

**REMOVAL PROGRAM
AFTER ACTION REPORT
FOR THE
MURPHY PROPERTY (263 SALEM ST.) SITE
WOBURN, MIDDLESEX COUNTY, MASSACHUSETTS
27 AUGUST 2007 THROUGH 2 NOVEMBER 2007**

Prepared For:

U.S. Environmental Protection Agency
Region I
Emergency Planning and Response Branch
One Congress Street, Suite 1100
Boston, Massachusetts 02114-2023

CONTRACT NO. EP-W-05-042

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1.0 INTRODUCTION

The following report, entitled *Removal Program After Action Report for the Murphy Property (263 Salem St.) Site, Woburn, Middlesex County, Massachusetts, 27 August 2007 through 2 November 2007*, 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 establishing the exclusion zone (EZ), contamination reduction zone (CRZ), and clean zone (CZ); relocating or removing non-hazardous debris to access work and equipment staging areas; clearing and grubbing the work zones; conducting personal and perimeter air monitoring; installing erosion/siltation control devices; excavating contaminated soil; collecting post-excavation samples for laboratory analysis; pumping, decontaminating, and removing tanks; cutting steel; documenting and photodocumenting site conditions; coordinating disposal of contaminated soil at EPA-approved facilities; performing site restoration; and demobilizing personnel and equipment upon the completion of removal activities.

2.0 SITE CONDITIONS AND BACKGROUND

2.1 Site Location and Description

The Murphy Property (263 Salem St.) site (the site) is located at 263 Salem Street, Woburn, Middlesex County, Massachusetts (MA) [see Appendix A – Site Location Map (Figure 1)] [1]. The geographic coordinates, as measured from the approximate center of the site, are 42° 29' 23.8" north latitude and 71° 07' 50.1" west longitude. It is bounded to the north by Salem Street and commercial properties (including Murphy's Waste Oil Services, Former Whitney Barrel Company, and Aberjona Auto Parts); to the west by commercial property (Dondero Property); to the south by commercial property (MIRRA Realty Trust Property at 271 Salem Street); and to the east by the 271 Salem Street access road and additional commercial properties [see Appendix B – Site Diagram (Figure 2)]. The site is approximately 1 acre and contains an unoccupied, two-story house; a garage; a 75,000-gallon (75K) waste oil bunker; a 15,000-gallon (15K) waste oil bunker; and several underground storage tanks (USTs) and aboveground storage tanks (ASTs). The property slopes up from Salem Street to the north and west, and includes areas of unmaintained lawn and some heavy brush. The garage contains several vehicles and miscellaneous equipment, and the southwestern portion of the property is used for storage of construction equipment [2].

2.2 Site History/Previous Actions

The site was operated and used as an oil and waste oil storage/transfer facility from the 1920s until 1987. Tank contents were reportedly removed in the early 1990s [3]. In 1989, 1990, 1993, and 2004, environmental investigations were conducted at the adjacent 271 Salem Street property. These investigations, which included soil sampling, tank sampling, and well installation and sampling, indicated soil and groundwater contamination from petroleum hydrocarbons and No. 2 fuel/lubricating oils. One of the investigations, which included surface soil and tank sampling on the Murphy Property site, concluded that releases of oil and hazardous materials had occurred at the site which had affected the 271 Salem Street property [4, 5].

In 1993, Surface Remediation Technologies, Inc. (SRT) of Rowley, MA, on behalf of the property owner, conducted a Preliminary Subsurface Investigation (PSI) at the site. The PSI consisted of soil borings/subsurface soil sample collection; groundwater monitoring well installation and sampling; surface soil sample collection from an area of stained soil; and product sampling from four USTs and two oil bunkers. Subsurface soil samples exhibited a petroleum odor, and sample headspace screening with a photoionization detector (PID) indicated elevated levels of volatile organic compounds (VOCs), ranging from 20 parts per million (ppm) to 110 ppm. Subsurface soil sample analytical results indicated petroleum products, including No. 2 fuel oil and motor/hydraulic oil, exceeding Massachusetts Department of Environmental Protection (MassDEP) standards. The analytical results of the one surface soil sample indicated petroleum hydrocarbons (motor/hydraulic oil) and VOCs, including tetrachloroethylene (PCE), trichloroethylene (TCE), and cis-1,2-dichloroethene (cis-1,2-DCE), above the MassDEP S-1 standards [4].

Analytical results for groundwater samples indicated petroleum products, including No. 2 fuel oil, No. 6 oil, and motor/hydraulic oil, exceeding MassDEP groundwater (GW) standards; and numerous VOCs (petroleum product-related chlorinated solvents), none of which exceeded MassDEP GW standards. The results for the one groundwater sample analyzed for polychlorinated biphenyls (PCBs) indicated the presence of Aroclors 1242 and 1260. Analytical results for tank samples indicated No. 2 fuel oil, motor/hydraulic oil, petroleum-related VOCs, and other VOCs including PCE, TCE, 1,1,1-trichloroethane (1,1,1-TCA), and cis-1,2-DCE [4].

In a letter dated 5 May 2006, MassDEP referred the site to EPA. On 25 July 2006, EPA, Weston Solutions, Inc. Superfund Technical Assessment and Response Team (START), and MassDEP conducted a site reconnaissance. EPA, START, and MassDEP personnel noted the presence of at least one drum containing an unknown liquid and five USTs containing residual to small quantities of petroleum products and sludge. On 23 August 2006, EPA, START, and MassDEP personnel mobilized to the site to conduct sampling activities as part of a Removal Program Preliminary Assessment/Site Investigation (PA/SI). START collected 53 surface soil samples from 50 sample locations and 10 tank/drum samples from nine sample locations (one drum and eight tanks) for Resource Conservation and Recovery Act (RCRA) metals, VOCs, and PCB analyses. At the request of the EPA On-Scene Coordinator (OSC), START also collected 50 surface soil split samples and nine tank/drum split samples to relinquish to the potentially responsible party (PRP) [2].

Six VOCs (with maximum concentration in parentheses) were detected in eight of the surface soil samples: acetone [246 micrograms per kilogram ($\mu\text{g}/\text{kg}$)]; 2-butanone (133.3 $\mu\text{g}/\text{kg}$); 1,1,1-TCA (341.1 $\mu\text{g}/\text{kg}$); 1,2,4-trichlorobenzene (120.8 $\mu\text{g}/\text{kg}$); naphthalene (98.6 $\mu\text{g}/\text{kg}$); and 1,2,3-trichlorobenzene (153.7 $\mu\text{g}/\text{kg}$). None of the VOCs concentrations exceeded their respective MassDEP Reportable Concentrations for Soil Category 1 (RCS-1) [2].

Two PCB Aroclors (1254 and 1260) were detected in surface soil samples. Aroclor-1254 was detected at a maximum concentration of 9,800 milligrams per kilogram (mg/kg), and Aroclor-1260 was detected at a maximum concentration of 850 mg/kg . Forty-four surface soil samples were found to contain at least one PCB Aroclor, and of these samples, 12 exhibited concentrations that exceeded MassDEP RCS-1 for PCBs (2 mg/kg) [2].

Eight metals that exceeded MassDEP RCS-1 standards were detected in 32 of the surface soil samples: antimony (36 mg/kg), barium (6,800 mg/kg), cadmium (22 mg/kg), chromium (920 mg/kg), copper (3,900 mg/kg), lead (37,000 mg/kg), nickel (91 mg/kg), and zinc (16,000 mg/kg) [2].

Fourteen VOCs were detected in five of the drum/tank samples: 1,1,2-trichloro-1,2,2-trifluoroethane (2 µg/kg); benzene (17,455 µg/kg); toluene (63,896 µg/kg); m/p xylene (212,337 µg/kg); ortho-xylene (136,957 µg/kg); isopropylbenzene (178,377 µg/kg); 1,2,4-trimethylbenzene (668,587 µg/kg); naphthalene (472,647 µg/kg); styrene (93,987 µg/kg); PCE (2 µg/kg); TCE (100 µg/kg); cis-1,2-DCE (49 µg/kg); 1,1,1-TCA (17 µg/kg); and vinyl chloride (2 µg/kg). Aroclor-1254 was detected in two of the drum/tank samples at 820 mg/kg. Barium was detected in one of the drum/tank samples at 350 mg/kg, and lead was detected in seven of the drum/tank samples with a maximum concentration of 540 mg/kg [2].

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) One Congress Street, Suite 1100 Boston, MA 02114-2023 (617) 918-1230 - OSC Bazenas (617) 918-1254 - OSC Chau	Ted Bazenas Wing Chau	EPA On-Scene Coordinators (OSCs) responsible for the initiation, oversight, and completion of all removal activities. The OSCs coordinated with State and local officials.
	Scott Clifford	EPA Office of Environmental Measurement and Evaluation (OEME) Mobile Laboratory chemist responsible for conducting on-site soil screening.
Weston Solutions, Inc. Superfund Technical Assessment and Response Team (START) 3 Riverside Drive Andover, MA 01810 (978) 552-2131	Bonnie Mace	START Site Leader that provided the OSCs with technical assistance, sampling support, analytical support, site documentation, site health and safety monitoring, air monitoring, and draft and final report preparation.
Shaw Environmental & Infrastructure (Shaw) Emergency Rapid Response Services (ERRS) 88C Elm Street Hopkinton, MA 01748-1656 (800) 242-4644	Mike Blodgett	Response Manager (RM) for the ERRS contractor that performed removal activities. The RM was responsible for oversight and organization of mobilization, demobilization, and waste removal activities.
	Gary Benham	ERRS Transportation and Disposal (T&D) coordinator.
Massachusetts Department of Environmental Protection (MassDEP) One Winter Street Boston, MA 02108 (978) 661-7702	Kyle MacAfee	State organization responsible for removing the contents and disposing of Tank Nos. 3, 4, 6, and the Tank Truck.

ORGANIZATION OF THE RESPONSE (Concluded)		
Organization	Representatives	Responsibilities
ProScience Analytical Services, Inc. 22 Cummings Park Woburn, MA 01801 (781) 935-3212	Valerica Stanca	ERRS subcontractor that was responsible for analyzing the personal and perimeter air sampling cartridges.
Enpro Services, Inc. (Enpro) 12 Mulliken Way Newburyport, MA 01950 (978) 465-1595	Gary Murphy	ERRS subcontractor responsible for removing the contents and decontaminating the 75K bunker, 15K bunker, and Tank Nos. 1 and 2.
		MassDEP subcontractor responsible for removing the contents, decontaminating and disposing of Tank Nos. 3, 4, 5, and 6, and disposing of Tank Nos. 1 and 2.
Fleet Environmental Services, LLC (Fleet) 75-D York Avenue Randolph, MA 02368 (781) 815-1100	Bob Murphy	ERRS subcontractor responsible for cutting the steel top off of the 75K bunker.
Harnum Industries, Ltd. 28 Pelham Avenue Methuen, MA 01844 (800) 225-0998	Stephen McCarthy	ERRS subcontractor responsible for providing a crane to lift and load out Tank Nos. 1, 2, and 3.

3.2 Mobilization and Site Preparation

The site-specific removal health and safety plan (HASP) was reviewed and signed by all site personnel before any site work commenced. In addition, emergency telephone numbers and directions to the hospital were posted, and site work zones were delineated. All site activities were performed in appropriate personal protective equipment (PPE) in accordance with the HASP. The site HASP was prepared by START personnel as a separate document, entitled *Health and Safety Plan for the Murphy Property (263 Salem St.) Site, Woburn, Middlesex County, Massachusetts*. On 27 August 2007, the mobilization and staging of ERRS equipment was initiated.

Site preparation activities conducted by ERRS personnel consisted of clearing and grubbing the work zone and command post areas, and installing high-visibility fence surrounding the work zones.

