

# LIMITED SITE DATA REPORT

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## BENGART AND MEMEL SITE NYSDEC SITE NO. 9-15-115 BUFFALO (C), ERIE COUNTY

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Prepared By:

NYSDEC REGION 9  
DIVISION of ENVIRONMENTAL REMEDIATION  
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MARCH 2009

David A. Paterson, Governor

Alexander B. Grannis, Commissioner

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This document is NOT part of the contract documents for the remediation of the Bengart and Memel Site. The NYSDEC neither represents that the characteristics of the materials at the site will be the same as in the attached documents nor considers the attached document as being comprehensive and actual listing of contaminants which may be detected at the site. The CONTRACTOR shall be responsible for the accurate and comprehensive characterization of materials to be properly handled, removed, transported and disposed of as part of the remediation work at the site.

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# **Attachment 1**

## **Limited Site Investigation**

**NYSDEC, March 2007**

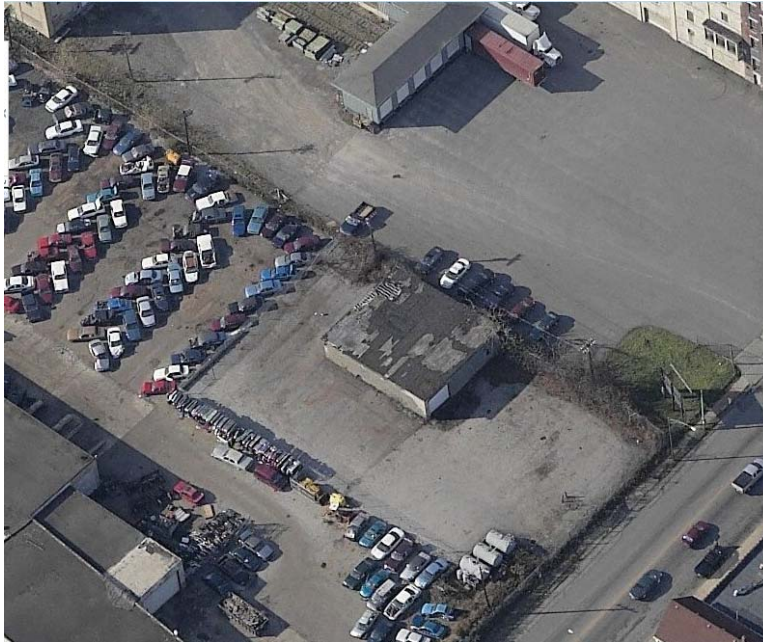
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# SITE INVESTIGATION REPORT

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## BENGART AND MEMEL SITE NYSDEC SITE NO. 9-15-115 BUFFALO (C), ERIE COUNTY

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March 2007

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# **SECTION 1 INTRODUCTION**

## **1.1 PURPOSE**

The following represents a summary of a recent limited site investigation to assess the site for potential residual polychlorinated biphenyls (PCB) levels at the site, and assess the ongoing need to maintain an active groundwater collection and treatment system at the site.

## **1.2 OBJECTIVES**

A focused limited site investigation was performed in mid 2006 at the former Bengart & Memel, Inc. (B&M) site, in the City of Buffalo (see Figure 1), to assess the presence of residual PCBs in soil and groundwater at the site. Additional parameters were evaluated to assess if there are any other chemicals of concern, either residual or from subsequent operations at the site. The investigation was limited to the site as defined as 1079 Clinton St. (99.75 ft by 180 ft. parcel, SBL # 112.77-4-2.1 as indicated on Figures 2 and 3, and herein identified as Lot 2.1). The results of this investigation will be used to assess the need for continued operation and maintenance of the shallow groundwater treatment system or development and implementation of a more comprehensive site remediation so as to eliminate the need for the groundwater collection and treatment system at Lot 2.1.

## **1.3 BACKGROUND INFORMATION**

According to record information for the site, the site (primarily Lot 2.1) was previously remediated by the respondent through a combination of an experimental soil treatment process to treat soil with PCB concentrations in excess of 50 parts per million (ppm) and select removal of soil with PCB concentrations greater than 50 ppm, and installation of a shallow groundwater collection and treatment system to collect and treat groundwater for the removal of PCBs in the shallow groundwater horizon. According to documentation of the PCB cleanup conducted in the mid 1980s, PCB residual levels in site soil and fill are reportedly less than 50 ppm. As part of the planned remediation of the site, the residual PCBs in the soil remain in the soil and groundwater. A groundwater collection and treatment system was installed by the respondent as part of the remediation plan to address the potential migration of residual PCBs in the shallow groundwater. The areas containing the residual PCBs received an asphalt cap system. The remediation of the site by the respondent occur from 1985 to 1986. Following the completion of the planned remediation work and submittal of required documentation, the site was reclassified for a Class 2 site to a Class 4 site in 1987.

The area (Lot 2.1) remediated by the respondent under the Order on Consent (Order) consists of the asphalt capped area, stormwater management and treatment, and groundwater treatment system. The elevation of the asphalt capped is sloped to allow drainage of surface water to a stormdrain in the capped area which is connected to an oil/water separator which drains into the Buffalo Sewer Authority (BSA) combined sewer on Clinton Street. The oil/water separator serves as a treatment device for stormwater runoff from the asphalt capped area. The

groundwater water collection and treatment system consists of a shallow groundwater interceptor trench along the northern and western perimeter of Lot 2.1. The interceptor trench extends onto Lot 2.2. The interceptor trench contains a 6-inch PVC drainpipe that directs intercepted groundwater to a sump. The sump originally contained a submersible pump which pumped collected water to a series of two storage tanks for temporary storage. The water in the tanks batch treated by pumping stored water through two carbon adsorption vessels to remove residual PCBs. The treated water was stored in a third tank for sampling prior to discharge to the BSA combined sewer. The treatment system is located on a concrete containment pad that straddles Lots 2.1 and 2.2. The treatment system is exposed to the elements and none of the system piping and pumps are insulated for cold weather operation.

The elevation of the asphalt capped area is above the elevation of the adjoining roadway right-of-way and sidewalk along Clinton Street by approximately 2 to 3 feet. The abrupt change in elevation from the side walk to the asphalt cap area forms an embankment (see Figure 3 for embankment limits). The embankment features varies, and in some sections consists of several courses of railroad ties stacked to form a low retaining wall. The retaining wall is in poor condition. Exposed soils are at the base and above the top of railroad ties retaining wall. There is no protection from or isolation of PCBs that may be present in surface soils or shallow groundwater that could potentially seep from the embankment.

Currently, the shallow ground water treatment system is not functional, and has not been in operation for a number of years. Documentation on the non-functional status dates back as early as 2001. The collection and treatment system requires major repair/replacement to be operational. Because the groundwater collection and treatment system is not operational, it was uncertain if residual PCBs at the site are currently being released to the environment, especially along the embankment adjacent to the public right-of-way and roadway (Clinton Street). Several attempts were made by the NYSDEC Division of Environmental Remediation (DER) to have the respondent repair the collection and treatment system, and place it back into operation.

As a result of the non-responsiveness from both the respondent and current owner of record, the Division of Environmental Enforcement (DEE) issued a referral in 2005 to DER to take required action at the site. DER has undertaken this investigation as part of the referral action. The investigation data will be used to assess residual PCB levels in the soil and groundwater in Lot 2.1, and assess the need for continued operation and maintenance of the shallow groundwater treatment system or development and implementation of a more comprehensive site remediation so as to eliminate the need for the groundwater collection and treatment system.

#### **1.4 SITE HISTORY**

A detailed description of the historical operations at the site is contained in the Order on Consent (Order) dated January 13, 1982. The site subject to the order is not explicit. However, review of the Order and reference to the deed contained in the Order implies that the Order only applies to a portion the industrial site solely owned by the respondent. The portion of the industrial site solely owned by the respondent at the time of the Order was executed was Lot 2.1. The Bengart and Memel business operations included the use of Lot 2.1 and a larger adjoining lot (identified as Lot 2.2). Lots 2.1 and 2.2 were part of a single lot which were subsequently subdivided and separately sold by the respondent. Lot 2.2 was sold to 1091 Clinton, Inc. in 1986 after the Order, and has been sold on two occasions since. Lot 2.1 subsequently sold by the

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respondent to 1091 Clinton Inc. in 1989 after execution of the Order. The respondent and the current owner of the site (1091 Clinton, Inc.) has not maintained the cap system and groundwater collection and treatment system at the site.

The site is located in an urban commercial area on the south side of Clinton St. in Buffalo (C), Erie Co., NY. approximately 1/4 mile east of the Fillmore Ave. intersection (see Figure 1). The surrounding land use is a mix of commercial and warehousing operations on the southern side of Clinton St. with residential and commercial on the north side of Clinton St. The southern end of the site is bounded by railroad lines.

