Department of Environmental Conservation

Division of Environmental Remediation

Sampling Report

Former Flintkote Plant Site, 143 Water Street, City of Lockport, Niagara County, New York

June 2002

New York State Department of Environmental Conservation
Region 9
270 Michigan Avenue
Buffalo, New York 14203-2999

Sampling Report

Former Flintkote Plant Site
143 Water Street, City of Lockport,
Niagara County, New York

Prepared by:

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Division of Environmental Remediation
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Buffalo, New York 14203-2999

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1.0 EXECUTIVE SUMMARY

In early April 2002, Mr. Paul Dicky from the Niagara County Health Department (NCHD) received a citizen request for sample collection and evaluation of soils from their property at 143 Water Street, City of Lockport, Niagara County, New York (Figures 1-1 and 1-2). Mr. Dicky inspected the property on April 8, 2002 and identified a portion of the yard that floods during high water events. In addition, a small vegetable garden was observed adjacent to the reported flood area. Based upon these findings, the Niagara County Health Department requested investigatory assistance from the NYSDEC.

On April 16, 2002 the Department collected one waste and three surface soil samples from the 143 Water Street property. This property was sampled due to it's close proximity to the Former Flintkote Plant Site, and because of the potential for contaminants to migrate to the property from Eighteenmile Creek during flood events. While the Former Flintkote Plant Site is not listed in the Registry of Inactive Hazardous Waste Disposal Sites in New York State (Registry), a Site Investigation conducted by the Department's Division of Environmental Remediation (DER) in 1999 revealed that some of the ash disposed at the Site is a characteristic hazardous waste for lead (D008). This waste also contains numerous semivolatile (primarily PAHs) and inorganic compounds at concentrations above the soil cleanup objectives contained in the Department's Technical and Administrative Guidance Memoranda (TAGM) No. 4046. PCBs were also detected in this waste. Similar contaminants have been detected in sediment in Eighteenmile Creek and the millrace adjacent to the Site.

Prior to collecting any samples, a walk through of the property was conducted to identify sample locations. During this reconnaissance, ash, similar in appearance to that found at the Former Flintkote Plant Site, was observed at the surface of a small ridge along Eighteenmile Creek on a small strip of wooded property. This waste was also observed in the bank of Eighteenmile Creek. A small garden in the backyard was also inspected and found to contain buttons, coal and glass. Buttons, coal and glass are associated with the ash from the Former Flintkote Plant Site.

One sample of the ash along Eighteenmile Creek was collected during the sampling event and analyzed for PCBs and lead. PCBs were not detected in this sample, but lead was detected at a concentration of 4,250 mg/kg (parts per million). This concentration exceeds the Department's TAGM 4046 soil cleanup objective. The ash fill was also found to be a characteristic hazardous waste for lead (D008). Additional investigation is required to determine the nature and extent of ash fill in this area. This work could be completed by Niagara County as part of their upcoming Brownfields Investigation of the Former Flintkote

Plant Site.

Three surface soil samples were also collected on April 16, 2002 and analyzed for PCBs and lead. One sample, collected from the side yard of 143 Water Street that floods during high water events, contains lead at a concentration of 887 mg/kg. PCBs were detected in this sample at a concentration of 64J Fg/kg (parts per billion). The second sample, collected from the center of a small vegetable garden in the side yard, contains lead and PCBs at concentrations of 686 mg/kg and 24J Fg/kg, respectively. While the concentration of lead in both samples exceeds the TAGM 4046 soil cleanup objective, they are similar to lead concentrations in other urban areas of western New York. PCB concentrations in both samples were below the Department's TAGM 4046 surface soil cleanup objective.

To evaluate the potential migration pathway between contaminated creek sediments and backyard soils due to creek flooding events, a surface soil sample was collected from a location approximately 4 feet from the shore of Eighteenmile Creek in an area visibly devoid of waste and other fill material. The analytical results for this sample revealed the presence of lead and PCBs at concentrations of 1,270 mg/kg and 17,400 Fg/kg, respectively. Both concentrations exceed the Department's TAGM 4046 soil cleanup objectives. This contamination appears to be directly related to the deposition of contaminated sediment from the creek during flood events.

The exact source of lead and PCBs that were detected in surface soil on the 143 Water Street property is unknown, but could include surface water/solids runoff from the ridge of ash fill, the presence of ash fill in the garden, and/or deposition of contaminated sediments from Eighteenmile Creek during flood events. Regardless of the source, this report should be sent to the New York State Department of Health for an evaluation concerning potential human health impacts from the contaminated soils and waste.

The analytical results obtained from the sampling event suggest that additional properties along Eighteenmile Creek could be impacted during flood events. In order to determine how many properties could be impacted, a reconnaissance of properties both up- and downstream of William Street should be completed. Based upon this evaluation, surface soil samples should be collected from selected properties for chemical analysis.

2.0 INTRODUCTION

In early April 2002, Mr. Paul Dicky from the Niagara County Health Department (NCHD) received a citizen request for sample collection and evaluation of soils from their property at 143 Water Street, City of Lockport, Niagara County, New York. Mr. Dicky telephoned this Department, and following a discussion of the issues, agreed to complete an inspection of the property. During this inspection, which was conducted on April 8, 2002, Mr Dicky had further discussion with the property owners. The residents concerns and issues regarding the property are summarized as follows:

- The property owners first became concerned of possible contaminant migration from Eighteenmile Creek after a family case of cancer inspired research into available environmental data regarding the creek. Concern was raised over elevated PCB concentrations.

- Eighteenmile Creek abuts the back and side yard of 143 Water Street and occasionally floods the yard due to debris or ice blocking the cross-culverts under William Street. The property owners expressed concern about the poor to non-existent maintenance of the creek by the City of Lockport.

- Severe flooding occurs about 100 feet into the yard approximately once every two years. Lesser flooding may occur several times a year depending upon local precipitation and blockage of the cross-culverts.

- Frequent flooding also occurs on a small strip of wooded property between Eighteenmile Creek and a stone wall. This strip of land is about 20 feet wide.

Mr Dicky identified a portion of the yard that would flood during high water events, and concluded that the flood complaint was plausible. In addition, a small vegetable garden was observed adjacent to the reported flood area. Based upon these findings, the Niagara County Health Department requested the investigatory assistance of the Department as the county was concerned that "a potential migration pathway may exist between *contaminated* creek sediments and backyard soils due to regular flooding events [italics ours]."

On April 16, 2002 the Department collected four samples from the property at 143 Water Street. In addition to being adjacent to Eighteenmile Creek, the subject property is also in close proximity to the Former

Flintkote Plant Site, which is located at 198 and 300 Mill Street (Figures 1-1 and 1-2). While this Site is not listed in the Registry of Inactive Hazardous Waste Disposal Sites in New York State (Registry), a Site Investigation conducted by the Department's Division of Environmental Remediation (DER) in 1999 revealed that some of the ash disposed at the Site is a characteristic hazardous waste for lead (D008). This waste also contains numerous semivolatile (primarily PAHs) and inorganics compounds at concentrations above the soil cleanup objectives contained in the Department's Technical and Administrative Guidance Memoranda (TAGM) No. 4046. Similar contaminants have been detected in site groundwater, and sediment in Eighteenmile Creek and the millrace adjacent to the Site. Historical sampling by the Department's Division of Water (DOW) and DER indicates also that sediment of Eighteenmile Creek is contaminated by PCBs and dioxins. In the near future Niagara County will complete a more detailed investigation of the former Flintkote property through the Department's Brownfields Program.

The property at 143 Water Street was sampled due to it's close proximity to the Former Flintkote Plant Site, and because of the potential for contaminants to migrate onto the property from Eighteenmile Creek during flood events. This report summarizes the findings of the sampling event and how the results may relate to known contamination at the Former Flintkote Plant Site and in Eighteenmile Creek. The remaining sections of this report are organized as follows:

- **Section 3.0, Sampling Objective and Scope of Work:** Section 3.0 describes the objective of the sampling event at 143 Water Street and the activities that were completed as part of this event.

