



Weston Solutions, Inc.
1 Wall Street
Manchester, New Hampshire 03101-1501
603-656-5400 • Fax 603-656-5401
www.westonsolutions.com

SCANNED

SL = Wyman

June 8, 2005

Ms. Kimberly N. Tisa
PCB Coordinator/Environmental Specialist
Office of Ecosystem Protection
EPA-New England, Region 1
1 Congress Street
Suite 1100 (CPT)
Boston, MA 02114-2023

Re: Supplemental PCB Characterization Results
Former Tombarello & Sons Property
207 Marston Street
Lawrence, Massachusetts
3-18126

RECEIVED

JUN 13 2005

DEP
NORTHEAST REGIONAL OFFICE

Dear Ms. Tisa:

As you know, Weston Solutions, Inc. (WESTON®) has been investigating the nature and extent of polychlorinated biphenyl (PCB) contamination at the former Tombarello & Sons property in Lawrence, Massachusetts ("the Site") since December 2002. Prior to WESTON's involvement in the investigation, environmental site characterization work was also conducted by W.Z. Baumgartner and Associates, Inc. (Baumgartner) in 1998, Higgins Environmental Assoc. (HEA) in 1999, and Haley and Aldrich, Inc. (H&A) in 2000. Descriptions of the work performed by all parties were summarized in letters to you in June 2003 and August 2003, as well as in the *MCP Phase II Comprehensive Site Assessment Report* completed by WESTON in September 2004 and submitted to EPA in October 2004 as part of the application to conduct clean-up and disposal of PCB waste under 40 CFR 761.61(c).

Representatives of the United States Environmental Protection Agency (US EPA) conducted a review of the application package in November 2004. On November 30, 2004, Pam Hoskins (WESTON) and I met with you at the Site to walk the property, inspect the on-site structures, and assess potential data gaps in the site characterization. The potential data gaps you identified during the site visit included the following:

- Soil quality adjacent to the residential properties along Hoffman Avenue;
- The condition of the concrete pads at the former hydraulic shear devices and electronic transformers;
- An evaluation of the scrap metal materials stockpiled at the property, and;
- A characterization of building materials in the on-site structures.





Ms. Kimberly Tisa
USEPA

2

June 8, 2005

The rationale for additional testing and characterization of these areas was summarized in a letter to you dated March 17, 2005. This letter also outlined WESTON's proposed approach for collecting the supplemental PCB samples, which was discussed further and agreed upon in a telephone conversation with you on March 25, 2005. In general, the additional sampling included the following:

- The advancement of two soil borings along the property boundary between the Site and the residential properties on Hoffman Avenue, with samples collected from three depth intervals at each location;
- Wipe sampling of metal scrap from three selected scrap metal piles at the Site;
- Samples of the wooden ceiling material in former Furnace Building;
- Concrete samples from the concrete block wall closest to the former location of the furnace in the Furnace Building;
- Concrete samples from the concrete slab around the former location of the furnace in the Furnace Building;
- Concrete samples from the concrete slab in each of the three garage bays of the former Metal Shop/Garage Building, and;
- Concrete samples from the concrete pads that supported the former large shear and small shear devices and from the adjacent pads where the former electrical supplies were located for each device.

WESTON mobilized to the Site on May 2, 2005 to collect the supplemental PCB characterization samples. The samples were collected and analyzed from these locations as proposed in the March 2005 letter, with the following exceptions as discussed during our March 25th telephone conversation:

- As you indicated, the wipe samples of the metal scrap could only have been composited for analysis if the material had already been characterized. Therefore, rather than compositing three adjacent wipe samples from each of the scrap metal piles as initially proposed, two separate (discrete) wipe samples were collected at each of the three scrap pile locations and submitted for individual PCB analysis.
- The depths of the concrete samples were revised from the proposed depth of no greater than 7.5 centimeters to depths of approximately ½-inch. In order to obtain the required sample volume for laboratory analysis, several adjacent concrete "chips" were collected at each sample location and composited into the appropriate sample containers.
- Concrete samples from the large shear, small shear, and associated electrical pads were collected. Three samples from each shear pad and one sample from each electrical pad



Ms. Kimberly Tisa
USEPA

3

June 8, 2005

were collected in place of the one soil sample from beneath each pad as proposed in the March 2005 letter.

In addition, during the November 2004 site visit to the former Furnace Building, WESTON and EPA personnel identified what was believed to be the former furnace unit. WESTON has since learned that the furnace was actually located in a separate room in the rear of the building, and the device inspected during the site visit was a metal baler. The furnace has since been removed, but its former location was readily identifiable by the presence of an ash pile on the floor and a cut-out in the corrugated metal roofing material above where the furnace vent was located. As such, WESTON revised the proposed sample collection plan to include the following building materials:

- Two wood samples from the wooden ceiling material located above the former baler device;
- Three concrete samples from the floor around the former furnace;
- Three concrete samples from the closest concrete block wall to the former furnace, and;
- Three individual wipe samples from the metal ceiling immediately above the furnace.

The analytical results of the samples collected on May 2, 2005 are presented in Table 1. Photographs of representative sampling locations have also been included with this letter. The data indicate that no PCBs were detected in the wipe samples collected from the on-site metal scrap piles, the wipe samples from the metal ceiling above the former furnace, the concrete samples from the electrical pads at each former shear location, or from the wood and concrete building materials in the former furnace building. Low levels of PCBs were detected in the samples collected from the concrete pads in the former Metal Shop/Garage Building and from both of the shear pads. The concentration of total PCBs detected at these locations ranged between approximately 1.0 and 4.5 parts per million (ppm). Low levels of PCBs were also detected in the soil samples collected from the two soil borings along the property margin near Hoffman Avenue (WSB-81 and WSB-82). The concentration of total PCBs detected in the samples ranged between approximately 0.4 ppm and 7.0 ppm and are consistent with the results of samples collected from three other borings located adjacent to the property boundary in 2003 (WSB-61, WSB-11, and WSB-17).



Ms. Kimberly Tisa
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4

June 8, 2005

It is WESTON's opinion that the best way to manage the concrete pad material is to grind it up and re-use it as on-site fill. This conclusion is supported by the following:

- The Site is being remediated under the MCP and Toxic Substances Control Act (TSCA), specifically 40 CFR 761.61(c). Part 761.61(c) allows for risk-based closure and, with the exception that any PCB remediation waste removed from a site with concentrations greater than 50 ppm must be sent to a facility licensed to handle TSCA waste, has no prescribed PCB concentration cut-offs for management versus off-site disposal;
- The concentrations of bulk materials are all less than 5 ppm, which is lower in PCB concentration than the vast majority of soil on-site, and;
- In the summer of 2003, a Human Health Risk Assessment was performed to evaluate potential risks to human health under current and reasonably foreseeable future conditions (Sundstrom, August 2003). The risk assessment was performed in accordance with USEPA and Massachusetts Department of Environmental Protection (MDEP) guidance documents, and addressed PCBs and other site contaminants of concern (COCs) in soil. Exposure was quantified for trespassers that could be exposed to chemicals detected in surface soil, as well as for construction workers and utility maintenance workers that may be exposed to impacted soil at the property during excavation activities in the future. The risk assessment concluded that for the exposure scenarios considered, a soil concentration of 30 ppm could remain on-site and would be contained beneath a soil and asphalt cap.

It is WESTON's position that concrete with bulk concentrations less than 30 ppm would not present unacceptable risk if left on-site. In addition, the results indicate that none of the building materials evaluated would require special demolition or disposal considerations. As such, WESTON requests your approval to begin removal of the above-ground structures and metal scrap material at the property. As we have discussed in the past, these limited redevelopment activities are necessary to make the property more marketable to a prospective user. Once a user is identified, then design drawings, engineering specifications, and redevelopment plans, all specific to the proposed site use, can be generated and used to develop the Phase IV Remedial Implementation Plan (RIP). This plan would represent the final component of the TSCA application to conduct clean-up and disposal of PCB remediation waste under 40 CFR 761.61(c). Once this application is complete and the appropriate public comment period has elapsed, WESTON would oversee the completion of the site redevelopment, including the removal of the "hot spot" areas identified in the Phase II/Phase III reports and the preparation and submission of regulatory documents in accordance with the MCP.



Ms. Kimberly Tisa
USEPA

5

June 8, 2005

WESTON would like to take advantage of the summer construction season and initiate the limited clean-up activities as soon as possible. WESTON will also incorporate the new analytical data into the existing risk assessment and address the comments made by EPA last fall. In the meantime, if you have any questions or would like to discuss the most recent sampling results, please contact me at your earliest convenience at (603) 656-5487. Thank you for your time and consideration in this matter.

Very truly yours,

WESTON SOLUTIONS, INC.

A handwritten signature in black ink, appearing to read "James P. Ricker".

James P. Ricker, P.G.

Project Manager

/jpr
Attachments

CC: P. Donahue (MDEP)
F. Carberry (City of Lawrence)
J. Grifoni (First Lawrence Financial)
P. Hoskins (WESTON)

TABLE 1
SOIL AND BULK MATERIAL TESTING RESULTS
FORMER TOMBARELLO SONS PROPERTY
MARSTON STREET, LAWRENCE, MASS
May 2, 2005

PCB Aroclor	Former Large Shear Location						Former Small Shear Location			
	Shear Pad			Electrical Pad			Shear Pad		Electrical Pad	
	Concrete-1	Concrete-2	Concrete-3	Concrete-4	Concrete-5	Concrete-6	Concrete-7	Concrete-8		
Aroclor 1016	0.345 U	0.345 U	0.345 U	0.345 U	0.476 U	0.400 U	0.345 U	0.345 U		
Aroclor 1221	0.345 U	0.345 U	0.345 U	0.345 U	0.476 U	0.400 U	0.345 U	0.345 U		
Aroclor 1232	0.345 U	0.345 U	0.345 U	0.345 U	0.476 U	0.400 U	0.345 U	0.345 U		
Aroclor 1242	0.619	0.345 U	0.345 U	0.345 U	2.59	2.01	0.345 U	0.345 U		
Aroclor 1248	0.345 U	0.345 U	0.728	0.345 U	0.476 U	0.400 U	0.704	0.345 U		
Aroclor 1254	0.345 U	0.345 U	0.477	0.345 U	1.19	0.836	0.399	0.345 U		
Aroclor 1260	0.345 U	0.345 U	0.345 U	0.345 U	0.681	0.726	0.345 U	0.345 U		
Aroclor 1268	0.345 U	0.345 U	0.345 U	0.345 U	0.476 U	0.400 U	0.345 U	0.345 U		
Total PCBs	0.619	ND	1.205	ND	4.461	3.572	1.103	ND		

Notes:

Values for soil, wood, and concrete samples are shown in units of milligrams per kilogram (mg/kg)

Values for wipe samples are in units of micrograms per 100 cubic centimeters ($\mu\text{g}/100\text{ cm}^2$)

U = Not detected as associated reporting limit

ND = Not Detected

MCP S-1 Criteria for soil is 2 parts per million

TABLE 1
 SOIL AND BULK MATERIAL TESTING RESULTS
 FORMER TOMBARELLO SONS PROPERTY
 MARSTON STREET, LAWRENCE, MASS
 May 2, 2005

PCB Aroclor	Former Garage Building				Former Furnace Building							
	Garage Bay Floor				Furnace Room Floor				Furnace Room Wall			
	Concrete-9	Concrete-10	Concrete-11	Concrete-11	Concrete-12	Concrete-13	Concrete-14	Concrete-14	Concrete-15	Concrete-16	Concrete-17	
Aroclor 1016	0.417 U	0.417 U	0.400 U	0.400 U	0.400 U	0.385 U	0.345 U	0.345 U	0.357 U	0.385 U	0.417 U	
Aroclor 1221	0.417 U	0.417 U	0.400 U	0.400 U	0.400 U	0.385 U	0.345 U	0.345 U	0.357 U	0.385 U	0.417 U	
Aroclor 1232	0.417 U	0.417 U	0.400 U	0.400 U	0.400 U	0.385 U	0.345 U	0.345 U	0.357 U	0.385 U	0.417 U	
Aroclor 1242	0.417 U	0.417 U	0.400 U	0.400 U	0.400 U	0.385 U	0.345 U	0.345 U	0.357 U	0.385 U	0.417 U	
Aroclor 1248	0.417 U	0.417 U	0.400 U	0.400 U	0.400 U	0.385 U	0.345 U	0.345 U	0.357 U	0.385 U	0.417 U	
Aroclor 1254	0.417 U	0.417 U	0.400 U	0.400 U	0.400 U	0.385 U	0.345 U	0.345 U	0.357 U	0.385 U	0.417 U	
Aroclor 1260	2.52	1.22	3.21	3.21	0.400 U	0.385 U	0.345 U	0.345 U	0.357 U	0.385 U	0.417 U	
Aroclor 1268	0.417 U	0.417 U	0.400 U	0.400 U	0.400 U	0.385 U	0.345 U	0.345 U	0.357 U	0.385 U	0.417 U	
Total PCBs	2.52	1.22	3.21	3.21	ND	ND	ND	ND	ND	ND	ND	