The Order involved the achieving regulatory compliance for PCB waste management, modifying an existing collection and treatment system, developing and implementing a remediation plan to treat/remove PCB's above 50 ppm. The site was characterized by several previous investigations as one contiguous lot currently identified as lots SBL #112.77-4-2.1 (Lot 2.1) and 112.77-4-2.2 (Lot 2.2)(see Figure 2). According to the investigation performed at that time, PCB contamination was reportedly confined to lot 2.1 (current address of record is 1079 Clinton St.). At the time of the original investigation, the main site features of the single contiguous lot and contained two concrete block buildings. The balance of land was previously used for non-ferrous scrap metal stockpiling and sorting, and employee parking.

Prior to signing of the Order On Consent in 1982, Lot 2.2 (current address of record is 1091 Clinton St.) containing the larger sprawling building was subdivided and sold. Lot 2.2 was sold several times since the issuance of the Order On Consent, and is currently being utilized by an automobile wrecking operation (Clinton Auto Wrecking, Inc.). The remaining portion of the subdivided site (Lot 2.1) containing a smaller concrete block building and remediation measures remains idle. The 1079 Clinton Street address was subsequently assigned to Lot 2.1.

During B&M operations, scrap metal was processed and sorted. B&M periodically received transformers and capacitors containing PCB oils. According to historic file information, these operations were primarily limited to the northwest portion of the site (Lot 2.1) where PCB contamination was principally detected. The PCB containing oils were spilled on this portion of the site contaminating the soil and shallow groundwater. Runoff from spills containing PCB contaminated oils reached the offsite BSA combined sewer system on Clinton Street. PCB contamination of the combined sewer system was discovered by the BSA, which subsequently prompted the investigation of the B&M site, which ultimately culminated in a Order on Consent from the NYSDEC to remediate the PCBs on the site.

The eventual remediation of Lot 2.1 involved a USEPA demonstration project to reduce PCB contaminant levels in soils at the site to below 50 ppm using a proprietary chemical treatment process. The demonstration remediation project consisted of excavation of PCB contaminated soil characterized in excess of 50 ppm, placement in drums for chemical treatment to reduce PCB levels below 50 ppm, and finally placing treated soils back onto the site. The demonstration project also included in-situ trials in reducing the PCB levels in the soil. The demonstration project was initiated during the summer of 1985 was deemed complete by the consultant in October, 1986.

Since PCB's in soils were not removed, but reportedly reduced to levels below 50 ppm, a shallow groundwater collection system was installed to intercept PCB's that could potentially migrate along the shallow groundwater horizon. Impacted groundwater collected by the

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collection system was batch treated by carbon adsorption prior to discharge to the City of Buffalo combined sewer system. The PCB contaminated area was paved with an asphalt cover to preclude contact with soil contaminated with residual PCBs (less than 50 ppm) and reduce infiltration of surface water to limit the generation of PCB contaminated groundwater. The asphalt cover was equipped with surface drains to capture and treat surface water via an oil water separator prior to discharge to the sanitary sewer. Refer to Figure 3 for the features described above.

Following the completion of the soil treatment and installation of the groundwater collection and treatment system, the site subject to the Order was reclassified to a Class 4 site in December, 1987.

The groundwater collection and treatment system was operated by the respondent for a number of years. During a 2001 inspection, the system was found to be non-functional. The current treatment system has major design and operation flaws including a non-automated batch operation system design which requires manual control operation in order for the system to operate and no freeze protection which resulted in operational shutdown during freezing winter months.

Several attempts were made by the NYSDEC to have the respondent repair the treatment system and place it back in operation. All attempts by the NYSDEC to have the respondent and/or current owner of record place the system back in operation have not been successful. The respondent and current owner of record have both failed to respond to DER requests and inquiries.

## **1.5 REPORT ORGANIZATION**

The report is organized into eight sections and ten appendices:

- Section 1 includes the introduction and project background;
- Section 2 describes the scope of the site investigation;
- Section 3 presents a summary of the site investigation results;
- Section 4 presents conclusions of the site investigation.

Appendices A and B contain field data logs and lab data, respectively.

## **SECTION 2**

### **SCOPE OF INVESTIGATION**

#### **2.1 SUBSURFACE SOIL INVESTIGATION**

To assess residual PCBs in the site soils as well as other Target Compound List (TCL) compounds and hazardous waste characteristics, approximately 19 soil borings were advanced inside the site fence limits using direct push boring equipment (Geoprobe) to obtain soil samples of fill and native soils (approximately 4 to 8 feet). The boreholes were spaced to provide representative coverage across the parcel and below the building (see Figure 4). Soil cores were retrieved and examined by NYSDEC DER employees. Visual and/or olfactory evidence of contamination was also screened and recorded. Soil sampling and logging was performed in accordance with NYSDEC investigation Standard Operating Procedures (SOPs). Soil samples were collected at the discrete zone consisting of fill. The native soil zone consists of a dense clay layer. Due to previous investigation results showing little to no contamination in the native soil, and lack of visual indication of contamination, the native soil zone was not sampled or characterized for PCB contamination.

To assess PCB contamination in and below a dilapidated structure on the parcel that was historically used for drum storage containing PCB contaminated fluids, four additional borings were advanced inside the existing building on the site using tripod soil sampling arrangement (see Figure 4). The concrete floor of the building was core drilled to simplify sampling of subsurface soils. Subsurface samples below the structure building slab were subsequently collected. Additionally four wipe samples of the concrete flooring were also collected to assess the presence of PCB contamination in the building slab (see Figure 4). Wipe sampling were performed in accordance with the EPA protocols established for assessing surface contamination.

#### **2.2 GROUNDWATER EVALUATION**

To assess groundwater residual levels at the site, two of the borings that revealed the potential to yield groundwater were converted to one-inch diameter micro monitoring wellpoints (see Figure 4). Wellpoints were installed at borings B-5 and B-19. Following the installation of the wellpoints, the wellpoints were developed using appropriate well development methods. The wellpoint installation and well development were performed in accordance with NYSDEC SOPs. Groundwater recovery following purging was slow, and it was difficult to collect the required volume of water for chemical analysis.

Following the construction of the wellpoints, groundwater was allowed to stabilize in the wellpoints. Before purging the wellpoints for groundwater sampling, the depth to ground water was measured. At the time of measurement in May 2006, the static groundwater elevation at each wellpoint was shallow. Approximate depths for groundwater were 0.8 feet below ground surface (BGS) at MW B-19 and 1.4 ft. BGS at MW B-5. The groundwater is likely perched water laying in the fill above the native dense clay layer. With groundwater this shallow at the site, the groundwater levels would be above grade level along the low embankment at the northern perimeter adjacent to Clinton Street. No noticeable seeps along the embankment at the edge of the capped fill area were observed.

## 2.3 SURFICIAL INVESTIGATION

Surficial soil and water samples were collected to assess the presence of PCBs in surface soils near the perimeter of the site along Clinton Street and adjoining property to the west, and PCB levels in the accessible groundwater collection and treatment system components. Soil and sediment samples were initially collected from 11 sample locations at the site. Surface water samples were collected at three locations at the site. Surficial sampling locations are indicated on Figure 4.

In response to elevated PCB levels in surficial sample in the initial round of surficial sampling and analysis, an additional round of surficial soil samples were collected at six additional locations at the site to further delineate surficial soil contamination. Following the receipt of the second round of sampling, eight additional surficial sample locations on adjoining properties were sampled. These samples were located to the north of the site (Laub International warehouse) and to the south of the site (Clinton Auto Wrecking). These surficial sampling locations are also indicated on Figure 4.

## 2.4 ANALYTICAL PROGRAM

Fill and soil samples from each borehole were collected for analysis of TCL PCBs only (EPA Method 8082). Depending on volatile organic vapor screening results, samples exhibiting elevated volatile organic compound (VOC) headspace sampling results and/or odors were analyzed for TCL VOCs (EPA Method 8260) and/or TCL SVOCs (EPA Method 8270). Soil samples were composited by area (see Figure 3) into two composite samples and analyzed for the following:

- TCL Semi-volatile organic compounds (SVOCs) (EPA Method 8270),
- Total RCRA metals (EPA 6000/7000 Method Series),
- Toxic Characteristic Leaching Procedure (TCLP) metals (EPA Method 1311 and 6000/7000 Method Series),
- Corrosivity (EPA Method 9045), and
- Flashpoint (EPA Method 1010).

Soil samples collected for chemical analysis were collected in accordance with NYSDEC SOPs.

Borehole cuttings were used for sampling. Because of the limited amount of soil cuttings that were obtained, nominal surplus soils were generated. The surplus soils were placed onto a tarp and stored inside the building for storage for subsequent appropriate disposition.

Groundwater samples from developed wellpoints were collected and analyzed for TCL VOCs (EPA Method 8260), TCL SVOCs (EPA Method 8270), TCL Metals (EPA Method 6000/7000 series) and TCL PCB's (EPA Method 8082) on unfiltered samples only. The well points did not produce sufficient quantity of water needed for filtered samples. Water collected from the wells was relatively free of turbidity, precluding the need for filtering of the samples.

Purgewater from well development and sampling was placed in a 5 gallon bucket with lid. The buckets was placed in the onsite building for subsequent appropriate disposition.