- **Section 4.0, Former Flintkote Plant Site:** Section 4.0 describes the history and background of the Former Flintkote Plant Site, and presents the results of the Site Investigation completed by the Department in 1999.

- **Section 5.0, Sampling Results:** Section 5.0 describes the findings of the sampling event at 143 Water Street, including general observations and a summary of the analytical results obtained from various environmental media (i.e., waste and surface soil).

- **Section 6.0, Discussions and Conclusions:** Section 6.0 summarizes the findings of the sampling event at 143 Water Street as they relate to the objective presented in Section 3.0. Conclusions drawn from the sampling event are also discussed.

- **Section 7.0, Recommendations:** Section 7.0 discusses the Department's recommendations for future activities regarding both the Former Flintkote Plant Site and properties along Eighteenmile Creek.

- **Section 8.0, References:** Section 8.0 contains a list of references utilized or cited in the report.

3.0 SAMPLING OBJECTIVE AND SCOPE OF WORK

3.1 Objective

The objective of the sampling event was to obtain information sufficient to determine if the property at 143 Water Street is being impacted by the Former Flintkote Plant Site and/or Eighteenmile Creek. This objective was evaluated through the analysis of waste and surface soil samples obtained from 143 Water Street and adjacent properties.

3.2 Scope of Work

To meet the above objective, the following activities were completed as part of the sampling event: (1) a property reconnaissance, (2) collection of environmental samples for chemical analysis, (3) preparation of a site map, and (4) preparation of this report. These activities are briefly described in the following sections. All field work was conducted in level D personal protective equipment with dedicated sampling equipment.

3.2.1 *Property Reconnaissance*

Prior to collecting any samples, a walk through of the property was conducted to identify sample locations. Four locations were selected. These locations, shown on Figure 3-1, were selected based upon visual observations or the potential for human exposure through direct contact or ingestion.

3.2.2 *Sample Collection and Analysis*

One waste sample and three surface soil samples were collected from the locations shown on Figure 3-1. All sampling was completed by NYSDEC staff utilizing Department owned equipment. Sample analysis was completed by Severn Trent Laboratories, Inc. in Amherst, New York, a NYSDEC contract laboratory. All four samples were analyzed for PCBs and lead, with samples SS-3 and SS-4 also analyzed for lead using the Toxicity Characteristic Leaching Procedure (TCLP) to determine if these samples are characteristic hazardous waste.

3.2.3 *Mapping*

A map of the Former Flintkote Plant Site was prepared by the Department as part of the 1999 Site Investigation. The area mapped included the entire site boundaries; site buildings; the shoreline of the island, millrace, and Eighteenmile Creek in the vicinity of the Site; all soil boring and monitoring well locations; and the locations of all samples collected as part of the Site Investigation. The four samples collected from the 143 Water Street property were located using a tape measure and plotted on the Flintkote map.

3.2.4 *Report Preparation*

This report was prepared to describe the sampling event, present the analytical results of the samples collected from 143 Water Street and adjacent properties, discuss how the results may relate to known contamination at the Former Flintkote Plant Site and Eighteenmile Creek, and present recommendations for further evaluation and study.

4.0 FORMER FLINTKOTE PLANT SITE

4.1 Site Description

The Former Flintkote Plant consisted of property at 198, 225 and 300 Mill Street in the City of Lockport, Niagara County, New York (Figure 1-2). Only the property at 198 and 300 Mill Street, which occupies a total area of approximately 6 acres, was included in the Department's 1999 Site Investigation. The Site is bordered by Eighteenmile Creek to the west, Mill Street to the east, a commercial property to the north and vacant land to the south (Figure 1-2). The property was formerly operated as a felt and composite laminate plant, but is now vacant and in disrepair. Residential property is located west of the Site across Eighteenmile Creek and east of the Site across Mill Street. The Site is bisected by William Street (Figure 1-2), which divides the Site into north (300 Mill Street) and south portions (198 Mill Street). William Street is no longer open to vehicular traffic, but until recently when access was restricted, pedestrian use was common.

As shown on Figure 1-2, Eighteenmile Creek is diverted westward from its apparent natural course for approximately 300 feet along William Street by a dam approximately ten feet high. William Street is located on top of this dam. The creek then continues northward through cross-culverts beneath William Street to return to its original natural channel farther downstream. A pair of sluice gates are located at the east end of the dam and formerly allowed water from Eighteenmile Creek to enter a millrace. These sluice gates have been closed for at least twenty years. The millrace runs along the west side of the buildings at 300 Mill Street and empties into Eighteenmile Creek approximately 600 feet downstream (Figure 1-2). The millrace now contains a sluggish stream approximately six inches to one foot deep.

4.2 Site History

Flintkote began operations as a manufacturer of felt and felt products in 1928, when the property was purchased from the Beckman Dawson Roofing Company. In 1935, Flintkote began production of sound-deadening and tufting felt for ultimate installation and use in automobiles. Manufacturing of this product line was continued at Flintkote until December 1971, when operations ceased and the plant closed. It is also believed that Flintkote manufactured composite laminates similar to those produced at the Former Spaulding Composites Company, in Tonawanda, New York. Such material was observed in the southernmost demolished building on the 300 Mill Street Property.

A portion of the property at 300 Mill Street near William Street and Eighteenmile Creek was formerly listed as Site No. 932072 in the Registry of Inactive Hazardous Waste Disposal Sites in New York State

(Registry) and assigned a Classification Code of 3. This classification is given to sites that do not present a significant threat to public health or the environment and that further action can be deferred. The basis for listing the site in the Registry was the presence of seven drums containing sweepings, solid materials and PCB transformer oil stored in the basement of an on-site building. During an inspection of the Site on May 12, 1983 the drums were observed to be stored in accordance with federal regulations. Analysis of the waste oil (March 1983) indicated that none of the oil contained more than 2 ppm of PCBs. In January 1984 the owner of the property had these drums removed from the Site by a waste oil processor. As a result of this action the Site was removed from the Registry in 1985.

In 1989, the City of Lockport Building Inspection Department reported that a number of drums containing chemicals were found in various locations throughout the buildings at 300 Mill Street. Subsequent investigation revealed that 28 of these drums contained hazardous wastes. These drums were disposed off site in May 1991 during a NYSDEC Drum Removal Action.

Sampling and analysis of sediments from two locations in the millrace, and ash from two locations on the island were included in an April 1996 NYSDEC study entitled "*Trackdown of Chemical Contaminants to Lake Ontario from New York State Tributaries*". This study indicated that there are significant concentrations of PCBs in the sediment of the millrace. Mercury, dioxins and furans were detected in two ash samples collected from the island. As a result, the Former Flintkote Plant Site has been cited by the Division of Water as a potential source of PCBs and dioxins to Eighteenmile Creek. Sediment and waste samples were also collected by the Division of Environmental Remediation in August 1996. These analyses confirmed the presence of PCBs in the millrace sediment; the two ash samples collected from the island failed the TCLP Regulatory Limit for lead. The findings and conclusions of the April 1996 study and the results of the August 1996 sampling event indicated the need to conduct additional investigation at the Site.

In August 1997 the Department prepared an Immediate Investigation Work Assignment (IIWA) work plan to conduct such a study. Shortly thereafter the City of Lockport began studying the option of acquiring the Flintkote property for purposes of evaluating the Site under the Department's Brownfields Program. As a result, the IIWA investigation was never conducted. When the City of Lockport decided not to acquire the property, the Department moved forward to conduct the investigation previously proposed, but to expand the scope of work to include the entire former Flintkote property. This investigation was conducted in late 1999, with the results of that investigation presented in a September 2000 report entitled "*Site Investigation Report, Former Flintkote Plant Site*". A brief summary of the investigation results are presented in the following

section.

