REPORT

DRAFT FOR STATE AND FEDERAL REVIEW

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

Remedial Investigation Report - Phase I

Volume 2 of 2

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Allied Paper, Inc./Portage Creek/
Kalamazoo River Superfund Site
Kalamazoo and Allegan Counties,
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October 2000

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Assessment of the Applicability of Year 2000 Fish Consumption Advisories in the Kalamazoo River

Appendix A: Assessment of the Applicability of Year 2000 Fish Consumption Advisories in the Kalamazoo River

The Michigan Department of Community Health (MDCH) provides annual consumption recommendations for people consuming fish from Michigan waters. Advisories are based on data collected as part of the Michigan Contaminant Monitoring Program, and are typically issued for mercury and polychlorinated biphenyls (PCB). MDCH has issued PCB-based advisories for the Kalamazoo River for the year 2000 (MDCH, 2000).

Blasland, Bouck & Lee, Inc. (BBL), on behalf of the Kalamazoo River Study Group (KRSG), collected fish from the Kalamazoo River as part of Remedial Investigation (RI) activities in 1993, and most recently in 1997 and 1999 during biennial trend monitoring studies. The purpose of this report is to apply the MDCH methods for deriving fish consumption advisories to the 1993 and 1997 trend-monitoring fish PCB data sets. At the request of the MDEQ, 1999 data are not included in this evaluation, they are included in the *Supplement to the Kalamazoo River RI/FS* (BBL, 2000). The following sections describe the MDCH approach for deriving fish consumption advisories for both the general population and the sensitive population (women of child-bearing years and children), and the application of the MDCH guidelines to the 1993 and 1997 fish PCB data. Results outlined in Table 3 suggest that advisories derived using the 1993 and 1997 fish PCB data are generally less restrictive, or the same, as those currently listed by MDCH.

Summary of the MDCH Approach

General Population

In the past, MDCH has issued advisories based on the U.S. Food and Drug Administration's (USFDA's) tolerance level of 2 parts per million (ppm) for PCB in edible fish tissue. In 1987, MDCH adopted an advisory protocol for both the general and sensitive populations based on the percentage of fish exceeding 2 ppm. Specifically, there would be no restrictions on consumption when 10% or less of the fish sampled from a defined geographical area exceeded 2 ppm. When 11 to 49% of the fish exceeded 2 ppm, the general population would be advised to consume no more than one meal per week, and the sensitive population would be advised not to consume fish. When greater than 50% of the fish sampled exceeded 2 ppm, no consumption would be recommended for either group.

The above approach (based on the percentage of fish greater than 2 ppm) is currently used by the MDCH to issue consumption advisories only for the general population, and will be applied here to derive advisories for the general population based on the combined 1993 and 1997 data set.

Sensitive Population

Beginning in 1998, based on the procedures described in the 1999 draft *Protocol for a Uniform Great Lakes Sport Fish Consumption Advisory* (Great Lakes Protocol) (Great Lakes States Fish Advisory Task Force [GLSFATF], 1993), the MDCH issued separate advisories for a sensitive population – women of child-bearing age and children. Consumption advisories for this sensitive population are based upon a PCB health protective value (HPV) of 0.05 micrograms per kilogram per day (µg/kg/day) described in the Great Lakes Protocol. The HPV was used to develop five fish consumption advisory categories used by the MDCH for the sensitive population:

Advisory Grouping	Fish Tissue PCB Concentration Range
Unlimited Consumption	0.0 - 0.05 ppm
One meal/week	0.06 - 0.2 ppm
One meal/month	0.21 - 1.0 ppm
Six meals/year	1.1 - 1.9 ppm
No consumption	> 1.9 ppm

Methods to place fish into appropriate consumption categories are described in the Great Lakes Protocol (GLSFATF, 1993). First, regression models are used to determine the relationship between fish length and PCB concentration. If there is evidence of a relationship (i.e., r^2 value of at least 0.6), extrapolation of the data to specific size ranges is used to place fish into the appropriate consumption category. A nonlinear regression approach may be used if such an approach better describes the data; however, with a nonlinear approach only data greater than the detection limits should be used to derive a regression equation.

In many instances, there may not be enough evidence of a relationship between fish length and PCB concentration. The guidance states that when an r^2 value of less than 0.6 is obtained, the mean concentration should be calculated, and all fish should be placed into the same consumption category, regardless of size. This method is also used if data points fall above and below detection limits, which is typical of the fish tissue PCB data sets.

The advisories for women and children derived in this appendix using the 1993 and 1997 Kalamazoo River fish data are based upon median PCB concentrations as described in the *Michigan Fish Containment Monitoring 1999 Annual Report* (Michigan Department of Environmental Quality/Surface Water Quality Division [MDEQ/SWQD], 1999). The r^2 value was well below 0.6 in all of the regression analyses performed. Regression plots for river segments defined in the MDCH fish advisory, are illustrated in Figures 1 through 6.

Application of 1993 and 1997 Fish PCB Data to the MDCH Fish Consumption Advisory Protocols

A summary of the 1997 fish collections and associated PCB concentrations are presented in *Draft Addendum 3 to Draft Technical Memorandum 4* (BBL, 1998). Data for the 1993 fish sampling were previously reported in *Draft Technical Memorandum 14* (BBL, 1994). As part of the 1993 RI and 1997 trend monitoring investigations, smallmouth bass and carp were collected from different aquatic biota sampling areas (ABSAs) in the Kalamazoo River (see Figure 2-5 of the RI Report for locations).

The 1993 and 1997 data were combined and applied to the MDCH's methods for deriving fish consumption advisories. The 1993 and 1997 data were combined because MDCH prefers 2 years of data prior to adjusting a consumption advisory (MDEQ/SWQD, 1998). As previously stated, at the request of MDEQ, fish data collected in 1999 are not included in this evaluation, but are included in the *Supplement to the Kalamazoo River RI/FS* (BBL, 2000).

Fish Consumption Advisory Areas (As Defined in the 2000 MDCH Fish Advisory)

The 2000 MDCH fish advisory provides consumption advice for three segments of the Kalamazoo River: from Battle Creek to Morrow Dam, from Morrow Dam to Lake Allegan Dam, and below Lake Allegan Dam. To be spatially consistent with river segments identified in the MDCH advisory, data collected from ABSAs located within each of the MDCH advisory areas were combined. The MDCH advisory areas and associated ABSAs are as follows:

- The Kalamazoo River from Battle Creek to Morrow Dam, which includes ABSA 1 (near Battle Creek) and ABSA 2 (Morrow Lake);

- The Kalamazoo River from Morrow Dam to Lake Allegan Dam, which includes ABSA 3 (upstream of Portage Creek), ABSA 4 (near Mosel Ave), ABSA 5 (upstream of Plainwell Dam), ABSA 6 (Plainwell

Dam to Otsego City Dam), ABSA 7 (upstream of Otsego Dam), ABSA 8 (upstream of Trowbridge Dam), and ABSA 9 (Lake Allegan); and

- The Kalamazoo River below Lake Allegan Dam, includes ABSA 10 (Swan Creek Marsh) and ABSA 11 (Upstream of Kalamazoo Lake).

Summary of Findings

Table 1 summarizes the percentage of fish exceeding 2 ppm PCB, which is used to derive fish consumption advisories for the general population. Table 2 summarizes the median PCB concentrations used to issue consumption advisories for the sensitive population. Tables 1 and 2 tabulate data for each individual ABSA as well as for the combined ASBAs, which are representative of the MDCH fish advisory river segments (shaded areas in Tables 1 and 2). Data for the combined ABSAs are used to derive the combined 1993- and 1997-based advisories. Table 3 compares advisories listed in the 2000 MDCH fish advisory and those derived using the combined 1993 and 1997 fish tissue PCB data set. These results are summarized below.

Kalamazoo River from Battle Creek to Morrow Dam

General Population. The 2000 MDCH fish advisory recommends no consumption of carp from Battle Creek to Morrow Dam. Analysis of the combined 1993 and 1997 data for carp, however, suggests that no advisory (unlimited consumption) should be issued for carp from this river segment. None of the 44 carp collected from this stretch of river had PCB concentrations greater than 2 ppm.

Smallmouth bass collected from Battle Creek to Morrow Dam are not included in the 2000 MDCH fish advisory. As such, it is assumed that MDCH poses no restrictions on consumption. This concurs with the analysis of the combined 1993 and 1997 bass data. The median PCB concentration in smallmouth bass was 0.096 ppm, with none of the 44 fish sampled having concentrations greater than 2 ppm.

Sensitive Population. The 2000 MDCH fish advisory recommends that women and children not eat carp from this segment of the Kalamazoo River. The 1993 and 1997 combined data for this stretch suggest an advisory of one meal per week, based on a median PCB concentration of 0.12 ppm in carp. Similar to the advisories for the general population, smallmouth bass collected from Battle Creek to Morrow Dam are not included in the 2000 MDCH fish

advisory. However, based on the 1993 and 1997 data, which indicate a median PCB concentration of 0.096 ppm, a restriction on consumption of smallmouth bass to one meal per week may be warranted for women and children.

Kalamazoo River from Morrow Dam to Lake Allegan Dam

General Population. The 2000 MDCH fish advisory issued a no consumption advisory to the general population for the consumption of carp. Analysis of the combined 1993 and 1997 data sets concurs with the MDCH-issued no consumption advisory for carp.

The 2000 MDCH fish advisory also recommended no consumption of smallmouth bass (14 inches to 30 inches in length). The combined 1993 and 1997 data sets, however, indicate that only a one-meal per week restriction should be placed on smallmouth bass consumption for this segment of the river. Only 18 of 99 (18%) fish had PCB concentrations greater than 2 ppm.

Sensitive Population. The 2000 MDCH fish advisory recommends that women and children not eat carp or smallmouth bass from this segment of the Kalamazoo River. Application of the 1993 and 1997 combined data is in agreement with the no consumption advisory for carp; however, data indicate that smallmouth bass could be consumed at six meals per year (median PCB concentrations is 1.3 ppm),

Kalamazoo River Below Lake Allegan Dam

General Population. The 2000 MDCH advisory recommends no consumption of carp for this segment of the river. Evaluation of the 1993 and 1997 combined data sets concurs with this advisory for carp.

The 2000 MDCH advisory recommends consumption of one meal per week of smallmouth bass (14 inches to 30 inches in length) from this section of the river. The combined 1993 and 1997 data sets concurs with this advisory for smallmouth bass (7 out of 33 fish, or 21%, had concentrations greater than 2 ppm).

Sensitive Population. For women and children, the MDCH issued a no consumption advisory for carp. Combined carp data for 1993 and 1997 support this advisory for women and children. The 2000 MDCH fish advisory also recommends that women and children not eat smallmouth bass (14 inches to 30 inches) from this segment of the river, but the 1993 and 1997 data suggest that smallmouth bass could be consumed at one meal per month (median PCB concentration of 0.81 ppm).

Conclusions

In summary, results suggest that advisories derived using the combined 1997 and 1999 fish data set (for both the general population and sensitive population) are generally less restrictive or the same as advisories listed in the 2000 MDCH fish advisory. For example, MDCH advisories for smallmouth bass collected from the Kalamazoo River from Morrow Dam to Lake Allegan Dam, and below Lake Allegan Dam, are generally more restrictive than the advisories derived using the combined 1993 and 1997 fish PCB data sets. The 1993- and 1997-based advisories would also allow for consumption of carp from Battle Creek to Morrow Dam, whereas the MDCH currently recommends no consumption of carp for this river segment. The combined 1993- and 1997-based advisories of no consumption of carp from Morrow Dam to Lake Allegan Dam and below Lake Allegan Dam concur with the MDCH advisories for both the general and sensitive populations.

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Tables

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
SUMMARY OF THE PERCENTAGE OF FISH EXCEEDING 2 PPM PCB
FOR GENERAL POPULATION ADVISORIES

Aquatic Biota Sampling Area/MDCH Fish Advisory River Segment	Species	Number of Fish Exceeding 2 ppm		Percentage of Fish Exceeding 2 ppm
		1993	1997	1993 and 1997
ABSA 1 Near Battle Creek	Smallmouth Bass	0 (11)	0 (11)	0 (22)
	Carp	0 (11)	0 (11)	0 (22)
ABSA 2 Morrow Lake	Smallmouth Bass	0 (11)	0 (11)	0 (22)
	Carp	0 (11)	0 (11)	0 (22)
Combined Results for ABSA 1 and ABSA 2 Battle Creek to Morrow Dam	Smallmouth Bass	0 (22)	0 (22)	0 (44)
	Carp	0 (22)	0 (22)	0 (44)
ABSA 3 Upstream of Portage Creek	Smallmouth Bass	1 (11)	---	9 (11)
	Carp	10 (11)	---	91 (11)
ABSA 4 Near Mosel Avenue	Smallmouth Bass	0 (11)	---	0 (11)
	Carp	10 (11)	---	91 (11)
ABSA 5 Upstream of Plainwell Dam	Smallmouth Bass	3 (11)	0 (11)	14 (22)
	Carp	10 (11)	7 (11)	77 (22)
ABSA 6 Plainwell Dam to Otsego City Dam	Smallmouth Bass	1 (11)	---	9 (11)
	Carp	6 (11)	---	55 (11)
ABSA 7 Upstream of Otsego Dam	Smallmouth Bass	0 (11)	---	0 (11)
	Carp	6 (11)	---	55 (11)
ABSA 8 Upstream of Trowbridge Dam	Smallmouth Bass	4 (11)	---	36 (11)
	Carp	10 (11)	---	91 (11)

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
SUMMARY OF THE PERCENTAGE OF FISH EXCEEDING 2 PPM PCB FOR GENERAL POPULATION ADVISORIES

Aquatic Biota Sampling Area/MDCH Fish Advisory River Segment	Species	Number of Fish Exceeding 2 ppm		Percentage of Fish Exceeding 2 ppm
		1993	1997	1993 and 1997
ABSA 9 Lake Allegan	Smallmouth Bass	9 (11)	0 (11)	41 (22)
	Carp	3 (11)	0 (11)	14 (22)
Combined Results ABSA 4-6, 8 and 9 Morrow Dam to Lake Allegan Dam	Smallmouth Bass	18 (77)	0 (22)	18 (99)
	Carp	55 (77)	7 (22)	63 (99)
ASBA 10 Swan Creek Marsh	Smallmouth Bass	5 (11)	---	45 (11)
	Carp	10 (11)	---	91 (11)
ABSA 11 Upstream of Kalamazoo Lake	Smallmouth Bass	0 (11)	2 (11)	9 (22)
	Carp	10 (11)	8 (12)	78 (23)
Combined Results ABSA 11 and 13 Below Lake Allegan Dam	Smallmouth Bass	5 (22)	2 (11)	21 (33)
	Carp	20 (22)	8 (12)	28 (34)

Notes:
--- indicates that data were not collected.
Sample size noted in parentheses.

Advisories for general population listed in Table 3 are based on the following MDCH guidelines:

- Unlimited consumption - 10 percent or less of the fish from each site exceed 2.0 ppm.
- One meal per week - 11 to 49 percent of fish from each site exceed 2.0 ppm.
- Do not eat - greater that 50 percent of the fish from each site exceed 2.0 ppm.

TABLE 2

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

REMEDIAL INVESTIGATION REPORT
SUMMARY OF THE MEDIAN PCB CONCENTRATIONS IN KALAMAZOO RIVER FISH FOR SENSITIVE POPULATION ADVISORIES

Aquatic Biota Sampling Area/MDCH Fish Advisory River Segment	Species	Median Total PCB Concentration (mg/kg)		Median Total PCB Concentration (Combined PCB data)
		1993	1997	1993 and 1997
ABSA 1 Near Battle Creek	Smallmouth Bass	0.11 (11)	0.048 (11)	0.070 (22)
	Carp	0.83 (11)	0.06 (11)	0.067 (22)
ABSA 2 Morrow Lake	Smallmouth Bass	0.24 (11)	0.078 (11)	0.15 (22)
	Carp	0.42 (11)	0.17 (11)	0.32 (22)
Combined Results for ABSA 1 and ABSA 2 (Battle Creek to Morrow Dam)	Smallmouth Bass	0.14 (22)	0.051 (22)	0.096 (44) $r^2 = 0.039$
	Carp	0.14 (22)	0.12 (22)	0.12 (44) $r^2 = 0.2052$
ABSA 3 Upstream of Portage Creek	Smallmouth Bass	0.82 (11)	---	0.82 (11)
	Carp	3.5 (11)	---	3.5 (11)
ABSA 4 Near Mosel Avenue	Smallmouth Bass	0.55 (11)	---	0.55 (11)
	Carp	7.2 (11)	---	7.2 (11)
ABSA 5 Upstream of Plainwell Dam	Smallmouth Bass	1.6 (11)	0.36 (11)	1.04 (22)
	Carp	5.7 (11)	3.4 (11)	4.4 (22)
ABSA 6 Plainwell Dam to Otsego City Dam	Smallmouth Bass	0.74 (11)	---	0.74 (11)
	Carp	3.0 (11)	---	3.0 (11)
ABSA 7 Upstream of Otsego Dam	Smallmouth Bass	1.4 (11)	---	1.4 (11)
	Carp	2.6 (11)	---	2.6 (11)
ABSA 8 Upstream of Trowbridge Dam	Smallmouth Bass	1.6 (11)	---	1.6 (11)
	Carp	4.2 (11)	---	4.2 (11)

TABLE 2

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

REMEDIAL INVESTIGATION REPORT
SUMMARY OF THE MEDIAN PCB CONCENTRATIONS IN KALAMAZOO RIVER FISH FOR SENSITIVE POPULATION ADVISORIES

Aquatic Biota Sampling Area/MDCH Fish Advisory River Segment	Species	Median Total PCB Concentration (mg/kg)		Median Total PCB Concentration (Combined PCB data)
		1993	1997	1993 and 1997
ABSA 9 Lake Allegan	Smallmouth Bass	3.2 (11)	0.35 (11)	1.6 (22)
	Carp	1.08 (11)	0.57 (11)	0.98 (22)
Combined Results for ABSA 4 to 9 (Morrow Dam to Lake Allegan Dam)	Smallmouth Bass	1.4 (77)	0.36 (22)	1.3 (99) r2 = 0.0076
	Carp	3.3 (77)	1.3 (22)	2.8 (99) r2 = 0..3379
ASBA 10 Swan Creek Marsh	Smallmouth Bass	2.0 (11)	---	2.0 (11)
	Carp	6.4 (11)	---	6.4 (11)
ABSA 11 Upstream of Kalamazoo Lake	Smallmouth Bass	0.48 (11)	0.56 (11)	0.55 (22)
	Carp	3.5 (11)	3.2 (12)	3.5 (23)
Combined Results for ABSA 10 and 11 (Below Lake Allegan Dam)	Smallmouth Bass	0.94 (22)	0.56 (11)	0.81 (33) r2 = 0.1083
	Carp	3.7 (33)	3.2 (12)	3.9 (45) r2 = 0.0159

Notes:
--- indicates that data were not collected.
Sample size noted in parentheses.

Because there was no evidence of a relationship between PCB concentration and length, advisories for women and children listed in Table 3 are based on median total PCB concentrations for each of the MDCH advisory regions.

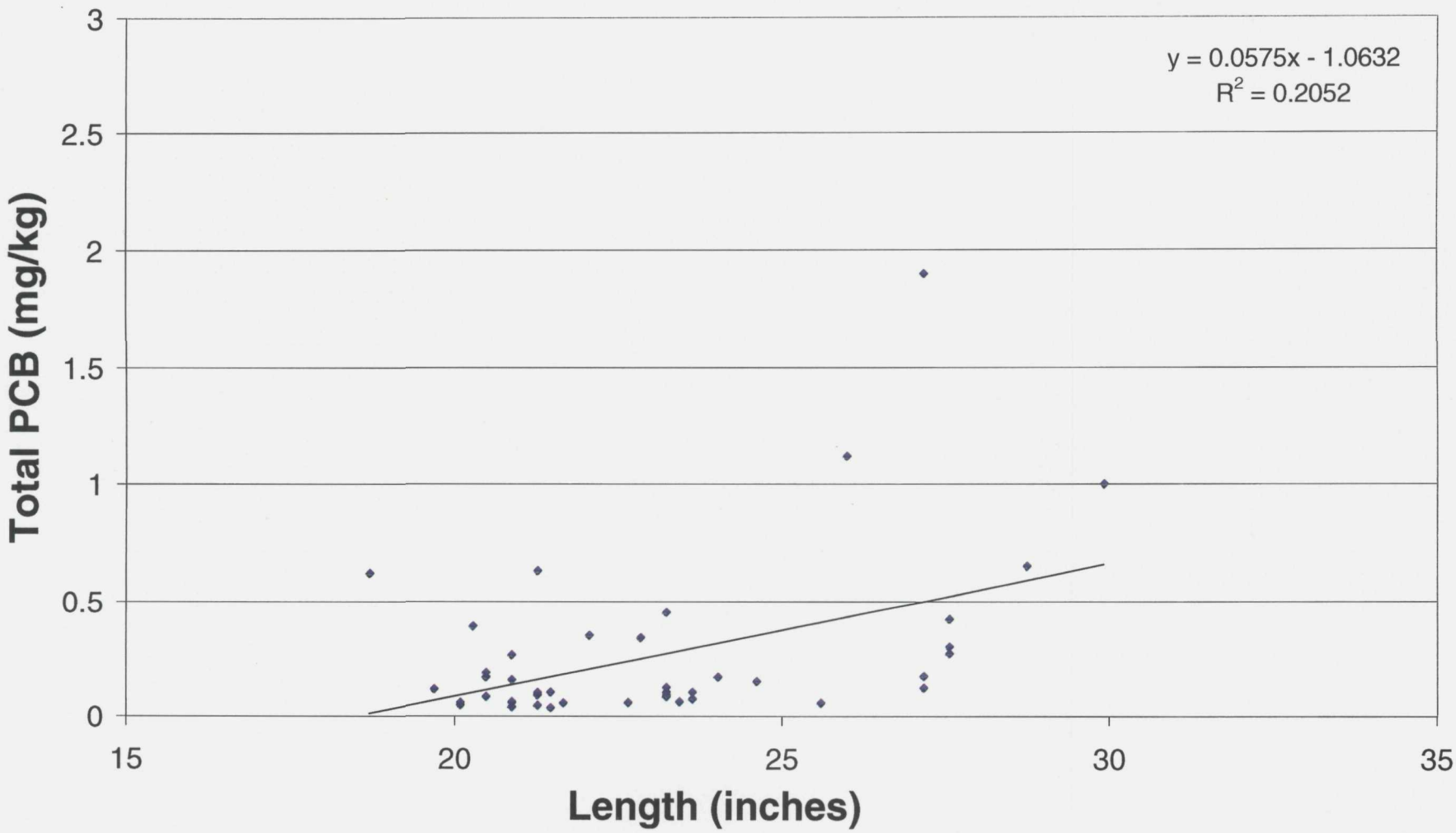
TABLE 3

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

REMEDIAL INVESTIGATION REPORT
SUMMARY OF THE 2000 MDCH FISH CONSUMPTION ADVISORIES FOR THE KALAMAZOO RIVER AND ADVISORIES DERIVED FROM THE COMBINED 1993 AND 1997 BIENNIAL TREND MONITORING FISH PCB DATA

River Reach	Species	2000 MDCH Fish Advisory		Species	Application of 2000 MDCH Fish Advisory to Combined 1993 and 1997 Fish Data	
		General Population	Women and Children		General Population	Women and Children
Kalamazoo River (Battle Creek to Morrow Dam)	Carp	Do not eat (all sizes)	Do not eat (all sizes)	Carp	Unlimited	One meal/week
	Smallmouth Bass	No advisory listed	No advisory listed	Smallmouth Bass	Unlimited	One meal/week
Kalamazoo River (Morrow Dam to Lake Allegan Dam)	Carp	Do not eat (all sizes)	Do not eat (all sizes)	Carp	Do not eat	Do not eat
	Smallmouth Bass	Do not eat (14" to 30")	Do not eat (14" to 30")	Smallmouth Bass	One meal/week	Six meals/year
River Reach	**Species**	**2000 MDCH Fish Advisory**		**Species**	**Application of 2000 MDCH Fish Advisory to Combined 1993 and 1997 Fish Data**	
		General Population	**Women and Children**		**General Population**	**Women and Children**
Kalamazoo River (Below Lake Allegan Dam)	Carp	Do not eat (all sizes)	Do not eat (all sizes)	Carp	Do not eat	Do not eat
	Smallmouth Bass	One meal/week (14" to 30")	Do not eat (14" to 30")	Smallmouth Bass	One meal/week	One meal/month

Figures



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

REMEDIAL INVESTIGATION REPORT

MDCH RIVER SEGMENT
BATTLE CREEK TO MORROW DAM
(CARP - ABSA 1 & ABSA 2)

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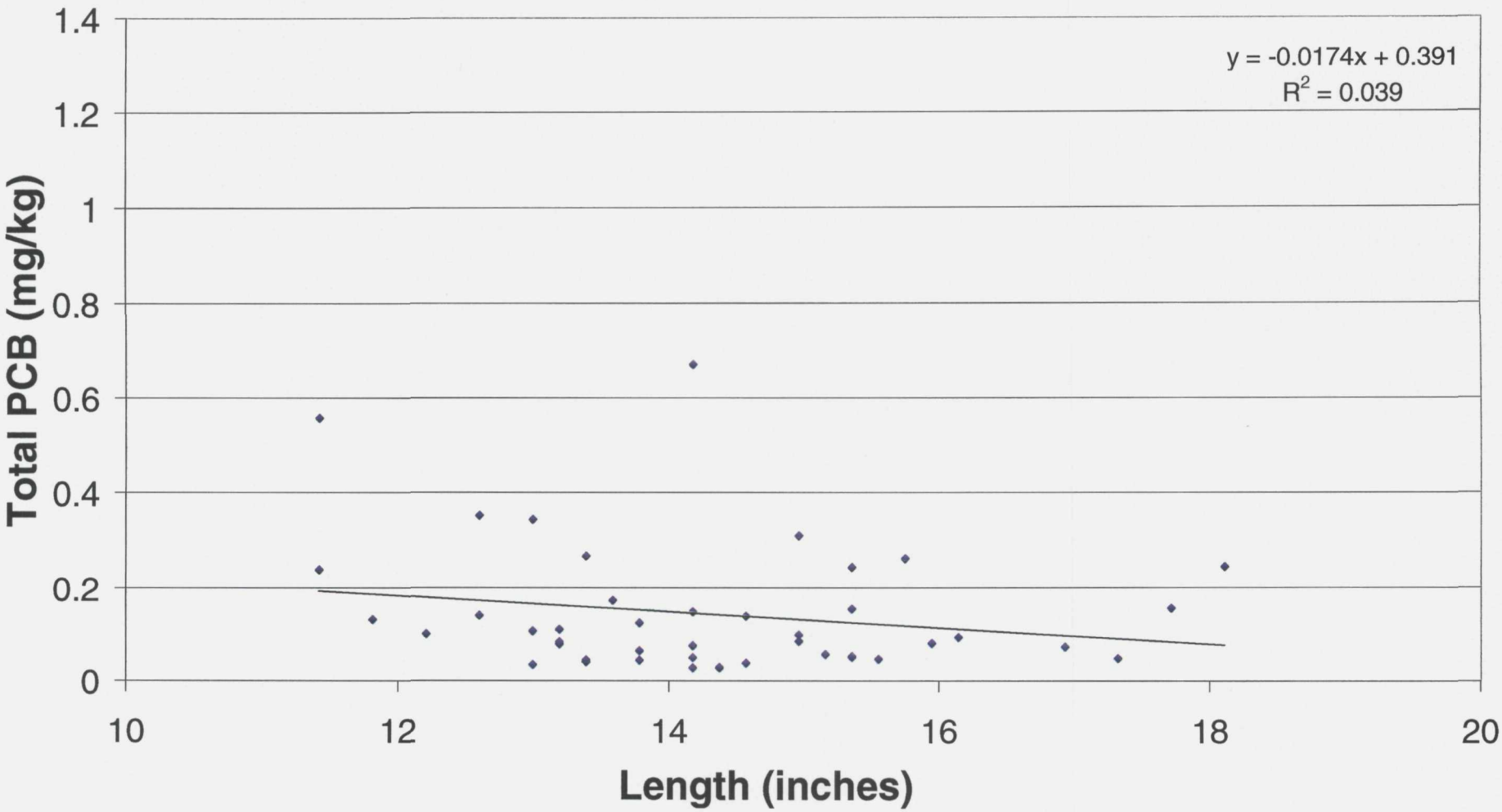
FIGURE 1

MFE_Apx A Figs 1-6_Fig 1



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REMEDIAL INVESTIGATION REPORT

MDCH RIVER SEGMENT
BATTLE CREEK TO MORROW DAM
(SMALLMOUTH BASS - ABSA 1 & ABSA 2)

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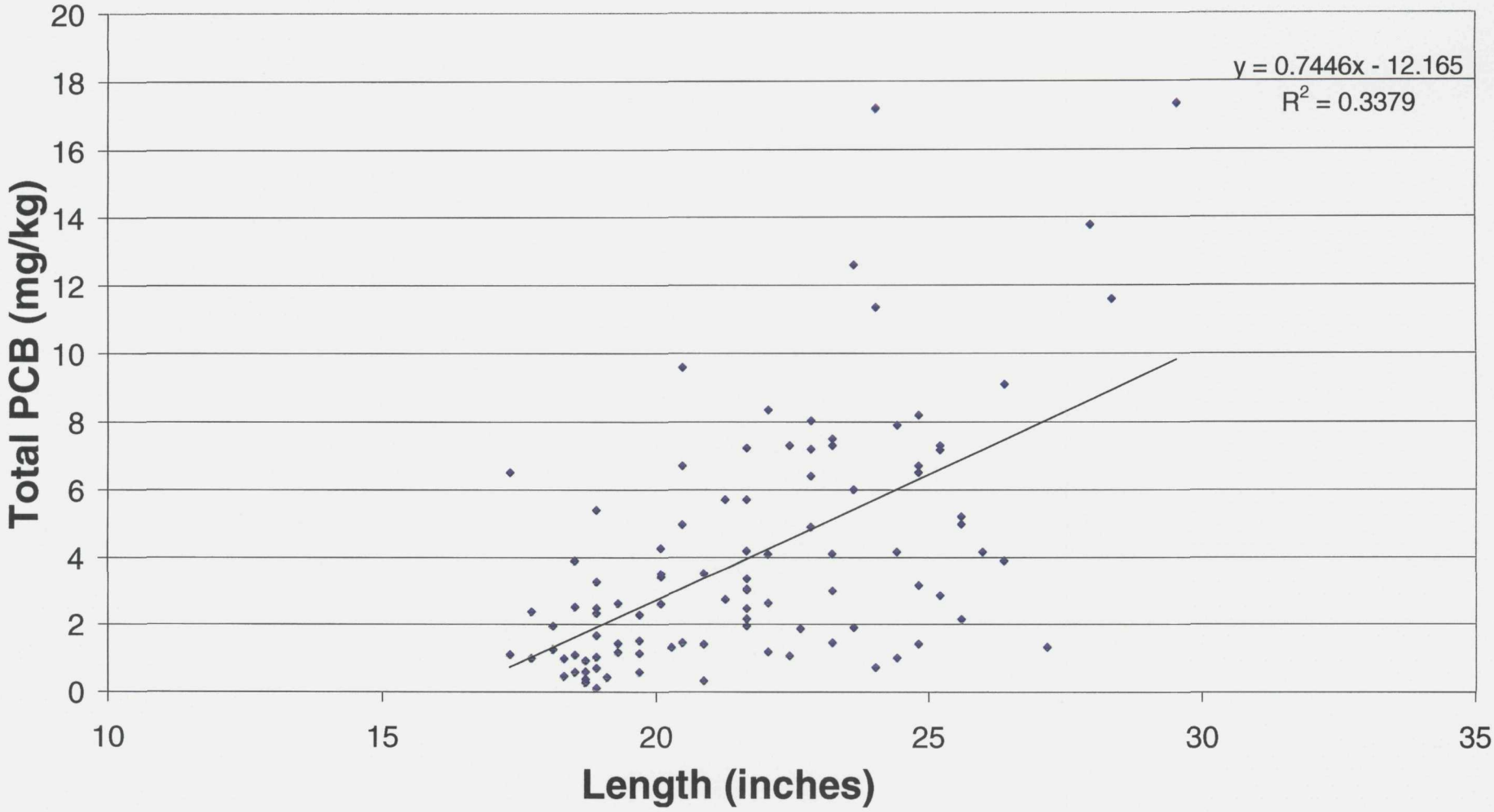
FIGURE 2



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REMEDIAL INVESTIGATION REPORT

MDCH RIVER SEGMENT
MORROW DAM TO LAKE ALLEGAN DAM
(CARP - ABSA 4 TO ABSA 9)

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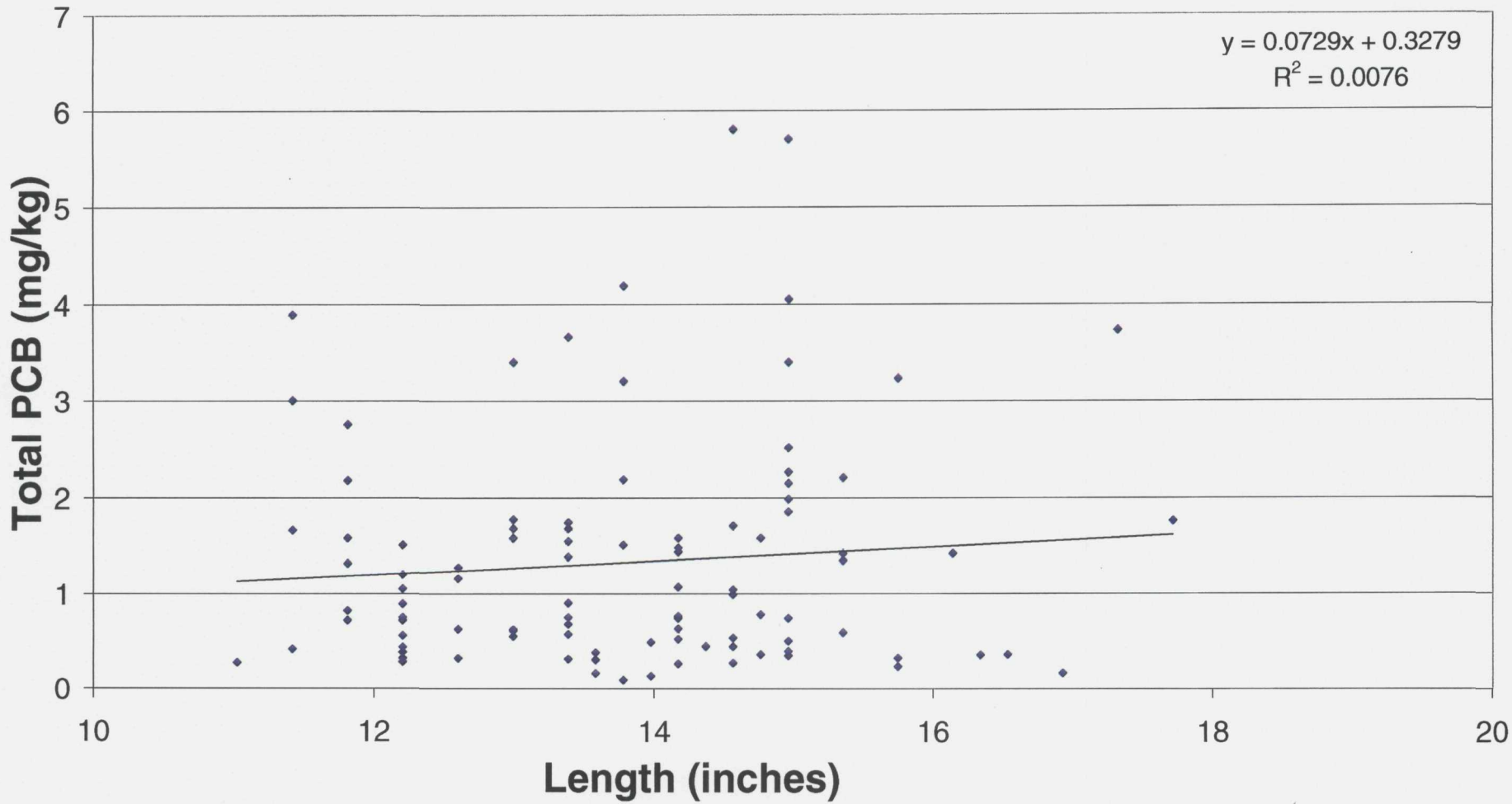
FIGURE 3



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REMEDIAL INVESTIGATION REPORT

MDCH RIVER SEGMENT
MORROW DAM TO LAKE ALLEGAN DAM
(SMALLMOUTH BASS - ABSA 4 TO ABSA 9)

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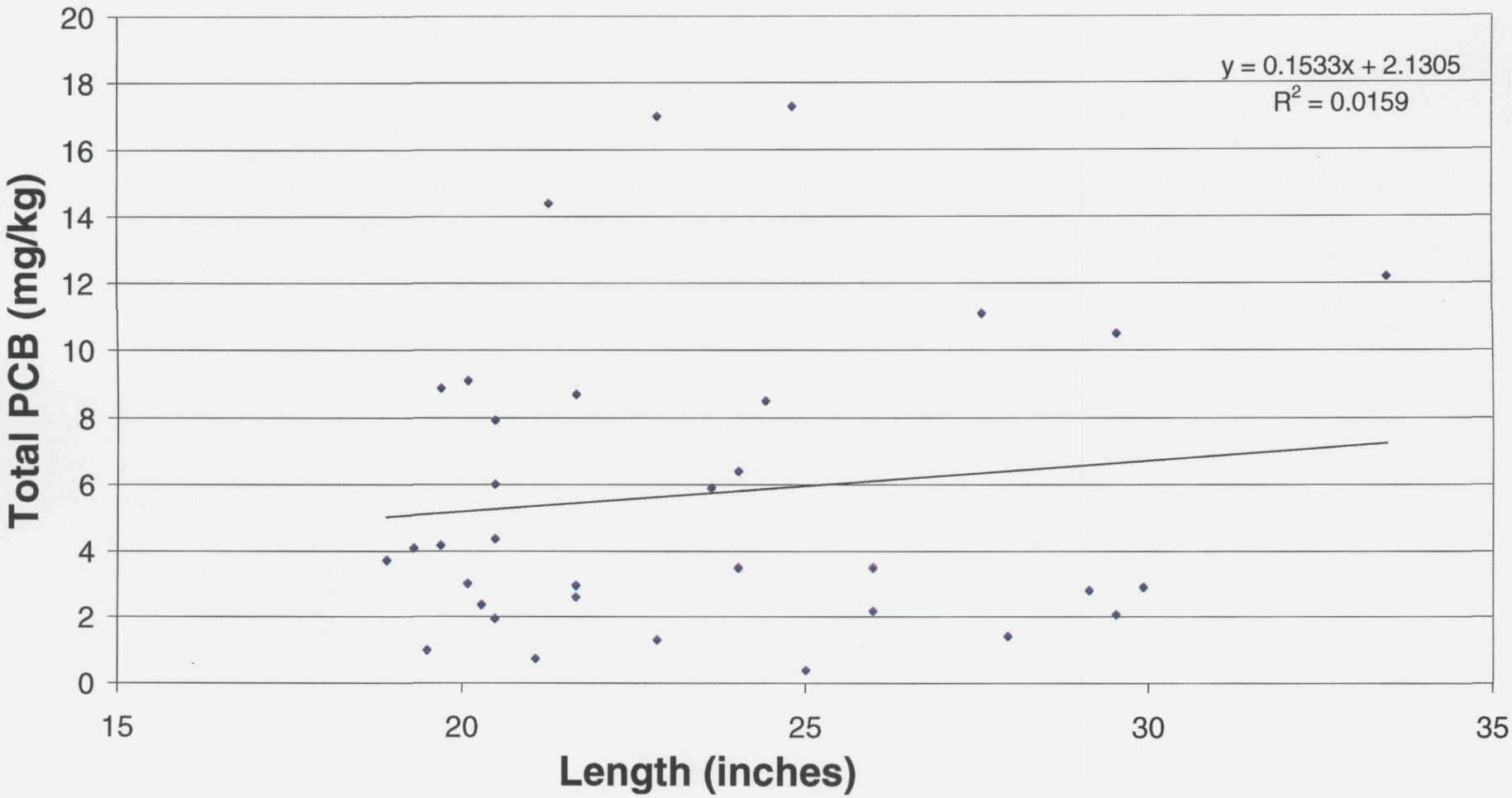
FIGURE 4



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REMEDIAL INVESTIGATION REPORT

MDCH RIVER SEGMENT
BELOW LAKE ALLEGAN DAM
(CARP - ABSA 10 & ABSA 11)

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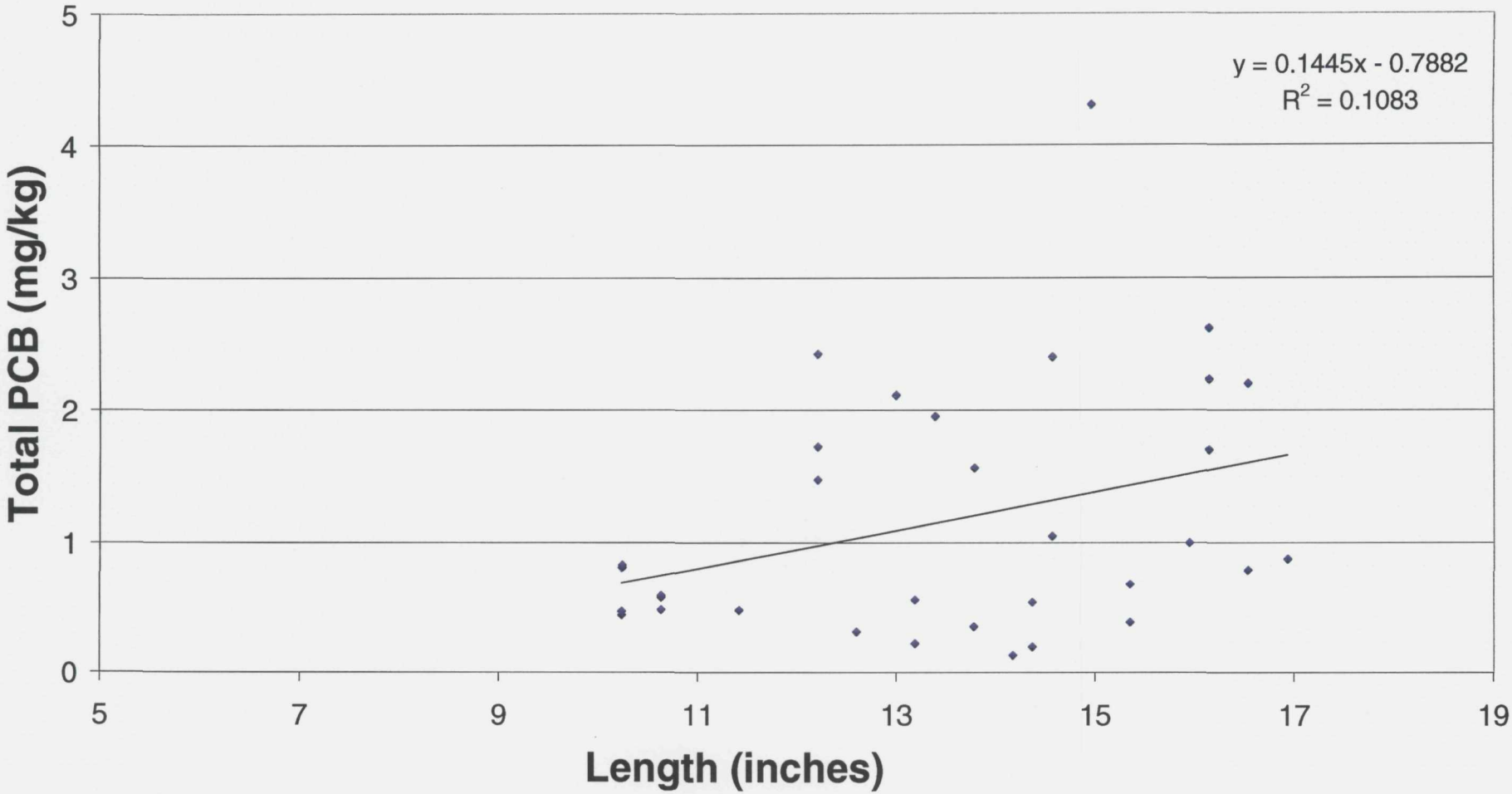
FIGURE 5



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REMEDIAL INVESTIGATION REPORT

MDCH RIVER SEGMENT
BELOW LAKE ALLEGAN DAM
(SMALLMOUTH BASS - ABSA 10 & ABSA 11)

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FIGURE 6

Appendix B

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River PCB Mass and Sediment Volume Estimates Methodology

Appendix B: River PCB Mass and Sediment Volume Estimates Methodology

As part of the 1993 Sediment Characterization and Geostatistical Pilot Study, 171 sampling transects along the Kalamazoo River and 15 transects along Portage Creek were identified for the purposes of sediment sample collection. Along each transect, approximately 6 to 8 sampling locations were designated for sediment collection. During the 1993 investigation, 1,226 locations within the Kalamazoo River (1,444 between Morrow Dam and Lake Allegan Dam) and 49 locations within Portage Creek were probed to obtain total sediment depth at each location. After completion of the probing activities, workers collected 1,026 sediment cores from the Kalamazoo River and 42 sediment cores from Portage Creek. The discrepancy in number of locations probed and number of cores collected is due to the fact that sediment cores were not recoverable at every location, either because no sediment was present or if present, was not retained in the sampling apparatus. The collected cores were visually inspected and physical characteristics (i.e., textural classification) recorded. Of the 1,068 total sediment cores collected, laboratory analytical results have been received for 644 cores from the Kalamazoo River and 42 cores from Portage Creek.

This appendix describes the procedures used to develop estimates of sediment volume and polychlorinated biphenyl (PCB) mass by using the physical (sediment area, sediment thickness, and percent solids) and analytical (dry-weight PCB concentration) data amassed during the sediment investigation activities in the nine river reaches between Morrow Dam and Lake Allegan Dam.

Estimation Methodology

The volume and mass estimates developed here represent a more refined approach than used in previous methods and includes more physical and chemical data generated by the 2000 analyses of 1993 frozen cores. The chosen methodology approaches the estimation of sediment volume and PCB mass based on the physical and analytical data results obtained from each individual probing location and core collected within a reach. In addition, to facilitate the estimation of sediment volume and PCB mass with a greater level of confidence, each sampling location was divided into individual depth layers, or "elements," based on the specific sediment depth at the sampling location (elements are described in more detail below). Total sediment volume and PCB mass estimates represent the summation of the volume and mass estimates for each individual element. The use of these elements reduces the effects of averaging resulting in a higher degree of confidence in the estimated quantities.

Sediment Volume

The first step in the estimation of sediment volume was to determine the length of river represented by each probing transect (i). The length of the river represented by each probing transect (L_i) was the sum of the measured distance from midpoint between the transect of interest and the transect immediately upstream ($L_{(i-1)-(i)}/2$) and the midpoint of the transect immediately downstream ($L_{(i)-(i+1)}/2$) and the transect of interest (Figure 1, Step 1).

The next step in the estimation of the sediment volume was the calculation of the surface area represented by each probing location (j) across each transect. The surface area represented by each probing location ($A_{i,j}$) was calculated as the product of the measured river width (W_i) and the length of river represented by the probing transect (L_i) divided by the number of probing locations along the transect (n_i) (Figure 1, Step 2).

After determining the surface area represented by each probing location, the depth of sediment at each probing location ($D_{i,j}$) was obtained (Figure 1, Step 3). The total sediment volume represented by the probing location ($V_{i,j}$) was calculated as the product of the area represented by the probing location ($A_{i,j}$) and the depth of sediment at the probing location ($D_{i,j}$) (Figure 1, Step 4).

As described above, after core collection each location was given a textural classification (i.e., coarse or fine). Based on this textural classification, the volume of fine and coarse sediment could be calculated. If the location was probed but no core was recovered, it was classified as "not recovered." The total sediment volume for each reach was determined by summing the individual volumes of coarse, fine, and not recovered sediment as defined by the core classification data at each probing location.

PCB Mass

To calculate the mass of PCB within each reach and textural class, each sampling location was first divided into individual depth layers or elements (k) based on the specific sediment depth at the sampling location. The depth intervals for each element (k) were generally:

Element (k)	Depth Interval (inches)
1	0 – 2
2	2 – 6
3	6 – 12
4	12 – 24
5	One-foot intervals thereafter

The vertical extent of the elements was based upon the depth of the collected core and the presence of detectable PCB within the sediment samples. For instance, if the maximum sediment depth was 9 feet and the deepest detected PCB concentration was at 4.5 feet, the elements from 5 to 6 feet, 6 to 7 feet, 7 to 8 feet, and 8 to 9 feet were not considered to contain PCB within that reach and textural class, and were not included in the PCB mass calculation. This approach required a new calculation of sediment volume within a given reach limited to those sediment layers where PCB were detected. Based upon this methodology, a second estimation of sediment volume - the working volume - was made. The working volume represents the sub-volume of the total sediment volume (calculated above) which has the potential of containing PCB.

The working volume of sediment was calculated by summing the sediment volumes ($V_{i,j,k}$) at each individual core location containing PCB for the given reach and textural class. The sediment volume for each element within a core location ($V_{i,j,k}$) was determined as the product of the area ($A_{i,j}$) and the thickness of the individual sediment layer ($T_{i,j,k}$) (Figure 1, Step 5).

After the determination of the sediment volume for each element within a core location, the average PCB concentration within the element (C_k) was calculated using values from all cores within that reach and textural class (non-detect [ND] represented by ½ the detection limit). For instance, all PCB results for the 2- to 6-inch depth interval within a particular reach and textural class were arithmetically averaged (including ND) to determine C_k, where k is equal to 2 to 6 inches. In addition, areas where no sediment was recovered were assumed to have PCB concentration of approximately ½ the detection limit (0.03 mg/kg). For the purposes of the PCB mass calculation, this average was applied to all elements in that depth layer with the same geographic and textural class.

PCB mass for a particular depth interval and textural class was estimated as the product of the sediment volume for the depth interval ($V_{i,j,k}$), average PCB concentration for the depth interval (C_k), and the bulk density of sediment (ρ_B):

$$\text{PCB mass (kg)} = (V_{i,j,k}) \times (C_k) \times (\rho_B)$$

The bulk density (ρ_B) was estimated for all textural classes within a given reach from the percent solids data (determined during the laboratory analyses of PCB samples) using the following relationship:

Bulk Density (g dry/cm^3) = (ρ_S x average percent solids) / (ρ_S-((ρ_S-ρ_W) x average percent solids))

where: ρ_S = density of solids (g/cm^3) = 2.65 g/cm^3

ρ_W = density of water (g/cm^3) = 1.0 g/cm^3

Total PCB mass within a reach was obtained by summing the individual results for each element within the reach. As was done for the total sediment volume, the PCB mass associated with each textural class can be determined by summing calculated PCB mass from cores with like textural classifications.

Following the estimation of PCB mass, the volume of PCB-containing sediment was estimated as the working volume of sediment within a given depth layer, discounted by the percentage of samples in which PCB were not detected (i.e., if 20% of samples within a given depth interval of fine sediment in a reach returned a ND PCB concentration, then 20% of the fine sediment volume in that depth interval of the reach was subtracted from the working sediment volume). The estimated volume of PCB-containing sediments includes only the volume of sediment which, based on the frequency of PCB detections, would be expected to contain PCB. The estimated mass of PCB, however, was calculated using the working sediment volume and average PCB concentrations, where ND values were considered to contain ½ the detection limit.

Table 1 presents the volumes, average PCB concentrations, and bulk densities used in the calculation of PCB mass for the Kalamazoo River between Morrow Dam and Lake Allegan Dam.

The only exception to the approach outlined above was in the reach from Morrow Dam to Portage Creek. Within this reach, all 134 of the cores recovered (out of 148 locations) were analyzed for PCB at the request of the Michigan Department of Environmental Quality, and the mass of PCB was calculated for each analyzed core interval. Instead of using fixed depth intervals for the elements as noted above, element thickness was based upon the sectioned interval of each core since data existed for all cores. Again, areas where no sediment was recovered were assumed to have PCB concentration of approximately ½ the detection limit (0.03 mg/kg).

Table

Table 1

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

REMEDIAL INVESTIGATION REPORT
SEDIMENT VOLUME AND PCB MASS ESTIMATES
FOR THE UPPER KALAMAZOO RIVER

Reach	Class	Area (ac)	Total Sed Area (ac)	Volume (cy)	Total Sed Volume (cy)	Avg % Solids	Bulk Density (kg/cy)	Working Volume (cy)	Working Volume (cy)	PCB Mass (kg)	Total PCB mass (kg)	PCB-Containing Volume (cy)
A1	COARSE	69	112	340,824	511,831	89.96	1,564	142,118	349,963	204	345	58,000
	FINE	15		104,168		74.77	1,070	141,007		138		
	NR	28		66,838		89.96	1,564	66,838		3		
A2	COARSE	216	331	753,595	1,049,436	85.81	1,409	691,866	951,024	566	754	341,109
	FINE	58		247,057		72.56	1,012	210,373		186		
	NR	56		48,784		85.81	1,409	48,784		2		
B	COARSE	16	44	37,005	117,742	78.46	1,173	31,974	98,865	27	241	52,848
	FINE	16		69,843		56.01	657	55,997		213		
	NR	12		10,894		78.46	1,173	10,894		0		
C	COARSE	41	96	269,540	705,011	86.55	1,435	174,449	415,243	496	695	224,151
	FINE	51		433,198		53.85	619	238,521		200		
	NR	3		2,273		86.55	1,435	2,273		0		
D	COARSE	37	83	238,327	393,736	85.77	1,407	197,582	291,392	101	306	191,375
	FINE	15		128,444		72.58	1,013	66,845		204		
	NR	31		26,965		85.77	1,407	26,965		1		
E	COARSE	27	131	119,264	894,999	85.63	1,402	70,067	541,670	14	719	263,226
	FINE	78		751,889		57.40	683	447,756		704		
	NR	26		23,847		85.63	1,402	23,847		1		
F	COARSE	77	190	287,661	750,453	89.20	1,534	191,134	449,771	202	476	258,264
	FINE	49		421,687		67.43	889	217,532		272		
	NR	64		41,105		89.20	1,534	41,105		2		
G	COARSE	20	127	167,446	1,420,792	87.82	1,481	83,881	747,953	103	2,562	416,620
	FINE	105		1,252,028		60.96	751	662,755		2,459		
	NR	2		1,318		87.82	1,481	1,318		0		
H	COARSE	88	1,649	685,525	24,172,976	83.72	1,337	406,373	10,162,969	970	20,363	5,142,951
	FINE	1,533		23,466,687		57.47	684	9,735,831		19,391		
	NR	28		20,765		83.72	1,337	20,765		1		
Total			2,762		30,016,976				14,008,849		26,461	6,948,544

Notes

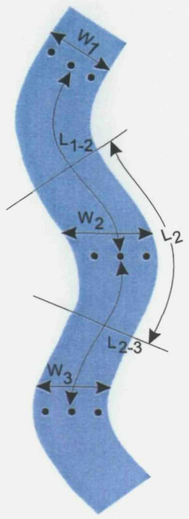
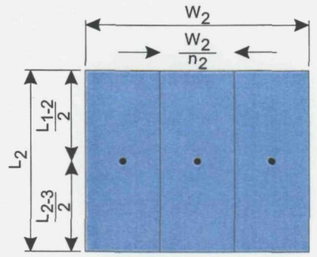
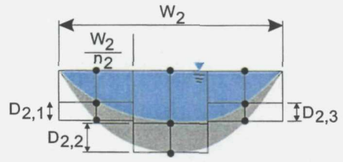
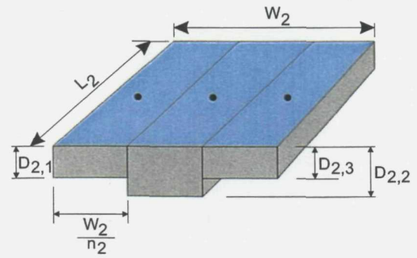
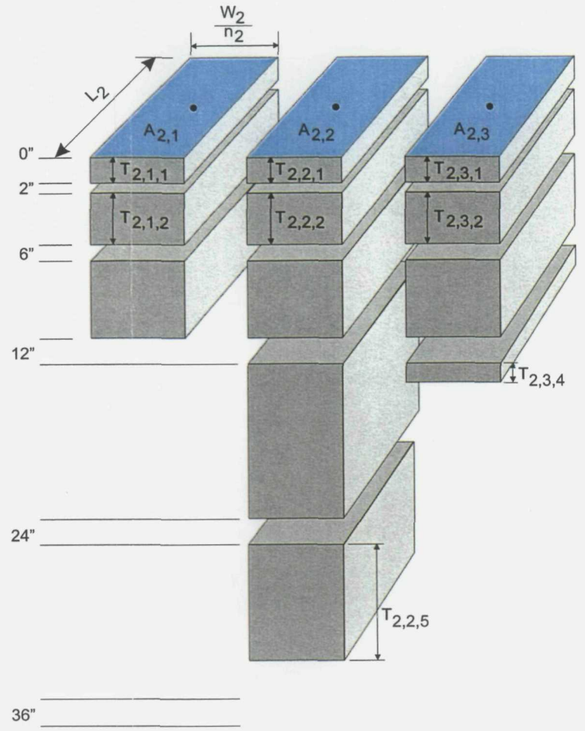
NR indicates probing locations from which no sediment core was recovered.

A value of 0.03 mg/kg (~ 1/2 detection limit) was used for probing locations where no sediment cores were recovered

The Working Volume discounts sediments deeper than the deepest detection within a reach. ND values for the remaining sediment volume were counted as 1/2 the reporting limit.

Volume of PCB-containing sediment was determined by discounting the Working Volume by the percentage of ND values within a given depth layer.

Figure

Step 1	Step 2	Step 3	Step 4	Step 5
River View (Overhead)	**Conceptual Area View** (Overhead)	**Depth View** (Cross-Section)	**Conceptual Volume View** (Perspective)	**Conceptual Volume Elements** (Perspective)
				
W_i = Width of river at Transect i $L_{i-(i+1)}$ = Length of river between Transect i and i+1; as measured along the thalweg L_i = Length of river represented by Transect i	n_i = Number of probing locations along a transect $A_{i,j}$ = Area represented by a probing location j, on Transect i $A_{i,j} = L_i * \frac{W_i}{n_i}$ $L_i = \frac{L_{(i-1)-i} + L_{i-(i+1)}}{2}$	$D_{i,j}$ = Depth of sediment probed at location j, on transect i	$V_{i,j}$ = Volume of sediment for probing location j on Transect i $V_{i,j} = A_{i,j} * D_{i,j}$	$V_{i,j,k} = A_{i,j} * T_{i,j,k}$ $T_{i,j,k}$ = Thickness of depth layer k of probing location j on Transect i $D_{i,j} = \sum_{n}^{k=1} T_{i,j,k}$

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REMEDIAL INVESTIGATION REPORT

VOLUME ESTIMATION METHOD

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FIGURE 1

08/00 SYR-D54-DJH LBR LAS
64524500/64524n30.CDR

Appendix C

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Presentation and Summary of Sediment Data from the Analyses of 1993 Frozen Sediment Cores

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1. Introduction

1.1 Purpose

This appendix, prepared by Blasland, Bouck & Lee, Inc. (BBL) on behalf of the Kalamazoo River Study Group (KRSG), presents the results of the Phase II Sediment Investigation, which was conducted in reaches of the Kalamazoo River in Michigan from Morrow Dam to Lake Allegan. The Phase II Sediment Investigation was performed in 1997 and 1999/2000 to characterize PCB distribution in the Kalamazoo River and Portage Creek as part of the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site (Site) Remedial Investigation/Feasibility Study (RI/FS).

1.2 Kalamazoo River/Portage Creek Description and Background

The Kalamazoo River and Portage Creek are located in southwestern Michigan. The mainstem of the Kalamazoo River begins in Albion, Michigan, at the confluence of the north and south branches, and then flows northwesterly for 123 miles through Kalamazoo and Allegan counties to Lake Michigan. The river drains an approximately 2,000-square-mile watershed including nearly 400 miles of tributaries.

Portage Creek is a tributary joining the Kalamazoo River at Kalamazoo, Michigan. The lower 3 miles of the creek are included in the Site. The creek begins in Portage, Michigan and, including its west fork, flows a total distance of approximately 18.5 miles. The creek's lower segment passes through residential and industrial areas of the City of Kalamazoo.

A more extensive review and description of the physical setting and characteristics of the site is contained in the *Description of the Current Situation* (DCS) report (Blasland & Bouck Engineers, P.C. [BBEPC], 1992).

The presence of polychlorinated biphenyls (PCB) was first reported in resident fish of the Kalamazoo River in 1971. Several additional studies since 1971 identified the presence of PCB in the surface water and sediments of both the Kalamazoo River and Portage Creek. The DCS report summarizes the results of these previous studies. More recent work relating to characterization of the Site's floodplain soils, sediments, biota, and surface water is reported in a series of technical memoranda prepared as part of the RI/FS process:

- *Description of the Current Situation* (DCS) (BBEPC, 1992), which describes the site and summarizes the available historical data;

- *Technical Memorandum 2 - Results of Phase I TBSA Soil Sampling* (BBL, 1994a), which presents the results of soil sampling in the terrestrial biota sampling areas (TBSAs);

- *Technical Memorandum 3 - Results of the Floodplain Soils Investigation* (BBL, 1994b), which presents data for the floodplain soil sampling for the Kalamazoo River and Portage Creek;

- *Addendum 1 to Technical Memorandum 3 - Floodplain Soils Investigation* (BBL, 1996), which presents the results of supplemental floodplain soil sampling in Portage Creek;

- *Draft Technical Memorandum 10 - Sediment Characterization and Geostatistical Pilot Study* (BBL, 1994d), which presents data for probing and sampling of sediments and geostatistical analysis;

- *Draft Technical Memorandum 11 - Allied Paper, Inc., Operable Unit (OU)* (BBL, 2000), which presents results and preliminary findings of the surface water and biota investigations and the wetlands assessment performed at the Allied OU;

- *Draft Technical Memorandum 12 - Former Impoundment Sediment and Geochronologic Dating Investigation* (BBL, 1994c), which presents the sediment sampling results of the former Plainwell, Otsego, and Trowbridge impoundments and the geochronologic dating investigation;

- *Technical Memorandum 13 - Water Well Inventory* (BBL, 1995a), which presents water well distribution and usage along the Kalamazoo River and Portage Creek;

- *Draft Technical Memorandum 14 - Biota Investigation* (BBL, 1994e), which presents data related to PCB concentrations in tissues of select terrestrial and aquatic species;

- *Draft Addendum 1 to Draft Technical Memorandum 14 - Biota Investigation* (BBL, 1994f), which presents supplemental data for PCB concentrations in snapping turtles;

- *Draft Addendum 2 to Draft Technical Memorandum 14 - Biota Investigation* (BBL, 1995c), which presents supplemental data for polychlorinated dibenzo-p-dioxins (PCDD) and polychlorinated dibenzofurans (PCDF) in fish and snapping turtles;

- *Draft Addendum 3 to Draft Technical Memorandum 14 - Biota Investigation* (BBL, 1998), which presents the results of the 1997 fish monitoring; and

- *Draft Technical Memorandum 16 - Surface Water Investigation* (BBL, 1995b), which presents data describing the potential surface water pathway of PCB transport within the study area.

1.3 Objectives of the Sediment Characterization Investigations

The Sediment Characterization Survey was carried out in two phases. The primary objective of Phase I, conducted in 1993, was to develop an initial body of spatial data characterizing the distribution of fine-grained sediments within the Kalamazoo River. Cores were collected and frozen for future analyses. The information gathered in Phase I was used to identify appropriate frozen cores for analysis in Phase II. The primary objective of the Phase II sediment study, conducted in 1997 as well as 1999/2000, was to characterize the PCB distribution in the river sediment. The activities of both Phase I and Phase II are described in more detail in Section 2 of this appendix.

1.4 Phase II Sediment Investigation Rationale

A stratified sampling approach was used to assess the PCB distribution in Kalamazoo River sediment; this approach was based upon established principles regarding sediment and hydrophobic constituent transport and deposition in rivers. PCB, due to their hydrophobic nature, have an affinity for organic particles. Due to the low density of organic particles and the relationship of particle size to settling velocity for inorganic sediments, the highest PCB concentrations may be expected to be found in low-energy areas where fine-grained and organic sediments deposit. Thus, bulk PCB concentrations in surficial sediment (i.e., ratio of PCB mass to sediment mass) are expected to be higher in areas of fine-grained sediment than in areas of coarse sediment.

The principles outlined above were used to predict a general relationship among flow velocity, fine-grained sediment deposition, and PCB deposition in the Kalamazoo River and Portage Creek. It is expected that the highest

sediment PCB concentrations (as well as other hydrophobic constituents) would be found in low-energy zones within the Site, where fine-grained sediments accumulate. The Phase II Sediment Investigation sought to define this relationship through an intensive in-stream sediment probing survey to determine the character of sediments in each of 10 segments (described in Section 2.2), delineated to reflect variations in the hydraulic and hydrologic characteristics of the Kalamazoo River and Portage Creek.

2. Investigation Activities

2.1 Overview

The Sediment Investigation was designed to provide data from the Kalamazoo River and Portage Creek study areas to allow for sedimentation characterization, the identification and quantification of fine- and coarse-grained sediment deposits, and the characterization of PCB distribution in the sediment bed, including estimates of total PCB mass. The Sediment Investigation was carried out in two phases. In Phase I, the sediment was physically characterized, cores were collected and frozen, and the sedimentation patterns within the river and Portage Creek were described. Using the Phase I results to identify cores for analysis, the Phase II Sediment Investigation involved the analysis of select frozen cores for particle size, total organic carbon (TOC), and/or PCB. In addition to the sediment analyses, frozen spiked quality assurance/quality control (QA/QC) cores were analyzed periodically between Phase I and Phase II of the investigation to assess the effect of freezing on PCB quantification.

2.2 Phase I - Sediment Characterization Survey

An intensive in-stream sediment physical characterization survey along the Kalamazoo River was initiated on August 9, 1993 to provide information related to present conditions of in-stream sedimentation patterns. Seventy-six miles of the Kalamazoo River, from Morrow Dam to Lake Michigan, were divided into 10 segments, or reaches, for study. The sediment probing transect locations for each of the 10 reaches were outlined in the *Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Remedial Investigation/Feasibility Study Work Plan* (BBEPC, 1993c). The ten reaches are:

- Morrow Dam to Portage Creek;
- Portage Creek to Main Street, Plainwell;
- Main Street, Plainwell to the Plainwell Dam:
- Plainwell Dam to the Otsego City Dam;
- Otsego City Dam to the Otsego Dam;
- Otsego Dam to the Trowbridge Dam;
- Trowbridge Dam to the Allegan City Line;
- Allegan City Line to the Allegan City Dam;
- Allegan City Dam to the Lake Allegan Dam; and

- Lake Allegan Dam to Lake Michigan.

The locations of these segments and transects are illustrated in Figures 1 through 18. The sediment probing transects in the Kalamazoo River were identified as KPT-1 through KPT-159, numbered upstream to downstream along the 76-mile study area. Within each of the 10 segments, transects were spaced at approximately equal distances apart and perpendicular to the riverbanks. The distance between transects varied among segments, depending on the segment length. Along each river transect, an average of six to eight equidistant points were probed using metal rods and hand-coring equipment. In the segments with impoundments, several transects were positioned within the currently impounded area. These transects were probed in a similar fashion to the transects across the Kalamazoo River channel, although a greater distance separated the probing points across impoundment transects due to greater channel widths.

Portage Creek was probed along 15 transects between Alcott Street and the Kalamazoo River confluence on September 1, 1993. The sediment probing transects, identified as PPT-1 through PPT-15, were numbered consecutively from downstream to upstream. The approximate locations of the transects are shown on Figure 3. Transects were spaced at approximately equal distances (approximately 600 feet apart) and perpendicular to the riverbanks. Along each Portage Creek transect, an average of three to five approximately equidistant points were probed using metal rods and hand-coring equipment.

A total of 1,265 locations were probed and 1,068 cores recovered in the Kalamazoo River and Portage Creek. At 44 transects in the Kalamazoo River (26%), a velocity reading was obtained at each probing point across the transect at a depth of 0.6 times the total water depth. A total of 302 velocity measurements were performed in the Kalamazoo River and Portage Creek. The velocity measurements were obtained at approximately every fourth to fifth transect, or where field personnel noted a significant change in river velocity.

Sediment cores were collected at each probing point using clear Lexan® tubing. Sections of the Lexan® tubing were spliced together in areas of deep water or sediment. The core tubing was pushed into the sediment and then driven by a stainless steel core driver until refusal. A vacuum was then created within the Lexan® tube with a hand pump to keep the sediment in the tube during retrieval. The core tube with the sample intact was then capped and labeled. The sediment cores were described in logs, photographed, and placed into the KRSG's field office freezers to be preserved for future laboratory analyses.

Data obtained during the sediment probing were used to develop generalized maps illustrating depth and characteristics of sediment deposits. Ancillary data such as channel depth, velocity, and geometry were reviewed and related to depositional characteristics. This information, in particular the generalized maps, was used to assess Phase II stratified sampling needs for estimating PCB concentrations and PCB mass within fine-grained and coarse-grained sediment in each segment.

All samples were collected in the manner prescribed in the *Field Sampling Plan* (FSP; BBEPC, 1993b), and QA/QC samples were collected as described in the *Quality Assurance Project Plan* (QAPP; BBEPC, 1993a).

2.3 Phase II Sediment Investigation

Phase II of the Sediment Investigation consisted of the stratified analysis of the frozen cores collected during Phase I for PCB, TOC, and particle size. The specific objectives of Phase II were to:

- Assess PCB and TOC distributions in surficial sediment;
- Assess the average thickness of PCB-containing sediment layers in each stratum;
- Assess volumes of PCB-containing fine-grained and coarse-grained sediment and their associated PCB masses; and
- Provide additional data (i.e., grain size) that could be used in the assessment of potential sediment mobilization as well as in the assessment of remedial alternatives.

The results of these analyses were used in conjunction with data from Phase I to characterize the spatial distribution of PCB concentrations and masses throughout the Kalamazoo River. (Frozen cores collected in 1993 were analyzed in 1997 and also in 1999-2000, for PCB, TOC, and particle size.)

Cores selected for analysis in 1997 were segmented by depth into the 0- to 2-inch increment, 2-inch to 1-foot increment, and 1- to 2-foot increment. Cores collected from behind dams where sediment is usually deeper, were segmented in 1-foot increments beyond the 2-foot depth. In the 1999-2000 core analysis, sediment cores were segmented in 0- to 2-inch, 2- to 6-inch, 6- to 12-inch, and one foot increments beyond the one-foot depth. Each sample interval was analyzed for PCB concentrations. A total of 2,588 PCB samples (including 259 duplicates),

687 of which were from the surface (including two duplicates) were analyzed. The top 2 inches of each core were analyzed for TOC and half of the cores were analyzed for TOC at all depth intervals. Particle-size analysis was performed on the 2-inch to 1-foot sections of each core to determine the distribution of particle size for each sample. Additionally, one fine-grained sediment core from each reach was analyzed for Contract Laboratory Program Target Compound List/Target Analyte List (TCL/TAL) constituents using the same core protocol as above. All analyses were conducted in accordance with the QA/QC procedure described in the QAPP (BBEPC, 1993a).

2.4 QA/QC Review of Data

2.4.1 Precision and Accuracy Assessment for Frozen Sediment Cores

Data packages for 131 sample delivery groups (SDGs) containing frozen sediment core sample data for PCB and TOC were reviewed and evaluated for analytical precision and accuracy. The SDGs and their associated samples are presented in Table 1.

Analytical precision was assessed by comparing the percent recoveries of the matrix spike (MS) and matrix spike duplicate (MSD) samples and the results of laboratory duplicate samples. Surrogate spike, matrix spike, and blank spike recoveries and instrument calibration and blank content were examined to assess accuracy.

An overall precision and accuracy summary, as assessed through a review of QA/QC information, including MS/MSD recoveries, surrogate spike recoveries, and contamination levels in blanks is presented below.

2.4.1.1 PCB Data Quality

With 7 exceptions, all MS/MSD recoveries were within control limits with recoveries for Aroclor 1242 ranging from 4 to 176% with an average of 89% and Aroclor 1254 recoveries ranging from 32 to 517% with an average of 90%. Recoveries for Aroclor 1242 in two samples and Aroclor 1254 in one sample could not be calculated due to interference from high levels of Aroclors present in the unspiked sample.

The precision of the matrix sample spikes, as measured by the relative percent differences (RPDs) between recoveries, ranged from 0 to 99% with an average of 13% for Aroclor 1242 and 0 to 135% with an average of 14% for Aroclor 1254. The matrix spike blank recoveries ranged from 33 to 174% with an average of 91% for Aroclor 1242, while Aroclor 1254 recoveries ranged from 19 to 182% with an average of 94%.

Recovery for one surrogate was outside control limits in 89 samples; however, since recoveries for the remaining surrogate were within control limits, the deviations have no effect on the sample data. Recoveries for both surrogates were above control limits in three samples and recoveries were below control limits in 76 samples. All positive data for samples with high recoveries and all data for samples with low recoveries should be considered estimated based on the recoveries. See the data validation reports for the specific samples affected. Overall surrogate recoveries for tetrachloro-meta-xylene (TCMX) ranged from 1 to 183% with an average of 86%. Recoveries for decachlorobiphenyl (DCB) ranged from 18 to 201% with an average of 109%.

The RPDs between field duplicate results were within in control limits for all but one field duplicate. Aroclors were not detected in 121 of the 242 duplicates. When detected, the RPDs ranged from 0 to 152% with an average of 43%. No Aroclors were detected in any of the method blanks.

2.4.1.2 TOC Data

Matrix spike recoveries were within control limits for all but three spikes. Overall matrix spike recoveries ranged from 33 to 175% with an average of 98%. Laboratory control sample recoveries ranged from 58 to 140% with an average of 94%.

Analytical precision, measured as the RPD between laboratory duplicates, ranged from 0 to 197% with an average of 50% field duplicate. The RPDs between field duplicate results were outside control limits for 23 duplicates. The RPDs overall, ranged from 0 to 176 percent with an average of 60 percent.

The relatively high duplicate RPDs and generally acceptable matrix spike and laboratory control sample recoveries indicate a high level of accuracy but a lower level of precision.

2.5 Spiked QA/QC Frozen Samples

To assess potential alterations in PCB concentrations over time during frozen storage, spiked QC samples were frozen alongside the sediment cores. The spiked samples were analyzed for PCB prior to freezing, providing a baseline against which to compare results of PCB analysis of frozen samples. Two composite samples collected from five locations each, one representative of fine-grain sediment and one representative of gray clay, were homogenized and spiked with Aroclor 1248. The samples were then split into 70 individual 40-milliliter (mL) aliquots and frozen. Approximately every 6 to 8 months, samples of each substrate were analyzed for PCB to evaluate any trend in PCB concentration caused by frozen storage. The results of these analyses are presented in the *Work Plan Addendum 3* (BBL, 1997) and show no significant decline of PCB concentration over time.

3. Results

3.1 Analytical Data

Laboratory analyses of particle size, TOC, PCB, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, and metals were performed between August 1997 and January 1998, and again from December 1999 to January 2000. Results of the analyses are provided in Tables 2 through 7. Transect locations are summarized in Figures 2 through 18. Section 4 of the RI Report provides an extensive discussion of the results.

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BBL. 1994c. *Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site - Draft Technical Memorandum 12 - Former Impoundment Sediment and Geochronologic Dating Investigation* (Syracuse, NY: May 1994).

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Tables

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
63956	K50001	KPT14-2	2/18/97	0.0 - 6.0	FINE	X	X				
63956	K50002	KPT14-2	2/18/97	6.0 - 10.8	FINE	X					
63956	K50003	KPT14-2	2/18/97	10.8 - 15.6	FINE	X					
63956	K50004	KPT14-2	2/18/97	15.6 - 27.6	FINE	X					
63956	K50005	KPT14-2	2/18/97	27.6 - 39.6	FINE	X					
63956	K50006	KPT14-2	2/18/97	39.6 - 49.2	FINE	X					
63956	K50007	KPT14-2	2/18/97	0.0 - 4.0	FINE			X			
63956	K50008	KPT14-2	2/18/97	4.0 - 49.2	FINE			X			
63956	K50009	KPT19-3	2/19/97	0.0 - 6.0	COARSE	X	X				K50018
63956	K50010	KPT19-3	2/19/97	6.0 - 18.0	COARSE	X				X	
63956	K50011	KPT19-3	2/19/97	18.0 - 22.8	COARSE	X					
63956	K50012	KPT19-3	2/19/97	22.8 - 30.0	COARSE	X					
63956	K50013	KPT19-3	2/19/97	30.0 - 42.0	COARSE	X					
63956	K50014	KPT19-3	2/19/97	42.0 - 54.0	COARSE	X					
63956	K50015	KPT19-3	2/19/97	54.0 - 58.8	COARSE	X					
63956	K50016	KPT19-3	2/19/97	0.0 - 4.0	COARSE			X			
63956	K50017	KPT19-3	2/19/97	4.0 - 58.8	COARSE			X			K50019
63956	K50018	KPT19-3	2/19/97	0.0 - 6.0	COARSE	X	X				K50009
63956	K50019	KPT19-3	2/19/97	4.0 - 58.8	COARSE			X			K50017
63956	K50020	KPT26-3	2/19/97	0.0 - 7.2	COARSE	X	X				
63959	K50021	KPT26-3	2/19/97	0.0 - 4.0	COARSE			X			
63959	K50022	KPT26-3	2/19/97	4.0 - 7.2	COARSE			X			
63959	K50023	KPT40-5	2/19/97	0.0 - 6.0	COARSE	X	X				
63959	K50024	KPT40-5	2/19/97	6.0 - 13.2	COARSE	X					
63959	K50025	KPT40-5	2/19/97	0.0 - 4.0	COARSE			X			
63959	K50026	KPT40-5	2/19/97	4.0 - 13.2	COARSE			X			
63959	K50027	KPT54-3	2/19/97	0.0 - 6.0	COARSE	X					
63959	K50028	KPT54-3	2/19/97	0.0 - 6.0	COARSE			X			
63959	K50029	KPT61-2	2/19/97	0.0 - 6.0	COARSE	X					
63959	K50030	KPT61-2	2/19/97	0.0 - 6.0	COARSE			X			
63959	K50031	KPT68-4	2/19/97	0.0 - 6.0	FINE	X					
63959	K50032	KPT68-4	2/19/97	0.0 - 6.0	FINE			X			
63959	K50033	KPT73-2	2/19/97	0.0 - 6.0	COARSE	X	X				
63959	K50034	KPT73-2	2/19/97	6.0 - 18.0	COARSE	X					K50040
63959	K50035	KPT73-2	2/19/97	18.0 - 30.0	COARSE	X					
63959	K50036	KPT73-2	2/19/97	30.0 - 42.0	COARSE	X					
63959	K50037	KPT73-2	2/19/97	42.0 - 52.8	COARSE	X					
63959	K50038	KPT73-2	2/19/97	0.0 - 4.0	COARSE			X			
63959	K50039	KPT73-2	2/19/97	4.0 - 52.8	COARSE			X			
63959	K50040	KPT73-2	2/19/97	6.0 - 18.0	COARSE	X					K50034
63960	K50041	KPT79-5	2/19/97	0.0 - 6.0	FINE	X	X				
63960	K50042	KPT79-5	2/19/97	6.0 - 18.0	FINE	X					
63960	K50043	KPT79-5	2/19/97	18.0 - 30.0	FINE	X					
63960	K50044	KPT79-5	2/19/97	30.0 - 37.2	FINE	X					
63960	K50045	KPT79-5	2/19/97	0.0 - 4.0	FINE			X			
63960	K50046	KPT79-5	2/19/97	4.0 - 37.2	FINE			X			
63960	K50047	KPT91-4	2/19/97	0.0 - 6.0	COARSE	X	X				
63960	K50048	KPT91-4	2/19/97	6.0 - 18.0	COARSE	X					K50055
63960	K50049	KPT91-4	2/19/97	18.0 - 30.0	COARSE	X					
63960	K50050	KPT91-4	2/19/97	30.0 - 42.0	COARSE	X					
63960	K50051	KPT91-4	2/19/97	42.0 - 54.0	COARSE	X					
63960	K50052	KPT91-4	2/19/97	54.0 - 61.2	COARSE	X					
63960	K50053	KPT91-4	2/19/97	0.0 - 4.0	COARSE			X			
63960	K50054	KPT91-4	2/19/97	4.0 - 61.2	COARSE			X			
63960	K50055	KPT91-4	2/19/97	6.0 - 18.0	COARSE	X					K50048
63960	K50056	RINSE BLANK	2/19/97			X	X				
63960	K50057	KPT103-4	2/19/97	0.0 - 6.0	COARSE	X	X				
63960	K50058	KPT103-4	2/19/97	6.0 - 18.0	COARSE	X					
63960	K50059	KPT103-4	2/19/97	18.0 - 34.8	COARSE	X					

TABLE 1

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SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
63960	K50060	KPT103-4	2/19/97	0.0 - 4.0	COARSE			X			
63962	K50061	KPT103-4	2/19/97	4.0 - 34.8	COARSE			X			K50062
63962	K50062	KPT103-4	2/19/97	4.0 - 34.8	COARSE			X			K50061
63962	K50063	KPT107-5	2/19/97	0.0 - 6.0	COARSE	X	X				K50069
63962	K50064	KPT107-5	2/19/97	6.0 - 18.0	COARSE	X				X	
63962	K50065	KPT107-5	2/19/97	18.0 - 30.0	COARSE	X					
63962	K50066	KPT107-5	2/19/97	30.0 - 34.8	COARSE	X					
63962	K50067	KPT107-5	2/19/97	0.0 - 4.0	COARSE			X			
63962	K50068	KPT107-5	2/19/97	4.0 - 34.8	COARSE			X			
63962	K50069	KPT107-5	2/19/97	0.0 - 6.0	COARSE	X	X				K50063
63962	K50070	KPT118-3	2/19/97	0.0 - 6.0	COARSE	X	X				
63962	K50071	KPT118-3	2/19/97	0.0 - 6.0	COARSE			X			
63962	K50072	KPT128-4	2/19/97	0.0 - 6.0	COARSE	X	X				
63962	K50073	KPT128-4	2/19/97	6.0 - 10.8	COARSE	X					
63962	K50074	KPT128-4	2/19/97	0.0 - 4.0	COARSE			X			
63962	K50075	KPT128-4	2/19/97	4.0 - 10.8	COARSE			X			
63962	K50076	KPT135-2	2/19/97	0.0 - 6.0	FINE	X	X				
63962	K50077	KPT135-2	2/19/97	6.0 - 18.0	FINE	X					
63962	K50078	KPT135-2	2/19/97	18.0 - 24.0	FINE	X					
63962	K50079	KPT135-2	2/19/97	24.0 - 36.0	FINE	X					
63962	K50080	KPT135-2	2/19/97	36.0 - 49.2	FINE	X					
63964	K50081	KPT135-2	2/19/97	0.0 - 4.0	FINE			X			
63964	K50082	KPT135-2	2/19/97	4.0 - 49.2	FINE			X			
63964	K50083	KPT146-2	2/19/97	0.0 - 6.0	FINE	X	X				
63964	K50084	KPT146-2	2/19/97	6.0 - 18.0	FINE	X					K50088
63964	K50085	KPT146-2	2/19/97	18.0 - 25.2	FINE	X					
63964	K50086	KPT146-2	2/19/97	0.0 - 4.0	FINE			X			
63964	K50087	KPT146-2	2/19/97	4.0 - 25.2	FINE			X			
63964	K50088	KPT146-2	2/19/97	6.0 - 18.0	FINE	X					K50084
63964	K50089	KPT150-4	2/19/97	0.0 - 6.0	FINE	X	X				
63964	K50090	KPT150-4	2/19/97	6.0 - 18.0	FINE	X					
63964	K50091	KPT150-4	2/19/97	18.0 - 30.0	FINE	X					
63964	K50092	KPT150-4	2/19/97	30.0 - 42.0	FINE	X					
63964	K50093	KPT150-4	2/19/97	42.0 - 50.4	FINE	X					
63964	K50094	KPT150-4	2/19/97	0.0 - 4.0	FINE			X			
63964	K50095	KPT150-4	2/19/97	4.0 - 50.4	FINE			X			K30096
63964	K50096	KPT150-4	2/19/97	4.0 - 50.4	FINE			X			K30095
63964	K50097	KPT153-5	2/19/97	0.0 - 6.0	FINE	X	X				
63964	K50098	KPT153-5	2/19/97	6.0 - 18.0	FINE	X					
63964	K50099	KPT153-5	2/19/97	18.0 - 30.0	FINE	X				X	
63964	K50100	KPT153-5	2/19/97	30.0 - 42.0	FINE	X					K50104
63969	K50101	KPT153-5	2/19/97	42.0 - 49.2	FINE	X					
63969	K50102	KPT153-5	2/19/97	0.0 - 4.0	FINE			X			
63969	K50103	KPT153-5	2/19/97	4.0 - 49.2	FINE			X			K50105
63969	K50104	KPT153-5	2/19/97	30.0 - 42.0	FINE	X					K50100
63969	K50105	KPT153-5	2/19/97	4.0 - 49.2	FINE			X			K50103
63969	K50106	KPT158-2	2/19/97	0.0 - 6.0	FINE	X	X				
63969	K50107	KPT158-2	2/19/97	6.0 - 18.0	FINE	X				X	
63969	K50108	KPT158-2	2/19/97	18.0 - 24.0	FINE	X					
63969	K50109	KPT158-2	2/19/97	24.0 - 36.0	FINE	X					K50114
63969	K50110	KPT158-2	2/19/97	36.0 - 44.4	FINE	X					
63969	K50112	KPT158-2	2/19/97	4.0 - 44.4	FINE			X			
63969	K50114	KPT158-2	2/19/97	24.0 - 36.0	FINE	X					K50109
63969	K50115	RINSE BLANK	2/19/97			X	X				
KAL002	K50116	KPT104-3	6/23/97	0.0 - 2.0	FINE	X	X				
KAL002	K50117	KPT104-3	6/23/97	2.0 - 12.0	FINE	X		X			
KAL002	K50118	KPT104-3	6/23/97	12.0 - 24.0	FINE	X					
KAL002	K50119	KPT104-3	6/23/97	24.0 - 38.0	FINE	X					
KAL002	K50120	KPT107-2	6/23/97	0.0 - 2.0	FINE	X	X				

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL002	K50121	KPT107-2	6/23/97	2.0 - 12.0	FINE	X	X	X			
KAL002	K50122	KPT107-2	6/23/97	12.0 - 24.0	FINE	X	X				
KAL002	K50123	KPT107-2	6/23/97	24.0 - 35.0	FINE	X	X				
KAL002	K50124	KPT134-7	6/24/97	0.0 - 2.0	FINE	X	X				
KAL002	K50125	KPT134-7	6/24/97	2.0 - 12.0	FINE	X		X			
KAL002	K50126	KPT134-7	6/24/97	12.0 - 24.0	FINE	X					
KAL002	K50127	KPT134-7	6/24/97	24.0 - 30.0	FINE	X					
KAL002	K50128	KPT138-5	6/24/97	0.0 - 2.0	COARSE	X	X				
KAL002	K50129	KPT138-5	6/24/97	2.0 - 12.0	COARSE	X	X	X			
KAL002	K50130	KPT138-5	6/24/97	12.0 - 24.0	COARSE	X	X				
KAL002	K50131	KPT138-5	6/24/97	24.0 - 36.0	COARSE	X	X				
KAL002	K50132	KPT131-3	6/24/97	0.0 - 2.0	COARSE	X	X				
KAL002	K50133	KPT131-3	6/24/97	2.0 - 12.0	COARSE	X		X			
KAL002	K50134	KPT153-3	6/24/97	0.0 - 2.0	FINE	X	X				
KAL002	K50379	KPT159-1	7/1/97	24.0 - 36.0	FINE	X	X			X	
KAL003	K50135	KPT153-3	6/24/97	2.0 - 12.0	FINE	X	X	X			
KAL003	K50136	KPT153-3	6/24/97	12.0 - 24.0	FINE	X	X				K50137
KAL003	K50137	KPT153-3	6/24/97	12.0 - 24.0	FINE	X	X				K50136
KAL003	K50138	KPT153-3	6/24/97	24.0 - 32.0	FINE	X	X			X	
KAL003	K50139	PPT1-1	6/24/97	0.0 - 2.0	FINE	X	X				
KAL003	K50140	PPT1-1	6/24/97	2.0 - 4.0	FINE	X					
KAL003	K50141	PPT1-1	6/24/97	4.0 - 12.0	FINE	X		X			
KAL003	K50142	PPT1-1	6/24/97	12.0 - 24.0	FINE	X					
KAL003	K50143	PPT1-1	6/24/97	24.0 - 33.0	FINE	X					
KAL003	K50144	KPT2-6	6/24/97	0.0 - 2.0	FINE	X	X				
KAL003	K50145	KPT2-6	6/24/97	2.0 - 12.0	FINE	X	X	X			
KAL003	K50146	KPT2-6	6/24/97	12.0 - 24.0	FINE	X	X				
KAL003	K50147	PPT9-2	6/24/97	0.0 - 2.0	COARSE	X	X				
KAL003	K50148	PPT9-2	6/24/97	2.0 - 12.0	COARSE	X		X			
KAL003	K50149	PPT9-2	6/24/97	12.0 - 24.0	COARSE	X					
KAL003	K50150	PPT9-2	6/24/97	24.0 - 28.0	COARSE	X					
KAL003	K50151	PPT9-2	6/24/97	28.0 - 38.0	COARSE	X					
KAL003	K50152	KPT119-5	6/24/97	0.0 - 2.0	COARSE	X	X				
KAL003	K50153	KPT119-5	6/24/97	2.0 - 12.0	COARSE	X	X	X			
KAL003	K50154	KPT119-5	6/24/97	12.0 - 24.0	COARSE	X	X				
KAL004	K50155	KPT151-1	6/25/97	0.0 - 2.0	FINE	X	X				
KAL004	K50156	KPT151-1	6/25/97	2.0 - 12.0	FINE	X		X			
KAL004	K50157	KPT151-1	6/25/97	12.0 - 24.0	FINE	X					K50158
KAL004	K50158	KPT151-1	6/25/97	12.0 - 24.0	FINE	X					K50157
KAL004	K50159	KPT151-1	6/25/97	24.0 - 36.0	FINE	X				X	
KAL004	K50160	PPT10-1	6/25/97	0.0 - 2.0	COARSE	X	X				
KAL004	K50161	PPT10-1	6/25/97	2.0 - 10.0	COARSE	X	X	X			
KAL004	K50162	PPT10-1	6/25/97	10.0 - 12.0	COARSE	X	X				
KAL004	K50163	KPT142-7	6/25/97	0.0 - 2.0	FINE	X	X				
KAL004	K50164	KPT142-7	6/25/97	2.0 - 12.0	FINE	X		X			
KAL004	K50165	KPT142-7	6/25/97	12.0 - 24.0	FINE	X					
KAL004	K50166	KPT135-7	6/25/97	0.0 - 2.0	FINE	X	X				
KAL004	K50167	KPT135-7	6/25/97	2.0 - 12.0	FINE	X	X	X			
KAL004	K50168	KPT135-7	6/25/97	12.0 - 24.0	FINE	X	X				
KAL004	K50169	KPT135-7	6/25/97	24.0 - 27.0	FINE	X	X				
KAL004	K50170	KPT134-3	6/25/97	0.0 - 2.0	FINE	X	X				
KAL004	K50171	KPT134-3	6/25/97	2.0 - 12.0	FINE	X		X			
KAL004	K50172	KPT134-3	6/25/97	12.0 - 24.0	FINE	X					K50173
KAL004	K50173	KPT134-3	6/25/97	12.0 - 24.0	FINE	X					K50172
KAL004	K50174	KPT134-3	6/25/97	24.0 - 27.0	FINE	X					
KAL005	K50175	KPT151-5	6/25/97	0.0 - 2.0	FINE	X	X				
KAL005	K50176	KPT151-5	6/25/97	2.0 - 12.0	FINE	X	X	X			
KAL005	K50177	KPT151-5	6/25/97	12.0 - 24.0	FINE	X	X			X	
KAL005	K50178	KPT151-5	6/25/97	24.0 - 35.0	FINE	X	X				K50179

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL005	K50179	KPT151-5	6/25/97	24.0 - 35.0	FINE	X	X				K50178
KAL005	K50180	KPT145-3	6/25/97	0.0 - 2.0	COARSE	X	X				
KAL005	K50181	KPT145-3	6/25/97	2.0 - 12.0	COARSE	X		X			
KAL005	K50182	KPT145-3	6/25/97	12.0 - 24.0	COARSE	X					K50183
KAL005	K50183	KPT145-3	6/25/97	12.0 - 24.0	COARSE	X					K50182
KAL005	K50184	KPT145-3	6/25/97	24.0 - 31.0	COARSE	X					
KAL005	K50185	KPT133-1	6/25/97	0.0 - 2.0	FINE	X	X				
KAL005	K50186	KPT133-1	6/25/97	2.0 - 12.0	FINE	X	X	X			
KAL005	K50187	KPT133-1	6/25/97	12.0 - 24.0	FINE	X	X				K50188
KAL005	K50188	KPT133-1	6/26/97	12.0 - 24.0	FINE	X	X				K50187
KAL005	K50189	KPT133-1	6/25/97	24.0 - 30.0	FINE	X	X				
KAL005	K50190	KPT35-6	6/26/97	0.0 - 2.0	FINE	X	X				
KAL005	K50191	KPT35-6	6/26/97	2.0 - 12.0	FINE	X		X			
KAL005	K50192	KPT85-6	6/26/97	12.0 - 24.0	FINE	X					K50194
KAL005	K50194	KPT85-6	6/26/97	12.0 - 24.0	FINE	X					K50192
KAL005	K50195	PPT9-1	6/26/97	0.0 - 2.0	COARSE	X	X				
KAL006	K50196	PPT9-1	6/26/97	2.0 - 12.0	COARSE	X	X	X			
KAL006	K50197	PPT9-1	6/26/97	12.0 - 24.0	COARSE	X	X				K50199
KAL006	K50198	PPT9-1	6/26/97	24.0 - 28.0	COARSE	X	X				
KAL006	K50199	PPT9-1	6/26/97	12.0 - 24.0	COARSE	X	X				K50197
KAL006	K50200	PPT11-1	6/26/97	0.0 - 2.0	FINE	X	X				
KAL006	K50201	PPT11-1	6/26/97	2.0 - 12.0	FINE	X		X			
KAL006	K50202	PPT11-1	6/26/97	12.0 - 20.0	FINE	X					
KAL006	K50203	PPT11-1	6/26/97	20.0 - 24.0	FINE	X					
KAL006	K50204	KPT139-7	6/26/97	0.0 - 2.0	FINE	X	X				
KAL006	K50205	KPT139-7	6/26/97	2.0 - 12.0	FINE	X	X	X			
KAL006	K50206	KPT139-7	6/26/97	12.0 - 18.0	FINE	X	X				K50207
KAL006	K50207	KPT139-7	6/26/97	12.0 - 18.0	FINE	X	X				K50206
KAL006	K50208	KPT75-2	6/26/97	0.0 - 2.0	FINE	X	X				
KAL006	K50209	KPT75-2	6/26/97	2.0 - 12.0	FINE	X		X			
KAL006	K50210	KPT75-2	6/26/97	12.0 - 24.0	FINE	X					
KAL006	K50211	KPT75-2	6/26/97	24.0 - 38.0	FINE	X					
KAL006	K50212	KPT155-4	6/26/97	0.0 - 2.0	FINE	X	X				
KAL006	K50213	KPT155-4	6/26/97	2.0 - 12.0	FINE	X	X	X			
KAL006	K50214	KPT155-4	6/26/97	12.0 - 24.0	FINE	X	X			X	K50215
KAL006	K50215	KPT155-4	6/26/97	12.0 - 24.0	FINE	X					K50214
KAL007	K50193	KPT85-6	6/26/97	24.0 - 36.0	FINE	X				X	
KAL007	K50216	KPT64-6	6/26/97	0.0 - 2.0	FINE	X	X				
KAL007	K50217	KPT64-6	6/26/97	2.0 - 12.0	FINE	X		X			
KAL007	K50218	KPT64-6	6/26/97	12.0 - 20.0	FINE	X					
KAL007	K50219	KPT136-6	6/26/97	0.0 - 2.0	FINE	X	X				
KAL007	K50220	KPT136-6	6/26/97	2.0 - 12.0	FINE	X	X	X			
KAL007	K50221	KPT136-6	6/26/97	12.0 - 24.0	FINE	X	X				
KAL007	K50222	KPT136-6	6/26/97	24.0 - 36.0	FINE	X	X				
KAL007	K50223	KPT155-5	6/26/97	0.0 - 2.0	FINE	X	X				
KAL007	K50224	KPT155-5	6/26/97	2.0 - 12.0	FINE	X		X			
KAL007	K50225	KPT155-5	6/26/97	12.0 - 22.0	FINE	X					
KAL007	K50226	KPT143-6	6/26/97	0.0 - 2.0	FINE	X	X				
KAL007	K50227	KPT143-6	6/26/97	2.0 - 12.0	FINE	X	X	X			
KAL007	K50228	KPT143-6	6/26/97	12.0 - 20.0	FINE	X	X				K50229
KAL007	K50229	KPT143-6	6/26/97	12.0 - 20.0	FINE	X	X				K50228
KAL007	K50230	KPT150-2	6/26/97	0.0 - 2.0	FINE	X	X				
KAL007	K50231	KPT150-2	6/26/97	2.0 - 18.0	FINE	X		X			
KAL007	K50232	KPT150-2	6/26/97	18.0 - 33.0	FINE	X					
KAL007	K50233	PPT8-1	6/26/97	0.0 - 2.0	COARSE	X	X				
KAL007	K50234	PPT8-1	6/26/97	2.0 - 12.0	COARSE	X	X	X			
KAL008	K50235	PPT8-1	6/26/97	12.0 - 24.0	COARSE	X	X				
KAL008	K50236	PPT8-1	6/26/97	24.0 - 30.0	COARSE	X	X				
KAL008	K50237	KPT147-8	6/26/97	0.0 - 2.0	FINE	X	X				

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REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL008	K50238	KPT47-8	6/26/97	2.0 - 14.0	FINE	X		X			
KAL008	K50239	KPT47-8	6/26/97	14.0 - 24.0	FINE	X					K50241
KAL008	K50240	KPT47-8	6/26/97	24.0 - 30.0	FINE	X				X	
KAL008	K50241	KPT47-8	6/26/97	14.0 - 24.0	FINE	X					K50239
KAL008	K50242	KPT77-3	6/26/97	0.0 - 2.0	FINE	X	X				
KAL008	K50243	KPT77-3	6/26/97	2.0 - 12.0	FINE	X	X	X			
KAL008	K50244	KPT77-3	6/26/97	12.0 - 24.0	FINE	X	X				
KAL008	K50245	KPT77-3	6/26/97	24.0 - 38.0	FINE	X	X				
KAL008	K50246	KPT121-2	6/27/97	0.0 - 2.0	COARSE	X	X				
KAL008	K50247	KPT121-2	6/27/97	2.0 - 12.0	COARSE	X		X			
KAL008	K50248	KPT121-2	6/27/97	12.0 - 24.0	COARSE	X					
KAL008	K50249	KPT143-1	6/27/97	0.0 - 2.0	FINE	X	X				
KAL008	K50250	KPT143-1	6/27/97	2.0 - 12.0	FINE	X	X	X			
KAL008	K50251	KPT143-1	6/27/97	12.0 - 20.0	FINE	X	X				
KAL008	K50252	KPT143-1	6/27/97	20.0 - 29.0	FINE	X	X				K50253
KAL008	K50253	KPT143-1	6/27/97	20.0 - 29.0	FINE	X	X				K50252
KAL008	K50254	KPT77-1	6/27/97	0.0 - 2.0	FINE	X	X				
KAL009	K50255	KPT77-1	6/27/97	2.0 - 12.0	FINE	X		X			
KAL009	K50256	KPT77-1	6/27/97	12.0 - 24.0	FINE	X					
KAL009	K50257	KPT77-1	6/27/97	24.0 - 36.0	FINE	X					
KAL009	K50258	KPT150-3	6/27/97	0.0 - 2.0	FINE	X	X				
KAL009	K50259	KPT150-3	6/27/97	2.0 - 14.0	FINE	X	X	X			
KAL009	K50260	KPT150-3	6/27/97	14.0 - 24.0	FINE	X	X				K50262
KAL009	K50261	KPT150-3	6/27/97	24.0 - 38.0	FINE	X	X			X	
KAL009	K50262	KPT150-3	6/27/97	14.0 - 24.0	FINE	X	X				K50260
KAL009	K50263	PPT9-3	6/27/97	0.0 - 2.0	COARSE	X	X				
KAL009	K50264	PPT9-3	6/27/97	2.0 - 7.0	COARSE	X		X			
KAL009	K50265	PPT9-3	6/27/97	7.0 - 18.0	COARSE	X					
KAL009	K50266	PPT9-3	6/27/97	18.0 - 24.0	COARSE	X					
KAL009	K50267	PPT9-3	6/27/97	24.0 - 27.0	COARSE	X					
KAL009	K50268	KPT126-5	6/27/97	0.0 - 2.0	COARSE	X	X				
KAL009	K50269	KPT126-5	6/27/97	2.0 - 12.0	COARSE	X	X	X			
KAL009	K50270	KPT126-5	6/27/97	12.0 - 19.0	COARSE	X	X				
KAL009	K50271	PPT11-2	6/27/97	0.0 - 2.0	COARSE	X	X				
KAL009	K50272	PPT11-2	6/27/97	2.0 - 12.0	COARSE	X		X			K50273
KAL009	K50273	PPT11-2	6/27/97	2.0 - 12.0	COARSE	X					K50272
KAL009	K50274	PPT4-2	6/27/97	0.0 - 2.0	COARSE	X	X				
KAL010	K50275	PPT4-2	6/27/97	2.0 - 12.0	COARSE	X	X	X			
KAL010	K50276	PPT4-2	6/27/97	12.0 - 18.0	COARSE	X	X				
KAL010	K50277	KPT3-1	6/27/97	0.0 - 2.0	FINE	X	X				
KAL010	K50278	KPT3-1	6/27/97	2.0 - 10.0	FINE	X		X			
KAL010	K50279	KPT3-1	6/27/97	10.0 - 16.0	FINE	X					
KAL010	K50280	KPT10-3	6/27/97	0.0 - 2.0	COARSE	X	X				
KAL010	K50281	KPT10-3	6/27/97	2.0 - 12.0	COARSE	X	X	X			
KAL010	K50282	KPT63-1	6/27/97	0.0 - 2.0	COARSE	X	X				
KAL010	K50283	KPT63-1	6/27/97	2.0 - 12.0	COARSE	X		X			
KAL010	K50284	KPT63-1	6/27/97	12.0 - 18.0	COARSE	X					
KAL010	K50285	KPT63-1	6/27/97	18.0 - 28.0	COARSE	X					
KAL010	K50286	KPT109-1	6/27/97	0.0 - 2.0	FINE	X					
KAL010	K50287	KPT109-1	6/27/97	2.0 - 12.0	FINE	X	X	X			
KAL010	K50288	KPT109-1	6/27/97	12.0 - 24.0	FINE	X	X				K50290
KAL010	K50289	KPT109-1	6/27/97	24.0 - 30.0	FINE	X	X			X	
KAL010	K50290	KPT109-1	6/27/97	12.0 - 24.0	FINE	X	X				K50288
KAL010	K50291	KPT94-3	6/30/97	0.0 - 2.0	COARSE	X	X				
KAL010	K50292	KPT94-3	6/30/97	2.0 - 14.0	COARSE	X		X			
KAL010	K50293	KPT94-3	6/30/97	14.0 - 24.0	COARSE	X					
KAL010	K50294	KPT94-3	6/30/97	24.0 - 36.0	COARSE	X					
KAL011	K50295	KPT94-4	6/30/97	0.0 - 2.0	FINE	X	X				
KAL011	K50296	KPT94-4	6/30/97	2.0 - 12.0	FINE	X	X	X			

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL011	K50297	KPT94-4	6/30/97	12.0 - 24.0	FINE	X	X				
KAL011	K50298	KPT94-4	6/30/97	24.0 - 36.0	FINE	X	X				K50299
KAL011	K50299	KPT94-4	6/30/97	24.0 - 36.0	FINE	X	X				K50298
KAL011	K50300	KPT63-2	6/30/97	0.0 - 2.0	COARSE	X	X				
KAL011	K50301	KPT63-2	6/30/97	2.0 - 11.0	COARSE	X		X			
KAL011	K50302	KPT63-2	6/30/97	11.0 - 20.0	COARSE	X					
KAL011	K50303	KPT94-6	6/30/97	0.0 - 2.0	FINE	X	X				
KAL011	K50304	KPT94-6	6/30/97	2.0 - 10.0	FINE	X	X	X			
KAL011	K50305	KPT94-6	6/30/97	10.0 - 24.0	FINE	X	X				K50307
KAL011	K50306	KPT94-6	6/30/97	24.0 - 36.0	FINE	X	X			X	
KAL011	K50307	KPT94-6	6/30/97	10.0 - 24.0	FINE	X	X				K50305
KAL011	K50308	KPT107-3	7/1/97	0.0 - 2.0	FINE	X	X				
KAL011	K50309	KPT107-3	7/1/97	2.0 - 12.0	FINE	X					
KAL011	K50310	KPT107-3	7/1/97	12.0 - 22.0	FINE	X					
KAL011	K50311	KPT107-3	7/1/97	22.0 - 38.0	FINE	X					K50312
KAL011	K50312	KPT107-3	7/1/97	22.0 - 38.0	FINE	X					K50311
KAL011	K50317	KPT72-3	7/1/97	0.0 - 2.0	COARSE	X	X				
KAL011	K50318	KPT72-3	7/1/97	2.0 - 12.0	COARSE	X		X			
KAL012	K50319	KPT74-4	7/1/97	0.0 - 2.0	FINE	X	X				
KAL012	K50320	KPT74-4	7/1/97	2.0 - 12.0	FINE	X	X	X			
KAL012	K50321	KPT74-4	7/1/97	12.0 - 24.0	FINE	X	X				K50323
KAL012	K50322	KPT74-4	7/1/97	24.0 - 36.0	FINE	X	X				
KAL012	K50323	KPT74-4	7/1/97	12.0 - 24.0	FINE	X	X				K50321
KAL012	K50324	KPT153-4	7/1/97	0.0 - 2.0	FINE	X	X				
KAL012	K50325	KPT153-4	7/1/97	2.0 - 12.0	FINE	X		X			
KAL012	K50326	KPT153-4	7/1/97	12.0 - 24.0	FINE	X				X	
KAL012	K50327	KPT153-4	7/1/97	24.0 - 36.0	FINE	X					
KAL012	K50328	KPT131-4	7/1/97	0.0 - 2.0	COARSE	X	X				
KAL012	K50329	KPT131-4	7/1/97	2.0 - 12.0	COARSE	X	X	X			
KAL012	K50330	KPT124-3	7/1/97	0.0 - 2.0	FINE	X	X				
KAL012	K50331	KPT124-3	7/1/97	2.0 - 12.0	FINE	X		X			
KAL012	K50332	KPT124-3	7/1/97	12.0 - 24.0	FINE	X					K50333
KAL012	K50333	KPT124-3	7/1/97	12.0 - 24.0	FINE	X					K50332
KAL012	K50334	KPT72-6	7/1/97	0.0 - 2.0	FINE	X	X				
KAL012	K50335	KPT72-6	7/1/97	2.0 - 11.0	FINE	X	X	X			
KAL012	K50336	KPT72-6	7/1/97	11.0 - 22.0	FINE	X	X				K50338
KAL012	K50337	KPT72-6	7/1/97	22.0 - 36.0	FINE	X	X			X	
KAL012	K50338	KPT72-6	7/1/97	11.0 - 22.0	FINE	X	X				K50336
KAL013	K50339	KPT152-5	7/1/97	0.0 - 2.0	FINE	X	X				
KAL013	K50340	KPT152-5	7/1/97	2.0 - 12.0	FINE	X		X			
KAL013	K50341	KPT152-5	7/1/97	12.0 - 24.0	FINE	X					
KAL013	K50342	KPT152-5	7/1/97	24.0 - 36.0	FINE	X					
KAL013	K50343	KPT62-7	7/1/97	0.0 - 2.0	FINE	X	X				
KAL013	K50344	KPT62-7	7/1/97	2.0 - 8.0	FINE	X	X	X			
KAL013	K50345	KPT62-7	7/1/97	8.0 - 17.0	FINE	X	X				
KAL013	K50346	KPT72-4	7/1/97	0.0 - 2.0	FINE	X	X				
KAL013	K50347	KPT72-4	7/1/97	2.0 - 12.0	FINE	X	X	X			
KAL013	K50348	KPT72-4	7/1/97	12.0 - 24.0	FINE	X					
KAL013	K50349	KPT72-4	7/1/97	24.0 - 36.0	FINE	X					K50350
KAL013	K50350	KPT72-4	7/1/97	24.0 - 36.0	FINE	X					K50349
KAL013	K50351	KPT153-7	7/1/97	0.0 - 2.0	FINE	X	X				
KAL013	K50352	KPT153-7	7/1/97	2.0 - 12.0	FINE	X	X	X			
KAL013	K50353	KPT153-7	7/1/97	12.0 - 24.0	FINE	X	X				K50355
KAL013	K50354	KPT153-7	7/1/97	24.0 - 36.0	FINE	X	X				
KAL013	K50355	KPT153-7	7/1/97	12.0 - 24.0	FINE	X	X				K50353
KAL013	K50356	KPT90-4	7/1/97	0.0 - 2.0	COARSE	X	X				
KAL013	K50357	KPT90-4	7/1/97	2.0 - 12.0	COARSE	X		X			
KAL013	K50358	KPT90-4	7/1/97	12.0 - 24.0	COARSE	X					
KAL014	K50359	KPT90-4	7/1/97	24.0 - 36.0	COARSE	X				X	

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL014	K50360	KPT60-8	7/1/97	0.0 - 2.0	FINE	X	X				
KAL014	K50361	KPT60-8	7/1/97	2.0 - 12.0	FINE	X	X	X			
KAL014	K50362	KPT60-8	7/1/97	12.0 - 20.0	FINE	X	X				
KAL014	K50363	KPT79-6	7/1/97	0.0 - 2.0	FINE	X	X				
KAL014	K50364	KPT79-6	7/1/97	2.0 - 12.0	FINE	X		X			
KAL014	K50365	KPT79-6	7/1/97	12.0 - 24.0	FINE	X					
KAL014	K50366	KPT79-6	7/1/97	24.0 - 36.0	FINE	X					
KAL014	K50367	KPT107-4	7/1/97	0.0 - 2.0	FINE	X	X				
KAL014	K50368	KPT107-4	7/1/97	2.0 - 12.0	FINE	X	X	X			
KAL014	K50369	KPT107-4	7/1/97	12.0 - 24.0	FINE	X	X				
KAL014	K50370	KPT107-4	7/1/97	24.0 - 36.0	FINE	X	X				K50372
KAL014	K50371	KPT107-4	7/1/97	36.0 - 48.0	FINE	X	X				
KAL014	K50372	KPT107-4	7/1/97	24.0 - 36.0	FINE	X	X				K50370
KAL014	K50373	KPT124-7	7/1/97	0.0 - 2.0	FINE	X	X				
KAL014	K50374	KPT124-7	7/1/97	2.0 - 12.0	FINE	X		X			
KAL014	K50375	KPT124-7	7/1/97	12.0 - 24.0	FINE	X					
KAL014	K50376	KPT159-1	7/1/97	0.0 - 2.0	FINE	X	X				
KAL014	K50377	KPT159-1	7/1/97	2.0 - 12.0	FINE	X	X	X			
KAL014	K50378	KPT159-1	7/1/97	12.0 - 24.0	FINE	X	X				K50380
KAL015	K50380	KPT159-1	7/1/97	12.0 - 24.0	FINE	X	X				K50378
KAL015	K50385	PPT10-2	7/1/97	0.0 - 2.0	COARSE	X	X				
KAL015	K50386	PPT10-2	7/1/97	2.0 - 6.0	COARSE	X	X	X			
KAL015	K50387	PPT10-2	7/1/97	6.0 - 18.0	COARSE	X	X				K50389
KAL015	K50388	PPT10-2	7/1/97	18.0 - 24.0	COARSE	X	X				
KAL015	K50389	PPT10-2	7/1/97	6.0 - 18.0	COARSE	X					K50387
KAL015	K50390	KPT156-1	7/1/97	0.0 - 2.0	FINE	X	X				
KAL015	K50391	KPT156-1	7/1/97	2.0 - 12.0	FINE	X		X			
KAL015	K50392	KPT156-1	7/1/97	12.0 - 24.0	FINE	X					
KAL015	K50393	KPT156-1	7/1/97	24.0 - 36.0	FINE	X					
KAL015	K50394	KPT142-1	7/1/97	0.0 - 2.0	FINE	X	X				
KAL015	K50395	KPT142-1	7/1/97	2.0 - 12.0	FINE	X	X	X		X	
KAL015	K50396	KPT142-1	7/1/97	12.0 - 18.0	FINE	X	X				K50397
KAL015	K50397	KPT142-1	7/1/97	12.0 - 18.0	FINE	X	X				K50396
KAL015	K50398	KPT92-3	7/1/97	0.0 - 2.0	COARSE	X	X				
KAL015	K50399	KPT92-3	7/1/97	2.0 - 14.0	COARSE	X		X			
KAL015	K50400	KPT92-3	7/1/97	14.0 - 26.0	COARSE	X					
KAL015	K50401	KPT92-3	7/1/97	26.0 - 34.0	COARSE	X					
KAL015	K50402	KPT92-3	7/2/97	34.0 - 48.0	COARSE	X					
KAL015	K50403	KPT92-3	7/2/97	48.0 - 54.0	COARSE	X					
KAL016	K50404	PPT5-3	7/2/97	0.0 - 2.0	COARSE	X	X				
KAL016	K50405	PPT5-3	7/2/97	2.0 - 12.0	COARSE	X	X	X			
KAL016	K50406	PPT5-3	7/2/97	12.0 - 24.0	COARSE	X	X				K50408
KAL016	K50407	PPT5-3	7/2/97	24.0 - 36.0	COARSE	X	X				
KAL016	K50408	PPT5-3	7/2/97	12.0 - 24.0	COARSE	X	X				K50406
KAL016	K50409	KPT92-4	7/2/97	0.0 - 2.0	COARSE	X	X				
KAL016	K50410	KPT92-4	7/2/97	2.0 - 18.0	COARSE	X		X			
KAL016	K50411	KPT92-4	7/2/97	18.0 - 34.0	COARSE	X				X	
KAL016	K50412	KPT92-4	7/2/97	34.0 - 42.0	COARSE	X					
KAL016	K50413	KPT92-4	7/2/97	42.0 - 52.0	COARSE	X					K50415
KAL016	K50414	KPT92-4	7/2/97	52.0 - 60.0	COARSE	X					
KAL016	K50415	KPT92-4	7/2/97	42.0 - 52.0	COARSE	X					K50413
KAL016	K50416	KPT32-4	7/2/97	0.0 - 2.0	COARSE	X	X				
KAL016	K50417	KPT32-4	7/2/97	2.0 - 12.0	COARSE	X	X				
KAL016	K50418	KPT32-4	7/2/97	12.0 - 24.0	COARSE	X	X				
KAL016	K50419	KPT90-2	7/2/97	0.0 - 2.0	COARSE	X	X	X			
KAL016	K50420	KPT90-2	7/2/97	2.0 - 12.0	COARSE	X		X			
KAL016	K50421	KPT129-8	7/2/97	0.0 - 2.0	FINE	X	X				
KAL016	K50422	KPT129-8	7/2/97	2.0 - 12.0	FINE	X	X	X			
KAL016	K50423	KPT129-8	7/2/97	12.0 - 17.0	FINE	X	X				K50424

TABLE 1

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REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL01[illegible]	K50424	KPT129-8	7/2/97	12.0 - 17.0	FINE	X	X				K50423
KAL01[illegible]	K50425	KPT4-1	7/2/97	0.0 - 2.0	COARSE	X	X				
KAL01[illegible]	K50426	KPT4-1	7/2/97	2.0 - 12.0	COARSE	X		X			
KAL01[illegible]	K50427	KPT4-1	7/2/97	12.0 - 19.0	COARSE	X					
KAL01[illegible]	K50428	KPT119-4	7/2/97	0.0 - 2.0	COARSE	X	X				
KAL01[illegible]	K50429	KPT119-4	7/2/97	2.0 - 12.0	COARSE	X	X	X			
KAL01[illegible]	K50430	KPT119-4	7/2/97	12.0 - 24.0	COARSE	X	X				
KAL01[illegible]	K50431	KPT4-2	7/2/97	0.0 - 2.0	COARSE	X	X				
KAL01[illegible]	K50432	KPT4-2	7/2/97	2.0 - 12.0	COARSE	X		X			
KAL01[illegible]	K50433	KPT6-5	7/2/97	0.0 - 2.0	COARSE	X	X				
KAL01[illegible]	K50434	KPT6-5	7/2/97	2.0 - 12.0	COARSE	X	X	X			
KAL017	K50435	KPT6-5	7/2/97	12.0 - 24.0	COARSE	X	X			X	K50436
KAL017	K50436	KPT6-5	7/2/97	12.0 - 24.0	COARSE	X	X				K50435
KAL017	K50437	KPT6-8	7/2/97	0.0 - 2.0	FINE	X	X				
KAL017	K50438	KPT6-8	7/2/97	2.0 - 13.0	FINE	X		X			
KAL017	K50439	KPT3-2	7/2/97	0.0 - 2.0	COARSE	X	X				
KAL017	K50440	KPT3-2	7/2/97	2.0 - 12.0	COARSE	X	X	X			
KAL017	K50441	KPT10-5	7/2/97	0.0 - 2.0	COARSE	X	X				
KAL017	K50442	KPT10-5	7/2/97	2.0 - 12.0	COARSE	X		X			
KAL017	K50443	KPT1-4	7/2/97	0.0 - 2.0	COARSE	X	X				
KAL018	K50444	KPT1-4	7/2/97	2.0 - 12.0	COARSE	X	X	X			
KAL018	K50445	KPT8-3	7/2/97	0.0 - 2.0	COARSE	X	X				
KAL018	K50446	KPT8-3	7/2/97	2.0 - 9.0	COARSE	X		X			
KAL018	K50447	KPT146-1	7/2/97	0.0 - 2.0	FINE	X	X				
KAL018	K50448	KPT146-1	7/2/97	2.0 - 12.0	FINE	X	X	X			
KAL018	K50449	KPT146-1	7/2/97	12.0 - 22.0	FINE	X	X				K50450
KAL018	K50450	KPT146-1	7/2/97	12.0 - 22.0	FINE	X	X				K50449
KAL018	K50451	KPT3-6	7/2/97	0.0 - 2.0	COARSE	X	X				
KAL018	K50452	KPT3-6	7/2/97	2.0 - 12.0	COARSE	X		X			
KAL018	K50453	KPT3-6	7/2/97	12.0 - 27.0	COARSE	X					
KAL018	K50454	KPT1-6	7/2/97	0.0 - 2.0	COARSE	X	X				
KAL018	K50455	KPT1-6	7/2/97	2.0 - 8.0	COARSE	X	X	X			
KAL018	K50456	PPT3-3	7/2/97	0.0 - 2.0	COARSE	X	X				
KAL018	K50457	PPT3-3	7/2/97	2.0 - 8.0	COARSE	X		X			
KAL018	K50458	PPT3-3	7/2/97	8.0 - 19.0	COARSE	X					K50459
KAL018	K50459	PPT3-3	7/2/97	8.0 - 19.0	COARSE	X					K50458
KAL018	K50460	KPT58-7	7/2/97	0.0 - 2.0	COARSE	X	X				
KAL018	K50461	KPT58-7	7/2/97	2.0 - 9.0	COARSE	X	X	X			
KAL018	K50462	KPT4-5	7/2/97	0.0 - 2.0	COARSE	X	X				
KAL018	K50474	KPT3-7	7/2/97	12.0 - 26.0	FINE	X	X			X	
KAL019	K50463	KPT4-5	7/2/97	2.0 - 12.0	COARSE	X		X			
KAL019	K50464	KPT4-5	7/2/97	12.0 - 24.0	COARSE	X					
KAL019	K50465	KPT24-1	7/2/97	0.0 - 2.0	FINE	X	X				
KAL019	K50466	KPT24-1	7/2/97	2.0 - 12.0	FINE	X	X	X			
KAL019	K50467	KPT24-1	7/2/97	12.0 - 27.0	FINE	X	X				K50468
KAL019	K50468	KPT24-1	7/2/97	12.0 - 27.0	FINE	X	X				K50467
KAL019	K50469	KPT3-3	7/2/97	0.0 - 2.0	COARSE	X	X				
KAL019	K50470	KPT3-3	7/2/97	2.0 - 8.0	COARSE	X		X			
KAL019	K50471	KPT3-3	7/2/97	8.0 - 12.0	COARSE	X					
KAL019	K50472	KPT3-7	7/2/97	0.0 - 2.0	FINE	X	X				
KAL019	K50473	KPT3-7	7/2/97	2.0 - 12.0	FINE	X	X	X			
KAL019	K50475	PPT1-4	7/2/97	0.0 - 2.0	FINE	X	X				
KAL019	K50476	PPT1-4	7/2/97	2.0 - 12.0	FINE	X		X			
KAL019	K50477	PPT1-4	7/2/97	12.0 - 24.0	FINE	X					K50479
KAL019	K50478	PPT1-4	7/2/97	24.0 - 30.0	FINE	X				X	
KAL019	K50479	PPT1-4	7/2/97	12.0 - 24.0	FINE	X					K50477
KAL019	K50480	KPT118-7	7/2/97	0.0 - 2.0	COARSE	X	X				
KAL019	K50481	KPT118-7	7/2/97	2.0 - 7.0	COARSE	X	X	X			
KAL019	K50482	PPT2-4	7/2/97	0.0 - 2.0	COARSE	X	X				