3.3 Chronology of Removal Activities

Week Ending Friday, 31 August 2007

On 27 August 2007, EPA OSC Ted Bazenas, Shaw Environmental & Infrastructure (SHAW) Emergency Rapid Response Services (ERRS) Response Manager (RM) Mike Blodgett, and START Site Leader (SL) Bonnie Mace mobilized to site. A safety meeting was held to discuss the HASP, which was subsequently signed by all personnel. For the duration of the removal, daily safety meetings were held prior to the initiation of site activities. In addition, START SL Mace photodocumented site activities for the duration of the project (see Appendix C – Photodocumentation Log).

Site activities for the week included clearing and grubbing to access work areas; chipping cleared vegetation; installing high-visibility fence along the site perimeter; and conducting subsurface soil sampling. Site activities also included the delivery of a storage trailer, a decontamination trailer, a generator, two Port-o-Johns, two chainsaws, a wood chipper, a Bobcat®, an excavator, and a front-end loader.

On 28 August 2007, START members Kyle Brennan, Lauren Cook, Carolyn Imbres, Bill Mahany, and Keith Wheeler were on site to collect subsurface soil samples to determine the vertical extent of contamination [6]. Sample locations were recorded using a Trimble Pathfinder Pro XRS Global Positioning System (GPS) unit [see Appendix D – Subsurface Soil Sample Location Map (Figure 3)] [7].

On 30 August 2007, MassDEP members Kyle MacAfee, Loreen Kelley, and Kathy Cahill were on site to meet with OSC Bzenas, RM Blodgett, and SL Mace to review MassDEP's scope of work for the project.

On 31 August 2007, ERRS Transportation and Disposal (T&D) Coordinator Gary Benham was on site to collect samples from several of the on-site tanks for disposal analysis.

Other personnel on site included OSC Wing Chau, Town of Woburn Fire Department personnel, Town of Woburn Board of Health member John Fralick, property owner Joan Murphy, and Reliable Security personnel.

Week Ending Friday, 7 September 2007

Site activities for the week included clearing and grubbing to access work areas; chipping cleared vegetation; conducting personal and perimeter air sampling for metals; particulate air monitoring [8, 9]; constructing a soil staging area; excavating soil; and performing X-Ray Fluorescence (XRF) post-excavation soil screening for metals by START personnel.

OSC Wing Chau covered the site for the week in OSC Bzenas' absence.

On 5 September 2007, Fleet Environmental Services, LLC (Fleet) member Bob Murphy was on site to meet with RM Blodgett and to inspect the 75K bunker in preparation for cutting the steel top.

On 6 September 2007, START member Mace began conducting personal and perimeter air sampling for lead in accordance with the HASP. Samples were analyzed by ProScience Analytical Services, Inc. (ProScience) located in Woburn, MA. Complete laboratory analytical results may be found in the Murphy Property (263 Salem St.) Site File.

On 6 September 2007, ERRS began construction of a soil staging area for excavated soils. The area floor was lined with polyethylene sheeting, and the area was surrounded by hay bales to restrict runoff.

On 7 September 2007, ERRS initiated soil excavation. During excavation activities, ERRS watered and misted the work zones to provide dust suppression to reduce airborne emissions of lead and particulates. In addition, ERRS utilized wood chips in high traffic areas and work zones to minimize airborne particulates.

On 7 September 2007, MassDEP members MacAfee and Iris Davis were on site to meet with OSC Chau to review site activities.

Other personnel on site included property owner Murphy, ERRS member Steve McGinn, Enpro Services Inc. (Enpro) member Gary Murphy, Town of Woburn Fire Department member Bill Sweeney, and Reliable Security personnel.

Week Ending Friday, 14 September 2007

Site activities for the week included personal and perimeter air sampling for metals; particulate air monitoring; excavating soil; and post-excavation soil sampling and screening.

On 10 September 2007, ERRS T&D Coordinator Benham was on site to collect disposal samples from the excavated soil stockpile.

On 11 September 2007, MassDEP members MacAfee and Patrick Hurley were on site to review the scope of work.

On 13 September 2007, MassDEP members Hurley, MacAfee, and Steve Mahoney and Enpro members Murphy and Chris Ayotte were on site to conduct a site walk-through with both MassDEP and RM Blodgett to review the scope of work for activities that will be conducted for both MassDEP and EPA.

On 14 September 2007, ERRS T&D Coordinator Benham was on site to collect additional samples from the excavated soil stockpile for disposal analysis.

On 14 September 2007, all the personal and perimeter air sample results for lead were received from ProScience. At the request of OSC Bazenas, START member Mace discontinued personal and perimeter air sampling since all the sample results were below detection limits.

Other personnel on site included property owner Murphy, ERRS T&D coordinator Benham, Fleet member Murphy, and Reliable Security personnel.

Week Ending Friday, 21 September 2007

Site activities for the week included particulate air monitoring; tank pumping, cleaning, and removal; bunker decontamination; soil excavation; and post-excavation soil sampling and screening.

On 17 September 2007, EPA Office of Environmental Management and Evaluation (OEME) chemist Scott Clifford arrived on site with the Mobile Laboratory to screen post-excavation soil samples for PCBs and metals [see Appendix E – Post-Excavation Soil Screening Sample Results (Table 1)].

On 19 September 2007, Global Remediation Services, Inc., (Global) was on site to pump out the contents of the 75K and 15K bunkers. A total of 4,250 gallons of aqueous liquid were transported off site for disposal [see Appendix F – Waste Disposal Summary Table (Table 2)]. SL Mace collected additional soil samples along the south side and northeast side of the garage [see Appendix G – Soil Screening Sample Results (Table 3)].

On 20 September 2007, Enpro personnel were on site with two separate crews: one as a subcontractor for MassDEP to pump, clean, and remove Tank Nos. 3, 4, 5, 6, and the Tank Truck; and a second crew as a subcontractor for ERRS to decontaminate the 75K and 15K bunkers.

On 20 September 2007, Enpro (for MassDEP) pumped out the remaining contents of, cleaned, and removed Tank No. 5. The tank was staged on polyethylene sheeting until it could be removed from the site by MassDEP contractors.

On 21 September 2007, Enpro (for MassDEP) pumped out the remaining contents of, cleaned, and removed Tank No. 6. The tank was staged on polyethylene sheeting until it could be removed from the site by MassDEP contractors. SL Mace and OEME chemist Clifford selected 10% of the soil samples screened on site for confirmatory analysis [see Appendix H – Confirmatory Sample Results (Table 4)].

Other personnel on site included MassDEP members MacAfee, Cahill, and Kelley, property owner Murphy, Woburn Fire member Sweeney, ERRS T&D Coordinator Benham, and Reliable Security personnel.

Week Ending Friday, 28 September 2007

Site activities for the week included particulate air monitoring; tank pumping, cleaning, and removal; bunker decontamination; steel cutting; soil excavation; and post-excavation soil sampling and screening.

On 24 September 2007, START Project Leader Eric Ackerman covered site leader duties for SL Mace.

On 24 September 2007, Enpro (for MassDEP) pumped out the remaining contents of, cleaned, and removed Tank No. 4 and the Tank Truck. The tank and truck were staged on polyethylene sheeting until they could be removed from the site by MassDEP contractors. Enpro (for ERRS) completed the decontamination of the 75K bunker and placed all the contents (sludge) into 55-gallon drums that were staged on site.

On 25 September 2007, Murray Towing, Inc. was on site to remove the tractor-truck trailer from the site.

On 25 September 2007, Enpro (for MassDEP) pumped out the remaining contents of, and cleaned Tank No. 3.

The tank remained in place until ERRS could excavate contaminated soil surrounding it and have a crane lift it out. Enpro (for ERRS) completed the decontamination of the 15K bunker and placed all the contents (sludge) into 55-gallon drums staged on site.

On 26 September 2007, Fleet member Murphy was on site to cut the steel top off of the 75K bunker.

On 26 September 2007, Enpro (for MassDEP) loaded Tank Nos. 4, 5, and 6, and the Tank Truck for off site disposal.

On 27 September 2007, Enpro (for ERRS) was on site to drill holes in the floor of the 15K bunker to collect soil samples from underneath the 15K bunker since it would be remaining in place due to its proximity to the garage.

On 27 September 2007, HASP amendment No. 1 was issued to include non-permitted confined space entry into the 75K bunker for final cleaning.

On 28 September 2007, Enpro (for ERRS) conducted final cleaning of the 75K bunker.

Other personnel on site included OEME chemist Clifford, MassDEP members MacAfee, Cahill, and Kelley, property owner Murphy, Woburn Fire members Sweeney and Bob Nelson, ERRS T&D Coordinator Benham, and Reliable Security personnel.

Week Ending Friday, 5 October 2007

Site activities for the week included particulate air monitoring; utilizing the hoe-ram to demolish the north, south, and east walls of the 75K bunker; backfilling the 75K bunker; tank pumping and cleaning; soil excavation; scrap steel load out; soil load out; drum load out; and post-excavation soil sampling and screening.

On 1 October 2007, ERRS began receiving clean fill to backfill the 75K bunker. The floor of the bunker was lined with geo-textile fabric prior to backfilling with clean material.

On 2 October 2007, HazMat Environmental Group, Inc. was on site to pump out the contents of Tank Nos. 1 and 2. Enpro (for ERRS) was on site to decontaminate Tank Nos. 1 and 2.

On 3 October 2007, two New England Disposal Technologies, Inc. (NEDT) trucks were on site to load out lead-contaminated soils [see Appendix I – Post-Excavation Map (Figure 4), and Appendix J – Post-Excavation Map Area Behind Garage (Figure 4A)]. A total of approximately 45 tons of soil were loaded out for disposal. Enpro and MassDEP personnel were on site to load out the MassDEP-generated drums. A total of 25 drums were loaded out for disposal (Manifest Nos. 000196641 GBF and 000196642 GBF).

On 4 October 2007, Second Street Iron and Metal Company, Inc. (Second Street) delivered a roll-off container for ERRS to load with any remaining scrap steel on site.

On 5 October 2007, Second Street transported the loaded roll-off container for salvage.

Other personnel on site included OEME chemist Clifford, MassDEP members MacAfee, property owner Murphy, ERRS T&D Coordinator Benham, and Reliable Security personnel.

Week Ending Friday, 12 October 2007

Site activities for the week included particulate air monitoring; backfilling the 75K bunker; demolishing the top of the 15K bunker; covering the floor of the 15K bunker excavation with geotextile fabric; backfilling the bunker with clean material; soil load out; soil excavation; backfilling; and post-excavation soil sampling and screening.

On 10 October 2007, two NEDT trucks were on site to load out PCB-contaminated soils. A total of 51 tons of soil were loaded out for disposal.

On 12 October 2007, OSC Chau was on site to cover for OSC Bzenas.

Other personnel on site included OEME chemist Clifford, property owner Murphy, MassDEP member MacAfee, Woburn Board of Health member Fralick, ERRS T&D Coordinator Benham, and Reliable Security personnel.

Week Ending Friday, 19 October 2007

Site activities for the week included particulate air monitoring; removal of Tank Nos. 1, 2, and 3; soil load out; soil excavation; backfilling; and post-excavation soil sampling and screening.

OSC Chau covered the site for the week in OSC Bzenas' absence.

On 16 October 2007, three NEDT trucks were on site to load out contaminated soil. A total of 70,908 kilograms of soil were loaded out for disposal.

On 18 October 2007, three NEDT trucks were on site to load out contaminated soil. A total of 80,400 kilograms of soil were loaded out for disposal.

