

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Woodbury Coal Tar - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region I

Subject: POLREP #3
Progress
Woodbury Coal Tar
01HB
Salem, MA
Latitude: 42.5273590 Longitude: -70.8933580

To: Polrep Distribution, USEPA-R1

From: Richard Haworth, On-Scene Coordinator

Date: 1/6/2012

Reporting Period: 08/05/2011 - 01/19/2012

1. Introduction

1.1 Background

Site Number:	01HB	Contract Number:	EP-W-08-061
D.O. Number:	0030	Action Memo Date:	4/13/2011
Response Authority:	CERCLA	Response Type:	Time-Critical
Response Lead:	EPA	Incident Category:	Removal Action
NPL Status:	Non NPL	Operable Unit:	
Mobilization Date:	5/13/2011	Start Date:	5/13/2011
Demob Date:		Completion Date:	
CERCLIS ID:	MAN000106037	RCRIS ID:	
ERNS No.:		State Notification:	Yes
FPN#:		Reimbursable Account #:	

1.1.1 Incident Category

On-shore, non-transportation, fund-lead, CERCLA time-critical removal action.

1.1.2 Site Description

Woodbury Court is a short, narrow, dead end road descending south off Northey Street at a right angle. Twelve Woodbury Court is at the dead end of the road. It is the only empty lot on a street where homes are otherwise spaced closely together on small lots. It is located at the southern end of the site. Brush along the perimeter provides a deterrent, but does not prevent access along the west and south side. Access is not restricted from Woodbury Court. The property is generally level entering from Woodbury Court, but eventually slopes upward to a common property line with Gonyea Park where there is a weathered stockade fence.

Gonyea Park is accessed from Northey Street. Limited parking is available on Northey Street for perhaps six cars. It is an L-shaped property that is generally level. On the south side, a stockade fence runs along the property line with 12 Woodbury Court. However on the east side, the fence is at the top of a slope. The Gonyea Park parcel continues downward to the houses on Woodbury Court creating the unusual situation where the property line is literally at the edge of two houses on Woodbury Court. The Park property between the fence at the top of the slope and the two houses on Woodbury Court is used as the back yard for these two residences.

There are no structures at Gonyea Park other than a children's play set towards the north end of the parcel/site, close to the parking area. The parcel is planted with grass, and is free of trees or shrubs except along the south and west perimeter. There is a retaining wall on the west side of the Park/Site, creating an estimated 15-foot vertical drop down to Rt 107. Access is unrestricted from Northey Street.

The combined area of Gonyea Park and the Woodbury Court residential properties is approximately 0.91 acres. There are several closely spaced residential dwellings on Northey Street. The apartment complex to the south has dozens of units. There are approximately 1,850 people within one-quarter mile of the site.

The site is not currently on the National Priorities List (NPL), and has not received a Hazardous Ranking System rating.

1.1.2.1 Location

Twelve Woodbury Court, Salem, Massachusetts has been selected as the site address, as this is the location where

contamination was first discovered. The coordinates for this address are approximately 42.53E north latitude, 70.89E west longitude. The site is bounded to the west by Route 107 (Bridge Street Bypass) and residential property on all other sides.

1.1.2.2 Description of Threat

Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants.

High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

The investigation was begun in July 2010, and consisted of collecting surface and subsurface soil samples to a maximum depth of three feet. In addition, the concentration of total volatile organic compounds (soil gas) was measured at each sample station in the field using a direct reading instrument. The three points with the highest concentrations nearest to adjacent residential properties were sent to a laboratory to identify the specific compounds present, and the concentration of each. An evaluation by DEP personnel revealed vapor intrusion is not an immediate concern, however DEP plans to carry out confirmation sampling under residences and paved areas.

Based on the lab results of tests run on soil, a second round of sampling was scheduled for the first week of January 2011 to better define the extent of contamination at Gonyea Park and 12 Woodbury Court, determine if other adjacent residential properties were impacted, and identify how much of the chromium detected present in the first round of sampling is trivalent chromium, and how much is the more toxic, hexavalent chromium. Analysis revealed that the chromium present at this site is the less toxic trivalent form.

Data generated from both sample events shows that one or more hazardous substances are present at a concentration above Massachusetts' standards at 45 of 48 sample locations. On the land used as Gonyea Park, at least one state standard is exceeded at 40% of the surface samples analyzed; at one foot, 73%; two feet, 81%; and at three feet, 66%. In addition, while they do not exceed state standards, dozens of other hazardous substances have also been identified in soil at the site.

A Closure Memorandum dated 16 March 2011 formally documents the conclusion of the removal evaluation of this Site. It recommends that a removal action is appropriate because conditions at this Site meet the criteria in the National Contingency Plan (NCP) for initiating a removal action.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

Since the last situation report, a total of 5274.81 tons of soil contaminated with polyaromatic hydrocarbons, lead, and arsenic have been removed from four residential properties and Gonyea Park. Further work by EPA is expected to be limited to removing silt fence left in place to minimize erosion over the winter, and assuring a lawn is established in the Park. EPA will oversee work to be performed in the spring by the Jefferson at Salem Station apartment complex on a small portion of their property found to be contaminated.

Air monitoring was performed at twelve locations on the perimeter of the site each day during excavation (except when raining). Results revealed that concentrations of contaminants remained significantly lower than the established action level.

The cleanup performed by EPA did not include #4 Woodbury Court, as the property owners would not grant access to EPA for this purpose. Management of contamination found at this property will be undertaken by DEP pursuant to the Massachusetts Contingency Plan.

1.2 Response Actions to Date

Week of 1 Aug 11

No work took place on site this week while the ERRS contractor finalized subcontracts for transportation and disposal and landscaping.

Week of 8 Aug 11

Thirty-nine truck loads (901.76 tons) of contaminated soil were shipped off site this week. Before leaving the site, preventative measures were taken to avoid spreading soil onto Northey Street. Trucks loaded with contaminated soil were swept with a broom or rinsed with a fire hose to remove any soil that gets caught on their exterior of the dump body, and tires were rinsed. In addition, trucks were kept on a stone access road or clean backfill, so that minor amounts of soil that inevitably reach the street in spite of rinsing was not contaminated. Occasionally, Northey Street was rinsed where trucks exit the site.

Due to the narrowness of streets with continuous residential parking, dump trucks with a trailer could not be used. The scarcity of the alternative ten-wheel dump trucks was cited by the ERRS contractor as the principal reason contaminated soil could not be moved off site as quickly as requested by the OSC.

Week of 15 Aug 11

Forty-six truck loads (1,082.48 tons) of contaminated soil were shipped off site, and the area at the end of Northey Street was excavated and backfilled.

Week of 22 Aug 11

Excavation took place along the base of the stone wall on 12 Woodbury Court, on the portion of the property at-grade with Gonyea Park, and on the slope connecting these areas. (Hereafter, reference to Woodbury Court addresses will be abbreviated to just their street number.)

Week of 29 Aug 11

This was a 4-day work week. Excavation on #12 continued in the area at grade with Gonyea Park. Restoration of #8 and #10 continued.

Week of 5 Sep 11

This was a 4-day work week. Seventeen truck loads (472.64 tons) of contaminated soil were shipped off site. Excavation continued from #12 into Gonyea Park. A stockade fence was installed on the common property line between # 8 and #10, and response-related damage to the shed at #10 was performed.

Week of 12 Sep 11

Twenty-two truck loads (529.47 tons) of contaminated soil were shipped off site. Excavation continued at Gonyea Park, and was completed at #12. Restoration of #10 was completed. Topsoil was spread on the slope down from Gonyea Park to #4, and patio stone was replaced to approximate pre-excavation conditions.

Week of 19 Sep 11

Excavation at Gonyea Park continued. Final grading of the of the slope down to #4 was completed, and large landscaping/erosion control rocks were returned to their approximate pre-excavation location and pattern. Topsoil was spread here and at #12.

Week of 26 Sep 11

Heavy rain over the weekend washed backfilled soil onto the patio stone behind #4. Stone was removed and replaced. Additional silt fence was installed to prevent a recurrence.

Thirty-two truck loads (773.98 tons) of contaminated soil were shipped off site. Excavation at Gonyea Park continued.

A DEP representative visited the site to view a test pit dug in the center of a gas holder unearthed during soil excavation to determine if highly contaminated waste was present in the bottom. The bottom of the gas holder was reached with the excavator, and it was agreed soil encountered was not contaminated as direct reading instruments did not read above background.

A representative of Salem visited the site this week. The pros and cons of replacing fence were discussed. Subsequently it was decided that fences would be replaced.

Week of 3 Oct 11

Extremely heavy rain impacted restored areas again. The landscaper filled gullies, removed soil deposited onto newly installed lawns and an area of landscaping stone, replanted bushes that washed down a slope, and re-installed mulch. Still more silt fence was installed to prevent a recurrence. In addition, the excavation procedure was amended to include installing silt fence against stone walls prior backfilling to prevent backfill from washing through the wall onto lawns below. Where this occurred along the wall behind #10, backfill was excavated, silt fence installed, and backfill replaced.

Seventeen truck loads (438.72 tons) of contaminated soil were shipped off site. Excavation at Gonyea Park continued.

EPA's Community Involvement Coordinator delivered Community Update 2 to the surrounding neighborhood.

Week of 10 Oct 11

This was a 4-day week. Twelve truck loads (280.25 tons) of contaminated soil were shipped off site. Excavation at Gonyea Park continued.

The OSC participated in a conference call with DEP and representatives of the Jefferson at Salem Station apartments which shares a property boundary on the west side of #12. An agreement was reached regarding the approach the apartment property owner will take to address soil contamination found on their property by EPA while performing the removal action.

Soil contaminated above the state's S1 standard will be excavated and/or covered to prevent access, allowing for the final design to be worked out after further consideration. This work will be completed not later than the spring of 2012. The Activity and Use Limitation (AUL) already in place on the property (for reasons not associated with this site) will be amended to address the subject area specifically. Temporary chain-link fence will be installed around the contaminated area corresponding to EPA's removal of temporary chain link fence related to its ongoing work, and which serves to prevent access to the subject area at the time of the conference call. Fence will be installed whether or not details pertaining to the balance of this agreement are finalized. Lastly, it was agreed all work would be done pursuant to the MCP rather than an administrative order from EPA. This final point was tentative, pending agreement from EPA management after review final draft plans and AUL revisions.

Work to address contaminated soil at 33 Northey Street/2Woodbury Court began by photodocumenting existing conditions and vegetation. Note that work at this property did not begin previously due to difficulty obtaining access. Two owners live elsewhere and rent their units, and another unit is vacant (believed to be due to foreclosure).

An EPA attorney was needed to address access to the empty unit.

Week of 17 Oct 11

A third torrential rain event impacted landscaped areas. Areas were restored and a berm installed along the top of the slope to supplement silt fence.

Six truck loads (141.41 tons) of contaminated soil were shipped off site. Excavation at Gonyea Park continued. At #2, personal property was moved to the site's storage container, and trees were cut down and chipped. A portion of a brick walkway was removed and excavation of contaminated soil began by hand in a small area inaccessible to equipment adjacent to the house.

Operations at #2 were constrained by a single, narrow access point. Excavated soil was moved via a small loader (Bobcat) to a six-wheel dump truck parked on Woodbury Court. The dump truck then brought soil to the stockpile at Gonyea Park. The process was reversed for backfilling. The Bobcat was loaded with clean soil from the dump truck in the street. Based on test results, excavation was limited to two feet at this property.

Week of 24 Oct 11

Six truck loads (131.86 tons) of contaminated soil were shipped off site. Excavation continued at #2. As a fourth significant rain storm was forecast, roof drain pipes at #2 were extended so that water did not empty into the excavation area. At Gonyea Park, all silt fence was supplemented with hay bales. This storm caused only minor erosion.

Week of 31 Oct 11

Excavation continued at #2 and Gonyea Park.

Temporary chain link fence was installed by Jefferson at Salem Station to secure contaminated soil on their property.

Week of 7 Nov 11

Eight truck loads (185.53 tons) of contaminated soil were shipped off site. Trees were installed on both sides of the property line in common between #12 and Gonyea Park. Restoration began at #2 by re-installing a brick walkway.

Week of 14 Nov 11

Fourteen truck loads (336.71 tons) of contaminated soil were shipped off site. The final shipment was on 16 Nov.

Restoration at #2 continued. Loam was spread on the back half of Gonyea Park, and wooden fences installed.

Week of 21 Nov 11

The landscaper installed more trees at the Park. Spreading loam was completed. Re-installing wooden beams that frame the play set at Gonyea Park was completed. The lowest course was left in place for the duration of the project until the play set area was excavated, at which time they were removed to excavate beneath them. Only a few at a time were removed so that the size and location of the play area did not change.

At #2, response-related damage was addressed by painting scrapes on a wooden stairway and replacing cracked horizontal rails on the wooden fence between this property and #4 Woodbury Court.

Unused site supplies were loaded into a truck and driven to the contractor's office in Braintree, Massachusetts.

The backflow preventer on loan from the City of Salem since the beginning of the project was returned.

All photos and data pertaining to #10 Woodbury Court were provided to the owner at his request. The OSC delivered information in person on a disk, as attempts to email failed due to file size.

The OSC notified the City via email that the project was essentially complete.

Week of 28 Nov 11

At #2, a lawn was installed and a section of concrete walkway that cracked as a result of the response action was repaired. Topsoil at the Park was final graded, grass seed was spread with the intent that some lawn might become established this year as warmer-than-average temperatures continued, and so seed would be in place at the emergence of spring.

Week of 5 Dec 11

Surveyors were on site for two days this week to take measurements for the purpose of generating an as-built site diagram. Remaining temporary chain-link fence panels were removed, completing demobilization of the site for the winter months.

21 Dec 11

The OSC reviewed the plan and schedule related to the apartment property with EPA management, and received concurrence to proceed.

19 Jan 12

The OSC met with the Mayor, other city officials, and DEP representatives to review work completed by EPA. DEP outlined the results of soil gas testing it has performed, and additional testing that is planned to identify if contaminants

are present in groundwater.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

This is a fund-lead removal action. Enforcement actions have not been undertaken.

2.1.4 Progress Metrics

All contaminated soil that was excavated has been shipped to Environmental Soil Management, Incorporated (ESMI) in Loudon, New Hampshire.

<i>Waste Stream</i>	<i>Medium</i>	<i>Quantity</i>	<i>Manifest #</i>	<i>Treatment</i>	<i>Disposal</i>
contaminated soil (PAHs, lead, cyanide)	soil	5274.81 tons	1 - 222	None	Landfill

2.2 Planning Section

2.2.1 Anticipated Activities

See Section 2.1.1 below.

2.1.1 Planned Response Activities

The following planned actions are taken directly from the action memorandum.

The OSC will guide the EPA's Emergency and Rapid Response Services (ERRS) contractor personnel on their initial site visit for the purpose of identifying first hand to the contractor, the scope and objectives of the project.

The OSC anticipates using heavy equipment to excavate soil to a depth of not more than three feet where any of the ten hazardous substances identified exceed the state standards listed above in this action memorandum, and then restoring the impacted area to the extent practical. In addition to soil, waste material (coal tar, drums, or other containers) that may be encountered will also be excavated. Restoration includes, but is not necessarily limited to, backfilling excavated areas, re-establishing a lawn, correcting response-related damage that may occur, and re-planting existing vegetation with plants that are commonly available. The replacement for adult, fully-grown trees will be much smaller, commonly available nursery stock. For residential properties, prior to initiating work, a list of all existing plants must be generated, and the building and grounds videotaped and photo-documented with specific attention to existing deficiencies.

A limited number of test pits will be dug to provide information about subsurface conditions at depths greater than three feet. Excavation below three feet may be undertaken in a limited area to remove a discrete source of contamination, such as a pocket of coal tar waste or a drum.

The limits of excavation will be identified for future reference with snow fence. A barrier of soil, stone, and/or man-made materials will be employed to prevent contact with hazardous substances if not all contaminated soil can be excavated from depths less than three feet, for example, to save old-growth trees at the request of the property owner, if the water table, bedrock, or foundation remnants are encountered, to prevent damage to residential foundations, or for other reasons.

Based on the impact to residents of homes where a cleanup takes place, residents will have the opportunity to be temporarily relocated while work is taking place. Temporary relocation or other accommodation will be accomplished via an interagency agreement (IAG) with the U.S. Army Corps of Engineers (USACE). Related costs can be expected to include, but are not necessarily limited to, housing, meals, day care, laundry, and boarding pets. Should residents be temporarily relocated while contaminated soil is addressed, a security guard will be posted outdoors at the home during their absence.

The project will employ temporary fence and warning signs to secure work areas, and security guards posted if warranted by circumstances other than the relocation of residences. To document that contaminants are not migrating off site as a result of cleanup activities, air will be monitored as work progresses, and compared to OSHA standards and background data collected prior to beginning excavation activities. Wetting soil will be carried out as needed to supplement existing soil moisture to minimize if not eliminate dust from being generated, and thereby the potential for off-site migration of contaminants. Additional preventative measures or alternative work practices will be implemented if concentrations reach one-half the OSHA standard.

Samples will be collected of waste, soil, water, and air to comply with the requirements of the Site's health and safety plan, characterize waste, document the effectiveness of the cleanup or final conditions, and assure the quality of backfill obtained from off-site vendors, and for other reasons that may arise.

Additional sampling is necessary to fully define the extent of contamination. If additional properties beyond those identified to date are discovered to be part of this site, it is likely a additional funding will be required.

In the event that the state's soil gas sampling indicates residences are being impacted, it may be appropriate to expand the scope of this project to include vapor intrusion abatement. Should this situation arise, it would be addressed by a Change-In-Scope Action Memorandum that outlines the nature of the threat and the recommended response action, and likely include a request for additional funds.

2.2.1.2 Next Steps

Return to the site in the spring of 2012 to remove silt fence and repair any erosion that may have occurred during the winter months. This is expected to take one day.

2.2.2 Issues

None.

2.3 Logistics Section

The OSC is the Logistics Section Chief.

2.4 Finance Section

2.4.1 Narrative

The OSC is the Finance Section Chief. Costs associated with the site are outlined below.

On 14 September 11, the ERRS Task Order ceiling was increased by \$250,000.00, from \$791,000.00 to \$1,041,000.00.

Note that the entire \$265,000.00 project contingency approved in the action memorandum has been applied to other ceilings to cover expenses identified in EPA's cost accounting system. The ERRS ceiling was increased by \$91,000.00, CLP by \$112,000.00, and ESAT by \$62,000.00. Similarly, as the IAG budget was not used, it has been reallocated to cover other costs. Of the original \$75,000.00 IAG budget, \$16,000 was reallocated to cover ESAT costs, and \$59,000.00 to cover EPA Indirect costs. Of the original \$300,000.00 START budget, \$102,000.00 was reallocated to cover EPA Indirect costs.

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
ERRS - Cleanup Contractor	\$1,041,000.00	\$1,033,000.00	\$8,000.00	0.77%
START	\$198,000.00	\$107,000.00	\$91,000.00	45.96%
CLP	\$112,000.00	\$111,800.00	\$200.00	0.18%
ESAT	\$78,000.00	\$77,400.00	\$600.00	0.77%
Intramural Costs				
USEPA - Direct	\$150,000.00	\$84,000.00	\$66,000.00	44.00%
USEPA - Indirect	\$360,000.00	\$359,400.00	\$600.00	0.17%
Total Site Costs	\$1,939,000.00	\$1,772,600.00	\$166,400.00	8.58%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. 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.

2.5 Other Command Staff

2.5.1 Safety Officer

The OSC is the Safety Officer for this site. A site-specific health and safety was adhered to during while conducting the removal action.

2.6 Liaison Officer

The OSC is the Liason Officer for this site, and maintained an open line of communication with counterparts at DEP and the City of Salem. A representative of Salem visited the site the week of 26 Sep. Not replacing fences to maintain the present "open look" to the park was discussed. Subsequently it was determined that fences would be replaced. A DEP representative visited the site the week of 22 Aug, 29 Aug, 5 Sep, 19 Sep, 26 Sep, 17 Oct, and 14 Nov. Site progress was reviewed, including access issues, and how to approach contamination on apartment property. DEP performed soil gas testing for vapor intrusion at #4 and an apartment building on Northey Street. Results did not warrant requesting that EPA expand the scope of the project to address findings.

2.7 Information Officer

2.7.1 Public Information Officer

A PIO was not required for this site.

2.7.2 Community Involvement Coordinator

The OSC worked with an EPA Community Involvement Coordinator to develop and distribute Community Updates for the neighborhood around the Site. The PIO delivered Community Update #2 the week of 3 Oct.

3. Participating Entities

3.1 Unified Command

The Environmental Protection Agency is responsible for this site at this time.

3.2 Cooperating Agencies

Massachusetts Department of Environmental Protection.
Agency for Toxic Substances and Disease Registry
City of Salem Mayor's Office, Planning, and Engineering Departments

4. Personnel On Site

The OSC, ERRS and START contractors.

5. Definition of Terms

OSC - On-Scene Coordinator
ERRS - Emergency and Rapid Response Services
PA/SI - Preliminary Assessment/Site Investigation
START - Superfund Technical Assistance Response Team
ATSDR - Agency for Toxic Substances and Disease Registry
DEP - Massachusetts Department of Environmental Protection
POLREP/SITREP - Pollution Report/Situation Report
CERCLA - Comprehensive Environmental Response Compensation and Liability Act
IAG - Interagency Agreement
NCP - National Contingency Plan
ppm - parts per million
ppb - parts per billion

6. Additional sources of information

6.1 Internet location of additional information/report

Additional information can be found on the web at epaosc.net.

6.2 Reporting Schedule

Periodic.

7. Situational Reference Materials

None.

POLREP #3 Last Updated 6/12/2012