TABLE 1
SOIL AND BULK MATERIAL TESTING RESULTS
FORMER TOMBARELLO SONS PROPERTY
MARSTON STREET, LAWRENCE, MASS
May 2, 2005

PCB Aroclor	Former Furnace Building										Metal Scrap Piles			
	Furnace Room Ceiling (Wipes)			Baler Room Ceiling			Scrap Pile 1				Scrap Pile 2			
	Wipe-1	Wipe-2	Wipe-3	Wood-1	Wood-2	Wood-3	Wipe-4	Wipe-5	Wipe-6	Wipe-7	Wipe-8	Wipe-9		
Aroclor 1016	1 U	1 U	1 U	0.400 U	0.385 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U		
Aroclor 1221	1 U	1 U	1 U	0.400 U	0.385 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U		
Aroclor 1232	1 U	1 U	1 U	0.400 U	0.385 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U		
Aroclor 1242	1 U	1 U	1 U	0.455 U	0.476 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U		
Aroclor 1248	1 U	1 U	1 U	0.455 U	0.476 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U		
Aroclor 1254	1 U	1 U	1 U	0.455 U	0.476 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U		
Aroclor 1260	1 U	1 U	1 U	0.455 U	0.476 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U		
Aroclor 1268	1 U	1 U	1 U	0.455 U	0.476 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U		
Total PCBs	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		

TABLE 1
SOIL AND BULK MATERIAL TESTING RESULTS
FORMER TOMBARELLO SONS PROPERTY
MARSTON STREET, LAWRENCE, MASS
May 2, 2005

PCB Aroclor	Metal Scrap Piles		Soil Borings					
	Scrap Pile 3		WSB-1		WSB-2		2-3 feet	2-3 feet
	Wipe-8	Wipe-9	0-6 inches	1-2 feet	0-6 inches	1-2 feet		
Aroclor 1016	1 U	1 U	0.054 U	0.539 U	0.270 U	0.551 U	0.058 U	0.058 U
Aroclor 1221	1 U	1 U	0.054 U	0.539 U	0.270 U	0.551 U	0.058 U	0.058 U
Aroclor 1232	1 U	1 U	0.054 U	0.539 U	0.270 U	0.551 U	0.058 U	0.058 U
Aroclor 1242	1 U	1 U	0.054 U	0.539 U	0.270 U	0.551 U	0.058 U	0.058 U
Aroclor 1248	1 U	1 U	0.054 U	0.539 U	0.270 U	0.551 U	0.058 U	0.058 U
Aroclor 1254	1 U	1 U	0.054 U	0.539 U	0.270 U	0.551 U	0.058 U	0.058 U
Aroclor 1260	1 U	1 U	0.730	6.95	1.71	2.95	0.376	0.651
Aroclor 1268	1 U	1 U	0.054 U	0.539 U	0.270 U	0.551 U	0.058 U	0.058 U
Total PCBs	ND	ND	0.730	6.95	1.71	2.95	0.376	0.651



Concrete sample locations at the former furnace location in the Furnace Building. Note presence of ash pile that denotes former location of furnace unit.



Representative concrete sample location at the former large shear pad



Concrete sample locations at the former small shear pad



Concrete sample location at the electrical pad for the former small shear



Concrete sample location from the floor of the former Metal Shop/Garage Building



Wipe sample location of representative metal scrap. This stockpile was formed by cutting up drums formerly used for on-site oil storage.



Metal scrap debris located in the northeastern corner of the site adjacent to the residential properties along Hoffman Avenue. Cylindrical drum objects were used for the collection of wipe samples.



Weston Solutions, Inc.
1 Wall Street
Manchester, New Hampshire 03101-1501
603-656-5400 • Fax 603-656-5401
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SL = Wyman

March 17, 2005

Ms. Kimberly N. Tisa
PCB Coordinator/Environmental Specialist
Office of Ecosystem Protection
EPA–New England, Region 1
1 Congress Street
Suite 1100 (CPT)
Boston, MA 02114-2023

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MAR 23 2005

DEP

NORTHEAST REGIONAL OFFICE

Re: Supplemental PCB Characterization
Former Tombarello & Sons Property
207 Marston Street
Lawrence, Massachusetts
3-18126

Dear Ms. Tisa:

Since December 2002, Weston Solutions, Inc. (WESTON®) has been investigating the nature and extent of polychlorinated biphenyl (PCB) contamination at the former Tombarello & Sons property in Lawrence, Massachusetts (“the Site”). Prior to WESTON’s involvement in the investigation, environmental site characterization work was also conducted by W.Z. Baumgartner and Associates, Inc. (Baumgartner) in 1998, Higgins Environmental Assoc. (HEA) in 1999, and Haley and Aldrich, Inc. (H&A) in 2000. Descriptions of the work performed by all parties were summarized in letters to you in June 2003 and August 2003, as well as in the *MCP Phase II Comprehensive Site Assessment Report* completed by WESTON in September 2004 and submitted to EPA in October 2004 as part of the application to conduct clean-up and disposal of PCB waste under 40 CFR 761.61(c).

Representatives of the United States Environmental Protection Agency (US EPA) conducted a review of the application package in November 2004. On November 30, 2004, Pam Hoskins (WESTON) and I met with you at the Site to walk the property, inspect the on-site structures, and assess potential data gaps in the site characterization. The potential data gaps you identified during the site visit included the following:

- Soil quality adjacent to the residential properties along Hoffman Avenue;
- Soil quality beneath the concrete pads at the former hydraulic shear devices and electronic transformers;
- Characterization of the scrap metal materials stockpiled at the property, and;
- Building materials from on-site structures.





Ms. Kimberly Tisa
USEPA

2

March 17, 2005

Testing of the metal scrap piles was recommended due to the reported storage and handling of transformers containing PCB oil at the Site. Whereas the exact contents of each pile is not known, wipe sampling of surfaces considered to be representative of the material present at the Site is required. With respect to the building materials, an evaluation of the concrete walls, floors, and wooden ceilings of the former "furnace" and "metal shop/garage" buildings was also recommended. These materials warrant investigation because of the potential for residual PCB contamination caused by smoke from the furnace operation and/or spills in former storage areas. This characterization will determine if disposal of the metal and building materials as Toxic Substance Control Act (TSCA) wastes will be required, or if they can remain on-site and be considered for beneficial re-use during future redevelopment activities.

The scrap metal at the Site is currently being segregated and prepared for testing and off-site disposal. To date, no transformers, tanks, or other materials believed to contain PCBs have been observed during the consolidation process. As such, WESTON does not propose to install additional soil borings beneath the locations of the scrap metal piles; rather, it is assumed that the widespread boring and sampling locations conducted by WESTON and others to date is sufficient to characterize soil conditions in the scrap metal areas. However, based on your recommendations during the November 2004 site visit, two additional soil borings will be advanced along the property boundary between the Site and the residential properties on Hoffman Avenue. The borings will be advanced to a depth of approximately 4 feet below ground surface (ft bgs) using Geoprobe direct-push drilling technology. Similar to the sampling of "hot spots" during the July 2003 effort, samples will be collected from three intervals from each boring (0-6 inches, 1-2 ft bgs, and 2-3 ft bgs) and submitted for laboratory analysis of PCBs. The laboratory analytical procedures used for all samples would also be the same as during the 2003 program (Soxhlet extraction, Method 8082, and acid/florisil clean-up procedures). The data from these borings will supplement the results of samples collected from three other borings located adjacent to the property boundary in 2003 (WSB-61, WSB-11, and WSB-17). The analytical results of samples collected from these locations indicated total PCB concentrations of 31 mg/kg (0-1 ft), 4.5 mg/kg (1-3 ft), and 3.7 mg/kg (0-1 ft), respectively.

Geoprobe direct-push technology will also be used to advance soil borings beneath the concrete pads that formerly supported the large and small shear devices and from beneath the concrete pad where the electric supply for each unit was located. One boring will be advanced through the pad at each of the four locations. Samples will be collected from the same intervals, and analyzed using the same methods, as described above for the property boundary soil borings.

Wipe sampling of metal scrap will be conducted using the guidance provided in 40 CFR 761.123. Metal surfaces will be selected at random from the segregated material. For the purpose of this proposal and to evaluate potential disposal requirements, the metal scrap material has



Ms. Kimberly Tisa
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3

March 17, 2005

been classified as being "non-porous", as defined by Sec. 761.61(a)(4). Standard wipe tests will be conducted by wiping a gauze pad (saturated in hexane and stored in a sealed glass jar) across a 10cm x 10cm (100 square centimeter (cm²)) template. Areas of the metal scrap that are the dirtiest and/or appear to have been in contact with an oily substance will be targeted for sampling. Following the guidance in Sec. 761.312, three adjacent wipe samples from each of three representative scrap metal piles will be composited into one sample for off-site laboratory analysis (3 samples total). Analysis of the samples will be performed in accordance with Sec. 761.272, and the results reported in units of micrograms per 100 cm² (µg/100 cm²).

To characterize the condition of the building materials of the former "furnace" and "metal shop/garage" buildings, samples of the concrete floors, wooden ceiling, and/or concrete floors of each building are proposed. In the former "furnace" building, the concrete floor, the concrete block walls, and wooden ceiling materials of the furnace area may have been contaminated with PCBs from the burning of waste oils. It is assumed that these materials classify as "porous substances" and will require a minimum of three samples for each type of material as defined in Sec. 761.283(a). As such, three samples each of the wooden ceiling above the former furnace, the closest concrete block wall, and the concrete floor of the former furnace area will be collected and submitted for laboratory analysis of PCBs by Method 8082. In the former "metal shop/garage" building, three samples of the concrete floor will be collected and analyzed for PCBs using the same method. The sampling locations will be selected based on visual observations of staining or discoloration caused by spills on the floor or high-heat and smoke damage from the furnace. The samples will be collected using a core sampler having a minimum diameter of 2 cm and a maximum diameter of 3 cm. The samples depths will not exceed 7.5 cm.



Ms. Kimberly Tisa
USEPA

4

March 17, 2005

WESTON would like to commence with the sampling activities as soon as possible. If you have any questions or would like to comment on the contents of this proposal, please contact me at your earliest convenience at (603) 656-5487. Thank you for your time and consideration in this matter.

Very truly yours,

WESTON SOLUTIONS, INC.

A handwritten signature in black ink, appearing to read "James P. Ricker".

James P. Ricker, P.G.

Project Manager

/jpr
Attachments

CC: P. Donahue (MDEP)
F. Carberry (City of Lawrence)
J. Grifoni (First Lawrence Financial)
P. Hoskins (WESTON)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
1 CONGRESS STREET, SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023

Via Certified and US Mail
Receipt No. 7002 0860 0000 6593 3177

December 8, 2004

James P. Ricker, Project Manager
Weston Solutions, Inc.
1 Wall Street
Manchester, New Hampshire 03101-1501

207 Marston ST

Re: Review of Human Health Risk Assessment
Former Tombarello & Sons Property
Lawrence, Massachusetts
3-18126

Dear Mr. Ricker:

This is written in response to your September 30, 2004 Application for a Risk-Based Disposal Approval (Application) for the former Tombarello & Sons Property located in Lawrence, Massachusetts (the Site). This Application was prepared and submitted by Weston to support a risk-based cleanup and disposal plan for PCB-contaminated materials on the Site under 40 CFR §761.61(c).

