achieved on the site, and a Class A-2 Response Action Outcome (RAO) Statement was appropriate.

In December 2003, Crane Co. sold the Site to Indian Orchard Property Consultants, LLC (IOPC). In October 2005, Goodwin Realty, LLC (Goodwin) purchased the Site from IOPC.

In 2006, O'Reilly, Talbot & Okun (OTO) conducted environmental sampling on behalf of the Westmass Area Development Corporation and discovered soil contamination on the property. Elevated levels of lead, arsenic, polychlorinated biphenyls (PCBs), and petroleum hydrocarbons were detected below the floor slabs of some of the former buildings. In February 2009, after the contamination had been addressed by Goodwin, WGF Geoconsultants of Wilbraham, MA, published a Release Abatement Measure (RAM) Completion Report, on behalf of Goodwin. Activities covered in this report were a summary of results from the soil-boring program implemented on-site; the subsequent excavation of impacted soils in June 2007 and March 2008; and the transport and disposal of approximately 161 tons of this contaminated soil.

In 2010, the City of Springfield contracted OTO to conduct an asbestos assessment at the Site. OTO estimated that approximately 30,000 cubic yards of debris with asbestos-containing material (ACM) concentrations as high as 40% were present on the property. In September 2010, Massachusetts Department of Environmental Protection (MassDEP) sent a notification letter to Goodwin regarding MassDEP's intent to assess a Unilateral Administrative Order against Goodwin Realty LLC for conducting a RAM on site without approval.

In March 2011, MassDEP requested assistance from the EPA Region I Emergency Planning and Response Branch (EPRB) to investigate the Site and determine the extent of ACM contamination in on-site soil and debris piles. The initial investigation consisted of a Preliminary Assessment/Site Investigation (PA/SI) that included reviewing existing data in the site file and conducting sampling using the Framework for Investigating Asbestos-Contaminated Superfund Sites (OSWER Directive 9200.0-68 September 2008). The PA/SI results confirmed the presence of ACM in several debris piles (maximum 20% asbestos) located in the central portion of the site, and trace levels of asbestos fibers (less than 1%) in surface soils at three isolated locations on-site. Observations made during the PA/SI indicated that the site was abandoned and consisted mainly of 12 building slab foundations, open trenches, monitoring wells, various piles of debris (some of which contain ACM), overgrown vegetation, and scattered trees. An entombed tunnel running north-south under the site contains debris and ACM. Evidence of trespassing was observed as indicated by breaches in the perimeter fence and household waste dumping. Air monitoring indicated no levels above background. The City of Springfield completed repairs to the fence surrounding the property in 2014. Data summary tables and analytical data for the 2011 PA/SI sampling events can be found in a separate report, entitled *Removal Program Preliminary Assessment/Site Investigation Report for the Former Chapman Valve/Crane Company, Springfield, Hampden County, Massachusetts*, dated August 2012 [3].

In May of 2013, the City of Springfield acquired the property through a municipal tax-taking process. The City of Springfield is the current owner of the property.

3.0 **SUMMARY OF FEDERAL RESPONSE ACTIONS**

3.1 **Organization of the Response**

ORGANIZATION OF THE RESPONSE		
Organization	Representatives	Responsibilities
U.S. Environmental Protection Agency (EPA) Emergency Planning and Response Branch (EPRB) 5 Post Office Square, Suite 100 Boston, Massachusetts 02109-3912 (617) 918-1793 McKeown (617) 918-1314 Jarrell	John McKeown Allen Jarrell	EPA On-Scene Coordinators (OSCs) responsible for the initiation, oversight, and completion of all removal activities. The OSCs coordinated with State and local officials.
Weston Solutions, Inc. (Weston) Superfund Technical Assessment and Response Team (START) 3 Riverside Drive Andover, MA 01810 (978) 552-2113 Mahany (978) 552-2130 Burton	Bill Mahany John Burton	START Site Personnel that provided the OSC with technical assistance, site documentation, site health and safety monitoring, air monitoring, and draft and final report preparation.
Environmental Restoration (ER) LLC 16660 Canal Street South Holland, IL (860) 478-0102 May	Dave Mangiaracino Chris May	Response Managers (RMs) for the ERRS contractor that performed removal activities. The RM was responsible for oversight and organization of mobilization, demobilization, and waste removal activities.
Massachusetts Department of Environmental Protection (MassDEP) Western Regional Office 436 Dwight Street Springfield, MA 01103 (413) 784-1100	Ben Fish John Moriarty	State representatives that provided support for removal activities.