## **SECTION 3 INVESTIGATION RESULTS**

### **3.1 SUBSURFACE SOIL INVESTIGATION**

The results of the subsurface soil investigation are as followed. The area subject to the subsurface investigation consisted mainly of advancing 18 borings (B-2 thru B-18) in paved areas within Lot 2.1, one boring in an unpaved area adjacent to the treatment system containment pad (B-1), and four borings inside the dilapidated structure (B-21 thru B-24). The boring locations are indicated on Figure 4. Sample results in excess of recommended soil cleanup objectives and hazardous waste levels for PCBs are identified on Figure 5. Respective boring logs are contained in Appendix A.

#### **3.1.1 Asphalt Cap Area and Balance of Asphalt Paved Areas**

The lithology of the paved areas generally consist of an asphalt layer of varying thickness, a gravel base of varying thickness, fill consisting of various native and fill materials of varying thickness, and finally native soil consisting of a dense, firm brown clay. The borings were generally advanced to the native soil horizon. The asphalt varied by area with two distinct areas. The area generally between the dilapidated building and Clinton St. exhibited a thicker section consisting of a topcourse and base course. This area was, based upon a review of the site records, was subject to the PCB remediation efforts. The remediation measure included asphalt capping as part of the Consent Order agreement. This area is here referred to as the asphalt capped area. The field measured thickness of this material did not conform to the proposed asphalt cap presented in the remediation drawings as part of the Consent Order remediation. The asphalt cap was not as thick as specified in the approved remediation plans. The balance of the paved area not subject to the cleanup action consisted mainly of a binder course and was not as thick as the asphalt capped area of the lot.

#### **3.1.2 Gras Area Adjacent to the Groundwater Treatment System**

Boring B-1 was advance in a grassy area adjacent to the Groundwater Treatment System and Asphalt Cap Area. The boring profile included a topsoil layer followed by fill layer consisting of slag over the native stiff, brown clay. The fill extended to 2 feet below the surface. Fill materials from this boring was sampled for PCB analysis. The fill sample from B-1 exceeds the TAGM 4046 total PCB subsurface cleanup level of 10,000 ppb (12,000 ppb for total PCB's). PCB results are presented in Table 1. The sampling location with the elevated level of PCBs is indicated on Figure 5.

#### **3.1.3 Asphalt Cap Area Subsurface Soil**

The fill in the respective asphalt areas varied in thickness, material and contamination based upon visual, olfactory and field measurement of volatile organic vapors. The fill in the asphalt cap area (B-2 thru B-13) varied considerably and consisted of varying amounts of imported granular fill, concrete and brick rubble, slag, foundry sand (probable), glass and wood debris. Much of this material exhibited dark, black staining and odors associated with undefined volatile and semi-volatile organic substances. The depth of fill generally varied from two to three feet below ground surface. Several borings exhibited fill up to five feet in depth below ground surface.

Fill materials from each boring were sampled for PCB analysis. Fill samples from B-4, B-5, B-6, B-9, and B-10 exceed the TAGM 4046 total PCB subsurface cleanup level of 10,000 ppb (11,000 to 37,200 ppb for total PCB's). Fill samples from B-7, and B-9 exceed the total PCB hazardous waste characteristic level of 50,000 ppb (70,600 and 69,000 ppb respectively). PCB results are presented in Table 1. The sampling locations with the elevated levels of PCBs are indicated on Figure 5.

Additional samples from the asphalt cap area were collected for VOC analysis. Samples were collected from B-6 and B-13 because of odors and headspace readings. None of the soil fill samples from this area exhibited VOC values above TAGM 4046. VOC results are presented in Table 2.

A composite soil sample from the asphalt cap area (Composite Sample A) was collected and analyzed for SVOCs, Metals and Hazardous Waste Characteristics. The composite sample exceeded SVOC TAGM 4046 levels for benzo(a)anthracene(4,600 ppb), benzo(a)pyrene (3,900 ppb), benzo(k)flouranthene (1,600 ppb) and chrysene (4100 ppb). The composite sample also exceeded total metal TAGM 4046 for arsenic (8.6ppm) , cadmium(3.4 ppm), chromium (26 ppm), and mercury (1.3 ppm). The composite sample did not exceed hazardous waste characteristics for TCLP metals, pH, and flashpoint. Results for SVOCs are presented in Table 3, and metal and hazardous characteristic results are presented in Table 4.

### **3.1.5 Asphalt Cap Area Groundwater**

Boring B-5 was the only boring in the asphalt cap area that appeared to contain any appreciable amount of water in the boring. Boring B-5 was converted to a one-inch diameter micro-monitoring well. See Appendix B for the monitoring well construction log. Groundwater from wellpoint B-5 was sampled and analyzed for PCBs, and VOCs. The results for PCBs reveal the total PCB level (28 ppb) is above groundwater standards for total PCBs. PCB results for groundwater are presented in Table 5. The results for VOCs reveal 1,3-dichlorobenzene and 1,4-dichlorobenzene are slightly above groundwater standards for these compounds. VOC results are presented in Table 6.

### **3.1.5 Balance of Asphalt Paved Area Subsurface Soil**

The fill in the balance of asphalt paved area (B-14 thru B-20) varied and consisted of varying amounts of concrete and brick rubble, slag, foundry sand (probable), glass and wood debris. Much of this material exhibited dark, black staining and some with odors associated with undefined volatile and semi-volatile organic substances. The depth of fill generally varied from two to three feet below ground surface. Several borings exhibited fill up to five feet in depth below ground surface.

Fill materials from each boring were sampled for PCB analysis. Fill samples from B-18 and B-19 exceed the total PCB TAGM 4046 subsurface cleanup level of 10,000 ppb (26,900 and 19,000 ppb for total PCB's, respectively). Fill sample from B-16 exceeded the total PCB hazardous waste characteristic level of 50,000 ppb (52,000 ppb). PCB results are presented in Table 1. The sampling locations with the elevated levels of PCBs are indicated on Figure 5.

Additional samples from the asphalt cap area were collected for VOC analysis. Samples were collected from B-14, B-17 and B-19 because of odors and elevated VOC headspace readings.

Fill from B-19 was saturated with water/liquid and exhibited strong VOC/SVOC odors. The liquid contained a visible sheen. Fill soil sample from this area exhibited values above TAGM 4046. B-14 just exceeded the TAGM level for acetone (likely lab contaminant). B-19 exceeded TAGM 4046 levels for 1,2,4-trichlorobenzene (18,000 ppb), 1,3-dichlorobenzene (25,000 ppb), 1,4-dichlorobenzene (110,000 ppb), benzene (200 ppb), carbon tetrachloride (26,000 ppb) and total VOCs (182,890 ppb). VOC results are presented in Table 2.

A composite soil sample from the balance of the asphalt paved area (Composite Sample B) was collected and analyzed for SVOCS, Metals and Hazardous Waste Characteristics. The composite sample exceeded SVOC TAGM 4046 levels for benzo(a)anthracene (4,900 ppm), benzo(a)pyrene (4,200 ppm), benzo(k)fluoranthene (1,600 ppm), chrysene (4100 ppb), and dibenzo(a,h)anthracene (890 ppb). The composite sample also exceeded total metal TAGM 4046 for arsenic (41.6 ppm), barium (388 ppm), cadmium (6.9 ppm), chromium (1090 ppm), lead (1,200 ppm), mercury (1.3 ppm), and selenium (13.2 ppm). The composite sample did not exceed hazardous waste characteristics for TCLP metals, pH, and flashpoint. Results for SVOCs are presented in Table 3, and metal and hazardous characteristic results are presented in Table 4.

### **3.1.6 Balance of Asphalt Paved Area Groundwater**

Boring B-19 was the only boring in the balance of asphalt paved area that appeared to contain any appreciable amount of water in the boring. Boring B-19 was converted to a one-inch diameter micro-monitoring well. See Appendix A for the monitoring well construction log. Development of the wellpoint B-19 yielded a considerable amount of probable non aqueous phase liquid (NAPL) due to its color, viscosity and odor. Groundwater from wellpoint B-19 was sampled and analyzed for PCB's, VOCs, SVOCS, and metals. The results reveal the total PCB level (130 ppb total) is above the groundwater standard for total PCBs. The SVOC results only reveal naphthalene (130 ppb) above the groundwater standard. PCB and SVOC results for groundwater are presented in Table 5. The results for VOCs reveal 1,4-dichlorobenzene, benzene and chlorobenzene are slightly above groundwater standards for these compounds. The metal results did not reveal any parameters above groundwater standards. VOC and metal results are presented in Table 6. The VOC and SVOC results appear to be lower than expected given the amount of probable NAPL that was purged from the wellpoint during well development.

### **3.1.7 Building Area**

The subsurface area of the building was characterized by advancing borings B-21 thru B-24. The lithology of the building area generally consists of a six-inch reinforced concrete floor slab, a subbase of varying thickness consisting of slag and cinder, and finally native soil consisting of a dense, firm brown clay. The borings were generally advanced to the native soil horizon. The depth of fill in this area generally varied from two to three feet below ground surface. Based upon the review of the remediation documentation, no PCB remediation efforts were implemented for this area as part of the Consent Order agreement.