Additional documents were submitted in support of the Application, and include:

- Immediate Response Action (IRA) Completion Report, May 15, 2001
- MCP Phase II, Comprehensive Site Assessment/Risk Assessment Report, September 2004
- MCP Phase III, Remedial Action Plan, September 2004

The above documents with the September 30, 2004 Application shall be considered "the Application". EPA has conducted a review of the Human Health Risk Assessment which was submitted in support of the Application; comments on this Assessment are attached.

As discussed during our Site visit on November 30, 2004, EPA has determined that additional assessment work is warranted to insure that the Site has been sufficiently characterized and before EPA can make a determination on the proposed remediation. As you indicated during this visit, Weston will be developing a proposed plan for this additional assessment which will be submitted to EPA for review.

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DEC 09 2004

DEP
NORTHEAST REGIONAL OFFICE

Should you have any questions on the additional assessment plan or on the attached comments, please feel free to contact me at (617) 918-1527.

Sincerely,

A handwritten signature in black ink, appearing to read "Kimberly N. Tisa". The signature is written in a cursive style with a large initial "K".

Kimberly N. Tisa, PCB Coordinator
Office of Ecosystem Protection

cc: P. Donahue, MADEP

attachment

M E M O R A N D U M

TO: Laura Casey cc: James Buchert
1126.1000.001.01 file

FROM: Diane Sinkowski

DATE: December 6, 2004

SUBJECT: Review of Human Health Risk Assessment for Former Tombarello Site,
Lawrence, Massachusetts

As requested in the technical direction, the human health risk assessment was reviewed for the following (responses are provided following each question):

- ***Does the Risk Assessment consider all exposure scenarios and pathways based on the proposed end use of the Site? If not, please provide comments and/or recommendations. Please include Versar's justifications using appropriate EPA procedures and guidance.***

Since the report indicates that an asphalt cap will be installed over the entire site in the future, I believe that the potential exposure scenarios and pathways assessed are appropriate for Site conditions.

- ***Are there areas where data gaps exist and where additional information is required? Versar shall identify any data deficiencies, and if found, provide possible resolutions such as (but not limited to) the collection of additional samples or requesting additional information.***

Although all the soil analytical data has been provided in Appendix A of Section 11 and the numbers of samples in each hot spot are indicated (Tables 8 and 9), the report does not clearly identify which samples are included in each hot spot (or which samples are part of the "outside the hot spots" area). I would like that information to be provided in order to review the exposure point concentrations selected for the risk assessment.

- ***Are the formulas provided in the Risk Assessment appropriate and are the calculations correct? If not, please provide comments and/or recommendations using appropriate EPA procedures and guidance.***

I've listed a few discrepancies in the calculations, below:

Sections 4.1.3.2 and 4.1.3.3, Construction Workers and Utility Workers, Pages 34-35, and Tables 23, 26, 29, 32, 35, 38, 41, 44, 47, and 50

As stated in these two sections, it was assumed that "two-times the PM_{10} would be ingested if inhaled particulates were coughed up and swallowed and that 0.5 times the PM_{10} would enter the lungs." Although this approach for calculating the inhalation LADD is consistent with MDEP guidance, EPA guidance does not recommend this methodology. EPA's algorithms do not account for any particulates that may be coughed up and swallowed -- all inhaled particulates are retained in the lungs. (It should be noted, however, that both methods (MDEP and EPA) result in LADDs that are the same order of magnitude. For example, the reported total LADD for PCBs in Table 23 is 5.79E-09 while the LADD for inhalation of particulates, calculated following EPA guidance, is 4.63E-09.)

Table 7, Exposure Assumptions

The skin surface area exposed to soil ("Dermal contact with soil") shown for the trespasser, 2,929 cm^2 , taken from Massachusetts guidance (MADEP, 2002a), is based on the skin surface area for children aged 11 to 18 years, while the trespasser for the analysis is defined as being aged 7 to 18 years.

The inhalation rate shown for children 7-18 years of age, 1.0 m^3/hr , and used in the calculations is the inhalation rate for light activity, not moderate activity, as indicated. The risk assessment text (Section 4.1.3.1, page 33) indicates the correct inhalation rate of 1.2 m^3/hr , representing moderate activity, that should have been used in the calculations.

Tables 33, 34 and 66, Ingestion of Soil and Dermal Contact with Soil, Construction Worker Scenario (Site Wide Deep Soil 3-15' bgs)

The LADDs for PCBs shown in Tables 33 and 34 are not correct. According to my calculations the LADDs should be 1.57E-06 for ingestion of soil and 6.72E-07 for dermal contact with soil.

Table 66, the ingestion ILCR shown, 1.57E-06, should be the LADD and the dermal contact ILCR shown, 6.72E-07, should be the LADD. The ILCR should be recalculated based on these LADDs.

Please contact me at 703-750-3000, ext. 737, if you have any questions.



Weston Solutions, Inc.
 One Wall Street
 Manchester, NH 03101-1501
 603-656-5400 • Fax 603-656-5401

DATE: 10/1/04	JOB NO.: 13057.001.002
ATT.: Ms. Kim Tisa	
RE: Former Tombarello & Sons Property	
DCN	

LETTER OF TRANSMITTAL

TO:

Ms. Kimberly N. Tisa
 PCB Coordinator/Environmental Specialist
 EPA-New England, Region 1
 1 Congress Street, Suite 1100 (CPT)
 Boston, MA 02114-2023

WE ARE SENDING YOU: Attached Under Separate Cover VIA _____ THE FOLLOWING ITEMS:

- | | | |
|---|---|---------------------------------------|
| <input type="checkbox"/> Prints | <input type="checkbox"/> Plans | <input type="checkbox"/> Samples |
| <input type="checkbox"/> Specifications | <input type="checkbox"/> Copy of Letter | <input type="checkbox"/> Change Order |
| <input type="checkbox"/> Shop Drawings | <input checked="" type="checkbox"/> Other (explain) <u>Please see below</u> | |

Copies	Date	No.	Description
1	10/1/04	1	MCP Phase II Comprehensive Site Assessment/Risk Assessment Report
1	10/1/04	1	MCP Phase III Remedial Action Plan
1	9/30/04	1	Conceptual Remedial Implementation Plan Letter
1	10/1/04	2	Financial/Funding Statements from Proposed Developer

THESE ARE TRANSMITTED as checked below.

- | | | | |
|--|--|---|-------------------------|
| <input type="checkbox"/> For Approval | <input type="checkbox"/> Approved | <input type="checkbox"/> Resubmit | Copies for Approval |
| <input type="checkbox"/> For Your Use | <input type="checkbox"/> Approved as Corrected | <input type="checkbox"/> Submit | Copies for Distribution |
| <input type="checkbox"/> As Requested | <input type="checkbox"/> Revise & Resubmit | <input type="checkbox"/> Return | Corrected Prints |
| <input checked="" type="checkbox"/> For Review & Comment | <input type="checkbox"/> Rejected | <input type="checkbox"/> For BIDS Due _____ | |
| <input type="checkbox"/> For Your Information | <input type="checkbox"/> Returned After Loan to Us | | |

REMARKS:

Included in the attached documents is the information outlined in my e-mail to you on August 26, 2004 regarding the former John C. Tombarello & Sons site in Lawrence, MA. We look forward to discussing this with you upon completion of your respective reviews. I can be reached at (603) 656-5487. Thank you, Jim.

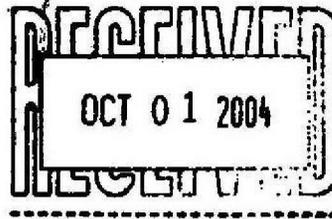
COPIES: P. Donahue (MDEP)
P. Hoskins (WESTON)

SIGNED:

James P. Ricker, P.G.

COPY

WESTMOUNT FINANCIAL LIMITED PARTNERSHIP



4500 P.G.A. Boulevard, Suite 303B
Palm Beach Gardens, Florida 33418
Tel. 561-775-9450 Fax 561-624-9988

September 27, 2004

Rolling Meadow Farm, Inc.
733 Turnpike Street, Suite 171
North Andover, MA 01845

RE: Marston Street, Lawrence, MA

Dear Jim:

Pursuant to our review of the Loan Request Package and Financial Information you submitted, we are pleased to inform you that Westmount Financial Limited Partnership (WFLP) or its nominee has approved your loan request under the following terms and conditions:

1. The amount of the loan will be up to Six Million Dollars (\$6,000,000.00) with the final loan amount solely at the discretion of the Lender.
2. The funds will be used to remediate soils and/or remove per Weston Solutions' reports, demolition and removal of buildings on site, removal of all metal and debris from site, and construction of a 250,000 sq ft building on property located on Marston Street, Lawrence, MA.
3. The term of the loan will be six (6) months with an extension of six (6) months, if needed.
4. The interest rate during the term of the loan will be Ten percent (10%) per annum.
5. During the term of this loan, monthly interest will be calculated on the amount of the loan outstanding on the last day of each month. Interest payments will be due and payable on the 1st of each month. A late fee of One Thousand Dollars (\$1,000.00) will be assessed on any late payments. WFLP or its nominee will have the right to ask for payment in full if monthly payments are late for two consecutive months any time during the term of the loan.
6. Security for the loan will be provided by a first position lien on property located on Marston Street, Lawrence, MA.

7. That you will provide WFLP or its nominee with proof of liability coverage on the mortgaged premises in an amount, for and with companies acceptable to WFLP or its nominees, bearing the usual lien clause making loss payable to WFLP or its nominee as first lien holder.
8. It is understood and agreed by the undersigned borrower that WFLP or its nominee will not allow payment of interest on this loan from the acquisition loan funds. This is not intended to be a self-funding loan.
9. The Borrower will pay the following fees upon acceptance of the terms and conditions outlined in this letter:

A. Loan Origination Fee (1 point)	\$60,000.00
B. Legal per Closing Statement	\$ TBD
C. Inspection Fees	<u>\$3,500.00</u>
	<u>\$63,500.00</u>

In addition, Borrower shall pay for any and all appraisals as may be required by WFLP.

10. If WFLP or its nominee has granted this loan notwithstanding your credit worthiness, you as the Borrower agree to indemnify and hold WFLP or its nominee and its agents harmless against any claims resulting from the granting of this loan and that at closing you agree to sign and agreement indemnifying and holding WFLP or its nominee harmless.
11. The title to the above-described property is to be examined and the papers prepared by the attorney for WFLP or its nominee, whose judgment of the title shall be final.
12. The expense of examining the title, whether finally accepted or rejected, is to be borne by you, the Borrower. Also the cost of preparing the loan documents and recording fees will be borne by you, the Borrower. WFLP or its nominee may require, as a deposit, part of the attorney's fee, or appraisal fee.
13. If the property is jointly owned, both owners shall join in the execution and delivery of the Mortgage, Security Agreement and any other instrument or agreement which is necessary in order for WFLP or its nominee to secure a first lien position in the property.
14. If the property is not amply covered by insurance, it is understood that WFLP or its nominee may so insure the same at the expense of the Borrower.
15. If this loan is rolled over, rewritten, or the terms of the loan are changed in any way, WFLP or its nominee will charge a rewrite fee or a reappraisal fee or both, and the amount of the fees will be specified at the time the terms are changed.

It is further understood that the Borrower has been advised that he has the right to obtain his own counsel and the WFLP's or its nominee's counsel will represent WFLP or its nominee at the Borrower's expense.

By signing this letter, the Borrower hereby agrees to all terms recited herein, and Borrower further guarantees and represents to WFLP or its nominee that he has disclosed his true financial net worth and has the cash flow to make the payments outlined herein.

This commitment is based upon representations, both written and oral, and data provided by you pursuant to the application of this loan. Any change in this data or in other facts or circumstances pertinent to the proposed transaction will be subject to approval from the Lender. In the absence of such approval, this commitment may be voided at Lender's option. Borrower must close on or before March 1, 2005, TIME IS OF THE ESSENCE. Otherwise, this offer to finance will be withdrawn at 5:00 PM on March 2, 2005.