On 19 October 2007, Harnum Industries, Ltd. (Harnum) was on site with a crane to lift and load Tank Nos. 1, 2, and 3 onto trucks for disposal by MassDEP contractor Enpro. Enpro and Grants Trucking were on site with two trucks to load out Tank Nos. 1, 2, and 3. MassDEP member MacAfee was on site to oversee the tank loading. Note that the tank graves along with any other grids that exceeded Massachusetts Contingency Plan Method 1 Soil Category S-2 Standards (MCP S-2) were lined with geotextile fabric prior to backfilling [see Appendix K – Final Post-Excavation Soil Sample Results (Table 5)]. The tank graves were excavated to just above groundwater levels. Grid SS-113 was excavated to a depth of 36 inches to preserve the structural integrity of the garage.

Other personnel on site included OEME chemist Clifford, property owner Murphy, Woburn Fire Department member Sweeney, Enpro member Gina Surette, ERRS T&D Coordinator Benham, and Reliable Security personnel.

Week Ending Friday, 26 October 2007

Site activities for the week included particulate air monitoring; soil excavation; backfilling; soil load out; and post-excavation soil sampling and screening.

On 22 October 2007, three NEDT trucks were on site to load out contaminated soil. A total of 70,908 kilograms of soil were transported off-site for disposal.

On 24 October 2007, three NEDT trucks and one Global truck were on site to load out contaminated soil. A total of 101,818 kilograms of soil were transported off-site for disposal.

On 26 October 2007, two Global trucks and one AmeriTech Environmental, Inc., truck were on site to load out contaminated soil. A total of 74,909 kilograms of soil were transported off-site for disposal.

Other personnel on site included OSC Frank Gardner, OEME chemist Clifford, property owner Murphy, Reliable Security personnel, and ERRS T&D Coordinator Benham.

Week Ending Friday, 2 November 2007

Site activities for the week included backfilling and site restoration; soil load out; drum load out; and demobilizing equipment and personnel.

On 29 October 2007, three NEDT trucks were on site to load out contaminated soil. A total of 84,600 kilograms were transported off-site for disposal.

On 30 October 2007, START member Alysha Lynch covered site leader duties for SL Mace.

On 31 October 2007, two trucks were on site to load out contaminated soil. A total of 58,500 kilograms were transported off-site for disposal.

On 1 November 2007, an NEDT roll-off container was on site for final soil load out. A total of 16,200 kilograms of soil was transported off-site for disposal. A Veolia Technical Solutions, LLC truck was on site for drum load out. A total of 51 drums were transported off-site for disposal.

On 2 November 2007, all site activities were completed, and all equipment and personnel were demobilized from the site.

Other personnel on site included OSC Dan Wainberg, MassDEP members MacAfee, Kelley, and Cahill, property owner Murphy, ERRS T&D Coordinator Benham, and Reliable Security personnel.

4.0 ESTIMATED COSTS OF THE REMOVAL ACTION

EPA resources committed under this Removal Action, conducted from 27 August 2007 through 2 November 2007, are summarized below:

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
ERRS - Cleanup Contractor	\$750,000.00	\$600,000.00	\$150,000.00	20.00%
RST/START	\$250,000.00	\$97,000.00	\$153,000.00	61.20%
Intramural Costs				
USEPA - Direct (Region, HQ)	\$100,000.00	\$78,000.00	\$22,000.00	22.00%
Total Site Costs	\$1,100,000.00	\$775,000.00	\$325,000.00	29.55%

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.

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Appendices

Appendix A

Site Location Map (Figure 1)



Figure 1

Site Location Map

**Murphy Property
263 Salem Street
Woburn, Massachusetts**

**EPA Region I
Superfund Technical Assessment and
Response Team (START) III
Contract No. EP-W-05-042**

TDD Number: 07-08-0003
Created by: C. Henlin
Created on: 20 August 2007
Modified by: B. Mahany
Modified on: 21 August 2007

Data Sources:

Topos: E:\MA_gis\DOQQ_MASSGIS\MassGIS\Woburn
Quadrangle Name(s): Woburn
All other data: START



Appendix B

Site Diagram (Figure 2)



SITE DIAGRAM

MURPHY PROPERTY (263 SALEM ST)
 263 SALEM STREET
 WOBURN, MASSACHUSETTS



REGION I SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM

TDD NUMBER: 07-08-0003	CREATED BY: B. MACE	CREATED ON: 11/6/2007
FILE LOCATION: E:\MA_gis\Murphy_Property_0328\ MXDs\Figure 2 - Site Diagram.mxd		FIGURE 2

Appendix C

Photodocumentation Log

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of the southwest side of the garage. Photograph taken facing southeast.

DATE: 27 August 2007

TIME: 0940 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of the south side of the garage and the staged camper. Photograph taken facing east.

DATE: 27 August 2007

TIME: 0941 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of the northeast side of the garage, prior to clearing. Photograph taken facing east.

DATE: 27 August 2007

TIME: 0941 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of the steel top of the 75,000-gallon (75K) bunker. Photograph taken facing southeast.

DATE: 27 August 2007

TIME: 0942 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of the northeastern portion of the property and driveway. Photograph taken facing south.

DATE: 27 August 2007

TIME: 0943 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of the northern portion of the property and the house. Photograph taken facing southeast.

DATE: 27 August 2007

TIME: 0944 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of the northwestern portion of the property and driveway. Photograph taken facing south.

DATE: 27 August 2007

TIME: 0944 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of the southern side of the garage with the camper removed. Photograph taken facing east.

DATE: 27 August 2007

TIME: 1229 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of the Tank Truck prior to clearing activities. Photograph taken facing east.

DATE: 28 August 2007

TIME: 1008 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of Tank Numbers (Nos.) 1, 2, and 3, prior to clearing activities. Photograph taken facing south.

DATE: 28 August 2007

TIME: 1008 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts

TOP



SCENE: View of the vent pipe for the gasoline tank, Tank No. 5. Photograph taken facing southwest.

DATE: 30 August 2007

TIME: 1447 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

TOP



SCENE: View of the vent pipe for Tank No. 5, following brush clearing. Photograph taken facing southwest.

DATE: 30 August 2007

TIME: 1521 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts

TOP



SCENE: View of the vent and fill pipes for Tank No. 5. Photograph taken facing west.

DATE: 31 August 2007

TIME: 0845 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of the east side of the garage and the 75K bunker during clearing activities. Photograph taken facing south.

DATE: 4 September 2007

TIME: 1539 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of Tank Nos. 1, 2, and 3 following clearing activities. Photograph taken facing southeast.

DATE: 5 September 2007

TIME: 1627 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of the Tank Truck following clearing activities. Photograph taken facing southeast.

DATE: 5 September 2007

TIME: 1628 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of soil excavation in grid SS-31. Photograph taken facing northeast.

DATE: 10 September 2007

TIME: 0825 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of the lead-contaminated soil stockpile. Photograph taken facing southwest.

DATE: 10 September 2007

TIME: 0841 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts

TOP



SCENE: View of the overpack drum containing asphalt. Photograph taken facing east.

DATE: 14 September 2007

TIME: 1426 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of soil excavation at grids SS-60 and SS-61. Photograph taken facing east.

DATE: 19 September 2007

TIME: 1108 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of a tanker truck pumping the liquid contents of the 75K and 15,000-gallon (15K) bunkers. Photograph taken facing north.

DATE: 19 September 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 1136 hours

CAMERA: Nikon CoolPix 3100



SCENE: View of the 75K bunker being pumped of its contents. Photograph taken facing southeast.

DATE: 19 September 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 1136 hours

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of Massachusetts Department of Environmental Protection (MassDEP) contractor, Enpro Services, Inc., (Enpro), excavating soil to remove Tank No. 5. Photograph taken facing southwest.

DATE: 20 September 2007

TIME: 0931 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of Enpro staging excavated soil from Tank No. 5 on polyethylene sheeting. Photograph taken facing southwest.

DATE: 20 September 2007

TIME: 0932 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts

TOP



SCENE: View of confined space entry activities being conducted to decontaminate the 75K bunker. Photograph taken facing south.

DATE: 20 September 2007

TIME: 1013 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of Enpro removing Tank No. 5. Photograph taken facing southwest.

DATE: 20 September 2007

TIME: 1109 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of Tank No. 5 after removal. Photograph taken facing southwest.

DATE: 20 September 2007

TIME: 1349 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of the backfilling of the Tank No. 5 excavation. Photograph taken facing west.

DATE: 20 September 2007

TIME: 1502 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of MassDEP contractor Enpro, pumping out the contents of Tank No. 6. Photograph taken facing southeast.

DATE: 21 September 2007

TIME: 0913 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of the removal of Tank No. 6. Photograph taken facing east.

DATE: 21 September 2007

TIME: 0956 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of the Tank No. 6 excavation. Photograph taken facing east.

DATE: 21 September 2007

TIME: 1007 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of the backfilled Tank No. 6 location. Photograph taken facing east.

DATE: 21 September 2007

TIME: 1146 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of MassDEP contractor Enpro, pumping out the contents of Tank No. 4. Photograph taken facing northeast.

DATE: 24 September 2007

TIME: 0906 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of Tank No. 4 after removal. Photograph taken facing north.

DATE: 24 September 2007

TIME: 1114 hours

PHOTOGRAPHER: Eric Ackerman

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of the Tank No. 4 excavation. Photograph taken facing northeast.

DATE: 24 September 2007

TIME: 1114 hours

PHOTOGRAPHER: Eric Ackerman

CAMERA: Nikon CoolPix 3100



SCENE: View of the cut and cleaned Tank Truck. Photograph taken facing southeast.

DATE: 24 September 2007

TIME: 1143 hours

PHOTOGRAPHER: Eric Ackerman

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of the removed Tank Truck. Photograph taken facing southeast.

DATE: 24 September 2007

PHOTOGRAPHER: Eric Ackerman

TIME: 1511 hours

CAMERA: Nikon CoolPix 3100



SCENE: View of the Tank Truck location. Photograph taken facing southeast.

DATE: 24 September 2007

PHOTOGRAPHER: Eric Ackerman

TIME: 1512 hours

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of confined space entry activities being conducted to decontaminate the 15K bunker. Photograph taken facing northeast.

DATE: 25 September 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 1205 hours

CAMERA: Nikon CoolPix 3100



SCENE: View of soil excavation in grid SS-39, in front of the garage. Photograph taken facing southeast.

DATE: 25 September 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 1208 hours

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of the excavated area in front of the garage. Photograph taken facing east.

DATE: 25 September 2007

TIME: 1602 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



TOP

SCENE: View of Tank No. 3 following pumping and cleaning. Photograph taken facing east.

DATE: 25 September 2007

TIME: 1640 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



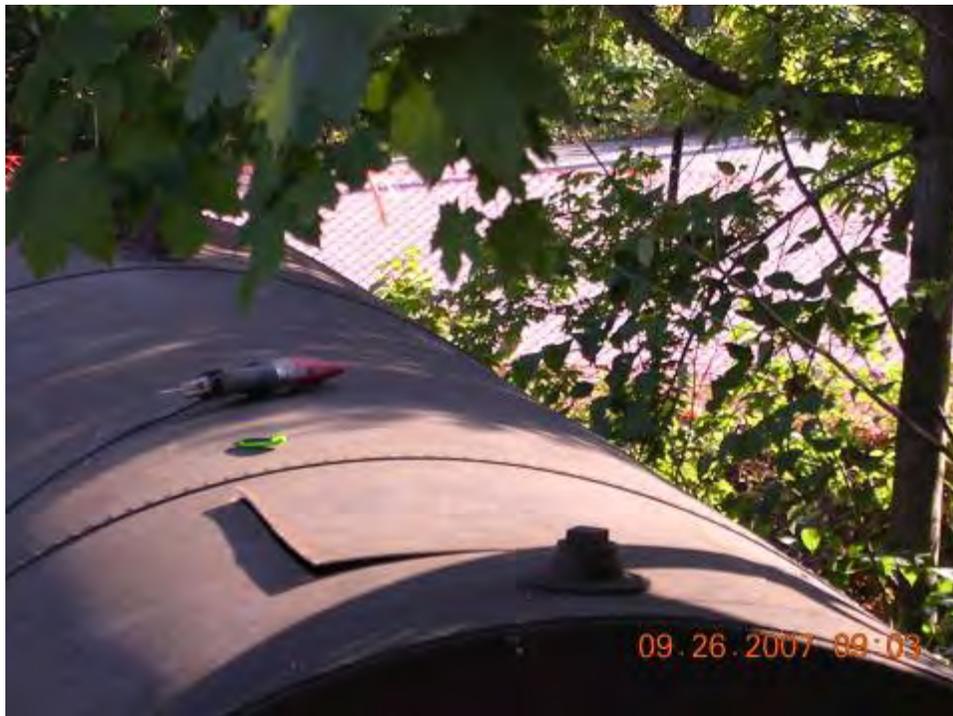
SCENE: View of the backfilled area in front of the garage. Photograph taken facing east.