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL019	K50483	PPT2-4	7/2/97	2.0 - 6.0	COARSE	X		X			
KAL020	K50484	KPT159-5	7/2/97	0.0 - 2.0	FINE	X	X				
KAL020	K50485	KPT159-5	7/2/97	2.0 - 12.0	FINE	X	X	X			
KAL020	K50486	KPT159-5	7/2/97	12.0 - 24.0	FINE	X	X				K50488
KAL020	K50487	KPT159-5	7/2/97	24.0 - 36.0	FINE	X	X				
KAL020	K50488	KPT159-5	7/2/97	12.0 - 24.0	FINE	X	X				K50486
KAL020	K50489	KPT1-2	7/2/97	0.0 - 2.0	COARSE	X	X				
KAL020	K50490	KPT1-2	7/2/97	2.0 - 12.0	COARSE	X		X			
KAL020	K50491	KPT126-7	7/2/97	0.0 - 2.0	COARSE	X	X				
KAL020	K50492	KPT126-7	7/2/97	2.0 - 12.0	COARSE	X	X	X			
KAL020	K50493	KPT126-7	7/2/97	12.0 - 19.0	COARSE	X	X				
KAL020	K50494	KPT126-7	7/2/97	19.0 - 21.0	COARSE	X	X				
KAL020	K50495	KPT126-7	7/2/97	21.0 - 36.0	COARSE	X	X				K50496
KAL020	K50496	KPT126-7	7/2/97	21.0 - 36.0	COARSE	X	X				K50495
KAL020	K50497	KPT68-3	7/3/97	0.0 - 2.0	COARSE	X	X				
KAL020	K50498	KPT68-3	7/3/97	2.0 - 12.0	COARSE	X		X			
KAL020	K50499	KPT68-3	7/3/97	12.0 - 22.0	COARSE	X					
KAL020	K50500	KPT139-1	7/3/97	0.0 - 2.0	FINE	X	X				
KAL020	K50501	KPT139-1	7/3/97	2.0 - 12.0	FINE	X	X	X			
KAL020	K50502	KPT139-1	7/3/97	12.0 - 24.0	FINE	X	X				K50504
KAL020	K50503	KPT139-1	7/3/97	24.0 - 36.0	FINE	X	X			X	
KAL021	K50504	KPT139-1	7/3/97	12.0 - 24.0	FINE	X	X				K50502
KAL021	K50505	PPT15-2	7/3/97	0.0 - 2.0	COARSE	X	X				
KAL021	K50506	PPT15-2	7/3/97	2.0 - 12.0	COARSE	X		X			
KAL021	K50507	KPT69-7	7/3/97	0.0 - 2.0	COARSE	X	X				
KAL021	K50508	KPT69-7	7/3/97	2.0 - 12.0	COARSE	X	X	X			
KAL021	K50509	KPT67-3	7/3/97	0.0 - 2.0	FINE	X	X				
KAL021	K50510	KPT67-3	7/3/97	12.0 - 25.0	FINE	X		X			
KAL021	K50511	KPT57-1	7/3/97	0.0 - 2.0	COARSE	X	X				
KAL021	K50512	KPT57-1	7/3/97	2.0 - 5.0	COARSE	X	X	X			
KAL021	K50513	KPT53-5	7/3/97	0.0 - 2.0	FINE	X	X				
KAL021	K50514	KPT53-5	7/3/97	2.0 - 10.0	FINE	X		X			
KAL021	K50517	KPT67-3	7/3/97	2.0 - 12.0	FINE	X					
KAL021	K50518	KPT69-3	7/3/97	0.0 - 2.0	COARSE	X	X				
KAL021	K50519	KPT69-3	7/3/97	2.0 - 12.0	COARSE	X		X			
KAL021	K50520	KPT66-3	7/3/97	0.0 - 2.0	COARSE	X	X				
KAL021	K50521	KPT66-3	7/3/97	2.0 - 12.0	COARSE	X	X	X			
KAL021	K50522	KPT66-3	7/3/97	12.0 - 24.0	COARSE	X	X			X	
KAL021	K50523	KPT66-3	7/3/97	24.0 - 35.0	COARSE	X	X				K50524
KAL021	K50524	KPT66-3	7/3/97	24.0 - 35.0	COARSE	X	X				K50523
KAL021	K50525	KPT5-8	7/3/97	0.0 - 2.0	FINE	X	X				
KAL022	K50526	KPT5-8	7/3/97	2.0 - 12.0	FINE	X		X			
KAL022	K50527	KPT5-8	7/3/97	12.0 - 24.0	FINE	X					
KAL022	K50528	KPT65-6	7/3/97	0.0 - 2.0	FINE	X	X				
KAL022	K50529	KPT65-6	7/3/97	2.0 - 12.0	FINE	X	X	X			
KAL022	K50530	KPT65-6	7/3/97	12.0 - 24.0	FINE	X	X				K50532
KAL022	K50531	KPT65-6	7/3/97	24.0 - 36.0	FINE	X	X				
KAL022	K50532	KPT65-6	7/3/97	12.0 - 24.0	FINE	X					K50530
KAL022	K50533	KPT69-5	7/3/97	0.0 - 2.0	COARSE	X	X				
KAL022	K50534	KPT69-5	7/3/97	2.0 - 12.0	COARSE	X		X			
KAL022	K50535	KPT69-5	7/3/97	12.0 - 23.0	COARSE	X					
KAL022	K50536	KPT67-5	7/3/97	0.0 - 2.0	FINE	X	X				
KAL022	K50537	KPT67-5	7/3/97	2.0 - 12.0	FINE	X	X	X			
KAL022	K50538	KPT67-5	7/3/97	12.0 - 24.0	FINE	X	X				K50540
KAL022	K50539	KPT67-5	7/3/97	24.0 - 30.0	FINE	X	X			X	
KAL022	K50540	KPT67-5	7/3/97	12.0 - 24.0	FINE	X	X				K50538
KAL022	K50541	KPT59-2	7/3/97	0.0 - 2.0	COARSE	X	X				
KAL022	K50542	KPT59-2	7/3/97	2.0 - 8.0	COARSE	X		X			
KAL022	K50543	KPT66-5	7/3/97	0.0 - 2.0	FINE	X	X				

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL022	K50544	KPT66-5	7/3/97	2.0 - 12.0	FINE	X	X	X			
KAL022	K50545	KPT66-5	7/3/97	12.0 - 24.0	FINE	X	X				
KAL023	K50546	KPT66-5	7/3/97	24.0 - 36.0	FINE	X	X				
KAL023	K50547	KPT4-6	7/7/97	0.0 - 2.0	COARSE	X	X				
KA_023	K50548	KPT4-6	7/7/97	2.0 - 12.0	COARSE	X		X			
KA_023	K50549	KPT4-6	7/7/97	12.0 - 24.0	COARSE	X					
KA_023	K50550	KPT40-7	7/7/97	0.0 - 2.0	FINE	X	X				
KA_023	K50551	KPT40-7	7/7/97	2.0 - 12.0	FINE	X	X	X			
KA_023	K50552	KPT40-7	7/7/97	12.0 - 27.0	FINE	X	X				K50553
KA_023	K50553	KPT40-7	7/7/97	12.0 - 27.0	FINE	X	X				K50552
KA_023	K50554	KPT39-1	7/7/97	0.0 - 2.0	FINE	X	X				
KA_023	K50555	KPT39-1	7/7/97	2.0 - 14.0	FINE	X		X			
KA_023	K50556	KPT68-2	7/7/97	0.0 - 2.0	COARSE	X	X				
KA_023	K50557	KPT68-2	7/7/97	2.0 - 9.0	COARSE	X	X	X			
KA_023	K50558	KPT93-5	7/7/97	0.0 - 2.0	COARSE	X	X				
KA_023	K50559	KPT93-5	7/7/97	2.0 - 12.0	COARSE	X		X			
KA_023	K50560	KPT93-5	7/7/97	12.0 - 24.0	COARSE	X					
KA_023	K50561	KPT93-5	7/7/97	24.0 - 36.0	COARSE	X					
KA_023	K50562	KPT93-3	7/7/97	0.0 - 2.0	COARSE	X	X				
KA_023	K50563	KPT93-3	7/7/97	2.0 - 12.0	COARSE	X	X	X			
KA_023	K50564	KPT93-3	7/7/97	12.0 - 30.0	COARSE	X	X			X	
KA_023	K50565	KPT93-3	7/7/97	30.0 - 36.0	COARSE	X	X				K50566
KA_024	K50566	KPT93-3	7/7/97	30.0 - 36.0	COARSE	X	X				K50565
KA_024	K50567	KPT13-4	7/7/97	0.0 - 2.0	COARSE	X	X				
KA_024	K50568	KPT13-4	7/7/97	2.0 - 12.0	COARSE	X		X			
KA_024	K50569	KPT13-4	7/7/97	12.0 - 28.0	COARSE	X					
KA_024	K50570	KPT13-4	7/7/97	28.0 - 38.0	COARSE	X					K50571
KA_024	K50571	KPT13-4	7/7/97	28.0 - 38.0	COARSE	X					K50570
KA_024	K50572	KPT38-7	7/7/97	0.0 - 2.0	FINE	X	X				
KA_024	K50573	KPT38-7	7/7/97	2.0 - 12.0	FINE	X	X	X			
KA_024	K50574	KPT38-7	7/7/97	12.0 - 19.0	FINE	X	X				
KA_024	K50575	KPT13-4	7/8/97	38.0 - 50.0	COARSE	X					
KA_024	K50576	KPT93-3	7/8/97	36.0 - 48.0	COARSE	X	X				
KA_024	K50577	KPT93-3	7/8/97	48.0 - 60.0	COARSE	X	X				
KA_024	K50578	KPT93-3	7/8/97	60.0 - 66.0	COARSE	X	X				
KA_024	K50583	KPT108-8	7/8/97	0.0 - 2.0	FINE	X	X				
KA_024	K50584	KPT108-8	7/8/97	2.0 - 12.0	FINE	X	X	X			
KA_024	K50585	KPT108-8	7/8/97	12.0 - 18.0	FINE	X	X			X	
KA_024	K50586	KPT108-8	7/8/97	18.0 - 30.0	FINE	X	X				K50588
KA_024	K50587	KPT108-8	7/8/97	30.0 - 42.0	FINE	X	X				
KA_024	K50588	KPT108-8	7/8/97	18.0 - 30.0	FINE	X	X				K50586
KA_024	K50589	KPT65-5	7/8/97	0.0 - 2.0	FINE	X	X				
KA_025	K50590	KPT65-5	7/8/97	2.0 - 12.0	FINE	X		X			K50592
KA_025	K50591	KPT65-5	7/8/97	12.0 - 26.0	FINE	X					
KA_025	K50592	KPT65-5	7/8/97	2.0 - 12.0	FINE	X					K50590
KA_025	K50593	KPT12-4	7/8/97	0.0 - 2.0	COARSE	X	X				
KA_025	K50594	KPT12-4	7/8/97	2.0 - 12.0	COARSE	X	X	X			
KA_025	K50595	KPT12-4	7/8/97	12.0 - 24.0	COARSE	X	X				
KA_025	K50596	KPT66-2	7/8/97	0.0 - 2.0	FINE	X	X				
KA_025	K50597	KPT66-2	7/8/97	2.0 - 12.0	FINE	X		X			
KA_025	K50598	KPT66-2	7/8/97	12.0 - 24.0	FINE	X					
KA_025	K50599	KPT66-2	7/8/97	24.0 - 33.0	FINE	X					
KA_025	K50600	PPT1-3	7/8/97	0.0 - 2.0	FINE	X	X				
KA_025	K50601	PPT1-3	7/8/97	2.0 - 16.0	FINE	X	X	X			
KA_025	K50602	PPT1-3	7/8/97	16.0 - 24.0	FINE	X	X				K50604
KA_025	K50603	PPT1-3	7/8/97	24.0 - 36.0	FINE	X	X			X	
KA_025	K50604	PPT1-3	7/8/97	16.0 - 24.0	FINE	X	X				K50602
KA_025	K50605	KPT107-3	7/8/97	0.0 - 2.0	FINE	X	X				
KA_025	K50606	KPT107-3	7/8/97	2.0 - 12.0	FINE	X		X			

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL025	K50607	KPT107-3	7/8/97	12.0 - 18.0	FINE	X					
KAL025	K50608	KPT107-3	7/8/97	18.0 - 30.0	FINE	X					
KAL025	K50609	KPT107-3	7/8/97	30.0 - 42.0	FINE	X					
KAL026	K50610	KPT107-3	7/8/97	42.0 - 54.0	FINE	X					
KAL026	K50611	KPT56-7	7/8/97	0.0 - 2.0	FINE	X	X				
KAL026	K50612	KPT56-7	7/8/97	2.0 - 13.0	FINE	X	X	X			
KAL026	K50613	KPT34-5	7/8/97	0.0 - 2.0	FINE	X	X				
KAL026	K50614	KPT34-5	7/8/97	2.0 - 7.0	FINE	X		X			
KAL026	K50615	KPT132-7	7/8/97	0.0 - 2.0	COARSE	X	X				
KAL026	K50616	KPT132-7	7/8/97	2.0 - 12.0	COARSE	X	X	X			
KAL026	K50617	KPT132-7	7/8/97	12.0 - 24.0	COARSE	X	X				
KAL026	K50618	KPT132-7	7/8/97	24.0 - 36.0	COARSE	X	X				K50619
KAL026	K50619	KPT132-7	7/8/97	24.0 - 36.0	COARSE	X	X				K50618
KAL026	K50620	KPT136-8	7/8/97	0.0 - 2.0	FINE	X	X				
KAL026	K50621	KPT136-8	7/8/97	2.0 - 12.0	FINE	X		X			
KAL026	K50622	KPT136-8	7/8/97	12.0 - 24.0	FINE	X					K50624
KAL026	K50623	KPT136-8	7/8/97	24.0 - 32.0	FINE	X				X	
KAL026	K50624	KPT136-8	7/8/97	12.0 - 24.0	FINE	X					K50622
KAL026	K50625	PPT7-2	7/8/97	0.0 - 2.0	COARSE	X	X				
KAL026	K50626	PPT7-2	7/8/97	2.0 - 12.0	COARSE	X	X	X			
KAL026	K50627	PPT7-2	7/8/97	12.0 - 24.0	COARSE	X	X				
KAL026	K50628	PPT7-2	7/8/97	24.0 - 36.0	COARSE	X	X				
KAL026	K50629	KPT108-7	7/8/97	0.0 - 2.0	FINE	X	X				
KAL027	K50630	KPT108-7	7/8/97	2.0 - 12.0	FINE	X		X			
KAL027	K50631	KPT108-7	7/8/97	12.0 - 24.0	FINE	X					
KAL027	K50632	KPT108-7	7/8/97	24.0 - 30.0	FINE	X					
KAL027	K50633	KPT66-4	7/8/97	0.0 - 2.0	COARSE	X	X				
KAL027	K50634	KPT66-4	7/8/97	2.0 - 12.0	COARSE	X	X	X			
KAL027	K50635	KPT66-4	7/8/97	12.0 - 24.0	COARSE	X	X				K50637
KAL027	K50636	KPT66-4	7/8/97	24.0 - 36.0	COARSE	X	X				
KAL027	K50637	KPT66-4	7/8/97	12.0 - 24.0	COARSE	X	X				K50635
KAL027	K50638	KPT65-1	7/8/97	0.0 - 2.0	FINE	X	X				
KAL027	K50639	KPT65-1	7/8/97	2.0 - 12.0	FINE	X		X			
KAL027	K50640	KPT65-1	7/8/97	12.0 - 20.0	FINE	X					
KAL027	K50641	KPT64-1	7/8/97	0.0 - 2.0	FINE	X	X				
KAL027	K50642	KPT64-1	7/8/97	2.0 - 12.0	FINE	X	X	X		X	
KAL027	K50643	KPT64-1	7/8/97	12.0 - 16.0	FINE	X	X				
KAL027	K50644	KPT64-1	7/8/97	16.0 - 20.0	FINE	X	X				
KAL027	K50645	KPT64-1	7/8/97	20.0 - 22.0	FINE	X	X				
KAL027	K50646	KPT64-1	7/8/97	22.0 - 34.0	FINE	X	X				K50647
KAL027	K50647	KPT64-1	7/8/97	22.0 - 24.0	FINE	X	X				K50646
KAL027	K50648	KPT32-6	7/8/97	0.0 - 2.0	COARSE	X	X				
KAL027	K50649	KPT32-6	7/8/97	2.0 - 12.0	COARSE	X		X			
KAL028	K50650	KPT32-6	7/8/97	12.0 - 22.0	COARSE	X					K50651
KAL028	K50651	KPT32-6	7/8/97	12.0 - 22.0	COARSE	X					K50650
KAL028	K50652	KPT28-1	7/8/97	0.0 - 2.0	FINE	X	X				
KAL028	K50653	KPT28-1	7/8/97	2.0 - 14.0	FINE	X	X	X			
KAL028	K50654	KPT28-1	7/8/97	14.0 - 26.0	FINE	X	X				
KAL028	K50655	KPT67-6	7/8/97	0.0 - 2.0	FINE	X	X				
KAL028	K50656	KPT67-6	7/8/97	2.0 - 12.0	FINE	X		X			
KAL028	K50657	KPT67-6	7/8/97	12.0 - 24.0	FINE	X					
KAL028	K50658	KPT67-6	7/8/97	24.0 - 31.0	FINE	X					
KAL028	K50659	KPT52-1	7/8/97	0.0 - 2.0	COARSE	X	X				
KAL028	K50660	KPT52-1	7/8/97	2.0 - 12.0	COARSE	X	X	X			
KAL028	K50661	KPT52-1	7/8/97	12.0 - 25.0	COARSE	X	X				
KAL028	K50662	PPT6-3	7/8/97	0.0 - 2.0	COARSE	X	X				
KAL028	K50663	PPT6-3	7/8/97	2.0 - 12.0	COARSE	X		X			
KAL028	K50664	KPT68-7	7/8/97	0.0 - 2.0	COARSE	X	X				
KAL028	K50665	KPT68-7	7/8/97	2.0 - 9.0	COARSE	X	X	X			

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REMEDIAL INVESTIGATION REPORT
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SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL028	K50666	KPT35-8	7/8/97	0.0 - 2.0	COARSE	X	X				
KAL028	K50667	KPT35-8	7/8/97	2.0 - 9.0	COARSE	X		X			
KAL028	K50668	KPT32-5	7/8/97	0.0 - 2.0	COARSE	X	X				
KAL028	K50669	KPT32-5	7/8/97	2.0 - 12.0	COARSE	X	X	X		X	
KAL029	K50670	KPT32-5	7/8/97	12.0 - 22.0	COARSE	X	X				K50671
KAL029	K50671	KPT32-5	7/8/97	12.0 - 22.0	COARSE	X	X				K50670
KAL029	K50672	KPT39-2	7/8/97	0.0 - 2.0	COARSE	X	X				
KAL029	K50673	KPT39-2	7/8/97	2.0 - 8.0	COARSE	X		X			
KAL029	K50674	KPT33-4	7/9/97	0.0 - 2.0	COARSE	X	X				
KAL029	K50675	KPT33-4	7/9/97	2.0 - 12.0	COARSE	X	X	X			
KAL029	K50676	KPT53-3	7/9/97	0.0 - 2.0	COARSE	X	X				
KAL029	K50677	KPT53-3	7/9/97	2.0 - 12.0	COARSE	X		X			
KAL029	K50678	KPT53-3	7/9/97	12.0 - 25.0	COARSE	X					K50679
KAL029	K50679	KPT53-3	7/9/97	12.0 - 25.0	COARSE	X					K50678
KAL029	K50680	KPT33-7	7/9/97	0.0 - 2.0	COARSE	X	X				
KAL029	K50681	KPT33-7	7/9/97	2.0 - 11.0	COARSE	X	X	X			
KAL029	K50682	KPT132-1	7/9/97	0.0 - 2.0	COARSE	X	X				
KAL029	K50683	KPT132-1	7/9/97	2.0 - 12.0	COARSE	X		X			
KAL029	K50684	PPT1-2	7/9/97	0.0 - 2.0	FINE	X	X				
KAL029	K50685	PPT1-2	7/9/97	2.0 - 12.0	FINE	X	X	X			
KAL029	K50686	PPT1-2	7/9/97	12.0 - 21.0	FINE	X	X			X	
KAL029	K50687	PPT1-2	7/9/97	21.0 - 34.0	FINE	X	X				
KAL029	K50688	PPT1-2	7/9/97	34.0 - 43.0	FINE	X	X				K50690
KAL029	K50689	PPT1-2	7/9/97	43.0 - 45.0	FINE	X	X				
KAL030	K50690	PPT1-2	7/9/97	34.0 - 43.0	FINE	X	X				K50688
KAL030	K50691	KPT58-6	7/9/97	0.0 - 2.0	FINE	X	X				
KAL030	K50692	KPT58-6	7/9/97	2.0 - 6.0	FINE	X		X			
KAL030	K50693	KPT56-2	7/9/97	0.0 - 2.0	COARSE	X	X				
KAL030	K50694	KPT56-2	7/9/97	2.0 - 6.0	COARSE	X	X	X			
KAL030	K50695	KPT53-2	7/9/97	0.0 - 2.0	FINE	X	X				
KAL030	K50696	KPT53-2	7/9/97	2.0 - 11.0	FINE	X		X			
KAL030	K50697	PPT14-3	7/9/97	0.0 - 2.0	COARSE	X	X				
KAL030	K50698	PPT14-3	7/9/97	2.0 - 11.0	COARSE	X	X	X			K50699
KAL030	K50699	PPT14-3	7/9/97	2.0 - 11.0	COARSE	X	X				K50698
KAL030	K50700	KPT100-2	7/9/97	0.0 - 2.0	COARSE	X	X				
KAL030	K50701	KPT100-2	7/9/97	2.0 - 16.0	COARSE	X		X			
KAL030	K50702	KPT58-4	7/9/97	0.0 - 2.0	COARSE	X	X				
KAL030	K50703	KPT58-4	7/9/97	2.0 - 8.0	COARSE	X	X	X			
KAL030	K50704	KPT56-6	7/9/97	0.0 - 2.0	COARSE	X	X				
KAL030	K50705	KPT56-6	7/9/97	2.0 - 7.0	COARSE	X		X			
KAL030	K50706	KPT101-2	7/9/97	0.0 - 2.0	COARSE	X	X				
KAL030	K50707	KPT101-2	7/9/97	2.0 - 13.0	COARSE	X	X	X			
KAL030	K50708	KPT91-6	7/9/97	0.0 - 2.0	FINE	X	X				
KAL030	K50709	KPT91-6	7/9/97	2.0 - 12.0	FINE	X		X			
KAL031	K50710	KPT91-6	7/9/97	12.0 - 24.0	FINE	X					
KAL031	K50711	KPT91-6	7/9/97	24.0 - 36.0	FINE	X					
KAL031	K50712	KPT66-1	7/9/97	0.0 - 2.0	FINE	X	X				
KAL031	K50713	KPT66-1	7/9/97	2.0 - 12.0	FINE	X	X	X			
KAL031	K50714	KPT66-1	7/9/97	12.0 - 24.0	FINE	X	X				K50716
KAL031	K50715	KPT66-1	7/9/97	24.0 - 32.0	FINE	X	X			X	
KAL031	K50716	KPT66-1	7/9/97	12.0 - 24.0	FINE	X	X				K50714
KAL031	K50717	KPT95-2	7/9/97	0.0 - 2.0	COARSE	X	X				
KAL031	K50718	KPT95-2	7/9/97	2.0 - 6.0	COARSE	X		X			
KAL031	K50719	KPT95-7	7/9/97	0.0 - 2.0	FINE	X	X				
KAL031	K50720	KPT95-7	7/9/97	2.0 - 12.0	FINE	X	X	X			K50723
KAL031	K50721	KPT95-7	7/9/97	12.0 - 18.0	FINE	X	X				
KAL031	K50722	KPT95-7	7/9/97	18.0 - 24.0	FINE	X	X				
KAL031	K50723	KPT95-7	7/9/97	2.0 - 12.0	FINE	X	X				K50720
KAL031	K50724	KPT90-3	7/9/97	0.0 - 2.0	COARSE	X	X				

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL031	K50725	KPT90-3	7/9/97	2.0 - 12.0	COARSE	X		X			
KAL031	K50726	KPT54-6	7/9/97	0.0 - 2.0	COARSE	X	X				
KAL031	K50727	KPT54-6	7/9/97	2.0 - 10.0	COARSE	X	X	X			
KAL031	K50728	KPT54-6	7/9/97	10.0 - 14.0	COARSE	X	X				
KAL031	K50729	KPT91-1	7/9/97	0.0 - 2.0	FINE	X	X				
KAL032	K50730	KPT91-1	7/9/97	2.0 - 12.0	FINE	X	X	X			K50732
KAL032	K50731	KPT91-1	7/9/97	12.0 - 24.0	FINE	X	X			X	
KAL032	K50732	KPT91-1	7/9/97	2.0 - 12.0	FINE	X	X				K50730
KAL032	K50733	KPT98-3	7/9/97	0.0 - 2.0	COARSE	X	X				
KAL032	K50734	KPT98-3	7/9/97	2.0 - 8.0	COARSE	X		X			
KAL032	K50735	KPT97-3	7/9/97	0.0 - 2.0	COARSE	X	X				
KAL032	K50736	KPT97-3	7/9/97	2.0 - 9.0	COARSE	X	X	X			
KAL032	K50737	KPT100-7	7/9/97	0.0 - 2.0	FINE	X	X				
KAL032	K50738	KPT100-7	7/9/97	2.0 - 12.0	FINE	X		X			
KAL032	K50739	KPT100-7	7/9/97	12.0 - 26.0	FINE	X					K50740
KAL032	K50740	KPT100-7	7/9/97	12.0 - 26.0	FINE	X					K50739
KAL032	K50741	KPT90-1	7/9/97	0.0 - 2.0	COARSE	X	X				
KAL032	K50742	KPT90-1	7/9/97	2.0 - 12.0	COARSE	X		X			
KAL032	K50743	KPT90-1	7/9/97	12.0 - 19.0	COARSE	X					
KAL032	K50744	KPT102-2	7/9/97	0.0 - 2.0	COARSE	X	X				
KAL032	K50745	KPT102-2	7/9/97	2.0 - 11.0	COARSE	X	X	X			
KAL032	K50746	KPT98-2	7/9/97	0.0 - 2.0	COARSE	X	X				
KAL032	K50747	KPT98-2	7/9/97	2.0 - 11.0	COARSE	X	X	X			
KAL032	K50748	KPT90-7	7/9/97	0.0 - 2.0	FINE	X	X				
KAL032	K50749	KPT90-7	7/9/97	2.0 - 12.0	FINE	X	X	X			K50751
KAL033	K50750	KPT90-7	7/9/97	12.0 - 21.0	FINE	X	X			X	
KAL033	K50751	KPT90-7	7/9/97	2.0 - 12.0	FINE	X	X				K50749
KAL033	K50752	KPT99-1	7/9/97	0.0 - 2.0	FINE	X	X				
KAL033	K50753	KPT99-1	7/9/97	2.0 - 12.0	FINE	X		X			
KAL033	K50754	KPT99-1	7/9/97	12.0 - 23.0	FINE	X					
KAL033	K50755	KPT123-5	7/10/97	0.0 - 2.0	FINE	X	X				
KAL033	K50756	KPT123-5	7/10/97	2.0 - 12.0	FINE	X		X			
KAL033	K50757	KPT123-5	7/10/97	12.0 - 24.0	FINE	X					
KAL033	K50758	KPT123-5	7/10/97	24.0 - 30.0	FINE	X					
KAL033	K50759	KPT74-6	7/10/97	0.0 - 2.0	COARSE	X	X				
KAL033	K50760	KPT74-6	7/10/97	2.0 - 12.0	COARSE	X		X			
KAL033	K50761	KPT74-6	7/10/97	12.0 - 18.0	COARSE	X					
KAL033	K50762	KPT74-6	7/10/97	18.0 - 38.0	COARSE	X					K50763
KAL033	K50763	KPT74-6	7/10/97	18.0 - 38.0	COARSE	X					K50762
KAL033	K50764	KPT100-3	7/10/97	0.0 - 2.0	COARSE	X	X				
KAL033	K50765	KPT100-3	7/10/97	2.0 - 6.0	COARSE	X	X	X			
KAL033	K50766	KPT57-7	7/10/97	0.0 - 2.0	COARSE	X	X				
KAL033	K50767	KPT57-7	7/10/97	2.0 - 6.0	COARSE	X		X			
KAL033	K50768	KPT137-3	7/10/97	0.0 - 2.0	FINE	X	X				
KAL033	K50769	KPT137-3	7/10/97	2.0 - 10.0	FINE	X	X				
KAL034	K50770	KPT137-3	7/10/97	10.0 - 21.0	FINE	X	X			X	
KAL034	K50771	KPT137-3	7/10/97	21.0 - 32.0	FINE	X	X				K50772
KAL034	K50772	KPT137-3	7/10/97	21.0 - 32.0	FINE	X	X				K50771
KAL034	K50773	KPT128-3	7/10/97	0.0 - 2.0	COARSE	X	X				
KAL034	K50774	KPT128-3	7/10/97	2.0 - 12.0	COARSE	X		X			
KAL034	K50775	KPT132-2	7/10/97	0.0 - 2.0	COARSE	X	X				
KAL034	K50776	KPT132-2	7/10/97	2.0 - 9.0	COARSE	X	X	X			
KAL034	K50777	KPT18-2	7/10/97	0.0 - 2.0	FINE	X	X				
KAL034	K50778	KPT18-2	7/10/97	2.0 - 14.0	FINE	X		X			
KAL034	K50779	KPT123-7	7/10/97	0.0 - 2.0	FINE	X	X				
KAL034	K50780	KPT123-7	7/10/97	2.0 - 12.0	FINE	X	X	X			
KAL034	K50781	KPT123-7	7/10/97	12.0 - 24.0	FINE	X	X				K50783
KAL034	K50782	KPT123-7	7/10/97	24.0 - 28.0	FINE	X	X				
KAL034	K50783	KPT123-7	7/10/97	12.0 - 24.0	FINE	X	X				K50781

TABLE 1

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REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL03-	K50784	KPT115-1	7/10/97	0.0 - 2.0	FINE	X	X				
KAL03-	K50785	KPT115-1	7/10/97	2.0 - 12.0	FINE	X		X			
KAL03-	K50786	KPT115-1	7/10/97	12.0 - 22.0	FINE	X					
KAL03-	K50787	KPT92-2	7/10/97	0.0 - 2.0	COARSE	X	X				
KAL03-	K50788	KPT92-2	7/10/97	2.0 - 10.0	COARSE	X	X	X			
KAL03-	K50789	KPT92-2	7/10/97	10.0 - 24.0	COARSE	X	X				K50791
KAL03-	K50790	KPT92-2	7/10/97	24.0 - 36.0	COARSE	X	X			X	
KAL03-	K50791	KPT92-2	7/10/97	10.0 - 24.0	COARSE	X	X				K50789
KAL03-	K50792	KPT50-6	7/10/97	0.0 - 2.0	FINE	X	X				
KAL03-	K50793	KPT50-6	7/10/97	2.0 - 12.0	FINE	X		X			
KAL03-	K50794	KPT50-6	7/10/97	12.0 - 24.0	FINE	X					
KAL03-	K50795	KPT115-5	7/10/97	0.0 - 2.0	FINE	X	X				
KAL03-	K50796	KPT115-5	7/10/97	2.0 - 12.0	FINE	X	X	X			
KAL03-	K50797	KPT115-5	7/10/97	12.0 - 24.0	FINE	X	X				
KAL03-	K50798	KPT157-2	7/10/97	0.0 - 2.0	FINE	X	X				
KAL03-	K50799	KPT157-2	7/10/97	2.0 - 12.0	FINE	X		X			
KAL03-	K50800	KPT157-2	7/10/97	12.0 - 24.0	FINE	X					K50802
KAL03-	K50801	KPT157-2	7/10/97	24.0 - 31.0	FINE	X					
KAL03-	K50802	KPT157-2	7/10/97	12.0 - 24.0	FINE	X					K50800
KAL03-	K50803	KPT125-7	7/10/97	0.0 - 2.0	COARSE	X	X				
KAL03-	K50804	KPT125-7	7/10/97	2.0 - 12.0	COARSE	X	X	X			
KAL03-	K50805	KPT125-5	7/10/97	0.0 - 2.0	COARSE	X	X				
KAL03-	K50806	KPT125-5	7/10/97	2.0 - 12.0	COARSE	X		X			
KAL03-	K50807	KPT125-5	7/10/97	12.0 - 24.0	COARSE	X					
KAL03-	K50808	KPT125-5	7/10/97	24.0 - 29.0	COARSE	X					
KAL03-	K50809	KPT157-6	7/10/97	0.0 - 2.0	FINE	X	X				
KAL03-	K50810	KPT157-6	7/10/97	2.0 - 12.0	FINE	X	X	X			
KAL03-	K50811	KPT157-6	7/10/97	12.0 - 24.0	FINE	X	X			X	
KAL03-	K50812	KPT157-6	7/10/97	24.0 - 36.0	FINE	X	X				K50813
KAL03-	K50813	KPT157-6	7/10/97	24.0 - 36.0	FINE	X	X				K50812
KAL03-	K50814	KPT115-6	7/10/97	0.0 - 2.0	FINE	X	X				
KAL03-	K50815	KPT115-6	7/10/97	2.0 - 10.0	FINE	X		X			
KAL03-	K50816	KPT115-6	7/10/97	10.0 - 24.0	FINE	X					K50817
KAL03-	K50817	KPT115-6	7/10/97	10.0 - 24.0	FINE	X					K50816
KAL03-	K50818	KPT125-6	7/10/97	0.0 - 2.0	COARSE	X	X				
KAL03-	K50819	KPT125-6	7/10/97	2.0 - 12.0	COARSE	X	X	X			
KAL03-	K50820	KPT125-6	7/10/97	12.0 - 24.0	COARSE	X	X				
KAL03-	K50821	KPT125-6	7/10/97	24.0 - 36.0	COARSE	X	X				
KAL03-	K50822	KPT120-7	7/10/97	0.0 - 2.0	COARSE	X	X				
KAL03-	K50823	KPT120-7	7/10/97	2.0 - 15.0	COARSE	X		X			
KAL03-	K50824	KPT77-8	7/10/97	0.0 - 2.0	FINE	X	X				
KAL03-	K50825	KPT77-8	7/10/97	2.0 - 12.0	FINE	X	X	X			
KAL03-	K50826	KPT77-8	7/10/97	12.0 - 24.0	FINE	X	X			X	
KAL03-	K50827	KPT77-8	7/10/97	24.0 - 36.0	FINE	X	X				K50828
KAL03-	K50828	KPT77-8	7/10/97	24.0 - 36.0	FINE	X	X				K50827
KAL03-	K50829	KPT20-3	7/10/97	0.0 - 2.0	COARSE	X	X				
KAL03-	K50830	KPT20-3	7/10/97	2.0 - 8.0	COARSE	X		X			
KAL03-	K50831	KPT20-3	7/10/97	8.0 - 14.0	COARSE	X					
KAL03-	K50832	PPT5-4	7/10/97	0.0 - 2.0	COARSE	X	X				
KAL03-	K50833	PPT5-4	7/10/97	2.0 - 12.0	COARSE	X	X	X			
KAL03-	K50834	KPT150-8	7/10/97	0.0 - 2.0	FINE	X	X				
KAL03-	K50835	KPT150-8	7/10/97	2.0 - 12.0	FINE	X		X			
KAL03-	K50836	KPT150-8	7/10/97	12.0 - 24.0	FINE	X					
KAL03-	K50837	KPT150-8	7/10/97	24.0 - 36.0	FINE	X					
KAL03-	K50838	KPT129-4	7/10/97	0.0 - 2.0	FINE	X	X				
KAL03-	K50839	KPT129-4	7/10/97	2.0 - 12.0	FINE	X	X	X			
KAL03-	K50840	KPT129-4	7/10/97	12.0 - 23.0	FINE	X	X				K50841
KAL03-	K50841	KPT129-4	7/10/97	12.0 - 23.0	FINE	X	X				K50840
KAL03-	K50842	KPT18-3	7/10/97	0.0 - 2.0	COARSE	X	X				

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SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL037	K50843	KPT18-3	7/10/97	2.0 - 12.0	COARSE	X		X			
KAL037	K50844	KPT17-3	7/10/97	0.0 - 2.0	COARSE	X	X				
KAL037	K50845	KPT17-3	7/10/97	2.0 - 12.0	COARSE	X	X	X			
KAL037	K50846	KPT17-3	7/10/97	12.0 - 24.0	COARSE	X	X				
KAL037	K50847	KPT17-6	7/10/97	0.0 - 2.0	COARSE	X	X				
KAL037	K50848	KPT17-6	7/10/97	2.0 - 15.0	COARSE	X		X			
KAL037	K50851	KPT89-6	7/10/97	12.0 - 24.0	COARSE	X	X			X	
KAL038	K50849	KPT89-6	7/10/97	0.0 - 2.0	COARSE	X	X				
KAL038	K50850	KPT89-6	7/10/97	2.0 - 12.0	COARSE	X	X	X			
KAL038	K50852	KPT89-6	7/10/97	24.0 - 36.0	COARSE	X	X				K50854
KAL038	K50853	KPT89-6	7/10/97	36.0 - 42.0	COARSE	X	X				
KAL038	K50854	KPT89-6	7/10/97	24.0 - 36.0	COARSE	X	X				K50852
KAL038	K50855	KPT124-5	7/10/97	0.0 - 2.0	COARSE	X	X				
KAL038	K50856	KPT124-5	7/10/97	2.0 - 12.0	COARSE	X		X			
KAL038	K50857	KPT124-5	7/10/97	12.0 - 21.0	COARSE	X					K50858
KAL038	K50858	KPT124-5	7/10/97	12.0 - 21.0	COARSE	X					K50857
KAL038	K50859	PPT7-4	7/10/97	0.0 - 2.0	COARSE	X	X				
KAL038	K50860	PPT7-4	7/10/97	2.0 - 12.0	COARSE	X	X	X			
KAL038	K50861	PPT7-4	7/10/97	12.0 - 24.0	COARSE	X	X				
KAL038	K50862	PPT7-4	7/10/97	24.0 - 36.0	COARSE	X	X				
KAL038	K50863	KPT103-5	7/10/97	0.0 - 2.0	FINE	X	X				
KAL038	K50864	KPT103-5	7/10/97	2.0 - 13.0	FINE	X		X			
KAL038	K50865	KPT137-5	7/10/97	0.0 - 2.0	FINE	X	X				
KAL038	K50866	KPT137-5	7/10/97	2.0 - 12.0	FINE	X	X	X			
KAL038	K50867	KPT137-5	7/10/97	12.0 - 24.0	FINE	X	X				K50869
KAL038	K50868	KPT137-5	7/10/97	24.0 - 36.0	FINE	X	X			X	
KAL038	K50869	KPT137-5	7/10/97	12.0 - 24.0	FINE	X	X				K50867
KAL039	K50870	KPT66-6	7/10/97	0.0 - 2.0	COARSE	X	X				
KAL039	K50871	KPT66-6	7/10/97	2.0 - 12.0	COARSE	X		X			
KAL039	K50872	KPT66-6	7/10/97	12.0 - 24.0	COARSE	X					
KAL039	K50873	KPT66-6	7/10/97	24.0 - 38.0	COARSE	X					
KAL039	K50874	KPT20-8	7/11/97	0.0 - 2.0	FINE	X	X				
KAL039	K50875	KPT20-8	7/11/97	2.0 - 11.0	FINE	X	X	X			
KAL039	K50876	KPT26-4	7/11/97	0.0 - 2.0	COARSE	X	X				
KAL039	K50877	KPT26-4	7/11/97	2.0 - 6.0	COARSE	X		X			
KAL039	K50878	KPT78-6	7/11/97	0.0 - 2.0	FINE	X	X				
KAL039	K50879	KPT78-6	7/11/97	2.0 - 12.0	FINE	X	X	X			
KAL039	K50880	KPT78-6	7/11/97	12.0 - 24.0	FINE	X	X				
KAL039	K50881	KPT78-6	7/11/97	24.0 - 36.0	FINE	X	X				K50882
KAL039	K50882	KPT78-6	7/11/97	24.0 - 36.0	FINE	X	X				K50881
KAL039	K50883	KPT115-2	7/11/97	0.0 - 2.0	COARSE	X	X				
KAL039	K50884	KPT115-2	7/11/97	2.0 - 12.0	COARSE	X		X			
KAL039	K50885	KPT147-7	7/11/97	0.0 - 2.0	FINE	X	X				
KAL039	K50886	KPT147-7	7/11/97	2.0 - 12.0	FINE	X	X	X			
KAL039	K50887	KPT147-7	7/11/97	12.0 - 24.0	FINE	X	X				K50889
KAL039	K50888	KPT147-7	7/11/97	24.0 - 36.0	FINE	X	X			X	
KAL039	K50889	KPT147-7	7/11/97	12.0 - 24.0	FINE	X	X				K50887
KAL040	K50890	KPT121-7	7/11/97	0.0 - 2.0	FINE	X	X				
KAL040	K50891	KPT121-7	7/11/97	2.0 - 12.0	FINE	X		X			
KAL040	K50892	KPT121-7	7/11/97	12.0 - 16.0	FINE	X					
KAL040	K50893	KPT107-1	7/11/97	0.0 - 2.0	COARSE	X	X				
KAL040	K50894	KPT107-1	7/11/97	2.0 - 12.0	COARSE	X	X	X			
KAL040	K50895	PPT2-2	7/11/97	0.0 - 2.0	COARSE	X	X				
KAL040	K50896	PPT2-2	7/11/97	2.0 - 12.0	COARSE	X		X			
KAL040	K50897	PPT2-2	7/11/97	12.0 - 24.0	COARSE	X					K50899
KAL040	K50898	PPT2-2	7/11/97	24.0 - 28.0	COARSE	X					
KAL040	K50899	PPT2-2	7/11/97	12.0 - 24.0	COARSE	X					K50897
KAL040	K50900	PPT5-1	7/11/97	0.0 - 2.0	FINE	X	X				
KAL040	K50901	PPT5-1	7/11/97	2.0 - 12.0	FINE	X	X	X			

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL040	K50902	PPT5-1	7/11/97	12.0 - 24.0	FINE	X	X				
KAL040	K50903	PPT5-1	7/11/97	24.0 - 36.0	FINE	X	X				
KAL040	K50904	KPT117-2	7/11/97	0.0 - 2.0	COARSE	X	X				
KAL040	K50905	KPT117-2	7/11/97	2.0 - 13.0	COARSE	X		X			
KAL040	K50906	KPT79-4	7/11/97	0.0 - 2.0	FINE	X	X				
KAL040	K50907	KPT79-4	7/11/97	2.0 - 12.0	FINE	X	X	X			
KAL040	K50908	KPT79-4	7/11/97	12.0 - 24.0	FINE	X	X			X	
KAL040	K50909	KPT79-4	7/11/97	24.0 - 36.0	FINE	X	X				K50910
KAL04	K50910	KPT79-4	7/11/97	24.0 - 36.0	FINE	X	X				K50909
KA_04	K50911	KPT124-6	7/11/97	0.0 - 2.0	COARSE	X	X				
KA_04	K50912	KPT124-6	7/11/97	2.0 - 12.0	COARSE	X		X			
KA_04	K50913	KPT124-6	7/11/97	12.0 - 24.0	COARSE	X					
KA_04	K50914	KPT106-5	7/11/97	0.0 - 2.0	COARSE	X	X				
KA_04	K50915	KPT106-5	7/11/97	2.0 - 12.0	COARSE	X	X	X			
KA_04	K50916	KPT106-5	7/11/97	12.0 - 24.0	COARSE	X	X				K50918
KA_04	K50917	KPT106-5	7/11/97	24.0 - 36.0	COARSE	X	X				
KAL04	K50918	KPT106-5	7/11/97	12.0 - 24.0	COARSE	X	X				K50916
KA_04	K50919	KPT117-1	7/11/97	0.0 - 2.0	FINE	X	X				
KA_04	K50920	KPT117-1	7/11/97	2.0 - 14.0	FINE	X		X			
KA_04	K50921	KPT20-5	7/11/97	0.0 - 2.0	COARSE	X	X				
KA_041	K50922	KPT20-5	7/11/97	2.0 - 12.0	COARSE	X	X	X			
KA_041	K50923	PPT10-3	7/11/97	0.0 - 2.0	COARSE	X	X				
KA_041	K50924	PPT10-3	7/11/97	2.0 - 12.0	COARSE	X		X			
KA_041	K50925	PPT10-3	7/11/97	12.0 - 20.0	COARSE	X					
KA_041	K50926	PPT10-3	7/11/97	20.0 - 25.0	COARSE	X					
KA_041	K50927	KPT127-2	7/11/97	0.0 - 2.0	COARSE	X	X				
KA_041	K50928	KPT127-2	7/11/97	2.0 - 8.0	COARSE	X	X	X			
KA_041	K50929	KPT118-1	7/11/97	0.0 - 2.0	FINE	X	X				
KA_042	K50930	KPT118-1	7/11/97	2.0 - 11.0	FINE	X		X			
KA_042	K50931	KPT108-3	7/11/97	0.0 - 2.0	FINE	X	X				
KA_042	K50932	KPT108-3	7/11/97	2.0 - 12.0	FINE	X	X	X			
KA_042	K50933	KPT108-3	7/11/97	12.0 - 24.0	FINE	X	X			X	K50935
KA_042	K50934	KPT108-3	7/11/97	24.0 - 38.0	FINE	X	X				
KA_042	K50935	KPT108-3	7/11/97	12.0 - 24.0	FINE	X	X				K50933
KA_042	K50936	KPT121-3	7/11/97	0.0 - 2.0	COARSE	X	X				
KA_042	K50937	KPT121-3	7/11/97	2.0 - 12.0	COARSE	X		X			
KA_042	K50938	KPT127-5	7/11/97	0.0 - 2.0	COARSE	X	X				
KA_042	K50939	KPT127-5	7/11/97	2.0 - 12.0	COARSE	X	X	X			
KA_042	K50940	KPT127-5	7/11/97	12.0 - 26.0	COARSE	X	X				
KA_042	K50941	PPT2-1	7/11/97	0.0 - 2.0	COARSE	X	X				
KA_042	K50942	PPT2-1	7/11/97	2.0 - 12.0	COARSE	X		X			
KA_042	K50943	PPT2-1	7/11/97	12.0 - 24.0	COARSE	X					K50945
KA_042	K50944	PPT2-1	7/11/97	24.0 - 30.0	COARSE	X					
KA_042	K50945	PPT2-1	7/11/97	12.0 - 24.0	COARSE	X					K50943
KA_042	K50946	KPT122-3	7/11/97	0.0 - 2.0	FINE	X	X				
KAL042	K50947	KPT122-3	7/11/97	2.0 - 12.0	FINE	X	X	X			
KAL042	K50948	KPT122-3	7/11/97	12.0 - 24.0	FINE	X	X				
KAL042	K50949	KPT149-3	7/14/97	0.0 - 2.0	FINE	X	X				
KAL043	K50950	KPT149-3	7/14/97	2.0 - 12.0	FINE	X		X			
KAL043	K50951	KPT149-3	7/14/97	12.0 - 24.0	FINE	X					K50953
KAL043	K50952	KPT149-3	7/14/97	24.0 - 35.0	FINE	X					
KAL043	K50953	KPT149-3	7/14/97	12.0 - 24.0	FINE	X					K50951
KAL043	K50954	KPT122-6	7/14/97	0.0 - 2.0	COARSE	X	X				
KAL043	K50955	KPT122-6	7/14/97	2.0 - 7.0	COARSE	X	X	X			
KAL043	K50956	KPT120-1	7/14/97	0.0 - 2.0	FINE	X	X				
KAL043	K50957	KPT120-1	7/14/97	2.0 - 12.0	FINE	X		X			
KAL043	K50958	KPT120-1	7/14/97	12.0 - 21.0	FINE	X					
KAL043	K50959	KPT66-7	7/14/97	0.0 - 2.0	FINE	X	X				
KAL043	K50960	KPT66-7	7/14/97	2.0 - 12.0	FINE	X	X	X			

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL043	K50961	KPT66-7	7/14/97	12.0 - 24.0	FINE	X	X			X	
KAL043	K50962	KPT66-7	7/14/97	24.0 - 36.0	FINE	X	X				K50963
KAL043	K50963	KPT66-7	7/14/97	24.0 - 36.0	FINE	X	X				K50962
KAL043	K50964	KPT131-6	7/14/97	0.0 - 2.0	COARSE	X	X				
KAL043	K50965	KPT131-6	7/14/97	2.0 - 5.0	COARSE	X					
KAL043	K50966	KPT127-3	7/14/97	0.0 - 2.0	COARSE	X	X				
KAL043	K50967	KPT127-3	7/14/97	2.0 - 9.0	COARSE	X	X	X			
KAL043	K50968	KPT70-6	7/14/97	0.0 - 2.0	COARSE	X	X				
KAL043	K50969	KPT70-6	7/14/97	2.0 - 12.0	COARSE	X		X			
KAL044	K50970	KPT70-6	7/14/97	12.0 - 30.0	COARSE	X					
KAL044	K50971	KPT70-6	7/14/97	30.0 - 37.0	COARSE	X					
KAL044	K50972	KPT148-1	7/14/97	0.0 - 2.0	FINE	X	X				
KAL044	K50973	KPT148-1	7/14/97	2.0 - 12.0	FINE	X	X	X			
KAL044	K50974	KPT148-1	7/14/97	12.0 - 24.0	FINE	X	X				K50976
KAL044	K50975	KPT148-1	7/14/97	24.0 - 39.0	FINE	X	X			X	
KAL044	K50976	KPT148-1	7/14/97	12.0 - 24.0	FINE	X	X				K50974
KAL044	K50977	KPT20-7	7/14/97	0.0 - 2.0	COARSE	X	X				
KAL044	K50978	KPT20-7	7/14/97	2.0 - 7.0	COARSE	X	X	X			
KAL044	K50979	PPT6-1	7/14/97	0.0 - 2.0	COARSE	X	X				
KAL044	K50980	PPT6-1	7/14/97	2.0 - 15.0	COARSE	X	X	X			K50981
KAL044	K50981	PPT6-1	7/14/97	2.0 - 15.0	COARSE	X	X				K50980
KAL044	K50982	KPT123-1	7/14/97	0.0 - 2.0	FINE	X	X				
KAL044	K50983	KPT123-1	7/14/97	2.0 - 12.0	FINE	X		X			
KAL044	K50984	KPT123-1	7/14/97	12.0 - 24.0	FINE	X					
KAL044	K50985	KPT92-8	7/14/97	0.0 - 2.0	FINE	X	X				
KAL044	K50986	KPT92-8	7/14/97	2.0 - 12.0	FINE	X	X	X			
KAL044	K50988	KPT92-8	7/14/97	24.0 - 36.0	FINE	X	X				K50989
KAL044	K50989	KPT92-8	7/14/97	24.0 - 36.0	FINE	X	X				K50988
KAL044	K50990	PPT3-1	7/14/97	0.0 - 2.0	FINE	X	X				
KAL045	K50987	KPT92-8	7/14/97	12.0 - 24.0	FINE	X	X			X	
KAL045	K50991	PPT3-1	7/14/97	2.0 - 12.0	FINE	X		X			
KAL045	K50992	PPT3-1	7/14/97	12.0 - 17.0	FINE	X					
KAL045	K50993	KPT114-6	7/14/97	0.0 - 2.0	COARSE	X	X				
KAL045	K50994	KPT114-6	7/14/97	2.0 - 7.0	COARSE	X	X				
KAL045	K50995	KPT120-3	7/14/97	0.0 - 2.0	COARSE	X	X				
KAL045	K50996	KPT120-3	7/14/97	2.0 - 6.0	COARSE	X		X			
KAL045	K50997	KPT120-3	7/14/97	6.0 - 17.0	COARSE	X					
KAL045	K50998	KPT93-1	7/15/97	0.0 - 2.0	FINE	X	X				
KAL045	K50999	KPT93-1	7/15/97	2.0 - 12.0	FINE	X	X	X			
KAL045	K51000	KPT93-1	7/15/97	12.0 - 24.0	FINE	X	X				K51002
KAL045	K51001	KPT93-1	7/15/97	24.0 - 36.0	FINE	X	X				
KAL045	K51002	KPT93-1	7/15/97	12.0 - 24.0	FINE	X	X				K51000
KAL045	K51003	KPT20-4	7/15/97	0.0 - 2.0	COARSE	X	X				
KAL045	K51004	KPT20-4	7/15/97	2.0 - 12.0	COARSE	X		X			
KAL045	K51005	KPT18-5	7/15/97	0.0 - 2.0	COARSE	X	X				
KAL045	K51006	KPT18-5	7/15/97	2.0 - 10.0	COARSE	X	X	X			
KAL045	K51007	KPT123-6	7/15/97	0.0 - 2.0	FINE	X	X				
KAL045	K51008	KPT123-6	7/15/97	2.0 - 12.0	FINE	X		X			
KAL045	K51009	KPT123-6	7/15/97	12.0 - 20.0	FINE	X					
KAL046	K51010	KPT103-3	7/15/97	0.0 - 2.0	FINE	X	X				
KAL046	K51011	KPT103-3	7/15/97	2.0 - 12.0	FINE	X	X	X			
KAL046	K51012	KPT103-3	7/15/97	12.0 - 24.0	FINE	X	X				K51014
KAL046	K51013	KPT103-3	7/15/97	24.0 - 35.0	FINE	X	X			X	
KAL046	K51014	KPT103-3	7/15/97	12.0 - 24.0	FINE	X	X				K51012
KAL046	K51015	KPT19-5	7/15/97	0.0 - 2.0	FINE	X	X				
KAL046	K51016	KPT19-5	7/15/97	2.0 - 12.0	FINE	X		X			
KAL046	K51017	KPT19-5	7/15/97	12.0 - 24.0	FINE	X					
KAL046	K51018	KPT92-6	7/15/97	0.0 - 2.0	COARSE	X	X				
KAL046	K51019	KPT92-6	7/15/97	2.0 - 9.0	COARSE	X	X	X			

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REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL_046	K51020	KPT137-8	7/15/97	0.0 - 2.0	FINE	X	X				
KAL_046	K51021	KPT137-8	7/15/97	2.0 - 12.0	FINE	X		X			
KAL_046	K51022	KPT137-8	7/15/97	12.0 - 24.0	FINE	X					K51024
KAL_046	K51023	KPT137-8	7/15/97	24.0 - 36.0	FINE	X					
KAL_046	K51024	KPT137-8	7/15/97	12.0 - 24.0	FINE	X					K51022
KAL_046	K51025	KPT148-2	7/15/97	0.0 - 2.0	FINE	X	X				
KAL_046	K51026	KPT148-2	7/15/97	2.0 - 12.0	FINE	X	X	X			
KAL_046	K51027	KPT148-2	7/15/97	12.0 - 24.0	FINE	X	X				
KAL_046	K51028	KPT148-2	7/15/97	24.0 - 36.0	FINE	X	X				
KAL_046	K51029	KPT150-7	7/15/97	0.0 - 2.0	FINE	X	X				
KAL_047	K51030	KPT150-7	7/15/97	2.0 - 12.0	FINE	X		X			
KAL_047	K51031	KPT150-7	7/15/97	12.0 - 24.0	FINE	X					K51033
KAL_047	K51032	KPT150-7	7/15/97	24.0 - 36.0	FINE	X				X	
KAL_047	K51033	KPT150-7	7/15/97	12.0 - 24.0	FINE	X					K51031
KAL_047	K51034	KPT146-6	7/15/97	0.0 - 2.0	COARSE	X	X				
KAL_047	K51035	KPT146-6	7/15/97	2.0 - 12.0	COARSE	X	X	X			
KAL_047	K51036	KPT146-6	7/15/97	12.0 - 24.0	COARSE	X	X				
KAL_047	K51037	KPT146-6	7/15/97	24.0 - 34.0	COARSE	X	X				K51038
KAL_047	K51038	KPT146-6	7/15/97	24.0 - 34.0	COARSE	X	X				K51037
KAL_047	K51039	KPT88-2	7/15/97	0.0 - 2.0	COARSE	X	X				
KAL_047	K51040	KPT88-2	7/15/97	2.0 - 12.0	COARSE	X		X			
KAL_047	K51041	KPT82-7	7/15/97	0.0 - 2.0	COARSE	X	X				
KAL_047	K51042	KPT82-7	7/15/97	2.0 - 6.0	COARSE	X	X	X			
KAL_047	K51043	KPT70-8	7/15/97	0.0 - 2.0	COARSE	X	X				
KAL_047	K51044	KPT70-8	7/15/97	2.0 - 12.0	COARSE	X		X			
KAL_047	K51045	KPT81-5	7/15/97	0.0 - 2.0	COARSE	X	X				
KAL_047	K51046	KPT81-5	7/15/97	2.0 - 7.0	COARSE	X	X	X			
KAL_047	K51047	KPT72-7	7/16/97	0.0 - 2.0	FINE	X	X				
KAL_047	K51048	KPT72-7	7/16/97	2.0 - 12.0	FINE	X		X			
KAL_047	K51049	KPT72-7	7/16/97	12.0 - 24.0	FINE	X					K51051
KAL_048	K51050	KPT72-7	7/16/97	24.0 - 37.0	FINE	X				X	
KAL_048	K51051	KPT72-7	7/16/97	12.0 - 24.0	FINE	X					K51049
KAL_048	K51052	KPT80-2	7/16/97	0.0 - 2.0	COARSE	X	X				
KAL_048	K51053	KPT80-2	7/16/97	2.0 - 5.0	COARSE	X	X	X			
KAL_048	K51054	KPT82-8	7/16/97	0.0 - 2.0	COARSE	X	X				
KAL_048	K51055	KPT82-8	7/16/97	2.0 - 8.0	COARSE	X		X			
KAL_048	K51056	KPT73-5	7/16/97	0.0 - 2.0	FINE	X	X				
KAL_048	K51057	KPT73-5	7/16/97	2.0 - 12.0	FINE	X	X	X			
KAL_048	K51058	KPT73-5	7/16/97	12.0 - 24.0	FINE	X	X				K51059
KAL_048	K51059	KPT73-5	7/16/97	12.0 - 24.0	FINE	X	X				K51058
KAL_048	K51060	KPT126-1	7/16/97	0.0 - 2.0	COARSE	X	X				
KAL_048	K51061	KPT126-1	7/16/97	2.0 - 15.0	COARSE	X		X			
KAL_048	K51062	KPT74-2	7/16/97	0.0 - 2.0	FINE	X	X				
KAL_048	K51063	KPT74-2	7/16/97	2.0 - 12.0	FINE	X	X	X			
KAL_048	K51064	KPT74-2	7/16/97	12.0 - 25.0	FINE	X	X				
KAL_048	K51065	KPT91-3	7/16/97	0.0 - 2.0	COARSE	X	X				
KAL_048	K51066	KPT91-3	7/16/97	2.0 - 12.0	COARSE	X	X	X			
KAL_048	K51067	KPT91-3	7/16/97	12.0 - 24.0	COARSE	X	X				
KAL_048	K51068	KPT91-3	7/16/97	24.0 - 36.0	COARSE	X	X				K51071
KAL_048	K51069	KPT91-3	7/16/97	36.0 - 48.0	COARSE	X	X			X	
KAL_049	K51070	KPT91-3	7/16/97	48.0 - 51.0	COARSE	X	X				
KAL_049	K51071	KPT91-3	7/16/97	24.0 - 36.0	COARSE	X	X				K51068
KAL_049	K51072	KPT86-1	7/16/97	0.0 - 2.0	FINE	X	X				
KAL_049	K51073	KPT86-1	7/16/97	2.0 - 8.0	FINE	X		X			
KAL_049	K51074	KPT59-8	7/16/97	0.0 - 2.0	FINE	X	X				
KAL_049	K51075	KPT59-8	7/16/97	2.0 - 13.0	FINE	X		X			
KAL_049	K51076	KPT73-1	7/16/97	0.0 - 2.0	FINE	X	X				
KAL_049	K51077	KPT73-1	7/16/97	2.0 - 14.0	FINE	X	X	X			
KAL_049	K51078	KPT73-1	7/16/97	14.0 - 26.0	FINE	X	X				K51080

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL049	K51079	KPT73-1	7/16/97	26.0 - 36.0	FINE	X	X				
KAL049	K51080	KPT73-1	7/16/97	14.0 - 26.0	FINE	X	X				K51078
KAL049	K51081	KPT73-5	7/16/97	24.0 - 30.0	FINE	X	X				
KAL049	K51082	KPT70-2	7/16/97	0.0 - 2.0	FINE	X	X				
KAL049	K51083	KPT70-2	7/16/97	2.0 - 12.0	FINE	X		X			
KAL049	K51084	KPT70-2	7/16/97	12.0 - 19.0	FINE	X					
KAL049	K51085	KPT105-6	7/16/97	0.0 - 2.0	FINE	X	X				
KAL049	K51086	KPT105-6	7/16/97	2.0 - 12.0	FINE	X	X	X			
KAL049	K51087	KPT105-6	7/16/97	12.0 - 24.0	FINE	X	X				K51089
KAL049	K51088	KPT105-6	7/16/97	24.0 - 35.0	FINE	X	X			X	
KAL049	K51089	KPT105-6	7/16/97	12.0 - 24.0	FINE	X	X				K51087
KAL050	K51090	KPT82-4	7/16/97	0.0 - 2.0	COARSE	X	X				
KAL050	K51091	KPT82-4	7/16/97	2.0 - 12.0	COARSE	X		X			
KAL050	K51094	KPT82-2	7/16/97	0.0 - 6.0	COARSE	X	X				
KAL050	K51095	KPT61-1	7/16/97	0.0 - 2.0	COARSE	X	X				
KAL050	K51096	KPT61-1	7/16/97	2.0 - 6.0	COARSE	X	X				
KAL050	K51097	KPT79-7	7/16/97	0.0 - 2.0	FINE	X	X				
KAL050	K51098	KPT79-7	7/16/97	2.0 - 8.0	FINE	X		X			
KAL050	K51099	KPT79-7	7/16/97	8.0 - 19.0	FINE	X					
KAL050	K51100	KPT76-5	7/16/97	0.0 - 2.0	FINE	X	X				
KAL050	K51101	KPT76-5	7/16/97	2.0 - 12.0	FINE	X	X	X			
KAL050	K51102	KPT76-5	7/16/97	12.0 - 21.0	FINE	X	X				K51103
KAL050	K51103	KPT76-5	7/16/97	12.0 - 21.0	FINE	X	X				K51102
KAL050	K51104	KPT76-3	7/16/97	0.0 - 2.0	FINE	X	X				
KAL050	K51105	KPT76-3	7/16/97	2.0 - 12.0	FINE	X		X			
KAL050	K51106	KPT76-3	7/16/97	12.0 - 23.0	FINE	X					
KAL050	K51107	KPT46-6	7/16/97	0.0 - 2.0	COARSE	X	X				
KAL050	K51108	KPT46-6	7/16/97	2.0 - 12.0	COARSE	X	X	X			
KAL050	K51109	KPT126-2	7/16/97	0.0 - 2.0	COARSE	X	X				
KAL050	K51110	KPT126-2	7/16/97	2.0 - 12.0	COARSE	X		X			
KAL050	K51112	KPT126-2	7/16/97	24.0 - 36.0	COARSE	X				X	
KAL051	K51111	KPT126-2	7/16/97	12.0 - 24.0	COARSE	X					K51113
KAL051	K51113	KPT126-2	7/16/97	12.0 - 24.0	COARSE	X					K51111
KAL051	K51114	PPT13-1	7/16/97	0.0 - 2.0	COARSE	X	X				
KAL051	K51115	PPT13-1	7/16/97	2.0 - 11.0	COARSE	X	X	X			
KAL051	K51116	KPT103-2	7/16/97	0.0 - 2.0	FINE	X	X				
KAL051	K51117	KPT103-2	7/16/97	2.0 - 11.0	FINE	X		X			
KAL051	K51118	KPT103-2	7/16/97	11.0 - 24.0	FINE	X					
KAL051	K51119	KPT103-2	7/16/97	24.0 - 36.0	FINE	X					
KAL051	K51120	PPT5-2	7/16/97	0.0 - 2.0	COARSE	X	X				
KAL051	K51121	PPT5-2	7/16/97	2.0 - 12.0	COARSE	X	X	X			
KAL051	K51122	PPT5-2	7/16/97	12.0 - 24.0	COARSE	X	X				K51124
KAL051	K51123	PPT5-2	7/16/97	24.0 - 29.0	COARSE	X	X				
KAL051	K51124	PPT5-2	7/16/97	12.0 - 24.0	COARSE	X	X				K51122
KAL051	K51125	KPT37-6	7/16/97	0.0 - 2.0	FINE	X	X				
KAL051	K51126	KPT37-6	7/16/97	2.0 - 9.0	FINE	X		X			
KAL051	K51127	KPT119-3	7/16/97	0.0 - 2.0	COARSE	X	X				
KAL051	K51128	KPT119-3	7/16/97	2.0 - 12.0	COARSE	X	X	X			
KAL051	K51129	KPT104-7	7/16/97	0.0 - 2.0	COARSE	X	X				
KAL051	K51130	KPT104-7	7/16/97	2.0 - 12.0	COARSE	X	X	X			
KAL051	K51131	KPT104-7	7/16/97	12.0 - 24.0	COARSE	X	X			X	
KAL052	K51132	KPT104-7	7/16/97	24.0 - 36.0	COARSE	X	X				K51133
KAL052	K51133	KPT104-7	7/16/97	24.0 - 36.0	COARSE	X	X				K51132
KAL052	K51134	PPT4-1	7/16/97	0.0 - 2.0	COARSE	X	X				
KAL052	K51135	PPT4-1	7/16/97	2.0 - 12.0	COARSE	X		X			
KAL052	K51136	KPT127-7	7/16/97	0.0 - 2.0	COARSE	X	X				
KAL052	K51137	KPT127-7	7/16/97	2.0 - 6.0	COARSE	X		X			
KAL052	K51138	KPT71-4	7/16/97	0.0 - 2.0	COARSE	X	X				
KAL052	K51139	KPT71-4	7/16/97	2.0 - 12.0	COARSE	X	X	X			

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL052	K51140	KPT59-1	7/16/97	0.0 - 2.0	FINE	X	X				
KAL052	K51141	KPT59-1	7/16/97	2.0 - 10.0	FINE	X		X			
KAL052	K51142	KPT73-4	7/16/97	0.0 - 2.0	FINE	X	X				
KAL052	K51143	KPT73-4	7/16/97	2.0 - 12.0	FINE	X	X	X			
KAL052	K51144	KPT73-4	7/16/97	12.0 - 21.0	FINE	X	X				K51145
KAL052	K51145	KPT73-4	7/16/97	12.0 - 21.0	FINE	X	X				K51144
KAL052	K51146	KPT70-5	7/16/97	0.0 - 2.0	COARSE	X	X				
KAL052	K51147	KPT70-5	7/16/97	2.0 - 12.0	COARSE	X		X			
KAL052	K51151	KPT88-7	7/16/97	0.0 - 2.0	COARSE	X	X				
KAL052	K51152	KPT88-7	7/16/97	2.0 - 15.0	COARSE	X		X			
KAL052	K51153	KPT130-5	7/16/97	0.0 - 2.0	COARSE	X	X				
KAL052	K51155	KPT130-5	7/16/97	12.0 - 24.0	COARSE	X	X			X	
KAL053	K51154	KPT130-5	7/16/97	2.0 - 12.0	COARSE	X	X	X			
KAL053	K51156	KPT130-5	7/16/97	24.0 - 36.0	COARSE	X	X				K51157
KAL053	K51157	KPT130-5	7/16/97	24.0 - 36.0	COARSE	X	X				K51156
KAL053	K51158	KPT100-1	7/16/97	0.0 - 2.0	FINE	X	X				
KAL053	K51159	KPT100-1	7/16/97	2.0 - 11.0	FINE	X		X			
KAL053	K51160	KPT47-1	7/17/97	0.0 - 2.0	FINE	X	X				
KAL053	K51161	KPT47-1	7/17/97	2.0 - 14.0	FINE	X	X	X			K51162
KAL053	K51162	KPT47-1	7/17/97	2.0 - 14.0	FINE	X	X				K51161
KAL053	K51163	KPT51-2	7/17/97	0.0 - 2.0	FINE	X	X				
KAL053	K51164	KPT51-2	7/17/97	2.0 - 12.0	FINE	X		X			
KAL053	K51165	KPT51-2	7/17/97	12.0 - 18.0	FINE	X					K51166
KAL053	K51166	KPT51-2	7/17/97	12.0 - 18.0	FINE	X					K51165
KAL053	K51167	KPT17-7	7/17/97	0.0 - 2.0	COARSE	X	X				
KAL053	K51168	KPT17-7	7/17/97	2.0 - 12.0	COARSE	X	X	X			
KAL053	K51169	KPT88-3	7/17/97	0.0 - 2.0	COARSE	X	X				
KAL053	K51170	KPT88-3	7/17/97	2.0 - 12.0	COARSE	X		X			K51171
KAL053	K51171	KPT88-3	7/17/97	2.0 - 12.0	COARSE	X					K51170
KAL053	K51172	KPT62-1	7/17/97	0.0 - 2.0	FINE	X	X				
KAL053	K51173	KPT62-1	7/17/97	2.0 - 6.0	FINE	X	X	X			
KAL053	K51176	KPT119-7	7/17/97	2.0 - 12.0	FINE	X		X		X	
KAL054	K51174	KPT62-1	7/17/97	6.0 - 9.0	FINE	X	X				
KAL054	K51175	KPT119-7	7/17/97	0.0 - 2.0	FINE	X	X				
KAL054	K51177	KPT119-7	7/17/97	12.0 - 24.0	FINE	X					K51178
KAL054	K51178	KPT119-7	7/17/97	12.0 - 24.0	FINE	X					K51177
KAL054	K51179	KPT101-6	7/17/97	0.0 - 2.0	COARSE	X	X				
KAL054	K51180	KPT101-6	7/17/97	2.0 - 7.0	COARSE	X	X				
KAL054	K51181	KPT98-4	7/17/97	0.0 - 2.0	COARSE	X	X				
KAL054	K51182	KPT98-4	7/17/97	2.0 - 9.0	COARSE	X		X			
KAL054	K51183	KPT122-4	7/17/97	0.0 - 2.0	FINE	X	X				
KAL054	K51184	KPT122-4	7/17/97	2.0 - 12.0	FINE	X	X	X		X	
KAL054	K51185	KPT122-4	7/17/97	12.0 - 24.0	FINE	X	X				K51186
KAL054	K51186	KPT122-4	7/17/97	12.0 - 24.0	FINE	X	X				K51185
KAL054	K51187	KPT49-4	7/17/97	0.0 - 2.0	COARSE	X	X				
KAL054	K51188	KPT49-4	7/17/97	2.0 - 12.0	COARSE	X		X			
KAL054	K51189	KPT42-3	7/17/97	0.0 - 2.0	COARSE	X	X				
KAL054	K51190	KPT42-3	7/17/97	2.0 - 9.0	COARSE	X	X	X			
KAL054	K51191	KPT44-3	7/17/97	0.0 - 2.0	COARSE	X	X				
KAL054	K51192	KPT44-3	7/17/97	2.0 - 8.0	COARSE	X		X			
KAL054	K51193	KPT44-3	7/17/97	8.0 - 16.0	COARSE	X					
KAL054	K51194	KPT91-2	7/17/97	0.0 - 2.0	COARSE	X	X				
KAL055	K51195	KPT91-2	7/17/97	2.0 - 12.0	COARSE	X	X	X			
KAL055	K51196	KPT91-2	7/17/97	12.0 - 24.0	COARSE	X	X				
KAL055	K51197	KPT91-2	7/17/97	24.0 - 36.0	COARSE	X	X				
KAL055	K51198	KPT91-2	7/17/97	36.0 - 48.0	COARSE	X	X				K51201
KAL055	K51199	KPT91-2	7/17/97	48.0 - 60.0	COARSE	X	X				
KAL055	K51200	KPT91-2	7/17/97	60.0 - 69.0	COARSE	X	X			X	
KAL055	K51201	KPT91-2	7/17/97	36.0 - 48.0	COARSE	X	X				K51198

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL055	K51202	KPT43-3	7/17/97	0.0 - 2.0	COARSE	X	X				
KAL055	K51203	KPT43-3	7/17/97	2.0 - 11.0	COARSE	X		X			
KAL055	K51204	KPT61-8	7/17/97	0.0 - 2.0	COARSE	X	X				
KAL055	K51205	KPT61-8	7/17/97	2.0 - 12.0	COARSE	X	X	X			
KAL055	K51206	KPT61-8	7/17/97	12.0 - 15.0	COARSE	X	X				
KAL055	K51207	KPT42-2	7/17/97	0.0 - 2.0	COARSE	X	X				
KAL055	K51208	KPT42-2	7/17/97	2.0 - 12.0	COARSE	X		X			
KAL055	K51209	KPT94-8	7/17/97	0.0 - 2.0	COARSE	X	X				
KAL055	K51210	KPT94-8	7/17/97	2.0 - 12.0	COARSE	X	X	X			
KAL055	K51211	KPT94-8	7/17/97	12.0 - 23.0	COARSE	X	X				K51212
KAL055	K51212	KPT94-8	7/17/97	12.0 - 23.0	COARSE	X	X				K51211
KAL055	K51213	KPT105-1	7/17/97	0.0 - 2.0	FINE	X	X				
KAL055	K51214	KPT105-1	7/17/97	2.0 - 12.0	FINE	X		X			
KAL056	K51215	KPT105-1	7/17/97	12.0 - 26.0	FINE	X					
KAL056	K51216	KPT41-2	7/17/97	0.0 - 2.0	COARSE	X	X				
KAL056	K51217	KPT41-2	7/17/97	2.0 - 7.0	COARSE	X	X	X			
KAL056	K51218	KPT97-4	7/17/97	0.0 - 2.0	COARSE	X	X				
KAL056	K51219	KPT97-4	7/17/97	2.0 - 7.0	COARSE	X		X			
KAL056	K51220	KPT107-6	7/17/97	0.0 - 2.0	FINE	X	X				
KAL056	K51221	KPT107-6	7/17/97	2.0 - 15.0	FINE	X	X	X			
KAL056	K51222	KPT107-6	7/17/97	15.0 - 26.0	FINE	X	X				
KAL056	K51223	KPT107-6	7/17/97	26.0 - 36.0	FINE	X	X			X	
KAL056	K51224	KPT107-6	7/17/97	36.0 - 48.0	FINE	X	X				K51226
KAL056	K51225	KPT107-6	7/17/97	48.0 - 54.0	FINE	X	X				
KAL056	K51226	KPT107-6	7/17/97	36.0 - 48.0	FINE	X	X				K51224
KAL056	K51227	KPT156-8	7/17/97	0.0 - 2.0	FINE	X	X				
KAL056	K51228	KPT156-8	7/17/97	2.0 - 12.0	FINE	X		X			
KAL056	K51229	KPT156-8	7/17/97	12.0 - 24.0	FINE	X					
KAL056	K51230	KPT156-8	7/17/97	24.0 - 38.0	FINE	X					
KAL056	K51231	KPT124-4	7/17/97	0.0 - 2.0	FINE	X	X				
KAL056	K51232	KPT124-4	7/17/97	2.0 - 12.0	FINE	X	X	X			
KAL056	K51233	KPT124-4	7/17/97	12.0 - 25.0	FINE	X	X				
KAL056	K51234	KPT104-4	7/17/97	0.0 - 2.0	FINE	X	X				
KAL057	K51235	KPT104-4	7/17/97	2.0 - 12.0	FINE	X	X	X			K51238
KAL057	K51236	KPT104-4	7/17/97	12.0 - 24.0	FINE	X	X			X	
KAL057	K51237	KPT104-4	7/17/97	24.0 - 31.0	FINE	X	X				
KAL057	K51238	KPT104-4	7/17/97	2.0 - 12.0	FINE	X	X				K51235
KAL057	K51239	KPT119-7	7/17/97	24.0 - 36.0	FINE	X					
KAL057	K51240	KPT119-7	7/17/97	36.0 - 45.0	FINE	X					
KAL057	K51241	KPT119-6	7/17/97	0.0 - 2.0	FINE	X	X				
KAL057	K51242	KPT119-6	7/17/97	2.0 - 12.0	FINE	X		X			
KAL057	K51243	KPT119-6	7/17/97	12.0 - 24.0	FINE	X					K51244
KAL057	K51244	KPT119-6	7/17/97	12.0 - 24.0	FINE	X					K51243
KAL057	K51245	KPT19-8	7/17/97	0.0 - 2.0	FINE	X	X				
KAL057	K51246	KPT19-8	7/17/97	2.0 - 12.0	FINE	X		X			
KAL057	K51247	KPT19-8	7/17/97	12.0 - 20.0	FINE	X					
KAL057	K51248	KPT19-8	7/17/97	20.0 - 24.0	FINE	X					
KAL057	K51249	KPT106-6	7/17/97	0.0 - 2.0	FINE	X	X				
KAL057	K51250	KPT106-6	7/17/97	2.0 - 12.0	FINE	X	X	X			
KAL057	K51251	KPT106-6	7/17/97	12.0 - 24.0	FINE	X	X				K51253
KAL057	K51252	KPT106-6	7/17/97	24.0 - 30.0	FINE	X	X				
KAL057	K51253	KPT106-6	7/17/97	12.0 - 24.0	FINE	X	X				K51251
KAL057	K51258	KPT113-6	7/18/97	0.0 - 2.0	COARSE	X	X				
KAL058	K51259	KPT113-6	7/18/97	2.0 - 12.0	COARSE	X	X	X			
KAL058	K51260	KPT103-6	7/18/97	0.0 - 2.0	FINE	X	X				
KAL058	K51261	KPT103-6	7/18/97	2.0 - 12.0	FINE	X		X		X	
KAL058	K51262	KPT103-6	7/18/97	12.0 - 24.0	FINE	X					K51264
KAL058	K51263	KPT103-6	7/18/97	24.0 - 28.0	FINE	X					
KAL058	K51264	KPT103-6	7/18/97	12.0 - 24.0	FINE	X					K51262

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL058	K51265	KPT105-3	7/18/97	0.0 - 2.0	COARSE	X	X				
KAL058	K51266	KPT105-3	7/18/97	2.0 - 10.0	COARSE	X	X	X			
KAL058	K51267	PPT4-3	7/18/97	0.0 - 2.0	COARSE	X	X				
KAL058	K51268	PPT4-3	7/18/97	2.0 - 12.0	COARSE	X		X			
KAL058	K51269	KPT106-7	7/18/97	0.0 - 2.0	FINE	X	X				
KAL058	K51270	KPT106-7	7/18/97	2.0 - 12.0	FINE	X	X	X			
KAL058	K51271	KPT106-7	7/18/97	12.0 - 19.0	FINE	X	X				K51272
KAL058	K51272	KPT106-7	7/18/97	12.0 - 19.0	FINE	X	X				K51271
KAL058	K51273	KPT114-3	7/18/97	0.0 - 2.0	COARSE	X	X				
KAL058	K51274	KPT114-3	7/18/97	2.0 - 6.0	COARSE	X		X			
KAL058	K51275	KPT113-5	7/18/97	0.0 - 2.0	COARSE	X	X				
KAL058	K51276	KPT113-5	7/18/97	2.0 - 11.0	COARSE	X	X	X			
KAL058	K51277	KPT114-4	7/18/97	0.0 - 2.0	COARSE	X	X				
KAL058	K51278	KPT114-4	7/18/97	2.0 - 13.0	COARSE	X		X			
KAL059	K51279	KPT158-3	7/18/97	0.0 - 2.0	FINE	X	X				
KAL059	K51280	KPT158-3	7/18/97	2.0 - 12.0	FINE	X	X	X			
KAL059	K51281	KPT158-3	7/18/97	12.0 - 24.0	FINE	X	X				K51283
KAL059	K51282	KPT158-3	7/18/97	24.0 - 36.0	FINE	X	X			X	
KAL059	K51283	KPT158-3	7/18/97	12.0 - 24.0	FINE	X	X				K51281
KAL059	K51284	KPT121-5	7/18/97	0.0 - 2.0	COARSE	X	X				
KAL059	K51285	KPT121-5	7/18/97	2.0 - 8.0	COARSE	X		X			
KAL059	K51286	KPT119-8	7/18/97	0.0 - 2.0	FINE	X	X				
KAL059	K51287	KPT119-8	7/18/97	2.0 - 12.0	FINE	X	X	X			
KAL059	K51288	KPT119-8	7/18/97	12.0 - 26.0	FINE	X	X				
KAL059	K51289	KPT158-1	7/23/97	0.0 - 2.0	FINE	X	X				
KAL059	K51290	KPT158-1	7/23/97	2.0 - 17.0	FINE	X		X			
KAL059	K51291	KPT158-1	7/23/97	17.0 - 23.0	FINE	X					
KAL059	K51292	KPT5-1	7/23/97	0.0 - 2.0	COARSE	X	X				
KAL059	K51293	KPT5-1	7/23/97	2.0 - 12.0	COARSE	X	X	X			K51295
KAL059	K51294	KPT5-1	7/23/97	12.0 - 24.0	COARSE	X	X				
KAL059	K51295	KPT5-1	7/23/97	2.0 - 12.0	COARSE	X	X				K51293
KAL059	K51302	KPT69-8	7/23/97	0.0 - 2.0	FINE	X	X				
KAL059	K51303	KPT69-8	7/23/97	2.0 - 7.0	FINE	X	X	X			
KAL059	K51304	KPT69-8	7/23/97	7.0 - 13.0	FINE	X	X				
KAL059	K51305	KPT24-8	7/23/97	0.0 - 2.0	COARSE	X	X				
KAL060	K51306	KPT24-8	7/23/97	2.0 - 12.0	COARSE	X		X			K51308
KAL060	K51307	KPT24-8	7/23/97	12.0 - 24.0	COARSE	X				X	
KAL060	K51308	KPT24-8	7/23/97	2.0 - 12.0	COARSE	X					K51306
KAL060	K51309	KPT40-2	7/23/97	0.0 - 2.0	COARSE	X	X				
KAL060	K51310	KPT40-2	7/23/97	2.0 - 10.0	COARSE	X	X	X			
KAL060	K51311	PPT3-2	7/23/97	0.0 - 2.0	COARSE	X	X				
KAL060	K51312	PPT3-2	7/23/97	2.0 - 12.0	COARSE	X		X			
KAL060	K51313	PPT3-2	7/24/97	12.0 - 23.0	COARSE	X					
KAL060	K51314	KPT5-3	7/23/97	0.0 - 2.0	COARSE	X	X				
KAL060	K51315	KPT5-3	7/23/97	2.0 - 12.0	COARSE	X	X	X			
KAL060	K51316	KPT5-3	7/23/97	12.0 - 17.0	COARSE	X	X				K51317
KAL060	K51317	KPT5-3	7/23/97	12.0 - 17.0	COARSE	X	X				K51316
KAL060	K51318	KPT22-1	7/23/97	0.0 - 2.0	FINE	X	X				
KAL060	K51319	KPT22-1	7/23/97	2.0 - 12.0	FINE	X		X			
KAL060	K51320	KPT22-1	7/23/97	12.0 - 18.0	FINE	X					
KAL060	K51321	PPT15-3	7/23/97	0.0 - 2.0	COARSE	X	X				
KAL060	K51322	PPT15-3	7/23/97	2.0 - 6.0	COARSE	X	X	X			
KAL060	K51323	KPT27-2	7/23/97	0.0 - 2.0	FINE	X	X				
KAL060	K51324	KPT27-2	7/23/97	2.0 - 12.0	FINE	X		X			
KAL060	K51325	KPT27-2	7/23/97	12.0 - 15.0	FINE	X					
KAL061	K51326	KPT5-6	7/23/97	0.0 - 2.0	COARSE	X	X				
KAL061	K51327	KPT5-6	7/23/97	2.0 - 12.0	COARSE	X	X	X			
KAL061	K51328	KPT128-6	7/23/97	0.0 - 2.0	COARSE	X	X				
KAL061	K51329	KPT128-6	7/23/97	2.0 - 10.0	COARSE	X		X			K51330

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL061	K51330	KPT128-6	7/23/97	2.0 - 10.0	COARSE	X					K51329
KAL061	K51331	KPT5-4	7/23/97	0.0 - 2.0	COARSE	X	X				
KAL061	K51332	KPT5-4	7/23/97	2.0 - 9.0	COARSE	X	X	X			
KAL061	K51333	KPT5-4	7/23/97	9.0 - 24.0	COARSE	X	X			X	K51334
KAL061	K51334	KPT5-4	7/23/97	9.0 - 24.0	COARSE	X	X				K51333
KAL061	K51335	PPT11-3	7/23/97	0.0 - 2.0	COARSE	X	X				
KAL061	K51336	PPT11-3	7/23/97	2.0 - 7.0	COARSE	X		X			
KAL061	K51337	PPT11-3	7/23/97	7.0 - 12.0	COARSE	X					
KAL061	K51338	PPT11-3	7/23/97	12.0 - 18.0	COARSE	X					
KAL061	K51339	KPT27-5	7/23/97	0.0 - 2.0	COARSE	X	X				
KAL061	K51340	KPT27-5	7/23/97	2.0 - 5.0	COARSE	X	X	X			
KAL061	K51341	KPT70-4	7/23/97	0.0 - 2.0	COARSE	X	X				
KAL061	K51342	KPT70-4	7/23/97	2.0 - 6.0	COARSE	X		X			
KAL061	K51343	KPT22-6	7/23/97	0.0 - 2.0	FINE	X	X				
KAL061	K51344	KPT22-6	7/23/97	2.0 - 6.0	FINE	X	X	X			
KAL061	K51345	KPT22-6	7/23/97	6.0 - 12.0	FINE	X	X				
KAL062	K51346	KPT22-6	7/23/97	12.0 - 18.0	FINE	X	X				K51347
KAL062	K51347	KPT22-6	7/23/97	12.0 - 18.0	FINE	X	X				K51346
KAL062	K51348	KPT25-4	7/23/97	0.0 - 3.0	COARSE	X	X	X			
KAL062	K51349	KPT30-8	7/23/97	0.0 - 2.0	COARSE	X	X				
KAL062	K51350	KPT30-8	7/23/97	2.0 - 6.0	COARSE	X	X	X			
KAL062	K51351	KPT30-8	7/23/97	6.0 - 12.0	COARSE	X	X				
KAL062	K51352	KPT129-6	7/23/97	0.0 - 2.0	COARSE	X	X				
KAL062	K51353	KPT129-6	7/23/97	2.0 - 9.0	COARSE	X		X			
KAL062	K51354	KPT27-1	7/23/97	0.0 - 2.0	FINE	X	X				
KAL062	K51355	KPT27-1	7/23/97	2.0 - 8.0	FINE	X	X	X			K51358
KAL062	K51356	KPT27-1	7/23/97	8.0 - 12.0	FINE	X	X				
KAL062	K51357	KPT27-1	7/23/97	12.0 - 17.0	FINE	X	X			X	
KAL062	K51358	KPT27-1	7/23/97	2.0 - 8.0	FINE	X	X				K51355
KAL062	K51359	KPT38-5	7/23/97	0.0 - 2.0	COARSE	X	X				
KAL062	K51360	KPT38-5	7/23/97	2.0 - 5.0	COARSE	X					
KAL062	K51361	KPT21-1	7/23/97	0.0 - 2.0	FINE	X	X				
KAL062	K51362	KPT21-1	7/23/97	2.0 - 12.0	FINE	X	X	X			K51364
KAL062	K51364	KPT21-1	7/23/97	2.0 - 12.0	FINE	X	X				K51362
KAL062	K51365	KPT23-1	7/23/97	0.0 - 2.0	COARSE	X	X				
KAL062	K51366	KPT23-1	7/23/97	2.0 - 10.0	COARSE	X		X			
KAL063	K51363	KPT21-1	7/23/97	12.0 - 15.0	FINE	X	X			X	
KAL063	K51367	KPT26-2	7/23/97	0.0 - 2.0	COARSE	X	X				
KAL063	K51368	KPT26-2	7/23/97	2.0 - 11.0	COARSE	X	X	X			
KAL063	K51369	KPT1-1	7/23/97	0.0 - 2.0	COARSE	X	X				
KAL063	K51370	KPT1-1	7/23/97	2.0 - 12.0	COARSE	X		X			
KAL063	K51371	KPT59-4	7/23/97	0.0 - 2.0	COARSE	X	X				
KAL063	K51372	KPT59-4	7/23/97	2.0 - 10.0	COARSE	X	X	X			
KAL063	K51373	PPT14-1	7/23/97	0.0 - 2.0	COARSE	X	X				
KAL063	K51374	PPT14-1	7/23/97	2.0 - 6.0	COARSE	X		X			
KAL063	K51375	KPT28-8	7/23/97	0.0 - 2.0	FINE	X	X				
KAL063	K51376	KPT28-8	7/23/97	2.0 - 12.0	FINE	X	X	X			K51378
KAL063	K51377	KPT28-8	7/23/97	12.0 - 24.0	FINE	X	X				
KAL063	K51378	KPT28-8	7/23/97	2.0 - 12.0	FINE	X	X				K51376
KAL063	K51379	KPT158-4	7/24/97	0.0 - 2.0	FINE	X	X				
KAL063	K51380	KPT158-4	7/24/97	2.0 - 12.0	FINE	X		X			
KAL063	K51381	KPT158-4	7/24/97	12.0 - 24.0	FINE	X					
KAL063	K51382	KPT158-4	7/24/97	24.0 - 32.0	FINE	X					
KAL063	K51383	KPT158-4	7/24/97	32.0 - 36.0	FINE	X					
KAL063	K51384	KPT14-6	7/24/97	0.0 - 2.0	FINE	X	X				
KAL063	K51385	KPT14-6	7/24/97	2.0 - 12.0	FINE	X	X	X			
KAL064	K51386	KPT14-6	7/24/97	12.0 - 24.0	FINE	X	X				K51387
KAL064	K51387	KPT14-6	7/24/97	12.0 - 24.0	FINE	X	X				K51386
KAL064	K51388	KPT113-2	7/24/97	0.0 - 2.0	COARSE	X	X				

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL064	K51389	KPT13-2	7/24/97	2.0 - 9.0	COARSE	X		X			
KAL064	K51394	KPT27-8	7/24/97	0.0 - 2.0	FINE	X	X				
KAL064	K51395	KPT27-8	7/24/97	2.0 - 11.0	FINE	X		X			
KAL064	K51396	PPT8-3	7/24/97	0.0 - 2.0	FINE	X	X				
KAL064	K51397	PPT8-3	7/24/97	2.0 - 12.0	FINE	X	X	X			
KAL064	K51398	PPT8-3	7/24/97	12.0 - 24.0	FINE	X	X			X	
KAL064	K51399	PPT8-3	7/24/97	24.0 - 36.0	FINE	X	X				K51401
KAL064	K51400	PPT8-3	7/24/97	36.0 - 46.0	FINE	X	X				
KAL064	K51401	PPT8-3	7/24/97	24.0 - 36.0	FINE	X	X				K51399
KAL064	K51402	KPT158-5	7/24/97	0.0 - 2.0	FINE	X	X				
KAL064	K51403	KPT158-5	7/24/97	2.0 - 12.0	FINE	X		X			
KAL064	K51404	KPT158-5	7/24/97	12.0 - 26.0	FINE	X					
KAL064	K51405	PPT8-2	7/24/97	0.0 - 2.0	COARSE	X	X				
KAL065	K51406	PPT8-2	7/24/97	2.0 - 14.0	COARSE	X	X	X			
KAL065	K51407	PPT8-2	7/24/97	14.0 - 26.0	COARSE	X	X			X	
KAL065	K51408	PPT8-2	7/24/97	26.0 - 30.0	COARSE	X	X				K51410
KAL065	K51409	PPT8-2	7/24/97	30.0 - 36.0	COARSE	X	X				
KAL065	K51410	PPT8-2	7/24/97	26.0 - 30.0	COARSE	X	X				K51408
KAL065	K51411	PPT7-3	7/24/97	0.0 - 2.0	COARSE	X	X				
KAL065	K51412	PPT7-3	7/24/97	2.0 - 6.0	COARSE	X		X			
KAL065	K51413	PPT7-3	7/24/97	6.0 - 12.0	COARSE	X					
KAL065	K51414	PPT7-3	7/24/97	12.0 - 24.0	COARSE	X					
KAL065	K51415	PPT7-3	7/24/97	24.0 - 36.0	COARSE	X					
KAL065	K51416	KPT26-5	7/24/97	0.0 - 2.0	FINE	X	X				
KAL065	K51417	KPT26-5	7/24/97	2.0 - 10.0	FINE	X	X	X			
KAL065	K51418	KPT26-5	7/24/97	10.0 - 14.0	FINE	X	X				
KAL065	K51419	KPT29-1	7/24/97	0.0 - 2.0	FINE	X	X				
KAL065	K51420	KPT29-1	7/24/97	2.0 - 12.0	FINE	X		X			
KAL065	K51421	KPT149-6	7/24/97	0.0 - 2.0	FINE	X	X				
KAL065	K51422	KPT149-6	7/24/97	2.0 - 12.0	FINE	X	X	X			
KAL065	K51424	KPT149-6	7/24/97	24.0 - 36.0	FINE	X	X				K51425
KAL065	K51425	KPT149-6	7/24/97	24.0 - 36.0	FINE	X	X				K51424
KAL065	K51426	KPT106-8	7/24/97	0.0 - 2.0	FINE	X	X				
KAL066	K51423	KPT149-6	7/24/97	12.0 - 24.0	FINE	X	X			X	
KAL066	K51427	KPT106-8	7/24/97	2.0 - 12.0	FINE	X		X			
KAL066	K51428	KPT106-8	7/24/97	12.0 - 24.0	FINE	X					K51431
KAL066	K51429	KPT106-8	7/24/97	24.0 - 30.0	FINE	X					
KAL066	K51430	KPT106-8	7/24/97	30.0 - 36.0	FINE	X					
KAL066	K51431	KPT106-8	7/24/97	12.0 - 24.0	FINE	X					K51428
KAL066	K51432	PPT7-1	7/24/97	0.0 - 2.0	COARSE	X	X				
KAL066	K51433	PPT7-1	7/24/97	2.0 - 12.0	COARSE	X	X	X			K51435
KAL066	K51434	PPT7-1	7/24/97	12.0 - 24.0	COARSE	X	X				
KAL066	K51435	PPT7-1	7/24/97	2.0 - 12.0	COARSE	X	X				K51433
KAL066	K51436	PPT12-3	7/25/97	0.0 - 2.0	COARSE	X	X				
KAL066	K51437	PPT12-3	7/25/97	2.0 - 12.0	COARSE	X		X			
KAL066	K51438	KPT89-3	7/25/97	0.0 - 2.0	COARSE	X	X				
KAL066	K51439	KPT89-3	7/25/97	2.0 - 12.0	COARSE	X	X	X			
KAL066	K51440	KPT61-6	7/25/97	0.0 - 2.0	COARSE	X	X				
KAL066	K51441	KPT61-6	7/25/97	2.0 - 6.0	COARSE	X		X			
KAL066	K51442	KPT117-3	7/25/97	0.0 - 2.0	COARSE	X	X	X			
KAL066	K51443	KPT117-3	7/25/97	2.0 - 12.0	COARSE	X	X				K51444
KAL066	K51444	KPT117-3	7/25/97	2.0 - 12.0	COARSE	X	X				K51443
KAL067	K50313	KPT130-1	7/1/97	0.0 - 2.0	FINE	X			X		
KAL067	K50314	KPT130-1	7/1/97	2.0 - 12.0	FINE	X			X		
KAL067	K50315	KPT130-1	7/1/97	12.0 - 24.0	FINE	X			X		
KAL067	K50316	KPT130-1	7/1/97	24.0 - 36.0	FINE	X			X		
KAL067	K50381	PPT5-2	7/1/97	0.0 - 2.0	COARSE	X			X		
KAL067	K50382	PPT5-2	7/1/97	2.0 - 12.0	COARSE	X			X		
KAL067	K50383	PPT5-2	7/1/97	12.0 - 24.0	COARSE	X			X		

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ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL06[illegible]	K50384	PP[illegible]5-2	7/1/97	24.0 - 36.0	COARSE	X			X		
KAL06[illegible]	K50515	KP[illegible]6E-3	7/3/97	0.0 - 2.0	FINE	X			X		
KAL06[illegible]	K50516	KP[illegible]6E-3	7/3/97	2.0 - 10.0	FINE	X			X		
KAL06[illegible]	K50579	KP[illegible]157-1	7/8/97	0.0 - 2.0	FINE	X			X		
KAL06[illegible]	K50580	KP[illegible]157-1	7/8/97	2.0 - 12.0	FINE	X			X		
KAL06[illegible]	K50581	KP[illegible]157-1	7/8/97	12.0 - 24.0	FINE	X			X		
KAL06[illegible]	K50582	KP[illegible]157-1	7/8/97	24.0 - 31.0	FINE	X			X		
KAL06[illegible]	K51092	KPT20-2	7/16/97	0.0 - 2.0	COARSE	X			X		
KAL06[illegible]	K51093	KP[illegible]20-2	7/16/97	2.0 - 13.0	COARSE	X			X		
KAL06[illegible]	K51148	KP[illegible]49-1	7/16/97	0.0 - 2.0	FINE	X			X		
KAL06[illegible]	K51149	KP[illegible]49-1	7/16/97	2.0 - 12.0	FINE	X			X		
KAL06[illegible]	K51150	KP[illegible]49-1	7/16/97	12.0 - 24.0	FINE	X			X		
KAL06[illegible]	K51298	KP[illegible]92-7	7/23/97	12.0 - 29.0	FINE	X			X		
KAL068	K51254	KPT104-1	7/17/97	0.0 - 2.0	FINE	X			X		
KAL068	K51255	KPT104-1	7/17/97	2.0 - 12.0	FINE	X			X		K51257
KAL068	K51256	KPT104-1	7/17/97	12.0 - 18.0	FINE	X			X		
KAL068	K51257	KPT104-1	7/17/97	2.0 - 12.0	FINE	X			X		K51255
KAL068	K51296	KPT92-7	7/23/97	0.0 - 2.0	FINE	X			X		
KAL068	K51297	KPT92-7	7/23/97	2.0 - 12.0	FINE	X			X		
KAL068	K51299	KPT92-7	7/23/97	29.0 - 36.0	FINE	X			X		
KAL068	K51300	KPT92-7	7/23/97	36.0 - 48.0	FINE	X			X		K51301
KAL068	K51301	KPT92-7	7/23/97	36.0 - 48.0	FINE	X			X		K51300
KAL068	K51390	KPT122-2	7/24/97	0.0 - 2.0	FINE	X			X		
KAL068	K51391	KPT122-2	7/24/97	2.0 - 12.0	FINE	X			X		
KAL068	K51392	KPT122-2	7/24/97	12.0 - 24.0	FINE	X			X		K51393
KAL068	K51393	KPT122-2	7/24/97	12.0 - 24.0	FINE	X			X		K51392
KAL10[illegible]	K51445	KPT7-4	12/7/99	0.0 - 2.0	COARSE	X	X	X			
KAL10[illegible]	K51446	KPT7-4	12/7/99	2.0 - 7.0	COARSE	X	X	X			
KAL10[illegible]	K51447	KPT7-1	12/7/99	0.0 - 2.0	COARSE	X	X	X			
KAL10[illegible]	K51448	KPT7-1	12/7/99	2.0 - 5.0	COARSE	X	X				
KAL10[illegible]	K51449	KPT7-5	12/7/99	0.0 - 2.0	COARSE	X	X	X			
KAL10[illegible]	K51450	KPT7-5	12/7/99	2.0 - 7.0	COARSE	X	X				
KAL10[illegible]	K51451	KPT9-2	12/7/99	0.0 - 2.0	COARSE	X	X	X			
KAL10[illegible]	K51452	KPT9-2	12/7/99	2.0 - 6.0	COARSE	X	X	X			
KAL10[illegible]	K51453	KPT9-2	12/7/99	6.0 - 10.0	COARSE	X	X				
KAL10[illegible]	K51454	KPT12-7	12/7/99	0.0 - 2.0	COARSE	X	X	X			
KAL10[illegible]	K51455	KP[illegible]12-7	12/7/99	2.0 - 6.0	COARSE	X	X				
KAL10[illegible]	K51456	KP[illegible]12-7	12/7/99	6.0 - 12.0	COARSE	X	X				
KAL10[illegible]	K51457	KP[illegible]12-7	12/7/99	6.0 - 12.0	COARSE	X	X				K51456
KAL10[illegible]	K51458	KP[illegible]16-5	12/7/99	0.0 - 2.0	COARSE	X	X	X			
KAL10[illegible]	K51459	KP[illegible]16-5	12/7/99	2.0 - 6.0	COARSE	X	X				
KAL10[illegible]	K51460	KP[illegible]5-2	12/9/99	0.0 - 2.0	COARSE	X	X	X			
KAL10[illegible]	K51461	KP[illegible]5-2	12/9/99	2.0 - 6.0	COARSE	X	X				
KAL10[illegible]	K51462	KP[illegible]5-2	12/9/99	6.0 - 12.0	COARSE	X	X	X			
KAL10[illegible]	K51463	KP[illegible]5-2	12/9/99	12.0 - 15.0	COARSE	X	X				
KAL10[illegible]	K51464	KP[illegible]5-5	12/9/99	0.0 - 2.0	COARSE	X	X				
KAL10[illegible]	K51465	KP[illegible]5-5	12/9/99	2.0 - 6.0	COARSE	X	X				
KAL10[illegible]	K51466	KP[illegible]5-5	12/9/99	6.0 - 12.0	COARSE	X	X	X			
KAL10[illegible]	K51467	KP[illegible]5-5	12/9/99	12.0 - 20.0	COARSE	X	X	X			
KAL10[illegible]	K51468	KP[illegible]6-2	12/9/99	0.0 - 2.0	COARSE	X	X	X			
KAL10[illegible]	K51469	KP[illegible]6-2	12/9/99	2.0 - 6.0	COARSE	X	X				
KAL10[illegible]	K51470	KP[illegible]6-2	12/9/99	6.0 - 14.0	COARSE	X	X	X			
KAL10[illegible]	K51471	KP[illegible]6-2	12/9/99	6.0 - 14.0	COARSE	X	X				K51470
KAL10[illegible]	K51472	KP[illegible]6-1	12/9/99	0.0 - 2.0	COARSE	X	X	X			
KAL10[illegible]	K51473	KP[illegible]6-1	12/9/99	2.0 - 6.0	COARSE	X	X				
KAL10[illegible]	K51474	KP[illegible]6-1	12/9/99	6.0 - 9.0	COARSE	X	X				
KAL10[illegible]	K51475	KP[illegible]6-1	12/9/99	9.0 - 12.0	COARSE	X	X				
KAL10[illegible]	K51476	KP[illegible]6-1	12/9/99	12.0 - 22.0	COARSE	X	X	X			
KAL10[illegible]	K51477	KP[illegible]6-4	12/9/99	0.0 - 2.0	COARSE	X	X	X			

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL10	K51478	KPT6-4	12/9/99	2.0 - 6.0	COARSE	X	X				
KAL10	K51479	KPT6-4	12/9/99	6.0 - 12.0	COARSE	X	X	X			
KAL10	K51480	KPT6-4	12/9/99	12.0 - 17.0	COARSE	X	X				
KAL10	K51481	KPT6-7	12/9/99	0.0 - 2.0	COARSE	X	X	X			
KAL10	K51482	KPT6-7	12/9/99	2.0 - 6.0	COARSE	X	X				
KAL10	K51483	KPT6-7	12/9/99	6.0 - 12.0	COARSE	X	X				
KAL10	K51485	KPT6-7	12/9/99	12.0 - 26.0	COARSE	X	X	X		X	
KAL10	K51486	KPT6-3	12/9/99	0.0 - 2.0	COARSE	X	X	X			
KAL10	K51487	KPT6-3	12/9/99	2.0 - 6.0	COARSE	X	X				
KAL10	K51488	KPT6-3	12/9/99	6.0 - 12.5	COARSE	X	X	X			
KAL10	K51489	KPT6-6	12/9/99	0.0 - 2.0	COARSE	X	X	X			
KAL10	K51490	KPT6-6	12/9/99	2.0 - 6.0	COARSE	X	X				
KAL10	K51491	KPT6-6	12/9/99	6.0 - 12.0	COARSE	X	X				
KAL10	K51492	KPT6-6	12/9/99	12.0 - 24.0	COARSE	X	X	X			
KAL10	K51493	KPT6-6	12/9/99	12.0 - 24.0	COARSE	X	X				K51492
KAL10	K51494	KPT7-2	12/10/99	0.0 - 2.0	COARSE	X	X	X			
KAL10	K51495	KPT7-2	12/10/99	2.0 - 6.0	COARSE	X	X				
KAL10	K51496	KPT7-2	12/10/99	6.0 - 12.0	COARSE	X	X	X			
KAL10	K51497	KPT7-2	12/10/99	12.0 - 15.0	COARSE	X	X				
KAL10	K51498	KPT7-2	12/10/99	15.0 - 19.0	COARSE	X	X				
KAL10	K51499	KPT7-8	12/10/99	0.0 - 2.0	FINE	X	X	X			
KAL10	K51500	KPT7-8	12/10/99	2.0 - 6.0	FINE	X	X				
KAL10	K51501	KPT7-8	12/10/99	6.0 - 12.0	FINE	X	X	X			
KAL10	K51502	KPT7-8	12/10/99	12.0 - 29.0	FINE	X	X	X		X	
KAL10	K51503	KPT7-8	12/10/99	12.0 - 29.0	FINE	X	X				K51502
KAL109	K51504	KPT7-3	12/13/99	0.0 - 2.0	COARSE	X	X	X			
KAL109	K51505	KPT7-3	12/13/99	2.0 - 8.0	COARSE	X	X	X			
KAL110	K51506	KPT7-6	12/13/99	0.0 - 2.0	COARSE	X	X				
KAL110	K51507	KPT7-6	12/13/99	2.0 - 6.0	COARSE	X	X				
KAL110	K51508	KPT7-7	12/13/99	0.0 - 2.0	COARSE	X	X	X			
KAL110	K51509	KPT7-7	12/13/99	2.0 - 8.0	COARSE	X	X				
KAL110	K51510	KPT8-2	12/13/99	0.0 - 2.0	COARSE	X	X	X			
KAL110	K51511	KPT8-2	12/13/99	2.0 - 6.0	COARSE	X	X	X			
KAL110	K51512	KPT8-2	12/13/99	6.0 - 10.0	COARSE	X	X	X			
KAL110	K51513	KPT8-4	12/13/99	0.0 - 2.0	COARSE	X	X	X			
KAL110	K51514	KPT8-4	12/13/99	2.0 - 6.0	COARSE	X	X				
KAL110	K51515	KPT8-4	12/13/99	6.0 - 12.0	COARSE	X	X				
KAL110	K51516	KPT8-4	12/13/99	12.0 - 15.0	COARSE	X	X				
KAL110	K51517	KPT8-4	12/13/99	6.0 - 12.0	COARSE	X	X				K51515
KAL110	K51518	KPT8-5	12/13/99	0.0 - 2.0	COARSE	X	X	X			
KAL110	K51519	KPT8-5	12/13/99	2.0 - 6.0	COARSE	X	X				
KAL110	K51520	KPT8-5	12/13/99	6.0 - 13.0	COARSE	X	X	X			
KAL110	K51521	KPT8-6	12/13/99	0.0 - 2.0	COARSE	X	X	X			
KAL110	K51522	KPT8-6	12/13/99	2.0 - 6.0	COARSE	X	X	X			
KAL110	K51523	KPT8-6	12/13/99	6.0 - 13.0	COARSE	X	X	X			
KAL110	K51524	KPT8-7	12/13/99	0.0 - 2.0	COARSE	X	X	X			
KAL110	K51525	KPT8-7	12/13/99	2.0 - 6.0	COARSE	X	X	X			
KAL111	K51526	KPT8-7	12/13/99	6.0 - 9.0	COARSE	X	X				
KAL111	K51527	KPT8-7	12/13/99	9.0 - 11.0	COARSE	X	X				
KAL111	K51528	KPT8-8	12/13/99	0.0 - 2.0	COARSE	X	X	X			
KAL111	K51529	KPT8-8	12/13/99	2.0 - 6.0	COARSE	X	X				
KAL111	K51530	KPT8-8	12/13/99	6.0 - 12.0	COARSE	X	X				
KAL111	K51531	KPT8-8	12/13/99	6.0 - 12.0	COARSE	X	X				K51530
KAL111	K51532	KPT9-1	12/13/99	0.0 - 2.0	COARSE	X	X	X			
KAL111	K51533	KPT9-1	12/13/99	2.0 - 6.0	COARSE	X	X	X			
KAL111	K51534	KPT9-1	12/13/99	6.0 - 11.0	COARSE	X	X				
KAL111	K51535	KPT9-7	12/13/99	0.0 - 2.0	COARSE	X	X	X			
KAL111	K51536	KPT9-7	12/13/99	2.0 - 6.0	COARSE	X	X	X			
KAL111	K51537	KPT9-7	12/13/99	6.0 - 12.0	COARSE	X	X	X			

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL11	K51538	KPT9-7	12/13/99	12.0 - 24.0	COARSE	X	X	X		X	
KAL11	K51539	KPT9-3	12/14/99	0.0 - 2.0	COARSE	X	X	X			
KAL11	K51540	KPT9-3	12/14/99	2.0 - 6.0	COARSE	X	X				
KAL11	K51541	KPT9-3	12/14/99	6.0 - 12.0	COARSE	X	X	X			
KAL11	K51542	KPT9-3	12/14/99	12.0 - 23.0	COARSE	X	X	X			
KAL11	K51543	KPT9-4	12/14/99	0.0 - 2.0	COARSE	X	X	X			
KAL11	K51544	KPT9-4	12/14/99	2.0 - 6.0	COARSE	X	X	X			
KAL11	K51545	KPT9-4	12/14/99	6.0 - 12.0	COARSE	X	X	X			
KAL11	K51546	KPT9-4	12/14/99	12.0 - 17.0	COARSE	X	X	X			
KAL11	K51547	KPT9-5	12/14/99	0.0 - 2.0	COARSE	X	X	X			
KAL11	K51548	KPT9-5	12/14/99	2.0 - 6.0	COARSE	X	X				
KAL11	K51549	KPT9-5	12/14/99	6.0 - 12.0	COARSE	X	X	X			
KAL11	K51550	KPT9-5	12/14/99	12.0 - 20.0	COARSE	X	X	X			
KAL11	K51551	KPT9-5	12/14/99	20.0 - 34.0	COARSE	X	X	X			
KAL11	K51552	KPT9-5	12/14/99	20.0 - 34.0	COARSE	X	X				K51551
KAL11	K51553	KPT9-6	12/14/99	0.0 - 2.0	COARSE	X	X	X			
KAL11	K51554	KPT9-6	12/14/99	2.0 - 6.0	COARSE	X	X				
KAL11	K51555	KPT9-6	12/14/99	6.0 - 12.0	COARSE	X	X	X			
KA_11	K51556	KPT9-6	12/14/99	12.0 - 25.0	COARSE	X	X	X		X	
KA_11	K51557	KPT9-6	12/14/99	25.0 - 28.0	COARSE	X	X	X			
KA_11	K51558	KPT10-1	12/14/99	0.0 - 2.0	FINE	X	X	X			
KA_11	K51559	KPT10-1	12/14/99	2.0 - 6.0	FINE	X	X				
KA_11	K51560	KPT10-1	12/14/99	6.0 - 12.0	FINE	X	X	X			
KA_11	K51561	KPT10-1	12/14/99	12.0 - 21.0	FINE	X	X	X			
KA_11	K51562	KPT10-1	12/14/99	12.0 - 21.0	FINE	X	X				K51561
KA_11	K51563	KPT10-2	12/14/99	0.0 - 2.0	COARSE	X	X	X			
KA_11	K51564	KPT10-2	12/14/99	2.0 - 6.0	COARSE	X	X	X			
KA_11	K51565	KPT10-2	12/14/99	6.0 - 12.0	COARSE	X	X	X			
KAL11	K51566	KPT10-2	12/14/99	12.0 - 24.0	COARSE	X	X	X			
KAL11	K51567	KPT10-2	12/14/99	6.0 - 12.0	COARSE	X	X				K51565
KAL11	K51568	KPT10-4	12/14/99	0.0 - 2.0	COARSE	X	X	X			
KAL11	K51569	KPT10-4	12/14/99	2.0 - 6.0	COARSE	X	X				
KAL11	K51570	KPT10-4	12/14/99	6.0 - 12.0	COARSE	X	X	X			
KAL11	K51571	KPT10-4	12/14/99	12.0 - 18.0	COARSE	X	X	X			
KAL11	K51572	KPT10-6	12/14/99	0.0 - 2.0	COARSE	X	X	X			
KAL11	K51573	KPT10-6	12/14/99	2.0 - 6.0	COARSE	X	X	X			
KAL11	K51574	KPT10-6	12/14/99	6.0 - 12.0	COARSE	X	X	X			
KAL11	K51575	KPT10-6	12/14/99	12.0 - 24.0	COARSE	X	X	X		X	
KAL11	K51576	KPT10-6	12/14/99	12.0 - 24.0	COARSE	X	X				K51575
KAL11	K51577	KPT10-7	12/14/99	0.0 - 2.0	COARSE	X	X	X			
KAL11	K51578	KPT10-7	12/14/99	2.0 - 6.0	COARSE	X	X	X			
KAL114	K51579	KPT10-7	12/14/99	6.0 - 12.0	COARSE	X	X	X			
KAL114	K51580	KPT10-7	12/14/99	12.0 - 22.0	COARSE	X	X	X			
KAL114	K51581	KPT10-7	12/14/99	12.0 - 22.0	COARSE	X	X				K51580
KAL114	K51582	KPT11-2	12/14/99	0.0 - 2.0	COARSE	X	X	X			
KAL114	K51583	KPT11-2	12/14/99	2.0 - 6.0	COARSE	X	X	X			
KAL114	K51584	KPT11-2	12/14/99	6.0 - 12.0	COARSE	X	X	X			
KAL114	K51585	KPT11-2	12/14/99	12.0 - 24.0	COARSE	X	X	X		X	
KAL114	K51586	KPT11-2	12/14/99	6.0 - 12.0	COARSE	X	X				K51584
KAL114	K51587	KPT11-1	12/14/99	0.0 - 2.0	COARSE	X	X	X			
KAL114	K51588	KPT11-1	12/14/99	2.0 - 6.0	COARSE	X	X				
KAL114	K51589	KPT11-1	12/14/99	6.0 - 12.0	COARSE	X	X	X			
KAL114	K51590	KPT11-1	12/14/99	12.0 - 24.0	COARSE	X	X	X			
KAL114	K51591	KPT11-1	12/14/99	12.0 - 24.0	COARSE	X	X				K51590
KAL114	K51592	KPT11-3	12/15/99	0.0 - 2.0	COARSE	X	X	X			
KAL114	K51593	KPT11-3	12/15/99	2.0 - 6.0	COARSE	X	X				
KAL114	K51594	KPT11-3	12/15/99	6.0 - 12.0	COARSE	X	X	X			
KAL114	K51595	KPT11-3	12/15/99	12.0 - 26.0	COARSE	X	X	X			
KAL114	K51596	KPT11-3	12/15/99	12.0 - 26.0	COARSE	X	X				K51595

TABLE 1

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

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SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL114	K51597	KPT11-4	12/15/99	0.0 - 2.0	COARSE	X	X	X			
KAL114	K51598	KPT11-4	12/15/99	2.0 - 6.0	COARSE	X	X				
KAL114	K51599	KPT11-4	12/15/99	6.0 - 12.0	COARSE	X	X	X			
KAL114	K51600	KPT11-5	12/15/99	0.0 - 2.0	COARSE	X	X	X			
KAL114	K51601	KPT11-5	12/15/99	2.0 - 6.0	COARSE	X	X				
KAL114	K51602	KPT11-5	12/15/99	6.0 - 12.0	COARSE	X	X	X			
KAL114	K51603	KPT11-5	12/15/99	12.0 - 18.0	COARSE	X	X	X			
KAL114	K51605	KPT11-6	12/15/99	0.0 - 2.0	COARSE	X	X	X			
KAL114	K51606	KPT11-6	12/15/99	2.0 - 6.0	COARSE	X	X				
KAL114	K51607	KPT11-6	12/15/99	2.0 - 6.0	COARSE	X	X				K51606
KAL114	K51608	KPT11-6	12/15/99	6.0 - 12.0	COARSE	X	X	X			
KAL114	K51609	KPT11-6	12/15/99	12.0 - 24.0	COARSE	X	X	X		X	
KAL114	K51610	KPT11-7	12/15/99	0.0 - 2.0	FINE	X	X	X			
KAL114	K51611	KPT11-7	12/15/99	2.0 - 6.0	FINE	X	X				
KAL114	K51612	KPT11-7	12/15/99	6.0 - 12.0	FINE	X	X	X			
KAL114	K51613	KPT11-7	12/15/99	12.0 - 17.0	FINE	X	X	X			
KAL114	K51614	KPT11-7	12/15/99	17.0 - 20.0	FINE	X	X				
KAL114	K51615	KPT11-8	12/15/99	0.0 - 2.0	FINE	X	X	X			
KAL114	K51616	KPT11-8	12/15/99	2.0 - 6.0	FINE	X	X				
KAL114	K51617	KPT11-8	12/15/99	6.0 - 12.0	FINE	X	X	X			
KAL114	K51618	KPT11-8	12/15/99	12.0 - 17.0	FINE	X	X	X			
KAL116	K51619	KPT11-8	12/15/99	17.0 - 22.0	FINE	X	X	X			
KAL116	K51620	KPT12-1	12/15/99	0.0 - 2.0	COARSE	X	X	X			
KAL116	K51621	KPT12-1	12/15/99	2.0 - 6.0	COARSE	X	X				
KAL116	K51622	KPT12-1	12/15/99	2.0 - 6.0	COARSE	X	X				K51621
KAL116	K51623	KPT12-1	12/15/99	6.0 - 12.0	COARSE	X	X	X			
KAL116	K51624	KPT12-1	12/15/99	12.0 - 18.0	COARSE	X	X	X			
KAL116	K51625	KPT12-1	12/15/99	18.0 - 24.0	COARSE	X	X	X			
KAL116	K51626	KPT12-2	12/15/99	0.0 - 2.0	COARSE	X	X	X			
KAL116	K51627	KPT12-2	12/15/99	2.0 - 6.0	COARSE	X	X				
KAL116	K51628	KPT12-2	12/15/99	6.0 - 12.0	COARSE	X	X	X			
KAL116	K51629	KPT12-2	12/15/99	12.0 - 16.0	COARSE	X	X	X			
KAL116	K51630	KPT12-3	12/15/99	0.0 - 2.0	COARSE	X	X	X			
KAL116	K51631	KPT12-3	12/15/99	2.0 - 6.0	COARSE	X	X				
KAL116	K51632	KPT12-3	12/15/99	6.0 - 12.0	COARSE	X	X	X			
KAL116	K51633	KPT12-3	12/15/99	12.0 - 24.0	COARSE	X	X	X		X	
KAL116	K51634	KPT12-5	12/15/99	0.0 - 2.0	COARSE	X	X	X			
KAL116	K51635	KPT12-5	12/15/99	2.0 - 6.0	COARSE	X	X				
KAL116	K51636	KPT12-5	12/15/99	2.0 - 6.0	COARSE	X	X				K51635
KAL116	K51637	KPT12-5	12/15/99	6.0 - 12.0	COARSE	X	X	X			
KAL116	K51638	KPT12-5	12/15/99	12.0 - 18.0	COARSE	X	X	X			
KAL117	K51639	KPT13-2	12/20/99	0.0 - 2.0	COARSE	X	X	X			
KAL117	K51640	KPT13-2	12/20/99	2.0 - 6.0	COARSE	X	X				
KAL117	K51641	KPT13-2	12/20/99	6.0 - 10.0	COARSE	X	X				
KAL117	K51642	KPT13-2	12/20/99	10.0 - 16.0	COARSE	X	X				
KAL117	K51643	KPT13-2	12/20/99	16.0 - 24.0	COARSE	X	X				
KAL117	K51644	KPT13-3	12/20/99	0.0 - 2.0	COARSE	X	X	X			
KAL117	K51645	KPT13-3	12/20/99	2.0 - 6.0	COARSE	X	X				
KAL117	K51646	KPT13-3	12/20/99	6.0 - 12.0	COARSE	X	X				
KAL117	K51647	KPT13-3	12/20/99	12.0 - 20.0	COARSE	X	X	X			
KAL117	K51648	KPT13-3	12/20/99	20.0 - 24.0	COARSE	X	X	X			
KAL117	K51649	KPT13-3	12/20/99	12.0 - 20.0	COARSE	X	X				K51647
KAL117	K51650	KPT13-7	12/20/99	0.0 - 2.0	COARSE	X	X	X			
KAL117	K51651	KPT13-7	12/20/99	2.0 - 6.0	COARSE	X	X				
KAL117	K51652	KPT13-7	12/20/99	6.0 - 12.0	COARSE	X	X	X			
KAL117	K51653	KPT13-7	12/20/99	12.0 - 22.0	COARSE	X	X	X		X	
KAL117	K51654	KPT13-7	12/20/99	22.0 - 24.0	COARSE	X	X				
KAL117	K51655	KPT13-6	12/20/99	0.0 - 2.0	COARSE	X	X	X			
KAL117	K51656	KPT13-6	12/20/99	2.0 - 6.0	COARSE	X	X				