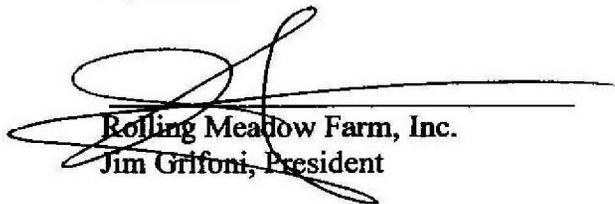
This commitment shall run only to Rolling Meadow Farm, Inc., who by accepting it acknowledges all of its terms and conditions. The commitment will be void if not accepted by October 1, 2004. Please indicate acceptance of this commitment by signing and returning the original to Westmount Financial Limited Partnership, **along with a deposit in the amount of \$2,500.00.**

Yours truly,



Michael J. Hart, Vice President
CIF Inc., its General Partner

Agreed to:



Rolling Meadow Farm, Inc.
Jim Grifoni, President

9-27-04
Dated



Weston Solutions, Inc.
1 Wall Street
Manchester, New Hampshire 03101-1501
603-656-5400 • Fax 603-656-5401
www.westonsolutions.com

30 September 2004

Ms. Kimberly N. Tisa
PCB Coordinator/Environmental Specialist
Office of Ecosystem Protection
EPA--New England, Region 1
1 Congress Street
Suite 1100 (CPT)
Boston, MA 02114-2023

Re: Conceptual Remedial Implementation Plan
Former Tombarello & Sons Property
207 Marston Street
Lawrence, Massachusetts

Dear Ms. Tisa:

Weston Solutions, Inc. (WESTON®) is pleased to submit this letter to document the conceptual remedial design of the chosen remedial alternative for the former John C. Tombarello and Sons Site in Lawrence, Massachusetts. The remedial alternative was chosen based on a detailed comparison of remedial alternatives, as documented in the *Remedial Action Plan (RAP)* prepared by WESTON (August 2004). The *RAP* has been provided to you as part of this application package and submitted to the Massachusetts Department of Environmental Protection (MDEP) in accordance with the relevant portions of the Massachusetts Contingency Plan (MCP), specifically 310 CMR 40.0870. The remedial alternative chosen is *Excavation and Off-Site Treatment/Disposal and On-Site Capping with Access Restrictions*.

Site Location/History

The site is located at 207 Marston Street in Lawrence, Massachusetts. The site is bounded by Marston Street to the west, Hofmann Avenue to the north, Route 495 to the east, and the Sons of Italy Lodge, a soccer field, and a school to the south. The Merrimack River is located approximately 400 feet (ft) east of the property boundary. The site footprint comprises approximately 14 acres. The northern half of the site was formerly used for metals recycling, while the southern half was formerly used first for soap manufacturing, and then as a community landfill. A paper recycling transfer station currently operates on a separate 4-acre parcel in the southwest corner of the site. The property is occupied by several buildings including: a single family dwelling; a 3,000 square foot (ft²) office/scale house; a 24,000 ft² metal shop/garage; a 11,000 ft² furnace building; a 750 ft² press/baler building; and two shear buildings (2,500 ft² and





Ms. Kimberly Tisa
U.S. Environmental Protection Agency

2

30 September 2004

a 6,500 ft², respectively). Other site features include a soil berm adjacent to Route 495, overhead and subsurface utilities (telephone, electric, storm drains, and gas and water lines), and a sanitary sewer easement that traverses the site from east to west. Reportedly, the soil berms were constructed from shallow site soils in conjunction with earthwork for Route 495. In addition, soil materials intermixed with metal are stockpiled adjacent the berms. These, and all pertinent site features, are shown on the Site Map (Figure 1-2 of the *RAP*).

The historical uses and regulatory history of the site was provided in both the WESTON 2004 *Phase II Comprehensive Site Assessment (CSA)* and the WESTON 2004 *RAP*; and therefore, has not been repeated in this letter.

Evaluation of Current and Future Site Risks/Risk-Based Cleanup Goals

A risk assessment was completed as part of the *Phase II CSA* to evaluate whether contaminants of concern (COCs) detected in groundwater and soil at the site pose a significant risk of harm to human health, public welfare, or the environment, as defined in the MCP. A Method 3 Human Health Risk Assessment and a Stage I Environmental Screening Risk Assessment were performed to evaluate potential risks under current and reasonably foreseeable future conditions. Results of these assessments are summarized in the *Phase II CSA* and presented in detail in the *Human Health Risk Assessment* (Sundstrom, 2004), which is included as Appendix F of the *Phase II CSA*.

As outlined in the *Phase II CSA* and the *RAP*, the site is impacted with polychlorinated biphenyls (PCBs), polynuclear aromatic hydrocarbons, and metals in soil, and volatile organic compounds (VOCs) in groundwater. For the purposes of the risk assessment, it was assumed that VOC concentrations detected in groundwater would not result in significant impacts to ambient air or indoor air of future buildings constructed at the site. Furthermore, VOCs were not detected in soil at significant concentrations; therefore, exposure via inhalation was not evaluated. It was also assumed that future employees at the site would not be exposed to soil contaminants, because surficial soils will be covered by buildings and asphalt following redevelopment of the site. However, exposure was assessed for trespassers and construction/utility workers.

Results of the assessment indicate that COCs in the soil do not pose a significant risk to trespassers with the exception of one "hot spot" identified within the vicinity of WSB-6 (refer to Figure 1-3 of the *RAP*). Risks to construction workers were identified in association with "hot spots" within the vicinity of WSB-6, CD-45, WSB-2, and deeper soils in the berms on the east/southeast side of the property (Figure 1-3). Risks to utility workers were identified in association with "hot spots" within the vicinity of WSB-6 and CD-45 (Figure 1-3). Based on

these results it has been concluded that a condition of No Significant Risk (NSR) exists at the site with the following exceptions:



Ms. Kimberly Tisa
U.S. Environmental Protection Agency

3

30 September 2004

- Within the vicinity of the WSB-6 and WSB-2 “hot spots”.
- Between 1-2 ft below ground surface at CD-45.
- Subsurface soils associated with berm locations: BRM-TP4; BRM-TP5; and BRM-TP9/9A.

The risk assessment also provided risk based-goals to be achieved during the excavation of “hot spots” to ensure NSR for future reuse of the site. These goals are:

- A remediation goal of 30 milligrams per kilogram (mg/kg) for PCBs in soil in the vicinity of WSB-6, in the vicinity of CD-45 and the deeper soil in the vicinity of the berms on the east and south east sides of the property.
- A remediation goal of 350 mg/kg for cadmium in the vicinity of boring WSB-2.

Remedial Design

Under the chosen alternative, impacted soils would be excavated from the “hot spot” locations as shown in Figure 3-1 of the *RAP* (WESTON, 2004). The excavated material would be transported off-site for treatment (incineration) and/or disposal in a Toxic Substances Control Act (TSCA)-approved landfill. Following removal of the impacted material, an asphalt cap and newly constructed buildings would be installed over the entire site to minimize exposure to, and the permeability of, remaining site soils. The objective of the cover is to reduce the potential for direct contact with elevated levels of COCs that remain at the site, but do not pose a significant risk to human health, safety, public welfare or the environment. In addition to capping, access restrictions would also be implemented to further control potential exposure to contaminated soils by site workers or trespassers. Access restrictions would include, but are not limited to: fencing, signs, and assignment of appropriate Activity and Use Limitations (AULs). In addition, should reuse of the site call for landscaping of any kind, the AUL would require the placement of 3 ft of clean fill over impacted soils prior to commencement of landscaping activities, and would require the long-term maintenance of this 3-foot soil cover.



Ms. Kimberly Tisa
U.S. Environmental Protection Agency

4

30 September 2004

Specific activities under this alternative include the following:

- Excavate impacted soils from designated “hot spot” locations.
- Transport excavated materials for off-site treatment at an approved incineration facility and/or disposal at a TSCA-approved hazardous waste landfill.
- Verify that the attainment of pre-established risk-based goals (see the Risk Assessment in Appendix D of the *Phase II CSA*) is achieved via confirmatory sampling which meets the requirements of the MCP and Subpart O of TSCA.
- Import clean soil for backfilling and grading the excavated areas.
- Raze and dispose (off-site) existing site buildings and structures, except for the single-family dwelling, which will be re-located to a parcel outside of the site fence.
- Remove or cap any existing drainage pipes or structures which could continue to release site contaminants to the environment and replace with new ones as needed.
- Install an asphalt cap over the whole site, or majority of the site, with remaining areas being covered with a building and at least 3 ft of clean fill and landscaped.
- Install one or more new buildings with a total square footage of up to 250,000 ft² to be used by prospective buyers of the property for commercial/industrial reuse (“big box” users, i.e., car dealership, department store, truck stop, etc.).
- Install a cover of at least 3 ft of clean soil in all areas not paved or occupied by a building or permanent structure (landscape as needed).
- Install a new contiguous fence around the site perimeter with warning signs to minimize site access by unauthorized personnel.
- Record an AUL, limiting future use of the site to commercial/industrial uses, and requiring future maintenance of the building, pavement, and soil cap to ensure exposure of potential receptors to impacted soils is mitigated.
- Conduct routine inspections and maintenance to ensure the integrity of the asphalt cap, new fence, and signs.



Ms. Kimberly Tisa
U.S. Environmental Protection Agency

5

30 September 2004

- Require notification and approval (permit) by U.S. Environmental Protection (EPA) and MDEP for any future site activities involving the displacement or excavation of site soils.
- Train site workers and contractors on an ongoing basis to make them aware of the impacted site soils and the importance of following appropriate access and excavation control instructions.
- Maintain records of training, site access, and excavation permits.

Excavation and off-site incineration of impacted site soils identified to pose a risk to human health, safety, public welfare or the environment would result in destruction of the COCs in this material. The incineration process has been demonstrated to effectively destroy PCBs in soil with destruction and removal efficiency up to 99.9999%. The incineration process will also volatilize VOCs, semi-volatile organic compounds, and volatile metal constituents (i.e., lead) present in the soil, but it will not destroy or detoxify non-volatile metals. Following incineration of PCB-impacted soil, the non-volatile metal constituents will be entrained in the process ash, which can be disposed at an approved facility. Installation of an asphalt cap over the site would result in permanent isolation and containment of remaining impacted site soils that do not currently pose a risk to human health, safety, public welfare or the environment. In addition, installation of a new contiguous fence around the site perimeter, in conjunction with assignment of appropriate AULs for the site, would further reduce the potential for human exposure to remaining low levels of COCs.

Excavated materials with PCB concentrations in excess of 50 parts per million (ppm) require incineration at an approved facility or disposal in a TSCA-approved landfill. Excavated materials with PCB concentrations less than 50 ppm can be incinerated at an approved facility or disposed in a non-hazardous Resource Conservation and Recovery Act Subtitle D landfill. Approximately 230 cubic yards of contaminated soils will be excavated and transported for off-site treatment and/or disposal, which presents a significant traffic and materials handling challenge. During excavation, dust suppression, personal protection equipment, and decontamination procedures will be required. An area to stage the excavated materials prior to transport may also be necessary.

Installation of the asphalt cap can be accomplished using conventional paving equipment and procedures. The asphalt cap will be applied over approximately 54,000 square yards of the site as shown on the proposed property reuse plan shown in Figure 3-2 of the *RAP*. The asphalt cap will likely consist of a bituminous base course followed by a surface course that is sufficiently durable to support vehicular traffic. Where the asphalt cap abuts existing buildings/structures, as shown in Figure 3-2 of the *RAP*, either an emulsified asphalt or impermeable liner will be used to seal the building/cap interface to prevent infiltration of surface runoff. Paving will be conducted



Ms. Kimberly Tisa
U.S. Environmental Protection Agency

6

30 September 2004

in accordance with all local, state, and federal requirements. Following completion, the asphalt cap will require routine inspection for cracks, excessive wear, and overall condition. To maintain integrity of the cover, small cracks in the asphalt will need to be repaired with sealers, and areas with large cracks would require replacement.

At present, an end user/buyer for the property has not been identified; therefore, the specific details of the building construction and landscaping are as yet unknown. For the purposes of preparing the Risk Assessment and the *RAP*, two buildings totaling approximately 150,000 ft² were assumed, as shown in Figure 3-2 of the *RAP*. However, the exact number, size, layout and on-site placement of the building(s) and landscaped areas cannot be determined until a user is identified. At that time, site risks will be re-evaluated, based on the future development plans of the user to ensure that assumptions used in the assessment are still protective, and if not, changes to the reuse plan will be made to ensure all risk-based goals are met. The AUL discussed in the above paragraphs will not be recorded until the exact reuse details are known.