DATE: 25 September 2007

TIME: 1654 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of access openings being cut in Tank No. 1. Photograph taken facing northeast.

DATE: 26 September 2007

TIME: 0903 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of Enpro loading the MassDEP-excavated tanks for disposal. Photograph taken facing southwest.

DATE: 26 September 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 0927 hours

CAMERA: Nikon CoolPix 3100



SCENE: View of the excavated tanks being loaded for disposal. Photograph taken facing north.

DATE: 26 September 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 1007 hours

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of a section of the steel top being cut off of the 75K bunker. Photograph taken facing north.

DATE: 26 September 2007

TIME: 1050 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of the excavator removing the cut steel sections of the 75K bunker. Photograph taken facing southwest.

DATE: 26 September 2007

TIME: 1150 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of the location of the first section of steel top that was removed from the 75K bunker. Photograph taken facing southwest.

DATE: 26 September 2007

TIME: 1346 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of a section of the steel top being cut off the 75K bunker. Photograph taken facing east.

DATE: 27 September 2007

TIME: 1138 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of the 75K bunker with sections of the steel top removed. Photograph taken facing southeast.

DATE: 27 September 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 1139 hours

CAMERA: Nikon CoolPix 3100



SCENE: View of steel from the 75K bunker being loaded. Photograph taken facing northeast.

DATE: 27 September 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 1335 hours

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of the 75K bunker with the steel top removed. Photograph taken facing south.

DATE: 27 September 2007

TIME: 1506 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of the floor of the 75K bunker prior to final cleaning. Photograph taken facing south.

DATE: 27 September 2007

TIME: 1507 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of the removal of the steel support beams from the 75K bunker. Photograph taken facing east.

DATE: 27 September 2007

TIME: 1529 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



TOP

SCENE: View of the floor of the 75K bunker following final cleaning. Photograph taken facing south.

DATE: 28 September 2007

TIME: 1419 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of the hoe-ram being utilized to demolish the north wall of the 75K bunker. Photograph taken facing east.

DATE: 1 October 2007

TIME: 1513 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of excavation of grids SS-103 and SS-107. Photograph taken facing east.

DATE: 1 October 2007

TIME: 1555 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of all of the U.S. Environmental Protection Agency (EPA)-generated drums. Photograph taken facing southeast.

DATE: 1 October 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 1555 hours

CAMERA: Nikon CoolPix 3100



SCENE: View of excavated grids SS-115, -71, -60, -68, and -72. Photograph taken facing east.

DATE: 2 October 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 1254 hours

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of HazMat Inc., pumping the contents of Tank Nos. 1 and 2. Photograph taken facing north.

DATE: 2 October 2007

TIME: 1255 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of lead-contaminated soil load out. Photograph taken facing northwest.

DATE: 3 October 2007

TIME: 0856 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of Enpro loading MassDEP-generated drums for disposal. Photograph taken facing north.

DATE: 3 October 2007

TIME: 0927 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of lead-contaminated soil load out. Photograph taken facing north.

DATE: 3 October 2007

TIME: 1038 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of soil excavation grid SS-14. Photograph taken facing south.

DATE: 3 October 2007

TIME: 1353 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of backfilled grid SS-14. Photograph taken facing southwest.

DATE: 3 October 2007

TIME: 1451 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of soil excavation along the east wall of the bunker in grids SS-67, -70, and -74. Photograph taken facing south.

DATE: 4 October 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 0920 hours

CAMERA: Nikon CoolPix 3100



SCENE: View of the hoe-ram demolishing the east wall of the 75K bunker. Photograph taken facing southeast.

DATE: 4 October 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 1345 hours

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of the demolition of the south wall of the 75K bunker. Photograph taken facing southeast.

DATE: 4 October 2007

TIME: 1349 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of the demolition of the east wall of the 75K bunker. Photograph taken facing southeast.

DATE: 4 October 2007

TIME: 1401 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of the partially backfilled 75K bunker with the walls removed. Photograph taken facing south.

DATE: 4 October 2007

TIME: 1416 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of steel beams being loaded from the 75K bunker into a roll-off container for disposal. Photograph taken facing southwest.

DATE: 4 October 2007

TIME: 1437 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts

TOP



SCENE: View of geotextile fabric installed in the 75K bunker. Photograph taken facing south

DATE: 5 October 2007

TIME: 1444 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of the backfilling of the 75K bunker. Photograph taken facing south.

DATE: 5 October 2007

TIME: 1522 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of polychlorinated biphenyl (PCB)-contaminated soil being loaded for disposal. Photograph taken facing northeast.

DATE: 10 October 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 1001 hours

CAMERA: Nikon CoolPix 3100



SCENE: View of grid SS-113 adjacent to the 15K bunker. Photograph taken facing south.

DATE: 12 October 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 1153 hours

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of grid SS-113 covered with geotextile fabric prior to backfilling. Photograph taken facing south.

DATE: 12 October 2007

TIME: 1402 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of grids SS-78 and SS-81. Photograph taken facing south.

DATE: 15 October 2007

TIME: 1502 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of household debris in grids SS-78 and SS-81. Photograph taken facing east.

DATE: 16 October 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 1326 hours

CAMERA: Nikon CoolPix 3100



SCENE: View of Tank No. 3 removed from its original location. Photograph taken facing south.

DATE: 17 October 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 0747 hours

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts

TOP



SCENE: View of the Tank No. 3 grave. Photograph taken facing west.

DATE: 17 October 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 0747 hours

CAMERA: Nikon CoolPix 3100



SCENE: View of oil-stained soil in the Tank No. 3 grave. Photograph taken facing southwest.

DATE: 17 October 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 0748 hours

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of Tank No. 2 removed from its original location. Photograph taken facing southeast.

DATE: 17 October 2007

TIME: 1508 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of Tank Nos. 1 and 2 staged for disposal. Photograph taken facing south.

DATE: 18 October 2007

TIME: 1023 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts

TOP



SCENE: View of the crane set up to load Tank Nos. 1, 2, and 3. Photograph taken facing south.

DATE: 19 October 2007

TIME: 0851 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of the crane lifting Tank No. 2 onto a truck for disposal. Photograph taken facing south

DATE: 19 October 2007

TIME: 0916 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of Tank No. 2 loaded on a truck for disposal. Photograph taken facing northeast.

DATE: 19 October 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 0934 hours

CAMERA: Nikon CoolPix 3100



SCENE: View of the crane lifting Tank No. 3 onto a truck for disposal. Photograph taken facing southeast.

DATE: 19 October 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 0940 hours

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of Tank No. 3 loaded on a truck for disposal. Photograph taken facing east.

DATE: 19 October 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 0959 hours

CAMERA: Nikon CoolPix 3100



SCENE: View of the crane lifting Tank No. 1 onto a truck for disposal. Photograph taken facing southeast.

DATE: 19 October 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 1200 hours

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of Tank No. 1 loaded on a truck for disposal. Photograph taken facing east.

DATE: 19 October 2007

TIME: 1228 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of geotextile fabric in the former tank location area prior to backfilling. Photograph taken facing southeast

DATE: 22 October 2007

TIME: 1126 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of backfilling activities. Photograph taken facing south.

DATE: 22 October 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 1131 hours

CAMERA: Nikon CoolPix 3100



SCENE: View of geotextile fabric in the former tank location area prior to backfilling. Photograph taken facing southeast.

DATE: 22 October 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 1620 hours

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of the 15K bunker being backfilled. Photograph taken facing south.

DATE: 23 October 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 1050 hours

CAMERA: Nikon CoolPix 3100



SCENE: View of the former tank area being backfilled. Photograph taken facing south.

DATE: 23 October 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 1051 hours

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of the former tank area being backfilled. Photograph taken facing south.

DATE: 23 October 2007

TIME: 1051 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of backfilling activities. Photograph taken facing south.

DATE: 23 October 2007

TIME: 1618 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of the PCB-contaminated soil stockpile and load-out activities. Photograph taken facing southwest.

DATE: 24 October 2007

TIME: 0928 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



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

DATE: 24 October 2007

TIME: 0928 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of backfilling with loam. Photograph taken facing west.

DATE: 24 October 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 0940 hours

CAMERA: Nikon CoolPix 3100



SCENE: View of the lead-contaminated soil stockpile area (Stockpile No. 1) following excavation and backfilling. Photograph taken facing southwest.

DATE: 24 October 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 1511 hours

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of backfilled and seeded areas of the site. Photograph taken facing west.

DATE: 25 October 2007

TIME: 1350 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of backfilled and seeded areas of the site. Photograph taken facing south.

DATE: 25 October 2007

TIME: 1622 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of erosion control matting and hay mulch. Photograph taken facing west.

DATE: 26 October 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 1131 hours

CAMERA: Nikon CoolPix 3100



SCENE: View of erosion control matting and hay mulch. Photograph taken facing south.

DATE: 26 October 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 1433 hours

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of the final load-out of PCB-contaminated soil. Photograph taken facing southwest.

DATE: 1 November 2007

TIME: 0817 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of the load-out of EPA-generated drums. Photograph taken facing southwest.

DATE: 1 November 2007

TIME: 1010 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of the PCB-contaminated soil stockpile area (Stockpile No. 2) following excavation and backfilling. Photograph taken facing southeast.

DATE: 1 November 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 1134 hours

CAMERA: Nikon CoolPix 3100



SCENE: View of the former drum staging area. Photograph taken facing east.

DATE: 1 November 2007

PHOTOGRAPHER: Bonnie Mace

TIME: 1318 hours

CAMERA: Nikon CoolPix 3100

PHOTOGRAPHY LOG SHEET
Murphy Property (263 Salem St.) Site • Woburn, Massachusetts



SCENE: View of the northeast side of the site. Photograph taken facing southwest.

DATE: 1 November 2007

TIME: 1321 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100



SCENE: View of the northwest side of the site. Photograph taken facing southwest.