The fill below the building floor area was similar in thickness and composition. The fill material exhibited contamination based upon visual, olfactory and field measurement of volatile organic vapors. Much of this material exhibited dark, black staining and odors associated with undefined volatile or semi-volatile organic substances. Fill materials from each boring were sampled for PCB analysis. Fill samples from B-21 exceeded the total PCB hazardous waste

characteristic level of 50,000 ppb (334,000 ppb). PCB results are presented in Table 1. The sampling locations with the elevated levels of PCBs are indicated on Figure 5.

Additional samples were collected for VOC analysis from B-21, B-22, and B-23 because of odors and headspace readings. None of the soil fill samples from this area exhibited VOC values above TAGM 4046. VOC results are presented in Table 2. An additional fill soil sample from B-22 was collected for SVOC and metals analysis, and hazardous waste characterization. The sample results exceeded SVOC TAGM 4046 levels for benzo(a)anthracene(2,100 ppb), benzo(a)pyrene (1,700 ppb), benzo(b)fluoranthene (2,700 ppb), benzo(k)fluoranthene (2,700 ppb), chrysene (1,900 ppb), and dibenzo(a,h)anthracene (360 ppm). Results for SVOCs are presented in Table 3. The sample only exceeded hazardous waste characteristics for one of TCLP metals (barium at 830 ppm). However, this value is estimated and it appears anomalous to the sample in that this element was below detection limit for the total element. The metal and hazardous characteristic results are presented in Table 4.

### **3.2 SURFACE INVESTIGATION**

Surface soil, sediment and water samples were collected from a total of 22 sampling points. An initial round of eight sampling points were sampled. Because of some elevated PCB levels found in an initial round of surface and sediment sampling, additional surface samples were collected from Lot 2.1. An additional sample consisting of a composite from floor dust inside the building was collected during this effort. Wipe samples were also collected from the concrete floor in the dilapidated building to assess the presence of PCBs in the floor surface. Following the receipt of the additional surface sampling results, eight additional surface sample points were sampled at offsite locations adjacent to Lot 2.1. Refer to Figure 4 for sampling locations.

#### **3.2.1 Surface Soil and Sediments**

The results from surface and sediment sample locations at the asphalt cap area drop inlet (8), outside fence at the northeast section of the lot (5), outside fence at the northwest section of the site (7), near the oil water separator manhole (4), tank containment pad sediment (2), lot edge at southwest corner (14), north fence gate (12), soil east of the tank containment pad (13 and 22), and Laub property (15 and 20) reveal PCB levels at and above TAGM 4046 surface cleanup level of 1000 ppb (1,000 to 37,000 ppb). The results from surface and sediment samples from the building floor dust composite, building sump (9), lot edge at building (10), and lot edge at monitoring well (11) exceeded the total PCB hazardous waste characteristic level of 50,000 ppb (334,000 ppb, 91,000 ppb, 74,000 ppb, and 94,000 ppb, respectively). PCB results are presented in Table 1. The sampling locations with the elevated levels of PCBs are indicated on Figure 5.

Metals analysis for a surface sample at the north fence gate (12) reveal some elevated levels for several metal parameters. These results are consistent with past use of the site. The metals results are presented in Table 4.

#### **3.2.2 Building Concrete Floor Surface**

Four wipe samples of the concrete floor surface inside the dilapidated building were collected to assess potential PCB contamination of the floor surface (see Figure 4). This was accomplished by taking a cotton swab soaked with a solvent and wiping a 100 cm. sq. surface area.

All four samples reveal PCB contamination of the concrete surface. The sampling locations with the elevated levels of PCBs are indicated on Figure 5.

### **3.2.3 Surface Waters**

Surface water samples were collected from three sample location points including the inactive groundwater collection system sump (3), the oil water separator manhole(6) and the treatment system containment pad (1) and analyzed for PCBs. See Figure 4 for sample locations. The results for PCBs reveal the total PCB levels (82 ppb, 18.2 ppb, and 0.38 ppb, respectively) are above all groundwater and surface water standards for total PCBs (0.09 ppb). PCB results for water samples are presented in Table 5. The sampling locations with the elevated levels of PCBs are indicated on Figure 5.

## **SECTION 4 CONCLUSIONS**

Based upon the results of the limited site investigation of former B&M lot 2.1, there is widespread PCB contamination of surface and subsurface soil/fill materials that are above TAGM 4046 surface and subsurface standards for soil and sediment. Refer to Figure 5 for an overview of sampling locations with the elevated levels of PCBs. Water collected at various points also indicated PCB contamination of groundwater and potential surface water discharges above applicable groundwater and surface water standards. Additionally, there are PCB levels in surface soils, sediments and subsurface soil/fill that render the material as characteristically hazardous waste. Refer to Figure 5 for an overview of sampling locations with the elevated levels of PCBs.

The elevated levels of PCBs at the site is a cause of concern for both groundwater and surface exposure and migration. The existing groundwater collection system at the site that is required to capture PCB contaminated groundwater is not functional. Given the shallow groundwater levels at the site, and elevated grade, contaminated groundwater could potentially seep to the surface during prolonged damp periods and migrate offsite.

The elevated levels of PCBs at site surface areas are another cause for concern exposure and migration. There are either elevated levels above the surface standard and above the hazardous waste threshold in several areas around the lot, near the property boundaries, and areas outside fenced limits that are accessible to the general public. The western perimeter inside the fence limits are both above surface cleanup levels and hazardous waste levels. Sampling of surface soil beyond the Lot 2.1 on adjoining properties including the Laub property, the right-of-way area along the Clinton Street sidewalk, and on the Clinton Auto Wrecking property reveal limited PCBs at the. This represents a significant human health hazard to adjoining property owners due to potential dermal contact and respiratory inhalation of PCB laden dust. Surface samples collected outside the fence lot limits along the Clinton Street pedestrian sidewalk are above surface cleanup levels. This represents a significant human health hazard to the general due to potential dermal contact. Inside the site, there are PCB levels above surface cleanup levels and above hazardous waste levels that represent another human health and environment exposure. The surface material are exposed and uncontrolled and can migrate along the surface from wind and water erosion.

There are elevated levels of PCBs in subsurface horizons that are either above subsurface cleanup levels or above hazardous waste levels in both the remediated and non-remediated areas. Because there are no deed restrictions for the lot, there is no legal mechanism that would preclude disturbance, exposure and safe handling of PCB contaminated material at this site. The proximity of these elevated levels near property boundary formerly owned by B&M (now owned and operated by Clinton Auto Wrecking, a car dismantling operation) suggests that there may potentially be PCB contamination in areas formerly implied as free of PCB contamination. This may have been an assumption that was used by the Consent Order respondent to subdivide the former B&M property and sell off the portion of the site presumed to be absent of PCB contamination.

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## **TABLES**



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**Table 1**  
**Analytical Results - PCBs in Soil**  
**Bengart & Memel Site**  
**1091 Clinton St.**  
**Buffalo, NY : NYSDEC Site No. 915115**