4.3 Investigation Results

The island between Eighteenmile Creek and the millrace, and the area surrounding the buildings at 300 Mill Street received various wastes, refuse and debris over the years, and much of these wastes are visible at the surface and along the embankments of the millrace. The property at 198 Mill Street also received various wastes, which are visible at the surface and along the embankments of Eighteenmile Creek. The subsurface investigation completed in 1999 revealed that most of the waste at the Site is ash containing glass, coal, coke, slag, ceramic, bottles, brick, buttons and wood. The thickness of this ash is variable, ranging from 0.9 to 23.1 feet. This waste material covers an area of approximately 3.6 acres.

During the Site Investigation, sixteen ash samples were analyzed for hazardous waste characteristics using the Toxicity Characteristic Leaching Procedure (TCLP). Seven of these samples failed the TCLP Regulatory Limit for lead, indicating that some ash at the Site is characteristic hazardous waste. One ash sample also failed the TCLP Regulatory Limit for cadmium. The ash also contains numerous semivolatile (primarily PAHs) and inorganics compounds at concentrations above the Department's TAGM 4046 soil cleanup objectives. These exceedances were documented in waste samples collected throughout the Site and are not restricted to those samples that are characteristic hazardous waste. Eleven ash samples were also analyzed for PCBs, with seven of these samples containing PCBs at concentrations ranging from 22J to 6,840 Fg/kg (parts per billion). None of these concentrations, however, exceeded the 10,000 Fg/kg TAGM 4046 soil cleanup objective.

Analytical data from sediment samples collected in Eighteenmile Creek and the millrace (Figure 3-1) revealed the presence of semivolatile (primarily PAHs) and inorganic compounds at concentrations above the Department's sediment criteria. PCBs were detected in all seven sediment samples at concentrations ranging from 360 to 8,800 Fg/kg (Table 4-1). Although none of these concentrations exceeded the Department's sediment criteria of 19,300 Fg/kg for chronic toxicity to benthic aquatic life, all seven concentrations exceeded the sediment criteria for human health bioaccumulation. While the analytical data suggest that waste at the Former Flintkote Plant Site has adversely impacted sediment at and near the Site, the presence of contamination in the upstream sediment sample (SED-6) suggests that contamination also originates from an unidentified upstream source.

5.0 SAMPLING RESULTS

A brief description of the activities completed as part of the sampling event at 143 Water Street was presented in Section 3.0. In this section, a detailed evaluation of the observations made during the site reconnaissance and the analytical results obtained from the samples are presented. These results, described in Section 5.2, are summarized by environmental media, which include waste material and surface soil.

5.1 General Observations

On April 16, 2002 the Department collected four samples from the property at 143 Water Street. This property was sampled due to it's close proximity to the Former Flintkote Plant Site, and because of the potential for contaminants to migrate to the property from Eighteenmile Creek during flood events. The sampling team consisted of the following individuals:

Mr. Glenn May, New York State Department of Environmental Conservation;
Mr. Brian Sadowski, New York State Department of Environmental Conservation;
Mr. Paul Dicky, Niagara County Health Department;
Ms. Holly D'Angelo, Niagara County Health Department; and
Mr. Matthew Forcucci, New York State Department of Health.

Prior to collecting any samples, a walk through of the property was conducted to identify sample locations. During this reconnaissance, ash fill (Figure 5-1) was observed at the surface of a small ridge along Eighteenmile Creek on a small strip of wooded property (Figure 5-2). Tax records indicate that this property is part of the former Flintkote property that is now owned by Niagara County. Extensive ash fill was also observed in the bank of Eighteenmile Creek (Figure 5-3).

The small vegetable garden in the backyard was also inspected; buttons, coal and glass were observed. When asked, the property owners informed us that the garden was rototilled in place. The portion of the yard that floods during high water events was also identified.

As a result of the site reconnaissance, four sample locations were selected. These locations, shown on Figure 3-1, were selected based upon visual observations or the potential for human exposure through direct contact or ingestion.

5.2 Waste Material

During the April 16th sampling event, one waste sample (SS-3 on Figure 3-1) was collected and submitted to Severn Trent Laboratories for chemical analysis of PCBs and lead. These contaminants were selected for analysis because PCBs are known to exist in Eighteenmile Creek sediment, while ash at the Former Flintkote Plant Site contains high concentrations of lead. Sample SS-3 was collected from the small ridge along Eighteenmile Creek, and consisted primarily of rust colored ash containing slag and buttons (Figure 5-1). This ash is similar in appearance to the ash observed on the island of the Former Flintkote Plant Site.

The analytical results of the ash sample are shown in Table 5-1, and indicate that PCBs are not present in the waste. Lead, however, was detected at a concentration of 4,250 mg/kg (parts per million), a concentration that significantly exceeds the TAGM 4046 soil cleanup objective. Due to this high concentration of lead, the Department also decided to analyze the sample for lead using the Toxicity Characteristic Leaching Procedure (TCLP). The result from this analysis is shown in Table 5-1, and indicates that the ash is a characteristic hazardous waste for lead (D008).

5.3 Surface Soil

Three surface soil samples were also collected on April 16, 2002 and submitted to Severn Trent Laboratories for chemical analysis of PCBs and lead. The location of these samples (SS-1, SS-2 and SS-4) are shown on Figure 3-1. Sample SS-1 was collected from the portion of the side yard that floods during high water events (Figure 5-4). This area is at the end of a natural drainage swale to Eighteenmile Creek (Figure 5-5), and would be the first area to flood during high water events and the last area from which flood waters would recede. This sample consisted primarily of black topsoil with no visible evidence of waste material. The analytical results for this sample are shown in Table 5-1, and indicate that lead is present at a concentration of 887 mg/kg. While this concentration of lead exceeds the TAGM 4046 soil cleanup objective, it is similar to lead concentrations in other urban areas of western New York. PCBs were also detected in this sample at a concentration of 64J Fg/kg (parts per billion), which is below the 1,000 Fg/kg TAGM 4046 surface soil cleanup objective.

Sample SS-2 was collected from the center of a small vegetable garden in the side yard of the 143 Water Street property (Figure 5-6). This sample consisted primarily of medium brown soil with glass, buttons and coal fragments. The analytical results for this sample are shown in Table 5-1, and indicate that lead is present at a concentration of 686 mg/kg. This concentration of lead exceeds the TAGM 4046 soil cleanup

objective, but is similar to lead concentrations in other urban areas of western New York. PCBs were also detected in this sample, but at a concentration (24J Fg/kg) below the Department's TAGM 4046 surface soil cleanup objective.

To evaluate the potential migration pathway between contaminated creek sediments and backyard soils due to creek flooding events, sample SS-4 was collected from a location approximately 4 feet from the shore of Eighteenmile Creek in an area visibly devoid of waste and other fill material (Figure 5-7). This sample consisted primarily of dark brown soil with a peat moss-like consistency. The analytical results for this sample are shown in Table 5-1, and indicate that lead is present at a concentration of 1,270 mg/kg. Due to this high concentration of lead, the Department also decided to analyze the sample for lead using the Toxicity Characteristic Leaching Procedure (TCLP). The result from this analysis is shown in Table 5-1, and indicates that the soil is not a characteristic hazardous waste with respect to lead. PCBs were also detected in this sample at a concentration (17,400 Fg/kg) significantly above the 1,000 Fg/kg TAGM 4046 surface soil cleanup objective.

6.0 DISCUSSIONS AND CONCLUSIONS

6.1 Discussion

The property at 143 Water Street was sampled due to it's close proximity to the Former Flintkote Plant Site, and because of the potential for contaminants to migrate onto the property from Eighteenmile Creek during flood events. The principle objective of the sampling event was to obtain information sufficient to determine if the property at 143 Water Street is being impacted by the Former Flintkote Plant Site and/or Eighteenmile Creek.