DATE: 1 November 2007

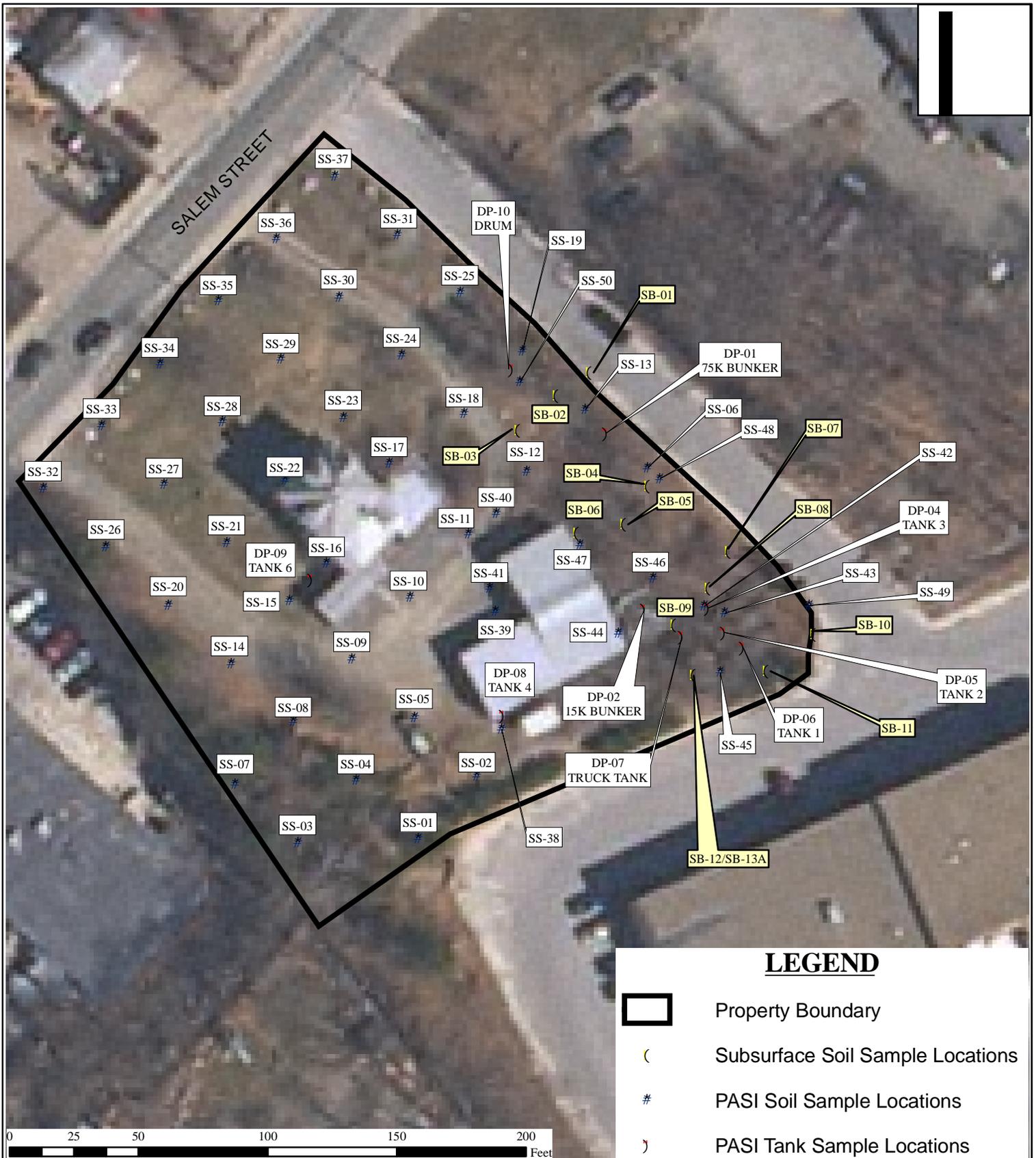
TIME: 1322 hours

PHOTOGRAPHER: Bonnie Mace

CAMERA: Nikon CoolPix 3100

Appendix D

Subsurface Soil Sample Location Map (Figure 3)



LEGEND

-  Property Boundary
-  Subsurface Soil Sample Locations
-  PASI Soil Sample Locations
-  PASI Tank Sample Locations

SUBSURFACE SOIL SAMPLE LOCATION MAP

MURPHY PROPERTY (263 SALEM ST)
263 SALEM STREET
WOBURN, MASSACHUSETTS



REGION I SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM

TDD NUMBER: 07-08-0003	CREATED BY: B. MACE	CREATED ON: 11/6/2007
FILE LOCATION: E:\MA_gis\Murphy_Property_0328\MXDs\ Figure 3 - Subsurface Sample Locations.mxd		FIGURE 3

Appendix E

Post-Excavation Soil Screening Sample Results (Table 1)

TABLE 1
POST-EXCAVATION SOIL SCREENING SAMPLE RESULTS
mg/kg

SITE: MURPHY PROPERTY (263 SALEM ST) SITE
LABORATORY: START AND OEME ON-SITE SCREENING

NOT VALIDATED DATA

SAMPLE LOCATION:	SS-31 6" *	SS-25 6" *	SS-25 12" *	south of SS-25 12" *	SS-08 6" *	SS-24 6" *
SAMPLE NUMBER:	01DL-0216	01DL-0217	01DL-0219	01DL-0221	01DL-0222	01DL-0223
LAB SAMPLE NUMBER:	N/A	N/A	N/A	N/A	N/A	N/A
DATE SAMPLED:	9/7/07	9/10/07	9/10/07	9/10/07	9/10/07	9/11/07

INORGANIC ANALYTES	METHOD	REPORTING LIMIT						
		Lead	XRF	40	191.6	241.4	182.7	90.1
Aroclor 1254	PCB	0.2	NA	NA	NA	NA	NA	NA
Aroclor 1260	PCB	0.2	NA	NA	NA	NA	NA	NA

SAMPLE LOCATION:	SS-35 6" *	SS-35 6" Lab Dup	SS-21 12" *	SS-26 6" *	SS-15 6"	SS-15 6" Lab Dup	SS-60 6"
SAMPLE NUMBER:	01DL-0224	01DL-0224	01DL-0226	01DL-0227	01DL-0233	01DL-0233	01DL-0234
LEAD LAB SAMPLE NUMBER:	N/A	N/A	N/A	N/A	AA76136	AA76137	AA76138
AROCLOR LAB SAMPLE NUMBER:	AA76282	AA76283	N/A	N/A	N/A	N/A	AA76284
DATE SAMPLED:	9/12/07	9/12/07	9/12/07	9/14/07	9/17/07	9/17/07	9/18/07

ANALYTES	METHOD	REPORTING LIMIT								
		Lead	XRF	40	222.7	NA	69.2	126.5	172	171
Aroclor 1254	PCB	0.2	ND	ND	NA	NA	NA	NA	NA	1.4
Aroclor 1260	PCB	0.2	ND	ND	NA	NA	NA	NA	NA	0.8

SAMPLE LOCATION:	SS-60 6" Lab Dup	SS-60E 16"	SS-60W 8"	SS-61 12"	SS-62 6"	SS-62 6" Lab Dup	SS-63 6"
SAMPLE NUMBER:	01DL-0234	01DL-0240	01DL-0238	01DL-0236	01DL-0249	01DL-0249	01DL-0250
LEAD LAB SAMPLE NUMBER:	NA	AA76145	AA76143	AA76141	AA76156	NA	AA76157
AROCLOR LAB SAMPLE NUMBER:	AA76286	AA76290	AA76288	AA76287	AA76300	AA76301	AA76302
DATE SAMPLED:	9/18/07	9/18/7	9/18/07	9/18/07	9/19/07	9/19/07	9/19/07

ANALYTES	METHOD	REPORTING LIMIT							
		Lead	XRF	40	NA	26	32	42	88
Aroclor 1254	PCB	0.2	1.4	ND	ND	ND	0.2	0.2	0.7
Aroclor 1260	PCB	0.2	0.7	ND	ND	ND	0.1	0.1	0.2

NOTES:
OEME = Office of Environmental Measurement and Evaluation.
START = Superfund Technical Assessment and Response Team.
XRF = X-Ray Fluorescence.
PCB = Polychlorinated biphenyl.
mg/Kg = milligrams per Kilogram.
* = Samples screened on site by START.
ND = Not Detected.
NA = Not Analyzed.
" = Inches.
N/A = Not Applicable.

TABLE 1
POST-EXCAVATION SOIL SCREENING SAMPLE RESULTS
mg/kg

SITE: MURPHY PROPERTY (263 SALEM ST) SITE
LABORATORY: START AND OEME ON-SITE SCREENING

NOT VALIDATED DATA

SAMPLE LOCATION:	SS-64 6"	SS-65 6"	SS-108 9"	SS-109 9"	SS-109 9" Lab Dup	SS-110 9"	SS-39 9"
SAMPLE NUMBER:	01DL-0251	01DL-0232	01DL-0274	01DL-0272	01DL-0272	01DL-0273	01DL-0271
LEAD LAB SAMPLE NUMBER	AA76158	AA76159	AA76183	AA76180	AA76182	AA76181	AA76179
AROCLOR LAB SAMPLE NUMBER:	AA76303	AA76304	AA76327	AA76325	NA	AA76326	AA76323
DATE SAMPLED:	9/19/07	9/19/07	9/25/07	9/25/07	9/25/07	9/24/07	9/25/07

		REPORTING							
ANALYTES	METHOD	LIMIT							
Lead	XRF	40	76	274	25	24	32	22	48
Aroclor 1254	PCB	0.2	ND	0.6	ND	0.9	NA	ND	ND
Aroclor 1260	PCB	0.2	ND	0.2	ND	ND	NA	ND	ND

SAMPLE LOCATION:	SS-39" Lab Dup	SS-41 6"	SS-107 12"	SS-62 Bank 3'	SS-62 Bank 3' Lab Dup	SS-103 18 "	SS-112 12"
SAMPLE NUMBER:	01DL-0271	01DL-0270	01DL-0289	01DL-0290	01DL-0290	01DL-0291	01DL-0301
LEAD LAB SAMPLE NUMBER	NA	AA76178	AA76198	AA76199	AA76200	AA76201	AA76210
AROCLOR LAB SAMPLE NUMBER:	AA76324	AA76322	AA76340	AA76341	AA76342	AA76343	AA76352
DATE SAMPLED:	9/25/07	9/25/07	10/1/07	10/1/07	10/1/07	10/1/07	10/2/07

		REPORTING							
ANALYTES	METHOD	LIMIT							
Lead	XRF	40	NA	168	127	48	63	109	159
Aroclor 1254	PCB	0.2	ND	ND	ND	0.3	0.3	ND	ND
Aroclor 1260	PCB	0.2	ND	ND	ND	0.03	0.04	0.2	0.7

SAMPLE LOCATION:	SS-60B 6"	SS-72 12"	SS-115 12"	SS-68 18"	SS-68 18" Lab Dup	SS-71 12"	SS-14 6"
SAMPLE NUMBER:	01DL-0293	01DL-0300	01DL-0305	01DL-0307	01DL-0307	01DL-0306	01DL-0307
LEAD LAB SAMPLE NUMBER	AA76202	AA76209	AA76214	AA76215	AA76216	AA76217	AA76218
AROCLOR LAB SAMPLE NUMBER:	AA76344	AA76351	AA76356	AA76357	AA76358	AA76359	NA
DATE SAMPLED:	10/2/07	10/2/07	10/3/07	10/3/07	10/3/07	10/3/07	10/3/07

		REPORTING							
ANALYTES	METHOD	LIMIT							
Lead	XRF	40	81	89	94	28	30	188	199
Aroclor 1254	PCB	0.2	1.1	ND	ND	ND	ND	ND	NA
Aroclor 1260	PCB	0.2	0.4	0.7	0.4	0.14	0.18	ND	NA

NOTES:

OEME = Office of Environmental Measurement and Evaluation.
START = Superfund Technical Assessment and Response Team.
XRF = X-Ray Fluorescence.
PCB = Polychlorinated biphenyl.
mg/Kg = milligrams per Kilogram.
* = Samples screened on site by START.
ND = Not Detected.
NA = Not Analyzed.
" = Inches.
' = Feet.
N/A = Not Applicable.