During implementation of this alternative, short-term exposure to contaminated soil could occur primarily through dust generation while performing necessary excavation and materials handling tasks. To mitigate potential exposure by site workers and/or off-site receptors, engineering controls would be required to govern any activity that might disturb or expose contaminated soils. Ambient air monitoring and dust suppression would also be required throughout excavation activities to minimize potential off-site migration of airborne contaminants.

Off-site transportation of the excavated materials will be conducted by trained personnel only and will require stringent procedural and administrative controls, including regulatory requirements posed by MDEP, EPA, and the Department of Transportation. Soils that have been identified in the *Human Health Risk Assessment* (Sundstrom, 2004) as posing a significant risk to human health or the environment under future site use scenarios will be removed from the site under this alternative. Soils containing lower levels of COCs will be left in place and immobilized beneath the asphalt cap. Proper maintenance of the asphalt cap in conjunction with site access restrictions and AULs will reduce the potential for the remaining impacted site soils to come in contact with human or environmental receptors. Furthermore, the asphalt cap will provide a barrier to surface runoff that could infiltrate the soil and promote migration of the remaining COCs. Therefore, with diligent ongoing maintenance of the asphalt cap and site access controls, any remaining levels of COCs in site soils will not pose a significant risk of harm to health, safety, public welfare, or the environment during any foreseeable period of time.

The capital costs of the chosen remedial alternative are estimated to be \$5,609,000 and the annual operating and maintenance (O&M) costs are estimated to be \$50,000. The total present worth cost calculated for Alternative 2 (assuming 30 years of O&M, 6% interest, and 3% inflation) is \$6,115,000, excluding building construction and landscaping. A breakdown of the capital and annual costs for this alternative is presented in Table 3-1 of the *RAP*.



The proposed schedule for implementation of Alternative 2, Excavation and Off-Site Treatment/Disposal with On-Site Capping and Access Restrictions, is presented in Table 1 below:

Table 1
Proposed Schedule for Implementation of Preferred Alternative - Excavation and Off-Site Treatment/Disposal and On-Site Capping with Access Restrictions

Task	Approximate Duration (days)	Start	Finish
Excavation Activities			
Mobilization	2	7-Mar -05	8-Mar-05
Site Prep	2	7-Mar -05	8-Mar 05
Excavation	2	8-Mar 05	9-Mar 05
Demobilization	1	9-Mar 05	9-Mar 05
Paving Activities			
Mobilization	2	21-Mar 05	22-Mar-05
Site Prep	10	22-Mar-05	4-Apr-05
Pave	10	4-Apr-05	15-Apr-05
Demobilization	2	18-Apr-05	19-Apr-05
Building Construction			
Mobilization	5	TBD	TBD
Site Prep	10	TBD	TBD
Construction and Fit Out	160	TBD	TBD
Landscaping			
Mobilization	2	TBD	TBD
Site Work	10	TBD	TBD
Demobilization			
Install Fencing & Signs	3	20-Apr-05	22-Apr-05

TBD = to be determined



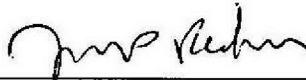
Ms. Kimberly Tisa
U.S. Environmental Protection Agency

8

30 September 2004

Thank you for your time and consideration in this matter. If you have any questions regarding this information presented in this letter, please do not hesitate to contact me at (603) 656-5487.

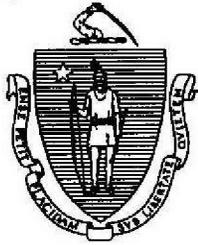
Very truly yours,
WESTON SOLUTIONS, INC.



James P. Ricker, P.G.
Project Manager

9/30/04
Date

cc: P. Donahue (MDEP)
Project File



COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Metropolitan Boston – Northeast Regional Office

FILE COPY

JANE SWIFT
Governor

BOB DURAND
Secretary

LAUREN LISS
Commissioner

June 1, 2001

American Recycling of Mass
d/b/a John C. Tombarello & Sons
207 Marston Street
Lawrence, MA 01840

Attn: Peter Prinz, President

RE: LAWRENCE – American Recycling of Mass
d/b/a John C. Tombarello & Sons
207 Marston Street
Release Tracking Number 3-18126
Transmittal Number W 020765

PROPOSED AND/OR CONTINUING RESPONSE ACTIONS AGREEMENT
310 CMR 40.0000

Dear Mr. Prinz:

On May 15, 2001, the Department of Environmental Protection (DEP) received a Tier I Permit Application from you for the above referenced site. The Tier I Permit application was prepared by Elliot Steinberg, a Licensed Site Professional (License #9663) with Haley & Aldrich, Inc., and was submitted to DEP pursuant to 310 CMR 40.0700 of the Massachusetts Contingency Plan (MCP). Submitted with this permit application was an LSP Opinion describing all proposed or continuing response actions which would not adversely affect disposal site conditions, increase the level of risk posed by the disposal site, jeopardize future site investigations or response actions, and should continue during the Department's permit application review.

The Department hereby allows American Recycling d/b/a John C. Tombarello & Sons to continue with response actions specified in the LSP Opinion. This agreement does not constitute an approval of the Comprehensive Response Actions outlined in any Phase Report submitted to the Department.

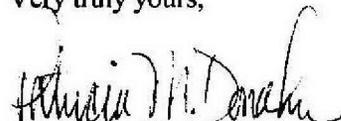
The Department's decision is contingent upon your adherence to the provisions of M.G.L. Chapter 21E, the Massachusetts Contingency Plan (310 CMR 40.0000), and all applicable DEP Policies governing

This information is available in alternate format by calling our ADA Coordinator at (617) 574-6872.
205A Lowell St. Wilmington, MA 01887 • Phone (978) 661-7600 • Fax (978) 661-7615 •
TDD # (978) 661-7679

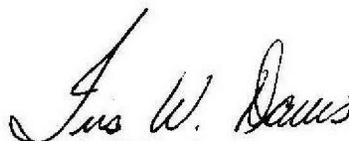
response actions. Additionally, it is the responsibility of parties conducting response actions to obtain any other necessary federal, state, or local permits or approvals. The Department's decision in this matter was based upon the information contained in the referenced proposal, and any other accompanying/previous submittals, and will be subject to review if these sources contain any material omissions or misstatements.

If you have any further questions regarding this matter, please contact Patricia Donahue at the letterhead address, or by calling (978) 661-7730. All future correspondence regarding this location must reference the DEP Release Tracking Number listed in the subject heading.

Very truly yours,



Patricia M. Donahue
Section Chief, Audits
Bureau of Waste Site Cleanup



Iris W. Davis
Section Chief, Permits/Risk Reduction
Bureau of Waste Site Cleanup

cc: Lawrence Board of Health
Mayor of Lawrence, City Hall
Elliot Steinberg, Haley & Aldrich, Inc., 465 Medford St., Suite 2200, Boston, MA 02129-1400
File, DEP NERO
NERO/OGC Jennifer Davis



IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL FORM

Release Tracking Number

3 - 18126

Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart B)

A. RELEASE OR THREAT OF RELEASE LOCATION

Release Name: American Recycling of Mass., Inc. d/b/a John C. Tombarello & Sons
Street: 207 Marston Street Location Aid: Hoffman Avenue
City/Town: Lawrence ZIP Code: 01843-0000

- Check here if a Tier Classification Submittal has been provided to DEP for this Release Tracking Number.
Check here if this location is Adequately Regulated, pursuant to 310 CMR 40.0110-0114.
Specify Program: CERCLA HSWA Corrective Action Solid Waste Management RCRA State Program (21C Facilities)

Related Release Tracking Numbers That This IRA Addresses:

B. THIS FORM IS BEING USED TO: (check all that apply)

- Submit an IRA Plan (complete Sections A, B, C, D, E, H, I, J and K).
Submit an Imminent Hazard Evaluation (complete Sections A, B, C, F, H, I, J and K).
Submit an IRA Status Report (complete Sections A, B, C, E, H, I, J and K).
Submit a Request to Terminate an Active Remedial System and/or Terminate a Continuing Response Action(s) Taken to Address an Imminent Hazard (complete Sections A, B, C, D, E, H, I, J and K).
Submit an IRA Completion Statement (complete Sections A, B, C, D, E, G, H, I, J and K).
You must attach all supporting documentation required for each use of form indicated, including copies of any Legal Notices and Notices to Public Officials required by 310 CMR 40.1400.

C. RELEASE OR THREAT OF RELEASE CONDITIONS THAT WARRANT

Identify Media and Receptors Affected: (check all that apply)
Air Groundwater Surface Water Sediments Soil
Wetland Storm Drain Paved Surface Private Well Public Water Supply Zone 2 Residence
School Unknown Other Specify

Identify Conditions That Require IRA, Pursuant to 310 CMR 40.0412: (check all that apply)
72 Hour Reporting Condition(s) Substantial Release Migration Other Condition(s)
2 Hour Reporting Condition(s)

Describe Required by NOR dated 31 March 1999; soil impacts could pose an imminent hazard

Identify Oils and Hazardous Materials Released: (check all that apply)
Oils Chlorinated Solvents Heavy Metals
Others Specify: PCBs in soil only

D. DESCRIPTION OF RESPONSE ACTIONS: (check all that apply)

- Assessment and/or Monitoring Only
Transport and Excavation of Contaminated Soils Stockpile ERS
Re-use, Recycling or Treatment
On Site Off Site Est. Vol.: cubic yards
Store On Site Off Site Est. Vol.: cubic yards
Landfill Cover Disposal Est. Vol.: 100 cubic yards
Removal of Drums, Tanks or Containers

RECEIVED MAY 15 2001 DEP NORTH EAST REGIONAL OFFICE
Deployment of Absorbent or Containment Materials
Temporary Covers or Caps
Bioremediation
Soil Vapor Extraction
Structure Venting System
Product Recovery
Groundwater Treatment Systems
Air Sparging
Temporary Water Supplies

SECTION D IS CONTINUED ON THE NEXT PAGE.



IMMEDIATE RESPONSE ACTION (IRA)
TRANSMITTAL FORM

Release Tracking
Number

3 - 18126

Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

D. DESCRIPTION OF RESPONSE ACTIONS (continued):

Removal of Other Contaminated Media

Temporary Evacuation or Relocation of Residents

Specify Type and Volume: _____

Fencing and Sign Posting

Other Response Actions Describe _____

Check here if this IRA involves the use of Innovative Technologies (DEP is interested in using this information to aid in creating an Innovative Technologies Clearinghouse).

Describe _____

Technologies: _____

E. TRANSPORT OF REMEDIATION WASTE: (if Remediation Waste has been sent to an off-site facility, answer the following questions)

Name of Facility: Barre Landfill

Town and State: Barre, Massachusetts

Quantity of Remediation Waste Transported to 100 cy

Date: _____

F. IMMEDIATE HAZARD EVALUATION SUMMARY: (check one of the following)

Based upon an evaluation, an Imminent Hazard exists in connection with this Release or Threat of Release.

Based upon an evaluation, an Imminent Hazard does not exist in connection with this Release or Threat of Release.

Based upon an evaluation, it is unknown whether an Imminent Hazard exists in connection with this Release or Threat of Release, and further assessment activities will be undertaken.

Based upon an evaluation, it is unknown whether an Imminent Hazard exists in connection with this Release or Threat of Release. However, response actions will address those conditions that could pose an Imminent Hazard.

G. IRA COMPLETION STATEMENT:

Check here if future response actions addressing this Release or Threat of Release will be conducted as part of the Response Actions planned for a Site that has already been Tier Classified under a different Release Tracking Number, or a Site that is identified on the Transition List as described in 310 CMR 40.0600 (i. e., a Transition Site, which includes Sites with approved Waivers). These additional response actions must occur according to the deadlines applicable to the earlier Release Tracking Number (i. e., Site ID Number).