During the site reconnaissance, ash fill was observed at the surface of a small ridge along Eighteenmile Creek on wooded property adjacent to 143 Water Street. Extensive ash fill was also observed in the bank of Eighteenmile Creek in this area. Analytical results from an ash sample collected from the ridge revealed the presence of lead at a concentration (4,250 mg/kg) that exceeded the Department's TAGM 4046 soil cleanup objective. While surface water/solids runoff from this ridge to the 143 water Street property may explain the relatively high concentrations of lead in surface soil samples SS-1 (low-lying property) and SS-2 (garden), other sources of lead may also be responsible. For example, the possible presence of ash fill in the garden, as suggested by the buttons, coal and glass that were observed, could explain the high concentration of lead in sample SS-2. In addition, sediment in Eighteenmile Creek contains elevated concentrations of lead (Table 4-1) that could be deposited on the 143 Water Street property during flood events.

The source of PCBs at the 143 Water Street property is also problematical. While the ash sample (SS-3) did not contain PCBs, PCBs at low concentrations (22J to 6,840 Fg/kg) were detected in 7 of 11 ash samples collected from the Former Flintkote Plant Site during the Department's 1999 Site Investigation. It is possible, therefore, that some of the ash observed along Eighteenmile Creek contains PCBs. It is also known that sediment in the creek contains elevated concentrations of PCBs (Table 4-1) that could be deposited on the 143 Water Street property during flood events.

Sample SS-4 was collected to evaluate the potential migration pathway between contaminated creek sediments and backyard soils due to creek flooding events. This sample location was selected because it was close to the creek and the general area was visibly devoid of waste and other fill material. It is reasonable to conclude, therefore, that any contamination detected in this sample is attributable to Eighteenmile Creek.

The analytical results for sample SS-4 indicate the presence of both lead and PCBs (Table 5-1). The concentrations of lead (1,270 mg/kg) and PCBs (17,400 Fg/kg) in this sample are higher than the

concentrations of these contaminants in the upstream sediment sample (SED-6; Table 4-1); however, this fact may not be particularly meaningful as the samples were collected and analyzed six years apart. It is important to note also that the 1996 sediment results are dominated by PCB arochlors 1248 and 1254 (Table 4-1), while the 2002 results on sample SS-4 are dominated by arochlors 1254 and 1260 (Table 5-1). These results suggest a change in the PCB fingerprint of Eighteenmile Creek sediment.

6.2 Conclusion

Elevated concentrations of lead and PCBs were detected in surface soil samples collected from the property at 143 Water Street. The exact source of these contaminants is unknown, but could include surface water/solids runoff from the ridge of ash fill, the presence of ash fill in the garden, and/or deposition of contaminated sediments from Eighteenmile Creek during flood events. Elevated concentrations of lead and PCBs were also detected in the surface soil sample (SS-4) collected along Eighteenmile Creek. The contamination in this sample appears to be related to the deposition of contaminated sediment from the creek during flood events, although the PCB fingerprint is different between the 1996 and 2002 samples.

The ash fill that was observed in a small ridge along Eighteenmile Creek is a characteristic hazardous waste for lead (D008). At the Former Flintkote Plant Site, similar ash was found to contain numerous semivolatile (primarily PAHs) and inorganic compounds at concentrations above the Department's TAGM 4046 soil cleanup objectives. While ash sample SS-3 did not contain PCBs, PCBs at low concentrations (22J to 6,840 Fg/kg) were detected in ash samples collected from the Former Flintkote Plant Site during the Department's 1999 Site Investigation.

7.0 RECOMMENDATIONS

Based upon the results of the April 16, 2002 sampling event at 143 Water Street, the Department is making the following recommendations regarding future activities at the Former Flintkote Plant Site and properties along Eighteenmile Creek:

- Collect additional samples from the wooded property along Eighteenmile Creek to determine the nature and extent of ash fill in this area. Tax records indicate that this property is part of the former Flintkote property that is now owned by Niagara County. Therefore, the additional samples could be collected by the county as part of the Flintkote Brownfields Investigation.

- Collect additional sediment samples from Eighteenmile Creek for chemical analysis to further evaluate the apparent change in the PCB fingerprint between 1996 and 2002, and to determine if other contaminant concentrations have changed over that six year period. Sediment samples adjacent to the Former Flintkote Plant Site will be collected by Niagara County as part of the Flintkote Brownfields Investigation. Upstream samples are not included in this program and could be collected by the Department.

- Complete a reconnaissance both up- and downstream of William Street to determine how many properties could be impacted by Eighteenmile Creek during flood events.

- Collect additional surface soil samples from backyards along Eighteenmile Creek for chemical analysis. This would include selected up- and downstream properties identified in the second bullet above.

- Send this report to the New York State Department of Health for their evaluation and action, as appropriate, concerning potential human health impacts from the contaminated soils and waste identified.

8.0 REFERENCES

NYSDEC, 1995, Determination of Soil Cleanup Objectives and Cleanup Levels: New York State Department of Environmental Conservation, Division of Environmental Remediation Technical and Administrative Guidance Memorandum # HWR-95-4046, Albany, New York.

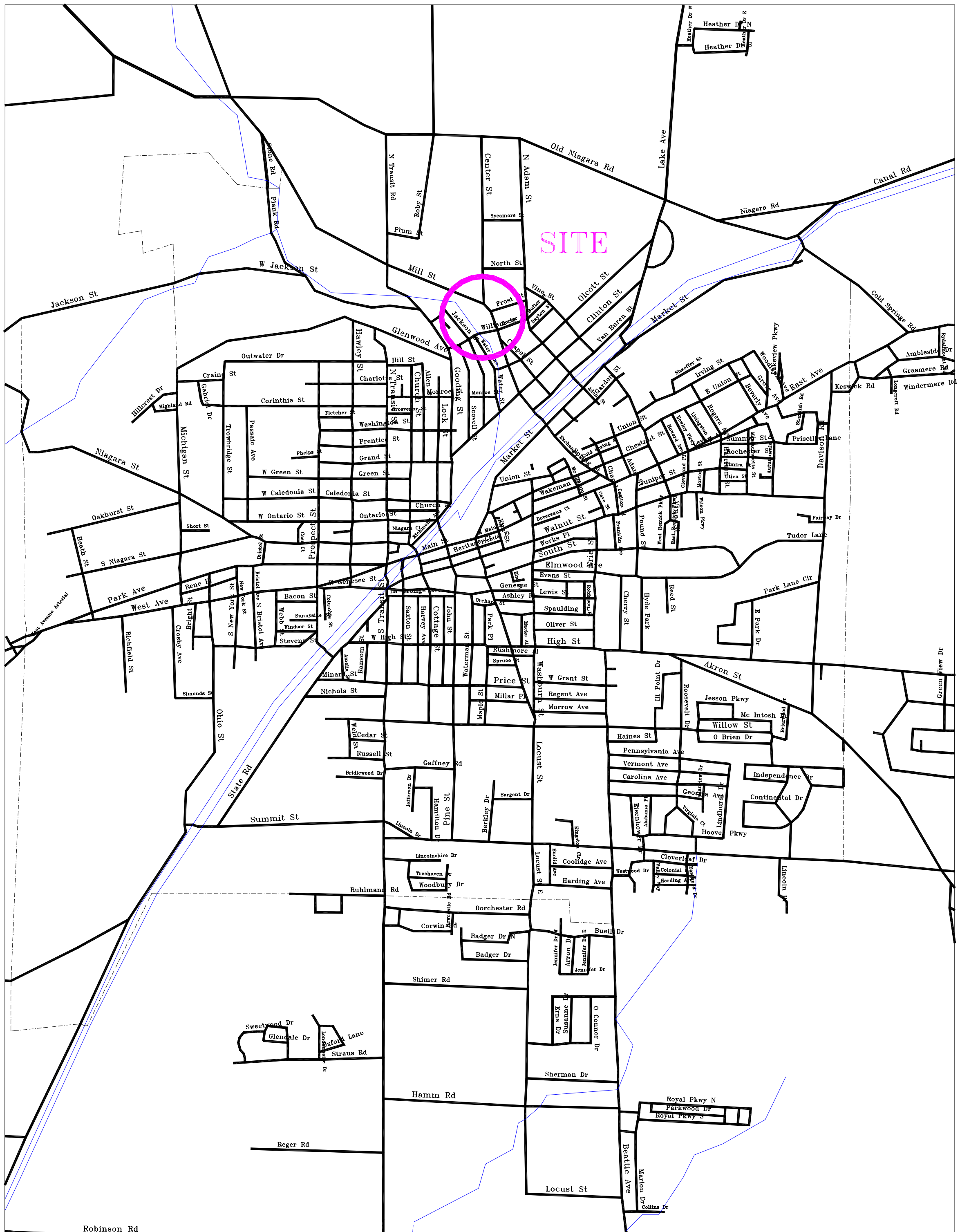
NYSDEC, 1995, Identification and Listing of Hazardous Wastes, New York State Codes, Rules and Regulations Title 6, Part 371: New York State Department of Environmental Conservation, Division of Hazardous Substances Regulation, Albany, New York.