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL117	K51657	KPT13-6	12/20/99	6.0 - 12.0	COARSE	X	X	X			
KAL117	K51658	KPT13-6	12/20/99	12.0 - 17.0	COARSE	X	X				
KAL118	K51659	KPT13-6	12/20/99	17.0 - 24.0	COARSE	X	X				
KAL118	K51660	KPT13-6	12/20/99	17.0 - 24.0	COARSE	X	X	X			K51659
KAL118	K51661	KPT13-5	12/20/99	0.0 - 2.0	FINE	X	X	X			
KAL118	K51662	KPT13-5	12/20/99	2.0 - 6.0	FINE	X	X				
KAL118	K51663	KPT13-5	12/20/99	6.0 - 12.0	FINE	X	X	X			
KAL118	K51664	KPT13-5	12/20/99	12.0 - 18.0	FINE	X	X				
KAL118	K51665	KPT13-5	12/20/99	18.0 - 22.0	FINE	X	X				
KAL118	K51666	KPT13-5	12/20/99	22.0 - 24.0	FINE	X	X				
KAL118	K51667	KPT13-8	12/20/99	0.0 - 2.0	COARSE	X	X	X			
KAL118	K51668	KPT13-8	12/20/99	2.0 - 6.0	COARSE	X	X				
KAL118	K51669	KPT13-8	12/20/99	6.0 - 14.0	COARSE	X	X	X			
KAL118	K51670	KPT13-8	12/20/99	14.0 - 24.0	COARSE	X	X	X			
KAL118	K51671	KPT13-8	12/20/99	6.0 - 14.0	COARSE	X	X				K51669
KAL118	K51672	KPT14-1	12/21/99	0.0 - 2.0	FINE	X	X	X			
KAL118	K51673	KPT14-1	12/21/99	2.0 - 6.0	FINE	X	X				
KAL118	K51674	KPT14-1	12/21/99	6.0 - 12.0	FINE	X	X	X			
KAL118	K51675	KPT14-1	12/21/99	12.0 - 26.0	FINE	X	X	X			
KAL118	K51676	KPT14-1	12/21/99	12.0 - 26.0	FINE	X	X				K51675
KAL118	K51677	KPT14-3	12/21/99	0.0 - 2.0	COARSE	X	X	X			
KAL118	K51678	KPT14-3	12/21/99	2.0 - 6.0	COARSE	X	X				
KAL119	K51679	KPT14-3	12/21/99	6.0 - 12.0	COARSE	X	X	X			
KAL119	K51680	KPT14-3	12/21/99	12.0 - 20.0	COARSE	X	X			X	
KAL119	K51681	KPT14-3	12/21/99	20.0 - 24.0	COARSE	X	X	X			
KAL119	K51682	KPT14-4	12/21/99	0.0 - 2.0	FINE	X	X	X			
KAL119	K51683	KPT14-4	12/21/99	2.0 - 6.0	FINE	X	X				
KAL119	K51684	KPT14-4	12/21/99	6.0 - 9.0	FINE	X	X				
KAL119	K51685	KPT14-4	12/21/99	9.0 - 12.0	FINE	X	X				
KAL119	K51686	KPT14-4	12/21/99	12.0 - 24.0	FINE	X	X	X			
KAL119	K51687	KPT14-4	12/21/99	12.0 - 24.0	FINE	X	X				K51686
KAL119	K51688	KPT14-5	12/21/99	0.0 - 2.0	FINE	X	X	X			
KAL119	K51689	KPT14-5	12/21/99	2.0 - 4.0	FINE	X	X				
KAL119	K51690	KPT14-5	12/21/99	4.0 - 12.0	FINE	X	X	X			
KAL119	K51691	KPT14-5	12/21/99	12.0 - 24.0	FINE	X	X	X			
KAL119	K51692	KPT14-5	12/21/99	12.0 - 24.0	FINE	X	X				K51691
KAL119	K51693	KPT14-7	12/21/99	0.0 - 2.0	COARSE	X	X	X			
KAL119	K51694	KPT14-7	12/21/99	2.0 - 4.0	COARSE	X	X				
KAL119	K51695	KPT14-7	12/21/99	4.0 - 12.0	COARSE	X	X	X			
KAL119	K51696	KPT14-7	12/21/99	12.0 - 24.0	COARSE	X	X	X		X	
KAL119	K51697	KPT15-1	12/21/99	0.0 - 2.0	COARSE	X	X	X			
KAL119	K51698	KPT15-1	12/21/99	2.0 - 6.0	COARSE	X	X				
KAL120	K51699	KPT15-1	12/21/99	6.0 - 12.0	COARSE	X	X				
KAL120	K51700	KPT15-2	12/21/99	0.0 - 2.0	COARSE	X	X	X			
KAL120	K51701	KPT15-2	12/21/99	2.0 - 6.0	COARSE	X	X				
KAL120	K51702	KPT15-2	12/21/99	6.0 - 9.0	COARSE	X	X				
KAL120	K51703	KPT15-3	12/21/99	0.0 - 2.0	COARSE	X	X	X			
KAL120	K51704	KPT15-3	12/21/99	2.0 - 7.0	COARSE	X	X				
KAL120	K51705	KPT15-3	12/21/99	2.0 - 7.0	COARSE	X	X				K51704
KAL120	K51706	KPT15-4	12/21/99	0.0 - 2.0	COARSE	X	X	X			
KAL120	K51707	KPT15-4	12/21/99	2.0 - 6.0	COARSE	X	X				
KAL120	K51708	KPT15-4	12/21/99	6.0 - 12.0	COARSE	X	X	X			
KAL120	K51709	KPT15-4	12/21/99	12.0 - 18.0	COARSE	X	X	X			
KAL120	K51710	KPT15-4	12/21/99	18.0 - 24.0	COARSE	X	X			X	
KAL120	K51711	KPT15-5	12/21/99	0.0 - 2.0	COARSE	X	X	X			
KAL120	K51712	KPT15-5	12/21/99	2.0 - 6.0	COARSE	X	X				
KAL120	K51713	KPT15-5	12/21/99	6.0 - 12.0	COARSE	X	X	X			
KAL120	K51714	KPT15-5	12/21/99	12.0 - 24.0	COARSE	X	X	X			
KAL120	K51715	KPT15-5	12/21/99	12.0 - 24.0	COARSE	X	X				K51714

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL120	K51716	KPT15-6	12/21/99	0.0 - 2.0	COARSE	X	X	X			
KAL120	K51717	KPT15-6	12/21/99	2.0 - 6.0	COARSE	X	X				
KAL120	K51718	KPT15-6	12/21/99	6.0 - 10.0	COARSE	X	X				
KAL121	K51719	KPT15-6	12/21/99	10.0 - 13.0	COARSE	X	X				
KAL121	K51720	KPT15-6	12/21/99	13.0 - 24.0	COARSE	X	X	X			
KAL121	K51721	KPT15-6	12/21/99	13.0 - 24.0	COARSE	X	X				K51720
KAL121	K51722	KPT15-7	12/21/99	0.0 - 2.0	COARSE	X	X	X			
KAL121	K51723	KPT15-7	12/21/99	2.0 - 6.0	COARSE	X	X				
KAL121	K51724	KPT15-7	12/21/99	6.0 - 12.0	COARSE	X	X				
KAL121	K51725	KPT15-7	12/21/99	6.0 - 12.0	COARSE	X	X				K51724
KAL121	K51726	KPT15-7	12/21/99	12.0 - 16.0	COARSE	X	X				
KAL121	K51727	KPT16-1	12/21/99	0.0 - 2.0	COARSE	X	X	X			
KAL121	K51728	KPT16-1	12/21/99	2.0 - 7.0	COARSE	X	X				
KAL121	K51729	KPT16-1	12/21/99	7.0 - 11.0	COARSE	X	X				
KAL121	K51730	KPT16-2	12/21/99	0.0 - 2.0	COARSE	X	X	X			
KAL121	K51731	KPT16-2	12/21/99	2.0 - 6.0	COARSE	X	X				
KAL121	K51732	KPT16-2	12/21/99	6.0 - 14.0	COARSE	X	X				
KAL121	K51733	KPT16-2	12/21/99	6.0 - 14.0	COARSE	X	X				K51732
KAL121	K51734	KPT16-2	12/21/99	14.0 - 16.0	COARSE	X	X				
KAL121	K51735	KPT17-1	12/21/99	0.0 - 2.0	FINE	X	X	X			
KAL121	K51736	KPT17-1	12/21/99	2.0 - 6.0	FINE	X	X				
KAL121	K51737	KPT17-1	12/21/99	6.0 - 10.0	FINE	X	X				
KAL121	K51738	KPT17-1	12/21/99	10.0 - 14.0	FINE	X	X				
KAL122	K51739	KPT17-1	12/21/99	14.0 - 23.0	FINE	X	X	X			
KAL122	K51740	KPT17-1	12/21/99	14.0 - 23.0	FINE	X	X				K51739
KAL122	K51741	KPT19-1	12/21/99	0.0 - 2.0	FINE	X	X	X			
KAL122	K51742	KPT19-1	12/21/99	2.0 - 6.0	FINE	X	X				
KAL122	K51743	KPT19-1	12/21/99	6.0 - 12.0	FINE	X	X				
KAL122	K51744	KPT19-1	12/21/99	12.0 - 17.0	FINE	X	X				
KAL122	K51745	KPT19-2	12/21/99	0.0 - 2.0	FINE	X	X	X			
KAL122	K51746	KPT19-2	12/21/99	2.0 - 8.0	FINE	X	X	X			
KAL122	K51747	KPT19-2	12/21/99	8.0 - 14.0	FINE	X	X				
KAL122	K51748	KPT19-2	12/21/99	14.0 - 18.0	FINE	X	X				
KAL122	K51749	KPT19-2	12/21/99	18.0 - 24.0	FINE	X	X				
KAL122	K51750	KPT19-2	12/21/99	18.0 - 24.0	FINE	X	X				K51749
KAL122	K51751	KPT16-3	12/21/99	0.0 - 2.0	COARSE	X	X	X			
KAL122	K51752	KPT16-3	12/21/99	2.0 - 6.0	COARSE	X	X				
KAL122	K51753	KPT16-3	12/21/99	6.0 - 12.0	COARSE	X	X			X	
KAL122	K51754	KPT16-3	12/21/99	12.0 - 16.0	COARSE	X	X	X			
KAL122	K51755	KPT16-4	12/21/99	0.0 - 2.0	COARSE	X	X	X			
KAL122	K51756	KPT16-4	12/21/99	2.0 - 5.0	COARSE	X	X				
KAL122	K51757	KPT16-4	12/21/99	5.0 - 12.0	COARSE	X	X	X			
KAL122	K51758	KPT16-4	12/21/99	12.0 - 17.0	COARSE	X	X				
KAL123	K51759	KPT16-4	12/21/99	12.0 - 17.0	COARSE	X	X				K51758
KAL123	K51760	KPT17-2	12/21/99	0.0 - 2.0	COARSE	X	X	X			
KAL123	K51761	KPT17-2	12/21/99	2.0 - 6.0	COARSE	X	X				
KAL123	K51762	KPT17-2	12/21/99	6.0 - 12.0	COARSE	X	X				
KAL123	K51763	KPT17-2	12/21/99	12.0 - 24.0	COARSE	X	X	X			
KAL123	K51764	KPT17-2	12/21/99	12.0 - 24.0	COARSE	X	X				K51763
KAL123	K51765	KPT17-4	12/21/99	0.0 - 2.0	COARSE	X	X	X			
KAL123	K51766	KPT17-4	12/21/99	2.0 - 6.0	COARSE	X	X				
KAL123	K51767	KPT17-4	12/21/99	6.0 - 8.0	COARSE	X	X				
KAL123	K51768	KPT17-4	12/21/99	8.0 - 12.0	COARSE	X	X				
KAL123	K51769	KPT17-4	12/21/99	12.0 - 16.0	COARSE	X	X				
KAL123	K51770	KPT17-5	12/21/99	0.0 - 2.0	COARSE	X	X	X			
KAL123	K51771	KPT17-5	12/21/99	2.0 - 6.0	COARSE	X	X				
KAL123	K51772	KPT17-5	12/21/99	6.0 - 14.0	COARSE	X	X				
KAL123	K51773	KPT17-5	12/21/99	6.0 - 14.0	COARSE	X	X				K51772
KAL123	K51774	KPT17-6	12/21/99	0.0 - 2.0	COARSE	X	X	X			

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL123	K51775	KPT17-6	12/21/99	2.0 - 6.0	COARSE	X	X				
KAL123	K51776	KPT17-8	12/21/99	0.0 - 2.0	COARSE	X	X	X			
KAL123	K51777	KPT17-8	12/21/99	2.0 - 5.0	COARSE	X	X				
KAL123	K51778	KPT17-8	12/21/99	5.0 - 8.0	COARSE	X	X				
KAL123	K51779	KPT14-8	12/22/99	0.0 - 2.0	FINE	X	X	X			
KAL123	K51780	KPT14-8	12/22/99	2.0 - 6.0	FINE	X	X				
KAL123	K51781	KPT14-8	12/22/99	6.0 - 12.0	FINE	X	X	X			
KAL123	K51782	KPT14-8	12/22/99	12.0 - 24.0	FINE	X	X	X		X	
KAL124	K51783	KPT18-1	12/22/99	0.0 - 2.0	COARSE	X	X	X			
KAL124	K51784	KPT18-1	12/22/99	2.0 - 6.0	COARSE	X	X				
KAL124	K51785	KPT18-1	12/22/99	6.0 - 12.0	COARSE	X	X	X			
KAL124	K51786	KPT18-1	12/22/99	12.0 - 26.0	COARSE	X	X	X		X	
KAL124	K51787	KPT18-1	12/22/99	12.0 - 26.0	COARSE	X	X				K51786
KAL124	K51788	KPT18-4	12/22/99	0.0 - 2.0	COARSE	X	X	X			
KAL124	K51789	KPT18-4	12/22/99	2.0 - 4.0	COARSE	X	X				
KAL124	K51790	KPT18-4	12/22/99	4.0 - 8.0	COARSE	X	X				
KAL124	K51791	KPT18-4	12/22/99	8.0 - 12.0	COARSE	X	X				
KAL124	K51792	KPT18-4	12/22/99	12.0 - 24.0	COARSE	X	X	X		X	
KAL124	K51793	KPT18-4	12/22/99	12.0 - 24.0	COARSE	X	X				K51792
KAL124	K51794	KPT18-7	12/22/99	0.0 - 2.0	COARSE	X	X	X			
KAL124	K51795	KPT18-7	12/22/99	2.0 - 6.0	COARSE	X	X				
KAL124	K51796	KPT18-7	12/22/99	6.0 - 10.0	COARSE	X	X				
KAL124	K51797	KPT19-4	12/22/99	0.0 - 2.0	COARSE	X	X	X			
KAL124	K51798	KPT19-4	12/22/99	2.0 - 6.0	COARSE	X	X				
KAL125	K51799	KPT19-4	12/22/99	6.0 - 12.0	COARSE	X	X	X			
KAL125	K51800	KPT19-4	12/22/99	12.0 - 24.0	COARSE	X	X	X		X	
KAL125	K51801	KPT19-4	12/22/99	12.0 - 24.0	COARSE	X	X				K51800
KAL125	K51802	KPT19-6	12/22/99	0.0 - 2.0	COARSE	X	X	X			
KAL125	K51803	KPT19-6	12/22/99	2.0 - 6.0	COARSE	X	X				
KAL125	K51804	KPT19-6	12/22/99	6.0 - 12.0	COARSE	X	X	X			
KAL125	K51805	KPT19-6	12/22/99	12.0 - 24.0	COARSE	X	X	X			
KAL125	K51806	KPT19-6	12/22/99	12.0 - 24.0	COARSE	X	X				K51805
KAL125	K51807	KPT19-7	12/22/99	0.0 - 2.0	COARSE	X	X	X			
KAL125	K51808	KPT19-7	12/22/99	2.0 - 6.0	COARSE	X	X	X			
KAL125	K51809	KPT19-7	12/22/99	6.0 - 12.0	COARSE	X	X	X			
KAL125	K51810	KPT19-7	12/22/99	12.0 - 24.0	COARSE	X	X			X	
KAL125	K51811	KPT19-7	12/22/99	12.0 - 24.0	COARSE	X	X				K51810
KAL125	K51812	KPT20-6	12/22/99	0.0 - 2.0	COARSE	X	X	X			
KAL125	K51813	KPT20-6	12/22/99	2.0 - 5.0	COARSE	X	X				
KAL125	K51814	KPT20-6	12/22/99	5.0 - 8.0	COARSE	X	X				
KAL125	K51815	KPT5-7	12/22/99	0.0 - 2.0	COARSE	X	X	X			
KAL125	K51816	KPT5-7	12/22/99	2.0 - 6.0	COARSE	X	X				
KAL125	K51817	KPT5-7	12/22/99	6.0 - 12.0	COARSE	X	X	X			
KAL125	K51818	KPT5-7	12/22/99	12.0 - 15.0	COARSE	X	X				
KAL126	K51819	KPT20-1	12/22/99	0.0 - 2.0	COARSE	X	X	X			
KAL126	K51820	KPT20-1	12/22/99	2.0 - 6.0	COARSE	X	X				
KAL126	K51821	KPT20-1	12/22/99	6.0 - 12.0	COARSE	X	X	X			
KAL126	K51822	KPT20-1	12/22/99	12.0 - 20.0	COARSE	X	X	X			
KAL126	K51823	KPT109-3	12/23/99	0.0 - 2.0	FINE	X	X	X			
KAL126	K51824	KPT109-3	12/23/99	2.0 - 6.0	FINE	X	X				
KAL126	K51825	KPT109-3	12/23/99	6.0 - 12.0	FINE	X	X				
KAL126	K51826	KPT109-3	12/23/99	12.0 - 24.0	FINE	X	X	X			
KAL126	K51827	KPT109-3	12/23/99	12.0 - 24.0	FINE	X	X				K51826
KAL126	K51828	KPT109-2	12/23/99	0.0 - 2.0	FINE	X	X	X			
KAL126	K51829	KPT109-2	12/23/99	2.0 - 6.0	FINE	X	X				
KAL126	K51830	KPT109-2	12/23/99	6.0 - 12.0	FINE	X	X	X			
KAL126	K51831	KPT109-2	12/23/99	12.0 - 24.0	FINE	X	X	X		X	
KAL126	K51832	KPT109-4	12/23/99	0.0 - 2.0	FINE	X	X	X			
KAL126	K51833	KPT109-4	12/23/99	2.0 - 6.0	FINE	X	X				

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REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL126	K51834	KPT109-4	12/23/99	6.0 - 12.0	FINE	X	X	X			
KAL126	K51835	KPT109-4	12/23/99	12.0 - 24.0	FINE	X	X	X			
KAL126	K51836	KPT109-5	12/23/99	0.0 - 2.0	FINE	X	X	X			
KAL126	K51837	KPT109-5	12/23/99	2.0 - 6.0	FINE	X	X				
KAL126	K51838	KPT109-5	12/23/99	6.0 - 12.0	FINE	X	X				
KAL127	K51839	KPT109-5	12/23/99	12.0 - 24.0	FINE	X	X	X			
KAL127	K51840	KPT109-5	12/23/99	12.0 - 24.0	FINE	X	X				K51839
KAL127	K51841	KPT109-6	12/23/99	0.0 - 2.0	FINE	X	X	X			
KAL127	K51842	KPT109-6	12/23/99	2.0 - 6.0	FINE	X	X				
KAL127	K51843	KPT109-6	12/23/99	6.0 - 12.0	FINE	X	X	X			
KAL127	K51844	KPT109-6	12/23/99	12.0 - 24.0	FINE	X	X	X			
KAL127	K51845	KPT109-7	12/23/99	0.0 - 2.0	FINE	X	X	X			
KAL127	K51846	KPT109-7	12/23/99	2.0 - 6.0	FINE	X	X				
KAL127	K51847	KPT109-7	12/23/99	6.0 - 12.0	FINE	X	X	X			
KAL127	K51848	KPT109-7	12/23/99	12.0 - 16.0	FINE	X	X				
KAL127	K51849	KPT109-7	12/23/99	16.0 - 24.0	FINE	X	X				
KAL127	K51850	KPT109-7	12/23/99	16.0 - 24.0	FINE	X	X				K51849
KAL127	K51851	KPT110-1	12/23/99	0.0 - 2.0	COARSE	X	X	X			
KAL127	K51852	KPT110-1	12/23/99	2.0 - 6.0	COARSE	X	X				
KAL127	K51853	KPT110-1	12/23/99	6.0 - 12.0	COARSE	X	X				
KAL127	K51854	KPT145-6	12/23/99	0.0 - 2.0	FINE	X	X	X			
KAL127	K51855	KPT145-6	12/23/99	2.0 - 6.0	FINE	X	X				
KAL127	K51856	KPT145-6	12/23/99	6.0 - 12.0	FINE	X	X				
KAL127	K51857	KPT145-6	12/23/99	12.0 - 20.0	FINE	X	X				
KAL127	K51858	KPT145-6	12/23/99	20.0 - 24.0	FINE	X	X				
KAL129	K51859	KPT140-4	12/23/99	0.0 - 2.0	COARSE	X	X	X			
KAL129	K51860	KPT140-4	12/23/99	2.0 - 4.0	COARSE	X	X				
KAL129	K51861	KPT140-4	12/23/99	4.0 - 9.0	COARSE	X	X				
KAL129	K51862	KPT140-4	12/23/99	9.0 - 12.0	COARSE	X	X				
KAL129	K51863	KPT140-4	12/23/99	12.0 - 24.0	COARSE	X	X	X			
KAL129	K51864	KPT140-4	12/23/99	12.0 - 24.0	COARSE	X	X				K51863
KAL129	K51865	KPT143-7	12/23/99	0.0 - 2.0	FINE	X	X	X			
KAL129	K51866	KPT143-7	12/23/99	2.0 - 6.0	FINE	X	X				
KAL129	K51867	KPT143-7	12/23/99	6.0 - 12.0	FINE	X	X	X			
KAL129	K51868	KPT143-7	12/23/99	12.0 - 18.0	FINE	X	X			X	
KAL129	K51869	KPT143-3	12/23/99	0.0 - 2.0	FINE	X	X	X			
KAL129	K51870	KPT143-3	12/23/99	2.0 - 6.0	FINE	X	X	X			
KAL129	K51871	KPT143-3	12/23/99	6.0 - 12.0	FINE	X	X	X			
KAL129	K51872	KPT143-3	12/23/99	12.0 - 24.0	FINE	X	X	X			
KAL129	K51873	KPT143-3	12/23/99	12.0 - 24.0	FINE	X	X				K51872
KAL129	K51874	KPT145-8	12/23/99	0.0 - 2.0	FINE	X	X	X			
KAL129	K51875	KPT145-8	12/23/99	2.0 - 6.0	FINE	X	X				
KAL129	K51876	KPT145-8	12/23/99	6.0 - 12.0	FINE	X	X	X			
KAL129	K51877	KPT145-8	12/23/99	12.0 - 24.0	FINE	X	X	X			
KAL129	K51878	KPT143-5	12/23/99	0.0 - 2.0	FINE	X	X	X			
KAL129	K51879	KPT143-5	12/23/99	2.0 - 6.0	FINE	X	X				
KAL129	K51880	KPT143-5	12/23/99	6.0 - 12.0	FINE	X	X				
KAL129	K51881	KPT143-5	12/23/99	12.0 - 20.0	FINE	X	X	X			
KAL129	K51882	KPT13-1	1/4/00	0.0 - 2.0	COARSE	X	X	X			
KAL129	K51883	KPT13-1	1/4/00	2.0 - 6.0	COARSE	X	X				
KAL129	K51884	KPT13-1	1/4/00	6.0 - 13.0	COARSE	X	X	X			
KAL129	K51885	KPT13-1	1/4/00	13.0 - 24.0	COARSE	X	X	X			
KAL129	K51886	KPT12-6	1/4/00	0.0 - 2.0	COARSE	X	X	X			
KAL129	K51887	KPT12-6	1/4/00	2.0 - 6.0	COARSE	X	X				
KAL129	K51888	KPT12-6	1/4/00	6.0 - 8.0	COARSE	X	X				
KAL129	K51889	KPT12-6	1/4/00	8.0 - 12.0	COARSE	X	X				
KAL129	K51890	KPT12-6	1/4/00	12.0 - 25.0	COARSE	X	X	X			
KAL129	K51891	KPT12-6	1/4/00	12.0 - 25.0	COARSE	X	X				K51890
KAL129	K51892	KPT110-6	1/4/00	0.0 - 2.0	FINE	X	X	X			

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL129	K51893	KPT110-6	1/4/00	2.0 - 8.0	FINE	X	X				
KAL129	K51894	KPT140-6	1/4/00	0.0 - 2.0	FINE	X	X	X			
KAL129	K51895	KPT140-6	1/4/00	2.0 - 6.0	FINE	X	X				
KAL129	K51896	KPT140-6	1/4/00	6.0 - 8.0	FINE	X	X				
KAL129	K51897	KPT140-6	1/4/00	8.0 - 12.0	FINE	X	X				
KAL129	K51898	KPT140-6	1/4/00	12.0 - 24.0	FINE	X	X	X		X	
KAL130	K51899	KPT141-1	1/4/00	0.0 - 2.0	FINE	X	X	X			
KAL130	K51900	KPT141-1	1/4/00	2.0 - 6.0	FINE	X	X				
KAL130	K51901	KPT141-1	1/4/00	6.0 - 12.0	FINE	X	X				
KAL130	K51902	KPT141-1	1/4/00	12.0 - 15.0	FINE	X	X				
KAL130	K51903	KPT142-4	1/4/00	0.0 - 2.0	COARSE	X	X	X			
KAL130	K51904	KPT142-4	1/4/00	2.0 - 8.0	COARSE	X	X				
KAL130	K51905	KPT142-4	1/4/00	8.0 - 12.0	COARSE	X	X				
KAL130	K51906	KPT147-1	1/4/00	0.0 - 2.0	FINE	X	X	X			
KAL130	K51907	KPT147-1	1/4/00	2.0 - 6.0	FINE	X	X				
KAL130	K51908	KPT147-1	1/4/00	6.0 - 12.0	FINE	X	X				
KAL130	K51909	KPT147-1	1/4/00	12.0 - 20.0	FINE	X	X				
KAL130	K51910	KPT147-1	1/4/00	12.0 - 20.0	FINE	X	X				K51909
KAL130	K51911	KPT147-1	1/4/00	20.0 - 26.0	FINE	X	X				
KAL130	K51912	KPT147-5	1/4/00	0.0 - 2.0	FINE	X	X	X			
KAL130	K51913	KPT147-5	1/4/00	2.0 - 6.0	FINE	X	X				
KAL130	K51914	KPT147-5	1/4/00	6.0 - 12.0	FINE	X	X				
KAL130	K51915	KPT147-5	1/4/00	12.0 - 18.0	FINE	X	X				
KAL130	K51916	KPT147-5	1/4/00	18.0 - 24.0	FINE	X	X				
KAL130	K51917	KPT147-5	1/4/00	18.0 - 24.0	FINE	X	X				K51916
KAL130	K51918	KPT147-3	1/4/00	0.0 - 2.0	FINE	X	X	X			
KAL131	K51919	KPT147-3	1/4/00	2.0 - 6.0	FINE	X	X				
KAL131	K51920	KPT147-3	1/4/00	6.0 - 14.0	FINE	X	X	X			
KAL131	K51921	KPT147-3	1/4/00	14.0 - 24.0	FINE	X	X				
KAL131	K51922	KPT147-3	1/4/00	14.0 - 24.0	FINE	X	X				K51921
KAL131	K51923	KPT131-8	1/4/00	0.0 - 2.0	FINE	X	X	X			
KAL131	K51924	KPT131-8	1/4/00	2.0 - 6.0	FINE	X	X				
KAL131	K51925	KPT131-8	1/4/00	6.0 - 12.0	FINE	X	X				
KAL131	K51926	KPT131-8	1/4/00	12.0 - 24.0	FINE	X	X	X			
KAL131	K51927	KPT131-8	1/4/00	12.0 - 24.0	FINE	X	X				K51926
KAL131	K51928	KPT131-8	1/4/00	24.0 - 36.0	FINE	X	X	X		X	
KAL131	K51929	KPT133-3	1/4/00	0.0 - 2.0	FINE	X	X	X			
KAL131	K51930	KPT133-3	1/4/00	2.0 - 6.0	FINE	X	X				
KAL131	K51931	KPT133-3	1/4/00	6.0 - 12.0	FINE	X	X			X	
KAL131	K51932	KPT133-3	1/4/00	12.0 - 20.0	FINE	X	X	X			
KAL131	K51933	KPT133-3	1/4/00	20.0 - 28.0	FINE	X	X				
KAL131	K51934	KPT133-3	1/4/00	28.0 - 32.0	FINE	X	X				
KAL131	K51935	KPT133-4	1/4/00	0.0 - 2.0	FINE	X	X	X			
KAL131	K51936	KPT133-4	1/4/00	2.0 - 6.0	FINE	X	X				
KAL131	K51937	KPT133-4	1/4/00	6.0 - 12.0	FINE	X	X				
KAL131	K51938	KPT133-4	1/4/00	12.0 - 24.0	FINE	X	X	X			
KAL132	K51939	KPT133-4	1/4/00	24.0 - 32.0	FINE	X	X				
KAL132	K51940	KPT133-4	1/4/00	24.0 - 32.0	FINE	X	X				K51939
KAL132	K51941	KPT133-4	1/4/00	32.0 - 36.0	FINE	X	X				
KAL132	K52142	KPT29-7	1/7/00	0.0 - 2.0	COARSE	X	X	X			
KAL132	K52143	KPT29-7	1/7/00	2.0 - 6.0	COARSE	X	X				
KAL132	K52144	KPT29-7	1/7/00	6.0 - 12.0	COARSE	X	X				
KAL132	K52145	KPT29-7	1/7/00	12.0 - 21.0	COARSE	X	X	X			
KAL132	K52146	KPT26-1	1/7/00	0.0 - 2.0	COARSE	X	X	X			
KAL132	K52147	KPT26-1	1/7/00	2.0 - 6.0	COARSE	X	X				
KAL132	K52148	KPT26-1	1/7/00	6.0 - 12.0	COARSE	X	X				
KAL132	K52149	KPT26-1	1/7/00	6.0 - 12.0	COARSE	X	X				K52148
KAL132	K52150	KPT26-1	1/7/00	12.0 - 16.0	COARSE	X	X				
KAL132	K52163	KPT24-5	1/7/00	0.0 - 2.0	COARSE	X	X	X			

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL133	K52164	KPT24-5	1/7/00	2.0 - 6.0	COARSE	X	X				
KAL133	K52165	KPT24-5	1/7/00	6.0 - 12.0	COARSE	X	X				
KAL133	K52166	KPT24-5	1/7/00	6.0 - 12.0	COARSE	X	X				K52165
KAL133	K52170	KPT23-4	1/7/00	0.0 - 2.0	COARSE	X	X	X			
KAL133	K52171	KPT23-4	1/7/00	2.0 - 7.0	COARSE	X	X				
KAL132	K52190	KPT24-2	1/7/00	0.0 - 2.0	COARSE	X	X	X			
KAL132	K52191	KPT24-2	1/7/00	2.0 - 6.0	COARSE	X	X				
KAL133	K51942	KPT133-5	1/5/00	0.0 - 2.0	FINE	X	X	X			
KAL133	K51943	KPT133-5	1/5/00	2.0 - 8.0	FINE	X	X				
KAL133	K51944	KPT133-5	1/5/00	8.0 - 20.0	FINE	X	X				
KAL133	K51945	KPT133-5	1/5/00	20.0 - 26.0	FINE	X	X				
KAL133	K51946	KPT134-1	1/5/00	0.0 - 2.0	FINE	X	X				
KAL133	K51947	KPT134-1	1/5/00	2.0 - 6.0	FINE	X	X				
KAL133	K51948	KPT134-1	1/5/00	6.0 - 12.0	FINE	X	X				
KAL133	K51949	KPT134-1	1/5/00	12.0 - 18.0	FINE	X	X				
KAL133	K51950	KPT134-1	1/5/00	18.0 - 30.0	FINE	X	X	X			
KAL133	K51951	KPT134-1	1/5/00	18.0 - 30.0	FINE	X	X				K51950
KAL133	K51952	KPT134-1	1/5/00	30.0 - 36.0	FINE	X	X				
KAL133	K51953	KPT134-4	1/5/00	0.0 - 2.0	FINE	X	X	X			
KAL133	K51954	KPT134-4	1/5/00	2.0 - 6.0	FINE	X	X				
KAL133	K51955	KPT134-4	1/5/00	6.0 - 12.0	FINE	X	X	X			
KAL133	K51956	KPT134-4	1/5/00	12.0 - 24.0	FINE	X	X	X			
KAL133	K51957	KPT134-4	1/5/00	12.0 - 24.0	FINE	X	X				K51956
KAL133	K51958	KPT134-4	1/5/00	24.0 - 36.0	FINE	X	X	X		X	
KAL133	K51959	KPT134-6	1/5/00	0.0 - 2.0	FINE	X	X	X			
KAL133	K51960	KPT134-6	1/5/00	2.0 - 6.0	FINE	X	X				
KAL133	K51961	KPT134-6	1/5/00	6.0 - 14.0	FINE	X	X				
KAL134	K51962	KPT134-6	1/5/00	14.0 - 24.0	FINE	X	X	X			
KAL134	K51963	KPT134-6	1/5/00	24.0 - 30.0	FINE	X	X				
KAL134	K51964	KPT135-4	1/5/00	0.0 - 2.0	FINE	X	X				
KAL134	K51965	KPT135-4	1/5/00	2.0 - 6.0	FINE	X	X				
KAL134	K51966	KPT135-4	1/5/00	6.0 - 12.0	FINE	X	X				
KAL134	K51967	KPT135-4	1/5/00	12.0 - 24.0	FINE	X	X				
KAL134	K51968	KPT135-4	1/5/00	24.0 - 30.0	FINE	X	X				
KAL134	K51969	KPT135-4	1/5/00	30.0 - 36.0	FINE	X	X				
KAL134	K51970	KPT135-5	1/5/00	0.0 - 2.0	FINE	X	X				
KAL134	K51971	KPT135-5	1/5/00	2.0 - 6.0	FINE	X	X				
KAL134	K51972	KPT135-5	1/5/00	6.0 - 15.0	FINE	X	X	X			
KAL134	K51973	KPT135-5	1/5/00	15.0 - 24.0	FINE	X	X	X			
KAL134	K51974	KPT135-5	1/5/00	24.0 - 33.0	FINE	X	X	X			
KAL134	K51975	KPT135-5	1/5/00	24.0 - 33.0	FINE	X	X				K51974
KAL134	K51976	KPT135-5	1/5/00	33.0 - 36.0	FINE	X	X				
KAL134	K51977	KPT136-1	1/5/00	0.0 - 2.0	FINE	X	X	X			
KAL134	K51978	KPT136-1	1/5/00	2.0 - 6.0	FINE	X	X				
KAL134	K51979	KPT136-1	1/5/00	6.0 - 11.0	FINE	X	X				
KAL134	K51980	KPT136-1	1/5/00	11.0 - 26.0	FINE	X	X	X		X	
KAL134	K51981	KPT136-1	1/5/00	26.0 - 31.0	FINE	X	X				
KAL135	K51982	KPT136-4	1/5/00	0.0 - 1.0	FINE	X	X	X			
KAL135	K51983	KPT136-4	1/5/00	1.0 - 3.0	FINE	X	X				
KAL135	K51984	KPT136-4	1/5/00	3.0 - 6.0	FINE	X	X				
KAL135	K51985	KPT136-4	1/5/00	6.0 - 10.0	FINE	X	X				
KAL135	K51986	KPT136-4	1/5/00	10.0 - 24.0	FINE	X	X	X			
KAL135	K51987	KPT136-4	1/5/00	24.0 - 36.0	FINE	X	X	X			
KAL135	K51988	KPT137-1	1/5/00	0.0 - 2.0	FINE	X	X	X			
KAL135	K51989	KPT137-1	1/5/00	2.0 - 6.0	FINE	X	X				
KAL135	K51990	KPT137-1	1/5/00	6.0 - 15.0	FINE	X	X	X			
KAL135	K51991	KPT137-1	1/5/00	15.0 - 24.0	FINE	X	X	X			
KAL135	K51992	KPT137-1	1/5/00	24.0 - 30.0	FINE	X	X				
KAL135	K51993	KPT137-1	1/5/00	24.0 - 30.0	FINE	X	X				K51992

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REMEDIAL INVESTIGATION REPORT
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SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL13[illegible]	K51994	KPT137-6	1/5/00	0.0 - 2.0	FINE	X	X	X			
KAL13[illegible]	K51995	KPT137-6	1/5/00	2.0 - 6.0	FINE	X	X				
KAL13[illegible]	K51996	KPT137-6	1/5/00	6.0 - 12.0	FINE	X	X				
KAL13[illegible]	K51997	KPT137-6	1/5/00	12.0 - 24.0	FINE	X	X	X			
KAL13[illegible]	K51998	KPT137-6	1/5/00	24.0 - 36.0	FINE	X	X	X			
KAL13[illegible]	K51999	KPT137-6	1/5/00	24.0 - 36.0	FINE	X	X				K51998
KAL13[illegible]	K52000	KPT138-2	1/5/00	0.0 - 2.0	FINE	X	X	X			
KAL13[illegible]	K52001	KPT138-2	1/5/00	2.0 - 6.0	FINE	X	X				
KAL13[illegible]	K52002	KPT138-2	1/5/00	6.0 - 12.0	FINE	X	X				
KAL13[illegible]	K52003	KPT138-2	1/5/00	12.0 - 15.0	FINE	X	X				
KAL13[illegible]	K52004	KPT138-2	1/5/00	15.0 - 24.0	FINE	X	X				
KAL13[illegible]	K52005	KPT138-2	1/5/00	24.0 - 38.0	FINE	X	X	X			
KAL13[illegible]	K52006	KPT139-3	1/5/00	0.0 - 2.0	FINE	X	X	X			
KAL13[illegible]	K52007	KPT139-3	1/5/00	2.0 - 6.0	FINE	X	X				
KAL13[illegible]	K52008	KPT139-3	1/5/00	6.0 - 12.0	FINE	X	X	X			
KAL13[illegible]	K52009	KPT139-3	1/5/00	12.0 - 24.0	FINE	X	X				
KAL13[illegible]	K52010	KPT139-3	1/5/00	12.0 - 24.0	FINE	X	X				K52009
KAL13[illegible]	K52011	KPT139-3	1/5/00	24.0 - 36.0	FINE	X	X	X			
KAL13[illegible]	K52012	KPT139-5	1/5/00	0.0 - 2.0	FINE	X	X	X			
KAL13[illegible]	K52013	KPT139-5	1/5/00	2.0 - 6.0	FINE	X	X				
KAL13[illegible]	K52014	KPT139-5	1/5/00	6.0 - 13.0	FINE	X	X				
KAL13[illegible]	K52015	KPT139-5	1/5/00	13.0 - 16.0	FINE	X	X				
KAL13[illegible]	K52016	KPT139-5	1/5/00	16.0 - 24.0	FINE	X	X				
KAL13[illegible]	K52017	KPT139-5	1/5/00	24.0 - 38.0	FINE	X	X	X		X	
KAL13[illegible]	K52018	KPT147-3	1/5/00	24.0 - 36.0	FINE	X	X	X			
KAL13[illegible]	K52019	KPT140-6	1/5/00	24.0 - 36.0	FINE	X	X	X			
KAL13[illegible]	K52020	KPT147-5	1/5/00	24.0 - 36.0	FINE	X	X	X			
KAL13[illegible]	K52021	KPT148-5	1/5/00	24.0 - 36.0	FINE	X	X	X			
KAL13[illegible]	K52022	KPT148-3	1/5/00	24.0 - 30.0	FINE	X	X				
KAL13[illegible]	K52023	KPT148-3	1/5/00	30.0 - 36.0	FINE	X	X				
KAL13[illegible]	K52024	KPT145-6	1/5/00	24.0 - 36.0	FINE	X	X	X			
KAL13[illegible]	K52025	KPT145-8	1/5/00	24.0 - 36.0	FINE	X	X	X			
KAL13[illegible]	K52026	KPT109-5	1/5/00	24.0 - 36.0	FINE	X	X	X			
KAL13[illegible]	K52027	KPT109-7	1/5/00	24.0 - 36.0	FINE	X	X	X			
KAL13[illegible]	K52028	KPT109-4	1/5/00	24.0 - 36.0	FINE	X	X	X			
KAL13[illegible]	K52029	KPT109-2	1/5/00	24.0 - 36.0	FINE	X	X	X			
KAL13[illegible]	K52030	KPT109-3	1/5/00	24.0 - 36.0	FINE	X	X	X			
KAL13[illegible]	K52031	KPT148-3	1/5/00	0.0 - 2.0	FINE	X	X	X			
KAL13[illegible]	K52032	KPT148-3	1/5/00	2.0 - 6.0	FINE	X	X				
KAL13[illegible]	K52033	KPT148-3	1/5/00	6.0 - 12.0	FINE	X	X				
KAL13[illegible]	K52034	KPT148-3	1/5/00	12.0 - 24.0	FINE	X	X	X			
KAL13[illegible]	K52035	KPT148-3	1/5/00	12.0 - 24.0	FINE	X	X				K52034
KAL13[illegible]	K52036	KPT148-5	1/5/00	0.0 - 2.0	FINE	X	X	X			
KAL13[illegible]	K52037	KPT148-5	1/5/00	2.0 - 6.0	FINE	X	X				
KAL13[illegible]	K52038	KPT148-5	1/5/00	6.0 - 12.0	FINE	X	X				
KAL13[illegible]	K52039	KPT148-5	1/5/00	12.0 - 24.0	FINE	X	X				
KAL13[illegible]	K52040	KPT148-5	1/5/00	12.0 - 24.0	FINE	X	X				K52039
KAL137	K52041	KPT149-2	1/6/00	0.0 - 2.0	FINE	X	X	X			
KAL138	K52050	KPT149-4	1/6/00	24.0 - 36.0	FINE	X	X				K52049
KAL138	K52051	KPT152-2	1/6/00	0.0 - 2.0	FINE	X	X	X			
KAL138	K52052	KPT152-2	1/6/00	2.0 - 6.0	FINE	X	X				
KAL138	K52053	KPT152-2	1/6/00	6.0 - 12.0	FINE	X	X				
KAL138	K52054	KPT152-2	1/6/00	12.0 - 24.0	FINE	X	X			X	
KAL138	K52055	KPT152-2	1/6/00	24.0 - 36.0	FINE	X	X	X		X	
KAL138	K52056	KPT152-4	1/6/00	0.0 - 2.0	FINE	X	X	X			
KAL138	K52057	KPT152-4	1/6/00	2.0 - 6.0	FINE	X	X				
KAL138	K52058	KPT152-4	1/6/00	6.0 - 12.0	FINE	X	X				
KAL138	K52059	KPT152-4	1/6/00	12.0 - 24.0	FINE	X	X	X		X	
KAL138	K52060	KPT152-4	1/6/00	24.0 - 38.0	FINE	X	X	X			

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL138	K52061	KPT152-4	1/6/00	24.0 - 38.0	FINE	X	X				K52060
KAL138	K52062	KPT152-3	1/6/00	0.0 - 2.0	FINE	X	X	X			
KAL138	K52063	KPT152-3	1/6/00	2.0 - 6.0	FINE	X	X				
KAL138	K52064	KPT152-3	1/6/00	6.0 - 14.0	FINE	X	X	X			
KAL138	K52065	KPT152-3	1/6/00	14.0 - 22.0	FINE	X	X				
KAL138	K52066	KPT152-3	1/6/00	14.0 - 22.0	FINE	X	X				K52065
KAL138	K52067	KPT153-3	1/6/00	0.0 - 2.0	FINE	X	X	X			
KAL138	K52068	KPT153-3	1/6/00	2.0 - 6.0	FINE	X	X				
KAL138	K52069	KPT153-3	1/6/00	6.0 - 12.0	FINE	X	X				
KAL139	K52070	KPT153-3	1/6/00	12.0 - 24.0	FINE	X	X	X			
KAL139	K52071	KPT153-3	1/6/00	12.0 - 24.0	FINE	X	X				K52070
KAL139	K52072	KPT153-3	1/6/00	24.0 - 36.0	FINE	X	X	X		X	
KAL139	K52073	KPT154-2	1/6/00	0.0 - 2.0	FINE	X	X	X			
KAL139	K52074	KPT154-2	1/6/00	2.0 - 6.0	FINE	X	X				
KAL139	K52075	KPT154-2	1/6/00	6.0 - 12.0	FINE	X	X				
KAL139	K52076	KPT154-2	1/6/00	12.0 - 24.0	FINE	X	X	X			
KAL139	K52077	KPT154-2	1/6/00	24.0 - 36.0	FINE	X	X	X			
KAL139	K52078	KPT154-4	1/6/00	0.0 - 2.0	FINE	X	X	X			
KAL139	K52079	KPT154-4	1/6/00	2.0 - 6.0	FINE	X	X				
KAL139	K52080	KPT154-4	1/6/00	6.0 - 12.0	FINE	X	X				
KAL139	K52081	KPT154-4	1/6/00	12.0 - 24.0	FINE	X	X	X			
KAL139	K52082	KPT154-4	1/6/00	12.0 - 24.0	FINE	X	X				K52081
KAL139	K52083	KPT154-4	1/6/00	24.0 - 36.0	FINE	X	X	X			
KAL139	K52084	KPT154-6	1/6/00	0.0 - 2.0	FINE	X	X	X			
KAL139	K52085	KPT154-6	1/6/00	2.0 - 6.0	FINE	X	X				
KAL139	K52086	KPT154-6	1/6/00	6.0 - 12.0	FINE	X	X				
KAL139	K52087	KPT154-6	1/6/00	12.0 - 24.0	FINE	X	X	X			
KAL139	K52088	KPT154-6	1/6/00	24.0 - 30.0	FINE	X	X				
KAL139	K52089	KPT154-6	1/6/00	24.0 - 30.0	FINE	X	X				K52088
KAL140	K52090	KPT154-8	1/6/00	0.0 - 2.0	FINE	X	X	X			
KAL140	K52091	KPT154-8	1/6/00	2.0 - 6.0	FINE	X	X				
KAL140	K52092	KPT154-8	1/6/00	6.0 - 12.0	FINE	X	X				
KAL140	K52093	KPT154-8	1/6/00	12.0 - 24.0	FINE	X	X	X			
KAL140	K52094	KPT154-8	1/6/00	24.0 - 33.0	FINE	X	X	X		X	
KAL140	K52095	KPT155-2	1/6/00	0.0 - 2.0	FINE	X	X	X			
KAL140	K52096	KPT155-2	1/6/00	2.0 - 6.0	FINE	X	X				
KAL140	K52097	KPT155-2	1/6/00	6.0 - 12.0	FINE	X	X				
KAL140	K52098	KPT155-2	1/6/00	12.0 - 23.0	FINE	X	X	X			
KAL140	K52099	KPT155-7	1/6/00	0.0 - 2.0	FINE	X	X	X			
KAL140	K52100	KPT155-7	1/6/00	2.0 - 6.0	FINE	X	X				
KAL140	K52101	KPT155-7	1/6/00	6.0 - 12.0	FINE	X	X				
KAL140	K52102	KPT155-7	1/6/00	6.0 - 12.0	FINE	X	X				K52101
KAL140	K52103	KPT155-7	1/6/00	12.0 - 24.0	FINE	X	X	X		X	
KAL140	K52104	KPT156-2	1/6/00	0.0 - 2.0	FINE	X	X	X			
KAL140	K52105	KPT156-2	1/6/00	2.0 - 6.0	FINE	X	X				
KAL140	K52106	KPT156-2	1/6/00	6.0 - 12.0	FINE	X	X				
KAL140	K52107	KPT156-2	1/6/00	12.0 - 17.0	FINE	X	X				
KAL140	K52108	KPT156-4	1/6/00	0.0 - 2.0	FINE	X	X	X			
KAL140	K52109	KPT156-4	1/6/00	2.0 - 6.0	FINE	X	X				
KAL141	K52110	KPT156-4	1/6/00	6.0 - 12.0	FINE	X	X				
KAL141	K52111	KPT156-4	1/6/00	12.0 - 28.0	FINE	X	X	X			
KAL141	K52112	KPT156-4	1/6/00	12.0 - 28.0	FINE	X	X				K52111
KAL141	K52113	KPT156-6	1/6/00	0.0 - 2.0	FINE	X	X	X			
KAL141	K52114	KPT156-6	1/6/00	2.0 - 6.0	FINE	X	X				
KAL141	K52115	KPT156-6	1/6/00	6.0 - 12.0	FINE	X	X				
KAL141	K52116	KPT156-6	1/6/00	12.0 - 24.0	FINE	X	X				
KAL141	K52117	KPT156-6	1/6/00	24.0 - 30.0	FINE	X	X				
KAL141	K52118	KPT157-3	1/6/00	0.0 - 2.0	FINE	X	X	X			
KAL141	K52119	KPT157-3	1/6/00	2.0 - 6.0	FINE	X	X				

TABLE 1

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REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL_141	K52120	KPT157-3	1/6/00	6.0 - 12.0	FINE	X	X				
KAL_141	K52121	KPT157-3	1/6/00	12.0 - 24.0	FINE	X	X	X		X	
KAL_141	K52122	KPT157-3	1/6/00	24.0 - 36.0	FINE	X	X	X			
KAL_141	K52123	KPT157-3	1/6/00	24.0 - 36.0	FINE	X	X				K52122
KAL_141	K52124	KPT157-4	1/6/00	0.0 - 2.0	FINE	X	X				
KAL_141	K52125	KPT157-4	1/6/00	2.0 - 6.0	FINE	X	X				
KAL_141	K52126	KPT157-4	1/6/00	6.0 - 12.0	FINE	X	X				
KAL_141	K52127	KPT157-4	1/6/00	12.0 - 24.0	FINE	X	X				
KAL_141	K52128	KPT157-4	1/6/00	12.0 - 24.0	FINE	X	X				K52127
KAL_141	K52129	KPT157-4	1/6/00	24.0 - 36.0	FINE	X	X	X			
KAL_142	K52042	KPT149-2	1/6/00	2.0 - 6.0	FINE	X	X				
KAL_142	K52043	KPT149-2	1/6/00	6.0 - 14.0	FINE	X	X			X	
KAL_142	K52044	KPT149-4	1/6/00	0.0 - 2.0	FINE	X	X	X			
KAL_142	K52045	KPT149-4	1/6/00	2.0 - 6.0	FINE	X	X				
KAL_142	K52046	KPT149-4	1/6/00	6.0 - 12.0	FINE	X	X			X	
KAL_142	K52047	KPT149-4	1/6/00	12.0 - 24.0	FINE	X	X	X			
KAL_142	K52048	KPT149-4	1/6/00	12.0 - 24.0	FINE	X	X				K52047
KAL_142	K52049	KPT149-4	1/6/00	24.0 - 36.0	FINE	X	X	X			
KAL_142	K52130	KPT159-2	1/6/00	0.0 - 2.0	FINE	X	X	X			
KAL_142	K52131	KPT159-2	1/6/00	2.0 - 6.0	FINE	X	X				
KAL_142	K52132	KPT159-2	1/6/00	6.0 - 12.0	FINE	X	X				
KAL_142	K52133	KPT159-2	1/6/00	12.0 - 24.0	FINE	X	X	X			
KAL_142	K52134	KPT159-2	1/6/00	24.0 - 36.0	FINE	X	X	X			
KAL_142	K52135	KPT155-7	1/6/00	24.0 - 36.0	FINE	X	X	X			
KAL_142	K52136	KPT159-7	1/6/00	0.0 - 2.0	FINE	X	X	X			
KAL_142	K52137	KPT159-7	1/6/00	2.0 - 6.0	FINE	X	X				
KAL_142	K52138	KPT159-7	1/6/00	6.0 - 12.0	FINE	X	X				
KAL_142	K52139	KPT159-7	1/6/00	12.0 - 24.0	FINE	X	X	X			
KAL_142	K52140	KPT159-7	1/6/00	24.0 - 29.0	FINE	X	X				
KAL_142	K52141	KPT159-7	1/6/00	29.0 - 33.0	FINE	X	X	X			
KAL_143	K52192	KPT24-2	1/7/00	6.0 - 12.0	COARSE	X	X	X			
KAL_143	K52193	KPT24-2	1/7/00	12.0 - 24.0	COARSE	X	X			X	
KAL_143	K52194	KPT24-7	1/7/00	0.0 - 2.0	COARSE	X	X	X			
KAL_143	K52195	KPT24-7	1/7/00	2.0 - 6.0	COARSE	X	X				
KAL_143	K52196	KPT24-7	1/7/00	6.0 - 11.0	COARSE	X	X				
KAL_143	K52197	KPT28-2	1/7/00	0.0 - 2.0	COARSE	X	X	X			
KAL_143	K52198	KPT28-2	1/7/00	2.0 - 6.0	COARSE	X	X				
KAL_143	K52199	KPT28-2	1/7/00	6.0 - 12.0	COARSE	X	X				
KAL_143	K52200	KPT28-2	1/7/00	12.0 - 24.0	COARSE	X	X				
KAL_143	K52201	KPT28-4	1/7/00	0.0 - 2.0	COARSE	X	X	X			
KAL_143	K52202	KPT28-4	1/7/00	2.0 - 6.0	COARSE	X	X				
KAL_143	K52203	KPT28-4	1/7/00	6.0 - 12.0	COARSE	X	X				
KAL_143	K52204	KPT28-4	1/7/00	6.0 - 12.0	COARSE	X	X				K52203
KAL_143	K52205	KPT28-4	1/7/00	12.0 - 24.0	COARSE	X	X	X			
KAL_143	K52206	KPT28-6	1/7/00	0.0 - 2.0	COARSE	X	X	X			
KAL_143	K52207	KPT28-6	1/7/00	2.0 - 6.0	COARSE	X	X				
KAL_143	K52208	KPT28-6	1/7/00	2.0 - 6.0	COARSE	X	X				K52207
KAL_143	K52209	KPT28-6	1/7/00	6.0 - 12.0	COARSE	X	X	X			
KAL_143	K52229	KPT21-2	1/10/00	0.0 - 2.0	COARSE	X	X	X			
KAL_143	K52230	KPT21-2	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL_144	K52231	KPT21-2	1/10/00	6.0 - 12.0	COARSE	X	X				
KAL_144	K52232	KPT21-2	1/10/00	6.0 - 12.0	COARSE	X	X				K52231
KAL_144	K52233	KPT21-2	1/10/00	12.0 - 20.0	COARSE	X	X	X			
KAL_144	K52244	KPT23-6	1/10/00	0.0 - 2.0	COARSE	X	X	X			
KAL_144	K52245	KPT23-6	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL_144	K52246	KPT23-6	1/10/00	6.0 - 12.0	COARSE	X	X	X			
KAL_144	K52247	KPT23-6	1/10/00	12.0 - 20.0	COARSE	X	X	X			
KAL_144	K52252	KPT25-7	1/10/00	0.0 - 2.0	COARSE	X	X	X			
KAL_144	K52253	KPT25-7	1/10/00	2.0 - 6.0	COARSE	X	X				

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SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL144	K52254	KPT25-7	1/10/00	6.0 - 12.0	COARSE	X	X	X			
KAL144	K52255	KPT25-7	1/10/00	12.0 - 24.0	COARSE	X	X	X			
KAL144	K52256	KPT25-5	1/10/00	0.0 - 2.0	COARSE	X	X	X			
KAL144	K52257	KPT25-5	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL144	K52258	KPT25-5	1/10/00	6.0 - 11.5	COARSE	X	X				
KAL144	K52259	KPT25-5	1/10/00	6.0 - 11.5	COARSE	X	X				K52258
KAL144	K52260	KPT27-3	1/10/00	0.0 - 2.0	COARSE	X	X	X			
KAL144	K52261	KPT27-3	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL144	K52262	KPT27-3	1/10/00	6.0 - 13.0	COARSE	X	X				
KAL144	K52263	KPT27-6	1/10/00	0.0 - 2.0	COARSE	X	X	X			
KAL144	K52264	KPT27-6	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL145	K52265	KPT27-6	1/10/00	6.0 - 12.0	COARSE	X	X				
KAL145	K52266	KPT27-6	1/10/00	6.0 - 12.0	COARSE	X	X				K52265
KAL145	K52267	KPT27-6	1/10/00	12.0 - 18.0	COARSE	X	X				
KAL145	K52271	KPT22-7	1/10/00	0.0 - 2.0	COARSE	X	X	X			
KAL145	K52272	KPT22-7	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL145	K52273	KPT22-7	1/10/00	6.0 - 12.0	COARSE	X	X				
KAL145	K52274	KPT22-7	1/10/00	12.0 - 18.0	COARSE	X	X				
KAL145	K52275	KPT22-7	1/10/00	18.0 - 24.0	COARSE	X	X				
KAL145	K52276	KPT21-5	1/10/00	0.0 - 2.0	COARSE	X	X	X			
KAL145	K52277	KPT21-5	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL145	K52278	KPT21-5	1/10/00	6.0 - 12.0	COARSE	X	X				
KAL145	K52279	KPT21-5	1/10/00	6.0 - 12.0	COARSE	X	X				K52278
KAL145	K52280	KPT21-5	1/10/00	12.0 - 18.0	COARSE	X	X	X			
KAL145	K52281	KPT22-4	1/10/00	0.0 - 2.0	COARSE	X	X	X			
KAL145	K52282	KPT22-4	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL145	K52283	KPT22-4	1/10/00	6.0 - 11.0	COARSE	X	X				
KAL145	K52289	KPT23-2	1/10/00	0.0 - 2.0	FINE	X	X	X			
KAL145	K52290	KPT23-2	1/10/00	2.0 - 6.0	FINE	X	X				
KAL145	K52291	KPT23-2	1/10/00	6.0 - 9.0	FINE	X	X				
KAL145	K52301	KPT33-3	1/10/00	0.0 - 2.0	COARSE	X	X	X			
KAL146	K52302	KPT33-3	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL146	K52303	KPT33-3	1/10/00	6.0 - 12.0	COARSE	X	X				
KAL146	K52304	KPT34-2	1/10/00	0.0 - 2.0	COARSE	X	X	X			
KAL146	K52305	KPT34-2	1/10/00	2.0 - 7.0	COARSE	X	X				
KAL146	K52306	KPT34-2	1/10/00	7.0 - 10.0	COARSE	X	X				
KAL146	K52307	KPT35-1	1/10/00	0.0 - 2.0	COARSE	X	X	X			
KAL146	K52308	KPT35-1	1/10/00	2.0 - 7.0	COARSE	X	X				
KAL146	K52314	KPT31-7	1/10/00	0.0 - 2.0	COARSE	X	X	X			
KAL146	K52315	KPT31-7	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL146	K52316	KPT31-7	1/10/00	6.0 - 12.0	COARSE	X	X	X			
KAL146	K52322	KPT31-7	1/10/00	12.0 - 21.0	COARSE	X	X	X		X	
KAL146	K52323	KPT31-7	1/10/00	21.0 - 24.0	COARSE	X	X				
KAL146	K52324	KPT31-5	1/10/00	0.0 - 2.0	COARSE	X	X	X			
KAL146	K52325	KPT31-5	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL146	K52326	KPT31-5	1/10/00	6.0 - 12.0	COARSE	X	X				
KAL146	K52327	KPT31-5	1/10/00	12.0 - 24.0	COARSE	X	X	X			
KAL146	K52328	KPT31-5	1/10/00	12.0 - 24.0	COARSE	X	X				K52327
KAL146	K52329	KPT35-5	1/10/00	0.0 - 2.0	COARSE	X	X	X			
KAL146	K52330	KPT35-5	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL146	K52331	KPT35-5	1/10/00	6.0 - 12.0	COARSE	X	X	X			
KAL147	K52332	KPT35-5	1/10/00	12.0 - 24.0	COARSE	X	X	X			
KAL147	K52333	KPT39-6	1/10/00	0.0 - 2.0	COARSE	X	X	X			
KAL147	K52334	KPT39-6	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL147	K52335	KPT39-6	1/10/00	6.0 - 13.0	COARSE	X	X				
KAL147	K52343	KPT38-1	1/10/00	0.0 - 2.0	FINE	X	X	X			
KAL147	K52344	KPT38-1	1/10/00	2.0 - 5.0	FINE	X	X				
KAL147	K52345	KPT38-1	1/10/00	5.0 - 13.0	FINE	X	X				
KAL147	K52346	KPT38-1	1/10/00	5.0 - 13.0	FINE	X	X				K52345

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL14[illegible]	K52347	KPT30-1	1/10/00	0.0 - 2.0	FINE	X	X	X			
KAL14[illegible]	K52348	KPT30-1	1/10/00	2.0 - 6.0	FINE	X	X				
KAL14[illegible]	K52349	KPT30-1	1/10/00	6.0 - 12.0	FINE	X	X				
KAL14[illegible]	K52350	KPT30-1	1/10/00	12.0 - 21.0	FINE	X	X			X	
KAL14[illegible]	K52351	KPT30-1	1/10/00	21.0 - 24.0	FINE	X	X				
KAL14[illegible]	K52352	KPT31-3	1/10/00	0.0 - 2.0	COARSE	X	X	X			
KAL14[illegible]	K52353	KPT31-3	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL14[illegible]	K52354	KPT31-3	1/10/00	6.0 - 12.0	COARSE	X	X	X			
KAL14[illegible]	K52355	KPT31-3	1/10/00	12.0 - 24.0	COARSE	X	X	X			
KAL14[illegible]	K52356	KPT31-3	1/10/00	12.0 - 24.0	COARSE	X	X				K52355
KAL14[illegible]	K52367	KPT33-1	1/10/00	0.0 - 2.0	FINE	X	X	X			
KAL14[illegible]	K52368	KPT33-1	1/10/00	2.0 - 6.0	FINE	X	X				
KAL148	K52210	KPT21-7	1/10/00	0.0 - 2.0	FINE	X	X	X			
KAL148	K52211	KPT21-7	1/10/00	2.0 - 6.0	FINE	X	X				
KAL148	K52212	KPT21-7	1/10/00	6.0 - 12.0	FINE	X	X				
KAL148	K52213	KPT21-7	1/10/00	12.0 - 24.0	FINE	X	X	X		X	
KAL148	K52214	KPT23-7	1/10/00	0.0 - 2.0	FINE	X	X	X			
KAL148	K52215	KPT23-7	1/10/00	2.0 - 6.0	FINE	X	X				
KAL148	K52216	KPT23-7	1/10/00	6.0 - 12.0	FINE	X	X	X			
KAL148	K52217	KPT23-7	1/10/00	12.0 - 24.0	FINE	X	X	X			
KAL148	K52218	KPT23-7	1/10/00	12.0 - 24.0	FINE	X	X				K52217
KAL148	K52369	KPT33-1	1/10/00	6.0 - 12.0	FINE	X	X	X			
KAL148	K52370	KPT33-1	1/10/00	12.0 - 24.0	FINE	X	X	X			
KAL148	K52371	KPT33-6	1/11/00	0.0 - 2.0	COARSE	X	X	X			
KAL148	K52372	KPT33-6	1/11/00	2.0 - 6.0	COARSE	X	X				
KAL148	K52373	KPT33-6	1/11/00	6.0 - 11.0	COARSE	X	X				
KAL148	K52374	KPT33-6	1/11/00	11.0 - 18.0	COARSE	X	X	X			
KAL148	K52384	KPT38-3	1/11/00	0.0 - 2.0	COARSE	X	X	X			
KAL148	K52385	KPT38-3	1/11/00	2.0 - 6.0	COARSE	X	X				
KAL148	K52386	KPT38-3	1/11/00	6.0 - 10.0	COARSE	X	X				
KAL148	K52387	KPT32-7	1/11/00	0.0 - 2.0	FINE	X	X	X			
KAL148	K52388	KPT32-7	1/11/00	2.0 - 6.0	FINE	X	X				
KAL149	K52389	KPT32-7	1/11/00	6.0 - 9.0	FINE	X	X				
KAL149	K52390	KPT32-7	1/11/00	9.0 - 11.0	FINE	X	X				
KAL149	K52391	KPT32-8	1/11/00	0.0 - 2.0	FINE	X	X	X			
KAL149	K52392	KPT32-8	1/11/00	2.0 - 6.0	FINE	X	X				
KAL149	K52393	KPT32-8	1/11/00	6.0 - 8.0	FINE	X	X				
KAL149	K52394	KPT34-4	1/11/00	0.0 - 2.0	COARSE	X	X	X			
KAL149	K52395	KPT34-4	1/11/00	2.0 - 7.0	COARSE	X	X				
KAL149	K52396	KPT34-4	1/11/00	2.0 - 7.0	COARSE	X	X				K52395
KAL149	K52401	KPT32-2	1/11/00	0.0 - 2.0	COARSE	X	X	X			
KAL149	K52402	KPT32-2	1/11/00	2.0 - 6.0	COARSE	X	X				
KAL149	K52403	KPT31-1	1/11/00	0.0 - 2.0	COARSE	X	X	X			
KAL149	K52404	KPT31-1	1/11/00	2.0 - 6.0	COARSE	X	X				
KAL149	K52405	KPT31-1	1/11/00	6.0 - 11.0	COARSE	X	X			X	
KAL149	K52406	KPT36-1	1/11/00	0.0 - 2.0	FINE	X	X	X			
KAL149	K52407	KPT36-1	1/11/00	2.0 - 6.0	FINE	X	X				
KAL149	K52408	KPT36-1	1/11/00	6.0 - 13.0	FINE	X	X				
KAL149	K52409	KPT36-1	1/11/00	6.0 - 13.0	FINE	X	X				K52408
KAL149	K52410	KPT30-6	1/11/00	0.0 - 2.0	COARSE	X	X	X			
KAL149	K52411	KPT30-6	1/11/00	2.0 - 6.0	COARSE	X	X				
KAL149	K52412	KPT30-6	1/11/00	6.0 - 10.0	COARSE	X	X				
KAL150	K52424	KPT36-6	1/11/00	0.0 - 2.0	COARSE	X	X	X			
KAL150	K52425	KPT36-6	1/11/00	2.0 - 8.0	COARSE	X	X				
KAL150	K52426	KPT36-6	1/11/00	2.0 - 8.0	COARSE	X	X				K52425
KAL150	K52427	KPT35-7	1/11/00	0.0 - 2.0	COARSE	X	X	X			
KAL150	K52428	KPT35-7	1/11/00	2.0 - 8.0	COARSE	X	X			X	
KAL150	K52429	KPT37-3	1/11/00	0.0 - 2.0	COARSE	X	X	X			
KAL150	K52430	KPT37-3	1/11/00	2.0 - 8.0	COARSE	X	X				

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REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL15	K52431	KPT30-4	1/11/00	0.0 - 2.0	COARSE	X	X	X			
KAL15	K52432	KPT30-4	1/11/00	2.0 - 6.0	COARSE	X	X				
KAL15	K52433	KPT30-4	1/11/00	6.0 - 12.0	COARSE	X	X			X	
KAL15	K52441	KPT37-6	1/11/00	0.0 - 2.0	COARSE	X	X	X			
KAL150	K52442	KPT37-6	1/11/00	2.0 - 8.0	COARSE	X	X			X	
KAL150	K52453	KPT44-5	1/12/00	0.0 - 2.0	COARSE	X	X	X			
KAL15	K52454	KPT44-5	1/12/00	2.0 - 6.0	COARSE	X	X				
KAL150	K52455	KPT44-5	1/12/00	6.0 - 11.0	COARSE	X	X				
KAL150	K52456	KPT44-5	1/12/00	6.0 - 11.0	COARSE	X	X				K52455
KAL150	K52462	KPT47-5	1/12/00	0.0 - 2.0	COARSE	X	X	X			
KAL150	K52463	KPT47-5	1/12/00	2.0 - 6.0	COARSE	X	X				
KAL150	K52464	KPT47-5	1/12/00	6.0 - 12.0	COARSE	X	X			X	
KAL150	K52465	KPT47-5	1/12/00	12.0 - 24.0	COARSE	X	X	X			
KAL151	K52466	KPT47-5	1/12/00	12.0 - 24.0	COARSE	X	X				K52465
KAL151	K52467	KPT44-7	1/12/00	0.0 - 2.0	FINE	X	X	X			
KAL151	K52468	KPT44-7	1/12/00	2.0 - 6.0	FINE	X	X				
KAL151	K52469	KPT44-7	1/12/00	6.0 - 12.0	FINE	X	X	X			
KAL151	K52470	KPT44-7	1/12/00	12.0 - 26.0	FINE	X	X	X			
KAL151	K52471	KPT44-7	1/12/00	12.0 - 26.0	FINE	X	X				K52470
KAL151	K52472	KPT43-5	1/12/00	0.0 - 2.0	COARSE	X	X	X			
KAL151	K52473	KPT43-5	1/12/00	2.0 - 6.0	COARSE	X	X				
KAL151	K52474	KPT43-5	1/12/00	6.0 - 12.0	COARSE	X	X				
KAL151	K52475	KPT43-5	1/12/00	12.0 - 24.0	COARSE	X	X	X			
KAL151	K52476	KPT43-5	1/12/00	12.0 - 24.0	COARSE	X	X				K52475
KAL151	K52481	KPT40-4	1/12/00	0.0 - 2.0	COARSE	X	X	X			
KAL15	K52482	KPT40-4	1/12/00	2.0 - 6.0	COARSE	X	X				
KAL15	K52483	KPT40-4	1/12/00	6.0 - 14.0	COARSE	X	X				
KAL15	K52484	KPT40-4	1/12/00	6.0 - 14.0	COARSE	X	X				K52483
KAL151	K52485	KPT48-6	1/12/00	0.0 - 2.0	COARSE	X	X	X			
KAL151	K52486	KPT48-6	1/12/00	2.0 - 6.0	COARSE	X	X				
KAL151	K52487	KPT48-6	1/12/00	6.0 - 9.0	COARSE	X	X				
KAL151	K52490	KPT48-4	1/12/00	0.0 - 2.0	COARSE	X	X	X			
KAL15	K52491	KPT48-4	1/12/00	2.0 - 6.0	COARSE	X	X				
KAL152	K52492	KPT48-4	1/12/00	6.0 - 12.0	COARSE	X	X			X	
KAL152	K52493	KPT48-4	1/12/00	12.0 - 24.0	COARSE	X	X	X			
KAL152	K52494	KPT48-4	1/12/00	12.0 - 24.0	COARSE	X	X				K52493
KAL152	K52508	KPT45-4	1/12/00	0.0 - 2.0	COARSE	X	X	X			
KAL152	K52509	KPT45-4	1/12/00	2.0 - 6.0	COARSE	X	X				
KAL152	K52510	KPT42-4	1/12/00	0.0 - 2.0	COARSE	X	X	X			
KAL152	K52511	KPT42-4	1/12/00	2.0 - 6.0	COARSE	X	X				
KAL152	K52522	KPT40-8	1/12/00	0.0 - 2.0	FINE	X	X	X			
KAL152	K52523	KPT40-8	1/12/00	2.0 - 6.0	FINE	X	X				
KAL152	K52524	KPT40-8	1/12/00	6.0 - 12.0	FINE	X	X				
KAL152	K52529	KPT45-2	1/12/00	0.0 - 2.0	COARSE	X	X	X			
KAL152	K52530	KPT45-2	1/12/00	2.0 - 6.0	COARSE	X	X				
KAL152	K52531	KPT45-2	1/12/00	6.0 - 12.0	COARSE	X	X				
KAL152	K52532	KPT45-2	1/12/00	12.0 - 15.0	COARSE	X	X				
KAL152	K52533	KPT45-2	1/12/00	6.0 - 12.0	COARSE	X	X				K52531
KAL153	K52537	KPT47-3	1/12/00	0.0 - 2.0	COARSE	X	X	X			
KAL153	K52538	KPT47-3	1/12/00	2.0 - 6.0	COARSE	X	X				
KAL153	K52539	KPT47-3	1/12/00	6.0 - 10.0	COARSE	X	X				
KAL153	K52540	KPT47-3	1/12/00	6.0 - 10.0	COARSE	X	X				K52539
KAL153	K52541	KPT47-7	1/13/00	0.0 - 2.0	FINE	X	X	X			
KAL153	K52542	KPT47-7	1/13/00	2.0 - 6.0	FINE	X	X				
KAL153	K52543	KPT47-7	1/13/00	6.0 - 12.0	FINE	X	X				
KAL153	K52544	KPT47-7	1/13/00	12.0 - 16.0	FINE	X	X				
KAL153	K52548	KPT45-6	1/13/00	0.0 - 2.0	COARSE	X	X	X			
KAL153	K52549	KPT45-6	1/13/00	2.0 - 6.0	COARSE	X	X				
KAL153	K52550	KPT45-6	1/13/00	6.0 - 14.0	COARSE	X	X	X			

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL153	K52551	KPT45-6	1/13/00	14.0 - 17.0	COARSE	X	X				
KAL153	K52552	KPT45-6	1/13/00	17.0 - 20.0	COARSE	X	X				
KAL153	K52553	KPT45-6	1/13/00	6.0 - 14.0	COARSE	X	X				K52550
KAL153	K52554	KPT44-4	1/13/00	0.0 - 2.0	COARSE	X	X	X			
KAL153	K52555	KPT44-4	1/13/00	2.0 - 6.0	COARSE	X	X				
KAL153	K52556	KPT44-4	1/13/00	6.0 - 12.0	COARSE	X	X				
KAL153	K52557	KPT44-4	1/13/00	6.0 - 12.0	COARSE	X	X				K52556
KAL153	K52558	KPT29-3	1/13/00	0.0 - 2.0	COARSE	X	X	X			
KAL153	K52559	KPT29-3	1/13/00	2.0 - 6.0	COARSE	X	X				
KAL153	K52560	KPT29-3	1/13/00	6.0 - 12.0	COARSE	X	X	X			
KAL153	K52561	KPT29-3	1/13/00	12.0 - 17.0	COARSE	X	X				
KAL153	K52565	KPT43-2	1/13/00	0.0 - 2.0	COARSE	X	X	X			
KAL153	K52566	KPT43-2	1/13/00	2.0 - 6.0	COARSE	X	X				
KAL153	K52567	KPT43-2	1/13/00	6.0 - 12.0	COARSE	X	X				
KAL154	K52568	KPT43-2	1/13/00	6.0 - 12.0	COARSE	X	X				K52567
KAL154	K52569	KPT41-3	1/13/00	0.0 - 2.0	COARSE	X	X	X			
KAL154	K52570	KPT41-3	1/13/00	2.0 - 7.0	COARSE	X	X				
KAL154	K52571	KPT42-7	1/13/00	0.0 - 2.0	COARSE	X	X	X			
KAL154	K52572	KPT42-7	1/13/00	2.0 - 6.0	COARSE	X	X				
KAL154	K52573	KPT42-7	1/13/00	6.0 - 13.0	COARSE	X	X	X			
KAL154	K52582	KPT46-3	1/13/00	0.0 - 2.0	COARSE	X	X	X			
KAL154	K52583	KPT46-3	1/13/00	2.0 - 6.0	COARSE	X	X				
KAL154	K52584	KPT46-3	1/13/00	6.0 - 12.0	COARSE	X	X			X	
KAL154	K52585	KPT46-3	1/13/00	12.0 - 18.0	COARSE	X	X				
KAL154	K52586	KPT46-3	1/13/00	12.0 - 18.0	COARSE	X	X				K52585
KAL154	K52595	KPT48-2	1/13/00	0.0 - 2.0	COARSE	X	X	X			
KAL154	K52596	KPT48-2	1/13/00	2.0 - 6.0	COARSE	X	X				
KAL154	K52597	KPT48-2	1/13/00	6.0 - 12.0	COARSE	X	X	X			
KAL154	K52598	KPT48-2	1/13/00	12.0 - 19.0	COARSE	X	X	X			
KAL154	K52599	KPT48-2	1/13/00	19.0 - 22.0	COARSE	X	X				
KAL154	K52605	KPT8-1	1/13/00	0.0 - 2.0	COARSE	X	X	X			
KAL154	K52606	KPT8-1	1/13/00	2.0 - 6.0	COARSE	X	X				
KAL154	K52607	KPT41-1	1/13/00	0.0 - 2.0	FINE	X	X	X			
KAL154	K52608	KPT41-1	1/13/00	2.0 - 6.0	FINE	X	X				
KAL155	K52609	KPT41-1	1/13/00	6.0 - 9.0	FINE	X	X				
KAL155	K52610	KPT41-1	1/13/00	9.0 - 13.0	FINE	X	X				
KAL155	K52611	KPT41-1	1/13/00	13.0 - 18.0	FINE	X	X				
KAL155	K52612	KPT30-2	1/13/00	0.0 - 2.0	COARSE	X	X	X			
KAL155	K52613	KPT30-2	1/13/00	2.0 - 6.0	COARSE	X	X				
KAL155	K52614	KPT30-2	1/13/00	6.0 - 12.0	COARSE	X	X				
KAL155	K52615	KPT30-2	1/13/00	6.0 - 12.0	COARSE	X	X				K52614
KAL155	K52616	KPT45-7	1/13/00	0.0 - 2.0	FINE	X	X	X			
KAL155	K52617	KPT45-7	1/13/00	2.0 - 6.0	FINE	X	X				
KAL155	K52618	KPT45-7	1/13/00	6.0 - 11.0	FINE	X	X			X	
KAL155	K52619	KPT45-7	1/13/00	11.0 - 14.0	FINE	X	X				
KAL155	K52620	KPT41-7	1/13/00	0.0 - 2.0	FINE	X	X	X			
KAL155	K52621	KPT41-7	1/13/00	2.0 - 6.0	FINE	X	X				
KAL155	K52622	KPT41-7	1/13/00	6.0 - 9.0	FINE	X	X				
KAL155	K52623	KPT41-7	1/13/00	10.0 - 13.0	FINE	X	X				
KAL155	K52624	KPT46-5	1/13/00	0.0 - 2.0	COARSE	X	X	X			
KAL155	K52625	KPT46-5	1/13/00	2.0 - 6.0	COARSE	X	X				
KAL155	K52626	KPT46-5	1/13/00	6.0 - 12.0	COARSE	X	X				
KAL155	K52627	KPT46-5	1/13/00	6.0 - 12.0	COARSE	X	X				K52626
KAL155	K52628	KPT46-1	1/13/00	0.0 - 2.0	FINE	X	X	X			
KAL157	K52629	KPT46-1	1/13/00	2.0 - 6.0	FINE	X	X				
KAL157	K52630	KPT46-1	1/13/00	6.0 - 15.0	FINE	X	X			X	
KAL157	K52631	KPT46-1	1/13/00	15.0 - 24.0	FINE	X	X				
KAL157	K52632	KPT46-1	1/13/00	15.0 - 24.0	FINE	X	X				K52631
KAL189	K52151	KPT29-4	1/7/00	0.0 - 2.0	COARSE	X	X				

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL189	K52152	KPT29-4	1/7/00	2.0 - 6.0	COARSE	X	X				
KAL189	K52153	KPT29-4	1/7/00	6.0 - 12.0	COARSE	X	X				
KAL189	K52154	KPT29-4	1/7/00	12.0 - 20.5	COARSE	X	X				
KAL189	K52155	KPT23-5	1/7/00	0.0 - 2.0	COARSE	X	X				
KAL189	K52156	KPT23-5	1/7/00	2.0 - 6.0	COARSE	X	X				
KAL189	K52157	KPT23-5	1/7/00	6.0 - 12.0	COARSE	X	X				
KAL189	K52158	KPT23-5	1/7/00	12.0 - 24.0	COARSE	X	X			X	
KAL189	K52159	KPT28-3	1/7/00	0.0 - 2.0	COARSE	X	X				
KAL189	K52160	KPT28-3	1/7/00	2.0 - 6.0	COARSE	X	X				
KAL189	K52161	KPT28-3	1/7/00	6.0 - 12.0	COARSE	X	X				
KAL189	K52162	KPT28-3	1/7/00	12.0 - 24.0	COARSE	X	X				
KAL189	K52167	KPT24-6	1/7/00	0.0 - 2.0	COARSE	X	X				
KAL189	K52168	KPT24-6	1/7/00	2.0 - 6.0	COARSE	X	X				
KAL189	K52169	KPT24-6	1/7/00	6.0 - 10.0	COARSE	X	X				
KAL189	K52172	KPT26-7	1/7/00	0.0 - 2.0	COARSE	X	X				
KAL189	K52173	KPT26-7	1/7/00	2.0 - 6.0	COARSE	X	X				
KAL189	K52174	KPT26-7	1/7/00	6.0 - 14.0	COARSE	X	X				
KAL189	K52175	KPT26-7	1/7/00	6.0 - 14.0	COARSE	X	X				K52174
KAL189	K52176	KPT25-6	1/7/00	0.0 - 2.0	COARSE	X	X				
KAL190	K52177	KPT25-6	1/7/00	2.0 - 6.0	COARSE	X	X				
KAL190	K52178	KPT25-6	1/7/00	6.0 - 12.0	COARSE	X	X				
KAL190	K52179	KPT25-6	1/7/00	12.0 - 24.0	COARSE	X	X				
KAL190	K52180	KPT25-6	1/7/00	12.0 - 24.0	COARSE	X	X				K52179
KAL190	K52181	KPT26-7	1/7/00	0.0 - 2.0	COARSE	X	X				
KAL190	K52182	KPT26-7	1/7/00	2.0 - 6.0	COARSE	X	X				
KAL190	K52183	KPT26-7	1/7/00	6.0 - 12.0	COARSE	X	X			X	
KAL190	K52184	KPT26-7	1/7/00	12.0 - 24.0	COARSE	X	X				
KAL190	K52185	KPT24-3	1/7/00	0.0 - 2.0	COARSE	X	X				
KAL190	K52186	KPT24-3	1/7/00	2.0 - 6.0	COARSE	X	X				
KAL190	K52187	KPT24-3	1/7/00	6.0 - 12.0	COARSE	X	X				
KAL190	K52188	KPT24-3	1/7/00	12.0 - 19.0	COARSE	X	X				
KAL190	K52189	KPT24-3	1/7/00	12.0 - 19.0	COARSE	X	X				K52188
KAL190	K52219	KPT25-8	1/10/00	0.0 - 2.0	COARSE	X	X				
KAL190	K52220	KPT25-8	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL190	K52221	KPT25-8	1/10/00	6.0 - 12.0	COARSE	X	X				
KAL190	K52222	KPT25-8	1/10/00	12.0 - 24.0	COARSE	X	X				
KAL190	K52223	KPT25-8	1/10/00	12.0 - 24.0	COARSE	X	X				K52222
KAL190	K52224	KPT27-4	1/10/00	0.0 - 2.0	COARSE	X	X				
KAL190	K52225	KPT27-4	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL19	K52226	KPT21-3	1/10/00	0.0 - 2.0	COARSE	X	X				
KAL19	K52227	KPT21-3	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL19	K52228	KPT21-3	1/10/00	6.0 - 11.0	COARSE	X	X				
KAL19	K52234	KPT21-6	1/10/00	0.0 - 2.0	COARSE	X	X				
KAL19	K52235	KPT21-6	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL19	K52236	KPT21-6	1/10/00	6.0 - 12.0	COARSE	X	X			X	
KAL19	K52237	KPT21-6	1/10/00	12.0 - 19.0	COARSE	X	X				
KAL19	K52238	KPT21-6	1/10/00	19.0 - 22.0	COARSE	X	X				
KAL191	K52239	KPT22-5	1/10/00	0.0 - 2.0	COARSE	X	X				
KAL191	K52240	KPT22-5	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL191	K52241	KPT22-5	1/10/00	6.0 - 12.0	COARSE	X	X				
KAL191	K52242	KPT22-5	1/10/00	12.0 - 23.0	COARSE	X	X				
KAL191	K52243	KPT22-5	1/10/00	12.0 - 23.0	COARSE	X	X				K52242
KAL19	K52249	KPT22-2	1/10/00	2.0 - 5.0	COARSE	X	X				
KAL19	K52250	KPT25-1	1/10/00	0.0 - 2.0	COARSE	X	X				
KAL19	K52251	KPT25-1	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL19	K52268	KPT27-7	1/10/00	0.0 - 2.0	COARSE	X	X				
KAL19	K52269	KPT27-7	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL19	K52270	KPT27-7	1/10/00	6.0 - 12.0	COARSE	X	X			X	
KAL192	K52284	KPT23-5	1/10/00	0.0 - 2.0	COARSE	X	X				

TABLE 1

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REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL19	K52285	KP-23-5	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL19	K52286	KP-23-5	1/10/00	6.0 - 12.0	COARSE	X	X				
KAL19	K52287	KP-23-5	1/10/00	12.0 - 17.0	COARSE	X	X				
KAL19	K52288	KP-23-5	1/10/00	12.0 - 17.0	COARSE	X	X				K52287
KAL19	K52292	KP-30-7	1/10/00	0.0 - 2.0	COARSE	X	X				
KAL19	K52293	KP-30-7	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL19	K52294	KP-30-7	1/10/00	6.0 - 12.0	COARSE	X	X				
KAL19	K52295	KP-30-5	1/10/00	0.0 - 2.0	COARSE	X	X				
KAL19	K52296	KP-30-5	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL19	K52297	KP-30-5	1/10/00	6.0 - 12.0	COARSE	X	X			X	
KAL192	K52298	KPT30-3	1/10/00	0.0 - 2.0	COARSE	X	X				
KAL192	K52299	KPT30-3	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL192	K52300	KPT30-3	1/10/00	6.0 - 11.0	COARSE	X	X				
KAL192	K52309	KPT31-6	1/10/00	0.0 - 2.0	COARSE	X	X				
KAL192	K52310	KPT31-6	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL192	K52311	KPT31-6	1/10/00	6.0 - 12.0	COARSE	X	X				
KAL192	K52312	KPT31-6	1/10/00	12.0 - 24.0	COARSE	X	X				
KAL192	K52313	KPT31-6	1/10/00	12.0 - 24.0	COARSE	X	X				K52312
KAL192	K52317	KPT31-4	1/10/00	12.0 - 24.0	COARSE	X	X				
KAL193	K52318	KPT31-4	1/10/00	12.0 - 24.0	COARSE	X	X				K52317
KAL193	K52319	KPT31-4	1/10/00	0.0 - 2.0	COARSE	X	X				
KAL193	K52320	KPT31-4	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL193	K52321	KPT31-4	1/10/00	6.0 - 12.0	COARSE	X	X				
KAL193	K52336	KPT35-6	1/10/00	0.0 - 2.0	COARSE	X	X				
KAL193	K52337	KPT35-6	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL193	K52338	KPT35-6	1/10/00	6.0 - 11.0	COARSE	X	X				
KAL193	K52339	KPT33-5	1/10/00	0.0 - 2.0	COARSE	X	X				
KAL193	K52340	KPT33-5	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL193	K52341	KPT33-5	1/10/00	6.0 - 12.0	COARSE	X	X			X	
KAL193	K52342	KPT33-5	1/10/00	12.0 - 17.0	COARSE	X	X				
KAL193	K52357	KPT35-4	1/10/00	0.0 - 2.0	COARSE	X	X				
KAL193	K52358	KPT35-4	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL193	K52359	KPT35-4	1/10/00	6.0 - 12.0	COARSE	X	X				
KAL193	K52360	KPT35-4	1/10/00	12.0 - 24.0	COARSE	X	X				
KAL193	K52361	KPT35-4	1/10/00	12.0 - 24.0	COARSE	X	X				K52360
KAL193	K52362	KPT34-1	1/10/00	0.0 - 2.0	COARSE	X	X				
KAL193	K52363	KPT34-1	1/10/00	2.0 - 6.0	COARSE	X	X				
KAL193	K52364	KPT34-1	1/10/00	6.0 - 12.0	COARSE	X	X				
KAL193	K52365	KPT34-1	1/10/00	12.0 - 24.0	COARSE	X	X				
KAL194	K52366	KPT34-1	1/10/00	12.0 - 24.0	COARSE	X	X				K52365
KAL194	K52375	KPT38-6	1/11/00	0.0 - 2.0	COARSE	X	X				
KAL194	K52376	KPT38-6	1/11/00	2.0 - 6.0	COARSE	X	X				
KAL194	K52377	KPT38-6	1/11/00	6.0 - 12.0	COARSE	X	X				
KAL194	K52378	KPT38-6	1/11/00	6.0 - 12.0	COARSE	X	X				K52377
KAL194	K52379	KPT33-2	1/11/00	0.0 - 2.0	COARSE	X	X				
KAL194	K52380	KPT33-2	1/11/00	2.0 - 6.0	COARSE	X	X				
KAL194	K52381	KPT33-2	1/11/00	6.0 - 14.0	COARSE	X	X				
KAL194	K52382	KPT33-2	1/11/00	6.0 - 14.0	COARSE	X	X				K52381
KAL194	K52383	KPT33-2	1/11/00	14.0 - 24.0	COARSE	X	X				
KAL194	K52397	KPT34-3	1/11/00	0.0 - 2.0	COARSE	X	X				
KAL194	K52398	KPT34-3	1/11/00	2.0 - 6.0	COARSE	X	X				
KAL194	K52399	KPT32-1	1/11/00	0.0 - 2.0	COARSE	X	X				
KAL194	K52400	KPT32-1	1/11/00	2.0 - 6.0	COARSE	X	X				
KAL194	K52413	KPT31-2	1/11/00	0.0 - 2.0	COARSE	X	X				
KAL194	K52414	KPT31-2	1/11/00	2.0 - 5.0	COARSE	X	X				
KAL194	K52415	KPT31-2	1/11/00	5.0 - 8.0	COARSE	X	X				
KAL194	K52416	KPT31-2	1/11/00	8.0 - 15.0	COARSE	X	X				K52417
KAL194	K52417	KPT31-2	1/11/00	8.0 - 15.0	COARSE	X	X				
KAL194	K52418	KPT34-8	1/11/00	0.0 - 2.0	COARSE	X	X				

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SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL195	K52419	KPT34-8	1/11/00	2.0 - 7.0	COARSE	X	X				
KAL195	K52420	KPT37-2	1/11/00	0.0 - 2.0	COARSE	X	X				
KAL195	K52421	KPT37-2	1/11/00	2.0 - 5.0	COARSE	X	X				
KAL195	K52422	KPT39-7	1/11/00	0.0 - 2.0	COARSE	X	X				
KAL195	K52423	KPT39-7	1/11/00	2.0 - 5.0	COARSE	X	X				
KAL195	K52434	KPT37-4	1/11/00	0.0 - 2.0	COARSE	X	X				
KAL195	K52435	KPT37-4	1/11/00	2.0 - 6.0	COARSE	X	X				
KAL195	K52436	KPT37-4	1/11/00	6.0 - 9.0	COARSE	X	X				
KAL195	K52437	KPT37-4	1/11/00	9.0 - 13.0	COARSE	X	X				
KAL195	K52438	KPT32-3	1/11/00	0.0 - 2.0	COARSE	X	X				
KAL195	K52439	KPT32-3	1/11/00	2.0 - 6.0	COARSE	X	X				
KAL195	K52440	KPT32-3	1/11/00	6.0 - 10.0	COARSE	X	X				
KAL195	K52443	KPT45-1	1/12/00	0.0 - 2.0	COARSE	X	X				
KAL195	K52444	KPT45-1	1/12/00	2.0 - 6.0	COARSE	X	X				
KAL195	K52445	KPT45-1	1/12/00	6.0 - 12.0	COARSE	X	X				
KAL195	K52446	KPT45-1	1/12/00	6.0 - 12.0	COARSE	X	X				K52445
KAL195	K52447	KPT42-1	1/12/00	0.0 - 2.0	COARSE	X	X				
KAL195	K52448	KPT42-1	1/12/00	2.0 - 7.0	COARSE	X	X				
KAL195	K52449	KPT48-5	1/12/00	0.0 - 2.0	COARSE	X	X				
KAL195	K52450	KPT48-5	1/12/00	2.0 - 8.0	COARSE	X	X			X	
KAL196	K52452	KPT40-6	1/12/00	2.0 - 7.0	COARSE	X	X				
KAL196	K52457	KPT44-1	1/12/00	0.0 - 2.0	COARSE	X	X				
KAL196	K52458	KPT44-1	1/12/00	2.0 - 6.0	COARSE	X	X				
KAL196	K52459	KPT44-1	1/12/00	6.0 - 12.0	COARSE	X	X			X	
KAL196	K52460	KPT44-1	1/12/00	12.0 - 18.0	COARSE	X	X				
KAL196	K52461	KPT44-1	1/12/00	12.0 - 18.0	COARSE	X	X				K52460
KAL196	K52477	KPT48-7	1/12/00	0.0 - 2.0	COARSE	X	X				
KAL196	K52478	KPT48-7	1/12/00	2.0 - 4.0	COARSE	X	X				
KAL196	K52479	KPT48-7	1/12/00	4.0 - 8.0	COARSE	X	X				
KAL196	K52480	KPT48-7	1/12/00	8.0 - 14.0	COARSE	X	X				
KAL196	K52488	KPT45-3	1/12/00	0.0 - 2.0	COARSE	X	X				
KAL196	K52489	KPT45-3	1/12/00	2.0 - 7.0	COARSE	X	X				
KAL196	K52495	KPT48-3	1/12/00	0.0 - 2.0	COARSE	X	X				
KAL196	K52496	KPT48-3	1/12/00	2.0 - 6.0	COARSE	X	X				
KAL196	K52497	KPT48-3	1/12/00	6.0 - 12.0	COARSE	X	X				
KAL196	K52498	KPT48-3	1/12/00	12.0 - 24.0	COARSE	X	X				
KAL196	K52499	KPT43-1	1/12/00	0.0 - 2.0	COARSE	X	X				
KAL196	K52500	KPT43-1	1/12/00	2.0 - 6.0	COARSE	X	X				
KAL196	K52501	KPT43-1	1/12/00	6.0 - 10.0	COARSE	X	X				
KAL196	K52502	KPT42-6	1/12/00	0.0 - 2.0	COARSE	X	X				
KAL197	K52451	KPT40-6	1/12/00	0.0 - 2.0	COARSE	X	X				
KAL197	K52503	KPT42-6	1/12/00	2.0 - 6.0	COARSE	X	X				
KAL197	K52504	KPT45-5	1/12/00	0.0 - 2.0	COARSE	X	X				
KAL197	K52505	KPT45-5	1/12/00	2.0 - 6.0	COARSE	X	X				
KAL197	K52506	KPT45-5	1/12/00	6.0 - 12.0	COARSE	X	X				
KAL197	K52507	KPT45-5	1/12/00	6.0 - 12.0	COARSE	X	X				K52506
KAL197	K52512	KPT48-1	1/12/00	0.0 - 2.0	COARSE	X	X				
KAL197	K52513	KPT48-1	1/12/00	2.0 - 6.0	COARSE	X	X				
KAL197	K52514	KPT48-1	1/12/00	6.0 - 12.0	COARSE	X	X			X	
KAL197	K52515	KPT48-1	1/12/00	12.0 - 19.0	COARSE	X	X				
KAL197	K52516	KPT48-1	1/12/00	6.0 - 12.0	COARSE	X	X				K52514
KAL197	K52517	KPT47-6	1/12/00	0.0 - 2.0	COARSE	X	X				
KAL197	K52518	KPT47-6	1/12/00	2.0 - 6.0	COARSE	X	X				
KAL197	K52519	KPT47-6	1/12/00	6.0 - 12.0	COARSE	X	X				
KAL197	K52520	KPT47-6	1/12/00	12.0 - 19.0	COARSE	X	X				
KAL197	K52521	KPT47-6	1/12/00	19.0 - 22.0	COARSE	X	X				
KAL197	K52525	KPT47-4	1/12/00	0.0 - 2.0	COARSE	X	X				
KAL197	K52526	KPT47-4	1/12/00	2.0 - 6.0	COARSE	X	X				
KAL197	K52527	KPT47-4	1/12/00	6.0 - 14.0	COARSE	X	X			X	

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SAMPLE DELIVERY GROUP SUMMARY

Sample Delivery Group	Sample ID	Sample Location	Analysis Date	Depth Increment (in)	Final Core Description	Analysis				Quality Control	
						PCB	TOC	Particle Size	TCL/TAL	MS/MSD	Duplicate
KAL_197	K52528	KPT47-4	1/12/00	14.0 - 17.0	COARSE	X	X				
KAL_198	K52534	KPT46-2	1/12/00	0.0 - 2.0	COARSE	X	X				
KAL_198	K52535	KPT46-2	1/12/00	2.0 - 6.0	COARSE	X	X				
KAL_198	K52536	KPT46-2	1/12/00	6.0 - 9.0	COARSE	X	X				
KAL_198	K52545	KPT40-3	1/13/00	0.0 - 2.0	COARSE	X	X				
KAL_198	K52546	KPT40-3	1/13/00	2.0 - 6.0	COARSE	X	X				
KAL_198	K52547	KPT40-3	1/13/00	6.0 - 12.0	COARSE	X	X				
KAL_198	K52562	KPT46-4	1/13/00	0.0 - 2.0	COARSE	X	X				
KAL_198	K52563	KPT46-4	1/13/00	2.0 - 6.0	COARSE	X	X				
KAL_198	K52564	KPT46-4	1/13/00	6.0 - 11.0	COARSE	X	X				
KAL198	K52574	KPT43-4	1/13/00	0.0 - 2.0	COARSE	X	X				
KAL198	K52575	KPT43-4	1/13/00	2.0 - 6.0	COARSE	X	X				
KAL198	K52576	KPT43-4	1/13/00	6.0 - 12.0	COARSE	X	X				
KAL198	K52577	KPT43-4	1/13/00	12.0 - 24.0	COARSE	X	X				
KAL198	K52578	KPT43-4	1/13/00	12.0 - 24.0	COARSE	X	X				K52577
KAL198	K52579	KPT43-6	1/13/00	0.0 - 2.0	COARSE	X	X				
KAL198	K52580	KPT43-6	1/13/00	2.0 - 6.0	COARSE	X	X				
KAL198	K52581	KPT43-6	1/13/00	6.0 - 12.0	COARSE	X	X				
KAL198	K52587	KPT41-6	1/13/00	0.0 - 2.0	COARSE	X	X				
KAL198	K52588	KPT41-6	1/13/00	2.0 - 6.0	COARSE	X	X				
KAL198	K52589	KPT41-6	1/13/00	6.0 - 12.0	COARSE	X	X				
KAL199	K52590	KPT41-6	1/13/00	6.0 - 12.0	COARSE	X	X				K52589
KAL199	K52591	KPT44-6	1/13/00	0.0 - 2.0	COARSE	X	X				
KAL199	K52592	KPT44-6	1/13/00	2.0 - 6.0	COARSE	X	X				
KAL199	K52593	KPT44-6	1/13/00	6.0 - 10.0	COARSE	X	X				
KAL199	K52594	KPT44-6	1/13/00	10.0 - 22.0	COARSE	X	X			X	
KAL199	K52600	KPT46-7	1/13/00	0.0 - 2.0	COARSE	X	X				
KAL199	K52601	KPT46-7	1/13/00	2.0 - 6.0	COARSE	X	X				
KAL199	K52602	KPT46-7	1/13/00	6.0 - 12.0	COARSE	X	X				
KAL199	K52603	KPT46-7	1/13/00	12.0 - 21.0	COARSE	X	X				
KAL199	K52604	KPT46-7	1/13/00	12.0 - 21.0	COARSE	X	X				K52603

TABLE 2

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PARTICLE SIZE ANALYSIS RESULTS

Sample ID	Location	Depth Increment (in)	% Solids	Percentile Sizes (microns)			Percent Finer Than				
				16%	50%	84%	Gravel	#10 Sieve	#40 Sieve	#200 Sieve	5 microns
K51370	KPT1-1	2.0 - 12.0	81.7	140	280	650	100	95.7	72.7	9.9	1.5
K50490	KPT1-2	2.0 - 12.0	86.9	270	700	6500	91.5	63.8	37.8	3.6	1.1
K50444	KPT1-4	2.0 - 12.0	92.3	360	2800	8000	64.9	40.5	21.4	2.1	0.7
K50455	KPT1-6	2.0 - 8.0	77.0	190	380	4400	85.0	77.0	57.6	4.7	1.1
K50145	KPT2-6	2.0 - 12.0	80.0	80	200	450	96.6	95.4	82.5	15.1	4.6
K50278	KPT3-1	2.0 - 10.0	71.8	140	250	400	100	99.5	87.6	8.9	3.9
K50440	KPT3-2	2.0 - 12.0	92.7	300	1200	6500	78.1	59.7	27.7	2.8	0.7
K50470	KPT3-3	2.0 - 8.0	89.2	32	800	10000	73.0	61.7	39.6	18.9	8.7
K50452	KPT3-6	2.0 - 12.0	84.9	420	2500	6200	76.2	43.2	16.4	5.3	0.7
K50473	KPT3-7	2.0 - 12.0	86.1	190	400	2000	94.5	84.2	52.3	4.7	1.3
K50426	KPT4-1	2.0 - 12.0	88.2	230	850	14000	67.6	57.6	39.7	3.1	0.7
K50432	KPT4-2	2.0 - 12.0	83.7	200	380	4750	83.9	75.9	56.9	2.2	0.7
K50463	KPT4-5	2.0 - 12.0	93.4	425	4750	12000	50.2	32.3	16.0	5.2	0.3
K50548	KPT4-6	2.0 - 12.0	89.9	260	2200	7800	91.6	47.7	29.6	2.6	0.6
K51293	KPT5-1	2.0 - 12.0	91.3	500	5800	16000	69.2	27.6	14.6	1.8	0.6
K51460	KPT5-2	0.0 - 2.0	94.7	640	5624	14951	44.7	28.3	11.8	3.6	0.3
K51462	KPT5-2	6.0 - 12.0	83.2	413	2131	7186	74.0	48.8	16.7	3.1	0.4
K51315	KPT5-3	2.0 - 12.0	79.3	170	300	2500	86.6	83.6	69.7	11.1	4.4
K51332	KPT5-4	2.0 - 9.0	91.7	210	2300	11000	82.7	46.6	26.7	4.6	0.5
K51466	KPT5-5	6.0 - 12.0	87.7	348	2756	8514	65.3	44.2	22.1	2.6	0.3
K51467	KPT5-5	12.0 - 20.0	88.2	268	2109	7946	69.4	49.2	27.2	4.4	0.7
K51327	KPT5-6	2.0 - 12.0	87.6	350	4500	12500	74.8	36.0	20.9	1.4	0.3
K51815	KPT5-7	0.0 - 2.0	97.4	383	3344	8945	63.6	37.0	19.3	1.6	0.1
K51817	KPT5-7	6.0 - 12.0	92.7	251	941	6294	78.8	58.1	35.5	8.2	0.5
K50526	KPT5-8	2.0 - 12.0	77.1	95	230	410	100	98.5	88.4	12.8	6.0
K51472	KPT6-1	0.0 - 2.0	95.5	206	424	1982	92.9	84.2	50.1	5.0	1.2
K51476	KPT6-1	12.0 - 22.0	83.1	278	882	5225	83.2	63.8	35.3	1.4	0.6
K51468	KPT6-2	0.0 - 2.0	96.5	237	401	4664	84.3	74.7	55.1	2.0	1.3
K51470	KPT6-2	6.0 - 14.0	88.5	354	2642	8149	68.4	44.4	21.8	2.3	0.5
K51486	KPT6-3	0.0 - 2.0	99.8	378	3758	14178	56.6	38.3	19.5	1.1	0.0
K51488	KPT6-3	6.0 - 12.5	87.5	358	3837	9511	58.4	33.1	18.8	3.5	0.5
K51477	KPT6-4	0.0 - 2.0	89.0	274	950	8053	73.5	58.4	34.6	1.5	0.5
K51479	KPT6-4	6.0 - 12.0	87.9	204	1134	6792	74.2	56.7	39.5	5.6	1.9
K50434	KPT6-5	2.0 - 12.0	89.4	300	2200	8000	66.9	48.5	27.4	3.3	0.7
K51489	KPT6-6	0.0 - 2.0	99.9	343	3138	8434	65.0	39.9	23.1	1.8	0.0
K51492	KPT6-6	12.0 - 24.0	90.7	170	262	395	96.5	96.3	91.7	3.9	0.7
K51481	KPT6-7	0.0 - 2.0	99.7	336	2338	11000	66.4	47.7	25.1	2.3	0.5
K51485	KPT6-7	12.0 - 26.0	84.3	197	216	3729	86.6	79.6	68.5	1.4	0.7
K50438	KPT6-8	2.0 - 13.0	79.0	100	170	3000	87.0	80.7	62.9	11.1	2.4
K51447	KPT7-1	0.0 - 2.0	98.6	246	3250	12821	58.4	43.0	30.1	2.0	0.2
K51494	KPT7-2	0.0 - 2.0	99.8	296	3530	9788	57.1	41.1	26.7	1.4	0.0
K51496	KPT7-2	6.0 - 12.0	93.7	221	1461	8390	75.8	56.0	31.3	8.7	0.5
K51504	KPT7-3	0.0 - 2.0	98.3	296	1916	8644	70.5	50.8	28.1	2.1	0.0
K51505	KPT7-3	2.0 - 8.0	91.3	272	3005	10648	63.2	42.4	27.3	3.9	0.2
K51445	KPT7-4	0.0 - 2.0	98.0	290	2748	12561	61.5	45.7	30.0	2.1	0.2
K51446	KPT7-4	2.0 - 7.0	89.9	418	4157	12214	55.2	31.1	16.4	1.6	0.3
K51449	KPT7-5	0.0 - 2.0	99.1	438	5476	17784	47.8	36.3	15.6	1.4	0.2
K51508	KPT7-7	0.0 - 2.0	97.5	61	1000	6077	77.8	58.5	39.0	24.4	0.2
K51499	KPT7-8	0.0 - 2.0	88.8	138	211	350	100	99.5	94.1	5.2	2.0
K51501	KPT7-8	6.0 - 12.0	79.3	158	248	5004	83.4	75.7	68.6	4.9	1.4
K51502	KPT7-8	12.0 - 29.0	87.3	235	1921	8000	71.5	50.6	32.6	3.8	1.1
K52605	KPT8-1	0.0 - 2.0	99.9	293	816	8917	69.0	57.4	36.0	1.8	0.6
K51510	KPT8-2	0.0 - 2.0	99.6	239	1522	6845	75.4	53.7	34.3	2.3	0.4
K51511	KPT8-2	2.0 - 6.0	93.6	300	2966	8197	66.8	40.9	22.7	5.6	0.0

TABLE 2

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PARTICLE SIZE ANALYSIS RESULTS

Sample ID	Location	Depth Increment (in)	% Solids	Percentile Sizes (microns)			Percent Finer Than				
				16%	50%	84%	Gravel	#10 Sieve	#40 Sieve	#200 Sieve	5 microns
K51512	KPT8-2	6.0 - 10.0	90.0	358	2735	9194	63.7	45.0	23.1	1.8	0.0
K50446	KPT8-3	2.0 - 9.0	83.7	70	700	5000	82.5	63.6	42.6	17.0	0.6
K51513	KPT8-4	0.0 - 2.0	99.8	232	707	6091	79.6	63.1	42.7	2.8	0.4
K51518	KPT8-5	0.0 - 2.0	98.0	339	2877	9027	64.1	43.4	23.4	1.5	0.0
K51520	KPT8-5	6.0 - 13.0	85.8	390	2274	7163	93.3	47.3	18.5	1.3	0.1
K51521	KPT8-6	0.0 - 2.0	99.9	348	2500	9447	66.2	46.4	23.7	1.4	0.1
K51522	KPT8-6	2.0 - 6.0	93.8	467	3800	11995	57.7	35.4	15.1	1.7	0.0
K51523	KPT8-6	6.0 - 13.0	92.3	365	2800	8837	65.5	40.9	19.9	1.6	0.1
K51524	KPT8-7	0.0 - 2.0	99.9	300	2127	10739	64.4	49.3	27.3	1.8	0.2
K51525	KPT8-7	2.0 - 6.0	89.4	340	1465	5526	81.5	59.5	23.8	1.3	0.2
K51528	KPT8-8	0.0 - 2.0	92.1	386	2784	8586	66.8	43.3	18.8	2.3	0.1
K51532	KPT9-1	0.0 - 2.0	97.0	207	1841	11864	64.8	51.2	34.1	4.3	0.8
K51533	KPT9-1	2.0 - 6.0	90.6	381	2886	8384	70.0	40.5	18.4	2.3	0.6
K51451	KPT9-2	0.0 - 2.0	88.5	256	1754	7384	71.8	51.9	31.2	4.1	0.2
K51452	KPT9-2	2.0 - 6.0	86.2	330	2011	5784	81.3	57.9	26.4	1.1	0.3
K51539	KPT9-3	0.0 - 2.0	99.9	353	4863	11830	49.3	28.5	19.5	2.1	0.0
K51541	KPT9-3	6.0 - 12.0	88.5	271	2190	7449	71.5	48.4	31.8	3.5	0.4
K51542	KPT9-3	12.0 - 23.0	87.1	277	1847	9322	66.0	51.0	32.5	2.4	1.2
K51543	KPT9-4	0.0 - 2.0	96.9	417	5038	14159	48.8	29.9	16.4	1.9	0.0
K51544	KPT9-4	2.0 - 6.0	93.3	371	2886	7646	66.2	42.3	19.5	3.8	0.0
K51545	KPT9-4	6.0 - 12.0	91.0	324	2777	7584	69.8	42.2	21.8	7.1	0.0
K51546	KPT9-4	12.0 - 17.0	89.0	371	3488	8970	61.7	36.2	19.6	3.0	0.0
K51547	KPT9-5	0.0 - 2.0	92.1	338	2868	8216	64.3	43.4	25.1	2.2	0.0
K51549	KPT9-5	6.0 - 12.0	90.8	415	3902	9325	57.8	32.5	16.6	1.3	0.0
K51550	KPT9-5	12.0 - 20.0	92.6	480	2953	7845	68.1	40.4	14.2	4.1	0.0
K51551	KPT9-5	20.0 - 34.0	83.3	183	278	432	99.6	97.9	86.7	2.2	0.0
K51553	KPT9-6	0.0 - 2.0	89.1	397	2762	11830	62.0	45.4	18.4	0.5	0.0
K51555	KPT9-6	6.0 - 12.0	89.7	346	2841	10958	60.9	45.2	24.5	1.2	0.3
K51556	KPT9-6	12.0 - 25.0	92.3	357	2641	7712	67.5	44.8	19.9	4.7	0.3
K51557	KPT9-6	25.0 - 28.0	87.9	249	673	3215	90.0	78.7	38.8	3.6	1.0
K51535	KPT9-7	0.0 - 2.0	94.8	428	3219	9338	64.2	38.7	15.8	2.5	0.1
K51536	KPT9-7	2.0 - 6.0	90.5	390	547	3207	70.9	42.5	18.3	2.1	0.2
K51537	KPT9-7	6.0 - 12.0	94.2	378	1865	7409	76.5	52.1	18.8	5.5	0.3
K51538	KPT9-7	12.0 - 24.0	91.7	569	3242	10461	63.0	39.3	11.9	3.0	0.3
K51558	KPT10-1	0.0 - 2.0	94.2	103	258	3528	86.8	80.5	69.8	12.5	2.6
K51560	KPT10-1	6.0 - 12.0	88.8	259	1592	7420	74.5	53.3	33.2	4.2	1.1
K51561	KPT10-1	12.0 - 21.0	92.7	372	2229	7414	72.0	48.0	19.0	6.5	1.0
K51563	KPT10-2	0.0 - 2.0	94.1	263	2389	7829	70.0	46.7	28.9	3.3	0.8
K51564	KPT10-2	2.0 - 6.0	90.0	287	1900	7713	77.7	51.1	28.2	3.5	1.8
K51565	KPT10-2	6.0 - 12.0	89.3	365	3039	9952	63.0	42.1	21.6	1.7	0.9
K51566	KPT10-2	12.0 - 24.0	89.6	390	1654	7927	74.1	54.3	19.0	1.3	0.8
K50281	KPT10-3	2.0 - 12.0	92.4	310	770	4500	85.5	67.9	27.5	5.5	1.1
K51568	KPT10-4	0.0 - 2.0	99.9	319	1906	8555	67.9	50.8	28.0	1.3	0.4
K51570	KPT10-4	6.0 - 12.0	93.3	342	2576	8127	68.5	45.1	23.1	4.4	1.2
K51571	KPT10-4	12.0 - 18.0	89.1	334	950	4439	86.6	63.6	26.9	3.0	1.4
K50442	KPT10-5	2.0 - 12.0	94.1	420	3000	12000	59.8	39.9	16.4	5.1	0.7
K51572	KPT10-6	0.0 - 2.0	96.4	246	1341	8228	70.6	54.7	35.0	3.0	1.2
K51573	KPT10-6	2.0 - 6.0	94.8	266	915	5347	81.7	60.0	36.2	2.2	1.4
K51574	KPT10-6	6.0 - 12.0	93.4	263	784	4540	85.4	67.1	34.9	3.5	1.5
K51575	KPT10-6	12.0 - 24.0	92.8	396	2014	9120	70.2	49.9	18.1	3.5	0.5
K51577	KPT10-7	0.0 - 2.0	88.8	186	327	838	96.5	90.7	69.8	4.9	2.0
K51578	KPT10-7	2.0 - 6.0	82.1	214	378	2937	90.1	80.9	59.4	3.5	2.3
K51579	KPT10-7	6.0 - 12.0	92.8	542	3545	7316	65.9	29.6	14.3	4.4	0.6
K51580	KPT10-7	12.0 - 22.0	92.7	387	2765	7754	69.2	42.6	18.3	3.8	1.3

TABLE 2

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

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PARTICLE SIZE ANALYSIS RESULTS

Sample ID	Location	Depth Increment (in)	% Solids	Percentile Sizes (microns)			Percent Finer Than				
				16%	50%	84%	Gravel	#10 Sieve	#40 Sieve	#200 Sieve	5 microns
K51587	KPT11-1	0.0 - 2.0	84.5	143	384	2286	92.6	83.0	55.1	9.6	1.8
K51589	KPT11-1	6.0 - 12.0	82.3	192	345	2500	92.1	82.2	63.0	2.6	0.9
K51590	KPT11-1	12.0 - 24.0	84.6	243	644	3268	95.1	74.5	40.5	2.4	0.5
K51582	KPT11-2	0.0 - 2.0	87.4	208	768	5855	81.0	62.4	41.6	1.9	1.5
K51583	KPT11-2	2.0 - 6.0	87.5	208	778	4725	84.2	62.2	41.2	2.8	0.0
K51584	KPT11-2	6.0 - 12.0	90.5	345	1448	4063	92.2	59.4	23.1	2.3	0.0
K51585	KPT11-2	12.0 - 24.0	84.5	258	778	3745	92.0	70.1	34.8	4.6	0.5
K51592	KPT11-3	0.0 - 2.0	93.7	344	2012	7505	72.4	49.9	24.0	0.6	0.0
K51594	KPT11-3	6.0 - 12.0	85.8	280	562	3551	88.1	78.7	42.5	1.0	0.4
K51595	KPT11-3	12.0 - 26.0	85.0	192	448	3389	89.0	78.9	49.0	2.1	0.4
K51597	KPT11-4	0.0 - 2.0	91.1	408	3721	7997	59.8	33.6	17.1	1.7	0.0
K51599	KPT11-4	6.0 - 12.0	91.0	303	2054	7349	70.1	49.6	29.5	1.6	0.0
K51600	KPT11-5	0.0 - 2.0	97.6	323	2215	6357	77.1	47.7	23.6	4.1	0.0
K51602	KPT11-5	6.0 - 12.0	86.8	237	633	3968	90.0	68.9	42.5	2.1	0.2
K51603	KPT11-5	12.0 - 18.0	87.9	342	1425	6494	77.5	56.7	24.6	1.8	0.5
K51605	KPT11-6	0.0 - 2.0	89.6	186	330	680	99.8	97.0	72.9	2.2	0.6
K51608	KPT11-6	6.0 - 12.0	91.0	227	385	840	99.7	97.3	58.6	1.6	0.3
K51609	KPT11-6	12.0 - 24.0	80.2	221	356	689	99.4	97.9	68.6	4.0	0.6
K51610	KPT11-7	0.0 - 2.0	21.1	11	64	413	100	99.9	84.6	56.7	6.4
K51612	KPT11-7	6.0 - 12.0	43.7	4	31	268	100	99.9	90.1	72.9	20.0
K51613	KPT11-7	12.0 - 17.0	52.3	12	54	399	98.2	97.5	85.1	37.0	8.0
K51615	KPT11-8	0.0 - 2.0	34.6	40	115	492	100	99.1	82.2	44.2	4.3
K51617	KPT11-8	6.0 - 12.0	46.5	4	46	285	100	100	89.2	67.7	17.1
K51618	KPT11-8	12.0 - 17.0	52.7	5	58	338	100	100	88.3	55.4	15.0
K51619	KPT11-8	17.0 - 22.0	81.7	267	421	1324	92.1	87.0	50.9	4.1	1.0
K51620	KPT12-1	0.0 - 2.0	99.4	247	2162	15990	59.6	49.4	29.3	3.1	0.4
K51623	KPT12-1	6.0 - 12.0	75.4	86	223	692	95.8	91.1	79.6	14.5	2.9
K51624	KPT12-1	12.0 - 18.0	75.7	95	201	322	98.9	98.2	95.7	12.5	2.4
K51625	KPT12-1	18.0 - 24.0	81.3	36	54	72	100	100	99.8	89.2	1.1
K51626	KPT12-2	0.0 - 2.0	99.8	342	3985	12821	54.2	39.1	20.6	1.3	0.5
K51628	KPT12-2	6.0 - 12.0	91.9	330	2805	8915	66.2	43.3	21.6	2.8	0.5
K51629	KPT12-2	12.0 - 16.0	92.2	703	5571	13063	44.9	23.4	12.6	2.1	0.4
K51630	KPT12-3	0.0 - 2.0	99.8	413	3422	7951	65.6	33.3	16.7	2.2	0.4
K51632	KPT12-3	6.0 - 12.0	91.3	327	1366	6116	79.6	58.0	26.3	4.0	0.4
K51633	KPT12-3	12.0 - 24.0	88.0	273	1471	8257	76.1	56.4	27.9	3.7	2.2
K50594	KPT12-4	2.0 - 12.0	86.2	290	700	4400	94.9	72.3	32.9	3.8	0.6
K51634	KPT12-5	0.0 - 2.0	95.2	217	425	3042	94.0	77.9	50.0	2.8	0.3
K51637	KPT12-5	6.0 - 12.0	85.6	236	552	4696	84.3	68.9	46.1	2.4	1.2
K51638	KPT12-5	12.0 - 18.0	87.4	379	4090	11912	55.5	32.6	18.3	5.1	0.0
K51886	KPT12-6	0.0 - 2.0	99.8	277	2652	11897	60.3	46.8	28.9	1.7	0.2
K51890	KPT12-6	12.0 - 25.0	91.7	384	3348	8396	65.5	35.1	17.5	6.4	0.4
K51454	KPT12-7	0.0 - 2.0	99.6	280	587	4079	87.1	74.4	40.7	1.7	0.3
K51882	KPT13-1	0.0 - 2.0	85.2	117	209	375	99.9	99.5	90.6	7.3	2.2
K51884	KPT13-1	6.0 - 13.0	81.2	182	327	686	99.6	97.6	71.8	5.8	1.6
K51885	KPT13-1	13.0 - 24.0	82.5	211	329	535	99.7	99.4	79.5	2.6	0.6
K51639	KPT13-2	0.0 - 2.0	85.5	151	214	333	100	99.9	97.6	3.4	1.1
K51644	KPT13-3	0.0 - 2.0	90.8	229	533	6461	79.0	63.8	46.9	6.5	0.3
K51647	KPT13-3	12.0 - 20.0	82.3	264	475	1921	92.9	84.8	46.9	2.3	0.5
K51648	KPT13-3	20.0 - 24.0	40.8	13.2	185	355	97.9	97.2	89.1	31.4	6.9
K50568	KPT13-4	2.0 - 12.0	82.3	200	425	5000	95.1	75.8	49.7	6.1	0.6
K51661	KPT13-5	0.0 - 2.0	89.5	279	645	3725	90.0	73.9	39.5	2.3	0.7
K51663	KPT13-5	6.0 - 12.0	84.7	302	600	3847	88.3	75.2	37.8	1.9	0.7
K51655	KPT13-6	0.0 - 2.0	79.8	48.7	139	452	98.4	97.8	83.5	43.0	1.1
K51657	KPT13-6	6.0 - 12.0	40.3	6	118	407	90.7	89.1	84.6	44.8	13.4

TABLE 2

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PARTICLE SIZE ANALYSIS RESULTS

Sample ID	Location	Depth Increment (in)	% Solids	Percentile Sizes (microns)			Percent Finer Than				
				16%	50%	84%	Gravel	#10 Sieve	#40 Sieve	#200 Sieve	5 microns
K51660	KPT13-6	17.0 - 24.0	89.0	419	2373	8035	71.0	46.7	16.2	3.8	0.4
K51650	KPT13-7	0.0 - 2.0	90.1	280	1215	9469	69.0	55.8	31.7	7.6	0.6
K51652	KPT13-7	6.0 - 12.0	83.1	264	533	3000	91.0	79.8	43.6	7.1	1.1
K51653	KPT13-7	12.0 - 22.0	77.0	261	644	3247	89.3	79.6	37.9	5.9	1.2
K51667	KPT13-8	0.0 - 2.0	89.1	59	213	2805	86.9	82.8	72.9	24.1	1.9
K51669	KPT13-8	6.0 - 14.0	68.1	43	143	246	98.3	96.7	92.3	25.7	4.5
K51670	KPT13-8	14.0 - 24.0	84.0	151	696	7719	73.5	59.3	45.6	7.8	1.3
K51672	KPT14-1	0.0 - 2.0	99.7	232	3200	12059	57.1	44.5	31.3	3.3	0.6
K51674	KPT14-1	6.0 - 12.0	86.4	207	699	8226	72.0	59.6	44.9	4.2	0.5
K51675	KPT14-1	12.0 - 26.0	84.4	167	237	439	97.1	92.9	83.8	2.7	0.5
K50007	KPT14-2	0.0 - 4.0	37.6	13	80	150	100	100	98.8	47.6	13.0
K50008	KPT14-2	4.0 - 49.2	78.0	80	225	450	93.7	91.5	83.2	15.1	3.7
K51677	KPT14-3	0.0 - 2.0	89.6	172	289	620	99.4	97.4	76.8	3.8	1.3
K51679	KPT14-3	6.0 - 12.0	77.3	113	198	313	100	100	97.1	5.6	1.0
K51681	KPT14-3	20.0 - 24.0	84.0	198	364	832	98.8	93.5	62.0	3.5	0.6
K51682	KPT14-4	0.0 - 2.0	90.2	126	233	498	98.8	97.5	82.0	5.6	1.4
K51686	KPT14-4	12.0 - 24.0	81.0	188	523	2289	94.2	82.8	44.5	9.7	0.5
K51688	KPT14-5	0.0 - 2.0	85.0	127	246	1573	94.2	86.6	69.8	8.4	1.0
K51690	KPT14-5	4.0 - 12.0	83.3	221	434	2138	97.3	83.8	49.6	4.8	0.6
K51691	KPT14-5	12.0 - 24.0	86.9	264	565	2737	94.1	80.3	42.9	3.5	0.5
K51385	KPT14-6	2.0 - 12.0	76.2	190	300	660	100	96.5	72.3	4.0	0.8
K51693	KPT14-7	0.0 - 2.0	98.9	233	642	5286	93.0	80.4	57.2	1.7	0.0
K51695	KPT14-7	4.0 - 12.0	84.7	220	389	2786	93.0	80.4	57.2	1.7	0.0
K51696	KPT14-7	12.0 - 24.0	83.8	200	327	613	99.1	98.0	75.6	2.4	0.6
K51779	KPT14-8	0.0 - 2.0	84.0	94	206	372	97.6	96.1	91.3	12.2	1.4
K51781	KPT14-8	6.0 - 12.0	81.9	187	292	411	98.9	98.0	87.9	2.5	1.2
K51782	KPT14-8	12.0 - 24.0	90.1	282	547	3207	90.9	78.6	43.7	3.9	0.9
K51697	KPT15-1	0.0 - 2.0	99.8	416	4782	11692	49.8	33.5	16.6	1.7	0.2
K51700	KPT15-2	0.0 - 2.0	94.9	373	4058	15712	53.5	39.6	19.7	2.5	0.8
K51703	KPT15-3	0.0 - 2.0	97.0	319	2761	9434	62.8	45.1	23.5	3.3	0.9
K51706	KPT15-4	0.0 - 2.0	99.9	470	3339	10648	59.7	40.8	14.6	2.4	0.4
K51708	KPT15-4	6.0 - 12.0	91.3	337	3823	14455	56.2	37.8	21.6	3.8	0.5
K51709	KPT15-4	12.0 - 18.0	92.1	392	4838	14158	49.6	31.2	17.7	3.1	0.2
K51711	KPT15-5	0.0 - 2.0	99.9	317	3235	9188	59.8	42.0	27.1	1.8	0.4
K51713	KPT15-5	6.0 - 12.0	87.5	280	1053	7860	71.1	55.6	36.6	1.6	0.5
K51714	KPT15-5	12.0 - 24.0	86.3	270	791	10364	71.9	60.4	37.7	2.5	0.4
K51716	KPT15-6	0.0 - 2.0	94.9	330	4509	14303	51.4	35.4	22.2	2.2	0.7
K51720	KPT15-6	13.0 - 24.0	85.1	212	418	1316	96.9	91.2	51.0	1.6	0.4
K51722	KPT15-7	0.0 - 2.0	94.4	260	390	3470	86.7	80.9	59.2	1.2	0.4
K51727	KPT16-1	0.0 - 2.0	99.8	245	1416	12308	65.0	53.3	35.5	2.3	0.3
K51730	KPT16-2	0.0 - 2.0	87.9	200	581	6219	79.3	61.8	47.1	2.3	0.3
K51751	KPT16-3	0.0 - 2.0	99.9	343	4104	11963	53.5	38.6	24.3	1.3	0.0
K51754	KPT16-3	12.0 - 16.0	86.9	307	671	2939	89.4	81.2	31.6	2.1	0.6
K51755	KPT16-4	0.0 - 2.0	99.8	338	2694	9100	66.6	44.4	20.6	2.9	0.4
K51757	KPT16-4	5.0 - 12.0	80.8	84	127	175	100	99.9	99.1	8.6	0.5
K51458	KPT16-5	0.0 - 2.0	90.6	840	9161	20385	37.0	25.1	8.5	1.6	0.3
K51735	KPT17-1	0.0 - 2.0	92.4	115	182	239	100	99.9	99.3	4.9	1.0
K51739	KPT17-1	14.0 - 23.0	82.9	171	274	838	89.6	86.3	77.1	5.6	1.3
K51760	KPT17-2	0.0 - 2.0	97.5	280	2235	9318	63.9	48.7	28.8	4.1	0.3
K51763	KPT17-2	12.0 - 24.0	87.0	325	798	4716	84.2	68.0	28.5	2.0	0.3
K50845	KPT17-3	2.0 - 12.0	87.7	295	1100	8000	87.7	58.7	29.0	2.2	0.7
K51765	KPT17-4	0.0 - 2.0	98.9	223	412	6159	81.3	74.6	52.4	1.1	0.3
K51770	KPT17-5	0.0 - 2.0	92.9	348	1340	10460	68.4	55.8	24.0	2.2	0.3
K51774	KPT17-6	0.0 - 2.0	99.8	315	986	18705	63.3	58.2	33.2	2.8	0.3