Analyte	Cleanup	B-1	B-2	B-3	B-4	B-5	B-5	B-6	B-7
Depth	Objective	16" - 24"	21" - 27"	31" - 35"	18" - 24"	32" - 37"	48" - 56"	28" - 38"	32" - 37"
Collection Date	(ug/kg)	5/4/2006	5/4/2006	5/4/2006	5/4/2006	5/4/2006	5/4/2006	5/4/2006	5/4/2006
<b>PCBs (ug/kg) soil</b>									
Aroclor 1016		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Aroclor 1221		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Aroclor 1232		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Aroclor 1242		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Aroclor 1248		BDL	390	BDL	2200	BDL	BDL	1700	5600
Aroclor 1254		BDL	2500	BDL	14000	BDL	BDL	6600	BDL
Aroclor 1260	Surf/Sub-Surf	12000	1500	3700	21000	41000	30000	9200	65000
<b>Total PCBs</b>	1000/10000	<b>12000 (2)</b>	<b>4390</b>	<b>3700</b>	<b>37200 (2)</b>	<b>41000 (2)</b>	<b>30000 (2)</b>	<b>17500 (2)</b>	<b>70600 (3)</b>
<b>Analyte</b>									
<b>Depth</b>	<b>Cleanup Objective</b>	<b>B-8</b>	<b>B-9</b>	<b>B-9</b>	<b>B-10</b>	<b>B-12</b>	<b>B-13</b>	<b>B-14</b>	<b>B-15</b>
<b>Collection Date</b>	<b>(ug/kg)</b>	5/4/2006	5/4/2006	5/4/2006	5/4/2006	5/4/2006	5/4/2006	5/4/2006	5/4/2006
<b>PCBs (ug/kg) soil</b>									
Aroclor 1016		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Aroclor 1221		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Aroclor 1232		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Aroclor 1242		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Aroclor 1248		440	BDL	4600	BDL	25	32	BDL	100
Aroclor 1254		BDL	34000	16000	BDL	130	BDL	4800	BDL
Aroclor 1260	Surf/Sub-Surf	3200	25000	7100	11000	340	180	3000	330
<b>Total PCBs</b>	1000/10000	<b>3640</b>	<b>69000 (3)</b>	<b>27700 (2)</b>	<b>11000 (2)</b>	<b>495</b>	<b>212</b>	<b>7800</b>	<b>430</b>
<b>Analyte</b>									
<b>Depth</b>	<b>Cleanup Objective</b>	<b>B-16</b>	<b>B-17</b>	<b>B-18</b>	<b>B-19</b>	<b>B-20</b>	<b>B-21</b>	<b>B-23</b>	<b>B-24</b>
<b>Collection Date</b>	<b>(ug/kg)</b>	5/4/2006	5/4/2006	5/4/2006	5/4/2006	5/5/2006	5/5/2006	5/5/2006	5/5/2006
<b>PCBs (ug/kg) soil</b>									
Aroclor 1016		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Aroclor 1221		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Aroclor 1232		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Aroclor 1242		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Aroclor 1248		BDL	280	9900	BDL	16 J	BDL	BDL	BDL
Aroclor 1254		27000	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Aroclor 1260	Surf/Sub-Surf	25000	1600	17000	19000	BDL	230000	2200	270
<b>Total PCBs</b>	1000/10000	<b>52000 (3)</b>	<b>1880</b>	<b>26900 (2)</b>	<b>19000 (2)</b>	<b>16</b>	<b>230000 (3)</b>	<b>2200</b>	<b>270</b>
<b>Analyte</b>									
<b>Depth</b>	<b>Cleanup Objective</b>	<b>Surf Smpl</b>	<b>Surf Smpl</b>	<b>Surf Smpl</b>	<b>Surf Smpl</b>	<b>Surf Smpl</b>	<b>Surf Smpl</b>	<b>Surf Smpl</b>	<b>Surf Smpl</b>
<b>Collection Date</b>	<b>(ug/kg)</b>	<b>DI (8)</b>	<b>Fence (5)</b>	<b>Fill Near</b>	<b>Soil Near</b>	<b>Tank Cont.</b>	<b>Floor</b>	<b>Bldg</b>	<b>Lot Edge</b>
		<b>Sediment</b>		<b>Fence (7)</b>	<b>MH (4)</b>	<b>Sediment (2)</b>	<b>Dust</b>	<b>Sump (9)</b>	<b>at Bldg (10)</b>
		5/4/2006	5/2/2006	5/2/2006	5/2/2006	5/2/2006	5/5/2006	5/31/2006	5/31/2006
<b>PCBs (ug/kg) soil</b>									
Aroclor 1016		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Aroclor 1221		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Aroclor 1232		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Aroclor 1242		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Aroclor 1248		3600	1700 J	BDL	BDL	BDL	54000	BDL	BDL
Aroclor 1254		9600	BDL	BDL	BDL	BDL	190000	46000	38000
Aroclor 1260	Surf/Sub-Surf	19000	15000	32000	7400	14000	100000	45000	36000
<b>Total PCBs</b>	1000/10000	<b>32200 (1)</b>	<b>16700 (1)</b>	<b>32000 (1)</b>	<b>7400 (1)</b>	<b>14000 (1)</b>	<b>334000 (3)</b>	<b>91000 (3)</b>	<b>74000 (3)</b>
<b>Analyte</b>									
<b>Depth</b>	<b>Cleanup Objective</b>	<b>Surf Smpl</b>	<b>Surf Smpl</b>	<b>Surf Smpl</b>	<b>Surf Smpl</b>				
<b>Collection Date</b>	<b>(ug/kg)</b>	<b>Lot Edge</b>	<b>Lot Edge</b>	<b>North Fence</b>	<b>Soil East of</b>				
		<b>at MW (11)</b>	<b>SW Crnr (14)</b>	<b>at Gate (12)</b>	<b>Contain (13)</b>				
		5/31/2006	5/31/2006	5/31/2006	5/31/2006				
<b>PCBs (ug/kg) soil</b>									
Aroclor 1016		BDL	BDL	BDL	BDL				
Aroclor 1221		BDL	BDL	BDL	BDL				
Aroclor 1232		BDL	BDL	BDL	BDL				
Aroclor 1242		BDL	BDL	BDL	BDL				
Aroclor 1248		BDL	BDL	BDL	BDL				
Aroclor 1254		BDL	21000	3700	5200				
Aroclor 1260	Surf/Sub-Surf	94000	16000	12000	11000				
<b>Total PCBs</b>	1000/10000	<b>94000 (3)</b>	<b>37000 (1)</b>	<b>15700 (1)</b>	<b>16200 (1)</b>				

**Notes**

- 1) Exceeds Surface Cleanup Objectives of 1000 ppb (TAGM 4046)
- 2) Exceeds Sub-Surface Cleanup Objectives of 10,000 ppb (TAGM 4046)
- 3) Exceeds Listed Hazardous Waste Limit of 50,000 ppb

Data Qualifiers: J - Estimated; D - Secondary Dilution; DE - Secondary Dilution, Exceeded Calibration Range; DJ - Secondary Dilution, Estimated  
 Data Qualifiers: BJ - Analyte found in associated blank, Estimated;

Acronyms: BDL - Below Detection Limit; ND - Non-detectable value; NV - No Value provided

**Table 1 Cont'd.**  
**Analytical Results - PCBs in Offsite Soil**  
**Bengart & Memel Site**  
**1091 Clinton St.**  
**Buffalo, NY : NYSDEC Site No. 915115**

Analyte	Cleanup	LS-1 (15)	LS-1 (15)	LS-2 (16)	LS-2 (16)	LS-3 (17)	LS-3 (17)	LS-4 (18)	LS-5 (19)
Depth	Objective	2" - 4"	6" - 8"	2" - 4"	12" - 14"	0" - 4"	6" - 8"	10" - 12"	10" - 12"
Collection Date	(ug/kg)	10/25/2006	10/25/2006	10/25/2006	10/25/2006	10/25/2006	10/25/2006	10/25/2006	10/25/2006
<b>PCBs (ug/kg) soil</b>									
Aroclor 1016		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Aroclor 1221		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Aroclor 1232		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Aroclor 1242		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Aroclor 1248		BDL	BDL	BDL	BDL	BDL	BDL	5600	BDL
Aroclor 1254		BDL	BDL	BDL	BDL	BDL	BDL	BDL	250
Aroclor 1260	Surf/Sub-Surf	1000	63	540	220	620	440	160	320
<b>Total PCBs</b>	1000/10000	1000	63	540	220	620	440	160	570
<b>PCBs (ug/kg) soil</b>									
Analyte	Cleanup	LS-6 (20)	LS-6 (20)	LS-7 (21)	LS-7 (21)	East Berm			
Depth	Objective	0" - 2"	8" - 10"	0" - 2"	7" - 9"	surface (22)			
Collection Date	(ug/kg)	10/25/2006	10/25/2006	10/25/2006	10/25/2006	10/25/2006			
<b>PCBs (ug/kg) soil</b>									
Aroclor 1016		BDL	BDL	BDL	BDL	BDL			
Aroclor 1221		BDL	BDL	BDL	BDL	BDL			
Aroclor 1232		BDL	BDL	BDL	BDL	BDL			
Aroclor 1242		BDL	BDL	BDL	BDL	BDL			
Aroclor 1248		BDL	BDL	BDL	BDL	BDL			
Aroclor 1254		340	BDL	BDL	BDL	BDL			
Aroclor 1260	Surf/Sub-Surf	490	1400	490	120	3900			
<b>Total PCBs</b>	1000/10000	830	1400 (1)	490	120	3900 (1)			

**Notes**

- 1) Exceeds Surface Cleanup Objectives of 1000 ppb (TAGM 4046)
- 2) Exceeds Sub-Surface Cleanup Objectives of 10,000 ppb (TAGM 4046)
- 3) Exceeds Listed Hazardous Waste Limit of 50,000 ppb

Data Qualifiers: J - Estimated; D - Secondary Dilution; DE - Secondary Dilution, Exceeded Calibration Range; DJ - Secondary Dilution, Estimated  
 Data Qualifiers: BJ - Analyte found in associated blank, Estimated;  
 Acronyms: BDL - Below Detection Limit; ND - Non-detectable value; NV - No Value provided

**Table 2**  
**Analytical Results - VOCs in Soil**  
**Bengart & Memel Site**  
**1091 Clinton St.**  
**Buffalo, NY : NYSDEC Site No. 915115**