NYSDEC, 1996, Trackdown of Chemical Contaminants to Lake Ontario from New York State Tributaries: New York State Department of Environmental Conservation, Division of Water, Albany, New York.

NYSDEC, 1997, Eighteenmile Creek Remedial Action Plan: New York State Department of Environmental Conservation, Division of Water, Albany, New York.

NYSDEC, 1999, Technical Guidance for Screening Contaminated Sediments: New York State Department of Environmental Conservation, Division of Fish, Wildlife and Marine Resources, Albany, New York.

NYSDEC, 2000, Site Investigation Report, Former Flintkote Plant Site, 198 & 300 Mill Street, City of Lockport, Niagara County, New York: New York State Department of Environmental Conservation, Division of Environmental Remediation, Buffalo, New York.



Lockport Quadrangle

Scale Depends on Final Plotted Size

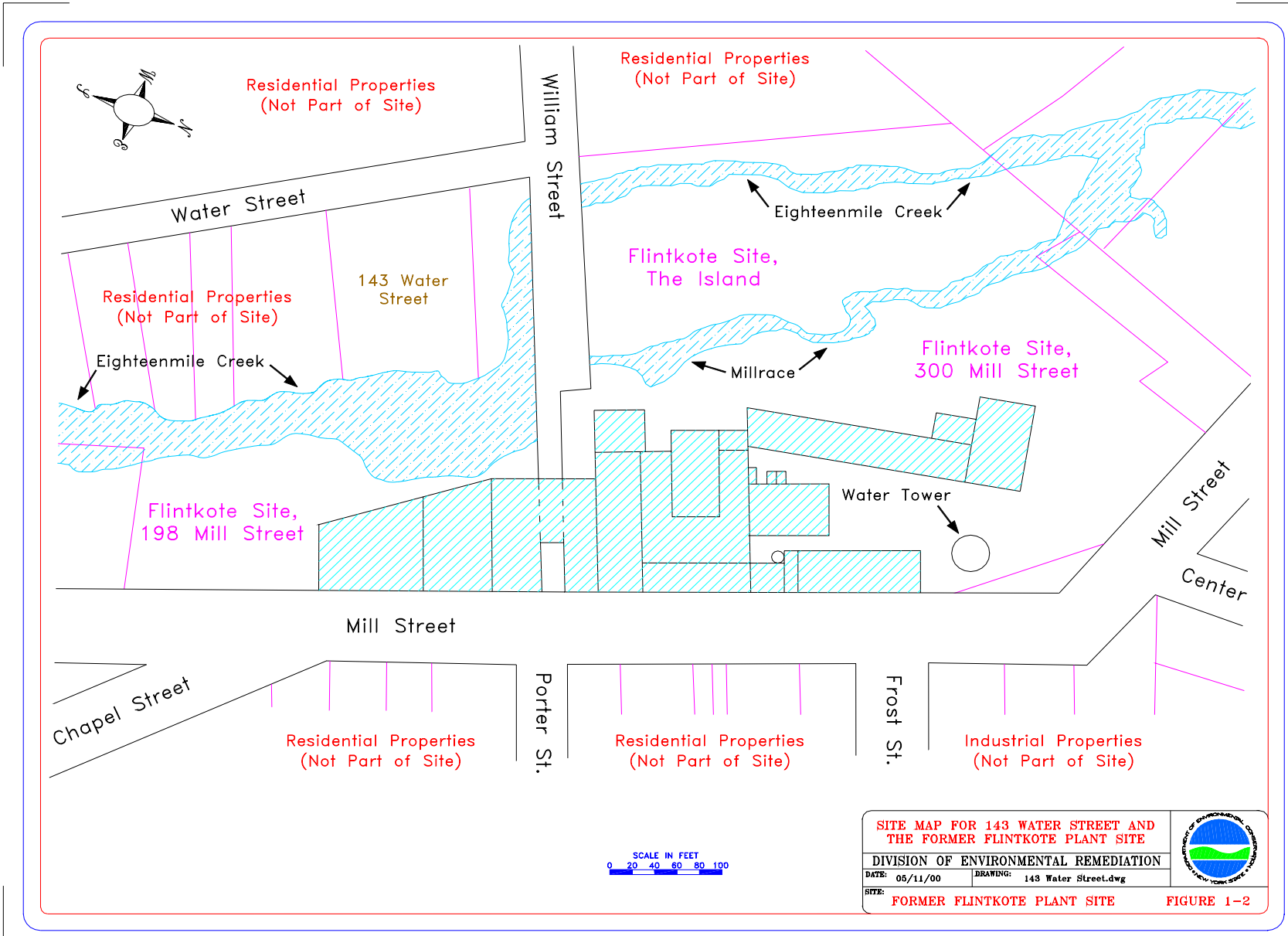
SITE LOCATION MAP

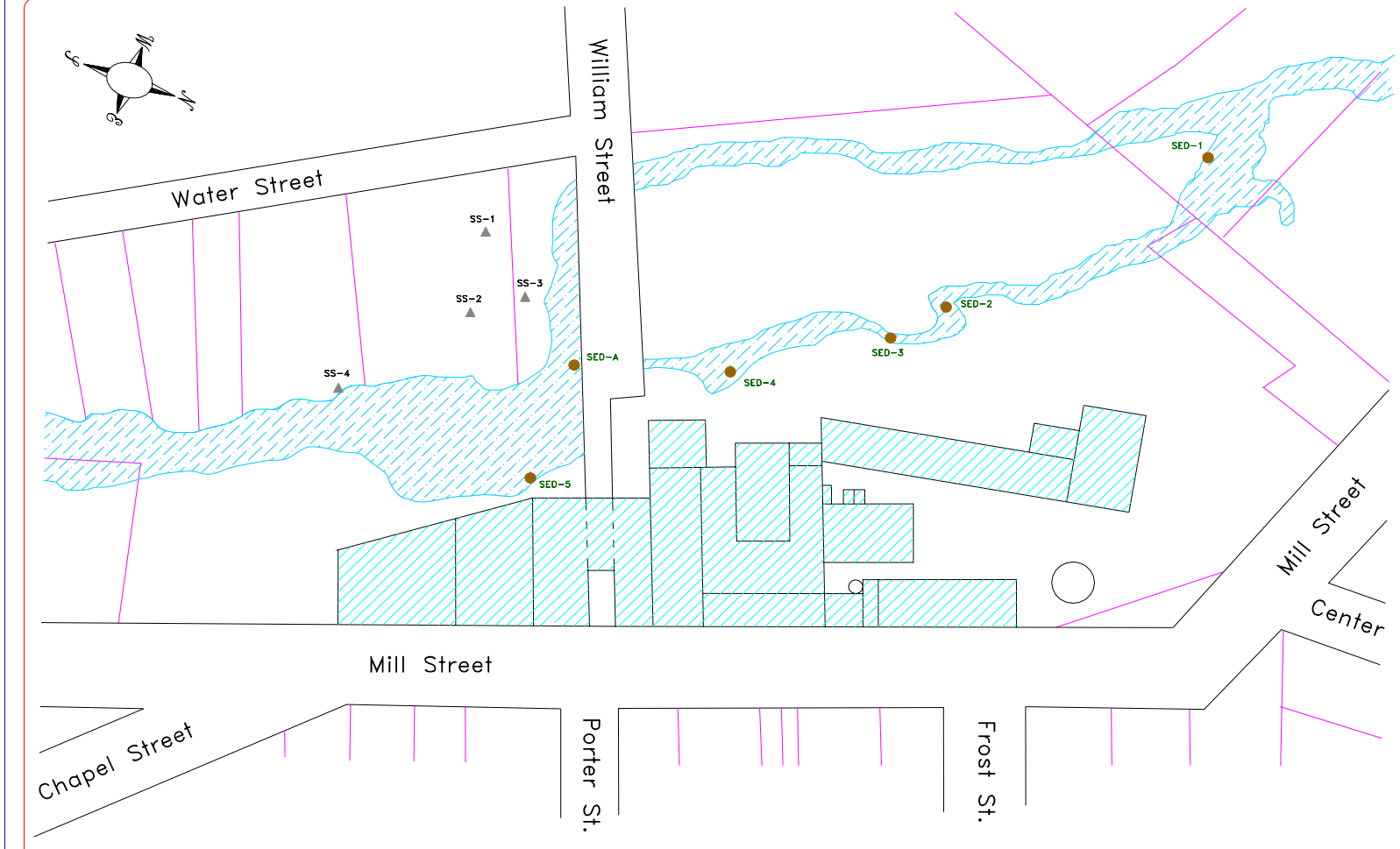
DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 08/29/00 DRAWING: LOCATION2.DWG

SITE: FORMER FLINTKOTE PLANT SITE FIGURE 1-1

DEPARTMENT OF ENVIRONMENTAL CONSERVATION • NEW YORK STATE •


Residential Properties
(Not Part of Site)
William Street
Residential Properties
(Not Part of Site)
Water Street
Eighteenmile Creek
Flintkote Site,
The Island
143 Water
Street
Residential Properties
(Not Part of Site)
Eighteenmile Creek
Millrace
Flintkote Site,
300 Mill Street
Water Tower
Flintkote Site,
198 Mill Street
Mill Street
Center
Mill Street
Chapel Street
Residential Properties
(Not Part of Site)
Porter St.
Residential Properties
(Not Part of Site)
Frost St.
Industrial Properties
(Not Part of Site)
SCALE IN FEET
0 20 40 60 80 100
SITE MAP FOR 143 WATER STREET AND
THE FORMER FLINTKOTE PLANT SITE
DIVISION OF ENVIRONMENTAL REMEDIATION
DATE: 05/11/00
DRAWING: 143 Water Street.dwg
SITE:
FORMER FLINTKOTE PLANT SITE
FIGURE 1-2



SAMPLE LOCATION MAP