State Release Tracking Number (i. e., Site ID Number) of Tier Classified Site or Transition Site: _____

If any Remediation Waste will be stored, treated, managed, recycled or reused at the site following submission of the IRA Completion Statement, you must submit either a Release Abatement Measure (RAM) Plan or a Phase IV Remedy Implementation Plan, along with the appropriate transmittal form, as an attachment to the IRA Completion Statement.

H. LSP OPINION:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and (iii) the provisions of 309 CMR 4.03(5), to the best of my knowledge, information and belief,

> if Section B of this form indicates that an Immediate Response Action Plan is being submitted, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> if Section B of this form indicates that an Imminent Hazard Evaluation is being submitted, this Imminent Hazard Evaluation was developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and the assessment activity(ies) undertaken to support this Imminent Hazard Evaluation complies(y) with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000;

> if Section B of this form indicates that an Immediate Response Status Report is being submitted, the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> if Section B of this form indicates that an Immediate Response Action Completion Statement or a Request to Terminate an Active Remedial System and/or Terminate a Continuing Response Action(s) Taken to Address an Imminent Hazard is being submitted, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal.

SECTION H IS CONTINUED ON THE NEXT PAGE.



IMMEDIATE RESPONSE ACTION (IRA) TRANSMITTAL FORM

Pursuant to 310 CMR 40.0424 - 40.0427 (Subpart D)

Release Tracking Number

3 - 18126

H. LSP Opinion (continued):

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

LSP Name: Elliot I. Steinberg LSP #: 9663 Stamp

Telephone 617-886-7454 Ext.:

FAX: 617-886-7754 (optional)

Signature: [Handwritten Signature]

Date: 15 May 2001



I. PERSON UNDERTAKING IRA:

Name of Organization: American Recycling of Mass., Inc. d/b/a John C. Tombarello & Sons

Name of Contact: Peter Prinz Title: President

Street: 207 Marston Street

City/Town: Lawrence State MA ZIP Code: 01841-0000

Telephone: 978-682-5226 Ext.: FAX: 978-686-6484 (optional)

Check here if there has been a change in the person undertaking the IRA.

J. RELATIONSHIP TO RELEASE OR THREAT OF RELEASE OF PERSON UNDERTAKING IRA: (check one)

RP or PRP Specify Owner Operator Generator Transporter Other RP or PRP:

Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

Any Other Person Undertaking IRA Specify Relationship:

K. CERTIFICATION OF PERSON UNDERTAKING IRA:

I, Peter Prinz, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: [Handwritten Signature] Title: President

For American Recycling, Inc. d/b/a John C. Tombarello & Sons Date: (print name of person or entity recorded in Section I)

Enter address of the person providing certification, if different from address recorded in Section I:

Street:

City/Town: State ZIP Code:

Telephone: Ext.: FAX: (optional)

YOU MUST COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

ATTACHMENT H

**BWSC-105
LSP OPINION**

Page 1 of 1

Response actions subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA:

- Request for Information (RFI) (RTN 3-16817), dated 2 December 1998. The RFI established an Interim Deadline of 22 January 1999 for providing information relative to environmental conditions on the property.
- Notice of Responsibility (NOR) & Interim Deadline (RTN 3-18126) dated 31 March 1999. The NOR established an Interim Deadline of 21 April 1999 for preparation of an IRA Plan to mitigate a potential Imminent Hazard.
- Notice of "Interim Deadline" RTN 3-18126, dated 12 July 1999. Issued by DEP to American Recycling of Mass., Inc., indicating the need to increase the height and clearly delineate the barbed wire fence.
- "Field NOR" RTN 3-18431, dated 21 June 1999. Issued by DEP to American Recycling of Mass., Inc. to remove drums of oil and sludge from baler/press area and assess potential releases.
- "Administrative Consent Order and Notice of Noncompliance ACOP-NE-009013-123 (ACOP)" executed between American Recycling of Mass., Inc. d/b/a John C. Tombarello & Sons and the DEP, dated 14 February 2001.



**TIER CLASSIFICATION, TIER II EXTENSION &
TIER II TRANSFER TRANSMITTAL FORM**

Release Tracking
Number

3 - 18126

Pursuant to 310 CMR 40.0510 and 40.0560 (Subpart E)

A. DISPOSAL SITE LOCATION:

Disposal Site Name: American Recycling of Mass., Inc. d/b/a John C. Tombarello & Sons
Street: 207 Marston Street Location Aid: Hofmann Avenue
City/Town: Lawrence ZIP Code: 01843-0000
Related Release Tracking Numbers That This Submittal Will Address: 3-18431

B. THIS FORM IS BEING USED TO: (check all that apply)

- Submit a new or revised Tier Classification Submittal for a Tier I Site, including a Numerical Ranking Scoresheet (complete Sections A, B, C, I, J, K and L).
- Submit a new or revised Tier Classification Submittal for a Tier II Site, including a Numerical Ranking Scoresheet (complete Sections A, B, C, F, G, I, J, K and L).
- Submit a Notice that an additional Release Tracking Number(s) is (are) being linked to this Tier Classified Site and rescoring is not required at this time (complete Sections A, B, J, K and L). If this submittal is for a Tier I Site, you must also submit a Minor Permit Modification Transmittal Form (BWSC-109).
List Additional Release Tracking Number(s): 3-18431
- Submit a Phase I Completion Statement supporting a Tier Classification Submittal (complete Sections A, B, I, J, K and L).
- Submit a Tier II Extension Submittal for Response Actions at a Tier II Site (complete Sections A, B, D, F, G, I, J, K and L).
- Submit a Tier II Extension Submittal for Response Actions taken after expiration of a Waiver, pursuant to 310 CMR 40.0630(4) (complete Sections A, B, D, F, J, K and L, and also complete Sections G and I or Section H).*
- Submit a Tier II Transfer Submittal for a change in person(s) undertaking Response Actions at a Tier II Site (complete Sections A, B, E, F, G, I, J, K, L, M, N and O).
- Submit a Tier II Transfer Submittal for a change in person(s) undertaking Response Actions at a Waiver Site, pursuant to 310 CMR 40.0630(6) (complete Sections A, B, E, F, J, K, L, M, N and O, and also complete Sections G and I or Section H).*

You must attach all supporting documentation required for each use of form indicated, including copies of any Legal Notices and Notices to Public Officials required by 310 CMR 40.1400.

*NOTE: The Waiver expires on the effective date of this submittal and all further Response Actions must be taken as a Tier II Site.

C. TIER CLASSIFICATION SUBMITTAL:

Numerical Ranking Score for Disposal Site: (from Numerical Ranking Scoresheet) 382
Proposed Tier Classification of Disposal Site: (check one) Tier IA Tier IB Tier IC Tier II

Check which, if any, of the Tier I inclusionary criteria are met by the Disposal Site, pursuant to 310 CMR 40.0520:

- Groundwater is located within an Interim Wellhead Protection Area or a Zone II, and there is evidence of groundwater contamination by an Oil or Hazardous Material at the time of Tier Classification at concentrations equal to or exceeding the applicable RCGW-1 Reportable Concentration set forth in 310 CMR 40.0360.
- An Imminent Hazard is present at the time of Tier Classification.
- Check here if this Tier Classification revises a previous submittal for this Disposal Site. You must include a revised Numerical Ranking Scoresheet with this submittal. If a Tier I Permit has been issued, you may also need to submit a Major Permit Modification Application (BWSC 10).

If incorporating additional Release(s) into the Disposal Site, list Release Tracking Number(s): 3-18431

D. TIER II EXTENSION SUBMITTAL

REQUIREMENTS:
State the expiration date of the Tier II Classification or Waiver for the Disposal Site, whichever is applicable:

Attach a statement summarizing why a Permanent or Temporary Solution has not been achieved at the Disposal Site. A Tier II Extension is effective for a period of one year beyond the current expiration date of the Tier II Classification or Waiver.

E. TIER II TRANSFER SUBMITTAL REQUIREMENTS:

State the proposed effective date of the change in person(s) undertaking Response Actions at the Disposal Site:

Attach a statement summarizing the reasons for the proposed change in person(s) undertaking the Response Actions. All Response Actions must be completed by the deadline applicable to the person who first filed either a Tier Classification Submittal for the Disposal Site or received a Waiver of Approvals.



**TIER CLASSIFICATION, TIER II EXTENSION &
TIER II TRANSFER TRANSMITTAL FORM**

Release Tracking
Number

3 - 18126

Pursuant to 310 CMR 40.0510 and 40.0560 (Subpart E)

F. DISPOSAL SITE COMPLIANCE HISTORY SUMMARY:

- > If providing either a **Tier Classification Submittal for a Tier II Site** or a **Tier II Extension Submittal for a Waiver Site**, the person named in **Section J** must provide a Compliance History.
- > If providing a **Tier II Extension Submittal for a Tier II Site**, the person named in **Section J** must **update** their Compliance History since the effective date of the Tier II Classification.
- > If providing a **Tier II Transfer Submittal for a Tier II or Waiver Site**, the person named in **Section M** must provide a Compliance History.

Compliance History for (provide only one name per History):

Check here if there has been no change to the Compliance History of the person named above (Extension Submittal for a Tier II Site ONLY).

List all permits or licenses that have been issued by the Department that are relevant to this Disposal Site:

PROGRAM:	PERMIT NUMBER:	PERMIT CATEGORY:	FACILITY ID:
Air Quality			
Hazardous Waste (M.G.L. c. 21C)			
Solid Waste			
Industrial Wastewater Management			
Water Supply			
Water Pollution Control/Surface Water			
Water Pollution Control/Groundwater			
Water Pollution Control/Sewer Connection			
Wetland & Waterways			

List all other Federal, state or local permits, licenses, certifications, registrations, variances, or approvals that are relevant to this Disposal Site:

ISSUING AUTHORITY OR PROGRAM, OR DOCUMENTATION TYPE:	IDENTIFICATION NUMBER:	DATE ISSUED:

If needed, attach to this Transmittal Form a statement further describing the Compliance History of this Disposal Site. This statement must describe the compliance history of the person named above with the following:

- (1) DEP regulations; and
- (2) other laws for the protection of health, safety, public welfare and the environment administered or enforced by any other government agency.

Such a statement should identify information such as:

- (1) actions relevant to the Disposal Site taken by the Department to enforce its requirements including, but not limited to, a Notice of Noncompliance (NON), Notice of Intent to Assess Civil Administrative Penalty (PAN), Notice of Intent to Take Response Action (NORA), and an administrative enforcement order;
- (2) administrative consent orders;
- (3) judicial consent judgements;
- (4) similar administrative actions taken by other Federal, state or local agencies;
- (5) civil or criminal actions relevant to the Disposal Site brought on behalf of the DEP or other Federal, state, or local agencies; and
- (6) any additional relevant information.

For each action identified, provide the following information:

- (1) name of the issuing authority, type of action, identification number and date issued;
- (2) description of noncompliance cited;
- (3) current status of the matter; and
- (4) final disposition, if any.



**TIER CLASSIFICATION, TIER II EXTENSION &
TIER II TRANSFER TRANSMITTAL FORM**

Release Tracking
Number

3 - 18126

Pursuant to 310 CMR 40.0510 and 40.0560 (Subpart E)

G. CERTIFICATION OF ABILITY AND WILLINGNESS:

- > If providing either a **Tier II Classification Submittal** or a **Tier II Extension Submittal**, the person who signs this certification **MUST** be the person named in **Section J**, or that person's agent.
- > If providing a **Tier II Transfer Submittal**, the person who signs this certification **MUST** be the person named in **Section M**, or that person's

I attest under the pains and penalties of perjury that (i) I/the person(s) or entity(ies) on whose behalf this submittal is made has/have personally examined and am/is familiar with the requirements of M.G.L. c. 21E and 310 CMR 40.0000; (ii) based upon my inquiry of the/those Licensed Site Professional(s) employed or engaged to render Professional Services for the disposal site which is the subject of this Transmittal Form and of the person(s) or entity(ies) on whose behalf this submittal is made, and my/that person's(s') or entity's(ies') understanding as to the estimated costs of necessary response actions, that/those person(s) or entity(ies) has/have the technical, financial and legal ability to proceed with response actions for such site in accordance with M.G.L. c. 21E, 310 CMR 40.0000 and other applicable requirements; and (iii) that I am fully authorized to make this attestation on behalf of the person(s) or entity(ies) legally responsible for this submittal. I/the person(s) or entity(ies) on whose behalf this submittal is made is aware of the requirements in 310 CMR 40.0172 for notifying the Department in the event that I/the person(s) or entity(ies) on whose behalf this submittal is made learn(s) that it/they is/are unable to proceed with the necessary response actions.