TABLE 1
POST-EXCAVATION SOIL SCREENING SAMPLE RESULTS
mg/kg

SITE: MURPHY PROPERTY (263 SALEM ST) SITE
LABORATORY: START AND OEME ON-SITE SCREENING

NOT VALIDATED DATA

SAMPLE LOCATION:	SS-114 12"	SS-70 12"	SS-74 12"	SS-88 30"	SS-67 48"	SS-76 6"	SS-77 6"
SAMPLE NUMBER:	01DL-0308	01DL-0310	01DL-0311	01DL-0321	01DL-0324	01DL-0327	01DL-0326
LEAD LAB SAMPLE NUMBER	AA76224	AA76220	AA76221	AA76231	AA76235	AA76239	AA76238
AROCLOR LAB SAMPLE NUMBER:	AA76365	AA76361	AA76362	AA76368	AA76375	AA76379	AA76378
DATE SAMPLED:	10/3/07	10/4/07	10/4/07	10/5/07	10/9/07	10/10/07	10/10/07

		REPORTING							
ANALYTES	METHOD	LIMIT							
Lead	XRF	40	283	94	70	180	219	265	62
Aroclor 1254	PCB	0.2	0.4	1.4	0.3	1.4	1.6	0.7	0.9
Aroclor 1260	PCB	0.2	0.4	ND	0.2	0.5	1.4	1.3	0.3

SAMPLE LOCATION:	SS-84 48"	SS-84 48" Lab Dup	SS-75 18"	SS-113 36"	SS-75 36"	SS-78 72"	SS-79 12"
SAMPLE NUMBER:	01DL-0325	01DL-0325	01DL-0330	01DL-0331	01DL-0332	01DL-0350	01DL-0344
LEAD LAB SAMPLE NUMBER	AA76236	AA76237	AA76240	AA76244	AA76243	AA76263	AA76257
AROCLOR LAB SAMPLE NUMBER:	AA76376	AA76377	AA76380	AA76384	AA76383	AA76403	AA76397
DATE SAMPLED:	10/10/07	10/10/07	10/11/07	10/12/07	10/12/07	10/16/07	10/16/07

		REPORTING							
ANALYTES	METHOD	LIMIT							
Lead	XRF	40	99	46	330	136	265	2,540	49
Aroclor 1254	PCB	0.2	0.8	1	3.3	6.5	ND	104	0.7
Aroclor 1260	PCB	0.2	0.2	0.2	1.6	1.8	1	ND	ND

SAMPLE LOCATION:	SS-80 12"	SS-81 84"	SS-82 24"	SS-83 12"	SS-85 84"	SS-86 84"	SS-87 12"
SAMPLE NUMBER:	01DL-0346	01DL-0351	01DL-0352	01DL-0347	01DL-0353	01DL-0357	01DL-0356
LEAD LAB SAMPLE NUMBER	AA76258	AA76264	AA76266	AA76260	AA76267	AA76270	AA76268
AROCLOR LAB SAMPLE NUMBER:	AA76398	AA76404	AA76405	AA76400	AA76407	AA76410	AA76408
DATE SAMPLED:	10/16/07	10/16/07	10/16/07	10/16/07	10/18/07	10/18/07	10/18/07

		REPORTING							
ANALYTES	METHOD	LIMIT							
Lead	XRF	40	23	949	22	20	130	502	21
Aroclor 1254	PCB	0.2	1	108	0.4	0.2	5.3	168	0.3
Aroclor 1260	PCB	0.2	ND	ND	ND	ND	ND	ND	ND

NOTES:
OEME = Office of Environmental Measurement and Evaluation.
START = Superfund Technical Assessment and Response Team.
XRF = X-Ray Fluorescence.
PCB = Polychlorinated biphenyl.
mg/Kg = milligrams per Kilogram.
* = Samples screened on site by START.
ND = Not Detected.
NA = Not Analyzed.
" = Inches.
N/A = Not Applicable.

TABLE 1

POST-EXCAVATION SOIL SCREENING SAMPLE RESULTS
mg/kg

SITE: MURPHY PROPERTY (263 SALEM ST) SITE
LABORATORY: START AND OEME ON-SITE SCREENING

NOT VALIDATED DATA

SAMPLE LOCATION:	SS-90 84"	SS-91 12"	SS-20 6"	SS-26 8"	USP-01	SS-89 84"	SS-89 84" Lab Dup
SAMPLE NUMBER:	01DL-0355	01DL-0354	01DL-0359	01DL-0360	01DL-0358	01DL-0361	01DL-0361
LEAD LAB SAMPLE NUMBER	AA76271	AA76269	AA76273	AA76275	AA76272	AA76276	AA76277
AROCLOR LAB SAMPLE NUMBER:	AA76411	AA76409	AA76413	AA76415	AA76412	AA76416	AA76417
DATE SAMPLED:	10/18/07	10/18/07	10/19/07	10/19/07	10/19/07	10/22/07	10/22/07

		REPORTING							
ANALYTES	METHOD	LIMIT							
Lead	XRF	40	456	32	121	31	66	640	826
Aroclor 1254	PCB	0.2	26	1.8	ND	ND	ND	1.2	1
Aroclor 1260	PCB	0.2	ND	ND	ND	ND	ND	0.3	0.2

SAMPLE LOCATION:	USP-02 6"	USP-02 6" Lab Dup
SAMPLE NUMBER:	01DL-0362	01DL-0362
LEAD LAB SAMPLE NUMBER	AA76279	AA76280
AROCLOR LAB SAMPLE NUMBER:	AA76419	AA76420
DATE SAMPLED:	10/22/07	10/22/07

		REPORTING			
ANALYTES	METHOD	LIMIT			
Lead	XRF	40	94	89	
Aroclor 1254	PCB	0.2	ND	ND	
Aroclor 1260	PCB	0.2	ND	ND	

NOTES:
 OEME = Office of Environmental Measurement and Evaluation.
 START = Superfund Technical Assessment and Response Team.
 XRF = X-Ray Fluorescence.
 PCB = Polychlorinated biphenyl.
 mg/Kg = milligrams per Kilogram.
 * = Samples screened on site by START.
 ND = Not Detected.
 NA = Not Analyzed.
 " = Inches.
 N/A = Not Applicable.

Appendix F

Waste Disposal Summary Table (Table 2)

TABLE 2

**WASTE DISPOSAL SUMMARY TABLE
MURPHY PROPERTY (263 SALEM ST.) SITE
WOBURN, MASSACHUSETTS**

Date of Shipment	Manifest/ Document No.	Description	Containers		Total Quantity	Transporter	Destination
			No.	Type			
9/19/07	BOL-001	Non RCRA/Non DOT Regulated Liquid (Rain Water)	1	TT	4,250 G	Global Remediation Services, Inc. 200 Main Street Glen Gardner, NJ 08826	SeaMass/Covanta 141 Cranberry Highway West Wareham, MA 02576
10/1/07	100000682 CTN	RQ, Polychlorinated Biphenyls, Liquid Solution, 9, UN2315, PG II	1	TT	2,640 K	HazMat Environmental Group, Inc. 60 Commerce Drive Buffalo, NY 14218	CWM Chemical Services, LLC 1550 Balmer Road Model City, NY 14107
10/3/07	1003-1	Non RCRA - Non DOT Regulated Material (oil contaminated soil)	1	DT	30 T	New England Disposal Technologies, Inc. One Polito Drive Shrewsbury, MA 01545	Environmental Soil Management, Inc. 67 International Drive Louden, NH 03301
10/3/07	1003-2	Non RCRA - Non DOT Regulated Material (oil contaminated soil)	1	DT	15 T	New England Disposal Technologies, Inc. One Polito Drive Shrewsbury, MA 01545	Environmental Soil Management, Inc. 67 International Drive Louden, NH 03301
10/10/07	002685425 JJK	RQ, Hazardous Waste Solid NOS (soil, lead), 9, NA 3077, PG III	1	DT	22,634 K	New England Disposal Technologies, Inc. One Polito Drive Shrewsbury, MA 01545	CVM Chemical Services, LLC 1550 Balmer Road Model City, NY 14107
10/10/07	002685426 JJK	RQ, Hazardous Waste Solid NOS (soil, lead), 9, NA 3077, PG III	1	DT	26,690 K	New England Disposal Technologies, Inc. One Polito Drive Shrewsbury, MA 01545	CVM Chemical Services, LLC 1550 Balmer Road Model City, NY 14107
10/16/07	002685446 JJK	RQ, Hazardous Waste Solid NOS (soil, lead), 9, NA 3077, PG III	1	DT	26,853 K	New England Disposal Technologies, Inc. One Polito Drive Shrewsbury, MA 01545	CVM Chemical Services, LLC 1550 Balmer Road Model City, NY 14107
10/16/07	002685447 JJK	RQ, Hazardous Waste Solid NOS (soil, lead), 9, NA 3077, PG III	1	DT	26,254 K	New England Disposal Technologies, Inc. One Polito Drive Shrewsbury, MA 01545	CVM Chemical Services, LLC 1550 Balmer Road Model City, NY 14107
10/16/07	002685448 JJK	RQ, Hazardous Waste Solid NOS (soil, lead), 9, NA 3077, PG III	1	DT	26,608 K	New England Disposal Technologies, Inc. One Polito Drive Shrewsbury, MA 01545	CVM Chemical Services, LLC 1550 Balmer Road Model City, NY 14107
10/18/07	002685361 JJK	RQ, Hazardous Waste Solid NOS (soil, lead), 9, NA 3077, PG III	1	DT	26,535 K	New England Disposal Technologies, Inc. One Polito Drive Shrewsbury, MA 01545	CVM Chemical Services, LLC 1550 Balmer Road Model City, NY 14107
10/18/07	002685362 JJK	RQ, Hazardous Waste Solid NOS (soil, lead), 9, NA 3077, PG III	1	DT	23,850 K	New England Disposal Technologies, Inc. One Polito Drive Shrewsbury, MA 01545	CVM Chemical Services, LLC 1550 Balmer Road Model City, NY 14107
10/18/07	002685363 JJK	RQ, Hazardous Waste Solid NOS (soil, lead), 9, NA 3077, PG III	1	DT	25,293 K	New England Disposal Technologies, Inc. One Polito Drive Shrewsbury, MA 01545	CVM Chemical Services, LLC 1550 Balmer Road Model City, NY 14107
10/22/07	002685371 JJK	RQ, Hazardous Waste Solid NOS (soil, lead), 9, NA 3077, PG III	1	DT	25,846 K	New England Disposal Technologies, Inc. One Polito Drive Shrewsbury, MA 01545	CVM Chemical Services, LLC 1550 Balmer Road Model City, NY 14107