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 05/11/00 DRAWING: 143 Water Street.dwg

SITE: FORMER FLINTKOTE PLANT SITE FIGURE 3-1

Figure 5-1. Photograph of ash from a small ridge along Eighteenmile Creek. This area was the location of sample SS-3. Photograph taken by Paul Dicky on April 16, 2002.

Figure 5-2. Photograph of the small ridge of ash fill along Eighteenmile Creek. The grassy area in the background is the side yard of the property at 143 Water Street. Photograph taken by Paul Dicky on April 16, 2002.

Figure 5-3. Photograph of ash fill in the creek bank along Eighteenmile Creek. Observe the buttons, which are characteristic of the ash fill on the island of the former Flintkote property. Photograph taken by Paul Dicky on April 16, 2002.

Figure 5-4. Photograph of sample location SS-1 (at white flag). This sample was collected from the side yard of 143 Water Street at the area that floods during high water events. Photograph taken by Paul Dicky on April 16, 2002.

Figure 5-5. Photograph of the natural drainage swale from the side yard of 143 Water Street to Eighteenmile Creek. The cross-culverts beneath William Street can be observed in the background. Note the debris partially blocking these culverts. Photograph taken by Paul Dicky on April 16, 2002.

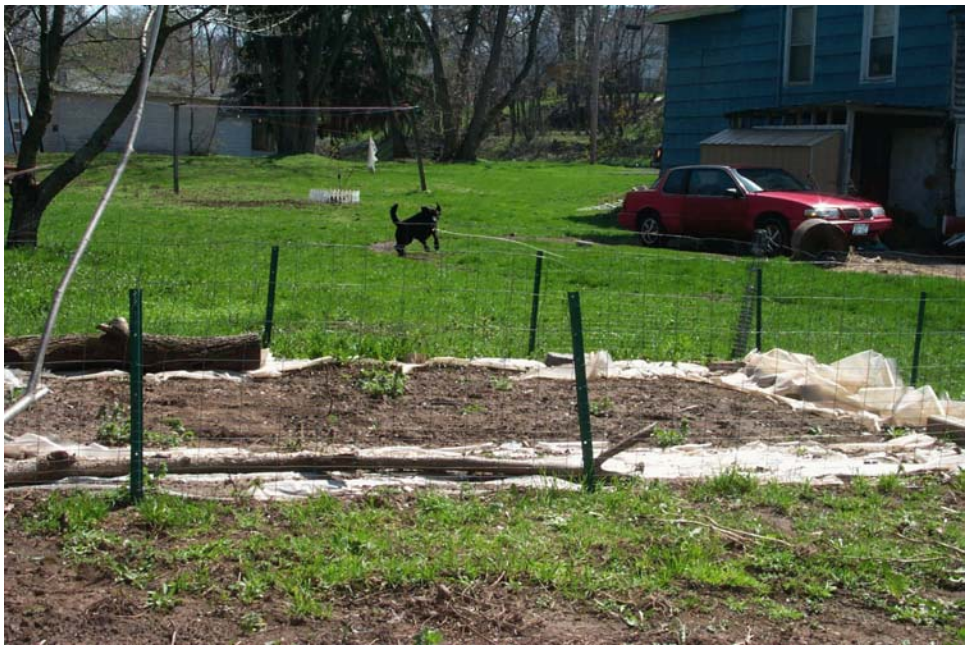


Figure 5-6. Photograph of the small garden at 143 Water Street. Sample SS-2 was collected from the center of the garden. Photograph taken by Paul Dicky on April 16, 2002.

Figure 5-7. Photograph of sample location SS-4 (at the brick) along Eighteenmile Creek. The former Flintkote buildings can be observed in the background. Photograph taken by Paul Dicky on April 16, 2002.

Table 4-1.
Analytical Results of Sediment Samples Collected from Eighteenmile Creek and the Millrace at the Former Flintkote Plant Site.

Results Summarized from Upstream (SED-6) to Downstream (SED-1) Locations.