3.2 **Mobilization and Site Preparation**

The site-specific removal health and safety plan (HASP) was reviewed and signed by all personnel before any work commenced. In addition, emergency telephone numbers and directions to the hospital were posted and work zones were delineated. All activities were performed in appropriate personal protective equipment (PPE) in accordance with the HASP. The HASP was prepared by the Weston Solutions, Inc. Superfund Technical Assessment and Response Team (START) as a separate document, entitled *Health and Safety Plan for the Former Chapman Valve Site, Indian Orchard, Hampden County, Massachusetts*. On 17 August 2015, the mobilization and staging of Emergency Rapid Response Services (ERRS) equipment was initiated.

Site preparation activities conducted by ERRS personnel consisted of mobilizing personnel and equipment; preparing a support zone, contamination reduction zone, and staging area; removing debris, tree stumps, and vegetation from the work areas; and construction of a temporary road to allow access to asbestos contaminated areas.

3.3 Chronology of Removal Activities

1 July 2015

EPA Office of Site Remediation and Restoration (OSRR) Division Acting Director Nancy Barmakian signed the Action Memorandum approving the proposed removal action.

22 July 2015

A site walk was conducted by EPA and START personnel.

3 August 2015

A site walk was conducted by the EPA On-Scene Coordinator (OSC), START Site Leader (SL), and the ERRS Response Manager (RM).

Week of 17 August 2015

Personnel on site:

On-Scene Coordinator (OSC) – EPA	John McKeown
Response Manager – Environmental Restoration, LLC (ER LLC)	Dave Mangiaracino
Crew – ER LLC	2 operators 1 laborer

Equipment on site:

Type	Quantity
Front End Loader	1
Skid-Steer	1
Large Excavator	1
Small Excavator	1
Utility Trailer	1
Water Truck	1
Water Tank on Trailer	1
Portable Toilet	2

Activities for the week included:

- Mobilizing crew and equipment.
- Reviewing and signing the site HASP.
- Conducting grubbing and tree/brush removal as needed to build an on-site road to access the areas to be excavated.

Week of 24 August 2015

Personnel on site:

OSC – EPA	John McKeown, Allen Jarrell
Superfund Technical Assessment and Response Team (START) – Weston Solutions, Inc. (Weston)	Bill Mahany
Response Manager – ER LLC	Dave Mangiaracino
Crew – ER LLC	2 operators 2 laborers

Equipment on site: Same as previous week.

Activities for the week included:

- Conducting ambient air monitoring for particulates and asbestos.
- Excavating Piles 4, 5 and 7; Surface Areas 1 and 4; and the SS-08, SS-18, SS-29, and SS-74 grids. Excavation areas and grids were delineated based on PA/SI results.
- Staging of excavated soil at the soil stockpile area.
- Collecting and delivering post-excavation confirmation samples to the EPA Office of Environmental Measurement and Evaluation (OEME) New England Regional Laboratory (NERL) for analysis.

Key dates:

On 26 and 28 August 2015, confirmation samples were delivered to OEME for asbestos analysis (see Appendix B, Table 1).

Week of 31 August 2015

Personnel on site:

OSC – EPA	John McKeown
START – Weston	Bill Mahany
Response Manager – ER LLC	Dave Mangiaracino
Crew – ER LLC	2 operators 2 laborers

Equipment on site: Same as previous week.