TABLE 2

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PARTICLE SIZE ANALYSIS RESULTS

Sample ID	Location	Depth Increment (in)	% Solids	Percentile Sizes (microns)			Percent Finer Than				
				16%	50%	84%	Gravel	#10 Sieve	#40 Sieve	#200 Sieve	5 microns
K51168	KPT17-7	2.0 - 12.0	93.3	320	2000	9000	84.3	51.2	20.4	7.0	0.5
K51776	KPT17-8	0.0 - 2.0	99.8	373	2181	12476	62.8	49.1	19.4	1.5	0.3
K51783	KPT18-1	0.0 - 2.0	94.5	311	2985	13288	62.0	43.3	24.6	4.9	1.0
K51785	KPT18-1	6.0 - 12.0	88.2	373	1614	7258	74.6	54.4	20.7	2.8	0.4
K51786	KPT18-1	12.0 - 26.0	86.7	325	746	4084	87.1	74.3	29.3	2.6	0.4
K50778	KPT18-2	2.0 - 14.0	87.5	71.7	3800	300	71.7	35.8	22.3	4.6	2.5
K50843	KPT18-3	2.0 - 12.0	88.9	600	8600	20000	52.4	24.8	12.5	2.2	0.7
K51788	KPT18-4	0.0 - 2.0	99.8	402	3162	12762	60.8	42.1	17.5	1.2	0.4
K51792	KPT18-4	12.0 - 24.0	88.4	254	375	1842	87.2	84.7	64.1	0.6	0.0
K51006	KPT18-5	2.0 - 10.0	86.9	290	700	6000	90.6	68.6	31.3	4.6	0.6
K51794	KPT18-7	0.0 - 2.0	99.8	341	4233	11362	52.8	37.9	21.9	1.7	0.0
K51741	KPT19-1	0.0 - 2.0	36.3	5	358	22046	66.1	62.7	52.0	37.9	16.0
K51745	KPT19-2	0.0 - 2.0	54.2	5.9	91	239	100	100	94.5	46.2	14.7
K51746	KPT19-2	2.0 - 8.0	74.5	106	183	320	100	100	93.6	5.3	2.3
K50016	KPT19-3	0.0 - 4.0	78.0	240	375	700	100	99.4	61.9	0.2	1.8
K50017	KPT19-3	4.0 - 58.8	82.6	60	300	630	100	99.1	72.3	19.6	4.8
K50019	KPT19-3	4.0 - 58.8	74.0	120	300	650	100	99.5	70.7	13.0	6.2
K51797	KPT19-4	0.0 - 2.0	93.1	234	372	782	99.9	97.0	63.4	2.6	0.5
K51799	KPT19-4	6.0 - 12.0	86.4	266	457	1254	99.7	94.7	47.7	1.9	0.2
K51800	KPT19-4	12.0 - 24.0	85.2	151	346	739	99.7	98.1	65.9	2.1	0.5
K51016	KPT19-5	2.0 - 12.0	85.4	260	400	900	100	94.2	56.5	2.4	0.2
K51802	KPT19-6	0.0 - 2.0	99.9	294	467	842	99.4	95.5	46.2	1.0	0.4
K51804	KPT19-6	6.0 - 12.0	81.8	336	668	1758	98.1	88.8	28.6	1.4	0.2
K51805	KPT19-6	12.0 - 24.0	84.4	307	582	1543	99.1	92.3	37.5	1.7	0.2
K51807	KPT19-7	0.0 - 2.0	99.7	241	2338	4548	87.1	44.8	25.7	9.1	0.1
K51808	KPT19-7	2.0 - 6.0	86.4	307	759	3004	96.7	76.7	33.2	2.2	0.2
K51809	KPT19-7	6.0 - 12.0	87.8	315	1938	4630	85.5	51.0	20.4	9.5	0.1
K51246	KPT19-8	2.0 - 12.0	69.4	160	450	6000	90.3	68.1	49.1	10.2	4.4
K51819	KPT20-1	0.0 - 2.0	95.3	177	2000	13431	63.4	50.0	38.5	5.5	0.5
K51821	KPT20-1	6.0 - 12.0	89.5	345	1258	8763	74.2	60.0	23.9	2.1	0.5
K51822	KPT20-1	12.0 - 20.0	86.2	284	788	8304	73.6	61.0	37.8	2.9	0.8
K51093	KPT20-2	2.0 - 13.0	89.5	220	800	15000	66.9	56.3	39.0	1.6	0.3
K50830	KPT20-3	2.0 - 8.0	87.5	30	190	1600	96.6	86.5	69.8	41.2	2.2
K51004	KPT20-4	2.0 - 12.0	91.5	200	1400	9000	85.9	55.3	32.6	14.4	2.0
K50922	KPT20-5	2.0 - 12.0	93.2	130	800	8000	86.5	61.4	40.0	12.2	1.5
K51812	KPT20-6	0.0 - 2.0	97.1	295	2051	7822	71.0	49.6	26.5	2.5	0.5
K50978	KPT20-7	2.0 - 7.0	90.8	280	2300	12000	90.0	47.2	24.6	5.5	0.9
K50875	KPT20-8	2.0 - 11.0	55.9	8.9	1000	21000	64.6	52.3	45.9	27.9	12.7
K51362	KPT21-1	2.0 - 12.0	85.9	150	650	700	89.1	61.6	44.4	11.3	2.3
K52229	KPT21-2	0.0 - 2.0	80.4	177	262	2550	85.6	83.6	81.2	3.6	0.8
K52233	KPT21-2	12.0 - 20.0	86.8	235	375	1628	91.2	86.1	62.6	1.5	0.2
K52276	KPT21-5	0.0 - 2.0	87.8	325	2489	8550	64.8	46.8	26.6	2.2	0.1
K52280	KPT21-5	12.0 - 18.0	85.5	336	2216	10412	66.4	48.6	23.3	5.8	1.6
K52210	KPT21-7	0.0 - 2.0	76.2	161	238	682	96.1	90.6	80.8	3.7	1.0
K52213	KPT21-7	12.0 - 24.0	45.0	12.7	150	343	100	100	91.9	33.6	6.4
K51319	KPT22-1	2.0 - 12.0	54.9	8	140	700	100	87.7	79.5	38.0	12.4
K52281	KPT22-4	0.0 - 2.0	86.6	347	1253	7728	75.6	61.5	21.8	2.5	0.1
K51344	KPT22-5	2.0 - 6.0	72.2	12	210	520	100	96.7	80.1	36.5	12.0
K52271	KPT22-7	0.0 - 2.0	45.7	5.6	61	214	100	100	98.8	56.2	14.7
K51366	KPT23-1	2.0 - 10.0	61.8	11	100	20000	74.3	60.7	54.8	49.0	11.8
K52289	KPT23-2	0.0 - 2.0	69.8	96	169	266	100	100	94.2	7.8	2.2
K52170	KPT23-4	0.0 - 2.0	86.8	335	3000	8615	66.1	40.8	20.2	2.0	0.3
K52244	KPT23-5	0.0 - 2.0	73.1	321	661	1715	98.6	89.7	29.2	3.4	1.2
K52246	KPT23-5	6.0 - 12.0	74.8	289	553	1750	95.5	87.0	40.0	5.7	0.2

TABLE 2

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

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PARTICLE SIZE ANALYSIS RESULTS

Sample ID	Location	Depth Increment (in)	% Solids	Percentile Sizes (microns)			Percent Finer Than				
				16%	50%	84%	Gravel	#10 Sieve	#40 Sieve	#200 Sieve	5 microns
K52247	KPT23-6	12.0 - 20.0	76.9	270	630	3658	89.4	75.8	39.7	6.1	1.2
K52214	KPT23-7	0.0 - 2.0	36.5	4.4	24.7	128	100	100	99.0	72.7	17.6
K52216	KPT23-7	6.0 - 12.0	64.2	30.8	167	282	99.5	99.1	96.2	21.2	5.5
K52217	KPT23-7	12.0 - 24.0	82.0	177	253	400	99.8	99.3	89.7	3.0	0.8
K50466	KPT24-1	2.0 - 12.0	93.6	300	575	1400	97.5	92.6	32.1	3.0	0.5
K52190	KPT24-2	0.0 - 2.0	83.6	381	1969	8648	68.9	50.4	18.8	1.7	0.1
K52192	KPT24-2	6.0 - 12.0	87.6	262	1366	8056	75.3	57.0	32.0	4.0	0.5
K52163	KPT24-5	0.0 - 2.0	84.1	487	2254	8211	68.7	48.1	13.6	3.9	0.4
K52194	KPT24-7	0.0 - 2.0	85.6	344	2367	8328	66.9	47.4	22.5	2.9	0.6
K51306	KPT24-8	2.0 - 12.0	75.6	80	240	700	100	89.7	76.9	14.8	3.6
K51348	KPT25-4	0.0 - 3.0	72.9	430	2800	8500	86.5	43.3	16.6	1.9	0.4
K52256	KPT25-5	0.0 - 2.0	68.5	169	398	3056	90.9	79.7	53.1	6.9	1.0
K52252	KPT25-7	0.0 - 2.0	78.0	304	2847	7603	65.5	43.1	26.0	3.3	0.2
K52254	KPT25-7	6.0 - 12.0	75.7	181	375	3431	89.9	77.6	55.9	5.3	0.9
K52255	KPT25-7	12.0 - 24.0	74.9	169	457	6570	79.9	65.1	49.5	9.3	0.9
K52146	KPT26-1	0.0 - 2.0	89.3	340	3411	10784	59.4	40.1	21.5	2.5	0.4
K51368	KPT26-2	2.0 - 11.0	84.9	190	1200	6500	92.5	56.9	36.5	7.3	0.9
K50021	KPT26-3	0.0 - 4.0	75.7	190	2000	20000	59.0	49.4	34.4	5.1	0.2
K50022	KPT26-3	4.0 - 7.2	76.7	2500	21000	33000	22.2	14.0	8.1	1.6	0.6
K50877	KPT26-4	2.0 - 6.0	78.0	310	2000	7500	91.8	49.5	25.5	3.3	1.3
K51417	KPT26-5	2.0 - 10.0	75.8	175	420	7000	87.6	66.6	49.7	6.8	3.4
K51355	KPT27-1	2.0 - 8.0	55.2	22	620	6500	85.6	66.1	42.3	21.9	9.1
K51324	KPT27-2	2.0 - 12.0	74.9	190	600	650	90.4	65.3	43.9	5.8	1.3
K52260	KPT27-3	0.0 - 2.0	76.6	315	2153	7417	72.1	48.7	25.9	2.4	0.2
K51340	KPT27-3	2.0 - 5.0	88.9	320	3500	13000	79.5	38.6	24.4	2.7	0.3
K52263	KPT27-3	0.0 - 2.0	79.1	114	728	4610	85.0	65.3	41.1	14.3	0.5
K51395	KPT27-3	2.0 - 11.0	75.2	200	2000	13000	75.6	50.0	36.3	4.2	1.3
K50653	KPT28-1	2.0 - 14.0	44.0	2.3	23	425	100	90.3	84.1	69.5	28.2
K52197	KPT28-2	0.0 - 2.0	77.8	187	488	11000	74.1	69.0	48.1	4.6	1.5
K52201	KPT28-4	0.0 - 2.0	83.7	228	813	7578	73.7	58.2	36.2	8.6	3.0
K52205	KPT28-4	12.0 - 24.0	77.9	85	567	6918	79.8	67.1	46.0	15.3	5.0
K52206	KPT28-5	0.0 - 2.0	90.0	206	1543	11602	67.7	53.1	33.8	10.1	2.4
K52209	KPT28-5	6.0 - 12.0	83.3	171	1019	6893	78.0	59.9	37.3	11.4	2.8
K51376	KPT28-3	2.0 - 12.0	71.9	130	250	800	97.4	87.8	74.0	10.1	1.8
K51420	KPT29-1	2.0 - 12.0	64.7	27	190	11000	80.4	77.4	69.5	29.4	7.2
K52558	KPT29-3	0.0 - 2.0	87.3	164	423	4306	86.0	73.6	50.2	6.6	1.0
K52560	KPT29-3	6.0 - 12.0	69.9	18.8	140	522	95.7	89.4	83.0	39.5	7.9
K52142	KPT29-7	0.0 - 2.0	80.4	137	410	1971	95.6	84.4	51.6	11.1	0.9
K52145	KPT29-7	12.0 - 21.0	78.8	240	2440	9314	66.8	46.8	30.5	7.0	1.1
K52347	KPT30-1	0.0 - 2.0	53.9	18	299	691	98.6	97.3	73.0	21.7	8.3
K52612	KPT30-2	0.0 - 2.0	75.0	115	446	3824	87.3	77.5	48.9	12.9	2.7
K52431	KPT30-4	0.0 - 2.0	85.3	156	407	7477	77.8	69.3	52.3	11.3	1.8
K52410	KPT30-5	0.0 - 2.0	80.9	264	1363	8151	72.4	55.1	32.9	6.5	0.9
K51350	KPT30-3	2.0 - 6.0	86.4	300	5000	15000	60.2	38.7	24.4	6.2	1.8
K52403	KPT31-1	0.0 - 2.0	80.0	133	406	2409	96.6	81.8	51.8	8.6	2.4
K52352	KPT31-3	0.0 - 2.0	93.4	300	805	7283	80.0	66.2	31.3	4.2	0.6
K52354	KPT31-3	6.0 - 12.0	91.5	247	388	820	97.0	92.5	58.9	3.4	0.8
K52355	KPT31-3	12.0 - 24.0	93.3	305	1115	4325	88.2	61.0	29.3	4.3	0.6
K52324	KPT31-5	0.0 - 2.0	88.2	348	1226	5570	81.6	60.9	22.1	3.5	0.6
K52327	KPT31-5	12.0 - 24.0	93.4	375	1855	5146	82.7	52.4	17.5	10.8	0.6
K52314	KPT31-7	0.0 - 2.0	88.8	257	2936	14205	56.2	46.8	32.0	5.7	0.4
K52316	KPT31-7	6.0 - 12.0	90.7	352	1272	4964	83.4	61.4	20.6	6.1	1.0
K52322	KPT31-7	12.0 - 21.0	91.9	499	2557	8318	68.9	45.2	13.2	3.2	0.2
K52401	KPT32-2	0.0 - 2.0	83.5	280	787	7458	78.3	65.5	32.7	4.8	0.8

TABLE 2

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PARTICLE SIZE ANALYSIS RESULTS

Sample ID	Location	Depth Increment (in)	% Solids	Percentile Sizes (microns)			Percent Finer Than				
				16%	50%	84%	Gravel	#10 Sieve	#40 Sieve	#200 Sieve	5 microns
K50669	KPT32-5	2.0 - 12.0	77.4	260	2000	8500	87.1	50.4	28.5	6.7	1.5
K50649	KPT32-6	2.0 - 12.0	85.6	260	680	4800	92.0	68.9	37.8	4.1	1.6
K52387	KPT32-7	0.0 - 2.0	81.2	124	224	452	91.7	90.0	83.7	7.5	0.8
K52391	KPT32-8	0.0 - 2.0	89.5	195	355	1096	99.4	90.6	64.5	4.9	1.5
K52367	KPT33-1	0.0 - 2.0	91.7	139	519	8101	73.7	61.9	48.6	8.6	1.4
K52369	KPT33-1	6.0 - 12.0	87.6	279	1009	6463	79.6	61.2	30.6	7.4	0.8
K52370	KPT33-1	12.0 - 24.0	78.8	287	1607	7157	76.4	54.1	28.2	3.7	0.8
K52301	KPT33-3	0.0 - 2.0	96.5	331	1537	10264	71.7	55.4	25.8	3.0	0.2
K50675	KPT33-4	2.0 - 12.0	86.1	275	4000	17000	67.2	38.6	24.2	8.8	1.1
K52371	KPT33-6	0.0 - 2.0	98.5	315	3206	12153	58.7	43.2	26.5	2.2	0.1
K52374	KPT33-6	11.0 - 18.0	81.6	206	328	613	100	99.3	75.1	3.6	0.2
K50681	KPT33-7	2.0 - 11.0	76.1	240	600	5750	95.3	66.2	42.7	5.4	1.5
K52304	KPT34-2	0.0 - 2.0	81.0	247	831	7456	75.0	59.6	33.1	6.9	0.7
K52394	KPT34-4	0.0 - 2.0	92.7	367	2507	7590	73.0	44.8	19.7	3.4	1.1
K50614	KPT34-5	2.0 - 7.0	88.9	650	5900	15000	66.8	24.8	10.0	1.2	0.2
K52307	KPT35-1	0.0 - 2.0	79.7	341	1665	9252	69.5	53.2	22.8	3.0	0.7
K52329	KPT35-5	0.0 - 2.0	76.5	170	662	5641	82.2	67.1	40.7	8.3	1.1
K52331	KPT35-5	6.0 - 12.0	79.8	183	597	4689	84.4	66.5	44.5	10.0	1.2
K52332	KPT35-5	12.0 - 24.0	76.3	198	471	4063	87.6	73.2	48.2	8.4	1.1
K52427	KPT35-7	0.0 - 2.0	78.5	287	1344	7225	75.3	57.3	26.9	7.5	1.2
K50667	KPT35-8	2.0 - 9.0	82.4	210	1800	14000	75.1	62.2	37.8	6.0	1.7
K52406	KPT36-1	0.0 - 2.0	63.6	180	286	402	100	100	90.9	6.3	2.5
K52424	KPT36-5	0.0 - 2.0	89.6	1.3	6.1	18.3	100	99.7	99.5	99.0	43.0
K52429	KPT37-3	0.0 - 2.0	92.0	569	3453	12333	59.2	39.7	11.4	2.1	0.2
K52441	KPT37-5	0.0 - 2.0	87.2	216	585	12028	73.7	65.3	45.4	5.4	1.4
K52343	KPT38-1	0.0 - 2.0	81.5	97	194	2450	88.6	83.1	76.0	8.6	1.4
K52384	KPT38-3	0.0 - 2.0	85.8	310	1032	7762	76.2	61.2	29.9	3.8	0.2
K50573	KPT38-7	2.0 - 12.0	77.9	150	400	11000	81.3	68.0	51.4	6.4	3.0
K50555	KPT39-1	2.0 - 14.0	55.8	20	130	250	100	100	97.5	18.2	6.0
K50673	KPT39-2	2.0 - 8.0	84.3	400	6000	16000	59.9	30.2	17.2	2.1	1.1
K52333	KPT39-5	0.0 - 2.0	99.1	650	8091	17659	37.2	26.4	11.5	1.4	0.6
K51310	KPT40-2	2.0 - 10.0	92.9	500	8500	17000	53.2	27.0	13.0	1.8	0.3
K52481	KPT40-4	0.0 - 2.0	89.6	710	5955	15545	43.2	26.7	9.9	1.0	0.3
K50025	KPT40-5	0.0 - 4.0	84.4	525	5200	15000	46.7	28.2	13.7	5.5	0.7
K50026	KPT40-5	4.0 - 13.2	68.9	180	300	2000	84.1	79.2	55.5	10.3	4.3
K50551	KPT40-7	2.0 - 12.0	78.9	200	2600	14000	74.1	46.3	28.6	11.1	0.7
K52522	KPT40-8	0.0 - 2.0	34.6	18.5	69	285	100	99.1	92.5	55.6	6.4
K52607	KPT41-1	0.0 - 2.0	69.9	51	125	206	100	100	99.3	20.6	6.7
K51217	KPT41-2	2.0 - 7.0	98.9	1500	9000	27000	51.1	17.9	7.4	1.8	0.5
K52569	KPT41-3	0.0 - 2.0	99.8	311	704	5359	82.5	70.5	34.1	1.4	0.5
K52620	KPT41-7	0.0 - 2.0	99.6	166	715	9201	70.6	62.7	39.7	10.1	3.7
K51208	KPT42-2	2.0 - 12.0	85.9	150	800	7500	88.7	61.2	39.1	10.8	2.1
K51190	KPT42-3	2.0 - 9.0	89.5	200	1000	11000	80.6	56.9	37.2	8.4	1.0
K52510	KPT42-4	0.0 - 2.0	98.3	402	4778	15857	49.9	35.3	17.4	3.5	0.4
K52571	KPT42-7	0.0 - 2.0	99.8	222	2075	5486	82.0	49.1	29.1	9.0	2.2
K52573	KPT42-7	6.0 - 13.0	89.0	271	3074	8715	65.3	40.2	26.3	7.3	2.3
K52565	KPT43-2	0.0 - 2.0	90.2	142	1256	7431	72.6	55.5	36.6	13.6	3.8
K51203	KPT43-3	2.0 - 11.0	95.5	1200	4400	9000	87.5	20.4	10.6	2.8	0.5
K52472	KPT43-5	0.0 - 2.0	99.9	748	6233	15200	42.6	25.6	9.0	1.4	0.3
K52475	KPT43-5	12.0 - 24.0	91.1	1060	4876	17821	49.4	23.6	8.1	4.1	0.3
K51192	KPT44-3	2.0 - 8.0	78.9	4.5	17	50	100	97.4	95.9	94.2	20.6
K52554	KPT44-4	0.0 - 2.0	98.6	1.3	5.7	15.8	99.6	98.0	95.8	93.1	45.2
K52453	KPT44-5	0.0 - 2.0	99.9	217	3249	14682	59.5	42.1	33.3	8.0	1.7
K52467	KPT44-7	0.0 - 2.0	51.0	21	110	281	100	99.7	92.4	39.3	8.1

TABLE 2

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

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PARTICLE SIZE ANALYSIS RESULTS

Sample ID	Location	Depth Increment (in)	% Solids	Percentile Sizes (microns)			Percent Finer Than				
				16%	50%	84%	Gravel	#10 Sieve	#40 Sieve	#200 Sieve	5 microns
K52469	KPT44-7	6.0 - 12.0	89.2	217	1817	4655	85.1	53.2	24.1	8.8	1.2
K52470	KPT44-7	12.0 - 26.0	86.9	296	1873	6418	78.1	51.5	26.7	3.7	0.8
K52529	KPT45-2	0.0 - 2.0	99.8	231	1519	7572	73.9	54.6	30.6	6.5	0.5
K52508	KPT45-4	0.0 - 2.0	99.9	338	2560	7527	71.9	44.4	22.6	4.2	0.4
K52548	KPT45-6	0.0 - 2.0	99.8	593	4021	9311	57.4	29.5	14.1	1.7	0.3
K52550	KPT45-6	6.0 - 14.0	92.9	1063	3176	6611	77.3	29.6	7.9	1.6	0.3
K52616	KPT45-7	0.0 - 2.0	63.4	3.2	90	222	100	100	98.0	46.4	18.9
K52628	KPT46-1	0.0 - 2.0	93.8	96	489	12640	66.1	59.9	48.9	14.6	5.1
K52582	KPT46-3	0.0 - 2.0	99.7	174	1690	9345	66.2	52.4	33.3	11.0	3.3
K52624	KPT46-5	0.0 - 2.0	99.9	326	3257	9261	61.4	40.4	25.4	3.5	0.5
K51108	KPT46-6	2.0 - 12.0	91.1	425	2000	5000	96.7	50.6	15.9	6.7	0.3
K51161	KPT47-1	2.0 - 14.0	53.1	80	200	310	100	99.7	95.2	14.8	4.8
K52537	KPT47-3	0.0 - 2.0	99.8	355	3206	10915	59.6	42.5	19.4	7.8	0.7
K52462	KPT47-5	0.0 - 2.0	96.6	191	3073	5414	81.4	29.9	21.4	11.2	1.4
K52465	KPT47-5	12.0 - 24.0	91.5	796	3049	4678	85.5	28.1	12.6	9.0	0.2
K52541	KPT47-7	0.0 - 2.0	96.4	14.3	78	255	100	99.4	90.8	49.3	7.3
K52595	KPT48-2	0.0 - 2.0	97.4	235	411	4506	85.1	72.7	52.7	3.2	0.6
K52597	KPT48-2	6.0 - 12.0	70.5	260	471	828	99.8	97.9	45.6	6.6	2.3
K52598	KPT48-2	12.0 - 19.0	82.3	55	360	1268	98.5	95.2	59.9	27.6	2.5
K52490	KPT48-4	0.0 - 2.0	99.8	368	1382	7286	77.7	58.6	20.3	3.0	0.3
K52493	KPT48-4	12.0 - 24.0	87.2	150	986	5209	82.6	61.9	28.5	14.2	1.3
K52485	KPT48-6	0.0 - 2.0	97.4	267	2532	14710	62.1	47.1	23.4	5.8	0.7
K51149	KPT49-1	2.0 - 12.0	70.8	180	300	550	100	98.4	76.2	8.2	3.2
K51188	KPT49-4	2.0 - 12.0	95.9	83.7	3200	9000	83.7	37.8	11.2	4.1	0.2
K50793	KPT50-6	2.0 - 12.0	61.4	22	1200	11000	81.3	55.5	39.4	21.4	10.3
K51164	KPT51-2	2.0 - 12.0	87.2	175	570	6500	88.2	69.6	44.2	7.7	4.5
K50660	KPT52-1	2.0 - 12.0	85.1	150	400	3100	98.7	74.7	53.5	12.5	4.3
K50696	KPT53-2	2.0 - 11.0	85.4	190	280	410	100	95.6	86.6	3.3	0.9
K50677	KPT53-3	2.0 - 12.0	86.3	300	700	3200	95.8	73.9	29.5	3.8	0.7
K50514	KPT53-5	2.0 - 10.0	78.6	65	460	14000	76.0	69.2	47.8	17.1	3.2
K50028	KPT54-3	0.0 - 6.0	88.1	60	700	7000	74.8	74.5	38.4	23.1	0.9
K50727	KPT54-6	2.0 - 10.0	78.2	190	550	4750	97.7	63.3	46.8	5.3	1.7
K50694	KPT56-2	2.0 - 6.0	79.7	225	380	3000	87.5	82.2	57.5	3.5	1.5
K50705	KPT56-6	2.0 - 7.0	88.4	4800	12500	18000	35.6	11.2	11.2	11.2	
K50612	KPT56-7	2.0 - 13.0	73.9	170	700	18000	79.2	57.8	44.5	9.2	4.0
K50512	KPT57-1	2.0 - 5.0	92.0	240	2000	8500	88.3	49.6	27.9	3.9	0.9
K50767	KPT57-7	2.0 - 6.0	94.4	1200	2800	4100	100	22.0	9.9	7.0	1.8
K50703	KPT58-4	2.0 - 8.0	70.9	17	350	3800	97.3	74.3	55.0	29.0	10.0
K50692	KPT58-6	2.0 - 6.0	73.8	165	450	4000	98.0	69.0	49.3	5.2	1.1
K50461	KPT58-7	2.0 - 9.0	81.3	160	425	5000	82.9	64.2	50.5	7.3	3.0
K51141	KPT59-1	2.0 - 10.0	86.8	200	410	2000	100	83.1	51.3	5.4	0.8
K50542	KPT59-2	2.0 - 8.0	87.1	70	5500	16000	66.3	28.0	20.8	17.9	0.2
K51372	KPT59-4	2.0 - 10.0	86.7	400	1000	4000	96.5	70.2	17.3	4.3	0.9
K51075	KPT59-8	2.0 - 13.0	62.1	22	350	4000	100.0	66.3	52.6	28.9	9.3
K50361	KPT60-8	2.0 - 12.0	83.8	350	2000	7000	81.8	51.4	17.1	10.1	4.0
K50030	KPT61-2	0.0 - 6.0	80.8	370	2800	19000	60.3	44.8	18.3	1.2	0.9
K51441	KPT61-6	2.0 - 6.0	91.2	900	4500	13000	73.5	23.2	11.3	4.4	0.4
K51205	KPT61-8	2.0 - 12.0	82.6	280	1800	11000	80.7	51.8	31.6	3.5	1.0
K51173	KPT62-1	2.0 - 6.0	53.2	6	220	700	100	92.4	76.5	41.9	17.0
K50344	KPT62-7	2.0 - 8.0	64.2	20	195	380	99.5	98.4	88.5	21.2	11.7
K50283	KPT63-1	2.0 - 12.0	89.2	250	425	1000	94.9	90.5	50.2	5.7	1.1
K50301	KPT63-2	2.0 - 11.0	84.6	300	720	1900	98.5	85.0	25.3	8.9	1.5
K50642	KPT64-1	2.0 - 12.0	45.4	0.5	5.5	27	100	100	99.7	97.8	51.5
K50217	KPT64-6	2.0 - 12.0	58.0	2	75	280	100	98.9	94.4	49.8	25.5

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Sample ID	Location	Depth Increment (in)	% Solids	Percentile Sizes (microns)			Percent Finer Than				
				16%	50%	84%	Gravel	#10 Sieve	#40 Sieve	#200 Sieve	5 microns
K50639	KPT65-1	2.0 - 12.0	50.7	1.5	16	180	100	100	96.7	72.3	33.8
K50516	KPT65-3	2.0 - 10.0	69.4	23	470	1500	99.0	92.2	47.9	23.3	6.4
K50590	KPT65-5	2.0 - 12.0	31.0	2	30	120	100	100	96.9	81.4	29.6
K50529	KPT65-6	2.0 - 12.0	66.3	3.8	180	2800	100	76.3	65.5	40.4	19.5
K50713	KPT66-1	2.0 - 12.0	44.1	1.75	11	53	100	100	97.1	91.1	28.6
K50597	KPT66-2	2.0 - 12.0	43.5	2.6	15	40	100	99.9	99.1	95 0	28.2
K50521	KPT66-3	2.0 - 12.0	44.9	1	7.3	55	100	100	98.7	91.4	45.8
K50634	KPT66-4	2.0 - 12.0	41.8	0.5	6.6	44	100	100	99.2	96.3	45.4
K50544	KPT66-5	2.0 - 12.0	42.2	1	5.8	30	100	100	99.6	82.6	50.5
K50871	KPT66-6	2.0 - 12.0	59.8	4.8	470	3300	93.0	73.9	49.3	43.6	19.0
K50960	KPT66-7	2.0 - 12.0	41.6	1.9	11	40	100	100	99.3	95.1	30.8
K50510	KPT67-3	12.0 - 25.0	44.8	3.2	25	67	100	98.7	96.4	88.7	25.7
K50537	KPT67-5	2.0 - 12.0	45.3	1	6.6	37	100	99.9	99.3	97.1	46.7
K50656	KPT67-6	2.0 - 12.0	40.0	0.5	6.5	32	100	99.9	99.1	96.1	45.4
K50557	KPT68-2	2.0 - 9 0	89.9	470	1750	13000	81.3	53.9	13.1	1.3	0.3
K50498	KPT68-3	2.0 - 12.0	86.6	520	1400	3000	100	69.8	9.4	5.9	0.3
K50032	KPT68-4	0.0 - 6 0	61.8	15	1500	13500	60.1	52.6	41.4	27.8	8.2
K50665	KPT68-7	2.0 - 9 0	86.2	600	1700	4500	95.5	55.4	6.3	1.0	0.4
K50519	KPT69-3	2.0 - 12.0	93.9	850	3100	9500	84.5	29.9	8.7	3.0	0.7
K50534	KPT69-5	2.0 - 12.0	87.3	340	700	2600	98.3	80.5	25.3	3.1	0.2
K50508	KPT69-7	2.0 - 12.0	87.6	290	1750	14000	79.2	52.6	29.3	2.5	1.1
K51303	KPT69-8	2.0 - 7 0	83.5	240	5200	14000	66.2	36.5	22.2	11.0	3.8
K51083	KPT70-2	2.0 - 12.0	55.0	55	240	850	93.8	87.3	74.7	18.5	2.9
K51342	KPT70-4	2.0 - 6 0	89.1	300	2500	1000	82.6	45.7	26.9	3.9	1.3
K51147	KPT70-5	2.0 - 12.0	90.3	320	900	3000	95.6	67.9	29.3	3.3	0.2
K50969	KPT70-6	2.0 - 12.0	55.1	36	300	2200	96.7	82.7	63.9	21.9	7 4
K51044	KPT70-8	2.0 - 12.0	95.1	420	3600	11000	80.9	36.2	16.0	4.1	0.6
K51139	KPT71-4	2.0 - 12.0	85.3	290	1500	9000	85.0	53.7	29.0	4.6	0.6
K50318	KPT72-3	2.0 - 12.0	91.4	450	1500	3800	94.0	59.6	14.4	4.9	0.0
K50347	KPT72-4	2.0 - 12.0	59.4	6	150	700	94.1	90.1	78.9	40.8	17.2
K50335	KPT72-6	2.0 - 11.0	93.7	65	2300	4300	89.0	43.9	27.7	18.0	3 7
K51048	KPT72-7	2.0 - 12.0	88.1	350	850	1600	100	93.9	17.5	10.7	0.6
K51077	KPT73-1	2.0 - 14.0	29.2	5	40	170	100	100	95.0	74.3	19.5
K50038	KPT73-2	0.0 - 4 0	95.1	140	350	2000	97.6	84.5	55.6	5.8	3 7
K50039	KPT73-2	4.0 - 52.8	77.8	140	300	1500	91.6	86.3	68.8	10.3	4.5
K51143	KPT73-4	2.0 - 12.0	59.2	17	80	210	100	98.9	94.8	46.4	8 4
K51057	KPT73-5	2.0 - 12.0	43.2	4.5	35	100	100	100	97.5	77.7	20.6
K51063	KPT74-2	2.0 - 12.0	34.8	5	60	1100	100	99.9	71.9	54.0	18.0
K50320	KPT74-4	2.0 - 12.0	39.1	0.8	8	65	100	98.8	95.5	87.0	45.2
K50760	KPT74-6	2.0 - 12.0	87.5	520	1500	3800	96.4	64.5	9.5	1.8	1.3
K50209	KPT75-2	2.0 - 12.0	41.2	3	60	230	100	100	94.5	54.1	20.1
K51105	KPT76-3	2.0 - 12.0	15.5	16	160	1300	100	100.0	58.0	48.5	4 6
K51101	KPT76-5	2.0 - 12.0	24.9	30	130	650	100	99.6	74.6	45.3	3.4
K50255	KPT77-1	2.0 - 12.0	38.6	1.3	15	70	100	100	98.5	86.0	35.7
K50243	KPT77-3	2.0 - 12.0	33.1	0.5	5.5	42	100	100	99.1	93.6	50.9
K50825	KPT77-8	2.0 - 12.0	86.6	200	350	700	100	97.5	68.5	2.7	0.7
K50879	KPT78-6	2.0 - 12.0	74.5	40	180	230	100	99.5	98.5	21.9	9.1
K50907	KPT79-4	2.0 - 12.0	72.9	40	225	375	100	99.3	93.1	20.3	6.2
K50045	KPT79-5	0.0 - 4 0	41.0	6	40	180	100	100	95.3	71.6	18.0
K50046	KPT79-5	4.0 - 37.2	71.0	85	200	350	100	100	96.8	13.3	3.9
K50364	KPT79-6	2.0 - 12.0	43.5	1.3	10	90	100	99.9	99.3	81.4	38.0
K51098	KPT79-7	2.0 - 8.0	48.8	44	400	3500	95.0	77.5	51.6	19.8	6.2
K51053	KPT80-2	2.0 - 5.0	96.9	850	6700	14000	64.7	20.2	11.3	3.1	0.2
K51046	KPT81-5	2.0 - 7.0	97.0	420	4700	15000	64.4	32.4	15.5	2.5	0.6

TABLE 2

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PARTICLE SIZE ANALYSIS RESULTS

Sample ID	Location	Depth Increment (in)	% Solids	Percentile Sizes (microns)			Percent Finer Than				
				16%	50%	84%	Gravel	#10 Sieve	#40 Sieve	#200 Sieve	5 microns
K51091	KPT82-4	2.0 - 12.0	91.8	620	2900	9000	84.1	41.8	8.5	3.2	0.3
K51019	KPT82-6	2.0 - 9.0	88.2	210	660	14000	73.4	59.8	43.5	7.2	1.0
K51042	KPT82-7	2.0 - 6.0	84.1	320	750	1800	100	87.7	26.0	3.2	0.4
K51055	KPT82-8	2.0 - 8.0	37.5	55	170	280	100	97.6	92.8	24.4	3.2
K50191	KPT85-6	2.0 - 12.0	84.0	140	360	1900	92.6	85.3	58.5	10.8	4.8
K51073	KPT86-1	2.0 - 8.0	89.7	380	8000	30000	51.5	39.4	19.4	3.9	0.7
K51126	KPT87-6	2.0 - 9.0	66.6	75	200	2000	90.8	83.4	77.3	15.8	4.6
K51040	KPT88-2	2.0 - 12.0	95.8	65	2100	5000	98.2	47.6	44.4	18.7	0.0
K51170	KPT88-3	2.0 - 12.0	90.8	410	2200	4300	97.4	44.6	16.9	6.7	0.2
K51152	KPT88-7	2.0 - 15.0	63.3	11	175	380	100	97.5	87.3	40.4	11.6
K51439	KPT89-3	2.0 - 12.0	90.4	360	900	2900	95.4	78.1	20.1	1.1	0.7
K50850	KPT89-6	2.0 - 12.0	87.5	400	1100	2400	99.2	80.9	16.8	13.6	0.3
K50742	KPT90-1	2.0 - 12.0	79.2	80	150	225	100	95.9	94.8	12.8	2.9
K50419	KPT90-2	0.0 - 2.0	87.3	230	1700	8000	68.2	51.4	34.2	6.0	0.7
K50420	KPT90-2	2.0 - 12.0	90.8	300	690	2000	97.1	85.0	30.3	4.4	0.3
K50725	KPT90-3	2.0 - 12.0	91.9	380	1200	3800	94.6	66.2	19.0	5.3	0.1
K50357	KPT90-4	2.0 - 12.0	89.2	260	610	2250	94.4	82.4	37.3	2.6	0.5
K50749	KPT90-7	2.0 - 12.0	72.1	160	225	370	97.5	97.3	92.1	8.2	4.0
K50730	KPT91-1	2.0 - 12.0	81.1	93	185	325	98.7	94.7	88.7	9.4	3.1
K51195	KPT91-2	2.0 - 12.0	92.9	70	1500	3500	100	60.6	23.6	18.0	0.2
K51066	KPT91-3	2.0 - 12.0	89.9	450	1100	2400	99.3	80.8	15.1	2.4	0.3
K50053	KPT91-4	0.0 - 4.0	86.7	490	1200	3000	96.7	74.7	13.1	2.3	0.8
K50054	KPT91-4	4.0 - 61.2	78.5	200	480	1200	99.1	95.4	59.7	10.7	4.3
K50709	KPT91-6	2.0 - 12.0	81.6	160	300	480	100	99.9	81.2	5.3	1.5
K50788	KPT92-2	2.0 - 10.0	75.1	80	950	1850	100	89.4	23.6	15.5	7.5
K50399	KPT92-3	2.0 - 14.0	90.3	500	1100	2500	99.0	80.0	10.3	3.6	0.9
K50410	KPT92-4	2.0 - 18.0	91.3	560	1600	4000	90.1	61.5	8.1	1.1	0.5
K51297	KPT92-7	2.0 - 12.0	88.7	350	7000	1800	100	89.5	58.3	3.5	0.4
K50986	KPT92-8	2.0 - 12.0	40.0	3.8	28	240	100	100	88.8	75.9	21.1
K50999	KPT93-1	2.0 - 12.0	41.9	1.5	13	70	100	100	95.3	86.5	34.2
K50563	KPT93-3	2.0 - 12.0	86.6	310	700	1600	99.7	88.3	30.2	3.0	0.7
K50559	KPT93-5	2.0 - 12.0	95.3	275	580	1800	98.7	87.4	40.8	3.4	0.3
K50292	KPT94-3	2.0 - 14.0	84.6	225	310	425	99.1	97.7	83.6	2.1	0.7
K50296	KPT94-4	2.0 - 12.0	76.0	180	300	425	97.8	96.0	83.5	4.3	2.3
K50304	KPT94-6	2.0 - 10.0	76.7	150	320	1700	93.6	86.5	63.1	9.1	4.0
K51210	KPT94-8	2.0 - 12.0	82.9	170	320	1000	100	90.4	64.9	9.2	2.2
K50718	KPT95-2	2.0 - 6.0	89.5	270	3500	9750	83.4	36.8	19.3	2.0	0.2
K50720	KPT95-7	2.0 - 12.0	83.3	75	210	1000	98.2	86.4	77.7	16.2	1.8
K50736	KPT97-3	2.0 - 9.0	94.9	340	3000	13500	73.6	44.2	22.9	1.8	1.3
K51219	KPT97-4	2.0 - 7.0	91.7	210	1800	15000	76.8	51.7	31.3	9.9	0.6
K50747	KPT98-2	2.0 - 11.0	73.6	0.5	4	2000	95.0	84.4	77.9	71.9	56.7
K50734	KPT98-3	2.0 - 8.0	99.7	2000	10500	17500	43.9	16.1	16.1	16.1	16.1
K51182	KPT98-4	2.0 - 9.0	95.0	380	4200	13000	73.2	36.8	19.9	3.4	0.6
K50753	KPT99-1	2.0 - 12.0	77.1	80	170	240	100	99.9	98.3	13.2	3.7
K51159	KPT100-1	2.0 - 11.0	69.0	23	85	200	100	97.9	94.4	45.4	8.7
K50701	KPT100-2	2.0 - 16.0	94.4	575	4400	13000	73.6	28.7	13.4	2.1	0.2
K50765	KPT100-3	2.0 - 6.0	89.2	490	3000	17000	71.5	40.8	13.5	2.5	2.0
K50738	KPT100-7	2.0 - 12.0	80.3	190	290	510	98.9	97.4	80.1	5.9	2.8
K50707	KPT101-2	2.0 - 13.0	86.0	220	400	5000	93.6	76.8	54.8	1.5	1.0
K50745	KPT102-2	2.0 - 11.0	80.7	240	3200	9600	83.6	42.9	30.0	3.3	2.5
K51117	KPT103-2	2.0 - 11.0	62.8	7	160	600	92.0	88.0	79.6	46.7	15.0
K51017	KPT103-3	2.0 - 12.0	51.8	2.6	50	60	100	100	99.1	92.4	28.0
K50060	KPT103-4	0.0 - 4.0	60.1	12	180	2000	89.0	84.7	79.0	42.2	11.1
K50061	KPT103-4	4.0 - 34.8	80.1	32	900	7000	75.1	61.7	36.8	19.7	6.4

TABLE 2

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PARTICLE SIZE ANALYSIS RESULTS

Sample ID	Location	Depth Increment (in)	% Solids	Percentile Sizes (microns)			Percent Finer Than				
				16%	50%	84%	Gravel	#10 Sieve	#40 Sieve	#200 Sieve	5 microns
K50062	KPT103-4	4.0 - 34.8	79.4	42	1400	9000	71.1	56.8	33.7	18.1	6.4
K50864	KPT103-5	2.0 - 13.0	48.0	2.4	18	250	94.1	85.7	85.0	81.5	29.2
K51261	KPT103-6	2.0 - 12.0	41.4	2	17	90	100	100	99.1	79.3	30.2
K50117	KPT104-3	2.0 - 12.0	50.0	1.6	16	70	100	100	98.4	85.5	34.8
K51235	KPT104-4	2.0 - 12.0	51.9	2	17	70	100	100	99.4	86.5	31.2
K51130	KPT104-7	2.0 - 12.0	85.8	175	400	2000	97.4	83.5	54.7	7.3	2.9
K51214	KPT105-1	2.0 - 12.0	76.0	5	70	220	100	96.6	93.4	50.8	17.7
K51266	KPT105-3	2.0 - 10.0	94.2	80	2000	11000	76.7	49.0	29.0	15.6	3.3
K51086	KPT105-6	2.0 - 12.0	41.5	2	25	65	100	100	97.1	89.3	29.0
K50915	KPT105-5	2.0 - 12.0	84.8	210	425	3800	94.4	75.0	50.2	2.7	0.7
K51250	KPT105-6	2.0 - 12.0	42.0	1.8	12	48	100	100	98.7	95.5	31.1
K51270	KPT105-7	2.0 - 12.0	44.3	2	13	55	100	100	99.4	92.7	32.8
K51427	KPT105-8	2.0 - 12.0	72.4	13	110	210	100	100	99.5	35.3	11.3
K50894	KPT107-1	2.0 - 12.0	89.7	160	400	3600	92.1	78.7	54.3	10.8	2.4
K50121	KPT107-2	2.0 - 12.0	38.0	0.5	6.5	48	99.7	99.6	99.0	93.6	46.7
K50606	KPT107-3	2.0 - 12.0	83.3	200	320	800	100	93.3	70.9	2.3	0.8
K50368	KPT107-4	2.0 - 12.0	76.7	60	195	275	100	100	97.3	17.3	8.5
K50067	KPT107-5	0.0 - 4.0	83.9	210	450	2900	92.4	78.9	49.1	2.6	0.7
K50068	KPT107-5	4.0 - 34.8	74.3	150	270	650	99.5	97.2	75.3	9.3	4.6
K51221	KPT107-6	2.0 - 15.0	86.5	200	350	11100	100	90.6	62.1	1.7	0.6
K50932	KPT108-3	2.0 - 12.0	82.1	100	180	370	100	99.6	89.1	4.5	1.0
K50630	KPT108-7	2.0 - 12.0	50.1	3.5	54	200	100	99.9	96.0	58.5	19.4
K50584	KPT108-8	2.0 - 12.0	56.0	2.4	27	140	100	100	97.5	74.3	24.1
K50287	KPT109-1	2.0 - 12.0	80.9	200	350	1000	99.0	97.4	64.4	5.6	3.7
K51828	KPT109-2	0.0 - 2.0	31.5	1.4	32.9	269	99.5	98.0	92.8	61.4	27.0
K51830	KPT109-2	6.0 - 12.0	46.6	2.3	21.9	99	100	100	96.9	81.5	24.8
K51831	KPT109-2	12.0 - 24.0	42.6	4.5	39.3	152	100	100	92.6	78.7	17.9
K52029	KPT109-2	24.0 - 36.0	43.1	1.3	24.8	131	100	100	97.8	72.8	28.4
K51823	KPT109-3	0.0 - 2.0	27.5	2.1	39.4	74	100	100	98.7	85.3	23.5
K51826	KPT109-3	12.0 - 24.0	37.2	2.2	24.4	146	100	100	93.0	81.7	25.9
K52030	KPT109-3	24.0 - 36.0	34.9	3.8	49	236	100	99.8	91.9	64.1	18.7
K51832	KPT109-4	0.0 - 2.0	26.6	1.8	31.5	68	100	100	98.2	90.8	29.9
K51834	KPT109-4	6.0 - 12.0	42.5	5	43.2	204	100	100	91.3	74.9	16.0
K51835	KPT109-4	12.0 - 24.0	42.7	2	19.2	73	100	100	96.7	85.5	29.0
K52028	KPT109-4	24.0 - 36.0	39.3	1.7	24	99	100	100	98.3	81.5	28.0
K51836	KPT109-5	0.0 - 2.0	36.0	1.8	37.5	82	100	100	98.1	83.2	25.2
K51839	KPT109-5	12.0 - 24.0	46.2	3.4	42	139	100	100	94.8	75.6	19.2
K52026	KPT109-5	24.0 - 36.0	43.4	1.4	16.7	65.3	100	100	99.2	90.7	29.7
K51841	KPT109-6	0.0 - 2.0	71.9	46	145	238	100	99.5	97.8	22.1	2.4
K51843	KPT109-6	6.0 - 12.0	77.1	14	96	139	100	100	99.2	41.0	8.1
K51844	KPT109-6	12.0 - 24.0	76.8	10.6	87	186	100	100	98.2	44.9	9.8
K51845	KPT109-7	0.0 - 2.0	89.4	25.1	217	430	98.0	95.3	83.9	23.4	8.0
K51847	KPT109-7	6.0 - 12.0	89.3	70	242	647	95.2	91.7	79.1	16.5	5.6
K52027	KPT109-7	24.0 - 36.0	78.0	4.7	100	275	96.7	96.4	93.1	42.8	16.4
K51851	KPT110-1	0.0 - 2.0	87.0	285	3536	11762	58.7	39.0	23.1	2.7	0.1
K51892	KPT110-6	0.0 - 2.0	69.1	92	163	240	99.3	98.1	95.5	8.4	1.3
K51889	KPT113-2	2.0 - 9.0	94.8	440	5200	15000	65.3	32.0	15.9	2.3	0.2
K51276	KPT113-5	2.0 - 11.0	98.9	525	7000	18000	59.3	28.8	14.3	2.8	0.5
K51259	KPT113-6	2.0 - 12.0	93.5	600	4000	9000	83.9	30.2	14.4	4.8	0.9
K51274	KPT114-3	2.0 - 6.0	96.4	900	6500	15000	61.1	25.8	11.1	4.1	0.6
K51278	KPT114-4	2.0 - 13.0	94.2	650	3000	9000	86.5	34.8	12.0	9.2	1.2
K50785	KPT115-1	2.0 - 12.0	70.2	60	210	3000	99.6	78.3	68.7	17.8	4.1
K50884	KPT115-2	2.0 - 12.0	83.8	180	370	9000	100	92.8	59.4	7.0	2.4
K50796	KPT115-5	2.0 - 12.0	87.3	140	500	6000	100	68.1	47.9	12.0	1.7

TABLE 2

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REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PARTICLE SIZE ANALYSIS RESULTS

Sample ID	Location	Depth Increment (in)	% Solids	Percentile Sizes (microns)			Percent Finer Than				
				16%	50%	84%	Gravel	#10 Sieve	#40 Sieve	#200 Sieve	5 microns
K50815	KPT115-6	2.0 - 10.0	69.6	27	200	700	100	95.6	75.1	35.3	9.3
K50920	KPT117-1	2.0 - 14.0	82.9	190	600	12000	80.5	65.2	43.0	5.4	1.1
K50905	KPT117-2	2.0 - 13.0	96.7	850	5700	17000	63.6	25.6	10.6	1.7	0.7
K51442	KPT117-3	0.0 - 2.0	85.1	220	450	5000	92.5	76.6	48.2	1.1	0.6
K50848	KPT117-6	2.0 - 15.0	95.4	650	8000	24000	54.9	23.9	11.3	0.7	0.3
K50930	KPT118-1	2.0 - 11.0	80.8	140	550	7000	92.8	56.7	48.8	6.7	1.9
K50071	KPT118-3	0.0 - 6.0	79.3	400	20000	30000	22.4	20.1	16.5	6.9	0.2
K50481	KPT118-7	2.0 - 7.0	94.2	390	7500	20000	39.3	24.5	17.5	4.8	0.3
K51128	KPT119-3	2.0 - 12.0	90.5	240	400	800	100	93.8	56.1	2.0	0.2
K50429	KPT119-4	2.0 - 12.0	83.9	190	350	1600	95.6	86.9	60.8	3.5	0.7
K50153	KPT119-5	2.0 - 12.0	76.7	82	160	210	100	100	99.7	10.3	3.0
K51242	KPT119-6	2.0 - 12.0	50.7	38	100	200	100	100	94.1	35.2	7.3
K51176	KPT119-7	2.0 - 12.0	37.6	8	35	160	100	100	92.2	74.1	13.6
K51287	KPT119-8	2.0 - 12.0	33.4	5	33	62	100	100	97.4	87.3	18.6
K50957	KPT120-1	2.0 - 12.0	80.7	140	210	350	100	98.8	85.9	7.9	1.4
K50996	KPT120-3	2.0 - 6.0	79.1	21	270	12000	76.3	58.7	52.3	31.7	8.3
K50823	KPT120-7	2.0 - 15.0	83.8	225	1600	10000	83.3	53.6	36.7	1.8	0.8
K50247	KPT121-2	2.0 - 12.0	88.9	295	1700	9500	83.3	69.3	30.1	1.1	0.5
K50937	KPT121-3	2.0 - 12.0	92.9	350	4750	13000	76.0	35.5	21.2	2.7	0.7
K51285	KPT121-5	2.0 - 8.0	96.0	350	11000	20000	42.7	31.1	18.4	2.7	0.3
K50891	KPT121-7	2.0 - 12.0	51.2	18	83	160	100	100	98.1	44.2	8.0
K51391	KPT122-2	2.0 - 12.0	41.5	7	40	70	100	100	96.5	85.5	16.5
K50947	KPT122-3	2.0 - 12.0	47.1	9	44	110	100	100	98.7	75.4	12.2
K51184	KPT122-4	2.0 - 12.0	77.5	80	180	320	100	99.6	92.9	13.7	2.5
K50955	KPT122-6	2.0 - 7.0	97.2	1300	7000	16000	64.2	17.8	11.9	2.3	0.3
K50983	KPT123-1	2.0 - 12.0	44.3	7	55	160	100	100	96.5	59.6	13.8
K50756	KPT123-5	2.0 - 12.0	81.3	155	215	350	100	99.4	95.6	3.3	2.1
K51008	KPT123-6	2.0 - 12.0	76.8	100	200	310	100	99.9	98.6	11.2	4.6
K50780	KPT123-7	2.0 - 12.0	71.3	9	150	240	100	100	98.9	32.7	13.2
K50331	KPT124-3	2.0 - 12.0	89.9	150	550	9000	73.1	62.3	46.4	12.3	4.3
K51232	KPT124-4	2.0 - 12.0	88.2	170	310	600	87.5	76.2	64.6	5.0	0.6
K50856	KPT124-5	2.0 - 12.0	89.4	275	1100	3800	100	66.8	31.1	4.6	0.7
K50912	KPT124-6	2.0 - 12.0	85.3	190	360	20000	73.2	67.1	57.6	4.5	0.7
K50374	KPT124-7	2.0 - 12.0	84.6	100	450	4700	84.9	74.0	48.6	13.5	2.6
K50806	KPT125-5	2.0 - 12.0	83.1	260	360	600	100	99.9	70.2	1.9	0.5
K50819	KPT125-6	2.0 - 12.0	86.7	280	400	800	100	96.6	55.2	2.3	0.7
K50804	KPT125-7	2.0 - 12.0	86.5	400	2100	5000	97.9	47.2	17.3	5.9	0.9
K51061	KPT126-1	2.0 - 15.0	91.9	380	5200	14000	71.6	31.7	19.1	3.1	0.0
K51110	KPT126-2	2.0 - 12.0	91.5	225	750	14000	77.3	56.4	45.8	6.4	0.7
K50269	KPT126-5	2.0 - 12.0	88.4	290	550	1400	99.5	95.1	36.9	6.1	0.7
K50492	KPT126-7	2.0 - 12.0	87.5	330	1350	4000	97.9	60.9	23.0	4.3	0.3
K50928	KPT127-2	2.0 - 8.0	80.2	180	640	6800	90.0	68.2	42.9	4.7	1.0
K50967	KPT127-3	2.0 - 9.0	85.9	270	420	1400	100	91.0	51.4	1.2	0.5
K50939	KPT127-5	2.0 - 12.0	87.3	270	420	900	100	95.5	52.2	2.1	0.6
K51137	KPT127-7	2.0 - 6.0	86.7	280	600	1700	98.6	87.5	34.1	2.9	0.9
K50774	KPT128-3	2.0 - 12.0	87.0	255	390	800	100	95.9	58.0	4.4	1.3
K50074	KPT128-4	0.0 - 4.0	80.7	350	650	1500	99.3	94.5	21.9	3.9	0.8
K50075	KPT128-4	4.0 - 10.8	85.7	300	780	3200	88.0	79.0	24.4	4.4	0.5
K51329	KPT128-6	2.0 - 10.0	89.3	150	2000	12000	77.5	49.3	30.1	13.8	0.2
K50839	KPT129-4	2.0 - 12.0	85.5	200	280	380	100	99.9	96.6	1.8	0.7
K51353	KPT129-6	2.0 - 9.0	91.5	550	3000	12000	78.3	40.8	10.8	2.1	0.6
K50422	KPT129-8	2.0 - 12.0	85.3	190	350	600	80.6	71.9	59.6	3.2	0.8
K50314	KPT130-1	2.0 - 12.0	78.1	80	170	220	100	100	99.9	15.0	6.1
K51154	KPT130-5	2.0 - 12.0	85.4	330	700	2900	95.9	78.3	27.8	1.9	0.6

TABLE 2

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PARTICLE SIZE ANALYSIS RESULTS

Sample ID	Location	Depth Increment (in)	% Solids	Percentile Sizes (microns)			Percent Finer Than				
				16%	50%	84%	Gravel	#10 Sieve	#40 Sieve	#200 Sieve	5 microns
K50133	KPT131-3	2.0 - 12.0	91.9	260	480	1600	97.9	90.2	46.0	2.4	1.0
K50329	KPT131-4	2.0 - 12.0	92.9	180	700	2600	96.4	79.7	31.9	13.5	2.9
K51923	KPT131-8	0.0 - 2.0	33.6	12	57	125	100	100	97.9	71.5	8.1
K51926	KPT131-8	12.0 - 24.0	38.7	4.1	28	133	100	100	95.4	77.5	18.9
K51928	KPT131-8	24.0 - 36.0	45.1	3.7	36.3	171	100	100	96.1	67.7	18.8
K50683	KPT132-1	2.0 - 12.0	90.0	95	260	4000	93.6	77.2	64.5	11.7	2.9
K50776	KPT132-2	2.0 - 9.0	90.3	290	2250	15000	72.0	47.6	27.4	2.4	1.7
K50616	KPT132-7	2.0 - 12.0	87.3	310	650	1750	97.8	87.7	29.2	3.8	0.8
K50186	KPT133-1	2.0 - 12.0	37.0	2	30	85	100	100	98.5	81.5	28.7
K51929	KPT133-3	0.0 - 2.0	75.2	214	321	421	100	100	85.3	3.3	1.0
K51932	KPT133-3	12.0 - 20.0	85.2	300	547	1603	95.9	87.9	39.3	2.5	0.2
K51935	KPT133-4	0.0 - 2.0	49.0	26.7	149	235	100	100	94.6	28.3	6.1
K51938	KPT133-4	12.0 - 24.0	77.2	171	285	398	100	100	92.2	6.1	1.7
K51942	KPT133-5	0.0 - 2.0	44.0	29.2	141	337	100	100	95.7	40.7	5.4
K51950	KPT134-1	18.0 - 30.0	37.1	29.7	338	1179	100	100	65.1	18.2	2.9
K50171	KPT134-3	2.0 - 12.0	40.8	1.8	38	70	100	100	98.6	86.1	29.0
K51953	KPT134-4	0.0 - 2.0	77.2	248	359	647	100	99.7	70.3	2.5	0.2
K51955	KPT134-4	6.0 - 12.0	81.5	256	375	707	100	99.7	64.3	1.3	0.2
K51956	KPT134-4	12.0 - 24.0	87.3	282	599	4119	86.5	75.6	40.6	3.2	0.2
K51958	KPT134-4	24.0 - 36.0	91.6	421	1692	5447	81.8	56.4	16.2	3.8	0.2
K51959	KPT134-6	0.0 - 2.0	32.6	18.6	67	196	100	100	95.2	56.9	6.8
K51962	KPT134-6	14.0 - 24.0	58.4	14.5	105	203	100	100	98.3	36.3	9.7
K50125	KPT134-7	2.0 - 12.0	55.2	20	125	210	100	100	97.7	27.4	11.6
K50081	KPT135-2	0.0 - 4.0	36.1	2.5	38	120	100	100	98.5	70.0	23.2
K50082	KPT135-2	4.0 - 49.2	50.9	1.5	20	150	100	100	99.5	67.2	31.1
K51972	KPT135-5	6.0 - 15.0	40.4	2.3	38	170	98.5	98.2	94.5	69.0	23.6
K51973	KPT135-5	15.0 - 24.0	78.8	149	289	534	100	100	78.9	5.4	2.2
K51974	KPT135-5	24.0 - 33.0	81.8	206	314	417	100	100	86.5	2.7	1.0
K50167	KPT135-7	2.0 - 12.0	39.9	2.2	38	180	100	100	92.4	69.8	26.5
K51977	KPT136-1	0.0 - 2.0	80.9	215	653	2393	96.6	81.9	40.2	2.4	0.7
K51980	KPT136-1	11.0 - 26.0	24.4	12.9	101	313	100	100	89.1	43.0	3.4
K51982	KPT136-4	0.0 - 1.0	42.5	2.2	41.7	254	100	99.6	91.6	72.9	23.2
K51986	KPT136-4	10.0 - 24.0	93.3	260	646	1771	96.2	88.4	32.4	4.1	0.9
K51987	KPT136-4	24.0 - 36.0	95.6	317	550	922	98.2	95.9	36.2	0.9	0.2
K50220	KPT136-6	2.0 - 12.0	41.5	0.5	11	65	100	100	99.2	89.1	39.0
K50621	KPT136-8	2.0 - 12.0	37.2	7.2	40	100	100	100	95.4	80.6	13.8
K51988	KPT137-1	0.0 - 2.0	58.4	74	262	1163	99.5	93.1	66.8	16.1	2.9
K51990	KPT137-1	6.0 - 15.0	38.5	10.3	90	218	100	100	96.5	45.4	9.9
K51991	KPT137-1	15.0 - 24.0	67.5	27.1	126	217	100	100	97.5	27.5	5.5
K50866	KPT137-5	2.0 - 12.0	41.9	2.4	19	90	100	100	98.4	86.1	28.8
K51994	KPT137-6	0.0 - 2.0	33.4	5.4	43.6	102	100	100	97.3	80.7	15.5
K51997	KPT137-6	12.0 - 24.0	50.8	6.2	42.7	128	100	100	98.2	70.6	13.9
K51998	KPT137-6	24.0 - 36.0	73.6	17.8	107	191	100	100	98.9	35.9	7.2
K51021	KPT137-8	2.0 - 12.0	37.0	3.9	20	60	100	100	99.0	91.6	22.1
K52000	KPT138-2	0.0 - 2.0	36.5	31.4	109	207	99.5	99.5	96.3	34.9	4.8
K52005	KPT138-2	24.0 - 38.0	85.4	92	206	338	100	100	97.7	12.7	2.9
K50129	KPT138-5	2.0 - 12.0	84.9	200	275	400	100	99.7	92.1	1.3	1.2
K50501	KPT139-1	2.0 - 12.0	84.4	250	540	10000	82.9	69.0	43.8	4.1	2.7
K52006	KPT139-3	0.0 - 2.0	86.0	251	617	1630	99.4	91.2	34.5	5.7	0.9
K52008	KPT139-3	6.0 - 12.0	84.6	257	612	1698	99.7	89.9	36.3	2.8	0.8
K52011	KPT139-3	24.0 - 36.0	77.0	13.3	139	252	99.8	99.8	94.7	34.2	10.0
K52012	KPT139-5	0.0 - 2.0	68.1	72	355	817	99.2	97.2	60.4	16.5	3.0
K52017	KPT139-5	24.0 - 38.0	80.9	175	317	540	99.8	99.5	79.2	10.5	3.7
K50205	KPT139-7	2.0 - 12.0	66.3	75	180	240	100	100	98.2	15.8	5.7

TABLE 2

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PARTICLE SIZE ANALYSIS RESULTS

Sample ID	Location	Depth Increment (in)	% Solids	Percentile Sizes (microns)			Percent Finer Than				
				16%	50%	84%	Gravel	#10 Sieve	#40 Sieve	#200 Sieve	5 microns
K51859	KPT140-4	0.0 - 2.0	82.6	188	327	2120	88.4	83.8	70.3	8.0	3.7
K51863	KPT140-4	12.0 - 24.0	93.0	415	1841	10872	62.7	51.8	16.8	1.4	0.4
K51894	KPT140-6	0.0 - 2.0	51.5	11.7	144	492	95.1	92.8	82.8	33.0	9.3
K51898	KPT140-6	12.0 - 24.0	79.0	67	192	385	99.1	98.1	89.1	17.9	3.1
K52019	KPT140-6	24.0 - 36.0	86.5	201	305	487	99.5	98.6	82.0	2.0	0.6
K51899	KPT141-1	0.0 - 2.0	99.6	216	609	6228	79.3	65.5	44.3	3.3	0.7
K50395	KPT142-1	2.0 - 12.0	58.0	7	65	225	100	100	97.1	53.6	14.7
K51903	KPT142-4	0.0 - 2.0	85.3	103	1651	8178	70.0	53.4	27.7	15.7	0.3
K50164	KPT142-7	2.0 - 12.0	56.6	8	95	190	99.8	99.5	98.6	39.4	13.6
K50250	KPT143-1	2.0 - 12.0	70.4	13	75	140	100	100	99.4	51.0	10.5
K51869	KPT143-3	0.0 - 2.0	76.0	205	336	609	100	99.8	73.9	4.8	1.3
K51870	KPT143-3	2.0 - 6.0	96.0	223	334	518	100	100	79.9	2.7	0.9
K51871	KPT143-3	6.0 - 12.0	96.6	265	377	689	99.7	99.1	64.7	2.2	0.6
K51872	KPT143-3	12.0 - 24.0	90.0	247	335	422	99.8	99.0	85.2	1.8	0.6
K51878	KPT143-5	0.0 - 2.0	40.2	29.5	84	164	100	100	96.1	45.7	4.9
K51881	KPT143-5	12.0 - 20.0	66.6	2.1	20.3	116	100	100	98.7	78.4	25.7
K50227	KPT143-6	2.0 - 12.0	51.8	1.4	25	66	100	100	98.8	89.0	30.7
K51865	KPT143-7	0.0 - 2.0	32.2	4.3	38	72	100	100	97.9	86.8	17.0
K51867	KPT143-7	6.0 - 12.0	46.3	9.6	67	483	100	100	82.5	54.3	9.9
K50181	KPT145-3	2.0 - 12.0	76.8	70	240	425	100	99.8	84.2	17.2	5.0
K51854	KPT145-6	0.0 - 2.0	33.2	2	28.6	68	100	100	98.9	90.4	23.4
K52024	KPT145-6	24.0 - 36.0	89.9	220	661	5882	80.4	66.3	41.8	3.8	0.8
K51874	KPT145-8	0.0 - 2.0	66.2	4.5	30	109	100	100	96.6	80.1	17.0
K51876	KPT145-8	6.0 - 12.0	71.9	2.4	23	92	100	100	97.1	81.7	22.7
K51877	KPT145-8	12.0 - 24.0	74.6	5.8	64	213	100	96.1	92.0	54.3	14.9
K52025	KPT145-8	24.0 - 36.0	76.7	12.3	115	221	100	100	99.6	34.6	9.6
K50448	KPT146-1	2.0 - 12.0	52.0	8	70	150	100	100	96.3	51.3	13.9
K50086	KPT146-2	0.0 - 4.0	54.8	4.5	58	150	100	100	99.8	57.2	18.9
K50087	KPT146-2	4.0 - 25.2	72.0	2.2	45	140	100	100	100.0	60.9	25.3
K51035	KPT146-6	2.0 - 12.0	80.9	100	300	1100	100	90.5	68.1	13.7	3.5
K51906	KPT147-1	0.0 - 2.0	79.2	136	207	298	100	100	98.3	5.6	0.9
K51918	KPT147-3	0.0 - 2.0	80.4	183	303	479	99.9	98.3	82.3	5.8	1.4
K51920	KPT147-3	6.0 - 14.0	77.2	163	303	477	99.9	99.5	82.1	6.3	2.1
K52018	KPT147-3	24.0 - 36.0	60.7	16.7	153	230	100	100	98.1	20.8	9.6
K51912	KPT147-5	0.0 - 2.0	36.5	2.8	47.6	113	100	100	99.5	73.7	19.9
K52020	KPT147-5	24.0 - 36.0	82.0	199	279	388	100	100	95.7	2.7	1.8
K50886	KPT147-7	2.0 - 12.0	77.1	10	88	185	100	100	98.8	43.0	12.4
K50238	KPT147-8	2.0 - 14.0	48.4	1.4	16	75	100	100	99.6	83.0	37.1
K50973	KPT148-1	2.0 - 12.0	69.4	8.7	78	175	100	100	97.7	49.0	13.3
K51026	KPT148-2	2.0 - 12.0	39.9	4.7	40	110	100	99.9	99.3	75.6	18.7
K52031	KPT148-3	0.0 - 2.0	56.4	39.2	71	134	100	100	98.4	54.5	4.4
K52034	KPT148-3	12.0 - 24.0	77.8	30.4	126	215	100	100	99.5	28.5	6.1
K52021	KPT148-5	24.0 - 36.0	77.9	9.6	89	162	100	99.9	97.9	42.7	12.7
K52036	KPT148-5	0.0 - 2.0	51.5	21.9	69	136	100	100	98.8	55.0	6.1
K52041	KPT149-2	0.0 - 2.0	50.7	11.8	114	207	100	99.6	93.8	31.7	9.6
K52044	KPT149-4	0.0 - 2.0	69.4	5	49	125	100	100	99.3	65.8	16.0
K52047	KPT149-4	12.0 - 24.0	66.3	4.4	48	132	100	100	99.6	62.0	17.1
K52049	KPT149-4	24.0 - 36.0	60.7	11.4	101	180	100	99.9	99.0	37.1	10.3
K51422	KPT149-6	2.0 - 12.0	50.3	9	50	125	100	100	98.8	65.1	11.9
K50950	KPT149-8	2.0 - 12.0	48.7	8.5	46	110	100	100	98.4	74.4	12.2
K50231	KPT150-2	2.0 - 18.0	38.7	1	11	100	100	100	99.4	76.4	38.5
K50259	KPT150-3	2.0 - 14.0	74.3	3	43	135	100	100	99.8	65.9	20.9
K50094	KPT150-4	0.0 - 4.0	63.6	15	95	210	100	100	99.3	38.4	10.5
K50095	KPT150-4	4.0 - 50.4	69.9	25	170	420	98.8	98.3	84.3	23.3	9.0

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PARTICLE SIZE ANALYSIS RESULTS

Sample ID	Location	Depth Increment (In)	% Solids	Percentile Sizes (microns)			Percent Finer Than				
				16%	50%	84%	Gravel	#10 Sieve	#40 Sieve	#200 Sieve	5 microns
K50096	KPT150-4	4.0 - 50.4	71.1	29	160	410	99.8	99.4	84.7	22.4	7.9
K51030	KPT150-7	2.0 - 12.0	72.0	85	180	310	100	100	93.2	9.6	3.9
K50835	KPT150-8	2.0 - 12.0	83.1	130	220	380	100	98.4	89.8	4.2	1.5
K50156	KPT151-1	2.0 - 12.0	81.6	200	350	750	100	96.4	64.2	2.4	1.6
K50176	KPT151-5	2.0 - 12.0	50.9	2	35	110	100	100	99.4	72.2	27.7
K52051	KPT152-2	0.0 - 2.0	27.4	6.3	25.6	62.3	100	100	99.6	95.6	13.4
K52055	KPT152-2	24.0 - 36.0	77.4	113	191	241	100	100	99.9	7.6	2.1
K52056	KPT152-4	0.0 - 2.0	32.8	7.6	41.8	71	100	100	99.8	88.3	12.2
K52059	KPT152-4	12.0 - 24.0	56.3	9.7	78.8	172	100	99.8	99.2	48.6	11.0
K52060	KPT152-4	24.0 - 38.0	73.5	8.8	80	162	100	100	99.7	47.8	11.3
K50340	KPT152-5	2.0 - 12.0	40.8	1	20	60	100	100	99.5	91.8	30.9
K52062	KPT152-8	0.0 - 2.0	80.3	106	205	421	94.0	89.9	84.4	8.9	2.3
K52064	KPT152-8	6.0 - 14.0	83.3	108	193	366	95.2	92.5	89.4	6.8	2.5
K50135	KPT153-3	2.0 - 12.0	35.3	2	10	30	100	100	99.8	99.2	31.5
K50325	KPT153-4	2.0 - 12.0	35.2	0.5	8.5	35	100	100	98.9	98.0	38.9
K50102	KPT153-6	0.0 - 4.0	35.3	3.3	16	55	100	100	100.0	97.2	28.2
K50103	KPT153-6	4.0 - 49.2	66.5	3.2	55	160	100	100	99.5	55.6	21.3
K50105	KPT153-6	4.0 - 49.2	67.4	3.2	55	160	100	99.3	98.9	56.4	21.3
K52067	KPT153-8	0.0 - 2.0	26.9	4.4	14.1	56	100	100	99.4	93.4	18.1
K52070	KPT153-8	12.0 - 24.0	73.6	6.3	62	141	100	100	99.7	56.7	13.5
K52072	KPT153-8	24.0 - 36.0	82.9	28	105	165	100	100	100.0	31.9	7.5
K52073	KPT154-2	0.0 - 2.0	27.0	6.7	16	47.1	100	100	100.0	97.3	12.1
K52076	KPT154-2	12.0 - 24.0	39.1	3.2	24.4	67	100	100	98.0	90.8	22.1
K52077	KPT154-2	24.0 - 36.0	54.6	2.1	17.5	74	100	100	93.7	84.7	28.1
K52078	KPT154-4	0.0 - 2.0	42.3	42.6	72	174	100	100	99.0	50.8	10.5
K52081	KPT154-4	12.0 - 24.0	73.2	13.8	90	149	100	100	99.6	41.2	8.3
K52083	KPT154-4	24.0 - 36.0	79.5	73	126	177	100	100	99.6	16.5	2.0
K52084	KPT154-6	0.0 - 2.0	29.5	8.3	28.4	72	100	100	99.9	86.6	9.4
K52087	KPT154-6	12.0 - 24.0	37.3	4.3	27.9	187	100	100	92.6	72.5	17.6
K52090	KPT154-8	0.0 - 2.0	26.1	5.1	14.4	45	100	100	99.9	96.1	15.8
K52093	KPT154-8	12.0 - 24.0	40.5	4	30.3	137	100	100	92.3	80.7	22.2
K52094	KPT154-8	24.0 - 33.0	18.0	13.3	63.3	1393	100	100	62.6	53.7	4.0
K52095	KPT155-2	0.0 - 2.0	40.4	6.3	21	83	100	100	99.4	82.8	12.8
K52098	KPT155-2	12.0 - 23.0	63.2	4	47.8	366	100	99.9	89.6	58.3	18.5
K50213	KPT155-4	2.0 - 12.0	69.3	6	85	185	100	100	99.7	44.7	15.8
K50224	KPT155-5	2.0 - 12.0	50.6	5	75	150	100	99.9	99.7	48.6	19.0
K52099	KPT155-7	0.0 - 2.0	36.7	6.8	18.3	126	100	100	99.5	74.7	11.5
K52103	KPT155-7	12.0 - 24.0	86.4	127	171	229	100	100	99.9	7.6	1.0
K52135	KPT155-7	24.0 - 36.0	83.7	93	167	228	100	100	98.9	9.6	1.6
K50391	KPT156-1	2.0 - 12.0	85.0	180	260	380	100	99.9	95.6	1.0	0.5
K52104	KPT156-2	0.0 - 2.0	30.9	6.8	21.4	124	100	100	97.1	77.9	11.5
K52108	KPT156-4	0.0 - 2.0	63.4	42.3	119	198	100	100	98.3	26.7	2.0
K52111	KPT156-4	12.0 - 28.0	78.6	12.6	113	213	100	100	92.1	32.2	9.4
K52113	KPT156-6	0.0 - 2.0	27.8	5.6	19.3	148	100	100	87.0	69.6	14.7
K51228	KPT156-8	2.0 - 12.0	80.7	75	190	460	100	98.0	82.2	16.9	4.0
K50580	KPT157-1	2.0 - 12.0	61.9	90	220	350	100	100	94.0	11.4	1.4
K50799	KPT157-2	2.0 - 12.0	30.1	2	11	45	100	100	97.9	91.6	30.0
K52118	KPT157-3	0.0 - 2.0	24.4	3.3	10.8	29.8	100	100	87.8	85.7	20.8
K52121	KPT157-3	12.0 - 24.0	15.7	13.8	237	746	100	100	53.4	48.3	2.3
K52122	KPT157-3	24.0 - 36.0	17.4	11.5	386	817	100	100	51.6	39.1	4.7
K52129	KPT157-4	24.0 - 36.0	31.8	2.1	16.3	502	100	100	81.2	71.5	26.8
K50810	KPT157-6	2.0 - 12.0	41.4	2.3	16	60	100	100	99.6	89.8	24.9
K51290	KPT158-1	2.0 - 17.0	84.5	180	240	370	100	100	96.7	1.8	1.0
K50112	KPT158-2	4.0 - 44.4	28.9	0.8	7.5	48	100	100	96.3	88.9	45.8

TABLE 2

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PARTICLE SIZE ANALYSIS RESULTS

Sample ID	Location	Depth Increment (in)	% Solids	Percentile Sizes (microns)			Percent Finer Than				
				16%	50%	84%	Gravel	#10 Sieve	#40 Sieve	#200 Sieve	5 microns
K51280	KPT158-3	2.0 - 12.0	32.9	2	8.5	27	100	100	98.6	95.9	34.2
K51380	KPT158-4	2.0 - 12.0	36.2	1.5	12	60	100	100	97.9	90.3	35.3
K51403	KPT158-5	2.0 - 12.0	51.1	3	35	110	100	100	98.9	72.9	26.5
K50352	KPT158-7	2.0 - 12.0	34.9	0.5	7	30	100	100	99.9	95.0	43.4
K50377	KPT159-1	2.0 - 12.0	73.3	53	215	580	99.4	97.1	77.8	29.0	1.4
K52130	KPT159-2	0.0 - 2.0	22.5	3.7	12.7	30.8	100	100	99.2	97.3	19.5
K52133	KPT159-2	12.0 - 24.0	49.5	8.4	236	408	100	100	87.4	30.5	11.2
K52134	KPT159-2	24.0 - 36.0	78.8	160	285	421	99.1	97.9	85.1	8.1	3.3
K50485	KPT159-5	2.0 - 12.0	35.4	1	5	17	100	100	98.7	95.2	54.6
K52136	KPT159-7	0.0 - 2.0	28.8	5.6	24.5	64	100	100	98.8	92.8	14.0
K52139	KPT159-7	12.0 - 24.0	35.2	2.5	17.3	69	100	100	96.4	87.5	25.3
K52141	KPT159-7	29.0 - 33.0	81.7	245	406	1237	97.7	90.9	54.0	5.0	2.0
K50141	PPT1-1	4.0 - 12.0	60.2	2.2	16	350	93.3	92.0	86.1	69.4	32.3
K50685	PPT1-2	2.0 - 12.0	84.9	190	480	3000	99.1	79.1	46.5	6.7	2.1
K50601	PPT1-3	2.0 - 16.0	85.1	250	700	13500	81.6	68.3	34.3	5.5	2.1
K50476	PPT1-4	2.0 - 12.0	69.2	7	320	7000	80.2	75.3	57.4	30.4	15.0
K50942	PPT2-1	2.0 - 12.0	76.6	190	300	600	99.3	95.8	76.2	6.2	1.9
K50896	PPT2-2	2.0 - 12.0	83.6	260	570	1750	100	88.7	29.5	5.6	0.8
K50483	PPT2-4	2.0 - 6.0	47.9	3	45	300	92.8	92.8	88.4	62.2	19.2
K50991	PPT3-1	2.0 - 12.0	70.8	40	230	2700	98.3	80.6	58.1	18.8	8.0
K51312	PPT3-2	2.0 - 12.0	87.2	290	1400	11000	82.3	54.1	29.7	5.1	2.4
K50457	PPT3-3	2.0 - 8.0	72.8	40	225	700	89.2	84.0	73.8	17.6	5.3
K51135	PPT4-1	2.0 - 12.0	81.6	175	320	800	100	94.0	64.7	9.9	0.9
K50275	PPT4-2	2.0 - 12.0	82.3	210	470	2000	93.1	83.9	47.3	5.6	1.5
K51268	PPT4-3	2.0 - 12.0	74.4	9	180	900	100	87.9	75.2	43.3	14.3
K50901	PPT5-1	2.0 - 12.0	83.0	60	360	2900	98.1	81.0	56.0	7.7	5.2
K50382	PPT5-2	2.0 - 12.0	79.6	170	380	3000	86.2	82.4	54.9	6.2	1.7
K50405	PPT5-3	2.0 - 12.0	74.3	150	330	1100	98.3	93.5	62.7	10.6	3.2
K50833	PPT5-4	2.0 - 12.0	82.0	220	720	8500	86.2	63.3	37.7	5.6	2.1
K50980	PPT6-1	2.0 - 15.0	72.9	80	230	2300	94.3	83.7	72.7	13.1	3.4
K51121	PPT6-2	2.0 - 12.0	82.4	180	300	580	99.6	95.8	75.6	10.3	2.0
K50663	PPT6-3	2.0 - 12.0	82.7	250	500	1400	97.7	92.1	43.1	2.5	1.2
K51433	PPT7-1	2.0 - 12.0	74.9	60	320	800	96.6	91.5	64.1	18.7	4.9
K50626	PPT7-2	2.0 - 12.0	74.5	100	265	675	100	95.4	73.5	12.1	2.2
K51412	PPT7-3	2.0 - 6.0	70.5	180	350	1100	99.2	90.6	57.9	9.1	3.7
K50860	PPT7-4	2.0 - 12.0	84.4	215	400	1450	98.9	89.6	54.9	4.2	0.7
K50234	PPT8-1	2.0 - 12.0	86.4	160	800	8000	78.1	63.0	40.6	12.1	1.7
K51406	PPT8-2	2.0 - 14.0	84.1	250	430	1400	98.5	89.8	49.8	3.1	1.3
K51397	PPT8-3	2.0 - 12.0	76.5	140	220	500	100	88.8	82.6	5.7	2.3
K50196	PPT9-1	2.0 - 12.0	85.2	210	525	6000	81.6	73.4	44.1	7.0	2.6
K50148	PPT9-2	2.0 - 12.0	86.9	260	650	2800	94.1	78.8	35.2	4.0	1.9
K50264	PPT9-3	2.0 - 7.0	75.1	33	350	5500	82.4	77.2	57.1	22.1	7.6
K50161	PPT10-1	2.0 - 10.0	78.1	10	250	3500	88.4	76.4	62.3	27.7	11.3
K50386	PPT10-2	2.0 - 6.0	74.9	30	700	9500	72.9	61.0	44.6	18.5	7.3
K50924	PPT10-3	2.0 - 12.0	88.7	300	740	2700	99.1	79.7	23.8	7.8	1.6
K50201	PPT11-1	2.0 - 12.0	70.6	4	220	14000	67.5	62.6	55.3	43.4	19.8
K50272	PPT11-2	2.0 - 12.0	88.5	270	900	6800	74.7	58.9	35.4	3.5	1.1
K51336	PPT11-3	2.0 - 7.0	81.1	200	1600	7000	92.6	53.4	34.4	4.7	1.4
K51437	PPT12-3	2.0 - 12.0	81.9	60	200	400	100	98.4	85.8	18.2	3.8
K51115	PPT13-1	2.0 - 11.0	92.8	130	525	6500	92.4	63.5	47.2	13.9	2.7
K51374	PPT14-1	2.0 - 6.0	89.3	150	600	6600	90.0	65.8	43.8	11.1	2.1
K50698	PPT14-3	2.0 - 11.0	81.0	110	220	390	100	98.2	89.1	9.6	5.0
K50506	PPT15-2	2.0 - 12.0	87.4	380	1500	6250	92.7	64.8	17.5	8.8	1.9
K51322	PPT15-3	2.0 - 6.0	52.6	1.5	7	140	100	99.6	95.7	78.0	48.3

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (ft)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51369	KPT1-1	1997	0.0 - 2.0	20000 J	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U
K51370	KPT1-1	1997	2.0 - 12.0	NA	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U
K50489	KPT1-2	1997	0.0 - 2.0	520 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K50490	KPT1-2	1997	2.0 - 12.0	1500 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K50443	KPT1-4	1997	0.0 - 2.0	1600 J	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K50444	KPT1-4	1997	2.0 - 12.0	100 UJ	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K50454	KPT1-6	1997	0.0 - 2.0	100 UJ	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K50455	KPT1-6	1997	2.0 - 8.0	130 J	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K50144	KPT2-6	1997	0.0 - 2.0	35000	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U
K50145	KPT2-6	1997	2.0 - 12.0	7100	0.073 U	0.073 U	0.073 U	0.073 U	0.073 U	0.073 U	0.073 U	0.073 U
K50146	KPT2-6	1997	12.0 - 24.0	5300	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U
K50277	KPT3-1	1997	0.0 - 2.0	2700 J	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U
K50278	KPT3-1	1997	2.0 - 10.0	NA	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U
K50279	KPT3-1	1997	10.0 - 16.0	NA	0.064 UJ	0.064 UJ	0.064 UJ	0.064 UJ	0.064 UJ	0.064 UJ	0.064 UJ	0.064 UJ
K50439	KPT3-2	1997	0.0 - 2.0	1500 J	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K50440	KPT3-2	1997	2.0 - 12.0	18000 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K50469	KPT3-3	1997	0.0 - 2.0	17000 J	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.030 J	0.058 U	0.030 J
K50470	KPT3-3	1997	2.0 - 8.0	15000 J	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.031 J	0.059 U	0.031 J
K50471	KPT3-3	1997	8.0 - 12.0	3000 J	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K50451	KPT3-6	1997	0.0 - 2.0	1600 J	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K50452	KPT3-6	1997	2.0 - 12.0	5100 J	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K50453	KPT3-6	1997	12.0 - 27.0	500 J	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K50472	KPT3-7	1997	0.0 - 2.0	6200 J	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.075	0.068 U	0.075
K50473	KPT3-7	1997	2.0 - 12.0	700 J	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K50474	KPT3-7	1997	12.0 - 26.0	200	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K50425	KPT4-1	1997	0.0 - 2.0	9200 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K50426	KPT4-1	1997	2.0 - 12.0	NA	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K50427	KPT4-1	1997	12.0 - 19.0	NA	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K50431	KPT4-2	1997	0.0 - 2.0	100 UJ	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K50432	KPT4-2	1997	2.0 - 12.0	NA	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K50462	KPT4-5	1997	0.0 - 2.0	11000 J	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K50463	KPT4-5	1997	2.0 - 12.0	100 UJ	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K50464	KPT4-5	1997	12.0 - 24.0	800 J	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K50547	KPT4-6	1997	0.0 - 2.0	2700	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.049 J	0.063 U	0.049 J
K50548	KPT4-6	1997	2.0 - 12.0	NA	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.032 J	0.060 U	0.032 J
K50549	KPT4-6	1997	12.0 - 24.0	NA	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51292	KPT5-1	1997	0.0 - 2.0	39000	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.077 J	0.13 U	0.077 J
K51293	KPT5-1	1997	2.0 - 12.0	820 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51294	KPT5-1	1997	12.0 - 24.0	14000	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51295	KPT5-1	1997	2.0 - 12.0	16000 J	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K51460	KPT5-2	1999	0.0 - 2.0	9300 J	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U
K51461	KPT5-2	1999	2.0 - 6.0	1900 J	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K51462	KPT5-2	1999	6.0 - 12.0	12000 J	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K51463	KPT5-2	1999	12.0 - 15.0	2800 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51314	KPT5-3	1997	0.0 - 2.0	10000	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51315	KPT5-3	1997	2.0 - 12.0	1900 J	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U
K51316	KPT5-3	1997	12.0 - 17.0	8700 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51317	KPT5-3	1997	12.0 - 17.0	11000 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51331	KPT5-4	1997	0.0 - 2.0	120 UJ	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51332	KPT5-4	1997	2.0 - 9.0	4000 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51333	KPT5-4	1997	9.0 - 24.0	7800 J	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K51334	KPT5-4	1997	9.0 - 24.0	17000 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51464	KPT5-5	1999	0.0 - 2.0	1300 J	0.053 U	0.053 U	0.027 J	0.053 U	0.053 U	0.034 J	0.053 U	0.061 J
K51465	KPT5-5	1999	2.0 - 6.0	100 UJ	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.028 J	0.053 U	0.028 J
K51466	KPT5-5	1999	6.0 - 12.0	4600 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51467	KPT5-5	1999	12.0 - 20.0	110 UJ	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51326	KPT5-6	1997	0.0 - 2.0	5600 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51327	KPT5-6	1997	2.0 - 12.0	990 J	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K51815	KPT5-7	1999	0.0 - 2.0	110 UJ	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51816	KPT5-7	1999	2.0 - 6.0	12000 J	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K51817	KPT5-7	1999	6.0 - 12.0	4800 J	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K51818	KPT5-7	1999	12.0 - 15.0	8100 J	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K50525	KPT5-8	1997	0.0 - 2.0	150 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U
K50526	KPT5-8	1997	2.0 - 12.0	NA	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K50527	KPT5-8	1997	12.0 - 24.0	NA	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K51472	KPT6-1	1999	0.0 - 2.0	130 UJ	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K51473	KPT6-1	1999	2.0 - 6.0	120 UJ	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51474	KPT6-1	1999	6.0 - 9.0	120 UJ	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51475	KPT6-1	1999	9.0 - 12.0	110 UJ	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51476	KPT6-1	1999	12.0 - 22.0	120 UJ	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K51468	KPT6-2	1999	0.0 - 2.0	110 UJ	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51469	KPT6-2	1999	2.0 - 6.0	1900 J	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51470	KPT6-2	1999	6.0 - 14.0	1400 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.030 J	0.056 U	0.030 J
K51471	KPT6-2	1999	6.0 - 14.0	110 UJ	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51486	KPT6-3	1999	0.0 - 2.0	3000 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51487	KPT6-3	1999	2.0 - 6.0	1500 J	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51488	KPT6-3	1999	6.0 - 12.5	23000 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51477	KPT6-4	1999	0.0 - 2.0	110 UJ	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51478	KPT6-4	1999	2.0 - 6.0	110 UJ	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51479	KPT6-4	1999	6.0 - 12.0	8200 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51480	KPT6-4	1999	12.0 - 17.0	11000 J	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K50433	KPT6-5	1997	0.0 - 2.0	3800 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K50434	KPT6-5	1997	2.0 - 12.0	5800 J	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K50435	KPT6-5	1997	12.0 - 24.0	100 UJ	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K50436	KPT6-5	1997	12.0 - 24.0	100 UJ	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K51489	KPT6-6	1999	0.0 - 2.0	1500 J	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U
K51490	KPT6-6	1999	2.0 - 6.0	580 J	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U
K51491	KPT6-6	1999	6.0 - 12.0	100 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U
K51492	KPT6-6	1999	12.0 - 24.0	110 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51493	KPT6-6	1999	12.0 - 24.0	110 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51481	KPT6-7	1999	0.0 - 2.0	7800 J	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U
K51482	KPT6-7	1999	2.0 - 6.0	110 UJ	0.054 U	0.054 U	0.054 U	0.054 U	0.044 J	0.054 U	0.054 U	0.044 J
K51483	KPT6-7	1999	6.0 - 12.0	110 UJ	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51485	KPT6-7	1999	12.0 - 26.0	120 UJ	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K50437	KPT6-8	1997	0.0 - 2.0	1500 J	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K50438	KPT6-8	1997	2.0 - 13.0	NA	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K51447	KPT7-1	1999	0.0 - 2.0	6900 J	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K51448	KPT7-1	1999	2.0 - 5.0	9400 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51494	KPT7-2	1999	0.0 - 2.0	8100 J	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51495	KPT7-2	1999	2.0 - 6.0	2700 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51496	KPT7-2	1999	6.0 - 12.0	730 J	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51497	KPT7-2	1999	12.0 - 15.0	4200 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51498	KPT7-2	1999	15.0 - 19.0	830 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51504	KPT7-3	1999	0.0 - 2.0	17000 J	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51505	KPT7-3	1999	2.0 - 8.0	1400 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.046 J	0.057 U	0.046 J
K51445	KPT7-4	1999	0.0 - 2.0	9400 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51446	KPT7-4	1999	2.0 - 7.0	16000 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51449	KPT7-5	1999	0.0 - 2.0	5100 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51450	KPT7-5	1999	2.0 - 7.0	7100 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51506	KPT7-6	1999	0.0 - 2.0	9200	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K51507	KPT7-6	1999	2.0 - 6.0	120 U	0.061 UJ	0.061 UJ	0.061 UJ	0.061 UJ	0.061 UJ	0.061 UJ	0.061 UJ	0.061 UJ
K51508	KPT7-7	1999	0.0 - 2.0	110 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51509	KPT7-7	1999	2.0 - 8.0	31000	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51499	KPT7-8	1999	0.0 - 2.0	2500 J	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U
K51500	KPT7-8	1999	2.0 - 6.0	5400 J	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K51501	KPT7-8	1999	6.0 - 12.0	3000 J	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.075	0.065 U	0.075
K51502	KPT7-8	1999	12.0 - 29.0	1500 J	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (ft)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51503	KPT7-8	1999	12.0 - 29.0	8100 J	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K52605	KPT8-1	2000	0.0 - 2.0	7600	0.056 U	0.056 U	0.056 U	0.056 U	0.11	0.056 U	0.056 U	0.11
K52606	KPT8-1	2000	2.0 - 6.0	3800	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K51510	KPT8-2	1999	0.0 - 2.0	12000	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51511	KPT8-2	1999	2.0 - 6.0	13000	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51512	KPT8-2	1999	6.0 - 10.0	110 U	0.055 U	0.055 U	0.055 U	0.055 U	0.033 J	0.055 U	0.055 U	0.033 J
K50445	KPT8-3	1997	0.0 - 2.0	26000 J	0.057 U	0.057 U	0.057 U	0.057 U	0.032 J	0.057 U	0.057 U	0.032 J
K50446	KPT8-3	1997	2.0 - 9.0	100 UJ	0.18 U	0.18 U	0.18 U	1.6	0.29	0.18 U	0.18 U	1.9
K51513	KPT8-4	1999	0.0 - 2.0	17000	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K51514	KPT8-4	1999	2.0 - 6.0	16000	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51515	KPT8-4	1999	6.0 - 12.0	110 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51516	KPT8-4	1999	12.0 - 15.0	550	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51517	KPT8-4	1999	6.0 - 12.0	110 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51518	KPT8-5	1999	0.0 - 2.0	14000	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51519	KPT8-5	1999	2.0 - 6.0	4900	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.033 JN	0.054 U	0.033 J
K51520	KPT8-5	1999	6.0 - 13.0	5500	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51521	KPT8-6	1999	0.0 - 2.0	110 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51522	KPT8-6	1999	2.0 - 6.0	110 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51523	KPT8-6	1999	6.0 - 13.0	110 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51524	KPT8-7	1999	0.0 - 2.0	110 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51525	KPT8-7	1999	2.0 - 6.0	14000	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51526	KPT8-7	1999	6.0 - 9.0	20000	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51527	KPT8-7	1999	9.0 - 11.0	120 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51528	KPT8-8	1999	0.0 - 2.0	110 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K51529	KPT8-8	1999	2.0 - 6.0	110 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51530	KPT8-8	1999	6.0 - 12.0	110 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51531	KPT8-8	1999	6.0 - 12.0	1600	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51532	KPT9-1	1999	0.0 - 2.0	120 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062	0.032 J	0.062 U	0.094 J
K51533	KPT9-1	1999	2.0 - 6.0	730	0.055 U	0.055 U	0.055 U	0.061	0.055 U	0.035 J	0.055 U	0.096 J
K51534	KPT9-1	1999	6.0 - 11.0	8000	0.056 U	0.056 U	0.056 U	0.032 J	0.056 U	0.056 U	0.056 U	0.032 J
K51451	KPT9-2	1999	0.0 - 2.0	6200 J	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K51452	KPT9-2	1999	2.0 - 6.0	5000 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.047 J	0.056 U	0.047 J
K51453	KPT9-2	1999	6.0 - 10.0	8400 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.045 J	0.057 U	0.045 J
K51539	KPT9-3	1999	0.0 - 2.0	7400 J	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51540	KPT9-3	1999	2.0 - 6.0	110 UJ	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.030 J	0.056 U	0.030 J
K51541	KPT9-3	1999	6.0 - 12.0	110 UJ	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51542	KPT9-3	1999	12.0 - 23.0	110 UJ	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51543	KPT9-4	1999	0.0 - 2.0	3300 J	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U
K51544	KPT9-4	1999	2.0 - 6.0	110 UJ	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51545	KPT9-4	1999	6.0 - 12.0	1700 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51546	KPT9-4	1999	12.0 - 17.0	15000 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51547	KPT9-5	1999	0.0 - 2.0	110 UJ	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K51548	KPT9-5	1999	2.0 - 6.0	110 UJ	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51549	KPT9-5	1999	6.0 - 12.0	110 UJ	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.028 J	0.054 U	0.028 J
K51550	KPT9-5	1999	12.0 - 20.0	110 UJ	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.031 J	0.054 U	0.031 J
K51551	KPT9-5	1999	20.0 - 34.0	120 UJ	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51552	KPT9-5	1999	20.0 - 34.0	120 UJ	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K51553	KPT9-6	1999	0.0 - 2.0	110 UJ	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51554	KPT9-6	1999	2.0 - 6.0	20000 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51555	KPT9-6	1999	6.0 - 12.0	120 UJ	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51556	KPT9-6	1999	12.0 - 25.0	110 UJ	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51557	KPT9-6	1999	25.0 - 28.0	120 UJ	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51535	KPT9-7	1999	0.0 - 2.0	100 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U
K51536	KPT9-7	1999	2.0 - 6.0	100 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U
K51537	KPT9-7	1999	6.0 - 12.0	3500	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U
K51538	KPT9-7	1999	12.0 - 24.0	12000	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51558	KPT10-1	1999	0.0 - 2.0	2700 J	0.12 U	0.12 U	0.12 U	0.12 U	1.1	0.38	0.14	1.6
K51559	KPT10-1	1999	2.0 - 6.0	12000 J	1.5 U	1.5 U	1.5 U	14	1.5 U	2.5	1.5 U	17
K51560	KPT10-1	1999	6.0 - 12.0	2500 J	0.057 U	0.057 U	0.057 U	0.068	0.057 U	0.036 J	0.057 U	0.10 J
K51561	KPT10-1	1999	12.0 - 21.0	110 UJ	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51562	KPT10-1	1999	12.0 - 21.0	110 UJ	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51563	KPT10-2	1999	0.0 - 2.0	110 UJ	0.056 U	0.056 U	0.056 U	0.056 U	0.035 J	0.056 U	0.056 U	0.035 J
K51564	KPT10-2	1999	2.0 - 6.0	110 UJ	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.042 J	0.057 U	0.042 J
K51565	KPT10-2	1999	6.0 - 12.0	110 UJ	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51566	KPT10-2	1999	12.0 - 24.0	110 UJ	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51567	KPT10-2	1999	6.0 - 12.0	27000 J	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K50280	KPT10-3	1997	0.0 - 2.0	30000 J	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U
K50281	KPT10-3	1997	2.0 - 12.0	1400 J	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U
K51568	KPT10-4	1999	0.0 - 2.0	110 UJ	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51569	KPT10-4	1999	2.0 - 6.0	110 UJ	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51570	KPT10-4	1999	6.0 - 12.0	110 UJ	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51571	KPT10-4	1999	12.0 - 18.0	110 UJ	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K50441	KPT10-5	1997	0.0 - 2.0	900 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K50442	KPT10-5	1997	2.0 - 12.0	NA	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K51572	KPT10-6	1999	0.0 - 2.0	100 UJ	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U
K51573	KPT10-6	1999	2.0 - 6.0	110 UJ	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.046 J	0.053 U	0.046 J
K51574	KPT10-6	1999	6.0 - 12.0	2800 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51575	KPT10-6	1999	12.0 - 24.0	110 UJ	0.055 U	0.055 U	0.055 U	0.055 U	0.028 JN	0.055 U	0.055 U	0.028 J

See notes on page 65

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (ft)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51576	KPT10-6	1999	12.0 - 24.0	110 UJ	0.055 U	0.055 U	0.055 U	0.055 U	0.096	0.055 U	0.055 U	0.096
K51577	KPT10-7	1999	0.0 - 2.0	130 UJ	0.063 U	0.063 U	0.063 U	0.20	0.063 U	0.076	0.063 U	0.28
K51578	KPT10-7	1999	2.0 - 6.0	120 UJ	0.061 U	0.061 U	0.061 U	0.31	0.061 U	0.058 J	0.061 U	0.37 J
K51579	KPT10-7	1999	6.0 - 12.0	1900 J	0.054 U	0.054 U	0.054 U	0.14	0.054 U	0.054 U	0.054 U	0.14
K51580	KPT10-7	1999	12.0 - 22.0	3300 J	0.054 U	0.054 U	0.13 JN	0.054 U	0.054 U	0.054 U	0.054 U	0.13 J
K51581	KPT10-7	1999	12.0 - 22.0	110 UJ	0.054 U	0.054 U	0.054 U	0.092	0.054 U	0.054 U	0.054 U	0.092
K51587	KPT11-1	1999	0.0 - 2.0	10000 J	0.15 U	0.15 U	0.15 U	1.0	0.46	0.15 U	0.099 J	1.6 J
K51588	KPT11-1	1999	2.0 - 6.0	6900 J	0.32 U	0.32 U	0.32 U	1.7	0.32	0.47	0.32 U	2.5
K51589	KPT11-1	1999	6.0 - 12.0	120 UJ	0.062 U	0.062 U	0.062 U	0.11	0.062 U	0.062 J	0.062 U	0.17 J
K51590	KPT11-1	1999	12.0 - 24.0	120 UJ	0.060 U	0.060 U	0.052 JN	0.060 U	0.060 U	0.060 U	0.060 U	0.052 J
K51591	KPT11-1	1999	12.0 - 24.0	120 UJ	0.059 U	0.059 U	0.066 JN	0.059 U	0.059 U	0.059 U	0.059 U	0.066 J
K51582	KPT11-2	1999	0.0 - 2.0	7600 J	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	3.7 JN	3.7 J
K51583	KPT11-2	1999	2.0 - 6.0	1300 J	0.057 U	0.057 U	0.057 U	0.057 U	0.049 J	0.034 J	0.057 U	0.083 J
K51584	KPT11-2	1999	6.0 - 12.0	110 UJ	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51585	KPT11-2	1999	12.0 - 24.0	15000 J	0.059 U	0.059 U	0.059 U	0.10 JN	0.059 U	0.059 U	0.059 U	0.10 J
K51586	KPT11-2	1999	6.0 - 12.0	9600 J	0.056 U	0.056 U	0.056 U	0.050 J	0.056 U	0.056 U	0.056 U	0.050 J
K51592	KPT11-3	1999	0.0 - 2.0	110 UJ	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51593	KPT11-3	1999	2.0 - 6.0	20000 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51594	KPT11-3	1999	6.0 - 12.0	4100 J	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K51595	KPT11-3	1999	12.0 - 26.0	120 UJ	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K51596	KPT11-3	1999	12.0 - 26.0	120 UJ	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K51597	KPT11-4	1999	0.0 - 2.0	33000 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51598	KPT11-4	1999	2.0 - 6.0	4200 J	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K51599	KPT11-4	1999	6.0 - 12.0	1200 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51600	KPT11-5	1999	0.0 - 2.0	2600 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51601	KPT11-5	1999	2.0 - 6.0	3100 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51602	KPT11-5	1999	6.0 - 12.0	6800 J	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.033 J	0.062 U	0.033 J
K51603	KPT11-5	1999	12.0 - 18.0	8400 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.045 J	0.057 U	0.045 J
K51605	KPT11-6	1999	0.0 - 2.0	2500 J	0.055 U	0.055 U	0.055 U	0.064	0.081	0.078	0.055 U	0.22
K51606	KPT11-6	1999	2.0 - 6.0	1700 J	0.053 U	0.053 U	0.053 U	0.057	0.063	0.063	0.053 U	0.18
K51607	KPT11-6	1999	2.0 - 6.0	2300 J	0.054 U	0.054 U	0.054 U	0.067	0.071	0.068	0.054 U	0.21
K51608	KPT11-6	1999	6.0 - 12.0	2800 J	0.053 U	0.053 U	0.053 U	0.053 U	0.11	0.20	0.053 U	0.31
K51609	KPT11-6	1999	12.0 - 24.0	100000 J	0.062 U	0.062 U	0.062 U	0.034 J	0.060 J	0.084	0.062 U	0.18 J
K51610	KPT11-7	1999	0.0 - 2.0	14000 J	0.31 U	0.31 U	0.31 U	0.31 U	1.1	1.2	0.23 J	2.5 J
K51611	KPT11-7	1999	2.0 - 6.0	72000 J	0.38 U	0.38 U	0.38 U	0.38 U	2.3	2.0	0.41	4.7
K51612	KPT11-7	1999	6.0 - 12.0	79000 J	0.12 U	0.12 U	0.12 U	0.12 U	0.88	0.33	0.087 J	1.3 J
K51613	KPT11-7	1999	12.0 - 17.0	80000 J	0.098 U	0.098 U	0.098 U	0.098 U	0.31	0.065 J	0.098 U	0.38 J
K51614	KPT11-7	1999	17.0 - 20.0	6100 J	0.059 U	0.059 U	0.059 U	0.059 U	0.073	0.035 J	0.059 U	0.11 J
K51615	KPT11-8	1999	0.0 - 2.0	190000 J	0.20 U	0.20 U	0.20 U	0.20 U	0.83	1.3	0.30	2.4

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51616	KPT11-8	1999	2.0 - 6.0	120000 J	0.26 U	0.26 U	0.26 U	0.26 U	0.67	0.93	0.23 J	1.8 J
K51617	KPT11-8	1999	6.0 - 12.0	93000 J	0.12 U	0.12 U	0.12 U	0.12 U	0.28	0.16	0.12 U	0.44
K51618	KPT11-8	1999	12.0 - 17.0	72000 J	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K51619	KPT11-8	1999	17.0 - 22.0	3600 J	0.068 U	0.068 U	0.068 U	0.068 U	0.052 J	0.062 J	0.068 U	0.11 J
K51620	KPT12-1	1999	0.0 - 2.0	4800 J	0.063 U	0.063 U	0.063 U	0.040 J	0.063 J	0.063 U	0.063 U	0.10 J
K51621	KPT12-1	1999	2.0 - 6.0	110 UJ	0.054 U	0.054 U	0.054 U	0.27	0.16	0.054 U	0.029 J	0.46 J
K51622	KPT12-1	1999	2.0 - 6.0	8600 J	0.056 U	0.056 U	0.056 U	0.37	0.12	0.056 U	0.031 J	0.52 J
K51623	KPT12-1	1999	6.0 - 12.0	19000 J	0.070 U	0.070 U	0.070 U	0.049 J	0.063 J	0.070 U	0.070 U	0.11 J
K51624	KPT12-1	1999	12.0 - 18.0	21000 J	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U
K51625	KPT12-1	1999	18.0 - 24.0	500 J	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K51626	KPT12-2	1999	0.0 - 2.0	110 UJ	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K51627	KPT12-2	1999	2.0 - 6.0	110 UJ	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K51628	KPT12-2	1999	6.0 - 12.0	2600 J	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51629	KPT12-2	1999	12.0 - 16.0	210 J	0.054 U	0.054 U	0.054 U	0.071	0.037 J	0.054 U	0.054 U	0.11 J
K51630	KPT12-3	1999	0.0 - 2.0	5300 J	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U
K51631	KPT12-3	1999	2.0 - 6.0	2400 J	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K51632	KPT12-3	1999	6.0 - 12.0	760 J	0.062 U	0.062 U	0.062 U	0.031 J	0.062 U	0.040 J	0.062 U	0.071 J
K51633	KPT12-3	1999	12.0 - 24.0	120 UJ	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K50593	KPT12-4	1997	0.0 - 2.0	130 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K50594	KPT12-4	1997	2.0 - 12.0	2100 J	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K50595	KPT12-4	1997	12.0 - 24.0	120 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51634	KPT12-5	1999	0.0 - 2.0	1400 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51635	KPT12-5	1999	2.0 - 6.0	2800 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51636	KPT12-5	1999	2.0 - 6.0	120 UJ	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K51637	KPT12-5	1999	6.0 - 12.0	3900 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.053 J	0.060 U	0.053 J
K51638	KPT12-5	1999	12.0 - 18.0	970 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51886	KPT12-6	2000	0.0 - 2.0	1500 J	0.062 U	0.062 U	0.062 U	0.036 J	0.062 U	0.037 J	0.062 U	0.073 J
K51887	KPT12-6	2000	2.0 - 6.0	110 U	0.057 U	0.057 U	0.057 U	0.030 J	0.057 U	0.057 U	0.057 U	0.030 J
K51888	KPT12-6	2000	6.0 - 8.0	19000	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.035 J	0.060 U	0.035 J
K51889	KPT12-6	2000	8.0 - 12.0	18000 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51890	KPT12-6	2000	12.0 - 25.0	270 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51891	KPT12-6	2000	12.0 - 25.0	220 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51454	KPT12-7	1999	0.0 - 2.0	7500 J	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51455	KPT12-7	1999	2.0 - 6.0	2700 J	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51456	KPT12-7	1999	6.0 - 12.0	3300 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51457	KPT12-7	1999	6.0 - 12.0	3700 J	0.057 U	0.057 U	0.057 U	0.032 J	0.057 U	0.057 U	0.057 U	0.032 J
K51882	KPT13-1	2000	0.0 - 2.0	1800	0.068 U	0.068 U	0.068 U	0.26	0.15	0.065 J	0.068 U	0.48 J
K51883	KPT13-1	2000	2.0 - 6.0	130 U	0.13 U	0.13 U	0.13 U	0.44	0.49	0.12 J	0.077 J	1.1 J
K51884	KPT13-1	2000	6.0 - 13.0	14000 J	0.064 U	0.064 U	0.064 U	0.23	0.19	0.097	0.064 U	0.52

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51885	KPT13-1	2000	13.0 - 24.0	120 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K51639	KPT13-2	1999	0.0 - 2.0	7900	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.046 J	0.065 U	0.046 J
K51640	KPT13-2	1999	2.0 - 6.0	6000	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K51641	KPT13-2	1999	6.0 - 10.0	8000	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.082	0.065 U	0.082
K51642	KPT13-2	1999	10.0 - 16.0	7700	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.14	0.066 U	0.14
K51643	KPT13-2	1999	16.0 - 24.0	8100	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51644	KPT13-3	1999	0.0 - 2.0	27000	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51645	KPT13-3	1999	2.0 - 6.0	6200	0.057 U	0.057 U	0.057 U	0.057 U	0.055 J	0.044 J	0.057 U	0.099 J
K51646	KPT13-3	1999	6.0 - 12.0	7900	0.062 U	0.062 U	0.062 U	0.088	0.085	0.11	0.062 U	0.28
K51647	KPT13-3	1999	12.0 - 20.0	5300	0.059 U	0.059 U	0.059 U	0.050 J	0.094	0.050 J	0.059 U	0.19 J
K51648	KPT13-3	1999	20.0 - 24.0	42000	0.081 U	0.081 U	0.081 U	0.081 U	0.081 U	0.081 U	0.081 U	0.081 U
K51649	KPT13-3	1999	12.0 - 20.0	5600	0.059 U	0.059 U	0.059 U	0.059 U	0.23	0.056 J	0.059 U	0.29 J
K50567	KPT13-4	1997	0.0 - 2.0	110 U	0.054 U	0.054 U	0.054 U	0.051 J	0.051 J	0.054 U	0.054 U	0.10 J
K50568	KPT13-4	1997	2.0 - 12.0	NA	0.061 U	0.061 U	0.061 U	0.056 J	0.061 U	0.060 J	0.061 U	0.12 J
K50569	KPT13-4	1997	12.0 - 28.0	NA	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
K50570	KPT13-4	1997	28.0 - 38.0	NA	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U
K50571	KPT13-4	1997	28.0 - 38.0	NA	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U
K50575	KPT13-4	1997	38.0 - 50.0	NA	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51661	KPT13-5	1999	0.0 - 2.0	120 UJ	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K51662	KPT13-5	1999	2.0 - 6.0	120 UJ	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K51663	KPT13-5	1999	6.0 - 12.0	4400 J	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K51664	KPT13-5	1999	12.0 - 18.0	3100 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51665	KPT13-5	1999	18.0 - 22.0	21000 J	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U
K51666	KPT13-5	1999	22.0 - 24.0	35000 J	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K51655	KPT13-6	1999	0.0 - 2.0	14000	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K51656	KPT13-6	1999	2.0 - 6.0	9200	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.038 JN	0.038 J
K51657	KPT13-6	1999	6.0 - 12.0	44000	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U
K51658	KPT13-6	1999	12.0 - 17.0	21000	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51659	KPT13-6	1999	17.0 - 24.0	1000 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51660	KPT13-6	1999	17.0 - 24.0	6200 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51650	KPT13-7	1999	0.0 - 2.0	8600	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K51651	KPT13-7	1999	2.0 - 6.0	5000	0.058 U	0.058 U	0.058 U	0.042 JN	0.058 U	0.058 U	0.058 U	0.042 J
K51652	KPT13-7	1999	6.0 - 12.0	9000	0.060 U	0.060 U	0.060 U	0.050 J	0.060 U	0.060 U	0.060 U	0.050 J
K51653	KPT13-7	1999	12.0 - 22.0	13000	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K51654	KPT13-7	1999	22.0 - 24.0	25000	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U
K51667	KPT13-8	1999	0.0 - 2.0	5900 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51668	KPT13-8	1999	2.0 - 6.0	130 UJ	0.063 U	0.063 U	0.063 U	0.12 JN	0.063 U	0.063 U	0.063 U	0.12 J
K51669	KPT13-8	1999	6.0 - 14.0	12000 J	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U
K51670	KPT13-8	1999	14.0 - 24.0	3100 J	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51671	KPT13-8	1999	6.0 - 14.0	16000 J	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U
K51672	KPT14-1	1999	0.0 - 2.0	8400 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51673	KPT14-1	1999	2.0 - 6.0	8600 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51674	KPT14-1	1999	6.0 - 12.0	4200 J	0.057 U	0.057 U	0.057 U	0.057 U	0.063	0.086	0.057 U	0.15
K51675	KPT14-1	1999	12.0 - 26.0	290 J	0.059 U	0.059 U	0.059 U	0.084	0.060	0.092	0.059 U	0.24
K51676	KPT14-1	1999	12.0 - 26.0	120 UJ	0.058 U	0.058 U	0.058 U	0.044 J	0.067	0.070	0.058 U	0.18 J
K50001	KPT14-2	1997	0.0 - 6.0	61000	0.25 U	0.25 U	0.25 U	1.6	0.25 U	0.82	0.25 U	2.4
K50002	KPT14-2	1997	6.0 - 10.8	NA	0.062 U	0.062 U	0.062 U	0.25	0.062 U	0.12	0.062 U	0.37
K50003	KPT14-2	1997	10.8 - 15.6	NA	0.78 U	0.78 U	0.78 U	4.4	0.78 U	1.5	0.78 U	5.9
K50004	KPT14-2	1997	15.6 - 27.6	NA	0.69 U	0.69 U	0.69 U	2.3	0.69 U	4.1	0.69 U	6.4
K50005	KPT14-2	1997	27.6 - 39.6	NA	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.085	0.066 U	0.085
K50006	KPT14-2	1997	39.6 - 49.2	NA	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K51677	KPT14-3	1999	0.0 - 2.0	10000 J	0.066 U	0.066 U	0.066 U	0.066 U	0.76	0.066 U	0.072	0.83
K51678	KPT14-3	1999	2.0 - 6.0	4200 J	0.063 U	0.063 U	0.063 U	0.063 U	0.46	0.063 U	0.038 J	0.50 J
K51679	KPT14-3	1999	6.0 - 12.0	5100 J	0.070 U	0.070 U	0.070 U	0.052 J	0.074	0.074	0.070 U	0.20 J
K51680	KPT14-3	1999	12.0 - 20.0	4800 J	0.067 U	0.067 U	0.067 U	0.086	0.067 U	0.053 J	0.067 U	0.14 J
K51681	KPT14-3	1999	20.0 - 24.0	120 UJ	0.060 U	0.060 U	0.060 U	0.19	0.060 U	0.054 J	0.060 U	0.24 J
K51682	KPT14-4	1999	0.0 - 2.0	2200 J	0.075 U	0.075 U	0.075 U	0.075 U	0.038 J	0.075 U	0.075 U	0.038 J
K51683	KPT14-4	1999	2.0 - 6.0	4000 J	0.063 U	0.063 U	0.063 U	0.063 U	0.052 J	0.032 J	0.063 U	0.084 J
K51684	KPT14-4	1999	6.0 - 9.0	8900 J	0.077 U	0.077 U	0.077 U	0.077 U	0.18	0.090	0.077 U	0.27
K51685	KPT14-4	1999	9.0 - 12.0	120 UJ	0.060 U	0.060 U	0.060 U	0.060 U	0.28	0.039 J	0.060 U	0.32 J
K51686	KPT14-4	1999	12.0 - 24.0	440 J	0.13 U	0.13 U	0.13 U	0.13 U	0.35	0.54	0.13 U	0.89
K51687	KPT14-4	1999	12.0 - 24.0	2800 J	0.064 U	0.064 U	0.064 U	0.080	0.097	0.062 J	0.064 U	0.24 J
K51688	KPT14-5	1999	0.0 - 2.0	2300 J	0.079 U	0.079 U	0.079 U	0.25	0.079 U	0.23	0.11	0.59
K51689	KPT14-5	1999	2.0 - 4.0	130 UJ	0.13 U	0.13 U	0.13 U	0.49	0.13 U	0.63	0.13 U	1.1
K51690	KPT14-5	1999	4.0 - 12.0	120 UJ	0.060 U	0.060 U	0.060 U	0.22	0.060 U	0.18	0.060 U	0.40
K51691	KPT14-5	1999	12.0 - 24.0	7300 J	0.057 U	0.057 U	0.057 U	0.071	0.057 U	0.057 U	0.057 U	0.071
K51692	KPT14-5	1999	12.0 - 24.0	110 UJ	0.057 U	0.057 U	0.057 U	0.041 J	0.057 U	0.057 U	0.057 U	0.041 J
K51384	KPT14-6	1997	0.0 - 2.0	4700 J	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
K51385	KPT14-6	1997	2.0 - 12.0	3500 J	0.068 U	0.068 U	0.068 U	0.042 J	0.068 U	0.053 J	0.068 U	0.095 J
K51386	KPT14-6	1997	12.0 - 24.0	9800	0.086 UJ	0.086 UJ	0.086 UJ	0.082 J	0.086 UJ	0.21 J	0.086 UJ	0.29 J
K51387	KPT14-6	1997	12.0 - 24.0	37000	0.079 U	0.079 U	0.079 U	0.079 U	0.094	0.079 U	0.079 U	0.094
K51693	KPT14-7	1999	0.0 - 2.0	120 UJ	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K51694	KPT14-7	1999	2.0 - 4.0	180 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51695	KPT14-7	1999	4.0 - 12.0	120 UJ	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51696	KPT14-7	1999	12.0 - 24.0	120 UJ	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51779	KPT14-8	1999	0.0 - 2.0	5600	0.074 U	0.074 U	0.063 J	0.074 U	0.074 U	0.074 U	0.074 U	0.063 J
K51780	KPT14-8	1999	2.0 - 6.0	17000	0.079 U	0.079 U	0.079 U	0.079 U	0.079 U	0.079 U	0.079 U	0.079 U
K51781	KPT14-8	1999	6.0 - 12.0	120 U	0.061 U	0.061 U	0.061 U	0.040 J	0.061 U	0.033 J	0.061 U	0.073 J