Analyte	Cleanup	B-6	B-13	B-14	B-17	B-19	B-19
Depth	Objective	28" - 38"	5" - 43"	4" - 39"	38" - 46"	8" - 36"	replicate
Collection Date	(ug/kg)	5/4/2006	5/4/2006	5/4/2006	5/4/2006	5/4/2006	5/4/2006
VOCs (ug/kg)							
1,1,1-Trichloroethane	800	BDL	BDL	BDL	BDL	BDL	BDL
1,1,2,2-Tetrachloroethane	600	BDL	BDL	BDL	BDL	BDL	BDL
1,1,2-Trichloro-1,2,2-trifluoroethane	6000	BDL	BDL	BDL	BDL	BDL	BDL
1,1,2-Trichloroethane	NV	BDL	BDL	BDL	BDL	BDL	BDL
1,1-Dichloroethane	200	BDL	BDL	BDL	BDL	BDL	BDL
1,1-Dichloroethene	400	BDL	BDL	BDL	BDL	BDL	BDL
1,2,4-Trichlorobenzene	3400	2J	5 J	BDL	BDL	BDL	18000 D
1,2-Dibromo-3-chloropropane	NV	BDL	BDL	BDL	BDL	BDL	1000 D
1,2-Dibromoethane	NV	BDL	BDL	BDL	BDL	BDL	BDL
1,2-Dichlorobenzene	7900	BDL	BDL	BDL	BDL	BDL	2500 D
1,2-Dichloroethane	100	BDL	BDL	BDL	BDL	BDL	BDL
1,2-Dichloroethene (cis)	NV	BDL	BDL	BDL	BDL	BDL	BDL
1,2-Dichloroethene (Total)	300	BDL	BDL	BDL	BDL	BDL	BDL
1,2-Dichloroethene (trans)	300	BDL	BDL	BDL	BDL	BDL	BDL
1,2-Dichloropropane	400	BDL	BDL	BDL	BDL	BDL	BDL
1,3-Dichlorobenzene	1600	BDL	BDL	BDL	BDL	BDL	25000 D
1,3-Dichloropropene (cis)	NV	BDL	BDL	BDL	BDL	BDL	BDL
1,3-Dichloropropene (trans)	NV	BDL	BDL	BDL	BDL	BDL	BDL
1,4-Dichlorobenzene	8500	BDL	4 J	BDL	BDL	BDL	110000 DE
2-Butanone	300	11 J	BDL	44	BDL	32	BDL
2-Hexanone	NV	BDL	BDL	BDL	BDL	BDL	BDL
4-Methyl-2-pentanone	100	BDL	BDL	BDL	BDL	BDL	BDL
Acetone	200	75	40	220	26 J	170	BDL
Benzene	60	BDL	BDL	BDL	BDL	10	200 DJ
Bromodichloromethane	NV	BDL	BDL	BDL	BDL	BDL	BDL
Bromoform	NV	BDL	BDL	BDL	BDL	BDL	BDL
Bromomethane	NV	BDL	BDL	BDL	BDL	BDL	BDL
Carbon Disulfide	2700	2 J	BDL	3 J	3 J	BDL	BDL
Carbon Tetrachloride	600	BDL	BDL	BDL	BDL	BDL	26000 D
Chlorobenzene	1700	BDL	BDL	BDL	BDL	490 E	BDL
Chloroethane	1900	BDL	BDL	BDL	BDL	BDL	BDL
Chloroform	300	BDL	BDL	BDL	BDL	BDL	BDL
Chloromethane	NV	BDL	BDL	BDL	BDL	BDL	BDL
Cyclohexane	NV	BDL	BDL	BDL	BDL	BDL	BDL
Dibromochloromethane	NV	BDL	BDL	BDL	BDL	BDL	BDL
Dichlorodifluoromethane	NV	BDL	BDL	BDL	BDL	BDL	BDL
Ethylbenzene	5500	BDL	BDL	BDL	BDL	BDL	BDL
Isopropylbenzene	NV	BDL	BDL	2 J	BDL	BDL	BDL
Methyl acetate	NV	BDL	BDL	BDL	BDL	BDL	BDL
Methylcyclohexane	NV	BDL	3 J	5 J	BDL	BDL	BDL
Methylene chloride	100	8 B	8 B	8 B	4 BJ	2 BJ	BDL
Methyl-t-Butyl Ether (MTBE)	NV	BDL	BDL	BDL	BDL	BDL	190 DJ
Styrene	NV	BDL	BDL	BDL	BDL	BDL	BDL
Tetrachloroethene	1400	BDL	BDL	BDL	BDL	BDL	BDL
Toluene	1500	BDL	BDL	BDL	BDL	3 J	BDL
Trichloroethene	700	BDL	BDL	BDL	BDL	BDL	BDL
Trichlorofluoromethane	NV	BDL	BDL	BDL	BDL	BDL	BDL
Vinyl chloride	200	BDL	BDL	BDL	BDL	BDL	BDL
Xylenes (Total)	1200	BDL	BDL	5 J	BDL	BDL	BDL
<b>Total VOCs</b>	<b>10000</b>	<b>98</b>	<b>60</b>	<b>287</b>	<b>33</b>	<b>707</b>	<b>182890</b>

Notes

1) Exceeds Recommended Soil Cleanup Objective (TAGM 4046).  
Data Qualifiers: J - Estimated; D - Secondary Dilution; DE - Secondary Dilution, Exceeded Calibration Range; DJ - Secondary Dilution, Estimated  
Data Qualifiers: BJ - Analyte found in associated blank, Estimated;  
Acronyms: BDL - Below Detection Limit; ND - Non-detectable value; NV - No Value provided

**Table 2 Cont'd.**  
**Analytical Results - VOCs in Soil**  
**Bengart & Memel Site**  
**1091 Clinton St.**  
**Buffalo, NY : NYSDEC Site No. 915115**

<b>Analyte</b>	<b>Cleanup</b>	<b>B-21</b>	<b>B-22</b>	<b>B-23</b>
<b>Depth</b>	<b>Objective</b>	24" - 48"	6" - 24"	6" - 24"
<b>Collection Date</b>	<b>(ug/kg)</b>	5/5/2006	5/5/2006	5/5/2006
<b>VOCs (ug/kg)</b>				
1,1,1-Trichloroethane	800	BDL	BDL	BDL
1,1,2,2-Tetrachloroethane	600	BDL	BDL	BDL
1,1,2-Trichloroethane	NV	BDL	BDL	BDL
1,1-Dichloroethane	200	BDL	BDL	BDL
1,1-Dichloroethene	400	BDL	BDL	BDL
1,2-Dichloroethane	100	BDL	BDL	BDL
1,2-Dichloroethene (Total)	300	6 J	BDL	BDL
1,2-Dichloropropane	400	BDL	BDL	BDL
1,3-Dichloropropene (cis)	NV	BDL	BDL	BDL
1,3-Dichloropropene (trans)	NV	BDL	BDL	BDL
2-Butanone	300	20 J	BDL	BDL
2-Hexanone	NV	BDL	BDL	BDL
4-Methyl-2-pentanone	1000	BDL	BDL	BDL
Acetone	200	77	6 J	33 J
Benzene	60	BDL	BDL	BDL
Bromodichloromethane	NV	BDL	BDL	BDL
Bromoform	NV	BDL	BDL	BDL
Bromomethane	NV	BDL	BDL	BDL
Carbon Disulfide	2700	4 J	BDL	BDL
Carbon Tetrachloride	600	BDL	BDL	BDL
Chlorobenzene	1700	3 J	BDL	BDL
Chloroethane	1900	BDL	BDL	BDL
Chloroform	300	BDL	BDL	BDL
Chloromethane	NV	BDL	BDL	BDL
Dibromochloromethane	NV	BDL	BDL	BDL
Ethylbenzene	5500	2 J	BDL	BDL
Methylene chloride	100	3 BJ	2 BJ	4 BJ
Styrene	NV	BDL	BDL	BDL
Tetrachloroethene	1400	11	BDL	BDL
Toluene	1500	3 J	BDL	BDL
Trichloroethene	700	3 J	BDL	BDL
Vinyl acetate	NV	BDL	BDL	BDL
Vinyl chloride	200	7 J	BDL	BDL
Xylenes (Total)	1200	11 J	BDL	BDL
<b>Total VOCs</b>	10000	150	8	37

Notes

1) Exceeds Recommended Soil Cleanup Objective (TAGM 4046).

Data Qualifiers: J - Estimated; D - Secondary Dilution; DJ - Secondary Dilution, Estimated

Data Qualifiers: DE - Secondary Dilution, Exceeded Calibration Range

Data Qualifiers: BJ - Analyte found in associated blank, Estimated;

Acronyms: BDL - Below Dection Limit; ND - Non-detecatable value; NV - No Value provided

**Table 3**  
**Analytical Results - SVOCs in Soil**  
**Bengart & Memel Site**  
**1091 Clinton St.**  
**Buffalo, NY : NYSDEC Site No. 915115**