Sample Number Date Sampled Sample Depth Sample Location	Sediment Criteria	SED-6 8/7/96 0"-2" Olcott St.	SED-5 8/7/96 0"-2" 300 Mill	SED-A 10/27/95 0"-2" William St.	SED-4 8/7/96 0"-2" Millrace	SED-3 8/7/96 0"-2" Millrace	SED-2 8/7/96 0"-2" Millrace	SED-1 8/7/96 0"-2" Downstream
PCBs								
Aroclor-1248 (Fg/kg)		4,800 X	4,900 PX		5,700 PX		2,100 X	4,100 X
Aroclor-1254 (Fg/kg)		770 PX	3,900 PX		440 JPX	360.0	860 JPX	2,000 PX
Aroclor-1260 (Fg/kg)								
Total PCBs (Fg/kg)	0.8 *	**5,570**	**8,800**	**4,072 (2,138)**	**6,140**	**360.0**	**2,960**	**6,100**
Inorganic Compounds								
Lead - Total (mg/kg)	110 **	**805 E**	**5,940 E**	**343.0**	**398 E**	**189 E**	**558 E**	**362 E**

J Compound reported at an estimated concentration below the reporting limit.
P >25% difference between the analytical results on two GC columns. The lower value is reported.
X Manually integrated and calculated.
E Estimated concentration due to the presence of interference.
* Sediment criteria for human health bioaccumulation.
** Sediment criteria for the severe effect level.

Only compounds detected are reported.

Shaded values equal or exceed the Division of Fish, Wildlife and Marine Resources sediment criteria.

Table 5-1.
Analytical Results of Surface Soil and Waste Samples Collected from the Property at 143 Water Street.

Sample Number Date Sampled Sample Depth Sample Location	TAGM 4046 Surface Soil Cleanup Objective	SS-1 4/16/02 0"-2" Shallow Swale	SS-2 4/16/02 0"-2" Garden	SS-3 4/16/02 0"-2" Ash Ridge	SS-4 4/16/02 0"-2" Creek Bank
PCBs					
Aroclor-1248 (Fg/kg)					
Aroclor-1254 (Fg/kg)		64 J	24 J		9,400
Aroclor-1260 (Fg/kg)					8,000
Total PCBs (Fg/kg)	1,000	64 J	24 J		**17,400**
Inorganic Compounds					
Lead - Total (mg/kg)	500 *	**887 E**	**686 E**	**4,250 E**	**1,270 E**
Lead - TCLP (mg/l)	5.0	NA	NA	**355.0**	1.54

J **Compound reported at an estimated concentration below the reporting limit.**
E **Estimated concentration due to the presence of interference.**
***** **The TAGM 4046 soil cleanup objective for lead is site background. In general, background concentrations vary widely, with average concentrations in undeveloped, rural areas ranging from 4-61 ppm, and from 200-500 ppm in metropolitan or suburban areas. A specific site background concentration for the Former Flintkote Plant Site has not been determined, so a 500 ppm value has been utilized for screening purposes.**
NA **Not analyzed.**

Only compounds detected are reported.

Shaded values equal or exceed the TAGM 4046 soil cleanup objectives.

APPENDIX A

LAB ANALYTICAL DATA

SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A02-3616

STL Project#: NY1A8770.9
SDG#: 0416
Site Name: NYS DEC ASP Contract #C004154 - Region 9
Task: CASE SH902

Mr. John Ryan
NYSDEC
625 Broadway - 4th Floor
Albany, NY 12233

CC: Mr. Glenn May

STL Buffalo

Brian J. Fischer
Project Manager

Susan L. Mazur
Laboratory Director

04/30/2002

This report contains 580 pages which are individually numbered.

SEVERN TRENT SERVICES

000004

NON-CONFORMANCE SUMMARY

Job#: A02-3616

STL Project#: NY1A8770.9
SDG#: 0416
Site Name: NYS DEC ASP Contract #C004154 - Region 9

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-3616
Sample Cooler(s) were received at the following temperature(s); 2°C.

GC Extractable Data

The recovery of surrogate Decachlorobiphenyl for the Method 8082 (PCB) analysis of soil samples 032101, 032101 matrix spike and 032101 matrix spike duplicate was outside of established quality control limits (high) due to sample matrix interference. The recovery of surrogate Tetrachloro-m-xylene was within quality control limits for these samples, no corrective action was required.

Soil sample 032104 for Method 8082 (PCB) analysis required dilution prior to analysis due to high concentration of target analytes. The surrogates were diluted out of this sample extract.

Sample 032101 exhibited the presence of Aroclor 1254 which could not be quantified for the matrix spike and matrix spike duplicate of this sample due to the presence of the spiking mixture.

Metals Data

Sample 032102 Matrix Duplicate exceeded the Quality Control Limits for Lead. The LFB was acceptable.

SEVERN TRENT SERVICES

Wet Chemistry Data

No deviations from protocol were encountered during the analytical procedures.

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package and electronic deliverable has been authorized by the Laboratory Director or her designee, as verified by the following signature."

Susan L. Mazur
Laboratory Director

4/30/2002
Date

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
A	This flag indicates that a TIC is a suspected aldol-condensation product.
'	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.
E	Indicates a value estimated or not reported due to the presence of interferences.
H	Indicates analytical holding time exceedance. The value obtained should be considered an estimate.
•	Indicates analysis is not within the quality control limits.
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.

NYS DEC
NYS DEC ASP CONTRACT #C004154 - REGION 9
NYSDEC - METHOD 8082 - PCBS- S
ANALYSIS DATA SHEET

000013

Client No.

032101

Lab Name: STL Buffalo Contract: C004154

Lab Code: RECNY Case No.: SH902 SAS No.: _____ SDG No.: 0416

Matrix: (soil/water) SOIL Lab Sample ID: A2361601

Sample wt/vol: 30.81 (g/mL) G Lab File ID: LB03328.TX0

% Moisture: 31.3 decanted: (Y/N) N Date Samp/Recv: 04/16/2002 04/16/2002

Extraction: (SepF/Cont/Sonc/Soxh): SONC Date Extracted: 04/17/2002

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/19/2002

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: _ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	PCB-1016	110	U
11104-28-2	PCB-1221	110	U
11141-16-5	PCB-1232	110	U
53469-21-9	PCB-1242	110	U
12672-29-6	PCB-1248	110	U
11097-69-1	PCB-1254	64	J
11096-82-5	PCB-1260	110	U

NYS DEC
NYS DEC ASP CONTRACT #C004154 - REGION 9
NYSDEC - METHOD 8082 - PCBS- S
ANALYSIS DATA SHEET

000014

Client No.

032102

Lab Name: STL Buffalo Contract: C004154

Lab Code: RECNY Case No.: SH902 SAS No.: _____ SDG No.: 0416

Matrix: (soil/water) SOIL Lab Sample ID: A2361602

Sample wt/vol: 30.59 (g/mL) G Lab File ID: LB03331.TX0

% Moisture: 25.7 decanted: (Y/N) N Date Samp/Recv: 04/16/2002 04/16/2002

Extraction: (SepF/Cont/Sonc/Soxh): SONC Date Extracted: 04/17/2002

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/19/2002

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.45 Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND		Q
12674-11-2	PCB-1016	100	U
11104-28-2	PCB-1221	100	U
11141-16-5	PCB-1232	100	U
53469-21-9	PCB-1242	100	U
12672-29-6	PCB-1248	100	U
11097-69-1	PCB-1254	24	J
11096-82-5	PCB-1260	100	U

NYS DEC
NYS DEC ASP CONTRACT #C004154 - REGION 9
NYSDEC - METHOD 8082 - PCBS- S
ANALYSIS DATA SHEET

000015

Client No.

032103

Lab Name: STL Buffalo Contract: C004154

Lab Code: RECNY Case No.: SH902 SAS No.: _____ SDG No.: 0416

Matrix: (soil/water) SOIL Lab Sample ID: A2361603

Sample wt/vol: 30.15 (g/mL) G Lab File ID: LB03332.TX0

% Moisture: 20.4 decanted: (Y/N) N Date Samp/Recv: 04/16/2002 04/16/2002

Extraction: (SepF/Cont/Sonc/Soxh): SONC Date Extracted: 04/17/2002

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/19/2002

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.64 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	PCB-1016	100	U
11104-28-2	PCB-1221	100	U
11141-16-5	PCB-1232	100	U
53469-21-9	PCB-1242	100	U
12672-29-6	PCB-1248	100	U
11097-69-1	PCB-1254	100	U
11096-82-5	PCB-1260	100	U

NYS DEC
NYS DEC ASP CONTRACT #C004154 - REGION 9
NYSDEC - METHOD 8082 - PCBS- S
ANALYSIS DATA SHEET

000016

Client No.