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51782	KPT14-8	1999	12.0 - 24.0	110 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51697	KPT15-1	1999	0.0 - 2.0	9200 J	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K51698	KPT15-1	1999	2.0 - 6.0	110 UJ	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51699	KPT15-1	1999	5.0 - 12.0	3900	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51700	KPT15-2	1999	0.0 - 2.0	4500	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51701	KPT15-2	1999	2.0 - 6.0	7100	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51702	KPT15-2	1999	5.0 - 9.0	20000	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U
K51703	KPT15-3	1999	0.0 - 2.0	5600	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K51704	KPT15-3	1999	2.0 - 7.0	4700	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51705	KPT15-3	1999	2.0 - 7.0	9600	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51706	KPT15-4	1999	0.0 - 2.0	4900	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51707	KPT15-4	1999	2.0 - 6.0	4300	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51708	KPT15-4	1999	6.0 - 12.0	6200	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51709	KPT15-4	1999	12.0 - 18.0	5400	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K51710	KPT15-4	1999	18.0 - 24.0	5100	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51711	KPT15-5	1999	0.0 - 2.0	8300	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.071	0.068 U	0.071
K51712	KPT15-5	1999	2.0 - 6.0	5600	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51713	KPT15-5	1999	6.0 - 12.0	4700	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51714	KPT15-5	1999	12.0 - 24.0	4200	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K51715	KPT15-5	1999	12.0 - 24.0	3300	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K51716	KPT15-6	1999	0.0 - 2.0	6200	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K51717	KPT15-6	1999	2.0 - 6.0	5300	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K51718	KPT15-6	1999	6.0 - 10.0	9600	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U
K51719	KPT15-6	1999	10.0 - 13.0	120 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51720	KPT15-6	1999	13.0 - 24.0	120 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K51721	KPT15-6	1999	13.0 - 24.0	120 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K51722	KPT15-7	1999	0.0 - 2.0	2300 J	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U
K51723	KPT15-7	1999	2.0 - 6.0	120 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51724	KPT15-7	1999	6.0 - 12.0	120 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51725	KPT15-7	1999	6.0 - 12.0	120 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K51726	KPT15-7	1999	12.0 - 16.0	110 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51727	KPT16-1	1999	0.0 - 2.0	14000 J	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K51728	KPT16-1	1999	2.0 - 7.0	110 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U
K51729	KPT16-1	1999	7.0 - 11.0	6800 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51730	KPT16-2	1999	0.0 - 2.0	19000 J	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K51731	KPT16-2	1999	2.0 - 6.0	110 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51732	KPT16-2	1999	6.0 - 14.0	3700 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51733	KPT16-2	1999	6.0 - 14.0	500 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51734	KPT16-2	1999	14.0 - 16.0	5100 J	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51751	KPT16-3	1999	0.0 - 2.0	9800 J	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U
K51752	KPT16-3	1999	2.0 - 6.0	120 UJ	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K51753	KPT16-3	1999	6.0 - 12.0	120 UJ	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51754	KPT16-3	1999	12.0 - 16.0	120 UJ	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K51755	KPT16-4	1999	0.0 - 2.0	1500 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51756	KPT16-4	1999	2.0 - 5.0	5500 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51757	KPT16-4	1999	5.0 - 12.0	120 UJ	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K51758	KPT16-4	1999	12.0 - 17.0	120 UJ	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K51759	KPT16-4	1999	12.0 - 17.0	800 J	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K51458	KPT16-5	1999	0.0 - 2.0	4300 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51459	KPT16-5	1999	2.0 - 6.0	1200 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.029 J	0.056 U	0.029 J
K51735	KPT17-1	1999	0.0 - 2.0	9400 J	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.038 J	0.069 U	0.038 J
K51736	KPT17-1	1999	2.0 - 6.0	3300 J	0.064 U	0.064 U	0.064 U	0.032 J	0.064 U	0.054 J	0.064 U	0.086 J
K51737	KPT17-1	1999	6.0 - 10.0	3700 J	0.067 U	0.067 U	0.067 U	0.16	0.067 U	0.076	0.067 U	0.24
K51738	KPT17-1	1999	10.0 - 14.0	34000 J	0.15 U	0.15 U	0.15 U	0.58	0.15 U	0.17	0.15 U	0.75
K51739	KPT17-1	1999	14.0 - 23.0	4700 J	0.062 U	0.062 U	0.062 U	0.033 J	0.062 U	0.062 U	0.062 U	0.033 J
K51740	KPT17-1	1999	14.0 - 23.0	300 J	0.062 U	0.062 U	0.062 U	0.036 J	0.062 U	0.062 U	0.062 U	0.036 J
K51760	KPT17-2	1999	0.0 - 2.0	1900 J	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K51761	KPT17-2	1999	2.0 - 6.0	6700 J	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K51762	KPT17-2	1999	6.0 - 12.0	720 J	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51763	KPT17-2	1999	12.0 - 24.0	800 J	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K51764	KPT17-2	1999	12.0 - 24.0	1100 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K50844	KPT17-3	1997	0.0 - 2.0	120 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K50845	KPT17-3	1997	2.0 - 12.0	110 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K50846	KPT17-3	1997	12.0 - 24.0	120 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K51765	KPT17-4	1999	0.0 - 2.0	3100 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51766	KPT17-4	1999	2.0 - 6.0	930 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51767	KPT17-4	1999	6.0 - 8.0	3400 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.53	0.53
K51768	KPT17-4	1999	8.0 - 12.0	240 J	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K51769	KPT17-4	1999	12.0 - 16.0	990 J	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K51770	KPT17-5	1999	0.0 - 2.0	1800 J	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U
K51771	KPT17-5	1999	2.0 - 6.0	2200 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51772	KPT17-5	1999	6.0 - 14.0	110 UJ	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51773	KPT17-5	1999	6.0 - 14.0	110 UJ	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51774	KPT17-6	1999	0.0 - 2.0	120 UJ	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51775	KPT17-6	1999	2.0 - 6.0	7800 J	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K51167	KPT17-7	1997	0.0 - 2.0	45000 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51168	KPT17-7	1997	2.0 - 12.0	6400 J	0.056 U	0.056 U	0.056 U	0.033 J	0.056 U	0.056 U	0.056 U	0.033 J
K51776	KPT17-8	1999	0.0 - 2.0	19000 J	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.097	0.064 U	0.097

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (ft)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51777	KPT17-8	1999	2.0 - 5.0	24000 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.047 JN	0.060 U	0.047 J
K51778	KPT17-8	1999	5.0 - 8.0	4000 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51783	KPT18-1	1999	0.0 - 2.0	1500 J	0.18 U	0.18 U	0.18 U	0.99	0.20	0.18 U	0.18 U	1.2
K51784	KPT18-1	1999	2.0 - 6.0	110 U	0.056 U	0.056 U	0.056 U	0.26	0.13	0.056 U	0.056 U	0.39
K51785	KPT18-1	1999	6.0 - 12.0	7700 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51786	KPT18-1	1999	12.0 - 26.0	110 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51787	KPT18-1	1999	12.0 - 26.0	120 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K50777	KPT18-2	1997	0.0 - 2.0	17000 J	0.053 U	0.053 U	0.053 U	0.11	0.15	0.053 U	0.053 U	0.26
K50778	KPT18-2	1997	2.0 - 14.0	NA	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K50842	KPT18-3	1997	0.0 - 2.0	21000 J	0.12 U	0.12 U	0.12 U	0.12 U	1.0	0.12 U	0.069 J	1.1 J
K50843	KPT18-3	1997	2.0 - 12.0	NA	0.059 U	0.059 U	0.059 U	0.085	0.093	0.059 U	0.059 U	0.18
K51788	KPT18-4	1999	0.0 - 2.0	100 U	0.053 U	0.053 U	0.053 U	0.053 U	0.046 J	0.053 U	0.053 U	0.046 J
K51789	KPT18-4	1999	2.0 - 4.0	24000 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51790	KPT18-4	1999	4.0 - 8.0	10000	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.040 J	0.065 U	0.040 J
K51791	KPT18-4	1999	8.0 - 12.0	110 U	0.057 U	0.057 U	0.057 U	0.057 U	0.046 JN	0.057 U	0.057 U	0.046 J
K51792	KPT18-4	1999	12.0 - 24.0	110 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51793	KPT18-4	1999	12.0 - 24.0	110 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51005	KPT18-5	1997	0.0 - 2.0	5200 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51006	KPT18-5	1997	2.0 - 10.0	13000 J	0.059 U	0.059 U	0.059 U	0.047 J	0.059 U	0.059	0.059 U	0.11 J
K51794	KPT18-7	1999	0.0 - 2.0	14000 J	0.053 U	0.053 U	0.053 U	0.097	0.053 U	0.053 U	0.053 U	0.097
K51795	KPT18-7	1999	2.0 - 6.0	4900	0.057 U	0.057 U	0.057 U	0.14	0.057 U	0.057 U	0.057 U	0.14
K51796	KPT18-7	1999	6.0 - 10.0	5600	0.057 U	0.057 U	0.057 U	0.064	0.11	0.067	0.057 U	0.24
K51741	KPT19-1	1999	0.0 - 2.0	110000 J	1.6 U	1.6 U	1.6 U	1.7	1.6 U	4.9	1.6 U	6.6
K51742	KPT19-1	1999	2.0 - 6.0	87000 J	1.2 U	1.2 U	1.2 U	4.4	1.2 U	5.6	1.2 U	10
K51743	KPT19-1	1999	6.0 - 12.0	73000 J	0.21 U	0.21 U	0.21 U	0.21 U	0.51	0.32	0.59	1.4
K51744	KPT19-1	1999	12.0 - 17.0	79000 J	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.30	0.30
K51745	KPT19-2	1999	0.0 - 2.0	5200 J	0.056 U	0.056 U	0.056 U	0.089	0.056 U	0.12	0.056 U	0.21
K51746	KPT19-2	1999	2.0 - 8.0	7500 J	0.13 U	0.13 U	0.13 U	0.39	0.13 U	0.29	0.13 U	0.68
K51747	KPT19-2	1999	8.0 - 14.0	88000 J	0.22 U	0.22 U	0.22 U	1.2	0.22 U	0.30	0.22 U	1.5
K51748	KPT19-2	1999	14.0 - 18.0	84000 J	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.31 JN	0.31 J
K51749	KPT19-2	1999	18.0 - 24.0	100000 J	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.71 JN	0.71 J
K51750	KPT19-2	1999	18.0 - 24.0	88000 J	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.43 JN	0.43 J
K50009	KPT19-3	1997	0.0 - 6.0	2700	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K50010	KPT19-3	1997	6.0 - 18.0	NA	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.030 J	0.058 U	0.030 J
K50011	KPT19-3	1997	18.0 - 22.8	NA	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.050 J	0.059 U	0.050 J
K50012	KPT19-3	1997	22.8 - 30.0	NA	0.060 U	0.060 U	0.060 U	0.14	0.060 U	0.11	0.060 U	0.25
K50013	KPT19-3	1997	30.0 - 42.0	NA	0.20 U	0.20 U	0.20 U	2.0	0.20 U	1.1	0.20 U	3.1
K50014	KPT19-3	1997	42.0 - 54.0	NA	13 U	13 U	13 U	63	13 U	19	13 U	82
K50015	KPT19-3	1997	54.0 - 58.8	NA	6.5 U	6.5 U	6.5 U	15	6.5 U	44	6.5 U	59

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K50018	KPT19-3	1997	0.0 - 6.0	4200	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.034 J	0.064 U	0.034 J
K51797	KPT19-4	1999	0.0 - 2.0	3000	0.053 U	0.053 U	0.053 U	0.044 J	0.077	0.086	0.053 U	0.21 J
K51798	KPT19-4	1999	2.0 - 6.0	3900	0.056 U	0.056 U	0.056 U	0.054 J	0.077	0.10	0.056 U	0.23 J
K51799	KPT19-4	1999	6.0 - 12.0	110 UJ	0.057 U	0.057 U	0.057 U	0.090	0.052 J	0.13	0.057 U	0.27 J
K51800	KPT19-4	1999	12.0 - 24.0	890 J	0.12 U	0.12 U	0.12 U	0.12 U	0.21	0.25	0.12 U	0.46
K51801	KPT19-4	1999	12.0 - 24.0	10000 J	0.24 U	0.24 U	0.24 U	0.24 U	0.42	0.39	0.24 U	0.81
K51015	KPT19-5	1997	0.0 - 2.0	3100 J	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.034 J	0.061 U	0.034 J
K51016	KPT19-5	1997	2.0 - 12.0	NA	0.060 U	0.060 U	0.060 U	0.050 J	0.034 J	0.077	0.060 U	0.16 J
K51017	KPT19-5	1997	12.0 - 24.0	NA	0.061 U	0.061 U	0.061 U	0.094	0.25	0.061 U	0.061 U	0.34
K51802	KPT19-6	1999	0.0 - 2.0	120 UJ	0.12 U	0.12 U	0.12 U	0.12 U	0.36	0.18	0.12 U	0.54
K51803	KPT19-6	1999	2.0 - 6.0	120 UJ	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.43	0.12 U	0.43
K51804	KPT19-6	1999	6.0 - 12.0	120 UJ	0.060 U	0.060 U	0.060 U	0.060 U	0.20	0.097	0.060 U	0.30
K51805	KPT19-6	1999	12.0 - 24.0	13000 J	0.057 U	0.057 U	0.057 U	0.16	0.078	0.35	0.057 U	0.59
K51806	KPT19-6	1999	12.0 - 24.0	120 UJ	0.058 U	0.058 U	0.058 U	0.23	0.060	0.25	0.058 U	0.54
K51807	KPT19-7	1999	0.0 - 2.0	500 J	0.056 U	0.056 U	0.056 U	0.056 U	0.031 J	0.028 J	0.056 U	0.059 J
K51808	KPT19-7	1999	2.0 - 6.0	5200 J	0.056 U	0.056 U	0.056 U	0.072	0.12	0.091	0.056 U	0.28
K51809	KPT19-7	1999	6.0 - 12.0	820 J	0.12 U	0.12 U	0.12 U	0.21	0.12 U	0.33	0.12 U	0.54
K51810	KPT19-7	1999	12.0 - 24.0	32000 J	0.28 U	0.28 U	0.28 U	0.28 U	0.40	0.80	0.28 U	1.2
K51811	KPT19-7	1999	12.0 - 24.0	110 UJ	0.56 U	0.56 U	0.56 U	0.56 U	0.63	1.2	0.56 U	1.8
K51245	KPT19-8	1997	0.0 - 2.0	61000	0.066 U	0.066 U	0.066 U	0.26	0.066 U	0.11	0.066 U	0.37
K51246	KPT19-8	1997	2.0 - 12.0	NA	0.068 U	0.068 U	0.068 U	0.33	0.068 U	0.21	0.068 U	0.54
K51247	KPT19-8	1997	12.0 - 20.0	NA	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.054 J	0.054 J
K51248	KPT19-8	1997	20.0 - 24.0	NA	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U
K51819	KPT20-1	1999	0.0 - 2.0	13000 J	0.060 U	0.060 U	0.060 U	0.072	0.052 J	0.14	0.060 U	0.26 J
K51820	KPT20-1	1999	2.0 - 6.0	41000 J	0.053 U	0.053 U	0.053 U	0.026 J	0.043 J	0.069	0.053 U	0.14 J
K51821	KPT20-1	1999	6.0 - 12.0	110 UJ	0.054 U	0.054 U	0.054 U	0.051 J	0.054 U	0.052 J	0.054 U	0.10 J
K51822	KPT20-1	1999	12.0 - 20.0	420 J	0.057 U	0.057 U	0.057 U	0.15	0.057 U	0.083	0.057 U	0.23
K51092	KPT20-2	1997	0.0 - 2.0	NA	0.040 U	0.081 U	0.040 U	0.046 J	0.040 U	0.16	0.040 U	0.21 J
K51093	KPT20-2	1997	2.0 - 13.0	NA	0.038 U	0.077 U	0.038 U	0.057 J	0.038 U	0.036 J	0.038 U	0.093 J
K50829	KPT20-3	1997	0.0 - 2.0	120 U	0.062 U	0.062 U	0.062 U	0.062 U	0.065 JN	0.051 JN	0.062 U	0.12 J
K50830	KPT20-3	1997	2.0 - 8.0	NA	0.056 U	0.056 U	0.056 U	0.089 JN	0.16 JN	0.28 JN	0.056 U	0.53 J
K50831	KPT20-3	1997	8.0 - 14.0	NA	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K51003	KPT20-4	1997	0.0 - 2.0	11000 J	0.061 U	0.061 U	0.061 U	0.12	0.099	0.096	0.061 U	0.32
K51004	KPT20-4	1997	2.0 - 12.0	NA	0.054 U	0.054 U	0.070	0.039 J	0.054 U	0.031 J	0.054 U	0.14 J
K50921	KPT20-5	1997	0.0 - 2.0	2400	0.057 U	0.057 U	0.057 U	0.26	0.057 U	0.13	0.057 U	0.39
K50922	KPT20-5	1997	2.0 - 12.0	7800	0.057 U	0.057 U	0.057 U	0.42	0.057 U	0.087	0.057 U	0.51
K51812	KPT20-6	1999	0.0 - 2.0	2900 J	0.11 U	0.11 U	0.11 U	0.33	0.11 U	0.20	0.11 U	0.53
K51813	KPT20-6	1999	2.0 - 5.0	140 J	0.11 U	0.11 U	0.11 U	0.37	0.20	0.29	0.11 U	0.86
K51814	KPT20-6	1999	5.0 - 8.0	2600 J	0.17 U	0.17 U	0.17 U	0.82	0.17 U	0.36	0.17 U	1.2

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K50977	KPT20-7	1997	0.0 - 2.0	1000 J	0.057 U	0.057 U	0.057 U	0.057 U	0.058	0.066	0.057 U	0.12
K50978	KPT20-7	1997	2.0 - 7.0	22000	0.060 U	0.060 U	0.060 U	0.40	0.060 U	0.098	0.060 U	0.50
K50874	KPT20-8	1997	0.0 - 2.0	79000	7.5 U	7.5 U	7.5 U	26	7.5 U	60	7.5 U	86
K50875	KPT20-8	1997	2.0 - 11.0	65000	6.5 U	6.5 U	6.5 U	6.5 U	17	57	6.5 U	74
K51361	KPT21-1	1997	0.0 - 2.0	38000	0.091 U	0.091 U	0.091 U	0.11	0.091 U	0.062 J	0.091 U	0.17 J
K51362	KPT21-1	1997	2.0 - 12.0	32000	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U
K51363	KPT21-1	1997	12.0 - 15.0	4100 J	0.060 U	0.060 U	0.060 U	0.078	0.060 U	0.060 U	0.060 U	0.078
K51364	KPT21-1	1997	2.0 - 12.0	27000	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U
K52229	KPT21-2	2000	0.0 - 2.0	6900	0.066 U	0.066 U	0.066 U	0.17	0.066 U	0.098	0.11	0.38
K52230	KPT21-2	2000	2.0 - 6.0	7200	0.058 U	0.058 U	0.058 U	0.14	0.058 U	0.037 J	0.058 U	0.18 J
K52231	KPT21-2	2000	6.0 - 12.0	120 UJ	0.11 U	0.11 U	0.73	0.32	0.11 U	0.086 J	0.11 U	1.1 J
K52232	KPT21-2	2000	6.0 - 12.0	9600 J	0.12 U	0.12 U	0.62	0.35	0.12 U	0.12 U	0.12 U	0.97
K52233	KPT21-2	2000	12.0 - 20.0	120 UJ	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K52226	KPT21-3	2000	0.0 - 2.0	2000 J	0.057 U	0.057 U	0.057 U	0.12	0.057 U	0.057 U	0.057 U	0.12
K52227	KPT21-3	2000	2.0 - 6.0	120 UJ	0.058 U	0.058 U	0.28 JN	0.058 U	0.058 U	0.058 U	0.058 U	0.28 J
K52228	KPT21-3	2000	6.0 - 11.0	1700 J	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K52276	KPT21-5	2000	0.0 - 2.0	5000	0.055 U	0.055 U	0.055 U	0.043 J	0.037 J	0.030 J	0.055 U	0.11 J
K52277	KPT21-5	2000	2.0 - 6.0	5400	0.056 U	0.056 U	0.056 U	0.058	0.079	0.12	0.056 U	0.26
K52278	KPT21-5	2000	6.0 - 12.0	9300	0.054 U	0.054 U	0.054 U	0.31	0.14	0.078	0.054 U	0.53
K52279	KPT21-5	2000	6.0 - 12.0	5800	0.056 U	0.056 U	0.056 U	0.37	0.17	0.14	0.056 U	0.68
K52280	KPT21-5	2000	12.0 - 18.0	18000	0.19 U	0.19 U	0.19 U	0.74	0.45	0.80	0.19 U	2.0
K52234	KPT21-6	2000	0.0 - 2.0	2000 J	0.061 U	0.061 U	0.061 U	0.095	0.14	0.057 J	0.061 U	0.29 J
K52235	KPT21-6	2000	2.0 - 6.0	4900 J	0.056 U	0.056 U	0.056 U	0.062	0.11	0.052 J	0.056 U	0.22 J
K52236	KPT21-6	2000	6.0 - 12.0	310 J	0.053 U	0.053 U	0.053 U	0.16	0.19	0.069	0.053 U	0.42
K52237	KPT21-6	2000	12.0 - 19.0	2200 J	0.056 U	0.056 U	0.056 U	0.33	0.39	0.15	0.056 U	0.87
K52238	KPT21-6	2000	19.0 - 22.0	24000 J	0.063 U	0.063 U	0.063 U	0.22	0.063 U	0.033 J	0.063 U	0.25 J
K52210	KPT21-7	2000	0.0 - 2.0	3500	0.048 U	0.048 U	0.048 U	0.12	0.048 U	0.064	0.048 U	0.18
K52211	KPT21-7	2000	2.0 - 6.0	3800	0.060 U	0.060 U	0.060 U	0.056 J	0.048 J	0.036 J	0.060 U	0.14 J
K52212	KPT21-7	2000	6.0 - 12.0	17000	0.064 U	0.064 U	0.064 U	0.17	0.11	0.12	0.064 U	0.40
K52213	KPT21-7	2000	12.0 - 24.0	81000	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.056 J	0.056 J
K51318	KPT22-1	1997	0.0 - 2.0	42000	5.3 U	5.3 U	5.3 U	44	5.3 U	5.3 U	5.3 U	44
K51319	KPT22-1	1997	2.0 - 12.0	NA	2.1 U	2.1 U	2.1 U	20	2.1 U	2.1 U	2.1 U	20
K51320	KPT22-1	1997	12.0 - 18.0	NA	0.082 U	0.082 U	0.082 U	0.16	0.082 U	0.082 U	0.082 U	0.16
K52249	KPT22-2	2000	2.0 - 5.0	4900 J	0.058 U	0.058 U	0.058 U	0.17	0.058 U	0.058 U	0.11	0.28
K52281	KPT22-4	2000	0.0 - 2.0	8100	0.057 U	0.057 U	0.057 U	0.048 J	0.038 J	0.057 U	0.057 U	0.086 J
K52282	KPT22-4	2000	2.0 - 6.0	19000	0.055 U	0.055 U	0.055 U	0.088	0.037 J	0.048 J	0.055 U	0.17 J
K52283	KPT22-4	2000	6.0 - 11.0	3500	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K52239	KPT22-5	2000	0.0 - 2.0	2700 J	0.063 U	0.063 U	0.063 U	0.17	0.15	0.11	0.063 U	0.43
K52240	KPT22-5	2000	2.0 - 6.0	7900 J	0.058 U	0.058 U	0.058 U	0.31	0.11	0.11	0.058 U	0.53

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TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (ft)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K52241	KPT22-5	2000	6.0 - 12.0	780 J	0.056 U	0.056 U	0.056 U	0.079	0.23	0.060	0.056 U	0.37
K52242	KPT22-5	2000	12.0 - 23.0	4800 J	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K52243	KPT22-5	2000	12.0 - 23.0	20000 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51343	KPT22-6	1997	0.0 - 2.0	130 UJ	0.063 U	0.063 U	0.063 U	0.045 J	0.038 J	0.041 J	0.063 U	0.12 J
K51344	KPT22-6	1997	2.0 - 6.0	130 UJ	0.063 U	0.063 U	0.063 U	0.083	0.062 J	0.076	0.063 U	0.22 J
K51345	KPT22-6	1997	6.0 - 12.0	50000 J	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.22	0.22
K51346	KPT22-6	1997	12.0 - 18.0	20000	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U
K51347	KPT22-6	1997	12.0 - 18.0	6700	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U
K52271	KPT22-7	2000	0.0 - 2.0	33000	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U
K52272	KPT22-7	2000	2.0 - 6.0	13000	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U
K52273	KPT22-7	2000	6.0 - 12.0	33000	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U
K52274	KPT22-7	2000	12.0 - 18.0	6500	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K52275	KPT22-7	2000	18.0 - 24.0	5100	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51365	KPT23-1	1997	0.0 - 2.0	15000	0.062 U	0.062 U	0.062 U	0.16	0.062 U	0.045 J	0.062 U	0.21 J
K51366	KPT23-1	1997	2.0 - 10.0	NA	0.29 U	0.29 U	0.29 U	1.2	0.29 U	0.57	0.29 U	1.8
K52289	KPT23-2	2000	0.0 - 2.0	31000	0.14 U	0.14 U	0.14 U	0.64	0.14 U	0.49	0.088 J	1.2 J
K52290	KPT23-2	2000	2.0 - 6.0	12000	0.13 U	0.13 U	0.13 U	0.63	0.13 U	0.18	0.13 U	0.81
K52291	KPT23-2	2000	6.0 - 9.0	130000	0.14 U	0.14 U	0.14 U	0.70	0.14 U	0.19	0.096 J	0.99 J
K52170	KPT23-4	2000	0.0 - 2.0	21000	0.065 U	0.065 U	0.065 U	0.51 J	0.065 U	0.080 J	0.065 U	0.59 J
K52171	KPT23-4	2000	2.0 - 7.0	4100	0.055 U	0.055 U	0.055 U	0.16	0.055 U	0.098	0.055 U	0.26
K52284	KPT23-5	2000	0.0 - 2.0	750 J	0.062 U	0.062 U	0.062 U	0.28	0.22	0.15	0.033 J	0.68 J
K52285	KPT23-5	2000	2.0 - 6.0	1000 J	0.059 U	0.059 U	0.059 U	0.14	0.12	0.13	0.059 U	0.39
K52286	KPT23-5	2000	6.0 - 12.0	6800 J	0.059 U	0.059 U	0.059 U	0.15	0.40	0.12	0.037 J	0.71 J
K52287	KPT23-5	2000	12.0 - 17.0	8000 J	0.065 U	0.065 U	0.065 U	0.19	0.19	0.16	0.065 U	0.54
K52288	KPT23-5	2000	12.0 - 17.0	16000 J	0.060 U	0.060 U	0.060 U	0.46	0.19	0.22	0.060 U	0.87
K52244	KPT23-6	2000	0.0 - 2.0	1400 J	0.13 U	0.13 U	0.13 U	0.29	0.20	0.18	0.13 U	0.67
K52245	KPT23-6	2000	2.0 - 6.0	2900 J	0.13 U	0.13 U	0.13 U	0.31	0.19	0.15	0.14	0.79
K52246	KPT23-6	2000	6.0 - 12.0	33000 J	0.29 U	0.29 U	0.29 U	1.7	0.29 U	2.0	0.29 U	3.7
K52247	KPT23-6	2000	12.0 - 20.0	21000 J	6.9 U	6.9 U	6.9 U	6.9 U	6.9 U	67	6.9 U	67
K52214	KPT23-7	2000	0.0 - 2.0	71000	0.099 U	0.099 U	0.099 U	0.099 U	0.088 J	0.075 J	0.099 U	0.16 J
K52215	KPT23-7	2000	2.0 - 6.0	71000	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K52216	KPT23-7	2000	6.0 - 12.0	15000	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U
K52217	KPT23-7	2000	12.0 - 24.0	1900	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K52218	KPT23-7	2000	12.0 - 24.0	1200	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K50465	KPT24-1	1997	0.0 - 2.0	100 UJ	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K50466	KPT24-1	1997	2.0 - 12.0	100 UJ	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K50467	KPT24-1	1997	12.0 - 27.0	2500 J	0.061 U	0.061 U	0.061 U	0.046 J	0.061 U	0.061 U	0.061 U	0.046 J
K50468	KPT24-1	1997	12.0 - 27.0	100 UJ	0.059 U	0.059 U	0.059 U	0.076	0.036 J	0.059 U	0.059 U	0.11 J
K52190	KPT24-2	2000	0.0 - 2.0	9300	0.058 U	0.058 U	0.058 U	0.031 J	0.058 U	0.058 U	0.058 U	0.031 J

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (ft)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K52191	KPT24-2	2000	2.0 - 6.0	7600	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K52192	KPT24-2	2000	6.0 - 12.0	4400	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K52193	KPT24-2	2000	12.0 - 24.0	4500	0.061 U	0.061 U	0.061 U	0.061 U	0.031 J	0.061 U	0.061 U	0.031 J
K52185	KPT24-3	2000	0.0 - 2.0	110000 J	0.052 U	0.052 U	0.052 U	0.051 J	0.069	0.035 J	0.052 U	0.16 J
K52186	KPT24-3	2000	2.0 - 6.0	110 UJ	0.055 U	0.055 U	0.055 U	0.055 U	0.063	0.055 U	0.055 U	0.063
K52187	KPT24-3	2000	6.0 - 12.0	2800 J	0.064 U	0.064 U	0.064 U	0.037 J	0.064 U	0.064 U	0.064 U	0.037 J
K52188	KPT24-3	2000	12.0 - 19.0	3900 J	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K52189	KPT24-3	2000	12.0 - 19.0	130 UJ	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U
K52163	KPT24-5	2000	0.0 - 2.0	6000	0.056 U	0.056 U	0.056 U	0.091 J	0.056 U	0.056 U	0.056 U	0.091 J
K52164	KPT24-5	2000	2.0 - 6.0	3800	0.056 U	0.056 U	0.056 U	0.046 J	0.056 U	0.056 U	0.056 U	0.046 J
K52165	KPT24-5	2000	6.0 - 12.0	4200	0.058 U	0.058 U	0.058 U	0.13 JN	0.058 U	0.058 U	0.058 U	0.13 J
K52166	KPT24-5	2000	6.0 - 12.0	3800	0.057 U	0.057 U	0.057 U	0.057 U	0.036 J	0.057 U	0.057 U	0.036 J
K52167	KPT24-6	2000	0.0 - 2.0	1400 J	0.057 U	0.057 U	0.057 U	0.034 J	0.057 U	0.057 U	0.057 U	0.034 J
K52168	KPT24-6	2000	2.0 - 6.0	650 J	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K52169	KPT24-6	2000	6.0 - 10.0	2700 J	0.060 U	0.060 U	0.060 U	0.042 J	0.060 U	0.060 U	0.060 U	0.042 J
K52194	KPT24-7	2000	0.0 - 2.0	12000	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U
K52195	KPT24-7	2000	2.0 - 6.0	6800	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K52196	KPT24-7	2000	6.0 - 11.0	4200	0.056 U	0.056 U	0.056 U	0.056 U	0.031 J	0.056 U	0.056 U	0.031 J
K51305	KPT24-8	1997	0.0 - 2.0	63000	0.32 U	0.32 U	0.32 U	2.3	0.32 U	1.6	0.28 J	4.2 J
K51306	KPT24-8	1997	2.0 - 12.0	NA	0.38 U	0.38 U	0.38 U	3.7	0.38 U	1.2	0.38 U	4.9
K51307	KPT24-8	1997	12.0 - 24.0	NA	0.056 U	0.056 U	0.056 U	0.12	0.056 U	0.056 U	0.056 U	0.12
K51308	KPT24-8	1997	2.0 - 12.0	NA	0.38 U	0.38 U	0.38 U	1.8	0.38 U	0.58	0.38 U	2.4
K52250	KPT25-1	2000	0.0 - 2.0	3400 J	0.064 U	0.064 U	0.064 U	0.058 J	0.087	0.077	0.064 U	0.22 J
K52251	KPT25-1	2000	2.0 - 6.0	7200 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51348	KPT25-4	1997	0.0 - 3.0	28000 J	0.069 U	0.069 U	0.069 U	0.12	0.069 U	0.069 U	0.069 U	0.12
K52256	KPT25-5	2000	0.0 - 2.0	2200 J	0.079 U	0.079 U	0.079 U	0.051 J	0.079 U	0.079 U	0.079 U	0.051 J
K52257	KPT25-5	2000	2.0 - 6.0	2200 J	0.081 U	0.081 U	0.081 U	0.042 J	0.081 U	0.081 U	0.081 U	0.042 J
K52258	KPT25-5	2000	6.0 - 11.5	130 UJ	0.064 U	0.064 U	0.11 JN	0.064 U	0.064 U	0.064 U	0.064 U	0.11 J
K52259	KPT25-5	2000	6.0 - 11.5	2200 J	0.066 U	0.066 U	0.10 JN	0.066 U	0.066 U	0.066 U	0.066 U	0.10 J
K52176	KPT25-6	2000	0.0 - 2.0	5200 J	0.068 U	0.068 U	0.068 U	0.076	0.068 U	0.049 J	0.068 U	0.13 J
K52177	KPT25-6	2000	2.0 - 6.0	130 UJ	0.25 U	0.25 U	0.25 U	1.2	0.25 U	0.25 U	0.25 U	1.2
K52178	KPT25-6	2000	6.0 - 12.0	140 UJ	0.068 U	0.068 U	0.068 U	0.15	0.068 U	0.068 U	0.068 U	0.15
K52179	KPT25-6	2000	12.0 - 24.0	7300 J	0.071 U	0.071 U	0.071 U	0.072	0.071 U	0.071 U	0.071 U	0.072
K52180	KPT25-6	2000	12.0 - 24.0	470 J	0.069 U	0.069 U	0.069 U	0.098	0.069 U	0.069 U	0.069 U	0.098
K52252	KPT25-7	2000	0.0 - 2.0	27000 J	0.054 U	0.054 U	0.054 U	0.054 U	0.027 J	0.054 U	0.054 U	0.027 J
K52253	KPT25-7	2000	2.0 - 6.0	130 UJ	0.13 U	0.13 U	0.13 U	0.13 U	0.73	0.13 U	0.13 U	0.73
K52254	KPT25-7	2000	6.0 - 12.0	28000 J	0.13 U	0.13 U	0.13 U	0.47	0.13 U	0.13 U	0.13 U	0.47
K52255	KPT25-7	2000	12.0 - 24.0	4400 J	0.070 U	0.070 U	0.070 U	0.24	0.070 U	0.070 U	0.070 U	0.24
K52219	KPT25-8	2000	0.0 - 2.0	77000 J	3.5 U	3.5 U	3.5 U	29	19	17	3.5	69

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TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K52220	KPT25-8	2000	2.0 - 6.0	30000 J	4.3 U	4.3 U	4.3 U	34	4.3 U	8.0	4.3 U	42
K52221	KPT25-8	2000	6.0 - 12.0	15000 J	0.072 U	0.072 U	0.072 U	0.55	0.072 U	0.089	0.072 U	0.64
K52222	KPT25-8	2000	12.0 - 24.0	13000 J	0.072 U	0.072 U	0.072 U	0.20	0.072 U	0.072 U	0.072 U	0.20
K52223	KPT25-8	2000	12.0 - 24.0	5500 J	0.080 U	0.080 U	0.080 U	0.29	0.080 U	0.080 U	0.080 U	0.29
K52146	KPT26-1	2000	0.0 - 2.0	5100	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K52147	KPT26-1	2000	2.0 - 6.0	8300	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K52148	KPT26-1	2000	6.0 - 12.0	7100	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U
K52149	KPT26-1	2000	6.0 - 12.0	5600	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K52150	KPT26-1	2000	12.0 - 16.0	8600	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K51367	KPT26-2	1997	0.0 - 2.0	12000 J	0.058 U	0.058 U	0.058 U	0.056 J	0.035 J	0.058 U	0.058 U	0.091 J
K51368	KPT26-2	1997	2.0 - 11.0	2200 J	0.065 U	0.065 U	0.065 U	0.14	0.065 U	0.065 U	0.065 U	0.14
K50020	KPT26-3	1997	0.0 - 7.2	15000	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K50876	KPT26-4	1997	0.0 - 2.0	38000	0.21 U	0.21 U	0.21 U	1.0	0.76	0.51	0.21 U	2.3
K50877	KPT26-4	1997	2.0 - 6.0	NA	0.065 U	0.065 U	0.065 U	0.42 JN	0.065 U	0.054 JN	0.065 U	0.47 J
K51416	KPT26-5	1997	0.0 - 2.0	8900	0.070 U	0.070 U	0.070 U	0.15	0.24	0.27 J	0.069 J	0.73 J
K51417	KPT26-5	1997	2.0 - 10.0	4000	0.069 U	0.069 U	0.069 U	0.069 U	0.28	0.24 J	0.063 J	0.58 J
K51418	KPT26-5	1997	10.0 - 14.0	5700	0.064 U	0.064 U	0.064 U	0.033 J	0.064 U	0.064 U	0.064 U	0.033 J
K52172	KPT26-7	2000	0.0 - 2.0	15000 J	0.085 U	0.085 U	0.085 U	0.046 J	0.085 U	0.085 U	0.085 U	0.046 J
K52173	KPT26-7	2000	2.0 - 6.0	2600 J	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K52174	KPT26-7	2000	6.0 - 14.0	17000 J	0.054 U	0.054 U	0.088 JN	0.054 U	0.054 U	0.054 U	0.054 U	0.088 J
K52175	KPT26-7	2000	6.0 - 14.0	9800 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51354	KPT27-1	1997	0.0 - 2.0	190000	0.16 U	0.16 U	0.16 U	0.16 U	0.56	0.40	0.12 J	1.1 J
K51355	KPT27-1	1997	2.0 - 8.0	150000	0.14 U	0.14 U	0.14 U	0.14 U	0.070 J	0.069 J	0.14 U	0.14 J
K51356	KPT27-1	1997	8.0 - 12.0	23000	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U
K51357	KPT27-1	1997	12.0 - 17.0	15000	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K51358	KPT27-1	1997	2.0 - 8.0	120000	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.060 J	0.12 U	0.060 J
K51323	KPT27-2	1997	0.0 - 2.0	65000	0.098 U	0.098 U	0.098 U	1.6 E	0.098 U	0.098 U	0.098 U	1.6
K51324	KPT27-2	1997	2.0 - 12.0	NA	0.066 U	0.066 U	0.066 U	0.15	0.066 U	0.066 U	0.066 U	0.15
K51325	KPT27-2	1997	12.0 - 15.0	NA	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K52260	KPT27-3	2000	0.0 - 2.0	6600 J	0.058 U	0.058 U	0.058 U	0.039 J	0.058 U	0.058 U	0.058 U	0.039 J
K52261	KPT27-3	2000	2.0 - 6.0	110 UJ	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K52262	KPT27-3	2000	6.0 - 13.0	5800 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K52224	KPT27-4	2000	0.0 - 2.0	2500 J	0.056 U	0.056 U	0.056 U	0.094	0.056 U	0.056 U	0.056 U	0.094
K52225	KPT27-4	2000	2.0 - 6.0	280 J	0.058 U	0.058 U	0.058 U	0.12	0.058 U	0.13	0.058 U	0.25
K51339	KPT27-5	1997	0.0 - 2.0	930 J	0.058 U	0.058 U	0.058 U	0.11	0.058 U	0.058 U	0.058 U	0.11
K51340	KPT27-5	1997	2.0 - 5.0	110 UJ	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K52263	KPT27-6	2000	0.0 - 2.0	12000 J	0.068 U	0.068 U	0.068 U	0.079	0.068 U	0.068 U	0.068 U	0.079
K52264	KPT27-6	2000	2.0 - 6.0	5800 J	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.054 J	0.086 U	0.054 J
K52265	KPT27-6	2000	6.0 - 12.0	8000	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U

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TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K52266	KPT27-6	2000	6.0 - 12.0	4100	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U
K52267	KPT27-6	2000	12.0 - 18.0	3600	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U
K52268	KPT27-7	2000	0.0 - 2.0	2100 J	0.057 U	0.057 U	0.057 U	0.12	0.057 U	0.061	0.057 U	0.18
K52269	KPT27-7	2000	2.0 - 6.0	21000 J	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U
K52270	KPT27-7	2000	6.0 - 12.0	1300 J	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U
K51394	KPT27-8	1997	0.0 - 2.0	150000	0.33 U	0.33 U	0.33 U	3.5	0.40	0.33 U	0.34	4.2
K51395	KPT27-8	1997	2.0 - 11.0	NA	0.40 U	0.40 U	0.40 U	3.1	0.40 U	0.40 U	0.40 U	3.1
K50652	KPT28-1	1997	0.0 - 2.0	130000	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
K50653	KPT28-1	1997	2.0 - 14.0	95000	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
K50654	KPT28-1	1997	14.0 - 26.0	970 J	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K52197	KPT28-2	2000	0.0 - 2.0	11000	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
K52198	KPT28-2	2000	2.0 - 6.0	2900	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K52199	KPT28-2	2000	6.0 - 12.0	5000	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K52200	KPT28-2	2000	12.0 - 24.0	4400	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K52159	KPT28-3	2000	0.0 - 2.0	12000 J	0.062 U	0.062 U	0.062 U	0.032 J	0.062 U	0.062 U	0.062 U	0.032 J
K52160	KPT28-3	2000	2.0 - 6.0	1500 J	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K52161	KPT28-3	2000	6.0 - 12.0	500 J	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U
K52162	KPT28-3	2000	12.0 - 24.0	1400 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K52201	KPT28-4	2000	0.0 - 2.0	4200	0.055 U	0.055 U	0.055 U	0.033 J	0.055 U	0.055 U	0.055 U	0.033 J
K52202	KPT28-4	2000	2.0 - 6.0	6300	0.060 U	0.060 U	0.060 U	0.033 J	0.060 U	0.060 U	0.060 U	0.033 J
K52203	KPT28-4	2000	6.0 - 12.0	3400	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K52204	KPT28-4	2000	6.0 - 12.0	3500	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K52205	KPT28-4	2000	12.0 - 24.0	5500	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K52155	KPT28-5	2000	0.0 - 2.0	5000 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K52156	KPT28-5	2000	2.0 - 6.0	2300 J	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K52157	KPT28-5	2000	6.0 - 12.0	2100 J	0.060 U	0.060 U	0.060 U	0.034 J	0.060 U	0.060 U	0.060 U	0.034 J
K52158	KPT28-5	2000	12.0 - 24.0	740 J	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K52206	KPT28-6	2000	0.0 - 2.0	6400	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.043 J	0.062 U	0.043 J
K52207	KPT28-6	2000	2.0 - 6.0	3000	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K52208	KPT28-6	2000	2.0 - 6.0	7900	0.060 U	0.060 U	0.060 U	0.032 J	0.034 J	0.060 U	0.060 U	0.066 J
K52209	KPT28-6	2000	6.0 - 12.0	3900	0.060 U	0.060 U	0.060 U	0.034 J	0.060 U	0.060 U	0.060 U	0.034 J
K52181	KPT28-7	2000	0.0 - 2.0	110 UJ	0.054 U	0.054 U	0.054 U	0.027 J	0.054 U	0.054 U	0.054 U	0.027 J
K52182	KPT28-7	2000	2.0 - 6.0	120 UJ	0.058 U	0.058 U	0.058 U	0.030 J	0.058 U	0.058 U	0.058 U	0.030 J
K52183	KPT28-7	2000	6.0 - 12.0	1100 J	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
K52184	KPT28-7	2000	12.0 - 24.0	130 UJ	0.064 U	0.064 U	0.064 U	0.041 J	0.064 U	0.064 U	0.064 U	0.041 J
K51375	KPT28-8	1997	0.0 - 2.0	49000 J	0.25 U	0.25 U	0.25 U	1.1	0.25 U	0.37	0.25 U	1.5
K51376	KPT28-8	1997	2.0 - 12.0	94000 J	0.25 U	0.25 U	0.25 U	0.65	0.30	0.26	0.25 U	1.2
K51377	KPT28-8	1997	12.0 - 24.0	5200 J	0.062 U	0.062 U	0.062 U	0.047 J	0.062 U	0.062 U	0.062 U	0.047 J
K51378	KPT28-8	1997	2.0 - 12.0	17000 J	0.25 U	0.25 U	0.25 U	0.97	0.43	0.31	0.25 U	1.7

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TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51419	KPT29-1	1997	0.0 - 2.0	66000	0.092 U	0.092 U	0.092 U	0.15	0.18	0.19 J	0.092 U	0.52 J
K51420	KPT29-1	1997	2.0 - 12.0	NA	0.092 UJ	0.092 UJ	0.092 UJ	0.092 UJ	0.092 UJ	0.092 UJ	0.092 UJ	0.092 UJ
K52558	KPT29-3	2000	0.0 - 2.0	13000	0.058 U	0.058 U	0.058 U	0.036 J	0.029 J	0.058 U	0.058 U	0.065 J
K52559	KPT29-3	2000	2.0 - 6.0	8500	0.067 U	0.067 U	0.067 U	0.040 J	0.067 U	0.067 U	0.067 U	0.040 J
K52560	KPT29-3	2000	6.0 - 12.0	30000	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U
K52561	KPT29-3	2000	12.0 - 17.0	24000 J	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U
K52151	KPT29-4	2000	0.0 - 2.0	1000 J	0.056 U	0.056 U	0.056 U	0.056 U	0.058	0.056 U	0.056 U	0.058
K52152	KPT29-4	2000	2.0 - 6.0	12000 J	0.054 U	0.054 U	0.054 U	0.032 J	0.054 U	0.054 U	0.054 U	0.032 J
K52153	KPT29-4	2000	6.0 - 12.0	11000 J	0.056 U	0.056 U	0.056 U	0.70	0.056 U	0.070	0.056 U	0.77
K52154	KPT29-4	2000	12.0 - 20.5	5300 J	0.050 U	0.050 U	0.050 U	0.050 JN	0.050 U	0.050 U	0.050 U	0.050 J
K52142	KPT29-7	2000	0.0 - 2.0	17000	0.068 U	0.068 U	0.068 U	0.20	0.068 U	0.068 J	0.068 U	0.27 J
K52143	KPT29-7	2000	2.0 - 6.0	11000	0.066 U	0.066 U	0.066 U	0.046 J	0.040 J	0.066 U	0.066 U	0.086 J
K52144	KPT29-7	2000	6.0 - 12.0	9300	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K52145	KPT29-7	2000	12.0 - 21.0	19000	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U
K52347	KPT30-1	2000	0.0 - 2.0	60000 J	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U
K52348	KPT30-1	2000	2.0 - 6.0	39000 J	0.079 U	0.079 U	0.079 U	0.079 U	0.079 U	0.079 U	0.079 U	0.079 U
K52349	KPT30-1	2000	6.0 - 12.0	120 UJ	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K52350	KPT30-1	2000	12.0 - 21.0	17000 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K52351	KPT30-1	2000	21.0 - 24.0	7800 J	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U
K52612	KPT30-2	2000	0.0 - 2.0	20000 J	0.22 U	0.22 U	0.22 U	1.8	0.22 U	0.30	0.22 U	2.1
K52613	KPT30-2	2000	2.0 - 6.0	5900 J	0.19 U	0.19 U	0.19 U	1.5	0.19 U	0.15 J	0.19 U	1.7 J
K52614	KPT30-2	2000	6.0 - 12.0	1700 J	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
K52615	KPT30-2	2000	6.0 - 12.0	330 J	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K52298	KPT30-3	2000	0.0 - 2.0	14000 J	0.062 U	0.062 U	0.062 U	0.062 U	0.33	0.17	0.048 J	0.55 J
K52299	KPT30-3	2000	2.0 - 6.0	3600 J	0.058 U	0.058 U	0.058 U	0.029 J	0.063	0.037 J	0.058 U	0.13 J
K52300	KPT30-3	2000	6.0 - 11.0	9000 J	0.063 U	0.063 U	0.063 U	0.063 U	0.048 J	0.063 U	0.063 U	0.048 J
K52431	KPT30-4	2000	0.0 - 2.0	2700	0.056 U	0.056 U	0.056 U	0.056 U	0.041 J	0.031 J	0.056 U	0.072 J
K52432	KPT30-4	2000	2.0 - 6.0	6300	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K52433	KPT30-4	2000	6.0 - 12.0	26000	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U
K52295	KPT30-5	2000	0.0 - 2.0	2100 J	0.11 U	0.11 U	0.11 U	1.3	0.11 U	0.10 J	0.11 U	1.4 J
K52296	KPT30-5	2000	2.0 - 6.0	3700 J	0.061 U	0.061 U	0.061 U	0.13	0.061 U	0.061 U	0.061 U	0.13
K52297	KPT30-5	2000	6.0 - 12.0	6700 J	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K52410	KPT30-6	2000	0.0 - 2.0	5600	0.060 U	0.060 U	0.060 U	0.051 J	0.060 U	0.031 J	0.060 U	0.082 J
K52411	KPT30-6	2000	2.0 - 6.0	18000	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K52412	KPT30-6	2000	6.0 - 10.0	2000	0.059 U	0.059 U	0.059 U	0.049 J	0.059 U	0.059 U	0.059 U	0.049 J
K52292	KPT30-7	2000	0.0 - 2.0	1800 J	0.059 U	0.059 U	0.059 U	0.038 J	0.059 U	0.059 U	0.059 U	0.038 J
K52293	KPT30-7	2000	2.0 - 6.0	300 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K52294	KPT30-7	2000	6.0 - 12.0	1100 J	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K51349	KPT30-8	1997	0.0 - 2.0	28000	0.20 U	0.20 U	0.20 U	0.84	0.20 U	0.20 J	0.20 U	1.0 J

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TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51350	KPT30-8	1997	2.0 - 6.0	5600	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U
K51351	KPT30-8	1997	6.0 - 12.0	5200	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K52403	KPT31-1	2000	0.0 - 2.0	7000	0.073 U	0.073 U	0.073 U	0.056 J	0.064 J	0.069 J	0.073 U	0.19 J
K52404	KPT31-1	2000	2.0 - 6.0	9200	0.062 U	0.062 U	0.062 U	0.17	0.062 U	0.060 J	0.062 U	0.23 J
K52405	KPT31-1	2000	6.0 - 11.0	6600	0.056 U	0.056 U	0.056 U	0.052 J	0.056 U	0.056 U	0.056 U	0.052 J
K52413	KPT31-2	2000	0.0 - 2.0	1500 J	0.067 U	0.067 U	0.067 U	0.11	0.058 J	0.053 J	0.067 U	0.22 J
K52414	KPT31-2	2000	2.0 - 5.0	3900 J	0.060 U	0.060 U	0.060 U	0.078	0.060 U	0.043 J	0.060 U	0.12 J
K52415	KPT31-2	2000	5.0 - 8.0	130 UJ	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U
K52416	KPT31-2	2000	8.0 - 15.0	2400 J	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K52417	KPT31-2	2000	8.0 - 15.0	1400 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K52352	KPT31-3	2000	0.0 - 2.0	1600 J	0.054 U	0.054 U	0.054 U	0.056	0.054 U	0.054 U	0.054 U	0.056
K52353	KPT31-3	2000	2.0 - 6.0	16000 J	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K52354	KPT31-3	2000	6.0 - 12.0	640 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K52355	KPT31-3	2000	12.0 - 24.0	700 J	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K52356	KPT31-3	2000	12.0 - 24.0	3100 J	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K52317	KPT31-4	2000	12.0 - 24.0	110 UJ	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K52318	KPT31-4	2000	12.0 - 24.0	110 UJ	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K52319	KPT31-4	2000	0.0 - 2.0	17000 J	0.052 U	0.052 U	0.052 U	0.072	0.052 U	0.052 U	0.052 U	0.072
K52320	KPT31-4	2000	2.0 - 6.0	110 UJ	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U
K52321	KPT31-4	2000	6.0 - 12.0	860 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K52324	KPT31-5	2000	0.0 - 2.0	2800 J	0.052 U	0.052 U	0.052 U	0.18	0.052 U	0.027 J	0.052 U	0.21 J
K52325	KPT31-5	2000	2.0 - 6.0	25000 J	0.052 U	0.052 U	0.052 U	0.11	0.052 U	0.052 U	0.052 U	0.11
K52326	KPT31-5	2000	6.0 - 12.0	9700 J	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U
K52327	KPT31-5	2000	12.0 - 24.0	7400 J	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K52328	KPT31-5	2000	12.0 - 24.0	110 UJ	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K52309	KPT31-6	2000	0.0 - 2.0	9100 J	0.051 U	0.051 U	0.051 U	0.26	0.051 U	0.051 U	0.051 U	0.26
K52310	KPT31-6	2000	2.0 - 6.0	1500 J	0.051 U	0.051 U	0.30 JN	0.051 U	0.051 U	0.051 U	0.051 U	0.30 J
K52311	KPT31-6	2000	6.0 - 12.0	650 J	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K52312	KPT31-6	2000	12.0 - 24.0	110 UJ	0.052 UJ	0.052 UJ	0.052 UJ	0.052 UJ	0.052 UJ	0.052 UJ	0.052 UJ	0.052 UJ
K52313	KPT31-6	2000	12.0 - 24.0	3600 J	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U
K52314	KPT31-7	2000	0.0 - 2.0	3400 J	0.058 U	0.058 U	0.058 U	0.040 JN	0.058 U	0.058 U	0.058 U	0.040 J
K52315	KPT31-7	2000	2.0 - 6.0	120 UJ	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K52316	KPT31-7	2000	6.0 - 12.0	110 UJ	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K52322	KPT31-7	2000	12.0 - 21.0	110 UJ	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K52323	KPT31-7	2000	21.0 - 24.0	120 UJ	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K52399	KPT32-1	2000	0.0 - 2.0	1200 J	0.060 U	0.060 U	0.060 U	0.16	0.060 U	0.060 U	0.060 U	0.16
K52400	KPT32-1	2000	2.0 - 6.0	4900 J	0.057 U	0.057 U	0.057 U	0.068	0.035 J	0.057 U	0.057 U	0.10 J
K52401	KPT32-2	2000	0.0 - 2.0	3100	0.056 U	0.056 U	0.056 U	0.029 J	0.056 U	0.056 U	0.056 U	0.029 J
K52402	KPT32-2	2000	2.0 - 6.0	2400	0.061 U	0.061 U	0.061 U	0.049 J	0.061 U	0.061 U	0.061 U	0.049 J

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TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K52438	KPT32-3	2000	0.0 - 2.0	120 UJ	0.060 U	0.060 U	0.060 U	0.060 U	0.034 J	0.060 U	0.060 U	0.034 J
K52439	KPT32-3	2000	2.0 - 6.0	130 UJ	0.063 U	0.063 U	0.063 U	0.063 U	0.033 J	0.035 J	0.063 U	0.068 J
K52440	KPT32-3	2000	6.0 - 10.0	1200 J	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K50416	KPT32-4	1997	0.0 - 2.0	12000 J	0.085 U	0.085 U	0.085 U	0.21	0.085 U	0.19 J	0.085 UJ	0.40 J
K50417	KPT32-4	1997	2.0 - 12.0	14000 J	0.058 U	0.058 U	0.058 U	0.48	0.058 U	0.058 UJ	0.058 UJ	0.48 J
K50418	KPT32-4	1997	12.0 - 24.0	100 UJ	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U
K50668	KPT32-5	1997	0.0 - 2.0	9100	0.059 UJ	0.059 UJ	0.059 UJ	0.37 J	0.16 J	0.084 J	0.059 UJ	0.61 J
K50669	KPT32-5	1997	2.0 - 12.0	19000 J	0.32 U	0.32 U	0.32 U	1.9	0.77	0.32 U	0.32 U	2.7
K50670	KPT32-5	1997	12.0 - 22.0	2100 J	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U
K50671	KPT32-5	1997	12.0 - 22.0	2600	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U
K50648	KPT32-6	1997	0.0 - 2.0	8000	0.60 U	0.60 U	0.60 U	0.65	0.45 J	0.60 U	0.60 U	1.1 J
K50649	KPT32-6	1997	2.0 - 12.0	NA	0.060 U	0.060 U	0.060 U	0.13	0.058 J	0.060 U	0.060 U	0.19 J
K50650	KPT32-6	1997	12.0 - 22.0	NA	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U
K50651	KPT32-6	1997	12.0 - 22.0	NA	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U
K52387	KPT32-7	2000	0.0 - 2.0	42000	0.22 U	0.22 U	0.22 U	1.1	0.22 U	0.23	0.22 U	1.3
K52388	KPT32-7	2000	2.0 - 6.0	12000	0.20 U	0.20 U	0.20 U	0.61	0.20 U	0.11 J	0.20 U	0.72 J
K52389	KPT32-7	2000	6.0 - 9.0	35000	0.22 U	0.22 U	0.22 U	1.2	0.22 U	0.14 J	0.22 U	1.3 J
K52390	KPT32-7	2000	9.0 - 11.0	13000	0.057 U	0.057 U	0.057 U	0.21	0.057 U	0.057 U	0.057 U	0.21
K52391	KPT32-8	2000	0.0 - 2.0	11000	0.13 U	0.13 U	0.13 U	0.47	0.13 U	0.097 J	0.13 U	0.57 J
K52392	KPT32-8	2000	2.0 - 6.0	5000	0.060 U	0.060 U	0.060 U	0.13	0.060 U	0.060 U	0.060 U	0.13
K52393	KPT32-8	2000	6.0 - 8.0	6300	0.061 U	0.061 U	0.061 U	0.40	0.061 U	0.065	0.061 U	0.47
K52367	KPT33-1	2000	0.0 - 2.0	4900 J	0.071 U	0.071 U	0.071 U	0.47	0.071 U	0.13	0.071 U	0.60
K52368	KPT33-1	2000	2.0 - 6.0	30000 J	0.058 U	0.058 U	0.058 U	0.071	0.058 U	0.058 U	0.058 U	0.071
K52369	KPT33-1	2000	6.0 - 12.0	3000 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K52370	KPT33-1	2000	12.0 - 24.0	1900	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K52379	KPT33-2	2000	0.0 - 2.0	1400 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K52380	KPT33-2	2000	2.0 - 6.0	8200 J	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U
K52381	KPT33-2	2000	6.0 - 14.0	4000 J	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U
K52382	KPT33-2	2000	6.0 - 14.0	1400 J	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U
K52383	KPT33-2	2000	14.0 - 24.0	1600 J	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K52301	KPT33-3	2000	0.0 - 2.0	8600	0.053 U	0.053 U	0.053 U	0.038 J	0.053 U	0.053 U	0.053 U	0.038 J
K52302	KPT33-3	2000	2.0 - 6.0	5300 J	0.054 U	0.054 U	0.054 U	0.054 J	0.054 U	0.054 U	0.054 U	0.054 J
K52303	KPT33-3	2000	6.0 - 12.0	4300 J	0.057 U	0.057 U	0.057 U	0.043 J	0.057 U	0.057 U	0.057 U	0.043 J
K50674	KPT33-4	1997	0.0 - 2.0	2200 J	0.056 U	0.056 U	0.056 U	0.041 J	0.056 U	0.056 U	0.056 U	0.041 J
K50675	KPT33-4	1997	2.0 - 12.0	5100 J	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K52339	KPT33-5	2000	0.0 - 2.0	2900 J	0.059 U	0.059 U	0.059 U	0.031 J	0.059 U	0.059 U	0.059 U	0.031 J
K52340	KPT33-5	2000	2.0 - 6.0	5900 J	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K52341	KPT33-5	2000	6.0 - 12.0	14000 J	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U
K52342	KPT33-5	2000	12.0 - 17.0	1700 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K52371	KPT33-6	2000	0.0 - 2.0	1300 J	0.056 U	0.056 U	0.056 U	0.058	0.056 U	0.056 U	0.056 U	0.058
K52372	KPT33-6	2000	2.0 - 6.0	500	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K52373	KPT33-6	2000	6.0 - 11.0	5800	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K52374	KPT33-6	2000	11.0 - 18.0	540	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K50680	KPT33-7	1997	0.0 - 2.0	1500	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K50681	KPT33-7	1997	2.0 - 11.0	3600	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K52362	KPT34-1	2000	0.0 - 2.0	3600 J	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K52363	KPT34-1	2000	2.0 - 6.0	11000 J	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U
K52364	KPT34-1	2000	6.0 - 12.0	130 UJ	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U
K52365	KPT34-1	2000	12.0 - 24.0	120 UJ	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K52366	KPT34-1	2000	12.0 - 24.0	130 UJ	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K52304	KPT34-2	2000	0.0 - 2.0	1500 J	0.058 U	0.058 U	0.058 U	0.058 U	0.035 J	0.058 U	0.058 U	0.035 J
K52305	KPT34-2	2000	2.0 - 7.0	19000 J	0.070 U	0.070 U	0.070 U	0.070 U	0.049 J	0.070 U	0.070 U	0.049 J
K52306	KPT34-2	2000	7.0 - 10.0	44000 J	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U
K52397	KPT34-3	2000	0.0 - 2.0	7000 J	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K52398	KPT34-3	2000	2.0 - 6.0	110 UJ	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K52394	KPT34-4	2000	0.0 - 2.0	9300	0.060 U	0.060 U	0.060 U	0.050 J	0.082	0.038 J	0.060 U	0.17 J
K52395	KPT34-4	2000	2.0 - 7.0	11000	0.065 U	0.065 U	0.065 U	0.21	0.065 U	0.090	0.065 U	0.30
K52396	KPT34-4	2000	2.0 - 7.0	11000	0.055 U	0.055 U	0.055 U	0.099	0.055 U	0.055 U	0.29	0.39
K50613	KPT34-5	1997	0.0 - 2.0	49000	0.098 U	0.098 U	0.098 U	0.52	0.098 U	0.19	0.098 U	0.71
K50614	KPT34-5	1997	2.0 - 7.0	NA	0.055 U	0.055 U	0.055 U	0.11	0.074	0.055 U	0.055 U	0.18
K52418	KPT34-8	2000	0.0 - 2.0	2200 J	0.062 U	0.062 U	0.062 U	0.062 U	0.037 J	0.062 U	0.062 U	0.037 J
K52419	KPT34-8	2000	2.0 - 7.0	2500 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K52307	KPT35-1	2000	0.0 - 2.0	920 J	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.030 JN	0.059 U	0.030 J
K52308	KPT35-1	2000	2.0 - 7.0	4100 J	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U
K52357	KPT35-4	2000	0.0 - 2.0	930 J	0.057 U	0.057 U	0.057 U	0.038 J	0.057 U	0.057 U	0.057 U	0.038 J
K52358	KPT35-4	2000	2.0 - 6.0	4900 J	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U
K52359	KPT35-4	2000	6.0 - 12.0	6200 J	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
K52360	KPT35-4	2000	12.0 - 24.0	7400 J	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K52361	KPT35-4	2000	12.0 - 24.0	270 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K52329	KPT35-5	2000	0.0 - 2.0	4200 J	0.057 U	0.057 U	0.057 U	0.084	0.057 U	0.057 U	0.057 U	0.084
K52330	KPT35-5	2000	2.0 - 6.0	120 UJ	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K52331	KPT35-5	2000	6.0 - 12.0	2100 J	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K52332	KPT35-5	2000	12.0 - 24.0	1500 J	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U
K52336	KPT35-6	2000	0.0 - 2.0	110 UJ	0.056 U	0.056 U	0.056 U	0.19	0.056 U	0.056 U	0.056 U	0.19
K52337	KPT35-6	2000	2.0 - 6.0	1600 J	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K52338	KPT35-6	2000	6.0 - 11.0	12000 J	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K52427	KPT35-7	2000	0.0 - 2.0	1400	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K52428	KPT35-7	2000	2.0 - 8.0	7200	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (ft)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K50666	KPT35-8	1997	0.0 - 2.0	4100	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K50667	KPT35-8	1997	2.0 - 9.0	NA	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U
K52406	KPT36-1	2000	0.0 - 2.0	3800	0.064 U	0.064 U	0.064 U	0.063 J	0.049 J	0.038 J	0.064 U	0.15 J
K52407	KPT36-1	2000	2.0 - 6.0	18000	0.14 U	0.14 U	0.14 U	0.42	0.55	0.30	0.14 U	1.3
K52408	KPT36-1	2000	6.0 - 13.0	21000	0.061 U	0.061 U	0.061 U	0.048 J	0.045 J	0.032 J	0.061 U	0.13 J
K52409	KPT36-1	2000	6.0 - 13.0	17000	0.071 U	0.071 U	0.071 U	0.29	0.071 U	0.12	0.071 U	0.41
K52424	KPT36-6	2000	0.0 - 2.0	7600	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K52425	KPT36-6	2000	2.0 - 8.0	9600	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
K52426	KPT36-6	2000	2.0 - 8.0	9400	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K52420	KPT37-2	2000	0.0 - 2.0	25000 J	0.060 U	0.060 U	0.060 U	0.060 U	0.28	0.17	0.050 J	0.50 J
K52421	KPT37-2	2000	2.0 - 5.0	5400 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.10	0.054 U	0.10
K52429	KPT37-3	2000	0.0 - 2.0	3700	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K52430	KPT37-3	2000	2.0 - 8.0	1300	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U
K52434	KPT37-4	2000	0.0 - 2.0	19000 J	0.065 U	0.065 U	0.065 U	0.066	0.065 U	0.065 U	0.044 J	0.11 J
K52435	KPT37-4	2000	2.0 - 6.0	4400 J	0.055 U	0.055 U	0.055 U	0.055 U	0.047 J	0.055 U	0.055 U	0.047 J
K52436	KPT37-4	2000	6.0 - 9.0	110 UJ	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K52437	KPT37-4	2000	9.0 - 13.0	690 J	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K52441	KPT37-6	2000	0.0 - 2.0	3600	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K52442	KPT37-6	2000	2.0 - 8.0	2100	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K52343	KPT38-1	2000	0.0 - 2.0	120000 J	0.11 U	0.11 U	0.11 U	1.1	0.11 U	0.27	0.061 J	1.4 J
K52344	KPT38-1	2000	2.0 - 5.0	18000 J	0.078 U	0.078 U	0.078 U	0.46	0.078 U	0.11	0.078 U	0.57
K52345	KPT38-1	2000	5.0 - 13.0	26000 J	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K52346	KPT38-1	2000	5.0 - 13.0	120 UJ	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K52384	KPT38-3	2000	0.0 - 2.0	8400 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K52385	KPT38-3	2000	2.0 - 6.0	4900 J	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K52386	KPT38-3	2000	6.0 - 10.0	11000 J	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K51359	KPT38-5	1997	0.0 - 2.0	8100	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51360	KPT38-5	1997	2.0 - 5.0	NA	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K52375	KPT38-6	2000	0.0 - 2.0	120 UJ	0.057 U	0.057 U	0.057 U	0.029 J	0.057 U	0.057 U	0.057 U	0.029 J
K52376	KPT38-6	2000	2.0 - 6.0	220 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K52377	KPT38-6	2000	6.0 - 12.0	3100 J	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K52378	KPT38-6	2000	6.0 - 12.0	11000 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K50572	KPT38-7	1997	0.0 - 2.0	37000	0.092 U	0.064 JN	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.064 J
K50573	KPT38-7	1997	2.0 - 12.0	6500	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K50574	KPT38-7	1997	12.0 - 19.0	120 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K50554	KPT39-1	1997	0.0 - 2.0	34000	0.085 U	0.085 U	0.085 U	0.28	0.35	0.21	0.085 U	0.84
K50555	KPT39-1	1997	2.0 - 14.0	NA	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U
K50672	KPT39-2	1997	0.0 - 2.0	9900 J	0.057 U	0.057 U	0.057 U	0.048 J	0.057 U	0.057 U	0.057 U	0.048 J
K50673	KPT39-2	1997	2.0 - 8.0	NA	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U

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TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (ft)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K52333	KPT39-6	2000	0.0 - 2.0	1000 J	0.054 U	0.054 U	0.054 U	0.13	0.054 U	0.054 U	0.054 U	0.13
K52334	KPT39-6	2000	2.0 - 6.0	560 J	0.057 U	0.057 U	0.057 U	0.069	0.057 U	0.057 U	0.057 U	0.069
K52335	KPT39-6	2000	6.0 - 13.0	210 J	0.060 U	0.060 U	0.060 U	0.040 J	0.060 U	0.060 U	0.060 U	0.040 J
K52422	KPT39-7	2000	0.0 - 2.0	5500 J	0.13 U	0.13 U	0.13 U	0.91	0.13 U	0.23	0.13 U	1.1
K52423	KPT39-7	2000	2.0 - 5.0	21000 J	0.066 U	0.066 U	0.066 U	0.32	0.16	0.084	0.066 U	0.56
K51309	KPT40-2	1997	0.0 - 2.0	44000	0.42 U	0.42 U	0.42 U	0.68	0.42 U	1.5	0.42 U	2.2
K51310	KPT40-2	1997	2.0 - 10.0	2200 J	0.057 U	0.057 U	0.057 U	0.21	0.12	0.057 U	0.057 U	0.33
K52545	KPT40-3	2000	0.0 - 2.0	15000 J	0.054 U	0.054 U	0.054 U	0.044 J	0.053 J	0.031 J	0.054 U	0.13 J
K52546	KPT40-3	2000	2.0 - 6.0	6000 J	0.059 U	0.059 U	0.059 U	0.047 J	0.059 U	0.059 U	0.059 U	0.047 J
K52547	KPT40-3	2000	6.0 - 12.0	4100 J	0.056 U	0.056 U	0.056 U	0.045 J	0.056 U	0.056 U	0.056 U	0.045 J
K52481	KPT40-4	2000	0.0 - 2.0	13000 J	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U
K52482	KPT40-4	2000	2.0 - 6.0	4000	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U
K52483	KPT40-4	2000	6.0 - 14.0	6000 J	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K52484	KPT40-4	2000	6.0 - 14.0	3600	0.063 U	0.063 U	0.063 U	0.047 J	0.063 U	0.063 U	0.063 U	0.047 J
K50023	KPT40-5	1997	0.0 - 6.0	12000	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U
K50024	KPT40-5	1997	6.0 - 13.2	NA	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K52451	KPT40-6	2000	0.0 - 2.0	4100	0.062 UJ	0.062 UJ	0.062 UJ	0.039 J	0.062 UJ	0.062 UJ	0.062 UJ	0.039 J
K52452	KPT40-6	2000	2.0 - 7.0	3800	0.059 U	0.059 U	0.059 U	0.038 J	0.059 U	0.059 U	0.059 U	0.038 J
K50550	KPT40-7	1997	0.0 - 2.0	7600	0.068 U	0.068 U	0.068 U	0.47	0.068 U	0.093	0.068 U	0.56
K50551	KPT40-7	1997	2.0 - 12.0	4500	0.067 U	0.067 U	0.067 U	0.17	0.067 U	0.067 U	0.067 U	0.17
K50552	KPT40-7	1997	12.0 - 27.0	8200	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K50553	KPT40-7	1997	12.0 - 27.0	12000	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U
K52522	KPT40-8	2000	0.0 - 2.0	110000 J	0.54 U	0.54 U	0.54 U	3.5	0.54 U	1.2	0.54 U	4.7
K52523	KPT40-8	2000	2.0 - 6.0	88000 J	0.48 U	0.48 U	0.48 U	4.7	0.48 U	1.3	0.48 U	6.0
K52524	KPT40-8	2000	6.0 - 12.0	65000 J	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U
K52607	KPT41-1	2000	0.0 - 2.0	8200	0.069 U	0.069 U	0.069 U	0.63	0.069 U	0.083	0.069 U	0.71
K52608	KPT41-1	2000	2.0 - 6.0	26000	0.14 U	0.14 U	0.14 U	0.89	0.14 U	0.30	0.14 U	1.2
K52609	KPT41-1	2000	6.0 - 9.0	41000 J	0.073 U	0.073 U	0.073 U	0.073 U	0.073 U	0.073 U	0.073 U	0.073 U
K52610	KPT41-1	2000	9.0 - 13.0	890 J	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K52611	KPT41-1	2000	13.0 - 18.0	89000 J	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
K51216	KPT41-2	1997	0.0 - 2.0	960 J	0.060 UJ	0.060 UJ	0.060 UJ	0.060 UJ	0.060 UJ	0.060 UJ	0.060 UJ	0.060 UJ
K51217	KPT41-2	1997	2.0 - 7.0	13000	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K52569	KPT41-3	2000	0.0 - 2.0	3200	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K52570	KPT41-3	2000	2.0 - 7.0	5600	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K52587	KPT41-6	2000	0.0 - 2.0	5400 J	0.069 U	0.069 U	0.069 U	0.18	0.069 U	0.069 U	0.069 U	0.18
K52588	KPT41-6	2000	2.0 - 6.0	2900 J	0.061 U	0.061 U	0.061 U	0.056 J	0.061 U	0.061 U	0.061 U	0.056 J
K52589	KPT41-6	2000	6.0 - 12.0	5300 J	0.066 U	0.066 U	0.066 U	0.070	0.066 U	0.066 U	0.066 U	0.070
K52590	KPT41-6	2000	6.0 - 12.0	960 J	0.062 U	0.062 U	0.062 U	0.050 J	0.062 U	0.062 U	0.062 U	0.050 J
K52620	KPT41-7	2000	0.0 - 2.0	33000 J	0.069 U	0.069 U	0.069 U	0.40	0.069 U	0.088	0.069 U	0.49

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TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K52621	KPT41-7	2000	2.0 - 6.0	5700 J	0.057 U	0.057 U	0.057 U	0.071	0.057 U	0.057 U	0.057 U	0.071
K52622	KPT41-7	2000	6.0 - 9.0	13000 J	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K52623	KPT41-7	2000	10.0 - 13.0	2000 J	0.057 U	0.057 U	0.057 U	0.042 J	0.057 U	0.057 U	0.057 U	0.042 J
K52447	KPT42-1	2000	0.0 - 2.0	7700 J	0.062 U	0.062 U	0.062 U	0.11	0.062 U	0.062 U	0.062 U	0.11
K52448	KPT42-1	2000	2.0 - 7.0	6800 J	0.058 U	0.058 U	0.058 U	0.12	0.058 U	0.035 J	0.058 U	0.16 J
K51207	KPT42-2	1997	0.0 - 2.0	2000 J	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K51208	KPT42-2	1997	2.0 - 12.0	NA	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K51189	KPT42-3	1997	0.0 - 2.0	2300 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51190	KPT42-3	1997	2.0 - 9.0	1800 J	0.059 U	0.059 U	0.059 U	0.040 JN	0.059 U	0.059 U	0.059 U	0.040 J
K52510	KPT42-4	2000	0.0 - 2.0	5900 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K52511	KPT42-4	2000	2.0 - 6.0	1400 J	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K52502	KPT42-6	2000	0.0 - 2.0	16000 J	0.052 U	0.052 U	0.052 U	0.031 J	0.052 U	0.052 U	0.052 U	0.031 J
K52503	KPT42-6	2000	2.0 - 6.0	2800	0.054 U	0.054 U	0.054 U	0.033 J	0.031 J	0.054 U	0.054 U	0.064 J
K52571	KPT42-7	2000	0.0 - 2.0	4500	0.054 U	0.054 U	0.054 U	0.028 J	0.054 U	0.054 U	0.054 U	0.028 J
K52572	KPT42-7	2000	2.0 - 6.0	5300	0.056 U	0.056 U	0.056 U	0.036 J	0.056 U	0.056 U	0.056 U	0.036 J
K52573	KPT42-7	2000	6.0 - 13.0	13000	0.057 U	0.057 U	0.13	0.050 J	0.057 U	0.057 U	0.057 U	0.18 J
K52499	KPT43-1	2000	0.0 - 2.0	7400 J	0.053 U	0.053 U	0.053 U	0.053 U	0.038 J	0.053 U	0.053 U	0.038 J
K52500	KPT43-1	2000	2.0 - 6.0	1000 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K52501	KPT43-1	2000	6.0 - 10.0	110 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K52565	KPT43-2	2000	0.0 - 2.0	7900	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U
K52566	KPT43-2	2000	2.0 - 6.0	7800	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U
K52567	KPT43-2	2000	6.0 - 12.0	19000	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K52568	KPT43-2	2000	6.0 - 12.0	18000	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K51202	KPT43-3	1997	0.0 - 2.0	13000	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51203	KPT43-3	1997	2.0 - 11.0	NA	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K52574	KPT43-4	2000	0.0 - 2.0	6400 J	0.053 U	0.053 U	0.053 U	0.042 J	0.053 U	0.053 U	0.053 U	0.042 J
K52575	KPT43-4	2000	2.0 - 6.0	16000 J	0.056 U	0.056 U	0.056 U	0.046 J	0.056 U	0.056 U	0.056 U	0.046 J
K52576	KPT43-4	2000	6.0 - 12.0	9500 J	0.052 U	0.052 U	0.052 U	0.062	0.052 U	0.052 U	0.052 U	0.062
K52577	KPT43-4	2000	12.0 - 24.0	2100 J	0.052 U	0.052 U	0.052 U	0.057	0.045 J	0.052 U	0.052 U	0.10 J
K52578	KPT43-4	2000	12.0 - 24.0	12000 J	0.052 U	0.052 U	0.052 U	0.080	0.036 J	0.052 U	0.052 U	0.12 J
K52472	KPT43-5	2000	0.0 - 2.0	2000	0.059 U	0.059 U	0.059 U	0.042 J	0.059 U	0.059 U	0.059 U	0.042 J
K52473	KPT43-5	2000	2.0 - 6.0	4300	0.054 U	0.054 U	0.054 U	0.054 U	0.054	0.054 U	0.054 U	0.054
K52474	KPT43-5	2000	6.0 - 12.0	16000	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.041 JN	0.052 U	0.041 J
K52475	KPT43-5	2000	12.0 - 24.0	5200	0.056 U	0.056 U	0.056 U	0.052 J	0.056 U	0.056 U	0.056 U	0.052 J
K52476	KPT43-5	2000	12.0 - 24.0	8300 J	0.053 U	0.053 U	0.053 U	0.058	0.053 U	0.053 U	0.053 U	0.058
K52579	KPT43-6	2000	0.0 - 2.0	3900 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K52580	KPT43-6	2000	2.0 - 6.0	4500 J	0.054 U	0.054 U	0.054 U	0.032 J	0.054 U	0.054 U	0.054 U	0.032 J
K52581	KPT43-6	2000	6.0 - 12.0	3500 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K52457	KPT44-1	2000	0.0 - 2.0	460 J	0.059 U	0.059 U	0.059 U	0.090	0.059 U	0.037 J	0.059 U	0.13 J

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (ft)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K52458	KPT44-1	2000	2.0 - 6.0	110 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K52459	KPT44-1	2000	6.0 - 12.0	110 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K52460	KPT44-1	2000	12.0 - 18.0	110 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K52461	KPT44-1	2000	12.0 - 18.0	110 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51191	KPT44-3	1997	0.0 - 2.0	130 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
K51192	KPT44-3	1997	2.0 - 8.0	NA	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51193	KPT44-3	1997	8.0 - 16.0	NA	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K52554	KPT44-4	2000	0.0 - 2.0	6000	0.060 U	0.060 U	0.12	0.11	0.060 U	0.060 U	0.060 U	0.23
K52555	KPT44-4	2000	2.0 - 6.0	19000	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K52556	KPT44-4	2000	6.0 - 12.0	11000	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K52557	KPT44-4	2000	6.0 - 12.0	9200	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K52453	KPT44-5	2000	0.0 - 2.0	12000 J	0.058 U	0.058 U	0.058 U	0.058 U	0.37	0.034 J	0.058 U	0.40 J
K52454	KPT44-5	2000	2.0 - 6.0	3700	0.055 U	0.055 U	0.055 U	0.055 U	0.078	0.055 U	0.055 U	0.078
K52455	KPT44-5	2000	6.0 - 11.0	9400	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K52456	KPT44-5	2000	6.0 - 11.0	7500	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
K52591	KPT44-6	2000	0.0 - 2.0	27000 J	0.061 U	0.061 U	0.061 U	0.55	0.061 U	0.14	0.037 J	0.73 J
K52592	KPT44-6	2000	2.0 - 6.0	14000 J	0.050 U	0.050 U	0.050 U	0.029 J	0.050 U	0.050 U	0.050 U	0.029 J
K52593	KPT44-6	2000	6.0 - 10.0	9000 J	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U
K52594	KPT44-6	2000	10.0 - 22.0	1500 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K52467	KPT44-7	2000	0.0 - 2.0	110000	0.53 U	0.53 U	0.53 U	0.53 U	2.6	2.1	0.77	5.5
K52468	KPT44-7	2000	2.0 - 6.0	67000	0.19 U	0.19 U	0.19 U	0.19 U	0.75	0.33	0.12 J	1.2 J
K52469	KPT44-7	2000	6.0 - 12.0	15000	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K52470	KPT44-7	2000	12.0 - 26.0	6100	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K52471	KPT44-7	2000	12.0 - 26.0	3400	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K52443	KPT45-1	2000	0.0 - 2.0	27000 J	0.069 U	0.069 U	0.069 U	0.27	0.11	0.31	0.051 J	0.74 J
K52444	KPT45-1	2000	2.0 - 6.0	9800 J	0.068 U	0.068 U	0.068 U	0.070	0.068 U	0.068	0.068 U	0.14
K52445	KPT45-1	2000	6.0 - 12.0	5600 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K52446	KPT45-1	2000	6.0 - 12.0	2500 J	0.066 U	0.066 U	0.066 U	0.040 J	0.066 U	0.066 U	0.066 U	0.040 J
K52529	KPT45-2	2000	0.0 - 2.0	3400 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K52530	KPT45-2	2000	2.0 - 6.0	5600 J	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K52531	KPT45-2	2000	6.0 - 12.0	2400 J	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K52532	KPT45-2	2000	12.0 - 15.0	5700 J	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K52533	KPT45-2	2000	6.0 - 12.0	16000 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K52488	KPT45-3	2000	0.0 - 2.0	1100 J	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K52489	KPT45-3	2000	2.0 - 7.0	4200 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K52508	KPT45-4	2000	0.0 - 2.0	1800 J	0.056 U	0.056 U	0.056 U	0.036 J	0.056 U	0.056 U	0.056 U	0.036 J
K52509	KPT45-4	2000	2.0 - 6.0	490 J	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U
K52504	KPT45-5	2000	0.0 - 2.0	1100 J	0.056 U	0.056 U	0.056 U	0.036 J	0.056 U	0.056 U	0.056 U	0.036 J
K52505	KPT45-5	2000	2.0 - 6.0	2500	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U

See notes on page 65

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K52506	KPT45-5	2000	5.0 - 12.0	2200	0.056 U	0.056 U	0.056 U	0.029 J	0.056 U	0.056 U	0.056 U	0.029 J
K52507	KPT45-5	2000	5.0 - 12.0	2300	0.056 U	0.056 U	0.056 U	0.056 U	0.040 J	0.056 U	0.056 U	0.040 J
K52548	KPT45-6	2000	0.0 - 2.0	12000	0.054 U	0.054 U	0.054 U	0.034 J	0.054 U	0.054 U	0.054 U	0.034 J
K52549	KPT45-6	2000	2.0 - 6.0	8500	0.051 U	0.051 U	0.051 U	0.076	0.051 U	0.051 U	0.051 U	0.076
K52550	KPT45-6	2000	6.0 - 14.0	15000 J	0.054 U	0.054 U	0.054 U	0.13	0.054 U	0.054 U	0.054 U	0.13
K52551	KPT45-6	2000	14.0 - 17.0	6700	0.057 U	0.057 U	0.057 U	0.12	0.057 U	0.057 U	0.057 U	0.12
K52552	KPT45-6	2000	17.0 - 20.0	59000	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U
K52553	KPT45-6	2000	6.0 - 14.0	17000 J	0.052 U	0.052 U	0.052 U	0.15	0.052 U	0.052 U	0.052 U	0.15
K52616	KPT45-7	2000	0.0 - 2.0	110000 J	0.098 U	0.098 U	0.098 U	0.098 U	0.28	0.19	0.27	0.74
K52617	KPT45-7	2000	2.0 - 6.0	190000 J	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 JN	0.10 J
K52618	KPT45-7	2000	6.0 - 11.0	70000 J	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U
K52619	KPT45-7	2000	11.0 - 14.0	8600 J	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K52628	KPT46-1	2000	0.0 - 2.0	11000 J	0.060 U	0.060 U	0.060 U	0.091	0.060 U	0.045 J	0.060 U	0.14 J
K52629	KPT46-1	2000	2.0 - 6.0	8600	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K52630	KPT46-1	2000	6.0 - 15.0	3300	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K52631	KPT46-1	2000	15.0 - 24.0	3200	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K52632	KPT46-1	2000	15.0 - 24.0	21000	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K52534	KPT46-2	2000	0.0 - 2.0	9600 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K52535	KPT46-2	2000	2.0 - 6.0	3700 J	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U
K52536	KPT46-2	2000	6.0 - 9.0	7700 J	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
K52582	KPT46-3	2000	0.0 - 2.0	26000	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K52583	KPT46-3	2000	2.0 - 5.0	7200	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K52584	KPT46-3	2000	6.0 - 12.0	7000	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K52585	KPT46-3	2000	12.0 - 18.0	12000 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K52586	KPT46-3	2000	12.0 - 18.0	5500	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K52562	KPT46-4	2000	0.0 - 2.0	3600 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K52563	KPT46-4	2000	2.0 - 6.0	9200 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K52564	KPT46-4	2000	6.0 - 11.0	2700 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K52624	KPT46-5	2000	0.0 - 2.0	53000 J	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U
K52625	KPT46-5	2000	2.0 - 6.0	8200 J	0.059 U	0.059 U	0.059 U	0.038 J	0.059 U	0.059 U	0.059 U	0.038 J
K52626	KPT46-5	2000	6.0 - 12.0	31000 J	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K52627	KPT46-5	2000	6.0 - 12.0	6900 J	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51107	KPT46-6	1997	0.0 - 2.0	1200 J	0.057 U	0.057 U	0.057 U	0.057 U	0.032 J	0.057 U	0.057 U	0.032 J
K51108	KPT46-6	1997	2.0 - 12.0	12000 J	0.056 U	0.056 U	0.056 U	0.057	0.040 J	0.056 U	0.056 U	0.097 J
K52600	KPT46-7	2000	0.0 - 2.0	850 J	0.062 U	0.062 U	0.062 U	0.12	0.062 U	0.062 U	0.062 U	0.12
K52601	KPT46-7	2000	2.0 - 6.0	6700 J	0.073 U	0.073 U	0.073 U	0.94	0.073 U	0.20	0.073 U	1.1
K52602	KPT46-7	2000	6.0 - 12.0	4300 J	0.072 U	0.072 U	0.072 U	0.57	0.51	0.25	0.072 U	1.3
K52603	KPT46-7	2000	12.0 - 21.0	2200 J	0.059 U	0.059 U	0.059 U	0.40	0.059 U	0.056 J	0.059 U	0.46 J
K52604	KPT46-7	2000	12.0 - 21.0	18000 J	0.061 U	0.061 U	0.061 U	0.41	0.061 U	0.074	0.061 U	0.48

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51160	KPT47-1	1997	0.0 - 2.0	48000	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
K51161	KPT47-1	1997	2.0 - 14.0	21000	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U
K51162	KPT47-1	1997	2.0 - 14.0	37000	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U
K52537	KPT47-3	2000	0.0 - 2.0	3200 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K52538	KPT47-3	2000	2.0 - 6.0	3300 J	0.057 U	0.057 U	0.057 U	0.049 J	0.057 U	0.031 J	0.057 U	0.080 J
K52539	KPT47-3	2000	6.0 - 10.0	1400 J	0.058 U	0.058 U	0.058 U	0.031 J	0.033 J	0.050 J	0.058 U	0.11 J
K52540	KPT47-3	2000	6.0 - 10.0	590 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K52525	KPT47-4	2000	0.0 - 2.0	44000	0.066 U	0.066 U	0.066 U	0.21	0.23	0.30	0.071	0.81
K52526	KPT47-4	2000	2.0 - 6.0	19000	0.056 U	0.056 U	0.056 U	0.16	0.044 J	0.12	0.056 U	0.32 J
K52527	KPT47-4	2000	6.0 - 14.0	7800	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K52528	KPT47-4	2000	14.0 - 17.0	4500	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K52462	KPT47-5	2000	0.0 - 2.0	18000	0.15 U	0.15 U	0.15 U	1.2	0.81	0.23	0.15 U	2.2
K52463	KPT47-5	2000	2.0 - 6.0	18000	0.099 U	0.099 U	0.099 U	1.2	0.099 U	0.17	0.099 U	1.4
K52464	KPT47-5	2000	6.0 - 12.0	11000	0.050 U	0.050 U	0.050 U	0.38	0.17	0.086	0.050 U	0.64
K52465	KPT47-5	2000	12.0 - 24.0	3000	0.053 U	0.053 U	0.053 U	0.25	0.089	0.053 U	0.053 U	0.34
K52466	KPT47-5	2000	12.0 - 24.0	5700 J	0.052 U	0.052 U	0.052 U	0.22	0.047 J	0.052 U	0.052 U	0.27 J
K52517	KPT47-6	2000	0.0 - 2.0	10000	0.053 U	0.053 U	0.053 U	0.10	0.053 U	0.053 U	0.053 U	0.10
K52518	KPT47-6	2000	2.0 - 6.0	5300	0.052 U	0.052 U	0.052 U	0.034 J	0.052 U	0.052 U	0.052 U	0.034 J
K52519	KPT47-6	2000	6.0 - 12.0	54000 J	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K52520	KPT47-6	2000	12.0 - 19.0	34000 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K52521	KPT47-6	2000	19.0 - 22.0	5900	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
K52541	KPT47-7	2000	0.0 - 2.0	49000 J	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U
K52542	KPT47-7	2000	2.0 - 6.0	77000	0.11 U	0.11 U	0.11 U	0.072 J	0.11 U	0.11 U	0.11 U	0.072 J
K52543	KPT47-7	2000	6.0 - 12.0	110000	1.2 U	1.2 U	1.2 U	7.6	1.2 U	0.93 J	1.2 U	8.5 J
K52544	KPT47-7	2000	12.0 - 16.0	120000	1.3 U	1.3 U	1.3 U	6.4	1.3 U	1.5	1.3 U	7.9
K52512	KPT48-1	2000	0.0 - 2.0	9400	0.059 U	0.059 U	0.059 U	0.043 J	0.059 U	0.059 U	0.059 U	0.043 J
K52513	KPT48-1	2000	2.0 - 6.0	34000	0.062 U	0.062 U	0.062 U	0.055 J	0.062 U	0.040 J	0.062 U	0.095 J
K52514	KPT48-1	2000	6.0 - 12.0	7900	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U
K52515	KPT48-1	2000	12.0 - 19.0	4000	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K52516	KPT48-1	2000	6.0 - 12.0	4000	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K52595	KPT48-2	2000	0.0 - 2.0	5100	0.054 U	0.054 U	0.054 U	0.047 J	0.054 U	0.054 U	0.054 U	0.047 J
K52596	KPT48-2	2000	2.0 - 6.0	36000	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
K52597	KPT48-2	2000	6.0 - 12.0	9200	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U
K52598	KPT48-2	2000	12.0 - 19.0	5100	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K52599	KPT48-2	2000	19.0 - 22.0	30000	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U
K52495	KPT48-3	2000	0.0 - 2.0	6800 J	0.052 U	0.052 U	0.052 U	0.030 J	0.052 U	0.052 U	0.052 U	0.030 J
K52496	KPT48-3	2000	2.0 - 6.0	4600	0.052 U	0.052 U	0.052 U	0.045 J	0.032 J	0.052 U	0.052 U	0.077 J
K52497	KPT48-3	2000	6.0 - 12.0	110 U	0.054 U	0.054 U	0.034 JN	0.054 U	0.054 U	0.054 U	0.054 U	0.034 J
K52498	KPT48-3	2000	12.0 - 24.0	7700 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K52490	KPT48-4	2000	0.0 - 2.0	5000	0.056 U	0.056 U	0.056 U	0.067	0.056 U	0.056 U	0.056 U	0.067
K52491	KPT48-4	2000	2.0 - 6.0	6300 J	0.061 U	0.061 U	0.061 U	0.056 J	0.061 U	0.061 U	0.061 U	0.056 J
K52492	KPT48-4	2000	6.0 - 12.0	2500 J	0.060 U	0.060 U	0.060 U	0.034 J	0.060 U	0.060 U	0.060 U	0.034 J
K52493	KPT48-4	2000	12.0 - 24.0	2600 J	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K52494	KPT48-4	2000	12.0 - 24.0	1600 J	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K52449	KPT48-5	2000	0.0 - 2.0	9500 J	0.065 U	0.065 U	0.065 U	0.30	0.065 U	0.10	0.065 U	0.40
K52450	KPT48-5	2000	2.0 - 8.0	4500 J	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K52485	KPT48-6	2000	0.0 - 2.0	5700	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K52486	KPT48-6	2000	2.0 - 6.0	3300	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K52487	KPT48-6	2000	6.0 - 9.0	15000	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K52477	KPT48-7	2000	0.0 - 2.0	43000	0.081 U	0.081 U	0.081 U	0.66	0.081 U	0.16	0.081 U	0.82
K52478	KPT48-7	2000	2.0 - 4.0	16000	0.065 U	0.065 U	0.065 U	0.97	0.065 U	0.26	0.061 J	1.3 J
K52479	KPT48-7	2000	4.0 - 8.0	8800	0.053 U	0.053 U	0.053 U	0.066	0.053 U	0.053 U	0.053 U	0.066
K52480	KPT48-7	2000	8.0 - 14.0	330 J	0.057 U	0.057 U	0.057 U	0.044 J	0.057 U	0.057 U	0.057 U	0.044 J
K51148	KPT49-1	1997	0.0 - 2.0	NA	0.082 U	0.17 U	0.082 U	0.18 J	0.082 U	0.26	0.18	0.62 J
K51149	KPT49-1	1997	2.0 - 12.0	NA	0.050 U	0.10 U	0.050 U	0.062 J	0.050 U	0.081	0.050 U	0.14 J
K51150	KPT49-1	1997	12.0 - 24.0	NA	0.042 U	0.084 U	0.042 U	0.042 U	0.042 U	0.042 U	0.042 U	0.084 U
K51187	KPT49-4	1997	0.0 - 2.0	6800	0.057 U	0.057 U	0.057 U	0.072	0.057 U	0.057 U	0.057 U	0.072
K51188	KPT49-4	1997	2.0 - 12.0	NA	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K50792	KPT50-6	1997	0.0 - 2.0	16000	0.68 U	0.68 U	0.68 U	3.2 JN	1.3 JN	0.68 U	0.68 U	4.5 J
K50793	KPT50-6	1997	2.0 - 12.0	NA	1.7 U	1.7 U	1.7 U	17	1.7 U	2.5	1.7 U	20
K50794	KPT50-6	1997	12.0 - 24.0	NA	0.062 U	0.062 U	0.062 U	0.20	0.062 U	0.062 U	0.062 U	0.20
K51163	KPT51-2	1997	0.0 - 2.0	2000	0.061 U	0.061 U	0.061 U	0.055 J	0.063	0.047 J	0.061 U	0.17 J
K51164	KPT51-2	1997	2.0 - 12.0	NA	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51165	KPT51-2	1997	12.0 - 18.0	NA	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K51166	KPT51-2	1997	12.0 - 18.0	NA	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K50659	KPT52-1	1997	0.0 - 2.0	36000	0.072 U	0.072 U	0.072 U	0.18	0.28	0.19	0.040 J	0.69 J
K50660	KPT52-1	1997	2.0 - 12.0	11000	0.057 U	0.057 U	0.057 U	0.057 U	0.032 J	0.057 U	0.057 U	0.032 J
K50661	KPT52-1	1997	12.0 - 25.0	770 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K50695	KPT53-2	1997	0.0 - 2.0	120 UJ	0.060 U	0.060 U	0.060 U	0.12	0.060 U	0.060 U	0.060 U	0.12
K50696	KPT53-2	1997	2.0 - 11.0	NA	0.060 U	0.060 U	0.060 U	0.12	0.060 U	0.060 U	0.060 U	0.12
K50676	KPT53-3	1997	0.0 - 2.0	2800 J	0.063 U	0.063 U	0.063 U	0.088	0.063 U	0.063 U	0.063 U	0.088
K50677	KPT53-3	1997	2.0 - 12.0	NA	0.058 U	0.058 U	0.058 U	0.052 J	0.056 J	0.058 U	0.058 U	0.11 J
K50678	KPT53-3	1997	12.0 - 25.0	NA	0.061 U	0.061 U	0.061 U	0.033 J	0.061 U	0.061 U	0.051 U	0.033 J
K50679	KPT53-3	1997	12.0 - 25.0	NA	0.061 U	0.061 U	0.061 U	0.052 J	0.036 J	0.061 U	0.051 U	0.088 J
K50513	KPT53-5	1997	0.0 - 2.0	1500	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K50514	KPT53-5	1997	2.0 - 10.0	14000	0.079 U	0.079 U	0.079 U	0.079 U	0.079 U	0.079 U	0.079 U	0.079 U
K50027	KPT54-3	1997	0.0 - 6.0	120 U	0.057 U	0.057 U	0.057 U	0.058	0.057 U	0.057 U	0.057 U	0.058
K50726	KPT54-6	1997	0.0 - 2.0	7900 J	0.070 U	0.070 U	0.070 U	0.24	0.21	0.11	0.070 U	0.56

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TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (ft)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K50727	KPT54-6	1997	2.0 - 10.0	10000 J	0.067 U	0.067 U	0.067 U	0.10	0.12	0.061 J	0.067 U	0.28 J
K50728	KPT54-6	1997	10.0 - 14.0	22000	0.060 U	0.060 U	0.060 U	0.17	0.060 U	0.031 J	0.060 U	0.20 J
K50693	KPT56-2	1997	0.0 - 2.0	18000 J	0.055 U	0.055 U	0.055 U	0.037 J	0.055 U	0.055 U	0.055 U	0.037 J
K50694	KPT56-2	1997	2.0 - 6.0	130 UJ	0.063 U	0.063 U	0.063 U	0.096	0.063 U	0.063 U	0.063 U	0.096
K50704	KPT56-6	1997	0.0 - 2.0	120 UJ	0.059 U	0.059 U	0.059 U	0.059 U	0.18	0.074	0.059 U	0.25
K50705	KPT56-6	1997	2.0 - 7.0	NA	0.066 UJ	0.066 UJ	0.066 UJ	0.066 UJ	0.23 J	0.047 J	0.066 UJ	0.28 J
K50611	KPT56-7	1997	0.0 - 2.0	100000	0.47 U	0.47 U	0.47 U	1.3	1.9	0.91	0.47 U	4.1
K50612	KPT56-7	1997	2.0 - 13.0	58000	0.38 U	0.38 U	0.38 U	3.5	0.38 U	1.6	0.38 U	5.1
K50511	KPT57-1	1997	0.0 - 2.0	73000	0.061 U	0.061 U	0.061 U	0.22	0.061 U	0.055 J	0.061 U	0.28 J
K50512	KPT57-1	1997	2.0 - 5.0	1000	0.056 U	0.056 U	0.056 U	0.058	0.056 U	0.056 U	0.056 U	0.058
K50766	KPT57-7	1997	0.0 - 2.0	10000	0.19 U	0.19 U	0.19 U	2.2	0.19 U	0.26	0.19 U	2.5
K50767	KPT57-7	1997	2.0 - 6.0	NA	0.056 U	0.056 U	0.056 U	0.46	0.077	0.091	0.056 U	0.63
K50702	KPT58-4	1997	0.0 - 2.0	2200	0.063 U	0.063 U	0.063 U	0.14	0.063 U	0.033 J	0.063 U	0.17 J
K50703	KPT58-4	1997	2.0 - 8.0	5400	0.067 U	0.067 U	0.067 U	0.58	0.22	0.067 U	0.067 U	0.80
K50691	KPT58-6	1997	0.0 - 2.0	33000	0.081 U	0.081 U	0.081 U	1.0	0.081 U	0.12	0.081 U	1.1
K50692	KPT58-6	1997	2.0 - 6.0	NA	0.064 U	0.064 U	0.064 U	0.28	0.21	0.11	0.064 U	0.60
K50460	KPT58-7	1997	0.0 - 2.0	38000	0.19 U	0.19 U	0.19 U	1.5	0.19 U	0.42	0.19 U	1.9
K50461	KPT58-7	1997	2.0 - 9.0	15000	0.63 U	0.63 U	0.63 U	3.2	1.4	0.63 U	0.63 U	4.6
K51140	KPT59-1	1997	0.0 - 2.0	17000 J	0.060 U	0.060 U	0.060 U	0.22	0.17	0.13	0.060 U	0.52
K51141	KPT59-1	1997	2.0 - 10.0	NA	0.056 U	0.056 U	0.056 U	0.11	0.25	0.080	0.056 U	0.44
K50541	KPT59-2	1997	0.0 - 2.0	6500 J	0.050 U	0.050 U	0.050 U	0.046 J	0.050 U	0.050 U	0.050 U	0.046 J
K50542	KPT59-2	1997	2.0 - 8.0	NA	0.060 U	0.060 U	0.060 U	0.11	0.060 U	0.060 U	0.060 U	0.11
K51371	KPT59-4	1997	0.0 - 2.0	3000 J	0.056 U	0.056 U	0.056 U	0.032 J	0.056 U	0.056 U	0.056 U	0.032 J
K51372	KPT59-4	1997	2.0 - 10.0	9800 J	0.062 U	0.062 U	0.062 U	0.13	0.062 U	0.062 U	0.062 U	0.13
K51074	KPT59-8	1997	0.0 - 2.0	160000	1.9 U	1.9 U	1.9 U	15	1.9 U	3.5	1.9 U	19
K51075	KPT59-8	1997	2.0 - 13.0	NA	5.1 U	5.1 U	5.1 U	34	12	5.1 U	5.1 U	46
K50360	KPT60-8	1997	0.0 - 2.0	9200 J	0.13 U	0.13 U	0.13 U	0.51	0.13 U	0.16	0.13 U	0.67
K50361	KPT60-8	1997	2.0 - 12.0	19000	0.069 U	0.069 U	0.069 U	0.12	0.069 U	0.069 U	0.069 U	0.12
K50362	KPT60-8	1997	12.0 - 20.0	1200 J	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U
K51095	KPT61-1	1997	0.0 - 2.0	15000	0.14 U	0.14 U	0.14 U	0.46	0.47	0.25	0.14 U	1.2
K51096	KPT61-1	1997	2.0 - 6.0	18000	0.067 U	0.067 U	0.067 U	0.48	0.067 U	0.074	0.067 U	0.55
K50029	KPT61-2	1997	0.0 - 6.0	12000 J	0.062 U	0.062 U	0.062 U	0.075	0.062 U	0.062 U	0.062 U	0.075
K51440	KPT61-6	1997	0.0 - 2.0	3200 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51441	KPT61-6	1997	2.0 - 6.0	NA	0.062 U	0.062 U	0.062 U	0.15	0.062 U	0.062 U	0.062 U	0.15
K51204	KPT61-8	1997	0.0 - 2.0	22000	0.14 U	0.14 U	0.14 U	0.14 U	0.49	0.23	0.14 U	0.72
K51205	KPT61-8	1997	2.0 - 12.0	8100 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51206	KPT61-8	1997	12.0 - 15.0	520 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51172	KPT62-1	1997	0.0 - 2.0	65000	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K51173	KPT62-1	1997	2.0 - 6.0	73000	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51174	KPT62-1	1997	6.0 - 9.0	830	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U
K50343	KPT62-7	1997	0.0 - 2.0	42000	0.10 U	0.10 U	0.10 U	0.25	0.54	0.25	0.10 U	1.0
K50344	KPT62-7	1997	2.0 - 8.0	55000	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
K50345	KPT62-7	1997	8.0 - 17.0	84000 J	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U
K50282	KPT63-1	1997	0.0 - 2.0	37000 J	0.069 UJ	0.069 UJ	0.069 UJ	0.069 UJ	0.056 J	0.069 UJ	0.069 UJ	0.056 J
K50283	KPT63-1	1997	2.0 - 12.0	NA	0.060 UJ	0.060 UJ	0.060 UJ	0.062 J	0.070 J	0.060 UJ	0.060 UJ	0.13 J
K50284	KPT63-1	1997	12.0 - 18.0	NA	0.062 UJ	0.062 UJ	0.062 UJ	0.062 UJ	0.062 UJ	0.062 UJ	0.062 UJ	0.062 UJ
K50285	KPT63-1	1997	18.0 - 28.0	NA	0.10 UJ	0.10 UJ	0.10 UJ	0.10 UJ	0.10 UJ	0.10 UJ	0.10 UJ	0.10 UJ
K50300	KPT63-2	1997	0.0 - 2.0	100 U	0.060 U	0.060 U	0.060 U	0.17	0.060 U	0.060 U	0.060 U	0.17
K50301	KPT63-2	1997	2.0 - 11.0	NA	0.059 U	0.059 U	0.059 U	0.049 J	0.035 J	0.059 U	0.059 U	0.084 J
K50302	KPT63-2	1997	11.0 - 20.0	NA	0.11 U	0.057 J	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.057 J
K50641	KPT64-1	1997	0.0 - 2.0	58000	2.0 U	2.0 U	2.0 U	4.3	7.9	2.0 U	2.0 U	12
K50642	KPT64-1	1997	2.0 - 12.0	85000	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K50643	KPT64-1	1997	12.0 - 16.0	270000 J	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
K50644	KPT64-1	1997	16.0 - 20.0	120000	0.10 U	0.10 U	0.10 U	0.061 J	0.10 U	0.10 U	0.10 U	0.061 J
K50645	KPT64-1	1997	20.0 - 22.0	14000	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U
K50646	KPT64-1	1997	22.0 - 34.0	87000	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K50647	KPT64-1	1997	22.0 - 24.0	89000	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K50216	KPT64-6	1997	0.0 - 2.0	45000	1.8 U	1.8 U	1.8 U	4.2	8.1	3.8	1.8 U	16
K50217	KPT64-6	1997	2.0 - 12.0	NA	2.1 U	2.1 U	2.1 U	8.6	8.2	3.4	2.1 U	20
K50218	KPT64-6	1997	12.0 - 20.0	NA	0.24 UJ	0.24 UJ	0.24 UJ	0.31 J	0.15 J	0.53 J	0.24 UJ	0.99 J
K50638	KPT65-1	1997	0.0 - 2.0	82000	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K50639	KPT65-1	1997	2.0 - 12.0	NA	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U
K50640	KPT65-1	1997	12.0 - 20.0	NA	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K50515	KPT65-3	1997	0.0 - 2.0	NA	0.049 U	0.10 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.10 U
K50516	KPT65-3	1997	2.0 - 10.0	NA	0.049 U	0.10 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.10 U
K50589	KPT65-5	1997	0.0 - 2.0	110000	6.6 U	6.6 U	6.6 U	91	6.6 U	8.9	6.6 U	100
K50590	KPT65-5	1997	2.0 - 12.0	NA	17 U	17 U	17 U	100	17 U	13 J	17 U	110 J
K50591	KPT65-5	1997	12.0 - 26.0	NA	1.3 U	1.3 U	1.3 U	1.3 U	12	0.88 J	1.3 U	13 J
K50592	KPT65-5	1997	2.0 - 12.0	NA	15 U	15 U	15 U	120	15 U	19	15 U	140
K50528	KPT65-6	1997	0.0 - 2.0	60000	0.11 U	0.11 U	0.11 U	0.99	0.58	0.42	0.11 U	2.0
K50529	KPT65-6	1997	2.0 - 12.0	58000	1.6 U	1.6 U	1.6 U	15	1.6 U	3.5	1.6 U	19
K50530	KPT65-6	1997	12.0 - 24.0	98000	0.35 U	0.35 U	0.35 U	1.4	0.35 U	1.2	0.35 U	2.6
K50531	KPT65-6	1997	24.0 - 36.0	39000	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U
K50532	KPT65-6	1997	12.0 - 24.0	NA	0.24 UJ	0.24 UJ	0.24 UJ	1.3 J	0.24 UJ	0.72 J	0.24 UJ	2.0 J
K50712	KPT66-1	1997	0.0 - 2.0	99000	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
K50713	KPT66-1	1997	2.0 - 12.0	82000	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
K50714	KPT66-1	1997	12.0 - 24.0	43000 J	0.091 UJ	0.091 UJ	0.091 UJ	0.091 UJ	0.091 UJ	0.091 UJ	0.091 UJ	0.091 UJ
K50715	KPT66-1	1997	24.0 - 32.0	78000	0.11 UJ	0.11 UJ	0.11 UJ	0.11 UJ	0.11 UJ	0.11 UJ	0.11 UJ	0.11 UJ

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K50716	KPT66-1	1997	12.0 - 24.0	45000	0.088 UJ	0.088 UJ	0.088 UJ	0.088 UJ	0.088 UJ	0.088 UJ	0.088 UJ	0.088 UJ
K50596	KPT66-2	1997	0.0 - 2.0	49000	0.083 U	0.083 U	0.083 U	0.083 U	0.051 J	0.083 U	0.083 U	0.051 J
K50597	KPT66-2	1997	2.0 - 12.0	NA	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K50598	KPT66-2	1997	12.0 - 24.0	NA	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
K50599	KPT66-2	1997	24.0 - 33.0	NA	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K50520	KPT66-3	1997	0.0 - 2.0	63000	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
K50521	KPT66-3	1997	2.0 - 12.0	92000	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
K50522	KPT66-3	1997	12.0 - 24.0	64000	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K50523	KPT66-3	1997	24.0 - 35.0	1300 J	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K50524	KPT66-3	1997	24.0 - 35.0	230 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K50633	KPT66-4	1997	0.0 - 2.0	29000	0.072 U	0.072 U	0.072 U	0.059 J	0.066 J	0.072 U	0.072 U	0.13 J
K50634	KPT66-4	1997	2.0 - 12.0	58000	0.13 UJ	0.13 UJ	0.13 UJ	0.23 J	0.13 UJ	0.13 UJ	0.13 UJ	0.23 J
K50635	KPT66-4	1997	12.0 - 24.0	88000	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K50636	KPT66-4	1997	24.0 - 36.0	67000	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
K50637	KPT66-4	1997	12.0 - 24.0	83000	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K50543	KPT66-5	1997	0.0 - 2.0	30000	0.065 U	0.065 U	0.065 U	0.065 U	0.13 JN	0.065 U	0.065 U	0.13 J
K50544	KPT66-5	1997	2.0 - 12.0	89000	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K50545	KPT66-5	1997	12.0 - 24.0	59000	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U
K50546	KPT66-5	1997	24.0 - 36.0	93000	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
K50870	KPT66-6	1997	0.0 - 2.0	110 U	0.055 U	0.055 U	0.055 U	0.075	0.055 U	0.055 U	0.055 U	0.075
K50871	KPT66-6	1997	2.0 - 12.0	NA	0.86 U	0.86 U	0.86 U	6.9	0.86 U	0.67 J	0.86 U	7.6 J
K50872	KPT66-6	1997	12.0 - 24.0	NA	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K50873	KPT66-6	1997	24.0 - 38.0	NA	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
K50959	KPT66-7	1997	0.0 - 2.0	77000	3.8 U	3.8 U	3.8 U	55	3.8 U	3.8 U	3.8 U	55
K50960	KPT66-7	1997	2.0 - 12.0	82000	0.12 U	0.12 U	0.12 U	0.064 J	0.12 U	0.12 U	0.12 U	0.064 J
K50961	KPT66-7	1997	12.0 - 24.0	64000	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
K50962	KPT66-7	1997	24.0 - 36.0	83000	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K50963	KPT66-7	1997	24.0 - 36.0	83000	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K50509	KPT67-3	1997	0.0 - 2.0	52000	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K50510	KPT67-3	1997	12.0 - 25.0	83000	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K50517	KPT67-3	1997	2.0 - 12.0	74000	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K50536	KPT67-5	1997	0.0 - 2.0	32000 J	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U
K50537	KPT67-5	1997	2.0 - 12.0	65000	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K50538	KPT67-5	1997	12.0 - 24.0	78000	0.11 U	0.11 U	0.11 U	0.067 J	0.11 U	0.11 U	0.11 U	0.067 J
K50539	KPT67-5	1997	24.0 - 30.0	70000	0.10 U	0.10 U	0.10 U	0.099 J	0.10 U	0.10 U	0.10 U	0.099 J
K50540	KPT67-5	1997	12.0 - 24.0	56000 J	0.11 U	0.11 U	0.11 U	0.055 J	0.11 U	0.11 U	0.11 U	0.055 J
K50655	KPT67-6	1997	0.0 - 2.0	21000 J	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
K50656	KPT67-6	1997	2.0 - 12.0	NA	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K50657	KPT67-6	1997	12.0 - 24.0	NA	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U

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TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K50658	KPT67-6	1997	24.0 - 31.0	NA	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K50556	KPT68-2	1997	0.0 - 2.0	48000	0.15 U	0.15 U	0.15 U	0.55	0.15 U	0.31	0.15 U	0.86
K50557	KPT68-2	1997	2.0 - 9.0	14000 J	0.060 U	0.060 U	0.060 U	0.073	0.060 U	0.065	0.060 U	0.14
K50497	KPT68-3	1997	0.0 - 2.0	8100 J	0.061 U	0.061 U	0.061 U	0.13	0.061 U	0.061 U	0.061 U	0.13
K50498	KPT68-3	1997	2.0 - 12.0	7100 J	0.060 U	0.060 U	0.060 U	0.20	0.060 U	0.030 J	0.060 U	0.23 J
K50499	KPT68-3	1997	12.0 - 22.0	2700 J	0.062 U	0.062 U	0.062 U	0.35	0.062 U	0.060 J	0.062 U	0.41 J
K50031	KPT68-4	1997	0.0 - 6.0	52000	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U
K50664	KPT68-7	1997	0.0 - 2.0	1000 J	0.055 U	0.055 U	0.055 U	0.034 J	0.031 J	0.055 U	0.055 U	0.065 J
K50665	KPT68-7	1997	2.0 - 9.0	720 J	0.055 U	0.055 U	0.055 U	0.095	0.055 U	0.055 U	0.055 U	0.095
K50518	KPT69-3	1997	0.0 - 2.0	170	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K50519	KPT69-3	1997	2.0 - 12.0	14000 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K50533	KPT69-5	1997	0.0 - 2.0	500 J	0.060 U	0.060 U	0.060 U	0.051 J	0.037 J	0.060 U	0.060 U	0.088 J
K50534	KPT69-5	1997	2.0 - 12.0	NA	0.059 U	0.059 U	0.059 U	0.093	0.049 J	0.059 U	0.059 U	0.14 J
K50535	KPT69-5	1997	12.0 - 23.0	NA	1.5 U	1.5 U	1.5 U	25 EJ	1.5 U	1.5 U	1.5 U	25 J
K50507	KPT69-7	1997	0.0 - 2.0	800	0.057 U	0.057 U	0.057 U	0.041 J	0.057 U	0.057 U	0.057 U	0.041 J
K50508	KPT69-7	1997	2.0 - 12.0	6600 J	0.060 U	0.060 U	0.060 U	0.070	0.060 U	0.060 U	0.060 U	0.070
K51302	KPT69-8	1997	0.0 - 2.0	110000	3.6 U	3.6 U	3.6 U	44	3.6 U	15	3.6 U	59
K51303	KPT69-8	1997	2.0 - 7.0	87000	1.7 U	1.7 U	1.7 U	9.8	1.7 U	7.6	1.7 U	17
K51304	KPT69-8	1997	7.0 - 13.0	5700 J	0.060 U	0.060 U	0.060 U	0.081	0.060 U	0.074	0.060 U	0.16
K51082	KPT70-2	1997	0.0 - 2.0	46000	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U
K51083	KPT70-2	1997	2.0 - 12.0	NA	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U
K51084	KPT70-2	1997	12.0 - 19.0	NA	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U
K51341	KPT70-4	1997	0.0 - 2.0	820 J	0.059 U	0.059 U	0.059 U	0.080	0.059 U	0.059 U	0.059 U	0.080
K51342	KPT70-4	1997	2.0 - 6.0	NA	0.057 U	0.057 U	0.057 U	0.095	0.057 U	0.057 U	0.057 U	0.095
K51146	KPT70-5	1997	0.0 - 2.0	35000 J	0.053 U	0.053 U	0.053 U	0.047 J	0.038 J	0.053 U	0.053 U	0.085 J
K51147	KPT70-5	1997	2.0 - 12.0	NA	0.055 U	0.055 U	0.055 U	0.091	0.059	0.055 U	0.055 U	0.15
K50968	KPT70-6	1997	0.0 - 2.0	4200	0.058 U	0.058 U	0.058 U	0.12	0.088	0.058 U	0.058 U	0.21
K50969	KPT70-6	1997	2.0 - 12.0	NA	0.11 U	0.11 U	0.11 U	0.15	0.11 U	0.11 U	0.14	0.29
K50970	KPT70-6	1997	12.0 - 30.0	NA	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.071 J	0.071 J
K50971	KPT70-6	1997	30.0 - 37.0	NA	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K51043	KPT70-8	1997	0.0 - 2.0	8600 J	0.057 U	0.057 U	0.057 U	0.029 J	0.057 U	0.057 U	0.057 U	0.029 J
K51044	KPT70-8	1997	2.0 - 12.0	NA	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51138	KPT71-4	1997	0.0 - 2.0	40000	0.071 U	0.071 U	0.071 U	0.38	0.071 U	0.072	0.071 U	0.45
K51139	KPT71-4	1997	2.0 - 12.0	2200	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K50317	KPT72-3	1997	0.0 - 2.0	100 U	0.057 U	0.057 U	0.057 U	0.099	0.057 U	0.057 U	0.057 U	0.099
K50318	KPT72-3	1997	2.0 - 12.0	NA	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K50346	KPT72-4	1997	0.0 - 2.0	78000	0.16 U	0.16 U	0.16 U	1.5	0.16 U	0.16 U	0.16 U	1.5
K50347	KPT72-4	1997	2.0 - 12.0	36000	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.10	0.10
K50348	KPT72-4	1997	12.0 - 24.0	2800 J	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U

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TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K50349	KPT72-4	1997	24.0 - 36.0	NA	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K50350	KPT72-4	1997	24.0 - 36.0	NA	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K50334	KPT72-6	1997	0.0 - 2.0	46000 J	0.057 U	0.057 U	0.057 U	0.18	0 11	0.055 J	0.057 U	0.35 J
K50335	KPT72-6	1997	2.0 - 11.0	19000 J	0.17 U	0.17 U	0.17 U	0.94	0 17 U	0.16 J	0.17 U	1.1 J
K50336	KPT72-6	1997	11.0 - 22.0	60000 J	1.9 U	1.9 U	1.9 U	9.9	1.9 U	1.6 J	1.9 U	12 J
K50337	KPT72-6	1997	22.0 - 36.0	15000 J	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U
K50338	KPT72-6	1997	11.0 - 22.0	47000	1.9 U	1.9 U	1.9 U	13	1.9 U	1.9 J	1.9 U	15 J
K51047	KPT72-7	1997	0.0 - 2.0	11000 J	0.079 U	0.079 U	0.079 U	0.57	0.079 U	0.093	0.079 U	0.66
K51048	KPT72-7	1997	2.0 - 12.0	NA	0.060 U	0.060 U	0.060 U	0.57	0.060 U	0.060 U	0.060 U	0.57
K51049	KPT72-7	1997	12.0 - 24.0	NA	0.46 U	0.46 U	0.46 U	4.3	0.46 U	0.97	0.46 U	5.3
K51050	KPT72-7	1997	24.0 - 37.0	NA	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U
K51051	KPT72-7	1997	12.0 - 24.0	NA	0.94 U	0.94 U	0.94 U	2.3	0.75 J	0.67 J	0.94 U	3.7 J
K51076	KPT73-1	1997	0.0 - 2.0	140000	0.36 U	0.36 U	0.36 U	1.4	0.96	0.71	0.36 U	3.1
K51077	KPT73-1	1997	2.0 - 14.0	140000	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
K51078	KPT73-1	1997	14.0 - 26.0	100000	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0 13 U
K51079	KPT73-1	1997	26.0 - 36.0	410000	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
K51080	KPT73-1	1997	14.0 - 26.0	150000	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
K50034	KPT73-2	1997	6.0 - 18.0	NA	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U
K50035	KPT73-2	1997	18.0 - 30.0	NA	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K50036	KPT73-2	1997	30.0 - 42.0	NA	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K50037	KPT73-2	1997	42.0 - 52.8	NA	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K50040	KPT73-2	1997	6.0 - 18.0	NA	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U
K50033	KPT73-2	1997	0.0 - 5.0	2400	0.052 U	0.052 U	0.052 U	0.077	0.052 U	0.036 J	0.052 U	0.11 J
K51142	KPT73-4	1997	0.0 - 2.0	40000	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0 10 U	0.10 U
K51143	KPT73-4	1997	2.0 - 12.0	21000	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U
K51144	KPT73-4	1997	12.0 - 21.0	26000	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U
K51145	KPT73-4	1997	12.0 - 21.0	20000	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U
K51056	KPT73-5	1997	0.0 - 2.0	53000	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
K51057	KPT73-5	1997	2.0 - 12.0	73000	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K51058	KPT73-5	1997	12.0 - 24.0	42000 J	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U
K51059	KPT73-5	1997	12.0 - 24.0	47000	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U
K51081	KPT73-5	1997	24.0 - 30.0	11000	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U
K51062	KPT74-2	1997	0.0 - 2.0	130000	0.29 U	0.29 U	0.29 U	0.58	0.29 U	0.27 J	0.29 U	0.85 J
K51063	KPT74-2	1997	2.0 - 12.0	120000	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
K51064	KPT74-2	1997	12.0 - 25.0	49000	0.079 U	0.079 U	0.079 U	0.079 U	0.079 U	0.079 U	0.079 U	0.079 U
K50319	KPT74-4	1997	0.0 - 2.0	130000	0.60 U	0.60 U	0.60 U	2.2	2.4	1.3	0.60 U	5.9
K50320	KPT74-4	1997	2.0 - 12.0	120000	0.14 U	0.14 U	0.14 U	0.33	0.14 U	0.10 J	0.14 U	0.43 J
K50321	KPT74-4	1997	12.0 - 24.0	110000	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
K50322	KPT74-4	1997	24.0 - 36.0	1500 J	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K50323	KPT74-4	1997	12.0 - 24.0	120000	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
K50759	KPT74-6	1997	0.0 - 2.0	120 U	0.060 U	0.060 U	0.060 U	0.17	0.060 U	0.060 U	0.060 U	0.17
K50760	KPT74-6	1997	2.0 - 12.0	NA	0.055 U	0.055 U	0.055 U	0.086	0.055 U	0.055 U	0.055 U	0.086
K50761	KPT74-6	1997	12.0 - 18.0	NA	0.060 U	0.060 U	0.060 U	0.78	0.060 U	0.060 U	0.060 U	0.78
K50762	KPT74-6	1997	18.0 - 38.0	NA	0.095 U	0.095 U	0.095 U	1.0	0.095 U	0.076 J	0.095 U	1.1 J
K50763	KPT74-6	1997	18.0 - 38.0	NA	0.099 U	0.099 U	0.099 U	1.4	0.099 U	0.099 U	0.099 U	1.4
K50208	KPT75-2	1997	0.0 - 2.0	100000	0.16 U	0.16 U	0.16 U	1.7	0.16 U	0.49	0.16 U	2.2
K50209	KPT75-2	1997	2.0 - 12.0	NA	0.13 UJ	0.13 UJ	0.13 UJ	1.2 J	0.13 UJ	0.32 J	0.13 UJ	1.5 J
K50210	KPT75-2	1997	12.0 - 24.0	NA	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U
K50211	KPT75-2	1997	24.0 - 38.0	27000	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U
K51104	KPT76-3	1997	0.0 - 2.0	30000	0.072 U	0.072 U	0.072 U	0.055 J	0.038 J	0.072 U	0.072 U	0.093 J
K51105	KPT76-3	1997	2.0 - 12.0	NA	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
K51106	KPT76-3	1997	12.0 - 23.0	NA	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
K51100	KPT76-5	1997	0.0 - 2.0	4500	0.058 U	0.058 U	0.058 U	0.82	0.058 U	0.12	0.058 U	0.94
K51101	KPT76-5	1997	2.0 - 12.0	330000	0.38 U	0.38 U	0.38 U	5.3	0.38 U	0.28 J	0.38 U	5.6 J
K51102	KPT76-5	1997	12.0 - 21.0	230000	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
K51103	KPT76-5	1997	12.0 - 21.0	190000	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
K50254	KPT77-1	1997	0.0 - 2.0	400 U	0.89 U	0.89 U	0.89 U	2.6	1.1	0.65 J	0.89 U	4.4 J
K50255	KPT77-1	1997	2.0 - 12.0	NA	0.22 U	0.22 U	0.22 U	1.3	0.22 U	0.15 J	0.22 U	1.5 J
K50256	KPT77-1	1997	12.0 - 24.0	NA	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U
K50257	KPT77-1	1997	24.0 - 36.0	NA	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K50242	KPT77-3	1997	0.0 - 2.0	70000	16 U	16 U	16 U	83	16 U	11 J	16 U	94 J
K50243	KPT77-3	1997	2.0 - 12.0	170000	2.2 U	2.2 U	2.2 U	17	2.2 U	5.0	2.2 U	22
K50244	KPT77-3	1997	12.0 - 24.0	56000	0.10 U	0.10 U	0.10 U	0.13	0.10 U	0.10 U	0.069 J	0.20 J
K50245	KPT77-3	1997	24.0 - 38.0	86000	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
K50824	KPT77-8	1997	0.0 - 2.0	1500 J	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
K50825	KPT77-8	1997	2.0 - 12.0	5300	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K50826	KPT77-8	1997	12.0 - 24.0	810 J	0.059 U	0.059 U	0.059 U	0.31	0.059 U	0.059 U	0.059 U	0.31
K50827	KPT77-8	1997	24.0 - 36.0	8100 J	0.060 U	0.060 U	0.060 U	0.44	0.060 U	0.060 U	0.060 U	0.44
K50828	KPT77-8	1997	24.0 - 36.0	5100 J	0.060 U	0.060 U	0.060 U	0.46 JN	0.060 U	0.049 JN	0.060 U	0.51 J
K50878	KPT78-6	1997	0.0 - 2.0	31000	0.070 U	0.070 U	0.070 U	0.29	0.10	0.086	0.070 U	0.48
K50879	KPT78-6	1997	2.0 - 12.0	15000	0.068 U	0.068 U	0.068 U	0.057 J	0.068 U	0.068 U	0.068 U	0.057 J
K50880	KPT78-6	1997	12.0 - 24.0	74000	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K50881	KPT78-6	1997	24.0 - 36.0	78000	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K50882	KPT78-6	1997	24.0 - 36.0	75000	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K50906	KPT79-4	1997	0.0 - 2.0	58000	0.14 U	0.14 U	0.14 U	1.1	0.14 U	0.19	0.14 U	1.3
K50907	KPT79-4	1997	2.0 - 12.0	15000	0.072 U	0.072 U	0.072 U	0.33	0.072 U	0.072 U	0.072 U	0.33
K50908	KPT79-4	1997	12.0 - 24.0	130 U	0.065 U	0.065 U	0.065 U	0.049 J	0.065 U	0.065 U	0.065 U	0.049 J
K50909	KPT79-4	1997	24.0 - 36.0	4100	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K50910	KPT79-4	1997	24.0 - 36.0	21000	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U
K50041	KPT79-5	1997	0.0 - 6.0	48000	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
K50042	KPT79-5	1997	6.0 - 18.0	NA	0.073 U	0.073 U	0.073 U	0.073 U	0.073 U	0.073 U	0.073 U	0.073 U
K50043	KPT79-5	1997	18.0 - 30.0	NA	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K50044	KPT79-5	1997	30.0 - 37.2	NA	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U
K50363	KPT79-6	1997	0.0 - 2.0	61000	0.13 U	0.13 U	0.13 U	0.094 J	0.13 U	0.13 U	0.13 U	0.094 J
K50364	KPT79-6	1997	2.0 - 12.0	NA	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K50365	KPT79-6	1997	12.0 - 24.0	NA	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U
K50366	KPT79-6	1997	24.0 - 36.0	NA	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U
K51097	KPT79-7	1997	0.0 - 2.0	63000 J	0.085 U	0.085 U	0.085 U	0.42	0.085 U	0.085 U	0.085 U	0.42
K51098	KPT79-7	1997	2.0 - 8.0	NA	0.067 U	0.067 U	0.067 U	0.34	0.067 U	0.091	0.081	0.51
K51099	KPT79-7	1997	8.0 - 19.0	NA	0.11 U	0.11 U	0.11 U	0.094 J	0.11 U	0.11 U	0.11 U	0.094 J
K51052	KPT80-2	1997	0.0 - 2.0	3900	0.057 U	0.057 U	0.057 U	0.041 J	0.057 U	0.057 U	0.057 U	0.041 J
K51053	KPT80-2	1997	2.0 - 5.0	1700 J	0.056 U	0.056 U	0.056 U	0.15	0.063	0.056 U	0.056 U	0.21
K51045	KPT81-5	1997	0.0 - 2.0	300 J	0.056 U	0.056 U	0.056 U	0.030 J	0.056 U	0.056 U	0.056 U	0.030 J
K51046	KPT81-5	1997	2.0 - 7.0	10000 J	0.056 U	0.056 U	0.056 U	0.030 J	0.056 U	0.056 U	0.056 U	0.030 J
K51094	KPT82-2	1997	0.0 - 6.0	12000 J	0.053 U	0.053 U	0.053 U	0.11	0.053 U	0.053 U	0.053 U	0.11
K51090	KPT82-4	1997	0.0 - 2.0	6200 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51091	KPT82-4	1997	2.0 - 12.0	NA	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51018	KPT82-6	1997	0.0 - 2.0	4800	0.13 U	0.13 U	0.13 U	0.13 U	1.3	1.0	0.53	2.8
K51019	KPT82-6	1997	2.0 - 9.0	7200 J	0.067 U	0.067 U	0.067 U	0.060 J	0.057 J	0.040 J	0.067 U	0.16 J
K51041	KPT82-7	1997	0.0 - 2.0	5300 J	0.064 U	0.064 U	0.064 U	0.075	0.056 J	0.034 J	0.064 U	0.17 J
K51042	KPT82-7	1997	2.0 - 6.0	3900 J	0.065 U	0.065 U	0.065 U	0.13	0.12	0.068	0.065 U	0.32
K51054	KPT82-8	1997	0.0 - 2.0	7200	0.14 U	0.14 U	0.14 U	0.50	0.14 U	0.13 J	0.14 U	0.63 J
K51055	KPT82-8	1997	2.0 - 8.0	NA	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	3.9	1.6	5.5
K50190	KPT85-6	1997	0.0 - 2.0	81000	0.22 U	0.22 U	0.22 U	1.9	0.22 U	0.54	0.22 U	2.4
K50191	KPT85-6	1997	2.0 - 12.0	NA	0.060 U	0.060 U	0.060 U	0.067	0.060 U	0.060 U	0.060 U	0.067
K50192	KPT85-6	1997	12.0 - 24.0	NA	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K50193	KPT85-6	1997	24.0 - 36.0	NA	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K50194	KPT85-6	1997	12.0 - 24.0	NA	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51072	KPT86-1	1997	0.0 - 2.0	17000	0.12 U	0.12 U	0.12 U	0.38	0.50	0.58	0.12 U	1.5
K51073	KPT86-1	1997	2.0 - 3.0	NA	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51125	KPT87-6	1997	0.0 - 2.0	11000	0.35 U	0.35 U	0.35 U	2.0	1.9	0.50	0.35 U	4.4
K51126	KPT87-6	1997	2.0 - 9.0	NA	0.17 U	0.17 U	0.17 U	0.17 U	1.4	0.30	0.17 U	1.7
K51039	KPT88-2	1997	0.0 - 2.0	270 J	0.052 U	0.052 U	0.052 U	0.029 J	0.052 U	0.052 U	0.052 U	0.029 J
K51040	KPT88-2	1997	2.0 - 12.0	NA	0.057 U	0.057 U	0.057 U	0.031 J	0.030 J	0.057 U	0.057 U	0.061 J
K51169	KPT88-3	1997	0.0 - 2.0	21000 J	0.056 U	0.056 U	0.056 U	0.053 J	0.056 U	0.056 U	0.056 U	0.053 J
K51170	KPT88-3	1997	2.0 - 12.0	NA	0.057 U	0.057 U	0.057 U	0.096	0.061	0.057 U	0.057 U	0.16
K51171	KPT88-3	1997	2.0 - 12.0	NA	0.056 U	0.056 U	0.056 U	0.037 J	0.043 J	0.056 U	0.056 U	0.080 J

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TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (ft)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51151	KPT88-7	1997	0.0 - 2.0	120 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K51152	KPT88-7	1997	2.0 - 15.0	NA	0.093 U	0.093 U	0.093 U	0.050 J	0.093 U	0.093 U	0.093 U	0.050 J
K51438	KPT89-3	1997	0.0 - 2.0	30000	0.060 U	0.060 U	0.060 U	0.12	0.060 U	0.060 U	0.060 U	0.12
K51439	KPT89-3	1997	2.0 - 12.0	9900 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K50849	KPT89-6	1997	0.0 - 2.0	23000	0.057 U	0.057 U	0.057 U	0.10	0.060	0.037 J	0.057 U	0.20 J
K50850	KPT89-6	1997	2.0 - 12.0	290 J	0.056 U	0.056 U	0.056 U	0.17	0.059	0.056 U	0.056 U	0.23
K50851	KPT89-6	1997	12.0 - 24.0	33000	0.058 U	0.058 U	0.058 U	0.032 J	0.058 U	0.058 U	0.058 U	0.032 J
K50852	KPT89-6	1997	24.0 - 36.0	61000	0.10 U	0.10 U	0.10 U	0.26	0.10 U	0.10 U	0.10 U	0.26
K50853	KPT89-6	1997	36.0 - 42.0	19000	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U
K50854	KPT89-6	1997	24.0 - 36.0	68000	0.098 U	0.098 U	0.098 U	0.053 J	0.11	0.098 U	0.098 U	0.16 J
K50741	KPT90-1	1997	0.0 - 2.0	16000 J	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U
K50742	KPT90-1	1997	2.0 - 12.0	NA	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U
K50743	KPT90-1	1997	12.0 - 19.0	NA	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K50419	KPT90-2	1997	0.0 - 2.0	4200 J	0.055 U	0.055 U	0.055 U	0.11	0.055 U	0.055 U	0.055 U	0.11
K50420	KPT90-2	1997	2.0 - 12.0	NA	0.056 U	0.056 U	0.056 U	0.22	0.056 U	0.056 U	0.056 U	0.22
K50724	KPT90-3	1997	0.0 - 2.0	19000 J	0.060 U	0.060 U	0.060 U	0.063	0.032 J	0.060 U	0.060 U	0.095 J
K50725	KPT90-3	1997	2.0 - 12.0	NA	0.056 U	0.056 U	0.056 U	0.034 J	0.031 J	0.056 U	0.056 U	0.065 J
K50356	KPT90-4	1997	0.0 - 2.0	100 U	0.059 U	0.059 U	0.059 U	0.055 J	0.029 J	0.059 U	0.059 U	0.084 J
K50357	KPT90-4	1997	2.0 - 12.0	NA	0.056 U	0.056 U	0.056 U	0.065	0.056 U	0.056 U	0.056 U	0.065
K50358	KPT90-4	1997	12.0 - 24.0	NA	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
K50359	KPT90-4	1997	24.0 - 36.0	NA	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K50748	KPT90-7	1997	0.0 - 2.0	2900 J	0.13 U	0.13 U	0.13 U	0.42	0.48	0.15	0.13 U	1.1
K50749	KPT90-7	1997	2.0 - 12.0	14000 J	0.21 U	0.21 U	0.21 U	0.99	1.5	0.44	0.21 U	2.9
K50750	KPT90-7	1997	12.0 - 21.0	2100 J	0.062 U	0.062 U	0.062 U	0.17	0.28	0.17	0.062 U	0.62
K50751	KPT90-7	1997	2.0 - 12.0	7300	0.35 U	0.35 U	0.35 U	0.85	1.6	0.60	0.35 U	3.1
K50729	KPT91-1	1997	0.0 - 2.0	21000 J	0.079 U	0.079 U	0.079 U	0.054 J	0.043 J	0.079 U	0.079 U	0.097 J
K50730	KPT91-1	1997	2.0 - 12.0	830 J	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K50731	KPT91-1	1997	12.0 - 24.0	3300 J	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K50732	KPT91-1	1997	24.0 - 32.0	4700 J	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K51194	KPT91-2	1997	0.0 - 2.0	23000 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51195	KPT91-2	1997	2.0 - 12.0	960	0.054 U	0.054 U	0.054 U	0.073	0.054 U	0.054 U	0.054 U	0.073
K51196	KPT91-2	1997	12.0 - 24.0	2300 J	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51197	KPT91-2	1997	24.0 - 36.0	87000	0.18 U	0.18 U	0.18 U	0.90	0.18 U	0.49	0.18 U	1.4
K51198	KPT91-2	1997	36.0 - 48.0	180000 J	0.34 U	0.34 U	0.34 U	0.82	0.34 U	0.52	0.34 U	1.3
K51199	KPT91-2	1997	48.0 - 60.0	44000	0.17 U	0.17 U	0.17 U	0.69	0.17 U	0.51	0.17 U	1.2
K51200	KPT91-2	1997	60.0 - 69.0	110000	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
K51201	KPT91-2	1997	36.0 - 48.0	180000	0.15 U	0.15 U	0.15 U	0.35	0.15 U	0.18	0.15 U	0.53
K51065	KPT91-3	1997	0.0 - 2.0	3700 J	0.057 U	0.057 U	0.057 U	0.063	0.057 U	0.057 U	0.057 U	0.063
K51066	KPT91-3	1997	2.0 - 12.0	7600 J	0.057 U	0.057 U	0.057 U	0.076	0.057 U	0.057 U	0.057 U	0.076

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (ft)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51067	KPT91-3	1997	12.0 - 24.0	120 UJ	0.057 U	0.057 U	0.057 U	0.083	0.059	0.057 U	0.057 U	0.14
K51068	KPT91-3	1997	24.0 - 36.0	89000	0.54 U	0.54 U	0.54 U	2.0	0.54 U	1.3	0.54 U	3.3
K51069	KPT91-3	1997	36.0 - 48.0	140000	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
K51070	KPT91-3	1997	48.0 - 51.0	290000	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
K51071	KPT91-3	1997	24.0 - 36.0	140000	0.23 U	0.23 U	0.23 U	1.3	0.23 U	1.0	0.23 U	2.3
K50047	KPT91-4	1997	0.0 - 6.0	4400 J	0.058 U	0.058 U	0.058 U	0.050 J	0.058 U	0.058 U	0.058 U	0.050 J
K50048	KPT91-4	1997	6.0 - 18.0	NA	0.053 U	0.053 U	0.053 U	0.057	0.053 U	0.053 U	0.053 U	0.057
K50049	KPT91-4	1997	18.0 - 30.0	NA	0.058 U	0.058 U	0.058 U	0.26	0.058 U	0.096	0.058 U	0.36
K50050	KPT91-4	1997	30.0 - 42.0	NA	0.056 U	0.056 U	0.056 U	0.12	0.056 U	0.056 U	0.056 U	0.12
K50051	KPT91-4	1997	42.0 - 54.0	NA	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U
K50052	KPT91-4	1997	54.0 - 61.2	NA	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K50055	KPT91-4	1997	6.0 - 18.0	NA	0.053 U	0.053 U	0.053 U	0.16	0.053 U	0.053 U	0.053 U	0.16
K50708	KPT91-6	1997	0.0 - 2.0	2800 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K50709	KPT91-6	1997	2.0 - 12.0	NA	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K50710	KPT91-6	1997	12.0 - 24.0	NA	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U
K50711	KPT91-6	1997	24.0 - 36.0	NA	0.073 U	0.073 U	0.073 U	0.073 U	0.073 U	0.073 U	0.073 U	0.073 U
K50787	KPT92-2	1997	0.0 - 2.0	12000 J	0.062 U	0.062 U	0.062 U	0.086	0.062 U	0.062 U	0.062 U	0.086
K50788	KPT92-2	1997	2.0 - 10.0	3400	0.059 U	0.059 U	0.059 U	0.10 JN	0.059 U	0.031 JN	0.059 U	0.13 J
K50789	KPT92-2	1997	10.0 - 24.0	92000	0.12 U	0.12 U	0.12 U	0.19 JN	0.12 U	0.088 JN	0.12 U	0.28 J
K50790	KPT92-2	1997	24.0 - 36.0	66000	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U
K50791	KPT92-2	1997	10.0 - 24.0	75000	0.12 U	0.12 U	0.12 U	0.25	0.12 U	0.12	0.12 U	0.37
K50398	KPT92-3	1997	0.0 - 2.0	5500 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K50399	KPT92-3	1997	2.0 - 14.0	NA	0.057 UJ	0.057 UJ	0.057 UJ	0.057 UJ	0.057 UJ	0.057 UJ	0.057 UJ	0.057 UJ
K50400	KPT92-3	1997	14.0 - 26.0	NA	0.062 UJ	0.062 UJ	0.062 UJ	0.21 J	0.062 UJ	0.062 UJ	0.062 UJ	0.21 J
K50401	KPT92-3	1997	26.0 - 34.0	NA	0.78 U	0.78 U	0.78 U	3.2	1.8	0.89	0.78 U	5.9
K50402	KPT92-3	1997	34.0 - 48.0	NA	0.13 UJ	0.13 UJ	0.13 UJ	0.083 J	0.13 UJ	0.13 UJ	0.13 UJ	0.083 J
K50403	KPT92-3	1997	48.0 - 54.0	NA	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
K50409	KPT92-4	1997	0.0 - 2.0	100 UJ	0.060 U	0.060 U	0.060 U	0.086	0.060 U	0.060 U	0.060 U	0.086
K50410	KPT92-4	1997	2.0 - 18.0	NA	0.056 U	0.056 U	0.056 U	0.036 J	0.056 U	0.056 U	0.056 U	0.036 J
K50411	KPT92-4	1997	18.0 - 34.0	NA	0.057 U	0.057 U	0.057 U	0.073	0.038 J	0.057 U	0.057 U	0.11 J
K50412	KPT92-4	1997	34.0 - 42.0	NA	0.25 U	0.25 U	0.25 U	1.1	0.25 U	0.28	0.25 U	1.4
K50413	KPT92-4	1997	42.0 - 52.0	NA	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K50414	KPT92-4	1997	52.0 - 60.0	NA	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K50415	KPT92-4	1997	42.0 - 52.0	NA	0.11 U	0.11 U	0.11 U	0.073 J	0.11 U	0.11 U	0.11 U	0.073 J
K51296	KPT92-7	1997	0.0 - 2.0	NA	0.041 U	0.083 U	0.041 U	0.041 U	0.041 U	0.041 U	0.041 U	0.083 U
K51297	KPT92-7	1997	2.0 - 12.0	NA	0.038 U	0.078 U	0.038 U	0.075	0.038 U	0.038 U	0.038 U	0.075
K51298	KPT92-7	1997	12.0 - 29.0	NA	0.039 U	0.079 U	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	0.079 U
K51299	KPT92-7	1997	29.0 - 36.0	NA	0.087 U	0.18 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.18 U
K51300	KPT92-7	1997	36.0 - 48.0	NA	0.087 U	0.18 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.18 U

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TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51301	KPT92-7	1997	36.0 - 48.0	NA	0.087 U	0.18 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.18 U
K50985	KPT92-8	1997	0.0 - 2.0	99000	0.13 U	0.13 U	0.13 U	0.34	0.98	0.13 U	0 23	1.6
K50986	KPT92-8	1997	2.0 - 12.0	130000	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0 18	0.18
K50987	KPT92-8	1997	12.0 - 24 0	150000	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
K50988	KPT92-8	1997	24.0 - 36.0	110000	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
K50989	KPT92-8	1997	24.0 - 36 0	120000	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
K50998	KPT93-1	1997	0.0 - 2.0	83000	25 U	25 U	25 U	90	66	25 U	25 U	160
K50999	KPT93-1	1997	2.0 - 12 0	100000	6.1 U	6.1 U	6.1 U	43	6.1 U	16	6.1 U	59
K51000	KPT93-1	1997	12.0 - 24.0	110000	0.24 U	0.24 U	0.24 U	1.0	0 24 U	0.49	0.24 U	1.5
K51001	KPT93-1	1997	24.0 - 36.0	92000	0.23 U	0.23 U	0.23 U	1.4	0 23 U	0.20 J	0.23 U	1.6 J
K51002	KPT93-1	1997	12.0 - 24.0	110000	0.26 U	0.26 U	0.26 U	1.0	0.26 U	0.47	0.26 U	1.5
K50562	KPT93-3	1997	0.0 - 2.0	1600 J	0.060 U	0.060 U	0.060 U	0.063	0.040 J	0.036 J	0.060 U	0.14 J
K50563	KPT93-3	1997	2.0 - 12.0	11000	0.059 U	0.059 U	0.059 U	0.18	0.059 U	0.059 U	0.059 U	0.18
K50564	KPT93-3	1997	12.0 - 30.0	2100 J	0.059 U	0.059 U	0.059 U	0.14	0.070	0.045 J	0.059 U	0.26 J
K50565	KPT93-3	1997	30.0 - 36.0	65000	0.10 U	0.10 U	0.10 U	0.10 U	0.060 JN	0.10 U	0.10 U	0.060 J
K50566	KPT93-3	1997	30.0 - 36.0	54000	0.096 U	0.096 U	0.096 U	0.068 JN	0.096 U	0.096 U	0.096 U	0.068 J
K50576	KPT93-3	1997	36.0 - 48.0	98000	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K50577	KPT93-3	1997	48.0 - 60.0	90000	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K50578	KPT93-3	1997	60.0 - 66.0	70000	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K50558	KPT93-5	1997	0.0 - 2.0	8500 J	0.062 U	0.062 U	0.062 U	0.078	0.062 U	0.062 U	0.062 U	0.078
K50559	KPT93-5	1997	2.0 - 12.0	NA	0.061 U	0.061 U	0.061 U	0.069	0.061 U	0.061 U	0.061 U	0.069
K50560	KPT93-5	1997	12.0 - 24.0	NA	0.060 U	0.060 U	0.060 U	0.19	0.060 U	0.035 J	0.060 U	0.23 J
K50561	KPT93-5	1997	24.0 - 36.0	NA	0.060 U	0.060 U	0.060 U	0.13	0.12	0.061	0.060 U	0.31
K50291	KPT94-3	1997	0.0 - 2.0	100 U	0.062 U	0.062 U	0.062 U	0.040 J	0.062 U	0.062 U	0.062 U	0.040 J
K50292	KPT94-3	1997	2.0 - 14.0	NA	0.060 U	0.060 U	0.060 U	0.13	0.060 U	0.060 U	0.060 U	0.13
K50293	KPT94-3	1997	14.0 - 24.0	NA	0.11 UJ	0.11 UJ	0.11 UJ	0.11 UJ	0.065 J	0.11 UJ	0 11 UJ	0.065 J
K50294	KPT94-3	1997	24.0 - 36.0	NA	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K50295	KPT94-4	1997	0.0 - 2.0	100 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K50296	KPT94-4	1997	2.0 - 12.0	8600	0.067 U	0.067 U	0.067 U	0.40	0.46	0.22	0.067 U	1.1
K50297	KPT94-4	1997	12.0 - 24.0	16000 J	0.13 U	0.13 U	0.13 U	1.4	0.13 U	0.20	0.13 U	1.6
K50298	KPT94-4	1997	24.0 - 36.0	91000	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
K50299	KPT94-4	1997	24.0 - 36.0	88000	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
K50303	KPT94-6	1997	0.0 - 2.0	100 U	0.067 U	0.067 U	0.067 U	0.28	0.067 U	0.056 J	0.067 U	0.34 J
K50304	KPT94-6	1997	2.0 - 10.0	41000	0.14 UJ	0.14 UJ	0.14 UJ	0.52 J	0.89 J	0.14 UJ	0.083 J	1.5 J
K50305	KPT94-6	1997	10.0 - 24.0	44000 J	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
K50306	KPT94-6	1997	24.0 - 36.0	79000	0.14 UJ	0.14 UJ	0.14 UJ	0.14 UJ	0.14 UJ	0.14 UJ	0.14 UJ	0.14 UJ
K50307	KPT94-6	1997	10.0 - 24.0	110000	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.13 UJ
K51209	KPT94-8	1997	0.0 - 2.0	8900	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U
K51210	KPT94-8	1997	2.0 - 12.0	2300 J	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U

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TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (ft)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51211	KPT94-8	1997	12.0 - 23.0	120 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K51212	KPT94-8	1997	12.0 - 23.0	120 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K50717	KPT95-2	1997	0.0 - 2.0	910 J	0.062 U	0.062 U	0.062 U	0.099	0.062 U	0.062 U	0.062 U	0.099
K50718	KPT95-2	1997	2.0 - 6.0	NA	0.17 U	0.17 U	0.17 U	0.86	0.63	0.18	0.17 U	1.7
K50719	KPT95-7	1997	0.0 - 2.0	8400	0.072 U	0.072 U	0.072 U	0.42	0.072 U	0.14	0.072 U	0.56
K50720	KPT95-7	1997	2.0 - 12.0	14000	0.065 U	0.065 U	0.065 U	0.47	0.065 U	0.10	0.065 U	0.57
K50721	KPT95-7	1997	12.0 - 18.0	21000	0.072 U	0.072 U	0.072 U	0.16	0.098	0.040 J	0.072 U	0.30 J
K50722	KPT95-7	1997	18.0 - 24.0	2500 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K50723	KPT95-7	1997	2.0 - 12.0	12000	0.065 U	0.065 U	0.065 U	0.46	0.065 U	0.16	0.065 U	0.62
K50735	KPT97-3	1997	0.0 - 2.0	7000 J	0.056 U	0.056 U	0.056 U	0.049 J	0.049 J	0.040 J	0.056 U	0.14 J
K50736	KPT97-3	1997	2.0 - 9.0	830 J	0.056 U	0.056 U	0.056 U	0.056 U	0.030 J	0.056 U	0.056 U	0.030 J
K51218	KPT97-4	1997	0.0 - 2.0	2400 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51219	KPT97-4	1997	2.0 - 7.0	NA	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K50746	KPT98-2	1997	0.0 - 2.0	4800 J	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K50747	KPT98-2	1997	2.0 - 11.0	6800 J	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U
K50733	KPT98-3	1997	0.0 - 2.0	24000 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K50734	KPT98-3	1997	2.0 - 8.0	NA	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51181	KPT98-4	1997	0.0 - 2.0	110 U	0.052 U	0.052 U	0.052 U	0.039 J	0.052 U	0.052 U	0.052 U	0.039 J
K51182	KPT98-4	1997	2.0 - 9.0	NA	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K50752	KPT99-1	1997	0.0 - 2.0	28000	0.092 U	0.092 U	0.092 U	0.78	0.092 U	0.19	0.092 U	0.97
K50753	KPT99-1	1997	2.0 - 12.0	NA	0.068 U	0.068 U	0.068 U	0.26	0.069	0.070	0.068 U	0.40
K50754	KPT99-1	1997	12.0 - 23.0	NA	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U
K51158	KPT100-1	1997	0.0 - 2.0	77000	0.12 U	0.12 U	0.12 U	1.7	0.12 U	0.51	0.12 U	2.2
K51159	KPT100-1	1997	2.0 - 11.0	NA	0.077 U	0.077 U	0.077 U	0.042 J	0.077 U	0.077 U	0.077 U	0.042 J
K50700	KPT100-2	1997	0.0 - 2.0	27000	0.058 U	0.058 U	0.058 U	0.042 J	0.058 U	0.058 U	0.058 U	0.042 J
K50701	KPT100-2	1997	2.0 - 16.0	NA	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K50764	KPT100-3	1997	0.0 - 2.0	5500 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K50765	KPT100-3	1997	2.0 - 6.0	1700 J	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K50737	KPT100-7	1997	0.0 - 2.0	40000 J	0.088 U	0.088 U	0.088 U	0.57	0.088 U	0.18	0.088 U	0.75
K50738	KPT100-7	1997	2.0 - 12.0	NA	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K50739	KPT100-7	1997	12.0 - 26.0	NA	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K50740	KPT100-7	1997	12.0 - 26.0	NA	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U
K50706	KPT101-2	1997	0.0 - 2.0	9400	0.057 U	0.057 U	0.057 U	0.043 J	0.035 J	0.057 U	0.057 U	0.078 J
K50707	KPT101-2	1997	2.0 - 13.0	890 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51179	KPT101-6	1997	0.0 - 2.0	13000	0.072 U	0.072 U	0.072 U	0.039 J	0.080	0.039 J	0.072 U	0.16 J
K51180	KPT101-6	1997	2.0 - 7.0	9500 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K50744	KPT102-2	1997	0.0 - 2.0	5100 J	0.12 U	0.12 U	0.12 U	0.12 U	0.097 J	0.12 U	0.12 U	0.097 J
K50745	KPT102-2	1997	2.0 - 11.0	1400 J	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K51116	KPT103-2	1997	0.0 - 2.0	50000 J	0.088 U	0.088 U	0.088 U	0.088 U	0.14	0.047 J	0.088 U	0.19 J

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TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51117	KPT103-2	1997	2.0 - 11.0	NA	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U
K51118	KPT103-2	1997	11.0 - 24.0	NA	0.060 U	0.056 JN	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.056 J
K51119	KPT103-2	1997	24.0 - 36.0	NA	0.059 U	0.044 JN	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.044 J
K51010	KPT103-3	1997	0.0 - 2.0	54000	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K51011	KPT103-3	1997	2.0 - 12.0	55000	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K51012	KPT103-3	1997	12.0 - 24.0	27000	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U
K51013	KPT103-3	1997	24.0 - 35.0	41000	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
K51014	KPT103-3	1997	12.0 - 24.0	47000	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U
K50057	KPT103-4	1997	0.0 - 6.0	43000	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
K50058	KPT103-4	1997	6.0 - 18.0	NA	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
K50059	KPT103-4	1997	18.0 - 34.8	NA	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U
K50863	KPT103-5	1997	0.0 - 2.0	29000	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U
K50864	KPT103-5	1997	2.0 - 13.0	NA	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U
K51260	KPT103-6	1997	0.0 - 2.0	82000	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
K51261	KPT103-6	1997	2.0 - 12.0	NA	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
K51262	KPT103-6	1997	12.0 - 24.0	NA	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U
K51263	KPT103-6	1997	24.0 - 28.0	NA	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U
K51264	KPT103-6	1997	12.0 - 24.0	NA	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U
K51254	KPT104-1	1997	0.0 - 2.0	NA	0.078 U	0.16 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.16 U
K51255	KPT104-1	1997	2.0 - 12.0	NA	0.069 U	0.14 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.14 U
K51256	KPT104-1	1997	12.0 - 18.0	NA	0.052 U	0.10 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.10 U
K51257	KPT104-1	1997	2.0 - 12.0	NA	0.069 U	0.14 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.14 U
K50116	KPT104-3	1997	0.0 - 2.0	42000	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K50117	KPT104-3	1997	2.0 - 12.0	NA	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K50118	KPT104-3	1997	12.0 - 24.0	NA	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K50119	KPT104-3	1997	24.0 - 38.0	NA	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U
K51234	KPT104-4	1997	0.0 - 2.0	47000	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
K51235	KPT104-4	1997	2.0 - 12.0	45000	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K51236	KPT104-4	1997	12.0 - 24.0	34000	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U
K51237	KPT104-4	1997	24.0 - 31.0	47000	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
K51238	KPT104-4	1997	2.0 - 12.0	43000	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K51129	KPT104-7	1997	0.0 - 2.0	8700	0.062 U	0.062 U	0.062 U	0.14	0.062 U	0.037 J	0.062 U	0.18 J
K51130	KPT104-7	1997	2.0 - 12.0	120 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51131	KPT104-7	1997	12.0 - 24.0	120 U	0.061 U	0.042 J	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.042 J
K51132	KPT104-7	1997	24.0 - 36.0	770 J	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K51133	KPT104-7	1997	24.0 - 36.0	5000 J	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K51213	KPT105-1	1997	0.0 - 2.0	7500	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U
K51214	KPT105-1	1997	2.0 - 12.0	NA	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K51215	KPT105-1	1997	12.0 - 26.0	NA	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U

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TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (ft)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51265	KPT105-3	1997	0.0 - 2.0	3600	0.067 U	0.067 U	0.067 U	0.089	0.067 U	0.067 U	0.067 U	0.089
K51266	KPT105-3	1997	2.0 - 10.0	6600	0.057 U	0.057 U	0.057 U	0.033 J	0.057 U	0.057 U	0.057 U	0.033 J
K51085	KPT105-6	1997	0.0 - 2.0	110000	0.14 UJ	0.14 UJ	0.14 UJ	1.7 J	0.14 UJ	1.3 J	0.14 UJ	3.0 J
K51086	KPT105-6	1997	2.0 - 12.0	110000	0.29 U	0.29 U	0.29 U	1.6	0.29 U	0.54	0.34	2.5
K51087	KPT105-6	1997	12.0 - 24.0	70000	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.075 JN	0.12 U	0.075 J
K51088	KPT105-6	1997	24.0 - 35.0	57000	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K51089	KPT105-6	1997	12.0 - 24.0	250000	0.11 U	0.11 U	0.11 U	0.14 JN	0.11 U	0.11 U	0.069 JN	0.21 J
K50914	KPT106-5	1997	0.0 - 2.0	5000	0.068 U	0.068 U	0.068 U	0.10	0.25	0.11	0.068 U	0.46
K50915	KPT106-5	1997	2.0 - 12.0	4400 J	0.061 U	0.061 U	0.061 U	0.087	0.061 U	0.35	0.047 J	0.48 J
K50916	KPT106-5	1997	12.0 - 24.0	64000	0.098 U	0.098 U	0.098 U	0.059 J	0.098 U	0.098 U	0.098 U	0.059 J
K50917	KPT106-5	1997	24.0 - 36.0	52000	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
K50918	KPT106-5	1997	12.0 - 24.0	57000	0.085 U	0.085 U	0.085 U	0.049 J	0.085 U	0.085 U	0.085 U	0.049 J
K51249	KPT106-6	1997	0.0 - 2.0	120000	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
K51250	KPT106-6	1997	2.0 - 12.0	75000	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ
K51251	KPT106-6	1997	12.0 - 24.0	66000	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K51252	KPT106-6	1997	24.0 - 30.0	56000	0.11 UJ	0.11 UJ	0.11 UJ	0.11 UJ	0.11 UJ	0.11 UJ	0.11 UJ	0.11 UJ
K51253	KPT106-6	1997	12.0 - 24.0	65000	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K51269	KPT106-7	1997	0.0 - 2.0	60000	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
K51270	KPT106-7	1997	2.0 - 12.0	74000	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K51271	KPT106-7	1997	12.0 - 19.0	28000	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U
K51272	KPT106-7	1997	12.0 - 19.0	38000	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U
K51426	KPT106-8	1997	0.0 - 2.0	7500	0.073 U	0.073 U	0.073 U	0.073 U	0.33	0.079 J	0.073 U	0.41 J
K51427	KPT106-8	1997	2.0 - 12.0	NA	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U
K51428	KPT106-8	1997	12.0 - 24.0	NA	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U
K51429	KPT106-8	1997	24.0 - 30.0	NA	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K51430	KPT106-8	1997	30.0 - 36.0	NA	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K51431	KPT106-8	1997	12.0 - 24.0	NA	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U
K50893	KPT107-1	1997	0.0 - 2.0	560 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K50894	KPT107-1	1997	2.0 - 12.0	110 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K50120	KPT107-2	1997	0.0 - 2.0	76000	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.14	0.14
K50121	KPT107-2	1997	2.0 - 12.0	110000	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.17	0.17
K50122	KPT107-2	1997	12.0 - 24.0	85000	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
K50123	KPT107-2	1997	24.0 - 35.0	25000	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U
K50605	KPT107-3	1997	0.0 - 2.0	1500	0.068 U	0.068 U	0.068 U	0.27	0.27	0.055 J	0.068 U	0.60 J
K50606	KPT107-3	1997	2.0 - 12.0	NA	0.060 U	0.060 U	0.060 U	0.20	0.20	0.072	0.060 U	0.47
K50607	KPT107-3	1997	12.0 - 18.0	NA	0.062 U	0.062 U	0.062 U	0.58	0.062 U	0.088	0.062 U	0.67
K50608	KPT107-3	1997	18.0 - 30.0	NA	0.35 U	0.35 U	0.35 U	2.6	0.35 U	1.9	0.35 U	4.5
K50609	KPT107-3	1997	30.0 - 42.0	NA	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.094 JN	0.094 J
K50610	KPT107-3	1997	42.0 - 54.0	NA	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (ft)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K50367	KPT107-4	1997	0.0 - 2.0	78000	14 U	14 U	14 U	91	14 U	14 U	14 U	91
K50368	KPT107-4	1997	2.0 - 12.0	10000	1.5 U	1.5 U	1.5 U	9.0	1.5 U	1.5 U	1.5 U	9.0
K50369	KPT107-4	1997	12.0 - 24.0	29000	0.089 U	0.089 U	0.089 U	0.067 JN	0.089 U	0.089 U	0.10 JN	0.17 J
K50370	KPT107-4	1997	24.0 - 36.0	79000	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.090 JN	0.090 J
K50371	KPT107-4	1997	36.0 - 48.0	90000	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K50372	KPT107-4	1997	24.0 - 36.0	95000	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.072 JN	0.072 J
K50063	KPT107-5	1997	0.0 - 6.0	120 UJ	0.058 U	0.058 U	0.058 U	0.083	0.058 U	0.058 U	0.058 U	0.083
K50064	KPT107-5	1997	5.0 - 18.0	NA	0.062 U	0.062 U	0.062 U	0.14	0.062 U	0.14	0.062 U	0.28
K50065	KPT107-5	1997	18.0 - 30.0	NA	0.21 U	0.21 U	0.21 U	0.88	0.21 U	0.22	0.21 U	1.1
K50066	KPT107-5	1997	30.0 - 34.8	NA	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
K50069	KPT107-5	1997	0.0 - 6.0	1200 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51220	KPT107-6	1997	0.0 - 2.0	2200	0.12 U	0.12 U	0.12 U	0.34	0.87	0.14	0.066 J	1.4 J
K51221	KPT107-6	1997	2.0 - 15.0	700 J	0.059 UJ	0.059 UJ	0.059 UJ	0.059 UJ	0.092 J	0.059 UJ	0.059 UJ	0.092 J
K51222	KPT107-6	1997	15.0 - 26.0	50000	0.081 UJ	0.081 UJ	0.081 UJ	0.081 UJ	0.081 UJ	0.043 J	0.048 J	0.091 J
K51223	KPT107-6	1997	26.0 - 36.0	110000	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.065 J	0.065 J
K51224	KPT107-6	1997	36.0 - 48.0	4900	0.11 UJ	0.11 UJ	0.11 UJ	0.11 UJ	0.11 UJ	0.11 UJ	0.11 UJ	0.11 UJ
K51225	KPT107-6	1997	48.0 - 54.0	70000	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
K51226	KPT107-6	1997	36.0 - 48.0	78000	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K50308	KPT107-8	1997	0.0 - 2.0	14000	0.40 U	0.40 U	0.40 U	0.40 U	3.2	0.40 U	0.40 U	3.2
K50309	KPT107-8	1997	2.0 - 12.0	NA	3.1 U	3.1 U	3.1 U	40	3.1 U	3.8	3.1 U	44
K50310	KPT107-8	1997	12.0 - 22.0	NA	0.072 UJ	0.072 UJ	0.072 UJ	0.072 UJ	0.072 UJ	0.072 UJ	0.072 UJ	0.072 UJ
K50311	KPT107-8	1997	22.0 - 38.0	NA	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U
K50312	KPT107-8	1997	22.0 - 38.0	NA	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K50931	KPT108-3	1997	0.0 - 2.0	1800	0.070 U	0.070 U	0.070 U	0.28	0.070 U	0.063 J	0.070 U	0.34 J
K50932	KPT108-3	1997	2.0 - 12.0	1700 J	0.061 U	0.061 U	0.061 U	0.38	0.061 U	0.064	0.061 U	0.44
K50933	KPT108-3	1997	12.0 - 24.0	54000	0.19 U	0.19 U	0.19 U	0.93	0.19 U	0.30	0.19 U	1.2
K50934	KPT108-3	1997	24.0 - 38.0	11000	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U
K50935	KPT108-3	1997	12.0 - 24.0	53000	0.094 U	0.094 U	0.094 U	0.66	0.33	0.26	0.075 J	1.3 J
K50629	KPT108-7	1997	0.0 - 2.0	100000	0.27 U	0.27 U	0.27 U	1.6	1.6	0.69	0.27 U	3.9
K50630	KPT108-7	1997	2.0 - 12.0	NA	9.4 U	9.4 U	9.4 U	34	17	9.4 U	9.4 U	51
K50631	KPT108-7	1997	12.0 - 24.0	NA	1.3 U	1.3 U	1.3 U	5.8	1.6	1.2 J	1.3 U	8.6 J
K50632	KPT108-7	1997	24.0 - 30.0	NA	0.073 U	0.073 U	0.073 U	0.073 U	0.073 U	0.073 U	0.073 U	0.073 U
K50583	KPT108-8	1997	0.0 - 2.0	68000	0.26 U	0.26 U	0.26 U	0.26 U	2.0	0.64	0.30	2.9
K50584	KPT108-8	1997	2.0 - 12.0	62000	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K50585	KPT108-8	1997	12.0 - 18.0	7500	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U
K50586	KPT108-8	1997	18.0 - 30.0	3900	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U
K50587	KPT108-8	1997	30.0 - 42.0	2300	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
K50588	KPT108-8	1997	18.0 - 30.0	8500	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U
K50286	KPT109-1	1997	0.0 - 2.0	NA	0.19 UJ	0.19 UJ	0.19 UJ	1.6 J	0.19 UJ	0.40 J	0.19 UJ	2.0 J

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
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PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (ft)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K50287	KPT109-1	1997	2.0 - 12.0	4500	0.067 UJ	0.067 UJ	0.067 UJ	0.32 J	0.067 UJ	0.076 J	0.067 UJ	0.40 J
K50288	KPT109-1	1997	12.0 - 24.0	92000	1.2 UJ	1.2 UJ	1.2 UJ	6.0 J	1.2 UJ	5.8 J	1.2 UJ	12 J
K50289	KPT109-1	1997	24.0 - 30.0	120000	0.62 UJ	0.62 UJ	0.62 UJ	2.6 J	0.62 UJ	2.2 J	0.62 UJ	4.8 J
K50290	KPT109-1	1997	12.0 - 24.0	100000	0.58 UJ	0.58 UJ	0.58 UJ	4.4 J	0.58 UJ	3.8 J	0.58 UJ	8.2 J
K51828	KPT109-2	1999	0.0 - 2.0	19000 J	0.12 U	0.12 U	0.12 U	1.1	0.12 U	0.11 J	0.12 U	1.2 J
K51829	KPT109-2	1999	2.0 - 6.0	60000 J	2.9 U	2.9 U	2.9 U	33	2.9 U	4.6	2.9 U	38
K51830	KPT109-2	1999	6.0 - 12.0	87000 J	2.1 U	2.1 U	2.1 U	21	2.1 U	8.7	2.1 U	30
K51831	KPT109-2	1999	12.0 - 24.0	140000 J	0.47 U	0.47 U	0.47 U	5.6	0.47 U	3.9	0.24 J	9.7 J
K52029	KPT109-2	2000	24.0 - 36.0	110000	1.2 U	1.2 U	1.2 U	4.1	1.2 U	2.1	1.2 U	6.2
K51823	KPT109-3	1999	0.0 - 2.0	59000 J	1.2 U	1.2 U	1.2 U	8.1	1.2 U	4.6	1.2 U	13
K51824	KPT109-3	1999	2.0 - 6.0	69000 J	1.2 U	1.2 U	1.2 U	7.9	1.2 U	5.2	1.2 U	13
K51825	KPT109-3	1999	6.0 - 12.0	110000 J	1.2 U	1.2 U	1.2 U	3.6	3.3	7.6	1.2 U	15
K51826	KPT109-3	1999	12.0 - 24.0	97000 J	0.42 UJ	0.42 UJ	0.42 UJ	3.6 J	0.42 UJ	2.8 J	0.42 UJ	6.4 J
K51827	KPT109-3	1999	12.0 - 24.0	100000 J	0.39 U	0.39 U	0.39 U	4.2	0.39 U	3.1	0.20 J	7.5 J
K52030	KPT109-3	2000	24.0 - 36.0	130000	0.49 U	0.49 U	0.49 U	2.2	0.49 U	1.1	0.49 U	3.3
K51832	KPT109-4	1999	0.0 - 2.0	120000 J	1.2 U	1.2 U	1.2 U	4.0	3.3	9.0	1.2 U	16
K51833	KPT109-4	1999	2.0 - 6.0	100000 J	1.2 U	1.2 U	1.2 U	3.5	3.8	8.3	1.2 U	16
K51834	KPT109-4	1999	6.0 - 12.0	49000 J	1.2 U	1.2 U	1.2 U	3.6	3.0	7.8	1.2 U	14
K51835	KPT109-4	1999	12.0 - 24.0	170000 J	0.61 U	0.61 U	0.61 U	6.0	0.61 U	5.5	0.61 U	12
K52028	KPT109-4	2000	24.0 - 36.0	100000	0.58 U	0.58 U	0.58 U	2.5	0.58 U	1.5	0.58 U	4.0
K51836	KPT109-5	1999	0.0 - 2.0	160000 J	0.32 UJ	0.32 UJ	0.32 UJ	2.8 J	0.32 UJ	2.0 J	0.32 UJ	4.8 J
K51837	KPT109-5	1999	2.0 - 6.0	160000 J	0.57 U	0.57 U	0.57 U	4.5	0.57 U	3.2	0.57 U	7.7
K51838	KPT109-5	1999	6.0 - 12.0	170000 J	0.57 U	0.57 U	0.57 U	4.2	0.57 U	3.0	0.57 U	7.2
K51839	KPT109-5	1999	12.0 - 24.0	110000	0.43 U	0.43 U	0.43 U	3.2	0.43 U	1.5	0.43 U	4.7
K51840	KPT109-5	1999	12.0 - 24.0	140000	0.56 U	0.56 U	0.56 U	4.0	0.56 U	2.4	0.56 U	6.4
K52026	KPT109-5	2000	24.0 - 36.0	94000	0.35 U	0.35 U	0.35 U	1.4	0.35 U	0.47	0.35 U	1.9
K51841	KPT109-6	1999	0.0 - 2.0	6200	0.065 U	0.065 U	0.065 U	0.035 J	0.065 U	0.065 U	0.065 U	0.035 J
K51842	KPT109-6	1999	2.0 - 6.0	7600	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
K51843	KPT109-6	1999	6.0 - 12.0	8900	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K51844	KPT109-6	1999	12.0 - 24.0	15000	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U
K51845	KPT109-7	1999	0.0 - 2.0	5500	0.067 U	0.067 U	0.067 U	0.18	0.067 U	0.060 J	0.067 U	0.24 J
K51846	KPT109-7	1999	2.0 - 6.0	530	0.057 U	0.057 U	0.057 U	0.055 J	0.057 U	0.057 U	0.057 U	0.055 J
K51847	KPT109-7	1999	6.0 - 12.0	110 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51848	KPT109-7	1999	12.0 - 16.0	110 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51849	KPT109-7	1999	16.0 - 24.0	110 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51850	KPT109-7	1999	16.0 - 24.0	110 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K52027	KPT109-7	2000	24.0 - 36.0	9400	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K51851	KPT110-1	1999	0.0 - 2.0	1700	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.041 J	0.062 U	0.041 J
K51852	KPT110-1	1999	2.0 - 6.0	120 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.048 J	0.059 U	0.048 J

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51853	KPT110-1	1999	6.0 - 12.0	110 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51892	KPT110-6	2000	0.0 - 2.0	7100	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	1.5	0.37 U	1.5
K51893	KPT110-6	2000	2.0 - 8.0	10000	0.075 U	0.075 U	0.075 U	0.16	0.075 U	0.045 J	0.075 U	0.21 J
K51388	KPT113-2	1997	0.0 - 2.0	1000 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51389	KPT113-2	1997	2.0 - 9.0	NA	0.056 U	0.056 U	0.056 U	0.056 U	0.031 J	0.056 U	0.056 U	0.031 J
K51275	KPT113-5	1997	0.0 - 2.0	8900 J	0.068 U	0.068 U	0.068 U	0.068 U	0.054 J	0.068 U	0.068 U	0.054 J
K51276	KPT113-5	1997	2.0 - 11.0	4200 J	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K51258	KPT113-6	1997	0.0 - 2.0	4500 J	0.067 U	0.067 U	0.067 U	0.067 U	0.048 J	0.067 U	0.067 U	0.048 J
K51259	KPT113-6	1997	2.0 - 12.0	13000 J	0.055 U	0.055 U	0.055 U	0.055 U	0.12	0.077	0.055 U	0.20
K51273	KPT114-3	1997	0.0 - 2.0	110 U	0.055 U	0.055 U	0.055 U	0.055 U	0.13	0.077	0.055 U	0.21
K51274	KPT114-3	1997	2.0 - 6.0	NA	0.055 U	0.055 U	0.055 U	0.055 U	0.12	0.060	0.055 U	0.18
K51277	KPT114-4	1997	0.0 - 2.0	14000 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.042 J	0.056 U	0.042 J
K51278	KPT114-4	1997	2.0 - 13.0	NA	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K50993	KPT114-6	1997	0.0 - 2.0	5200 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K50994	KPT114-6	1997	2.0 - 7.0	1500	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K50784	KPT115-1	1997	0.0 - 2.0	40000	0.10 U	0.10 U	0.10 U	0.10 JN	0.10 U	0.078 JN	0.10 U	0.18 J
K50785	KPT115-1	1997	2.0 - 12.0	NA	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U
K50786	KPT115-1	1997	12.0 - 22.0	NA	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K50883	KPT115-2	1997	0.0 - 2.0	210 J	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K50884	KPT115-2	1997	2.0 - 12.0	NA	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K50795	KPT115-5	1997	0.0 - 2.0	92000	0.12 U	0.12 U	0.12 U	2.0 JN	0.12 U	0.50 JN	0.12 U	2.5 J
K50796	KPT115-5	1997	2.0 - 12.0	15000	0.068 U	0.068 U	0.068 U	0.068 U	0.44 JN	0.068 U	0.068 U	0.44 J
K50797	KPT115-5	1997	12.0 - 24.0	1000 J	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K50814	KPT115-6	1997	0.0 - 2.0	100000	0.25 U	0.25 U	0.25 U	1.3	0.25 U	1.2	0.25 U	2.5
K50815	KPT115-6	1997	2.0 - 10.0	NA	0.97 U	0.97 U	0.97 U	0.97 U	6.8 JN	2.7 JN	0.97 U	9.5 J
K50816	KPT115-6	1997	10.0 - 24.0	NA	0.059 U	0.059 U	0.059 U	0.059 U	0.37 JN	0.056 JN	0.059 U	0.43 J
K50817	KPT115-6	1997	10.0 - 24.0	NA	0.055 U	0.055 U	0.055 U	0.13 J	0.055 U	0.032 JN	0.055 U	0.16 J
K50919	KPT117-1	1997	0.0 - 2.0	28000	0.093 U	0.093 U	0.093 U	0.84	0.093 U	0.21	0.093 U	1.1
K50920	KPT117-1	1997	2.0 - 14.0	NA	0.062 U	0.062 U	0.062 U	0.63	0.062 U	0.096	0.062 U	0.73
K50904	KPT117-2	1997	0.0 - 2.0	6100 J	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K50905	KPT117-2	1997	2.0 - 13.0	NA	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51442	KPT117-3	1997	0.0 - 2.0	17000 J	0.062 U	0.062 U	0.062 U	0.037 J	0.062 U	0.062 U	0.062 U	0.037 J
K51443	KPT117-3	1997	2.0 - 12.0	1800 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51444	KPT117-3	1997	2.0 - 2.0	120 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K50847	KPT117-6	1997	0.0 - 2.0	2400 J	0.058 U	0.058 U	0.058 U	0.058 U	0.068	0.058 U	0.058 U	0.068
K50848	KPT117-6	1997	2.0 - 5.0	NA	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K50929	KPT118-1	1997	0.0 - 2.0	97000	0.14 U	0.14 U	0.14 U	2.2	0.14 U	0.49	0.14 U	2.7
K50930	KPT118-1	1997	2.0 - 11.0	NA	0.067 U	0.067 U	0.067 U	0.34	0.067 U	0.072	0.067 U	0.41
K50070	KPT118-3	1997	0.0 - 6.0	12000 J	0.060 U	0.060 U	0.060 U	0.17	0.060 U	0.072	0.060 U	0.24

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (ft)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K50480	KPT118-7	1997	0.0 - 2.0	400 J	0.059 U	0.059 U	0.059 U	0.070	0.059 U	0.059 U	0.059 U	0.070
K50481	KPT118-7	1997	2.0 - 7.0	100 UJ	0.055 U	0.055 U	0.055 U	0.039 J	0.055 U	0.055 U	0.055 U	0.039 J
K51127	KPT119-3	1997	0.0 - 2.0	2700 J	0.12 U	0.12 U	0.12 U	0.33	0.29	0.12 U	0.12 U	0.62
K51128	KPT119-3	1997	2.0 - 12.0	110 U	0.056 U	0.044 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.044 J
K50428	KPT119-4	1997	0.0 - 2.0	300 J	0.066 U	0.066 U	0.066 U	0.14	0.066 U	0.046 J	0.066 U	0.19 J
K50429	KPT119-4	1997	2.0 - 12.0	400 J	0.060 U	0.060 U	0.060 U	0.17	0.060 U	0.060 U	0.060 U	0.17
K50430	KPT119-4	1997	12.0 - 24.0	100 UJ	0.056 U	0.056 U	0.056 U	0.44	0.13	0.056 U	0.056 U	0.57
K50152	KPT119-5	1997	0.0 - 2.0	13000	0.068 U	0.068 U	0.068 U	0.37	0.068 U	0.12	0.068 U	0.49
K50153	KPT119-5	1997	2.0 - 12.0	19000	0.66 U	0.66 U	0.66 U	4.2	0.66 U	3.4	0.66 U	7.6
K50154	KPT119-5	1997	12.0 - 24.0	1600 J	0.32 U	0.32 U	0.32 U	3.1	0.32 U	0.32 U	0.32 U	3.1
K51241	KPT119-6	1997	0.0 - 2.0	99000	0.32 U	0.32 U	0.32 U	2.2	0.32 U	0.82	0.32 U	3.0
K51242	KPT119-6	1997	2.0 - 12.0	NA	0.53 U	0.53 U	0.53 U	1.2	2.4	1.8	0.53 U	5.4
K51243	KPT119-6	1997	12.0 - 24.0	NA	0.19 UJ	0.19 UJ	0.19 UJ	2.2 J	0.19 UJ	0.18 J	0.19 UJ	2.4 J
K51244	KPT119-6	1997	12.0 - 24.0	NA	0.58 U	0.58 U	0.58 U	3.5	0.65	0.47 J	0.58 U	4.6 J
K51175	KPT119-7	1997	0.0 - 2.0	120000	0.20 U	0.20 U	0.20 U	1.1	1.0	0.83	0.17 J	3.1 J
K51176	KPT119-7	1997	2.0 - 12.0	NA	0.78 U	0.78 U	0.78 U	0.78 U	5.9	1.5	0.78 U	7.4
K51177	KPT119-7	1997	12.0 - 24.0	NA	0.44 U	0.44 U	0.44 U	2.1	3.0	0.67	0.44 U	5.8
K51178	KPT119-7	1997	12.0 - 24.0	NA	0.93 U	0.93 U	0.93 U	2.8	4.5	1.1	0.93 U	8.4
K51239	KPT119-7	1997	24.0 - 36.0	NA	0.076 U	0.076 U	0.076 U	0.055 J	0.14	0.076 U	0.076 U	0.20 J
K51240	KPT119-7	1997	36.0 - 45.0	NA	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K51286	KPT119-8	1997	0.0 - 2.0	150000	0.20 U	0.20 U	0.20 U	0.96	0.81	0.69	0.15 J	2.6 J
K51287	KPT119-8	1997	2.0 - 12.0	100000	0.29 U	0.29 U	0.29 U	0.29 U	4.1	1.7	0.29 U	5.8
K51288	KPT119-8	1997	12.0 - 26.0	6000	0.070 U	0.070 U	0.070 U	0.94	0.070 U	0.13	0.070 U	1.1
K50956	KPT120-1	1997	0.0 - 2.0	12000	0.070 U	0.070 U	0.070 U	0.29	0.070 U	0.064 J	0.070 U	0.35 J
K50957	KPT120-1	1997	2.0 - 12.0	NA	0.067 U	0.067 U	0.067 U	0.057 J	0.079	0.093	0.067 U	0.23 J
K50958	KPT120-1	1997	12.0 - 21.0	NA	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K50995	KPT120-3	1997	0.0 - 2.0	24000 J	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K50996	KPT120-3	1997	2.0 - 6.0	NA	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K50997	KPT120-3	1997	6.0 - 17.0	NA	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U
K50822	KPT120-7	1997	0.0 - 2.0	960	0.061 U	0.061 U	0.061 U	0.24 JN	0.061 U	0.052 JN	0.061 U	0.29 J
K50823	KPT120-7	1997	2.0 - 15.0	NA	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K50246	KPT121-2	1997	0.0 - 2.0	100 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K50247	KPT121-2	1997	2.0 - 12.0	NA	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K50248	KPT121-2	1997	12.0 - 24.0	NA	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K50936	KPT121-3	1997	0.0 - 2.0	110 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K50937	KPT121-3	1997	2.0 - 12.0	NA	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51284	KPT121-5	1997	0.0 - 2.0	10000 J	0.054 UJ	0.054 UJ	0.054 UJ	0.054 UJ	0.054 UJ	0.054 UJ	0.054 UJ	0.054 UJ
K51285	KPT121-5	1997	2.0 - 3.0	NA	0.055 UJ	0.055 UJ	0.055 UJ	0.055 UJ	0.055 UJ	0.055 UJ	0.055 UJ	0.055 UJ
K50890	KPT121-7	1997	0.0 - 2.0	78000	0.24 U	0.24 U	0.24 U	0.59	0.63	0.51	0.24 U	1.7

See notes on page 65

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (ft)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K50891	KPT121-7	1997	2.0 - 12.0	NA	0.20 U	0.20 U	0.20 U	1.4	0.20 U	0.40	0.20 U	1.8
K50892	KPT121-7	1997	12.0 - 16.0	NA	0.079 U	0.079 U	0.079 U	0.54	0.079 U	0.24	0.079 U	0.78
K51390	KPT122-2	1997	0.0 - 2.0	NA	0.094 U	0.19 U	0.094 U	0.27 J	0.094 U	0.49	0.14 J	0.90 J
K51391	KPT122-2	1997	2.0 - 12.0	NA	0.077 U	0.16 U	0.077 U	2.9	0.077 U	1.0	0.29	4.2
K51392	KPT122-2	1997	12.0 - 24.0	NA	0.044 U	0.090 U	0.044 U	0.41	0.044 U	0.15	0.048	0.61
K51393	KPT122-2	1997	12.0 - 24.0	NA	0.043 U	0.088 U	0.043 U	0.97	0.043 U	0.34	0.079	1.4
K50946	KPT122-3	1997	0.0 - 2.0	110000	0.29 U	0.29 U	0.29 U	2.4	0.29 U	0.75	0.29 U	3.2
K50947	KPT122-3	1997	2.0 - 12.0	87000	1.7 U	1.7 U	1.7 U	12	4.7	1.7 U	1.7 U	17
K50948	KPT122-3	1997	12.0 - 24.0	22000	0.80 U	0.80 U	0.80 U	5.5	0.80 U	0.99	0.80 U	6.5
K51183	KPT122-4	1997	0.0 - 2.0	16000	0.072 U	0.072 U	0.072 U	0.57	0.072 U	0.14	0.072 U	0.71
K51184	KPT122-4	1997	2.0 - 12.0	8400	0.066 U	0.066 U	0.066 U	0.81	0.066 U	0.25	0.066 U	1.1
K51185	KPT122-4	1997	12.0 - 24.0	6900	0.060 U	0.060 U	0.060 U	0.58	0.060 U	0.077	0.060 U	0.66
K51186	KPT122-4	1997	12.0 - 24.0	12000 J	0.062 U	0.062 U	0.062 U	0.64	0.062 U	0.082	0.062 U	0.72
K50954	KPT122-6	1997	0.0 - 2.0	110 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K50955	KPT122-6	1997	2.0 - 7.0	230 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K50982	KPT123-1	1997	0.0 - 2.0	100000	0.32 U	0.32 U	0.32 U	0.98	1.3	0.85	0.32 U	3.1
K50983	KPT123-1	1997	2.0 - 12.0	NA	0.27 U	0.27 U	0.27 U	1.7	0.27 U	0.77	0.27 U	2.5
K50984	KPT123-1	1997	12.0 - 24.0	NA	0.087 U	0.087 U	0.087 U	0.33	0.087 U	0.079 J	0.087 U	0.41 J
K50755	KPT123-5	1997	0.0 - 2.0	130 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K50756	KPT123-5	1997	2.0 - 12.0	NA	0.065 U	0.065 U	0.065 U	0.66	0.065 U	0.15	0.065 U	0.81
K50757	KPT123-5	1997	12.0 - 24.0	NA	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K50758	KPT123-5	1997	24.0 - 30.0	NA	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K51007	KPT123-6	1997	0.0 - 2.0	560 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51008	KPT123-6	1997	2.0 - 12.0	NA	0.068 U	0.068 U	0.068 U	0.33	0.068 U	0.28	0.068 U	0.61
K51009	KPT123-6	1997	12.0 - 20.0	NA	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K50779	KPT123-7	1997	0.0 - 2.0	40000	0.20 U	0.20 U	0.20 U	1.3 JN	0.20 U	0.92 JN	0.20 U	2.2 J
K50780	KPT123-7	1997	2.0 - 12.0	16000	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U
K50781	KPT123-7	1997	12.0 - 24.0	6200	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U
K50782	KPT123-7	1997	24.0 - 28.0	920	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K50783	KPT123-7	1997	12.0 - 24.0	9800	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U
K50330	KPT124-3	1997	0.0 - 2.0	900 J	0.061 U	0.061 U	0.061 U	0.12	0.061 U	0.061 U	0.061 U	0.12
K50331	KPT124-3	1997	2.0 - 12.0	NA	0.055 U	0.055 U	0.055 U	0.029 J	0.055 U	0.055 U	0.055 U	0.029 J
K50332	KPT124-3	1997	12.0 - 24.0	NA	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K50333	KPT124-3	1997	12.0 - 24.0	NA	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51231	KPT124-4	1997	0.0 - 2.0	130 U	0.062 U	0.062 U	0.062 U	0.033 J	0.062 U	0.062 U	0.062 U	0.033 J
K51232	KPT124-4	1997	2.0 - 12.0	14000 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51233	KPT124-4	1997	12.0 - 25.0	1000 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K50855	KPT124-5	1997	0.0 - 2.0	16000 J	0.052 U	0.052 U	0.052 U	0.055	0.052 U	0.052 U	0.052 U	0.055
K50856	KPT124-5	1997	2.0 - 12.0	NA	0.054 U	0.054 U	0.054 U	0.056	0.069	0.054 U	0.054 U	0.13

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TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K50857	KPT124-5	1997	12.0 - 21.0	NA	0.059 U	0.059 U	0.059 U	0.070	0.059 U	0.059 U	0.059 U	0.070
K50858	KPT124-5	1997	12.0 - 21.0	NA	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K50911	KPT124-6	1997	0.0 - 2.0	16000 J	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K50912	KPT124-6	1997	2.0 - 12.0	NA	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K50913	KPT124-6	1997	12.0 - 24.0	NA	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K50373	KPT124-7	1997	0.0 - 2.0	53000	0.12 U	0.12 U	0.12 U	0.87	0.84	0.12 U	0.12 U	1.7
K50374	KPT124-7	1997	2.0 - 12.0	NA	0.069 U	0.069 U	0.069 U	0.14	0.12	0.053 J	0.069 U	0.31 J
K50375	KPT124-7	1997	12.0 - 24.0	NA	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K50805	KPT125-5	1997	0.0 - 2.0	8500 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K50806	KPT125-5	1997	2.0 - 12.0	NA	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K50807	KPT125-5	1997	12.0 - 24.0	NA	0.060 U	0.060 U	0.060 U	0.060 U	0.040 J	0.060 U	0.060 U	0.040 J
K50808	KPT125-5	1997	24.0 - 29.0	NA	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K50818	KPT125-6	1997	0.0 - 2.0	120 U	0.059 U	0.059 U	0.059 U	0.059 U	0.24 JN	0.038 JN	0.059 U	0.28 J
K50819	KPT125-6	1997	2.0 - 12.0	1600 J	0.057 U	0.057 U	0.057 U	0.081 JN	0.057 U	0.038 JN	0.057 U	0.12 J
K50820	KPT125-6	1997	12.0 - 24.0	120 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K50821	KPT125-6	1997	24.0 - 36.0	4100	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K50803	KPT125-7	1997	0.0 - 2.0	5600	0.062 U	0.062 U	0.062 U	0.054 J	0.12	0.062 U	0.062 U	0.17 J
K50804	KPT125-7	1997	2.0 - 12.0	5900	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	18	18
K51060	KPT126-1	1997	0.0 - 2.0	16000	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	1.5	0.41 U	1.5
K51061	KPT126-1	1997	2.0 - 15.0	NA	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51109	KPT126-2	1997	0.0 - 2.0	3100 J	0.056 U	0.056 U	0.056 U	0.029 J	0.056 U	0.056 U	0.056 U	0.029 J
K51110	KPT126-2	1997	2.0 - 12.0	NA	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51111	KPT126-2	1997	12.0 - 24.0	NA	0.058 U	0.038 JN	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.038 J
K51112	KPT126-2	1997	24.0 - 36.0	NA	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K51113	KPT126-2	1997	12.0 - 24.0	NA	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K50268	KPT126-5	1997	0.0 - 2.0	8500	0.057 U	0.057 U	0.057 U	0.051 J	0.057 U	0.057 U	0.057 U	0.051 J
K50269	KPT126-5	1997	2.0 - 12.0	31000 J	0.056 U	0.056 U	0.056 U	0.12	0.056 U	0.056 U	0.056 U	0.12
K50270	KPT126-5	1997	12.0 - 19.0	100 U	0.051 U	0.051 U	0.051 U	0.074	0.051 U	0.051 U	0.051 U	0.074
K50491	KPT126-7	1997	0.0 - 2.0	5900 J	0.061 U	0.061 U	0.061 U	0.079	0.061 U	0.061 U	0.061 U	0.079
K50492	KPT126-7	1997	2.0 - 12.0	490 J	0.057 U	0.057 U	0.057 U	0.078	0.057 U	0.057 U	0.057 U	0.078
K50493	KPT126-7	1997	12.0 - 19.0	15000 J	0.058 U	0.058 U	0.058 U	0.31	0.058 U	0.058 U	0.058 U	0.31
K50494	KPT126-7	1997	19.0 - 21.0	64000 J	10 U	10 U	10 U	87	10 U	6.4 J	10 U	93 J
K50495	KPT126-7	1997	21.0 - 36.0	420 J	0.13 U	0.13 U	0.13 U	1.1	0.13 U	0.081 J	0.13 U	1.2 J
K50496	KPT126-7	1997	21.0 - 36.0	3200 J	0.068 U	0.068 U	0.068 U	0.32	0.068 U	0.089	0.068 U	0.41
K50927	KPT127-2	1997	0.0 - 2.0	60000 J	0.057 U	0.057 U	0.057 U	0.042 JN	0.057 U	0.057 U	0.057 U	0.042 J
K50928	KPT127-2	1997	2.0 - 8.0	2000 J	0.058 U	0.058 U	0.058 U	0.056 J	0.054 J	0.058 U	0.058 U	0.11 J
K50966	KPT127-3	1997	0.0 - 2.0	120 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K50967	KPT127-3	1997	2.0 - 9.0	130 J	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K50938	KPT127-5	1997	0.0 - 2.0	14000	0.061 U	0.061 U	0.061 U	0.031 J	0.041 J	0.061 U	0.061 U	0.072 J

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K50939	KPT127-5	1997	2.0 - 12.0	120 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K50940	KPT127-5	1997	12.0 - 26.0	5000 J	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K51136	KPT127-7	1997	0.0 - 2.0	29000	0.062 U	0.062 U	0.062 U	0.033 J	0.062 U	0.062 U	0.062 U	0.033 J
K51137	KPT127-7	1997	2.0 - 6.0	NA	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K50773	KPT128-3	1997	0.0 - 2.0	820	0.061 U	0.061 U	0.061 U	0.18	0.061 U	0.061 U	0.061 U	0.18
K50774	KPT128-3	1997	2.0 - 12.0	NA	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U
K50072	KPT128-4	1997	0.0 - 6.0	890 J	0.063 U	0.063 U	0.063 U	0.078	0.063 U	0.050 J	0.063 U	0.13 J
K50073	KPT128-4	1997	6.0 - 10.8	NA	0.061 U	0.061 U	0.061 U	0.11	0.061 U	0.052 J	0.061 U	0.16 J
K51328	KPT128-6	1997	0.0 - 2.0	3200 J	0.062 U	0.062 U	0.062 U	0.20	0.054 J	0.062 U	0.062 U	0.25 J
K51329	KPT128-6	1997	2.0 - 10.0	NA	0.059 U	0.059 U	0.059 U	0.24	0.080	0.059 U	0.059 U	0.32
K51330	KPT128-6	1997	2.0 - 10.0	NA	0.059 U	0.059 U	0.059 U	0.30	0.045 J	0.059 U	0.059 U	0.35 J
K50838	KPT129-4	1997	0.0 - 2.0	120 U	0.060 U	0.060 U	0.060 U	0.030 J	0.060 U	0.060 U	0.060 U	0.030 J
K50839	KPT129-4	1997	2.0 - 12.0	120 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K50840	KPT129-4	1997	12.0 - 23.0	120 U	0.060 U	0.060 U	0.060 U	0.051 J	0.060 U	0.060 U	0.060 U	0.051 J
K50841	KPT129-4	1997	12.0 - 23.0	120 U	0.060 U	0.060 U	0.060 U	0.042 J	0.060 U	0.060 U	0.060 U	0.042 J
K51352	KPT129-6	1997	0.0 - 2.0	140 U	0.069 U	0.069 U	0.069 U	0.062 J	0.096	0.042 J	0.069 U	0.20 J
K51353	KPT129-6	1997	2.0 - 9.0	NA	0.057 U	0.057 U	0.057 U	0.035 J	0.057 U	0.057 U	0.057 U	0.035 J
K50421	KPT129-8	1997	0.0 - 2.0	15000 J	0.072 U	0.072 U	0.072 U	0.16	0.22	0.072 UJ	0.072 UJ	0.38 J
K50422	KPT129-8	1997	2.0 - 12.0	1600 J	0.063 U	0.063 U	0.063 U	0.057 J	0.063 U	0.063 UJ	0.063 UJ	0.057 J
K50423	KPT129-8	1997	12.0 - 17.0	2700 J	0.062 U	0.062 U	0.062 U	0.062 UJ	0.062 U	0.062 UJ	0.062 UJ	0.062 UJ
K50424	KPT129-8	1997	12.0 - 17.0	2900 J	0.062 U	0.062 U	0.062 U	0.21 J	0.062 U	0.062 U	0.062 U	0.21 J
K50313	KPT130-1	1997	0.0 - 2.0	NA	0.057 U	0.12 U	0.057 U	0.15 J	0.057 U	0.18	0.057 U	0.33 J
K50314	KPT130-1	1997	2.0 - 12.0	NA	0.041 U	0.084 U	0.041 U	0.077 JN	0.041 U	0.070	0.041 U	0.15 J
K50315	KPT130-1	1997	12.0 - 24.0	NA	0.039 U	0.080 U	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	0.080 U
K50316	KPT130-1	1997	24.0 - 36.0	NA	0.039 U	0.079 U	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	0.079 U
K51153	KPT130-5	1997	0.0 - 2.0	2100 J	0.067 U	0.067 U	0.067 U	0.14	0.11	0.067	0.067 U	0.32
K51154	KPT130-5	1997	2.0 - 12.0	4700 J	0.058 U	0.058 U	0.058 U	0.054 J	0.032 J	0.058 U	0.058 U	0.086 J
K51155	KPT130-5	1997	12.0 - 24.0	820 J	0.056 U	0.056 U	0.056 U	0.058	0.056 U	0.056 U	0.056 U	0.058
K51156	KPT130-5	1997	24.0 - 36.0	5300 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51157	KPT130-5	1997	24.0 - 36.0	8900 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K50132	KPT131-3	1997	0.0 - 2.0	4500 J	0.051 U	0.051 U	0.051 U	0.044 J	0.051 U	0.051 U	0.051 U	0.044 J
K50133	KPT131-3	1997	2.0 - 12.0	NA	0.053 U	0.053 U	0.053 U	0.13	0.053 U	0.053 U	0.053 U	0.13
K50328	KPT131-4	1997	0.0 - 2.0	1800 J	0.055 U	0.055 U	0.055 U	0.25	0.055 U	0.084	0.055 U	0.33
K50329	KPT131-4	1997	2.0 - 12.0	2200 J	0.053 U	0.053 U	0.053 U	0.058	*0.053 U*	0.15	0.053 U	0.21
K50964	KPT131-6	1997	0.0 - 2.0	5000 J	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K50965	KPT131-6	1997	2.0 - 6.0	NA	0.060 U	0.060 U	0.060 U	0.060 U	0.045 J	0.039 J	0.060 U	0.084 J
K51923	KPT131-8	2000	0.0 - 2.0	110000	0.25 U	0.25 U	0.25 U	2.3	0.25 U	0.64	0.13 J	3.1 J
K51924	KPT131-8	2000	2.0 - 6.0	160000	0.31 U	0.31 U	0.31 U	2.2	0.31 U	0.64	0.31 U	2.8
K51925	KPT131-8	2000	6.0 - 12.0	61000	0.23 U	0.23 U	0.23 U	1.1	0.65	0.44	0.23 U	2.2

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51926	KPT131-8	2000	12.0 - 24.0	86000	5.8 U	5.8 U	5.8 U	53	5.8 U	6.5	5.8 U	60
K51927	KPT131-8	2000	12.0 - 24.0	92000	6.1 U	6.1 U	6.1 U	30	6.1 U	4.5 J	6.1 U	35 J
K51928	KPT131-8	2000	24.0 - 36.0	68000	0.11 U	0.11 U	0.11 U	0.41	0.11 U	0.062 J	0.11 U	0.47 J
K50682	KPT132-1	1997	0.0 - 2.0	8000	0.072 U	0.072 U	0.072 U	0.11	0.072 J	0.050 J	0.072 U	0.23 J
K50683	KPT132-1	1997	2.0 - 12.0	NA	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K50775	KPT132-2	1997	0.0 - 2.0	2200	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K50776	KPT132-2	1997	2.0 - 9.0	1200	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K50615	KPT132-7	1997	0.0 - 2.0	4000 J	0.056 U	0.056 U	0.056 U	0.11	0.072	0.034 J	0.056 U	0.22 J
K50616	KPT132-7	1997	2.0 - 12.0	730 J	0.056 U	0.056 U	0.056 U	0.079	0.068	0.056 U	0.056 U	0.15
K50617	KPT132-7	1997	12.0 - 24.0	560 J	0.059 U	0.059 U	0.059 U	0.062	0.031 J	0.059 U	0.059 U	0.093 J
K50618	KPT132-7	1997	24.0 - 36.0	8200 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K50619	KPT132-7	1997	24.0 - 36.0	6100	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K50185	KPT133-1	1997	0.0 - 2.0	150000	0.14 UJ	0.14 UJ	0.14 UJ	1.3 J	0.14 UJ	0.44 J	0.14 UJ	1.7 J
K50186	KPT133-1	1997	2.0 - 12.0	120000	1.3 U	1.3 U	1.3 U	10	1.3 U	1.5	1.3 U	12
K50187	KPT133-1	1997	12.0 - 24.0	85000	1.0 U	1.0 U	1.0 U	9.4 J	1.0 U	1.0 U	1.0 U	9.4 J
K50188	KPT133-1	1997	12.0 - 24.0	51000	0.094 U	0.094 U	0.094 U	1.1 J	0.094 U	0.094 U	0.094 U	1.1 J
K50189	KPT133-1	1997	24.0 - 30.0	25000	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
K51929	KPT133-3	2000	0.0 - 2.0	18000 J	0.068 U	0.068 U	0.068 U	0.14	0.11	0.062 J	0.068 U	0.31 J
K51930	KPT133-3	2000	2.0 - 6.0	3900 J	0.061 U	0.061 U	0.061 U	0.046 J	0.061 U	0.061 U	0.061 U	0.046 J
K51931	KPT133-3	2000	6.0 - 12.0	120 U	0.057 U	0.057 U	0.057 U	0.053 J	0.057 U	0.057 U	0.057 U	0.053 J
K51932	KPT133-3	2000	12.0 - 20.0	120 U	0.060 U	0.060 U	0.060 U	0.037 J	0.060 U	0.060 U	0.060 U	0.037 J
K51933	KPT133-3	2000	20.0 - 28.0	2000 J	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K51934	KPT133-3	2000	28.0 - 32.0	3300	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K51935	KPT133-4	2000	0.0 - 2.0	62000	0.25 U	0.25 U	0.25 U	1.4	0.25 U	0.43	0.25 U	1.8
K51936	KPT133-4	2000	2.0 - 6.0	81000	0.21 U	0.21 U	0.21 U	1.0	0.67	0.56	0.21 U	2.2
K51937	KPT133-4	2000	6.0 - 12.0	52000	1.7 U	1.7 U	1.7 U	8.0	1.7 U	1.5 J	1.7 U	9.5 J
K51938	KPT133-4	2000	12.0 - 24.0	120 U	0.31 U	0.31 U	0.31 U	2.1	0.31 U	0.24 J	0.31 U	2.3 J
K51939	KPT133-4	2000	24.0 - 32.0	11000	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U
K51940	KPT133-4	2000	24.0 - 32.0	7900	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
K51941	KPT133-4	2000	32.0 - 36.0	31000	0.081 U	0.081 U	0.081 U	0.081 U	0.081 U	0.081 U	0.081 U	0.081 U
K51942	KPT133-5	2000	0.0 - 2.0	130000	0.16 U	0.16 U	0.16 U	0.56	0.46	0.37	0.16 U	1.4
K51943	KPT133-5	2000	2.0 - 8.0	52000	0.20 U	0.20 U	0.20 U	0.61	0.76	0.59	0.11 J	2.1 J
K51944	KPT133-5	2000	8.0 - 20.0	110000	0.067 U	0.067 U	0.067 U	0.66	0.067 U	0.11	0.067 U	0.77
K51945	KPT133-5	2000	20.0 - 26.0	150000	0.14 UJ	0.14 UJ	0.14 UJ	0.14 UJ	0.14 UJ	0.14 UJ	0.14 UJ	0.14 UJ
K51946	KPT134-1	2000	0.0 - 2.0	240000	0.31 U	0.31 U	0.31 U	1.4	0.31 U	0.50	0.31 U	1.9
K51947	KPT134-1	2000	2.0 - 6.0	88000	0.22 U	0.22 U	0.22 U	1.3	0.22 U	0.37	0.22 U	1.7
K51948	KPT134-1	2000	6.0 - 12.0	58000	0.16 U	0.16 U	0.16 U	0.95	0.16 U	0.18	0.16 U	1.1
K51949	KPT134-1	2000	12.0 - 18.0	340000	0.24 U	0.24 U	0.24 U	0.13 JN	0.24 U	0.24 U	0.24 U	0.13 J
K51950	KPT134-1	2000	18.0 - 30.0	240000	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U

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TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (ft)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51951	KPT134-1	2000	18.0 - 30.0	140000	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
K51952	KPT134-1	2000	30.0 - 36.0	12000	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K50170	KPT134-3	1997	0.0 - 2.0	63000	3.2 U	3.2 U	3.2 U	37	3.2 UJ	4.3	3.2 U	41 J
K50171	KPT134-3	1997	2.0 - 12.0	NA	3.3 U	3.3 U	3.3 U	53	3.3 UJ	4.2	3.3 U	57 J
K50172	KPT134-3	1997	12.0 - 24.0	NA	0.077 U	0.077 U	0.077 U	0.054 J	0.077 UJ	0.077 U	0.077 U	0.054 J
K50173	KPT134-3	1997	12.0 - 24.0	19000	0.074 U	0.074 U	0.074 U	0.074 U	0.074 UJ	0.074 U	0.074 U	0.074 UJ
K50174	KPT134-3	1997	24.0 - 27.0	3500	0.064 U	0.064 U	0.064 U	0.064 U	0.064 UJ	0.064 U	0.064 U	0.064 UJ
K51953	KPT134-4	2000	0.0 - 2.0	5100	0.067 U	0.067 U	0.067 U	0.075	0.067 U	0.067 U	0.067 U	0.075
K51954	KPT134-4	2000	2.0 - 6.0	4000	0.061 U	0.061 U	0.061 U	0.036 J	0.061 U	0.061 U	0.061 U	0.036 J
K51955	KPT134-4	2000	6.0 - 12.0	150000 J	0.063 U	0.063 U	0.063 U	0.10	0.063 U	0.063 U	0.063 U	0.10
K51956	KPT134-4	2000	12.0 - 24.0	5500	0.058 U	0.058 U	0.058 U	0.089	0.058 U	0.058 U	0.058 U	0.089
K51957	KPT134-4	2000	12.0 - 24.0	4200	0.057 U	0.057 U	0.057 U	0.062	0.062	0.057 U	0.25	0.37
K51958	KPT134-4	2000	24.0 - 36.0	4200	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51959	KPT134-6	2000	0.0 - 2.0	160000	0.18 U	0.18 U	0.18 U	0.81	0.45	0.45	0.094 J	1.8 J
K51960	KPT134-6	2000	2.0 - 6.0	79000	0.34 U	0.34 U	0.34 U	0.98	0.89	0.62	0.34 U	2.5
K51961	KPT134-6	2000	6.0 - 14.0	4600	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K51962	KPT134-6	2000	14.0 - 24.0	36000	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
K51963	KPT134-6	2000	24.0 - 30.0	50000	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K50124	KPT134-7	1997	0.0 - 2.0	83000	0.13 U	0.13 U	0.13 U	1.4	0.13 U	1.4	0.13 U	2.8
K50125	KPT134-7	1997	2.0 - 12.0	NA	0.098 U	0.098 U	0.098 U	1.1	0.098 U	0.42	0.098 U	1.5
K50126	KPT134-7	1997	12.0 - 24.0	NA	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K50127	KPT134-7	1997	24.0 - 30.0	NA	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K50076	KPT135-2	1997	0.0 - 6.0	100000 J	0.26 U	0.26 U	0.26 U	1.3	0.26 U	0.91	0.26 U	2.2
K50077	KPT135-2	1997	6.0 - 18.0	NA	2.2 U	2.2 U	2.2 U	10	2.2 U	2.4	2.2 U	12
K50078	KPT135-2	1997	18.0 - 24.0	NA	1.8 U	1.8 U	1.8 U	5.4	1.8 U	1.8 U	1.8 U	5.4
K50079	KPT135-2	1997	24.0 - 36.0	NA	0.28 U	0.28 U	0.28 U	0.87	0.28 U	0.28 U	0.28 U	0.87
K50080	KPT135-2	1997	36.0 - 49.2	NA	0.073 U	0.073 U	0.073 U	0.073 U	0.073 U	0.073 U	0.073 U	0.073 U
K51964	KPT135-4	2000	0.0 - 2.0	130 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U
K51965	KPT135-4	2000	2.0 - 6.0	32000	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K51966	KPT135-4	2000	6.0 - 12.0	37000	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K51967	KPT135-4	2000	12.0 - 24.0	47000	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K51968	KPT135-4	2000	24.0 - 30.0	8400	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U
K51969	KPT135-4	2000	30.0 - 36.0	1500 J	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U
K51970	KPT135-5	2000	0.0 - 2.0	140000	0.33 U	0.33 U	0.33 U	1.3	0.87	0.52	0.33 U	2.7
K51971	KPT135-5	2000	2.0 - 6.0	66000	0.64 U	0.64 U	0.64 U	6.0	2.2	1.7	0.64 U	9.9
K51972	KPT135-5	2000	6.0 - 15.0	62000	6.1 U	6.1 U	6.1 U	80	6.1 U	5.6 J	6.1 U	86 J
K51973	KPT135-5	2000	15.0 - 24.0	130 U	0.063 U	0.063 U	0.063 U	0.51	0.063 U	0.038 J	0.063 U	0.55 J
K51974	KPT135-5	2000	24.0 - 33.0	120 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K51975	KPT135-5	2000	24.0 - 33.0	120 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U

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TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (ft)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51976	KPT135-5	2000	33.0 - 36.0	2800 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K50166	KPT135-7	1997	0.0 - 2.0	120000	0.085 U	0.085 U	0.085 U	1.1	0.085 U	0.45	0.085 U	1.6
K50167	KPT135-7	1997	2.0 - 12.0	140000	3.2 U	3.2 U	3.2 U	27	3.2 U	3.5 J	3.2 UJ	31 J
K50168	KPT135-7	1997	12.0 - 24.0	95000	0.78 U	0.78 U	0.78 U	12	0.78 UJ	0.78 U	0.78 U	12 J
K50169	KPT135-7	1997	24.0 - 27.0	160000	0.13 U	0.13 U	0.13 U	0.13 U	0.13 UJ	0.13 U	0.13 U	0.13 UJ
K51977	KPT136-1	2000	0.0 - 2.0	980 J	0.060 U	0.060 U	0.060 U	0.15	0.060 U	0.060 U	0.060 U	0.15
K51978	KPT136-1	2000	2.0 - 6.0	16000 J	0.059 U	0.059 U	0.059 U	0.16	0.059 U	0.059 U	0.059 U	0.16
K51979	KPT136-1	2000	6.0 - 11.0	31000	0.16 U	0.16 U	0.16 U	0.86	0.16	0.11 J	0.16 U	1.1 J
K51980	KPT136-1	2000	11.0 - 26.0	220000	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
K51981	KPT136-1	2000	26.0 - 31.0	12000	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
K51982	KPT136-4	2000	0.0 - 1.0	67000	4.7 U	4.7 U	4.7 U	49	4.7 U	4.7 U	4.7 U	49
K51983	KPT136-4	2000	1.0 - 3.0	20000	0.64 U	0.64 U	0.64 U	6.5	0.64 U	0.64 U	0.64 U	6.5
K51984	KPT136-4	2000	3.0 - 6.0	81000	4.8 U	4.8 U	4.8 U	43	4.8 U	4.8 U	4.8 U	43
K51985	KPT136-4	2000	6.0 - 10.0	76000	10 U	10 U	10 U	86	10 U	10 U	10 U	86
K51986	KPT136-4	2000	10.0 - 24.0	7700	0.11 U	0.11 U	0.11 U	0.50	0.11 U	0.11 U	0.11 U	0.50
K51987	KPT136-4	2000	24.0 - 36.0	2900	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U
K50219	KPT136-6	1997	0.0 - 2.0	80000	0.27 U	0.27 U	0.27 U	0.81	0.53	0.49	0.27 U	1.8
K50220	KPT136-6	1997	2.0 - 12.0	97000	3.2 U	3.2 U	3.2 U	32	3.2 U	4.0	3.2 U	36
K50221	KPT136-6	1997	12.0 - 24.0	25000	0.088 U	0.088 U	0.088 U	0.32	0.080 J	0.088 U	0.088 U	0.40 J
K50222	KPT136-6	1997	24.0 - 36.0	22000	0.078 UJ	0.078 UJ	0.078 UJ	0.078 UJ	0.078 UJ	0.078 UJ	0.078 UJ	0.078 UJ
K50620	KPT136-8	1997	0.0 - 2.0	130000	0.33 U	0.33 U	0.33 U	0.98	1.1	0.57	0.33 U	2.7
K50621	KPT136-8	1997	2.0 - 12.0	NA	1.3 U	1.3 U	1.3 U	6.2	3.6	1.5	1.3 U	11
K50622	KPT136-8	1997	12.0 - 24.0	NA	0.56 U	0.56 U	0.56 U	4.1	0.56 U	0.56 U	0.56 U	4.1
K50623	KPT136-8	1997	24.0 - 32.0	NA	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
K50624	KPT136-8	1997	12.0 - 24.0	NA	0.62 U	0.62 U	0.62 U	4.1	1.3	0.62 U	0.62 U	5.4
K51988	KPT137-1	2000	0.0 - 2.0	96000	0.062 U	0.062 U	0.062 U	0.16	0.062 U	0.039 J	0.062 U	0.20 J
K51989	KPT137-1	2000	2.0 - 6.0	170000	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
K51990	KPT137-1	2000	6.0 - 15.0	120000	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
K51991	KPT137-1	2000	15.0 - 24.0	24000	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U
K51992	KPT137-1	2000	24.0 - 30.0	8300	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U
K51993	KPT137-1	2000	24.0 - 30.0	14000	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K50768	KPT137-3	1997	0.0 - 2.0	8400	0.072 U	0.072 U	0.072 U	0.37	0.33	0.096	0.072 U	0.80
K50769	KPT137-3	1997	2.0 - 10.0	19000	0.14 U	0.14 U	0.14 U	0.36	0.64	0.35	0.14 U	1.4
K50770	KPT137-3	1997	10.0 - 21.0	67000	1.5 U	1.5 U	1.5 U	11	1.5 U	2.6	1.5 U	14
K50771	KPT137-3	1997	21.0 - 32.0	24000	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U
K50772	KPT137-3	1997	21.0 - 32.0	16000	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K50865	KPT137-5	1997	0.0 - 2.0	72000	0.27 U	0.27 U	0.27 U	1.6	0.27 U	0.53	0.27 U	2.1
K50866	KPT137-5	1997	2.0 - 12.0	63000	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K50867	KPT137-5	1997	12.0 - 24.0	20000	0.081 U	0.081 U	0.081 U	0.081 U	0.081 U	0.081 U	0.081 U	0.081 U

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K50868	KPT137-5	1997	24.0 - 36.0	3200	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K50869	KPT137-5	1997	12.0 - 24.0	21000	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U
K51994	KPT137-6	2000	0.0 - 2.0	320000	0.62 U	0.62 U	0.62 U	2.7	1.5	1.4	0.62 U	5.6
K51995	KPT137-6	2000	2.0 - 6.0	100000	0.28 U	0.28 U	0.28 U	2.8	2.0	0.97	0.32	6.1
K51996	KPT137-6	2000	6.0 - 12.0	110000	6.6 U	6.6 U	6.6 U	78	6.6 U	6.6 U	6.6 U	78
K51997	KPT137-6	2000	12.0 - 24.0	50000	0.27 U	0.27 U	0.27 U	3.1	0.27 U	0.27 U	0.27 U	3.1
K51998	KPT137-6	2000	24.0 - 36.0	14000	0.078 U	0.078 U	0.078 U	0.098	0.078 U	0.078 U	0.078 U	0.098
K51999	KPT137-6	2000	24.0 - 36.0	11000	0.074 U	0.074 U	0.074 U	0.094	0.074 U	0.074 U	0.074 U	0.094
K51020	KPT137-8	1997	0.0 - 2.0	170000	0.50 U	0.50 U	0.50 U	4.2	0.50 U	1.1	0.50 U	5.3
K51021	KPT137-8	1997	2.0 - 12.0	NA	7.4 U	7.4 U	7.4 U	23	4.9 J	7.4 U	7.4 U	28 J
K51022	KPT137-8	1997	12.0 - 24.0	NA	0.88 U	0.88 U	0.88 U	5.2	0.88 U	0.92	0.88 U	6.1
K51023	KPT137-8	1997	24.0 - 36.0	NA	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
K51024	KPT137-8	1997	12.0 - 24.0	NA	2.4 U	2.4 U	2.4 U	12	2.4 U	1.9 J	2.4 U	14 J
K52000	KPT138-2	2000	0.0 - 2.0	160000	0.17 U	0.17 U	0.17 U	0.72	0.42	0.40	0.17 U	1.5
K52001	KPT138-2	2000	2.0 - 6.0	58000	0.10 UJ	0.10 UJ	0.10 UJ	0.67 J	0.32 J	0.22 J	0.10 UJ	1.2 J
K52002	KPT138-2	2000	6.0 - 12.0	64000	5.7 U	5.7 U	5.7 U	43	5.7 U	4.4 J	5.7 U	47 J
K52003	KPT138-2	2000	12.0 - 15.0	44000	0.94 U	0.94 U	0.94 U	7.5	2.4	1.5	0.94 U	11
K52004	KPT138-2	2000	15.0 - 24.0	6000	0.061 U	0.061 U	0.061 U	0.25	0.061 U	0.042 J	0.061 U	0.29 J
K52005	KPT138-2	2000	24.0 - 38.0	590	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K50128	KPT138-5	1997	0.0 - 2.0	120 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K50129	KPT138-5	1997	2.0 - 12.0	4500 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K50130	KPT138-5	1997	12.0 - 24.0	1100 J	0.060 U	0.060 U	0.060 U	0.045 J	0.060 U	0.060 U	0.060 U	0.045 J
K50131	KPT138-5	1997	24.0 - 36.0	25000	0.077 U	0.077 U	0.077 U	1.0	0.077 U	0.37	0.077 U	1.4
K50500	KPT139-1	1997	0.0 - 2.0	55000 J	0.12 U	0.12 U	0.12 U	1.5	0.12 U	0.49	0.12 U	2.0
K50501	KPT139-1	1997	2.0 - 12.0	2000 J	0.60 U	0.60 U	0.60 U	4.0	0.60 U	0.60 U	0.60 U	4.0
K50502	KPT139-1	1997	12.0 - 24.0	27000 J	1.7 U	1.7 U	1.7 U	18	1.7 U	1.3 J	1.7 U	19 J
K50503	KPT139-1	1997	24.0 - 36.0	6000 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K50504	KPT139-1	1997	12.0 - 24.0	42000	1.7 U	1.7 U	1.7 U	21	1.7 U	1.7 U	1.7 U	21
K52006	KPT139-3	2000	0.0 - 2.0	6300	0.063 U	0.063 U	0.063 U	0.33	0.063 U	0.063 U	0.063 U	0.33
K52007	KPT139-3	2000	2.0 - 6.0	910	0.058 U	0.058 U	0.058 U	0.073	0.058 U	0.058 U	0.058 U	0.073
K52008	KPT139-3	2000	6.0 - 12.0	2200	0.060 U	0.060 U	0.060 U	0.30	0.060 U	0.060 U	0.060 U	0.30
K52009	KPT139-3	2000	12.0 - 24.0	96000	3.4 U	3.4 U	3.4 U	43	3.4 U	3.5	3.4 U	47
K52010	KPT139-3	2000	12.0 - 24.0	83000	3.9 U	3.9 U	3.9 U	36	3.9 U	4.0	3.9 U	40
K52011	KPT139-3	2000	24.0 - 36.0	8400	0.066 U	0.066 U	0.066 U	0.048 J	0.066 U	0.066 U	0.066 U	0.048 J
K52012	KPT139-5	2000	0.0 - 2.0	46000	0.29 U	0.29 U	0.29 U	0.81	0.29 U	0.29 U	0.29 U	0.81
K52013	KPT139-5	2000	2.0 - 6.0	8000	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K52014	KPT139-5	2000	6.0 - 13.0	9900	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U
K52015	KPT139-5	2000	13.0 - 16.0	32000	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K52016	KPT139-5	2000	16.0 - 24.0	43000	2.8 U	2.8 U	2.8 U	12	2.8 U	2.8 U	2.8 U	12

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TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K52017	KPT139-5	2000	24.0 - 38.0	3500	0.68 U	0.68 U	0.68 U	4.0	0.68 U	0.40 J	0.68 U	4.4 J
K50204	KPT139-7	1997	0.0 - 2.0	61000 J	0.096 UJ	0.096 UJ	0.096 UJ	0.63 J	0.096 UJ	0.20 J	0.096 UJ	0.83 J
K50205	KPT139-7	1997	2.0 - 12.0	21000	0.077 U	0.077 U	0.077 U	0.58	0.077 U	0.16	0.077 U	0.74
K50206	KPT139-7	1997	12.0 - 18.0	300 J	0.063 U	0.063 U	0.063 U	0.55	0.063 U	0.13	0.063 U	0.68
K50207	KPT139-7	1997	12.0 - 18.0	100 U	0.063 U	0.063 U	0.063 U	0.72	0.063 U	0.15	0.063 U	0.87
K51859	KPT140-4	1999	0.0 - 2.0	130 J	0.053 U	0.053 U	0.053 U	0.053 U	0.048 J	0.053 U	0.053 U	0.048 J
K51860	KPT140-4	1999	2.0 - 4.0	110 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51861	KPT140-4	1999	4.0 - 9.0	540 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K51862	KPT140-4	1999	9.0 - 12.0	2500 J	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K51863	KPT140-4	1999	12.0 - 24.0	110 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K51864	KPT140-4	1999	12.0 - 24.0	110 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K51894	KPT140-6	2000	0.0 - 2.0	15000	0.064 U	0.064 U	0.064 U	0.21	0.064 U	0.065	0.064 U	0.28
K51895	KPT140-6	2000	2.0 - 6.0	17000	0.068 U	0.068 U	0.068 U	0.25	0.068 U	0.075	0.068 U	0.33
K51896	KPT140-6	2000	6.0 - 8.0	15000	0.070 U	0.070 U	0.070 U	0.16	0.070 U	0.051 J	0.070 U	0.21 J
K51897	KPT140-6	2000	8.0 - 12.0	3200	0.068 U	0.068 U	0.068 U	0.24	0.068 U	0.076	0.068 U	0.32
K51898	KPT140-6	2000	12.0 - 24.0	13000	0.34 U	0.34 U	0.34 U	1.3	0.34 U	0.34 U	0.34 U	1.3
K52019	KPT140-6	2000	24.0 - 36.0	1900	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K51899	KPT141-1	2000	0.0 - 2.0	8100 J	0.059 U	0.059 U	0.059 U	0.071	0.070	0.045 J	0.059 U	0.19 J
K51900	KPT141-1	2000	2.0 - 6.0	8600 J	0.057 UJ	0.057 UJ	0.057 UJ	0.043 J	0.047 J	0.057 UJ	0.057 UJ	0.090 J
K51901	KPT141-1	2000	6.0 - 12.0	50000 J	1.3 U	1.3 U	1.3 U	8.1	1.3 U	0.70 J	1.3 U	8.8 J
K51902	KPT141-1	2000	12.0 - 15.0	53000 J	1.0 U	1.0 U	1.0 U	6.0	1.0 U	1.0 U	1.0 U	6.0
K50394	KPT142-1	1997	0.0 - 2.0	75000	0.14 U	0.14 U	0.14 U	0.75	0.68	0.14 U	0.14 U	1.4
K50395	KPT142-1	1997	2.0 - 12.0	43000	0.27 U	0.27 U	0.27 U	1.7	0.27 U	0.20 J	0.27 U	1.9 J
K50396	KPT142-1	1997	12.0 - 18.0	24000	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U
K50397	KPT142-1	1997	12.0 - 18.0	24000	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U
K51903	KPT142-4	2000	0.0 - 2.0	8400 J	0.57 U	0.57 U	0.57 U	3.7	0.57 U	0.57 U	0.57 U	3.7
K51904	KPT142-4	2000	2.0 - 8.0	5400 J	0.056 U	0.056 U	0.056 U	0.043 J	0.056 U	0.056 U	0.056 U	0.043 J
K51905	KPT142-4	2000	8.0 - 12.0	26000 J	0.068 U	0.068 U	0.068 U	0.038 J	0.068 U	0.068 U	0.068 U	0.038 J
K50163	KPT142-7	1997	0.0 - 2.0	96000	0.13 U	0.13 U	0.13 U	1.5	0.13 U	0.37	0.22	2.1
K50164	KPT142-7	1997	2.0 - 12.0	NA	0.11 UJ	0.11 UJ	0.11 UJ	0.61 J	0.11 UJ	0.23 J	0.11 UJ	0.84 J
K50165	KPT142-7	1997	12.0 - 24.0	NA	0.14 U	0.14 U	0.14 U	1.1	0.55	0.25 J	0.14 UJ	1.9 J
K50249	KPT143-1	1997	0.0 - 2.0	9500	0.074 U	0.074 U	0.074 U	0.29	0.074 U	0.079	0.074 U	0.37
K50250	KPT143-1	1997	2.0 - 12.0	19000	0.40 U	0.40 U	0.40 U	2.8	0.40 U	0.64	0.40 U	3.4
K50251	KPT143-1	1997	12.0 - 20.0	31000	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U
K50252	KPT143-1	1997	20.0 - 29.0	17000	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U
K50253	KPT143-1	1997	20.0 - 29.0	9400 J	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U
K51869	KPT143-3	1999	0.0 - 2.0	23000 J	0.13 U	0.13 U	0.13 U	0.52	0.13 U	0.13 J	0.13 U	0.65 J
K51870	KPT143-3	1999	2.0 - 6.0	2000 J	0.053 U	0.053 U	0.053 U	0.050 J	0.053 U	0.053 U	0.053 U	0.050 J
K51871	KPT143-3	1999	6.0 - 12.0	4200 J	0.052 U	0.052 U	0.052 U	0.039 J	0.052 U	0.052 U	0.052 U	0.039 J

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (m)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51872	KPT143-3	1999	12.0 - 24.0	360 J	0.056 U	0.056 U	0.056 U	0.10	0.030 J	0.056 U	0.056 U	0.13 J
K51873	KPT143-3	1999	12.0 - 24.0	2300 J	0.056 U	0.056 U	0.056 U	0.13	0.056 U	0.056 U	0.056 U	0.13
K51878	KPT143-5	1999	0.0 - 2.0	47000 J	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U
K51879	KPT143-5	1999	2.0 - 6.0	82000	0.40 U	0.40 U	0.40 U	2.1	0.40 U	0.36 J	0.40 U	2.5 J
K51880	KPT143-5	1999	6.0 - 12.0	56000	2.6 U	2.6 U	2.6 U	19	2.6 U	1.6 J	2.6 U	21 J
K51881	KPT143-5	1999	12.0 - 20.0	42000	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U
K50226	KPT143-6	1997	0.0 - 2.0	81000	0.15 U	0.15 U	0.15 U	1.4	0.15 U	0.34	0.15 U	1.7
K50227	KPT143-6	1997	2.0 - 12.0	100000	2.9 U	2.9 U	2.9 U	20	2.9 U	1.6 J	2.9 U	22 J
K50228	KPT143-6	1997	12.0 - 20.0	120000	0.089 UJ	0.089 UJ	0.089 UJ	0.089 UJ	0.089 UJ	0.089 UJ	0.089 UJ	0.089 UJ
K50229	KPT143-6	1997	12.0 - 20.0	92000	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U
K51865	KPT143-7	1999	0.0 - 2.0	74000 J	3.8 U	3.8 U	3.8 U	15	3.8 U	3.8 U	3.8 U	15
K51866	KPT143-7	1999	2.0 - 6.0	83000 J	5.7 U	5.7 U	5.7 U	33	5.7 U	5.7 U	5.7 U	33
K51867	KPT143-7	1999	6.0 - 12.0	120000 J	3.3 U	3.3 U	3.3 U	15	3.3 U	3.3 U	3.3 U	15
K51868	KPT143-7	1999	12.0 - 18.0	190000 J	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
K50180	KPT145-3	1997	0.0 - 2.0	20000	0.082 U	0.082 U	0.082 U	0.43	0.082 U	0.12	0.082 U	0.55
K50181	KPT145-3	1997	2.0 - 12.0	NA	0.070 U	0.070 U	0.070 U	0.35	0.070 U	0.060 J	0.070 U	0.41 J
K50182	KPT145-3	1997	12.0 - 24.0	NA	0.47 U	0.47 U	0.47 U	6.8	0.47 U	0.56	0.47 U	7.4
K50183	KPT145-3	1997	12.0 - 24.0	NA	0.82 U	0.82 U	0.82 U	11	0.82 U	1.1	0.82 U	12
K50184	KPT145-3	1997	24.0 - 31.0	NA	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
K51854	KPT145-6	1999	0.0 - 2.0	84000	0.21 UJ	0.21 UJ	0.21 UJ	1.3 J	0.21 UJ	0.23 J	0.21 UJ	1.5 J
K51855	KPT145-6	1999	2.0 - 6.0	130000	2.3 U	2.3 U	2.3 U	10	3.5	1.9 J	2.3 U	15 J
K51856	KPT145-6	1999	6.0 - 12.0	130000	4.1 U	4.1 U	4.1 U	18	4.1	3.0 J	4.1 U	25 J
K51857	KPT145-6	1999	12.0 - 20.0	65000	5.1 U	5.1 U	5.1 U	37	5.1 U	3.8 J	5.1 U	41 J
K51858	KPT145-6	1999	20.0 - 24.0	320 J	0.11 U	0.11 U	0.11 U	0.52	0.11 U	0.094 J	0.11 U	0.61 J
K52024	KPT145-6	2000	24.0 - 36.0	2600	0.055 U	0.055 U	0.055 U	0.28	0.055 U	0.044 J	0.055 U	0.32 J
K51874	KPT145-8	1999	0.0 - 2.0	15000 J	0.072 U	0.072 U	0.072 U	0.099	0.072 U	0.072 U	0.072 U	0.099
K51875	KPT145-8	1999	2.0 - 6.0	18000 J	0.072 U	0.072 U	0.072 U	0.039 J	0.072 U	0.072 U	0.072 U	0.039 J
K51876	KPT145-8	1999	6.0 - 12.0	11000 J	0.20 U	0.20 U	0.20 U	0.37	0.23	0.17 J	0.20 U	0.77 J
K51877	KPT145-8	1999	12.0 - 24.0	7100 J	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U
K52025	KPT145-8	2000	24.0 - 36.0	4500	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K50447	KPT146-1	1997	0.0 - 2.0	64000 J	0.13 U	0.13 U	0.13 U	1.5	0.13 U	0.38	0.13 U	1.9
K50448	KPT146-1	1997	2.0 - 12.0	53000 J	0.10 U	0.10 U	0.10 U	0.59	0.37	0.10 U	0.10 U	0.96
K50449	KPT146-1	1997	12.0 - 22.0	67000 J	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U
K50450	KPT146-1	1997	12.0 - 22.0	56000 J	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U	0.086 U
K50083	KPT146-2	1997	0.0 - 6.0	55000	0.086 U	0.086 U	0.086 U	0.096	0.086 U	0.086 U	0.086 U	0.096
K50084	KPT146-2	1997	6.0 - 18.0	NA	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K50085	KPT146-2	1997	18.0 - 25.2	NA	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K50088	KPT146-2	1997	6.0 - 18.0	NA	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U
K51034	KPT146-6	1997	0.0 - 2.0	27000 J	0.17 U	0.17 U	0.17 U	1.3	0.17 U	0.16 J	0.17 U	1.5 J

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51035	KPT146-6	1997	2.0 - 12.0	1600 J	0.36 U	0.36 U	0.36 U	4.8	0.36 U	0.47	0.36 U	5.3
K51036	KPT146-6	1997	12.0 - 24.0	5100 J	0.30 U	0.30 U	0.30 U	1.2	0.30 U	0.17 J	0.30 U	1.4 J
K51037	KPT146-6	1997	24.0 - 34.0	370 J	0.060 U	0.060 U	0.060 U	0.048 J	0.060 U	0.060 U	0.060 U	0.048 J
K51038	KPT146-6	1997	24.0 - 34.0	11000 J	0.060 U	0.060 U	0.060 U	0.065	0.060 U	0.060 U	0.060 U	0.065
K51906	KPT147-1	2000	0.0 - 2.0	9400 J	0.068 U	0.068 U	0.068 U	0.10	0.068 U	0.068 U	0.068 U	0.10
K51907	KPT147-1	2000	2.0 - 6.0	15000 J	0.066 U	0.066 U	0.066 U	0.44	0.066 U	0.088	0.066 U	0.53
K51908	KPT147-1	2000	6.0 - 12.0	21000 J	0.29 U	0.29 U	0.29 U	1.6	0.29 U	0.22 J	0.29 U	1.8 J
K51909	KPT147-1	2000	12.0 - 20.0	45000 J	0.077 U	0.077 U	0.077 U	0.14	0.077 U	0.077 U	0.077 U	0.14
K51910	KPT147-1	2000	12.0 - 20.0	34000 J	0.14 U	0.14 U	0.14 U	0.88	0.14 U	0.14	0.14 U	1.0
K51911	KPT147-1	2000	20.0 - 26.0	23000 J	0.062 U	0.062 U	0.062 U	0.037 J	0.062 U	0.062 U	0.062 U	0.037 J
K51918	KPT147-3	2000	0.0 - 2.0	5400 J	0.062 U	0.062 U	0.062 U	0.055 J	0.062 U	0.062 U	0.062 U	0.055 J
K51919	KPT147-3	2000	2.0 - 6.0	4900	0.061 U	0.061 U	0.061 U	0.15	0.057 J	0.039 J	0.061 U	0.25 J
K51920	KPT147-3	2000	6.0 - 14.0	6100 J	0.19 U	0.19 U	0.19 U	0.72	0.24	0.19 U	0.19 U	0.96
K51921	KPT147-3	2000	14.0 - 24.0	22000	0.072 U	0.072 U	0.072 U	0.17	0.12	0.072 U	0.072 U	0.29
K51922	KPT147-3	2000	14.0 - 24.0	23000	0.071 U	0.071 U	0.071 U	0.28	0.15	0.071 U	0.071 U	0.43
K52018	KPT147-3	2000	24.0 - 36.0	15000	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U
K51912	KPT147-5	2000	0.0 - 2.0	83000 J	12 U	12 U	12 U	73	12 U	12 U	12 U	73
K51913	KPT147-5	2000	2.0 - 6.0	67000 J	5.6 U	5.6 U	5.6 U	59	5.6 U	5.6 U	5.6 U	59
K51914	KPT147-5	2000	6.0 - 12.0	51000 J	4.7 U	4.7 U	4.7 U	62	4.7 U	5.2	4.7 U	67
K51915	KPT147-5	2000	12.0 - 18.0	56000 J	0.93 U	0.93 U	0.93 U	4.8	0.93 U	2.6	0.93 U	7.4
K51916	KPT147-5	2000	18.0 - 24.0	65000 J	0.062 U	0.062 U	0.062 U	0.35	0.062 U	0.062	0.062 U	0.41
K51917	KPT147-5	2000	18.0 - 24.0	7600 J	0.062 U	0.062 U	0.062 U	0.52	0.062 U	0.080	0.062 U	0.60
K52020	KPT147-5	2000	24.0 - 36.0	2600	0.062 U	0.062 U	0.062 U	0.095	0.062 U	0.062 U	0.062 U	0.095
K50885	KPT147-7	1997	0.0 - 2.0	6700	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U
K50886	KPT147-7	1997	2.0 - 12.0	8900	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
K50887	KPT147-7	1997	12.0 - 24.0	11000 J	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U
K50888	KPT147-7	1997	24.0 - 36.0	530	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K50889	KPT147-7	1997	12.0 - 24.0	5700	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K50237	KPT147-8	1997	0.0 - 2.0	58000	0.40 U	0.40 U	0.40 U	2.7	0.40 U	0.32 J	0.40 U	3.0 J
K50238	KPT147-8	1997	2.0 - 14.0	NA	2.4 U	2.4 U	2.4 U	18	2.4 U	1.7 J	2.4 U	20 J
K50239	KPT147-8	1997	14.0 - 24.0	NA	0.074 U	0.074 U	0.074 U	0.051 J	0.074 U	0.074 U	0.074 U	0.051 J
K50240	KPT147-8	1997	24.0 - 30.0	NA	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U
K50241	KPT147-8	1997	14.0 - 24.0	NA	0.077 U	0.077 U	0.077 U	0.059 J	0.077 U	0.077 U	0.077 U	0.059 J
K50972	KPT148-1	1997	0.0 - 2.0	71000	0.30 U	0.30 U	0.30 U	2.9	0.30 U	0.70	0.30 U	3.6
K50973	KPT148-1	1997	2.0 - 12.0	12000	0.079 U	0.079 U	0.079 U	0.62	0.079 U	0.19	0.079 U	0.81
K50974	KPT148-1	1997	12.0 - 24.0	4100	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U
K50975	KPT148-1	1997	24.0 - 39.0	5800	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U
K50976	KPT148-1	1997	12.0 - 24.0	4600	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U
K51025	KPT148-2	1997	0.0 - 2.0	94000	0.26 U	0.26 U	0.26 U	2.7	0.26 U	0.46	0.26 U	3.2

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TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51026	KPT148-2	1997	2.0 - 12.0	86000	6.2 U	6.2 U	6.2 U	19	15	6.8	6.2 U	41
K51027	KPT148-2	1997	12.0 - 24.0	30000	0.37 U	0.37 U	0.37 U	2.3	0.37 U	0.54	0.37 U	2.8
K51028	KPT148-2	1997	24.0 - 36.0	4200	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U
K52022	KPT148-3	2000	24.0 - 30.0	6600	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U
K52023	KPT148-3	2000	30.0 - 36.0	2600	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K52031	KPT148-3	2000	0.0 - 2.0	36000	0.099 UJ	0.099 UJ	0.099 UJ	0.26 J	0.099 UJ	0.050 J	0.099 UJ	0.31 J
K52032	KPT148-3	2000	2.0 - 6.0	87000	3.7 U	3.7 U	3.7 U	20	3.7 U	3.7 U	3.7 U	20
K52033	KPT148-3	2000	6.0 - 12.0	19000	0.65 U	0.65 U	0.65 U	3.9	0.65 U	0.65 U	0.65 U	3.9
K52034	KPT148-3	2000	12.0 - 24.0	22000	0.064 U	0.064 U	0.064 U	0.16	0.064 U	0.064 U	0.064 U	0.16
K52035	KPT148-3	2000	12.0 - 24.0	8400	0.061 U	0.061 U	0.061 U	0.21	0.061 U	0.061 U	0.061 U	0.21
K52021	KPT148-5	2000	24.0 - 36.0	18000	0.14 U	0.14 U	0.14 U	0.61	0.14 U	0.072 J	0.14 U	0.68 J
K52036	KPT148-5	2000	0.0 - 2.0	91000	0.24 U	0.24 U	0.24 U	0.96	0.49	0.41	0.24 U	1.9
K52037	KPT148-5	2000	2.0 - 6.0	59000	0.21 U	0.21 U	0.21 U	1.5	0.21 U	0.40	0.21 U	1.9
K52038	KPT148-5	2000	6.0 - 12.0	37000	0.43 U	0.43 U	0.43 U	2.9	0.43 U	0.54	0.43 U	3.4
K52039	KPT148-5	2000	12.0 - 24.0	43000	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U
K52040	KPT148-5	2000	12.0 - 24.0	66000	2.9 U	2.9 U	2.9 U	17	7.0	2.9 U	2.9 U	24
K52041	KPT149-2	2000	0.0 - 2.0	80000	0.50 U	0.50 U	0.50 U	3.4	0.50 U	0.55	0.50 U	4.0
K52042	KPT149-2	2000	2.0 - 6.0	33000	0.41 U	0.41 U	0.41 U	2.3	0.41 U	0.23 J	0.41 U	2.5 J
K52043	KPT149-2	2000	6.0 - 14.0	11000	0.072 U	0.072 U	0.072 U	0.061 J	0.072 U	0.072 U	0.072 U	0.061 J
K52044	KPT149-4	2000	0.0 - 2.0	37000	0.085 U	0.085 U	0.085 U	0.33	0.085 U	0.085 U	0.091	0.42
K52045	KPT149-4	2000	2.0 - 6.0	8700	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U
K52046	KPT149-4	2000	6.0 - 12.0	16000	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U
K52047	KPT149-4	2000	12.0 - 24.0	13000	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U
K52048	KPT149-4	2000	12.0 - 24.0	14000	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U
K52049	KPT149-4	2000	24.0 - 36.0	15000	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U
K52050	KPT149-4	2000	24.0 - 36.0	20000	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U
K51421	KPT149-6	1997	0.0 - 2.0	82000	0.27 U	0.27 U	0.27 U	1.8	0.27 U	0.60 J	0.27 U	2.4 J
K51422	KPT149-6	1997	2.0 - 12.0	55000	0.097 U	0.097 U	0.097 U	1.4	0.097 U	0.36 J	0.097 U	1.8 J
K51423	KPT149-6	1997	12.0 - 24.0	61000	1.2 U	1.2 U	1.2 U	12	1.2 U	1.8	1.2 U	14
K51424	KPT149-6	1997	24.0 - 36.0	85000	2.7 U	2.7 U	2.7 U	42	2.7 U	4.8 J	2.7 U	47 J
K51425	KPT149-6	1997	24.0 - 36.0	90000	2.9 U	2.9 U	2.9 U	38	2.9 U	4.7 J	2.9 U	43 J
K50949	KPT149-8	1997	0.0 - 2.0	83000	0.29 U	0.29 U	0.29 U	1.5	0.29 U	0.34	0.29 U	1.8
K50950	KPT149-8	1997	2.0 - 12.0	NA	0.53 U	0.53 U	0.53 U	5.8	0.53 U	0.67	0.53 U	6.5
K50951	KPT149-8	1997	12.0 - 24.0	NA	0.74 U	0.74 U	0.74 U	5.2	0.74 U	0.93	0.74 U	6.1
K50952	KPT149-8	1997	24.0 - 35.0	NA	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U
K50953	KPT149-8	1997	12.0 - 24.0	NA	0.72 U	0.72 U	0.72 U	5.9	0.72 U	0.97	0.72 U	6.9
K50230	KPT150-2	1997	0.0 - 2.0	88000	0.16 U	0.16 U	0.16 U	1.7	0.16 U	0.36	0.16 U	2.1
K50231	KPT150-2	1997	2.0 - 18.0	NA	0.50 U	0.50 U	0.50 U	4.4	0.50 U	0.36 J	0.50 U	4.8 J
K50232	KPT150-2	1997	18.0 - 33.0	NA	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (ft)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K50258	KPT150-3	1997	0.0 - 2.0	16000	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U
K50259	KPT150-3	1997	2.0 - 14.0	18000	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U
K50260	KPT150-3	1997	14.0 - 24.0	46000	0.11 U	0.11 U	0.11 U	0.94	0.11 U	0.27	0.11 U	1.2
K50261	KPT150-3	1997	24.0 - 38.0	92000	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K50262	KPT150-3	1997	14.0 - 24.0	330000	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
K50089	KPT150-4	1997	0.0 - 6.0	11000	0.066 U	0.066 U	0.066 U	0.15 J	0.066 U	0.052 J	0.066 U	0.20 J
K50090	KPT150-4	1997	6.0 - 18.0	NA	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U
K50091	KPT150-4	1997	18.0 - 30.0	NA	0.080 U	0.080 U	0.080 U	0.080 U	0.080 U	0.080 U	0.080 U	0.080 U
K50092	KPT150-4	1997	30.0 - 42.0	NA	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U
K50093	KPT150-4	1997	42.0 - 50.4	NA	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K51029	KPT150-7	1997	0.0 - 2.0	7300	0.072 U	0.072 U	0.072 U	0.20	0.12	0.046 J	0.072 U	0.37 J
K51030	KPT150-7	1997	2.0 - 12.0	NA	0.068 U	0.068 U	0.068 U	0.54	0.068 U	0.065 J	0.068 U	0.61 J
K51031	KPT150-7	1997	12.0 - 24.0	NA	0.071 U	0.071 U	0.071 U	1.0	0.071 U	0.13	0.071 U	1.1
K51032	KPT150-7	1997	24.0 - 36.0	NA	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K51033	KPT150-7	1997	12.0 - 24.0	NA	0.072 U	0.072 U	0.072 U	0.51	0.072 U	0.13	0.072 U	0.64
K50834	KPT150-8	1997	0.0 - 2.0	32000	0.090 U	0.090 U	0.090 U	0.42	0.090 U	0.15	0.090 U	0.57
K50835	KPT150-8	1997	2.0 - 12.0	NA	0.060 U	0.060 U	0.060 U	0.041 J	0.077	0.046 J	0.060 U	0.16 J
K50836	KPT150-8	1997	12.0 - 24.0	NA	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K50837	KPT150-8	1997	24.0 - 36.0	NA	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K50155	KPT151-1	1997	0.0 - 2.0	25000	0.36 U	0.36 U	0.36 U	2.0	1.8	1.7	0.36 U	5.5
K50156	KPT151-1	1997	2.0 - 12.0	NA	0.062 U	0.062 U	0.062 U	0.090	0.062 U	0.062 U	0.062 U	0.090
K50157	KPT151-1	1997	12.0 - 24.0	NA	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K50158	KPT151-1	1997	12.0 - 24.0	NA	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K50159	KPT151-1	1997	24.0 - 36.0	NA	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K50175	KPT151-5	1997	0.0 - 2.0	88000	0.28 U	0.28 U	0.28 U	1.9	0.28 U	0.51	0.28 U	2.4
K50176	KPT151-5	1997	2.0 - 12.0	79000	1.0 U	1.0 U	1.0 U	11	1.0 U	0.89 J	1.0 U	12 J
K50177	KPT151-5	1997	12.0 - 24.0	19000	0.074 U	0.074 U	0.074 U	0.087	0.074 U	0.074 U	0.074 U	0.087
K50178	KPT151-5	1997	24.0 - 35.0	13000	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U
K50179	KPT151-5	1997	24.0 - 35.0	16000	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U
K52051	KPT152-2	2000	0.0 - 2.0	75000	0.49 U	0.49 U	0.49 U	2.7	0.49 U	0.67	0.49 U	3.4
K52052	KPT152-2	2000	2.0 - 6.0	85000	0.62 U	0.62 U	0.62 U	3.4	0.62 U	0.86	0.62 U	4.3
K52053	KPT152-2	2000	6.0 - 12.0	75000	1.2 U	1.2 U	1.2 U	5.5	1.2 U	1.3	1.2 U	6.8
K52054	KPT152-2	2000	12.0 - 24.0	19000	0.34 U	0.34 U	0.34 U	2.2	0.34 U	0.51	0.34 U	2.7
K52055	KPT152-2	2000	24.0 - 36.0	1600 J	0.065 U	0.065 U	0.065 U	0.059 J	0.065 U	0.065 U	0.065 U	0.059 J
K52056	KPT152-4	2000	0.0 - 2.0	100000	0.42 U	0.42 U	0.42 U	2.1	0.42 U	0.58	0.42 U	2.7
K52057	KPT152-4	2000	2.0 - 6.0	77000	5.3 U	5.3 U	5.3 U	29	5.3 U	5.3 U	5.3 U	29
K52058	KPT152-4	2000	6.0 - 12.0	86000	0.68 U	0.68 U	0.68 U	5.4	0.68 U	0.97	0.68 U	6.4
K52059	KPT152-4	2000	12.0 - 24.0	32000	1.8 U	1.8 U	1.8 U	16	1.8 U	1.2 J	1.8 U	17 J
K52060	KPT152-4	2000	24.0 - 38.0	12000	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U

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TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K52061	KPT152-4	2000	24.0 - 38.0	9000	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U
K50339	KPT152-5	1997	0.0 - 2.0	83000	0.25 U	0.25 U	0.25 U	3.6	0.25 U	0.25 U	0.25 U	3.6
K50340	KPT152-5	1997	2.0 - 12.0	NA	0.62 U	0.62 U	0.62 U	5.8	0.62 U	0.87	0.62 U	6.7
K50341	KPT152-5	1997	12.0 - 24.0	NA	0.83 U	0.83 U	0.83 U	6.0	0.83 U	0.48 J	0.83 U	6.5 J
K50342	KPT152-5	1997	24.0 - 36.0	NA	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U
K52062	KPT152-8	2000	0.0 - 2.0	130 U	0.061 U	0.061 U	0.061 U	0.055 J	0.061 U	0.061 U	0.061 U	0.055 J
K52063	KPT152-8	2000	2.0 - 6.0	120 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K52064	KPT152-8	2000	6.0 - 14.0	120 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K52065	KPT152-8	2000	14.0 - 22.0	110 U	0.16 U	0.16 U	0.16 U	0.91	0.16 U	0.22	0.16 U	1.1
K52066	KPT152-8	2000	14.0 - 22.0	110 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U
K50134	KPT153-3	1997	0.0 - 2.0	11000	0.45 U	0.45 U	0.45 U	3.1	0.45 U	0.62 J	0.45 UJ	3.7 J
K50135	KPT153-3	1997	2.0 - 12.0	84000	0.30 U	0.30 U	0.30 U	3.2	0.30 U	0.48 J	0.30 UJ	3.7 J
K50136	KPT153-3	1997	12.0 - 24.0	83000	3.2 U	3.2 U	3.2 U	30	3.2 U	3.2	3.2 U	33
K50137	KPT153-3	1997	12.0 - 24.0	87000	1.6 U	1.6 U	1.6 U	9.4	1.6 U	1.7	1.6 U	11
K50138	KPT153-3	1997	24.0 - 32.0	73000	2.9 U	2.9 U	2.9 U	22	2.9 U	4.1	2.9 U	26
K50324	KPT153-4	1997	0.0 - 2.0	110000	0.50 U	0.50 U	0.50 U	3.8	0.50 U	1.1	0.50 U	4.9
K50325	KPT153-4	1997	2.0 - 12.0	NA	1.5 U	1.5 U	1.5 U	7.9	1.5 U	1.1 J	1.5 U	9.0 J
K50326	KPT153-4	1997	12.0 - 24.0	NA	0.26 U	0.26 U	0.26 U	1.6	0.26 U	0.30	0.26 U	1.9
K50327	KPT153-4	1997	24.0 - 36.0	NA	0.077 UJ	0.077 UJ	0.077 UJ	0.077 UJ	0.077 UJ	0.077 UJ	0.077 UJ	0.077 UJ
K50097	KPT153-6	1997	0.0 - 6.0	94000	0.13 U	0.13 U	0.13 U	1.5	0.13 U	0.87	0.19	2.6
K50098	KPT153-6	1997	6.0 - 18.0	NA	0.10 U	0.10 U	0.10 U	0.90	0.10 U	0.56	0.12	1.6
K50099	KPT153-6	1997	18.0 - 30.0	NA	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K50100	KPT153-6	1997	30.0 - 42.0	NA	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U
K50101	KPT153-6	1997	42.0 - 49.2	NA	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K50104	KPT153-6	1997	30.0 - 42.0	NA	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U
K52067	KPT153-8	2000	0.0 - 2.0	110000	0.32 UJ	0.32 UJ	0.32 UJ	1.4 J	0.32 UJ	0.30 J	0.32 UJ	1.7 J
K52068	KPT153-8	2000	2.0 - 6.0	78000	0.25 U	0.25 U	0.25 U	1.6	0.25 U	0.38	0.25 U	2.0
K52069	KPT153-8	2000	6.0 - 12.0	61000	0.32 U	0.32 U	0.32 U	2.1	0.32 U	0.51	0.32 U	2.6
K52070	KPT153-8	2000	12.0 - 24.0	21000	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K52071	KPT153-8	2000	12.0 - 24.0	23000	0.074 U	0.074 U	0.074 U	0.049 J	0.074 U	0.074 U	0.074 U	0.049 J
K52072	KPT153-8	2000	24.0 - 36.0	7100	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K52073	KPT154-2	2000	0.0 - 2.0	400000	0.62 U	0.62 U	0.62 U	2.1	0.62 U	0.32 J	0.62 U	2.4 J
K52074	KPT154-2	2000	2.0 - 6.0	91000	0.26 U	0.26 U	0.26 U	2.7	0.26 U	0.56	0.26 U	3.3
K52075	KPT154-2	2000	6.0 - 12.0	71000	0.35 U	0.35 U	0.35 U	4.4	0.35 U	0.79	0.35 U	5.2
K52076	KPT154-2	2000	12.0 - 24.0	66000	0.56 U	0.56 U	0.56 U	6.9	0.56 U	1.1	0.56 U	8.0
K52077	KPT154-2	2000	24.0 - 36.0	63000	0.097 U	0.097 U	0.097 U	0.15	0.097 U	0.097 U	0.052 J	0.20 J
K52078	KPT154-4	2000	0.0 - 2.0	64000	0.12 U	0.12 U	0.12 U	0.99	0.12 U	0.23	0.12 U	1.2
K52079	KPT154-4	2000	2.0 - 6.0	33000	0.083 U	0.083 U	0.083 U	0.58	0.083 U	0.062 J	0.083 U	0.64 J
K52080	KPT154-4	2000	6.0 - 12.0	27000	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U

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TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K52081	KPT154-4	2000	12.0 - 24.0	13000	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K52082	KPT154-4	2000	12.0 - 24.0	13000	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U
K52083	KPT154-4	2000	24.0 - 36.0	6100	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
K52084	KPT154-6	2000	0.0 - 2.0	64000	0.13 U	0.13 U	0.13 U	1.4	0.13 U	0.33	0.13 U	1.7
K52085	KPT154-6	2000	2.0 - 6.0	58000	0.22 U	0.22 U	0.22 U	1.5	0.22 U	0.40	0.22 U	1.9
K52086	KPT154-6	2000	6.0 - 12.0	52000	3.1 U	3.1 U	3.1 U	28	3.1 U	3.1 U	3.1 U	28
K52087	KPT154-6	2000	12.0 - 24.0	130000	0.11 U	0.11 U	0.11 U	0.087 J	0.11 U	0.11 U	0.078 J	0.17 J
K52088	KPT154-6	2000	24.0 - 30.0	180000	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
K52089	KPT154-6	2000	24.0 - 30.0	210000	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
K52090	KPT154-8	2000	0.0 - 2.0	100000	0.32 U	0.32 U	0.32 U	2.6	0.32 U	0.68	0.32 U	3.3
K52091	KPT154-8	2000	2.0 - 6.0	77000	0.29 U	0.29 U	0.29 U	1.8	0.29 U	0.42	0.29 U	2.2
K52092	KPT154-8	2000	6.0 - 12.0	76000	2.8 U	2.8 U	2.8 U	24	2.8 U	1.9 J	2.8 U	26 J
K52093	KPT154-8	2000	12.0 - 24.0	90000	0.39 U	0.39 U	0.39 U	2.6	0.39 U	0.86	0.39 U	3.5
K52094	KPT154-8	2000	24.0 - 33.0	460000	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
K52095	KPT155-2	2000	0.0 - 2.0	72000	0.26 U	0.26 U	0.26 U	1.5	0.26 U	0.41	0.26 U	1.9
K52096	KPT155-2	2000	2.0 - 6.0	72000	0.24 U	0.24 U	0.24 U	1.4	0.24 U	0.36	0.24 U	1.8
K52097	KPT155-2	2000	6.0 - 12.0	47000	0.29 U	0.29 U	0.29 U	2.5	0.29 U	0.24 J	0.29 U	2.7 J
K52098	KPT155-2	2000	12.0 - 23.0	29000	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U	0.076 U
K50212	KPT155-4	1997	0.0 - 2.0	46000	0.14 U	0.14 U	0.14 U	0.49	0.14 U	0.079 J	0.14 U	0.57 J
K50213	KPT155-4	1997	2.0 - 12.0	18000	0.079 U	0.079 U	0.079 U	0.84	0.079 U	0.13	0.079 U	0.97
K50214	KPT155-4	1997	12.0 - 24.0	12000	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K50215	KPT155-4	1997	12.0 - 24.0	NA	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U
K50223	KPT155-5	1997	0.0 - 2.0	58000	0.31 U	0.31 U	0.31 U	3.2	0.31 U	0.51	0.31 U	3.7
K50224	KPT155-5	1997	2.0 - 12.0	NA	0.13 UJ	0.13 UJ	0.13 UJ	1.6 J	0.13 UJ	0.33 J	0.13 UJ	1.9 J
K50225	KPT155-5	1997	12.0 - 22.0	NA	0.074 UJ	0.074 UJ	0.074 UJ	0.074 UJ	0.074 UJ	0.074 UJ	0.074 UJ	0.074 UJ
K52099	KPT155-7	2000	0.0 - 2.0	57000	0.19 U	0.19 U	0.19 U	1.3	0.19 U	0.33	0.19 U	1.6
K52100	KPT155-7	2000	2.0 - 6.0	11000	0.058 U	0.058 U	0.058 U	0.29	0.058 U	0.058	0.058 U	0.35
K52101	KPT155-7	2000	6.0 - 12.0	9000	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K52102	KPT155-7	2000	6.0 - 12.0	8500	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K52103	KPT155-7	2000	12.0 - 24.0	4600	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K52135	KPT155-7	2000	24.0 - 36.0	120 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K50390	KPT156-1	1997	0.0 - 2.0	200 J	0.064 U	0.064 U	0.064 U	0.040 J	0.064 U	0.064 U	0.064 U	0.040 J
K50391	KPT156-1	1997	2.0 - 12.0	NA	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K50392	KPT156-1	1997	12.0 - 24.0	NA	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K50393	KPT156-1	1997	24.0 - 36.0	NA	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K52104	KPT156-2	2000	0.0 - 2.0	83000	0.33 U	0.33 U	0.33 U	1.7	0.33 U	0.46	0.33 U	2.2
K52105	KPT156-2	2000	2.0 - 6.0	72000	0.13 UJ	0.13 UJ	0.13 UJ	1.2 J	0.13 UJ	0.29 J	0.13 UJ	1.5 J
K52106	KPT156-2	2000	6.0 - 12.0	85000	0.094 UJ	0.094 UJ	0.094 UJ	0.39 J	0.094 UJ	0.081 J	0.094 UJ	0.47 J
K52107	KPT156-2	2000	12.0 - 17.0	29000	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U

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TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (ft)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K52108	KPT156-4	2000	0.0 - 2.0	42000	0.098 U	0.098 U	0.098 U	0.58	0.098 U	0.15	0.098 U	0.73
K52109	KPT156-4	2000	2.0 - 6.0	36000	0.089 UJ	0.089 UJ	0.089 UJ	0.49 J	0.089 UJ	0.13 J	0.089 UJ	0.62 J
K52110	KPT156-4	2000	6.0 - 12.0	12000	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K52111	KPT156-4	2000	12.0 - 28.0	4200	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K52112	KPT156-4	2000	12.0 - 28.0	2200	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K52113	KPT156-6	2000	0.0 - 2.0	50000	0.30 U	0.30 U	0.30 U	2.1	0.30 U	0.49	0.30 U	2.6
K52114	KPT156-6	2000	2.0 - 6.0	61000	0.29 U	0.29 U	0.29 U	2.2	0.29 U	0.51	0.29 U	2.7
K52115	KPT156-6	2000	6.0 - 12.0	65000	0.38 U	0.38 U	0.38 U	2.6	0.38 U	0.61	0.38 U	3.2
K52116	KPT156-6	2000	12.0 - 24.0	62000	0.54 U	0.54 U	0.54 U	3.0	0.54 U	0.78	0.54 U	3.8
K52117	KPT156-6	2000	24.0 - 30.0	69000	1.3 U	1.3 U	1.3 U	12	1.3 U	1.1 J	1.3 U	13 J
K51227	KPT156-8	1997	0.0 - 2.0	16000	0.10 U	0.10 U	0.10 U	0.50	0.10 U	0.12	0.10 U	0.62
K51228	KPT156-8	1997	2.0 - 12.0	NA	0.063 U	0.063 U	0.063 U	0.16	0.063 U	0.063 U	0.063 U	0.16
K51229	KPT156-8	1997	12.0 - 24.0	NA	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U
K51230	KPT156-8	1997	24.0 - 38.0	NA	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U
K50579	KPT157-1	1997	0.0 - 2.0	NA	0.072 U	0.14 U	0.072 U	0.11 J	0.072 U	0.12 JN	0.072 U	0.23 J
K50580	KPT157-1	1997	2.0 - 12.0	NA	0.053 U	0.11 U	0.053 U	0.10 J	0.053 U	0.061	0.053 U	0.16 J
K50581	KPT157-1	1997	12.0 - 24.0	NA	0.19 U	0.39 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.39 U
K50582	KPT157-1	1997	24.0 - 31.0	NA	0.22 U	0.44 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.44 U
K50798	KPT157-2	1997	0.0 - 2.0	98000	0.47 U	0.47 U	0.47 U	6.3 JN	0.47 U	0.90 JN	0.47 U	7.2 J
K50799	KPT157-2	1997	2.0 - 12.0	NA	1.6 U	1.6 U	1.6 U	20 JN	1.6 U	2.9 JN	1.6 U	23 J
K50800	KPT157-2	1997	12.0 - 24.0	NA	0.28 U	0.28 U	0.28 U	1.6 JN	0.28 U	0.34 JN	0.28 U	1.9 J
K50801	KPT157-2	1997	24.0 - 31.0	NA	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
K50802	KPT157-2	1997	12.0 - 24.0	NA	0.26 U	0.26 U	0.26 U	1.6 JN	0.26 U	0.39 JN	0.26 U	2.0 J
K52118	KPT157-3	2000	0.0 - 2.0	73000	0.43 UJ	0.43 UJ	0.43 UJ	1.8 J	0.78 J	0.43 J	0.43 UJ	3.0 J
K52119	KPT157-3	2000	2.0 - 6.0	210000	0.19 U	0.19 U	0.19 U	1.1	0.19 U	0.28	0.19 U	1.4
K52120	KPT157-3	2000	6.0 - 12.0	320000	0.22 U	0.22 U	0.22 U	0.13 J	0.22 U	0.22 U	0.22 U	0.13 J
K52121	KPT157-3	2000	12.0 - 24.0	320000	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
K52122	KPT157-3	2000	24.0 - 36.0	310000	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
K52123	KPT157-3	2000	24.0 - 36.0	310000	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
K52124	KPT157-4	2000	0.0 - 2.0	56000	0.31 U	0.31 U	0.31 U	1.6	0.74	0.47	0.31 U	2.8
K52125	KPT157-4	2000	2.0 - 6.0	61000	0.43 U	0.43 U	0.43 U	3.3	0.43 U	0.68	0.43 U	4.0
K52126	KPT157-4	2000	6.0 - 12.0	58000	2.6 U	2.6 U	2.6 U	11	2.6 U	1.7 J	2.6 U	13 J
K52127	KPT157-4	2000	12.0 - 24.0	130000	0.14 U	0.14 U	0.14 U	0.81	0.26	0.14 U	0.078 J	1.1 J
K52128	KPT157-4	2000	12.0 - 24.0	180000	0.14 U	0.14 U	0.14 U	0.92	0.14 U	0.15	0.14 U	1.1
K52129	KPT157-4	2000	24.0 - 36.0	55000	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
K50809	KPT157-6	1997	0.0 - 2.0	59000	0.32 U	0.32 U	0.32 U	4.0 JN	0.32 U	0.60 JN	0.32 U	4.6 J
K50810	KPT157-6	1997	2.0 - 12.0	56000	0.66 U	0.66 U	0.66 U	5.4 JN	0.66 U	1.2 JN	0.66 U	6.6 J
K50811	KPT157-6	1997	12.0 - 24.0	42000	0.091 U	0.091 U	0.091 U	0.18	0.090 J	0.091 U	0.091 U	0.27 J
K50812	KPT157-6	1997	24.0 - 36.0	8300	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (ft)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K50813	KPT157-6	1997	24.0 - 36.0	9500	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U
K51289	KPT158-1	1997	0.0 - 2.0	280 J	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U
K51290	KPT158-1	1997	2.0 - 17.0	NA	0.059 U	0.059 U	0.059 U	0.26	0.059 U	0.031 J	0.059 U	0.29 J
K51291	KPT158-1	1997	17.0 - 23.0	NA	0.24 U	0.24 U	0.14 JN	0.24 U	0.24 U	0.24 U	0.24 U	0.14 J
K50106	KPT158-2	1997	0.0 - 6.0	81000	0.17 U	0.17 U	0.17 U	0.92	0.17 U	0.74	0.17 U	1.7
K50107	KPT158-2	1997	6.0 - 18.0	NA	1.9 UJ	1.9 UJ	1.9 UJ	8.2 J	1.9 UJ	1.4 J	1.9 UJ	9.6 J
K50108	KPT158-2	1997	18.0 - 24.0	NA	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
K50109	KPT158-2	1997	24.0 - 36.0	NA	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
K50110	KPT158-2	1997	36.0 - 44.4	NA	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
K50114	KPT158-2	1997	24.0 - 36.0	NA	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K51279	KPT158-3	1997	0.0 - 2.0	64000	0.18 U	0.18 U	0.18 U	2.6	0.18 U	0.50	0.18 U	3.1
K51280	KPT158-3	1997	2.0 - 12.0	70000	0.86 U	0.86 U	0.86 U	10	0.86 U	1.6	0.86 U	12
K51281	KPT158-3	1997	12.0 - 24.0	220000	0.15 U	0.15 U	0.15 U	0.94	0.15 U	0.11 J	0.15 U	1.1 J
K51282	KPT158-3	1997	24.0 - 36.0	16000	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U
K51283	KPT158-3	1997	12.0 - 24.0	230000 J	0.16 UJ	0.16 UJ	0.16 UJ	0.87 J	0.16 UJ	0.11 J	0.16 UJ	0.98 J
K51379	KPT158-4	1997	0.0 - 2.0	95000 J	0.74 U	0.74 U	0.74 U	3.4	2.4	1.2	0.74 U	7.0
K51380	KPT158-4	1997	2.0 - 12.0	NA	5.0 U	5.0 U	5.0 U	46	5.0 U	3.2 J	5.0 U	49 J
K51381	KPT158-4	1997	12.0 - 24.0	NA	0.54 U	0.54 U	0.54 U	3.4	0.54 U	0.80	0.54 U	4.2
K51382	KPT158-4	1997	24.0 - 32.0	NA	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
K51383	KPT158-4	1997	32.0 - 36.0	NA	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U
K51402	KPT158-5	1997	0.0 - 2.0	77000	0.81 U	0.81 U	0.81 U	1.2 J	2.7 J	0.81 U	0.81 U	3.9 J
K51403	KPT158-5	1997	2.0 - 12.0	NA	0.48 U	0.48 U	0.48 U	5.2	0.48 U	0.48 U	0.48 U	5.2
K51404	KPT158-5	1997	12.0 - 26.0	NA	0.081 U	0.081 U	0.081 U	0.040 J	0.081 U	0.081 U	0.081 U	0.040 J
K50351	KPT158-7	1997	0.0 - 2.0	48000	0.56 U	0.56 U	0.56 U	4.0	0.56 U	0.56	0.56 U	4.6
K50352	KPT158-7	1997	2.0 - 12.0	41000	0.41 U	0.41 U	0.41 U	1.3	1.2	0.41 U	0.41 U	2.5
K50353	KPT158-7	1997	12.0 - 24.0	16000	0.83 U	0.83 U	0.83 U	4.0	1.2	0.83 U	0.83 U	5.2
K50354	KPT158-7	1997	24.0 - 36.0	4500 J	0.056 U	0.056 U	0.056 U	0.034 J	0.056 U	0.056 U	0.056 U	0.034 J
K50355	KPT158-7	1997	12.0 - 24.0	8700	0.34 U	0.34 U	0.34 U	3.5	0.34 U	0.45	0.34 U	4.0
K50376	KPT159-1	1997	0.0 - 2.0	6600	0.068 U	0.068 U	0.068 U	1.2 EJ	0.068 U	0.11	0.068 U	1.3 J
K50377	KPT159-1	1997	2.0 - 12.0	100 U	0.070 U	0.070 U	0.070 U	0.066 J	0.040 J	0.070 U	0.070 U	0.11 J
K50378	KPT159-1	1997	12.0 - 24.0	100 U	0.065 U	0.065 U	0.065 U	0.099	0.15	0.078	0.065 U	0.33
K50379	KPT159-1	1997	24.0 - 36.0	57000	0.094 U	0.094 U	0.094 U	0.11	0.094 U	0.094 U	0.094 U	0.11
K50380	KPT159-1	1997	12.0 - 24.0	100 U	0.19 U	0.19 U	0.19 U	0.93	0.19 U	0.19 U	0.19 U	0.93
K52130	KPT159-2	2000	0.0 - 2.0	61000	0.91 U	0.91 U	0.91 U	5.7	2.6	1.1	0.91 U	9.4
K52131	KPT159-2	2000	2.0 - 6.0	52000	0.29 U	0.29 U	0.29 U	1.2	0.83	0.50	0.29 U	2.5
K52132	KPT159-2	2000	6.0 - 12.0	77000	5.1 U	5.1 U	5.1 U	27	5.1 U	5.1 U	5.1 U	27
K52133	KPT159-2	2000	12.0 - 24.0	42000	0.14 U	0.14 U	0.14 U	0.94	0.14 U	0.18	0.14 U	1.1
K52134	KPT159-2	2000	24.0 - 36.0	2200	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U
K50484	KPT159-5	1997	0.0 - 2.0	64000 J	0.34 U	0.34 U	0.34 U	2.6	0.34 U	0.78	0.34 U	3.4

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TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K50485	KPT159-5	1997	2.0 - 12.0	69000 J	1.7 U	1.7 U	1.7 U	15	1.7 U	2.8	1.7 U	18
K50486	KPT159-5	1997	12.0 - 24.0	250000 J	0.20 U	0.20 U	0.20 U	0.53	0.15 J	0.20 U	0.20 U	0.68 J
K50487	KPT159-5	1997	24.0 - 36.0	300000 J	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
K50488	KPT159-5	1997	12.0 - 24.0	170000 J	0.17 U	0.17 U	0.17 U	0.56	0.17 U	0.17 U	0.17 U	0.56
K52136	KPT159-7	2000	0.0 - 2.0	55000	0.30 U	0.30 U	0.30 U	1.3	0.65	0.43	0.30 U	2.4
K52137	KPT159-7	2000	2.0 - 6.0	64000	0.30 U	0.30 U	0.30 U	1.0	0.53	0.34	0.30 U	1.9
K52138	KPT159-7	2000	6.0 - 12.0	67000	0.62 U	0.62 U	0.62 U	2.4	1.5	0.80	0.62 U	4.7
K52139	KPT159-7	2000	12.0 - 24.0	86000	5.7 U	5.7 U	5.7 U	40	5.7 U	3.9 J	5.7 U	44 J
K52140	KPT159-7	2000	24.0 - 29.0	56000	0.20 U	0.20 U	0.20 U	0.85	0.29	0.16 J	0.12 J	1.4 J
K52141	KPT159-7	2000	29.0 - 33.0	4500	0.059 U	0.059 U	0.059 U	0.22	0.040 J	0.059 U	0.059 U	0.26 J
K50139	PPT1-1	1997	0.0 - 2.0	59000	1.7 U	1.7 U	1.7 U	22	1.7 U	1.7 U	1.7 U	22
K50140	PPT1-1	1997	2.0 - 4.0	NA	0.090 U	0.090 U	0.090 U	0.47	0.090 U	0.090 U	0.25	0.72
K50141	PPT1-1	1997	4.0 - 12.0	NA	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.33	0.33
K50142	PPT1-1	1997	12.0 - 24.0	NA	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.099 U	0.23	0.23
K50143	PPT1-1	1997	24.0 - 33.0	NA	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U	0.083 U
K50684	PPT1-2	1997	0.0 - 2.0	7900	0.12 U	0.12 U	0.12 U	0.68	0.54	0.12 U	0.12 U	1.2
K50685	PPT1-2	1997	2.0 - 12.0	1800	1.2 U	1.2 U	1.2 U	7.5	1.2 U	1.2 U	1.2 U	7.5
K50686	PPT1-2	1997	12.0 - 21.0	77000	0.68 U	0.68 U	0.68 U	3.8	2.0	0.68 U	0.68 U	5.8
K50687	PPT1-2	1997	21.0 - 34.0	98000	0.86 U	0.86 U	0.86 U	7.6	0.86 U	3.1	0.86 U	11
K50688	PPT1-2	1997	34.0 - 43.0	190000	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K50689	PPT1-2	1997	43.0 - 45.0	4100 J	0.060 U	0.060 U	0.060 U	0.24	0.060 U	0.060 U	0.060 U	0.24
K50690	PPT1-2	1997	34.0 - 43.0	130000	0.21 U	0.21 U	0.21 U	0.45	0.21 U	0.13 J	0.21 U	0.58 J
K50600	PPT1-3	1997	0.0 - 2.0	41000	0.64 U	0.64 U	0.64 U	6.0	0.64 U	0.48 J	0.64 U	6.5 J
K50601	PPT1-3	1997	2.0 - 16.0	3100	0.30 U	0.30 U	0.30 U	1.9	0.30 U	0.30 U	0.68	2.6
K50602	PPT1-3	1997	16.0 - 24.0	79000	0.98 U	0.98 U	0.98 U	4.6	1.3	0.73 J	0.98 U	6.6 J
K50603	PPT1-3	1997	24.0 - 36.0	2700	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K50604	PPT1-3	1997	16.0 - 24.0	58000	0.48 U	0.48 U	0.48 U	2.6	0.84	0.52	0.48 U	4.0
K50475	PPT1-4	1997	0.0 - 2.0	83000 J	0.46 U	0.46 U	0.46 U	4.1	0.46 U	0.76	0.46 U	4.9
K50476	PPT1-4	1997	2.0 - 12.0	24000 J	7.9 U	7.9 U	7.9 U	79	7.9 U	7.9 U	7.9 U	79
K50477	PPT1-4	1997	12.0 - 24.0	140000 J	5.7 U	5.7 U	5.7 U	38	5.7 U	2.9 J	5.7 U	41 J
K50478	PPT1-4	1997	24.0 - 30.0	41000 J	0.25 U	0.25 U	0.25 U	1.5	0.25 U	0.25 U	0.25 U	1.5
K50479	PPT1-4	1997	12.0 - 24.0	110000 J	3.3 U	3.3 U	3.3 U	32	3.3 U	3.6	3.3 U	36
K50941	PPT2-1	1997	0.0 - 2.0	23000 J	0.71 U	0.71 U	0.71 U	3.7	3.6	0.71 U	0.71 U	7.3
K50942	PPT2-1	1997	2.0 - 12.0	NA	0.32 U	0.32 U	0.32 U	1.3	1.5	0.32 U	0.32 U	2.8
K50943	PPT2-1	1997	12.0 - 24.0	NA	0.36 U	0.36 U	0.36 U	4.1	0.36 U	0.46	0.36 U	4.6
K50944	PPT2-1	1997	24.0 - 30.0	NA	0.096 U	0.096 U	0.096 U	0.26	0.49	0.096 U	0.13	0.88
K50945	PPT2-1	1997	12.0 - 24.0	NA	0.88 U	0.88 U	0.88 U	6.9	0.88 U	0.85 J	0.88 U	7.8 J
K50895	PPT2-2	1997	0.0 - 2.0	150000	0.96 U	0.96 U	0.96 U	3.0	3.1	3.1	0.96 U	9.2
K50896	PPT2-2	1997	2.0 - 12.0	NA	0.12 U	0.12 U	0.12 U	0.37	0.49	0.12 U	0.12 U	0.86

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K50897	PPT2-2	1997	12.0 - 24.0	NA	0.56 U	0.56 U	0.56 U	2.6	3.0	0.56 U	0.59	6.2
K50898	PPT2-2	1997	24.0 - 28.0	NA	0.54 U	0.54 U	0.54 U	1.9	1.2	0.54 U	0.54 U	3.1
K50899	PPT2-2	1997	12.0 - 24.0	NA	0.47 U	0.47 U	0.47 U	4.1	0.47 U	0.41 J	0.47 U	4.5 J
K50482	PPT2-4	1997	0.0 - 2.0	36000 J	0.77 U	0.77 U	0.77 U	5.2	0.77 U	0.77 U	0.77 U	5.2
K50483	PPT2-4	1997	2.0 - 6.0	110000 J	0.23 U	0.21 JN	0.23 U	0.48 JN	0.23 U	0.23 U	0.23 U	0.69 J
K50990	PPT3-1	1997	0.0 - 2.0	17000	0.33 U	0.33 U	0.33 U	3.1	0.33 U	0.47	0.33 U	3.6
K50991	PPT3-1	1997	2.0 - 12.0	NA	1.5 U	1.5 U	1.5 U	9.2	1.5 U	0.82 J	1.5 U	10 J
K50992	PPT3-1	1997	12.0 - 17.0	NA	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K51311	PPT3-2	1997	0.0 - 2.0	32000	0.79 U	0.79 U	0.79 U	6.4	0.79 U	0.79 U	0.79 U	6.4
K51312	PPT3-2	1997	2.0 - 12.0	NA	1.2 U	1.2 U	1.2 U	9.3	1.2 U	1.2 U	1.2 U	9.3
K51313	PPT3-2	1997	12.0 - 23.0	NA	0.061 U	0.061 U	0.19	0.061 U	0.061 U	0.061 U	0.061 U	0.19
K50456	PPT3-3	1997	0.0 - 2.0	50000	0.81 U	0.81 U	0.81 U	2.7	0.81 U	0.81 U	0.81 U	2.7
K50457	PPT3-3	1997	2.0 - 8.0	26000	0.071 U	0.071 U	0.17 JN	0.071 U	0.071 U	0.071 U	0.071 U	0.17 J
K50458	PPT3-3	1997	8.0 - 19.0	12000	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U
K50459	PPT3-3	1997	8.0 - 19.0	8600	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U
K51134	PPT4-1	1997	0.0 - 2.0	25000 J	0.13 U	0.13 U	0.13 U	1.1	0.80	0.13 U	0.17	2.1
K51135	PPT4-1	1997	2.0 - 12.0	NA	0.30 U	0.30 U	0.30 U	0.67	0.61	0.30 U	0.30 U	1.3
K50274	PPT4-2	1997	0.0 - 2.0	39000	0.37 U	0.37 U	0.37 U	2.5	0.37 U	0.23 J	0.37 U	2.7 J
K50275	PPT4-2	1997	2.0 - 12.0	9400 J	0.31 UJ	0.31 UJ	0.31 UJ	1.1 J	0.31 UJ	0.31 UJ	0.31 UJ	1.1 J
K50276	PPT4-2	1997	12.0 - 18.0	33000 J	0.65 U	1.1	0.65 U	2.2	0.65 U	0.34 J	0.65 U	3.6 J
K51267	PPT4-3	1997	0.0 - 2.0	29000	0.14 U	0.14 U	0.14 U	1.8	0.29	0.14 U	0.14 J	2.2 J
K51268	PPT4-3	1997	2.0 - 12.0	NA	0.070 U	0.070 U	0.31 JN	0.070 U	0.070 U	0.070 U	0.070 U	0.31 J
K50900	PPT5-1	1997	0.0 - 2.0	19000	0.14 U	0.14 U	0.14 U	1.1	0.14 U	0.12 J	0.14 U	1.2 J
K50901	PPT5-1	1997	2.0 - 12.0	46000	0.13 U	0.13 U	0.13 U	0.35	0.24	0.11 J	0.13 U	0.70 J
K50902	PPT5-1	1997	12.0 - 24.0	31000	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U
K50903	PPT5-1	1997	24.0 - 36.0	120 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K50381	PPT5-2	1997	0.0 - 2.0	NA	0.040 U	0.082 U	0.040 U	0.32 JN	0.040 U	0.17	0.040 U	0.49 J
K50382	PPT5-2	1997	2.0 - 12.0	NA	0.041 U	0.083 U	0.041 U	0.43	0.041 U	0.16	0.041 U	0.59
K50383	PPT5-2	1997	12.0 - 24.0	NA	0.041 U	0.084 U	0.041 U	0.49 J	0.041 U	0.12 J	0.041 U	0.61 J
K50384	PPT5-2	1997	24.0 - 36.0	NA	0.042 U	0.086 U	0.042 U	0.042 U	0.042 U	0.042 U	0.042 U	0.086 U
K50404	PPT5-3	1997	0.0 - 2.0	800 J	0.065 U	0.065 U	0.065 U	0.93	0.065 U	0.065 U	0.065 U	0.93
K50405	PPT5-3	1997	2.0 - 12.0	49000 J	0.72 U	0.72 U	0.72 U	2.3	1.5	0.72 U	0.63 J	4.4 J
K50406	PPT5-3	1997	12.0 - 24.0	3100 J	0.068 U	0.068 U	0.068 U	0.037 J	0.068 U	0.068 U	0.068 U	0.037 J
K50407	PPT5-3	1997	24.0 - 36.0	21000 J	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U
K50408	PPT5-3	1997	12.0 - 24.0	5400 J	0.069 U	0.069 U	0.069 U	0.045 J	0.069 U	0.069 U	0.069 U	0.045 J
K50832	PPT5-4	1997	0.0 - 2.0	9700	0.072 U	0.072 U	0.072 U	0.38 JN	0.49 JN	0.072 U	0.076 JN	0.95 J
K50833	PPT5-4	1997	2.0 - 12.0	12000	0.064 U	0.064 U	0.064 U	0.041 J	0.072	0.064 U	0.064 U	0.11 J
K50979	PPT6-1	1997	0.0 - 2.0	13000	0.057 U	0.057 U	0.057 U	0.057 U	0.20	0.057 U	0.057 U	0.20
K50980	PPT6-1	1997	2.0 - 15.0	38000	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U

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

REMEDIAL INVESTIGATION REPORT
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PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K50981	PPT6-1	1997	2.0 - 15.0	24000	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U
K51120	PPT6-2	1997	0.0 - 2.0	68000	0.062 U	0.062 U	0.062 U	0.099	0.10	0.062 U	0.033 J	0.23 J
K51121	PPT6-2	1997	2.0 - 12.0	2300 J	0.061 U	0.061 U	0.046 J	0.061 U	0.061 U	0.061 U	0.061 U	0.046 J
K51122	PPT6-2	1997	12.0 - 24.0	4400	0.32 U	0.32 U	0.32 U	1.0	0.32 U	0.32 U	0.32 U	1.0
K51123	PPT6-2	1997	24.0 - 29.0	110 UJ	0.057 U	0.057 U	0.057 U	0.14	0.057 U	0.057 U	0.057 U	0.14
K51124	PPT6-2	1997	12.0 - 24.0	3700 J	0.32 U	0.32 U	0.32 U	1.9	0.32 U	0.32 U	0.32 U	1.9
K50662	PPT6-3	1997	0.0 - 2.0	790 J	0.057 U	0.057 U	0.057 U	0.17	0.16	0.057 U	0.057 U	0.33
K50663	PPT6-3	1997	2.0 - 12.0	NA	0.18 U	0.18 U	0.18 U	0.99	0.41	0.22	0.18 U	1.6
K51432	PPT7-1	1997	0.0 - 2.0	34000	0.45 U	0.45 U	0.45 U	1.3	0.97	0.45 U	0.45 U	2.3
K51433	PPT7-1	1997	2.0 - 12.0	17000	0.14 U	0.14 U	0.14 U	0.51	0.30	0.16	0.14 U	0.97
K51434	PPT7-1	1997	12.0 - 24.0	11000 J	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K51435	PPT7-1	1997	2.0 - 12.0	22000	0.14 U	0.14 U	0.14 U	1.3	0.14 U	0.31	0.095 J	1.7 J
K50625	PPT7-2	1997	0.0 - 2.0	8300	0.062 U	0.062 U	0.062 U	0.47	0.31	0.062 U	0.062 U	0.78
K50626	PPT7-2	1997	2.0 - 12.0	41000	0.35 U	0.35 U	0.35 U	3.6	0.35 U	0.47	0.35 U	4.1
K50627	PPT7-2	1997	12.0 - 24.0	5500	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K50628	PPT7-2	1997	24.0 - 36.0	20000	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K51411	PPT7-3	1997	0.0 - 2.0	6500	0.054 U	0.054 U	0.054 U	0.11	0.15	0.068 J	0.054 U	0.33 J
K51412	PPT7-3	1997	2.0 - 6.0	NA	0.059 U	0.059 U	0.059 U	0.56	0.47	0.059 U	0.076	1.1
K51413	PPT7-3	1997	6.0 - 12.0	NA	0.46 U	0.46 U	0.46 U	3.9	2.8	0.46 U	0.69	7.4
K51414	PPT7-3	1997	12.0 - 24.0	NA	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
K51415	PPT7-3	1997	24.0 - 36.0	NA	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K50859	PPT7-4	1997	0.0 - 2.0	2600	0.064 U	0.064 U	0.064 U	0.13	0.19	0.064 U	0.064 U	0.32
K50860	PPT7-4	1997	2.0 - 12.0	3100 J	0.12 U	0.12 U	0.12 U	0.87	0.12 U	0.12 U	0.15	1.0
K50861	PPT7-4	1997	12.0 - 24.0	37000	0.39 U	0.39 U	0.39 U	3.7	0.39 U	0.29 J	0.39 U	4.0 J
K50862	PPT7-4	1997	24.0 - 36.0	190 J	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K50233	PPT8-1	1997	0.0 - 2.0	100 U	0.13 U	0.13 U	0.13 U	0.70	0.48	0.13 U	0.13 U	1.2
K50234	PPT8-1	1997	2.0 - 12.0	6400 J	0.13 UJ	0.13 UJ	0.13 UJ	0.42 J	0.25 J	0.13 UJ	0.13 UJ	0.67 J
K50235	PPT8-1	1997	12.0 - 24.0	14000	0.068 U	0.068 U	0.068 U	0.45	0.068 U	0.068 U	0.068 U	0.45
K50236	PPT8-1	1997	24.0 - 30.0	400 J	0.059 U	0.059 U	0.059 U	0.036 J	0.059 U	0.059 U	0.059 U	0.036 J
K51405	PPT8-2	1997	0.0 - 2.0	4300 J	0.13 U	0.13 U	0.13 U	0.71	0.14	0.13 U	0.13 U	0.85
K51406	PPT8-2	1997	2.0 - 14.0	13000 J	0.056 U	0.056 U	0.056 U	0.79	0.66	0.056 U	0.088	1.5
K51407	PPT8-2	1997	14.0 - 26.0	45000	0.34 U	0.34 U	0.34 U	3.0	1.0	0.62 J	0.34 U	4.6 J
K51408	PPT8-2	1997	26.0 - 30.0	10000	0.66 U	0.66 U	0.66 U	6.8	0.66 U	0.66 U	0.64 J	7.4 J
K51409	PPT8-2	1997	30.0 - 36.0	6400	0.32 U	0.32 U	0.32 U	2.1	0.32 U	0.32 J	0.32 U	2.4 J
K51410	PPT8-2	1997	26.0 - 30.0	25000	0.65 U	0.65 U	0.65 U	3.6	0.65 U	0.96 J	0.65 U	4.6 J
K51396	PPT8-3	1997	0.0 - 2.0	8800	0.13 U	0.13 U	0.13 U	1.0	0.13 U	0.13 U	0.13 U	1.0
K51397	PPT8-3	1997	2.0 - 12.0	15000	0.34 U	0.34 U	0.34 U	2.8	0.34 U	0.34 U	0.34 U	2.8
K51398	PPT8-3	1997	12.0 - 24.0	40000	1.7 U	1.7 U	1.7 U	18	1.7 U	1.2 J	1.7 U	19 J
K51399	PPT8-3	1997	24.0 - 36.0	94000	0.089 U	0.089 U	0.089 U	0.58	0.089 U	0.19	0.089 U	0.77

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (in)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51400	PPT8-3	1997	36.0 - 46.0	10000	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U
K51401	PPT8-3	1997	24.0 - 36.0	52000	0.091 U	0.091 U	0.091 U	0.35	0.091 U	0.21	0.091 U	0.56
K50195	PPT9-1	1997	0.0 - 2.0	15000 J	6.5 U	6.5 U	6.5 U	6.5 U	6.5 U	69	5.5 J	75 J
K50196	PPT9-1	1997	2.0 - 12.0	11000	0.62 UJ	0.62 UJ	0.62 UJ	2.0 J	0.62 UJ	3.4 J	0.35 J	5.8 J
K50197	PPT9-1	1997	12.0 - 24.0	40000	0.10 JN	0.16 JN	0.081 UJ	0.081 UJ	0.081 UJ	0.081 UJ	0.081 UJ	0.26 J
K50198	PPT9-1	1997	24.0 - 28.0	62000	0.045 JN	0.13 JN	0.077 UJ	0.077 UJ	0.077 UJ	0.077 UJ	0.077 UJ	0.18 J
K50199	PPT9-1	1997	12.0 - 24.0	42000 J	0.19 JN	0.35 JN	0.088 UJ	0.088 UJ	0.088 UJ	0.088 UJ	0.088 UJ	0.54 J
K50147	PPT9-2	1997	0.0 - 2.0	11000	0.30 U	0.30 U	0.30 U	1.3	0.30 U	0.30 U	0.30 U	1.3
K50148	PPT9-2	1997	2.0 - 12.0	NA	0.30 U	0.30 U	0.30 U	2.4	0.30 U	0.30 U	0.30 U	2.4
K50149	PPT9-2	1997	12.0 - 24.0	NA	0.59 U	0.59 U	0.59 U	5.1	0.59 U	0.59 U	0.59 U	5.1
K50150	PPT9-2	1997	24.0 - 28.0	NA	1.5 U	1.5 U	1.5 U	14	1.5 U	1.5 U	1.5 U	14
K50151	PPT9-2	1997	28.0 - 38.0	NA	0.057 U	0.057 U	0.057 U	0.73	0.057 U	0.057 U	0.057 U	0.73
K50263	PPT9-3	1997	0.0 - 2.0	87000	0.16 U	0.16 U	0.16 U	1.0	0.16 U	0.13 J	0.16 U	1.1 J
K50264	PPT9-3	1997	2.0 - 7.0	NA	0.13 U	0.13 U	0.13 U	0.45	0.31	0.19	0.13 U	0.95
K50265	PPT9-3	1997	7.0 - 18.0	NA	0.17 U	0.17 U	0.17 U	1.4	0.17 U	0.17 U	0.17 U	1.4
K50266	PPT9-3	1997	18.0 - 24.0	NA	0.17 U	0.17 U	0.17 U	0.73	0.36	0.17 U	0.17 U	1.1
K50267	PPT9-3	1997	24.0 - 27.0	NA	0.053 U	0.053 U	0.053 U	0.088	0.22	0.053 U	0.053 U	0.31
K50160	PPT10-1	1997	0.0 - 2.0	24000 J	0.67 U	0.67 U	0.67 U	4.8	0.67 U	0.42 J	0.67 U	5.2 J
K50161	PPT10-1	1997	2.0 - 10.0	55000	1.5 U	1.5 U	1.5 U	19	1.5 U	1.5 U	1.5 U	19
K50162	PPT10-1	1997	10.0 - 12.0	5700 J	0.061 U	0.061 U	0.061 U	0.44	0.061 U	0.061 U	0.061 U	0.44
K50385	PPT10-2	1997	0.0 - 2.0	100 U	0.060 UJ	0.060 UJ	0.060 UJ	0.28 J	0.060 UJ	0.060 UJ	0.060 UJ	0.28 J
K50386	PPT10-2	1997	2.0 - 6.0	1300 J	0.62 U	0.62 U	0.62 U	4.8	0.62 U	0.62 U	0.62 U	4.8
K50387	PPT10-2	1997	6.0 - 18.0	18000	4.3 U	4.3 U	4.3 U	34	4.3 U	4.3 U	2.9 J	37 J
K50388	PPT10-2	1997	18.0 - 24.0	3700	0.062 U	0.062 U	0.062 U	0.36	0.062 U	0.062 U	0.062 U	0.36
K50389	PPT10-2	1997	6.0 - 18.0	NA	4.3 U	4.3 U	4.3 U	20	4.3 U	4.3 U	4.3 U	20
K50923	PPT10-3	1997	0.0 - 2.0	13000 J	0.057 U	0.057 U	0.057 U	0.13 JN	0.25 JN	0.057 U	0.057 U	0.38 J
K50924	PPT10-3	1997	2.0 - 12.0	NA	1.2 U	1.2 U	1.2 U	5.5	3.3	1.2 U	1.2 U	8.8
K50925	PPT10-3	1997	12.0 - 20.0	NA	0.14 U	0.14 U	2.2 JN	0.14 U	0.14 U	0.14 U	0.14 U	2.2 J
K50926	PPT10-3	1997	20.0 - 25.0	NA	0.060 U	0.10 JN	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.10 J
K50200	PPT11-1	1997	0.0 - 2.0	6000 J	0.056 UJ	0.056 UJ	0.056 UJ	0.60 J	0.056 UJ	0.098 J	0.050 J	0.75 J
K50201	PPT11-1	1997	2.0 - 12.0	NA	0.094 UJ	0.094 UJ	0.094 UJ	0.58 J	0.094 UJ	0.10 J	0.10 J	0.78 J
K50202	PPT11-1	1997	12.0 - 20.0	NA	0.082 UJ	0.082 UJ	0.082 UJ	0.082 UJ	0.082 UJ	0.082 UJ	0.082 UJ	0.082 UJ
K50203	PPT11-1	1997	20.0 - 24.0	NA	0.062 UJ	0.062 UJ	0.062 UJ	0.062 UJ	0.062 UJ	0.062 UJ	0.062 UJ	0.062 UJ
K50271	PPT11-2	1997	0.0 - 2.0	160000	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K50272	PPT11-2	1997	2.0 - 12.0	NA	0.058 U	0.058 U	0.46 JN	0.058 U	0.058 U	0.058 U	0.058 U	0.46 J
K50273	PPT11-2	1997	2.0 - 12.0	NA	0.37 U	0.37 U	0.37 U	2.0	0.37 U	0.37 U	0.37 U	2.0
K51335	PPT11-3	1997	0.0 - 2.0	14000 J	0.057 U	0.057 U	0.057 U	0.079	0.11	0.057 U	0.057 U	0.19
K51336	PPT11-3	1997	2.0 - 7.0	NA	1.5 U	1.5 U	1.5 U	4.2	1.5 U	1.5 U	1.5 U	4.2
K51337	PPT11-3	1997	7.0 - 12.0	NA	3.1 U	3.1 U	3.1 U	15	3.1 U	3.1 U	3.1 U	15

See notes on page 65.

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
PCB ANALYSIS RESULTS

Sample ID	Location	Analysis Year	Depth Increment (ft)	Total Organic Carbon (mg/kg)	Aroclor-1016 (mg/kg)	Aroclor-1221 (mg/kg)	Aroclor-1232 (mg/kg)	Aroclor-1242 (mg/kg)	Aroclor-1248 (mg/kg)	Aroclor-1254 (mg/kg)	Aroclor-1260 (mg/kg)	Total PCBs (mg/kg)
K51338	PPT11-3	1997	12.0 - 18.0	NA	0.34 U	0.34 U	2.7 JN	0.34 U	0.34 U	0.34 U	0.34 U	2.7 J
K51436	PPT12-3	1997	0.0 - 2.0	6800	0.069 U	0.069 U	0.069 U	1.2 E	0.069 U	0.069 U	0.069 U	1.2
K51437	PPT12-3	1997	2.0 - 12.0	NA	0.14 U	0.14 U	0.14 U	1.2	0.14 U	0.14 U	0.14 U	1.2
K51114	PPT13-1	1997	0.0 - 2.0	21000	0.16 U	0.16 U	0.16 U	0.36	0.30	0.11 J	0.16 U	0.77 J
K51115	PPT13-1	1997	2.0 - 11.0	16000	0.064 U	0.064 U	0.064 U	0.12	0.15	0.062 J	0.064 U	0.33 J
K51373	PPT14-1	1997	0.0 - 2.0	50000 J	0.066 U	0.066 U	0.066 U	0.62	0.066 U	0.066 U	0.066 U	0.62
K51374	PPT14-1	1997	2.0 - 6.0	NA	0.059 U	0.059 U	0.059 U	0.34	0.059 U	0.059 U	0.059 U	0.34
K50697	PPT14-3	1997	0.0 - 2.0	12000	0.14 U	0.14 U	0.14 U	0.66	0.44	0.14 U	0.14 U	1.1
K50698	PPT14-3	1997	2.0 - 11.0	5700	0.066 U	0.066 U	0.066 U	0.26	0.33	0.081	0.066 U	0.67
K50699	PPT14-3	1997	2.0 - 11.0	NA	0.064 U	0.064 U	0.064 U	0.34	0.46	0.064 U	0.064 U	0.80
K50505	PPT15-2	1997	0.0 - 2.0	2500	0.11 U	0.11 U	0.11 U	0.92	0.53	0.11 U	0.11 U	1.5
K50506	PPT15-2	1997	2.0 - 12.0	8800	0.30 U	0.30 U	0.30 U	3.3	0.30 U	0.30 U	0.30 U	3.3
K51321	PPT15-3	1997	0.0 - 2.0	15000 J	0.32 U	0.32 U	0.32 U	1.9	0.23 J	0.32 U	0.32 U	2.1 J
K51322	PPT15-3	1997	2.0 - 6.0	46000	0.66 U	0.66 U	0.66 U	4.7	3.5	0.66 U	0.66 U	8.2

NOTES:

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

N - The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

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

UJ - The compound was not detected above the sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantification.

NA - Sample not analyzed.

See notes on page 65.

TABLE 4

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SUMMARY OF DETECTED VOLATILE ORGANIC COMPOUNDS

Sample Location	KPT20-2	KPT20-2	KPT49-1	KPT49-1	KPT49-1	KPT65-3	KPT65-3	KPT92-7	KPT92-7	KPT92-7	KPT92-7
Depth (ft)	0.00-0.17	0.17-1.08	0.00-0.17	0.17-1.00	1.00-2.00	0.00-0.17	0.17-0.83	0.00-0.17	0.17-1.00	1.00-2.42	2.42-3.00
Sample ID	K51092	K51093	K51148	K51149	K51150	K50515	K50516	K51296	K51297	K51298	K51299
acetone	ND (0.012 U)	ND (0.011 U)	ND (0.14 U)	ND (0.057 U)	ND (0.026 U)	0.19 BJ	0.30 EBJ	0.0090 J	0.024	ND (0.012 U)	0.81
benzene	ND (0.012 U)	ND (0.011 U)	ND (0.025 U)	ND (0.015 U)	ND (0.013 U)	ND (0.015 U)	ND (0.015 U)	ND (0.012 U)	ND (0.012 U)	ND (0.012 U)	ND (0.13 U)
2-butanone	ND (0.012 U)	ND (0.011 U)	ND (0.025 U)	ND (0.015 U)	ND (0.013 U)	0.048	0.065	ND (0.012 U)	ND (0.012 U)	ND (0.012 U)	0.26
carbon disulfide	ND (0.012 U)	ND (0.011 U)	0.0040 J	0.0020 J	0.0010 J	0.0060 J	0.011 J	ND (0.012 U)	ND (0.012 U)	ND (0.012 U)	0.018 J
chlorobenzene	ND (0.012 U)	ND (0.011 U)	0.015 J	ND (0.015 U)	ND (0.013 U)	0.0040 J	ND (0.015 U)	ND (0.012 U)	ND (0.012 U)	ND (0.012 U)	ND (0.13 U)
chloroform	ND (0.012 U)	ND (0.011 U)	ND (0.025 U)	ND (0.015 U)	ND (0.013 U)	ND (0.015 U)	ND (0.015 U)	ND (0.012 U)	ND (0.012 U)	ND (0.012 U)	ND (0.13 U)
ethylbenzene	ND (0.012 U)	ND (0.011 U)	ND (0.025 U)	ND (0.015 U)	ND (0.013 U)	ND (0.015 U)	ND (0.015 U)	ND (0.012 U)	ND (0.012 U)	ND (0.012 U)	ND (0.13 U)
methylene chloride	0.0020 J	ND (0.011 U)	ND (0.025 U)	0.0040 J	ND (0.013 U)	0.024	0.020	0.010 J	ND (0.012 U)	0.0070 J	0.25
tetrachloroethene	ND (0.012 U)	0.0010 J	0.0030 J	0.0020 J	ND (0.013 U)	0.0020 J	ND (0.015 U)	ND (0.012 U)	ND (0.012 U)	ND (0.012 U)	ND (0.13 U)
toluene	ND (0.012 U)	ND (0.011 U)	0.0050 J	0.0020 J	0.0020 J	0.0070 J	0.012 J	ND (0.012 U)	ND (0.012 U)	ND (0.012 U)	0.012 J
trichloroethene	ND (0.012 U)	ND (0.011 U)	ND (0.025 U)	ND (0.015 U)	ND (0.013 U)	0.0080 J	0.0040 J	0.0040 J	ND (0.012 U)	ND (0.012 U)	0.014 J
xylenes	ND (0.012 U)	ND (0.011 U)	ND (0.025 U)	ND (0.015 U)	ND (0.013 U)	ND (0.015 U)	ND (0.015 U)	ND (0.012 U)	ND (0.012 U)	ND (0.012 U)	ND (0.13 U)

Sample Location	KPT92-7	KPT92-7	KPT104-1	KPT104-1	KPT104-1	KPT104-1	KPT122-2	KPT122-2	KPT122-2	KPT122-2	KPT130-1
Depth (ft)	3.00-4.00	3.00-4.00 (dup)	0.00-0.17	0.17-1.00 (dup)	1.00-1.50	0.17-1.00	0.00-0.17	0.17-1.00	1.00-2.00	1.00-2.00 (dup)	0.00-0.17
Sample ID	K51300	K51301	K51254	K51255	K51256	K51257	K51390	K51391	K51392	K51393	K50313
acetone	2.0 DJ	1.9 D	0.37 J	0.41 J	0.047	2.2 DJ	ND (8.6 U)	ND (3.7 UJ)	ND (1.6 UJ)	ND (1.5 UJ)	0.11 BJ
benzene	ND (0.026 U)	ND (0.026 U)	ND (0.024 U)	ND (0.021 U)	ND (0.014 U)	ND (0.021 U)	ND (8.6 U)	ND (3.7 U)	ND (1.6 U)	ND (1.5 U)	ND (0.043 U)
2-butanone	0.66 DJ	0.54 DJ	0.11 J	0.11 J	ND (0.014 U)	0.68 DJ	ND (8.6 UJ)	ND (3.7 UJ)	ND (1.6 UJ)	ND (1.5 UJ)	0.022 J
carbon disulfide	0.0090 J	0.010 J	0.0050 J	0.0030 J	ND (0.014 U)	0.0070 J	ND (8.6 U)	ND (3.7 U)	ND (1.6 U)	ND (1.5 U)	ND (0.043 U)
chlorobenzene	0.0040 J	0.0030 J	0.0090 J	0.0020 J	ND (0.014 U)	0.0030 J	ND (8.6 U)	ND (3.7 U)	ND (1.6 U)	ND (1.5 U)	ND (0.043 U)
chloroform	ND (0.026 U)	ND (0.026 U)	ND (0.024 U)	ND (0.021 U)	ND (0.014 U)	ND (0.021 U)	ND (8.6 U)	ND (3.7 U)	ND (1.6 U)	ND (1.5 U)	ND (0.043 U)
ethylbenzene	ND (0.026 U)	ND (0.026 U)	ND (0.024 U)	ND (0.021 U)	ND (0.014 U)	ND (0.021 U)	ND (8.6 U)	ND (3.7 U)	ND (1.6 U)	ND (1.5 U)	ND (0.043 U)
methylene chloride	0.27	0.18	0.039	0.026	0.0070 J	0.019 J	55 J	34 J	0.80 J	2.4	0.72 D
tetrachloroethene	ND (0.026 U)	ND (0.026 U)	ND (0.024 U)	0.0020 J	0.0020 J	ND (0.021 U)	ND (8.6 U)	ND (3.7 U)	ND (1.6 U)	ND (1.5 U)	ND (0.043 U)
toluene	0.0080 J	0.0040 J	ND (0.024 U)	0.0040 J	0.0050 J	0.0030 J	ND (8.6 U)	ND (3.7 U)	ND (1.6 U)	ND (1.5 U)	0.011 J
trichloroethene	0.011 J	0.0090 J	0.0040 J	ND (0.021 U)	0.0020 J	ND (0.021 U)	140	58 J	2.1	5.4	0.23
xylenes	ND (0.026 U)	ND (0.026 U)	ND (0.024 U)	ND (0.021 U)	ND (0.014 U)	ND (0.021 U)	ND (8.6 U)	ND (3.7 U)	ND (1.6 U)	ND (1.5 U)	ND (0.043 U)

See notes on page 2

TABLE 4

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SUMMARY OF DETECTED VOLATILE ORGANIC COMPOUNDS

Sample Location	KPT130-1	KPT130-1	KPT130-1	KPT157-1	KPT157-1	KPT157-1	KPT157-1	PPT5-2	PPT5-2	PPT5-2	PPT5-2
Depth (ft)	0.17-1.00	1.00-2.00	2.00-3.00	0.00-0.17	0.17-1.00	1.00-2.00	2.00-2.58	0.00-0.17	0.17-1.00	1.00-2.00	2.00-3.00
Sample ID	K50314	K50315	K50316	K50579	K50580	K50581	K50582	K50381	K50382	K50383	K50384
acetone	0.54 BJ	ND (0.012 U)	ND (0.016 U)	ND (0.12 U)	ND (0.083 U)	ND (0.083 U)	ND (0.094 U)	ND (0.016 U)	0.089 BJ	ND (0.037 U)	ND (0.021 U)
benzene	ND (0.12 U)	ND (0.012 U)	ND (0.012 U)	ND (0.022 U)	ND (0.016 U)	ND (0.059 U)	ND (0.067 U)	ND (0.012 U)	ND (0.012 U)	ND (0.012 U)	0.0010 J
2-butanone	0.10 J	ND (0.012 U)	ND (0.012 U)	0.020 J	0.019	ND (0.059 U)	ND (0.067 U)	ND (0.012 U)	0.018	ND (0.012 U)	ND (0.013 U)
carbon disulfide	ND (0.12 U)	ND (0.012 U)	ND (0.012 U)	0.0060 J	0.0030 J	ND (0.059 U)	ND (0.067 U)	0.0010 J	0.0020 J	0.0010 J	0.0020 J
chlorobenzene	ND (0.12 U)	ND (0.012 U)	ND (0.012 U)	0.0060 J	ND (0.016 U)	0.0090 J	0.0070 J	0.0050 J	0.0010 J	0.0020 J	0.0020 J
chloroform	ND (0.12 U)	ND (0.012 U)	ND (0.012 U)	0.0020 J	ND (0.016 U)	ND (0.059 U)	ND (0.067 U)	ND (0.012 U)	ND (0.012 U)	ND (0.012 U)	ND (0.013 U)
ethylbenzene	ND (0.12 U)	ND (0.012 U)	ND (0.012 U)	ND (0.022 U)	ND (0.016 U)	ND (0.059 U)	0.0080 J	ND (0.012 U)	ND (0.012 U)	ND (0.012 U)	0.0020 J
methylene chloride	0.55	ND (0.012 U)	0.0010 J	0.49 D	0.041	0.42	0.20	0.019	0.037	0.0050 J	0.016
tetrachloroethene	ND (0.12 U)	ND (0.012 U)	ND (0.012 U)	ND (0.022 U)	0.0030 J	0.019 J	0.036 J	0.0020 J	0.0010 J	ND (0.012 U)	0.0050 J
toluene	0.039 J	ND (0.012 U)	ND (0.012 U)	0.0070 J	0.0050 J	0.18	0.10	0.0080 J	0.024	0.012 J	0.048
trichloroethene	0.026 J	ND (0.012 U)	ND (0.012 U)	0.25	0.0040 J	0.022 J	0.013 J	ND (0.012 U)	0.0010 J	ND (0.012 U)	ND (0.013 U)
xylenes	ND (0.12 U)	ND (0.012 U)	ND (0.012 U)	ND (0.022 U)	ND (0.016 U)	0.010 J	0.017 J	ND (0.012 U)	0.0030 J	ND (0.012 U)	0.0050 J

Notes:

B - The compound has been found in the sample as well as its associated blank; its presence in the sample may be suspect.

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

D - Concentration was based on a diluted sample analysis

ND - Not detected.

U - The compound was analyzed for but nor detected The associated value is the compound quantitation limit.

TABLE 5

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SUMMARY OF DETECTED SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location	KPT20-2	KPT20-2	KPT49-1	KPT49-1	KPT49-1	KPT65-3	KPT65-3	KPT92-7	KPT92-7	KPT92-7	KPT92-7
Depth (ft)	0.00-0.17	0.17-1.08	0.00-0.17	0.17-1.00	1.00-2.00	0.00-0.17	0.17-0.83	0.00-0.17	0.17-1.00	1.00-2.42	2.42-3.00
Sample ID	K51092	K51093	K51148	K51149	K51150	K50515	K50516	K51296	K51297	K51298	K51299
acenaphthene	0.044 J	ND (0.38 U)	0.11 J	ND (0.50 U)	ND (0.42 U)	0.080 J	0.039 J	ND (0.41 U)	ND (0.38 U)	ND (0.39 U)	ND (1.7 U)
acenaphthylene	ND (0.40 U)	ND (0.38 U)	0.070 J	ND (0.50 U)	ND (0.42 U)	0.11 J	ND (0.49 U)	ND (0.41 U)	ND (0.38 U)	ND (0.39 U)	ND (1.7 U)
anthracene	0.092 J	0.030 J	0.33 J	0.086 J	ND (0.42 U)	0.26 J	0.056 J	ND (0.41 U)	ND (0.38 U)	ND (0.39 U)	0.16 J
benzo(a)anthracene	0.38 J	0.097 J	1.5	0.46 J	ND (0.42 U)	1.2 J	0.23 J	ND (0.41 U)	0.019 J	ND (0.39 U)	1.0 J
benzo(b)fluoranthene	0.73	0.19 J	2.3 J	0.60	ND (0.42 U)	1.1 J	0.22 J	ND (0.41 U)	ND (0.38 U)	ND (0.39 U)	1.1 J
benzo(k)fluoranthene	ND (0.40 U)	ND (0.38 U)	ND (0.82 UJ)	ND (0.50 U)	ND (0.42 U)	ND (1.2 UJ)	0.16 J	ND (0.41 U)	ND (0.38 U)	ND (0.39 U)	ND (1.7 U)
benzo(g,h,i)perylene	0.27 J	0.090 J	1.2 J	0.27 J	ND (0.42 U)	0.81 J	0.21 J	ND (0.41 U)	ND (0.38 U)	ND (0.39 U)	0.72 J
benzo(a)pyrene	0.36 J	0.11 J	1.4 J	0.38 J	ND (0.42 U)	0.89 J	0.20 J	ND (0.41 U)	ND (0.38 U)	ND (0.39 U)	0.77 J
butyl benzyl phthalate	0.061 J	ND (0.38 U)	0.086 J	ND (0.50 U)	ND (0.42 U)	ND (1.2 U)	ND (0.49 U)	ND (0.41 U)	ND (0.38 U)	ND (0.39 U)	ND (1.7 U)
carbazole	0.077 J	ND (0.38 U)	ND (0.82 U)	ND (0.50 U)	ND (0.42 U)	ND (1.2 U)	ND (0.49 U)	ND (0.41 U)	ND (0.38 U)	ND (0.39 U)	ND (1.7 U)
chrysene	0.45	0.11 J	1.6	0.41 J	ND (0.42 U)	1.0 J	0.25 J	ND (0.41 U)	0.021 J	ND (0.39 U)	1.0 J
dibenz(a,h)anthracene	0.13 J	0.042 J	0.37 J	0.11 J	ND (0.42 U)	0.29 J	0.098 J	ND (0.41 U)	ND (0.38 U)	ND (0.39 U)	0.21 J
dibenzofuran	0.024 J	ND (0.38 U)	0.068 J	ND (0.50 U)	ND (0.42 U)	ND (1.2 U)	ND (0.49 U)	ND (0.41 U)	ND (0.38 U)	ND (0.39 U)	ND (1.7 U)
di-n-butylphthalate	ND (0.40 U)	ND (0.38 U)	ND (0.82 U)	ND (0.50 U)	ND (0.42 U)	ND (1.2 U)	ND (0.49 U)	ND (0.41 U)	ND (0.38 U)	ND (0.39 U)	ND (1.7 U)
di-n-octyl phthalate	ND (0.40 UJ)	ND (0.38 U)	0.057 J	ND (0.50 UJ)	ND (0.42 U)	ND (1.2 UJ)	ND (0.49 UJ)	ND (0.41 U)	ND (0.38 U)	ND (0.39 UJ)	ND (1.7 U)
bis(2-ethylhexyl)phthalate	0.32 J	0.11 J	2.3	0.075 J	ND (0.42 U)	ND (1.2 U)	ND (0.49 U)	ND (0.41 U)	ND (0.38 U)	0.034 J	ND (1.7 U)
fluoranthene	0.95	0.21 J	2.6	0.43 J	0.032 J	1.3	0.39 J	ND (0.41 U)	0.040 J	ND (0.39 U)	1.1 J
fluorene	0.048 J	ND (0.38 U)	0.15 J	ND (0.50 U)	ND (0.42 U)	0.12 J	0.038 J	ND (0.41 U)	ND (0.38 U)	ND (0.39 U)	0.14 J
indeno(1,2,3-cd)pyrene	0.27 J	0.079 J	1.0 J	0.23 J	ND (0.42 U)	0.56 J	0.15 J	ND (0.41 U)	ND (0.38 U)	ND (0.39 U)	0.53 J
2-methylnaphthalene	ND (0.40 U)	ND (0.38 U)	0.064 J	ND (0.50 U)	ND (0.42 U)	ND (1.2 U)	ND (0.49 U)	ND (0.41 U)	ND (0.38 U)	ND (0.39 U)	0.18 J
2-methylphenol	ND (0.40 U)	ND (0.38 U)	0.048 J	ND (0.50 U)	ND (0.42 U)	ND (1.2 U)	ND (0.49 U)	ND (0.41 U)	ND (0.38 U)	ND (0.39 U)	ND (1.7 U)
4-methylphenol	0.10 J	ND (0.38 U)	4.0	0.12 J	ND (0.42 U)	ND (1.2 U)	ND (0.49 U)	ND (0.41 U)	ND (0.38 U)	ND (0.39 U)	0.30 J
naphthalene	ND (0.40 U)	ND (0.38 U)	0.082 J	ND (0.50 U)	ND (0.42 U)	ND (1.2 U)	ND (0.49 U)	ND (0.41 U)	ND (0.38 U)	ND (0.39 U)	ND (1.7 U)
phenanthrene	0.63	0.15 J	1.6	0.17 J	ND (0.42 U)	0.59 J	0.13 J	ND (0.41 U)	0.022 J	ND (0.39 U)	0.94 J
phenol	ND (0.40 U)	ND (0.38 U)	0.19 J	ND (0.50 U)	ND (0.42 U)	ND (1.2 U)	ND (0.49 U)	ND (0.41 U)	ND (0.38 U)	ND (0.39 U)	ND (1.7 U)
pyrene	0.83	0.24 J	3.6	0.91	0.10 J	3.1	0.47 J	0.020 J	0.040 J	ND (0.39 U)	2.8

See notes on page 3

TABLE 5

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SUMMARY OF DETECTED SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location	KPT92-7	KPT92-7	KPT104-1	KPT104-1	KPT104-1	KPT104-1	KPT122-2	KPT122-2	KPT122-2	KPT122-2	KPT130-1
Depth (ft)	3.00-4.00	3.00-4.00 (dup)	0.00-0.17	0.17-1.00	1.00-1.50	0.17-1.00 (dup)	0.00-0.17	0.17-1.00	1.00-2.00	1.00-2.00 (dup)	0.00-0.17
Sample ID	K51300	K51301	K51254	K51255	K51256	K51257	K51390	K51391	K51392	K51393	K50313
acenaphthene	ND (2.9 U)	ND (4.3 U)	ND (3.9 U)	ND (3.4 U)	ND (0.52 U)	ND (0.69 U)	ND (3.1 U)	ND (1.5 U)	ND (0.44 U)	ND (0.43 U)	ND (1.1 U)
acenaphthylene	0.18 J	0.24 J	ND (3.9 U)	ND (3.4 U)	ND (0.52 U)	ND (0.69 U)	ND (3.1 U)	ND (1.5 U)	ND (0.44 U)	ND (0.43 U)	ND (1.1 U)
anthracene	0.40 J	0.54 J	ND (3.9 U)	ND (3.4 U)	ND (0.52 U)	0.033 J	ND (3.1 U)	ND (1.5 U)	ND (0.44 U)	0.024 J	0.065 J
benzo(a)anthracene	1.8 J	2.4 J	0.37 J	0.40 J	0.081 J	0.30 J	0.52 J	0.35 J	0.047 J	0.13 J	0.30 J
benzo(b)fluoranthene	2.1 J	2.9 J	0.35 J	0.57 J	0.068 J	0.36 J	1.8 J	0.76 J	0.080 J	0.19 J	0.59 J
benzo(k)fluoranthene	ND (2.9 UJ)	ND (4.3 UJ)	0.26 J	ND (3.4 U)	0.056 J	ND (0.69 UJ)	ND (3.1 U)	ND (1.5 U)	ND (0.44 UJ)	ND (0.43 UJ)	ND (1.1 U)
benzo(g,h,i)perylene	1.3 J	1.4 J	0.34 J	0.38 J	0.092 J	0.23 J	0.47 J	0.47 J	0.053 J	0.11 J	0.26 J
benzo(a)pyrene	1.5 J	2.0 J	0.31 J	0.32 J	0.068 J	0.20 J	0.74 J	0.39 J	0.036 J	0.12 J	0.32 J
butyl benzyl phthalate	ND (2.9 U)	ND (4.3 U)	ND (3.9 U)	ND (3.4 U)	ND (0.52 U)	ND (0.69 U)	ND (3.1 U)	0.10 J	ND (0.44 U)	ND (0.43 U)	ND (1.1 U)
carbazole	ND (2.9 U)	ND (4.3 U)	ND (3.9 U)	ND (3.4 U)	ND (0.52 U)	ND (0.69 U)	ND (3.1 U)	ND (1.5 U)	ND (0.44 U)	ND (0.43 U)	ND (1.1 U)
chrysene	1.9 J	2.6 J	0.51 J	0.52 J	0.086 J	0.29 J	0.56 J	0.44 J	0.064 J	0.14 J	0.41 J
dibenz(a,h)anthracene	0.41 J	0.42 J	ND (3.9 U)	ND (3.4 U)	0.025 J	0.084 J	ND (3.1 U)	0.099 J	ND (0.44 UJ)	0.022 J	ND (1.1 U)
dibenzofuran	ND (2.9 U)	ND (4.3 U)	ND (3.9 U)	ND (3.4 U)	ND (0.52 U)	ND (0.69 U)	ND (3.1 U)	ND (1.5 U)	ND (0.44 U)	ND (0.43 U)	ND (1.1 U)
di-n-butylphthalate	ND (2.9 U)	ND (4.3 U)	ND (3.9 U)	ND (3.4 U)	ND (0.52 U)	ND (0.69 U)	7.3	0.22 J	0.058 J	0.031 J	ND (1.1 U)
di-n-octyl phthalate	ND (2.9 UJ)	ND (4.3 UJ)	ND (3.9 U)	ND (3.4 U)	ND (0.52 U)	ND (0.69 UJ)	ND (3.1 U)	ND (1.5 U)	ND (0.44 UJ)	ND (0.43 UJ)	ND (1.1 U)
bis(2-ethylhexyl)phthalate	ND (2.9 U)	ND (4.3 U)	ND (3.9 U)	ND (3.4 U)	ND (0.52 U)	ND (0.69 U)	1.5 J	1.8	0.12 J	0.074 J	0.46 J
fluoranthene	2.3 J	3.1 J	0.52 J	0.58 J	0.12 J	0.34 J	1.8 J	0.71 J	0.077 J	0.21 J	0.74 J
fluorene	ND (2.9 U)	ND (4.3 U)	ND (3.9 U)	ND (3.4 U)	ND (0.52 U)	ND (0.69 U)	ND (3.1 U)	ND (1.5 U)	ND (0.44 U)	ND (0.43 U)	ND (1.1 U)
indeno(1,2,3-cd)pyrene	0.83 J	1.2 J	0.26 J	0.29 J	0.072 J	0.16 J	0.42 J	0.30 J	0.043 J	0.089 J	0.22 J
2-methylnaphthalene	0.18 J	0.24 J	ND (3.9 U)	ND (3.4 U)	ND (0.52 U)	ND (0.69 U)	ND (3.1 U)	ND (1.5 U)	ND (0.44 U)	ND (0.43 U)	ND (1.1 U)
2-methylphenol	ND (2.9 U)	ND (4.3 U)	ND (3.9 U)	ND (3.4 U)	ND (0.52 U)	ND (0.69 U)	ND (3.1 U)	ND (1.5 U)	ND (0.44 U)	ND (0.43 U)	ND (1.1 U)
4-methylphenol	3.2	1.3 J	0.79 J	2.0 J	0.13 J	1.6	0.92 J	6.2	0.030 J	ND (0.43 U)	ND (1.1 U)
naphthalene	0.14 J	ND (4.3 U)	ND (3.9 U)	ND (3.4 U)	ND (0.52 U)	ND (0.69 U)	ND (3.1 U)	ND (1.5 U)	ND (0.44 U)	ND (0.43 U)	ND (1.1 U)
phenanthrene	1.4 J	1.8 J	0.29 J	0.30 J	0.065 J	0.24 J	0.72 J	0.33 J	0.043 J	0.084 J	0.36 J
phenol	ND (2.9 U)	ND (4.3 U)	ND (3.9 U)	ND (3.4 U)	ND (0.52 U)	ND (0.69 U)	ND (3.1 U)	0.26 J	ND (0.44 U)	ND (0.43 U)	ND (1.1 U)
pyrene	4.4	6.0	0.83 J	0.84 J	0.12 J	0.69	1.5 J	0.96 J	0.13 J	0.28 J	0.64 J

See notes on page 3

TABLE 5

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SUMMARY OF DETECTED SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location	KPT130-1	KPT130-1	KPT130-1	KPT157-1	KPT157-1	KPT157-1	KPT157-1	PPT5-2	PPT5-2	PPT5-2	PPT5-2
Depth (ft)	0.17-1.00	1.00-2.00	2.00-3.00	0.00-0.17	0.17-1.00	1.00-2.00	2.00-2.58	0.00-0.17	0.17-1.00	1.00-2.00	2.00-3.00
Sample ID	K50314	K50315	K50316	K50579	K50580	K50581	K50582	K50381	K50382	K50383	K50384
acenaphthene	ND (0.41 U)	ND (0.39 U)	ND (0.39 U)	ND (3.6 U)	ND (0.53 U)	ND (1.9 U)	ND (2.2 U)	0.11 J	1.3 J	0.25 J	0.12 J
acenaphthylene	ND (0.41 U)	ND (0.39 U)	ND (0.39 U)	ND (3.6 U)	ND (0.53 U)	ND (1.9 U)	ND (2.2 U)	ND (0.56 U)	ND (2.7 U)	0.072 J	0.043 J
anthracene	ND (0.41 U)	ND (0.39 U)	ND (0.39 U)	ND (3.6 U)	ND (0.53 U)	ND (1.9 U)	ND (2.2 U)	0.26 J	2.9	0.53 J	0.28 J
benzo(a)anthracene	0.067 J	ND (0.39 U)	ND (0.39 U)	ND (3.6 U)	ND (0.53 U)	ND (1.9 U)	ND (2.2 U)	0.90	5.3	1.5	0.99
benzo(b)fluoranthene	0.062 J	ND (0.39 U)	ND (0.39 U)	ND (3.6 U)	ND (0.53 U)	ND (1.9 U)	ND (2.2 U)	1.0 J	5.3 J	1.6	1.0
benzo(k)fluoranthene	0.093 J	ND (0.39 U)	ND (0.39 U)	ND (3.6 U)	ND (0.53 U)	ND (1.9 U)	ND (2.2 U)	0.85 J	3.9 J	1.5	ND (0.42 U)
benzo(g,h,i)perylene	0.056 J	ND (0.39 U)	ND (0.39 U)	ND (3.6 U)	ND (0.53 U)	ND (1.9 U)	ND (2.2 U)	0.86 J	4.2 J	0.68 J	1.0
benzo(a)pyrene	0.073 J	ND (0.39 U)	ND (0.39 U)	ND (3.6 U)	ND (0.53 U)	ND (1.9 U)	ND (2.2 U)	0.89 J	5.0 J	1.4	0.77
butyl benzyl phthalate	ND (0.41 U)	ND (0.39 U)	ND (0.39 U)	ND (3.6 U)	ND (0.53 U)	ND (1.9 U)	ND (2.2 U)	0.10 J	ND (2.7 U)	0.051 J	0.093 J
carbazole	ND (0.41 U)	ND (0.39 U)	ND (0.39 U)	ND (3.6 U)	ND (0.53 U)	ND (1.9 U)	ND (2.2 U)	0.14 J	1.6 J	0.31 J	0.058 J
chrysene	0.083 J	ND (0.39 U)	ND (0.39 U)	ND (3.6 U)	ND (0.53 U)	ND (1.9 U)	ND (2.2 U)	1.1	5.6	1.6	0.97
dibenz(a,h)anthracene	ND (0.41 U)	ND (0.39 U)	ND (0.39 U)	ND (3.6 U)	ND (0.53 U)	ND (1.9 U)	ND (2.2 U)	0.38 J	1.7 J	0.22 J	0.31 J
dibenzofuran	ND (0.41 U)	ND (0.39 U)	ND (0.39 U)	ND (3.6 U)	ND (0.53 U)	ND (1.9 U)	ND (2.2 U)	0.070 J	0.78 J	0.20 J	0.071 J
di-n-butylphthalate	0.027 J	ND (0.39 U)	ND (0.39 U)	ND (3.6 U)	ND (0.53 U)	ND (1.9 U)	ND (2.2 U)	0.034 J	ND (2.7 U)	0.12 J	0.024 J
di-n-octyl phthalate	ND (0.41 U)	ND (0.39 U)	ND (0.39 U)	ND (3.6 U)	ND (0.53 UJ)	ND (1.9 UJ)	ND (2.2 U)	0.21 J	ND (2.7 UJ)	0.049 J	ND (0.42 U)
bis(2-ethylhexyl)phthalate	0.22 J	ND (0.39 U)	ND (0.39 U)	18	0.064 J	ND (1.9 U)	ND (2.2 U)	0.46 J	0.50 J	0.22 J	ND (0.42 U)
fluoranthene	0.14 J	ND (0.39 U)	ND (0.39 U)	ND (3.6 U)	0.027 J	ND (1.9 U)	ND (2.2 U)	2.5	13	3.8	1.6
fluorene	ND (0.41 U)	ND (0.39 U)	ND (0.39 U)	ND (3.6 U)	ND (0.53 U)	ND (1.9 U)	ND (2.2 U)	0.16 J	1.4 J	0.33 J	0.15 J
indeno(1,2,3-cd)pyrene	0.047 J	ND (0.39 U)	ND (0.39 U)	ND (3.6 U)	ND (0.53 U)	ND (1.9 U)	ND (2.2 U)	0.72 J	3.3 J	0.63 J	0.67
2-methylnaphthalene	ND (0.41 U)	ND (0.39 U)	ND (0.39 U)	ND (3.6 U)	ND (0.53 U)	ND (1.9 U)	ND (2.2 U)	ND (0.56 U)	ND (2.7 U)	0.16 J	0.083 J
2-methylphenol	ND (0.41 U)	ND (0.39 U)	ND (0.39 U)	ND (3.6 U)	ND (0.53 U)	ND (1.9 U)	ND (2.2 U)	ND (0.56 U)	ND (2.7 U)	ND (0.69 U)	ND (0.42 U)
4-methylphenol	ND (0.41 U)	ND (0.39 U)	ND (0.39 U)	ND (3.6 U)	0.53 J	ND (1.9 U)	ND (2.2 U)	ND (0.56 U)	ND (2.7 U)	ND (0.69 U)	ND (0.42 U)
naphthalene	ND (0.41 U)	ND (0.39 U)	ND (0.39 U)	ND (3.6 U)	ND (0.53 U)	ND (1.9 U)	ND (2.2 U)	0.034 J	0.46 J	0.28 J	0.058 J
phenanthrene	0.065 J	ND (0.39 U)	ND (0.39 U)	ND (3.6 U)	ND (0.53 U)	ND (1.9 U)	ND (2.2 U)	1.7	13	2.8	1.8
phenol	ND (0.41 U)	ND (0.39 U)	ND (0.39 U)	ND (3.6 U)	ND (0.53 U)	ND (1.9 U)	ND (2.2 U)	ND (0.56 U)	ND (2.7 U)	ND (0.69 U)	ND (0.42 U)
pyrene	0.14 J	ND (0.39 U)	ND (0.39 U)	ND (3.6 U)	0.032 J	ND (1.9 U)	ND (2.2 U)	2.4	14	3.1	2.4

Notes:

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

ND - Not detected.

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

UJ - The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

Dup - Duplicate sample.

TABLE 6

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SUMMARY OF DETECTED PESTICIDES

Sample Location	KPT20-2	KPT20-2	KPT49-1	KPT49-1	KPT49-1	KPT65-3	KPT65-3	KPT92-7	KPT92-7	KPT92-7
Depth (ft)	0.00-0.17	0.17-1.08	0.00-0.17	0.17-1.00	1.00-2.00	0.00-0.17	0.17-0.83	0.00-0.17	0.17-1.00	1.00-2.42
Sample ID	K51092	K51093	K51148	K51149	K51150	K50515	K50516	K51296	K51297	K51298
beta-BHC	ND (0.0020 U)	ND (0.0020 U)	ND (0.0042 U)	ND (0.0026 U)	ND (0.0021 U)	ND (0.0025 U)	ND (0.0025 U)	ND (0.0021 U)	ND (0.0020 U)	ND (0.0020 U)
alpha-chlordane	0 R	0.0013 JN	0.0030 J	ND (0.0026 U)	ND (0.0021 U)	ND (0.0025 U)	ND (0.0025 U)	ND (0.0021 U)	ND (0.0020 U)	ND (0.0020 U)
gamma-chlordane	0.0020 J	0.0014 J	0.0042 JN	ND (0.0026 U)	ND (0.0021 U)	ND (0.0025 U)	ND (0.0025 U)	ND (0.0021 U)	ND (0.0020 U)	ND (0.0020 U)
4,4-DDD	ND (0.0040 U)	ND (0.0038 U)	0.0053 J	ND (0.0050 U)	ND (0.0042 U)	ND (0.0049 U)	ND (0.0049 U)	ND (0.0041 U)	ND (0.0038 U)	ND (0.0039 U)
4,4-DDE	0.0021 JN	ND (0.0038 U)	ND (0.0082 U)	ND (0.0050 U)	ND (0.0042 U)	ND (0.0049 U)	ND (0.0049 U)	ND (0.0041 U)	ND (0.0038 U)	ND (0.0039 U)
4,4-DDT	ND (0.0040 U)	ND (0.0038 U)	0.0077 JN	ND (0.0050 U)	ND (0.0042 U)	ND (0.0049 U)	ND (0.0049 U)	ND (0.0041 U)	ND (0.0038 U)	ND (0.0039 U)
dieldrin	ND (0.0040 U)	ND (0.0038 U)	0.0058 J	ND (0.0050 U)	ND (0.0042 U)	ND (0.0049 U)	ND (0.0049 U)	ND (0.0041 U)	ND (0.0038 U)	ND (0.0039 U)
endosulfan I	0.0014 JN	ND (0.0020 U)	ND (0.0042 U)	ND (0.0026 U)	ND (0.0021 U)	ND (0.0025 U)	ND (0.0025 U)	ND (0.0021 U)	ND (0.0020 U)	ND (0.0020 U)
endosulfan II	ND (0.0040 U)	ND (0.0038 U)	ND (0.0082 U)	ND (0.0050 U)	ND (0.0042 U)	ND (0.0049 U)	ND (0.0049 U)	ND (0.0041 U)	ND (0.0038 U)	ND (0.0039 U)
endosulfan sulfate	ND (0.0040 U)	ND (0.0038 U)	ND (0.0082 U)	ND (0.0050 U)	ND (0.0042 U)	ND (0.0049 U)	ND (0.0049 U)	ND (0.0041 U)	ND (0.0038 U)	ND (0.0039 U)
endrin	ND (0.0040 U)	ND (0.0038 U)	ND (0.0082 U)	ND (0.0050 U)	ND (0.0042 U)	ND (0.0049 U)	ND (0.0049 U)	ND (0.0041 U)	ND (0.0038 U)	ND (0.0039 U)
endrin aldehyde	ND (0.0040 U)	ND (0.0038 U)	0.0081 J	0.0032 J	ND (0.0042 U)	ND (0.0049 U)	ND (0.0049 U)	ND (0.0041 U)	ND (0.0038 U)	ND (0.0039 U)
endrin ketone	ND (0.0040 U)	ND (0.0038 U)	0.0077 J	ND (0.0050 U)	ND (0.0042 U)	ND (0.0049 U)	ND (0.0049 U)	ND (0.0041 U)	ND (0.0038 U)	ND (0.0039 U)
heptachlor epoxide	0 R	ND (0.0020 U)	0.0023 JN	ND (0.0026 U)	ND (0.0021 U)	ND (0.0025 U)	ND (0.0025 U)	ND (0.0021 U)	ND (0.0020 U)	ND (0.0020 U)
methoxychlor	ND (0.020 U)	ND (0.020 U)	ND (0.042 U)	ND (0.026 U)	ND (0.021 U)	ND (0.025 U)	ND (0.025 U)	ND (0.021 U)	ND (0.020 U)	ND (0.020 U)

Sample Location	KPT92-7	KPT92-7	KPT92-7	KPT104-1	KPT104-1	KPT104-1	KPT104-1	KPT122-2	KPT122-2	KPT122-2
Depth (ft)	2.42-3.00	3.00-4.00	3.00-4.00 (dup)	0.00-0.17	0.17-1.00	1.00-1.50	0.17-1.00 (dup)	0.00-0.17	0.17-1.00	1.00-2.00
Sample ID	K51299	K51300	K51301	K51254	K51255	K51256	K51257	K51390	K51391	K51392
beta-BHC	ND (0.0045 U)	ND (0.0045 U)	ND (0.0045 U)	ND (0.0040 U)	ND (0.0035 U)	ND (0.0026 U)	ND (0.0035 U)	0.0030 JN	0.020 J	0 R
alpha-chlordane	ND (0.0045 U)	ND (0.0045 U)	ND (0.0045 U)	ND (0.0040 U)	ND (0.0035 U)	ND (0.0026 U)	ND (0.0035 U)	0.0066	0 R	ND (0.0023 U)
gamma-chlordane	ND (0.0045 U)	ND (0.0045 U)	ND (0.0045 U)	ND (0.0040 U)	ND (0.0035 U)	ND (0.0026 U)	ND (0.0035 U)	0.013	ND (0.0040 U)	ND (0.0023 U)
4,4-DDD	ND (0.0087 U)	ND (0.0087 U)	ND (0.0087 U)	ND (0.0078 U)	ND (0.0069 U)	ND (0.0052 U)	ND (0.0069 U)	0.020	0.013 J	ND (0.0044 U)
4,4-DDE	ND (0.0087 U)	ND (0.0087 U)	ND (0.0087 U)	ND (0.0078 U)	ND (0.0069 U)	ND (0.0052 U)	ND (0.0069 U)	0.025	0.028	0.0034 J
4,4-DDT	0.0061 J	0.0055 J	0.0055 J	ND (0.0078 U)	ND (0.0069 U)	ND (0.0052 U)	ND (0.0069 U)	0.010 J	ND (0.0077 U)	ND (0.0044 U)
dieldrin	ND (0.0087 U)	ND (0.0087 U)	ND (0.0087 U)	ND (0.0078 U)	ND (0.0069 U)	ND (0.0052 U)	ND (0.0069 U)	0.0074 J	0 R	ND (0.0044 U)
endosulfan I	ND (0.0045 U)	ND (0.0045 U)	ND (0.0045 U)	ND (0.0040 U)	ND (0.0035 U)	ND (0.0026 U)	ND (0.0035 U)	0.0063 JN	ND (0.0040 U)	ND (0.0023 U)
endosulfan II	ND (0.0087 U)	ND (0.0087 U)	ND (0.0087 U)	ND (0.0078 U)	ND (0.0069 U)	ND (0.0052 U)	ND (0.0069 U)	ND (0.0094 U)	ND (0.0077 U)	ND (0.0044 U)
endosulfan sulfate	0.0070 J	0.0088	0.0087	ND (0.0078 U)	ND (0.0069 U)	ND (0.0052 U)	ND (0.0069 U)	ND (0.0094 U)	ND (0.0077 U)	ND (0.0044 U)
endrin	ND (0.0087 U)	ND (0.0087 U)	ND (0.0087 U)	ND (0.0078 U)	ND (0.0069 U)	ND (0.0052 U)	ND (0.0069 U)	ND (0.0094 U)	0.0070 JN	ND (0.0044 U)
endrin aldehyde	0.012	0.011	0.013	ND (0.0078 U)	ND (0.0069 U)	ND (0.0052 U)	ND (0.0069 U)	0.012 JN	0.022	0.0033 J
endrin ketone	0.0066 J	ND (0.0087 U)	ND (0.0087 U)	ND (0.0078 U)	ND (0.0069 U)	ND (0.0052 U)	ND (0.0069 U)	0.0092 J	0.010 JN	ND (0.0044 U)
heptachlor epoxide	0.0025 J	0.0025 JN	0.0026 J	ND (0.0040 U)	ND (0.0035 U)	ND (0.0026 U)	ND (0.0035 U)	0 R	0 R	0.0021 JN
methoxychlor	0.024 JN	0.036 J	0.046	ND (0.040 U)	ND (0.035 U)	0.015 J	ND (0.035 U)	ND (0.048 U)	ND (0.040 U)	ND (0.023 U)

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TABLE 6

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SUMMARY OF DETECTED PESTICIDES

Sample Location	KPT122-2	KPT130-1	KPT130-1	KPT130-1	KPT130-1	KPT157-1	KPT157-1	KPT157-1	KPT157-1	PPT5-2
Depth (ft)	1.00-2.00	0.00-0.17	0.17-1.00	1.00-2.00	2.00-3.00	0.00-0.17	0.17-1.00	1.00-2.00	2.00-2.58	0.00-0.17
Sample ID	K51393	K50313	K50314	K50315	K50316	K50579	K50580	K50581	K50582	K50381
beta-BHC	0.0050	ND (0.0029 U)	ND (0.0021 U)	ND (0.0020 U)	ND (0.0020 U)	ND (0.0037 U)	ND (0.0027 U)	ND (0.010 U)	ND (0.011 U)	ND (0.0021 U)
alpha-chlordane	0.0017 JN	0.0022 J	ND (0.0021 U)	ND (0.0020 U)	ND (0.0020 U)	ND (0.0037 U)	ND (0.0027 U)	ND (0.010 U)	ND (0.011 U)	0 R
gamma-chlordane	0.0088 J	0.0023 J	ND (0.0021 U)	ND (0.0020 U)	ND (0.0020 U)	ND (0.0037 U)	ND (0.0027 U)	ND (0.010 U)	ND (0.011 U)	0.0060
4,4-DDD	0.0044 J	0.0036 J	ND (0.0041 U)	ND (0.0039 U)	ND (0.0039 U)	ND (0.0072 U)	ND (0.0053 U)	ND (0.019 U)	ND (0.022 U)	0.0038 J
4,4-DDE	0.0071	0.0056 J	ND (0.0041 U)	ND (0.0039 U)	ND (0.0039 U)	ND (0.0072 U)	ND (0.0053 U)	ND (0.019 U)	ND (0.022 U)	0.0039 J
4,4-DDT	ND (0.0043 U)	0.0042 J	ND (0.0041 U)	ND (0.0039 U)	ND (0.0039 U)	ND (0.0072 U)	ND (0.0053 U)	ND (0.019 U)	ND (0.022 U)	0.0049 P
dieldrin	0.0033 JN	ND (0.0057 U)	ND (0.0041 U)	ND (0.0039 U)	ND (0.0039 U)	ND (0.0072 U)	ND (0.0053 U)	ND (0.019 U)	ND (0.022 U)	0.0029 J
endosulfan I	ND (0.0022 U)	ND (0.0029 U)	ND (0.0021 U)	ND (0.0020 U)	ND (0.0020 U)	ND (0.0037 U)	ND (0.0027 U)	ND (0.010 U)	ND (0.011 U)	0 R
endosulfan II	ND (0.0043 U)	ND (0.0057 U)	ND (0.0041 U)	ND (0.0039 U)	ND (0.0039 U)	ND (0.0072 U)	ND (0.0053 U)	ND (0.019 U)	ND (0.022 U)	ND (0.0040 U)
endosulfan sulfate	ND (0.0043 U)	ND (0.0057 U)	ND (0.0041 U)	ND (0.0039 U)	ND (0.0039 U)	ND (0.0072 U)	ND (0.0053 U)	ND (0.019 U)	ND (0.022 U)	ND (0.0040 U)
endrin	ND (0.0043 U)	ND (0.0057 U)	ND (0.0041 U)	ND (0.0039 U)	ND (0.0039 U)	ND (0.0072 U)	ND (0.0053 U)	ND (0.019 U)	ND (0.022 U)	ND (0.0040 U)
endrin aldehyde	0.0065	0.0038 J	ND (0.0041 U)	ND (0.0039 U)	ND (0.0039 U)	0.0072 J	ND (0.0053 U)	ND (0.019 U)	ND (0.022 U)	0.016 J
endrin ketone	0.0031 J	ND (0.0057 U)	ND (0.0041 U)	ND (0.0039 U)	ND (0.0039 U)	ND (0.0072 U)	ND (0.0053 U)	ND (0.019 U)	ND (0.022 U)	ND (0.0040 U)
heptachlor epoxide	0 R	0.0025 J	ND (0.0021 U)	ND (0.0020 U)	ND (0.0020 U)	0.0023 J	ND (0.0027 U)	ND (0.010 U)	ND (0.011 U)	0 R
methoxychlor	ND (0.022 U)	ND (0.029 U)	ND (0.021 U)	ND (0.020 U)	ND (0.020 U)	ND (0.037 U)	ND (0.027 U)	ND (0.10 U)	ND (0.11 U)	ND (0.021 U)

Sample Location	PPT5-2	PPT5-2	PPT5-2
Depth (ft)	0.17-1.00	1.00-2.00	2.00-3.00
Sample ID	K50382	K50383	K50384
beta-BHC	0 R	0 R	ND (0.0022 U)
alpha-chlordane	0 R	0.036 D	ND (0.0022 U)
gamma-chlordane	0.0085	0.0066 J	ND (0.0022 U)
4,4-DDD	0.0068 J	0.0061 JN	ND (0.0042 U)
4,4-DDE	0 R	0 R	ND (0.0042 U)
4,4-DDT	0.0072	0 0059 J	ND (0.0042 U)
dieldrin	0.0034 J	ND (0.0041 U)	ND (0.0042 U)
endosulfan I	0 R	0 0019 J	ND (0.0022 U)
endosulfan II	0.0026 J	0 0033 J	ND (0.0042 U)
endosulfan sulfate	ND (0.0041 U)	ND (0 0041 U)	ND (0.0042 U)
endrin	ND (0.0041 U)	0 0037 J	ND (0.0042 U)
endrin aldehyde	0.015 J	0 0028 J	ND (0.0042 U)
endrin ketone	ND (0.0041 U)	0.018 J	ND (0.0042 U)
heptachlor epoxide	0 R	0.0084 J	ND (0.0022 U)
methoxychlor	ND (0.021 U)	ND (0.021 U)	ND (0.022 U)

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TABLE 6

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SUMMARY OF DETECTED PESTICIDES

Notes:

D - Concentration was based on a diluted sample analysis.
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.
N - The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
ND - Not detected.
P - Coelutes with a known Aroclor peak.
R - The sample results are rejected
U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
Dup - Duplicate sample.

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SUMMARY OF DETECTED METALS

Sample Location	KPT20-2	KPT20-2	KPT49-1	KPT49-1	KPT49-1	KPT65-3	KPT65-3	KPT92-7	KPT92-7	KPT92-7	KPT92-7
Depth (ft)	0.00-0.17	0.17-1.08	0.00-0.17	0.17-1.00	1.00-2.00	0.00-0.17	0.17-0.83	0.00-0.17	0.17-1.00	1.00-2.42	2.42-3.00
Sample ID	K51092	K51093	K51148	K51149	K51150	K50515	K50516	K51296	K51297	K51298	K51299
aluminum	1400	1500	5400	3800	1300	5700	5600	1300	1900	1400	16000
antimony	ND (0.62 U)	0.65 B	ND (1.4 U)	ND (0.88 U)	0.73 B	1.8 B	1.4 B	ND (0.77 U)	ND (0.73 U)	ND (0.62 U)	5.1 B
arsenic	3.6	1.0 B	15	5.7	2.4	7.5	9.5	5.3	3.5	2.1 B	20
barium	28 B	11 B	170	67	22 B	230	130	21 B	22 B	15 B	360
beryllium	0.030 B	0.060 B	ND (0.050 U)	ND (0.030 U)	ND (0.020 U)	0.15 B	0.11 B	ND (0.020 U)	ND (0.020 U)	ND (0.020 U)	0.47 B
cadmium	ND (0.090 U)	ND (0.080 U)	1.1 B	0.16 B	ND (0.10 U)	2.0	1.1 B	ND (0.070 U)	ND (0.060 U)	ND (0.090 U)	6.1
calcium	25000	39000	57000	51000	52000	38000	57000	40000	55000	32000	16000
chromium	7.3	5.4	50	11	3.6	42	23	8.3	12	7.3	180
cobalt	2.1 B	1.8 B	6.0 B	3.3 B	1.9 B	3.6 B	4.4 B	2.0 B	2.5 B	1.7 B	13 B
copper	6.2	5.0 B	66	12	1.4 B	110	67	2.9 B	3.7 B	2.6 B	390
iron	6900	4700	21000	9700	4300	9200	13000	6100	6300	4000	20000
lead	45	11	140	38	1.5	300	140	8.2	7.8	9.3	1200
magnesium	5000	11000	7600	4800	3900	5500	8700	7200	17000	8300	8000
manganese	260	110	1100	360	230	210	270	260	290	180	180
mercury	ND (0.060 U)	ND (0.050 U)	0.46	0.47	ND (0.050 U)	2.4	3.5	ND (0.050 U)	ND (0.050 U)	0.050 B	3.8
nickel	5.1 B	4.8 B	20	6.0 B	2.9 B	11 B	10 B	6.1 B	8.3 B	5.0 B	25
potassium	150 B	200 B	590 B	320 B	120 B	410 B	430 B	120 B	130 B	130 B	770 B
selenium	ND (0.85 U)	ND (0.82 U)	2.4	ND (1.2 U)	ND (0.95 U)	1.7	1.1 B	ND (0.88 U)	0.85 B	ND (0.86 U)	3.3
silver	ND (0.23 U)	ND (0.22 U)	0.70 B	ND (0.33 U)	ND (0.26 U)	1.9 B	0.71 B	ND (0.46 U)	ND (0.44 U)	ND (0.24 U)	4.8
sodium	ND (92 U)	ND (88 U)	ND (210 U)	ND (130 U)	ND (100 U)	ND (120 U)	ND (120 U)	ND (130 U)	ND (130 U)	ND (92 U)	ND (290 U)
vanadium	6.5 B	5.9 B	15 B	10 B	4.7 B	8.9 B	12 B	4.5 B	6.6 B	8.4 B	22 B
zinc	39	38	210	63	11	210	160	26 J	26 J	21	620 J

Sample Location	KPT92-7	KPT92-7	KPT104-1	KPT104-1	KPT104-1	KPT104-1	KPT122-2	KPT122-2	KPT122-2	KPT122-2	KPT130-1
Depth (ft)	3.00-4.00	3.00-4.00 (dup)	0.00-0.17	0.17-1.00	1.00-1.50	0.17-1.00 (dup)	0.00-0.17	0.17-1.00	1.00-2.00	1.00-2.00 (dup)	0.00-0.17
Sample ID	K51300	K51301	K51254	K51255	K51256	K51257	K51390	K51391	K51392	K51393	K50313
aluminum	16000	16000	16000	16000	4100	13000	NA	11000	3500	4000	5500
antimony	5.2 B	5.1 B	3.1 B	ND (1.4 U)	ND (1.0 U)	2.6 B	NA	1.7 B	ND (0.88 U)	ND (0.88 U)	1.3 B
arsenic	19	17	16	17	5.8	17	NA	14	5.2	6.9	10
barium	470	450	870	530	100	500	NA	320	92	140	150
beryllium	0.44 B	0.43 B	0.39 B	0.31 B	ND (0.030 U)	0.22 B	NA	0.32 B	0.060 B	0.030 B	ND (0.030 U)
cadmium	5.9	5.8	5.5	2.6	ND (0.090 U)	2.2	NA	3.5	0.27 B	0.61 B	1.1 B
calcium	20000	20000	26000	38000	40000	38000	NA	57000	27000	38000	47000
chromium	140	140	160	120	16	100	NA	180	26	41	46
cobalt	10 B	11 B	14 B	12 B	4.2 B	11 B	NA	9.5 B	3.5 B	4.7 B	5.1 B
copper	420	410	270	210	19	190	NA	180	24	38	57
iron	19000	19000	25000	26000	9600	25000	NA	23000	8000	11000	16000
lead	950	970	930	660	67	590	NA	300	70	110	110
magnesium	6000	6100	7500	11000	6900	10000	NA	12000	4900	8300	7900
manganese	250	250	400	670	430	710	NA	570	240	340	770
mercury	4.3	5.1	2.4	3.1	1.6	3.1	0.62	1.3	0.80	0.46	0.46
nickel	73	27	22	21	6.0 B	19	NA	53	9.6 B	15	20
potassium	980 B	820 B	810 B	1100 B	260 B	900 B	NA	830 B	390 B	260 B	510 B
selenium	ND (1.9 U)	3.2	1.9 B	ND (1.6 U)	ND (1.2 U)	ND (1.6 U)	NA	ND (1.9 U)	ND (1.0 U)	ND (1.0 U)	ND (1.3 U)
silver	4.8	5.8	3.7 B	2.5 B	ND (0.61 U)	2.4 B	NA	3.9 B	ND (0.53 U)	ND (0.53 U)	0.91 B
sodium	340 B	320 B	350 B	ND (240 U)	ND (180 U)	ND (240 U)	NA	ND (290 U)	ND (150 U)	ND (150 U)	270 B
vanadium	18 B	19 B	24	25	10 B	23	NA	19 B	8.6 B	9.8 B	12 B
zinc	920 J	650 J	610 J	370 J	65 J	340 J	NA	510 J	77 J	110 J	180

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

REMEDIAL INVESTIGATION REPORT
ANALYSIS OF FROZEN SEDIMENT CORES
SUMMARY OF DETECTED METALS

Sample Location	KPT130-1	KPT130-1	KPT130-1	KPT157-1	KPT157-1	KPT157-1	KPT157-1	PPT5-2	PPT5-2	PPT5-2	PPT5-2
Depth (ft)	0 17-1.00	.00-2.00	2.00-3.00	0.00-0.17	0.17-1.00	1.00-2.00	2.00-2.58	0.00-0.17	0.17-1.00	1.00-2.00	2.00-3.00
Sample ID	K50314	K50315	K50316	K50579	K50580	K50581	K50582	K50381	K50382	K50383	K50384
aluminum	2400	3800	1600	4300	1400	1700	2200	2300	2300	2200	3700
antimony	0.72 E	ND (0.67 U)	ND (0.56 U)	ND (1 2 U)	ND (0.78 U)	ND (3.3 U)	ND (3.8 U)	ND (0 68 U)	1.1 B	0.67 B	0 94 B
arsenic	4.4	5 8	2.0	4.7	2.8	36	28	9.2	12	5 1	6.3
barium	43 B	26 B	13 B	120	20 B	53 B	150 B	35 B	38 B	49	47
beryllium	0 030 B	0 13 B	0.050 B	ND (0.040 U)	0.030 B	ND (0 11 U)	ND (0.13 U)	ND (0 020 U)	0.040 B	0.13 B	0.12 B
cadmium	0 34 B	ND (0 090 U)	ND (0 080 U)	0.76 B	0.19 B	ND (0.46 U)	0.62 B	0.15 B	0.23 B	0 28 B	ND (0.090 U)
calcium	14000	590 B	380 B	74000	9200	29000	36000	23000	27000	33000	32000
chromium	14	6.0	3 5	29	8 7	9.6 B	6 9 B	6.8	12	7 1	8.1
cobalt	2 3 B	2 9 B	1 4 B	3.0 B	1.2 B	ND (1.5 U)	ND (1.7 U)	2.2 B	3.1 B	2 5 B	3 9 B
copper	22	4 8 B	2.3 B	30	6.3 B	6.6 B	9 4 B	11	17	44	13
iron	6000	8400	3500	9700	2900	1900	1100	9000	11000	6800	9300
lead	32	4.5	1.7	59	16	ND (1 9 U)	3 1 B	47	75	100	36
magnesium	3100	820 B	470 B	3100	1200 B	3200 B	4000 B	6000	5600	5400	5900
manganese	200	67	42	390	55	41	74	410	450	170	170
mercury	0 12	ND (0 050 U)	ND (0 050 U)	ND (0.11 U)	ND (0.070 U)	ND (0.29 U)	ND (0 25 U)	0.10 B	0.080 B	0 10 B	ND (0 060 U)
nickel	8 2 B	5.4 B	2.7 B	11 B	7.1 B	3 8 B	2.8 B	4.4 B	6.5 B	5.6 B	22
potassium	200 B	290 B	140 B	540 B	130 B	ND (220 U)	ND (250 U)	190 B	200 B	250 B	480 B
selenium	1 3	ND (0 93 U)	ND (0.78 U)	ND (1 6 U)	ND (1.1 U)	ND (4 6 U)	9 4	ND (0 93 U)	ND (0.82 U)	ND (0 77 U)	ND (0.86 U)
silver	ND (0 26 U)	ND (0.26 U)	ND (0.21 U)	0.84 B	ND (0.29 U)	ND (1.3 U)	ND (1.4 U)	ND (0.26 U)	ND (0.23 U)	ND (0 21 U)	ND (0.24 U)
sodium	ND (100 U)	ND (100 U)	ND (84 U)	ND (170 U)	ND (120 U)	ND (490 U)	ND (570 U)	ND (100 U)	ND (88 U)	ND (83 U)	120 B
vanadium	5 9 B	11 B	5.2 B	9.3 B	6.1 B	28 B	34 B	6 0 B	8 1 B	8 1 B	13
zinc	54	22	9.5	110	33	34	26 B	78	76	71	55

Notes

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 analyte was positively identified, however, the associated numerical value is an estimated concentration only.

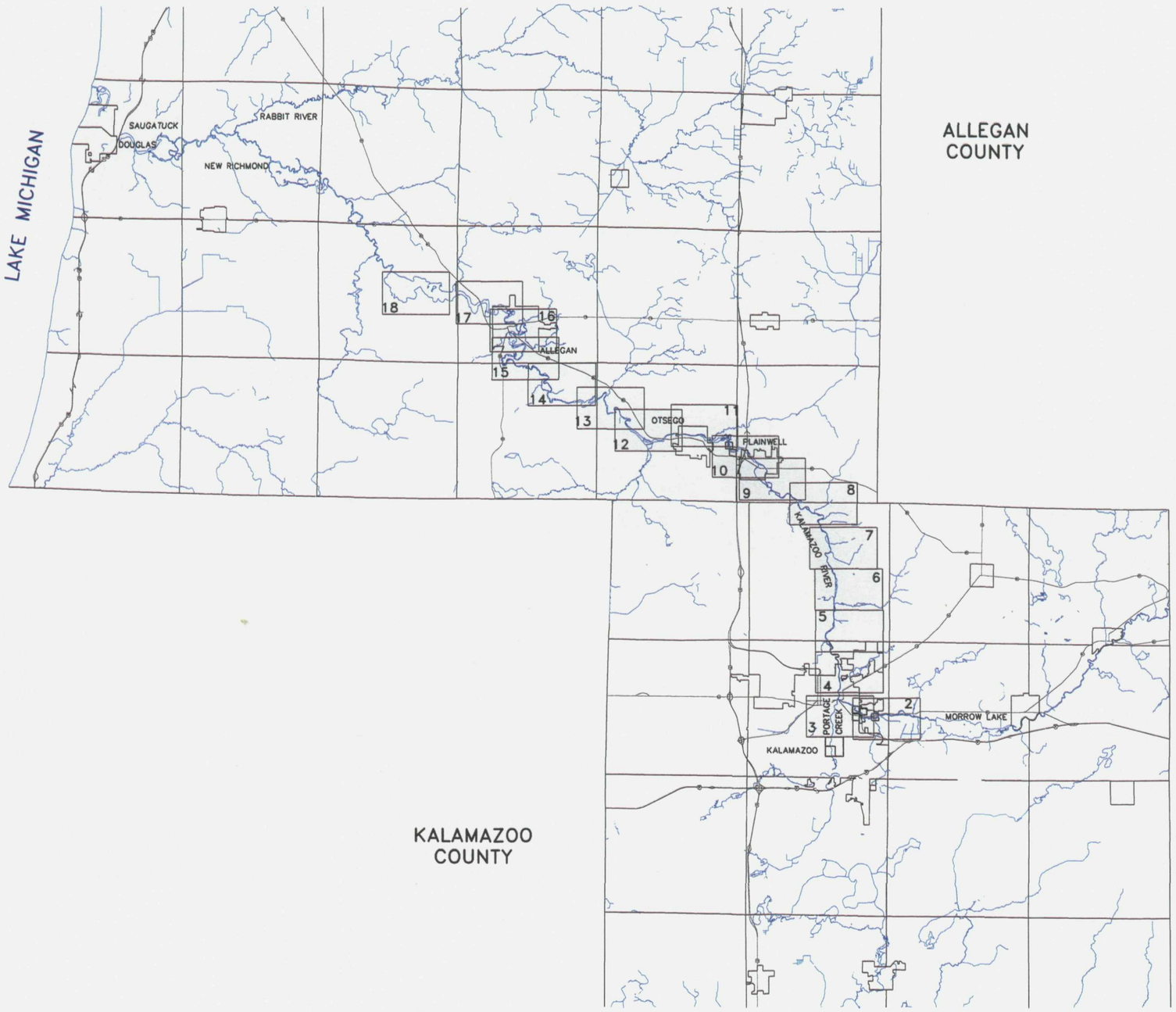
NA - Not analyzed

ND - Not detected

U - The analyte was analyzed for but not detected The associated value is the analyte instrument detection limit.