By: _____ Title: _____
(signature)

For _____ Date: _____
: (print name of person or entity recorded in Section J or M, as appropriate)

If you are submitting either a Tier II Extension Submittal for a Waiver Site or a Tier II Transfer Submittal for a Waiver Site, you may choose to sign the alternative Ability and Willingness Certification found in Section H in place of providing the certification in Section G and the LSP Opinion in Section I.

H. ALTERNATIVE CERTIFICATION OF ABILITY AND WILLINGNESS:

- > If providing a **Tier II Extension Submittal for a Waiver Site**, the person who signs this certification **MUST** be the person named in **Section J**, or that person's agent
- > If providing a **Tier II Transfer Submittal for a Waiver Site**, the person who signs this certification **MUST** be the person named in **Section M**, or

I attest under the pains and penalties of perjury that (i) I/the person(s) or entity(ies) on whose behalf this submittal is made has/have personally examined and am/is familiar with the requirements of M.G.L. c. 21E and 310 CMR 40.0000; (ii) based upon my inquiry of the Consultant-of-Record for the disposal site which is the subject of this Transmittal Form and of the person(s) or entity(ies) on whose behalf this submittal is made, and my/that person's(s') or entity's(ies') understanding as to the estimated costs of necessary response actions, that/those person(s) or entity(ies) has/have the technical, financial and legal ability to proceed with response actions for such site in accordance with M.G.L. c. 21E, 310 CMR 40.0000 and other applicable requirements; and (iii) that I am fully authorized to make this attestation on behalf of the person(s) or entity(ies) legally responsible for this submittal. I/the person(s) or entity(ies) on whose behalf this submittal is made is aware of the requirements in 310 CMR 40.0172 for notifying the Department in the event that I/the person(s) or entity(ies) on whose behalf this submittal is made learn(s) that it/they is/are unable to proceed with the necessary response actions.

By: _____ Title: _____
(signature)

For _____ Date: _____
: (print name of person or entity recorded in Section J or M, as appropriate)

I. LSP OPINION:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and (iii) the provisions of 309 CMR 4.03(5), to the best of my knowledge, information and belief,

> if **Section B** of this form indicates that a **Tier I or Tier II Classification Submittal** which relies upon a previously submitted **Phase I Completion Statement** is being submitted, this Tier Classification Submittal has been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000;

> if **Section B** of this form indicates that a **Phase I Completion Statement** or a **Tier I or Tier II Classification Submittal** which does not rely upon a previously submitted **Phase I Completion Statement** is being submitted, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

SECTION I IS CONTINUED ON THE NEXT PAGE



**TIER CLASSIFICATION, TIER II EXTENSION &
TIER II TRANSFER TRANSMITTAL FORM**

Release Tracking
Number

3 - 18126

Pursuant to 310 CMR 40.0510 and 40.0560 (Subpart E)

I. LSP OPINION: (continued)

> if Section B of this form indicates that a **Tier II Extension Submittal** or a **Tier II Transfer Submittal** is being submitted, the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

LSP Name: Elliot I. Steinbert LSP #: 9663 Stamp:

Telephone 617-886-7454 Ext: _____

FAX: 617-886-7754
(optional)

Signature: *Elliot I. Steinbert*

Date: 15 May 2001



J. PERSON MAKING SUBMITTAL: (For Transfer Submittals describe person currently undertaking response actions, not transferee)

Name of Organization: American Recycling, Inc. d/b/a John C. Tombarello & Sons

Name of Contact: Peter Prinz Title: President

Street: 207 Marston Street

City/Town: Lawrence State MA ZIP Code: 01841-0000

Telephone: 978-682-5226 Ext: _____ FAX: 978-686-6484
(optional)

K. RELATIONSHIP TO DISPOSAL SITE OF PERSON MAKING SUBMITTAL: (check one)

RP or PRP Specify Owner Operator Generator Transporter Other RP or PRP: _____

Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

Any Other Person Making Submittal Specify _____
Relationship: _____

L. CERTIFICATION OF PERSON MAKING SUBMITTAL:

I, Peter Prinz, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: *Peter Prinz* Title: President
(signature)

For American Recycling, Inc. d/b/a John C. Tombarello & Sons Date: _____
(print name of person or entity recorded in Section J)

Enter address of the person providing certification(s), including Ability and Willingness Certification where applicable, if different from address recorded in Section J:

Street: _____

City/Town: _____ State _____ ZIP Code: _____

Telephone: _____ Ext: _____ FAX: _____
(optional)

YOU MUST COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE, AND YOU MAY INCUR ADDITIONAL COMPLIANCE FEES.

ATTACHMENT I

**BWSC-107A
LSP OPINION**

Page 1 of 1

Response actions subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA:

- Request for Information (RFI) (RTN 3-16817), dated 2 December 1998. The RFI established an Interim Deadline of 22 January 1999 for providing information relative to environmental conditions on the property.
- Notice of Responsibility (NOR) & Interim Deadline (RTN 3-18126) dated 31 March 1999. The NOR established an Interim Deadline of 21 April 1999 for preparation of an IRA Plan to mitigate a potential Imminent Hazard.
- Notice of "Interim Deadline" RTN 3-18126, dated 12 July 1999. Issued by DEP to American Recycling of Mass., Inc., indicating the need to increase the height and clearly delineate the barbed wire fence.
- "Field NOR" RTN 3-18431, dated 21 June 1999. Issued by DEP to American Recycling of Mass., Inc. to remove drums of oil and sludge from baler/press area and assess potential releases.
- "Administrative Consent Order and Notice of Noncompliance ACOP-NE-009013-123 (ACOP)" executed between American Recycling of Mass., Inc. d/b/a John C. Tombarello & Sons and the DEP, dated 14 February 2001.

MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Waste Site Cleanup

NUMERICAL RANKING SYSTEM SCORESHEET
(310 CMR 40.1511)

CLASSIFICATION SUBMITTAL		DISPOSAL SITE SCORE					
Initial Submittal	Re-Classification	II	III	IV	V	VI	TOTAL
<input type="checkbox"/>	<input checked="" type="checkbox"/>	165	107	20	90	0	382

Disposal Site Tier Classification	I			II
Permit Category (Tier I Only)	A	B	C	

I. DISPOSAL SITE INFORMATION

DEP Release Tracking Number(s)	3-18126 3-18431	UTM Coordinates	N: 71° 08' 35"
DEP Disposal Site Number(s)			E: 42° 43' 09"

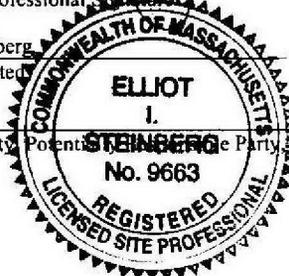
Disposal Site Name	American Recycling of Mass., Inc. d/b/a John C. Tombarello & Sons		
Disposal Site Address	207 Marston Street		
	City: Lawrence	Zip: 01841	

Is the Disposal Site classified Tier I because it is located within the boundaries of a Zone II or Interim Wellhead Protection Area and groundwater concentrations equal or exceed RCGW-1 at the time of Tier Classification pursuant to 310 CMR 40.0520(2)(a)1.?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Is the Disposal Site classified Tier I because an Imminent Hazard is present at the time of Tier Classification pursuant to 310 CMR 40.0520(2)(a)2.?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

I attest under the pains and penalties of perjury that I have personally completed this Numerical Ranking System Scoresheet, and have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this submittal, and in my professional opinion and judgment based upon: (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and (iii) the provisions of 309 CMR 4.03(5), to the best of my knowledge, information and belief, this Scoresheet was developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000. I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

Licensed Site Professional, Signature: *Elliot I. Steinberg* 9663 LSP Registration Number 15 May 2001 Date

LSP Name (Printed): Elliot I. Steinberg Haley & Aldrich, Inc. Company Name 617-886-7454 Telephone Number



Responsible Party, Potential Responsible Party, or Other Person who will provide certification in accordance with 310 CMR 40.0009.

II. EXPOSURE PATHWAYS

II. EXPOSURE PATHWAYS				
Score according to 40.1512 - Exposure Pathway Designation Criteria				
MEDIA	DESIGNATION			
	NONE or NOT APPLICABLE	EVIDENCE OF CONTAMINATION	POTENTIAL EXPOSURE PATHWAY	LIKELY OR CONFIRMED EXPOSURE PATHWAY
A. SOIL (Includes Sediment)	0	15	100	150
B. GROUNDWATER	0	20	100	150
C. SURFACE WATER (Includes Wetlands)	0	20	100	150
D. AIR	0	15	100	200

Note: Score only the highest value for each media, i.e., score None or Not Applicable or Evidence of Contamination or Potential Exposure Pathway or Likely or Confirmed Exposure Pathway.

II. (A - D) Summary Rationale for Section II A - D Values and Phase I Report References	
A.	OHM has been identified in soil at concentrations exceeding applicable RCs and staining is visible in certain locations on the soil's surface at the site. The property is surrounded by a fence, and infrared sensors are used to restrict access.
B.	OHM has not been identified in groundwater at concentrations exceeding the applicable RCs
C.	No data currently exists to indicate OHM attributable from the Site in the Merrimack River and there is not a reasonable likelihood that OHM from the Site will be identified in the Merrimack River. In addition, no pathway exists between OHM at the Site and the small stream located adjacent to the southeast corner of the Site.
D.	OHM has not been identified in air. It is not anticipated to be identified in air due to the low volatility of the compounds. However, the OHM is visible in certain locations on the soil's surface and there is a potential for the OHM to transfer into the air.

II.E. OHM SOURCES			
	1	2	≥ 3
Number of OHM Sources: Refuse metal recycling facility	0	25	50

SECTION II SCORE (A. + B. + C. + D. + E.)					
A.	B.	C.	D.	E.	TOTAL: (15 - 700)
100	0	0	15	50	165

Check here if Section VI has been used to amend the score for this Section of the NRS.

III. DISPOSAL SITE CHARACTERISTICS

III.A. OHM TOXICITY SCORE	
<i>Highest OHM Toxicity Score From Table III.A. or Worksheet III.A.1. on Following Pages.</i>	
OHM Scored: <u>Lead</u>	Toxicity Score (1 - 80)
Concentration and Media: <u>4,170 µg/g in soil</u>	<u>40</u>

III.B. MULTIPLE OHMs		
More Than One OHM With an OHM Toxicity Score of ≥ 30	No 0	Yes 30

III.C. OHM MOBILITY and PERSISTENCE	
<i>Score according to 40.1514 - OHM Mobility and Persistence</i>	
OHM Scored: <u>Lead: 4,170 µg/g in soil</u>	Score (0 - 50)
	<u>25</u>

III.D. DISPOSAL SITE HYDROGEOLOGY			
<i>Score according to 40.1515 - Soil Permeability</i>			
DEPTH TO GROUNDWATER (in feet)	SOIL PERMEABILITY		
	Low	Medium	High
> 25	2	4	8
10.1 - 25	4	8	12
5.1 - 10	8	12	16
0 - 5	12	16	20

SECTION III SCORE (A + B + C + D)				
A.	B.	C.	D.	TOTAL: (3 - 180)
<u>40</u>	<u>30</u>	<u>25</u>	<u>12</u>	<u>107</u>

Check here if Section VI has been used to amend the score for this Section of the NRS.	<input type="checkbox"/>
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Table III.A. OHM TOXICITY SCORE							
OHM	CONCENTRATION (soil/sediment: $\mu\text{g/g}$; surface/groundwater $\mu\text{g/l}$)						
	≤ 99	100 - 999	1,000 - 9,999	10,000 - 100,000	> 100,000 NAPL < 0.5"	NAPL 0.5" - 12"	NAPL > 12"
Aliphatics C5-C8	5	15	25	35	45	55	65
C9-C12	1	10	20	30	40	50	60
C13-C16	1	10	20	30	40	50	60
C17-C20	1	10	20	30	40	50	60
Arsenic	20	30	40	50	60		
Aromatics C9-C10	5	15	25	35	45	55	65
C11-C22	5	15	25	35	45	55	65
Benzene	15	25	35	45	55	65	75
Bis(2-ethylhexyl)phthalate	10	20	30	40	50	60	70
Cadmium	20	30	40	50	60		
Carbon Tetrachloride	20	30	40	50	60	70	80
Chlorobenzene	5	15	25	35	45	55	65
Chromium III	1	10	20	30	40		
Chromium VI	10	20	30	40	50		
Coal Tar	10	20	30	40	50	60	70
Cyanide	5	15	25	35	45		
1,1 Dichloroethane	10	20	30	40	50	60	70
1,2 Dichloroethane	10	20	30	40	50	60	70
Ethylbenzene	5	15	25	35	45	55	65
Ethylene Dibromide	20	30	40	50	60	70	80
#2 Fuel Oil (virgin product)	5	15	25	35	45	55	65
Gasoline (virgin product)	10	20	30	40	50	60	70
Lead	20	30	40	50	60		
Mercury	20	30	40	50	60	70	80
Methylene Chloride	10	20	30	40	50	60	70
Methyl Ethyl Ketone	1	10	20	30	40	50	60
Methyl Tertiary Butyl Ether	5	15	25	35	45	55	65
Nickel	5	15	25	35	45		

40.1511: continued

OHM TOXICITY SCORE							
OHM	CONCENTRATION (soil/sediment: $\mu\text{g/g}$; surface/groundwater $\mu\text{g/l}$)						
	≤ 99	100 - 999	1,000 - 9,999	10,000 - 100,000	> 100,000 NAPL < 0.5"	NAPL 0.5" - 12"	NAPL > 12"
Phenol	1	10	20	30	40	50	60
PAHs	10	20	30	40	50	60	70
PCBs	10	20	30	40	50	60	70
Tetrachloroethylene	10	20	30	40	50	60	70
1,1,1 Trichloroethane	5	15	25	35	45	55	65
Vinyl Chloride	15	25	35	45	55	65	75
Zinc	1	10	20	30	40		

Use Worksheet III.A.1. to determine the OHM Toxicity Score for OHM not listed in Table III.A.
See 40.1513 for Human Health-Based Toxicity Values for each OHM.

Worksheet III.A.1							
OHM TOXICITY SCORE							
HUMAN HEALTH-BASED TOXICITY VALUE	CONCENTRATION						
	Use $\mu\text{g/g}$ for Soil and $\mu\text{g/l}$ for Surface Water and Groundwater						
	≤ 99	100 - 999	1,000 - 9,999	10,000 - 100,000	$> 100,000$ NAPL $< 0.5''$	NAPL 0.5" - 12"	NAPL $> 12''$
< 5	1	10	20	30	40	50	60
5 - 19	5	15	25	35	45	55	65
20 - 29	10	20	30	40	50	60	70
30 - 39	15	25	35	45	55	65	75
40 - 50	20	30	40	50	60	70	80

III.A.1. OHM and Concentrations Used in Section III.A.1.				
OHM	Human Health-Based Toxicity Value	Concentration (Soil - $\mu\text{g/g}$)	Concentration (Water - $\mu\text{g/l}$)	OHM Toxicity Score
1,1-Dichloroethene	28		9.2	10
1,2,4-Trimethylbenzene (Aromatic)		0.045	3.30	5
1,3,5-Trimethylbenzene (Aromatic)		0.035	2	5
Acenaphthene	8	7.8		5
Anthracene	4	36		1
Barium	8	552	177	15
Benzo(a)anthracene	28	72		10
Benzo(a)pyrene	44	44		20
Benzo(b)fluoranthene	28	61		10
Benzo(g,h,i)perylene (PAH)		69		10
Benzo(k)fluoranthene	28	53		10
Butylbenzylphthalate	20	0.372		10
Carbazole (Aromatic)		16		5
Chloroethane	25		13	10
Chrysene	28	84		10
Dibenzofuran	25	14		10
Fluoranthene	18	120		15
Fluorene	18	25.8		5

Indeno(1,2,3-cd)pyrene (PAH)		52		10
Naphthalene	18	5.43		5
Phenanthrene	25	143		20
Pyrene	18	141		15
Selenium	25	0.32		10
Silver	25	20.8		10
Trichlorofluoromethane	4	2.7		1

<i>III.C. OHM and Concentrations Used in Section III.C.</i>			
OHM	CONCENTRATION (Soil - $\mu\text{g/g}$)	OHM TOXICITY SCORE	MOBILITY SCORE
Arsenic	17.9	20	15
Benzo(a)pyrene	72	20	20
C9-C18 Aliphatics	2,400	20	20
C19-C36 Aliphatics	23,800	30	20
Cadmium	8.21	20	15
Lead	4,170	40	25
PCBs	92	20	20
Phenanthrene	143	20	15
TPH (#2 Fuel Oil)	9,090	25	10

IV. HUMAN POPULATION AND LAND USES

IV.A. HUMAN POPULATION				
Residential Population Within 1/4 Mile	None 0	1 - 99 5	100 - 999 10	≥ 1,000 15
Institutions Within 500 feet	None 0		One or More 10	
On-Site Workers	None 0	1 - 99 5	100 - 999 10	≥ 1,000 15

IV.B. AQUIFERS		
Sole Source Aquifer Name: _____	No 0	Yes 25
Potentially Productive Aquifer	No 0	Medium or High 15

IV.C. WATER USE					
Proximity of Disposal Site to Public Drinking Water Supply Source	Not Applicable (NA) 0			Zone A 20	Zone II, IWPA, or SW Intake ≤ 400' 50
Persons Served by Public Drinking Water Supply	NA 0	25 - 999 5	1,000 - 4,999 10	5,000 - 49,999 20	≥ 50,000 25
Private Water Supplies Within 500 Feet	None 0		Commercial Industrial 10	Agriculture Residential (Not Ingested) 15	Drinking Food Processing 25
Alternative Public Water Supply Available (Viable Public Water Supply in Disposal Site Community and Public Water Connection ≤ 500 Feet from Site)	Yes 0			No 25	

SECTION IV SCORE (A + B + C)			
A. 20	B. 0	C. 0	TOTAL: (0 - 205) 20

Check here if Section VI has been used to amend the score for this Section of the NRS.	<input type="checkbox"/>
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V. ECOLOGICAL POPULATION

V.A. ENVIRONMENTAL RESOURCE AREAS			
RESOURCE	LOCATION		
	> 500' from Site	≤ 500' from Site	On-Site
Area of Critical Environmental Concern	0	20	30
Species of Special Concern, Threatened or Endangered Species Habitat	0	On-Site or ≤ 500' from Habitat 30	
Wetlands, Certified Vernal Pool, or Outstanding Resource Water	0	20	30
Fish Habitat	0	20	30
Protected Open Space (Local/State/Federal/Trustee)	0	20	30

SCORE SECTION V.B. ONLY IF SECTION V.A. SCORE IS ≥ 30.

V.B. ENVIRONMENTAL TOXICITY SCORE	
<i>Highest Environmental Toxicity Score From Table V.B. or Worksheet V.B.1. on Following Pages.</i>	

OHM Scored: <u>Lead, PCBs, C19-C36 Aliphatics</u>	Toxicity Score (1 - 35)
Concentration and Media: <u>4,170 ug/g in soil, 92 ug/g in soil, 23,800 ug/g in soil, respectively</u>	<u>20</u>

SECTION V. SCORE (A. + B.)

A. <u>70</u>	B. <u>20</u>	TOTAL: (0 - 185) <u>90</u>
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Check here if Section VI has been used to amend the score for this Section of the NRS.	<input type="checkbox"/>
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Table V.B. ENVIRONMENTAL TOXICITY SCORE					
OHM	CONCENTRATION (soil/sediment: $\mu\text{g/g}$; surface/groundwater $\mu\text{g/l}$)				
	< 1	1 - 99	100 - 999	1,000 - 9,999	$\geq 10,000$
Arsenic	5	10	15	20	25
Benzene	0	1	5	10	15
Bis(2-ethylhexyl)phthalate *	5	10	15	20	25
Cadmium	10	15	20	25	30
Carbon Tetrachloride	0	1	5	10	15
Chlorobenzene *	5	10	15	20	25
Chromium III	1	5	10	15	20
Chromium VI	5	10	15	20	25
Coal Tar *	5	10	15	20	25
Cyanide	5	10	15	20	25
1,1 Dichloroethane *	5	10	15	20	25
1,2 Dichloroethane	0	1	5	10	15
Ethylbenzene	0	1	5	10	15
Ethylene Dibromide *	5	10	15	20	25
#2 Fuel Oil (virgin product) *	1	5	10	15	20
Gasoline (virgin product) *	5	10	15	20	25
Lead	5	10	15	20	25
Mercury	15	20	25	30	35
Methylene Chloride *	5	10	15	20	25
Methyl Ethyl Ketone *	5	10	15	20	25
Methyl Tert Butyl Ether *	1	5	10	15	20
Nickel	1	5	10	15	20
Phenol	0	1	5	10	15
PAHs *	5	10	15	20	25
PCBs	15	20	25	30	35
Tetrachloroethylene	0	1	5	10	15
Toluene	0	1	5	10	15
1,1,1 Trichloroethane	0	1	5	10	15
Trichloroethylene	0	1	5	10	15
Vinyl Chloride *	5	10	15	20	25
Xylenes *	5	10	15	20	25
Zinc	1	5	10	15	20

* Scores derived by default methods 40.1516(2).

Use Worksheet V.B.1. to determine Environmental Toxicity Scores for OHM not listed in Table V.B.
See 40.1516 for Environmental Toxicity Values for each OHM.

Worksheet V.B.1 ENVIRONMENTAL TOXICITY SCORE					
ENVIRONMENTAL TOXICITY VALUE	CONCENTRATION				
	Use $\mu\text{g/g}$ for Soil and $\mu\text{g/l}$ for Surface Water or Groundwater				
	< 1	1 - 99	100 - 999	1,000 - 9,900	$\geq 10,000$
10	0	1	5	10	15
20	1	5	10	15	20
30	5	10	15	20	25
40	10	15	20	25	30
50	15	20	25	30	35

V.B.1. OHM and Concentrations Used in Section V.B.1.				
OHM	Environmental Toxicity Value	Concentration (Soil - $\mu\text{g/g}$)	Concentration (Water - $\mu\text{g/l}$)	Environmental Toxicity Score
1,1-Dichloroethene	10		9.2	1
1,2,4-Trimethylbenzene (Aromatic)	30	0.045	3.30	10
1,3,5-Trimethylbenzene (Aromatic)	30	0.035	2	10
Acenaphthene	20	19.4		5
Anthracene (PAH)		36		10
Barium (Metal)	20	552	177	10
Benzo(a)anthracene (PAH)		72		10
Benzo(a)pyrene (PAH)		44		10
Benzo(b)fluoranthene (PAH)		61		10
Benzo(g,h,i)perylene (PAH)		69		10
Benzo(k)fluoranthene (PAH)		53		10
Butylbenzylphthalate (Ester)	40	0.372		10
C11-C22 Aromatics	30	620		15
C19-C36 Aliphatics (Alkanes)	20	23,800		20
C9-C18 Aliphatics (Alkanes)	20	2,400		15
C5-C8 Aliphatics (Alkanes)	20	0.51		1
C9-C10 Aromatics	30	8.1		10
C9-C12 Aliphatics (Alkanes)	20	2.7		5

Carbazole (Aromatic)	30	16		10
Chloroethane (Halogenated Hydrocarbon)	30		13	10
Chrysene (PAH)		84		10
Dibenzofuran (Aromatic)	30	14		10
Dichlorodifluoromethane (Halogenated Hydrocarbon)	30		17	10
Cis-1,2-Dichloroethene (Halogenated Hydrocarbon)	30		9	10
Fluoranthene	20	120		10
Fluorene (PAH)		25.8		10
Indeno(1,2,3-cd)pyrene (PAH)		52		10
Naphthalene	20	5.43	4.1	5
Phenanthrene	30	143		15
Pyrene (PAH)		141		15
Selenium	30	0.32		10
Silver	40	20.8		15
Trichlorofluoromethane (Halogenated Hydrocarbon)	30	2.7		10