032104

Lab Name: STL Buffalo Contract: C004154

Lab Code: RECNY Case No.: SH902 SAS No.: _____ SDG No.: 0416

Matrix: (soil/water) SOIL Lab Sample ID: A2361604

Sample wt/vol: 30.14 (g/mL) G Lab File ID: LB03333.TX0

% Moisture: 37.3 decanted: (Y/N) N Date Samp/Recv: 04/16/2002 04/16/2002

Extraction: (SepF/Cont/Sonc/Soxh): SONC Date Extracted: 04/17/2002

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 04/19/2002

Injection Volume: 1.00 (uL) Dilution Factor: 20.00

GPC Cleanup: (Y/N) N pH: 7.51 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2	PCB-1016	2500	U
11104-28-2	PCB-1221	2500	U
11141-16-5	PCB-1232	2500	U
53469-21-9	PCB-1242	2500	U
12672-29-6	PCB-1248	9400	
11097-69-1	PCB-1254	8000	
11096-82-5	PCB-1260	2500	U

NYS DEC

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

032101

Contract: NY00-096

Lab Code: STL BFLO Case No.: SH902 SAS No.: SDG NO.: 0416

Matrix (soil/water): SOIL Lab Sample ID: AD206332

Level (low/med): LOW Date Received: 4/16/02

% Solids: 69

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	887		E*	P

Color Before: BROWN Clarity Before: N/A Texture: TOPSOIL

Color After: BROWN Clarity After: CLOUDY Artifacts:

Comments:

NYS DEC

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

032102

Contract: NY00-096

Lab Code: STL BFLO Case No.: SH902 SAS No.: SDG NO.: 0416

Matrix (soil/water): SOIL Lab Sample ID: AD206333

Level (low/med): LOW Date Received: 4/16/02

% Solids: 74

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	686		E*	P

Color Before: BROWN Clarity Before: N/A Texture: TOPSOIL

Color After: BROWN Clarity After: CLOUDY Artifacts:

Comments:

NYS DEC

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

032103

Contract: NY00-096

Lab Code: STL BFLO Case No.: SH902 SAS No.: SDG NO.: 0416

Matrix (soil/water): SOIL Lab Sample ID: AD206334

Level (low/med): LOW Date Received: 4/16/02

% Solids: 80

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	4250		E*	P

Color Before: BROWN Clarity Before: N/A Texture: TOPSOIL

Color After: BROWN Clarity After: CLOUDY Artifacts:

Comments:

NYS DEC

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

032104

Contract: NY00-096

Lab Code: STL BFLO Case No.: SH902 SAS No.: SDG NO.: 0416

Matrix (soil/water): SOIL Lab Sample ID: AD206335

Level (low/med): LOW Date Received: 4/16/02

% Solids: 63

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	1270		E*	P

Color Before: BROWN Clarity Before: N/A Texture: TOPSOIL

Color After: GRAY Clarity After: CLOUDY Artifacts:

Comments:

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (1200)

Client	Project Manager	Date	Chain of Custody Number
NYSDEC	Glenn May	4-16-02	100211
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 1**
270 Michigan Ave	716-851-7220		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Buffalo / NY / 14203			
Project Name and Location (State)	**Carrier/Waybill Number**		
FlintKote			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H_2SO_4	HNO_3	HCl	NaOH	$ZnAc/NaOH$	Analysis: Lead, PCBs	Special Instructions/ Conditions of Receipt
D32101	4/16/02	1128				X	X						X	
D32102	"	1140				X	X						X	
D32103	"	1150				X	X						X	
D32104	"	1200				X	X						X	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☒ Other As per contract

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Glenn M May	4/16/02	1335	1. Received By:	4-16-02	1:25 PM
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments: 20

0000040

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report. PINK - Field Copy

SEVERN
TRENT
SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT
Revised

Job#: A02-4346

STL Project#: NY1A8770.9
SDG#: 0416
Site Name: NYS DEC ASP Contract #C004154 - Region 9
Task: CASE SH902

Mr. John Ryan
NYSDEC
625 Broadway - 4th Floor
Albany, NY 12233

CC: Mr. Glenn May

STL Buffalo

Brian S. Fischer
Project Manager

for Susan L. Mazur
Laboratory Director

05/28/2002

This report contains 517 pages which are individually numbered.

SEVERN TRENT SERVICES

000004

NON-CONFORMANCE SUMMARY

Job#: A02-4346

STL Project#: NY1A8770.9
SDG#: 0416
Site Name: NYS DEC ASP Contract #C004154 - Region 9

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-4346
Sample Cooler(s) were received at the following temperature(s); 2°C.

Revision Comments

Metals Data (Revision)

The recovery of sample 032103 Matrix Spike fell above the quality control limits for Lead. The sample result was four times greater than the spike amount, therefore no qualifier was required. The relative percent difference between sample 032103 and 032103 Matrix Duplicate exceeded Quality Control Limits for Lead. The LFB was acceptable.

Wet Chemistry Data (Revision)

Sample 032103 was set with 24.96 grams of sample. Sample 032104 was set with 8.21 grams of sample. Both samples were scaled down according to the amount of sample used. No fluid determining step was run, due to limited sample volume. Samples were set with fluid number one, as instructed by the Program Manager.

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package and electronic deliverable has been authorized by the Laboratory Director or her designee, as verified by the following signature."

_____

Susan L. Mazur
Laboratory Director

_____

Date

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
A	This flag indicates that a TIC is a suspected aldol-condensation product.
'	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.
E	Indicates a value estimated or not reported due to the presence of interferences.
H	Indicates analytical holding time exceedance. The value obtained should be considered an estimate
*	Indicates analysis is not within the quality control limits.
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995

NYS DEC
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.
032103

Contract: NY00-096

Lab Code: STL BFLO Case No.: SH902 SAS No.: SDG NO.: 0416

Matrix (soil/water): WATER Lab Sample ID: AD207387

Level (low/med): LOW Date Received: 5/3/02

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	355000		*	P

Color Before: YELLOW Clarity Before: CLEAR Texture: NONE

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments: TCLP EXTRACT

NYS DEC
-I-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.
032104

Contract: NY00-096

Lab Code: STL BFLO Case No.: SH902 SAS No.: SDG NO.: 0416

Matrix (soil/water): WATER Lab Sample ID: AD207390

Level (low/med): LOW Date Received: 5/3/02

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	1540		*	P

Color Before: YELLOW Clarity Before: CLEAR Texture: NONE

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments: TCLP EXTRACT

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (1200)

Client: NYSDEC	Project Manager: Glenn May	Date: 4-16-02	Chain of Custody Number: 100211
Address: 270 Michigan Ave	Telephone Number (Area Code)/Fax Number: 716-851-7220	Lab Number:	Page 1 of 1
City: Buffalo / State: NY / Zip Code: 14203	Site Contact:	Lab Contact:	
Project Name and Location (State): FlintKote	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.:			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed	Soil	Containers & Preservatives: Unpres	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: Lead, PCBs	Special Instructions/ Conditions of Receipt
D32101	4/16/02	1128				X	X						X	
D32102	"	1140				X	X						X	
D32103	"	1150				X	X						X	
D32104	"	1200				X	X						X	Analyze for TCLP Pb per GMPY on 5/3 (BJ 5/3)

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal: ☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☒ Other As per Contract

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished By: Glenn M May	4/16/02	1335	1. Received By:	4-16-02	1:27 PM
2. Relinquished By:			2. Received By:		
3. Relinquished By:			3. Received By:		

Comments: 20

620000 000040 000020

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy