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ENVIRONMENT

Subject:
Source Investigation at the Former Kalamazoo and Hawthorne Mill Properties
Final Submittal
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site

Date:
June 17, 2009

Contact:
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Dear Mr. Chummar:

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On behalf of Georgia-Pacific LLC (Georgia-Pacific), please find enclosed the final *Source Investigation at the Former Kalamazoo and Hawthorne Mill Properties* (Source Report) for the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site. This Source Report has been prepared according to the requirements of Section I and Task 2, Section 2.2.1 of the Scope of Work for the Administrative Settlement Agreement and Order on Consent (AOC) for Remedial Investigation and Feasibility Study with the U.S. Environmental Protection Agency (USEPA) (Comprehensive Environmental Response, Compensation, and Liability Act [CERCLA] Docket No. V-W-07-C-864 [SRI/FS AOC]).

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If you have any questions, please do not hesitate to contact us.

Sincerely,

ARCADIS

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Allied Paper, Inc./Portage
Creek/Kalamazoo River
Superfund Site

**Source
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Georgia-Pacific LLC

June 2009



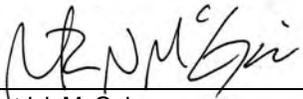


**Allied Paper, Inc./Portage Creek/
Kalamazoo River Superfund Site**

**Source Investigation at the Former
Kalamazoo and Hawthorne Mill
Properties**

June 2009

ARCADIS



Patrick McGuire
Principal Environmental Engineer

**Source Investigation at the
Former Kalamazoo and
Hawthorne Mill Properties**

Allied Paper, Inc./Portage Creek/
Kalamazoo River Superfund Site

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Figure 3	PCB Results from Cleanup Activities - Verification Samples
Figure 4	Reuse and Restoration Conceptual Plan
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Attachments

Attachment 1 CD Containing Electronic Copies of Historical Reports:

- Technical Memorandum 1 – Mill Investigation/Proposed Stormwater and Sediment Sampling Locations
- Technical Memorandum 15 – Mill Investigation
- Final Document in Support of the King Highway Landfill Operable Unit RI/FS
- Georgia-Pacific Corporation Kalamazoo Paper Mill Property Divestiture Study
- Former Hawthorne Mill Oxbow Sediment Investigation
- Former Hawthorne Mill Supplemental Soil Investigation Activities Summary (Memorandum)
- Draft Final Report for Completion of Construction (at the King Highway Landfill Operable Unit) (only Volume 1 of 9, other volumes available upon request)
- Final Report for the Time-Critical Removal Action at the Georgia-Pacific Corporation Kalamazoo Mill Property and the Former Hawthorne Mill Property

Attachment 2 Select Materials from the Technical Memorandum 1, Technical Memorandum 15, and the Final Document in Support of King Highway Landfill Operable Unit RI/FS

Attachment 3 Select Materials from Kalamazoo Mill Property Divestiture Study

Attachment 4 Select Materials from the Former Hawthorne Mill Oxbow Sediment Investigation

Attachment 5 Select Materials from the Former Hawthorne Mill Supplemental Soil Investigation

Attachment 6 Select Materials from the Draft Final Report for Completion of Construction (at the King Highway Landfill Operable Unit)

Attachment 7 Documentation from Field Efforts Completed in March 2009

Attachment 8 Documentation from Field Efforts Completed in April 2009

Attachment 9 Sampling Plan for Area Northwest of Former Mill Lagoon 1 and Associated Documentation

Attachment 10 Select Materials from the TCRA Final Report

Acronyms and Abbreviations

AOC	Administrative Settlement Agreement and Order on Consent
BBEPC	Blasland & Bouck Engineers, P.C.
bgs	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
cy	cubic yards
Georgia-Pacific	Georgia-Pacific LLC
KHL	King Highway Landfill
KHL-OU	King Highway Landfill Operable Unit
KRSG	Kalamazoo River Study Group
KRVT	Kalamazoo River Valley Trailway
MDEQ	Michigan Department of Environmental Quality
MDNR	Michigan Department of Natural Resources
MDOT	Michigan Department of Transportation
mg/kg	milligrams per kilogram
PCBs	polychlorinated biphenyls
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
ROD	Record of Decision
SOW	Statement of Work
SVOCs	semivolatile organic compounds
TCLP	Toxicity Characteristic Leaching Procedure
TCRA	Time-Critical Removal Action
TM	Technical Memorandum
TOC	total organic carbon
USEPA	U.S. Environmental Protection Agency
VOCs	volatile organic compounds

1. Introduction

On February 21, 2007 Millennium Holdings, LLC and Georgia-Pacific LLC (Georgia-Pacific) — collectively referred to as the Kalamazoo River Study Group, or KRSG—voluntarily entered into an Administrative Settlement Agreement and Order on Consent (AOC¹) with the U.S. Environmental Protection Agency (USEPA) that governs a new phase of work now underway at the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site (Site or Superfund Site). The AOC provides the opportunity to exclude certain former paper mill properties from the requirements of the AOC in the event that USEPA determines that the properties are not sources of polychlorinated biphenyls (PCBs) to the Site. This opportunity was included to accelerate remaining cleanup and remove impediments to redevelopment of the properties.

ARCADIS developed this report on behalf of Georgia-Pacific, the current owner of the Georgia-Pacific Kalamazoo Mill and former Hawthorne Mill (referred to as the Mill Properties), to provide USEPA the information necessary to determine that these two mills are not sources of PCBs to the Kalamazoo River. The basis for that determination can be drawn primarily from the results of investigations and source-control activities carried out on the properties over the past 15 years with approvals and oversight by Michigan Department of Environmental Quality (MDEQ) and USEPA. These investigations and activities, the historical operations at the mills, and the information used to identify and characterize potential PCB source areas at the Mill Properties are described in Sections 2 and 3, and an assessment of potential migration pathways of PCBs to the Kalamazoo River is presented in Section 4. Taken together, this information supports the conclusion reached in Section 5 that neither Mill Property is a source of PCBs to the Kalamazoo River, and therefore, as described in the Statement of Work (SOW) included as Attachment A to the AOC, no further investigation under CERCLA is required, and the requirements of the AOC and SOW do not apply to the Mill Properties.

Upon completion of requirements of the AOC and SOW, Georgia-Pacific intends to begin a program to reuse certain portions of the Mill Properties. The preliminary reuse and redevelopment activities are introduced in Section 6, and include a variety of potential sale and/or redevelopment options.

¹ Comprehensive Environmental Response, Compensation, and Liability Act [CERCLA] Docket No. V-W-07-C-864

2. Identification and Characterization of Source Areas

This section summarizes historical paper making operations at the Mill Properties, water pollution control and waste management practices, and previous investigations. Collectively, this information can be used to identify and characterize the potential sources of PCBs at the Mill Properties, the first step of the source investigation process at the former paper mills outlined in Section 2.2.1 of the SOW.

2.1 Background and History

The KRSG companies are the owners of several former paper mill properties in the Kalamazoo, Michigan area. These properties are associated with the Kalamazoo River Superfund Site because several of the mills recycled waste paper between the mid-1950s and the early 1970s. During this period, carbonless copy paper was mixed in with the paper sent to the mills for recycling and from 1957 until 1971 the carbonless copy paper contained Arcolor 1242—a specific mixture of PCB congeners containing approximately 42% chlorine—as an ink carrier or solvent (Versar Inc. 1977). The deinking, re-pulping, and pulp washing processes used to prepare the waste paper for recycling introduced PCBs into the waste streams at those mills where office paper was recycled. Treatment systems—typically clarifiers and settling lagoons designed and constructed primarily to remove suspended solids—were in place during this period. The thickened effluent from the clarifiers produced a solid waste referred to as paper-making residuals (residuals). Residuals contain relatively large amounts of clay, spent wood fiber, and water. Since PCBs tended to bind to the solid fraction of the waste streams, they were concentrated in the residuals. The presence of residuals generated during the 1950s and 1960s is the primary reason the former Mill Properties are viewed as potential sources of PCBs to the Site.

2.1.1 Former Kalamazoo Mill

Operations at the Georgia-Pacific Kalamazoo Mill, located on King Highway (Figure 1), began in the mid-1800s. The Mill was originally owned by the Wolverine Paper Company until it was sold to the Kalamazoo Paper Company in 1899. By the time Georgia-Pacific purchased the Mill in 1967, the facility consisted of five mills: three paper mills and two coating mills. Mills 1, 2, and 3 were the paper mills, and Mills 4 and 5 were used for finishing and converting operations (Figure 1). Mill 2 was razed in the early 1970s and Mill 5 was razed in the 1980s. Mills 1, 3, and 4 were razed in 2007.

The Kalamazoo Paper Company started deinking waste paper in the 1950s at Mills 1 and 3. Deinking ended at Mill 1 in the late 1970s. At Mill 3, paper was deinked until the late 1960s.

During this time, all the wastewater generated during the deinking process at both mills was sent directly to the sewer system, which historically discharged to the Kalamazoo River. After a brief hiatus, the deinking process was restarted at Mill 3 in 1975, and the historical process equipment and the old floor drains were torn down and replaced with a new system (Blasland & Bouck Engineers, P.C. [BBEPC] 1993). From 1964 on, the process discharge from deinking at Mill 3 was sent to the Kalamazoo Water Reclamation Plant.

The former National Gypsum Company plant is located just south of Mill 4 and is surrounded by Georgia-Pacific property (Figure 1). Gypsum board liner was produced at the facility until its closing in 1988. The mill building was demolished in 2001. Presently, the property—which is sometimes referred to as the Nolichucky Property after the company that purchased the plant in 1987—is owned by Kalamazoo Township.

2.1.2 Former Hawthorne Mill

The former Hawthorne Paper Mill is located to the east of the Georgia-Pacific Mill (Figure 1). Hawthorne Paper began manufacturing high grade bond, ledger, and printing paper in 1912, mainly from rag stock. Hawthorne's specialty was watermark paper (*Kalamazoo Gazette*, June 24, 1934). Although the mill recycled paper, the recycle stock was pre-consumer waste paper and did not require deinking. The company shut down in 1976, and the Mill was purchased by Georgia-Pacific in 1978. Shortly after its purchase, the Mill was razed.

2.1.3 Water Pollution Control and Waste Management

2.1.3.1 Former Kalamazoo Mill

In 1954, the Kalamazoo Paper Company constructed a 110-foot diameter clarifier for primary treatment of its process waste. Previously, all industrial wastewater from the Mills was discharged to the Kalamazoo River. When the treatment system was in operation, wastewater flowed from the Mills to a centrally located intercept station, which pumped the mill effluent to the clarifier. Overflow from the 110-foot diameter clarifier went to the Kalamazoo River, while underflow was initially pumped to the adjacent lagoons (former Mill Lagoons) (Figure 1). Several lagoons and a clarifier located to the northwest of the plant were also used in the mid 1950s to treat wastewater from Mill 2 (Figure 1) until that facility was shut down in 1970. A series of dewatering lagoons were constructed at the King Highway Landfill (KHL) on the opposite side of the river (Figure 1) in the late 1950s for dewatering the underflow from the 110-foot clarifier, and a pipeline was built across the river to connect the clarifier to the KHL. Former Mill Lagoons 1 through 5, located adjacent to the clarifier, were subsequently used as emergency lagoons until 1980, when they were excavated and the material was taken to the

KHL. In addition, an underground pipe—referred to as Outfall 005—was used to convey stormwater from the Mill 3 area to the river.

Beginning in 1964, the clarifier's effluent was sent to the Kalamazoo wastewater treatment plant for secondary treatment and the underflow, which contained 2% to 4% solids, was pumped to the four KHL dewatering lagoons. The supernatant from the lagoons was returned to the clarifier. Periodically, the lagoons were excavated, and the waste material was sent to the Willow Boulevard Site (Figure 1) until 1975 when the Willow Boulevard Site reached capacity. After 1975, dewatered residuals from the KHL dewatering lagoons were excavated and disposed of at the A-Site (Figure 1).

In 1977, Georgia-Pacific updated the entire wastewater treatment system by installing a new 135-foot diameter primary clarifier, a 50-foot diameter sludge thickener (located in the dewatering building), and two dewatering presses (Figure 1). These presses increased the solids content of the waste to 40% to 50%. The waste was then trucked directly to the A-Site for disposal.

The former KHL dewatering lagoons started to receive wastes from the dewatering presses when the A-Site reached capacity and closed in 1987. The KHL then served as the Kalamazoo Mill's licensed Type III landfill. The KHL operated as a Type III landfill until its closure in 2000.

2.1.3.2 Former Hawthorne Mill

Little is known about pollution controls and waste management practices conducted at the former Hawthorne Mill. Historical aerial photographs show the presence of a clarifier south of the former Mill (as marked on Figure 1). A 4-inch pipe that contained residuals was discovered in 2005 in a low lying area east of the Mill and across an oxbow channel (Figure 1).

2.2 Investigations to Evaluate the Presence of PCBs

Investigations of the Mill Properties, designed to assess whether or not they are sources of PCBs to the Site, began nearly 15 years ago. Highlights of the relevant investigations are summarized in the sections that follow, and sample locations and results are presented on Figure 2. Additional details, including rationale, sampling approach, and complete results are included in the various investigation-specific reports listed below. These reports are included in their entirety on the CD in Attachment 1, and relevant excerpts are provided in Attachments 2 through 10.

- Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site – Remedial Investigation (RI) (1993) – Investigation results are described in *Technical Memorandum 1 – Mill Investigation/Proposed Stormwater and Sediment Sampling Locations* (TM 1, BBL 1994) and *Technical Memorandum 15 – Mill Investigation* (TM 15, BBL 1996).
- Supplemental sampling at the former Mill Lagoons (1996) – Investigation results are described in the *Final Document in Support of the King Highway Landfill Operable Unit RI/FS* (BBL 1997).
- Refuse Area drum removal and sampling activities (1999) – Draft *Final Report for Completion of Construction* (BBL 2004a).
- Focused Soil and Sediment Sampling Program (2000) – *Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Remedial Investigation Report – Phase I* (BBL 2000).
- Georgia-Pacific Corporation Kalamazoo Paper Mill Property Divestiture Study (2002) – Georgia-Pacific Corporation Paper Mill Property Divestiture Study/Supporting Materials (BBL 2003).
- Sediment investigation and supplemental soil investigation activities at the Hawthorne Mill Property (2004 and 2005) – *Former Hawthorne Mill Oxbow Sediment Investigation* (BBL 2004b); *Former Hawthorne Mill Supplemental Soil Investigation Activities Summary Memorandum* (BBL 2005).
- Time-Critical Removal Action (TCRA) Activities (2008) – *Final Report for the Time Critical Removal Action at the Georgia-Pacific Corporation Kalamazoo Mill Property and the Former Hawthorne Mill Property* (ARCADIS 2008a).

2.2.1 RI Activities at the Kalamazoo Mill

As part of the RI conducted for the Superfund Site, the Kalamazoo Mill was investigated to assess: 1) the potential for PCBs to be released to the Kalamazoo River and 2) the presence of PCBs in areas with residuals and locations where wastewater had been handled, with particular emphasis on those areas in use during the late 1950s through the mid 1970s.

As part of the 1993 Site-wide RI activities, the Mill's five former onsite lagoons (Mill Lagoons 1 through 5), the former wastewater treatment system clarifiers, and stormwater conveyances were investigated. Results were presented in the MDEQ-approved Technical Memoranda 1

and 15 (TM 1 and 15; BBL 1994 and 1996). These activities were conducted consistent with the requirements prescribed in the 1991 AOC for the Site (Final Order No. DFO-ERD-91-001) issued by the Michigan Department of Natural Resources (MDNR) in 1991. MDEQ provided oversight for this work, which was covered by a Memorandum of Agreement between USEPA Regions 5's Superfund Program and MDEQ.

Initial work at the Kalamazoo Mill included an evaluation of potential stormwater discharges. Sampling locations that represented drainage from large catchment areas on the mill property were specifically sought. Outfall 005, an underground stormwater conveyance from Mill 3 to the river, was used during mill operations and was still in place during the 1994 investigation. In TM 1 (BBL 1994), the catch basin of Outfall 005 (Attachment 2, Figure 1-1) was identified as a representative sampling point, and sampling was conducted in 1994. The estimated PCB concentration at Outfall 005 (reported in TM 15, BBL 1996) was 0.65 milligrams per kilogram (mg/kg) (Figure 2). This result led to the conclusion presented in TM 15 that no further action was necessary.

During the 1994 investigations, results of soil probing showed that residuals extended beyond the original berms of the former Mill Lagoons. This led Georgia-Pacific to further assess the extent of residuals within the eastern end of former Mill Lagoons 1, 2, and 3 (located in the northwest corner of the property), as well as in the area to the west of the lagoons. The conclusion presented in TM 15, which was approved by MDEQ, was that no additional response to the results from samples collected in 1994 at other locations (i.e., former wastewater treatment system clarifier and stormwater conveyances) was necessary.

Follow-up sampling was conducted in June 1996 at all five former Mill Lagoons, and the results were reported in the Final Document in Support of King Highway Landfill Operable Unit RI/FS (Final Document; BBL 1997). Pertinent sections of TM 15 and the Final Document are presented in Attachment 2.

PCB concentrations in the five surficial (0 to 6 inches) residuals and soil samples collected in Georgia-Pacific's former Mill Lagoons ranged from non-detect in Lagoon 4 (sample GPL-4) to 110 mg/kg in Lagoon 1 (sample GPL-1). PCBs were detected in eight subsurface samples of residuals and soils in the former lagoons at concentrations from 0.043 mg/kg (sample GPL-5) to 70 mg/kg (sample GPL-3). See Figure 2 and Attachment 2, Figure 9 for sample locations and results.

2.2.2 Discovery of the Refuse Area

Based on the findings of the RI activities, source control efforts at the five former Mill Lagoons began in 1999 as part of the response activities at the KHL. These response activities, described in Section 3.1, were conducted consistent with the King Highway Landfill Operable Unit (KHL-OU) 2000 AOC (MDEQ Reference No. AOC-ERD-99-010). During source control work, deteriorating metal drums were observed in the heavily vegetated area adjacent to the river to the south and west of Mill Lagoons 4 and 5. This area has since been referred to as the Refuse Area, as shown in Figure 1. Seven solids samples were collected from this area on June 11, 1999 and analyzed for PCBs. PCBs were not detected in any of these samples. Subsequent to observing the drums, initial response actions included removing one deteriorating drum and disposing it at the EQ Landfill in Detroit, Michigan, and excavating approximately 10 cubic yards (cy) of material from beneath and adjacent to the drums (e.g., drum remnants, soil, white crystals) and disposing this material in a local Type II landfill. To further evaluate the Refuse Area, an associated wastewater pipeline, and a former electrical transformer pad, a Property Divestiture Study was conducted.

2.2.3 Kalamazoo Mill Property Divestiture Study

In the fall of 2002, a Property Divestiture Study was initiated to investigate whether PCB-containing materials were present in soil and groundwater at the Kalamazoo Mill. Soil and groundwater samples were collected from the Kalamazoo Mill Property in areas where available information suggested PCB-containing materials might exist (Attachment 3, Figure 2). These sampling activities are described in the Property Divestiture Study (BBL 2003) and summarized below.

2.2.3.1 Refuse Area

As part of the Property Divestiture Study, the Refuse Area was identified as potentially containing PCBs, and in November and December 2002, two soil borings and seven test pits were installed and more than thirty soil samples were collected for PCB analysis. Additionally, seven groundwater monitoring wells were installed at the downgradient section of the Mill and sampled for PCBs. Pertinent information on the Refuse Area for the Divestiture Study is provided in Attachment 3.

The seven exploratory test pits were excavated to the depth of the water table, and in all cases, the interface between disturbed soils/fill materials and undisturbed native soils was encountered above the groundwater table. Soil sample collection from the Refuse Area test pits was biased toward apparent residuals, if present. In several test pit locations, isolated

pockets of residuals were found and discretely sampled. PCB concentrations in the test pit samples ranged from non-detect to a maximum of 330 mg/kg (sample TP-4 on Figure 2; Attachment 3, Figure 7), which was from a sample collected from an isolated deposit of residuals located 2.5 to 3 feet below ground surface (bgs) in test pit 4. The next highest PCB concentration was 9.7 mg/kg in a sample from test pit 3 (sample TP-3, 6 to 6.5 feet bgs, see Figure 2). The sample from test pit 4 was the only sample with a PCB concentration that exceeded Michigan's Part 201 Natural Resources and Environmental Protection Act (Part 201) Industrial PCB Cleanup Criterion of 16 mg/kg. PCB results for four samples collected between the surface and a depth of approximately 2 feet bgs in test pit 4 ranged from non-detect to 2.4 mg/kg, while results for three samples collected between 3 and 9.5 feet bgs ranged from non-detect to 0.81 mg/kg.

Additionally, PCBs were non-detect in groundwater samples collected in December 2002 from seven monitoring wells located within the Refuse Area (see Attachment 3, Table 4). The monitoring well boring logs are also provided in Attachment 3. Additional information is available in the Property Divestiture Study (BBL 2003).

2.2.3.2 Wastewater Pipeline Residuals

The Kalamazoo Mill Property Divestiture Study also included collection of seven sludge samples from a wastewater pipeline and a wet well located between the former Mill Lagoons and Mill 2 (the GPM series shown on Figure 2 in Attachment 2). The wet well is located near the former Mill Lagoons at the end of the wastewater pipeline, which runs northwest from Mill 2.

PCB concentrations in the seven samples associated with the wastewater pipeline and the wet well, which were biased toward apparent residuals where present, ranged from non-detect to a maximum of 29.0 mg/kg in a sample of residuals scraped from the inside of the wastewater pipeline (Attachment 3, Table 3D). The average and median concentrations of these seven samples were 4.9 and 1.0 mg/kg, respectively (Attachment 3, Table 5). Additional information is provided in the Property Divestiture Study (BBL 2003). The wet well was also sampled, and the PCB concentration was 0.0068 mg/kg (Attachment 3, Table 4, sample GPM-P-1-W).

Although not required by USEPA, Georgia-Pacific performed removal activities at the wastewater pipeline contemporaneously with the TCRA at the Refuse and Oxbow Areas. This work is described in Section 3.2.

2.2.3.3 Electrical Transformer Pad Soils

Soil samples were collected from a test pit excavated at the location of a former transformer pad at Mill 1 (Figure 1) where stained soils were observed. Four samples were collected between depths of 0 and 5 feet bgs. In the 0 to 1 foot bgs interval, PCBs were detected at a concentration of 2.6 mg/kg (Figure 2), which is below the industrial cleanup criterion of 16 mg/kg. PCBs were not detected in the other three samples. Additional information is provided in the Property Divestiture Study (BBL 2003).

Although it was not required by USEPA, Georgia-Pacific performed removal activities at the electrical transformer pad contemporaneously with the TCRA at the Refuse and Oxbow Areas.

2.2.4 RI Activities at the Former Hawthorne Mill Property

During RI activities, residuals were observed in the Oxbow Area of the Former Hawthorne Mill Property (shown on Figure 1). Subsequently, additional samples were collected from this area as part of the 2000 Focused Soil and Sediment Sampling Program conducted for the Site. PCBs were detected in two samples in the 0.5- to 1-foot layers (220 mg/kg and 2.4 mg/kg, respectively; see Attachment 3, Figure 9). Based on this information, additional sampling was conducted as part of the Property Divestiture Study in 2002 to further assess the nature and extent of PCBs in the Oxbow Area. Sampling results indicated that PCB concentrations in this area ranged from non-detect to 490 mg/kg (BBL 2003) (Attachment 3, Tables 3H and Figure 9).

At the request of USEPA, additional samples of sediment and bank soil were collected from the Oxbow Area between August 16 and August 26, 2004 in an approximately 1,700-foot reach of the oxbow that is within the Mill Property boundaries. Ten transects were established perpendicular to river flow. At each transect, five sediment cores were collected at equally-spaced intervals across the oxbow, and one soil core was collected from the top of each bank, for a total of seventy cores (Attachment 4, Figures 1 and 2). Of the fifty sediment cores collected, eight of the sixteen fine-grained cores and ten of the thirty-four coarse-grained cores were randomly selected and analyzed for PCBs and total organic carbon (TOC). Of the twenty bank soil cores, six were analyzed for PCBs and TOC.

Sixty-five sediment and bank soil samples were analyzed for PCBs, and results ranged from non-detect to an estimated concentration of 3.4 mg/kg, the mean PCB concentration was 0.30 mg/kg, and the median was 0.037 mg/kg (Attachment 4, Table 2). Separating out the bank soil samples, PCB concentrations ranged from non-detect to 1.4 mg/kg. The range of TOC in the analyzed samples ranged from 0.15 percent to 24 percent. The average TOC content was 6.5

percent, and the median TOC content for all samples was 3.5 percent (BBL 2004b) (Attachment 4, Table 2).

Based on these results and discussions held among USEPA, MDEQ, and Georgia-Pacific, additional focused soil sampling was conducted at the Hawthorne Mill Property on April 7, 2005. Six test pits were excavated for waste characterization near the former Hawthorne Mill and the clarifier located north of the oxbow (see Attachment 5, Figure 1 for locations). Three of the test pits were excavated to 6 feet bgs, with discrete samples collected at intervals of 2, 4, and 6 feet bgs. The three other test pits were excavated to a depth of 2.5 feet bgs. Within the Oxbow Area, three test pits were excavated for waste characterization purposes. Test pits in this area were excavated to approximately 2 to 2.5 feet bgs, with samples collected from a layer of residuals at approximately 2 to 2.5 feet bgs, and samples collected from a layer of residuals at approximately 0.25 to 1 foot bgs. One sample also was collected from an approximately 4-inch diameter steel pipe that was observed in the Oxbow Area.

All of the collected samples were analyzed for PCBs, and concentrations in the Oxbow Area ranged from non-detect to 1.3 mg/kg, which is below the industrial cleanup criterion of 16 mg/kg (Attachment 5, Table 2). Additional information is provided in the Former Hawthorne Mill Supplemental Soil Investigation Activities Summary Memorandum (BBL 2005).

3. Source Control Activities

Based on the sampling/investigation results summarized in Section 2, Georgia-Pacific has carried out a series of source control activities at the Mill Properties to address areas impacted by PCB-containing materials. The two primary efforts—the actions in the area around the former Kalamazoo Mill Lagoons and a TCRA that covered both properties—are described below. These activities are described pursuant to the requirement of the SOW to evaluate whether areas of the Mill Properties are sources of PCBs to the Kalamazoo River.

USEPA has recommended that this evaluation include a comparison of current PCB soil concentrations to soil screening criteria specific to the proposed future uses of the various areas of the properties. In Section 3.4, the proposed future use of each source area is presented along with a comparison to the applicable screening criteria.

3.1 Former Kalamazoo Mill Lagoons

Between November 1998 and September 1999, approximately 33,000 cy of visible residuals and soils were excavated from the former Mill Lagoons and transported to the KHL (Figure 1). The lagoons were excavated down to native soils, and three six-inch steel pipes running from Lagoons 1, 2, and 3 towards the Kalamazoo River were removed. Appropriate erosion/sedimentation controls were installed and proper handling and treatment of all materials was conducted in accordance with the *Remedial Action Work Plan – Georgia-Pacific Mill Lagoons* (BBL 1999). Sample locations, the extent of excavation, and restoration plans are depicted in select figures from the draft KHL-OU Completion of Construction Report, provided in Attachment 6.

Upon completing excavation activities, Georgia-Pacific collected twenty-three verification samples from former Mill Lagoons 1, 2, and 3 as specified in the Guidance Document for Verification of Soil Remediation (MDNR 1994). All PCB sample results were below the MDEQ-specified cleanup criterion of 9.9 mg/kg (Attachment 6, Figure 10). The arithmetic mean PCB concentration and 95% upper confidence level (UCL) were 0.35 and 0.21 mg/kg, respectively. MDEQ also collected sixteen verification samples in these areas and based on their results, staked four locations (indicated in Figure 10 of Attachment 6) within the former Mill Lagoons that were re-excavated (an average of an additional 20 cy was removed from each location).

Soil samples at an additional seven locations to the south of the former mill lagoons (see Attachment 6, Figure 10) were collected and analyzed for PCBs using an Ensys field test kit, which was set to test for PCB concentrations between 1.7 and 9.2 mg/kg. Three of these locations were shown to contain PCB concentrations greater than 9.2 mg/kg, and each of

these locations was re-excavated. Removal of targeted materials was confirmed visually and the areas were then backfilled, graded, and seeded.

Around former Mill Lagoon 4, fourteen verification samples were collected after excavation activities were complete. All analytical results were below the cleanup criterion of 9.9 mg/kg with the exception of one sample (G52048) that had a PCB concentration of 12 mg/kg. The area around this sample (shown on Figure 11 in Attachment 6) was re-excavated, and removal of targeted materials was confirmed visually. In March and April 2009, Georgia-Pacific collected verification samples around the approximate coordinates of G52048 (to a maximum depth of 4 feet), and all sample results were non-detect for PCBs. Field notes from these sampling efforts, along with laboratory results for the samples are included in Attachments 7 and 8. Sample locations from the March sampling are shown on Figure 1 in Attachment 7, and sample locations from the April sampling are shown on Figure 1 in Attachment 8.

After all visible soils/residuals had been excavated in the former Mill Lagoon 5, fifteen verification samples were collected in August 1999 (see Figure 11 in Attachment 6). All samples were below the 9.9 mg/kg PCB cleanup criterion, with the exception of one sample along the northern sidewall of the excavation that had a concentration of 120 mg/kg. This area was re-excavated, and removal of targeted materials was confirmed visually. In March and April 2009, Georgia-Pacific collected verification samples around the approximate coordinates of G52092 (to a maximum depth of 3 feet), and all sample results were non-detect for PCBs. Field notes taken during these sampling events, along with laboratory results for the samples are included in Attachments 7 and 8. Sample locations from the March sampling are shown on Figure 1 in Attachment 7, and sample locations from the April sampling are shown on Figure 1 in Attachment 8.

MDEQ requested the collection of four additional samples along the west sidewall of Mill Lagoon 5. The western wall was re-excavated (extending the lagoon excavation length approximately 50 feet) and verification samples were collected (see samples G52099, G52100, G52101, G32102 on Figure 11 in Attachment 6). All samples met the MDEQ PCB cleanup criterion of 9.9 mg/kg. After re-excavation, two test pits were excavated west of Mill Lagoon 5 and samples were collected to further verify that the removal of residuals was complete. PCBs were non-detect in both test pits.

3.1.1 Floodplain Area

The source control activities completed at the floodplain area adjacent to former Mill Lagoons 1, 2, and 3 were considered an interim response action per the KHL-OU 2000 AOC, and were carried out in accordance with the *Remedial Action Work Plan – Georgia-Pacific Mill Lagoons*

(BBL 1999). Excavation took place between July and September 1999, and approximately 5,000 cy of residuals were removed and consolidated into Cell 4 KHL-OU. Visual cleanup criteria were used to determine the extent of source control activities; however, MDEQ did conduct verification sampling to confirm that all of the established concentration guidelines had been met. MDEQ's laboratory analytical data are included in Appendix N-2 to the Draft *Final Report for Completion of Construction* (BBL 2004a). The excavation extended to the edge of the river (approximately 753 feet mean sea level, which exceeded the requirements of the applicable scope of work) and down to native soils. Upon completing excavation activities, this area was backfilled and vegetated, and a 5-foot-wide, 6-inch-thick layer of riprap was installed along the river (see Attachment 6, Figure 12).

In addition, MDEQ directed Georgia-Pacific to excavate an area north of the Mill Lagoon 1 property boundary. This additional area – shown on Figure 3 – is included within the footprint of the excavation area around Former Mill Lagoons 1, 2, and 3. Georgia-Pacific installed test pits to determine the extent of residuals and excavated the visible residuals. After excavating the visible residuals, the area was backfilled and no sampling was conducted by MDEQ. To confirm the removal of PCB-containing soils in this backfilled and vegetated area, ARCADIS collected three verification samples on November 13, 2008. In accordance with the *Sampling Plan for Area Northwest of Former Mill Lagoon 1* (ARCADIS 2008b), three sample locations were identified northwest of the former Mill Lagoon 1, just north of the fence line (Figure 3).

At each location, the verification soil samples were collected at 0 to 1-foot and 1 to 2-foot intervals using a 2-inch hand auger. Samples were submitted to KAR Laboratories for PCB analysis, and results indicated that all six of the samples were non-detect for PCBs (Attachment 9).

3.2 Time-Critical Removal Action

In 2006 and 2007, Georgia-Pacific completed a TCRA at the Mill Properties and removed approximately 50,000 cy of materials. The project, which was finished in August 2007, is now in a five-year post-construction monitoring phase. Highlights of the work are described below. Details of the work as planned are included in the *Time-Critical Removal Action Work Plan for the Refuse Area at the Georgia-Pacific Corporation Kalamazoo Mill Property and the Oxbow Area at the Former Hawthorne Mill Property* (TCRA Work Plan, ARCADIS BBL 2006a) and the Addendum to the TCRA Work Plan (ARCADIS BBL 2006b).

3.2.1 Refuse Area

Removal activities for the Refuse Area began on December 16, 2006. The initial extent of excavation was determined based on visual criteria. In general, excavation activities took place along the east side of the Refuse Area, directly west of former Mill Lagoon 5 (Figure 1). Excavation activities were conducted in stages to minimize sloughing and to provide a stable, clean excavation base from which to work. Excavated materials—approximately 33,203 loose cy—were then transported directly to the A-Site Landfill (Figure 1) and consolidated with existing materials. This did not include drums, drum remnants, or dissolved materials that were discovered during removal activities. The depth of excavation extended to the approximate interface with native soils, which was identified during test pit construction and occurred above the groundwater table at all locations. Pertinent information from the TCRA is provided in Attachment 10.

Fifteen drums (sealed and unopened) were discovered during removal activities. Drums and drum remnants that were excavated from the Refuse Area were segregated—those materials that were deemed unsuitable for placement at the A-Site Landfill were stored in overpacks, and loose materials were placed on plastic liners and covered with plastic lining. Characterization of these materials included analysis for PCBs, Toxicity Characteristic Leaching Procedure (TCLP) metals, volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and Resource Conservation and Recovery Act (RCRA) hazardous waste characteristics to obtain approval for disposal. These materials were later transported to the C & C Landfill in Marshall, Michigan (a Class II landfill), with the exception of Drum 13. This particular drum contained elevated levels of tetrachloroethene (Attachment 10, Table 2), and was transported to EQ Landfill for disposal, after obtaining USEPA's certification that the facility was operating in compliance with the requirements of CERCLA Section 121 (d)(3) 42 United States Code 9621 (d)(3), and 40 Code of Federal Regulations 300.440.

A layer of residuals that extended past the northern fence line of the Refuse Area, northwest of the pump station (Figure 1) was discovered on February 1, 2007. A section of the fence was removed and two test pits were completed to determine the extent of this layer. Three soil samples were collected from the excavated residuals layer and submitted to KAR Laboratories for analysis. Analytical results indicated that all three of the samples were non-detect for PCBs (Attachment 10, Table 3). The USEPA and MDEQ agreed that the residuals layer did not extend east outside of this area, therefore, further removal within this location was deemed unnecessary.

Verification sampling (nineteen samples, including duplicates and two discrete verification samples) was conducted following excavation in the Refuse Area, and the analytical data

confirmed that the established MDEQ Performance Standard of 10 mg/kg was achieved (Attachment 10, Table 3).

On March 2, 2007 a 5-foot-wide, 6-inch-thick layer of riprap was installed along the bank of the river along the southern edge of the refuse area (Figure 1) to stabilize the shoreline. Excavation areas were backfilled with 13,085 cy of Class II sand and a layer of topsoil (2,052 cy) was installed as a cover, as the intent of the *Post-Removal Site Control Plan for the Time Critical Removal Action for the Refuse Area at the Georgia-Pacific Corporation Kalamazoo Mill and the Oxbow Area at the Former Hawthorne Mill* (Site Control Plan; ARCADIS BBL 2007) was to restore the disturbed area as a floodplain.

3.2.2 Transformer Pad Area

Although not required by USEPA, as part of the TCRA Georgia-Pacific voluntarily performed removal activities at the Transformer Pad Area (Figure 1). On February 16, 2007 the transformer pad and the visibly-stained soils beneath the transformer pad were removed. Subsequent to removal, samples of the excavated soil were analyzed for RCRA hazardous waste characteristics, PCBs, TCLP for metals, pesticides, VOCs, and SVOCs to obtain approval for disposal. A waste profile was conducted and excavated materials from the Transformer Pad Area were transported to C & C Landfill for disposal. In addition, eleven soil samples were collected from ten locations (ten samples plus one duplicate) in the excavation bottom and side walls and analyzed for PCBs. The PCB results ranged from non-detect to an estimated concentration of 3.2 mg/kg (see Figure 3). Following excavation, the area was backfilled with certified clean backfill material and restored to match surrounding conditions.

3.2.3 Wastewater Pipeline

Although not required by USEPA, as part of the TCRA Georgia-Pacific voluntarily performed removal activities at the wastewater pipeline. The wastewater pipeline ran between Mill 1 and a wet well near the former lagoon area (Figure 1). On March 8, 2007 the wastewater pipeline was excavated and the materials (approximately 420 loose cy) were consolidated at the A-Site Landfill. On March 13, 2007 a buried structure was excavated near the west end of the original wastewater pipeline. The structure and its contents were also transported to the A-Site Landfill for disposal. Ten verification soil samples were collected and analyzed for PCBs (Attachment 10, Table 3). As shown on Figure 3, all samples in the remaining soil were non-detect for PCBs. The trench area was backfilled with certified clean backfill material and restored to match surrounding conditions.

As detailed in Technical Memoranda 1 and 15, a grab sample was taken at a manhole in the outfall pipe to the south of Mill 3 (Outfall 005), and the resulting PCB concentration was 0.65 mg/kg. The outfall and its attached piping were not removed as part of the demolition activities.

3.2.4 Underground Pipe

On March 9, 2007 Georgia-Pacific removed an underground pipe on the Kalamazoo Mill Property along with PCB-containing residuals and associated soils pursuant to the goals of the Addendum to the TCRA Work Plan (ARCADIS BBL 2006b). Although the proposed excavation of the underground pipe area targeted approximately 1,700 feet of pipe, the pipe was shorter than expected. However, an additional pipe that extended from the west end of the original pipe, south to the access road was removed (Figure 1). In total, approximately 1,200 feet of pipe were removed. Georgia-Pacific was not aware of the existence of these pipes until after the start of the TCRA. In conjunction with the pipe removal, on March 14, 2007 a total of 1,964 loose cy of materials were removed and consolidated in the A-Site Landfill. Directly following removal activities, eleven verification soil samples (including duplicates) were collected (Attachment 9, Table 4) and the results confirmed that the soil met applicable MDEQ standards for PCBs. The trench area was backfilled with certified clean backfill material.

3.2.5 Oxbow Area

The excavation of targeted PCB-impacted soils from the Oxbow Area at the former Hawthorne Mill property began on November 27, 2006. The proposed lateral extent of the approximately 2-foot deep excavation was bounded to the south at the Hawthorne Mill Property line, and to the north and west by the banks of the river (ARCADIS BBL 2006a). The actual excavation extended outside of the original footprint to remove impacted soils near the bank of the river and on the Michigan Department of Transportation (MDOT) right-of-way along King Highway. Soil/residuals removed from the area totaled 17,488 cy.

Initially, materials from the Oxbow Area were excavated until visually clean soil was observed. Subsequent to soil removal, 55 verification samples (including duplicates) were collected, and the results confirmed that the established PCB cleanup criterion of 10 mg/kg (with a goal of 1.0 mg/kg) was achieved.

The excavation area was backfilled with 11,260 cy of fill, and a layer of topsoil (4,480 cy) was installed as a cover. The volume of backfill material was not intended to bring the excavation area back to original grade, but was used to level the area and grade to the middle of the Oxbow Area. The excavated area near the bank of the Oxbow Channel was vegetated with woody shrubs, while the remainder of the Oxbow Area and MDOT right-of-way was left to

naturally vegetate. The restoration work was completed in accordance with the Site Control Plan (ARCADIS BBL 2007).

3.3 Summary of Source Control Activities

The current situation at the Mill Properties – in terms of remaining PCB concentrations in soils and sediments after completion of the extensive source control activities described in this section – is depicted on Figure 3. Figure 3 also shows the areas that were backfilled after verification samples were collected, and the results that were used to confirm that the specified cleanup criteria for each area/project had been achieved. Verification soil sampling results are summarized in Table 1.

3.4 Screening Assessment According to Future Land Use

Pursuant to Section 2.2.1.1 of the SOW, USEPA established a series of screening criteria for PCBs in soils at the Mill Properties. If these criteria are not exceeded in a potential source area, then that source area can be eliminated from further evaluation. If the criteria are not met, the evaluation is to continue with a pathway analysis to more explicitly consider the mechanisms, if any, by which PCBs in the source area might be transported to the Kalamazoo River. At the Mill Properties, USEPA specified an area average total PCB concentration of 1.0 part per million (ppm, or mg/kg) as the soil screening criterion with the following allowable maxima:

- 4.0 ppm in areas where the future use is unknown or expected to be residential
- 6.5 ppm in areas where the future use is expected to be recreational
- 10 ppm in areas where the future use is expected to be commercial or industrial

USEPA also recommended applying a groundwater PCB screening level of 0.2 micrograms per liter (ug/L) site-wide for comparison to groundwater monitoring data.

Restoration and redevelopment activities contemplated for the mill properties are presented on Figure 4 and summarized in Section 6. Figure 5 illustrates the areas that fall within the “Recreational Use” classification provided by USEPA. As shown in this figure, the Former Mill Lagoons, Refuse Area, and floodplain area would fall within this “Recreational Use” area. Other areas of the properties are expected to remain commercial or industrial. There is no foreseeable residential land use of the Mill Properties.

A comparison of PCB verification data collected in each source area to the relevant soil screening criteria is summarized in Table 2 and described in the subsections that follow.

Table 2 – Comparison of Potential Source Area Data to USEPA Screening Criteria

Potential Source Area	Future Use Classification	USEPA Criteria		Verification Sampling Data	
		Area-Wide Average	Individual Maximum	Area-Wide Average ¹	Individual Maximum
Kalamazoo Mill Former Mill Lagoons (Lagoons 1, 2, 3, 4, and 5)	Recreational	1.0 mg/kg	6.5 mg/kg	0.34 mg/kg ²	7.9 mg/kg ³
Floodplain Area adjacent to former Mill Lagoons 1, 2, and 3	Recreational	1.0 mg/kg	6.5 mg/kg		0.67 mg/kg
Refuse Area	Recreational	1.0 mg/kg	6.5 mg/kg		2.7 mg/kg
Transformer Pad Area	Industrial/Commercial	1.0 mg/kg	10 mg/kg	0.63 mg/kg	3.2 mg/kg
Wastewater Pipeline Residuals	Industrial/Commercial	1.0 mg/kg	10 mg/kg	ND ⁴	ND
Underground Pipe	Industrial/Commercial	1.0 mg/kg	10 mg/kg	0.028 mg/kg	0.19 mg/kg
Oxbow Area	Industrial/Commercial	1.0 mg/kg	10 mg/kg	0.068 mg/kg	0.81 mg/kg

Notes:

1. Area-wide averages were computed by assigning one-half the detection level to non-detect results. The majority of samples taken at the mill properties were surface samples (i.e., 0-1 foot interval). Deeper samples were also taken at locations G52048A through G52048I and locations G52092A through G52092F. For each of these deeper samples, the result was non-detect for PCBs (see Table 1 and Attachments 7 and 8). Area-wide averages include all sample results, including those deeper than the surface layer.
2. The verification sample results from the five former mill lagoons; the floodplain area adjacent to former mill lagoons 1, 2, and 3; and refuse area were considered together to calculate an area-wide average for the proposed future recreational area. These three areas are contiguous and are all proposed to be part of the Kalamazoo River Valley Trail (KRVT), so recreational visitors would experience the entire area. Area averages for each of the three potential source areas are all below the 1.0 mg/kg criterion.
3. Only the result for sample G52044 in former Mill Lagoon 4 exceeds the individual maximum screening criterion. The other 93 verification samples collected in the former mill lagoons were all below 6.5 mg/kg.
4. ND – not detected. The detection limit for each sample is recorded in Table 1.

3.4.1 Recreational Land Use

3.4.1.1 Former Mill Lagoons

The areas around former Mill Lagoons 1, 2, 3, 4, and 5 (in addition to the floodplain area and the refuse area) are proposed to be established as part of the KRVT. The average PCB concentration across the entire area proposed for recreational use (the former Mill Lagoons, the floodplain area, and the refuse area) – calculated using results from post-excavation and verification samples (including all duplicates and discrete samples) – is 0.34 mg/kg, which is below USEPA's area-wide average soil screening criterion of 1.0 mg/kg. One sample exceeded the 6.5 mg/kg maximum sample PCB criterion – the PCB concentration at G52044 in former Mill Lagoon 4 was 7.9 mg/kg. However, after excavation, a 6-inch layer of clean material was placed across this area, effectively separating recreational visitors and surface runoff from contact with the underlying soils. As detailed in Section 3.1, three locations analyzed for PCBs using an Ensysis field test kit were shown to contain PCB concentrations greater than 9.2 mg/kg, and each of these locations was re-excavated. Removal of targeted materials was confirmed visually and the areas were then backfilled, graded, and seeded, effectively separating recreational visitors and surface runoff from contact with the underlying soils.

3.4.1.2 Floodplain Area

The floodplain area, along with the former Mill Lagoons and the refuse area, is proposed for future recreational use, so the USEPA PCB recreational soil screening criteria of a 1.0 mg/kg area average and a 6.5 mg/kg maximum for any individual sample would apply. In the floodplain area, the maximum individual sample result was 0.67 mg/kg (sample G52096), and the area-wide average across the land proposed for recreational use is 0.34 mg/kg, both of which are below USEPA's soil screening criteria.

3.4.1.3 Refuse Area

As described in Section 6, the proposed route for the KRVT cuts across the Refuse Area, so the USEPA PCB recreational soil screening criteria of a 1.0 mg/kg area average and a 6.5 mg/kg maximum for any individual sample would apply. As shown on Figure 3, the results from the nineteen verification samples were all below 6.5 mg/kg (the maximum value was an estimated concentration of 2.7 mg/kg² PCB taken from one of the two discrete verification

² This sample result (from G53247) is not shown on Figure 3 because it was a discrete verification sample and no coordinate values were recorded.

samples), and the area-wide average (including the refuse area, the floodplain area, and Former Mill Lagoons) is 0.34 mg/kg.

3.4.2 Industrial/Commercial Land Use

3.4.2.1 Transformer Pad Area

It is proposed that the transformer pad area will be re-established as industrial/commercial property. Therefore, the USEPA-specified PCB soil screening criteria of an area average of 1.0 mg/kg and a maximum value of 10 mg/kg will apply. All sample results were below 10 mg/kg (with a maximum value of 3.2 mg/kg at sample 7 for the transformer pad area, as shown in Figure 3), and the area average is 0.63 mg/kg.

3.4.2.2 Wastewater Pipeline

The wastewater pipeline area is proposed that to be re-established as industrial/commercial property. As such, the PCB concentration in any individual sample may not exceed the USEPA screening criterion of 10 mg/kg, and the area-wide average PCB concentration must be below 1.0 mg/kg. With all sample results non-detect for PCBs, both criteria are satisfied.

3.4.2.3 Underground Pipe

The area around the location of the underground pipe is proposed to be re-established as industrial/commercial property, so the PCB concentration in any individual sample may not exceed the USEPA screening criterion of 10 mg/kg, and the area-wide average PCB concentration must be below 1.0 mg/kg. As shown on Figure 3, the maximum PCB concentration was 0.19 mg/kg (sample AP#35), and the area average is 0.028 mg/kg.

3.4.2.4 Oxbow Area

The oxbow area is proposed to be re-established as industrial/commercial property, so the USEPA soil screening criteria of a maximum PCB concentration of 10 mg/kg in any one sample and an area average total PCB concentration of 1.0 mg/kg will apply. As shown on Figure 3, with a maximum concentration of 0.81 mg/kg (in sample 136 MS/MSD) and an area-wide average of 0.068 mg/kg, all applicable criteria have been achieved.

3.4.3 Groundwater Sample Results

Groundwater samples were taken as part of the Property Divestiture Study as described in Section 2. All groundwater samples collected across the Georgia-Pacific Kalamazoo Mill property were non-detect for PCBs, as shown in Figure 2 and Table 4 of Attachment 3. These results are below USEPA's specified screening criterion of 0.2 micrograms per liter ($\mu\text{g/L}$).

4. Potential PCB Pathway Assessment for Former Mill Lagoon 4

Section 2.2.2.1 of the SOW states that if PCB concentrations in potential source areas exceed relevant screening criteria, then each source area must be further evaluated to determine if there is a complete pathway by which PCBs could migrate to the Kalamazoo River.

The source control activities described in Section 3 have addressed, to a very great extent, PCB-impacted materials at the Mill Properties. As evident in Table 2, average PCB concentrations within all of the individual potential source areas have been reduced to below 1.0 mg/kg. Further, as shown on Figure 3, with the exception of one sample, the maximum PCB concentrations in individual samples across the properties are now below relevant screening criteria established by USEPA for future use of the properties. The PCB concentration in sample G52044 in former Mill Lagoon 4 was 7.9 mg/kg, which is above USEPA's soil screening criterion of 6.5 mg/kg in any individual sample collected from an area proposed for future recreational use. However, subsequent to the excavation activities, a 6-inch layer of clean material was deposited across the lagoon bottom. This layer of clean soil separates any surface water runoff from this area from contacting and transporting PCBs from the soil in this location to the Kalamazoo River. As detailed in Section 3.1, three locations analyzed for PCBs using an Ensys field test kit were shown to contain PCB concentrations greater than 9.2 mg/kg, and each of these locations was re-excavated. Removal of targeted materials was confirmed visually and the areas were then backfilled, graded, and seeded, effectively separating recreational visitors and surface runoff from contact with the underlying soils. As a result of these activities, there are no remaining source areas on the Mill Properties and no complete PCB migration pathways to the Kalamazoo River.

5. Determination of Mill Properties as an Area of the Site

As described throughout this report, the knowledge of historical operations and the results of a series of investigations, source control actions, and confirmation sampling over the past 15 years allow us to be confident that the Georgia-Pacific Kalamazoo Mill and former Hawthorne Mill are not sources of PCBs to the Kalamazoo River.

The extensive source control activities completed at the Mill Properties have addressed the historical sources of PCBs – PCB concentrations are below the relevant screening criteria, and as summarized in Table 3 (on the next page), there are no longer any complete pathways by which PCBs might migrate from the Mill Properties to the river.

Therefore, as allowed for in the SOW, USEPA should exclude the properties from any further investigations conducted at the Site under CERCLA and the requirements of the AOC and SOW.

Table 3 – Summary of Potential Source Areas and Associated Source Control Activities

Potential Source Area	Source Control Activities	Potential Migration Pathway
Kalamazoo Mill Former Mill Lagoons	Visible residuals and impacted soils excavated and disposed at KHL in 1998 and 1999; verification samples collected; area backfilled	Source has been removed – Pathway not complete
Floodplain Area adjacent to former Mill Lagoons 1, 2, and 3	Residuals excavated and disposed at KHL-OU in 1999; verification samples collected by MDEQ; area backfilled and vegetated; additional verification samples collected in 2008	Source has been removed – Pathway not complete
Refuse Area	Impacted soils, drums, drum remnants, and dissolved materials excavated and disposed at A-Site Landfill in 2006; verification samples collected; area backfilled with clean material	Source has been removed – Pathway not complete
Transformer Pad Area	Transformer pad and visibly stained soils removed and disposed at offsite landfill in 2007; area backfilled with clean material	Source has been removed – Pathway not complete
Wastewater Pipeline Residuals	Wastewater pipeline, loose materials, and buried structure at end of pipeline removed and disposed at A-Site Landfill in 2007; verification samples collected; area backfilled with clean material	Source has been removed – Pathway not complete
Underground Pipe	Underground pipe and PCB-impacted soils excavated and disposed at A-Site Landfill in 2007; verification samples collected; area backfilled with clean material	Source has been removed – Pathway not complete
Oxbow Area	PCB-impacted soils excavated and disposed offsite; verification samples collected; area backfilled and allowed to naturally vegetate	Source has been removed – Pathway not complete

Notes:

1. The locations of the potential source areas are identified on Figure 1.
2. KHL – King Highway Landfill
3. PCB – polychlorinated biphenyls

6. Reuse and Redevelopment Plan

Upon completion of requirements of the AOC and SOW, Georgia-Pacific intends to begin a program to reuse certain portions of the Mill Properties. The overall plans, which currently include a variety of sale and/or redevelopment options, are preliminary at this point, and can only be initiated when USEPA concurs that the Mill Properties are not sources of PCBs to the river and are therefore excluded from further investigation and action under the AOC and SOW. Georgia-Pacific is not requesting USEPA approval or concurrence of these preliminary plans at this time – the information is included as part of this report for informational purposes only.

Georgia-Pacific plans to subdivide the properties to retain control over riparian areas where habitat restoration work will occur and any additional areas that were excavated as part of the KHL-OU remedy and the TCRA. Those areas that Georgia Pacific will consider for sale are identified on Figure 4 – other portions of the Mill Properties would be retained. Future use of the properties is currently expected to be a mix of commercial/industrial and recreational as depicted on Figure 5. The Mill Properties have been completely cleared of structures from former mill activities, and its proximity to the city of Kalamazoo makes the area a prime candidate for redevelopment.

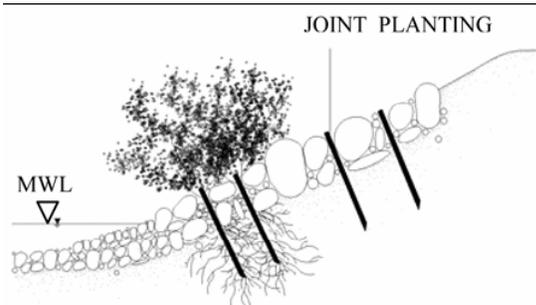
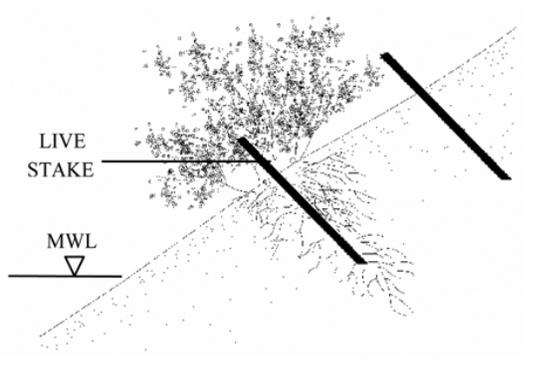
The Parks Foundation of Kalamazoo County is currently developing plans for construction of the KRVT, with a final goal of creating nearly 130 miles of continuous trails. The Mill Properties lie along a stretch of the river linking downtown Kalamazoo to the Fort Custer Recreation Area – this route is intended to be included in the KRVT and is slated for construction in 2009.

Restoration/enhancement of the floodplain areas of the Mill Properties would be required should redevelopment as part of the KRTV be selected. Two possible alternatives for restoration, discussed in the following sections, include the use of bioengineering techniques along the restored riverbank at the Refuse Area or enhancement of the vegetative buffer strip in the riparian zone along the Kalamazoo Mill riverbank between the former Mill's Filter Plant and the restored riverbank. These potential options are depicted on Figure 4.

6.1 Bioengineering Techniques along Restored Riverbank

The use of bioengineering techniques is proposed along the approximately 1,000 linear foot portion of the riverbank currently covered with rock riprap (shown on Figure 1), which was previously installed as part of the TCRA in the Refuse Area. Live stakes and/or joint plantings are bioengineering techniques that may be used successfully given existing site conditions. Live stakes and joint plantings are units fabricated from live, woody plant material branches (e.g., willow, dogwood, or other species). They are typically installed from the base flow elevation up the face of the riverbank (see schematic images, below left).

Live staking involves the insertion of live, rootable vegetative cuttings into the ground. When correctly prepared, handled, and placed, the live stake will root and grow. A system of stakes creates a living root mat that stabilizes the soil by reinforcing and binding soil particles together. Joint planting, otherwise known as vegetated riprap, involves driving, or tamping, live plant stakes in the joints and spaces in between the rocks. This can be done with existing riprap structures or can be done as the rocks are being placed on the slope/shoreline. Over time, the roots of the plantings eventually form a living mat under the rocks that will reinforce the soil beneath and prevent washout of underlying sediments through open spaces. This technique will increase the aesthetic and wildlife habitat value of existing riprap. See photographs of both applications, below right.



Development of live stake (top) and joint planting areas (bottom). Figures from Sotir and Fischenich (2007)

Establishing live stake (top) and joint planting areas (bottom). Photos from Sotir and Fischenich (2007)

6.2 Enhanced Vegetative Buffer Strip in Riparian Zone

This alternative involves the creation/enhancement of a vegetative buffer strip in the riparian zone along the riverbank between the former Filter Plant and the previously restored riverbank at the Kalamazoo Mill. Riparian zones occur as transitional areas between aquatic and upland terrestrial habitats and can be described as long, linear strips of vegetation adjacent to streams, rivers, lakes, and other inland aquatic systems that affect or are affected by the

presence of water. This alternative would include the use of conventional construction or agriculture equipment to prepare the ground surface so that it is suitable for planting with herbaceous grasses, shrubs, and trees. This would involve the removal of concrete and other unsuitable materials, as appropriate, backfilling with topsoil, and planting a variety of woody species and other native vegetation. The woody species (installed as live stakes and joint plantings) would be installed at approximately 150 plants per acre based on guidance presented in Sotir and Fischenich (2007).

7. References

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ARCADIS. 2008b. Georgia-Pacific LLC Kalamazoo Mill Property – Sampling Plan for Area Northwest of Former Mill Lagoon 1. November 2008.

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ARCADIS

Tables

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Source Investigation at the Former Kalamazoo and Hawthorne Mill Properties

Table 1 – Summary of Verification Soil Sample Results

Sample ID	Sample Location	Sample Date	PCB Concentration (mg/kg)
G52043	Mill Lagoon 4 - Side wall soil sample	06/02/99	ND (0.33)
G52044	Mill Lagoon 4 - Base of excavation	06/02/99	7.9
G52045	Mill Lagoon 4 - Base of excavation	06/02/99	ND (0.33)
G52046	Mill Lagoon 4 - Base of excavation	06/02/99	ND (0.33)
G52047	Mill Lagoon 4 - Base of excavation	06/02/99	ND (0.33)
G52048A 0-1'	Mill Lagoon 4 - Base of excavation	3/6/2009	ND (0.33)
G52048A 1-1.3'	Mill Lagoon 4 - Base of excavation	3/6/2009	ND (0.33)
G52048B 0-1'	Mill Lagoon 4 - Base of excavation	3/6/2009	ND (0.33)
G52048B 1-1.3'	Mill Lagoon 4 - Base of excavation	3/6/2009	ND (0.33)
G52048C 0-1'	Mill Lagoon 4 - Base of excavation	3/6/2009	ND (0.33)
G52048D 0-1'	Mill Lagoon 4 - Base of excavation	3/6/2009	ND (0.33)
G52048D 1-1.75'	Mill Lagoon 4 - Base of excavation	3/6/2009	ND (0.33)
G52048E 0-1'	Mill Lagoon 4 - Base of excavation	3/6/2009	ND (0.33)
G52048E 1-1.5'	Mill Lagoon 4 - Base of excavation	3/6/2009	ND (0.33)
G52048F 0-1'	Mill Lagoon 4 - Base of excavation	3/6/2009	ND (0.33)
G52048F 1-1.3'	Mill Lagoon 4 - Base of excavation	3/6/2009	ND (0.33)
G52048G 0-1'	Mill Lagoon 4 - Base of excavation	4/1/2009	ND (0.33)
G52048G 1-2'	Mill Lagoon 4 - Base of excavation	4/1/2009	ND (0.33)
G52048G 2-3'	Mill Lagoon 4 - Base of excavation	4/1/2009	ND (0.33)
G52048G 3-4'	Mill Lagoon 4 - Base of excavation	4/1/2009	ND (0.33)
G52048H 0-1'	Mill Lagoon 4 - Base of excavation	4/1/2009	ND (0.33)
G52048H 1-2'	Mill Lagoon 4 - Base of excavation	4/1/2009	ND (0.33)
G52048H 2-3'	Mill Lagoon 4 - Base of excavation	4/1/2009	ND (0.33)
G52048H 3-4'	Mill Lagoon 4 - Base of excavation	4/1/2009	ND (0.33)
G52048I 0-1'	Mill Lagoon 4 - Base of excavation	4/1/2009	ND (0.33)
G52048I 1-2'	Mill Lagoon 4 - Base of excavation	4/1/2009	ND (0.33)
G52048I 2-3'	Mill Lagoon 4 - Base of excavation	4/1/2009	ND (0.33)
G52048I 3-4'	Mill Lagoon 4 - Base of excavation	4/1/2009	ND (0.33)
G52049	Mill Lagoon 4 - Base of excavation	06/02/99	ND (0.33)
G52050	Mill Lagoon 4 - Base of excavation	06/02/99	ND (0.33)
G52051	Mill Lagoon 4 - Side wall soil sample	06/02/99	1.0
G52052	Mill Lagoon 4 - Side wall soil sample	06/02/99	ND (0.33)
G52053	Mill Lagoon 4 - Base of excavation	06/02/99	ND (0.33)
G52054	Mill Lagoon 4 - Base of excavation	06/02/99	ND (0.33)
G52055	Mill Lagoon 4 - Side wall soil sample	06/02/99	ND (0.33)
G52056	Mill Lagoon 4 - Side wall soil sample	06/02/99	ND (0.33)
G52057	Mill Lagoons 1, 2 and 3	07/22/99	ND (0.33)
G52058	Mill Lagoons 1, 2 and 3	07/22/99	ND (0.33)
G52059	Mill Lagoons 1, 2 and 3	07/22/99	ND (0.33)
G52060	Mill Lagoons 1, 2 and 3	07/22/99	ND (0.33)
G52061	Mill Lagoons 1, 2 and 3	07/28/99	ND (0.33)
G52062	Mill Lagoons 1, 2 and 3	07/28/99	ND (0.33)
G52063	Mill Lagoons 1, 2 and 3	07/28/99	ND (0.33)
G52064	Mill Lagoons 1, 2 and 3	07/28/99	ND (0.33)
G52065	Mill Lagoons 1, 2 and 3	07/28/99	ND (0.33)
G52066	Mill Lagoons 1, 2 and 3	08/05/99	0.58

Kalamazoo River Study Group
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Source Investigation at the Former Kalamazoo and Hawthorne Mill Properties

Table 1 – Summary of Verification Soil Sample Results

Sample ID	Sample Location	Sample Date	PCB Concentration (mg/kg)
G52067	Mill Lagoons 1, 2 and 3	08/05/99	ND (0.33)
G52068	Mill Lagoons 1, 2 and 3	08/05/99	0.44
G52069	Mill Lagoons 1, 2 and 3	08/05/99	0.37
G52070	Mill Lagoons 1, 2 and 3	08/05/99	ND (0.33)
G52080	Mill Lagoon 5 - Base of excavation	08/31/99	0.69
G52081	Mill Lagoon 5 - Base of excavation	08/31/99	ND (0.33)
G52082	Mill Lagoon 5 - Base of excavation	08/31/99	0.41
G52083	Mill Lagoon 5 - Base of excavation	08/31/99	ND (0.33)
G52084	Mill Lagoon 5 - Base of excavation	08/31/99	ND (0.33)
G52085	Mill Lagoon 5 - Side wall soil sample	08/31/99	ND (0.33)
G52086	Mill Lagoon 5 - Base of excavation	08/31/99	ND (0.33)
G52087	Mill Lagoon 5 - Base of excavation	08/31/99	ND (0.33)
G52088	Mill Lagoon 5 - Side wall soil sample	08/31/99	ND (0.33)
G52089	Mill Lagoon 5 - Side wall soil sample	08/31/99	ND (0.33)
G52090	Mill Lagoon 5 - Side wall soil sample	08/31/99	ND (0.33)
G52091	Mill Lagoon 5 - Base of excavation	08/31/99	ND (0.33)
G52092A 0-1'	Mill Lagoon 5 - Side wall soil sample	03/06/09	ND (0.33)
G52092A 1-2'	Mill Lagoon 5 - Side wall soil sample	03/06/09	ND (0.33)
G52092B 0-1'	Mill Lagoon 5 - Side wall soil sample	03/06/09	ND (0.33)
G52092B 1-2'	Mill Lagoon 5 - Side wall soil sample	03/06/09	ND (0.33)
G52092B 2-3'	Mill Lagoon 5 - Side wall soil sample	03/06/09	ND (0.33)
G52092C 0-1'	Mill Lagoon 5 - Side wall soil sample	03/06/09	ND (0.33)
G52092C 1-2'	Mill Lagoon 5 - Side wall soil sample	03/06/09	ND (0.33)
G52092C 2-2.5'	Mill Lagoon 5 - Side wall soil sample	03/06/09	ND (0.33)
G52092D 0-1'	Mill Lagoon 5 - Side wall soil sample	04/01/09	ND (0.33)
G52092D 1-2'	Mill Lagoon 5 - Side wall soil sample	04/01/09	ND (0.33)
G52092D 2-3'	Mill Lagoon 5 - Side wall soil sample	04/01/09	ND (0.33)
G52092E 0-1'	Mill Lagoon 5 - Side wall soil sample	04/01/09	ND (0.33)
G52092E 1-2'	Mill Lagoon 5 - Side wall soil sample	04/01/09	ND (0.33)
G52092E 2-3'	Mill Lagoon 5 - Side wall soil sample	04/01/09	ND (0.33)
G52092F 0-1'	Mill Lagoon 5 - Side wall soil sample	04/01/09	ND (0.33)
G52092F 1-2'	Mill Lagoon 5 - Side wall soil sample	04/01/09	ND (0.33)
G52092F 2-3'	Mill Lagoon 5 - Side wall soil sample	04/01/09	ND (0.33)
G52093	Mill Lagoon 5 - Base of excavation	08/31/99	1.7
G52094	Mill Lagoon 5 - Base of excavation	08/31/99	0.35
G52095	Mill Lagoons 1, 2 and 3	09/16/99	ND (0.33)
G52096	Mill Lagoons 1, 2 and 3	09/16/99	0.67
G52097	Mill Lagoons 1, 2 and 3	09/16/99	ND (0.33)
G52098	Mill Lagoons 1, 2 and 3	09/16/99	ND (0.33)
G52099	Mill Lagoon 5 - Side wall soil sample	09/16/99	ND (0.33)
G52100	Mill Lagoon 5 - Side wall soil sample	09/16/99	ND (0.33)
G52101	Mill Lagoon 5 - Side wall soil sample	09/16/99	ND (0.33)
G52102	Mill Lagoon 5 - Side wall soil sample	09/16/99	1.1
G52103	Mill Lagoons 1, 2 and 3	09/23/99	0.66
G52104	Mill Lagoons 1, 2 and 3	09/23/99	2.6
G52105	Mill Lagoons 1, 2 and 3	09/23/99	ND (0.33)

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Table 1 – Summary of Verification Soil Sample Results

Sample ID	Sample Location	Sample Date	PCB Concentration (mg/kg)
G52106	Mill Lagoons 1, 2 and 3	09/23/99	ND (0.33)
G52107	Mill Lagoons 1, 2 and 3	09/23/99	ND (0.33)
G53021	Oxbow 142	12/12/06	ND (0.025)
G53022	Oxbow 104	12/12/06	ND (0.024)
G53023	Oxbow 105	12/12/06	ND (0.027)
G53024	Oxbow 83	12/12/06	ND (0.023)
G53025	Oxbow 84	12/12/06	ND (0.023)
G53026	Oxbow 86	12/12/06	ND (0.025)
G53027	Oxbow 68	12/12/06	ND (0.024)
G53028	Oxbow 47	12/12/06	ND (0.026)
G53029	Oxbow 47 DUP	12/12/06	ND (0.026)
G53047	Oxbow 44	12/20/06	ND (0.023)
G53048	Oxbow 12	12/20/06	ND (0.025)
G53049	Oxbow 10	12/20/06	ND (0.025)
G53050	Oxbow 26	12/20/06	ND (0.024)
G53051	Oxbow 59	12/20/06	ND (0.028)
G53052	Oxbow 8	12/20/06	ND (0.022)
G53053	Oxbow 6	12/20/06	ND (0.023)
G53054	Oxbow 22	12/20/06	ND (0.023)
G53055	Oxbow 21	12/20/06	ND (0.025)
G53056	Oxbow 21 DUP	12/20/06	ND (0.025)
G53057	Oxbow 37	12/20/06	ND (0.021)
G53058	Oxbow 35 MS/MSD	12/20/06	ND (0.023)
G53059	Oxbow 54	12/20/06	ND (0.022)
G53060	Oxbow 52	12/20/06	ND (0.024)
G53061	Oxbow 18	12/20/06	ND (0.022)
G53062	Oxbow 17	12/20/06	ND (0.023)
G53063	Oxbow 1	12/20/06	ND (0.024)
G53064	Oxbow 2	12/20/06	ND (0.023)
G53065	Oxbow 2 DUP	12/20/06	ND (0.023)
G53066	Oxbow 3	12/20/06	ND (0.023)
G53069	Oxbow 45	12/21/06	ND (0.023)
G53070	Oxbow 156	12/21/06	ND (0.022)
G53071	Oxbow 173	12/21/06	ND (0.029)
G53131	Oxbow 95	1/9/07	0.14
G53132	Oxbow 95 DUP	1/9/07	0.18
G53133	Oxbow 94	1/9/07	ND (0.025)
G53134	Oxbow 75 MS/MSD	1/9/07	ND (0.024)
G53135	Oxbow 96	1/9/07	ND (0.025)
G53136	Oxbow 98	1/9/07	ND (0.020)
G53137	Oxbow 157	1/9/07	ND (0.024)
G53138	Oxbow 158	1/9/07	ND (0.022)
G53142	Oxbow 144	1/10/07	ND (0.023)
G53143	Oxbow 89	1/10/07	ND (0.021)
G53144	Oxbow 162	1/10/07	0.24
G53175	Refuse Area 39	1/23/07	ND (0.022)

Kalamazoo River Study Group
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Table 1 – Summary of Verification Soil Sample Results

Sample ID	Sample Location	Sample Date	PCB Concentration (mg/kg)
G53176	Refuse Area 33	1/23/07	ND (0.024)
G53177	Refuse Area 33 DUP	1/23/07	ND (0.024)
G53178	Refuse Area 27	1/23/07	ND (0.026)
G53179	Refuse Area 20	1/23/07	0.03
G53195	Oxbow 133	1/26/07	ND (0.021)
G53209	Refuse Area 12 MS/MSD	2/6/07	0.13
G53210	Refuse Area 2	2/6/07	ND (0.030)
G53211	Refuse Area SW 53	2/6/07	ND (0.020)
G53212	Refuse Area SW 60 DUP	2/6/07	ND J (0.021)
G53213	Refuse Area 60	2/6/07	1.5 J
G53214	Refuse Area Discrete Verification Sample	2/7/07	1.9
G53215	Oxbow Discrete Verification Sample	2/7/07	ND (0.021)
G53216	Oxbow 185	2/7/07	ND (0.025)
G53217	Oxbow 185 DUP	2/7/07	ND (0.024)
G53218	Oxbow 186	2/7/07	ND (0.023)
G53221	Refuse Area SW 51	2/8/07	ND (0.018)
G53222	Oxbow 160	2/8/07	ND (0.023)
G53226	Refuse Area 5	2/13/07	0.25
G53227	Refuse Area 17	2/13/07	0.034
G53243	Oxbow 118	2/21/07	0.5
G53244	Oxbow 117	2/21/07	0.63
G53245	Oxbow 136 MS/MSD	2/21/07	0.68
G53246	Oxbow 154	2/21/07	0.81 J
G53247	Refuse Area Discrete Verification Sample	2/21/07	2.7
G53250	Oxbow 192	2/24/07	ND (0.022)
G53253	Oxbow 190	2/26/07	ND (0.022)
G53256	Refuse Area 34 MS/MSD DUP	2/28/07	ND (0.026)
G53257	Refuse Area 34 MS/MSD DUP	2/28/07	ND (0.026)
G53258	Refuse Area 30 MS/MSD	2/28/07	ND (0.025)
G53259	Refuse Area 29	2/28/07	ND (0.018)
G53271	Waste Water Pipeline 1-1	3/2/07	ND (0.023)
G53272	Waste Water Pipeline 1-5	3/2/07	ND (0.021)
G53273	Waste Water Pipeline 1-7	3/2/07	ND (0.022)
G53274	Waste Water Pipeline 1-9	3/2/07	ND (0.021)
G53275	Waste Water Pipeline 1-11	3/2/07	ND (0.022)
G53276	Waste Water Pipeline 1-13	3/5/07	ND (0.022)
G53277	Waste Water Pipeline 1-15	3/5/07	ND (0.021)
G53278	Waste Water Pipeline 1-27	3/6/07	ND (0.021)
G53279	Waste Water Pipeline 1-28	3/6/07	ND (0.020)
G53307	Waste Water Pipeline Dup 7	3/6/07	ND (0.022)
G53296	Transformer – 1	3/8/07	0.023
G53297	Transformer – 2	3/8/07	ND (0.023)
G53298	Transformer – 3	3/8/07	0.059
G53299	Transformer – 4	3/8/07	0.19 J
G53300	Transformer – 5	3/8/07	0.47 JN
G53301	Transformer – 6	3/8/07	ND (0.019)

**Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Source Investigation at the Former Kalamazoo and Hawthorne Mill Properties**

Table 1 – Summary of Verification Soil Sample Results

Sample ID	Sample Location	Sample Date	PCB Concentration (mg/kg)
G53302	Transformer – 7	3/8/07	3.2 J
G53303	Transformer – 8	3/8/07	0.27
G53304	Transformer – 9	3/8/07	0.48 JN
G53305	Transformer – 11	3/8/07	0.030
G53306	Transformer – Dup 7	3/8/07	2.2
G53315	Addendum Pipe #2	3/10/07	ND (0.020)
G53316	Addendum Pipe #7	3/10/07	ND (0.018)
G53317	Addendum Pipe #11	3/14/07	0.021
G53318	Addendum Pipe #14	3/13/07	ND (0.020)
G53319	Addendum Pipe #20	3/13/07	ND (0.023)
G53320	Addendum Pipe #23	3/14/07	ND (0.019)
G53321	Addendum Pipe #27	3/14/07	ND (0.023)
G53322	Addendum Pipe #31	3/14/07	ND (0.023)
G53323	Addendum Pipe #35	3/15/07	0.19
G53324	Addendum Pipe #38	3/15/07	ND (0.020)
G53325	Addendum Pipe – Dup #7	3/10/07	ND (0.019)

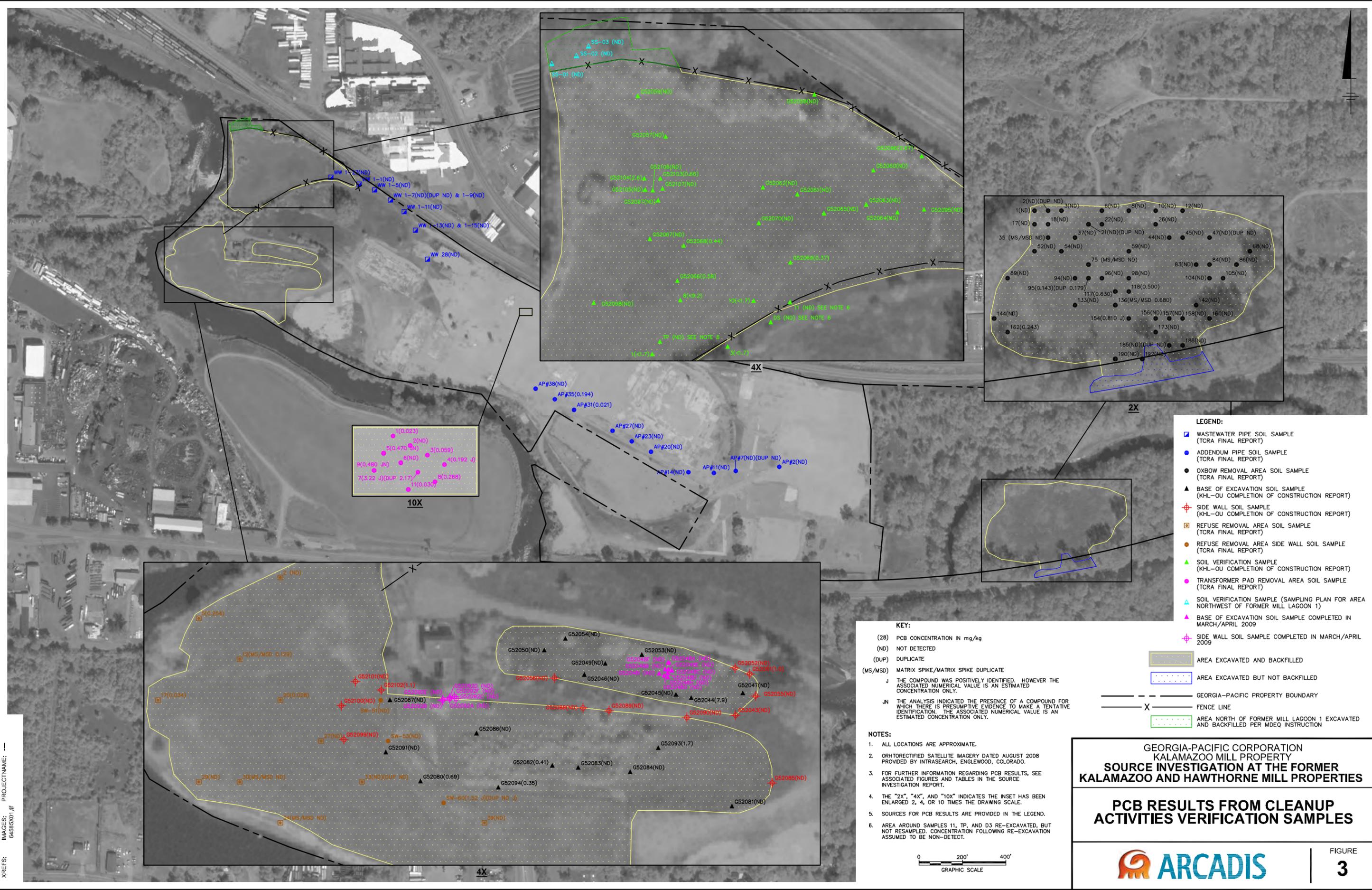
Notes:

- ND (0.33) = Analyte was not detected (Detection Limit reported for sample indicated in parentheses)
 J = The compound was positively identified; however, the associated numerical value is an estimated concentration only.
 JN = The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.

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Figures

CITY: SYRACUSE DIM/GRP: ENV/CAO DB: RLP GIS KMD LD: (Opt) PIC: (Opt) PW: (Read) TM: D. AMBER Lyr: ONE "OFF" REF" GAE/SVCAO/SY/RAC/USE/ACT/18006485000000000675/5MAP/6458505.dwg LAYOUT: 3 SAVED: 4/10/2009 8:49 AM ACADVER: 17.05 (LMS TECH) PAGESETUP: 1 PLOTSTYLETABLE: PLT-FULL.CTB PLOTTED: 4/10/2009 8:49 AM BY: DAVIS, KATH



KEY:

(28) PCB CONCENTRATION IN mg/kg
 (ND) NOT DETECTED
 (DUP) DUPLICATE
 (MS/MSD) MATRIX SPIKE/MATRIX SPIKE DUPLICATE
 J THE COMPOUND WAS POSITIVELY IDENTIFIED. HOWEVER THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY.
 JN THE ANALYSIS INDICATED THE PRESENCE OF A COMPOUND FOR WHICH THERE IS PRESUMPTIVE EVIDENCE TO MAKE A TENTATIVE IDENTIFICATION. THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY.

NOTES:

- ALL LOCATIONS ARE APPROXIMATE.
- ORTHORECTIFIED SATELLITE IMAGERY DATED AUGUST 2008 PROVIDED BY INTRASEARCH, ENGLEWOOD, COLORADO.
- FOR FURTHER INFORMATION REGARDING PCB RESULTS, SEE ASSOCIATED FIGURES AND TABLES IN THE SOURCE INVESTIGATION REPORT.
- THE "2X", "4X", AND "10X" INDICATES THE INSET HAS BEEN ENLARGED 2, 4, OR 10 TIMES THE DRAWING SCALE.
- SOURCES FOR PCB RESULTS ARE PROVIDED IN THE LEGEND.
- AREA AROUND SAMPLES 11, TP, AND D3 RE-EXCAVATED, BUT NOT RESAMPLED. CONCENTRATION FOLLOWING RE-EXCAVATION ASSUMED TO BE NON-DETECT.



LEGEND:

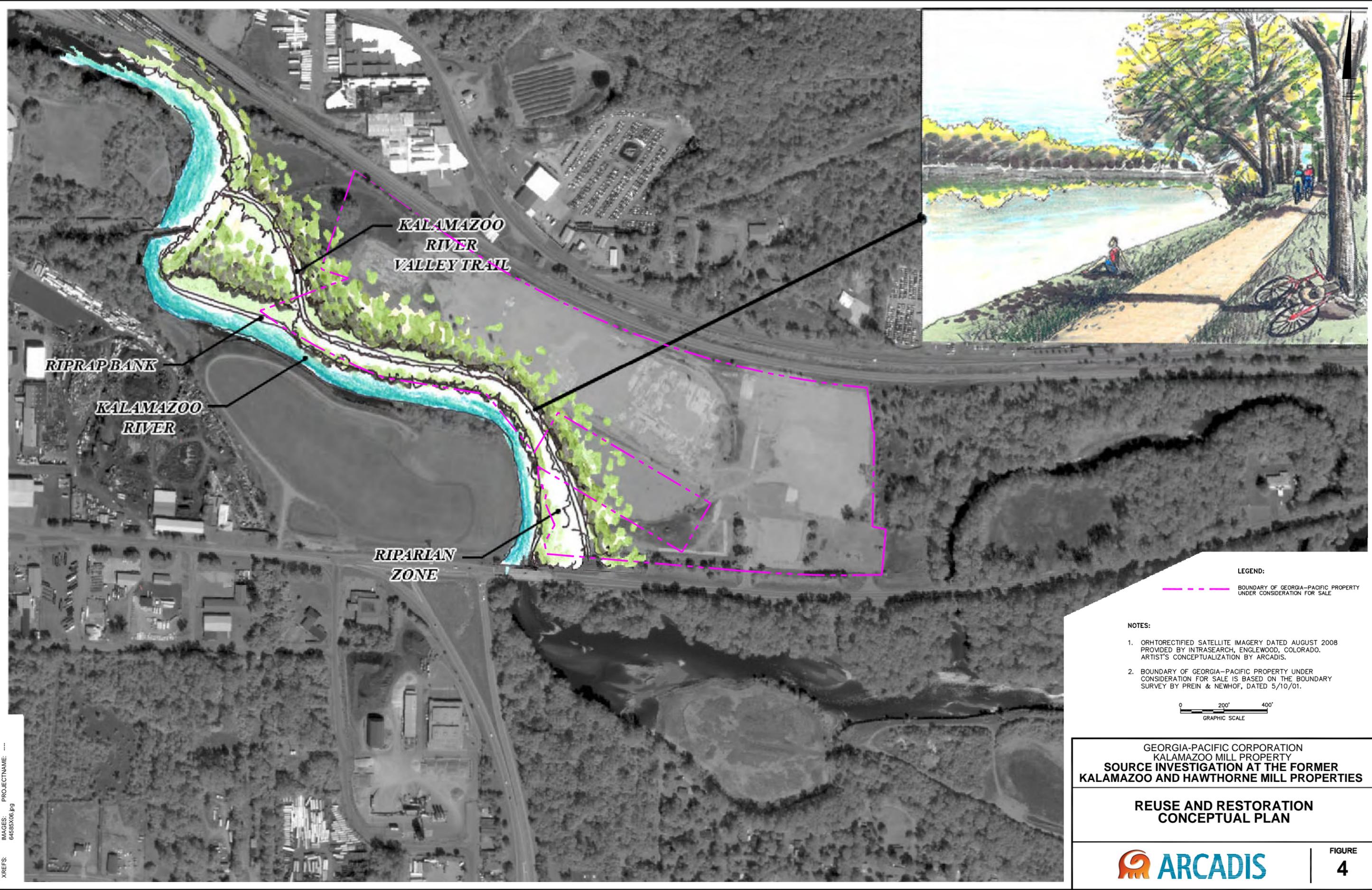
- WASTEWATER PIPE SOIL SAMPLE (TCRA FINAL REPORT)
- ADDENDUM PIPE SOIL SAMPLE (TCRA FINAL REPORT)
- OXBOW REMOVAL AREA SOIL SAMPLE (TCRA FINAL REPORT)
- BASE OF EXCAVATION SOIL SAMPLE (KHL-OU COMPLETION OF CONSTRUCTION REPORT)
- SIDE WALL SOIL SAMPLE (KHL-OU COMPLETION OF CONSTRUCTION REPORT)
- REFUSE REMOVAL AREA SOIL SAMPLE (TCRA FINAL REPORT)
- REFUSE REMOVAL AREA SIDE WALL SOIL SAMPLE (TCRA FINAL REPORT)
- SOIL VERIFICATION SAMPLE (KHL-OU COMPLETION OF CONSTRUCTION REPORT)
- TRANSFORMER PAD REMOVAL AREA SOIL SAMPLE (TCRA FINAL REPORT)
- SOIL VERIFICATION SAMPLE (SAMPLING PLAN FOR AREA NORTHWEST OF FORMER MILL LAGOON 1)
- BASE OF EXCAVATION SOIL SAMPLE COMPLETED IN MARCH/APRIL 2009
- SIDE WALL SOIL SAMPLE COMPLETED IN MARCH/APRIL 2009

- AREA EXCAVATED AND BACKFILLED
- AREA EXCAVATED BUT NOT BACKFILLED
- GEORGIA-PACIFIC PROPERTY BOUNDARY
- FENCE LINE
- AREA NORTH OF FORMER MILL LAGOON 1 EXCAVATED AND BACKFILLED PER MDEQ INSTRUCTION

**GEORGIA-PACIFIC CORPORATION
 KALAMAZOO MILL PROPERTY
 SOURCE INVESTIGATION AT THE FORMER
 KALAMAZOO AND HAWTHORNE MILL PROPERTIES**

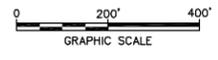
**PCB RESULTS FROM CLEANUP
 ACTIVITIES VERIFICATION SAMPLES**





LEGEND:
 - - - - - BOUNDARY OF GEORGIA-PACIFIC PROPERTY UNDER CONSIDERATION FOR SALE

- NOTES:**
1. ORTHORECTIFIED SATELLITE IMAGERY DATED AUGUST 2008 PROVIDED BY INTRASEARCH, ENGLEWOOD, COLORADO. ARTIST'S CONCEPTUALIZATION BY ARCADIS.
 2. BOUNDARY OF GEORGIA-PACIFIC PROPERTY UNDER CONSIDERATION FOR SALE IS BASED ON THE BOUNDARY SURVEY BY PREIN & NEWHOF, DATED 5/10/01.

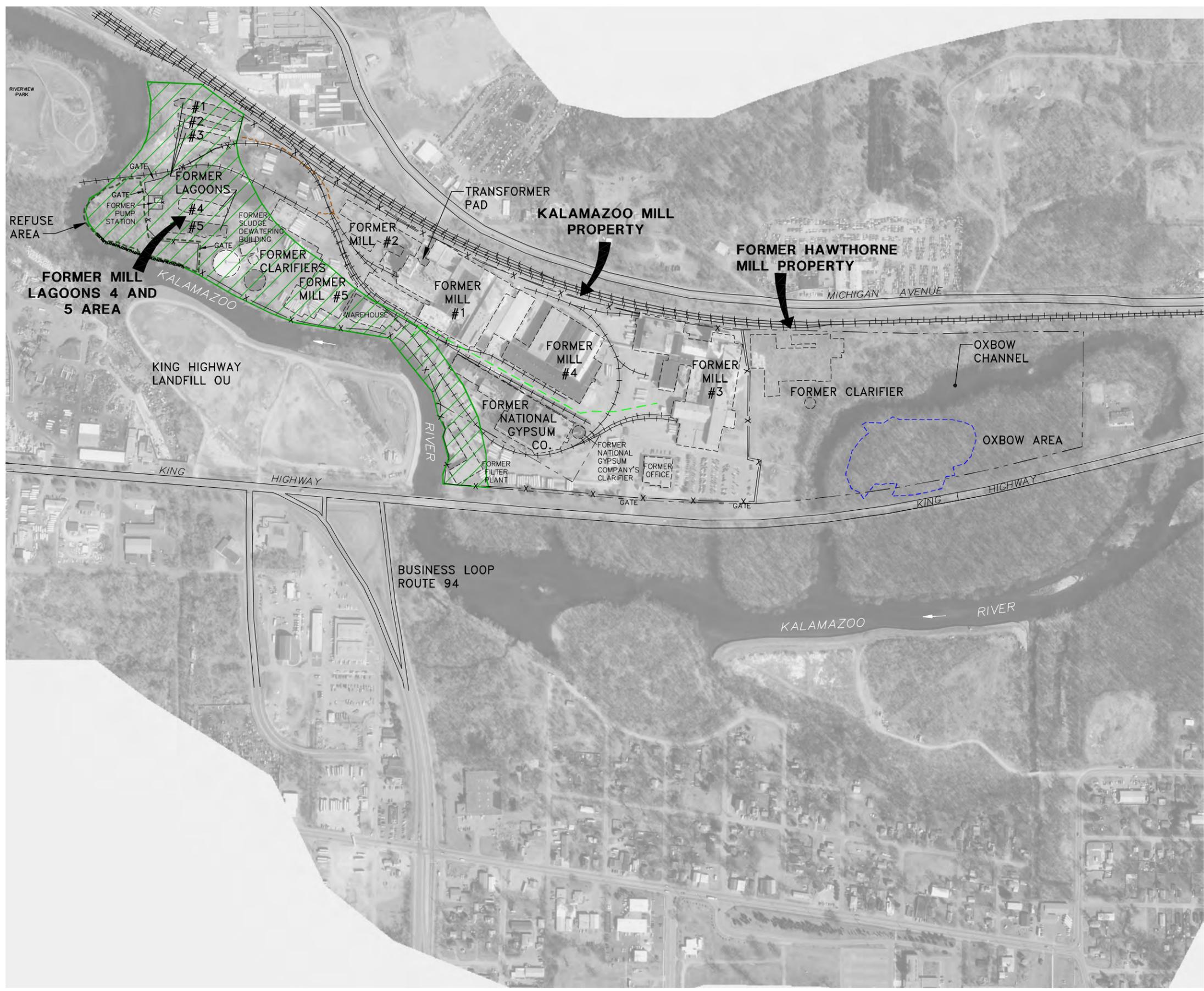


GEORGIA-PACIFIC CORPORATION
 KALAMAZOO MILL PROPERTY
**SOURCE INVESTIGATION AT THE FORMER
 KALAMAZOO AND HAWTHORNE MILL PROPERTIES**

**REUSE AND RESTORATION
 CONCEPTUAL PLAN**



CITY: SYRACUSE DIM/GRP: ENV/CAO DBR: PETRE A DANIELLE K DAVIS LD: PIC: PIM: TM: LYR: ON=OFF=REF-
 G:\EN\CAO\S\YRACUSE\ACT\18006485000000000675\DWG\64565X03.dwg LAYOUT: 5 SAVED: 4/9/2009 6:06 PM ACADVER: 17.05 (LMS TECH) PAGES: 17 PLOT: 17 PLOT DATE: 4/10/2009 1:04 PM BY: DAVIS, KATHI
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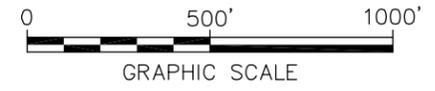


LEGEND:

- APPROXIMATE REFUSE AREA REMOVAL AREA
- APPROXIMATE OXBOW AREA REMOVAL AREA
- APPROXIMATE BOUNDARY OF KALAMAZOO MILL AND HAWTHORNE MILL PROPERTIES
- APPROXIMATE BOUNDARY OF FORMER MILLS
- APPROX. LOCATION OF EXISTING FENCE
- APPROXIMATE LOCATION OF WASTEWATER PIPE
- APPROXIMATE LOCATION OF UNDERGROUND PIPE
- AREA DESIGNATED AS RECREATIONAL FOR RESTORATION PURPOSES

NOTES:

1. PLANIMETRIC MAPPING, INCLUDING PROPERTY BOUNDARIES, IS APPROXIMATE.
2. AERIAL IMAGE DERIVED FROM ORTHOPHOTOGRAPHIC DATA BY AIR LAND SURVEYS, INC., FLOWN 4/24/99.
3. FORMER MILL LAGOONS EXCAVATED PER KING HIGHWAY LANDFILL-OPERABLE UNIT AOC, 1999-2000.
4. REMAINING AREA OF SITE OUTSIDE RECREATIONAL AREA TO BE DESIGNATED AS INDUSTRIAL/COMMERCIAL.



GEORGIA-PACIFIC CORPORATION
 KALAMAZOO MILL PROPERTY
**SOURCE INVESTIGATION AT THE FORMER
 KALAMAZOO AND HAWTHORNE MILL PROPERTIES**

FUTURE USE DESIGNATIONS



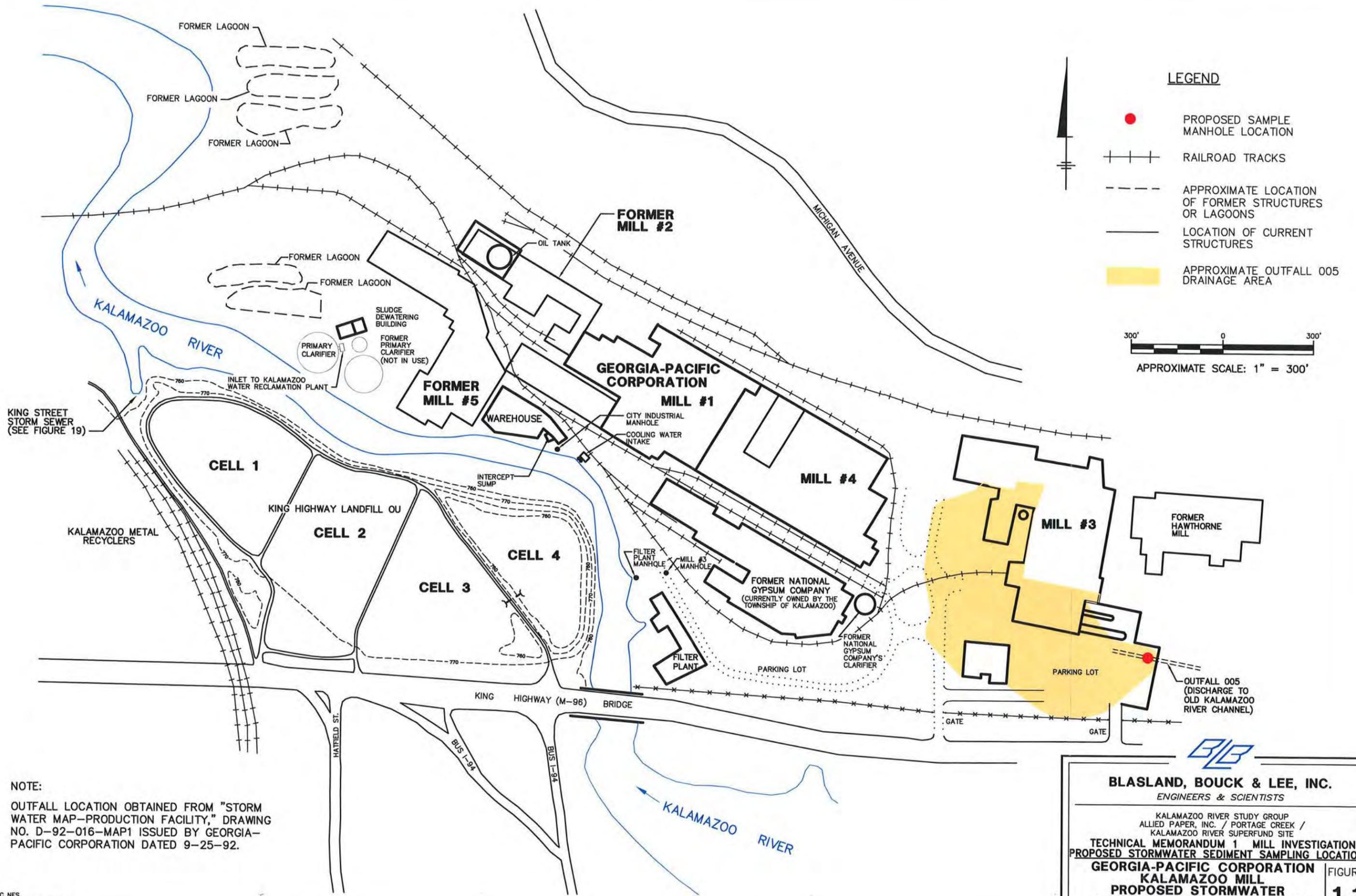
ARCADIS

Attachment 1

CD Containing Electronic Copies of
Historical Reports

Attachment 2

Select Materials from the
Technical Memorandum 1,
Technical Memorandum 15,
and the Final Document in
Support of King Highway
Landfill Operable Unit RI/FS



LEGEND

- PROPOSED SAMPLE MANHOLE LOCATION
- ⊕ RAILROAD TRACKS
- - - APPROXIMATE LOCATION OF FORMER STRUCTURES OR LAGOONS
- LOCATION OF CURRENT STRUCTURES
- APPROXIMATE OUTFALL 005 DRAINAGE AREA

300' 0 300'
 APPROXIMATE SCALE: 1" = 300'

NOTE:
 OUTFALL LOCATION OBTAINED FROM "STORM WATER MAP-PRODUCTION FACILITY," DRAWING NO. D-92-016-MAP1 ISSUED BY GEORGIA-PACIFIC CORPORATION DATED 9-25-92.

BLASLAND, BOUCK & LEE, INC.
 ENGINEERS & SCIENTISTS

KALAMAZOO RIVER STUDY GROUP
 ALLIED PAPER, INC. / PORTAGE CREEK /
 KALAMAZOO RIVER SUPERFUND SITE

**TECHNICAL MEMORANDUM 1 MILL INVESTIGATION
 PROPOSED STORMWATER SEDIMENT SAMPLING LOCATIONS**

**GEORGIA-PACIFIC CORPORATION
 KALAMAZOO MILL
 PROPOSED STORMWATER
 SEDIMENT SAMPLING LOCATION**

FIGURE
1-1

GPL-2	
Depth (ft)	PCB Conc. (mg/kg)
0-0.5 (S)	6.6
0.5-1.5 (R)	5.3
1.5-2.5 (S)	0.47

GPL-1	
Depth (ft)	PCB Conc. (mg/kg)
0-0.5 (R)	110
0.5-1 (S)	2.9

GPL-5	
Depth (ft)	PCB Conc. (mg/kg)
0-0.5 (S)	5.9
0.5-0.75 (S/R)	3.4
0.75-2 (S)	0.043

GPD-1	
Compound	Conc. (mg/kg)
2378-Tetrachlorinated dibenzofuran	2.9E-6
123478-Hexachlorinated dibenzofuran	2.0E-6 JPR
123678-Hexachlorinated dibenzofuran	1.1E-6
123478-Hexachlorinated dibenzo-p-dioxin	1.4E-6
123678-Hexachlorinated dibenzo-p-dioxin	3.8E-6
1234678-Heptachlorinated dibenzofuran	1.1E-5
1234678-Heptachlorinated dibenzo-p-dioxin	9.7E-5
1234789-Heptachlorinated dibenzofuran	8.8E-7
Octachlorinated dibenzo-p-dioxin	6.0E-4
Octachlorinated dibenzofuran	3.5E-5

GPL-3	
Depth (ft)	PCB Conc. (mg/kg)
0-0.5 (R)	0.20
3.5-4.5 (R)	70
4.5-5 (S)	0.78

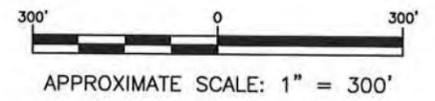
GPP-1	
Depth (ft)	PCB Conc. (mg/kg)
Solids	0.15

GPL-4	
Depth (ft)	PCB Conc. (mg/kg)
0-0.5 (R)	ND
0-0.5 (R)	ND(dup)
0.5-1 (S)	1.2
0.5-1 (S)	0.94(dup)

GPC-1	
Depth (ft)	PCB Conc. (mg/kg)
0-1 (S)	0.15

LEGEND

- GPL-2B NEW BORING/CORE FOR VISUAL ANALYSIS ONLY
- GPL-1 NEW BORING/CORE
- GPD-1 GRAB SAMPLE
- RAILROAD TRACKS
- APPROXIMATE LOCATION OF FORMER STRUCTURES OR LAGOONS
- LOCATION OF CURRENT STRUCTURES



GPD-1	
Depth (ft)	PCB Conc. (mg/kg)
-- (S)	0.65

KING STREET STORM SEWER

KALAMAZOO METAL RECYCLERS

CELL 1

KING HIGHWAY LANDFILL OU

CELL 2

CELL 3

CELL 4

INTERCEPT SUMP

FORMER MILL #5

GEORGIA-PACIFIC CORPORATION MILL #1

WAREHOUSE

CITY INDUSTRIAL MANHOLE

COOLING WATER INTAKE

MILL #4

FILTER PLANT MANHOLE

MILL #3 MANHOLE

FORMER NATIONAL GYPSUM COMPANY (CURRENTLY OWNED BY THE TOWNSHIP OF KALAMAZOO)

FORMER NATIONAL GYPSUM COMPANY'S CLARIFIER

PARKING LOT

MILL #3

FORMER HAWTHORNE MILL

PARKING LOT

BRIDGE

KING HIGHWAY (M-96)

GATE

GATE

KALAMAZOO RIVER

KEY

- ND NOT DETECTED
- J THE COMPOUND WAS POSITIVELY IDENTIFIED. HOWEVER, THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY.
- PR THE REPORTED CONCENTRATION MAY BE UNDERESTIMATED DUE TO A POORLY RESOLVED GAS CHROMATOGRAPHIC PEAK.
- (S) SOIL SAMPLE
- (R) RESIDUALS SAMPLE
- (dup) DUPLICATE

NOTES:

1. BASE MAP LOCATIONS ARE APPROXIMATE.
2. SAMPLE LOCATIONS FROM SURVEY INFORMATION (ON STATE PLANE COORDINATE SYSTEM) GENERATED BY BLASLAND, BOUCK & LEE, INC. ON JUNE 14, 1994.
3. SAMPLE RESULTS AS REPORTED BY AQUATEC, INC., 1994 AND TRIANGLE LABS, 1994.
4. DATA REFLECT TOTAL PCB DERIVED FROM THE SUM OF INDIVIDUAL AROCLORS. AROCLOR-SPECIFIC RESULTS AND THEIR QUALIFIERS CAN BE FOUND IN TABLE 3-6.

KALAMAZOO RIVER STUDY GROUP
 ALLIED PAPER, INC. / PORTAGE CREEK /
 KALAMAZOO RIVER SUPERFUND SITE

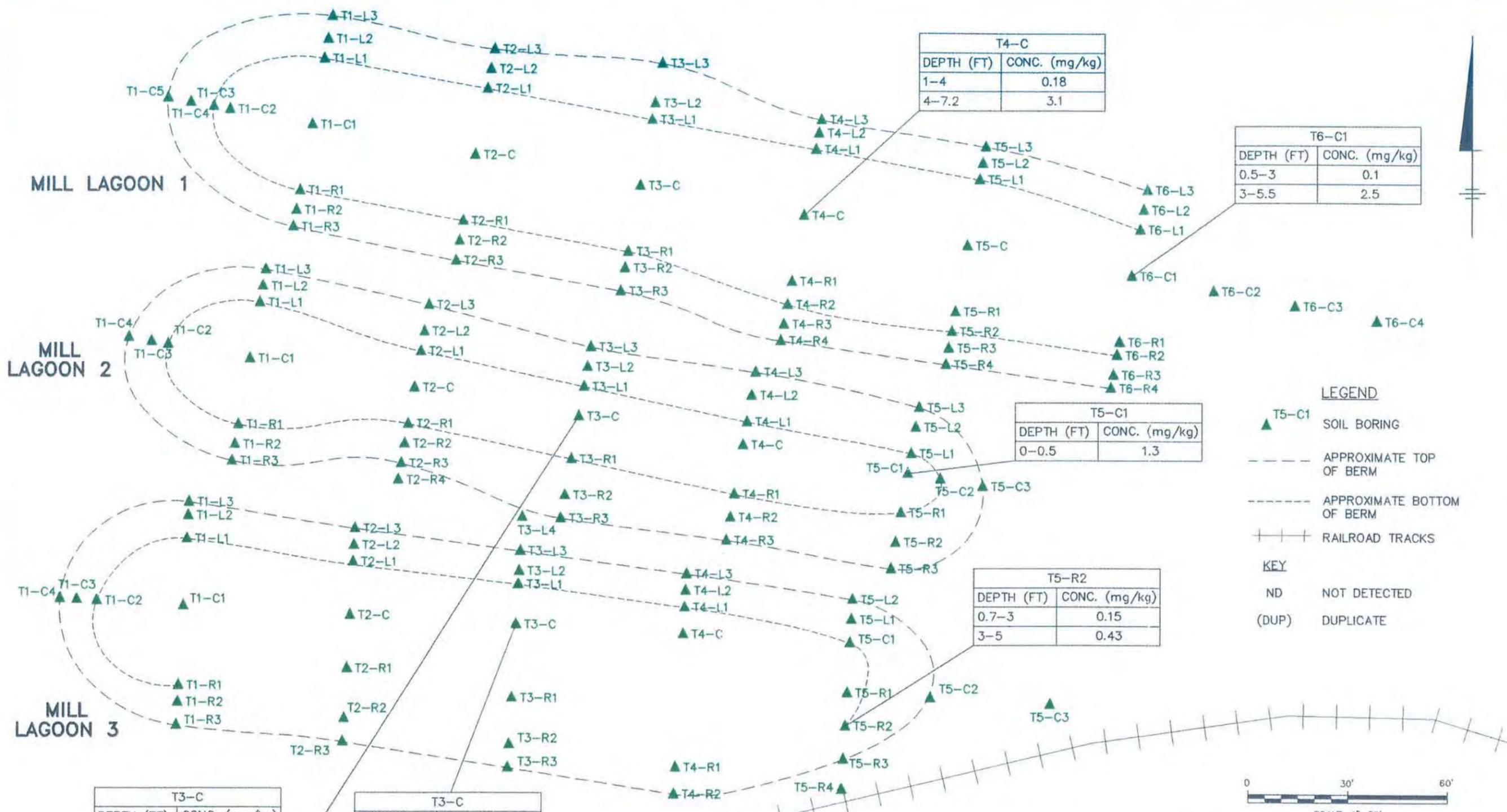
TECHNICAL MEMORANDUM 15 MILL INVESTIGATIONS

**GEORGIA-PACIFIC MILL
 RESIDUALS/SOIL PCB AND
 PCDD/PCDF DATA**

BBL BLASLAND, BOUCK & LEE, INC.
 engineers & scientists

FIGURE **9**

X: (XREF)
 L: (LAYER)
 P: G12.PCP
 5/96 SYR-54-AK YCC
 64585404/64585G12.DWG



T4-C	
DEPTH (FT)	CONC. (mg/kg)
1-4	0.18
4-7.2	3.1

T6-C1	
DEPTH (FT)	CONC. (mg/kg)
0.5-3	0.1
3-5.5	2.5

T5-C1	
DEPTH (FT)	CONC. (mg/kg)
0-0.5	1.3

T5-R2	
DEPTH (FT)	CONC. (mg/kg)
0.7-3	0.15
3-5	0.43

T3-C	
DEPTH (FT)	CONC. (mg/kg)
0-1	ND
0-1	ND (DUP)
1-2	10

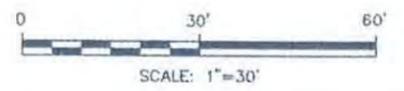
T3-C	
DEPTH (FT)	CONC. (mg/kg)
0-2.5	0.28
0-2.5	0.15 (DUP)
2.5-3.5	ND

LEGEND

- ▲ T5-C1 SOIL BORING
- APPROXIMATE TOP OF BERM
- APPROXIMATE BOTTOM OF BERM
- + + + RAILROAD TRACKS

KEY

- ND NOT DETECTED
- (DUP) DUPLICATE



- NOTES:**
- SAMPLE LOCATIONS AND THE LOCATIONS OF THE TOP AND BOTTOM OF THE BERMS ARE BASED ON FIELD MEASUREMENTS BY BLASLAND, BOUCK & LEE, INC. PERSONNEL, AND ARE APPROXIMATE.
 - SAMPLE RESULTS AS REPORTED BY AQUATEC, INC. 1996.
 - DATA REFLECT TOTAL PCB DERIVED FROM THE SUM OF INDIVIDUAL AROCLORS.

KALAMAZOO RIVER STUDY GROUP
 ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER SUPERFUND SITE
 FINAL SUBMITTAL IN SUPPORT OF THE
 KHL-OU ADMINISTRATIVE RECORD

**RESIDUALS PCB DATA
 MILL LAGOONS 1, 2 & 3**

BBL BLASLAND, BOUCK & LEE, INC.
 engineers & scientists

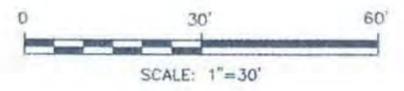
FIGURE 7

L: ON=*, OFF=REF*
 P: STD-POP/BL
 6/23/97 5YR-54-AK NES
 64583885/64583006.DWG



LEGEND

- ▲ T5-C1 SOIL BORING
- - - APPROXIMATE TOP OF BERM
- - - APPROXIMATE BOTTOM OF BERM



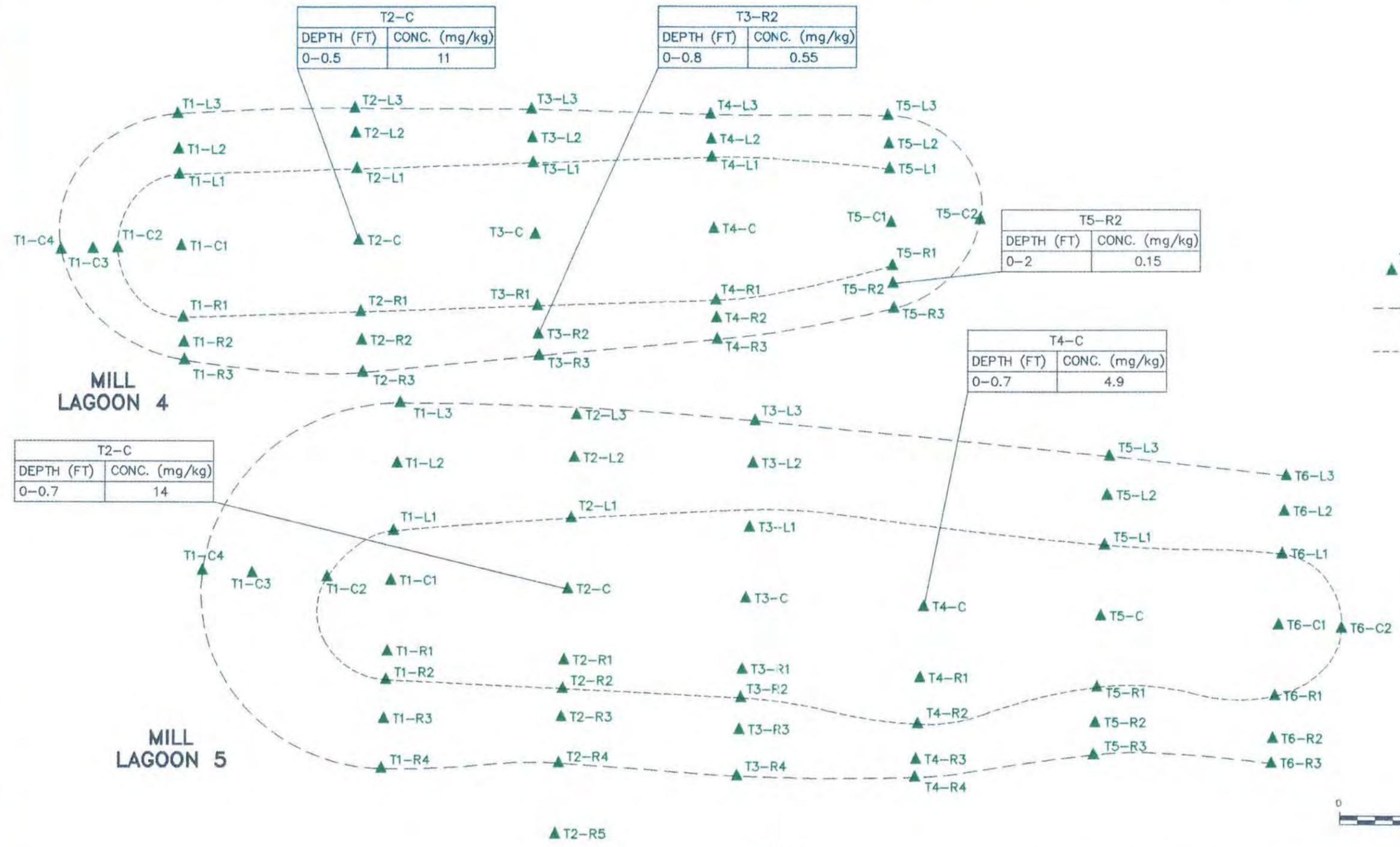
T2-C	
DEPTH (FT)	CONC. (mg/kg)
0-0.5	11

T3-R2	
DEPTH (FT)	CONC. (mg/kg)
0-0.8	0.55

T5-R2	
DEPTH (FT)	CONC. (mg/kg)
0-2	0.15

T4-C	
DEPTH (FT)	CONC. (mg/kg)
0-0.7	4.9

T2-C	
DEPTH (FT)	CONC. (mg/kg)
0-0.7	14



NOTES:

1. SAMPLE LOCATIONS AND THE LOCATIONS OF THE TOP AND BOTTOM OF THE BERMS ARE BASED ON FIELD MEASUREMENTS BY BLASLAND, BOUCK & LEE, INC. PERSONNEL, AND ARE APPROXIMATE.
2. SAMPLE RESULTS AS REPORTED BY AQUATEC, INC. 1996.
3. DATA REFLECT TOTAL PCB DERIVED FROM THE SUM OF INDIVIDUAL AROCLORS.

KALAMAZOO RIVER STUDY GROUP
 ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER SUPERFUND SITE
 FINAL SUBMITTAL IN SUPPORT OF THE
 KHL-OU ADMINISTRATIVE RECORD

**RESIDUALS PCB DATA
 MILL LAGOONS 4 & 5**

BBL BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE
8

L: ON=*, OFF=REF*
 P: STD-PCP/BLPCP
 6/23/97 5:04-54-AK NES
 84583685/LAGOONS/LAGOONS/84583607.DWG

TABLE 3

ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER SUPERFUND SITE

KING HIGHWAY LANDFILL OPERABLE UNIT
FINAL SUBMITTAL IN SUPPORT OF THE ADMINISTRATIVE RECORD
SUMMARY OF DETECTED PCB RESULTS - GEORGIA-PACIFIC LAGOONS INVESTIGATION¹ (MG/KG)

Location	T4-C Lagoon #1	T4-C Lagoon #1	T6-C1 Lagoon #1	T6-C1 Lagoon #1	T3-C Lagoon #2	T3-C (Dup) Lagoon #2	T5-C1 Lagoon #2	T3-C Lagoon #2
Depth (ft)	1 - 4	4 - 7.2	0.5 - 3	3 - 5.5	0 - 1	0 - 1	0 - 0.5	1 - 2
Sample ID	G52020	G52021	G52022	G52023	G52025	G52026	G52024	G52027
Aroclor-1242	ND (0.11 U)	2.6	ND (0.1 U)	2.5	ND (0.12 U)	ND (0.12 U)	ND (0.076 U)	10
Aroclor-1248	0.18	0.54	0.1	ND (0.23 U)	ND (0.12 U)	ND (0.12 U)	1.2	ND (0.81 U)
Aroclor-1254	ND (0.11 U)	ND (0.26 U)	ND (0.1 U)	ND (0.23 U)	ND (0.12 U)	ND (0.12 U)	ND (0.076 U)	ND (0.81 U)
Aroclor-1260	ND (0.11 U)	ND (0.26 U)	ND (0.1 U)	ND (0.23 U)	ND (0.12 U)	ND (0.12 U)	0.099	ND (0.81 U)

Location	T3-C Lagoon #3	T3-C (Dup) Lagoon #3	T3-C Lagoon #3	T5-R2 Lagoon #3	T5-R2 Lagoon #3	T2-C Lagoon #4	T3-R2 Lagoon #4	T5-R2 ² Lagoon #4
Depth (ft)	0 - 2.5	0 - 2.5	2.5 - 5.3	0.7 - 3	3 - 5	0 - 0.5	0 - 0.8	0 - 2
Sample ID	G52028	G52029	G52030	G52031	G52032	G52033	G52034	G52035
Aroclor-1242	ND (0.085 U)	ND (0.083 U)	ND (0.11 U)	ND (0.079 U)	0.33	ND (0.076 U)	ND (0.074 U)	ND (0.067 U)
Aroclor-1248	0.082 J	0.059 J	ND (0.11 U)	ND (0.079 U)	ND (0.13 U)	9	0.28	ND (0.067 U)
Aroclor-1254	0.2	0.091	ND (0.11 U)	0.15	0.098 J	1.2	0.27	0.1
Aroclor-1260	ND (0.085 U)	ND (0.083 U)	ND (0.11 U)	ND (0.079 U)	ND (0.13 U)	0.074 J	ND (0.074 U)	0.053 J

(See Notes on Page 2)

TABLE 3

**ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER SUPERFUND SITE
KING HIGHWAY LANDFILL OPERABLE UNIT
FINAL SUBMITTAL IN SUPPORT OF THE ADMINISTRATIVE RECORD
SUMMARY OF DETECTED PCB RESULTS - GEORGIA-PACIFIC LAGOONS INVESTIGATION¹ (MG/KG)
(cont'd)**

Location	T2-C Lagoon #5	T4-C Lagoon #5	Rinse Blank ²	Soil Pile #1	Soil Pile #2	Soil Pile #3	Soil Pile #4
Depth (ft)	0 - 0.7	0 - 0.7		0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5
Sample ID	G52036	G52037	G52038	G52039	G52040	G52041	G52042
Aroclor-1242	9.3	3.8	ND (0.050 U)	ND (0.125 U)	57	25	ND (0.57 U)
Aroclor-1248	3.5	1.1	ND (0.050 U)	ND (0.125 U)	6.2	ND (2.1 U)	8.2
Aroclor-1254	ND (0.96 U)	ND (0.57 U)	ND (0.050 U)	ND (0.125 U)	ND (4.7 U)	1.4 J	1.4 J
Aroclor-1260	0.96	ND (0.57 U)	ND (0.050 U)	ND (0.125 U)	ND (4.7 U)	ND (2.1 U)	ND (0.57 U)

Notes:

1. Shows only the results for compounds detected above the quantitation limit.
 2. MS/MSD of this sample was analyzed.
 3. Rinse blank results given in micrograms per liter ($\mu\text{g/l}$).
- ND - Not detected.
Dup - Duplicate sample.

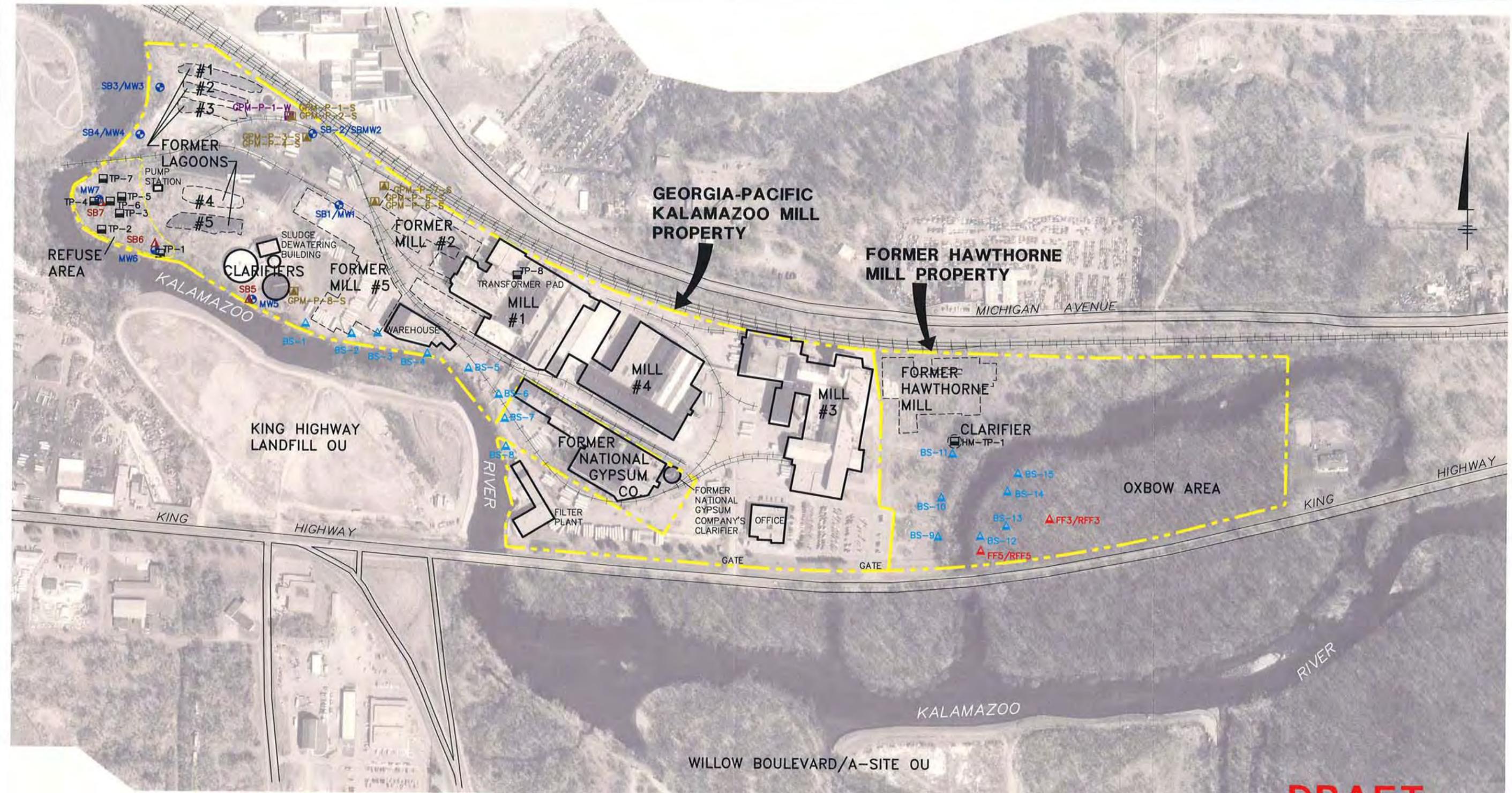
Notes Explaining Data Qualifiers:

- J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.
U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

ARCADIS

Attachment 3

Select Materials from
Kalamazoo Mill Property
Diverstiture Study



NOTES:

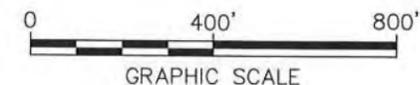
1. PLANIMETRIC MAPPING, INCLUDING PROPERTY BOUNDARIES, IS APPROXIMATE.
2. AERIAL IMAGE DERIVED FROM ORTHOPHOTOGRAPHIC DATA BY AIR LAND SURVEYS, INC., FLOWN 4/24/99.
3. SAMPLING LOCATIONS ARE APPROXIMATE.

LEGEND:

- ▲ SOIL BORING LOCATION
- TEST PIT SAMPLE LOCATION
- ▲ PIPE INVESTIGATION SOIL SAMPLE LOCATION
- PIPE INVESTIGATION WATER SAMPLE LOCATION
- ▲ BANK SOIL SAMPLE LOCATION
- SOIL BORING/MONITORING WELL LOCATION
- ▲ SOIL SAMPLE FROM THE 2000 FOCUS FLOODPLAIN SAMPLING PROGRAM (RFF=REPEAT SAMPLE)

DRAFT

X: 66090X02.DWG, 66090X02.TIF, 66090X03.TIF
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 2/28/03 SYR-54-RLP DJP RLP
 66090005/66090001.DWG

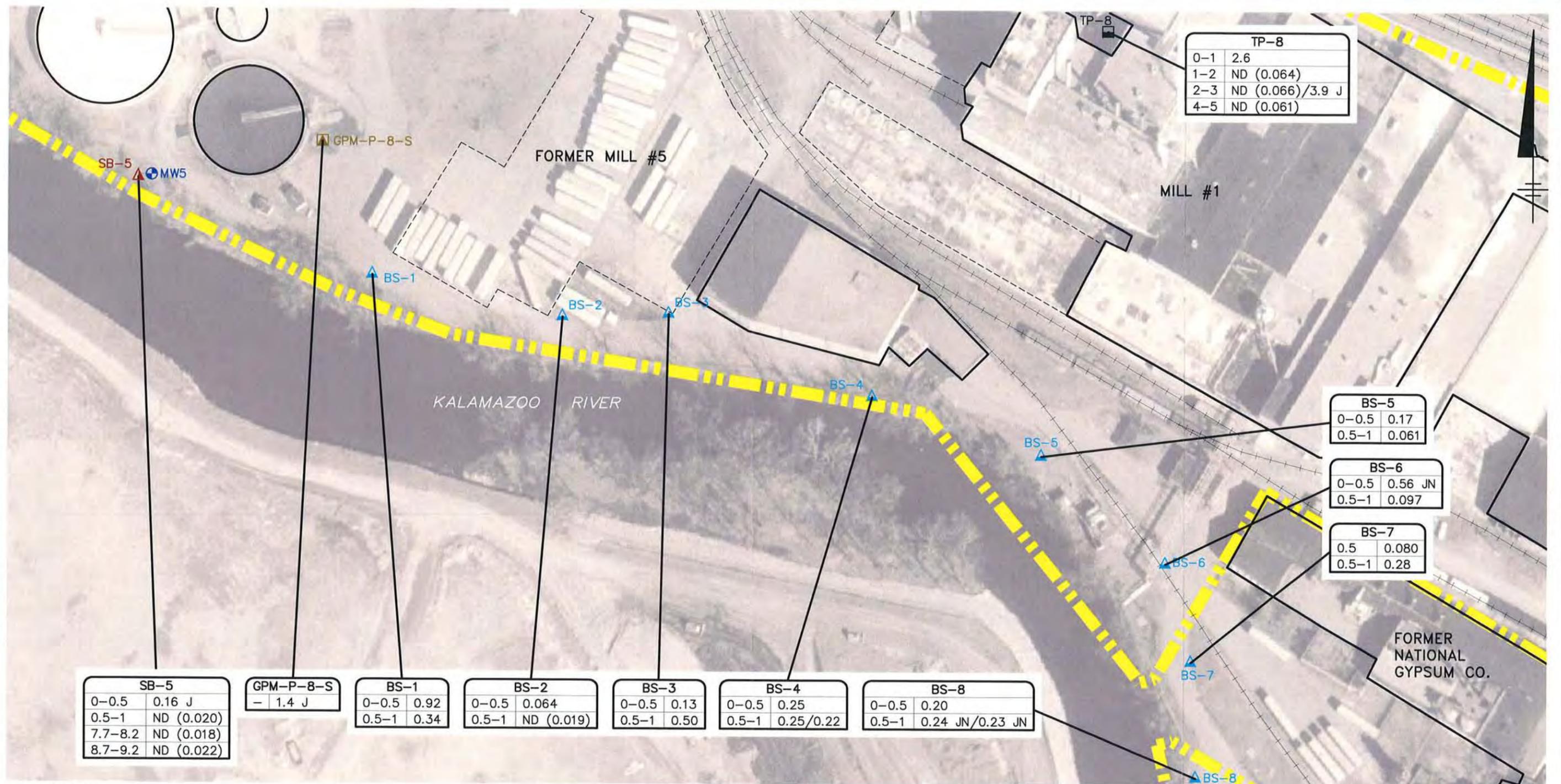


GEORGIA-PACIFIC CORPORATION
 KALAMAZOO MILL PROPERTIES
 PROPERTY DIVESTITURE STUDY

DIVESTITURE STUDY SAMPLING LOCATIONS

BBL
 BLASLAND, BOUCK & LEE, INC.
 engineers & scientists

FIGURE
2



TP-8	
0-1	2.6
1-2	ND (0.064)
2-3	ND (0.066)/3.9 J
4-5	ND (0.061)

SB-5	
0-0.5	0.16 J
0.5-1	ND (0.020)
7.7-8.2	ND (0.018)
8.7-9.2	ND (0.022)

GPM-P-8-S	
-	1.4 J

BS-1	
0-0.5	0.92
0.5-1	0.34

BS-2	
0-0.5	0.064
0.5-1	ND (0.019)

BS-3	
0-0.5	0.13
0.5-1	0.50

BS-4	
0-0.5	0.25
0.5-1	0.25/0.22

BS-8	
0-0.5	0.20
0.5-1	0.24 JN/0.23 JN

BS-5	
0-0.5	0.17
0.5-1	0.061

BS-6	
0-0.5	0.56 JN
0.5-1	0.097

BS-7	
0.5	0.080
0.5-1	0.28

NOTES:

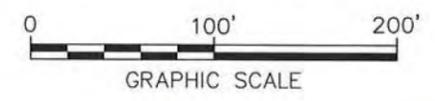
1. PLANIMETRIC MAPPING, INCLUDING PROPERTY BOUNDARIES, IS APPROXIMATE.
2. AERIAL IMAGE DERIVED FROM ORTHOPHOTOGRAPHIC DATA BY AIR LAND SURVEYS, INC., FLOWN 4/24/99.
3. SAMPLING LOCATIONS ARE FROM VARIOUS SOURCES AND ARE APPROXIMATE.
4. PCB RESULTS ARE FOR TOTAL PCB COMPUTED AS THE SUM OF AROCLOR CONCENTRATIONS DETERMINED USING USEPA METHOD 8082. NON-DETECT RESULTS ARE SHOWN AS ND WITH THE DETECTION LEVEL IN PARENTHESES.

LEGEND:

- ▲ SOIL BORING LOCATION
- ▲ PIPE INVESTIGATION SOIL SAMPLE LOCATION
- ▲ BANK SOIL SAMPLE LOCATION
- ⊕ SOIL BORING/MONITORING WELL LOCATION
- TEST PIT SAMPLE LOCATION
- +—+—+ RAILROAD TRACKS

DATA KEY:

LOCATION ID.	
DEPTH (FT)	PCB (PPM)



DRAFT

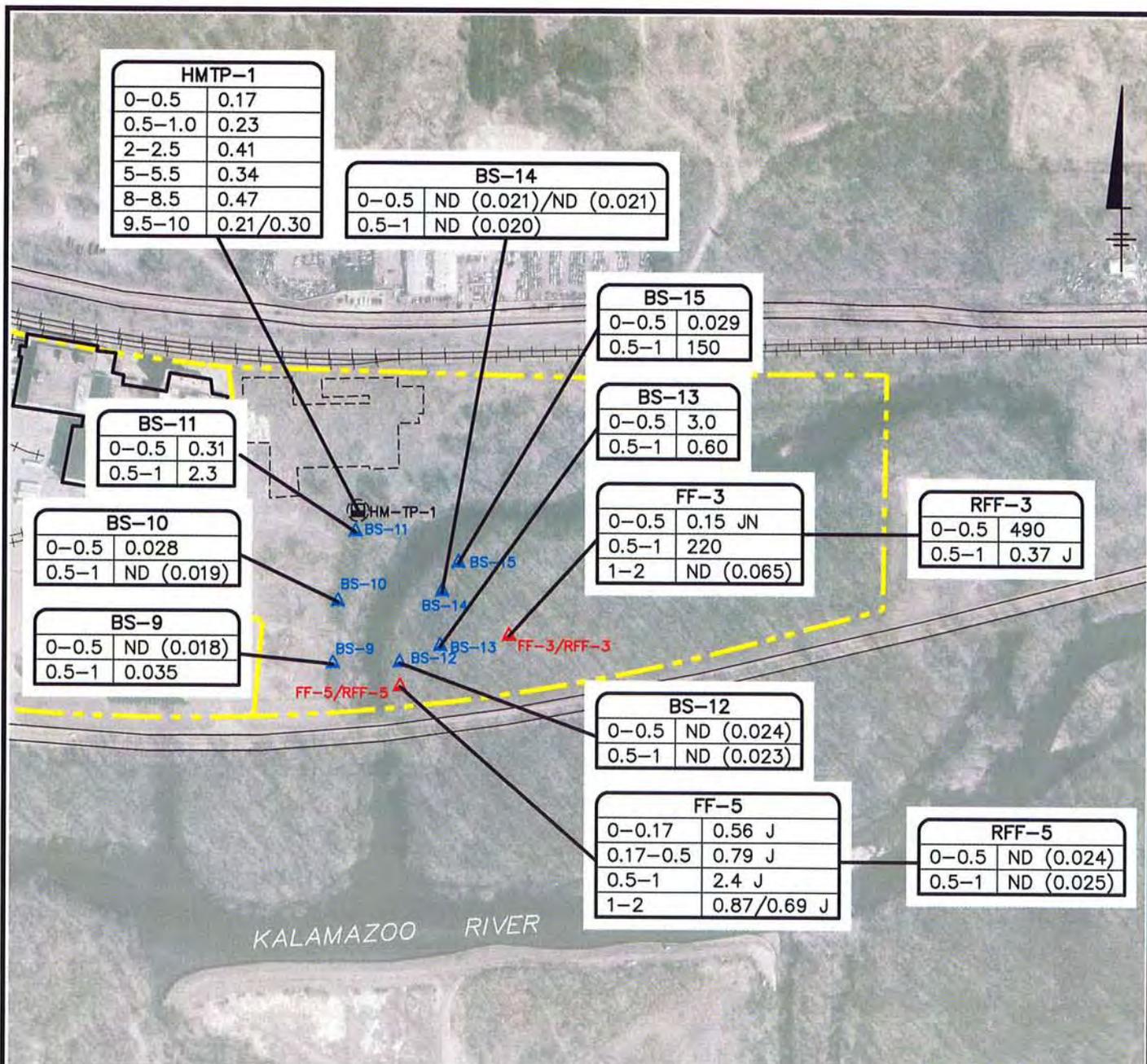
GEORGIA-PACIFIC CORPORATION
KALAMAZOO MILL PROPERTIES
PROPERTY DIVESTITURE STUDY

SOIL PCB DATA:
BANK SOILS, TRANSFORMER PAD NEAR MILL #1,
DOWNGRADIENT OF CLARIFIERS AND SLUDGE
HANDLING AREA, AND WASTEWATER PIPING

BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE
8

X: 66090X02.DWG, 66090X02.TIF
L: ON=*, OFF=*REF
P: PAGESET/PLT-BL
3/3/03 SYR-54-RLP LJP RLP
66090005/66090002.DWG



HMTP-1	
0-0.5	0.17
0.5-1.0	0.23
2-2.5	0.41
5-5.5	0.34
8-8.5	0.47
9.5-10	0.21/0.30

BS-14	
0-0.5	ND (0.021)/ND (0.021)
0.5-1	ND (0.020)

BS-15	
0-0.5	0.029
0.5-1	150

BS-13	
0-0.5	3.0
0.5-1	0.60

FF-3	
0-0.5	0.15 JN
0.5-1	220
1-2	ND (0.065)

RFF-3	
0-0.5	490
0.5-1	0.37 J

BS-10	
0-0.5	0.028
0.5-1	ND (0.019)

BS-9	
0-0.5	ND (0.018)
0.5-1	0.035

BS-12	
0-0.5	ND (0.024)
0.5-1	ND (0.023)

FF-5	
0-0.17	0.56 J
0.17-0.5	0.79 J
0.5-1	2.4 J
1-2	0.87/0.69 J

RFF-5	
0-0.5	ND (0.024)
0.5-1	ND (0.025)

KALAMAZOO RIVER

DRAFT

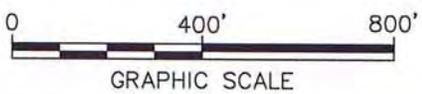
NOTES:

1. PLANIMETRIC MAPPING, INCLUDING PROPERTY BOUNDARIES, IS APPROXIMATE.
2. AERIAL IMAGE DERIVED FROM ORTHOPHOTOGRAPHIC DATA BY AIR LAND SURVEYS, INC., FLOWN 4/24/99.
3. SAMPLING LOCATIONS ARE APPROXIMATE.
4. PCB RESULTS ARE FOR TOTAL PCB COMPUTED AS THE SUM OF AROCLOR CONCENTRATIONS DETERMINED USING USEPA METHOD 8082. NON-DETECT RESULTS ARE SHOWN AS ND WITH THE DETECTION LEVEL IN PARENTHESES.

DATA KEY:

LOCATION ID.	
DEPTH (FT)	PCB (PPM)

- LEGEND:**
- TEST PIT SAMPLE LOCATION
 - ▲ BANK SOIL SAMPLE LOCATION
 - ▲ SOIL SAMPLE FROM THE 2000 FOCUSED FLOODPLAIN SAMPLING PROGRAM (RFF = REPEAT SAMPLES)



X: 66090X02.DWG, 66090X02.TIF, 66090X03.TIF
 L: ON=*, OFF=*REF
 P: PAGESET/PLT-BL
 3/3/03 SYR-54-RLP LJP RLP
 66090005/66090C04.DWG

GEORGIA-PACIFIC CORPORATION KALAMAZOO MILL PROPERTIES PROPERTY DIVESTITURE STUDY	
FORMER HAWTHORNE MILL AND OXBOW FLOODPLAIN AREA SOIL PCB DATA	
	FIGURE 9

Table 1

Georgia-Pacific Corporation

Summary of Monitoring Well Soil Boring PCB Results

Study Area	Soil PCB Concentrations (mg/kg)					
	Average*	Median*	Max	Min	#ND	Count**
Refuse Area Well Soils (SB-6, SB-7)	1.6	1.4	3.8	ND	1	7
Downgradient of clarifiers and sludge handling areas (SB-5)	0.048	ND	0.16	ND	3	4
Downgradient of former lagoons (SB-3, SB-4)	0.025	0.021	0.051	ND	2	4
Upgradient Wells Soils (SB-1, SB-2)	0.074	ND	0.52	ND	7	8

Notes:

*Average is computed by assigning one-half the detection level to non-detect results.

+Duplicate samples are included in the median.

**Sample counts include duplicate samples.

TABLE 3B

GEORGIA-PACIFIC CORPORATION KALAMAZOO MILL PROPERTIES
PROPERTY DIVESTITURE STUDY

KALAMAZOO MILL BANK SOILS
PCB RESULTS FOR SOIL SAMPLES¹ (mg/kg)

Location ID	BS-1 ²	BS-1	BS-2	BS-2	BS-3	BS-3	BS-4	BS-4	BS-4 (DUP)
Depth (ft)	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1	0.5 - 1
Collection Date	12/5/02	12/5/02	12/5/02	12/5/02	12/5/02	12/5/02	12/5/02	12/5/02	12/5/02
Aroclor - 1242	ND (0.093 U)	ND (0.019 U)	ND (0.019 U)	ND (0.019 U)	ND (0.019 U)	0.18	ND (0.021 U)	ND (0.019 U)	ND (0.020 U)
Aroclor - 1254	ND (0.093 U)	0.060	ND (0.019 U)	ND (0.019 U)	0.073	0.26	0.096	0.068	0.068
Aroclor - 1260	0.92	0.28	0.064	ND (0.019 U)	0.055	0.056	0.15	0.18	0.15
Total PCB	0.92	0.34	0.064	ND	0.13	0.50	0.25	0.25	0.22

Location ID	BS-5	BS-5	BS-6	BS-6	BS-7	BS-7	BS-8	BS-8	BS-8 (DUP)
Depth (ft)	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1	0.5 - 1
Collection Date	12/5/02	12/5/02	12/5/02	12/5/02	12/6/02	12/6/02	12/6/02	12/6/02	12/6/02
Aroclor - 1242	ND (0.018 U)	ND (0.018 U)	ND (0.038 U)	ND (0.018 U)	ND (0.018 U)	0.019 U	ND (0.018 U)	ND (0.018 U)	0.032
Aroclor - 1254	0.058	ND (0.018 U)	0.10 JN	ND (0.018 U)	ND (0.018 U)	0.019 U	0.029	0.12 JN	0.057 JN
Aroclor - 1260	0.11	0.061	0.46	0.097	0.080	0.28	0.17	0.12	0.14
Total PCB	0.17	0.061	0.56 JN	0.097	0.080	0.28	0.20	0.24 JN	0.23 JN

Notes:

¹ Shows only the results for compounds detected above the quantitation limit.

² MS/MDS of this sample was analyzed.

ND - Not detected

DUP - Field duplicate

Notes Explaining Data Qualifiers:

JN - The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

TABLE 3C

GEORGIA-PACIFIC CORPORATION KALAMAZOO MILL PROPERTIES
PROPERTY DIVESTITURE STUDY

KALAMAZOO MILL TRANSFORMER PAD NEAR MILL #1
PCB RESULTS FOR SOIL SAMPLES¹ (mg/kg)

Location ID	TP-8	TP-8	TP-8	TP-8 (DUP)	TP-8
Depth (ft)	0 - 1	1 - 2	2 - 3	2 - 3	4 - 5
Collection Date	11/26/02	11/26/02	11/26/02	11/26/02	11/26/02
Aroclor - 1242	ND (0.13 U)	ND (0.064 U)	ND (0.066 U)	3.9 J	ND (0.061 U)
Aroclor - 1254	0.95	ND (0.064 U)	ND (0.066 U)	ND (0.63 U)	ND (0.061 U)
Aroclor - 1260	1.6	ND (0.064 U)	ND (0.066 U)	ND (0.63 U)	ND (0.061 U)
Total PCB	2.6	ND	ND	3.9 J	ND

Notes:

¹ Shows only the results for compounds detected above the quantitation limit.

ND - Not detected

DUP - Field duplicate

Notes Explaining Data Qualifiers:

J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

TABLE 3D

GEORGIA-PACIFIC CORPORATION KALAMAZOO MILL PROPERTIES
PROPERTY DIVESTITURE STUDY

KALAMAZOO MILL WASTEWATER PIPING SYSTEM
PCB RESULTS FOR SLUDGE SAMPLES¹ (mg/kg)

Location ID Collection Date	GPM-P-1-S 12/18/02	GPM-P-2-S 12/18/02	GPM-P-3-S 12/18/02	GPM-P-4-S 12/18/02	GPM-P-5-S 12/18/02	GPM-P-6-S 12/18/02	GPM-P-7-S 12/18/02	GPM-P-8-S 12/18/02
Aroclor - 1242	0.20 J	1.4 J	0.20	7.8 J	0.30	0.059 J	ND (0.030 U)	0.48
Aroclor - 1254	0.23	0.79 J	0.66 J	19 J	0.23 J	0.14 J	ND (0.030 U)	ND (0.079 U)
Aroclor - 1260	0.12	0.27	0.21 J	1.8 J	0.37	0.13	ND (0.030 U)	0.91 J
Total PCB	0.55 J	2.5 J	1.1 J	29 J	0.90 J	0.33 J	ND	1.4 J

Notes:

¹ Shows only the results for compounds detected above the quantitation limit.

ND - Not detected

Notes Explaining Data Qualifiers:

J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

TABLE 3E

GEORGIA-PACIFIC CORPORATION KALAMAZOO MILL PROPERTIES
PROPERTY DIVESTITURE STUDY

UPGRADIENT WELLS
PCB RESULTS FOR SOIL SAMPLES¹ (mg/kg)

Location ID	SB-1	SB-1	SB-2	SB-2	SB-2	SB-2 (DUP)	SB-2	SB-2
Depth (ft)	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1	2.2 - 2.7	2.2 - 2.7	6.4 - 6.9	8.5 - 9.0
Collection Date	12/3/02	12/3/02	12/3/02	12/3/02	12/3/02	12/5/02	12/3/02	12/3/02
Aroclor - 1242	0.076	ND (0.018 U)	ND (0.020 U)	ND (0.020 U)	ND (0.018 U)	ND (0.018 U)	ND (0.026 U)	ND (0.023 U)
Aroclor - 1254	0.22	ND (0.018 U)	ND (0.020 U)	ND (0.020 U)	ND (0.018 U)	ND (0.018 U)	ND (0.026 U)	ND (0.023 U)
Aroclor - 1260	0.22 J	ND (0.018 U)	ND (0.020 U)	ND (0.020 U)	ND (0.018 U)	ND (0.018 U)	ND (0.026 U)	ND (0.023 U)
Total PCB	0.52 J	ND						

Notes:

¹ Shows only the results for compounds detected above the quantitation limit.

ND - Not detected

DUP - Field duplicate

Notes Explaining Data Qualifiers:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

TABLE 3F

GEORGIA-PACIFIC CORPORATION KALAMAZOO MILL PROPERTIES
PROPERTY DIVESTITURE STUDY

DOWNGRAIENT OF FORMER LAGOONS
PCB RESULTS FOR SOIL SAMPLES¹ (mg/kg)

Location ID	SB-3	SB-3	SB-4	SB-4
Depth (ft)	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1
Collection Date	12/3/02	12/3/02	12/3/02	12/3/02
Aroclor - 1242	ND (0.020 U)	ND (0.018 U)	ND (0.019 U)	0.051
Aroclor - 1254	0.032	ND (0.018 U)	ND (0.019 U)	ND (0.018 U)
Total PCB	0.032	ND	ND	0.051

Notes:

¹ Shows only the results for compounds detected above the quantitation limit.

ND - Not detected

Note Explaining Data Qualifier:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

TABLE 3G

GEORGIA-PACIFIC CORPORATION KALAMAZOO MILL PROPERTIES
PROPERTY DIVESTITURE STUDY

DOWNGRADIENT OF CLARIFIERS AND SLUDGE HANDLING AREA
PCB RESULTS FOR SOIL SAMPLES¹ (mg/kg)

Location ID	SB-5	SB-5	SB-5	SB-5
Depth (ft)	0 - 0.5	0.5 - 1	7.7 - 8.2	8.7 - 9.2
Collection Date	12/2/02	12/2/02	12/2/02	12/2/02
Aroclor - 1254	0.10	ND (0.020 U)	ND (0.018 U)	ND (0.022 U)
Aroclor - 1260	0.064 J	ND (0.020 U)	ND (0.018 U)	ND (0.022 U)
Total PCB	0.16 J	ND	ND	ND

Notes:

¹ Shows only the results for compounds detected above the quantitation limit.

ND - Not detected

Notes Explaining Data Qualifiers:

J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

TABLE 3H

GEORGIA-PACIFIC CORPORATION KALAMAZOO MILL PROPERTIES
PROPERTY DIVESTITURE STUDY

FORMER HAWTHORNE MILL OXBOW FLOODPLAIN AREA
PCB RESULTS FOR SOIL SAMPLES¹ (mg/kg)

Location ID	BS-12	BS-12	BS-13	BS-13	BS-14	BS-14 (DUP)	BS-14	BS-15	BS-15	RFF-3	RFF-3
Depth (ft)	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1
Collection Date	12/6/02	12/6/02	12/6/02	12/6/02	12/6/02	12/6/02	12/6/02	12/6/02	12/6/02	12/6/02	12/6/02
Aroclor - 1232	ND (0.024 U)	ND (0.023 U)	ND (0.56 U)	ND (0.080 U)	ND (0.021 U)	ND (0.021 U)	ND (0.020 U)	ND (0.022 U)	ND (20 U)	ND (62 U)	ND (0.033 U)
Aroclor - 1242	ND (0.024 U)	ND (0.023 U)	ND (0.56 U)	ND (0.080 U)	ND (0.021 U)	ND (0.021 U)	ND (0.020 U)	0.029	150	490	ND (0.033 U)
Aroclor - 1254	ND (0.024 U)	ND (0.023 U)	2.2	0.38	ND (0.021 U)	ND (0.021 U)	ND (0.020 U)	ND (0.022 U)	ND (20 U)	ND (62 U)	0.26
Aroclor - 1260	ND (0.024 U)	ND (0.023 U)	0.79	0.22	ND (0.021 U)	ND (0.021 U)	ND (0.020 U)	ND (0.022 U)	ND (20 U)	ND (62 U)	0.11 J
Total PCB	ND	ND	3.0	0.60	ND	ND	ND	0.029	150	490	0.37 J

Location ID	RFF-5	RFF-5	FF-3	FF-3	FF-3	FF-5	FF-5	FF-5	FF-5	FF-5 (DUP)
Depth (ft)	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1	1 - 2	0 - 0.17	0.17 - 0.5	0.5 - 1	1 - 2	1 - 2
Collection Date	12/6/02	12/6/02	6/1/00	6/1/00	6/1/00	5/11/00	5/11/00	5/11/00	5/11/00	5/11/00
Aroclor - 1232	ND (0.024 U)	ND (0.025 U)	ND (0.11 U)	150	ND (0.065 U)	ND (0.13 U)	ND (0.12 U)	ND (0.23 U)	ND (0.11 U)	0.10 U
Aroclor - 1242	ND (0.024 U)	ND (0.025 U)	ND (0.11 U)	74	ND (0.065 U)	ND (0.13 U)	0.10 J	0.39	0.17	0.13
Aroclor - 1254	ND (0.024 U)	ND (0.025 U)	0.15 JN	ND (17 U)	ND (0.065 U)	0.49	0.61	1.8	0.54	0.46
Aroclor - 1260	ND (0.024 U)	ND (0.025 U)	ND (0.11 U)	ND (17 U)	ND (0.065 U)	0.072 J	0.079 J	0.20 J	0.16	0.10 J
Total PCB	ND	ND	0.15 JN	220	ND	0.56 J	0.79 J	2.4 J	0.87	0.69 J

(See notes on page 2)

TABLE 3H

GEORGIA-PACIFIC CORPORATION KALAMAZOO MILL PROPERTIES
PROPERTY DIVESTITURE STUDY

FORMER HAWTHORNE MILL OXBOW FLOODPLAIN AREA
PCB RESULTS FOR SOIL SAMPLES¹ (mg/kg)

Notes:

¹ Shows only the results for compounds detected above the quantitation limit.

ND - Not detected

DUP - Field duplicate

Notes Explaining Data Qualifiers:

J - The compound was positively identified; however, the associated numerical value is an estimated concentration only.

JN - The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

TABLE 3I

GEORGIA-PACIFIC CORPORATION KALAMAZOO MILL PROPERTIES
PROPERTY DIVESTITURE STUDY

FORMER HAWTHORNE MILL BANK SOIL
PCB RESULTS FOR SOIL SAMPLES¹ (mg/kg)

Location ID	BS-9	BS-9	BS-10	BS-10 ²	BS-11	BS-11
Depth (ft)	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1	0 - 0.5	0.5 - 1
Collection Date	12/6/02	12/6/02	12/6/02	12/6/02	12/6/02	12/6/02
Aroclor - 1242	ND (0.018 U)	ND (0.018 U)	ND (0.019 U)	ND (0.019 U)	0.033	ND (0.18 U)
Aroclor - 1254	ND (0.018 U)	ND (0.018 U)	ND (0.019 U)	ND (0.019 U)	0.22	1.9
Aroclor - 1260	ND (0.018 U)	0.035	0.028	ND (0.019 U)	0.057	0.35
Total PCB	ND	0.035	0.028	ND	0.31	2.3

Notes:

¹ Shows only the results for compounds detected above the quantitation limit.

² MS/MSD of this sample was analyzed.

ND - Not detected

Note Explaining Data Qualifier:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

TABLE 3J

GEORGIA-PACIFIC CORPORATION KALAMAZOO MILL PROPERTIES
PROPERTY DIVESTITURE STUDY

FORMER HAWTHORNE MILL CLARIFIER SOIL
PCB RESULTS FOR SOIL SAMPLES¹ (mg/kg)

Location ID	HM-TP-1	HM-TP-1	HM-TP-1	HM-TP-1	HM-TP-1	HM-TP-1	HM-TP-1(DUP)
Depth (ft)	0 - 0.5	0.5 - 1	2 - 2.5	5 - 5.5	8 - 8.5	9.5 - 10	9.5 - 10
Collection Date	12/30/02	12/30/02	12/30/02	12/30/02	12/30/02	12/30/02	12/30/02
Aroclor - 1242	0.041	0.067	0.14	0.14	0.21	0.090	0.12
Aroclor - 1254	0.092	0.11	0.20	0.15	0.21	0.088	0.13
Aroclor - 1260	0.041	0.050	0.074	0.050	0.052	0.035	0.049
Total PCB	0.17	0.23	0.41	0.34	0.47	0.21	0.30

Notes:

¹ Shows only the results for compounds detected above the quantitation limit.

ND - Not detected

DUP - Field Duplicate

TABLE 4

GEORGIA-PACIFIC CORPORATION KALAMAZOO MILL PROPERTIES
PROPERTY DIVESTITURE STUDY

PCB, TSS, AND TOC RESULTS FOR WATER AND GROUNDWATER SAMPLES¹ (mg/L)

Location ID Collection Date	GPM-P-1-W ³ 12/18/02	MW-1 12/31/02	MW-2 12/30/02	MW-2 (DUP) 12/30/02	MW-3 12/31/02	MW-4 12/31/02
Aroclor - 1242	0.0011	ND (0.00053 U)	ND (0.00060 U)	ND (0.00052 U)	ND (0.00053 U)	ND (0.00053 U)
Aroclor - 1254	ND (0.0057 U)	ND (0.00053 U)	ND (0.00060 U)	ND (0.00052 U)	ND (0.00053 U)	ND (0.00053 U)
Aroclor - 1260	0.0057	ND (0.00053 U)	ND (0.00060 U)	ND (0.00052 U)	ND (0.00053 U)	ND (0.00053 U)
Total PCB	0.0068	ND	ND	ND	ND	ND
TSS	NA	0.00060	0.012	0.012	0.015	0.030
TOC	NA	0.0012	0.0019	0.0017	0.0051	0.0056

Location ID Collection Date	MW-5 ² 12/30/02	MW-6 12/31/02	MW-7 12/31/02
Aroclor - 1242	ND (0.00053 U)	ND (0.00059 U)	ND (0.00053 U)
Aroclor - 1254	ND (0.00053 U)	ND (0.00059 U)	ND (0.00053 U)
Aroclor - 1260	ND (0.00053 U)	ND (0.00059 U)	ND (0.00053 U)
Total PCB	ND	ND	ND
TSS	0.015	0.0073	0.014
TOC	0.0034	0.0035	0.0063

Notes:¹ Shows only the results for compounds detected above the quantitation limit.² MS/MSD of this sample was analyzed.³ Water characterized as disturbed whole water sample.

DUP - Field duplicate

NA - Not analyzed

ND - Not detected

TOC - Total Organic Carbon

TSS - Total Suspended Solids

Note Explaining Data Qualifier:

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

TABLE 5
 GEORGIA-PACIFIC CORPORATION KALAMAZOO MILL PROPERTIES
 PROPERTY DIVESTITURE STUDY

STATISTICAL SUMMARY OF SOILS PCB ANALYSES

Sample Collection Area	Soil PCB Concentrations (ppm)					
	Average*	Median	Max	Min	# ND	Count**
Refuse Area Test Pits and Soils	12	0.23	330	ND	10	30
Refuse Area Well Soils	1.6	1.4	3.8	ND	1	7
Kalamazoo Mill Bank Soils	0.26	0.22	0.92	ND	1	18
Wastewater Piping System	4.9	1.0	29	ND	1	8
Transformer Pad Near Mill #1	1.3	ND	3.9	ND	3	5
Downgradient of Clarifiers and Sludge Handling Areas	0.048	ND	0.16	ND	3	4
Downgradient of Former Lagoons	0.025	0.021	0.051	ND	2	4
Upgradient Wells Soils	0.074	ND	0.52	ND	7	8
Oxbow Floodplain Area	41	ND	490	ND	7	21
Former Hawthorne Mill Bank Soils	0.45	0.032	2.3	ND	2	6
Former Hawthorne Mill Clarifier Soils	0.30	0.33	0.47	0.17	0	7
Total	10	0	490	ND	40	110

Notes:

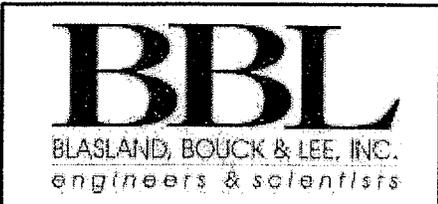
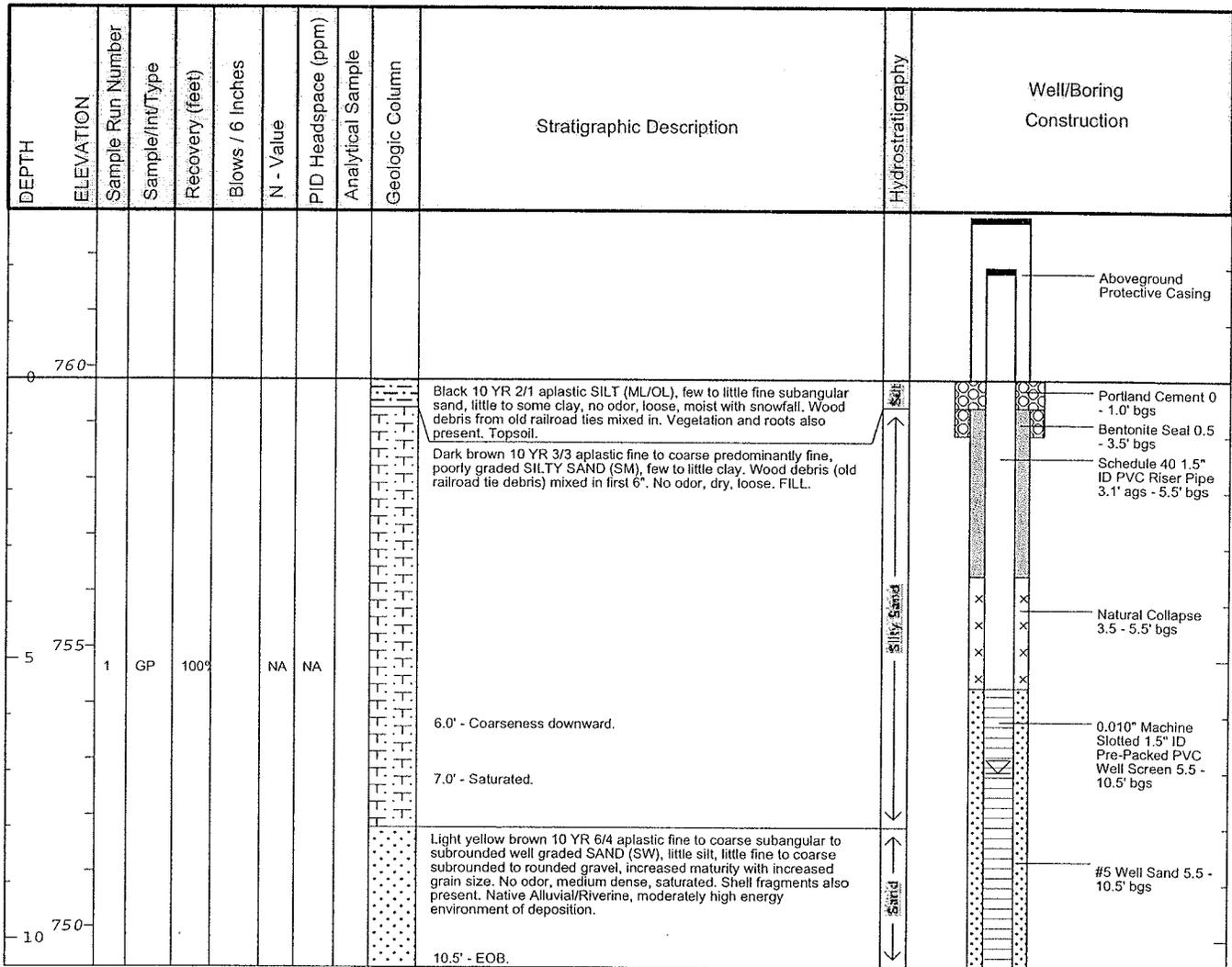
*Average is computed by assigning one-half the detection level to non-detect results.

**Sample counts include duplicate samples.

+ Duplicate samples are included in the median.

DRAFT

Date Start/Finish: 12/03/02 Drilling Company: Mateco Driller's Name: Gary Swift Drilling Method: Direct Push Bit Size: Not Applicable Auger Size: Not Applicable Rig Type: 66DT Geoprobe Sampling Method: Acetate Liners	Northing: 289746.29 Easting: 12801817.23 Casing Elevation: 763.05 Borehole Depth: 10.5' below grade Surface Elevation: 759.78 Geologist: SM Duly	Well/Boring ID: MW-1 Client: Georgia-Pacific Location: Kalamazoo, Michigan
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Remarks:
EOB = End of boring.

DRAFT

Date Start/Finish: 12/03/02 Drilling Company: Mateco Driller's Name: Gary Swift Drilling Method: Direct Push Bit Size: Not Applicable Auger Size: Not Applicable Rig Type: 66DT Geoprobe Sampling Method: Acetate Liners	Northing: 290037.87 Easting: 12801698.65 Casing Elevation: 765.66 Borehole Depth: 14.0' below grade Surface Elevation: 762.75 Geologist: SM Duly	Well/Boring ID: SB-2/MW-2 Client: Georgia-Pacific Location: Kalamazoo, Michigan
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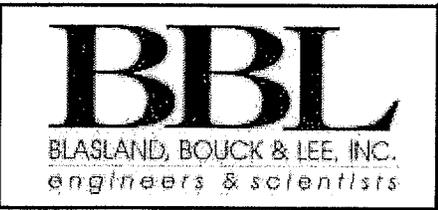
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Well/Boring Construction
765												Aboveground Protective Casing
0										Black 10 YR 2/1 aplastic SILT (ML) and SILTY SAND (SM): black 10 YR 2/1 aplastic SILT (ML) with some clay, few to little fine subangular sand, no odor, loose, moist with snowfall. Vegetation and roots present first 6" (TOPSOIL). Mixed with fine to coarse subangular foundry sand and cinders, black 10 YR 2/1, little silt, possible white fibrous residuals, dry, loose, no odor. FILL.	Silt and Silty Sand	Portland Cement 0 - 1.0' bgs
760		1	HA	100%		NA	NA			Yellow brown 10 YR 5/4 aplastic fine to coarse predominately fine to medium, poorly graded SAND (SP), little to some silt, few clay, subangular to subrounded sand, shell fragments also present. Metallic debris occasionally present also. No odor, loose, dry. FILL.	Sand	Schedule 40 1.5" ID PVC Riser Pipe 2.95' ags - 9.0' bgs
5												Bentonite Seal 0.5 - 7.0' bgs
755		2	GP	4.2		NA	NA			Black 10 YR 2/1 aplastic SILT (ML/OL), locally some or more clay so as to be SILTY CLAY (CL/OL), otherwise little to some clay, little fine subangular sand especially in lenses up to 1/4" thick. Organic rich, vegetative debris and shell fragments locally increasing so as to be a peat. No odor, medium dense, moist. Native Alluvial/Riverine.	Silt	Natural Collapse 7.0 - 9.0' bgs
10										Pale brown 10 YR 6/3 aplastic fine poorly graded subangular SILTY SAND (SM), few clay, no odor, saturated, medium dense. Native Alluvial/Riverine, low energy environment of deposition.	Silty Sand	0.010" Machine Slotted 1.5" ID Pre-Packaged PVC Well Screen 9.0 - 14.0' bgs
750		3	GP	2.0		NA	NA			Shell fragments present, coarsening to fine to coarse and occasional rounded fine to coarse gravel.	Silty Sand	#5 Well Sand 7.0 - 14.0' bgs
										14.0' - EOB.		

BLASLAND, BOUCK & LEE, INC. <i>engineers & scientists</i>	Remarks: EOB = End of boring.
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DRAFT

Date Start/Finish: 12/03/02 Drilling Company: Mateco Driller's Name: Gary Swift Drilling Method: Direct Push Bit Size: NA Auger Size: NA Rig Type: 66DT Geoprobe Sampling Method: Acetate Liners	Northing: 290029.26 Easting: 12801000.27 Casing Elevation: 759.15 Borehole Depth: 7.0' below grade Surface Elevation: 756.12 Geologist: SM Duly	Well/Boring ID: MW-4 Client: Georgia-Pacific Location: Kalamazoo, Michigan
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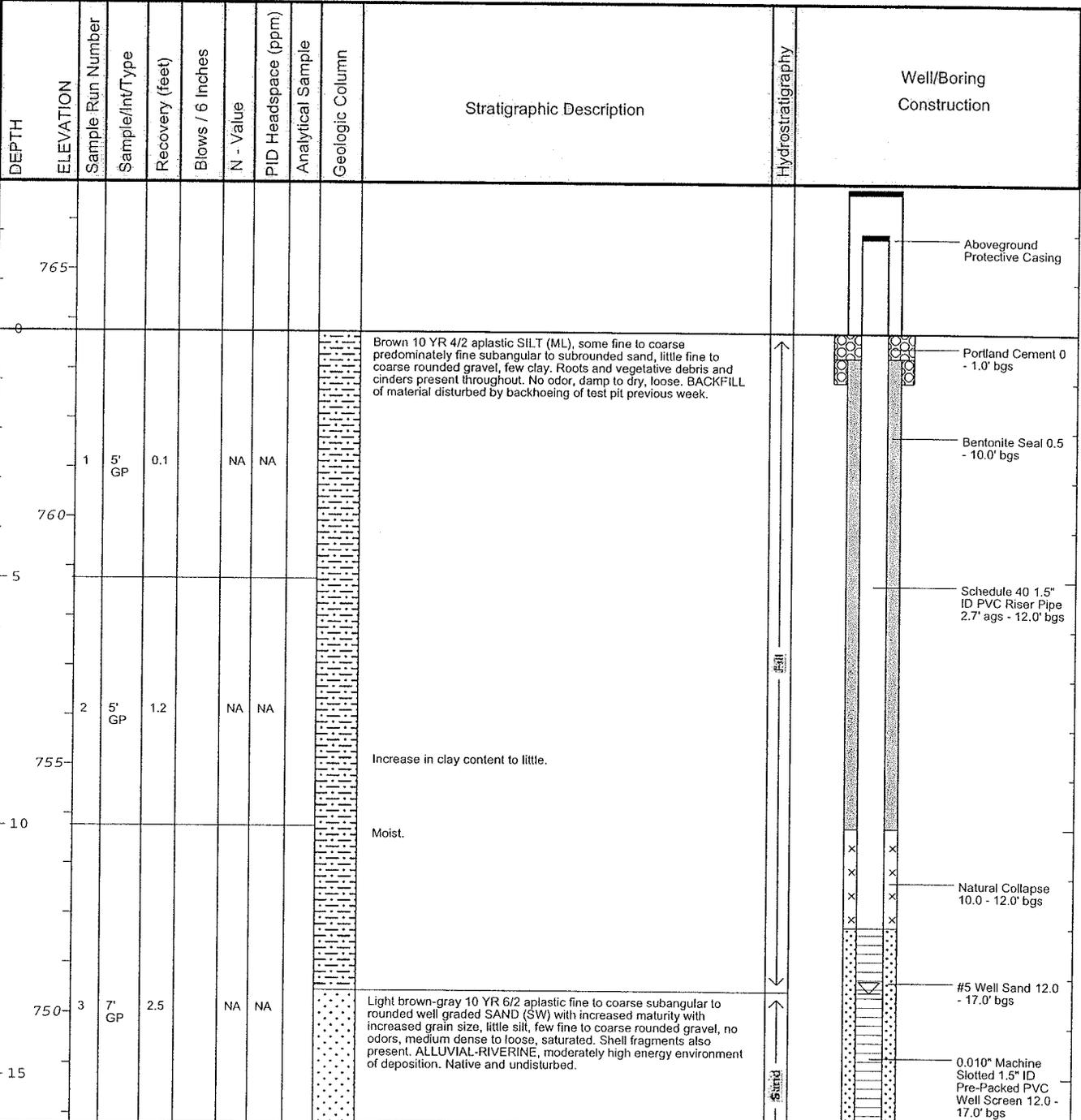
DEPTH	ELEVATION	Sample Run Number	Sample/In/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Well/Boring Construction
0	755									Black 10 YR 2/1 to very dark brown 10 YR 2/2 aplastic SILT (ML/OL), some clay, little fine subangular sand with occasional 1/4" thick sand lenses, no odor, damp becoming moist at 1.0' bgs. Shell fragments and vegetative debris present throughout first 6" with root structures and vegetation (TOPSOIL). Native Alluvial/Riverine deposit, low energy environment of deposition. Organic rich. Becomes sandier with depth.		Aboveground Protective Casing Portland Cement 0 - 1.0' bgs Bentonite Seal 0.5 - 1.0' bgs Natural Collapse 1.0 - 2.0' bgs Schedule 40 1.5" ID PVC Riser Pipe 3.14' ags - 2.0' bgs #5 Well Sand 1.0 - 7.0' bgs 0.010" Machine Slotted 1.5" ID Pre-Packed PVC Well Screen 2.0 - 7.0' bgs
5	750	1	GP	100%		NA	NA			Gray brown 10 YR 5/2 becoming dark gray 10 YR 4/1 after 4.5' bgs, fine to coarse well graded subangular to rounded SAND (SW), some fine to coarse rounded gravel, little silt. Increased maturity with increased grain size. No odor, medium dense, saturated. Shell fragments also present. Riverine/Alluvial, high energy environment of deposition.		
										7.0' - EOB.		



Remarks:
EOB = End of boring.

DRAFT

Date Start/Finish: 12/02/02 Drilling Company: Mateco Driller's Name: Gary Swift Drilling Method: Direct Push Bit Size: Not Applicable Auger Size: Not Applicable Rig Type: 66DT Geoprobe Sampling Method: Acetate Liners	Northing: 289361.88 Easting: 12801459.36 Casing Elevation: 766.43 Borehole Depth: 17' below grade Surface Elevation: 763.76 Geologist: SM Duly	Well/Boring ID: MW-5 Client: Georgia-Pacific Location: Kalamazoo, Michigan
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Remarks:
EOB = End of boring.

Client:
 Georgia-Pacific
Site Location:
 Kalamazoo, Michigan

Well/Boring ID: MW-5

DRAFT

Borehole Depth: 17' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Well/Boring Construction
										17.0' - EOB	↓	



Remarks:
 EOB = End of boring.

DRAFT

Date Start/Finish: 12/02/02
Drilling Company: Mateco
Driller's Name: Gary Swift
Drilling Method: Direct Push
Bit Size: Not Applicable
Auger Size: Not Applicable
Rig Type: 66DT Geoprobe
Sampling Method: Acetate Liners

Northing: 289558.93
Easting: 12801064.21
Casing Elevation: 768.87

Borehole Depth: 17.1' below grade
Surface Elevation: 766.09

Geologist: SM Duly

Well/Boring ID: MW-6
Client: Georgia-Pacific
Location: Kalamazoo, Michigan

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Well/Boring Construction
0												Aboveground Protective Casing
0	765									Dark gray-brown 10 YR 4/2 aplastic SILT (ML), few fine to coarse subrounded to rounded sand, trace rounded gravel, little to locally some clay, no odor, medium dense to loose, moist with snowfall. Topsoil with roots and vegetation present. FILL.	Silt	Portland Cement 0 - 1.0' bgs
										Pale brown 10 YR 6/3 aplastic fine to coarse subangular to rounded well graded SAND (SW), little silt, no odor, dry. Shell fragments and cinders present, loose. FILL.	Sand	Bentonite Seal 0.5 - 10.1' bgs
5										Building debris (concrete) fragments now present.		
	760									BUILDING DEBRIS.		Schedule 40 1.5" ID PVC Riser Pipe 2.7' ags - 12.1' bgs
10		1	GP	100%		NA	NA					
	755									SAND (SW) as at 0.5 - 5.0' with building debris mixed in.	Sand	Natural Collapse 10.1 - 12.1' bgs
										Yellow-brown 10 YR 5/4 aplastic SILT (ML/OL), some fine subangular poorly graded sand, little clay, no odor, medium dense, moist to wet then saturated at 13.5' bgs. Varved. Organic rich as indicated by black varves and lenses and vegetative debris and shell fragments throughout.	Silt	#5 Well Sand 12.1 - 17.1' bgs
15										Brown 10 YR 5/3 fine to coarse subangular to rounded well graded SAND (SW), increased maturity with increased grain size, little silt, little fine to coarse subrounded to rounded gravel, no odor, medium dense, saturated, shell fragments also present. Native Alluvial/Riverine.	Sand	0.010" Machine Slotted 1.5" ID Pre-Packed PVC Well Screen 12.1 - 17.1' bgs



Remarks:
 EOB = End of boring.

Client:
 Georgia-Pacific
Site Location:
 Kalamazoo, Michigan

Well/Boring ID: MW-6

DRAFT

Borehole Depth: 17.1' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Well/Boring Construction
750												
										17.1' - EOB		



Remarks:
 EOB = End of boring.

DRAFT

Date Start/Finish: 12/03/02 Drilling Company: Mateco Driller's Name: Gary Swift Drilling Method: Direct Push Bit Size: Not Applicable Auger Size: Not Applicable Rig Type: 66DT Geoprobe Sampling Method: Acetate Liners	Northing: 289763.57 Eastings: 12800834.98 Casing Elevation: 765.77 Borehole Depth: 14.0' below grade Surface Elevation: 762.89 Geologist: SM Duly	Well/Boring ID: MW-7 Client: Georgia-Pacific Location: Kalamazoo, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Well/Boring Construction
765												Aboveground Protective Casing
0										Dark brown 10 YR 3/3 aplastic SILT (ML), little fine to coarse subangular sand, little clay, trace subrounded fine to coarse gravel. Building debris, metal, wood debris, cinders, possible residuals (white, fibrous and/or clay-like masses up to 1/4" in diameter throughout). No odor, loose, dry (except first 3" is moist with snow fall). Roots and vegetation first 6" (TOPSOIL). FILL.		Portland Cement 0 - 1.0' bgs
760												Bentonite Seal 0.5 - 6.3' bgs
5												Schedule 40 1.5" ID PVC Riser Pipe 3.0' ags - 8.3' bgs
755		1	GP	100%		NA	NA			8.5' - Moist.		Natural Collapse 6.3 - 8.3' bgs
10										Very dark gray-brown 10 YR 3/2 aplastic SILT (ML/OL), little fine subangular sand and locally some in thin lenses up to 1/4" thick, little to locally some clay as black valves and lenses up to 1/4" thick. Varved. Organic rich vegetative debris and shell fragments. No odor, moist, medium dense to loose. Native Alluvial/Riverine, low energy environment of deposition.		#5 Well Sand 6.3 - 13.3' bgs
750										10.0' - Saturated.		0.010" Machine Slotted 1.5" ID Pre-Packed PVC Well Screen 8.3 - 13.3' bgs
										14.0' - EOB.		Natural Collapse 13.3 - 14.0' bgs

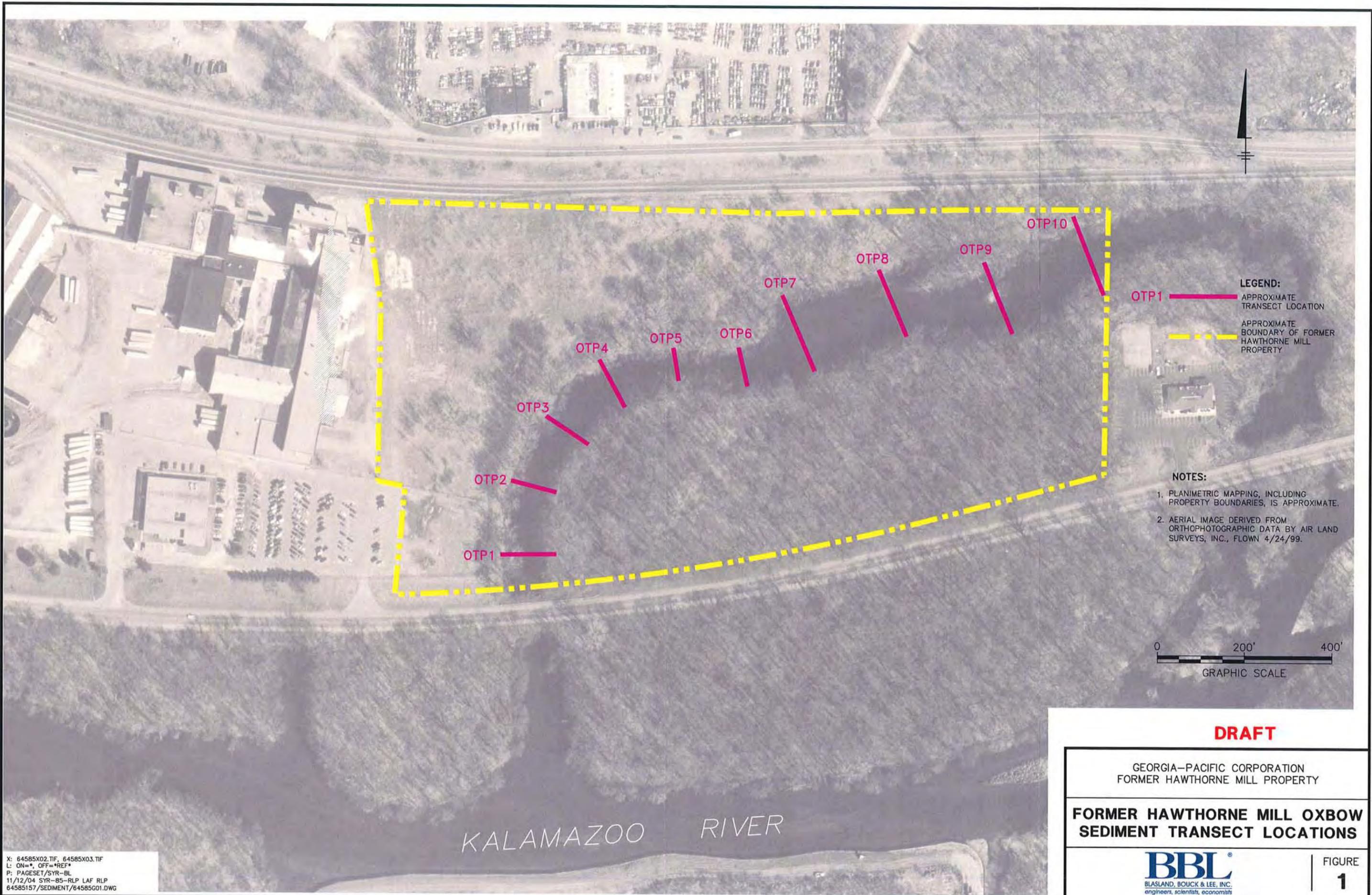


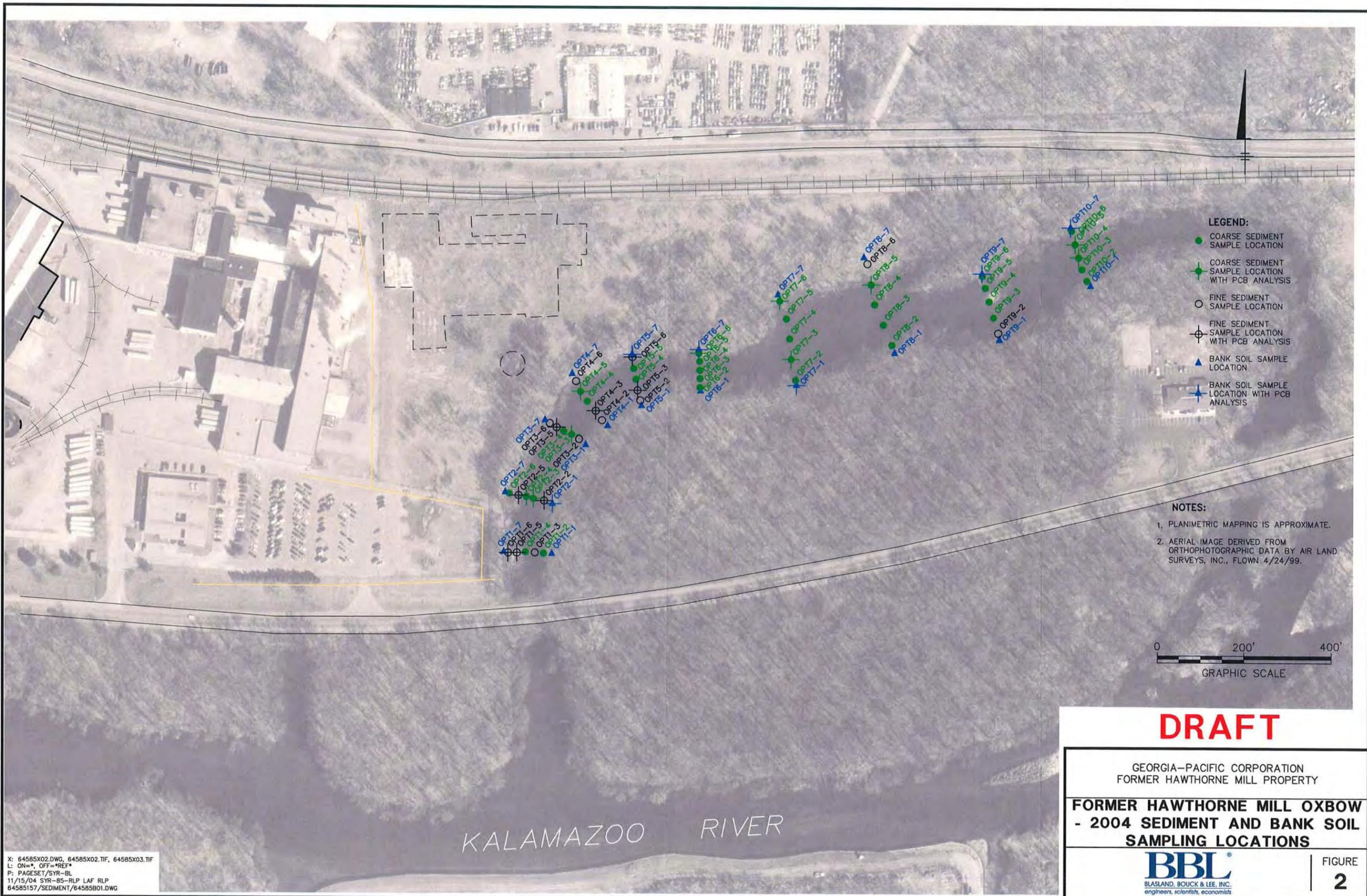
Remarks:
EOB = End of boring.

ARCADIS

Attachment 4

Select Materials from the
Former Hawthorne Mill Oxbow
Sediment Investigation





X: 64585X02.DWG, 64585X02.TIF, 64585X03.TIF
 L: ON=* , OFF=*REF*
 P: PAGESET/SYR-BL
 11/15/04 SYR-B5-RLP LAF RLP
 64585157/SEDIMENT/64585B01.DWG

KALAMAZOO RIVER

Table 2
Summary of Sediment and Bank Soil PCB Data
Former Hawthorne Mill Oxbow Area

Location ID	Sample Type	Date Collected	Sample ID	Dup. ID	Depth Interval (in.)	Percent Solids	PCB Concentration (mg/kg)								Total PCB	TOC (%)
							Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260			
OPT1-5	Fine	8/17/2004	K25749		0-6	48	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	0.083 J	0.12	0.13	0.33 J	6.5 J	
OPT1-5	Fine	8/17/2004	K25755		12-14	70	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)	4.1 J	
OPT1-5	Fine	8/17/2004	K25756		6-12	34	ND(0.15)	ND(0.15)	ND(0.15)	ND(0.15)	ND(0.15)	ND(0.15)	ND(0.15)	ND(0.15)	11.3 J	
OPT1-6	Fine	8/17/2004	K25752		0-6	48	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	ND(0.10)	0.47	ND(0.10)	0.47	4.8 J	
OPT1-6	Fine	8/17/2004	K25762		12-18	35	ND(0.14)	ND(0.14)	ND(0.14)	ND(0.14)	ND(0.14)	ND(0.14)	ND(0.14)	ND(0.14)	12.5 J	
OPT1-6	Fine	8/17/2004	K25761		6-12	34	ND(0.15)	ND(0.15)	ND(0.15)	ND(0.15)	ND(0.15)	ND(0.15)	ND(0.15)	ND(0.15)	10.9 J	
OPT2-1	Bank Soil	8/20/2004	K25710		0-6	42	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	0.84	0.21	1.1	8.9	
OPT2-1	Bank Soil	8/20/2004	K25712		12-24	81	ND(0.062)	ND(0.062)	ND(0.062)	ND(0.062)	ND(0.062)	ND(0.062)	0.037 J	0.037 J	1.7	
OPT2-1	Bank Soil	8/20/2004	K25711		6-12	66	ND(0.076)	ND(0.076)	ND(0.076)	ND(0.076)	ND(0.076)	0.047 J	0.1	0.15 J	1.5	
OPT2-2	Fine	8/17/2004	K25721		0-3	56	ND(0.089)	ND(0.089)	ND(0.089)	ND(0.089)	ND(0.089)	0.13	ND(0.089)	0.13	4.0	
OPT2-3	Coarse	8/17/2004	K25751		0-6	63	ND(0.081)	ND(0.081)	ND(0.081)	ND(0.081)	ND(0.081)	0.15	ND(0.081)	0.15	4.5 J	
OPT2-4	Coarse	8/17/2004	K25745		0-6	57	ND(0.089)	ND(0.089)	ND(0.089)	0.18	ND(0.089)	0.36	0.050 J	0.59 J	5.0	
OPT2-4	Coarse	8/17/2004	K25743		12-24	41	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	9.0	
OPT2-4	Coarse	8/17/2004	K25747	K25748	24-36	85	ND(0.059)	ND(0.059)	ND(0.059)	ND(0.059)	ND(0.059)	ND(0.059)	ND(0.059)	ND(0.059)	0.55 J	
OPT2-4	Coarse	8/17/2004	K25748	K25747	24-36	83	ND(0.060)	ND(0.060)	ND(0.060)	ND(0.060)	ND(0.060)	ND(0.060)	ND(0.060)	ND(0.060)	2.4 J	
OPT2-4	Coarse	8/17/2004	K25746		36-44	87	ND(0.058)	ND(0.058)	ND(0.058)	ND(0.058)	ND(0.058)	ND(0.058)	ND(0.058)	ND(0.058)	1.9 J	
OPT2-4	Coarse	8/17/2004	K25744		6-12	44	ND(0.11)	ND(0.11)	ND(0.11)	0.11 J	ND(0.11)	0.56	0.24	0.91 J	6.2	
OPT2-5	Fine	8/17/2004	K25763		0-6	42	ND(0.12)	ND(0.12)	ND(0.12)	0.19	ND(0.12)	0.30	0.065 J	0.56 J	19 J	
OPT2-5	Fine	8/17/2004	K25760		12-24	39	ND(0.13)	ND(0.13)	ND(0.13)	ND(0.13)	ND(0.13)	0.096 J	ND(0.13)	0.096 J	8.1 J	
OPT2-5	Fine	8/17/2004	K25765		24-32	45	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.11)	8.2 J	
OPT2-5	Fine	8/17/2004	K25764		32-40	93	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)	2.1 J	
OPT2-5	Fine	8/17/2004	K25766	K25767	6-12	33	ND(0.15)	ND(0.15)	ND(0.15)	ND(0.15)	ND(0.15)	0.41	0.096 J	0.51 J	13.9 J	
OPT2-5	Fine	8/17/2004	K25767	K25766	6-12	37	ND(0.13)	ND(0.13)	ND(0.13)	0.085 J	ND(0.13)	0.41	0.089 J	0.58 J	8.9 J	
OPT3-3	Coarse	8/17/2004	K25757		0-6	38	ND(0.13)	ND(0.13)	ND(0.13)	0.084 J	ND(0.13)	0.16	ND(0.13)	0.24 J	9.4 J	
OPT3-5	Fine	8/17/2004	K25741	K25742	0-6	68	ND(0.073)	ND(0.073)	ND(0.073)	ND(0.073)	ND(0.073)	0.13	ND(0.073)	0.13	0.97	
OPT3-5	Fine	8/17/2004	K25742	K25741	0-6	72	ND(0.069)	ND(0.069)	ND(0.069)	0.039 J	ND(0.069)	0.11	ND(0.069)	0.15 J	1.0	
OPT3-5	Fine	8/17/2004	K25739		12-24	50	ND(0.10)	ND(0.10)	ND(0.10)	0.13	ND(0.10)	0.37	ND(0.10)	0.50	9.3	
OPT3-5	Fine	8/17/2004	K25738		24-29	42	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	0.24	ND(0.12)	ND(0.12)	0.24	10.9	
OPT3-5	Fine	8/17/2004	K25734		6-12	56	ND(0.089)	ND(0.089)	ND(0.089)	0.048 J	0.14	0.34	ND(0.089)	0.53 J	12.7	
OPT4-3	Fine	8/17/2004	K25750		0-6	40	ND(0.13)	ND(0.13)	ND(0.13)	0.068 J	ND(0.13)	0.18	0.084 J	0.33 J	11.4 J	
OPT4-3	Fine	8/17/2004	K25758	K25759	6-12	39	ND(0.13)	ND(0.13)	ND(0.13)	ND(0.13)	ND(0.13)	ND(0.13)	0.084 J	0.084 J	10 J	
OPT4-3	Fine	8/17/2004	K25759	K25758	6-12	37	ND(0.14)	ND(0.14)	ND(0.14)	ND(0.14)	ND(0.14)	ND(0.14)	ND(0.14)	ND(0.14)	10.2 J	
OPT4-5	Coarse	8/17/2004	K25736		0-4	71	ND(0.071)	ND(0.071)	ND(0.071)	ND(0.071)	0.036 J	ND(0.071)	ND(0.071)	0.036 J	3.7	
OPT4-5	Coarse	8/17/2004	K25740		12-18	78	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	0.54	
OPT4-5	Coarse	8/17/2004	K25735		4-12	79	ND(0.063)	ND(0.063)	ND(0.063)	ND(0.063)	ND(0.063)	ND(0.063)	ND(0.063)	ND(0.063)	3.3	
OPT5-3	Fine	8/18/2004	K25725		0-6	37	ND(0.14)	ND(0.14)	ND(0.14)	ND(0.14)	ND(0.14)	ND(0.14)	ND(0.14)	ND(0.14)	9.6	
OPT5-3	Fine	8/18/2004	K25733		6-12	85	ND(0.059)	ND(0.059)	ND(0.059)	ND(0.059)	ND(0.059)	0.037 J	ND(0.059)	0.037 J	1.8	
OPT5-6	Fine	8/18/2004	K25719		0-6	88	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	1.4	
OPT5-6	Fine	8/18/2004	K25718		12-20	45	ND(0.22)	ND(0.22)	ND(0.22)	0.13 J	ND(0.22)	1.1 J	0.17 J	1.4 J	5.1	
OPT5-6	Fine	8/18/2004	K25720		20-23	52	ND(0.096)	ND(0.096)	ND(0.096)	ND(0.096)	ND(0.096)	ND(0.096)	ND(0.096)	ND(0.096)	10.3	

Table 2
Summary of Sediment and Bank Soil PCB Data
Former Hawthorne Mill Oxbow Area

Location ID	Sample Type	Date Collected	Sample ID	Dup ID	Depth Interval (in.)	Percent Solids	PCB Concentration (mg/kg)							Total PCB	TOC (%)
							Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260		
OPT5-6	Fine	8/18/2004	K25723		6-12	82	ND(0.061)	ND(0.061)	ND(0.061)	ND(0.061)	ND(0.061)	0.041 J	ND(0.061)	0.041 J	3.6
OPT5-7	Bank Soil	8/20/2004	K25713		0-6	90	ND(0.055)	ND(0.055)	ND(0.055)	ND(0.055)	ND(0.055)	ND(0.055)	ND(0.055)	ND(0.055)	4.5
OPT6-6	Coarse	8/18/2004	K25728		0-6	44	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.11)	ND(0.11)	0.28	ND(0.11)	0.28	9.3
OPT6-6	Coarse	8/18/2004	K25729		12-18	87	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	0.15
OPT6-6	Coarse	8/18/2004	K25727		6-12	40	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	ND(0.12)	0.069 J	0.069 J	8.6
OPT6-7	Bank Soil	8/20/2004	K25714		0-6	77	ND(0.065)	ND(0.065)	ND(0.065)	ND(0.065)	ND(0.065)	0.044 J	ND(0.065)	0.044 J	12.7
OPT6-7	Bank Soil	8/20/2004	K25716		12-24	88	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	5.9
OPT6-7	Bank Soil	8/20/2004	K25715		6-12	92	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)	ND(0.054)	16.8
OPT7-1	Bank Soil	8/20/2004	K25707		0-6	71	ND(0.070)	ND(0.070)	ND(0.070)	ND(0.070)	ND(0.070)	ND(0.070)	ND(0.070)	ND(0.070)	4.9
OPT7-1	Bank Soil	8/20/2004	K25709		12-24	69	ND(0.072)	ND(0.072)	ND(0.072)	ND(0.072)	ND(0.072)	ND(0.072)	ND(0.072)	ND(0.072)	2.8
OPT7-1	Bank Soil	8/20/2004	K25708		6-12	78	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	4.8
OPT7-3	Coarse	8/18/2004	K25732		0-6	87	ND(0.058)	ND(0.058)	ND(0.058)	ND(0.058)	ND(0.058)	ND(0.058)	ND(0.058)	ND(0.058)	0.54
OPT7-6	Coarse	8/18/2004	K25717		0-6	27	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	ND(0.19)	0.91	0.1 J	1.0J	24
OPT7-6	Coarse	8/18/2004	K25724		6-12	83	ND(0.060)	ND(0.060)	ND(0.060)	ND(0.060)	ND(0.060)	ND(0.060)	ND(0.060)	ND(0.060)	0.79
OPT8-5	Coarse	8/18/2004	K25730	K25731	0-8	25	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	0.34	ND(0.20)	0.34	21
OPT8-5	Coarse	8/18/2004	K25731	K25730	0-8	24	ND(0.21)	ND(0.21)	ND(0.21)	ND(0.21)	ND(0.21)	0.23	ND(0.21)	0.23	19
OPT8-5	Coarse	8/18/2004	K25722		12-19	83	ND(0.060)	ND(0.060)	ND(0.060)	ND(0.060)	ND(0.060)	ND(0.060)	ND(0.060)	ND(0.060)	0.58
OPT8-5	Coarse	8/18/2004	K25726		8-12	71	ND(0.070)	ND(0.070)	ND(0.070)	ND(0.070)	ND(0.070)	ND(0.070)	ND(0.070)	ND(0.070)	2.6
OPT9-7	Bank Soil	8/20/2004	K25701		0-6	35	ND(0.14)	ND(0.14)	ND(0.14)	ND(0.14)	ND(0.14)	1.2	0.2	1.4	13.4
OPT9-7	Bank Soil	8/20/2004	K25703		12-18	71	ND(0.070)	ND(0.070)	ND(0.070)	ND(0.070)	ND(0.070)	0.044 J	ND(0.070)	0.044 J	2.9
OPT9-7	Bank Soil	8/20/2004	K25702		6-12	71	ND(0.070)	ND(0.070)	ND(0.070)	ND(0.070)	ND(0.070)	0.17	ND(0.070)	0.17	2.4
OPT10-4	Coarse	8/18/2004	K25737		0-6	78	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	1.7
OPT10-5	Coarse	8/18/2004	K25754		0-6	78	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	ND(0.064)	0.051 J	0.051 J	2.2 J
OPT10-5	Coarse	8/18/2004	K25753		6-12	80	ND(0.063)	ND(0.063)	ND(0.063)	ND(0.063)	ND(0.063)	ND(0.063)	ND(0.063)	ND(0.063)	3.9 J
OPT10-7	Bank Soil	8/20/2004	K25704		0-6	58	ND(0.086)	ND(0.086)	ND(0.086)	ND(0.086)	ND(0.086)	0.053 J	ND(0.086)	0.053 J	5.1
OPT10-7	Bank Soil	8/20/2004	K25706		12-24	69	ND(0.072)	ND(0.072)	ND(0.072)	ND(0.072)	ND(0.072)	ND(0.072)	ND(0.072)	ND(0.072)	4.2
OPT10-7	Bank Soil	8/20/2004	K25705		6-12	63	ND(0.079)	ND(0.079)	ND(0.079)	ND(0.079)	ND(0.079)	ND(0.079)	ND(0.079)	ND(0.079)	4.9
OTP-5A-6	Fine	8/26/2004	K25768		0-6	88	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	ND(0.057)	0.91 J
OTP-5A-6	Fine	8/26/2004	K25771		12-18	31	ND(0.48)	ND(0.48)	ND(0.48)	ND(0.48)	ND(0.48)	3.0	0.36 J	3.4 J	11 J
OTP-5A-6	Fine	8/26/2004	K25769	K25770	6-12	37	ND(0.27)	ND(0.27)	ND(0.27)	ND(0.27)	ND(0.27)	1.6	0.31	1.9	8.8 J
OTP-5A-6	Fine	8/26/2004	K25770	K25769	6-12	39	ND(0.26)	ND(0.26)	ND(0.26)	ND(0.26)	ND(0.26)	1.4	0.22 J	1.6 J	10.6 J

Notes:

ND = Not detected.

J = The compound was positively identified. However, the associated numerical volume is an estimated concentration only.

U = The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

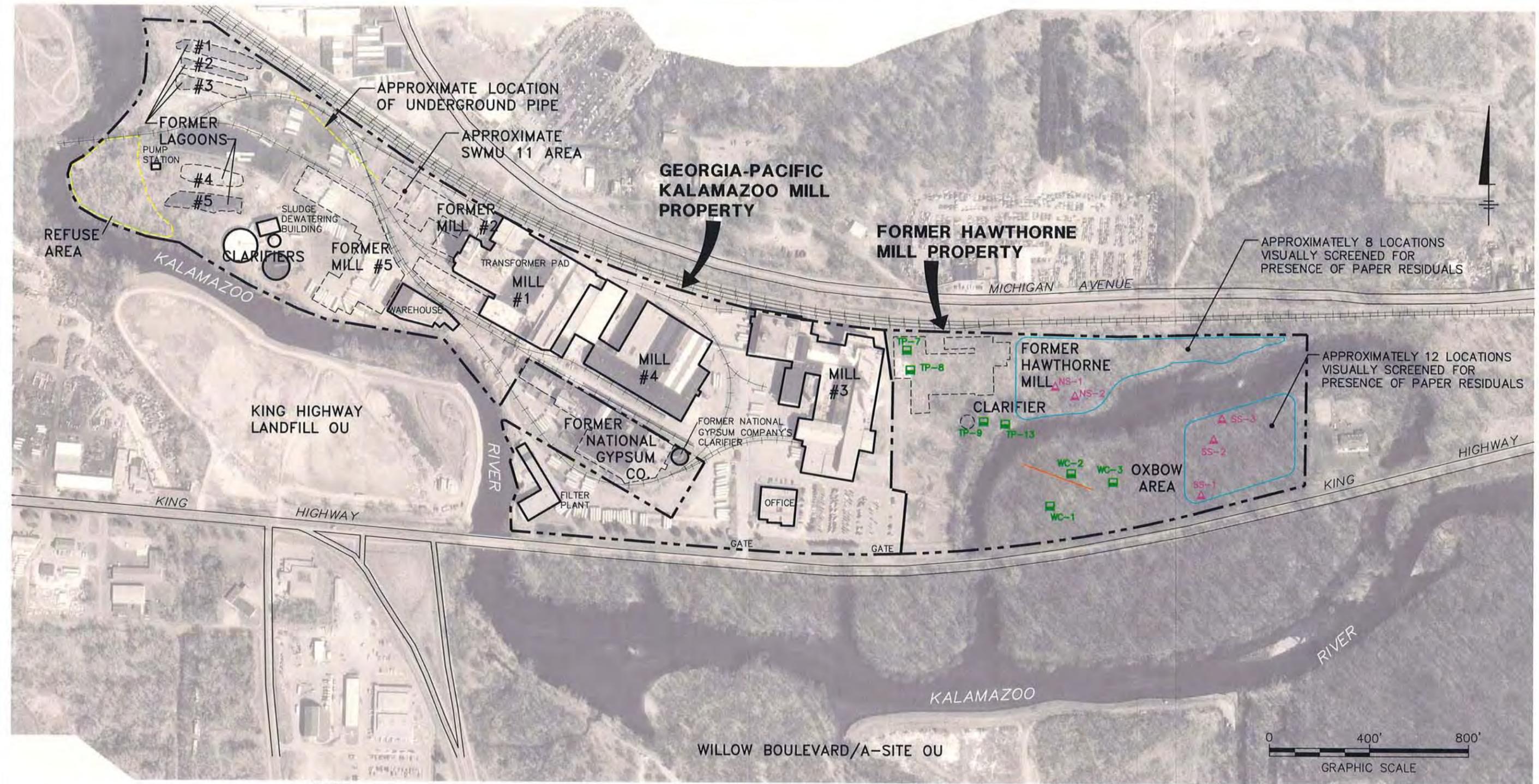
in = inches.

mg/kg = milligrams per kilograms.

ARCADIS

Attachment 5

Select Materials from the
Former Hawthorne Mill
Supplemental Soil
Investigation



X: 64585X01.DWG, 64585X02.TIF, 64585X03.TIF
 L: ON=* OFF=*REF
 P: PAGESET/SYR-BL
 6/30/05 SYR-85-RLP TJR KLS
 64585157/64585G04.DWG

GEORGIA-PACIFIC CORPORATION
 FORMER HAWTHORNE MILL PROPERTY
 SUPPLEMENTAL SOIL INVESTIGATION
 ACTIVITIES SUMMARY MEMORANDUM

SAMPLING LOCATIONS

BBL
 BLASLAND, BOUCK & LEE, INC.
 engineers, scientists, economists

FIGURE
1

TABLE 2
SUPPLEMENTAL SOIL INVESTIGATION SAMPLING RESULTS

DRAFT

GEORGIA - PACIFIC CORPORATION
FORMER HAWTHORNE MILL PROPERTY
ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER SUPERFUND SITE
KALAMAZOO, MICHIGAN

Sample ID: Sample Depth (feet): Date Collected:	Units	NS-1	NS-2	SS-1	SS-2	SS-3	TP-7(2)	TP-7(4)	TP-7(6)	TP-8(2)	TP-8(4)	TP-8(6)	TP-9(2)	TP-9(4)	TP-9(6)	WASTE/OUTFALL-1	WC-1	WC-2	WC-3
		04/07/05	04/07/05	04/07/05	04/07/05	04/07/05	04/07/05	2 04/07/05	4 04/07/05	6 04/07/05	2 04/07/05	4 04/07/05	6 04/07/05	2 04/07/05	4 04/07/05	6 04/07/05	04/07/05	2.1 04/07/05	3 04/07/05
VOCs																			
1,2,3-Trichlorobenzene	ug/kg	R	9.8 UJ	R	NA	NA	3.8 UJ	7.5 UJ	6.7 UJ	4.6 UJ	3.9 UJ	6 UJ	R	4.7 U	4.4 UJ	NA	8.7 U	150 U	150 U
1,2,4-Trichlorobenzene	ug/kg	R	9.8 UJ	R	NA	NA	3.8 UJ	7.5 UJ	6.7 UJ	4.6 UJ	3.9 UJ	6 UJ	R	4.7 U	4.4 UJ	NA	5.2 J	150 U	150 U
1,2,4-Trimethylbenzene	ug/kg	R	9.8 UJ	10 UJ	NA	NA	3.8 U	7.5 U	6.7 UJ	4.6 U	3.9 U	6 U	5.5 UJ	1.8 J	4.4 U	NA	8.7 UJ	8 UJ	7 UJ
2-Butanone	ug/kg	56J	27J	33J	NA	NA	R	R	43J	9.2 J	12 J	42 J	19 J	10 J	13 J	NA	81 J	96 J	58 J
2-Hexanone	ug/kg	9 UJ	9.8 UJ	10 UJ	NA	NA	3.8 U	7.5 U	6.7 UJ	4.6 U	3.9 U	6 U	5.5 U	4.7 U	4.4 U	NA	7.1 J	11	7 U
4-Isopropyltoluene	ug/kg	R	9.8 UJ	3.1 J	NA	NA	3.8 UJ	7.5 UJ	6.7 UJ	4.6 UJ	3.9 UJ	6 UJ	R	4.7 U	4.4 UJ	NA	8.7 UJ	150 U	150 U
Acetone	ug/kg	740 EJ	340J	340J	NA	NA	31J	35J	340 EJ	110 J	110 J	390 EJ	500 EJ	63 J	110 J	NA	2300 DJ	1300 DJ	1800 DJ
Benzene	ug/kg	9 UJ	9.8 UJ	10 UJ	NA	NA	0.87 J	7.5 U	6.7 UJ	1.3 J	0.95 J	1.2 J	5.5 U	4.7 U	1.9 J	NA	8.7 U	8 U	7 U
Bromomethane	ug/kg	9 UJ	9.8 UJ	10 UJ	NA	NA	3.8 UJ	7.5 UJ	6.7 UJ	4.6 UJ	3.9 UJ	6 UJ	5.5 UJ	4.7 UJ	4.4 UJ	NA	8.7 UJ	18 J	2.8 J
Carbon Disulfide	ug/kg	9 UJ	9.8 UJ	10 UJ	NA	NA	0.79 J	6.9 J	6.7 UJ	2 J	7.42	6 U	4.3 J	7	3.1 J	NA	3.2 J	1.8 J	5.3 J
Chloromethane	ug/kg	9UJ	9.8UJ	10 UJ	NA	NA	3.8 UJ	7.5 UJ	6.7 UJ	4.6 UJ	3.9 UJ	6 UJ	5.5 UJ	4.7 UJ	4.4 UJ	NA	8.7 UJ	4.0 J	7.0 UJ
Ethylbenzene	ug/kg	R	9.8 UJ	10 UJ	NA	NA	3.8 U	7.5 U	6.7 UJ	4.6 U	3.9 U	6 U	5.5 UJ	1.8 J	4.4 U	NA	8.7 UJ	8 UJ	7 UJ
Hexachlorobutadiene	ug/kg	R	9.8 UJ	R	NA	NA	3.8 UJ	7.5 UJ	6.7 UJ	4.6 UJ	3.9 UJ	6 UJ	R	4.7 U	4.4 UJ	NA	3.6 J	150 U	150 U
Methyl Iodide	ug/kg	9 UJ	9.8 UJ	10 UJ	NA	NA	3.8 U	7.5 U	2.4 J	4.6 U	3.9 U	6 U	5.5 U	4.7 U	4.4 U	NA	8.7 UJ	8.6	7 U
n-Butylbenzene	ug/kg	R	9.8 UJ	R	NA	NA	3.8 UJ	7.5 UJ	6.7 UJ	4.6 UJ	3.9 UJ	6 UJ	R	4.7 U	4.4 UJ	NA	2.4 J	150 U	150 U
Naphthalene	ug/kg	R	9.8 UJ	R	NA	NA	3.8 UJ	7.5 UJ	6.7 UJ	4.6 UJ	3.9 UJ	6 UJ	R	4.7 U	4.4 UJ	NA	9.8 J	150 U	150 U
sec-Butylbenzene	ug/kg	R	9.8 UJ	10 UJ	NA	NA	3.8 U	7.5 U	6.7 UJ	4.6 U	3.9 U	6 U	5.5 UJ	4.7 U	4.4 J	NA	8.7 UJ	8 UJ	7 UJ
Styrene	ug/kg	R	9.8 UJ	10 UJ	NA	NA	1.2 J	7.5 UJ	6.7 UJ	4.6 UJ	3.9 UJ	6 UJ	5.5 UJ	4.7 UJ	4.4 U	NA	8.7 UJ	8 UJ	7 U
Toluene	ug/kg	16J	3.7 J	6.6 J	NA	NA	2.1 J	2.6 J	2.8 J	2.7 J	4.1 J	4.9 J	8.3 J	2.8 J	NA	6.8 J	5.2 J	4.2 J	
Trichloroethene	ug/kg	9 UJ	9.8 UJ	10 UJ	NA	NA	3.8 U	7.5 U	6.7 UJ	10	17	11	5.5 U	4.7 U	4.4 U	NA	8.7 UJ	8 U	7 U
Xylene (m,p)	ug/kg	R	9.8 UJ	10 UJ	NA	NA	3.8 U	7.5 U	6.7 U	4.6 U	3.9 U	6 U	5.5 UJ	2.5 J	4.4 U	NA	8.7 UJ	8 UJ	7 UJ
Xylene (o)	ug/kg	R	9.8 UJ	10 UJ	NA	NA	3.8 UJ	7.5 UJ	6.7 UJ	4.6 UJ	3.9 UJ	6 UJ	5.5 UJ	1.1 J	4.4 U	NA	8.7 UJ	8 UJ	7 UJ
SVOCs																			
2,4,5-Trichlorophenol	ug/kg	1300 U	1200 U	1700 U	NA	NA	900 U	1100 U	1300 U	960 U	910 U	1400 U	1000 U	1100 U	1000 U	NA	1500 U	1400 U	190 J
2-Methylnaphthalene	ug/kg	1300	170 J	690 UJ	NA	NA	62 J	150 J	310 UJ	75 J	48 J	340 UJ	120 J	430 UJ	26 J	NA	42 J	28 J	34 J
4-Methylphenol	ug/kg	520 U	460 U	690 U	NA	NA	360 U	450 U	310 U	380 U	360 U	540 U	410 U	430 U	420 U	NA	590 U	26 J	550 U
Acenaphthene	ug/kg	520 U	460 U	690 U	NA	NA	20 J	450 U	310 U	380 U	360 U	540 U	410 U	430 U	45 J	NA	590 U	560 U	550 U
Acenaphthylene	ug/kg	520 U	460 U	690 U	NA	NA	360 U	450 U	310 U	20 J	360 U	540 U	410 U	430 U	420 U	NA	590 U	560 U	550 U
Anthracene	ug/kg	61 J	460 U	690 U	NA	NA	47 J	450 U	310 U	35 J	43 J	540 U	45 J	430 U	100 J	NA	590 U	560 U	550 U
Benzo(a)anthracene	ug/kg	260 J	47 J	110 J	NA	NA	220 J	29 J	310 U	560	450	540 U	180 J	430 U	200 J	NA	590 U	48 J	550 U
Benzo(a)pyrene	ug/kg	190 J	40 J	130 J	NA	NA	220 J	21 J	310 U	490	400	540 U	150 J	430 U	160 J	NA	590 UJ	560 U	550 U
Benzo(b)fluoranthene	ug/kg	250 J	50 J	110 J	NA	NA	200 J	26 J	310 U	440	440	540 U	160 J	430 U	170 J	NA	590 UJ	560 U	550 U
Benzo(g,h,i)perylene	ug/kg	130 J	45 J	120 J	NA	NA	200 J	450 UJ	310 UJ	180 J	190 J	540 UJ	110 J	430 UJ	150 J	NA	590 UJ	560 UJ	550 UJ
Benzo(k)fluoranthene	ug/kg	260 J	45 J	140 J	NA	NA	270 J	450 U	310 U	490	390	540 U	160 J	430 U	170 J	NA	590 UJ	560 U	550 U
bis(2-Ethylhexyl)phthalate	ug/kg	120 J	460 U	690 U	NA	NA	360 U	450 U	310 U	380 U	360 U	540 U	220 J	430 U	420 U	NA	590 UJ	560 U	550 U
Butylbenzylphthalate	ug/kg	33 J	460 U	690 U	NA	NA	360 U	35 J	310 U	380 U	180 J	540 U	410 U	430 U	420 U	NA	590 U	560 U	550 U
Carbazole	ug/kg	53 J	460 U	690 U	NA	NA	32 J	450 U	310 U	380 U	26 J	540 U	30 J	430 U	90 J	NA	590 U	560 U	550 U
Chrysene	ug/kg	390 J	62 J	150 J	NA	NA	240 J	43 J	310 U	550	490	540 U	220 J	430 U	220 J	NA	61 J	68 J	550 U
Di-n-butylphthalate	ug/kg	27 J	460 U	690 U	NA	NA	360 U	450 U	310 U	380 U	360 U	540 U	410 U	430 U	420 U	NA	590 U	560 U	550 U
Dibenz(a,h)anthracene	ug/kg	33 J	460 U	690 U	NA	NA	49 J	450 U	310 U	69 J	64 J	540 U	32 J	430 U	40 J	NA	590 UJ	560 U	550 UJ
Dibenzofuran	ug/kg	230 J	34 J	690 U	NA	NA	24 J	32 J	310 U	21 J	18 J	540 U	39 J	430 U	33 J	NA	590 U	560 U	550 U
Fluoranthene	ug/kg	550	100 J	220 J	NA	NA	360	53 J	310 U	850	850	540 U	420	430 U	660	NA	44 J	64 J	70 J
Fluorene	ug/kg	520 U	460 U	690 U	NA	NA	18 J	450 U	310 U	380 U	360 U	540 U	410 U	430 U	53 J	NA	590 U	560 U	550 U
Indeno(1,2,3-cd)pyrene	ug/kg	79 J	28 J	88 J	NA	NA	150 J	450 U	310 U	180 J	170 J	540 U	88 J	430 U	110 J	NA	590 UJ	560 U	550 UJ
Naphthalene	ug/kg	580	80 J	690 U	NA	NA	37 J	80 J	310 U	56 J	40 J	540 U	52 J	430 U	58 J	NA	590 U	560 U	550 U
Pentachlorophenol	ug/kg	1300 U	1200 U	1700 U	NA	NA	900 U	1100 U	1300 U	960 U	910 U	1400 U	1000 U	1100 U	1000 U	NA	60 J	1400 U	340 J
Phenanthrene	ug/kg	810	120 J	96 J	NA	NA	280 J	82 J	310 U	160 J	210 J	540 U	320 J	430 U	530	NA	31 J	41 J	37 J
Pyrene	ug/kg	520	91 J	220 J	NA	NA	490	45 J	310 U	1100	970	540 U	380 J	430 U	470	NA	99 J	81 J	130 J
PCBs																			
Aroclor 1248	ug/kg	78 U	70 U	100 U	30 U	50 U	34 U	68 U	77 U	37 U	55 U	82 U	62 U	65 U	63 U	86 U	110	85 U	810
Aroclor 1254	ug/kg	220	70 U	100 U	30 U	30 U	34 U	37 J	77 U	37 U	55 U	82 U	62 U	65 U	63 U	610	170	76 J	300
Aroclor 1260	ug/kg	38 J	70 U	100 U	30 U	30 U	34 U	68 U	77 U	37 U	55 U	82 U	62 U	65 U	63 U	210	46 J	46 J	170
Total PCBs	ug/kg	278 J	ND	ND	ND	ND	ND	57 J	ND	820	326 J	122 J	1280						

TABLE 2
SUPPLEMENTAL SOIL INVESTIGATION SAMPLING RESULTS

DRAFT

GEORGIA - PACIFIC CORPORATION
FORMER HAWTHORNE MILL PROPERTY
ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER SUPERFUND SITE
KALAMAZOO, MICHIGAN

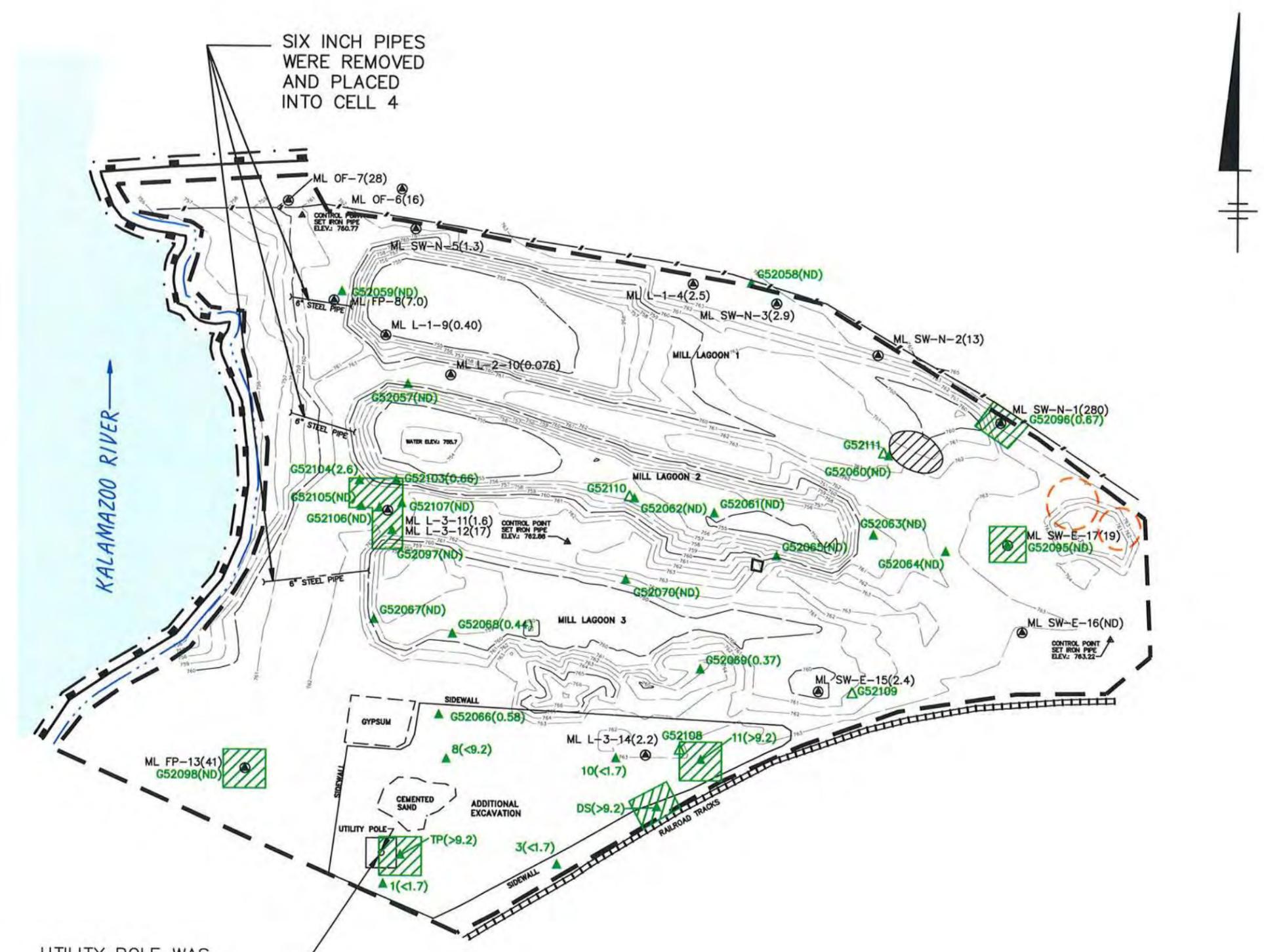
Sample ID: Sample Depth (feet): Date Collected:	NS-1 04/07/05	NS-2 04/07/05	SS-1 04/07/05	SS-2 04/07/05	SS-3 04/07/05	TP-(2) 2 04/07/05	TP-(4) 4 04/07/05	TP-(6) 6 04/07/05	TP-(2) 2 04/07/05	TP-(4) 4 04/07/05	TP-(6) 6 04/07/05	TP-(2) 2 04/07/05	TP-(4) 4 04/07/05	TP-(6) 6 04/07/05	WASTE OUTFALL-1 04/07/05	WC-1 2.1 04/07/05	WC-2 3 04/07/05	WC-3 3.7 04/07/05	
Pesticides																			
4,4'-DDD	ug/kg	8.2 J	4.7 U	7 U	NA	NA	3.6 U	4.6 U	5.1 U	3.8 U	3.7 U	5.5 U	4.2 U	4.3 U	4.2 U	NA	9.8	5.6 U	11
4,4'-DDE	ug/kg	11	4.7 U	7 U	NA	NA	3.6 U	4.6 U	5.1 U	3.8 U	3.7 U	5.5 U	4.2 U	4.3 U	4.2 U	NA	42 J	37	18 J
4,4'-DDT	ug/kg	3.1	4.7 U	7 U	NA	NA	3.6 U	4.6 U	5.1 U	3.8 U	3.7 U	5.5 U	4.2 U	4.3 U	4.2 U	NA	6 U	5.6 U	5.3 U
Aldrin	ug/kg	2.6 U	2.3 U	3.5 U	NA	NA	1.8 U	2.3 U	2.6 U	1.9 U	1.8 U	2.7 U	2.1 U	2.2 U	2.1 U	NA	3 U	2.8 U	12 JN
alpha-Chlordane	ug/kg	2.6 U	2.3 U	3.5 U	NA	NA	1.8 U	2.3 U	2.6 U	1.9 U	1.8 U	2.7 U	2.1 U	2.2 U	2.1 U	NA	4.1 J	2.8 U	4.3 J
delta-BHC	ug/kg	2.6 U	2.3 U	3.5 U	NA	NA	1.8 U	2.3 U	2.6 U	1.9 U	1.8 U	2.7 U	2.1 U	2.2 U	2.1 U	NA	3 U	2.8 U	25
Dieldrin	ug/kg	5.2 U	4.7 U	7 U	NA	NA	3.6 U	4.6 U	5.1 U	3.8 U	3.7 U	5.5 U	4.2 U	4.3 U	4.2 U	NA	18 J	6	5.5 U
Endrin ketone	ug/kg	5.2 U	4.7 U	7 U	NA	NA	3.6 U	4.6 U	5.1 U	3.8 U	3.7 U	5.5 U	4.2 U	4.3 U	4.2 U	NA	6 U	5.6 U	6.6
gamma-Chlordane	ug/kg	2.6 U	2.3 U	3.5 U	NA	NA	1.8 U	2.3 U	2.6 U	1.9 U	1.8 U	2.7 U	2.1 U	2.2 U	2.1 U	NA	10 JN	4.4 J	2.8 U
Heptachlor	ug/kg	2.6 U	2.3 U	3.5 U	NA	NA	1.8 U	2.3 U	2.6 U	1.9 U	1.8 U	2.7 U	2.1 U	2.2 U	2.1 U	NA	5.7 J	2.8 U	2.8 U
Heptachlor epoxide	ug/kg	2.6 U	2.3 U	3.5 U	NA	NA	1.8 U	2.3 U	2.6 U	1.9 U	1.8 U	2.7 U	2.1 U	2.2 U	2.1 U	NA	12	2.8 U	18 J
Metals and Cyanide																			
Aluminum	mg/kg	4900J	2170J	9020J	NA	NA	4450J	2450J	8360J	5030J	9740J	10400J	6200J	1990J	2530J	NA	21600J	17200J	20900J
Antimony	mg/kg	3.5 B	0.89 B	1.2 B	NA	NA	0.36 U	0.33 B	0.61 U	0.44 U	0.61 B	0.67 U	0.68 B	0.4 U	0.45 U	NA	0.72 U	1.9 B	0.68 U
Arsenic	mg/kg	27.9J	23.1J	44.3J	NA	NA	8.2J	12.3J	69.1J	14.3J	6J	33.4J	14J	6.6J	7.3 J	NA	4.1 J	3.6 J	4 J
Barium	mg/kg	354	82.3	188	NA	NA	48.4	93.7	172	35	99.3	187	142	31.8	85	NA	43.1	47.4	50.1 B
Beryllium	mg/kg	2.8	0.88	1.1	NA	NA	0.47	1.5	0.85	0.46 B	0.91	0.8 B	1.4	0.31 B	0.28 B	NA	0.39 B	0.46 B	0.47 B
Cadmium	mg/kg	1.1	0.3 B	1.1	NA	NA	0.5 B	0.18 B	1.2	0.22 B	0.57 B	1.1	0.37	0.1 B	0.25 B	NA	0.66 B	0.59 B	0.25 B
Calcium	mg/kg	5250	4180	10700	NA	NA	7800	9460	6990	21900	39300	42900	25500	61600	106000	NA	3550	40100	7060
Chromium	mg/kg	21.9	6.1	18.7	NA	NA	8.1	5.9	17.7	8.9	12.8	19.6	17.8	4.7	8.2	NA	43.1	18.7	14.2
Cobalt	mg/kg	11.8	4 B	6.2 B	NA	NA	4.1 B	3.2 B	12.1	4.3 B	5.2	8.4	7.6	2.2 B	3 B	NA	1.7 B	1.7 B	1 B
Copper	mg/kg	72.5	35.2	40.3	NA	NA	11.1	17.3	8	11.3	13.1	8.4	44.5	2.4 B	8.8	NA	354	345	284
Iron	mg/kg	13900	5370	43200	NA	NA	13600	11900	95200	16300	30600	56000	21900	6660	11800	NA	3780	3050	3050
Lead	mg/kg	543J	54.5J	101J	NA	NA	11.5J	9.5J	8.6J	102J	51.7J	10.5J	50.4J	2.5J	20.9J	NA	47.1J	55.9J	24.7J
Magnesium	mg/kg	817	368 B	2370	NA	NA	2300	767	2160	4330	7460	3600	3520	5580	5140	NA	916	3530	596 B
Manganese	mg/kg	211	56.3	434	NA	NA	277	157	2510	254	371	1850	714	244	659	NA	30.9	65.2	23.2
Mercury	mg/kg	0.13	0.094	0.29	NA	NA	0.024 B	0.25	0.1	0.079	0.1	0.3	0.68	0.019 U	0.052	NA	258	48.4	3.2
Nickel	mg/kg	23.8	9.4	12.6	NA	NA	8.5	7.1	11	7.8	8.7	13.4	15.1	3.5 B	4.5	NA	11.2	9.1	5.2 B
Potassium	mg/kg	456 B	183 B	658 B	NA	NA	443 B	481 B	414 B	511 B	1130	474 B	668	184 B	212 B	NA	135 B	115 B	80 B
Selenium	mg/kg	2.1	1.2	2.2	NA	NA	0.37 U	0.79	0.9	0.67	0.58 U	2.5	1.9	0.37 U	0.52 B	NA	0.73 U	0.68 U	0.7 U
Sodium	mg/kg	101 B	106 B	96.6 U	NA	NA	43.4 U	63.9 B	72.4 U	52.8 U	319 B	79.7 U	155 B	37.5 B	149 B	NA	146 B	127 B	81 U
Thallium	mg/kg	1.3 U	1.1 U	1.7 U	NA	NA	0.75 U	1 U	1.4 B	0.92 U	0.77 U	1.4 U	1 U	0.83 U	0.92 U	NA	1.5 U	1.4 U	1.4 U
Vanadium	mg/kg	34.9	10	26.7	NA	NA	14.2	13.4	31.4	19.3	21.8	29	21.2	10.2	9.5	NA	19.4	15.1	21.8
Zinc	mg/kg	211	81.8	152	NA	NA	38.2	19.4	65.2	41.8	46.7	70.2	178	9.1	43.1	NA	215	222	190
Miscellaneous																			
Solids, Percent	%	64.3	71.1	47.7	NA	NA	92.3	75.1	64.9	87.2	90.7	61.3	80.5	76.7	78.6	57.7	55.6	59.5	60.3

Notes:
 TCL - Target Organic Compounds
 TAL - Target Analyte List
 PCBs - Polychlorinated biphenyl
 VOCs - Volatile Organic Compounds
 SVOCs - Semi-Volatile Organic Compounds
 ND - Non-detect
 NA - Not Analyzed - Laboratory did not report results for this analyte
 B - Indicates an estimated value between the instrument detection limit (IDL) and practical quantitation limit (PQL).
 D - Compound quantitated using secondary dilution.
 E - Analyte exceeded calibration range.
 J - Indicates an estimated value less than the practical quantitation limit (PQL).
 JN - Analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
 R - Sample results are rejected. Due to significant QC problems, the analysis is invalid and provides no information as to whether the compound is present or not.
 U - Analyte was not detected. The number in parentheses is the associated detection limit.
 ug/kg - micrograms per kilogram
 mg/kg - milligrams per kilogram
 Indicates that a particular analyte was detected

ARCADIS

Attachment 6

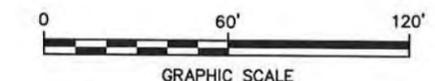
Select Materials from the
KHL-OU Completion of
Construction Report



LEGEND:

	PREEXCAVATION CONTOUR ELEVATION
	APPROXIMATE LOCATION OF SILT CURTAIN
	APPROXIMATE LOCATION OF SILT FENCE
	EXISTING FENCE LINE
	APPROXIMATE LOCATION OF BURIED CLARIFIERS
	FLOW DIRECTION
	APPROXIMATE RIVER EDGE
	EXISTING RAILROAD TRACKS
	APPROXIMATE LOCATION OF SOIL SAMPLES ANALYZED FOR PCB
	APPROXIMATE LOCATION OF SOIL SAMPLES ANALYZED FOR TAL/TCL
	APPROXIMATE LOCATION OF SOIL SAMPLE COLLECTED BY MDEQ
	LIMIT OF EXCAVATION ACTIVITIES
	APPROXIMATE AREAS OF REEXCAVATION
(0.37)	PCB CONCENTRATION IN mg/kg
(ND)	NON-DETECT
(<1.7)	PCB CONCENTRATION LESS THAN 1.7 mg/kg
(>9.2)	PCB CONCENTRATION GREATER THAN 9.2 mg/kg
(<9.2)	PCB CONCENTRATION LESS THAN 9.2 mg/kg BUT GREATER THAN 1.7 mg/kg
	APPROXIMATE LOCATION OF BURIED DRUMS

- NOTES:**
1. BASE MAP INFORMATION OBTAINED FROM CADD DRAWING FILE DEVELOPED BY ATWELL-HICKS, INC., ANN ARBOR, MICHIGAN (CADD FILE: 2995TS01; DWG TITLE: TOPOGRAPHIC SURVEY, KING HIGHWAY LANDFILL; DWG DATED: 3-21-97; DWG SCALE: 1"=20').
 2. LOCATIONS ARE APPROXIMATE.
 3. SITE FEATURES SOUTH OF MILL LAGOON 3, ARE BASED ON A FIELD SKETCH (LOCATIONS ARE VERY APPROXIMATE).
 4. SAMPLES SOUTH OF MILL LAGOON 3 WERE ANALYZED USING AN ENSYS FIELD TEST KIT SET TO TEST FOR PCB CONCENTRATIONS ABOVE OR BELOW 1.7 AND 9.2 mg/kg.



DRAFT

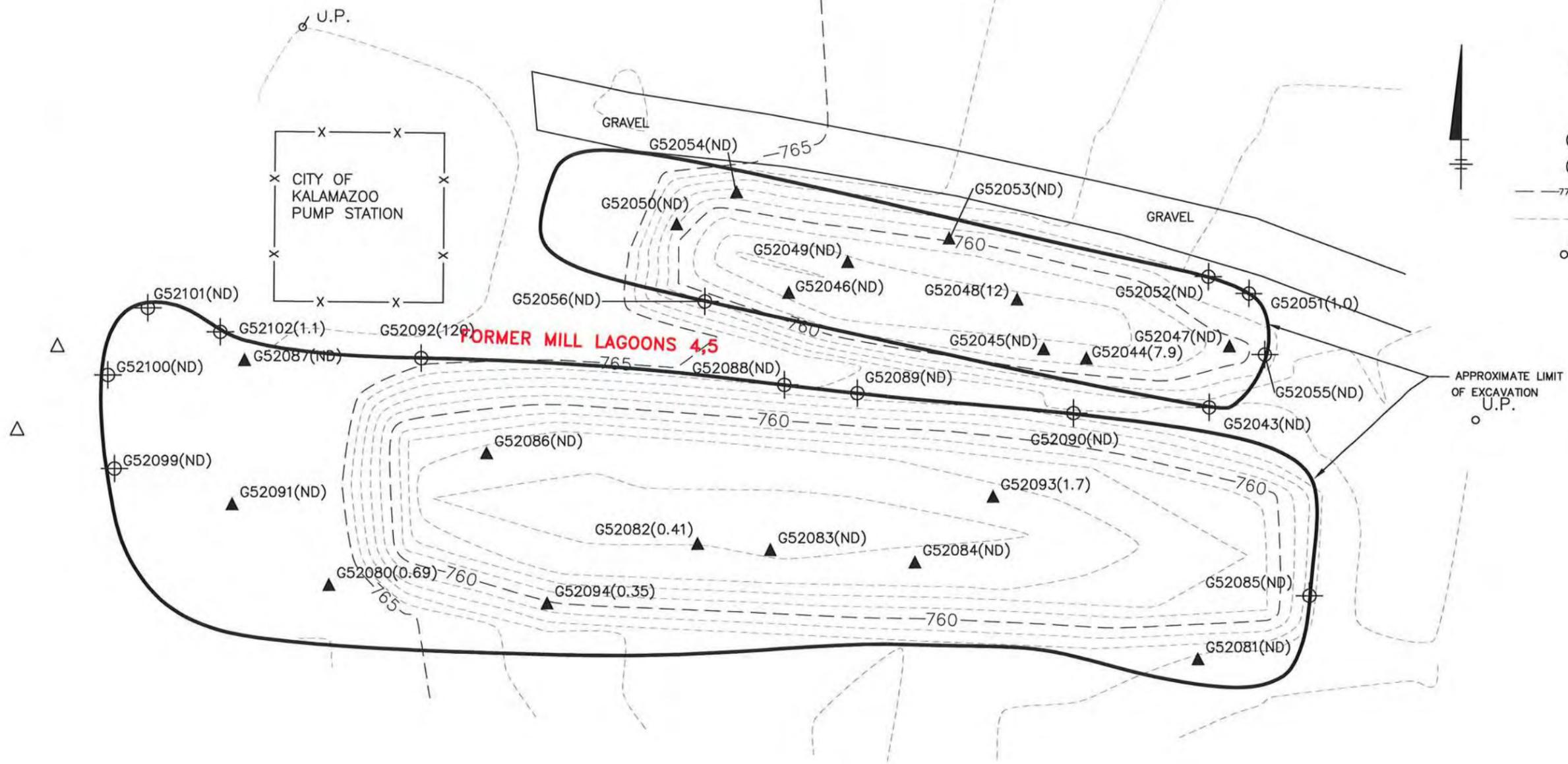
ALLIED PAPER, INC./PORTAGE CREEK/
 KALAMAZOO RIVER SUPERFUND SITE
**FINAL REPORT FOR COMPLETION OF CONSTRUCTION
 KING HIGHWAY LANDFILL OPERABLE UNIT
 EXTENT OF EXCAVATION AND
 VERIFICATION SAMPLE LOCATIONS
 AT MILL LAGOONS 1, 2, AND 3**

FIGURE
10

X: 64583X00.DWG, 64583X04.DWG
 L: ON=*, OFF=*REF*
 P: PAGESET/PLT-BL
 9/18/03 SYR-85-JER LAF LJP
 64583675/FINAL/64583G08.DWG

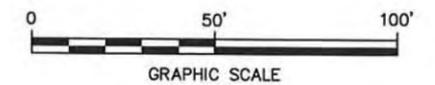
LEGEND:

-  APPROXIMATE LOCATION OF TEST PITS
-  APPROXIMATE LOCATION OF SIDE WALL SOIL SAMPLE
-  APPROXIMATE LOCATION OF BASE OF EXCAVATION SOIL SAMPLE
- (7.9) PCB CONCENTRATION IN mg/kg
- (ND) NON-DETECT
- - -770- - - INDEX CONTOUR
- - - INTERMEDIATE CONTOUR
- U.P. UTILITY POLE



NOTES:

1. BASE MAP INFORMATION OBTAINED FROM CADD DRAWING FILE DEVELOPED BY RMT, INC., ANN ARBOR, MICHIGAN (CADD FILE: L1630SU01.DWG; AS-BUILT SURVEY; AUGUST 21, 2000).
2. FINAL CONTOUR ELEVATIONS BASED ON A FIELD SURVEY BY ATWELL-HICKS, INC., DATED 9/27/00 WITH REVISIONS DATED 10/23/00 AND 12/10/03.
3. ELEVATIONS ARE BASED ON THE NGVD OF 1929 (MSL).
4. SAMPLE LOCATIONS ARE APPROXIMATE. LIMITS OF EXCAVATION ARE BASED ON FIELD MEASUREMENTS COLLECTED BY BLASLAND, BOUCK & LEE, INC. PERSONNEL.
5. SAMPLE LOCATION G52092 WAS REEXCAVATED BUT NOT RESAMPLED.



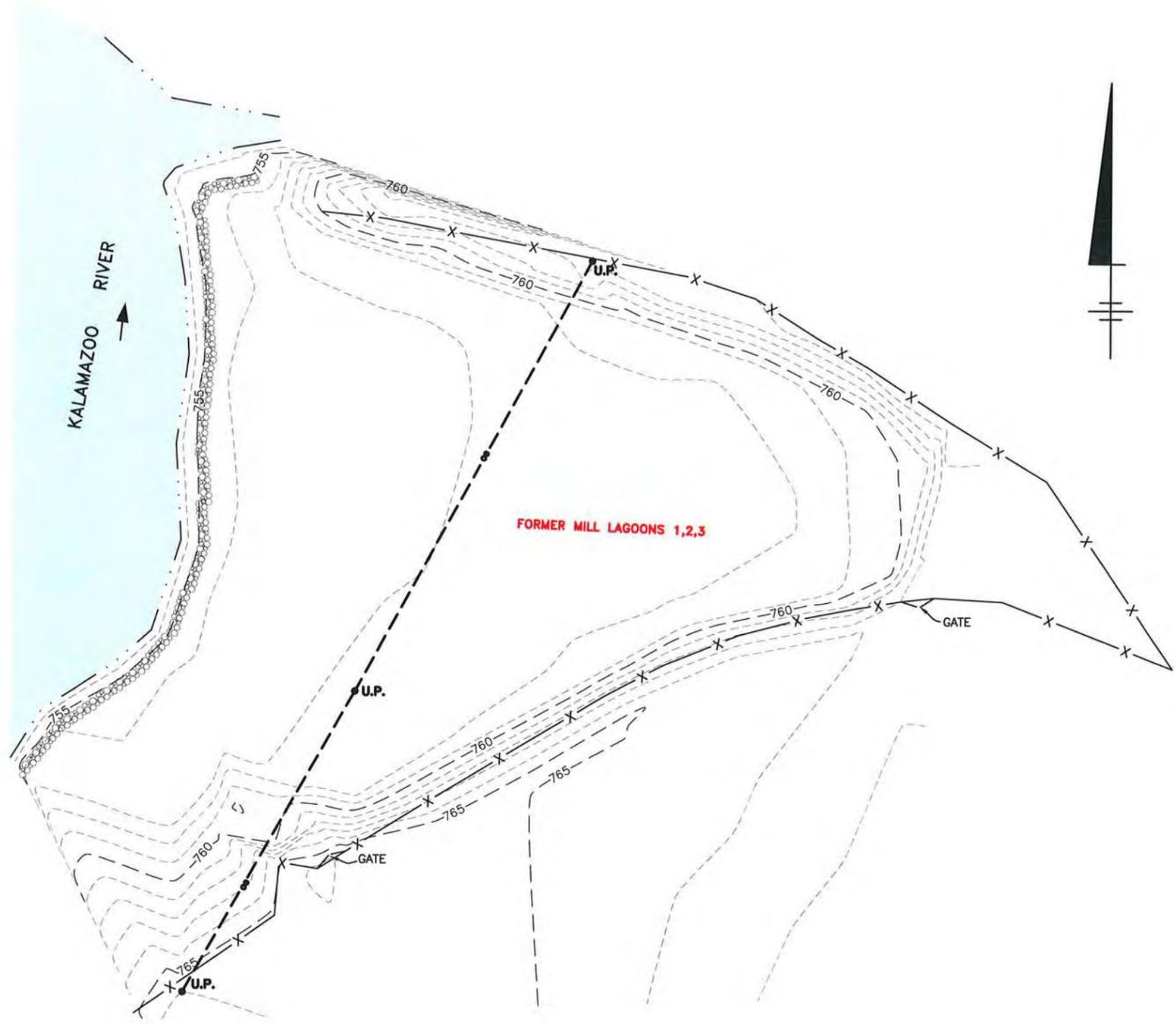
DRAFT

ALLIED PAPER, INC./PORTAGE CREEK/
 KALAMAZOO RIVER SUPERFUND SITE
**FINAL REPORT FOR COMPLETION OF CONSTRUCTION
 KING HIGHWAY LANDFILL OPERABLE UNIT**
**EXTENT OF EXCAVATION AND
 VERIFICATION SAMPLE LOCATIONS AT
 MILL LAGOONS 4 AND 5**


 BLASLAND, BOUCK & LEE, INC.
 engineers & scientists

FIGURE
11

X: 64583X00.DWG, 64583X03.DWG
 L: ON=*, OFF=REF
 P: PAGESET/PLT-BL
 9/18/03 SYR-85-KLN JER LJP
 64583675/FINAL/64583G09.DWG

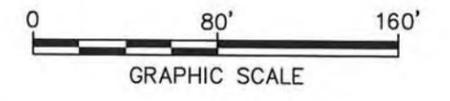


LEGEND:

- 770--- FINAL AS-BUILT INDEX CONTOUR
- FINAL AS-BUILT INTERMEDIATE CONTOUR
- x-x-x- SECURITY FENCE
- UTILITY
- o U.P. UTILITY POLE
- APPROXIMATE WATER EDGE
- o o o o o APPROXIMATE AREA OF RIPRAP
- ← FLOW DIRECTION

NOTES:

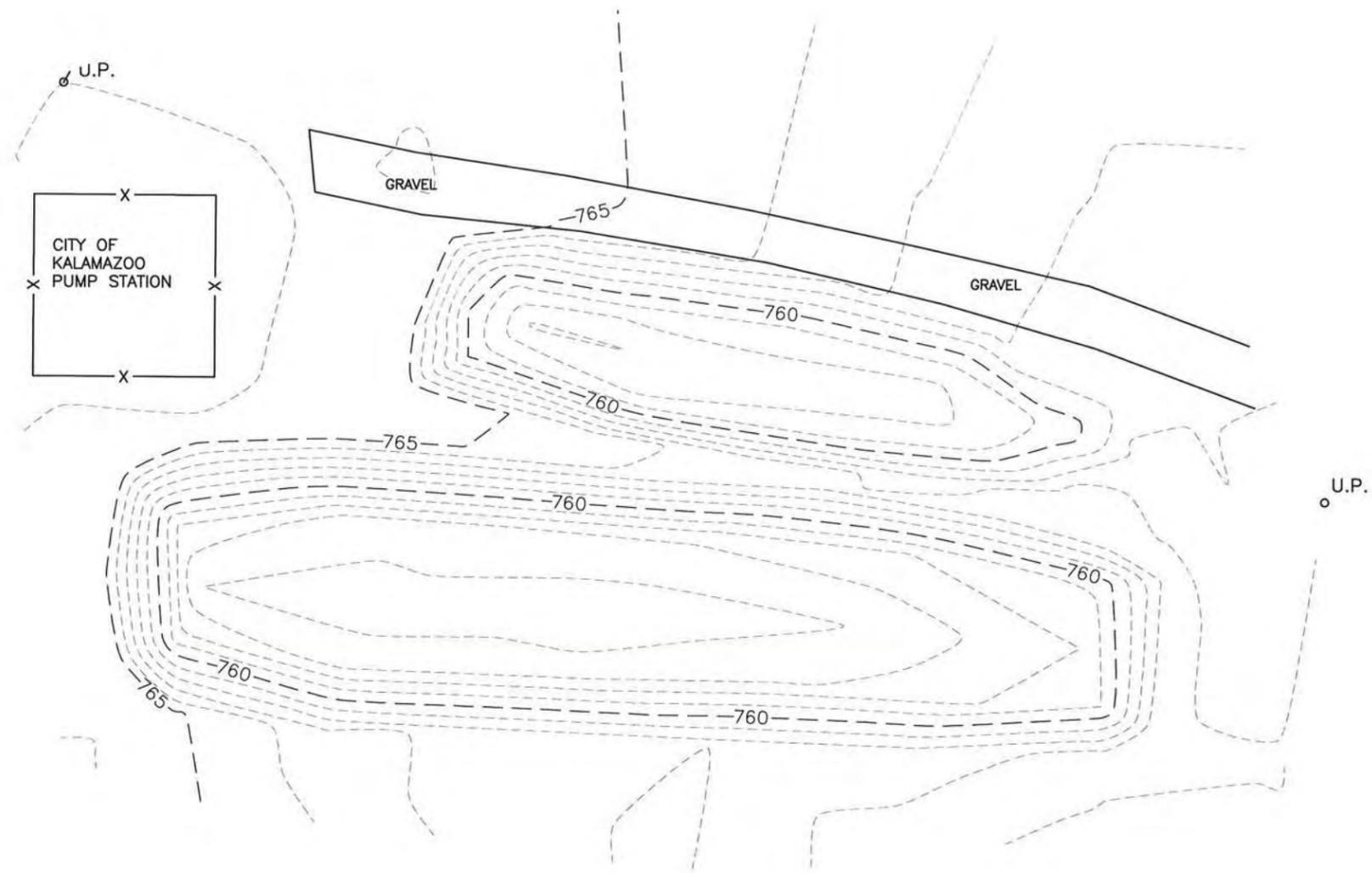
1. BASE MAP INFORMATION OBTAINED FROM CADD DRAWING FILE DEVELOPED BY RMT, INC., ANN ARBOR, MICHIGAN (CADD FILE: L1630SU01.DWG; AS-BUILT SURVEY; AUGUST 21, 2000).
2. FINAL AS-BUILT CONTOUR ELEVATIONS ARE SHOWN AND ARE BASED ON A FIELD SURVEY BY ATWELL-HICKS, INC., DATED 9/27/00 WITH REVISIONS DATED 10/23/00 AND 12/10/02.
3. ELEVATIONS ARE BASED ON THE NGVD OF 1929 (MSL).



DRAFT

ALLIED PAPER, INC./PORTAGE CREEK/ KALAMAZOO RIVER SUPERFUND SITE FINAL REPORT FOR COMPLETION OF CONSTRUCTION KING HIGHWAY LANDFILL OPERABLE UNIT	
MILL LAGOONS 1, 2, AND 3 SITE RESTORATION	
	FIGURE 12

X: 64583X00.DWG, 64583X02.DWG
 L: ON=*, OFF=REF
 P: PAGESET/PLT-BL
 9/18/03 SYR-85-JER LJP
 64583675/FINAL/64583G10.DWG

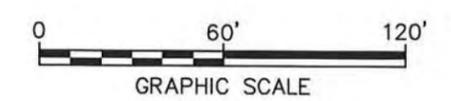


LEGEND:

- 770— FINAL AS-BUILT INDEX CONTOUR
- FINAL AS-BUILT INTERMEDIATE CONTOUR
- x--- SECURITY FENCE
- o U.P. UTILITY POLE

NOTES:

1. BASE MAP INFORMATION OBTAINED FROM CADD DRAWING FILE DEVELOPED BY RMT, INC., ANN ARBOR, MICHIGAN (CADD FILE: L1630SU01.DWG; AS-BUILT SURVEY; AUGUST 21, 2000).
2. FINAL AS-BUILT CONTOUR ELEVATIONS ARE SHOWN AND ARE BASED ON A FIELD SURVEY BY ATWELL-HICKS, INC., DATED 9/27/00 WITH REVISIONS DATED 10/23/00 AND 12/10/02.
3. ELEVATIONS ARE BASED ON THE NGVD OF 1929 (MSL).



DRAFT

ALLIED PAPER, INC./PORTAGE CREEK/ KALAMAZOO RIVER SUPERFUND SITE FINAL REPORT FOR COMPLETION OF CONSTRUCTION KING HIGHWAY LANDFILL OPERABLE UNIT	
MILL LAGOONS 4 AND 5 SITE RESTORATION	
	FIGURE 13

X: 64583X00.DWG, 64583X02.DWG
 L: ON=*, OFF=REF
 P: PAGESET/PLT-BL
 9/18/03 SYR-85-JER LJP
 64583675/FINAL/64583G11.DWG

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Attachment 7

Documentation from Field Efforts
Completed in March 2009



ARCADIS
10559 Citation Drive
Suite 100
Brighton
Michigan 48116
Tel 810.229.8594
Fax 810.229.8837

MEMO

To:
File

Copies:
Pat McGuire

From:
Danielle Amber

Date:
March 9, 2009

ARCADIS Project No.:
B0064585.0675

Subject:
March 6, 2009 Field Sampling Event at Kalamazoo Mill.

This memorandum discusses the March 6, 2009 soil sampling event at the Former Kalamazoo Mill property located in Kalamazoo, Michigan (the site). The purpose of this activity was to collect confirmation samples at two locations in the Former Mill Lagoons 4 and 5 areas. Arcadis collected samples using a 3-inch hand auger in accordance with the sampling plan laid out in Pat McGuire's letter to Sam Chummar, dated February 24, 2009.

Persons on site: Danielle Amber (ARCADIS)

 Ben Lawrence (ARCADIS)

 Keith Schillo (Terra Contracting)

 Sam Chummar (USEPA)

Arrived at site 10:45 am. Weather mostly sunny with temperatures around 60 °f

The sampling plan called for the use of a hand-held GPS unit to determine sampling locations in Former Mill Lagoons 4 and 5. Unfortunately, on arrival at the site, the GPS unit was found to be faulty. It was

therefore decided, with agreement by Sam Chummar, that the locations would be determined by measurement from the existing pump station fenceline at the western end of Former Mill Lagoon 4. Actual locations were determined by a surveyor in the following week. Measurements were taken at the fence to verify that it was the same size and in the same location as shown in the sampling plan figure. A utility pole was confirmed as being approximately 42-43 feet north of the fenceline and the dimension of eastern side of the fence was confirmed to be approximately 70 feet.

The first sample location (G52092A) was located 23 feet south and 9 feet west of the southeastern corner of the pump station fenceline. G52092B and G52092C were located approximately 7.5 feet west and 7.5 feet east of G52092A respectively.

Sample location G52048A was located 237 feet east of the southwestern corner of the pump station fenceline and 26 feet south of the road on the northern side of the Former Mill Lagoon 4. Sample location G52048B was then located 7.5 feet south of and 4 feet west of G52048A and sample location G52048C was located 7.5 feet south of and 4 feet east of G52048A.

Sam Chummar asked for three additional sample locations to be included. Sample G52048D was located 11.5 feet south of G52048A, G52048E was located 7.5 feet south of G52048A, and G52048F was located 1 foot west of G52048A.

Table 1 (attached) summarizes the soil samples collected, including location coordinates resulting from the subsequent survey. All sample locations are also illustrated on Figure 1. Photographs were taken throughout the sampling event and in the subsequent survey. These photographs are provided in Appendix A

Soil samples were placed in a cooler with ice packs immediately after excavation. The samples were transported to KAR Laboratories at approximately 4:30pm following completion at the site. Each sample was tested for Total PCBs using SW-846 Method 8082. Results from KAR Laboratories are included as Appendix B

Table 1 – Summary of Soil Samples Collected.

Sample ID	Northing	Easting	Date/Time	Depth Interval	Description	Notes
G52092A	289781.1	12801338.8	03/06/09 11.55am	0-1'	Mostly sandy fill material	Refusal at 2.6'. No sample taken for 2-2.6' interval.
			03/06/09 12.05am	1-2'	Dark Gray sandy material	
G52092B	289773.7	12801334.1	03/06/09 1.00pm	0-1'	Some sand/fill. Brown and dark gray.	No refusal.
			03/06/09 1.10pm	1-2'	Dark Gray sandy material	
			03/06/09 1.15pm	2-3'	Dark Gray sandy material	
G52092C	289772.3	12801341.9	03/06/09 12.35pm	0-1'	Mostly sandy fill material - brown	Refusal at 2.5'
			03/06/09 12.50pm	1-2'	Dark Gray sandy material.	
			03/06/09 12.50pm	2-2.5'	Dark Gray sandy material.	
G52048A	289769.3	12801336.9	03/06/09 3.00pm	0-1'	Black/brown clayey sand	Refusal at 1.3'.
			03/06/09 3.05pm	1-1.3'	Brown clayey sand. White clay material encountered at approx. 1.1'	
G52048B	289773.7	12801337.8	03/06/09 2.45pm	0-1'	Dark gray/brown clayey sand	Refusal at 1.3'.
			03/06/09 2.50pm	1-1.3'	Dark gray/brown clayey sand	
G52048C	289781.3	12801337.4	03/06/09 2.25pm	0-1'	Dark brown/gray clayey sand.	Refusal at 1'.
G52048D	289740.2	12801085.8	03/06/09 2.00pm	0-1'	Black silty sand. Wet	Refusal at 1.75'.
			03/06/09 2.05pm	1-1.75'	Brown clayey sand. Wet	
G52048E	289738.3	12801077.4	03/06/09 3.35pm	0-1'	Brown/black clayey sand. Wet	Refusal at 1.5'.
			03/06/09 3.45pm	1-1.5'	Brown/black clayey sand. Wet	
G52048F	289740.4	12801093.2	03/06/09 3.15pm	0-1'	NA	Sample discarded
			03/06/09 3.15pm	1-1.3'	Brown clayey sand.	Refusal at 1.3'.

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Appendix A

Photographs taken during Field
Sampling March 2009



Location of G52092A



Material taken from G52092A



Material taken from G52092A



Augering at G52092A



Material taken from G52092A



Final depth reached at G52092A – 2.6'



Material taken from G52092C



Final depth reached at G52092C – 2.5'



Final depth reached at G52092C – 2.5'



Material taken from G52092C



Final depth reached at G52092B - 3'



Material taken from G52092B



Augering at G52048D



Locations of G52048A and
G52048B



Material taken from G52048C



Material taken from G52048C



Final Depth at G52048D – 1.75'



Location of G52048C



Final depth at G52048B – 1.3'



Material taken from G52048B



Material taken from G52048A



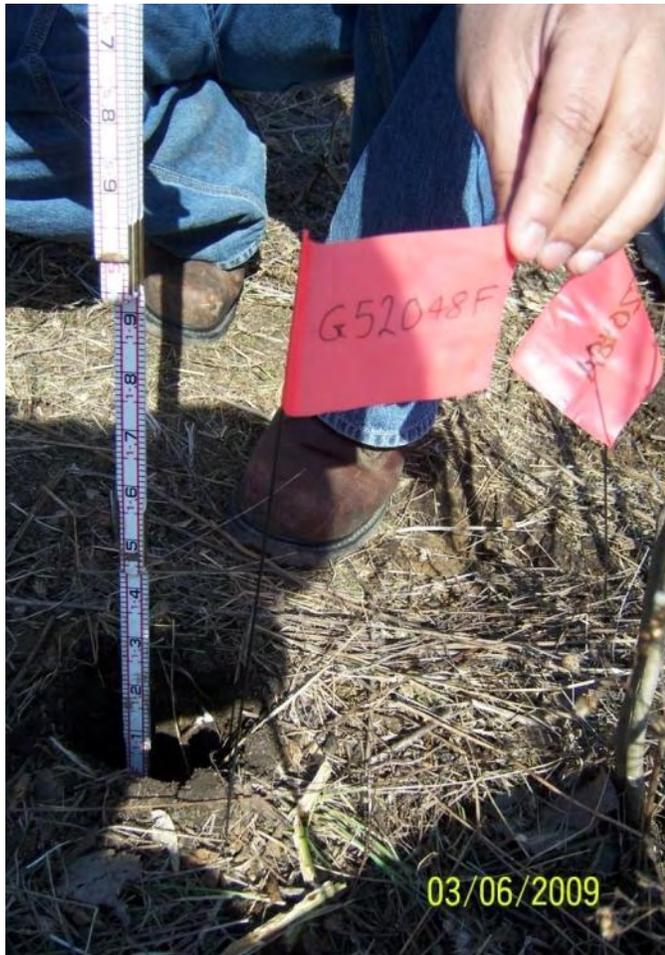
White material found at 1.1ft depth
at location G52048A



White material found at 1.1ft depth
at location G52048A



Location of G52048F – 1ft west of
G52048A



Final depth at G52048F – 1.3'



Material taken from G52048F



Project Photos
Georgia-Pacific Kalamazoo Mill
Kalamazoo, MI

Final depth at G52048E – 1.5'



Final depth at G52048E – 1.5'



Photo No.: 1

Date: March 11, 2009

Direction: NW

Description:
Survey stake placed at
previous confirmation sample
location G52092. Pin flag
indicates sample location
G52092(A-C) collected on
3/6/09



Photo No.: 2

Date: March 11, 2009

Direction: NW

Description:
Sample G52092A is approx.
1' South of previous
confirmation sample location
G52092



Photo No.: 3

Date: March 11, 2009

Direction: N

Description:
Survey stake placed at
previous confirmation sample
G52048 location. Pin flag
indicates 6 sample locations
G52048(A-F) collected on
3/6/09. G52048C to W is
underwater.



Photo No.: 4

Date: March 11, 2009

Direction: SW

Description:
Sample G52048A is approx.
10' SW of previous sample
location G52048

ARCADIS

Appendix B

Sampling Results March 2009



4425 Manchester
Road
Kalamazoo, MI 49001
Phone 269 381-9666
Fax 269 381-9698
www.karlabs.com

ARCADIS of New York, Inc.
10559 Citation Dr., Suite 100
Brighton, MI 48116

KAR Project No. : 090873
Date Reported : 03/13/09
Date Activated : 03/06/09
Date Due : 03/13/09
Date Validated : 03/13/09

Attn : Ms. Danielle Amber

Project

**Description : Analysis of 18 soil samples from Kalamazoo Mill (#B
0064585.0675).**

Dear Client,

Your laboratory data is presented to you in this report. Unless otherwise stated under the "Comments" heading, all tests were performed within the maximum allowable holding times, have met or exceeded QC requirements and the result represents the sample as it was received.

If you wish to contact us about this work please mention KAR Project No. 090873. To arrange additional sampling or testing please contact our Client Services Department. If you have any questions regarding quality assurance please contact us.

Thank you for the opportunity to serve you. Please do not hesitate to call if we can provide additional assistance.

Respectfully submitted,

A handwritten signature in black ink that reads 'David R. Alkema'.

David R. Alkema
Laboratory Manager

KAR Laboratories, Inc. maintains Full Certification status for Bacteriology, Inorganics, Regulated Organics and Synthetic Organics through USEPA, Michigan Department of Public Health and Indiana State Department of Health. This report may only be reproduced in full and not without the written consent of **ARCADIS of New York, Inc.**

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LABORATORY DETAIL REPORT

KAR Project No. : **090873**

Client: **ARCADIS of New York, Inc.**

Date Reported : **03/13/09**

Project

Description : **Analysis of 18 soil samples from Kalamazoo Mill (#B0064585.0675).**

Sample ID : **"G52048A, 0-1"**

Sampled By : **DA of ARCADIS of New York, Inc.**

Date Received : **03/06/09**

Sample Date : **03/06/09**

Sample Type : **soil**

Sample Time : **1500**

KAR Sample No. : **090873-01**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	83.16	% by weight	SM 2540 B mod.	03/09/09	GMB	
Prep, ECD	Completed		EPA 3545	03/11/09	GMB	
PCB	See below		EPA 8082	03/11/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	03/11/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	03/11/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	03/11/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	03/11/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	03/11/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	03/11/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	03/11/09	GMB	
PCB Aroclors, total	NA		EPA 8082	03/11/09	GMB	
DCB (pest/PCB surr spk)	68	% spike recovery	EPA 8082	03/11/09	GMB	
TCMX (surr spk)	65	% spike recovery	EPA 8082	03/11/09	GMB	

KAR Laboratories, Inc.

(269) 381-9666

Page 2

LABORATORY DETAIL REPORT

Client: **ARCADIS of New York, Inc.**

KAR Project No. : **090873**

Date Reported : **03/13/09**

Project

Description : **Analysis of 18 soil samples from Kalamazoo Mill (#B0064585.0675).**

Sample ID : **"G52048A, 1-1.3"**

Sampled By : **DA of ARCADIS of New York, Inc.**

Date Received : **03/06/09**

Sample Date : **03/06/09**

Sample Type : **soil**

Sample Time : **1505**

KAR Sample No. : **090873-02**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	88.25	% by weight	SM 2540 B mod.	03/09/09	GMB	
Prep, ECD	Completed		EPA 3545	03/09/09	GMB	
PCB	See below		EPA 8082	03/09/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclors, total	NA		EPA 8082	03/09/09	GMB	
DCB (pest/PCB surr spk)	70	% spike recovery	EPA 8082	03/09/09	GMB	
TCMX (surr spk)	48	% spike recovery	EPA 8082	03/09/09	GMB	

KAR Laboratories, Inc.

(269) 381-9666

Page 3

LABORATORY DETAIL REPORT

KAR Project No. : **090873**

Client: **ARCADIS of New York, Inc.**

Date Reported : **03/13/09**

Project

Description : Analysis of 18 soil samples from Kalamazoo Mill (#B0064585.0675).

Sample ID : **"G52048B, 0-1"**

Sampled By : **DA of ARCADIS of New York, Inc.**

Date Received : **03/06/09**

Sample Date : **03/06/09**

Sample Type : **soil**

Sample Time : **1445**

KAR Sample No. : **090873-03**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	82.27	% by weight	SM 2540 B mod.	03/09/09	GMB	
Prep, ECD	Completed		EPA 3545	03/09/09	GMB	
PCB	See below		EPA 8082	03/09/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclors, total	NA		EPA 8082	03/09/09	GMB	
DCB (pest/PCB surr spk)	64	% spike recovery	EPA 8082	03/09/09	GMB	
TCMX (surr spk)	43	% spike recovery	EPA 8082	03/09/09	GMB	

KAR Laboratories, Inc.

(269) 381-9666

Page 4

LABORATORY DETAIL REPORT

KAR Project No. : **090873**

Client: **ARCADIS of New York, Inc.**

Date Reported : **03/13/09**

Project

Description : Analysis of 18 soil samples from Kalamazoo Mill (#B0064585.0675).

Sample ID : **"G52048B, 1-1.3"**

Sampled By : **DA of ARCADIS of New York, Inc.**

Date Received : **03/06/09**

Sample Date : **03/06/09**

Sample Type : **soil**

Sample Time : **1450**

KAR Sample No. : **090873-04**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	88.25	% by weight	SM 2540 B mod.	03/09/09	GMB	
Prep, ECD	Completed		EPA 3545	03/09/09	GMB	
PCB	See below		EPA 8082	03/09/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclors, total	NA		EPA 8082	03/09/09	GMB	
DCB (pest/PCB surr spk)	73	% spike recovery	EPA 8082	03/09/09	GMB	
TCMX (surr spk)	57	% spike recovery	EPA 8082	03/09/09	GMB	

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LABORATORY DETAIL REPORT

KAR Project No. : **090873**

Client: **ARCADIS of New York, Inc.**

Date Reported : **03/13/09**

Project

Description : Analysis of 18 soil samples from Kalamazoo Mill (#B0064585.0675).

Sample ID : **"G52048C, 0-1"**

Sampled By : **DA of ARCADIS of New York, Inc.**

Date Received : **03/06/09**

Sample Date : **03/06/09**

Sample Type : **soil**

Sample Time : **1425**

KAR Sample No. : **090873-05**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	83.50	% by weight	SM 2540 B mod.	03/09/09	GMB	
Prep, ECD	Completed		EPA 3545	03/09/09	GMB	
PCB	See below		EPA 8082	03/09/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclors, total	NA		EPA 8082	03/09/09	GMB	
DCB (pest/PCB surr spk)	61	% spike recovery	EPA 8082	03/09/09	GMB	
TCMX (surr spk)	58	% spike recovery	EPA 8082	03/09/09	GMB	

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LABORATORY DETAIL REPORT

KAR Project No. : **090873**

Client: **ARCADIS of New York, Inc.**

Date Reported : **03/13/09**

Project

Description : Analysis of 18 soil samples from Kalamazoo Mill (#B0064585.0675).

Sample ID : **"G52048D, 0-1"**

Sampled By : **DA of ARCADIS of New York, Inc.**

Date Received : **03/06/09**

Sample Date : **03/06/09**

Sample Type : **soil**

Sample Time : **1400**

KAR Sample No. : **090873-06**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	82.24	% by weight	SM 2540 B mod.	03/09/09	GMB	
Prep, ECD	Completed		EPA 3545	03/09/09	GMB	
PCB	See below		EPA 8082	03/09/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclors, total	NA		EPA 8082	03/09/09	GMB	
DCB (pest/PCB surr spk)	62	% spike recovery	EPA 8082	03/09/09	GMB	
TCMX (surr spk)	49	% spike recovery	EPA 8082	03/09/09	GMB	

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LABORATORY DETAIL REPORT

KAR Project No. : **090873**

Client: **ARCADIS of New York, Inc.**

Date Reported : **03/13/09**

Project

Description : Analysis of 18 soil samples from Kalamazoo Mill (#B0064585.0675).

Sample ID : **"G52048D, 1-1.75"**

Sampled By : **DA of ARCADIS of New York, Inc.**

Date Received : **03/06/09**

Sample Date : **03/06/09**

Sample Type : **soil**

Sample Time : **1405**

KAR Sample No. : **090873-07**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	89.64	% by weight	SM 2540 B mod.	03/09/09	GMB	
Prep, ECD	Completed		EPA 3545	03/09/09	GMB	
PCB	See below		EPA 8082	03/09/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclors, total	NA		EPA 8082	03/09/09	GMB	
DCB (pest/PCB surr spk)	66	% spike recovery	EPA 8082	03/09/09	GMB	
TCMX (surr spk)	50	% spike recovery	EPA 8082	03/09/09	GMB	

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LABORATORY DETAIL REPORT

KAR Project No. : **090873**

Client: **ARCADIS of New York, Inc.**

Date Reported : **03/13/09**

Project

Description : Analysis of 18 soil samples from Kalamazoo Mill (#B0064585.0675).

Sample ID : **"G52048E, 0-1"**

Sampled By : **DA of ARCADIS of New York, Inc.**

Date Received : **03/06/09**

Sample Date : **03/06/09**

Sample Type : **soil**

Sample Time : **1535**

KAR Sample No. : **090873-08**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	83.86	% by weight	SM 2540 B mod.	03/09/09	GMB	
Prep, ECD	Completed		EPA 3545	03/09/09	GMB	
PCB	See below		EPA 8082	03/09/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclors, total	NA		EPA 8082	03/09/09	GMB	
DCB (pest/PCB surr spk)	60	% spike recovery	EPA 8082	03/09/09	GMB	
TCMX (surr spk)	44	% spike recovery	EPA 8082	03/09/09	GMB	

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LABORATORY DETAIL REPORT

Client: **ARCADIS of New York, Inc.**

KAR Project No. : **090873**

Date Reported : **03/13/09**

Project

Description : **Analysis of 18 soil samples from Kalamazoo Mill (#B0064585.0675).**

Sample ID : "G52048E, 1-1.5"	Date Received : 03/06/09
Sampled By : DA of ARCADIS of New York, Inc.	Sample Type : soil
Sample Date : 03/06/09	KAR Sample No. : 090873-09
Sample Time : 1545	

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	86.60	% by weight	SM 2540 B mod.	03/09/09	GMB	
Prep, ECD	Completed		EPA 3545	03/09/09	GMB	
PCB	See below		EPA 8082	03/09/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclors, total	NA		EPA 8082	03/09/09	GMB	
DCB (pest/PCB surr spk)	67	% spike recovery	EPA 8082	03/09/09	GMB	
TCMX (surr spk)	48	% spike recovery	EPA 8082	03/09/09	GMB	

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LABORATORY DETAIL REPORT

KAR Project No. : **090873**

Client: **ARCADIS of New York, Inc.**

Date Reported : **03/13/09**

Project

Description : Analysis of 18 soil samples from Kalamazoo Mill (#B0064585.0675).

Sample ID : **"G52048F, 1-1.3"**

Sampled By : **DA of ARCADIS of New York, Inc.**

Date Received : **03/06/09**

Sample Date : **03/06/09**

Sample Type : **soil**

Sample Time : **1515**

KAR Sample No. : **090873-10**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	92.52	% by weight	SM 2540 B mod.	03/09/09	GMB	
Prep, ECD	Completed		EPA 3545	03/09/09	GMB	
PCB	See below		EPA 8082	03/09/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	03/09/09	GMB	
PCB Aroclors, total	NA		EPA 8082	03/09/09	GMB	
DCB (pest/PCB surr spk)	71	% spike recovery	EPA 8082	03/09/09	GMB	
TCMX (surr spk)	64	% spike recovery	EPA 8082	03/09/09	GMB	

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LABORATORY DETAIL REPORT

Client: *ARCADIS of New York, Inc.*

KAR Project No. : **090873**

Date Reported : **03/13/09**

Project

Description : *Analysis of 18 soil samples from Kalamazoo Mill (#B0064585.0675).*

Sample ID : <u>"G52092A, 0-1"</u>	Date Received : 03/06/09
Sampled By : <i>DA of ARCADIS of New York, Inc.</i>	Sample Type : soil
Sample Date : 03/06/09	KAR Sample No. : 090873-11
Sample Time : 1155	

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
<i>Dry weight solids</i>	91.95	% by weight	SM 2540 B mod.	03/09/09	GMB	
<i>Prep, ECD</i>	Completed		EPA 3545	03/09/09	GMB	
<i>PCB</i>	See below		EPA 8082	03/10/09	GMB	
<i>PCB Aroclor 1016</i>	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
<i>PCB Aroclor 1221</i>	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
<i>PCB Aroclor 1232</i>	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
<i>PCB Aroclor 1242</i>	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
<i>PCB Aroclor 1248</i>	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
<i>PCB Aroclor 1254</i>	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
<i>PCB Aroclor 1260</i>	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
<i>PCB Aroclors, total</i>	NA		EPA 8082	03/10/09	GMB	
<i>DCB (pest/PCB surr spk)</i>	63	% spike recovery	EPA 8082	03/10/09	GMB	
<i>TCMX (surr spk)</i>	63	% spike recovery	EPA 8082	03/10/09	GMB	

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LABORATORY DETAIL REPORT

KAR Project No. : **090873**

Client: **ARCADIS of New York, Inc.**

Date Reported : **03/13/09**

Project

Description : Analysis of 18 soil samples from Kalamazoo Mill (#B0064585.0675).

Sample ID : **"G52092A, 1-2"**

Sampled By : **DA of ARCADIS of New York, Inc.**

Date Received : **03/06/09**

Sample Date : **03/06/09**

Sample Type : **soil**

Sample Time : **1205**

KAR Sample No. : **090873-12**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	89.60	% by weight	SM 2540 B mod.	03/09/09	GMB	
Prep, ECD	Completed		EPA 3545	03/09/09	GMB	
PCB	See below		EPA 8082	03/10/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclors, total	NA		EPA 8082	03/10/09	GMB	
DCB (pest/PCB surr spk)	77	% spike recovery	EPA 8082	03/10/09	GMB	
TCMX (surr spk)	60	% spike recovery	EPA 8082	03/10/09	GMB	

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LABORATORY DETAIL REPORT

KAR Project No. : **090873**

Client: **ARCADIS of New York, Inc.**

Date Reported : **03/13/09**

Project

Description : **Analysis of 18 soil samples from Kalamazoo Mill (#B0064585.0675).**

Sample ID : **"G52092B, 0-1"**

Sampled By : **DA of ARCADIS of New York, Inc.**

Date Received : **03/06/09**

Sample Date : **03/06/09**

Sample Type : **soil**

Sample Time : **1300**

KAR Sample No. : **090873-13**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	92.03	% by weight	SM 2540 B mod.	03/09/09	GMB	
Prep, ECD	Completed		EPA 3545	03/09/09	GMB	
PCB	See below		EPA 8082	03/10/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclors, total	NA		EPA 8082	03/10/09	GMB	
DCB (pest/PCB surr spk)	68	% spike recovery	EPA 8082	03/10/09	GMB	
TCMX (surr spk)	69	% spike recovery	EPA 8082	03/10/09	GMB	

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LABORATORY DETAIL REPORT

KAR Project No. : **090873**

Client: **ARCADIS of New York, Inc.**

Date Reported : **03/13/09**

Project

Description : Analysis of 18 soil samples from Kalamazoo Mill (#B0064585.0675).

Sample ID : **"G52092B, 1-2"**

Sampled By : **DA of ARCADIS of New York, Inc.**

Date Received : **03/06/09**

Sample Date : **03/06/09**

Sample Type : **soil**

Sample Time : **1310**

KAR Sample No. : **090873-14**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	89.41	% by weight	SM 2540 B mod.	03/09/09	GMB	
Prep, ECD	Completed		EPA 3545	03/09/09	GMB	
PCB	See below		EPA 8082	03/10/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclors, total	NA		EPA 8082	03/10/09	GMB	
DCB (pest/PCB surr spk)	73	% spike recovery	EPA 8082	03/10/09	GMB	
TCMX (surr spk)	64	% spike recovery	EPA 8082	03/10/09	GMB	

LABORATORY DETAIL REPORT

KAR Project No. : **090873**

Client: **ARCADIS of New York, Inc.**

Date Reported : **03/13/09**

Project

Description : Analysis of 18 soil samples from Kalamazoo Mill (#B0064585.0675).

Sample ID : **"G52092B, 2-3"**

Sampled By : **DA of ARCADIS of New York, Inc.**

Date Received : **03/06/09**

Sample Date : **03/06/09**

Sample Type : **soil**

Sample Time : **1315**

KAR Sample No. : **090873-15**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	87.13	% by weight	SM 2540 B mod.	03/09/09	GMB	
Prep, ECD	Completed		EPA 3545	03/09/09	GMB	
PCB	See below		EPA 8082	03/10/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclors, total	NA		EPA 8082	03/10/09	GMB	
DCB (pest/PCB surr spk)	62	% spike recovery	EPA 8082	03/10/09	GMB	
TCMX (surr spk)	61	% spike recovery	EPA 8082	03/10/09	GMB	

LABORATORY DETAIL REPORT

KAR Project No. : **090873**

Client: **ARCADIS of New York, Inc.**

Date Reported : **03/13/09**

Project

Description : Analysis of 18 soil samples from Kalamazoo Mill (#B0064585.0675).

Sample ID : **"G52092C, 0-1"**

Sampled By : **DA of ARCADIS of New York, Inc.**

Date Received : **03/06/09**

Sample Date : **03/06/09**

Sample Type : **soil**

Sample Time : **1235**

KAR Sample No. : **090873-16**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	92.49	% by weight	SM 2540 B mod.	03/09/09	GMB	
Prep, ECD	Completed		EPA 3545	03/09/09	GMB	
PCB	See below		EPA 8082	03/10/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclors, total	NA		EPA 8082	03/10/09	GMB	
DCB (pest/PCB surr spk)	66	% spike recovery	EPA 8082	03/10/09	GMB	
TCMX (surr spk)	63	% spike recovery	EPA 8082	03/10/09	GMB	

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LABORATORY DETAIL REPORT

KAR Project No. : **090873**

Client: **ARCADIS of New York, Inc.**

Date Reported : **03/13/09**

Project

Description : Analysis of 18 soil samples from Kalamazoo Mill (#B0064585.0675).

Sample ID : <u>"G52092C, 1-2"</u>	
Sampled By : DA of ARCADIS of New York, Inc.	Date Received : 03/06/09
Sample Date : 03/06/09	Sample Type : soil
Sample Time : 1250	KAR Sample No. : 090873-17

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	90.65	% by weight	SM 2540 B mod.	03/09/09	GMB	
Prep, ECD	Completed		EPA 3545	03/09/09	GMB	
PCB	See below		EPA 8082	03/10/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclors, total	NA		EPA 8082	03/10/09	GMB	
DCB (pest/PCB surr spk)	66	% spike recovery	EPA 8082	03/10/09	GMB	
TCMX (surr spk)	59	% spike recovery	EPA 8082	03/10/09	GMB	

LABORATORY DETAIL REPORT

KAR Project No. : **090873**

Client: **ARCADIS of New York, Inc.**

Date Reported : **03/13/09**

Project

Description : Analysis of 18 soil samples from Kalamazoo Mill (#B0064585.0675).

Sample ID : **"G52092C, 2-2.5"**

Sampled By : **DA of ARCADIS of New York, Inc.**

Date Received : **03/06/09**

Sample Date : **03/06/09**

Sample Type : **soil**

Sample Time : **1250**

KAR Sample No. : **090873-18**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	89.18	% by weight	SM 2540 B mod.	03/09/09	GMB	
Prep, ECD	Completed		EPA 3545	03/09/09	GMB	
PCB	See below		EPA 8082	03/10/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclors, total	NA		EPA 8082	03/10/09	GMB	
DCB (pest/PCB surr spk)	120	% spike recovery	EPA 8082	03/10/09	GMB	
TCMX (surr spk)	68	% spike recovery	EPA 8082	03/10/09	GMB	

KAR Laboratories, Inc.

(269) 381-9666

LABORATORY DETAIL REPORT

KAR Project No. : **090873**

Client: **ARCADIS of New York, Inc.**

Date Reported : **03/13/09**

Project

Description : Analysis of 18 soil samples from Kalamazoo Mill (#B0064585.0675).

Sample ID : <u>Laboratory Method Blank #1</u>	Date Received : 03/06/09
Sampled By :	Sample Type : LMB-soil
Sample Date :	KAR Sample No. : 090873-19
Sample Time :	

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep. ECD	Completed		EPA 3545	03/09/09	GMB	
PCB	See below		EPA 8082	03/10/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	03/10/09	GMB	
PCB Aroclors, total	NA		EPA 8082	03/10/09	GMB	
DCB (pest/PCB surr spk)	88	% spike recovery	EPA 8082	03/10/09	GMB	
TCMX (surr spk)	57	% spike recovery	EPA 8082	03/10/09	GMB	

LABORATORY DETAIL REPORT

KAR Project No. : **090873**

Client: **ARCADIS of New York, Inc.**

Date Reported : **03/13/09**

Project

Description : Analysis of 18 soil samples from Kalamazoo Mill (#B0064585.0675).

Sample ID : <u>Laboratory Method Blank #2</u>	Date Received : 03/06/09
Sampled By :	Sample Type : LMB-soil
Sample Date :	KAR Sample No. : 090873-20
Sample Time :	

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep. ECD	Completed		EPA 3545	03/11/09	GMB	
PCB	See below		EPA 8082	03/11/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	03/11/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	03/11/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	03/11/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	03/11/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	03/11/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	03/11/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	03/11/09	GMB	
PCB Aroclors, total	NA		EPA 8082	03/11/09	GMB	
DCB (pest/PCB surr spk)	84	% spike recovery	EPA 8082	03/11/09	GMB	
TCMX (surr spk)	72	% spike recovery	EPA 8082	03/11/09	GMB	

ARCADIS

Attachment 8

Documentation from Field Efforts
Completed in April 2009



ARCADIS
10559 Citation Dr. Suite 500
Brighton
Michigan 48116
Cell 734.732.0586

MEMO

To:
File

Copies:
Danielle Amber
Pat McGuire

From:
Ben Lawrence

Date:
April 1, 2009

ARCADIS Project No.:
B0064585.0000.00675

Subject:
GP – Former Kalamazoo Mill Property– Daily Summary for April 1, 2009

Equipment Onsite: Mateco – One support truck and trailer, One track mounted GeoProbe model 6620DT
Arcadis – One rental vehicle for oversight, miscellaneous soil sampling supplies and level D PPE

Onsite Personnel: Arcadis – Ben Lawrence, USEPA – Sam Chummar, Mateco – Rob Merlington and John Olson

Hours Onsite: 0930-1630

Summary of Work Completed:

- Advanced 6 borings via GeoProbe.
- Collected 21 total soil samples from Macro Core.
- 12 samples collected at location G52048 from 3 separate 4ft deep boreholes.
- 9 samples collected at location G52092 from 3 separate 3ft deep boreholes.
- USEPA Representative Sam Chummar indicates 3ft depth is acceptable at location G52092 prior to start.
- All composite samples collected at 1ft intervals.
- Submitted 21 samples to Kar Laboratories in Kalamazoo, MI

Day	Sample Location	Observations and comments
<p>Wednesday 4-1-2009</p>	<p>G52048-G</p>	<ul style="list-style-type: none"> ▪ 1st attempt at 0-4 interval resulted in <2ft recovery, unable to distinguish 1ft intervals due to compression. Advised Mateco, after consulting w/EPA to advance 2 separate borings, 0-2ft and 2-4ft to better distinguish depth intervals. EPA in agreement w/methods. ▪ 2nd attempt using 0-2 interval method results in recovery of 1.5ft. ▪ Collected 4 separate composite samples from G52048-G (0-1, 1-2, 2-3, and 3-4 ft intervals). No signs of visible paper making waste residuals.
	<p>G52048-H</p>	<ul style="list-style-type: none"> ▪ Collected 4 separate composite samples from G52048-H (0-1, 1-2, 2-3, and 3-4 ft intervals). No signs of visible paper making waste residuals.
	<p>G52048-I</p>	<ul style="list-style-type: none"> ▪ 1st and 2nd attempts at 0-2ft interval resulted in <1ft of recovery, discrete sampling implemented. ▪ 3rd attempt resulted in recovery of 1.5ft. ▪ Collected 4 separate composite samples from G52048 –I (0-1, 1-2, 2-3, and 3-4 ft intervals). No signs of visible paper making waste residuals.

Day	Sample Location	Observations and comments
<p>Wednesday 4-1-2009</p>	<p>G52092-D</p>	<ul style="list-style-type: none"> ▪ USEPA indicated 3ft is sufficient for sample depth at this location; 3-4ft interval will be visually confirmed clean. ▪ 1st attempt at 2-4 ft interval resulted in poor recovery due to coarse material at 2-3ft depth. ▪ Advised Mateco, after consulting w/EPA to advance discrete boring at 2-3ft interval ▪ 2nd attempt resulted in better recovery ▪ Collected 3 separate composite samples from G52092-D (0-1, 1-2, and 2-3 intervals). No signs of visible paper making waste residuals.
	<p>G52092-E</p>	<ul style="list-style-type: none"> ▪ Collected 3 separate composite samples from G52092-E (0-1, 1-2, and 2-3 intervals). No signs of visible paper making waste residuals.
	<p>G52092-F</p>	<ul style="list-style-type: none"> ▪ Collected 3 separate composite samples from G52092-F (0-1, 1-2, and 2-3 intervals). No signs of visible paper making waste residuals.

Additional Comments:

Photographs taken during the sampling event are provided in Appendix A. Sample results are provided in Appendix B.

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Appendix A

Photographs taken during Field
Sampling April 2009



Photo No.: 1
Date: 4/1/2009
Location: G52048
Description:
Test boring to determine
compression/recovery

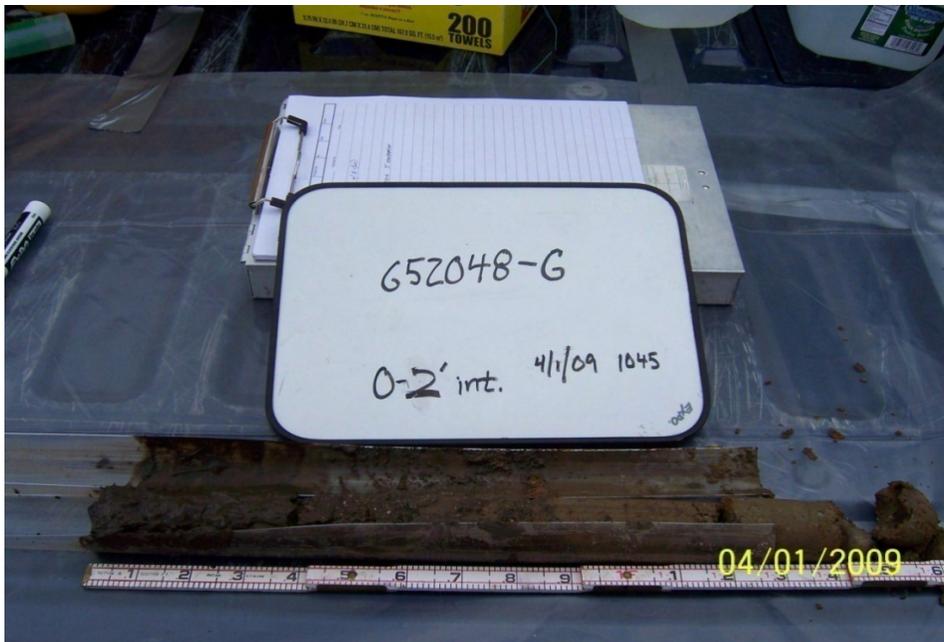


Photo No.: 2
Date: 4/1/2009
Location: G52048-G
Description:
0-2' int.

Photo No.: 3
Date: 4/1/2009
Location: G52048-G
Description:
0-1' and 1-2' composite samples



Photo No.: 4
Date: 4/1/2009
Location: G52048-G
Description:
2-4' int.





Photo No.: 5

Date: 4/1/2009

Location: G52048-G

Description:
2-3' and 3-4' composite samples



Photo No.: 6

Date: 4/1/2009

Location: G52048-H

Description:
0-2' int.

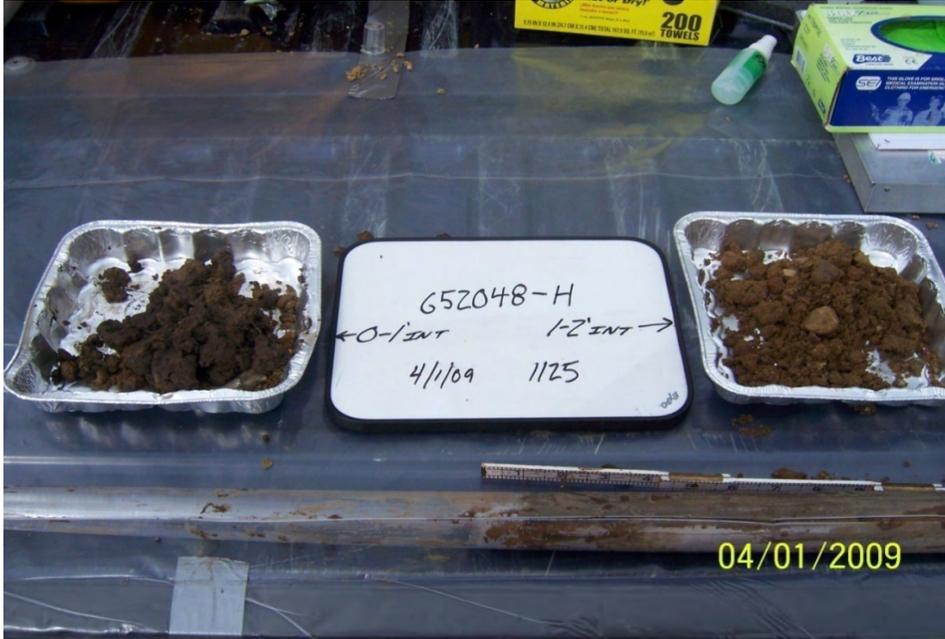


Photo No.: 7

Date: 4/1/2009

Location: G52048-H

Description:
0-1' and 1-2' composite samples

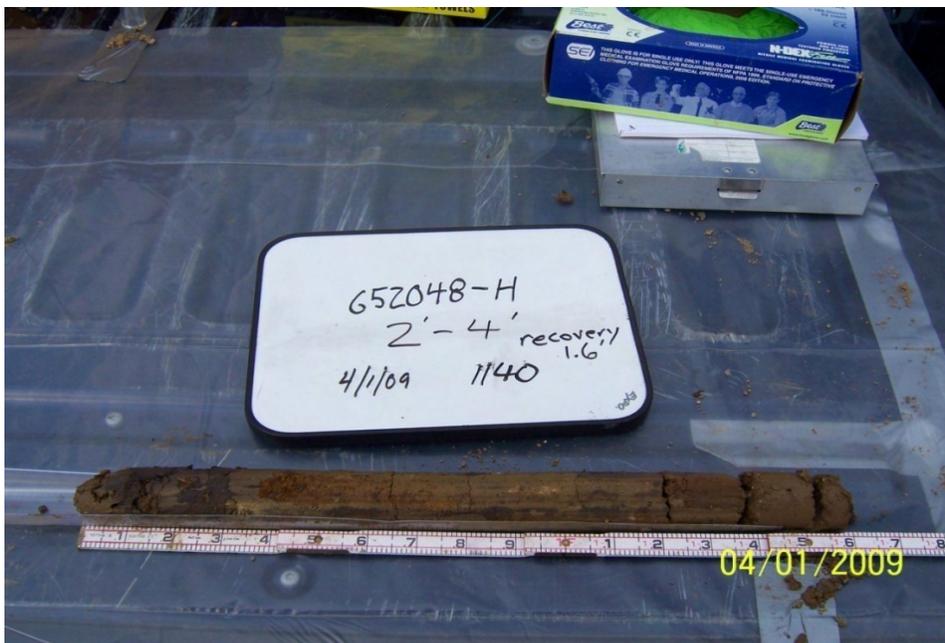


Photo No.: 8

Date: 4/1/2009

Location: G52048-H

Description:
2-4' int.

Photo No.: 9
Date: 4/1/2009
Location: G52048-H
Description:
2-3' and 3-4' composite samples



Photo No.: 10
Date: 4/1/2009
Location: G52048-I
Description:
0-2' int.



Photo No.: 11
Date: 4/1/2009
Location: G52048-I
Description:
0-1' and 1-2' composite samples



Photo No.: 12
Date: 4/1/2009
Location: G52048-I
Description:
Sample not collected from this boring interval due to lack of recovery



Photo No.: 13
Date: 4/1/2009
Location: G52048-I

Description:
Sample not collected from this
boring interval due to lack of
recovery



Photo No.: 14
Date: 4/1/2009
Location: G52048-I

Description:
2-4' int.





Photo No.: 15

Date: 4/1/2009

Location: G52048-I

Description:
2-3' and 3-4' composite samples



Photo No.: 16

Date: 4/1/2009

Location: G52048-I

Description:
2-3' int. Close up of Gray clay mottling

Photo No.: 17
Date: 4/1/2009
Location: G52092-D

Description:
Test boring to determine
recovery/compression



Photo No.: 18
Date: 4/1/2009
Location: G52092-D

Description:
0-4' int. Close up of Gray slag
material



Photo No.: 19
Date: 4/1/2009
Location: G52092-D
Description: 0-2' int.



Photo No.: 20
Date: 4/1/2009
Location: G52092-D
Description: 0-1' and 1-2' composite samples





Photo No.: 21

Date: 4/1/2009

Location: G52092-D

Description:
Sample not collected from this
boring interval due to lack of
recovery



Photo No.: 22

Date: 4/1/2009

Location: G52092-D

Description:
2-3' int.



Photo No.: 23
Date: 4/1/2009
Location: G52092-D
Description:
2-3' composite sample



Photo No.: 24
Date: 4/1/2009
Location: G52092-E
Description:
Test boring to determine
recovery/compression



Photo No.: 25

Date: 4/1/2009

Location: G52092-E

Description:
Sample not collected from this boring interval due to lack of recovery

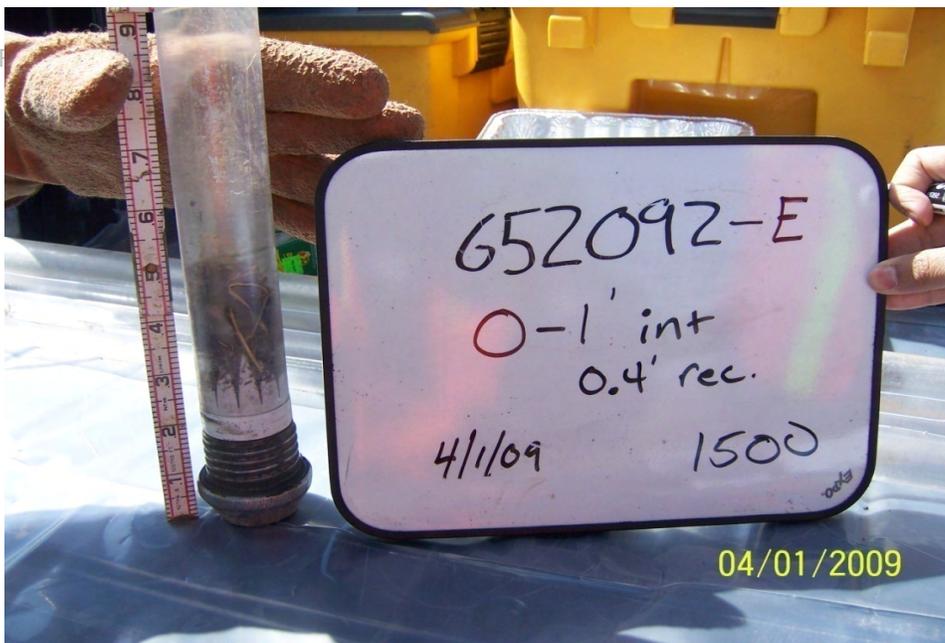


Photo No.: 26

Date: 4/1/2009

Location: G52092-E

Description:
0-1' int.



Photo No.: 27
Date: 4/1/2009
Location: G52092-E
Description: 0-1' int.composite sample



Photo No.: 28
Date: 4/1/2009
Location: G52092-E
Description: 1-2' int.composite sample

Photo No.: 29
Date: 4/1/2009
Location: G52092-E
Description: 2-3' int.



Photo No.: 30
Date: 4/1/2009
Location: G52092-E
Description: 2-3' composite sample

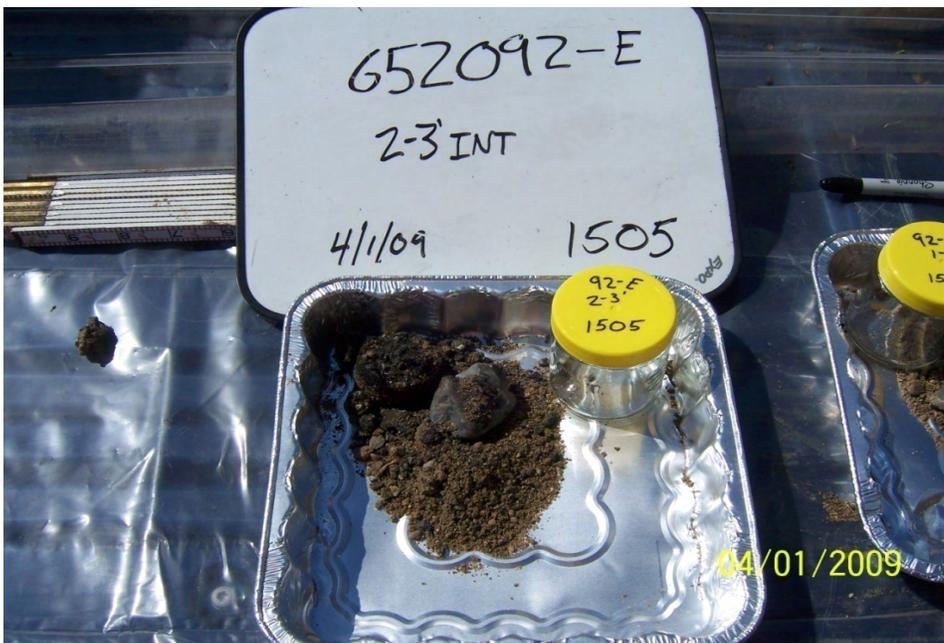


Photo No.: 31
Date: 4/1/2009
Location: G52092-F
Description: 0-1' int.

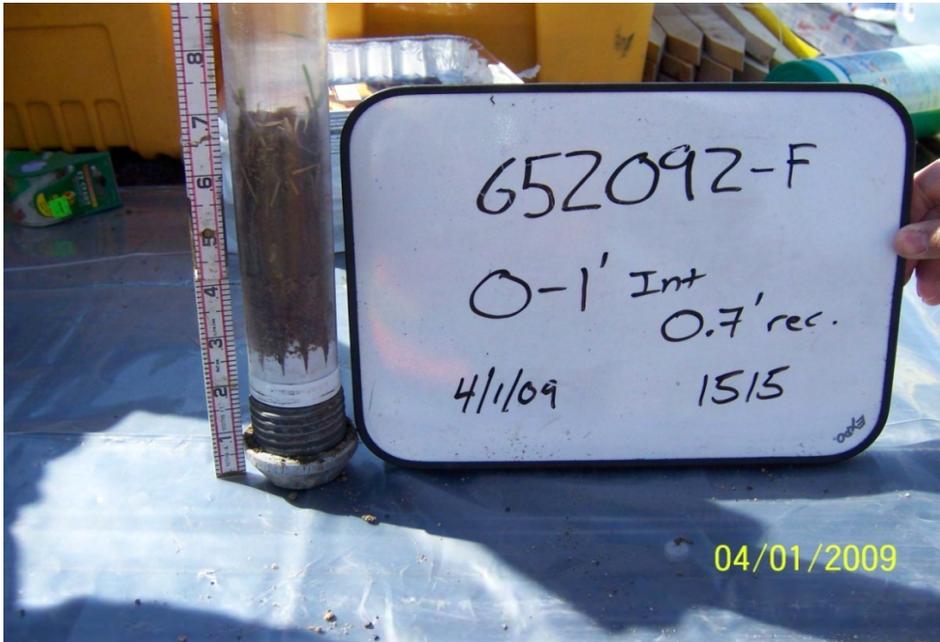


Photo No.: 32
Date: 4/1/2009
Location: G52092-F
Description: 0-1' int.composite sample



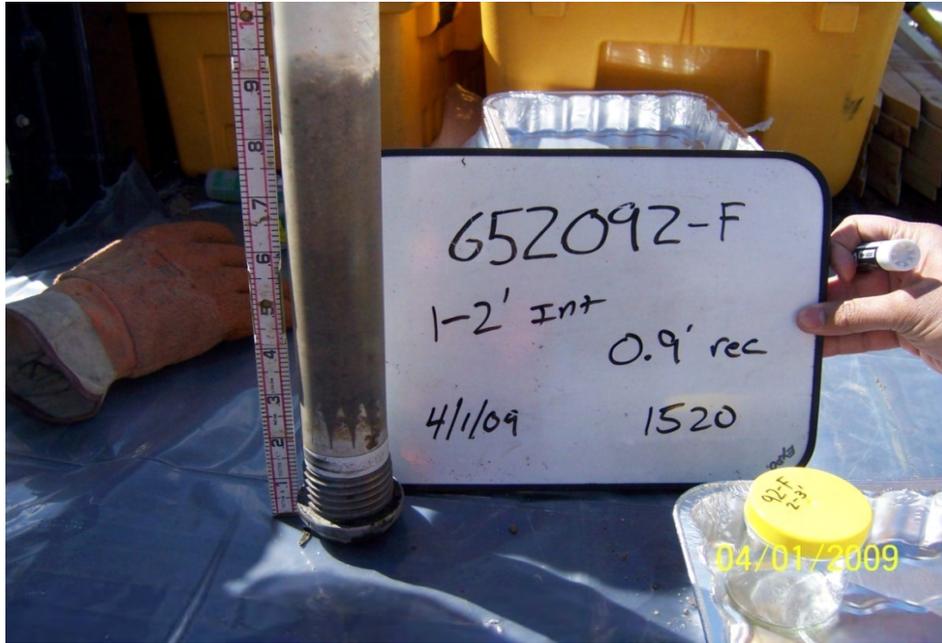


Photo No.: 33
Date: 4/1/2009
Location: G52092-F
Description: 1-2' int.



Photo No.: 34
Date: 4/1/2009
Location: G52092-F
Description: 1-2' int.composite sample



Photo No.: 35
Date: 4/1/2009
Location: G52092-F
Description: 2-3' int.



Photo No.: 36
Date: 4/1/2009
Location: G52092-F
Description: 2-3' int.composite sample

Photo No.: 37

Date: 4/1/2009

Location:

Description:
21 total samples submitted to Kar
Labs in Kalamazoo, MI on
4/1/2009



ARCADIS

Appendix B

Sampling Results April 2009



4425 Manchester
Road
Kalamazoo, MI 49001
Phone 269 381-9666
Fax 269 381-9698
www.karlabs.com

ARCADIS of New York, Inc.
10559 Citation Dr., Suite 100
Brighton, MI 48116

KAR Project No. : 091238
Date Reported : 04/08/09
Date Activated : 04/01/09
Date Due : 04/08/09
Date Validated : 04/08/09

Attn : Ms. Danielle Amber

Project

**Description : Analysis of 21 soil samples from Kalamazoo Mill (#B
0064585.0675).**

Dear Client,

Your laboratory data is presented to you in this report. Unless otherwise stated under the "Comments" heading, all tests were performed within the maximum allowable holding times, have met or exceeded QC requirements and the result represents the sample as it was received.

If you wish to contact us about this work please mention KAR Project No. 091238. To arrange additional sampling or testing please contact our Client Services Department. If you have any questions regarding quality assurance please contact us.

Thank you for the opportunity to serve you. Please do not hesitate to call if we can provide additional assistance.

Respectfully submitted,

A handwritten signature in black ink that reads 'David R. Alkema'.

David R. Alkema
Laboratory Manager

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LABORATORY DETAIL REPORT

KAR Project No. : **091238**

Client: **ARCADIS of New York, Inc.**

Date Reported : **04/08/09**

Project

Description : **Analysis of 21 soil samples from Kalamazoo Mill (#B0064585.0675).**

Sample ID : **"G52048-G (0-1)"**

Sampled By : **BC of ARCADIS of New York, Inc.**

Date Received : **04/01/09**

Sample Date : **04/01/09**

Sample Type : **soil**

Sample Time : **1100**

KAR Sample No. : **091238-01**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	81.17	% by weight	SM 2540 B mod.	04/02/09	JAR	
Prep, ECD	Completed		EPA 3545	04/02/09	GMB	
PCB	See below		EPA 8082	04/03/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclors, total	NA		EPA 8082	04/03/09	GMB	
DCB (pest/PCB surr spk)	72	% spike recovery	EPA 8082	04/03/09	GMB	
TCMX (surr spk)	63	% spike recovery	EPA 8082	04/03/09	GMB	

KAR Laboratories, Inc.

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LABORATORY DETAIL REPORT

Client: **ARCADIS of New York, Inc.**

KAR Project No. : **091238**

Date Reported : **04/08/09**

Project

Description : **Analysis of 21 soil samples from Kalamazoo Mill (#B0064585.0675).**

Sample ID : "G52048-G (1-2)"	Date Received : 04/01/09
Sampled By : BC of ARCADIS of New York, Inc.	Sample Type : soil
Sample Date : 04/01/09	KAR Sample No. : 091238-02
Sample Time : 1105	

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	92.77	% by weight	SM 2540 B mod.	04/02/09	JAR	
Prep, ECD	Completed		EPA 3545	04/02/09	GMB	
PCB	See below		EPA 8082	04/03/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclors, total	NA		EPA 8082	04/03/09	GMB	
DCB (pest/PCB surr spk)	74	% spike recovery	EPA 8082	04/03/09	GMB	
TCMX (surr spk)	74	% spike recovery	EPA 8082	04/03/09	GMB	

KAR Laboratories, Inc.

(269) 381-9666

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LABORATORY DETAIL REPORT

KAR Project No. : **091238**

Client: **ARCADIS of New York, Inc.**

Date Reported : **04/08/09**

Project

Description : Analysis of 21 soil samples from Kalamazoo Mill (#B0064585.0675).

Sample ID : **"G52048-G (2-3)"**

Sampled By : **BC of ARCADIS of New York, Inc.**

Date Received : **04/01/09**

Sample Date : **04/01/09**

Sample Type : **soil**

Sample Time : **1115**

KAR Sample No. : **091238-03**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	83.65	% by weight	SM 2540 B mod.	04/02/09	JAR	
Prep, ECD	Completed		EPA 3545	04/02/09	GMB	
PCB	See below		EPA 8082	04/03/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclors, total	NA		EPA 8082	04/03/09	GMB	
DCB (pest/PCB surr spk)	68	% spike recovery	EPA 8082	04/03/09	GMB	
TCMX (surr spk)	69	% spike recovery	EPA 8082	04/03/09	GMB	

KAR Laboratories, Inc.

(269) 381-9666

LABORATORY DETAIL REPORT

KAR Project No. : **091238**

Client: **ARCADIS of New York, Inc.**

Date Reported : **04/08/09**

Project

Description : Analysis of 21 soil samples from Kalamazoo Mill (#B0064585.0675).

Sample ID : <u>"G52048-G (3-4)"</u>	Date Received : 04/01/09
Sampled By : BC of ARCADIS of New York, Inc.	Sample Type : soil
Sample Date : 04/01/09	KAR Sample No. : 091238-04
Sample Time : 1120	

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	90.95	% by weight	SM 2540 B mod.	04/02/09	JAR	
Prep, ECD	Completed		EPA 3545	04/02/09	GMB	
PCB	See below		EPA 8082	04/03/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclors, total	NA		EPA 8082	04/03/09	GMB	
DCB (pest/PCB surr spk)	56	% spike recovery	EPA 8082	04/03/09	GMB	
TCMX (surr spk)	65	% spike recovery	EPA 8082	04/03/09	GMB	

LABORATORY DETAIL REPORT

KAR Project No. : **091238**

Client: **ARCADIS of New York, Inc.**

Date Reported : **04/08/09**

Project

Description : Analysis of 21 soil samples from Kalamazoo Mill (#B0064585.0675).

Sample ID : "G52048-H (0-1)"	Date Received : 04/01/09
Sampled By : BC of ARCADIS of New York, Inc.	Sample Type : soil
Sample Date : 04/01/09	KAR Sample No. : 091238-05
Sample Time : 1135	

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	83.01	% by weight	SM 2540 B mod.	04/02/09	JAR	
Prep, ECD	Completed		EPA 3545	04/02/09	GMB	
PCB	See below		EPA 8082	04/03/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclors, total	NA		EPA 8082	04/03/09	GMB	
DCB (pest/PCB surr spk)	56	% spike recovery	EPA 8082	04/03/09	GMB	
TCMX (surr spk)	54	% spike recovery	EPA 8082	04/03/09	GMB	

LABORATORY DETAIL REPORT

KAR Project No. : **091238**

Client: **ARCADIS of New York, Inc.**

Date Reported : **04/08/09**

Project

Description : Analysis of 21 soil samples from Kalamazoo Mill (#B0064585.0675).

Sample ID : <u>"G52048-H (1-2)"</u>	
Sampled By : <i>BC of ARCADIS of New York, Inc.</i>	Date Received : <i>04/01/09</i>
Sample Date : <i>04/01/09</i>	Sample Type : <i>soil</i>
Sample Time : <i>1140</i>	KAR Sample No. : <i>091238-06</i>

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
<i>Dry weight solids</i>	<i>93.38</i>	<i>% by weight</i>	<i>SM 2540 B mod.</i>	<i>04/02/09</i>	<i>JAR</i>	
<i>Prep, ECD</i>	<i>Completed</i>		<i>EPA 3545</i>	<i>04/02/09</i>	<i>GMB</i>	
<i>PCB</i>	<i>See below</i>		<i>EPA 8082</i>	<i>04/03/09</i>	<i>GMB</i>	
<i>PCB Aroclor 1016</i>	<i><330</i>	<i>ug/kg dry sample</i>	<i>EPA 8082</i>	<i>04/03/09</i>	<i>GMB</i>	
<i>PCB Aroclor 1221</i>	<i><330</i>	<i>ug/kg dry sample</i>	<i>EPA 8082</i>	<i>04/03/09</i>	<i>GMB</i>	
<i>PCB Aroclor 1232</i>	<i><330</i>	<i>ug/kg dry sample</i>	<i>EPA 8082</i>	<i>04/03/09</i>	<i>GMB</i>	
<i>PCB Aroclor 1242</i>	<i><330</i>	<i>ug/kg dry sample</i>	<i>EPA 8082</i>	<i>04/03/09</i>	<i>GMB</i>	
<i>PCB Aroclor 1248</i>	<i><330</i>	<i>ug/kg dry sample</i>	<i>EPA 8082</i>	<i>04/03/09</i>	<i>GMB</i>	
<i>PCB Aroclor 1254</i>	<i><330</i>	<i>ug/kg dry sample</i>	<i>EPA 8082</i>	<i>04/03/09</i>	<i>GMB</i>	
<i>PCB Aroclor 1260</i>	<i><330</i>	<i>ug/kg dry sample</i>	<i>EPA 8082</i>	<i>04/03/09</i>	<i>GMB</i>	
<i>PCB Aroclors, total</i>	<i>NA</i>		<i>EPA 8082</i>	<i>04/03/09</i>	<i>GMB</i>	
<i>DCB (pest/PCB surr spk)</i>	<i>64</i>	<i>% spike recovery</i>	<i>EPA 8082</i>	<i>04/03/09</i>	<i>GMB</i>	
<i>TCMX (surr spk)</i>	<i>64</i>	<i>% spike recovery</i>	<i>EPA 8082</i>	<i>04/03/09</i>	<i>GMB</i>	

LABORATORY DETAIL REPORT

KAR Project No. : **091238**

Client: **ARCADIS of New York, Inc.**

Date Reported : **04/08/09**

Project

Description : Analysis of 21 soil samples from Kalamazoo Mill (#B0064585.0675).

Sample ID : **"G52048-H (2-3)"**

Sampled By : **BC of ARCADIS of New York, Inc.**

Date Received : **04/01/09**

Sample Date : **04/01/09**

Sample Type : **soil**

Sample Time : **1145**

KAR Sample No. : **091238-07**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	91.01	% by weight	SM 2540 B mod.	04/02/09	JAR	
Prep, ECD	Completed		EPA 3545	04/02/09	GMB	
PCB	See below		EPA 8082	04/03/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclors, total	NA		EPA 8082	04/03/09	GMB	
DCB (pest/PCB surr spk)	54	% spike recovery	EPA 8082	04/03/09	GMB	
TCMX (surr spk)	50	% spike recovery	EPA 8082	04/03/09	GMB	

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LABORATORY DETAIL REPORT

Client: **ARCADIS of New York, Inc.**

KAR Project No. : **091238**

Date Reported : **04/08/09**

Project

Description : **Analysis of 21 soil samples from Kalamazoo Mill (#B0064585.0675).**

Sample ID : "G52048-H (3-4)"	Date Received : 04/01/09
Sampled By : BC of ARCADIS of New York, Inc.	Sample Type : soil
Sample Date : 04/01/09	KAR Sample No. : 091238-08
Sample Time : 1150	

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	90.95	% by weight	SM 2540 B mod.	04/02/09	JAR	
Prep, ECD	Completed		EPA 3545	04/02/09	GMB	
PCB	See below		EPA 8082	04/03/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclors, total	NA		EPA 8082	04/03/09	GMB	
DCB (pest/PCB surr spk)	70	% spike recovery	EPA 8082	04/03/09	GMB	
TCMX (surr spk)	67	% spike recovery	EPA 8082	04/03/09	GMB	

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LABORATORY DETAIL REPORT

KAR Project No. : **091238**

Client: **ARCADIS of New York, Inc.**

Date Reported : **04/08/09**

Project

Description : Analysis of 21 soil samples from Kalamazoo Mill (#B0064585.0675).

Sample ID : **"G52048-I (0-1)"**

Sampled By : **BC of ARCADIS of New York, Inc.**

Date Received : **04/01/09**

Sample Date : **04/01/09**

Sample Type : **soil**

Sample Time : **1150**

KAR Sample No. : **091238-09**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	81.69	% by weight	SM 2540 B mod.	04/02/09	JAR	
Prep, ECD	Completed		EPA 3545	04/02/09	GMB	
PCB	See below		EPA 8082	04/03/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclors, total	NA		EPA 8082	04/03/09	GMB	
DCB (pest/PCB surr spk)	68	% spike recovery	EPA 8082	04/03/09	GMB	
TCMX (surr spk)	58	% spike recovery	EPA 8082	04/03/09	GMB	

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LABORATORY DETAIL REPORT

Client: *ARCADIS of New York, Inc.*

KAR Project No. : **091238**

Date Reported : **04/08/09**

Project

Description : *Analysis of 21 soil samples from Kalamazoo Mill (#B0064585.0675).*

Sample ID : <u>"G52048-I (1-2)"</u>	Date Received : 04/01/09
Sampled By : BC of ARCADIS of New York, Inc.	Sample Type : soil
Sample Date : 04/01/09	KAR Sample No. : 091238-10
Sample Time : 1155	

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
<i>Dry weight solids</i>	92.26	% by weight	SM 2540 B mod.	04/02/09	JAR	
<i>Prep, ECD</i>	Completed		EPA 3545	04/02/09	GMB	
<i>PCB</i>	See below		EPA 8082	04/03/09	GMB	
<i>PCB Aroclor 1016</i>	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
<i>PCB Aroclor 1221</i>	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
<i>PCB Aroclor 1232</i>	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
<i>PCB Aroclor 1242</i>	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
<i>PCB Aroclor 1248</i>	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
<i>PCB Aroclor 1254</i>	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
<i>PCB Aroclor 1260</i>	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
<i>PCB Aroclors, total</i>	NA		EPA 8082	04/03/09	GMB	
<i>DCB (pest/PCB surr spk)</i>	78	% spike recovery	EPA 8082	04/03/09	GMB	
<i>TCMX (surr spk)</i>	77	% spike recovery	EPA 8082	04/03/09	GMB	

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LABORATORY DETAIL REPORT

Client: **ARCADIS of New York, Inc.**

KAR Project No. : **091238**

Date Reported : **04/08/09**

Project

Description : **Analysis of 21 soil samples from Kalamazoo Mill (#B0064585.0675).**

Sample ID : "G52048-I (2-3)"	Date Received : 04/01/09
Sampled By : BC of ARCADIS of New York, Inc.	Sample Type : soil
Sample Date : 04/01/09	KAR Sample No. : 091238-11
Sample Time : 1236	

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	86.07	% by weight	SM 2540 B mod.	04/02/09	JAR	
Prep, ECD	Completed		EPA 3545	04/02/09	GMB	
PCB	See below		EPA 8082	04/03/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclors, total	NA		EPA 8082	04/03/09	GMB	
DCB (pest/PCB surr spk)	86	% spike recovery	EPA 8082	04/03/09	GMB	
TCMX (surr spk)	89	% spike recovery	EPA 8082	04/03/09	GMB	

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LABORATORY DETAIL REPORT

Client: **ARCADIS of New York, Inc.**

KAR Project No. : **091238**

Date Reported : **04/08/09**

Project

Description : **Analysis of 21 soil samples from Kalamazoo Mill (#B0064585.0675).**

Sample ID : "G52048-I (3-4)"	Date Received : 04/01/09
Sampled By : BC of ARCADIS of New York, Inc.	Sample Type : soil
Sample Date : 04/01/09	KAR Sample No. : 091238-12
Sample Time : 1240	

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	71.06	% by weight	SM 2540 B mod.	04/02/09	JAR	
Prep, ECD	Completed		EPA 3545	04/02/09	GMB	
PCB	See below		EPA 8082	04/03/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclors, total	NA		EPA 8082	04/03/09	GMB	
DCB (pest/PCB surr spk)	47	% spike recovery	EPA 8082	04/03/09	GMB	
TCMX (surr spk)	56	% spike recovery	EPA 8082	04/03/09	GMB	

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LABORATORY DETAIL REPORT

Client: **ARCADIS of New York, Inc.**

KAR Project No. : **091238**

Date Reported : **04/08/09**

Project

Description : **Analysis of 21 soil samples from Kalamazoo Mill (#B0064585.0675).**

Sample ID : "G52092-D (0-1)"	Date Received : 04/01/09
Sampled By : BC of ARCADIS of New York, Inc.	Sample Type : soil
Sample Date : 04/01/09	KAR Sample No. : 091238-13
Sample Time : 1430	

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	95.76	% by weight	SM 2540 B mod.	04/02/09	JAR	
Prep, ECD	Completed		EPA 3545	04/02/09	GMB	
PCB	See below		EPA 8082	04/03/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	04/03/09	GMB	
PCB Aroclors, total	NA		EPA 8082	04/03/09	GMB	
DCB (pest/PCB surr spk)	75	% spike recovery	EPA 8082	04/03/09	GMB	
TCMX (surr spk)	77	% spike recovery	EPA 8082	04/03/09	GMB	

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LABORATORY DETAIL REPORT

KAR Project No. : **091238**

Client: **ARCADIS of New York, Inc.**

Date Reported : **04/08/09**

Project

Description : Analysis of 21 soil samples from Kalamazoo Mill (#B0064585.0675).

Sample ID : **"G52092-D (1-2)"**

Sampled By : **BC of ARCADIS of New York, Inc.**

Date Received : **04/01/09**

Sample Date : **04/01/09**

Sample Type : **soil**

Sample Time : **1435**

KAR Sample No. : **091238-14**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	89.21	% by weight	SM 2540 B mod.	04/02/09	JAR	
Prep, ECD	Completed		EPA 3545	04/02/09	GMB	
PCB	See below		EPA 8082	04/04/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclors, total	NA		EPA 8082	04/04/09	GMB	
DCB (pest/PCB surr spk)	86	% spike recovery	EPA 8082	04/04/09	GMB	
TCMX (surr spk)	82	% spike recovery	EPA 8082	04/04/09	GMB	

LABORATORY DETAIL REPORT

KAR Project No. : **091238**

Client: **ARCADIS of New York, Inc.**

Date Reported : **04/08/09**

Project

Description : Analysis of 21 soil samples from Kalamazoo Mill (#B0064585.0675).

Sample ID : **"G52092-D (2-3)"**

Sampled By : **BC of ARCADIS of New York, Inc.**

Date Received : **04/01/09**

Sample Date : **04/01/09**

Sample Type : **soil**

Sample Time : **1435**

KAR Sample No. : **091238-15**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	90.30	% by weight	SM 2540 B mod.	04/02/09	JAR	
Prep, ECD	Completed		EPA 3545	04/02/09	GMB	
PCB	See below		EPA 8082	04/04/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclors, total	NA		EPA 8082	04/04/09	GMB	
DCB (pest/PCB surr spk)	91	% spike recovery	EPA 8082	04/04/09	GMB	
TCMX (surr spk)	84	% spike recovery	EPA 8082	04/04/09	GMB	

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LABORATORY DETAIL REPORT

Client: **ARCADIS of New York, Inc.**

KAR Project No. : **091238**

Date Reported : **04/08/09**

Project

Description : **Analysis of 21 soil samples from Kalamazoo Mill (#B0064585.0675).**

Sample ID : "G52092-E (0-1)"	Date Received : 04/01/09
Sampled By : BC of ARCADIS of New York, Inc.	Sample Type : soil
Sample Date : 04/01/09	KAR Sample No. : 091238-16
Sample Time : 1500	

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	92.05	% by weight	SM 2540 B mod.	04/02/09	JAR	
Prep, ECD	Completed		EPA 3545	04/02/09	GMB	
PCB	See below		EPA 8082	04/04/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclors, total	NA		EPA 8082	04/04/09	GMB	
DCB (pest/PCB surr spk)	75	% spike recovery	EPA 8082	04/04/09	GMB	
TCMX (surr spk)	74	% spike recovery	EPA 8082	04/04/09	GMB	

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LABORATORY DETAIL REPORT

KAR Project No. : **091238**

Client: **ARCADIS of New York, Inc.**

Date Reported : **04/08/09**

Project

Description : Analysis of 21 soil samples from Kalamazoo Mill (#B0064585.0675).

Sample ID : "G52092-E (1-2)"	Date Received : 04/01/09
Sampled By : BC of ARCADIS of New York, Inc.	Date Received : 04/01/09
Sample Date : 04/01/09	Sample Type : soil
Sample Time : 1502	KAR Sample No. : 091238-17

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	96.23	% by weight	SM 2540 B mod.	04/02/09	JAR	
Prep, ECD	Completed		EPA 3545	04/02/09	GMB	
PCB	See below		EPA 8082	04/04/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclors, total	NA		EPA 8082	04/04/09	GMB	
DCB (pest/PCB surr spk)	83	% spike recovery	EPA 8082	04/04/09	GMB	
TCMX (surr spk)	80	% spike recovery	EPA 8082	04/04/09	GMB	

LABORATORY DETAIL REPORT

KAR Project No. : **091238**

Client: **ARCADIS of New York, Inc.**

Date Reported : **04/08/09**

Project

Description : Analysis of 21 soil samples from Kalamazoo Mill (#B0064585.0675).

Sample ID : **"G52092-E (2-3)"**

Sampled By : **BC of ARCADIS of New York, Inc.**

Date Received : **04/01/09**

Sample Date : **04/01/09**

Sample Type : **soil**

Sample Time : **1505**

KAR Sample No. : **091238-18**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	94.42	% by weight	SM 2540 B mod.	04/02/09	JAR	
Prep, ECD	Completed		EPA 3545	04/03/09	GMB	
PCB	See below		EPA 8082	04/04/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclors, total	NA		EPA 8082	04/04/09	GMB	
DCB (pest/PCB surr spk)	80	% spike recovery	EPA 8082	04/04/09	GMB	
TCMX (surr spk)	76	% spike recovery	EPA 8082	04/04/09	GMB	

KAR Laboratories, Inc.

(269) 381-9666

LABORATORY DETAIL REPORT

Client: **ARCADIS of New York, Inc.**

KAR Project No. : **091238**

Date Reported : **04/08/09**

Project

Description : **Analysis of 21 soil samples from Kalamazoo Mill (#B0064585.0675).**

Sample ID : "G52092-F (0-1)"	Date Received : 04/01/09
Sampled By : BC of ARCADIS of New York, Inc.	Sample Type : soil
Sample Date : 04/01/09	KAR Sample No. : 091238-19
Sample Time : 1515	

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	91.72	% by weight	SM 2540 B mod.	04/02/09	JAR	
Prep, ECD	Completed		EPA 3545	04/03/09	GMB	
PCB	See below		EPA 8082	04/04/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclors, total	NA		EPA 8082	04/04/09	GMB	
DCB (pest/PCB surr spk)	74	% spike recovery	EPA 8082	04/04/09	GMB	
TCMX (surr spk)	70	% spike recovery	EPA 8082	04/04/09	GMB	

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(269) 381-9666

LABORATORY DETAIL REPORT

KAR Project No. : **091238**

Client: **ARCADIS of New York, Inc.**

Date Reported : **04/08/09**

Project

Description : Analysis of 21 soil samples from Kalamazoo Mill (#B0064585.0675).

Sample ID : **"G52092-F (1-2)"**

Sampled By : **BC of ARCADIS of New York, Inc.**

Date Received : **04/01/09**

Sample Date : **04/01/09**

Sample Type : **soil**

Sample Time : **1520**

KAR Sample No. : **091238-20**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	92.67	% by weight	SM 2540 B mod.	04/02/09	JAR	
Prep, ECD	Completed		EPA 3545	04/03/09	GMB	
PCB	See below		EPA 8082	04/04/09	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	04/04/09	GMB	
PCB Aroclors, total	NA		EPA 8082	04/04/09	GMB	
DCB (pest/PCB surr spk)	89	% spike recovery	EPA 8082	04/04/09	GMB	
TCMX (surr spk)	83	% spike recovery	EPA 8082	04/04/09	GMB	

KAR Laboratories, Inc.

(269) 381-9666

LABORATORY DETAIL REPORT

KAR Project No. : **091238**

Client: **ARCADIS of New York, Inc.**

Date Reported : **04/08/09**

Project

Description : Analysis of 21 soil samples from Kalamazoo Mill (#B0064585.0675).

Sample ID : <u>"G52092-F (2-3)"</u>	
Sampled By : <i>BC of ARCADIS of New York, Inc.</i>	Date Received : <i>04/01/09</i>
Sample Date : <i>04/01/09</i>	Sample Type : <i>soil</i>
Sample Time : <i>1522</i>	KAR Sample No. : <i>091238-21</i>

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
<i>Dry weight solids</i>	<i>89.61</i>	<i>% by weight</i>	<i>SM 2540 B mod.</i>	<i>04/02/09</i>	<i>JAR</i>	
<i>Prep, ECD</i>	<i>Completed</i>		<i>EPA 3545</i>	<i>04/03/09</i>	<i>GMB</i>	
<i>PCB</i>	<i>See below</i>		<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>PCB Aroclor 1016</i>	<i><330</i>	<i>ug/kg dry sample</i>	<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>PCB Aroclor 1221</i>	<i><330</i>	<i>ug/kg dry sample</i>	<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>PCB Aroclor 1232</i>	<i><330</i>	<i>ug/kg dry sample</i>	<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>PCB Aroclor 1242</i>	<i><330</i>	<i>ug/kg dry sample</i>	<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>PCB Aroclor 1248</i>	<i><330</i>	<i>ug/kg dry sample</i>	<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>PCB Aroclor 1254</i>	<i><330</i>	<i>ug/kg dry sample</i>	<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>PCB Aroclor 1260</i>	<i><330</i>	<i>ug/kg dry sample</i>	<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>PCB Aroclors, total</i>	<i>NA</i>		<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>DCB (pest/PCB surr spk)</i>	<i>79</i>	<i>% spike recovery</i>	<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>TCMX (surr spk)</i>	<i>73</i>	<i>% spike recovery</i>	<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	

LABORATORY DETAIL REPORT

Client: *ARCADIS of New York, Inc.*

KAR Project No. : **091238**

Date Reported : **04/08/09**

Project

Description : *Analysis of 21 soil samples from Kalamazoo Mill (#B0064585.0675).*

Sample ID : <u>Laboratory Method Blank-Soil #1</u>	Date Received : 04/01/09
Sampled By :	Sample Type : LMB-soil
Sample Date :	KAR Sample No. : 091238-22
Sample Time :	

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
<i>Prep. ECD</i>	<i>Completed</i>		<i>EPA 3545</i>	<i>04/01/09</i>	<i>GMB</i>	
<i>PCB</i>	<i>See below</i>		<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>PCB Aroclor 1016</i>	<i><330</i>	<i>ug/kg dry sample</i>	<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>PCB Aroclor 1221</i>	<i><330</i>	<i>ug/kg dry sample</i>	<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>PCB Aroclor 1232</i>	<i><330</i>	<i>ug/kg dry sample</i>	<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>PCB Aroclor 1242</i>	<i><330</i>	<i>ug/kg dry sample</i>	<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>PCB Aroclor 1248</i>	<i><330</i>	<i>ug/kg dry sample</i>	<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>PCB Aroclor 1254</i>	<i><330</i>	<i>ug/kg dry sample</i>	<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>PCB Aroclor 1260</i>	<i><330</i>	<i>ug/kg dry sample</i>	<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>PCB Aroclors, total</i>	<i>NA</i>		<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>DCB (pest/PCB surr spk)</i>	<i>81</i>	<i>% spike recovery</i>	<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>TCMX (surr spk)</i>	<i>76</i>	<i>% spike recovery</i>	<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	

LABORATORY DETAIL REPORT

Client: *ARCADIS of New York, Inc.*

KAR Project No. : **091238**

Date Reported : **04/08/09**

Project

Description : *Analysis of 21 soil samples from Kalamazoo Mill (#B0064585.0675).*

Sample ID : <u>Laboratory Method Blank-Soil #2</u>	Date Received : 04/03/09
Sampled By :	Sample Type : LMB-soil
Sample Date :	KAR Sample No. : 091238-23
Sample Time :	

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
<i>Prep. ECD</i>	<i>Completed</i>		<i>EPA 3545</i>	<i>04/03/09</i>	<i>GMB</i>	
<i>PCB</i>	<i>See below</i>		<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>PCB Aroclor 1016</i>	<i><330</i>	<i>ug/kg dry sample</i>	<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>PCB Aroclor 1221</i>	<i><330</i>	<i>ug/kg dry sample</i>	<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>PCB Aroclor 1232</i>	<i><330</i>	<i>ug/kg dry sample</i>	<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>PCB Aroclor 1242</i>	<i><330</i>	<i>ug/kg dry sample</i>	<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>PCB Aroclor 1248</i>	<i><330</i>	<i>ug/kg dry sample</i>	<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>PCB Aroclor 1254</i>	<i><330</i>	<i>ug/kg dry sample</i>	<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>PCB Aroclor 1260</i>	<i><330</i>	<i>ug/kg dry sample</i>	<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>PCB Aroclors, total</i>	<i>NA</i>		<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>DCB (pest/PCB surr spk)</i>	<i>94</i>	<i>% spike recovery</i>	<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	
<i>TCMX (surr spk)</i>	<i>80</i>	<i>% spike recovery</i>	<i>EPA 8082</i>	<i>04/04/09</i>	<i>GMB</i>	

ARCADIS

Attachment 9

Sampling Plan for Area Northwest of
Former Mill Lagoon 1 and Associated
Documentation

Transmitted via Electronic Mail

Mr. Sam Chummar
Remedial Project Manager
USEPA Region 5
Superfund Division
Remedial Response Section #1
77 W. Jackson Blvd. (SR-6J)
Chicago, IL 60604

Subject:

Georgia-Pacific LLC (Georgia-Pacific) Kalamazoo Mill Property – Sampling Plan for Area Northwest of Former Mill Lagoon 1

Dear Mr. Chummar:

This letter describes the collection and analysis of soil samples intended to confirm the removal of polychlorinated biphenyl (PCB)-containing soils in a small area located at the northwest corner of the Georgia-Pacific Kalamazoo Mill property. The Georgia-Pacific Former Mill Lagoons (ML) 1, 2, 3, 4, and 5 and the adjacent floodplain area (Figure 1) were excavated as part of the King Highway Landfill Operable Unit (KHL-OU) closure activities in accordance with the Administrative Order on Consent (AOC) (Michigan Department of Environmental Quality [MDEQ] Reference No. AOC-ERD-99-010) signed on February 8, 2000. In reviewing a report summarizing the results of prior investigations and cleanup work at the Mill property Georgia Pacific identified a data gap: the lack of post-excavation PCB data for a portion of the floodplain at the northwest corner of the property. We plan to obtain the information and incorporate it in the forthcoming report for the sake of completeness.

Background

During KHL-OU closure activities, residuals were observed in the northwestern edge of the former ML 1 excavation, north of a fence line that was assumed to be the property boundary of the Kalamazoo Mill. MDEQ collected two samples in the area north of the fence line (ML-OF-6 and ML-OF-7), which had PCB concentrations of 16 milligrams per kilogram (mg/kg) and 28 mg/kg, respectively (Figure 2). At a meeting conducted at the site on September 23, 1999, representatives of Georgia-Pacific and MDEQ agreed that visible residuals would be removed.

Test pits were completed just north of the fence line and south of the creek (Figure 2) to identify the extent of residuals extending into this area of the floodplain. Residuals were observed at higher quantities at the edge of the Kalamazoo River and continued to decrease in an easterly direction, such that TP-7, TP-9, and TP-10 were

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New York 13214-0066
Tel 315.446.9120
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INDUSTRIAL

Date:

November 12, 2008

Contact:

Pat N. McGuire

Phone:

315.671.9233

Email:

Pat.McGuire@
arcadis-us.com

Our ref:

B0064585.0675

recorded as having no residuals and TP-8 was identified as only having residuals in the top 6 inches of soil that was removed (Figure 2).

On September 25, 1999, residuals were excavated from the floodplain area using visual criteria. However, samples were not collected to assess remaining PCB levels. This Sampling Plan identifies the samples we will collect and analyze for PCBs to confirm the completion of the excavation.

Sampling Plan

Figure 2 shows the area that was excavated north of the fence line and the approximate locations of the proposed samples. Three samples will be collected in the 1,145-square foot area where residuals were removed. Samples will be collected and analyzed for PCBs in accordance with the Kalamazoo River/Allied Paper, Inc. /Portage Creek Multi-Area Field Sampling Plan and Multi-Area Quality Assurance Project Plan.

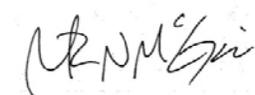
At each location, confirmation samples will be collected at the 0 to 1-foot and 1 to 2-foot intervals using a 2-inch hand auger. A total of six soil samples will be collected and sent to KAR Laboratory in Kalamazoo, Michigan for PCB analysis using SW-846 Method 8082. Field activities will be conducted in accordance with the Multi-Area Health and Safety Plan.

Results will be reported in the Source Investigation at the Former Kalamazoo and Hawthorne Mill Properties Report.

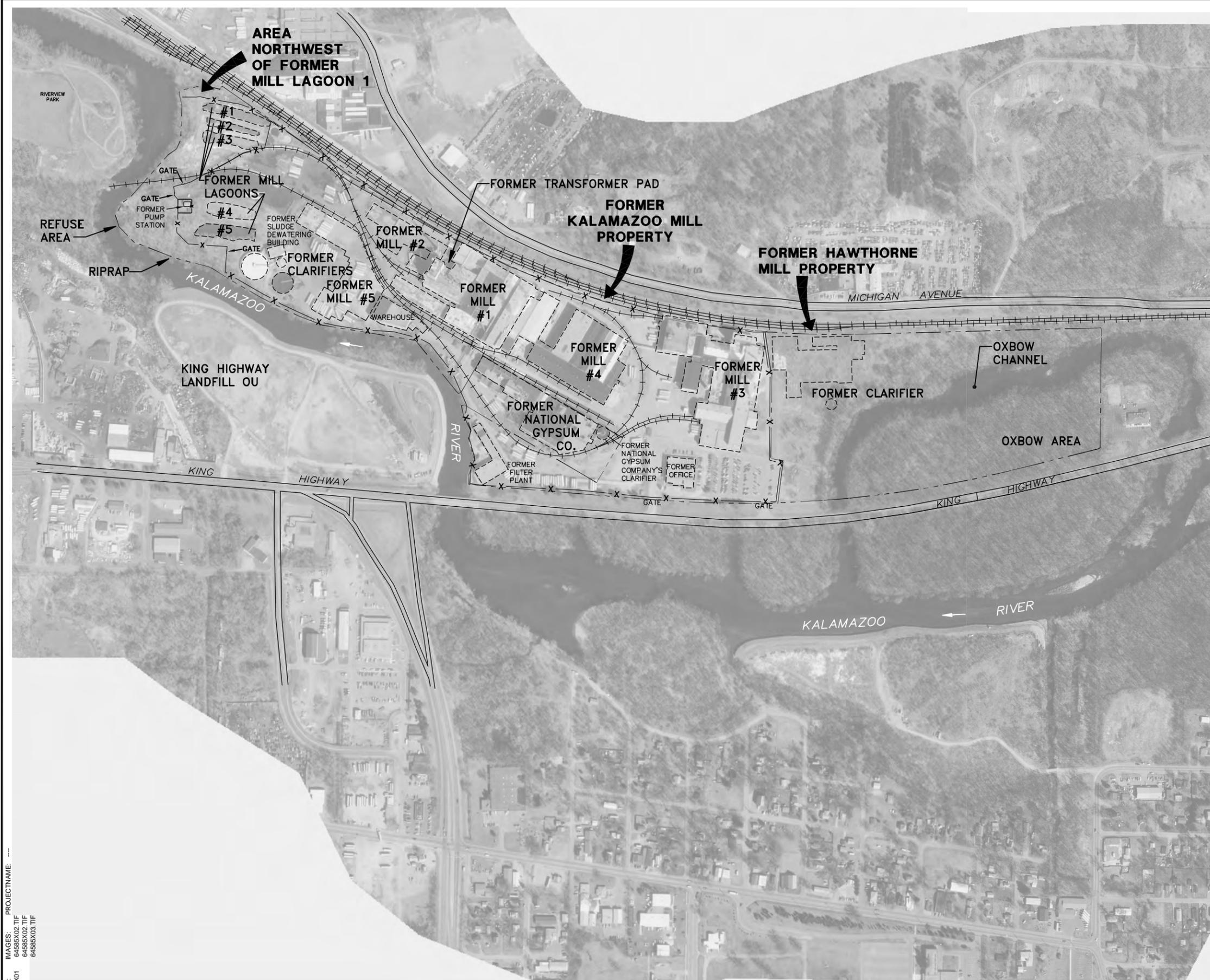
Please contact me if you have any questions regarding the proposed sampling plan.

Sincerely,

ARCADIS



Patrick N. McGuire
Associate

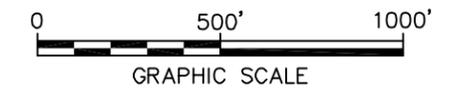


LEGEND:

- APPROXIMATE BOUNDARY OF KALAMAZOO MILL AND HAWTHORNE MILL PROPERTIES
- - - APPROXIMATE BOUNDARY OF FORMER MILLS
- X - APPROXIMATE LOCATION OF FORMER FENCE LINE

NOTES:

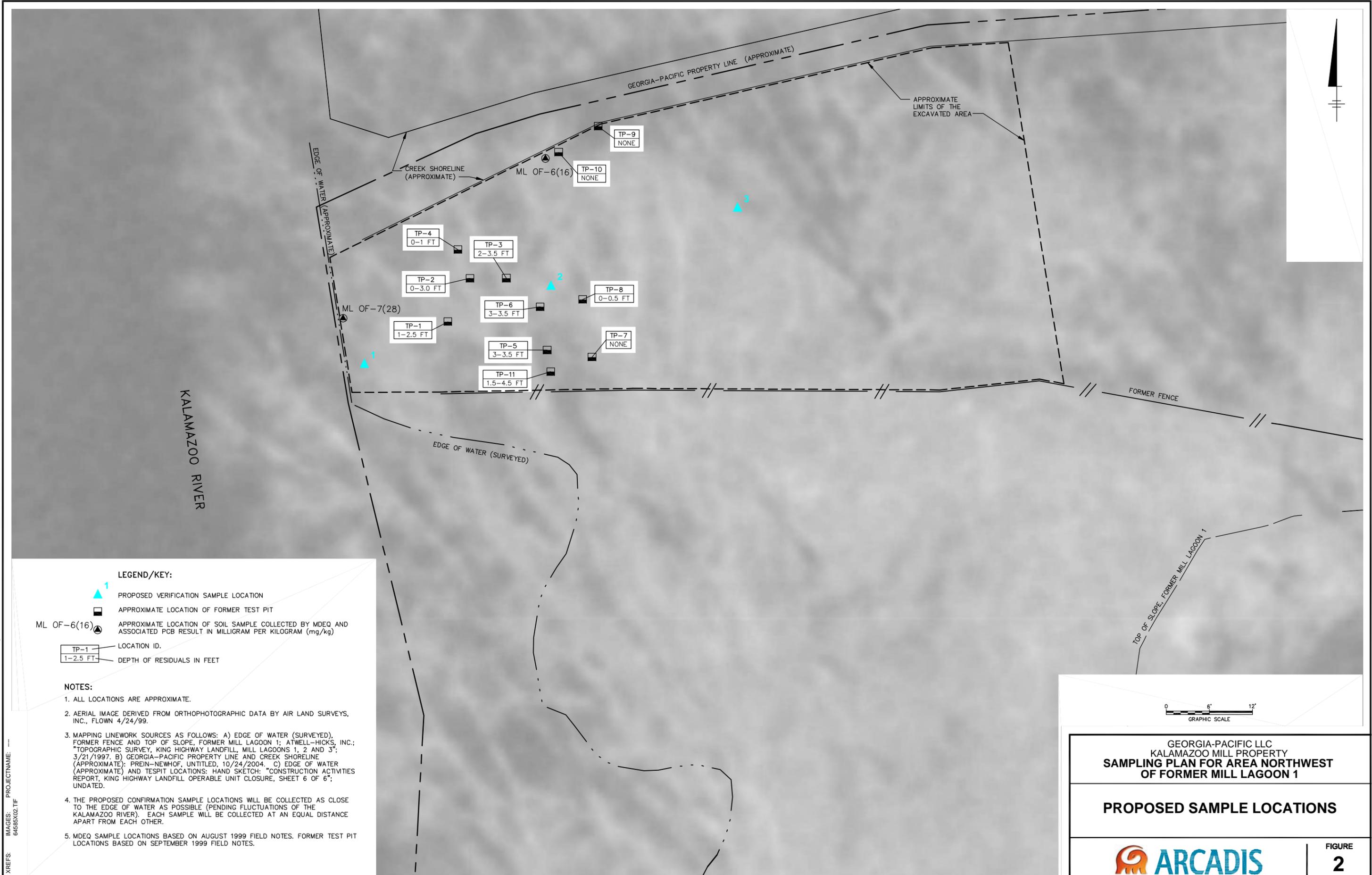
1. PLANIMETRIC MAPPING, INCLUDING PROPERTY BOUNDARIES, IS APPROXIMATE.
2. AERIAL IMAGE DERIVED FROM ORTHOPHOTOGRAPHIC DATA BY AIR LAND SURVEYS, INC., FLOWN 4/24/99.
3. FORMER MILL LAGOONS EXCAVATED PER KING HIGHWAY LANDFILL-OPERABLE UNIT AOC, 1999-2000.



GEORGIA-PACIFIC LLC
 KALAMAZOO MILL PROPERTY
**SAMPLING PLAN FOR AREA NORTHWEST
 OF FORMER MILL LAGOON 1**

MILL PROPERTIES SITE PLAN





0 6' 12'
GRAPHIC SCALE

**GEORGIA-PACIFIC LLC
 KALAMAZOO MILL PROPERTY
 SAMPLING PLAN FOR AREA NORTHWEST
 OF FORMER MILL LAGOON 1**

PROPOSED SAMPLE LOCATIONS

ARCADIS

**FIGURE
 2**

Location Former GP Mill Date 11/13/08
 Project / Client BOC64585.0675

TASK: COLLECT 6 SOIL SAMPLES (3 LOCATIONS)

ARCADS: M. KONGEN

H&S: LEVEL D

WEATHER: 45° F. PARTLY CLOUDY, LT WIND

1200 - ON-SITE @ Mill

1205 - H&S MEETING

ISSUES: SLIPS, TRIPS & FALLS, WORKING
 w/ HAND AUGER, PROPER PPE.

1215 - MARKING SAMPLE LOCATIONS

1330 - COLLECT SS-1 (0-1')

0-2" DRK BRN SILT SAND w/ORGANICS
 2-12" LT BRN SAND.

1335 - DECON AUGER

1345 - COLLECT SS-1 (1-2')

12-24" LT BRN SAND

1350 - DECON AUGER

1355 - COLLECT SS-2 (0-1')

0-8" DRK BRN SILTY SAND w/ORGANICS
 8"-12" LT BRN SAND

1357 - DECON AUGER

1400 - COLLECT SS-2 (1-2')

Location Former GP Mill Date 11/13/08
 Project / Client BOC64585.0675

SS-2 - 12-24" LT BRN SAND

1402 - DECON AUGER

1408 - COLLECT SS-3 (0-1')

0-4" DRK BRN SILTY SAND w/ORG

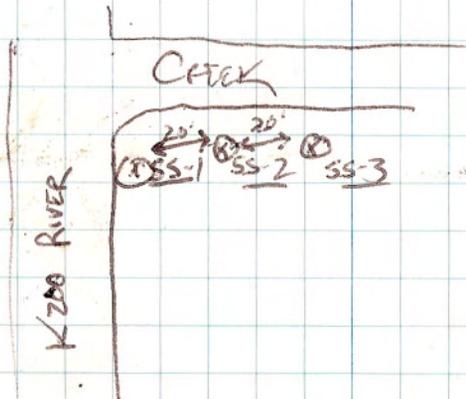
4-12" LT BRN SAND

1409 - DECON

1413 - COLLECT SS-3 (1-2')

12-24" LT BRN SAND

1430 - OFFSITE TO KAC LABS





4425 Manchester Road
Kalamazoo, MI 49001
Phone 269 381-9666
Fax 269 381-9698
www.karlabs.com

ARCADIS of New York, Inc.
6723 Towpath, P.O. Box 66
Syracuse, NY 13214-0066

Attn : Mr. Pat McGuire

Project

**Description : Analysis of six samples from Former Mill Lagoon #1
(B0064585.0675).**

KAR Project No. : 084800
Date Reported : 11/17/08
Date Activated : 11/13/08
Date Due : 11/17/08
Date Validated : 11/17/08

Dear Client,

Your laboratory data is presented to you in this report. Unless otherwise stated under the "Comments" heading, all tests were performed within the maximum allowable holding times, have met or exceeded QC requirements and the result represents the sample as it was received.

If you wish to contact us about this work please mention KAR Project No. 084800. To arrange additional sampling or testing please contact our Client Services Department. If you have any questions regarding quality assurance please call us.

Thank you for the opportunity to serve you. Please do not hesitate to call if we can provide additional assistance.

Respectfully submitted,

David R. Alkema
Laboratory Manager



LABORATORY DETAIL REPORT

KAR Project No. : **084800**

Client: **ARCADIS of New York, Inc.**

Date Reported : **11/17/08**

Project

Desc. : **Analysis of six samples from Former Mill Lagoon #1 (B0064585.0675).**

Sample ID : **"SS-1 (0-1)"**

Sampled By : **MK of ARCADIS of New York, Inc.**

Sample Date : **11/13/08**

Sample Time : **1330**

Date Received : **11/13/08**

Sample Type : **soil**

KAR Sample No. : **084800-01**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	82.75	% by weight	SM 2540 B mod.	11/14/08	GMB	
Prep, ECD	Completed		EPA 3545	11/14/08	GMB	
PCB	See below		EPA 8082	11/14/08	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclors, total	NA		EPA 8082	11/14/08	GMB	
DCB (pest/PCB surr spk)	87	% spike recovery	EPA 8082	11/14/08	GMB	
TCMX (surr spk)	77	% spike recovery	EPA 8082	11/14/08	GMB	

Sample ID : **"SS-1 (1-2)"**

Sampled By : **MK of ARCADIS of New York, Inc.**

Sample Date : **11/13/08**

Sample Time : **1345**

Date Received : **11/13/08**

Sample Type : **soil**

KAR Sample No. : **084800-02**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	80.49	% by weight	SM 2540 B mod.	11/14/08	GMB	
Prep, ECD	Completed		EPA 3545	11/14/08	GMB	
PCB	See below		EPA 8082	11/14/08	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclors, total	NA		EPA 8082	11/14/08	GMB	
DCB (pest/PCB surr spk)	77	% spike recovery	EPA 8082	11/14/08	GMB	
TCMX (surr spk)	72	% spike recovery	EPA 8082	11/14/08	GMB	

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Laboratory Detail Report

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LABORATORY DETAIL REPORT

KAR Project No. : **084800**

Client: **ARCADIS of New York, Inc.**

Date Reported : **11/17/08**

Project

Desc. : **Analysis of six samples from Former Mill Lagoon #1 (B0064585.0675).**

Sample ID : **"SS-2 (0-1)"**

Sampled By : **MK of ARCADIS of New York, Inc.**

Sample Date : **11/13/08**

Sample Time : **1355**

Date Received : **11/13/08**

Sample Type : **soil**

KAR Sample No. : **084800-03**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	82.98	% by weight	SM 2540 B mod.	11/14/08	GMB	
Prep, ECD	Completed		EPA 3545	11/14/08	GMB	
PCB	See below		EPA 8082	11/14/08	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclors, total	NA		EPA 8082	11/14/08	GMB	
DCB (pest/PCB surr spk)	78	% spike recovery	EPA 8082	11/14/08	GMB	
TCMX (surr spk)	75	% spike recovery	EPA 8082	11/14/08	GMB	

Sample ID : **"SS-2 (1-2)"**

Sampled By : **MK of ARCADIS of New York, Inc.**

Sample Date : **11/13/08**

Sample Time : **1400**

Date Received : **11/13/08**

Sample Type : **soil**

KAR Sample No. : **084800-04**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	85.81	% by weight	SM 2540 B mod.	11/14/08	GMB	
Prep, ECD	Completed		EPA 3545	11/14/08	GMB	
PCB	See below		EPA 8082	11/14/08	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclors, total	NA		EPA 8082	11/14/08	GMB	
DCB (pest/PCB surr spk)	74	% spike recovery	EPA 8082	11/14/08	GMB	
TCMX (surr spk)	67	% spike recovery	EPA 8082	11/14/08	GMB	

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LABORATORY DETAIL REPORT

KAR Project No. : **084800**

Client: **ARCADIS of New York, Inc.**

Date Reported : **11/17/08**

Project

Desc. : **Analysis of six samples from Former Mill Lagoon #1 (B0064585.0675).**

Sample ID : **"SS-3 (0-1)"**

Sampled By : **MK of ARCADIS of New York, Inc.**

Sample Date : **11/13/08**

Sample Time : **1408**

Date Received : **11/13/08**

Sample Type : **soil**

KAR Sample No. : **084800-05**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	86.25	% by weight	SM 2540 B mod.	11/14/08	GMB	
Prep, ECD	Completed		EPA 3545	11/14/08	GMB	
PCB	See below		EPA 8082	11/14/08	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclors, total	NA		EPA 8082	11/14/08	GMB	
DCB (pest/PCB surr spk)	76	% spike recovery	EPA 8082	11/14/08	GMB	
TCMX (surr spk)	64	% spike recovery	EPA 8082	11/14/08	GMB	

Sample ID : **"SS-3 (1-2)"**

Sampled By : **MK of ARCADIS of New York, Inc.**

Sample Date : **11/13/08**

Sample Time : **1413**

Date Received : **11/13/08**

Sample Type : **soil**

KAR Sample No. : **084800-06**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Dry weight solids	89.29	% by weight	SM 2540 B mod.	11/14/08	GMB	
Prep, ECD	Completed		EPA 3545	11/14/08	GMB	
PCB	See below		EPA 8082	11/14/08	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclors, total	NA		EPA 8082	11/14/08	GMB	
DCB (pest/PCB surr spk)	66	% spike recovery	EPA 8082	11/14/08	GMB	
TCMX (surr spk)	64	% spike recovery	EPA 8082	11/14/08	GMB	

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Laboratory Detail Report

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LABORATORY DETAIL REPORT

KAR Project No. : **084800**

Client: **ARCADIS of New York, Inc.**

Date Reported : **11/17/08**

Project

Desc. : **Analysis of six samples from Former Mill Lagoon #1 (B0064585.0675).**

Sample ID : **Laboratory Method Blank - Soil**

Sampled By :

Date Received : **11/13/08**

Sample Date :

Sample Type : **LMB-soil**

Sample Time :

KAR Sample No. : **084800-07**

Test	Result	Units of Measure	Method	Analyzed	Analyst	Comments
Prep, ECD	Completed		EPA 3545	11/14/08	GMB	
PCB	See below		EPA 8082	11/14/08	GMB	
PCB Aroclor 1016	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1221	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1232	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1242	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1248	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1254	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclor 1260	<330	ug/kg dry sample	EPA 8082	11/14/08	GMB	
PCB Aroclors, total	NA		EPA 8082	11/14/08	GMB	
DCB (pest/PCB surr spk)	90	% spike recovery	EPA 8082	11/14/08	GMB	
TCMX (surr spk)	74	% spike recovery	EPA 8082	11/14/08	GMB	

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ARCADIS of New York, Inc.
6723 Towpath, P.O. Box 66
Syracuse, NY 13214-0066

KAR Project No. : 084800
Date Reported : 11/17/08
Date Activated : 11/13/08
Date Due : 11/17/08
Date Validated : 11/17/08

Attn : Mr. Pat McGuire

Project

**Description : Analysis of six samples from Former Mill Lagoon #1
(B0064585.0675).**

4425 Manchester Road
Kalamazoo, MI 49001
Phone 269 381-9666
Fax 269 381-9698
www.karlabs.com

Dear Client,

Please find attached a copy of the QC Report for KAR Project No. 084800. The report might contain a second section entitled "QC Batch Report". This section will contain matrix-specific quality control information for the analytical batch, if applicable. Unless otherwise stated under the "Comments" heading, all tests were performed within the maximum allowable holding times, have met or exceeded QC requirements and the result represents the sample as it was received.

For duplicate sample calculations, concentrations are considered zero if less than or equal to the reporting limit. For spiked sample calculations, original sample concentration is also considered zero if less than or equal to the reporting limit. For general QA/QC procedures please consult the KAR Laboratories Quality Assurance Manual.

I hope that you find our services accurate and complete. Please do not hesitate to call if we can provide additional assistance.

Respectfully submitted,

A handwritten signature in black ink that reads 'David R. Alkema'.

David R. Alkema
Laboratory Manager

QUALITY CONTROL REPORT

KAR Project No. : **084800**

Date Reported : **11/17/08**

Client: **ARCADIS of New York, Inc.**

Project Description : **Analysis of six samples from Former Mill Lagoon #1 (B0064585.0675).**

Sample ID : <u>"SS-1 (0-1)'"</u>		Sampled By : MK of ARCADIS of New York, Inc.		Date Sampled : 11/13/08		Sample Type : soil	
Date Received : 11/13/08		Time Sampled : 1330		Sample No. : 084800-01			

Test	Result	Spike Level	MS %Rec.	MSD %Rec.	RPD	Dup. #1	Dup. #2	RPD	QC Limits Rec. Range RPD	Method	Analyzed On	By	QC Batch	Comments
Dry weight solids	82.75 % by weight								9	SM 2540 B mod.	11/14/08	GMB	081114DW 1	
Prep, ECD	Completed									EPA 3545	11/14/08	GMB		
PCB	See below									EPA 8082	11/14/08	GMB		
PCB Aroclor 1016	<330 ug/kg dry sample								29-135 25	EPA 8082	11/14/08	GMB	081104S08	
PCB Aroclor 1221	<330 ug/kg dry sample									EPA 8082	11/14/08	GMB	081104S08	
PCB Aroclor 1232	<330 ug/kg dry sample									EPA 8082	11/14/08	GMB	081104S08	
PCB Aroclor 1242	<330 ug/kg dry sample								24-133 51	EPA 8082	11/14/08	GMB	081104S08	
PCB Aroclor 1248	<330 ug/kg dry sample								57-116 46	EPA 8082	11/14/08	GMB	081104S08	
PCB Aroclor 1254	<330 ug/kg dry sample								42	EPA 8082	11/14/08	GMB	081104S08	
PCB Aroclor 1260	<330 ug/kg dry sample								29-135 25	EPA 8082	11/14/08	GMB	081104S08	
PCB Aroclors, total	NA								27-155 15	EPA 8082	11/14/08	GMB	081104S08	
DCB (pest/PCB surr spk)	87 % spike recovery								25-122 NA	EPA 8082	11/14/08	GMB	081104S08	
TCMX (surr spk)	77 % spike recovery								22-95 NA	EPA 8082	11/14/08	GMB	081104S08	

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Quality Control Report

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QUALITY CONTROL REPORT

KAR Project No. : **084800**

Date Reported : **11/17/08**

Client: **ARCADIS of New York, Inc.**

Project Description : **Analysis of six samples from Former Mill Lagoon #1 (B0064585.0675).**

Sample ID : **"SS-1 (1-2)"**

Sampled By : **MK of ARCADIS of New York, Inc.**

Date Sampled : **11/13/08**

Sample Type : **soil**

Date Received : **11/13/08**

Time Sampled : **1345**

Sample No. : **084800-02**

Test	Result	Spike Level	MS %Rec.	MSD %Rec.	RPD	Dup. #1	Dup. #2	RPD	QC Limits Rec. Range RPD	Method	Analyzed On	By	QC Batch	Comments
Dry weight solids	80.49 % by weight								9	SM 2540 B mod.	11/14/08	GMB	081114DW 1	
Prep, ECD	Completed									EPA 3545	11/14/08	GMB		
PCB	See below									EPA 8082	11/14/08	GMB		
PCB Aroclor 1016	<330 ug/kg dry sample								29-135 25	EPA 8082	11/14/08	GMB	081104S08	
PCB Aroclor 1221	<330 ug/kg dry sample									EPA 8082	11/14/08	GMB	081104S08	
PCB Aroclor 1232	<330 ug/kg dry sample									EPA 8082	11/14/08	GMB	081104S08	
PCB Aroclor 1242	<330 ug/kg dry sample								24-133 51	EPA 8082	11/14/08	GMB	081104S08	
PCB Aroclor 1248	<330 ug/kg dry sample								57-116 46	EPA 8082	11/14/08	GMB	081104S08	
PCB Aroclor 1254	<330 ug/kg dry sample									EPA 8082	11/14/08	GMB	081104S08	
PCB Aroclor 1260	<330 ug/kg dry sample								29-135 25	EPA 8082	11/14/08	GMB	081104S08	
PCB Aroclors, total	NA								27-155 15	EPA 8082	11/14/08	GMB	081104S08	
DCB (pest/PCB surr spk)	77 % spike recovery								25-122 NA	EPA 8082	11/14/08	GMB	081104S08	
TCMX (surr spk)	72 % spike recovery								22-95 NA	EPA 8082	11/14/08	GMB	081104S08	

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Quality Control Report

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QUALITY CONTROL REPORT

KAR Project No. : **084800**

Date Reported : **11/17/08**

Client: *ARCADIS of New York, Inc.*

Project Description : *Analysis of six samples from Former Mill Lagoon #1 (B0064585.0675).*

Sample ID : <u>"SS-2 (0-1)'"</u>		Sampled By : <i>MK of ARCADIS of New York, Inc.</i>		Date Sampled : <i>11/13/08</i>		Sample Type : <i>soil</i>								
Date Received : <i>11/13/08</i>		Time Sampled : <i>1355</i>		Sample No. : <i>084800-03</i>										
Test	Result	Spike Level	MS %Rec.	MSD %Rec.	RPD	Dup. #1	Dup. #2	RPD	QC Limits Rec. Range RPD	Method	Analyzed On	By	QC Batch	Comments
Dry weight solids	82.98 % by weight								9	SM 2540 B mod.	11/14/08	GMB	081114DW 1	
Prep, ECD	Completed									EPA 3545	11/14/08	GMB		
PCB	See below									EPA 8082	11/14/08	GMB		
PCB Aroclor 1016	<330 ug/kg dry sample								29-135 25	EPA 8082	11/14/08	GMB	081104S08	
PCB Aroclor 1221	<330 ug/kg dry sample									EPA 8082	11/14/08	GMB	081104S08	
PCB Aroclor 1232	<330 ug/kg dry sample									EPA 8082	11/14/08	GMB	081104S08	
PCB Aroclor 1242	<330 ug/kg dry sample								24-133 51	EPA 8082	11/14/08	GMB	081104S08	
PCB Aroclor 1248	<330 ug/kg dry sample								57-116 46	EPA 8082	11/14/08	GMB	081104S08	
PCB Aroclor 1254	<330 ug/kg dry sample								42	EPA 8082	11/14/08	GMB	081104S08	
PCB Aroclor 1260	<330 ug/kg dry sample								29-135 25	EPA 8082	11/14/08	GMB	081104S08	
PCB Aroclors, total	NA								27-155 15	EPA 8082	11/14/08	GMB	081104S08	
DCB (pest/PCB surr spk)	78 % spike recovery								25-122 NA	EPA 8082	11/14/08	GMB	081104S08	
TCMX (surr spk)	75 % spike recovery								22-95 NA	EPA 8082	11/14/08	GMB	081104S08	

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QUALITY CONTROL REPORT

KAR Project No. : **084800**

Date Reported : **11/17/08**

Client: **ARCADIS of New York, Inc.**

Project Description : **Analysis of six samples from Former Mill Lagoon #1 (B0064585.0675).**

Sample ID :	"SS-2 (1-2)"	Date Sampled :	11/13/08	Sample Type :	soil
Sampled By :	MK of ARCADIS of New York, Inc.	Date Received :	11/13/08	Time Sampled :	1400
Date Received :	11/13/08	Time Sampled :	1400	Sample No. :	084800-04

Test	Result	Spike Level	MS %Rec.	MSD %Rec.	RPD	Dup. #1	Dup. #2	RPD	QC Limits Rec. Range RPD	Method	Analyzed On	By	QC Batch	Comments
Dry weight solids	85.81 % by weight								g	SM 2540 B mod.	11/14/08	GMB	081114DW 1	
Prep. ECD	Completed									EPA 3545	11/14/08	GMB		
PCB	See below									EPA 8082	11/14/08	GMB		
PCB Aroclor 1016	<330 ug/kg dry sample								29-135 25	EPA 8082	11/14/08	GMB	081104SO8	
PCB Aroclor 1221	<330 ug/kg dry sample									EPA 8082	11/14/08	GMB	081104SO8	
PCB Aroclor 1232	<330 ug/kg dry sample									EPA 8082	11/14/08	GMB	081104SO8	
PCB Aroclor 1242	<330 ug/kg dry sample								24-133 51	EPA 8082	11/14/08	GMB	081104SO8	
PCB Aroclor 1248	<330 ug/kg dry sample								57-116 46	EPA 8082	11/14/08	GMB	081104SO8	
PCB Aroclor 1254	<330 ug/kg dry sample								42	EPA 8082	11/14/08	GMB	081104SO8	
PCB Aroclor 1260	<330 ug/kg dry sample								29-135 25	EPA 8082	11/14/08	GMB	081104SO8	
PCB Aroclors, total	NA								27-155 15	EPA 8082	11/14/08	GMB	081104SO8	
DCB (pest/PCB surr spk)	74 % spike recovery								25-122 NA	EPA 8082	11/14/08	GMB	081104SO8	
TCMX (surr spk)	67 % spike recovery								22-95 NA	EPA 8082	11/14/08	GMB	081104SO8	

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QUALITY CONTROL REPORT

KAR Project No. : **084800**

Date Reported : **11/17/08**

Client: *ARCADIS of New York, Inc.*

Project Description : *Analysis of six samples from Former Mill Lagoon #1 (B0064585.0675).*

Sample ID : <u>"SS-3 (0-1)"</u>		Sampled By : <i>MK of ARCADIS of New York, Inc.</i>		Date Sampled : <i>11/13/08</i>		Sample Type : <i>soil</i>								
Date Received : <i>11/13/08</i>				Time Sampled : <i>1408</i>		Sample No. : <i>084800-05</i>								
Test	Result	Spike Level	MS %Rec.	MSD %Rec.	RPD	Dup. #1	Dup. #2	RPD	QC Limits Rec. Range RPD	Method	Analyzed On	By	QC Batch	Comments
Dry weight solids	86.25 % by weight								g	SM 2540 B mod.	11/14/08	GMB	081114DW 1	
Prep. ECD	Completed									EPA 3545	11/14/08	GMB		
PCB	See below									EPA 8082	11/14/08	GMB		
PCB Aroclor 1016	<330 ug/kg dry sample								29-135 25	EPA 8082	11/14/08	GMB	081104SO8	
PCB Aroclor 1221	<330 ug/kg dry sample									EPA 8082	11/14/08	GMB	081104SO8	
PCB Aroclor 1232	<330 ug/kg dry sample									EPA 8082	11/14/08	GMB	081104SO8	
PCB Aroclor 1242	<330 ug/kg dry sample								24-133 51	EPA 8082	11/14/08	GMB	081104SO8	
PCB Aroclor 1248	<330 ug/kg dry sample								57-116 46	EPA 8082	11/14/08	GMB	081104SO8	
PCB Aroclor 1254	<330 ug/kg dry sample									EPA 8082	11/14/08	GMB	081104SO8	
PCB Aroclor 1260	<330 ug/kg dry sample								29-135 25	EPA 8082	11/14/08	GMB	081104SO8	
PCB Aroclors, total	NA								27-155 15	EPA 8082	11/14/08	GMB	081104SO8	
DCB (pest/PCB surr spk)	76 % spike recovery								25-122 NA	EPA 8082	11/14/08	GMB	081104SO8	
TCMX (surr spk)	64 % spike recovery								22-95 NA	EPA 8082	11/14/08	GMB	081104SO8	

KAR Laboratories, Inc.

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QUALITY CONTROL REPORT

KAR Project No. : **084800**

Date Reported : **11/17/08**

Client: **ARCADIS of New York, Inc.**

Project Description : **Analysis of six samples from Former Mill Lagoon #1 (B0064585.0675).**

Sample ID : **"SS-3 (1-2)"**

Sampled By : **MK of ARCADIS of New York, Inc.**

Date Sampled : **11/13/08**

Sample Type : **soil**

Date Received : **11/13/08**

Time Sampled : **1413**

Sample No. : **084800-06**

Test	Result	Spike Level	MS %Rec.	MSD %Rec.	RPD	Dup. #1	Dup. #2	RPD	QC Limits Rec. Range RPD	Method	Analyzed On	By	QC Batch	Comments
Dry weight solids	89.29 % by weight								9	SM 2540 B mod.	11/14/08	GMB	081114DW 1	
Prep. ECD	Completed									EPA 3545	11/14/08	GMB		
PCB	See below									EPA 8082	11/14/08	GMB		
PCB Aroclor 1016	<330 ug/kg dry sample								29-135 25	EPA 8082	11/14/08	GMB	081104SO8	
PCB Aroclor 1221	<330 ug/kg dry sample									EPA 8082	11/14/08	GMB	081104SO8	
PCB Aroclor 1232	<330 ug/kg dry sample									EPA 8082	11/14/08	GMB	081104SO8	
PCB Aroclor 1242	<330 ug/kg dry sample								24-133 51	EPA 8082	11/14/08	GMB	081104SO8	
PCB Aroclor 1248	<330 ug/kg dry sample								57-116 46	EPA 8082	11/14/08	GMB	081104SO8	
PCB Aroclor 1254	<330 ug/kg dry sample									EPA 8082	11/14/08	GMB	081104SO8	
PCB Aroclor 1260	<330 ug/kg dry sample								29-135 25	EPA 8082	11/14/08	GMB	081104SO8	
PCB Aroclors, total	NA								27-155 15	EPA 8082	11/14/08	GMB	081104SO8	
DCB (pest/PCB surr spk)	66 % spike recovery								25-122 NA	EPA 8082	11/14/08	GMB	081104SO8	
TCMX (surr spk)	64 % spike recovery								22-95 NA	EPA 8082	11/14/08	GMB	081104SO8	

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Quality Control Report

Page 6 of 7

QUALITY CONTROL REPORT

KAR Project No. : **084800**

Date Reported : **11/17/08**

Client: *ARCADIS of New York, Inc.*

Project Description : *Analysis of six samples from Former Mill Lagoon #1 (B0064585.0675).*

Sample ID : **Laboratory Method Blank - Soil**

Sampled By :

Date Sampled :

Sample Type : *LMB-soil*

Date Received : *11/13/08*

Time Sampled :

Sample No. : *084800-07*

Test	Result	Spike Level	MS %Rec.	MSD %Rec.	RPD	Dup. #1	Dup. #2	RPD	QC Limits Rec. Range RPD	Method	Analyzed On	By	QC Batch	Comments
Prep. ECD	Completed									EPA 3545	11/14/08	GMB		
PCB	See below									EPA 8082	11/14/08	GMB		
PCB Aroclor 1016	<330 ug/kg dry sample								29-135 25	EPA 8082	11/14/08	GMB	081104S08	
PCB Aroclor 1221	<330 ug/kg dry sample									EPA 8082	11/14/08	GMB	081104S08	
PCB Aroclor 1232	<330 ug/kg dry sample									EPA 8082	11/14/08	GMB	081104S08	
PCB Aroclor 1242	<330 ug/kg dry sample								24-133 51	EPA 8082	11/14/08	GMB	081104S08	
PCB Aroclor 1248	<330 ug/kg dry sample								57-116 46	EPA 8082	11/14/08	GMB	081104S08	
PCB Aroclor 1254	<330 ug/kg dry sample									EPA 8082	11/14/08	GMB	081104S08	
PCB Aroclor 1260	<330 ug/kg dry sample								29-135 25	EPA 8082	11/14/08	GMB	081104S08	
PCB Aroclors, total	NA								27-155 15	EPA 8082	11/14/08	GMB	081104S08	
DCB (pest/PCB surr spk)	90 % spike recovery								25-122 NA	EPA 8082	11/14/08	GMB	081104S08	
TCMX (surr spk)	74 % spike recovery								22-95 NA	EPA 8082	11/14/08	GMB	081104S08	

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Quality Control Report

Page 7 of 7

BATCH QC REPORT

Printed : 11:08:59 AM, 11/17/08

Test	QC Batch	Date	Conc. (Original)	Spike Conc.	Matrix Spike Conc.	% Rec.	Matrix Spike Duplicate Conc.	% Rec.	Spike Dup. RPD	Dup. #1	Dup. #2	Dup. RPD	QC LIMITS		Sample No.
													Rec. Range	RPD	
Dry weight solids	081114DW1	11/14/08	89.47							89.59	89.35	0.3 %		9	084778-01
PCB Aroclor 1016	081104SO8	11/05/08	0	784.0268	719.947	91.8 %	747.4513	95.3 %	3.7 %				29-135	25	084619-05
PCB Aroclor 1260	081104SO8	11/05/08	0	784.0268	822.4323	104.9 %	815.2359	104.0 %	0.9 %				29-135	25	084619-05

This "Batch QC" section of the QC Report contains data from samples analyzed in the same Extraction Batch (analytical run) as the samples that you submitted. Please refer to the previous QC Report section for QC information specific to your samples. This report may only be reproduced in full and not without written consent.

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QC Batch Report

Page 1 of 1

Attachment 10

Select Materials from the TCRA Final Report

Georgia-Pacific Corporation
 Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
 Removal Action Final Report for the Refuse Area at the Georgia-Pacific Corporation Kalamazoo
 and the Oxbow Area at the Former Hawthorne Mill Property

Table 1 -- Water Characterization Sample Results

Constituent	Sample ID		
	G53145 Oxbow 1/10/07	G53155 Oxbow 1/16/07	G53184 Refuse 1/24/07
Polychlorinated Biphenyls	ND	ND	0.0001
Vinyl Chloride	NA	ND	ND
1,1-Dichloroethene	NA	ND	ND
2-Butanone	NA	ND	ND
Chloroform	NA	ND	ND
Carbon Tetrachloride	NA	ND	ND
Benzene	NA	ND	ND
1,2-Dichloroethane	NA	ND	ND
Trichloroethene	NA	ND	ND
Tetrachloroethene	NA	ND	ND
Chlorobenzene	NA	ND	ND
Pyridine	NA	ND	ND
1,4-Dichlorobenzene	NA	ND	ND
2-Methylphenol	NA	ND	ND
4-Methylphenol	NA	ND	ND
Hexachloroethane	NA	ND	ND
Nitrobenzene	NA	ND	ND
Hexachlorobutadiene	NA	ND	ND
2,4,6-Trichlorophenol	NA	ND	ND
2,4,5-Trichlorophenol	NA	ND	ND
2,4-Dinitrotoluene	NA	ND	ND
Hexachlorobenzene	NA	ND	ND
Pentachlorophenol	NA	ND	ND
Arsenic	NA	0.007 B	ND
Barium	NA	0.117 B	0.084 B
Cadmium	NA	ND	ND
Chromium	NA	0.004 B	ND
Lead	NA	0.004 B	0.005 B
Mercury	NA	ND	ND
Selenium	NA	ND	ND
Silver	NA	ND	ND
Ignitability (°F)	NA	NA	NA
Corrosivity (pH)	NA	NA	NA
Reactivity	NA	NA	NA
Total Suspended Solids	11	36.3	4.8

Notes:

Concentrations are in parts per million (ppm) unless otherwise noted.

ND = Analyte was not detected.

NA = Compound was not analyzed for.

B = The reported value was obtained from a reading less than the contract-required detection limit, but greater than or equal to the instrument detection limit.

Georgia-Pacific Corporation
 Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
 Time Critical Removal Action Final Report for the Refuse Area at the Georgia-Pacific Corporation Kalamazoo Mill Property
 and the Oxbow Area at the Former Hawthorne Mill Property

Table 3 -- Soil/Waste Characterization Sample Results

Constituent	Sample ID						
	G53076 Drum Refuse 12/28/06	G53123 Refuse Area 1/5/07	G53124 Transformer Area 1/5/07	G53192 Transformer Area 1/25/07	G53278 Waste Water Pipeline 1 - 7 3/2/07	G53300 Tranformer Area - 6 3/8/07	G53317 Addendum Pipe #11 3/14/07
Polychlorinated Biphenyls	0.063	NA	8.5	NA	ND	NA	0.021
Vinyl Chloride	ND	ND	NA	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	NA	ND	ND	ND	ND
2-Butanone	ND	ND	NA	0.017 J	ND J	ND J	ND
Chloroform	ND	ND	NA	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	NA	ND	ND	ND	ND
Benzene	ND	ND	NA	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	NA	ND	ND	ND	ND
Trichloroethene	ND	ND	NA	ND	ND	ND	ND
Tetrachloroethene	ND	ND	NA	ND	0.002 J	ND	ND
Chlorobenzene	ND	ND	NA	ND	ND	ND	ND
Pyridine	ND	ND	NA	ND	NA	NA	NA
1,4-Dichlorobenzene	ND	ND	NA	ND	NA	NA	NA
2-Methylphenol	ND	ND	NA	ND	NA	NA	NA
4-Methylphenol	ND	ND	NA	ND	NA	NA	NA
Hexachloroethane	ND	ND	NA	ND	NA	NA	NA
Nitrobenzene	ND	ND	NA	ND	NA	NA	NA
Hexachlorobutadiene	ND	ND	NA	ND	NA	NA	NA
2,4,6-Trichlorophenol	ND	ND	NA	ND	NA	NA	NA
2,4,5-Trichlorophenol	ND	ND	NA	ND	NA	NA	NA
2,4-Dinitrotoluene	ND	ND	NA	ND	NA	NA	NA
Hexachlorobenzene	ND	ND	NA	ND	NA	NA	NA
Pentachlorophenol	ND	ND	NA	ND	NA	NA	NA
Arsenic	0.008 B	ND	NA	ND	0.012	ND	0.024
Barium	1.990	1	NA	0.343	0.064	0.661	0.215 J
Cadmium	0.014 J	0.011	NA	0.027	0.0002 B	ND	0.007
Chromium	0.060	0.006	NA	ND	0.009	ND	0.007
Lead	0.093	0.039	NA	3.530	0.004	ND	0.007
Mercury	ND	ND	NA	ND	ND	ND	ND
Selenium	ND	ND	NA	ND	ND	ND	ND
Silver	ND	ND	NA	ND	ND	ND	ND
Ignitability (°F)	>200	>200	NA	>200	NA	NA	NA
Corrosivity (pH)	8.1	7.5	NA	6.6	NA	NA	NA
Reactivity	ND ¹	ND ¹	NA	ND ¹	NA	NA	NA
Total Suspended Solids	NA	NA	NA	NA	NA	NA	NA

Notes:

Concentrations are in parts per million (ppm) unless otherwise noted.

¹The characteristic of reactivity is determined by measuring the release of cyanide or sulfide from the waste, both of which were not detected in the sample.

ND = Analyte was not detected.

NA = Compound was not analyzed for.

B = The reported value was obtained from a reading less than the contract-required detection limit, but greater than or equal to the instrument detection limit.

J = The compound was positively identified; however, the associated numerical value is an estimated concentration only.

Georgia-Pacific Corporation
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Time Critical Removal Action Final Report for the Refuse Area at the Georgia-Pacific Corporation
Kalamazoo Mill Property and the Oxbow Area at the Former Hawthorne Mill Property

Table 4 -- Verification Soil Sample Results

Sample ID	Sample Location	Sample Date	PCB Concentration (mg/Kg)
G53021	Oxbow 142	12/12/06	ND
G53022	Oxbow 104	12/12/06	ND
G53023	Oxbow 105	12/12/06	ND
G53024	Oxbow 83	12/12/06	ND
G53025	Oxbow 84	12/12/06	ND
G53026	Oxbow 86	12/12/06	ND
G53027	Oxbow 68	12/12/06	ND
G53028	Oxbow 47	12/12/06	ND
G53029	Oxbow 47 DUP	12/12/06	ND
G53047	Oxbow 44	12/20/06	ND
G53048	Oxbow 12	12/20/06	ND
G53049	Oxbow 10	12/20/06	ND
G53050	Oxbow 26	12/20/06	ND
G53051	Oxbow 59	12/20/06	ND
G53052	Oxbow 8	12/20/06	ND
G53053	Oxbow 6	12/20/06	ND
G53054	Oxbow 22	12/20/06	ND
G53055	Oxbow 21	12/20/06	ND
G53056	Oxbow 21 DUP	12/20/06	ND
G53057	Oxbow 37	12/20/06	ND
G53058	Oxbow 35 MS/MSD	12/20/06	ND
G53059	Oxbow 54	12/20/06	ND
G53060	Oxbow 52	12/20/06	ND
G53061	Oxbow 18	12/20/06	ND
G53062	Oxbow 17	12/20/06	ND
G53063	Oxbow 1	12/20/06	ND
G53064	Oxbow 2	12/20/06	ND
G53065	Oxbow 2 DUP	12/20/06	ND
G53066	Oxbow 3	12/20/06	ND
G53069	Oxbow 45	12/21/06	ND
G53070	Oxbow 156	12/21/06	ND
G53071	Oxbow 173	12/21/06	ND
G53131	Oxbow 95	1/9/07	0.143
G53132	Oxbow 95 DUP	1/9/07	0.179
G53133	Oxbow 94	1/9/07	ND
G53134	Oxbow 75 MS/MSD	1/9/07	ND
G53135	Oxbow 96	1/9/07	ND
G53136	Oxbow 98	1/9/07	ND
G53137	Oxbow 157	1/9/07	ND
G53138	Oxbow 158	1/9/07	ND
G53142	Oxbow 144	1/10/07	ND
G53143	Oxbow 89	1/10/07	ND
G53144	Oxbow 162	1/10/07	0.243
G53175	Refuse 39	1/23/07	ND
G53176	Refuse 33	1/23/07	ND

Georgia-Pacific Corporation
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Time Critical Removal Action Final Report for the Refuse Area at the Georgia-Pacific Corporation
Kalamazoo Mill Property and the Oxbow Area at the Former Hawthorne Mill Property

Table 4 -- Verification Soil Sample Results

Sample ID	Sample Location	Sample Date	PCB Concentration (mg/Kg)
G53177	Refuse 33 DUP	1/23/07	ND
G53178	Refuse 27	1/23/07	ND
G53179	Refuse 20	1/23/07	0.028
G53195	Oxbow 133	1/26/07	ND
G53209	Refuse 12 MS/MSD	2/6/07	0.129
G53210	Refuse 2	2/6/07	ND
G53211	Refuse SW 53	2/6/07	ND
G53212	Refuse SW 60 DUP	2/6/07	ND J
G53213	Refuse SW 60	2/6/07	1.52 J
G53214	Refuse Discrete Verification Sample	2/7/07	ND
G53215	Oxbow Discrete Verification Sample	2/7/07	ND
G53216	Oxbow 185	2/7/07	ND
G53217	Oxbow 185 DUP	2/7/07	ND
G53218	Oxbow 186	2/7/07	ND
G53221	Refuse SW 51	2/8/07	ND
G53222	Oxbow 160	2/8/07	ND
G53226	Refuse 5	2/13/07	0.254
G53227	Refuse 17	2/13/07	0.034
G53243	Oxbow 118	2/21/07	0.500
G53244	Oxbow 117	2/21/07	0.630
G53245	Oxbow 136 MS/MSD	2/21/07	0.680
G53246	Oxbow 154	2/21/07	0.810 J
G53247	Refuse Discrete Verification Sample	2/21/07	2.7
G53250	Oxbow 192	2/24/07	ND
G53253	Oxbow 190	2/26/07	ND
G53256	Refuse 34 MS/MSD DUP	2/28/07	ND
G53257	Refuse 34 MS/MSD DUP	2/28/07	ND
G53258	Refuse 30 MS/MSD	2/28/07	ND
G53259	Refuse 29	2/28/07	ND
G53271	Waste Water Pipeline 1-1	3/2/07	ND
G53272	Waste Water Pipeline 1-5	3/2/07	ND
G53273	Waste Water Pipeline 1-7	3/2/07	ND
G53274	Waste Water Pipeline 1-9	3/2/07	ND
G53275	Waste Water Pipeline 1-11	3/2/07	ND
G53276	Waste Water Pipeline 1-13	3/5/07	ND
G53277	Waste Water Pipeline 1-15	3/5/07	ND
G53278	Waste Water Pipeline 1-27	3/6/07	ND
G53279	Waste Water Pipeline 1-28	3/6/07	ND
G53307	Waste Water Pipeline Dup 7	3/6/07	ND
G53296	Transformer – 1	3/8/07	0.023
G53297	Transformer – 2	3/8/07	ND
G53298	Transformer – 3	3/8/07	0.059

Georgia-Pacific Corporation
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Time Critical Removal Action Final Report for the Refuse Area at the Georgia-Pacific Corporation
Kalamazoo Mill Property and the Oxbow Area at the Former Hawthorne Mill Property

Table 4 -- Verification Soil Sample Results

Sample ID	Sample Location	Sample Date	PCB Concentration (mg/Kg)
G53299	Transformer – 4	3/8/07	0.192 J
G53300	Transformer – 5	3/8/07	0.470 JN
G53301	Transformer – 6	3/8/07	ND
G53302	Transformer – 7	3/8/07	3.22 J
G53303	Transformer – 8	3/8/07	0.268
G53304	Transformer – 9	3/8/07	0.480 JN
G53305	Transformer – 11	3/8/07	0.030
G53306	Transformer – Dup 7	3/8/07	2.17
G53315	Addendum Pipe #2	3/10/07	ND
G53316	Addendum Pipe #7	3/10/07	ND
G53317	Addendum Pipe #11	3/14/07	ND
G53318	Addendum Pipe #14	3/13/07	ND
G53319	Addendum Pipe #20	3/13/07	ND
G53320	Addendum Pipe #23	3/14/07	ND
G53321	Addendum Pipe #27	3/14/07	ND
G53322	Addendum Pipe #31	3/14/07	0.021
G53323	Addendum Pipe #35	3/15/07	0.194
G53324	Addendum Pipe #38	3/15/07	ND
G53325	Addendum Pipe – Dup #7	3/10/07	ND

Notes:

ND = Analyte was not detected.

J = The compound was positively identified; however, the associated numerical value is an estimated concentration only.

JN = The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.

Georgia-Pacific Corporation
 Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
 Time Critical Removal Action Final Report for the Refuse Area at the Georgia-Pacific Corporation Kalamazoo Mill Property
 and the Oxbow Area at the Former Hawthorne Mill Property

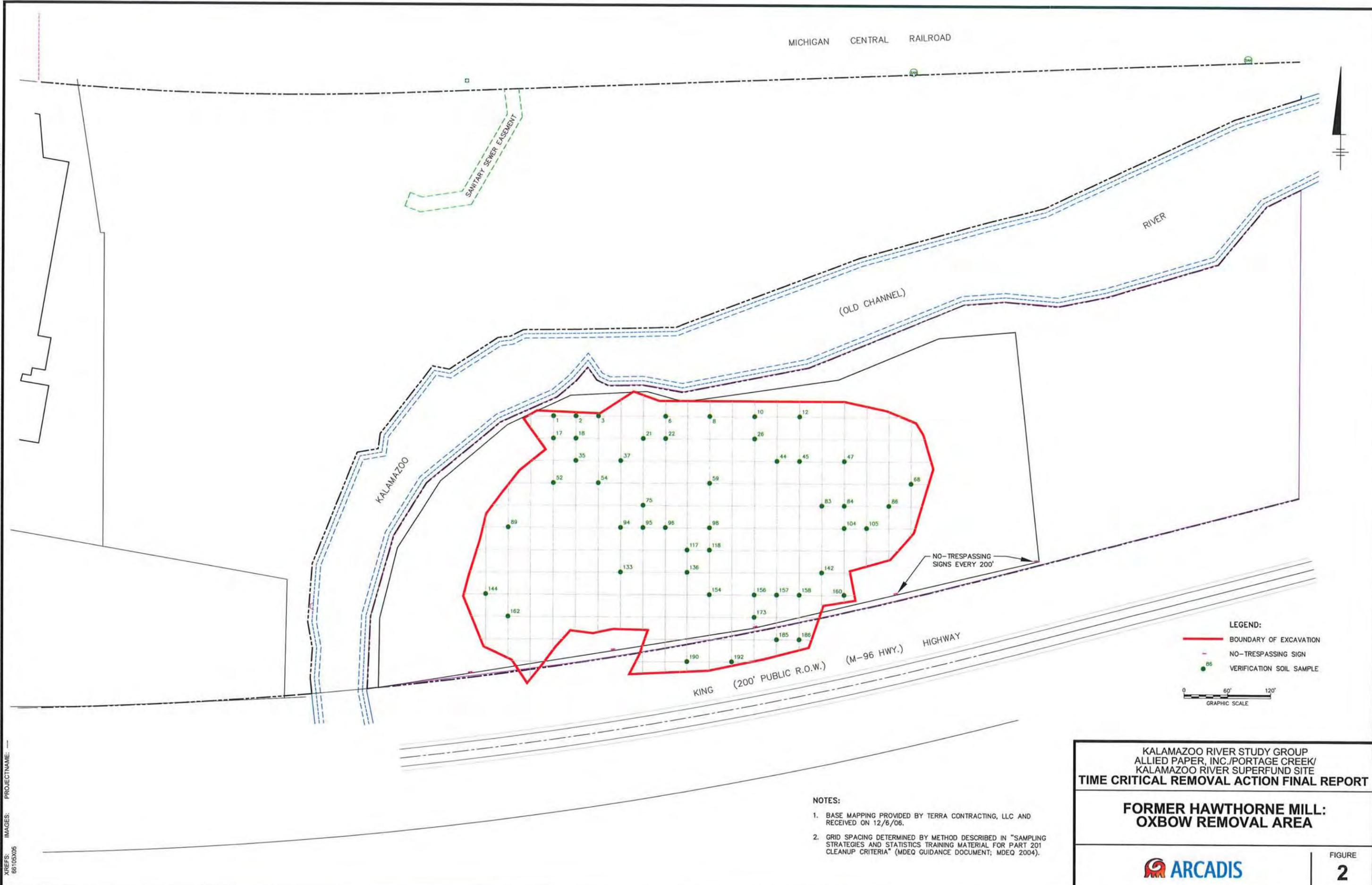
Table 6 -- Turbidity Monitoring Sample Results

Constituent	Sample ID									
	G53165 River Upstream 1/19/07	G53166 River Downstream 1/19/07	G53173 River Upstream 1/23/07	G53174 River Downstream 1/23/07	G53183 River Upstream 1/24/07	G53185 River Downstream 1/24/07	G53189 River Upstream 1/25/07	G53190 River Downstream 1/25/07	G53193 River Upstream 1/26/07	G53194 River Downstream 1/26/07
Polychlorinated Biphenyls	ND (<0.048)	ND (<0.051)	ND (<0.051)	ND (<0.051)	ND (<0.050)	ND (<0.051)	ND (<0.052)	ND (<0.052)	ND (<0.048)	ND (<0.049)

Notes:

Concentrations are in parts per million (ppm) unless otherwise noted.
 ND = Analyte was not detected.

CITY: SYR DIV/GROUP: 85 DB: LAF LD: AM: PD: TM: TR: L:\RCON\OFF\REF
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 XREFS: IMAGES: PROJECTNAME: 66105X05



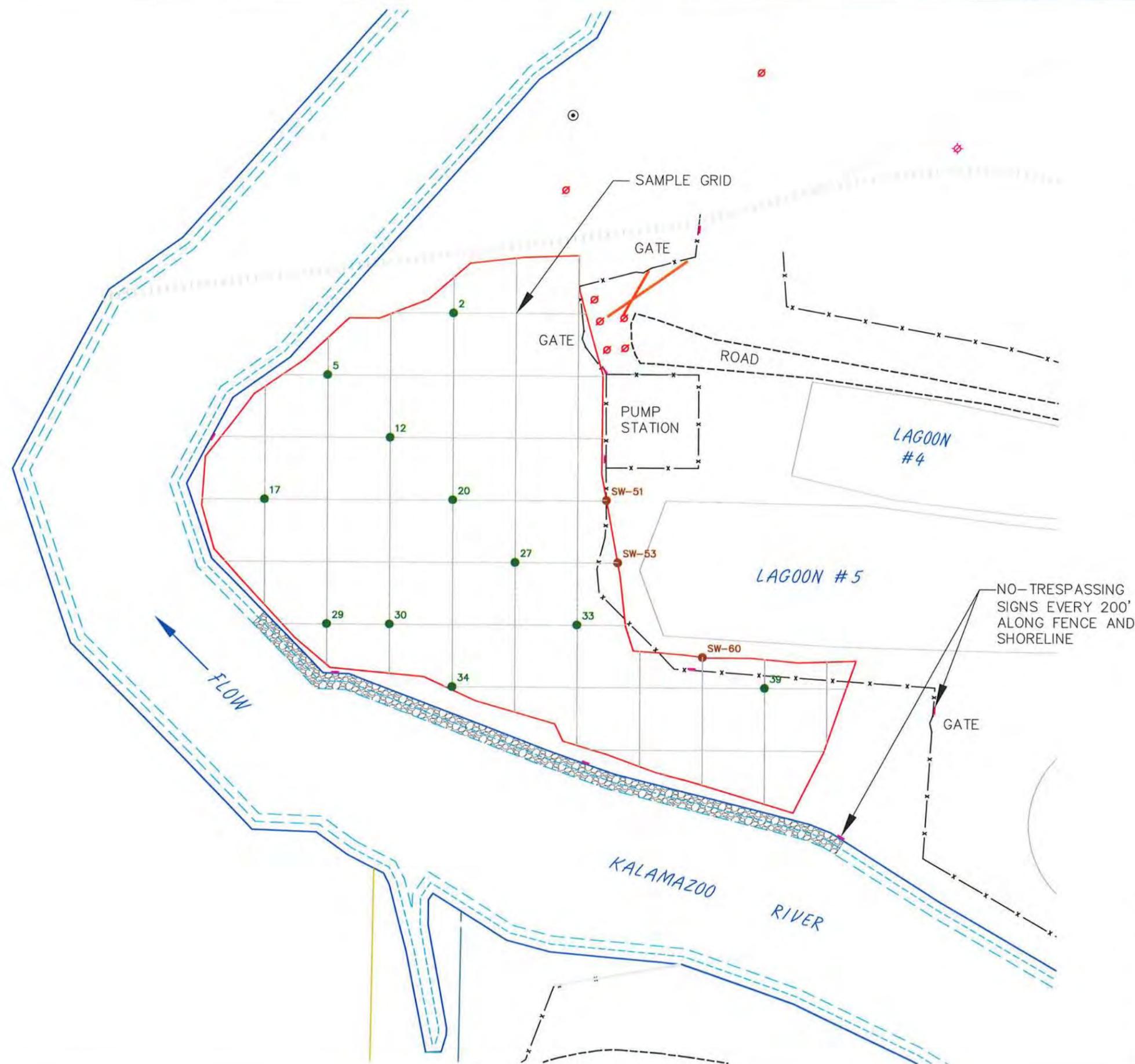
- NOTES:**
1. BASE MAPPING PROVIDED BY TERRA CONTRACTING, LLC AND RECEIVED ON 12/6/06.
 2. GRID SPACING DETERMINED BY METHOD DESCRIBED IN "SAMPLING STRATEGIES AND STATISTICS TRAINING MATERIAL FOR PART 201 CLEANUP CRITERIA" (MDEQ GUIDANCE DOCUMENT; MDEQ 2004).

KALAMAZOO RIVER STUDY GROUP
 ALLIED PAPER, INC./PORTAGE CREEK/
 KALAMAZOO RIVER SUPERFUND SITE
TIME CRITICAL REMOVAL ACTION FINAL REPORT

**FORMER HAWTHORNE MILL:
 OXBOW REMOVAL AREA**



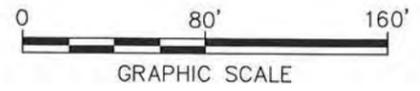
CITY: SVR DIV: GROUP: 86 DB: LAF LD: AM: PD: TM: TR: LYRON+OFF+REF+
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 XREFS: 66105X04 66105X00



- LEGEND:**
- POWER LINE POLES
 - FENCE
 - NO-TRESPASSING SIGN
 - RIP-RAP
 - BOUNDARY OF EXCAVATION
 - STREET LIGHT
 - VERIFICATION SOIL SAMPLE LOCATION
 - SIDEWALL VERIFICATION SOIL SAMPLE LOCATION

- NOTES:**
1. BASE MAPPING PROVIDED BY TERRA CONTRACTING, LLC AND RECEIVED ON 5/18/07.
 2. GRID SPACING DETERMINED BY METHOD DESCRIBED IN "SAMPLING STRATEGIES AND STATISTICS TRAINING MATERIAL FOR PART 201 CLEANUP CRITERIA" (MDEQ GUIDANCE DOCUMENT; MDEQ 2004)

NO-TRESPASSING SIGNS EVERY 200' ALONG FENCE AND SHORELINE



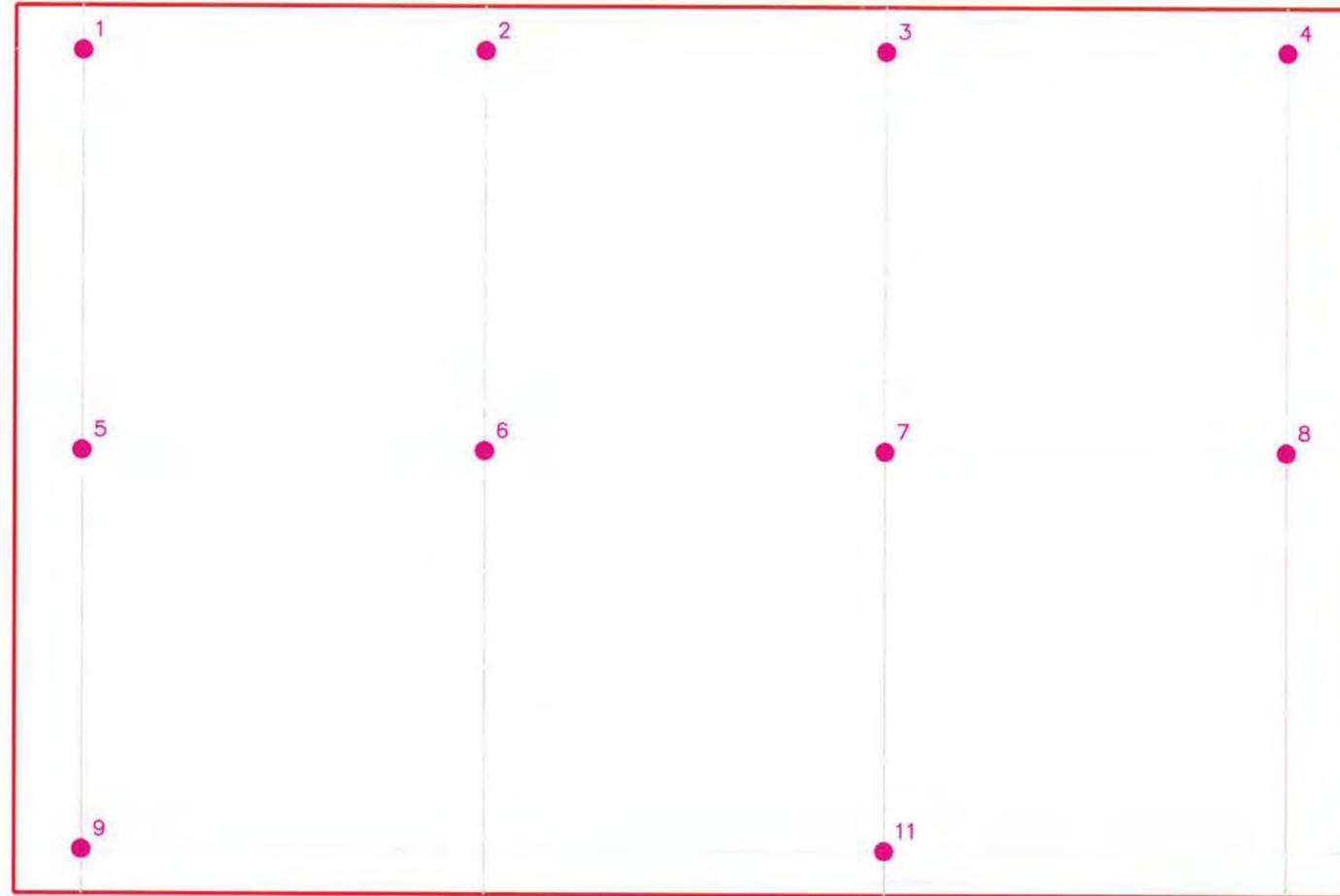
KALAMAZOO RIVER STUDY GROUP
 ALLIED PAPER, INC./PORTAGE CREEK/
 KALAMAZOO RIVER SUPERFUND SITE
TIME CRITICAL REMOVAL ACTION FINAL REPORT

**KALAMAZOO MILL: REFUSE
 REMOVAL AREA**

ARCADIS

FIGURE
3

CITY: SYR DIV/GRUP: 85 DB-LAF LD: AM PD: TM TR: LVR ON=OFF=REF
G:\CAD\ACT1000661050000002\DWG\FINAL\8610503.DWG LAYOUT: 4 SAVED: 4/17/2008 3:51 PM ACADVER: 17.05 (LMS TECH) PAGES: 17 PAGESETUP: C-LB-NYP29 PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 4/23/2008 4:10 PM BY: DECLERCO, BRIAN
XREFS: IMAGES: PROJECTNAME: 86105X00

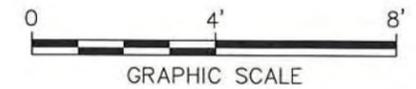


NOTE:

1. GRID SPACING DETERMINED BY METHOD DESCRIBED IN "SAMPLING STRATEGIES AND STATISTICS TRAINING MATERIAL FOR PART 201 CLEANUP CRITERIA" (MDEQ GUIDANCE DOCUMENT; MDEQ 2004).

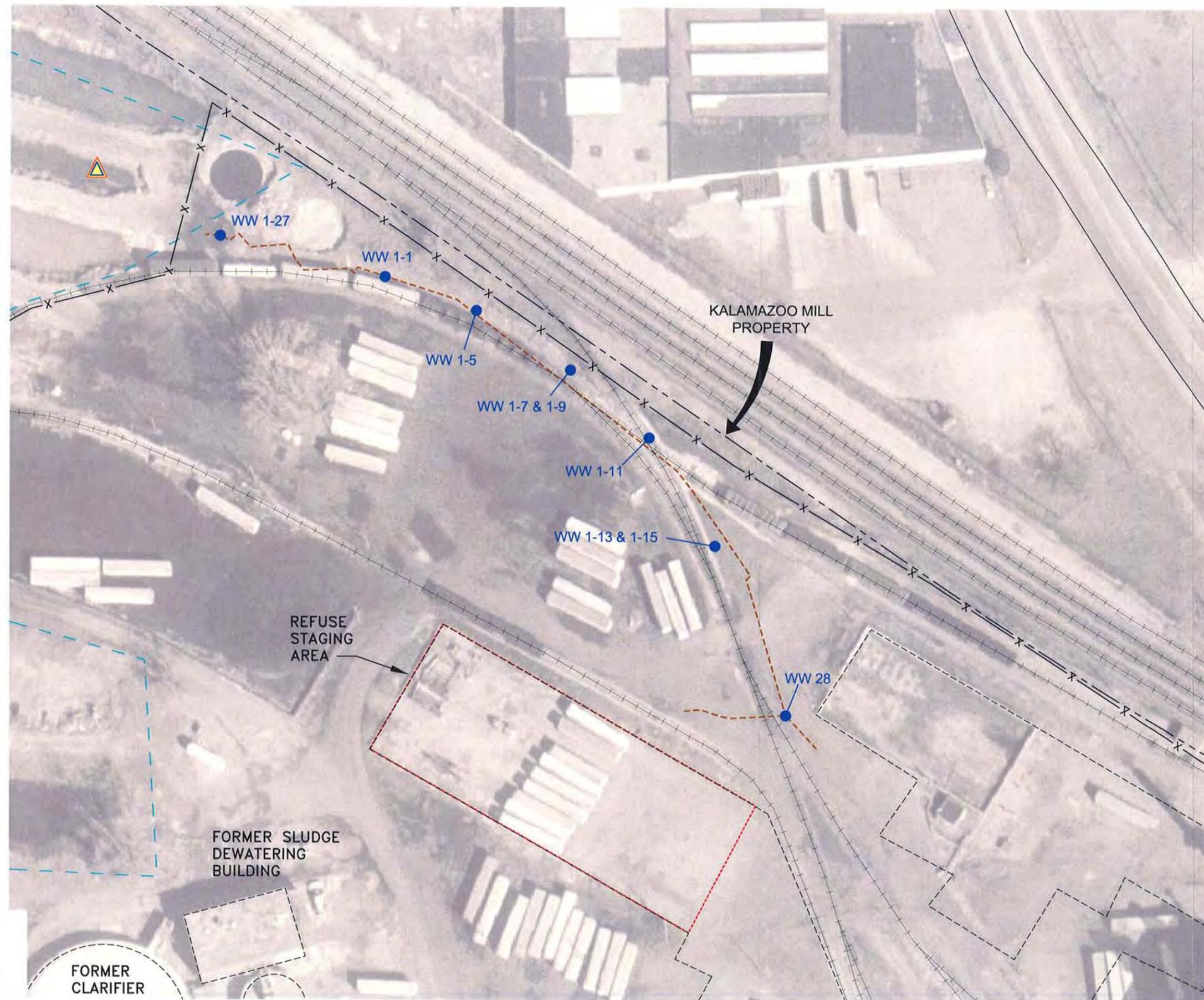
LEGEND:

- 8 VERIFICATION SOIL SAMPLE LOCATION



KALAMAZOO RIVER STUDY GROUP ALLIED PAPER, INC./PORTAGE CREEK/ KALAMAZOO RIVER SUPERFUND SITE TIME CRITICAL REMOVAL ACTION FINAL REPORT	
KALAMAZOO MILL: TRANSFORMER PAD REMOVAL AREA	
	FIGURE 4

CITY: SYRACUSE DIV/GROUP: 85 DB: LAF ID: AM: PD: TM: TR: LYR/ON+OFF+REF*
 G:\CAD\ACT18006610500000002\DWG\FINAL\86105X01.DWG LAYOUT: 5 SAVED: 4/17/2008 3:50 PM ACADVER: 17.05 (LMS TECH) PAGES: 17 PAGESETUP: C:\B-NP29 PLOTSTYLETABLE: PLT\FULL.CTB PLOTTED: 4/23/2008 4:10 PM BY: DECLERCO, BRIAN
 XREFS: 86105X01 86105X01.TIF PROJECTNAME: 86105X00

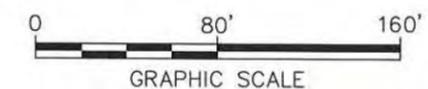


LEGEND:

- APPROXIMATE REFUSE STAGING AREA
- APPROXIMATE BOUNDARY OF KALAMAZOO MILL AND HAWTHORNE MILL PROPERTIES
- APPROXIMATE FORMER MILL LAGOON PROPERTY BOUNDARY
- APPROX. LOCATION OF EXISTING FENCE
- APPROXIMATE LOCATION OF WASTEWATER PIPE
- AMBIENT AIR MONITORING LOCATION AND PCB ACTION LEVEL OF 0.2 ug/m3
- APPROXIMATE WASTEWATER PIPE VERIFICATION SOIL SAMPLE LOCATION

NOTES:

1. PLANIMETRIC MAPPING, INCLUDING PROPERTY BOUNDARIES, IS APPROXIMATE.
2. AERIAL IMAGE DERIVED FROM ORTHOPHOTOGRAPHIC DATA BY AIR LAND SURVEYS, INC., FLOWN 4/24/99.

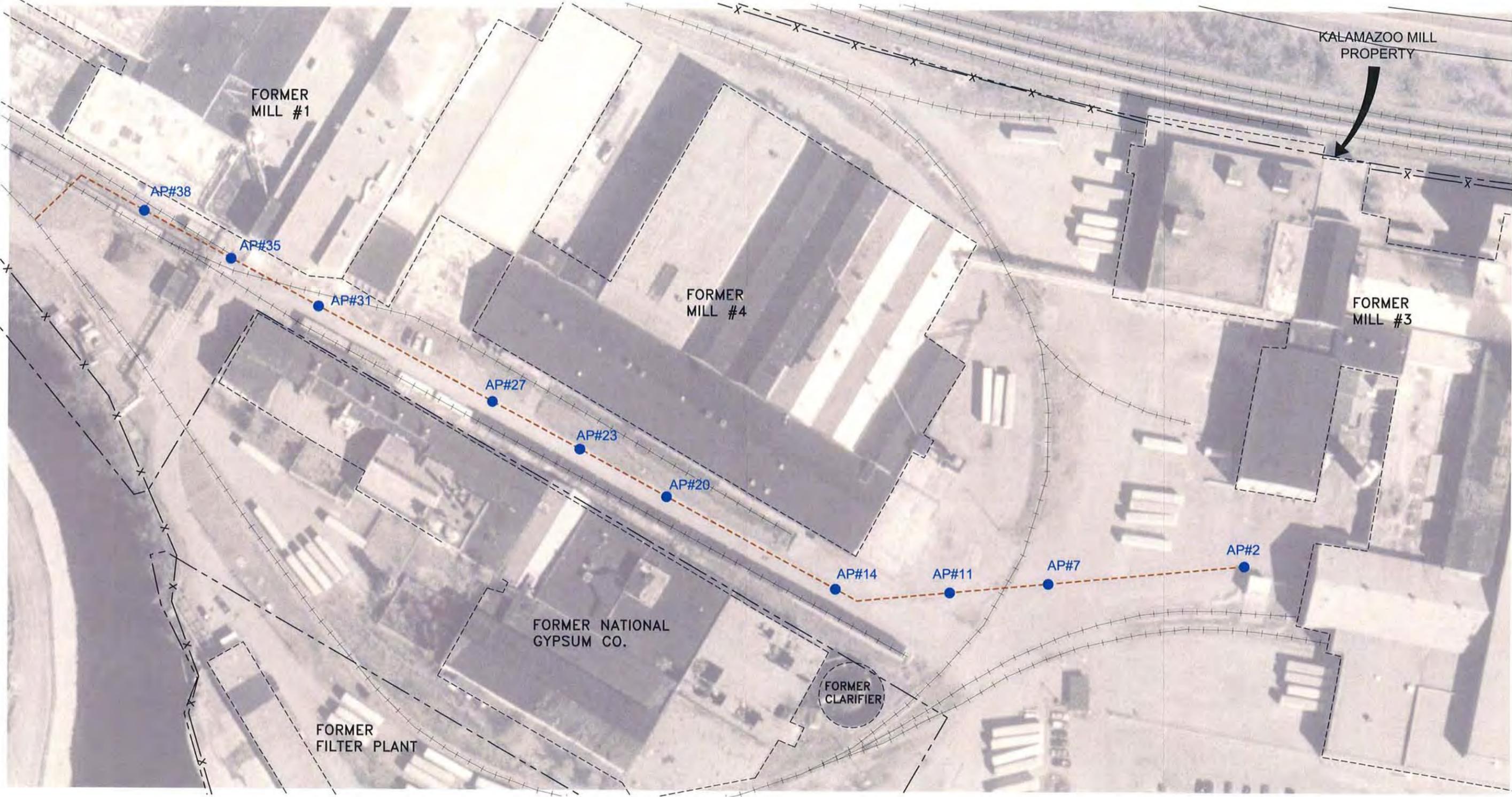


KALAMAZOO RIVER STUDY GROUP
 ALLIED PAPER, INC./PORTAGE CREEK/
 KALAMAZOO RIVER SUPERFUND SITE
TIME CRITICAL REMOVAL ACTION FINAL REPORT

**KALAMAZOO MILL: WASTEWATER PIPE
 SOIL SAMPLE LOCATIONS**



CITY: SYRACUSE DIV/GRUP: 85 DB: LAF LD: AM: PD: TM: TR: LYRONA-OFF-REF
 G:\CADACT\B086105100000002\DWG\FINAL\66105X01.DWG LAYOUT: 6 SAVED: 4/17/2008 3:51 PM ACADVER: 17.05 (LMS TECH) PAGESETUP: C-LS-NYP29 PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 4/23/2008 4:11 PM BY: DECLERCO, BRIAN
 XREFS: 66105X01 66105X01.TF PROJECTNAME: 66105X00

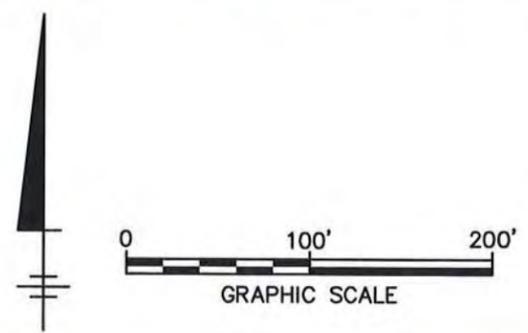


LEGEND:

-  APPROXIMATE BOUNDARY OF KALAMAZOO MILL AND HAWTHORNE MILL PROPERTIES
-  APPROX. LOCATION OF EXISTING FENCE
-  APPROXIMATE LOCATION OF WASTEWATER PIPE
-  APPROXIMATE ADDENDUM PIPE VERIFICATION SOIL SAMPLE LOCATION

NOTES:

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**KALAMAZOO MILL: ADDENDUM PIPE
 SOIL SAMPLE LOCATIONS**

 **ARCADIS**

FIGURE
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