Activities for the week included:

- Conducting ambient air monitoring for particulates and asbestos.
- Excavating the SS-38 grid, and re-excavating grids and areas as required based on post-excavation sample results.
- Collecting and delivering post-excavation confirmation samples from re-excavated areas to NERL for analysis.
- Consolidating all excavated material to the primary soil pile.

- Conducting a site walk with MassDEP personnel.
- De-mobilizing the ERRS crew and utility trailer.

Key dates:

On 2 September 2015, a site walk was conducted by EPA and START personnel, and MassDEP representatives Ben Fish and John Moriarty. In addition, EPA, START, and ERRS personnel de-mobilized for the week. The soil pile was covered in a double layer of polyethylene sheeting and secured until load-out activities commenced.

Week of 26 October 2015

Personnel on site:

OSC – EPA	John McKeown, Allen Jarrell
START – Weston	John Burton
Response Manager – ER LLC	Chris May
Crew – ER LLC	2 operators 4 laborers

Equipment on site:

Type	Quantity
Large Excavator	1
Water Tank on Trailer	1
Scissor Man-Lift	2
Portable Toilet	2

Activities for the week included:

- Mobilizing personnel and equipment.
- Conducting ambient air monitoring for particulates and asbestos.
- Loading soil from the primary soil pile into trucks for transport and disposal (T&D).

Key dates:

Between 26 and 30 October 2015, a total of 21 trucks were loaded with asbestos-contaminated soil for disposal at the Seneca Meadows, Inc. disposal facility in Waterloo, New York (see Appendix D, Waste Disposal Summary Table).

Week of 2 November 2015

Personnel on site:

OSC – EPA	John McKeown
START – Weston	John Burton
Response Manager – ER LLC	Chris May
Crew – ER LLC	1 operator 4 laborers

Equipment on site: Same as previous week.

Activities for the week included:

- Conducting ambient air monitoring for particulates and asbestos.
- Completing load out of the primary soil pile.
- Conducting a site walk with MassDEP personnel.
- De-mobilizing the ERRS crew and all equipment.

Key dates:

On 2 November 2015, a final site walk was conducted by EPA and START personnel, and MassDEP representatives Ben Fish and John Moriarty.

On 2 and 3 November 2015, a total of 9 trucks were loaded with asbestos-contaminated soil for disposal at the disposal facility.

On 4 November 2015, all activities were completed, and all equipment and personnel were demobilized.

4.0 ESTIMATED COSTS OF THE REMOVAL ACTION

EPA resources committed under this Removal Action are summarized below:

Cost Category	Ceiling	Costs Incurred	Remainder
Regional Removal Allowance Costs			
ERRS	\$280,000	\$235,893	\$ 44,107
START Contractor	\$65,000	\$59,000	\$ 6,000
Other Extramural Costs Not Funded from the Regional Allowance			
Extramural Contingency	\$18,000	\$0	\$ 18,000
Total Removal Project Costs	\$ 363,000	\$ 294,893	\$ 68,107

The original START budget was \$50,000 in the Action Memorandum. START work at the Chapman Valve Site will marginally exceed the original estimated cost due to the air monitoring and the confirmation sampling. There is adequate money remaining in the ERRS budget and the extramural contingency to cover the additional START costs.

This accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

REFERENCES

- [1] U.S. Geological Survey (USGS). 1981. Springfield North, Massachusetts. (7.5-minute series topographic map).
- [2] ESRI, i-cubed, USDA FSA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGP. 2011. ArcGIS.com World Imagery Map. 30 March.
- [3] Weston Solutions, Inc. 2012. *Removal Program Preliminary Assessment/Site Investigation Report for the Former Chapman Valve/Crane Company, Springfield, Hampden County, Massachusetts 6 April 2011, 1 through 3 August 2011, 8 and 9 November 2011, 4 April 2012.* August.

Appendices

Appendix A

Figures

- Figure 1 - Site Location Map
- Figure 2 - Excavation Area Map

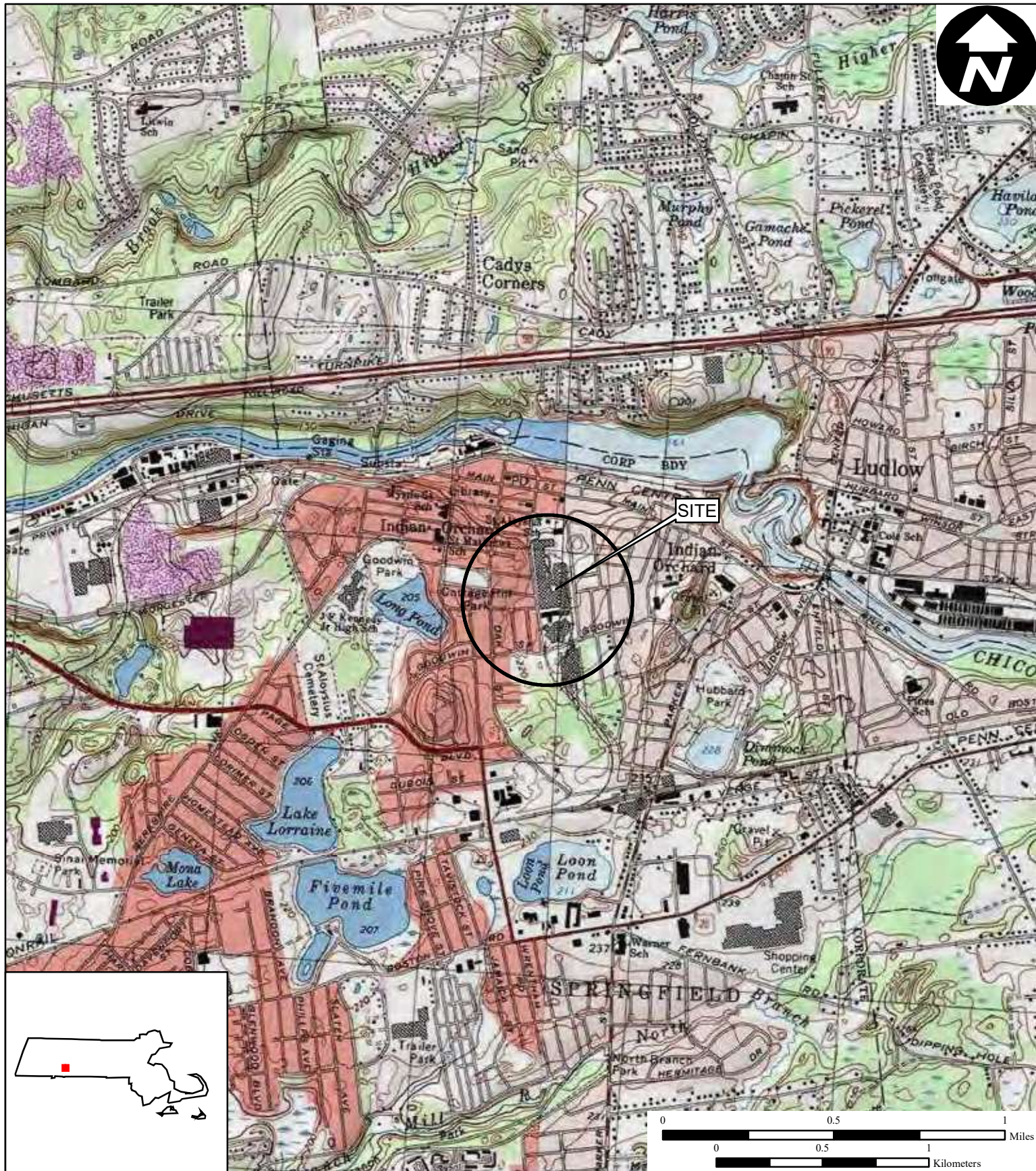


Figure 1

Site Location Map

**Former Chapman Valve/Crane Co.
Pinevale Street
Springfield, Indian Orchard, Massachusetts**

**EPA Region I
Superfund Technical Assessment and
Response Team (START) IV
Contract No. EP-S3-15-01**

TDD Number: TO1-01-15-07-0046
Created by: B. Mahany
Created on: 02 December 2015
Modified by:
Modified on:

Data Sources:

Topos: MicroPath/USGS/USA Topo Maps
Quadrangle Name(s): Springfield North
All other data: START









Figure 2

Excavation Area Map

Former Chapman Valve/Crane Co.
Pinevale Street
Springfield, Massachusetts

EPA Region 1
Superfund Technical Assessment and
Response Team (START) IV
Contract No. EP-S3-15-01
TDD Number: T01-01-15-07-0046
Created by: B. Mahany
Created on: 30 July 2015
Modified by: C. Dupree
Modified on: 26 January 2016

LEGEND

-  Soil Stockpile
 -  On-site Access Road
 -  Site Boundary
 -  Soil Grids
 -  Surface Debris
 -  Debris Pile
- SS-# = Surface Soil Sample grid area
ACM = Asbestos-Containing Material



Data Sources:

Imagery: ESRI, i-cubed, USDA FSA, USGS
AEX, GeoEye, Getmapping, Aerogrid, IGP
Topos: MicroPath
All other data: START



Appendix B

Photodocumentation Log

PHOTODOCUMENTATION LOG
Former Chapman Valve/Crane Co. • Springfield, Massachusetts



SCENE: View of the access road entrances. Photograph taken facing northeast.

DATE: 24 August 2015

PHOTOGRAPHER: B. Mahany

TIME: 1154 hours

CAMERA: iPhone 6



SCENE: View of the soil pile staging area. Photograph taken facing east.

DATE: 24 August 2015

PHOTOGRAPHER: B. Mahany

TIME: 1153 hours

CAMERA: iPhone 6

PHOTODOCUMENTATION LOG
Former Chapman Valve/Crane Co. • Springfield, Massachusetts



SCENE: View of grid area SS-18 at the completion of excavation activities. Photograph taken facing north.

DATE: 31 August 2015

TIME: 1329 hours

PHOTOGRAPHER: J. McKeown

CAMERA: iPhone 5



SCENE: View of grid area SS-08 at the completion of excavation activities. Photograph taken facing north.

DATE: 31 August 2015

TIME: 1350 hours

PHOTOGRAPHER: J. McKeown

CAMERA: iPhone 5

PHOTODOCUMENTATION LOG
Former Chapman Valve/Crane Co. • Springfield, Massachusetts



SCENE: View of grid area SS-29 at the completion of excavation activities. Photograph taken facing north.

DATE: 31 August 2015

TIME: 1352 hours

PHOTOGRAPHER: J. McKeown

CAMERA: iPhone 5



SCENE: View of the Pile 5/ACM-74C area at the completion of excavation and scraping activities. Photograph taken facing west.

DATE: 31 August 2015

TIME: 1353 hours

PHOTOGRAPHER: J. McKeown

CAMERA: iPhone 5

PHOTODOCUMENTATION LOG
Former Chapman Valve/Crane Co. • Springfield, Massachusetts



SCENE: View of grid area SS-74/SS-104 at the completion of excavation and scraping activities. Photograph taken facing north.

DATE: 31 August 2015

TIME: 1353 hours

PHOTOGRAPHER: J. McKeown

CAMERA: iPhone 5



SCENE: View of grid area SS-38 at the completion of excavation activities. Photograph taken facing east.

DATE: 31 August 2015

TIME: 1353 hours

PHOTOGRAPHER: J. McKeown

CAMERA: iPhone 5

PHOTODOCUMENTATION LOG
Former Chapman Valve/Crane Co. • Springfield, Massachusetts



SCENE: View of the Surface 3 area at the completion of excavation and scraping activities. Photograph taken facing north.

DATE: 31 August 2015

TIME: 1354 hours

PHOTOGRAPHER: J. McKeown

CAMERA: iPhone 5



SCENE: View of the Surface 4 area at the completion of excavation and scraping activities. Photograph taken facing northwest.

DATE: 31 August 2015

TIME: 1356 hours

PHOTOGRAPHER: J. McKeown

CAMERA: iPhone 5

PHOTODOCUMENTATION LOG
Former Chapman Valve/Crane Co. • Springfield, Massachusetts



SCENE: View of the southwestern corner of the Surface 4 area at the completion of excavation and scraping activities. Photograph taken facing west.

DATE: 31 August 2015

PHOTOGRAPHER: J. McKeown

TIME: 1356 hours

CAMERA: iPhone 5



SCENE: View of the Pile 4 area at the completion of excavation and scraping activities. Photograph taken facing northwest.

DATE: 31 August 2015

PHOTOGRAPHER: J. McKeown

TIME: 1357 hours

CAMERA: iPhone 5

PHOTODOCUMENTATION LOG
Former Chapman Valve/Crane Co. • Springfield, Massachusetts



SCENE: View of the Surface 1 area at the completion of excavation and scraping activities. Photograph taken facing west.

DATE: 31 August 2015

TIME: 1359 hours

PHOTOGRAPHER: J. McKeown

CAMERA: iPhone 5

TOP



SCENE: View of the Pile 7 area at the completion of excavation activities. Photograph taken facing east.

DATE: 24 August 2015

TIME: 1216 hours

PHOTOGRAPHER: B. Mahany

CAMERA: iPhone 6

PHOTODOCUMENTATION LOG
Former Chapman Valve/Crane Co. • Springfield, Massachusetts



SCENE: View of Emergency Rapid Response Services (ERRS) personnel installing a polyethylene dump trailer liner prior to soil load out. Photograph taken facing east.

DATE: 30 October 2015

TIME: 1245 hours

PHOTOGRAPHER: J. Burton

CAMERA: iPhone 6



SCENE: View of soil load out activities. Photograph taken facing west.

DATE: 3 November 2015

TIME: 0932 hours

PHOTOGRAPHER: J. Burton

CAMERA: iPhone 6

PHOTODOCUMENTATION LOG
Former Chapman Valve/Crane Co. • Springfield, Massachusetts



SCENE: View of final soil load out activities. Photograph taken facing west.

DATE: 3 November 2015

TIME: 0944 hours

PHOTOGRAPHER: J. Burton

CAMERA: iPhone 6



SCENE: View of clean and scraped soil staging area at the completion of disposal activities. Photograph taken facing south.

DATE: 3 November 2015

TIME: 0944 hours

PHOTOGRAPHER: J. Burton

CAMERA: iPhone 6

Appendix C

Table 1 – Post-Excavation Soil Sample Asbestos Results

TABLE 1

POST-EXCAVATION SOIL SAMPLE ASBESTOS RESULTS
FORMER CHAPMAN VALVE/Crane CO. SITE
SPRINGFIELD, MASSACHUSETTS

SAMPLE LOCATION SAMPLE NUMBER LABORATORY NUMBER DATE SAMPLED	Pile 7-C D33481 AB58187 8/25/2015	Surface 1-C D33482 AB58188 8/25/2015	Surface 3-C D33483 AB58189 8/25/2015	Pile 5-C D33484 AB58190 8/25/2015	ACM-74C1 D33485 AB58191 8/25/2015	SS-74/104-C D33486 AB58192 8/25/2015	SS-08-C D33487 AB58193 8/25/2015
COMPOUND							
Actinolite	ND	ND	ND	ND	ND	ND	ND
Amosite	ND	ND	ND	ND	ND	ND	ND
Anthophyllite	ND	ND	ND	ND	ND	ND	ND
Chrysotile	ND	trace	trace	present	ND	ND	ND
Crocidolite	ND	ND	ND	ND	ND	ND	ND
Tremolite	ND	ND	ND	ND	ND	ND	ND

SAMPLE LOCATION SAMPLE NUMBER LABORATORY NUMBER DATE SAMPLED	SS-18-C D33488 AB58194 8/25/2015	Surface 4-C D33499 AB58213 8/28/2015	Pile 4-C D33500 AB58214 8/28/2015	SS-29-C D33501 AB58215 8/28/2015	Surface 1-C2 D33502 AB58216 8/28/2015	Pile 5-C2 D33503 AB58217 8/28/2015	Surface 3-C2 D33504 AB58218 8/28/2015
COMPOUND							
Actinolite	ND	ND	ND	ND	ND	ND	ND
Amosite	ND	ND	ND	ND	ND	ND	ND
Anthophyllite	ND	ND	ND	ND	ND	ND	ND
Chrysotile	trace	ND	ND	ND	ND	trace	trace
Crocidolite	ND	ND	trace	ND	ND	ND	ND
Tremolite	ND	ND	ND	ND	ND	ND	ND

SAMPLE LOCATION SAMPLE NUMBER LABORATORY NUMBER DATE SAMPLED	SS-38-C D33509 AB58250 9/1/2015	Fill-01 D33510 AB58251 9/1/2015	SS-18-C2 D33511 AB58252 9/1/2015	Pile 4-C2 D33512 AB58253 9/1/2015
COMPOUND				
Actinolite	ND	ND	ND	ND
Amosite	ND	ND	ND	ND
Anthophyllite	ND	ND	ND	ND
Chrysotile	ND	ND	ND	ND
Crocidolite	ND	ND	ND	ND
Tremolite	ND	ND	ND	ND

NOTES:

- 1) Samples were analyzed by U.S. EPA Office of Environmental Measurement and Evaluation (OEEM) New England Regional Laboratory (NERL) via Polarized Light Microscopy (PLM) with Dispersion Staining.
- 2) All quantities are estimated volume.
- 3) ND = Not Detected
- 4) trace = Trace Chrysotile/Crocidolite present, but much less than 1%.
- 5) present = Chrysotile present but less than 1%.

Appendix D

Waste Disposal Summary Table

**WASTE DISPOSAL SUMMARY TABLE
FORMER CHAPMAN VALVE/CRANE CO. SITE
SPRINGFIELD, MASSACHUSETTS**

Disposal Facility:	Seneca Meadows, Inc. 1786 Salcman Road Waterloo, New York 13165	
Description of Materials:	RQ Asbestos, 9, NA 2212, III (Non-Friable)	
Transporter:	Goulet Trucking, Inc. 20 Industrial Drive West South Deerfield, Massachusetts 01373	
Date	Manifest Number	Weight (tons)
10/26/15	FC-001	32.44
10/26/15	FC-002	36.47
10/26/15	FC-003	33.85
10/26/15	FC-004	35.97
10/26/15	FC-005	37.95
10/27/15	FC-006	34.14
10/27/15	FC-007	35.03
10/27/15	FC-008	33.26
10/27/15	FC-009	31.04
10/27/15	FC-010	38.36
10/27/15	FC-011	36.28
10/29/15	FC-012	38.84
10/29/15	FC-013	34.99
10/29/15	FC-014	32.84
10/29/15	FC-015	31.06
10/29/15	FC-016	31.64
10/30/15	FC-017	37.62
10/30/15	FC-018	36.98
10/30/15	FC-019	36.22
10/30/15	FC-020	38.00
10/30/15	FC-021	33.68
11/02/15	FC-022	31.10
11/02/15	FC-023	32.02
11/02/15	FC-024	35.42
11/02/15	FC-025	32.47
11/02/15	FC-026	32.32
11/02/15	FC-027	31.88
11/03/15	FC-028	36.04
11/03/15	FC-029	38.85
11/03/15	FC-030	11.76
	Total:	1,018.52

RQ = Reportable Quantity.