Analyte	Cleanup	B-22	COMP A	COMP B
Depth	Objective	24" - 48"	sub surf	sub surf
Collection Date	(ug.kg)	5/5/2006	5/4/2006	5/4/2006
<b>SVOCs (ug/kg)</b>				
2,2'-Oxybis(1-Chloropropane)	NV	BDL	BDL	BDL
2,4,5-Trichlorophenol	NV	BDL	BDL	BDL
2,4,6-Trichlorophenol	NV	BDL	BDL	BDL
2,4-Dichlorophenol	400	BDL	BDL	BDL
2,4-Dimethylphenol	200	BDL	BDL	BDL
2,4-Dinitrophenol	NV	BDL	BDL	36000
2,4-Dinitrotoluene	1000	BDL	BDL	BDL
2,6-Dinitrotoluene	NV	BDL	BDL	BDL
2-Chloronaphthalene	NV	BDL	BDL	BDL
2-Chlorophenol	800	BDL	BDL	BDL
2-Methylnaphthalene	36400	BDL	BDL	820 J
2-Methylphenol	100	BDL	BDL	BDL
2-Nitroaniline	430	BDL	BDL	BDL
2-Nitrophenol	330	BDL	BDL	BDL
3,3'-Dichlorobenzidine	NV	BDL	BDL	BDL
3-Nitroaniline	500	BDL	BDL	BDL
4,6-Dinitro-2-methylphenol	NV	BDL	BDL	BDL
4-Bromophenyl phenyl ether	NV	BDL	BDL	BDL
4-Chloro-3-methylphenol	240	BDL	BDL	BDL
4-Chloroaniline	220	BDL	BDL	BDL
4-Chlorophenyl phenyl ether	NV	BDL	BDL	BDL
4-Methylphenol	900	BDL	BDL	BDL
4-Nitroaniline	NV	BDL	BDL	BDL
4-Nitrophenol	100	BDL	BDL	BDL
Acenaphthene	50000	260 J	1200 J	1700 J
Acenaphthylene	41000	BDL	440 J	610 J
Acetophenone	NV	BDL	BDL	BDL
Anthracene	50000	830 J	2300 J	2800 J
Atrazine	NV	BDL	BDL	BDL
Benzaldehyde	NV	BDL	BDL	BDL
Benzo(a)anthracene	224	2100 J	4600 J	4900 J
Benzo(a)pyrene	61	1700 J	3900 J	4200 J
Benzo(b)fluoranthene	1100	2700 J	BDL	5100 J
Benzo(ghi)perylene	50000	1000 J	BDL	2800 J
Benzo(k)fluoranthene	1100	2700 J	1600 J	1600 J
Biphenyl	NV	BDL	BDL	BDL
Bis(2-chloroethoxy) methane	NV	BDL	BDL	BDL
Bis(2-chloroethyl) ether	NV	BDL	BDL	BDL
Bis(2-ethylhexyl) phthalate	NV	BDL	BDL	1200 J
Butyl benzyl phthalate	50000	BDL	BDL	BDL
Caprolactam	NV	BDL	BDL	BDL
Carbazole	NV	300 J	1300 J	970 J
Chrysene	400	1900 J	4100 J	4100 J
Dibenzo(a,h)anthracene	14	360 J	BDL	890 J
Dibenzofuran	6200	BDL	BDL	1500 J
Diethyl phthalate	7100	BDL	BDL	BDL
Dimethyl phthalate	2000	BDL	7200	BDL
Di-n-butyl phthalate	8100	BDL	BDL	BDL
Di-n-octyl phthalate	50000	BDL	BDL	BDL
Fluoranthene	50000	4200	10000	9900
Fluorene	50000	320 J	1500 J	2200 J
Hexachlorobenzene	410	BDL	BDL	BDL
Hexachlorobutadiene	NV	BDL	BDL	BDL
Hexachlorocyclopentadiene	NV	BDL	BDL	BDL
Hexachloroethane	NV	BDL	BDL	BDL
Indeno(1,2,3-cd)pyrene	3200	970 J	BDL	2500 J
Isophorone	4400	BDL	BDL	BDL
Naphthalene	13000	BDL	BDL	1800 J
Nitrobenzene	200	BDL	BDL	BDL
N-Nitroso-Di-n-propylamine	NV	BDL	BDL	BDL
N-nitrosodiphenylamine	NV	BDL	BDL	BDL
Pentachlorophenol	1000	BDL	BDL	BDL
Phenanthrene	50000	3100 J	10000	10000
Phenol	30	BDL	BDL	BDL
Pyrene	50000	BDL	8200	8000
<b>Total</b>	<b>500000</b>	<b>17040</b>	<b>56340</b>	<b>120630</b>

Notes

1) Exceeds Recommended Soil Cleanup Objective (TAGM 4046).  
Data Qualifiers: J - Estimated; D - Secondary Dilution; DJ - Secondary Dilution, Estimated  
Data Qualifiers: DE - Secondary Dilution, Exceeded Calibration Range  
Data Qualifiers: BJ - Analyte found in associated blank, Estimated;  
Acronyms: BDL - Below Detection Limit; ND - Non-detectable value; NV - No Value provided

**Table 4**  
**Analytical Results - Metals in Soil**  
**Hazardous Waste Characteristics**  
**Bengart & Memel Site**  
**1091 Clinton St.**  
**Buffalo, NY : NYSDEC Site No. 915115**

Analyte	Cleanup	B-22	COMP A	COMP B
Depth	Objective	24" - 48"	sub surf	sub surf
Collection Date	(mg/kg)	5/5/2006	5/4/2006	5/4/2006
<b>Metals (mg/kg) Soil</b>				
Arsenic - Total	7.5 or SB	BDL	8.6	41.6
Barium - Total	300 or SB	BDL	148	388
Cadmium - Total	1 or SB	BDL	3.4	6.9
Chromium - Total	10 or SB	BDL	26.0	1090
Lead - Total	SB: 200-500 urban	BDL	423	1200
Mercury - Total	0.1	BDL	1.3	1.3
Selenium - Total	2	BDL	BDL	13.2
Silver - Total	SB	BDL	0.62	2.3

	Haz Characteristic	B-22	COMP A	COMP B
	Level	24" - 48"	sub surf	sub surf
	(mg/L)	5/5/2006	5/4/2006	5/4/2006
<b>Metals (mg/L) Soil TCLP</b>				
Arsenic - Total	5	BDL	BDL	BDL
Barium - Total	100	830 J	BDL	BDL
Cadmium - Total	1	BDL	0.042	0.11
Chromium - Total	5	BDL	BDL	BDL
Lead - Total	5	BDL	0.0074	0.011
Mercury - Total	0.2	BDL	BDL	BDL
Selenium - Total	1	BDL	0.72	0.85
Silver - Total	5	BDL	BDL	BDL
<b>Haz Waste Characteristics</b>				
Flashpoint °F			>200	>200
Corrosivity (pH)	2> pH >12		7.95	9.05

Analyte	Collection Date	Wipe 1	Wipe 2	Wipe 3	Wipe 4
		5/5/2006	5/5/2006	5/5/2006	5/5/2006
<b>PCBs Wipe (ug/100 cm sq)</b>					
Aroclor 1016		BDL	BDL	BDL	BDL
Aroclor 1221		BDL	BDL	BDL	BDL
Aroclor 1232		BDL	BDL	BDL	BDL
Aroclor 1242		BDL	BDL	BDL	BDL
Aroclor 1248		BDL	BDL	BDL	BDL
Aroclor 1254		480	300	1400	630
Aroclor 1260		400	380	1900	BDL
<b>Total PCBs</b>		<b>880</b>	<b>680</b>	<b>3300</b>	<b>630</b>

Metals (mg/kg) soil	Cleanup	Surf Smpl
Analyte	Objective	North Fence at Gate (12)
Collection Date	(mg/kg)	5/31/2006
Aluminum - Total	SB: 33,000	13600
Antimony - Total	SB	BDL
Arsenic - Total	7.5 or SB	8
Barium - Total	300 or SB	118
Beryllium - Total	0.16(HEAST) or SB	1.1
Cadmium - Total	1 or SB	2.6
Calcium - Total	SB: 130-35,000	81700
Chromium - Total	10 or SB	97.8
Cobalt - Total	30 or SB	20.4
Copper - Total	25 or SB	1820
Iron - Total	2000 or SB	36300
Lead - Total	SB: 200-500 urban	309
Magnesium - Total	SB: 100-5000	14900
Manganese - Total	SB: 50-5000	1000
Mercury - Total	0.1	0.92
Nickel - Total	13 or SB	338
Potassium - Total	SB: 8500-43000	2300
Selenium - Total	2 or SB	BDL
Silver - Total	SB	1.4
Sodium - Total	SB: 6000-8000	468
Thallium - Total	SB	BDL
Vanadium - Total	150 or SB	29.1
Zinc - Total	20 or SB	1100

Notes

- 1) Exceeds Recommended Soil Cleanup Objective TAGM 4046).
- 2) Exceeds Listed Hazardous Waste Limit

Data Qualifiers: J - Estimated; D - Secondary Dilution; DJ - Secondary Dilution, Estimated

Data Qualifiers: DE - Secondary Dilution, Exceeded Calibration Range

Data Qualifiers: BJ - Analyte found in associated blank, Estimated;

Acronyms: BDL - Below Detection Limit; ND - Non-detectable value; NV - No Value provided

**Table 5**  
**Analytical Results: SVOCs and PCBs in Water**  
**Bengart & Memel Site**  
**1091 Clinton St.**  
**Buffalo, NY : NYSDEC Site No. 915115**

Analyte	Cleanup	MW-B5	MW-B19	Collection	OWS MH	Tank
	Objective	5/17/2006	5/16/2006	Sump (3)	(6)	Contain (1)
Collection Date	(ug/L)			5/2/2006	5/2/2006	5/2/2006
<b>PCBs (ug/L) liquid</b>						
Aroclor 1016		BDL	BDL	BDL	BDL	BDL
Aroclor 1221		BDL	BDL	BDL	BDL	BDL
Aroclor 1232		BDL	BDL	BDL	BDL	BDL
Aroclor 1242		BDL	BDL	BDL	BDL	BDL
Aroclor 1248		BDL	BDL	5.9	4.2	BDL
Aroclor 1254		BDL	76	BDL	BDL	BDL
Aroclor 1260		28	54	82	14	0.38 J
<b>PCBs total</b>	0.09	28	130	87.9	18.2	0.38J
<b>SVOCs (ug/L)</b>						
1,2,4-Trichlorobenzene	5		BDL			
1,2-Dichlorobenzene	3		BDL			
1,3-Dichlorobenzene	3		BDL			
1,4-Dichlorobenzene	3		BDL			
2,2'-Oxybis(1-Chloropropane)	NV		BDL			
2,4,5-Trichlorophenol	1		BDL			
2,4,6-Trichlorophenol	1		BDL			
2,4-Dichlorophenol	1		BDL			
2,4-Dimethylphenol	1		BDL			
2,4-Dinitrophenol	1		BDL			
2,4-Dinitrotoluene	5		BDL			
2,6-Dinitrotoluene	5		BDL			
2-Chloronaphthalene	10		BDL			
2-Chlorophenol	NV		BDL			
2-Methylnaphthalene	NV		BDL			
2-Methylphenol	NV		50			
2-Nitroaniline	5		BDL			
2-Nitrophenol	1		BDL			
3,3'-Dichlorobenzidine	5		BDL			
3-Nitroaniline	5		BDL			
4,6-Dinitro-2-methylphenol	NV		BDL			
4-Bromophenyl phenyl ether	NV		BDL			
4-Chloro-3-methylphenol	NV		BDL			
4-Chloroaniline	5		BDL			
4-Chlorophenyl phenyl ether	NV		BDL			
4-Methylphenol	NV		180			
4-Nitroaniline	5		BDL			
4-Nitrophenol	1		BDL			
Acenaphthene	20		BDL			
Acenaphthylene	NV		BDL			
Anthracene	50		BDL			
Benzo(a)anthracene	0.002		BDL			
Benzo(a)pyrene	ND		BDL			
Benzo(b)fluoranthene	0.002		BDL			
Benzo(ghi)perylene	NV		BDL			
Benzo(k)fluoranthene	0.002		BDL			
Bis(2-chloroethoxy) methane	NV		BDL			
Bis(2-chloroethyl) ether	1		BDL			
Bis(2-ethylhexyl) phthalate	5		BDL			
Butyl benzyl phthalate	50		BDL			
Carbazole	NV		BDL			
Chrysene	0.002		BDL			
Dibenzo(a,h)anthracene	NV		53			
Dibenzofuran	NV		BDL			
Diethyl phthalate	50		BDL			
Dimethyl phthalate	50		BDL			
Di-n-butyl phthalate	NV		BDL			
Di-n-octyl phthalate	50		BDL			
Fluoranthene	50		BDL			
Fluorene	50		BDL			
Hexachlorobenzene	0.04		BDL			
Hexachlorobutadiene	0.5		BDL			
Hexachlorocyclopentadiene	5		BDL			
Hexachloroethane	5		BDL			
Indeno(1,2,3-cd)pyrene	0.002		BDL			
Isophorone	50		BDL			
Naphthalene	10		130			
Nitrobenzene	0.4		BDL			
N-Nitroso-Di-n-propylamine	NV		BDL			
N-nitrosodiphenylamine	50		BDL			
Pentachlorophenol	1		BDL			
Phenanthrene	50		BDL			
Phenol	1		BDL			
Pyrene	50		BDL			
<b>Total</b>	500000		413			

Notes

1) Exceeds Recommended Groundwater Standards/Guidelines (DOW Tech Guide 2.1.3).  
 Data Qualifiers: J - Estimated; D - Secondary Dilution; DJ - Secondary Dilution, Estimated  
 Data Qualifiers: DE - Secondary Dilution, Exceeded Calibration Range  
 Data Qualifiers: BJ - Analyte found in associated blank; Estimated;  
 Acronyms: BDL - Below Detection Limit; ND - Non-detectable value; NV - No Value provided



**Table 6**  
**Analytical Results: VOCs and Metals in Water**  
**Bengart & Memel Site**  
**1091 Clinton St.**  
**Buffalo, NY : NYSDEC Site No. 915115**

Analyte	Cleanup Objective	MW-B5	MW-B19	MW-B19 R	Trip Blank
Collection Date	(ug/L)	5/17/2006	5/16/2006	5/17/2006	5/17/2006
<b>VOCs (ug/L)</b>					
1,1,1-Trichloroethane	5	BDL	BDL	BDL	BDL
1,1,2,2-Tetrachloroethane	5	BDL	BDL	BDL	BDL
1,1,2-Trichloro-1,2,2-trifluoroethane	5	BDL	BDL	BDL	BDL
1,1,2-Trichloroethane	1	BDL	BDL	BDL	BDL
1,1-Dichloroethane	5	BDL	BDL	BDL	BDL
1,1-Dichloroethene	5	BDL	BDL	BDL	BDL
1,2,4-Trichlorobenzene	5	BDL	BDL	BDL	BDL
1,2-Dibromo-3-chloropropane	0.04	BDL	BDL	BDL	BDL
1,2-Dibromoethane	5	BDL	BDL	BDL	BDL
1,2-Dichlorobenzene	3	BDL	BDL	BDL	BDL
1,2-Dichloroethane	0.6	BDL	BDL	BDL	BDL
1,2-Dichloropropane	1	BDL	BDL	BDL	BDL
1,3-Dichlorobenzene	3	4.6 J	2	BDL	BDL
1,4-Dichlorobenzene	3	7.4	6.1	2.5J	BDL
2-Butanone	NV	BDL	3.2 J	BDL	BDL
2-Hexanone	50	BDL	BDL	BDL	BDL
4-Methyl-2-pentanone	NV	BDL	BDL	BDL	BDL
Acetone	50	30	16	25	BDL
Benzene	1	BDL	5.4	3.0 J	BDL
Bromodichloromethane	50	BDL	BDL	BDL	BDL
Bromoform	50	BDL	BDL	BDL	BDL
Bromomethane	5	BDL	BDL	BDL	BDL
Carbon Disulfide	NV	BDL	BDL	BDL	BDL
Carbon Tetrachloride	5	BDL	BDL	BDL	BDL
Chlorobenzene	5	BDL	7.5	3.3 J	BDL
Chloroethane	5	BDL	BDL	BDL	BDL
Chloroform	7	BDL	BDL	BDL	BDL
Chloromethane	NV	BDL	BDL	BDL	BDL
cis-1,2-Dichloroethene	5	BDL	BDL	BDL	BDL
cis-1,3-Dichloropropene	0.4	BDL	BDL	BDL	BDL
Cyclohexane	NV	BDL	BDL	BDL	BDL
Dibromochloromethane	50	BDL	BDL	BDL	BDL
Dichlorodifluoromethane	5	BDL	BDL	BDL	BDL
Ethylbenzene	5	BDL	BDL	BDL	BDL
Isopropylbenzene	5	BDL	BDL	BDL	BDL
Methyl acetate	NV	BDL	BDL	BDL	BDL
Methylcyclohexane	NV	BDL	BDL	BDL	BDL
Methylene chloride	5	BDL	BDL	BDL	BDL
Methyl-t-Butyl Ether (MTBE)	NV	BDL	BDL	BDL	BDL
Styrene	5	BDL	BDL	BDL	BDL
Tetrachloroethene	5	BDL	BDL	BDL	BDL
Toluene	5	BDL	2.2	BDL	BDL
Total Xylenes	5	BDL	3.2	BDL	BDL
trans-1,2-Dichloroethene	5	BDL	BDL	BDL	BDL
trans-1,3-Dichloropropene	0.4	BDL	BDL	BDL	BDL
Trichloroethene	5	BDL	BDL	BDL	BDL
Trichlorofluoromethane	5	BDL	BDL	BDL	BDL
Vinyl chloride	2	BDL	BDL	BDL	BDL
<b>Metals (mg/L)</b>					
Aluminum - Total	NV		13.7		
Antimony - Total	3		BDL		
Arsenic - Total	25		0.016		
Barium - Total	1000		0.39		
Beryllium - Total	3		BDL		
Cadmium - Total	5		BDL		
Calcium - Total	NV		124		
Chromium - Total	50		0.029		
Cobalt - Total	NV		0.0096		
Copper - Total	200		0.069		
Iron - Total	300		37.9		
Lead - Total	25		0.14		
Magnesium - Total	35000		36.7		
Manganese - Total	300		1.2		
Mercury - Total	0.7		BDL		
Nickel - Total	100		0.03		
Potassium - Total	NV		31.3		
Selenium - Total	10		BDL		
Silver - Total	50		BDL		
Sodium - Total	20000		71.1		
Thallium - Total	0.5		BDL		
Vanadium - Total	NV		0.032		
Zinc - Total	5000		0.23		

Notes

1) Exceeds Recommended Groundwater Standards/Guidelines (DOW Tech Guide 2.1.3).  
 Data Qualifiers: J - Estimated; D - Secondary Dilution; DJ - Secondary Dilution, Estimated  
 Data Qualifiers: DE - Secondary Dilution, Exceeded Calibration Range  
 Acronyms: BDL - Below Detection Limit; ND - Non-detectable value; NV - No Value provided