TABLE 2

**WASTE DISPOSAL SUMMARY TABLE
MURPHY PROPERTY (263 SALEM ST.) SITE
WOBURN, MASSACHUSETTS**

Date of Shipment	Manifest/ Document No.	Description	Containers		Total Quantity	Transporter	Destination
			No.	Type			
10/22/07	002685372 JJK	RQ, Hazardous Waste Solid NOS (soil, lead), 9, NA 3077, PG III	1	DT	19,668 K	New England Disposal Technologies, Inc. One Polito Drive Shrewsbury, MA 01545	CVM Chemical Services, LLC 1550 Balmer Road Model City, NY 14107
10/22/07	002685373 JJK	RQ, Hazardous Waste Solid NOS (soil, lead), 9, NA 3077, PG III	1	DT	25,637 K	New England Disposal Technologies, Inc. One Polito Drive Shrewsbury, MA 01545	CVM Chemical Services, LLC 1550 Balmer Road Model City, NY 14107
10/24/07	002685379 JJK	RQ, Hazardous Waste Solid NOS (soil, lead), 9, NA 3077, PG III	1	DT	23,034 K	New England Disposal Technologies, Inc. One Polito Drive Shrewsbury, MA 01545	CVM Chemical Services, LLC 1550 Balmer Road Model City, NY 14107
10/24/07	002685380 JJK	RQ, Hazardous Waste Solid NOS (soil, lead), 9, NA 3077, PG III	1	DT	28,377 K	New England Disposal Technologies, Inc. One Polito Drive Shrewsbury, MA 01545	CVM Chemical Services, LLC 1550 Balmer Road Model City, NY 14107
10/24/07	002685381 JJK	RQ, Hazardous Waste Solid NOS (soil, lead), 9, NA 3077, PG III	1	DT	25,429 K	New England Disposal Technologies, Inc. One Polito Drive Shrewsbury, MA 01545	CVM Chemical Services, LLC 1550 Balmer Road Model City, NY 14107
10/24/07	002685397 JJK	RQ, Hazardous Waste Solid NOS (soil, lead), 9, NA 3077, PG III	1	DT	29,048 K	Global Remediation Services, Inc. 200 Main Street Glen Gardner, NJ 08826	CVM Chemical Services, LLC 1550 Balmer Road Model City, NY 14107
10/26/07	002685394 JJK	RQ, Hazardous Waste Solid NOS (soil, lead), 9, NA 3077, PG III	1	DT	29,647 K	New England Disposal Technologies, Inc. One Polito Drive Shrewsbury, MA 01545	CVM Chemical Services, LLC 1550 Balmer Road Model City, NY 14107
10/26/07	002685395 JJK	RQ, Hazardous Waste Solid NOS (soil, lead), 9, NA 3077, PG III	1	DT	21,863 K	New England Disposal Technologies, Inc. One Polito Drive Shrewsbury, MA 01545	CVM Chemical Services, LLC 1550 Balmer Road Model City, NY 14107
10/26/07	002685396 JJK	RQ, Hazardous Waste Solid NOS (soil, lead), 9, NA 3077, PG III	1	DT	27,125 K	New England Disposal Technologies, Inc. One Polito Drive Shrewsbury, MA 01545	CVM Chemical Services, LLC 1550 Balmer Road Model City, NY 14107
10/29/07	100000617 CTN	RQ, Hazardous Waste Solid NOS (soil, lead), 9, NA 3077, PG III	1	DT	27,833 K	New England Disposal Technologies, Inc. One Polito Drive Shrewsbury, MA 01545	CVM Chemical Services, LLC 1550 Balmer Road Model City, NY 14107
10/29/07	100000618 CTN	RQ, Hazardous Waste Solid NOS (soil, lead), 9, NA 3077, PG III	1	DT	29,021 K	New England Disposal Technologies, Inc. One Polito Drive Shrewsbury, MA 01545	CVM Chemical Services, LLC 1550 Balmer Road Model City, NY 14107
10/29/07	100000564 CTN	RQ, Hazardous Waste Solid NOS (soil, lead), 9, NA 3077, PG III	1	DT	27,933 K	AmeriTech Environmental Services 393 Harold L. Dow Highway Eliot, ME 03903	CVM Chemical Services, LLC 1550 Balmer Road Model City, NY 14107
10/31/07	100000619 CTN	RQ, Hazardous Waste Solid NOS (soil, lead), 9, NA 3077, PG III	1	DT	29,514 K	Global Remediation Services, Inc. 200 Main Street Glen Gardner, NJ 08826	CVM Chemical Services, LLC 1550 Balmer Road Model City, NY 14107

TABLE 2

**WASTE DISPOSAL SUMMARY TABLE
MURPHY PROPERTY (263 SALEM ST.) SITE
WOBURN, MASSACHUSETTS**

Date of Shipment	Manifest/ Document No.	Description	Containers		Total Quantity	Transporter	Destination
			No.	Type			
10/31/07	000894061 JJK	RQ, Hazardous Waste Solid NOS (soil, lead), 9, NA 3077, PG III	1	DT	28,259 K	AmeriTech Environmental Services 393 Harold L. Dow Highway Eliot, ME 03903	CVM Chemical Services, LLC 1550 Balmer Road Model City, NY 14107
11/1/07	002685314 JJK	RQ, Hazardous Waste Solid NOS (soil, lead), 9, NA 3077, PG III	1	CM	17,300 K	New England Disposal Technologies, Inc. One Polito Drive Shrewsbury, MA 01545	CVM Chemical Services, LLC 1550 Balmer Road Model City, NY 14107
11/1/07	000269190 VES	Waste Flammable Liquids, NOS, (Mineral Spirits), 3, UN1993, PG II	1	DM	450 P	Veolia Technical Solutions, LLC 1 Eden Lane Flanders, NJ 07836	Marisol Incorporated 125 Factory Lane Middlesex, NJ 08846
11/1/07	000269191 VES	Hazardous Waste, Liquid, NOS, (Lead, PCBs), 9, NA3082, PG III	50	DM	4,140 K	Veolia Technical Solutions, LLC 1 Eden Lane Flanders, NJ 07836	Veolia Technical Solutions, LLC 1 Eden Lane Flanders, NJ 07836

BOL - Bill of Lading
 RCRA - Resource Conservation and Recovery Act
 DOT - Department of Transportation
 RQ - Reportable quantity
 PG - Packing group
 NOS - Not otherwise specified
 DT - Dump Truck
 TT - Tank Truck
 CM - Metal Boxes (including roll-offs)
 DM - Metal Drums

T - Tons
 G - Gallons
 K - Kilograms
 P - Pounds
 MA - Massachusetts
 NY - New York
 NJ - New Jersey
 NH - New Hampshire
 ME - Maine
 PCBs - Polychlorinated Biphenyls

Appendix G

Soil Screening Sample Results (Table 3)

TABLE 3

SOIL SCREENING SAMPLE RESULTS
MURPHY PROPERTY (263 SALEM ST) SITE
WOBURN, MASSACHUSETTS
mg/kg

SITE: MURPHY PROPERTY (263 SALEM ST) SITE
LABORATORY: OEME ON-SITE SCREENING

NOT VALIDATED DATA

SAMPLE LOCATION:	15K Bunker #1	15K Bunker #2	15K Bunker #3	15K Bunker #4	15K Bunker #5	SS-100 0-3"	SS-101 0-3"
SAMPLE NUMBER:	01DL-0278	01DL-0277	01DL-0276	01DL-0256	01DL-0279	01DL-0241	01DL-0242
LEAD LAB SAMPLE NUMBER	AA76184	AA76185	AA76186	AA76187	AA6188	AA76146	AA76147
ROCLOR LAB SAMPLE NUMBER:	AA76328	AA76329	AA76330	AA76331	AA76332	AA76291	AA76292
DATE SAMPLED:	9/27/07	9/27/07	9/27/07	9/27/07	9/27/07	9/19/07	9/19/07

INORGANIC ANALYTES		METHOD	REPORTING LIMIT		REPORTING LIMIT		REPORTING LIMIT		REPORTING LIMIT	
Lead	XRF	40	643	422	224	56	135	75	213	
Aroclor 1254	PCB	0.2	2.8	11	11	ND	94	0.3	0.2	
Aroclor 1260	PCB	0.2	0.3	0.8	0.8	ND	7.1	ND	0.1	

SAMPLE LOCATION:	SS-102 0-3"	SS-103 0-3"	SS-104 0-3"	SS-105 0-3"	SS-106 0-3"	SS-107 0-3"	SS-108 0-3"
SAMPLE NUMBER:	01DL-0230	01DL-0244	01DL-0245	01DL-0246	01DL-0247	01DL-0248	01DL-0253
LEAD LAB SAMPLE NUMBER	AA76148	AA76149	AA76150	AA76151	AA76153	AA76154	AA76161
ROCLOR LAB SAMPLE NUMBER:	AA76293	AA76294	AA76295	AA76297	AA76298	AA76299	AA76306
DATE SAMPLED:	9/19/07	9/19/07	9/19/07	9/19/07	9/19/07	1/0/00	

INORGANIC ANALYTES		METHOD	REPORTING LIMIT		REPORTING LIMIT		REPORTING LIMIT		REPORTING LIMIT	
Lead	XRF	40	188	930	153	306	91	398	1,030	
Aroclor 1254	PCB	0.2	ND	0.3	1.1	0.2	ND	ND	14	
Aroclor 1260	PCB	0.2	ND	0.2	0.2	0.1	ND	0.1	3.1	

SAMPLE LOCATION:	SS-109 0-3"	SS-110 0-3"	SS-111 0-3"	SS-112 0-3"	SS-113 0-3"	SS-114 0-3"
SAMPLE NUMBER:	01DL-0231	01DL-0255	01DL-0275	01DL-0265	01DL-0266	01DL-0267
LEAD LAB SAMPLE NUMBER	AA76162	AA76163	AA76164	AA76173	AA76174	AA76175
ROCLOR LAB SAMPLE NUMBER:	AA76307	AA76308	AA76309	AA76317	AA76318	AA76319
DATE SAMPLED:	9/19/07	9/19/07	9/19/07	9/24/07	9/24/07	1/0/1900

INORGANIC ANALYTES		METHOD	REPORTING LIMIT		REPORTING LIMIT		REPORTING LIMIT		REPORTING LIMIT	
Lead	XRF	40	638	495	151	1,160	20,900	3,400		
Aroclor 1254	PCB	0.2	8.2	4.3	0.7	ND	ND	11		
Aroclor 1260	PCB	0.2	3.2	1.1	0.2	25	3.4	2		

NOTES:

OEME = Office of Environmental Measurement and Evaluation.
XRF = X-Ray Fluorescence.
PCB = Polychlorinated biphenyl.
ND = Not Detected.
mg/kg = milligrams per kilogram.
" = Inches.

Appendix H

Confirmatory Sample Results (Table 4)

TABLE 4
CONFIRMATORY SAMPLE RESULTS
MURPHY PROPERTY (263 SALEM ST) SITE
WOBURN, MASSACHUSETTS

SAMPLE LOCATION	SS-08 6"	SS-24 6"	SS-60E 12"	SS-102	SS-109	SS-65 6"	15K Bunker #1	15K Bunker #2	MCP
SAMPLE NUMBER	01DL-0222	01DL-0223	01DL-0229	01DL-0230	01DL-0231	01DL-0232	01DL-0278	01DL-0277	S-2 SOIL
LAB SAMPLE NUMBER	AA74328	AA74329	AA74330	AA74331	AA74332	AA74333	AA7440	AA74439	STD
SAMPLE DEPTH	6"	6"	12"	0-3"	0-3"	6"	6"	6"	
PARAMETER									
Lead	200 J1	58	270	360	630	320	790	400	300
Aroclor 1254	-----	-----	44	0.15 L	4.1	0.36	0.62	7.5	2
Aroclor 1260	-----	-----	ND	0.13 L	2.6	0.2	0.31	ND	2

SAMPLE LOCATION	15K Bunker #3	15K Bunker #4	15K Bunker #5	SS-114	SS-39 9"	SS-62 Bank 3'	SS-74 0-3"	SS-115 12"	MCP
SAMPLE NUMBER	01DL-0276	01DL-0256	01DL-0279	01DL-0267	01DL-0271	01DL-0290	01DL-0304	01DL-0305	S-2 SOIL
LAB SAMPLE NUMBER	AA74438	AA74435	AA74441	AA74436	AA74437	AA75269	AA75270	AA74271	STD
SAMPLE DEPTH	6"	6"	6"	0-3 "	9"	3'	0-3"	12"	
PARAMETER									
Lead	170	33	53	4,100	41	58 J1	430	89	300
Aroclor 1254	7.2	ND	70	6.2	ND	0.23	3.4	ND	2
Aroclor 1260	ND	ND	ND	4.6	ND	ND	1.6	0.18 J	2

SAMPLE LOCATION	SS-68 18"	SS-67 48"	SS-84 48"	SS-75 36"	SS-83 12"	SS-81 84"	SS-82 24"	SS-87 12"	MCP
SAMPLE NUMBER	01DL-0307	01DL-0324	01DL-0325	01DL-0332	01DL-0347	01DL-0351	01DL-0352	01DL-0356	S-2 SOIL
LAB SAMPLE NUMBER	AA75272	AA75926	AA75927	AA75928	AA75987	AA75988	AA75989	AA75990	STD
SAMPLE DEPTH	18"	48"	48"	36"	12"	84"	24"	12"	
PARAMETER									
Lead	17	130 J1	35	270	13	1,200	11	33	300
Aroclor 1254	0.22	1.5	0.55	0.12	0.17	60	0.21	0.08 L	2
Aroclor 1260	0.29	0.55	0.2	0.32	ND	ND	ND	ND	2

NOTES:

- 1) Lead and PCB samples analyzed by U.S. EPA Office of Environmental Measurement and Evaluation (OEME) USING EPA Region I SOP, EIASOP-INGICP6, Metals in Soil Medium Level by ICP and EIASOP-PESTSOIL2, Pest/PCB in Soil Med/Low Level.
- 2) All results in Milligrams per Kilogram (mg/Kg).
- 3) MCP S-2 Soil Std = Massachusetts Contingency Plan Method 1 Soil Category S-2 Standard.
- 4) ----- = Parameter not analyzed.
- 5) ND = Not Detected.
- 6) J = Estimated Value.
- 7) J1 = Estimated Value due to MS Recovery outside acceptance criteria.
- 8) L = Estimated Value is below the Calibration Range.
- 9) Bolded and shaded values exceed MCP S-2 Soil Standards.

Appendix I

Post-Excavation Map (Figure 4)



POST-EXCAVATION MAP

MURPHY PROPERTY (263 SALEM ST)
 263 SALEM STREET
 WOBURN, MASSACHUSETTS



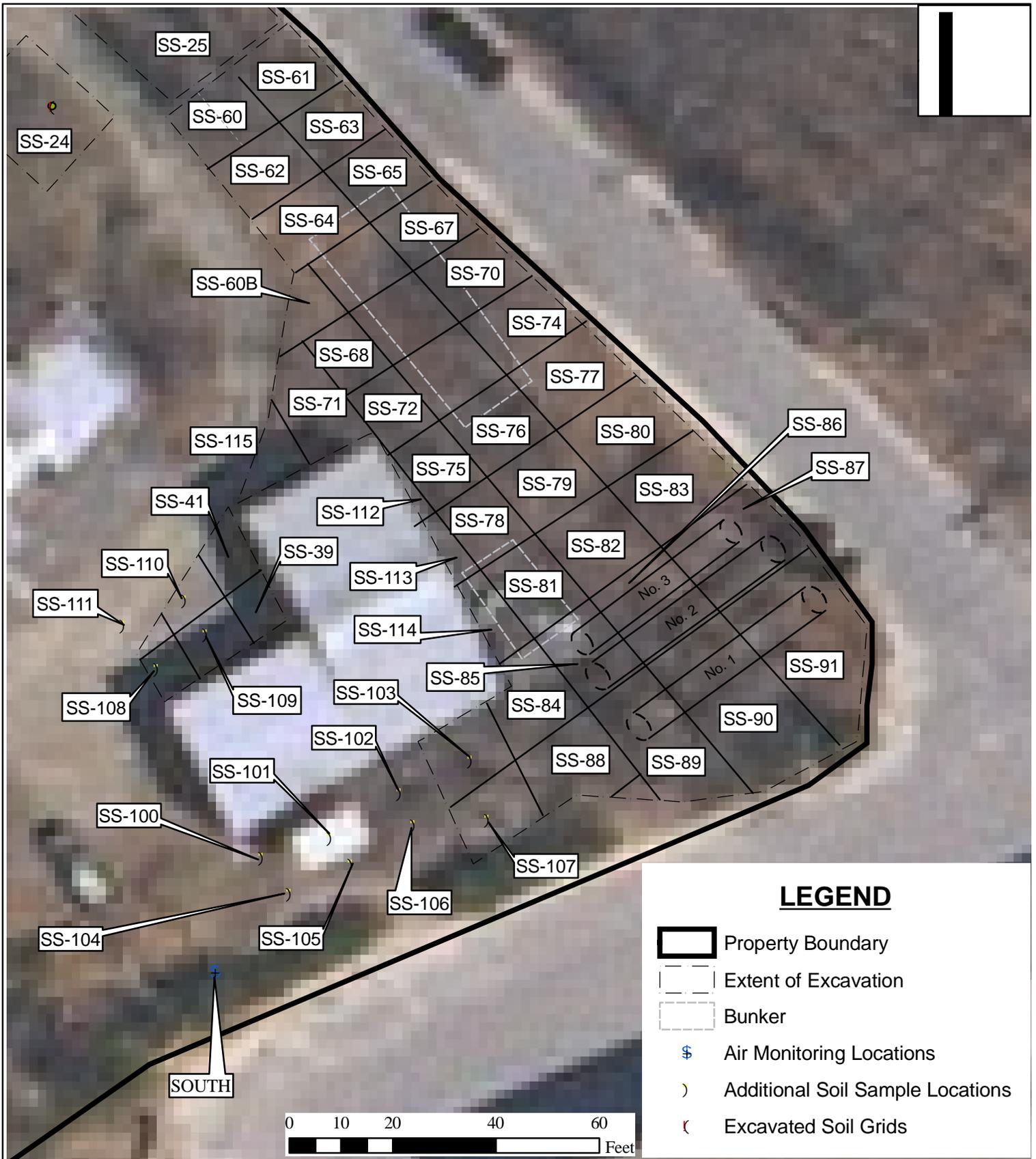
REGION I SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM

TDD NUMBER: 07-08-0003	CREATED BY: B. MACE	CREATED ON: 11/6/2007
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FILE LOCATION: E:\MA_gis\Murphy_Property_0328\ MXDs\Figure 4 - Post_Ex Map.mxd	FIGURE 4
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Appendix J

Post-Excavation Map Area Behind Garage (Figure 4A)



**POST-EXCAVATION MAP
AREA BEHIND GARAGE**

**MURPHY PROPERTY (263 SALEM ST)
263 SALEM STREET
WOBURN, MASSACHUSETTS**



REGION I SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM

TDD NUMBER: 07-08-0003	CREATED BY: B. MACE	CREATED ON: 12/26/2007
FILE LOCATION: E:\MA_gis\Murphy_Property_0328\ MXDs\Figure 4b - Post_Ex Map.mxd		FIGURE 4a

Appendix K

Final Post-Excavation Soil Sample Results (Table 5)

TABLE 5

**FINAL POST-EXCAVATION
SOIL SAMPLE RESULTS
MURPHY PROPERTY (263 SALEM ST.) SITE
WOBURN, MASSACHUSETTS
mg/Kg**

Grid Number/ Sample Location	Excavation Depth (Inches)	Final Analytical Results		
		Lead (300)*	Aroclor 1254 (2.0)*	Aroclor 1260 (2.0)*
SS-08	6	114 / 200 J**	NA	NA
SS-14	6	199	NA	NA
SS-15	6	172	NA	NA
SS-20	6	121	ND	ND
SS-21	12	69.2	NA	NA
SS-24	6	120.9 / 58**	NA	NA
SS-25	6	241.4	NA	NA
South of SS-25	12	90.1	NA	NA
SS-26	8	31	ND	ND
SS-31	6	191.6	NA	NA
SS-35	6	222.7	ND	ND
SS-39	9	48 / 41**	ND / ND**	ND / ND**
SS-41	6	168	ND	ND
SS-60E	16	26	ND	ND
SS-60W	8	32	ND	ND
SS-60B	6	81	1.1	0.4
SS-61	12	42	ND	ND
SS-62	6	88	0.2	0.1
SS-62 (Bank)	36	63 / 58**	0.3 / 0.23**	0.04 / ND**
SS-63	6	145	0.7	0.2
SS-64	6	76	ND	ND
SS-65	6	274	0.6	0.2
SS-67	48	219 / 130**	1.6 / 1.5**	1.4 / 0.55**
SS-68	18	30 / 17**	ND / 0.22**	0.18 / 0.29**
SS-70	12	94	1.4	ND
SS-71	12	188	ND	ND
SS-72	12	89	ND	0.7
SS-74	12	70	0.3	0.2
SS-75	36	265 / 270**	ND / 0.12**	1 / 0.32**
SS-76	6	265	0.7	1.3
SS-77	6	62	0.9	0.3

Soil samples analyzed by U.S. EPA Office of Environmental Measurement and Evaluation (OEME) using EPA Region I SOP, EIA-FLDXRFN2 for Environmental Pb Screening with the Niton 702-X-Ray Fluorescence, and EIA-FLDPCB2, PCB Field Testing for Soil and Sediments.

All results in milligrams per Kilogram (mg/Kg).

E = East.

W = West.

NA = Not Analyzed.

ND = Not Detected.

J = Estimated value.

* = Values in parentheses are Massachusetts Contingency Plan Method 1 Soil Category S-2 Standards (MCP S-2).

** = Confirmatory Result analyzed by U.S. EPA Office of Environmental Measurement and Evaluation (OEME) USING EPA Region I SOP, EIASOP-INGICP6, Metals in Soil Medium Level by ICP and EIASOP-PESTSOIL2, Pest/PCB in Soil Med/Low Level.

TABLE 5

FINAL POST-EXCAVATION
SOIL SAMPLE RESULTS
MURPHY PROPERTY (263 SALEM ST.) SITE
WOBURN, MASSACHUSETTS
mg/Kg

Grid Number/ Sample Location	Excavation Depth (Inches)	Final Analytical Results		
		Lead (300)*	Aroclor 1254 (2.0)*	Aroclor 1260 (2.0)*
SS-78	72	2,540	104	ND
SS-79	12	49	0.7	ND
SS-80	12	23	1	ND
SS-81	84	949 / 1,200**	108 / 60**	ND / ND**
SS-82	24	22 / 11**	0.4 / 0.21**	ND / ND**
SS-83	12	20 / 13**	0.2 / 0.17**	ND / ND**
SS-84	48	99 / 35**	1 / 0.55**	0.2 / 0.2**
SS-85	84	130	5.4	ND
SS-86	84	502	168	ND
SS-87	12	21 / 33**	0.3 / 0.08**	ND / ND**
SS-88	30	180	1.4	0.5
SS-89	84	826	1.2	0.3
SS-90	84	456	26	ND
SS-91	12	32	1.8	ND
SS-103	18	109	ND	0.2
SS-107	12	127	ND	ND
SS-108	9	25	ND	ND
SS-109	9	24	0.9	ND
SS-110	9	22	ND	ND
SS-112	12	159	ND	0.7
SS-113	36	136	6.5	1.8
SS-114	12	283	0.4	0.4
SS-115	12	94 / 89**	ND / ND**	0.4 / 0.18**
USP-01	6	66 / 61**	ND / ND**	ND / ND**
USP-02	6	94	ND	ND

Soil samples analyzed by U.S. EPA Office of Environmental Measurement and Evaluation (OEME) using EPA Region I SOP, EIA-FLDXRFN2 for Environmental Pb Screening with the Niton 702-X-Ray Fluorescence, and EIA-FLDPCB2, PCB Field Testing for Soil and Sediments.

All results in milligrams per Kilogram (mg/Kg).

E = East.

W = West.

NA = Not Analyzed.

ND = Not Detected.

USP = Under Stockpile.

* = Values in parentheses are Massachusetts Contingency Plan Method 1 Soil Category S-2 Standards (MCP S-2).

** = Confirmatory Result analyzed by U.S. EPA Office of Environmental Measurement and Evaluation (OEME) USING EPA Region I SOP, EIASOP-INGICP6, Metals in Soil Medium Level by ICP and EIASOP-PESTSOIL2, Pest/PCB in Soil Med/Low Level.

Bolded and shaded results exceed MCP S-2 Standard.

Note that grids that exceeded MCP S-2 standards were lined with geo-textile fabric prior to backfilling