Dup - Duplicate sample

Figures



LEGEND

14 SHEET NO. AND AREA DESCRIBED

0 5 MILES 10 MILES

SCALE: 1" = 5 MILES

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FOR STATE AND FEDERAL REVIEW

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

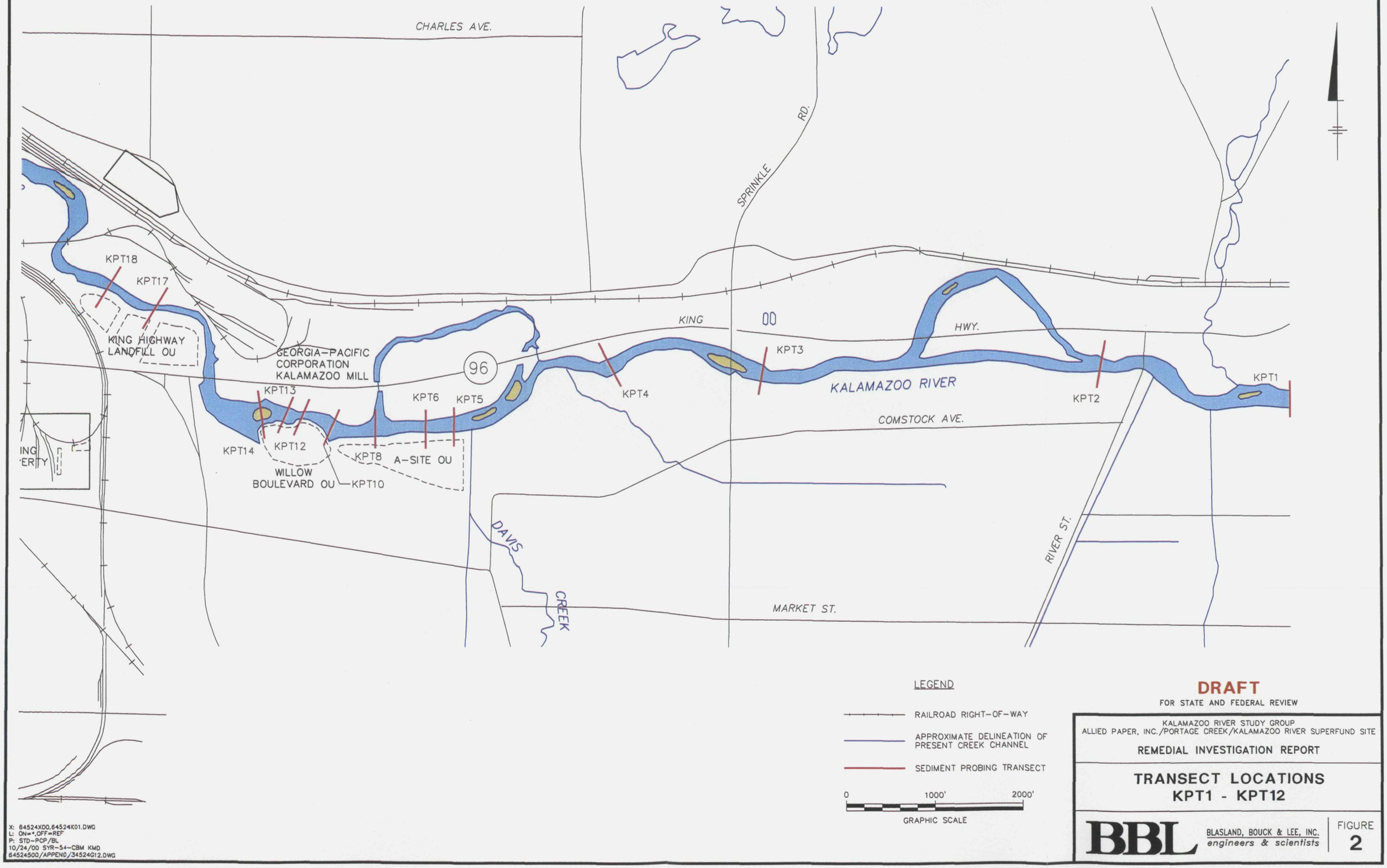
REMEDIAL INVESTIGATION REPORT

INDEX TO FIGURES 2-18

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

FIGURE 1

X: 64524X00.DWG
L: ON=*,OFF=*REF
P: STD-PCP/BL
10/24/00 SYR-54-YCC JER KMD
64524500/APPEND/64524G11.DWG



LEGEND

- RAILROAD RIGHT-OF-WAY
- APPROXIMATE DELINEATION OF PRESENT CREEK CHANNEL
- SEDIMENT PROBING TRANSECT

0 1000' 2000'

GRAPHIC SCALE

X: 64524X00,64524X01.DWG
L: ON=*,OFF=REF
P: STD-PCP/BL
10/24/00 SYR-54-CBM KMD
64524500/APPEND/34524G12.DWG

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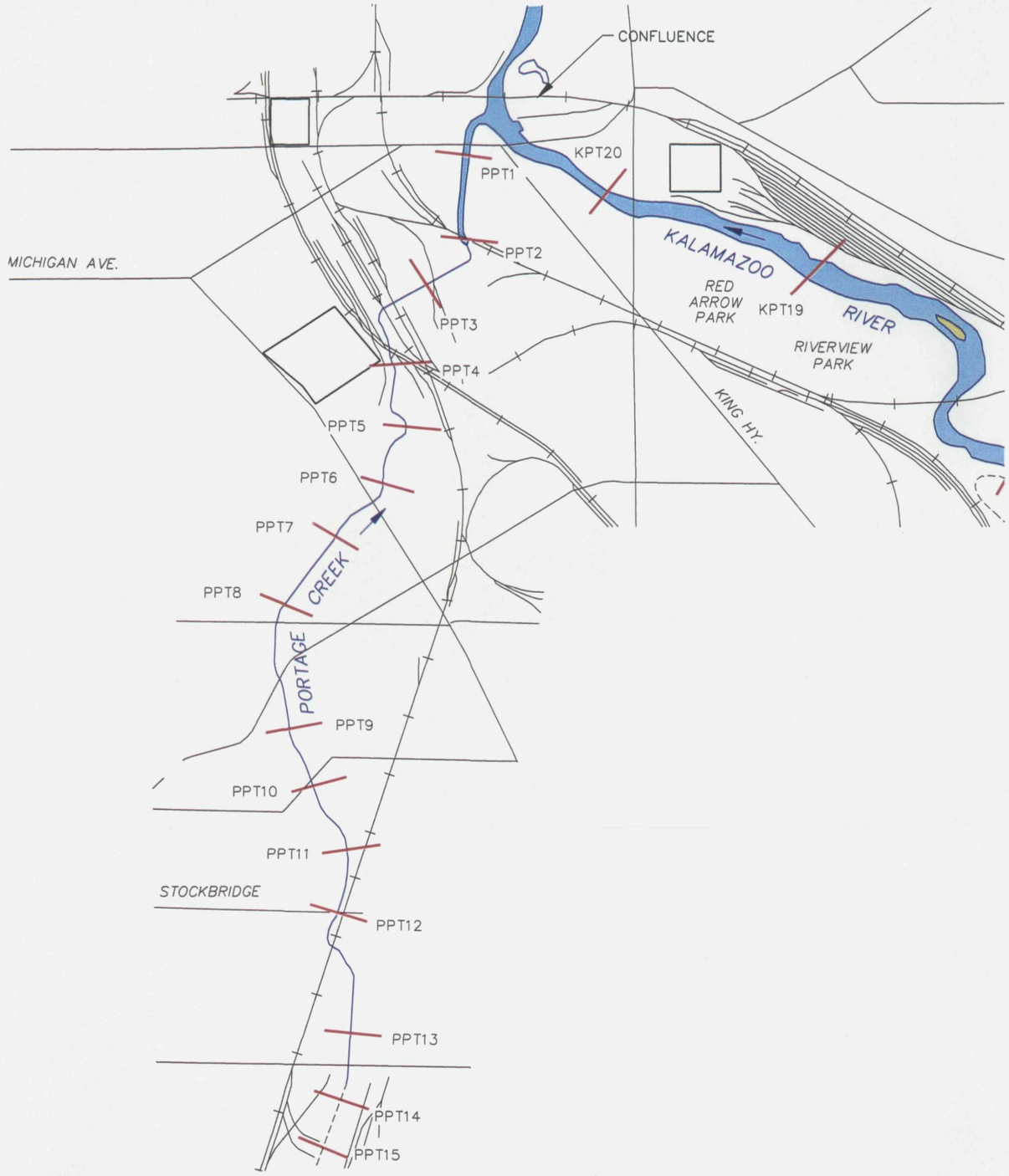
REMEDIAL INVESTIGATION REPORT

TRANSECT LOCATIONS KPT1 - KPT12

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

FIGURE 2



LEGEND

- RAILROAD RIGHT-OF-WAY
- APPROXIMATE DELINEATION OF PRESENT CREEK CHANNEL
- SEDIMENT PROBING TRANSECT

0 1000' 2000'

GRAPHIC SCALE

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

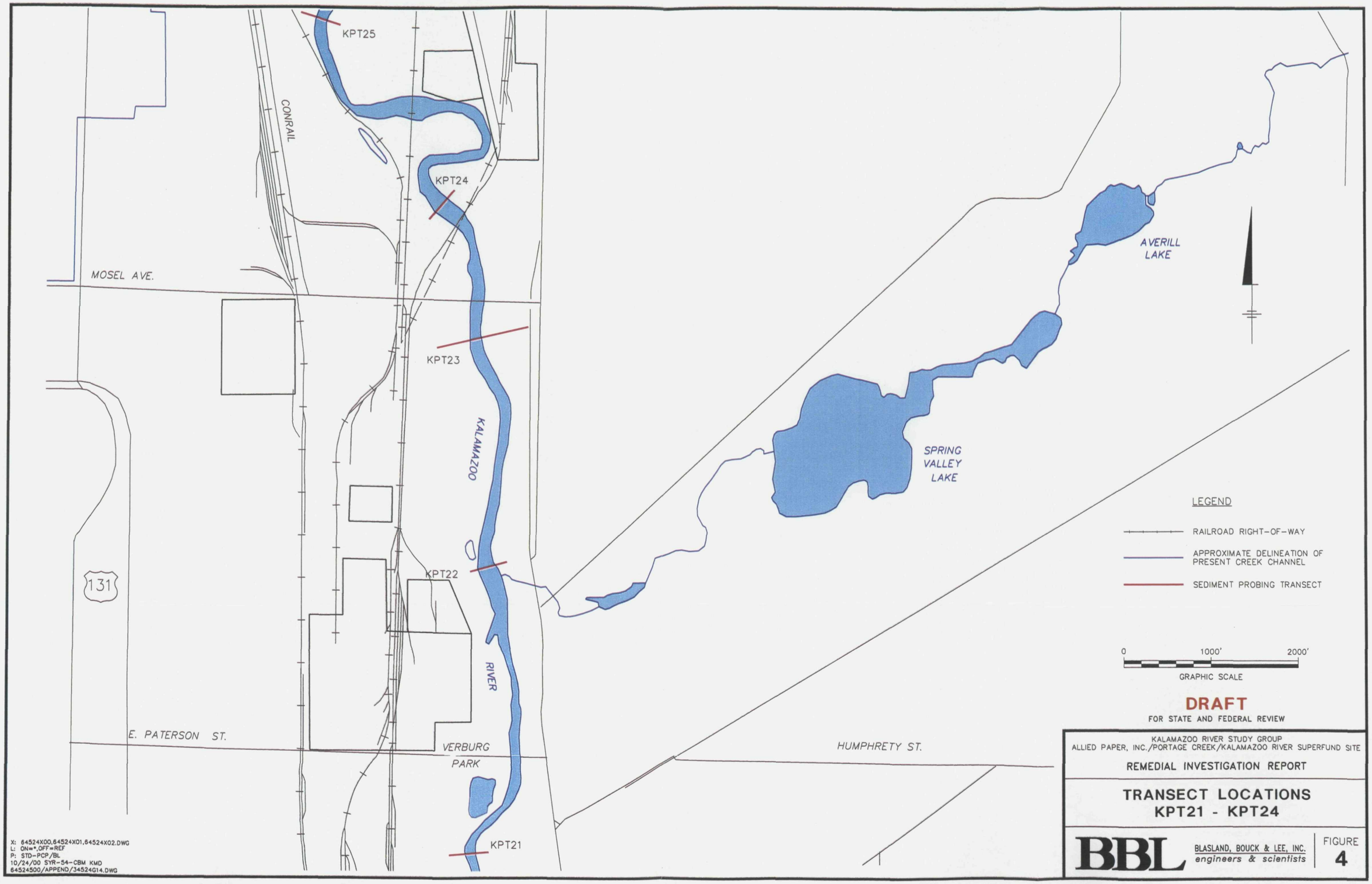
REMEDIAL INVESTIGATION REPORT

TRANSECT LOCATIONS KPT19 - KPT20 & PPT1 - PPT15

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

FIGURE 3

X: 64524X00,64524X01.DWG
L: ON=*,OFF=REF
P: STD-PCP/BL
8/18/00 SYR-54-CBM KMD
64524500/APPEND/34524G13.DWG



X: 64524X00,64524X01,64524X02.DWG
L: ON=*,OFF=REF
P: STD-PCP/BL
10/24/00 SYR-54-CBM KMD
64524500/APPEND/34524G14.DWG

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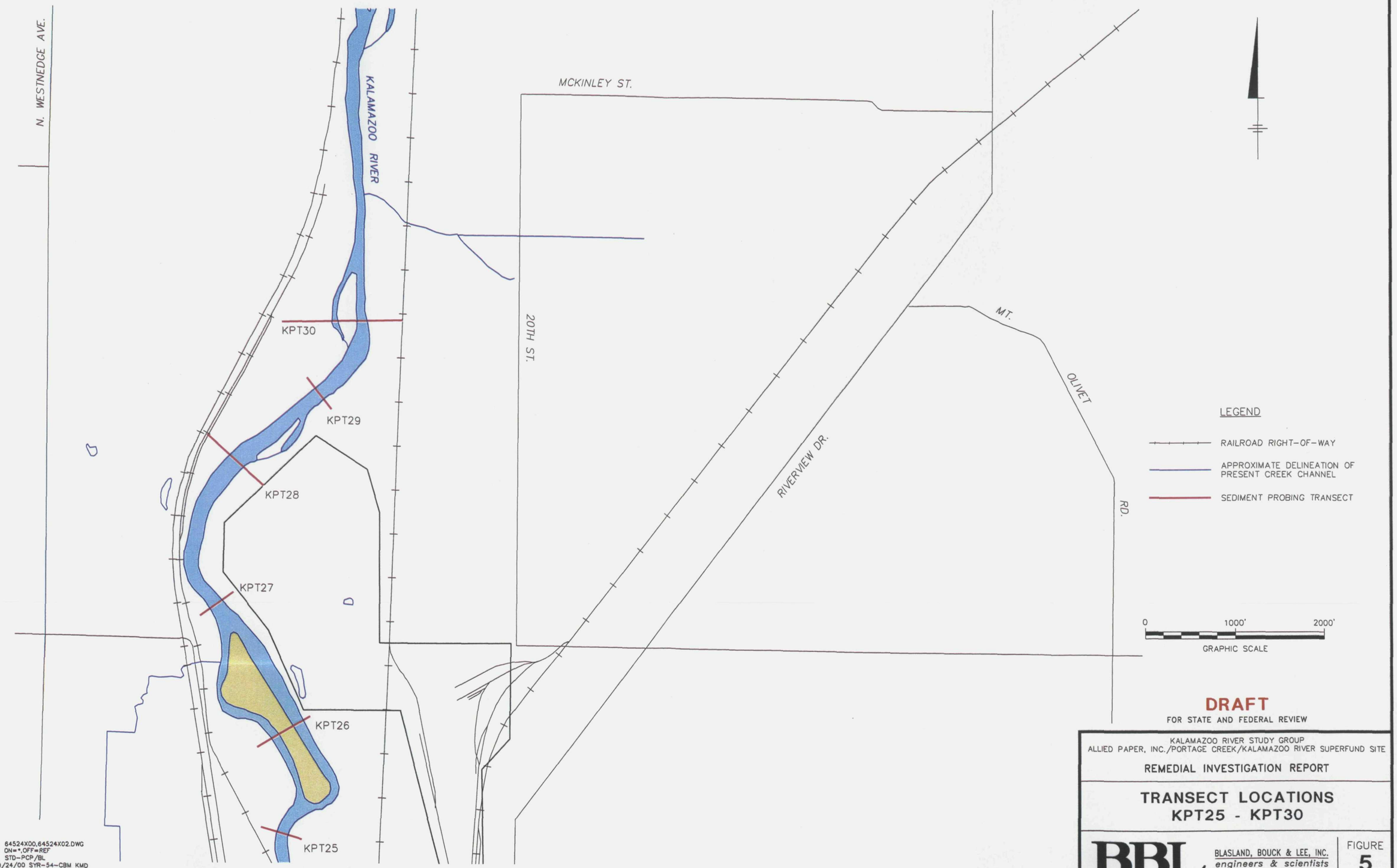
KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER SUPERFUND SITE

REMEDIAL INVESTIGATION REPORT

TRANSECT LOCATIONS KPT21 - KPT24

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

FIGURE 4



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L: ON=*,OFF=REF
P: STD-PCP/BL
10/24/00 SYR-54-CBM KMD
64524500/APPEND/34524G15.DWG

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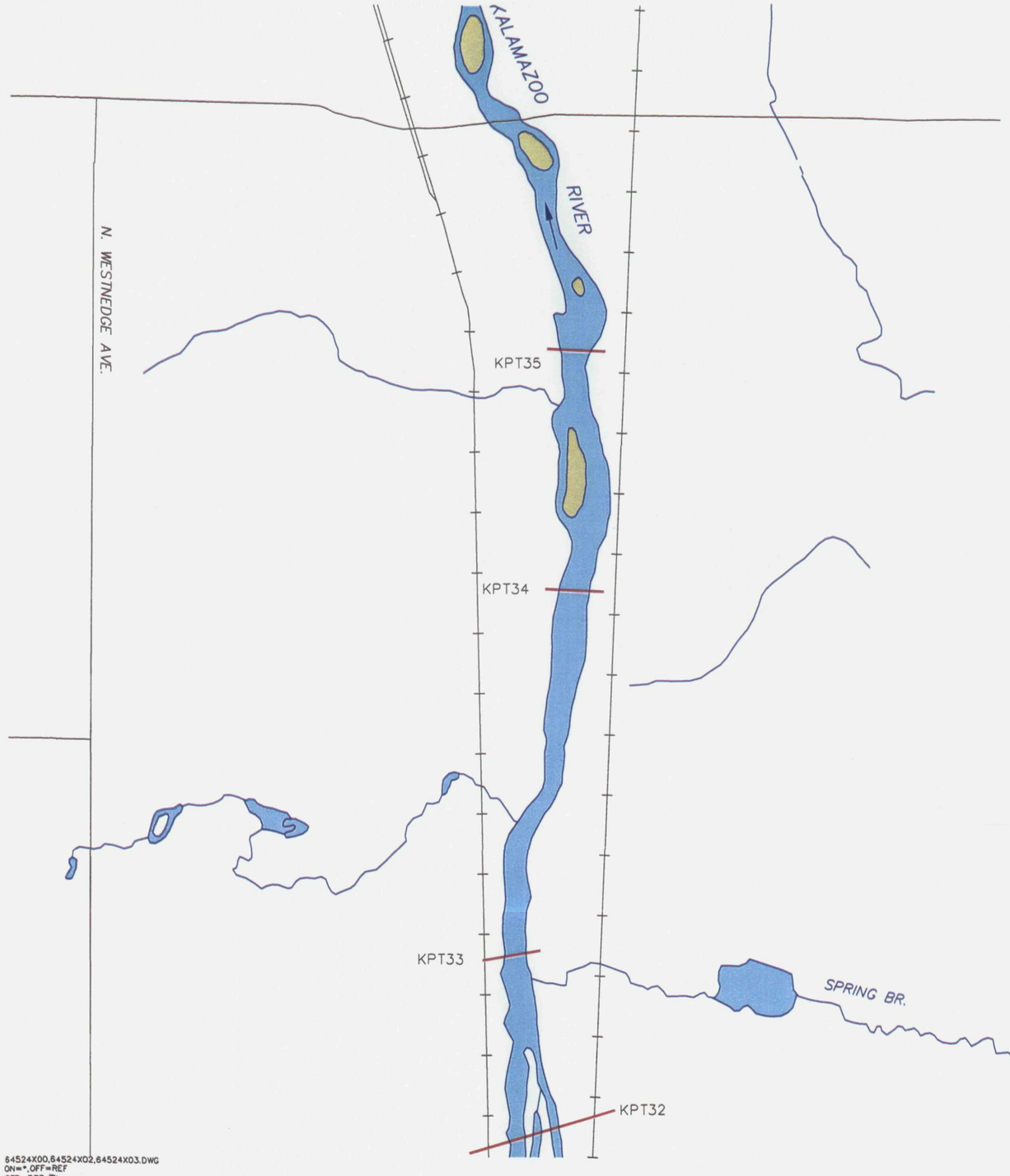
KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER SUPERFUND SITE

REMEDIAL INVESTIGATION REPORT

TRANSECT LOCATIONS KPT25 - KPT30

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

FIGURE 5



LEGEND

- RAILROAD RIGHT-OF-WAY
- APPROXIMATE DELINEATION OF PRESENT CREEK CHANNEL
- SEDIMENT PROBING TRANSECT

0 1000' 2000'

GRAPHIC SCALE

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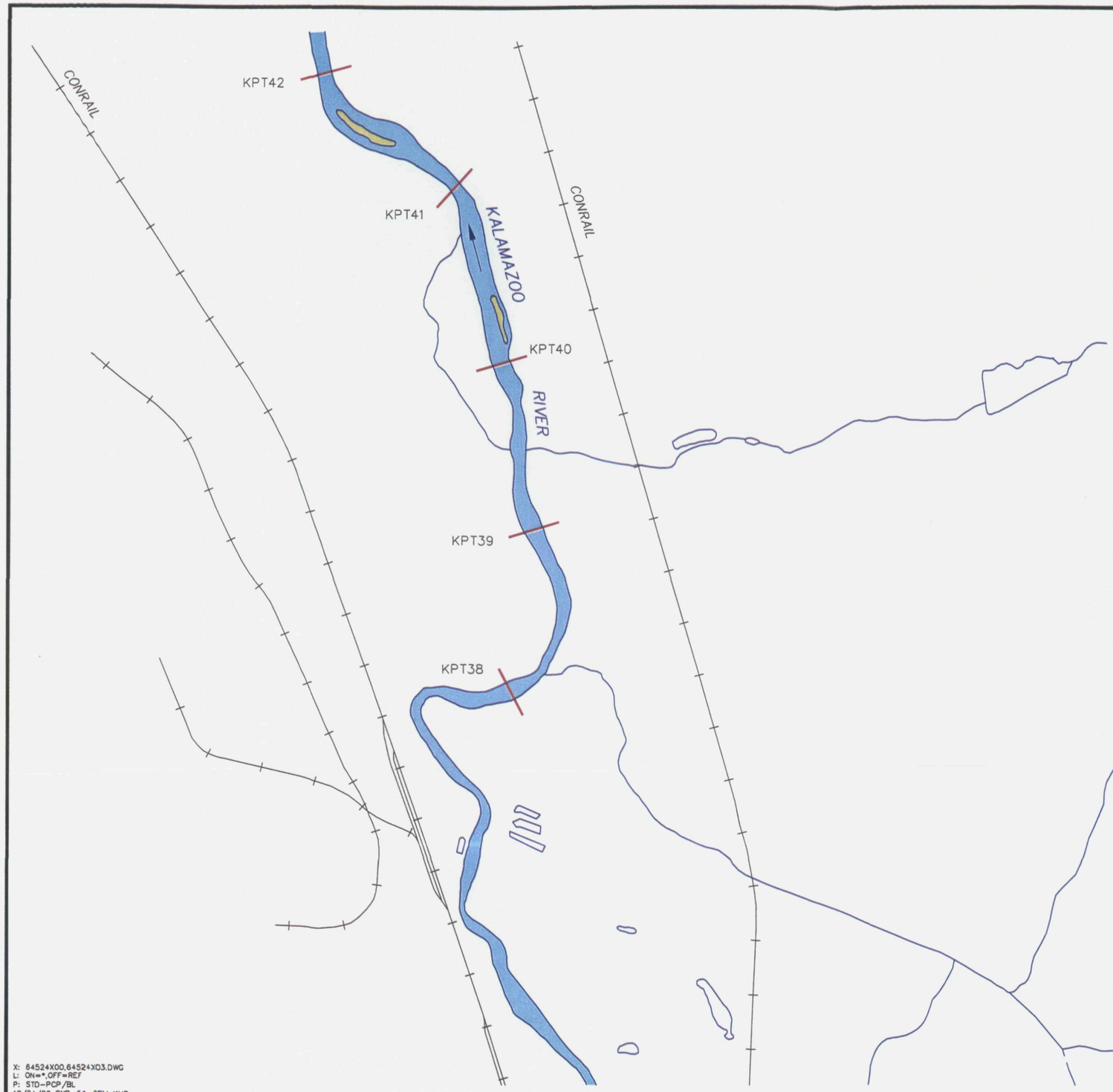
REMEDIAL INVESTIGATION REPORT

TRANSECT LOCATIONS KPT32 - KPT35

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

FIGURE 6

X: 64524X00,64524X02,64524X03.DWG
L: ON=*,OFF=REF
P: STD-PCP/BL
10/24/00 SYR-54-CBM KMD
64524500/APPEND/34524G16.DWG



LEGEND

- RAILROAD RIGHT-OF-WAY
- APPROXIMATE DELINEATION OF PRESENT CREEK CHANNEL
- SEDIMENT PROBING TRANSECT

0 1000' 2000'

GRAPHIC SCALE

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

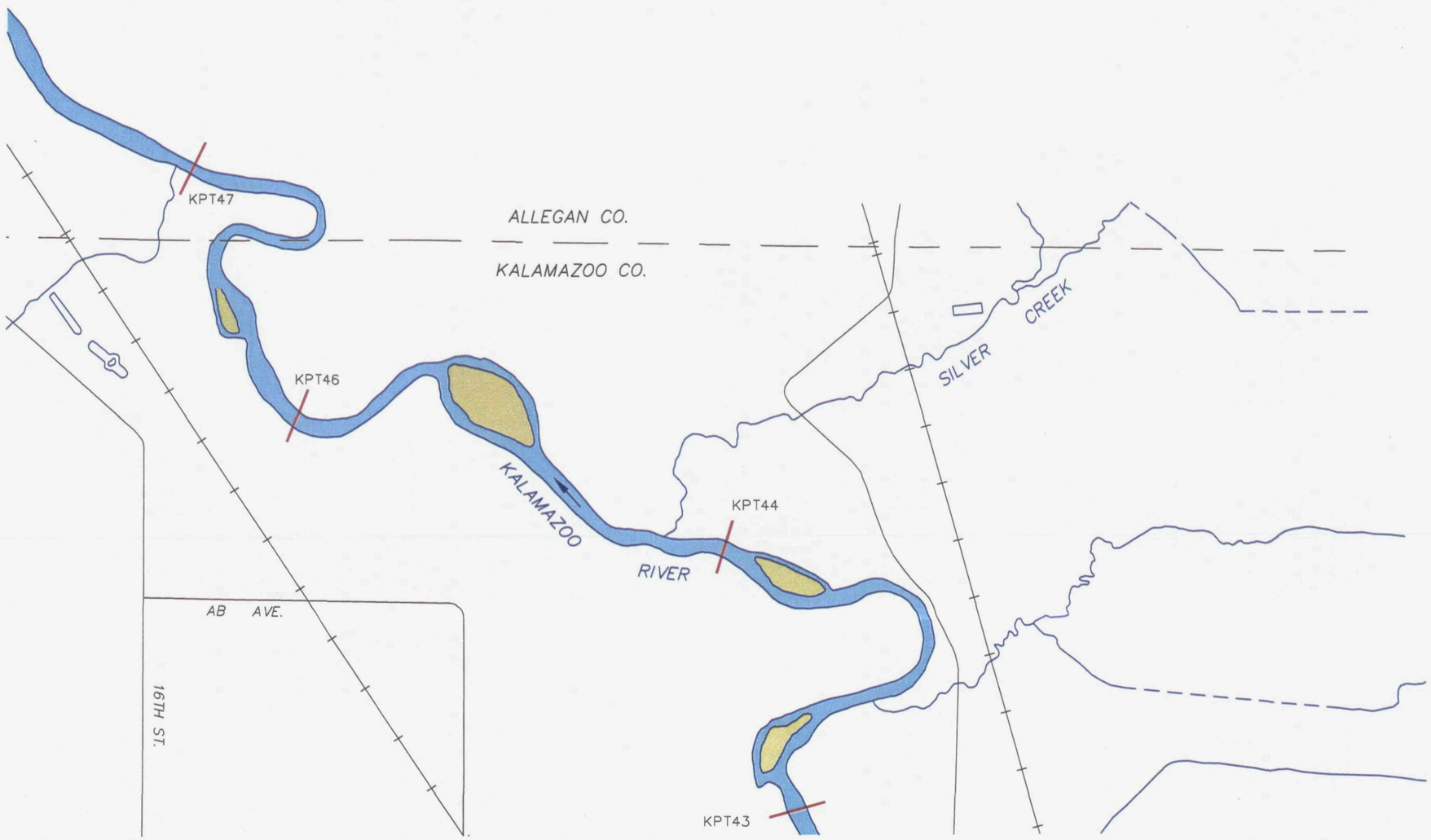
REMEDIAL INVESTIGATION REPORT

TRANSECT LOCATIONS KPT38 - KPT42

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

FIGURE 7

X: 64524X00,64524X03.DWG
L: ON=*,OFF=REF
P: STD-PCP/BL
10/24/00 SYR-54-CBM KMD
64524500/APPEND/34524G20.DWG



LEGEND

- RAILROAD RIGHT-OF-WAY
- APPROXIMATE DELINEATION OF PRESENT CREEK CHANNEL
- SEDIMENT PROBING TRANSECT

0 1000' 2000'

GRAPHIC SCALE

DRAFT

FOR STATE AND FEDERAL REVIEW

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

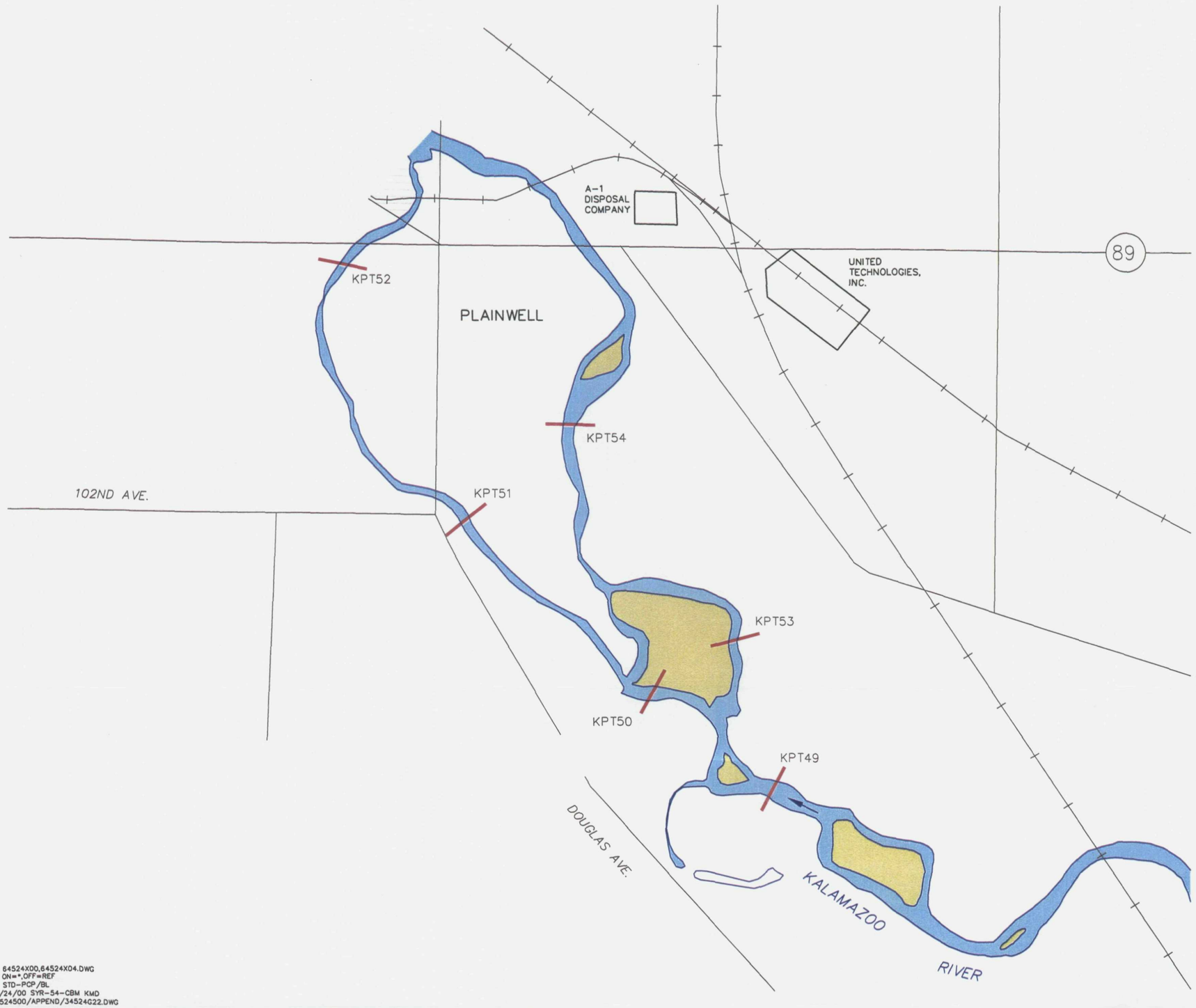
REMEDIAL INVESTIGATION REPORT

TRANSECT LOCATIONS KPT43 - KPT47

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

FIGURE 8

X: 64524X00,64524X03,64524X04.DWG
L: ON=*,OFF=REF
P: STD-PCP/BL
10/24/00 SYR-54-CBM KMD
64524500/APPEND/34524G21.DWG



LEGEND

- RAILROAD RIGHT-OF-WAY
- APPROXIMATE DELINEATION OF PRESENT CREEK CHANNEL
- SEDIMENT PROBING TRANSECT

0 1000' 2000'

GRAPHIC SCALE

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FOR STATE AND FEDERAL REVIEW

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

REMEDIAL INVESTIGATION REPORT

TRANSECT LOCATIONS KPT49 - KPT54

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE 9

X: 64524X00,64524X04.DWG
L: ON=*,OFF=REF
P: STD-PCP/BL
10/24/00 SYR-54-CBM KMD
64524500/APPEND/34524G22.DWG

LEGEND

- APPROXIMATE FORMER IMPOUNDMENT (ELEVATION 712)
- TRANSECT SAMPLING LOCATION AND NUMBER

NOTES:

1. TOPOGRAPHY SUPPLIED BY GZA DONOHUE. TOPOGRAPHIC MAPPING PRODUCED USING PHOTOGRAMMETRIC METHODS BY AERO-METRIC ENGINEERING, INC. USING 1989 AERIAL PHOTOS BY SAME. SURVEY OF GROUND CONTROL POINTS FOR TOPOGRAPHIC MAPPING PERFORMED BY MDNR.
2. TRANSECT LOCATIONS SURVEYED BY BLASLAND, BOUCK & LEE, INC ON 12/29/93.
3. ALL ELEVATIONS ARE NATIONAL GEODETIC VERTICAL DATUM, 1929.

600' 0 600'

SCALE

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FOR STATE AND FEDERAL REVIEW

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

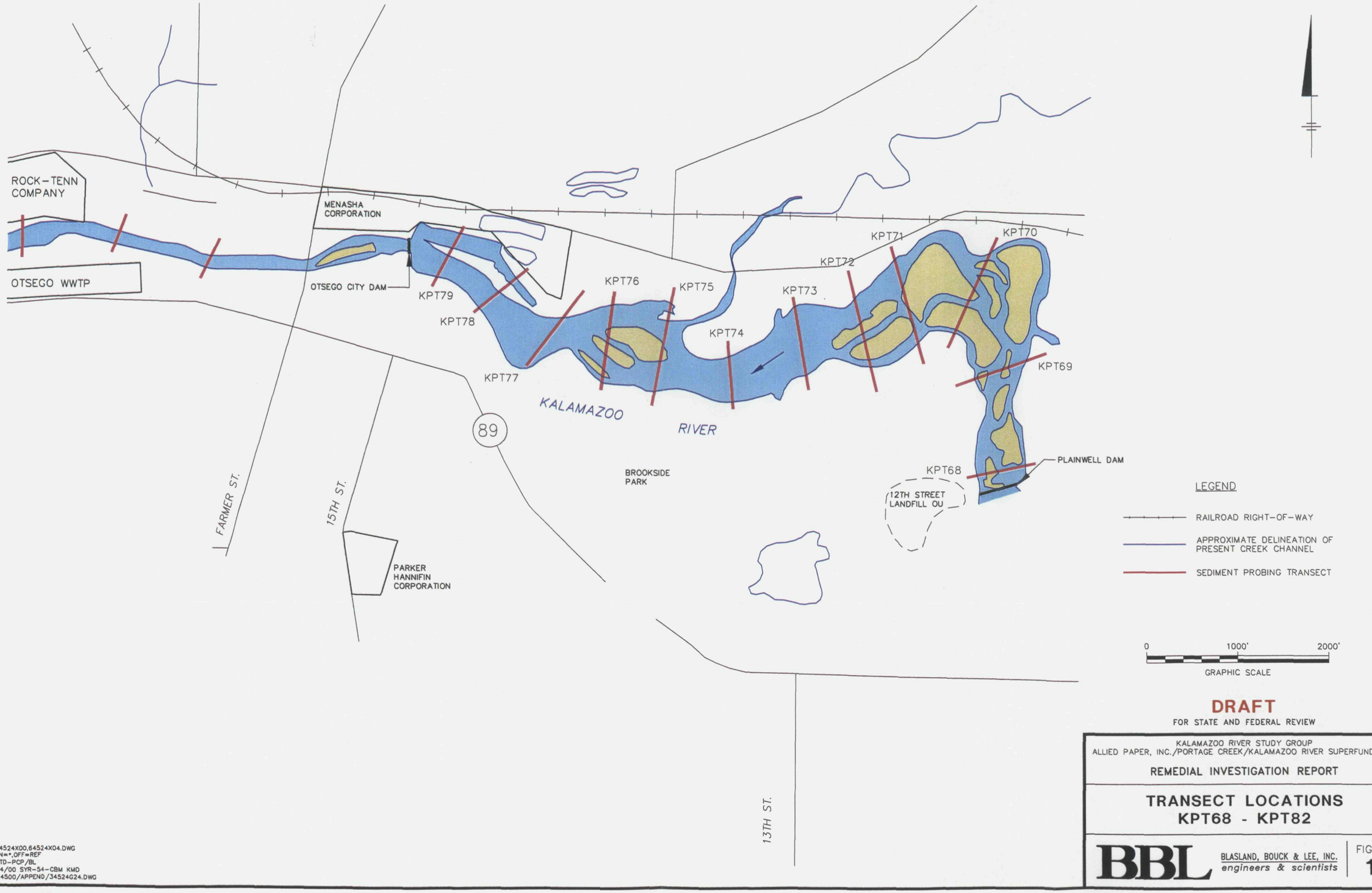
REMEDIAL INVESTIGATION REPORT

TRANSECT LOCATIONS KPT56 - KPT67

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

FIGURE 10

X: 64524X00.DWG
L: ON=*,OFF=REF
P: STD-PCP/BL
10/24/00 SYR-54-CBM KMD
64524500/APPEND/34524G23.DWG



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FOR STATE AND FEDERAL REVIEW

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

REMEDIAL INVESTIGATION REPORT

TRANSECT LOCATIONS KPT68 - KPT82

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

FIGURE 11

X: 64524X00,64524X04.DWG
L: ON=*,OFF=REF
P: STD-PCP/BL
10/24/00 SYR-54-CBM KMD
64524500/APPEND/34524G24.DWG

LEGEND

APPROXMATE FORMER IMPOUNDMENT (ELEVATION 683)

TRANSECT SAMPLING LOCATION AND NUMBER

NOTES:

1. TOPOGRAPHY SUPPLIED BY GZA DONOHUE. TOPOGRAPHIC MAPPING PROVIDED USING PHOTOGRAMMETRIC METHODS BY AERO-METRIC ENGINEERING, INC. USING 1989 AERIAL PHOTOS BY SAME. SURVEY OF GROUND CONTROL POINTS FOR TOPOGRAPHIC MAPPING PERFORMED BY MDNR.
2. TRANSECT LOCATIONS SURVEYED BY BLASLAND, BOUCK & LEE, INC ON 2/15/94.
3. ALL ELEVATIONS ARE NATIONAL GEODETIC VERTICAL DATUM, 1929.

KPT94
KPT93
KPT92
KPT91
KPT90
KPT89
KPT88
KPT87
KPT86
KPT85
OTSEGO DAM
RUIN
POOL
RAMP
DOCK
KALAMAZOO RIVER
W.L. 693.3
W.L. 679.5

600' 0 600'

SCALE

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FOR STATE AND FEDERAL REVIEW

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

REMEDIAL INVESTIGATION REPORT

TRANSECT LOCATIONS KPT85 - KPT94

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

FIGURE 12

X: 64524X00.DWG
L: ON=*,OFF=REF
P: STD-PCP/BL
10/24/00 SYR-54-CBM KMD
64524500/APPEND/34524G25.DWG

LEGEND

APPROXMATE FORMER IMPOUNDMENT (ELEVATION 669)

TRANSECT SAMPLING LOCATION

NOTES:

1. TOPOGRAPHY SUPPLIED BY GZA DONOHUE. TOPOGRAPHIC MAPPING PROVIDED USING PHOTOGRAMMETRIC METHODS BY AERO-METRIC ENGINEERING, INC. USING 1989 AERIAL PHOTOS BY SAME. SURVEY OF GROUND CONTROL POINTS FOR TOPOGRAPHIC MAPPING PERFORMED BY MDNR.
2. TRANSECT LOCATIONS SURVEYED BY BLASLAND, BOUCK & LEE, INC ON 2/15/94.
3. ALL ELEVATIONS ARE NATIONAL GEODETIC VERTICAL DATUM, 1929.

KPT104
KPT105
KPT103
KALAMAZOO RIVER
KPT102
KPT106
KPT109
KPT108
KPT107
KPT99
KPT100
KPT98
KPT101
KPT97
KPT96
KPT95

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1000' 0 1000'
SCALE

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

REMEDIAL INVESTIGATION REPORT

TRANSECT LOCATIONS KPT95 - KPT109

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

FIGURE 13

X: 64524X00.DWG
L: ON=*.OFF=REF
P: STD-PCP/BL
10/24/00 SYR-54-CBM KMD
64524500/APPEND/34524G26.DWG

KPT118

KPT117

KPT114

KPT113

KPT115

111TH AVE

111TH AVE.

109TH AVE.

26TH ST.

KALAMAZOO RIVER

TROWBRIDGE DAM

LEGEND

RAILROAD RIGHT-OF-WAY

APPROXIMATE DELINEATION OF PRESENT CREEK CHANNEL

SEDIMENT PROBING TRANSECT

0 1000' 2000'

GRAPHIC SCALE

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FOR STATE AND FEDERAL REVIEW

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

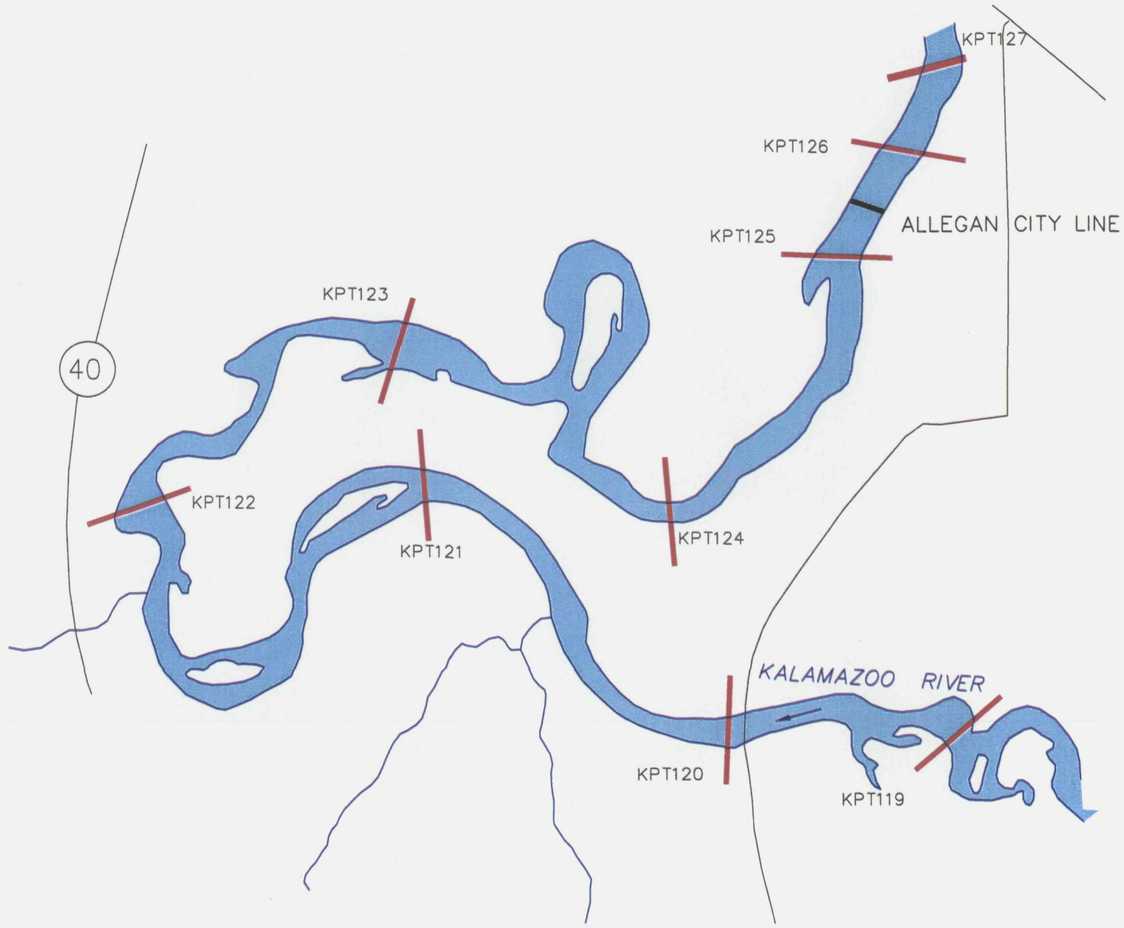
REMEDIAL INVESTIGATION REPORT

TRANSECT LOCATIONS KPT113 - KPT118

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

FIGURE 14

X: 64524X00,64524X05.DWG
L: ON=*,OFF=REF
P: STD-PCP/BL
10/24/00 SYR-54-CBM KMD
64524500/APPEND/34524G26.DWG



LEGEND

- RAILROAD RIGHT-OF-WAY
- APPROXIMATE DELINEATION OF PRESENT CREEK CHANNEL
- SEDIMENT PROBING TRANSECT

0 1000' 2000'

GRAPHIC SCALE

DRAFT

FOR STATE AND FEDERAL REVIEW

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

REMEDIAL INVESTIGATION REPORT

TRANSECT LOCATIONS KPT119 - KPT127

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

FIGURE 15

X: 64524X00,64524X05.DWG
L: ON=*,OFF=REF
P: STD-PCP/BL
10/24/00 SYR-54-CBM KMD
64524500/APPEND/34524G28.DWG

LEGEND

- RAILROAD RIGHT-OF-WAY
- APPROXIMATE DELINEATION OF PRESENT CREEK CHANNEL
- SEDIMENT PROBING TRANSECT

0 1000' 2000'

GRAPHIC SCALE

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

REMEDIAL INVESTIGATION REPORT

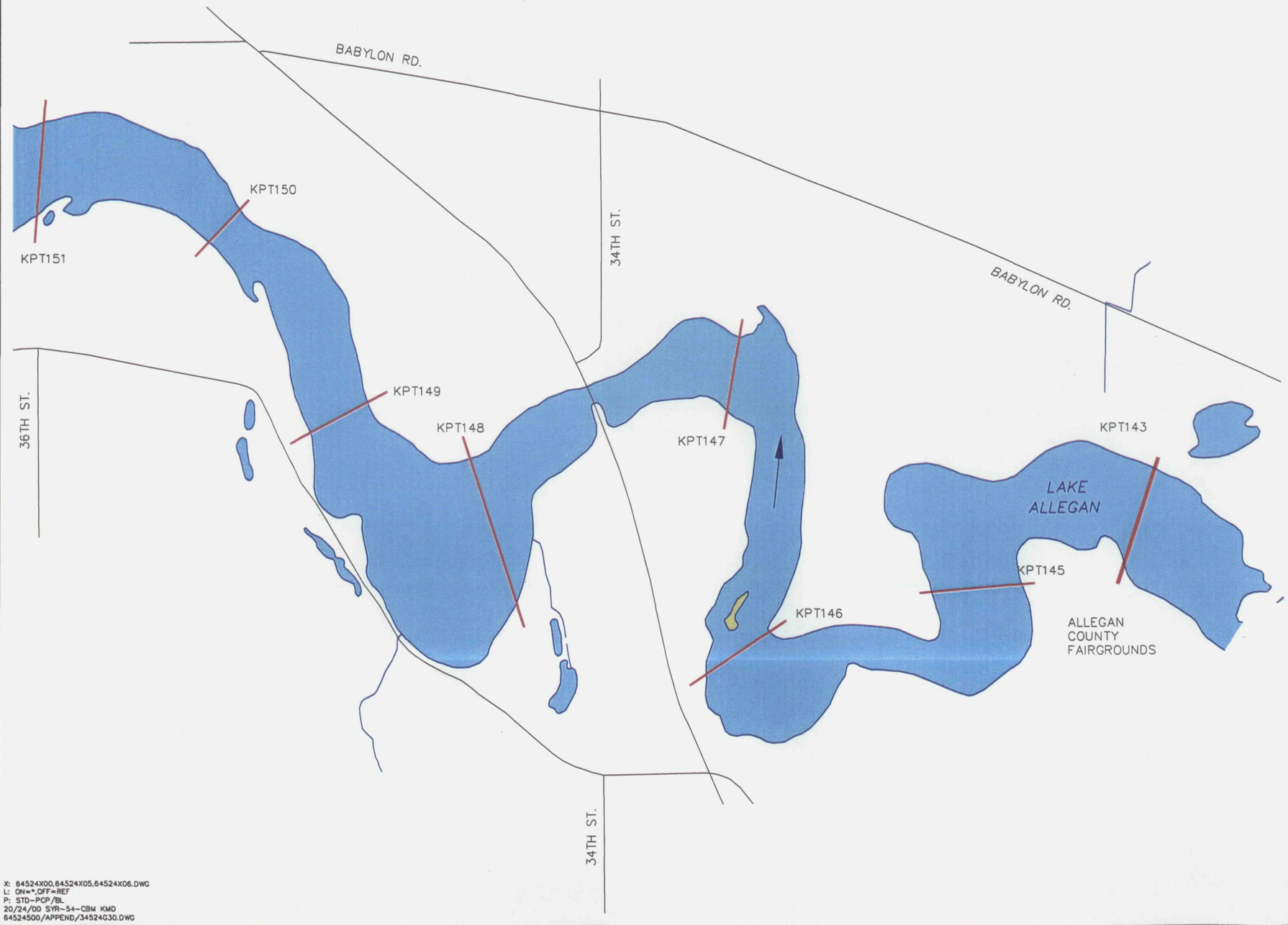
TRANSECT LOCATIONS KPT128 - KPT142

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

FIGURE 16

X: 64524X00,64524X05.DWG
L: ON=*,OFF=REF
P: STD-PCP/BL
10/24/00 SYR-54-CBM KMD
64524S00/APPEND/34524G29.DWG

153 - 33 ppm
ICPT 159 - 176 / 66 ppm - 147 - 73 ppm
152
151 - 143 / 126 - 93 ppm
142 - 128 / 131 - 65 ppm
127 - 119 / 134 - 57 ppm
135 - 86 ppm



LEGEND

- RAILROAD RIGHT-OF-WAY
- APPROXIMATE DELINEATION OF PRESENT CREEK CHANNEL
- SEDIMENT PROBING TRANSECT

0 1000' 2000'

GRAPHIC SCALE

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

REMEDIAL INVESTIGATION REPORT

TRANSECT LOCATIONS KPT143 - KPT151

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

FIGURE 17

X: 64524X00,64524X05,64524X06.DWG
L: ON=*,OFF=REF
P: STD-PCP/BL
20/24/00 SYR-54-CBM KMD
64524500/APPEND/34524G30.DWG

LAKE ALLEGAN DAM

KPT159

KPT158

KPT157

KPT155

KPT156

KPT153

KPT152

ALLEGAN DAM RD.

LAKE ALLEGAN

MONROE RD.

39TH ST.

0 1000' 2000'

GRAPHIC SCALE

LEGEND

RAILROAD RIGHT-OF-WAY

APPROXIMATE DELINEATION OF PRESENT CREEK CHANNEL

SEDIMENT PROBING TRANSECT

DRAFT

FOR STATE AND FEDERAL REVIEW

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

REMEDIAL INVESTIGATION REPORT

TRANSECT LOCATIONS KPT152 - KPT159

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE 18

X: 64524X00,64524X06
L: ON=*,OFF=REF
P: STD-PCP/BL
10/24/00 SYR-54-CBM KMD
64524500/APPEND/34524G31.DWG

Appendix D

BLASLAND BOUCK & LEE, INC.
engineers & scientists

Wetland Functional Evaluation of the Former Plainwell, Otsego, and Trowbridge Impoundments

Appendix D: Wetland Functional Evaluation of the Former Plainwell, Otsego, and Trowbridge Impoundments

1.0 Introduction and Objectives

This appendix presents a wetland assessment for the MDNR-owned former Plainwell, Otsego, and Trowbridge impoundments on the Kalamazoo River Basin in Allegan County, Michigan. The wetland assessment consists of the following components:

- Identification of wetlands within the limits of the former Plainwell, Otsego, and Trowbridge impoundments (see Figures 1, 2, and 3);
- Identification of the physical and biological characteristics of the identified wetlands;
- Evaluation of the functions and values of the identified wetlands using the U.S. Army Corps of Engineers (USACE) Wetland Evaluation Technique (WET) (USACE, 1987a); and
- Evaluation of the habitat quality of the identified wetlands for target wildlife species.

Section 2.0 of this appendix describes the activities conducted to identify and characterize the wetlands associated with the former impoundments. Section 3.0 describes the application and results of the WET model for each impoundment, and Section 4.0 presents the results of the habitat quality evaluation for the target wildlife species.

2.0 Wetland Identification and Characterization

Wetland types and locations within the limits of the former impoundments were identified for subsequent function and value assessment, and habitat quality evaluation. Wetlands are jointly defined by the USACE and U.S. Environmental Protection Agency (USEPA) as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (USACE, 1987b). This definition resulted in three criteria that must be met for areas to be considered wetlands: 1) vegetation must be dominated by hydrophytic (water-tolerant) plant species, 2) soils must be hydric (anaerobic, reducing conditions), and 3) wetland hydrology (inundation or soil saturation to the surface during the growing season) must be present.

Wetland identification was performed in two steps. The first step consisted of gathering existing information to preliminarily identify potential wetlands and other significant resources of the former impoundments. The second step consisted of a site visit to evaluate the accuracy of the information gathered in step one, and to collect supplemental data for the WET model and the wildlife habitat quality evaluation.

Existing information obtained and reviewed under the first step of the wetland identification process consisted of the following:

- U.S. Fish & Wildlife Service (USFWS) National Wetlands Inventory (NWI) maps for the Otsego (USFWS, 1981a) and Merson (USFWS, 1981b) quadrangles;
- U.S. Geological Survey (USGS) topographic maps for the Otsego and Merson quadrangles;
- U.S. Department of Agriculture Soil Conservation Service (USDA-SCS) Soil Survey for Allegan County (USDA-SCS, 1987);
- 1991 aerial photographs (Lockwood, 1991); and
- 1992 *Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Description of the Current Situation* (DCS) (BBEPC, 1992).

NWI maps of the Otsego and Mercer quadrangles served as base maps for the preliminary identification of wetlands within the limits of the former impoundments. The NWI maps are based on stereoscopic analysis of high-altitude photographs and interpretation of vegetation, visible hydrology, and geography in accordance with *Classification of Wetlands and Deepwater Habitats of the United States* (USFWS, 1979). Although NWI wetlands do not represent boundaries of federally-regulated wetlands, they do provide a good approximation of wetland locations and sizes. Figures 4, 5, and 6 present the locations of NWI-mapped wetlands within the boundaries of the former Plainwell, Otsego, and Trowbridge impoundments, respectively. Vegetative communities of the mapped wetlands were evaluated by comparing the NWI maps to 1991 aerial photographs of the former impoundments. In addition, the soil types of the former impoundment areas were identified from the Soil Survey for Allegan County (USDA-SCS, 1987) to evaluate the presence of hydric soils. Hydric soils identified within the limits of the former impoundments consisted of Cohoctah silt loam, Sloan silt loam, Aquents and Histosols, Granby loamy sand, and Glendora loamy sand. Figures 7, 8, and 9 show the locations of hydric soils within the boundaries of the former Plainwell, Otsego, and Trowbridge impoundments, respectively.

Based on the review and evaluation of the reference materials discussed above, potential wetland areas were identified for field evaluation during site visits. Site visits were performed in the spring of 1994. The preliminarily identified

wetlands of each former impoundment were visited to confirm or revise the locations, sizes, and classifications indicated on the reviewed reference sources. In addition, data were collected to identify current surrounding land use in the watershed and to characterize wetland wildlife habitat quality for input into the WET model and wildlife habitat quality evaluation. The following sections provide descriptions of the current characteristics of the watersheds of each former impoundment.

2.1 Former Plainwell Impoundment

The former Plainwell Impoundment is located on a stretch of the Kalamazoo River between Main Street in the City of Plainwell and the site of the former Plainwell Dam, a distance of approximately 2 miles. The Plainwell Dam was a hydroelectric facility that has been dismantled down to the sill level (NUS, 1986). When in operation, the dam had a head of 13 feet, with impounded water covering an area of approximately 123 acres (Miller, 1966). The dam remnants, owned by the MDNR, currently have a head of approximately 5 feet (Johnson et al., 1989). The portions of the former impoundment currently exposed above the existing water line have since revegetated.

The drainage basin of the Kalamazoo River near the City of Plainwell is urbanized, containing residential, commercial, and industrial land uses. The Plainwell wastewater treatment plant outfall is located within the town limits, and the Plainwell Inc. Mill is located adjacent to the river, just downstream of Main Street. Sherwood Park, Pell Park, Darrow Park, and Hick's Park are riverside parks in this section of river that have fairly flat grades to the river's edge.

Within the limits of the former Plainwell Impoundment are two NWI-mapped wetlands totaling approximately 9 acres. These wetlands are classified as palustrine forested and palustrine emergent wetlands.

2.2 Former Otsego Impoundment

The former Otsego Impoundment extended from the former Otsego Dam to just upstream of the Highway 89 bridge. This stretch is primarily surrounded by a rural setting. The Otsego Dam is currently owned by the MDNR and has been dismantled down to the sill level. While in use, the dam had a head of 14.5 feet and impounded water with a surface area of approximately 330 acres (Miller, 1966). The remaining structure has a head of approximately 6 feet. The areas exposed as a result of the drawdown have since revegetated. The Otsego wastewater treatment plant outfall is located on the river within the city limits, and Pine Creek discharges to the river upstream of the Otsego Dam. The creek is impounded prior to the confluence with the river, forming Pine Creek Pond, which is approximately 70 acres.

The NWI map of this stretch indicates six wetlands totaling approximately 37 acres within the limits of the former Otsego Impoundment. These wetlands consist of palustrine emergent and palustrine forested wetlands.

2.3 Former Trowbridge Impoundment

The 4-mile stretch of the Kalamazoo River between the former Otsego Dam and the former Trowbridge Dam is relatively rural, with limited development. The Trowbridge Dam is currently owned by the MDNR and has been dismantled down to the sill level. At present, this dam has a head of approximately 10 feet. Prior to being dismantled, the dam had a head of 21.5 feet and impounded water covering approximately 546 acres (Miller, 1966). The areas exposed as a result of the drawdown have since revegetated.

A total of 65 wetlands totaling approximately 430 acres are present within the limits of the former impoundment. These wetlands are primarily low-lying areas surrounding hairpin curves of the river. Wetland types in this stretch consist of palustrine emergent, palustrine forested, and palustrine scrub/shrub wetlands.

3.0 Wetland Function and Value Assessment

During the 1994 site visit, the habitat quality of each former impoundment was evaluated based on vegetative assemblages and interspersion with uplands and open water. This information was used for the development of input data for the WET model and wildlife habitat quality evaluation. The following sections describe the application and results of the model for each former impoundment.

3.1 Methodology

WET was developed by the USACE to qualitatively assess wetland functions and values based on the characteristics of the wetland and its watershed. Wetland functions are the physical, chemical, and biological processes of a wetland. Wetland values are wetland processes considered beneficial to society.

Specific information and data concerning wetland and watershed characteristics are entered into the program in response to a series of questions. Responses are derived based on an interpretation of existing information and estimation of characteristics of the watershed that could not be specifically measured, but could be inferred by similarity to habitats and wetlands of the Kalamazoo River floodplain. The responses establish values for a set of variables that characterize a wetland and the surrounding area. The variable values are subsequently analyzed in a set of interpretation keys that define the relationship between variable values and wetland functions and values.

The WET interpretation keys assign qualitative probability ratings of low, moderate, or high for the following 14 functions and values encompassed in the assessment:

- Groundwater recharge;
- Groundwater discharge;
- Flood-flow alteration;
- Sediment stabilization;
- Sediment/toxicant retention;
- Nutrient removal/transformation;
- Production export;
- Wildlife diversity/abundance;
- Wildlife diversity/abundance - breeding;
- Wildlife diversity/abundance - migration;
- Wildlife diversity/abundance - wintering;
- Aquatic diversity/abundance;
- Uniqueness/heritage; and
- Recreation.

The WET model independently rates functions and values in terms of social significance, effectiveness, and opportunity. Social significance primarily relates to the values of the wetland services to society due to its special designations, potential economic value, and strategic location. Effectiveness is an evaluation of how well a wetland can perform a function, based on its physical, chemical, and biological characteristics. Opportunity assesses to what extent a wetland has the capacity to provide a particular function.

The WET model can be used at three different assessment levels. A Level 1 assessment can be conducted in the office in a short period of time using available information. A Level 2 assessment requires a site visit for observation and data collection. A Level 3 assessment requires a site visit and the collection of detailed (and sometimes long-term) physical, chemical, and biological monitoring data from the site. The level of assessment chosen depends on the time and information available and the level of confidence desired in the results. A Level 2 assessment was performed for the former impoundment areas by using existing information and that obtained during the 1994 site visit to provide a reasonable evaluation of the functions and values of the wetlands in the former impoundment areas.

3.2 WET Results

The WET results for the former Plainwell, Otsego, and Trowbridge impoundment areas are presented in Tables 1, 2, and 3, respectively. For clarification purposes, asterisks (*) in the table denote parameters for which category-specific values are not evaluated by the model. The following sections summarize the WET results for each former impoundment and compare the results for the different impoundments.

3.3 Former Plainwell Impoundment

The wetland functions with the highest effectiveness ratings at the former Plainwell Impoundment are associated with sediment/toxicant retention, wildlife breeding, and aquatic diversity/abundance. The high rankings for sediment/toxicant retention effectiveness and opportunity reflect the presence of contaminants in the sediments of the former Plainwell impoundment. The high rankings for wildlife breeding and aquatic diversity/abundance result from the proximity of the wetlands to open water. The low ranking for nutrient removal/transformation reflects a short contact time of surface water with vegetated wetlands as a result of deep banks and steep slopes, or a lack of excessive nutrients in the water system. The low ranking for wildlife migration and wintering is a result of the high degree of development and lack of open fields and cover in the portions of the watershed adjacent to the former Plainwell Impoundment.

3.4 Former Otsego Impoundment

The results of the WET model for the former Otsego Impoundment indicated high effectiveness rankings for groundwater discharge, sediment/toxicant retention, nutrient removal/transformation, wildlife breeding and migration, and aquatic diversity/abundance. The high ranking for groundwater discharge reflects a large drainage basin and a location low in the regional topography. High rankings for sediment/toxicant retention and nutrient removal/transformation indicate a high percentage of wetland vegetation contact with surface water and the presence of contaminants and/or excessive nutrients in the water. A high ranking also resulted for sediment/toxicant retention opportunity due to the presence of contaminants in the river system. High rankings for wildlife breeding and migration, and aquatic diversity/abundance indicate a diversity of wetland habitat types in proximity to open water and open fields.

3.5 Former Trowbridge Impoundment

The results of the WET model for the former Trowbridge Impoundment indicate high effectiveness rankings for groundwater discharge, flood-flow alteration, sediment/toxicant retention, nutrient removal/transformation, wildlife breeding and migration, and aquatic diversity/abundance. The high ranking for groundwater discharge reflects a large drainage basin and a location low in the regional topography. A high ranking for flood-flow alteration indicates a high capacity for water storage in large wetland areas adjacent to the main river channel. Similar to conditions at the former Otsego Impoundment, high rankings for sediment/toxicant retention (also high opportunity ranking) and nutrient removal/transformation indicate a high percentage of wetland vegetation contact with surface water and the presence of contaminants and/or excessive nutrients in the river system. High rankings for wildlife breeding and migration and for aquatic diversity/abundance indicate a diversity of wetland habitat types in proximity to open water and open fields.

3.6 Comparison of WET Results Among Former Impoundments

The results of the WET analyses were generally consistent for the three former impoundment areas. The majority of the differences occurred in the effectiveness ratings. The effectiveness ratings for groundwater discharge and nutrient removal were both lower at the former Plainwell Impoundment than for either of the other two impoundments. These differences in the effectiveness ratings for groundwater discharge and nutrient removal were primarily related to differences in wetland quantity and drainage basin size. The former Plainwell Impoundment contains very few wetlands and is located farther upstream than the other former impoundments; it has a smaller drainage area and a smaller capacity to receive and retain groundwater and nutrients from its watershed.

The former Trowbridge Impoundment had a high effectiveness rating for flood-flow alteration, while the other two impoundments were rated moderate. This rating difference for flood-flow alteration is primarily a result of its larger watershed resulting from its location furthest downstream, the sinuous configuration of the river channel, and the water storage capacity of the numerous wetlands in the floodplain.

Due to higher quality and greater diversity of wildlife habitat, the former Trowbridge Impoundment was rated high for social significance, while the former Plainwell and Otsego impoundments were low. In addition, there is a boat launch and public access to the Kalamazoo River at the former Trowbridge Impoundment, and the area is more remote and attractive for wildlife and for public outdoor activities (e.g., fishing, boating). All these factors contribute to its higher recreational rating.

The only other difference in ratings among the former impoundments was for effectiveness for the wildlife migration function. The former Plainwell Impoundment was rated low for wildlife migration due to the dominant surrounding land uses (e.g., agricultural, residential, and commercial) and relative small extent of quality habitat. The former Otsego and Trowbridge impoundments were rated high as a result of the more rural setting and the greater acreage of available wildlife habitat.

In general, all three of the former impoundment areas are considered to be of moderate value with respect to general wetland functions, with the former Trowbridge Impoundment providing the greatest overall value from the standpoint of human use and natural resource support. The primary functions of the impoundment wetlands are associated with sediment/toxicant retention.

4.0 Habitat Suitability

The wildlife habitat evaluation assessed the ability of the habitats of the former impoundments to support target wildlife species. For this appraisal, the target wildlife species consisted of mink (*Mustela vison*), red fox (*Vulpes vulpes*), great horned owl (*Bubo virginianus*), and barred owl (*Strix varia*). Except for the barred owl, these species were selected as targets for the habitat evaluation due to their use in an ecological risk assessment (ERA) food web exposure model developed by Camp Dresser & McKee, Inc. (CDM) (1993) for the Site. The CDM (1993) ERA focused on species that do not migrate and are of upper-trophic levels that could be influenced by exposure to contaminants in the Kalamazoo River basin. The barred owl was included in this evaluation as a conservative measure due to its similar feeding habits but more specialized habitat requirements compared with the great horned owl. Brief descriptions of the primary habitat requirements for each target species are presented in Attachment 1.

To evaluate former impoundment habitat quality for the target species, the habitat requirements of each species were compared with the observed characteristics of the floodplain communities. Wetland characteristics were identified with respect to habitat use limitations, such as food sources, available cover, specialized breeding/nesting habitat, and seasonal considerations. This process is similar to the habitat suitability index (HSI) developed by the USFWS, which uses specific habitat measures for comparison with optimal habitat requirements of a species. The habitat evaluation described in this appendix did not include the rigorous data collection required for a typical HSI evaluation, but rather included a more generalized assessment of the habitat requirements of each target species for comparison with the overall characteristics of the former impoundment wetlands that were identified during the 1994 site visit.

The suitability of former impoundment wetlands as habitat for each target species was estimated and reported as the percentage of optimal species habitat occurring in each former impoundment based on habitat characteristics. These estimates were developed based on literature review, limiting factors observed during field investigations, and professional judgment. The basis for the habitat quality estimation results for each impoundment area is presented below.

4.1 Former Plainwell Impoundment

The habitat quality of the former Plainwell Impoundment is greatly influenced by the high level of human development in the adjacent residential and commercial areas. The former Plainwell Impoundment is affected by noise and light factors associated with transportation routes and large commercial businesses, such as shopping centers and restaurants. Natural habitat is limited to small adjacent open fields, forested channel edges, and scrub/shrub clusters. The floodplain of the Kalamazoo River is fairly broad at the former Plainwell Impoundment. The riverbank and floodplain have a soft mucky substrate, and riprap has been placed near the edges of the dam sill. Seasonal inundation results in occasional bankfull or overbank flow.

The primary constraint on the habitat quality of the former Plainwell Impoundment for mink is the bank substrate. The soft substrate of the riverbank is not highly conducive to denning mammals such as the mink, since the structural integrity of dens in this material would tend to be compromised during periods of inundation. However, suitable foraging habitat and cover are available.

The red fox would likely find adequate small mammal prey sources in the vicinity of the former Plainwell Impoundment. Although human presence could intermittently constrain habitat use, suitable fox denning sites are available.

The former Plainwell Impoundment does not provide high-quality habitat for the barred or great horned owls because it lacks a large contiguous forest area with the relatively dense canopy required for roosting. However, the successional stage and tree density of surrounding forest habitats provide suitable foraging habitat for both owls.

4.2 Former Otsego Impoundment

The former Otsego Impoundment is in a rural setting that is more remote than the former Plainwell Impoundment. There is some human influence from the nearby residential areas, but there are no commercial aspects or noise and light factors. The riverbank is steeply sloped and grades up toward a secondary road that parallels the river channel.

Seasonal inundation likely results in occasional bankfull or overbank flow, but saturated soil conditions dominate the former Otsego Impoundment. There are also large open fields, wet meadows, emergent marshes, dense forest, and a significant areal extent of wetlands.

There are suitable mink denning areas along various portions of the riverbank, including some rocky areas that are above the average seasonal high-water levels. There are also adequate aquatic food sources for mink in the river.

Small mammals are present in suitable abundance to support local populations of red fox in this area. There are also a variety of alternative food sources available for red fox, and there is suitable denning habitat remote from human influence.

The former Otsego Impoundment is fairly conducive to use by great horned and barred owls. The extent of forest habitat and the density of the canopy are considered adequate for roosting and foraging use by these owls.

4.3 Former Trowbridge Impoundment

The former Trowbridge Impoundment is the most remotely located of the three former impoundments and has a rural setting. There are no overt human influences or riverbank residential or commercial areas in proximity to the former impoundment. No man-made noise and light issues are present at this location. The former Trowbridge Dam area on the Kalamazoo River is bordered by a red pine plantation along the southern riverbank, and extensive deciduous forest along the shore of the northern riverbank. The local topography consists of moderate to steeply sloping hillsides that drain to the Kalamazoo River. The river channel is very broad with side splits, side channels, and hairpin meanders. This expanse of the Kalamazoo River contains wetlands that remain saturated year-round, with routine localized rearrangement of depositional islands and backwater channels. The areal extent of this impoundment is more than twice that of the other two former impoundments, and the variety of habitats is also of greater areal extent. The sandy depositional islands support waterfowl and other bird species.

There are suitable mink denning areas along the Kalamazoo River at this location. There is also an abundance of food sources and adequate breeding habitat.

Foxes are known to use island habitats for denning areas. No large open fields for red fox foraging are located in the near vicinity of the former Trowbridge Impoundment; however, extensive emergent marsh areas provide food and cover for waterfowl. The seasonal presence and availability of fledgling and juvenile waterfowl likely provide a significant forage base for the red fox.

Based on the likely availability of prey species and the presence of dense forest stands for roosting and breeding, the former Trowbridge Impoundment provides good habitat for the barred and great horned owls.

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USFWS. 1981b. National Wetland Inventory Map, Merson Quadrangle.

Tables

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
WET RESULTS FOR FORMER PLAINWELL IMPOUNDMENT

Wetland Function	Social Significance	Effectiveness	Opportunity
Groundwater Recharge	L	U	*
Groundwater Discharge	L	M	*
Flood-flow Alteration	L	M	M
Sediment Stabilization	M	M	*
Sediment/Toxicant Retention	L	H	H
Nutrient Removal/Transformation	L	L	M
Production Export	*	M	*
Wildlife Diversity/Abundance (D/A)	M	*	*
Wildlife D/A Breeding	*	H	*
Wildlife D/A Migration	*	L	*
Wildlife D/A Wintering	*	L	*
Aquatic Diversity/Abundance	M	H	*
Uniqueness/Heritage	H	*	*
Recreation	L	*	*

Notes:
H = High, M = Moderate, L = Low, U = Uncertain, * = not evaluated by model

TABLE 2

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

REMEDIAL INVESTIGAION REPORT
WET RESULTS FOR FORMER OTSEGO IMPOUNDMENT

Wetland Function	Social Significance	Effectiveness	Opportunity
Groundwater Recharge	L	U	*
Groundwater Discharge	L	H	*
Floodflow Alteration	L	M	M
Sediment Stabilization	M	M	*
Sediment/Toxicant Retention	L	H	H
Nutrient Removal/Transformation	L	H	M
Production Export	*	M	*
Wildlife Diversity/Abundance (D/A)	M	*	*
Wildlife D/A Breeding	*	H	*
Wildlife D/A Migration	*	H	*
Wildlife D/A Wintering	*	L	*
Aquatic Diversity/Abundance	M	H	*
Uniqueness/Heritage	H	*	*
Recreation	L	*	*

Notes:
H = High, M = Moderate, L = Low, U = Uncertain, * = not evaluated by model

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
WET RESULTS FOR FORMER TROWBRIDGE IMPOUNDMENT

Wetland Function	Social Significance	Effectiveness	Opportunity
Groundwater Recharge	L	U	*
Groundwater Discharge	L	H	*
Floodflow Alteration	L	H	M
Sediment Stabilization	M	M	*
Sediment/Toxicant Retention	L	H	H
Nutrient Removal/Transformation	L	H	M
Production Export	*	M	*
Wildlife Diversity/Abundance (D/A)	M	*	*
Wildlife D/A Breeding	*	H	*
Wildlife D/A Migration	*	H	*
Wildlife D/A Wintering	*	L	*
Aquatic Diversity/Abundance	M	H	*
Uniqueness/Heritage	H	*	*
Recreation	H	*	*

Notes:
H = High, M = Moderate, L = Low, U = Uncertain, * = not evaluated by model

Figures

LEGEND

APPROXMATE FORMER IMPOUNDMENT (ELEVATION 712)

NOTES:

1. TOPOGRAPHY SUPPLIED BY GZA DONOHUE. TOPOGRAPHIC MAPPING PRODUCED USING PHOTOGRAMMETRIC METHODS BY AERO-METRIC ENGINEERING, INC. USING 1989 AERIAL PHOTOS BY SAME. SURVEY OF GROUND CONTROL POINTS FOR TOPOGRAPHIC MAPPING PERFORMED BY MDNR.
2. ALL ELEVATIONS ARE NATIONAL GEODETIC VERTICAL DATUM, 1929.

DRAFT

FOR STATE AND FEDERAL REVIEW

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

REMEDIAL INVESTIGATION REPORT

FORMER PLAINWELL IMPOUNDMENT BOUNDARIES

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

FIGURE 1

X: 64524X00.DWG
L: ON=*; OFF=REF*
P: DJ-BSIZE
10/23/00 SYR-54-AK NES KMD
64524500/APPEND/64524G02.DWG

NOTES:

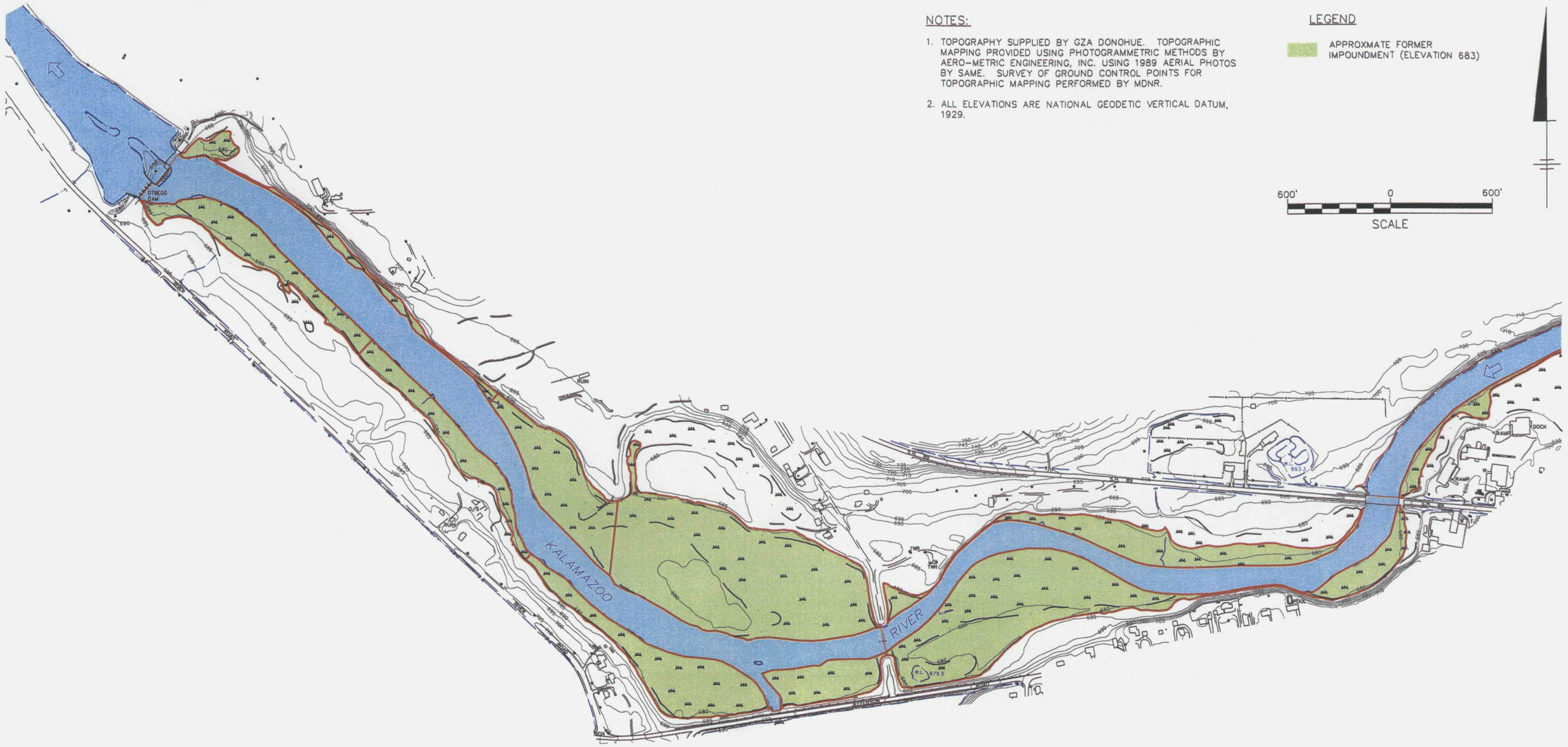
1. TOPOGRAPHY SUPPLIED BY GZA DONOHUE. TOPOGRAPHIC MAPPING PROVIDED USING PHOTOGRAMMETRIC METHODS BY AERO-METRIC ENGINEERING, INC. USING 1989 AERIAL PHOTOS BY SAME. SURVEY OF GROUND CONTROL POINTS FOR TOPOGRAPHIC MAPPING PERFORMED BY MDNR.
2. ALL ELEVATIONS ARE NATIONAL GEODETIC VERTICAL DATUM, 1929.

LEGEND

APPROXMATE FORMER IMPOUNDMENT (ELEVATION 683)

600' 0 600'

SCALE



DRAFT

FOR STATE AND FEDERAL REVIEW

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

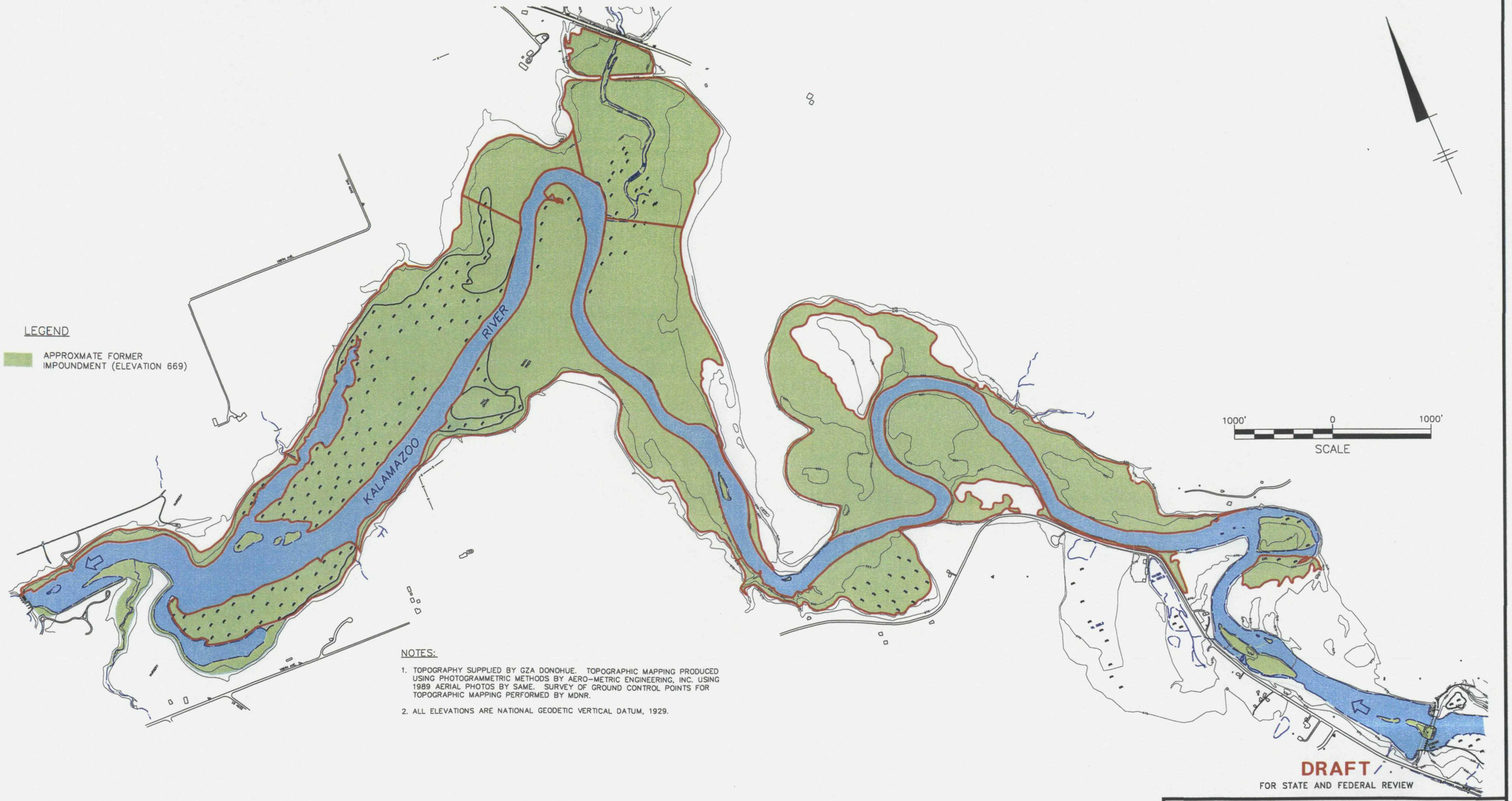
REMEDIAL INVESTIGATION REPORT

FORMER OTSEGO IMPOUNDMENT BOUNDARIES

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

FIGURE 2

X: 64524X00.DWG
L: ON=*; OFF=REF*
P: DJ-BSIZE
10/23/00 SYR-54-AK NES KMD
64524500/APPEND/64524G03.DWG



NOTES:

1. TOPOGRAPHY SUPPLIED BY GZA DONOHUE. TOPOGRAPHIC MAPPING PRODUCED USING PHOTOGRAMMETRIC METHODS BY AERO-METRIC ENGINEERING, INC. USING 1989 AERIAL PHOTOS BY SAME. SURVEY OF GROUND CONTROL POINTS FOR TOPOGRAPHIC MAPPING PERFORMED BY MDNR.
2. ALL ELEVATIONS ARE NATIONAL GEODETIC VERTICAL DATUM, 1929.

DRAFT

FOR STATE AND FEDERAL REVIEW

X: 64524X00.DWG
L: ON=*; OFF=REF*
P: DJ-BSIZE
4/14/00 SYR-54-AK NES
64524500/APPEND/64524G04.DWG

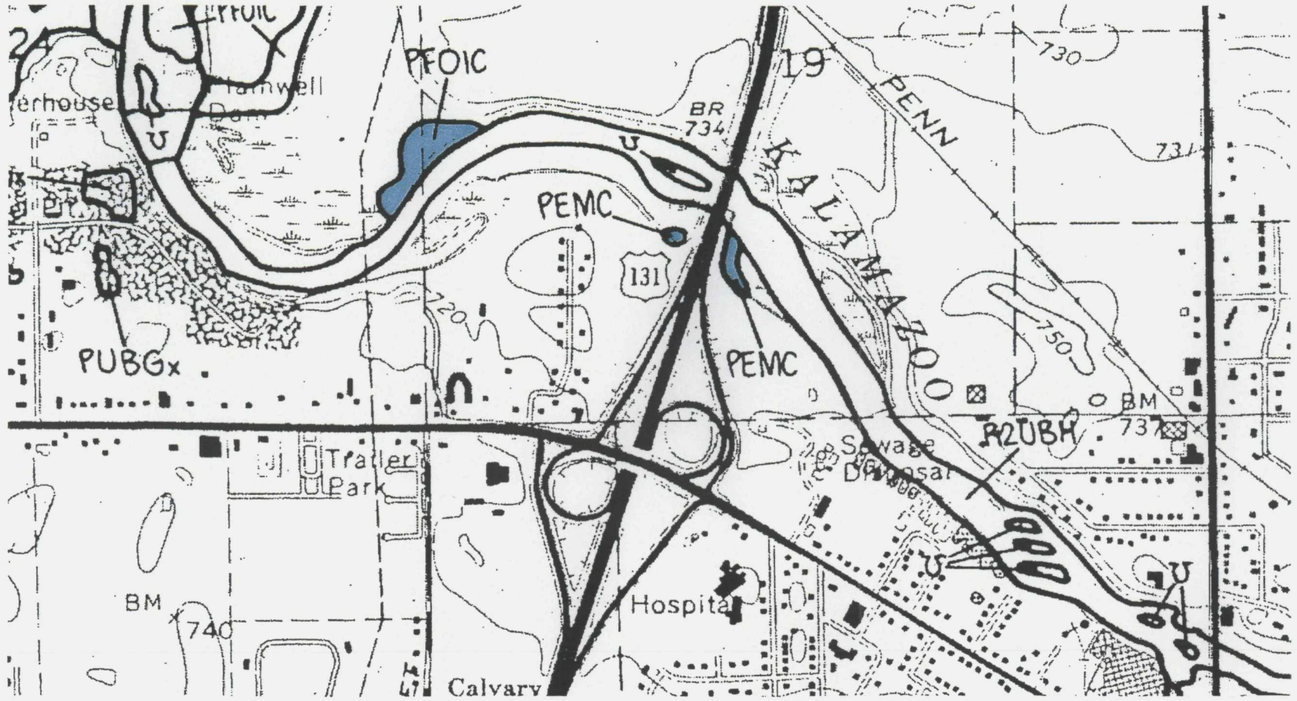
KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER SUPERFUND SITE

REMEDIAL INVESTIGATION REPORT

FORMER TROWBRIDGE IMPOUNDMENT BOUNDARIES

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

FIGURE 3



NOTE:

BASE MAPPING TAKEN FROM NATIONAL WETLAND INVENTORY MAP FOR OTSEGO, MICHIGAN, PREPARED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, FROM AERIAL PHOTOGRAPHY DATED 5/81.

LEGEND:

NWI WETLANDS OF THE FORMER PLAINWELL IMPOUNDMENT

0 1000' 2000'

GRAPHIC SCALE

DRAFT

FOR STATE AND FEDERAL REVIEW

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

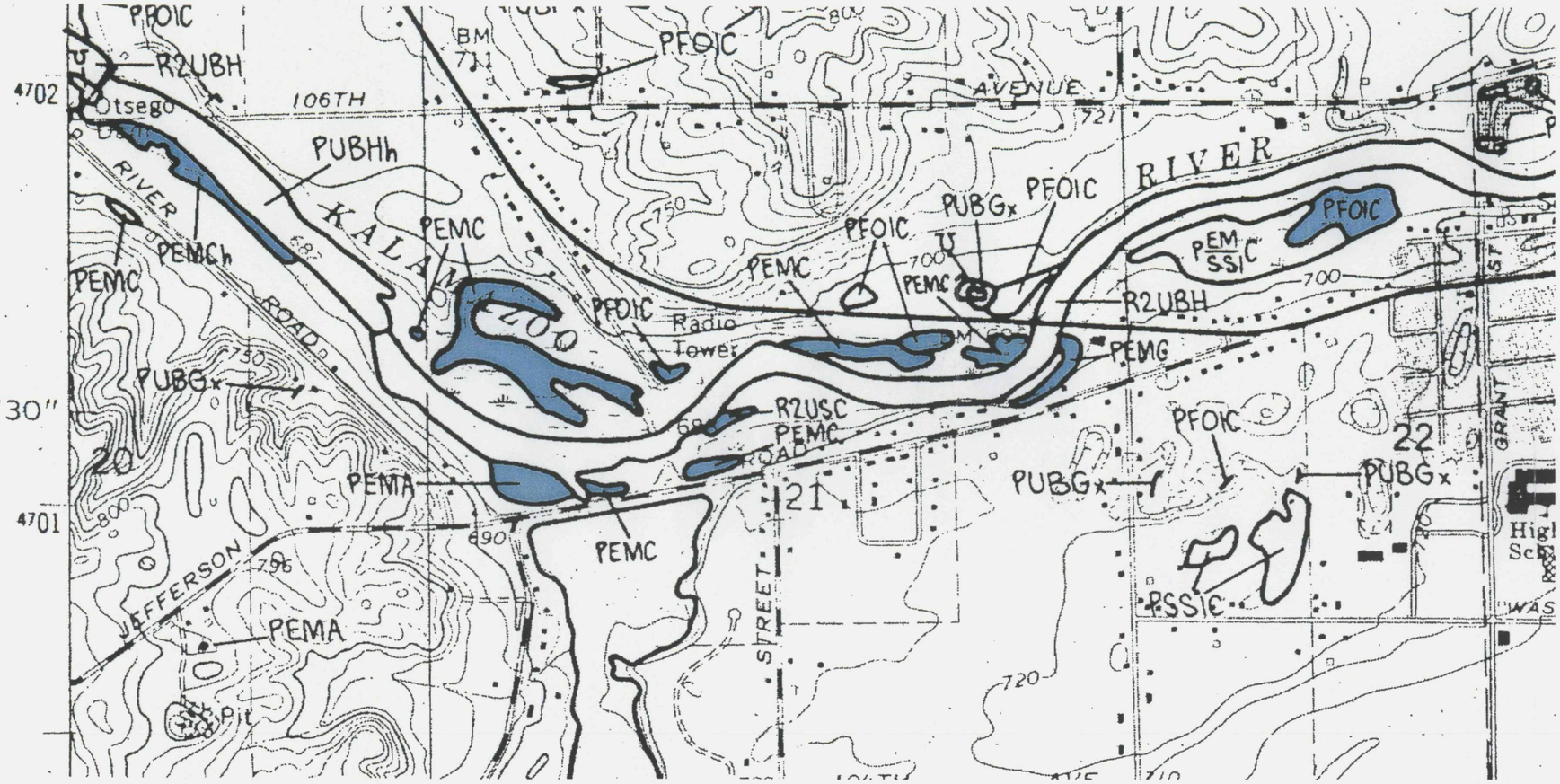
REMEDIAL INVESTIGATION REPORT

NWI WETLANDS OF THE FORMER PLAINWELL IMPOUNDMENT

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE 4

X: 64524X02.TIF, 64524X00.DWG
L: ON=*;OFF=REF*
P: STD/BL.PCP
10/26/00 SYR-54-NES KMD
64524500/APPEND/64524G05.DWG



NOTE:

BASE MAPPING TAKEN FROM NATIONAL WETLAND INVENTORY MAP FOR OTSEGO, MICHIGAN, PREPARED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, FROM AERIAL PHOTOGRAPHY DATED 5/81.

LEGEND:

NWI WETLANDS OF THE FORMER OTSEGO IMPOUNDMENT

0 1000' 2000'

GRAPHIC SCALE

DRAFT

FOR STATE AND FEDERAL REVIEW

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

REMEDIAL INVESTIGATION REPORT

NWI WETLANDS OF THE FORMER OTSEGO IMPOUNDMENT

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

FIGURE 5

X: 64524X02.TIF, 64524X00.DWG
L: ON=*;OFF=REF*
P: STD/BL.PCP
10/26/00 SYR-54-NES KMD
64524500/APPEND/64524GG06.DWG

NOTE:

BASE MAPPING TAKEN FROM NATIONAL WETLAND INVENTORY MAP FOR MERSON, MICHIGAN, PREPARED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, FROM AERIAL PHOTOGRAPHY DATED 5/81.

LEGEND:

NWI WETLANDS OF THE FORMER TROWBRIDGE IMPOUNDMENT

0 1200' 2400'

GRAPHIC SCALE

DRAFT

FOR STATE AND FEDERAL REVIEW

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

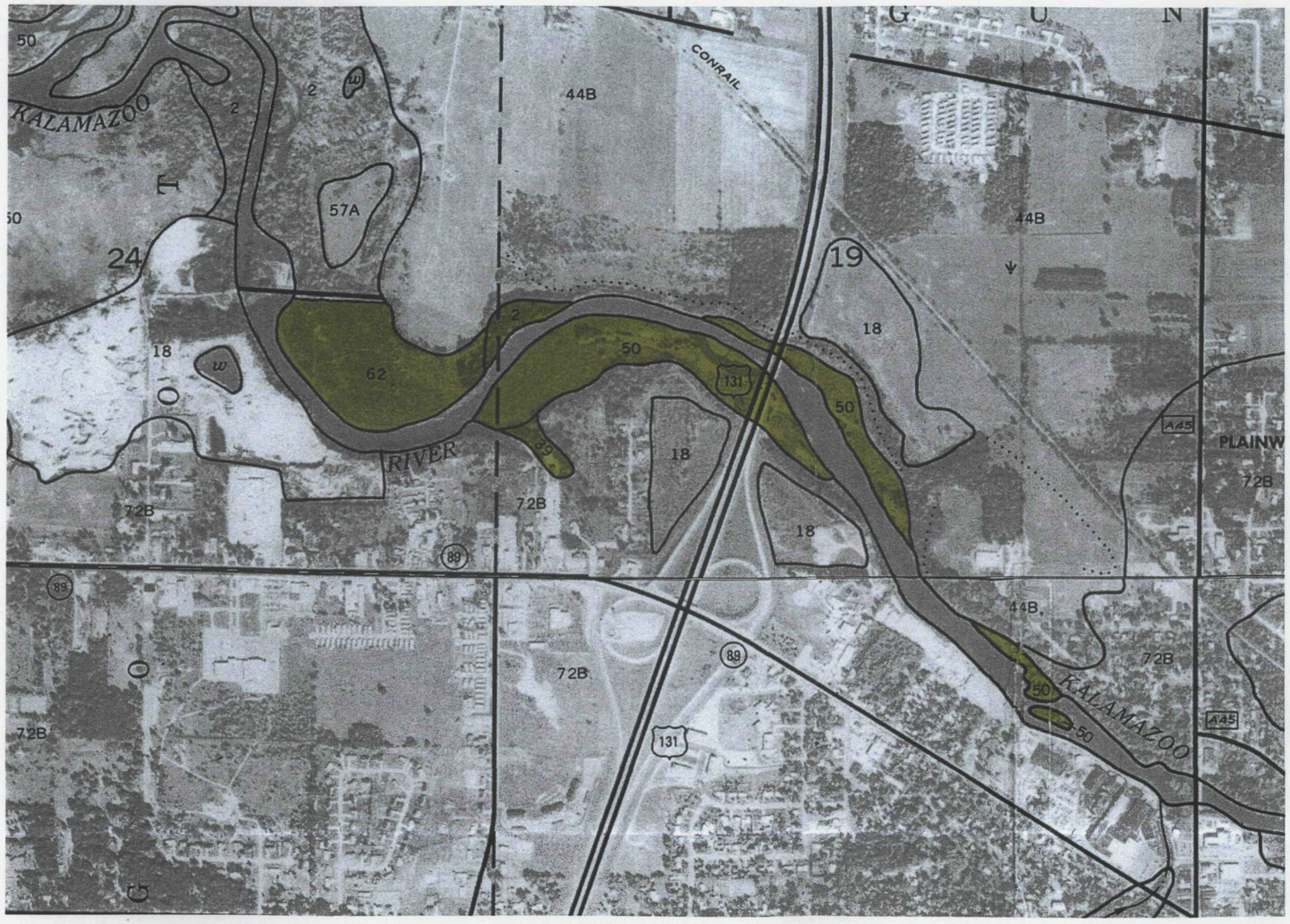
REMEDIAL INVESTIGATION REPORT

NWI WETLANDS OF THE FORMER TROWBRIDGE IMPOUNDMENT

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

FIGURE 6

X: 64524X01.TIF, 64524X00.DWG
L: ON=*;OFF=REF*
P: STD/BL.PCP
10/26/00 SYR-54-NES KMD
64524500/APPEND/64524G07.DWG



NOTE:

BASE MAPPING TAKEN FROM PAGES 111 AND 122 OF SOIL SURVEY OF ALLEGAN COUNTY, MICHIGAN BY THE SOIL CONSERVATION SERVICE DATED 1987.

LEGEND:

HYDRIC SOILS OF THE FORMER PLAINWELL IMPOUNDMENT

0 1000' 2000'

GRAPHIC SCALE

DRAFT

FOR STATE AND FEDERAL REVIEW

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

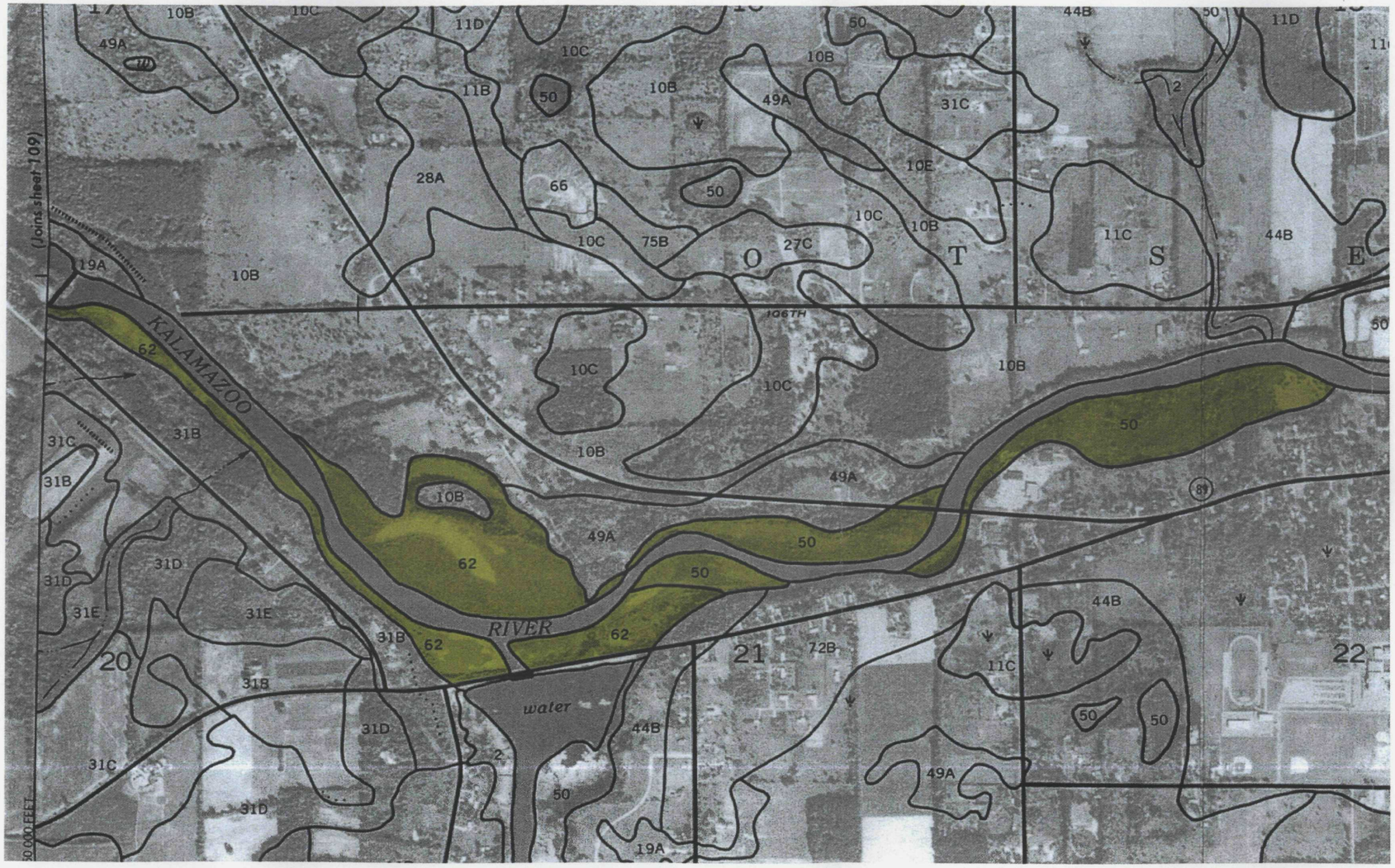
REMEDIAL INVESTIGATION REPORT

HYDRIC SOILS OF THE FORMER PLAINWELL IMPOUNDMENT

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

FIGURE 7

X: 64524X03,64524X04.TIF, 64524X00.DWG
L: ON=*;OFF=REF*
P: STD/BL.PCP
10/26/00 SYR-54-NES KMD
64524500/APPEND/64524G08.DWG



NOTE:

BASE MAPPING TAKEN FROM PAGES 110 OF SOIL SURVEY OF ALLEGAN COUNTY, MICHIGAN BY THE SOIL CONSERVATION SERVICE DATED 1987.

LEGEND:

HYDRIC SOILS OF THE FORMER OTSEGO IMPOUNDMENT

0 1000' 2000'

GRAPHIC SCALE

DRAFT

FOR STATE AND FEDERAL REVIEW

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

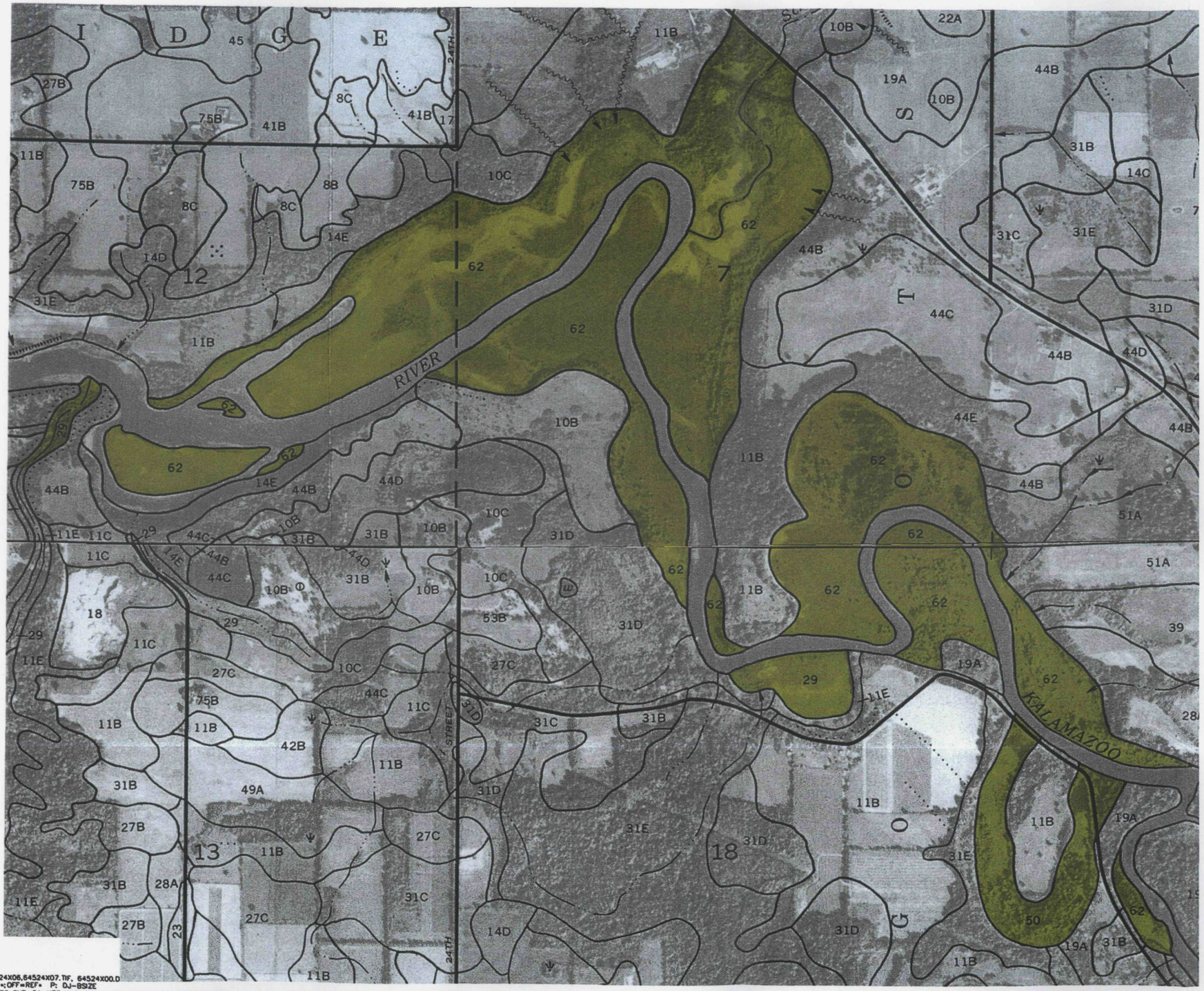
REMEDIAL INVESTIGATION REPORT

HYDRIC SOILS OF THE FORMER OTSEGO IMPOUNDMENT

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

FIGURE 8

X: 64524X05.TIF, 64254X00.DWG
L: ON=*;OFF=REF*
P: STD/BL.PCP
10/26/00 SYR-54-NES KMD
64524500/APPEND/64524G09.DWG



NOTE:

BASE MAPPING TAKEN FROM PAGES 98 AND 109 OF SOIL SURVEY OF ALLEGAN COUNTY, MICHIGAN BY THE SOIL CONSERVATION SERVICE DATED 1987.

LEGEND:

HYDRIC SOILS OF THE FORMER TROWBRIDGE IMPOUNDMENT

0 1000' 2000'

GRAPHIC SCALE

DRAFT

FOR STATE AND FEDERAL REVIEW

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

REMEDIAL INVESTIGATION REPORT

HYDRIC SOILS OF THE FORMER TROWBRIDGE IMPOUNDMENT

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

FIGURE 9

X: 64524X06,64524X07.TIF, 64524X00.D
L: ON=*;OFF=REF* Pr: DJ-BS2E
10/27/00 SYR-54-NES KMD GMS 64524500/APPEND/64524G10.DWG

Attachment

Attachment 1

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Habitat Requirements of Target Species

Habitat Requirements of Target Species

MINK
Mustela vision

(Fairly specific requirements - highly limited). Aquatic habitats are necessary for food/cover. Habitats must be remote from human influences; shoreline dens must be near aquatic food sources; and fish and aquatic invertebrates are diet mainstays.

RED FOX
Vulpes vulpes

(Generally opportunistic - not highly limited). Prefers upland fields/wooded edges; small mammals are a major diet component (e.g., fox populations are known to cycle around rodent availability, especially voles). Also will eat carrion, birds, insects, fleshy fruits, seeds, acorns, berries. Home range is approximately 1 to 5 miles (highly mobile). There are variations in home range depending on topography, vegetative cover, and food availability. Not highly disturbed by human presence.

Breeding factors: Dens are used for breeding (foxes sleep in the open). Dens are usually well-drained ground burrows, commonly located in a variety of settings (e.g., along fencerows, in the middle of agricultural fields, at wooded edges, on ridges, within stone fences and old drain tile, on midriver channel islands); there are usually two or more openings per den. Foxes can dig dens, but favor use of pre-existing dens, especially woodchuck holes.

Feeding habitats: Fallow/cultivated fields, meadows, fence lines, woody stream borders. Red fox prefer uplands with open pasture and woodland edges (e.g., gray fox prefer lowland woods and woodland edges).

Human consumption (e.g., hunting/trapping) accounts for approximately 80% of mortality in the midwestern U.S.

The average red fox survives approximately three years in the wild.

Common diseases: mange, distemper, heartworm, rabies.

BARRED OWL
Strix varia

(Fairly opportunistic - not highly limited). Preferred habitats: wet woods/dense lowland forest to hunt (nocturnal); and thick lowland forest recesses to rest (days). Cavity nesting, especially in trees greater than 40 feet. Primary diet composition: rodents, birds, frogs, crayfish. Owl will prey on fox-catched leftovers; owls are known to prey on young foxes and other mammals.

GREAT HORNED OWL
Bubo virginianus

(Very opportunistic - not highly limited). Relies on a wide variety of prey items (e.g., birds, rabbits, rodents, insects, reptiles, frogs). Will utilize a variety of habitat types (e.g., forest, desert, open land, swamps, city parks). The species is considered ubiquitous. Cavity nesting, especially in trees greater than 40 feet. Open understory preferred for nocturnal foraging.

Appendix E

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

2000 Focused Sampling Data and Field Documentation

Appendix E: 2000 Focused Sampling Data and Field Documentation

Kalamazoo River sediment and floodplain soils were collected and analyzed as part of the Remedial Investigation/Feasibility Study (RI/FS) for the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site. This appendix describes the objectives, methods, sample collection, and analyses for the 2000 Focused Sampling of depositional areas between Morrow Dam and Lake Allegan Dam.

In a memo to Blasland, Bouck & Lee, Inc. (BBL) dated April 11, 2000, the Michigan Department of Environmental Quality (MDEQ) identified 114 locations between Morrow Dam and Lake Allegan Dam where additional sediment/soil cores were to be collected for analysis of PCB. The 114 sampling locations were targeted as floodplain depositional zones; recently active oxbows; islands; accidental, permitted, and un-permitted waste disposal areas; or areas of potential sediment deposition. The primary objective of the focused sampling was to provide specific information pertaining to the nature and extent of PCB in those areas. Between April and August 2000, BBL collected 115 cores on behalf of the Kalamazoo River Study Group (KRSG) under the direction of the MDEQ (one additional core was collected and analyzed at the request of Georgia-Pacific Corporation).

Data from the focused sampling effort, including validation reports and chain of custody forms were included in submittals sent to Mr. Brian von Gunten of the MDEQ on the following dates: July 14, 2000; August 11 and 25, 2000; and September 14 and 29, 2000. Table 1 presents a summary of the field notes; Tables 2 and 3 present the results of particle size and PCB analyses, respectively, for all samples. All field documentation is included as Attachment 1 to this appendix. Discussion of the results is presented in Section 4 of the RI report.

QA/QC Review of Data – Summary of Precision and Accuracy Assessment

Precision and Accuracy Assessment for Laboratory Analyses

Data packages for samples taken during the 2000 focused sampling activities were reviewed and inspected for analytical precision and accuracy. Thirty sample delivery groups (SDGs) were reviewed and evaluated.

Analytical precision was assessed by comparing the percent recoveries of the matrix spike (MS) and matrix spike duplicate (MSD) samples. The relative percent differences (RPDs) between percent recoveries were calculated for

each pair of duplicate analyses. Analytical accuracy was assessed by evaluating the matrix spike, matrix spike duplicate, surrogate spike and blank spike recoveries.

An overall precision and accuracy summary, as assessed through the review of QA/QC information including MS/MSD recoveries and RPDs between recoveries, matrix spike blank (MSB) recoveries, surrogate spike recoveries and contamination levels in the blanks, is presented below. A more detailed review of the data can be found in the previously submitted Data Review Reports.

PCB Data Quality Summary

Data for 30 MS/MSD sets were evaluated. The MS/MSD recoveries and RPD between recoveries were within control limits for 23 of the 30 sets. Of the remaining seven sets: recoveries for Aroclor 1242 could not be calculated due to interference from Aroclors present in the unspiked sample in one set, recoveries for one of the spiked Aroclors were above control limits in one set, recoveries for one of the spiked Aroclors were below control limits in three of the sets and the RPDs between recoveries outside control limits in two of the sets. Overall, Aroclor 1242 recoveries ranged from 32 to 144 percent with an average of 97 percent while Aroclor 1254 recoveries ranged from 56 to 142 percent with an average of 102 percent. The precision of the matrix spikes, as measured by the RPD between the MS and MSD recoveries, ranged from 1 to 64 percent with an average of 11 percent for Aroclor 1242, and from 1 to 64 percent with an average of 10 percent for Aroclor 1254. The MSB recoveries for Aroclor 1242 ranged from 75 to 148 percent with an average of 98 percent while Aroclor 1254 recoveries ranged from 81 to 144 percent with an average of 104 percent.

Recovery for one surrogate was outside control limits in 17 samples. Since in all cases recoveries for the second surrogate were within control limits, no data qualification was warranted based on the deviations. Recoveries for both surrogates were below control limits in 11 samples (K10659, K10696, K20380, K20381, K53388, K53577, K53631, K53613, K53633 and K53674). Data for all listed samples were qualified as estimated with a potential low bias based on the recoveries. Surrogates were diluted beyond the range of quantitation in 44 samples. Overall, surrogate recoveries for tetrachloro-meta-xylene (TCMX) ranged from 28 to 133 percent with an average of 90 percent. Recoveries for decachlorobiphenyl (DCB) ranged from 34 to 237 percent with an average of 99 percent.

No Aroclors were detected in any method blank.

One continuing calibration verification standard was outside the specified control limit. Data for samples associated with the non-compliant standards were qualified as estimated based on the deviation.

Data for twelve samples were misreported and manually corrected by the reviewer; false negatives were reported for two samples (corrected); false positives were reported for three samples (corrected); and data for four samples were qualified as estimated with presumptive evidence of identification based on poor Aroclor pattern matches. The previously submitted Data Review Reports contain more information concerning the specific samples and Aroclors affected.

The results for all but three of the 50 field duplicates submitted were within acceptable limits. No Aroclors were detected in 26 of the duplicates. When detected, the RPDs between duplicate results ranged from 5 to 155 percent with an average of 56 percent.

TOC Data Quality Summary

Data for 30 matrix spikes were evaluated. All matrix spike recoveries were within acceptable limits, with recoveries ranging from 84 to 100 percent with an average of 100 percent. Laboratory control sample recoveries ranged from 88 to 120 percent with an average of 102 percent.

The RPD between laboratory duplicate results ranged form 3 to 89 percent with an average of 22 percent.

No TOC was present above the reporting limit in any method blank.

Data for 10 samples were qualified as estimated based on the high relative percent differences between multiple injection results and data for 27 samples were manually recalculated due to apparent instrument error. The previously submitted Data Review Reports contain more information concerning the specific samples affected

The results for all but two of the 50 field duplicates submitted were within acceptable limits. Overall, the RPDs between duplicate results ranged from 0 to 148 percent with an average of 31 percent.

Tables

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
FIELD NOTE SUMMARY

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	Easting	Northing	Elevation (ft amsl)	Depth Increment (in.)	Sample Description
K53547	FF-4	5/11/00	SEDIMENT	Channel Sediment	12804466.45	288649.2422	756.0	0 - 2	BROWN SILT WITH ORGANICS
K53548	FF-4	5/11/00	SEDIMENT	Channel Sediment	12804466.45	288649.2422	756.0	2 - 6	BROWN SILT, SOME SAND
K53549	FF-4	5/11/00	SEDIMENT	Channel Sediment	12804466.45	288649.2422	756.0	6 - 12	BROWN COARSE SAND & GRAVEL
K53550	FF-4	5/11/00	SEDIMENT	Channel Sediment	12804466.45	288649.2422	756.0	12 - 22	BROWN COARSE SAND & GRAVEL
K53558	FF-5	5/11/00	SEDIMENT	Channel Sediment	12804362.23	288369.7565	755.3	0 - 2	BROWN SILT WITH ORGANICS
K53559	FF-5	5/11/00	SEDIMENT	Channel Sediment	12804362.23	288369.7565	755.3	2 - 6	BROWN/GRAY SANDY SILT
K53560	FF-5	5/11/00	SEDIMENT	Channel Sediment	12804362.23	288369.7565	755.3	6 - 12	DARK GRAY SAND SILT, STRONG ODOR
K53561	FF-5	5/11/00	SEDIMENT	Channel Sediment	12804362.23	288369.7565	755.3	12 - 24	DARK GRAY SAND SILT, STRONG ODOR
K53562	FF-5	5/11/00	SEDIMENT	Channel Sediment	12804362.23	288369.7565	755.3	12 - 24	DARK GRAY SAND SILT, STRONG ODOR
K53554	FF-6	5/11/00	SEDIMENT	Channel Sediment	12804381.06	288005.3801	754.2	0 - 2	BROWN FINE SAND & GRAVEL
K53555	FF-6	5/11/00	SEDIMENT	Channel Sediment	12804381.06	288005.3801	754.2	2 - 6	COARSE SAND & GRAVEL
K53556	FF-6	5/11/00	SEDIMENT	Channel Sediment	12804381.06	288005.3801	754.2	6 - 12	COARSE SAND & GRAVEL
K53557	FF-6	5/11/00	SEDIMENT	Channel Sediment	12804381.06	288005.3801	754.2	12 - 20	COARSE SAND & GRAVEL
K53584	FF-7	5/11/00	SEDIMENT	Channel Sediment	12803032	288149.7037	754.7	0 - 2	DARK BROWN SILT WITH SHELLS
K53585	FF-7	5/11/00	SEDIMENT	Channel Sediment	12803032	288149.7037	754.7	2 - 6	DARK BROWN SILT WITH SHELLS
K53586	FF-7	5/11/00	SEDIMENT	Channel Sediment	12803032	288149.7037	754.7	6 - 12	DARK BROWN SILT WITH SHELLS
K53587	FF-7	5/11/00	SEDIMENT	Channel Sediment	12803032	288149.7037	754.7	12 - 24	DARK BROWN SILT WITH SHELLS, TRACE GRAVEL
K53588	FF-7	5/11/00	SEDIMENT	Channel Sediment	12803032	288149.7037	754.7	12 - 24	DARK BROWN SILT WITH SHELLS, TRACE GRAVEL
K53579	FF-8	5/11/00	SEDIMENT	Channel Sediment	12802673.32	287862.2142	753.4	0 - 2	DARK BROWN/OLIVE FINE SILTY SAND
K53580	FF-8	5/11/00	SEDIMENT	Channel Sediment	12802673.32	287862.2142	753.4	2 - 6	OLIVE FINE SAND, TRACE ORGANICS
K53581	FF-8	5/11/00	SEDIMENT	Channel Sediment	12802673.32	287862.2142	753.4	6 - 12	OLIVE FINE SAND, TRACE SILT

(See notes on page 24)

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
FIELD NOTE SUMMARY

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	Easting	Northing	Elevation (ft amsl)	Depth Increment (in.)	Sample Description
K53582	FF-8	5/11/00	SEDIMENT	Channel Sediment	12802673.32	287862.2142	753.4	12 - 24	OLIVE FINE SAND
K53583	FF-8	5/11/00	SEDIMENT	Channel Sediment	12802673.32	287862.2142	753.4	12 - 24	OLIVE FINE SAND
K53574	FF-9	5/11/00	SEDIMENT	Channel Sediment	12802525.33	288536.1944	753.5	0 - 2	BROWN COARSE SAND & GRAVEL
K53575	FF-9	5/11/00	SEDIMENT	Channel Sediment	12802525.33	288536.1944	753.5	2 - 6	BROWN COARSE SAND & GRAVEL
K53576	FF-9	5/11/00	SEDIMENT	Channel Sediment	12802525.33	288536.1944	753.5	6 - 12	DARK GRAY FINE SAND, SOME GRAVEL
K53577	FF-9	5/11/00	SEDIMENT	Channel Sediment	12802525.33	288536.1944	753.5	12 - 24	DARK GRAY FINE SAND, SOME GRAVEL
K53578	FF-9	5/11/00	SEDIMENT	Channel Sediment	12802525.33	288536.1944	753.5	12 - 24	DARK GRAY FINE SAND, SOME GRAVEL
K53602	FF-09*	6/6/00	SEDIMENT	Channel Sediment	12802493.38	288681.3522	758.0	0 - 2	LIGHT OLIVE BROWN FINE-MEDIUM SAND, LITTLE COARSE SAND & WOOD
K53603	FF-09*	6/6/00	SEDIMENT	Channel Sediment	12802493.38	288681.3522	758.0	2 - 6	LIGHT OLIVE BROWN FINE-MEDIUM SAND, LITTLE COARSE SAND & WOOD
K53604	FF-09*	6/6/00	SEDIMENT	Channel Sediment	12802493.38	288681.3522	758.0	6 - 12	OLIVE BROWN FINE SAND, LITTLE WOOD & NATURAL ORGANICS
K53605	FF-09*	6/6/00	SEDIMENT	Channel Sediment	12802493.38	288681.3522	758.0	12 - 24	DARK OLIVE GRAY FINE SAND TO 21"; 21-24" DARK BROWN/BLACK SILT & HIGHLY DEGRADED NATURAL ORGANICS
K53606	FF-09*	6/6/00	SEDIMENT	Channel Sediment	12802493.38	288681.3522	758.0	12 - 24	DARK OLIVE GRAY FINE SAND TO 21", 21-24" DARK BROWN/BLACK SILT & HIGHLY DEGRADED NATURAL ORGANICS
K53598	FF-13	6/6/00	SEDIMENT	Channel Sediment	12800712.85	289940.5932	748.7	0 - 2	FINE-MEDIUM GRAVEL, LITTLE BROWN FINE SAND
K53599	FF-13	6/6/00	SEDIMENT	Channel Sediment	12800712.85	289940.5932	748.7	2 - 6	OLIVE GRAY, FINE SAND, FINE-MEDIUM GRAVEL, LITTLE MEDIUM-COARSE SAND
K53600	FF-13	6/6/00	SEDIMENT	Channel Sediment	12800712.85	289940.5932	748.7	6 - 12	OLIVE GRAY FINE-COARSE SAND, FINE-MEDIUM GRAVEL
K53601	FF-13	6/6/00	SEDIMENT	Channel Sediment	12800712.85	289940.5932	748.7	12 - 18	OLIVE GRAY FINE-COARSE SAND, FINE-MEDIUM GRAVEL
K53616	FF-14	6/6/00	SEDIMENT	Channel Sediment	12800699.21	290499.4961	756.8	0 - 2	MEDIUM BROWN FINE-MEDIUM SAND, LITTLE COARSE SAND
K53617	FF-14	6/6/00	SEDIMENT	Channel Sediment	12800699.21	290499.4961	756.8	2 - 6	MEDIUM BROWN FINE-MEDIUM SAND, LITTLE COARSE SAND, TRACE ORGANICS
K53618	FF-14	6/6/00	SEDIMENT	Channel Sediment	12800699.21	290499.4961	756.8	6 - 12	LIGHT OLIVE BROWN FINE-MEDIUM SAND, TRACE COARSE SAND, SILT & ORGANICS
K53619	FF-14	6/6/00	SEDIMENT	Channel Sediment	12800699.21	290499.4961	756.8	12 - 24	OLIVE BROWN FINE-MEDIUM SAND, TRACE COARSE SAND, SILT & ORGANICS
K53620	FF-14	6/6/00	SEDIMENT	Channel Sediment	12800699.21	290499.4961	756.8	12 - 24	OLIVE BROWN FINE-MEDIUM SAND, TRACE COARSE SAND, SILT & ORGANICS

(See notes on page 24)

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
FIELD NOTE SUMMARY

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	Easting	Northing	Elevation (ft amsl)	Depth Increment (in.)	Sample Description
K53630	FF-15	6/6/00	SEDIMENT	Channel Sediment	12797618.15	291908.6447	750.2	0 - 2	VERY DARK BROWN SILT, TRACE NATURAL ORGANICS
K53631	FF-15	6/6/00	SEDIMENT	Channel Sediment	12797618.15	291908.6447	750.2	2 - 6	BROWN FINE SAND & SILT, TRACE COARSE SAND, FINE-MEDIUM GRAVEL, TRACE PLASTIC SHEETING & BRICK
K53632	FF-15	6/6/00	SEDIMENT	Channel Sediment	12797618.15	291908.6447	750.2	6 - 12	VERY DARK GRAY FINE SAND, SILT & ORGANICS, WOOD, TRACE PLASTIC SHEETING
K53633	FF-15	6/6/00	SEDIMENT	Channel Sediment	12797618.15	291908.6447	750.2	12 - 24	VERY DARK GRAY FINE SAND, LITTLE MEDIUM-COARSE SAND, TRACE FINE-COARSE GRAVEL, TRACE ORGANICS, BRICK
K53839	FF-16	7/19/00	SEDIMENT	Channel Sediment	12796997.04	292411.9665	756.8	0 - 2	DARK OLIVE GRAY FINE-MEDIUM SAND, LITTLE FINE-MEDIUM GRAVEL
K53840	FF-16	7/19/00	SEDIMENT	Channel Sediment	12796997.04	292411.9665	756.8	2 - 6	DARK OLIVE GRAY FINE-MEDIUM SAND
K53841	FF-16	7/19/00	SEDIMENT	Channel Sediment	12796997.04	292411.9665	756.8	6 - 12	DARK OLIVE GRAY FINE SAND & SILT, TRACE MEDIUM GRAVEL
K53842	FF-16	7/19/00	SEDIMENT	Channel Sediment	12796997.04	292411.9665	756.8	2 - 6	DARK OLIVE GRAY FINE-MEDIUM SAND
K53612	FF-17	6/6/00	SEDIMENT	Floodplain	12797210.74	294496.8581	755.2	0 - 2	OLIVE BROWN FINE-MEDIUM SAND, LITTLE FINE-MEDIUM GRAVEL, TRACE SILT
K53613	FF-17	6/6/00	SEDIMENT	Floodplain	12797210.74	294496.8581	755.2	2 - 6	OLIVE BROWN FINE-MEDIUM SAND, LITTLE COARSE SAND, SOME FINE-MEDIUM GRAVEL, TRACE COBBLE
K53614	FF-17	6/6/00	SEDIMENT	Floodplain	12797210.74	294496.8581	755.2	6 - 12	OLIVE BROWN FINE-MEDIUM SAND, LITTLE COARSE SAND, SOME FINE-MEDIUM GRAVEL
K53615	FF-17	6/6/00	SEDIMENT	Floodplain	12797210.74	294496.8581	755.2	12 - 24	DARK OLIVE GRAY FINE-MEDIUM SAND, TRACE COARSE SAND, TRACE FINE-COARSE GRAVEL
K53835	FF-18	7/19/00	SEDIMENT	Point Source and Waste Disposal	12797490.41	295569.589	751.1	0 - 2	DARK OLIVE GRAY MEDIUM SAND, TRACE FINE-MEDIUM GRAVEL
K53836	FF-18	7/19/00	SEDIMENT	Point Source and Waste Disposal	12797490.41	295569.589	751.1	2 - 6	DARK OLIVE GRAY MEDIUM SAND, TRACE FINE-MEDIUM GRAVEL
K53837	FF-18	7/19/00	SEDIMENT	Point Source and Waste Disposal	12797490.41	295569.589	751.1	6 - 12	OLIVE GRAY FINE-COARSE SAND, TRACE FINE GRAVEL
K53838	FF-18	7/19/00	SEDIMENT	Point Source and Waste Disposal	12797490.41	295569.589	751.1	12 - 16	OLIVE GRAY FINE-MEDIUM SAND, TRACE COARSE SAND & FINE GRAVEL
K53634	FF-19	6/6/00	SEDIMENT	Point Source and Waste Disposal	12797284.2	296437.4028	752.1	0 - 2	OLIVE BROWN FINE-MEDIUM SAND, TRACE ORGANIC MATERIAL, FINE-MEDIUM GRAVEL, TRACE COARSE SAND, TRACE SILT
K53635	FF-19	6/6/00	SEDIMENT	Point Source and Waste Disposal	12797284.2	296437.4028	752.1	2 - 6	OLIVE BROWN FINE-MEDIUM SAND, TRACE SILT, TRACE ORGANICS, TRACE CLEAR PLASTIC, TRACE COARSE SAND, FINE-MEDIUM GRAVEL
K53636	FF-19	6/6/00	SEDIMENT	Point Source and Waste Disposal	12797284.2	296437.4028	752.1	6 - 10	OLIVE BROWN FINE-MEDIUM SAND, TRACE COARSE SAND & FINE GRAVEL, LITTLE CEMENTED SANDS, TRACE BLACK SILT & FIBROUS MATERIAL, ODOR
K53637	FF-19	6/6/00	SEDIMENT	Point Source and Waste Disposal	12797284.2	296437.4028	752.1	10 - 24	BLACK, VERY DARK BROWN SILT, TRACE FIBROUS MATERIAL, ODOR
K53607	FF-20	6/6/00	SEDIMENT	Point Source and Waste Disposal	12797269.61	298339.8901	749.4	0 - 2	OLIVE BROWN FINE-MEDIUM SAND & LOOSE ORGANICS, TRACE SILT

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TABLE 1

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Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	Easting	Northing	Elevation (ft amsl)	Depth Increment (in.)	Sample Description
K53608	FF-20	6/6/00	SEDIMENT	Point Source and Waste Disposal	12797269.61	298339.8901	749.4	2 - 6	OLIVE BROWN FINE-MEDIUM SAND & LITTLE LOOSE ORGANICS, TRACE SILT, TRACE PLASTIC
K53609	FF-20	6/6/00	SEDIMENT	Point Source and Waste Disposal	12797269.61	298339.8901	749.4	6 - 12	OLIVE BROWN FINE-MEDIUM SAND, TRACE ORGANICS
K53610	FF-20	6/6/00	SEDIMENT	Point Source and Waste Disposal	12797269.61	298339.8901	749.4	12 - 24	OLIVE BROWN FINE-MEDIUM SAND, TRACE ORGANICS
K53611	FF-20	6/6/00	SEDIMENT	Point Source and Waste Disposal	12797269.61	298339.8901	749.4	12 - 24	OLIVE BROWN FINE-MEDIUM SAND, TRACE ORGANICS
K53765	FF-23	7/7/00	SEDIMENT	Channel Sediment	12794754.6	304973.675	748.8	0 - 2	OLIVE GRAY MEDIUM-COARSE SAND & GRAVEL
K53766	FF-23	7/7/00	SEDIMENT	Channel Sediment	12794754.6	304973.675	748.8	2 - 6	OLIVE GRAY MEDIUM-COARSE SAND & GRAVEL
K53767	FF-23	7/7/00	SEDIMENT	Channel Sediment	12794754.6	304973.675	748.8	6 - 18	OLIVE GRAY MEDIUM-COARSE SAND & GRAVEL
K53827	FF-24	7/19/00	SEDIMENT	Point Source and Waste Disposal	12795426.79	305470.0766	748.2	0 - 2	OLIVE GRAY SILT, TRACE ORGANICS
K53828	FF-24	7/19/00	SEDIMENT	Point Source and Waste Disposal	12795426.79	305470.0766	748.2	2 - 6	OLIVE GRAY SILT, TRACE ORGANICS
K53829	FF-24	7/19/00	SEDIMENT	Point Source and Waste Disposal	12795426.79	305470.0766	748.2	6 - 14	BLUE GRAY CLAY, TRACE COARSE SAND, FINE-MEDIUM GRAVEL
K53625	FF-25	6/6/00	SEDIMENT	Point Source and Waste Disposal	12795077.01	305822.1117	748.4	0 - 2	OLIVE BROWN FINE SAND, TRACE MEDIUM-COARSE SAND, TRACE ORGANICS
K53626	FF-25	6/6/00	SEDIMENT	Point Source and Waste Disposal	12795077.01	305822.1117	748.4	2 - 6	VERY DARK OLIVE GRAY FINE SAND, TRACE MEDIUM TO COARSE SAND
K53627	FF-25	6/6/00	SEDIMENT	Point Source and Waste Disposal	12795077.01	305822.1117	748.4	6 - 12	VERY DARK OLIVE GRAY FINE SAND, TRACE MEDIUM TO COARSE SAND, LITTLE ORGANICS, TRACE FINE GRAVEL
K53628	FF-25	6/6/00	SEDIMENT	Point Source and Waste Disposal	12795077.01	305822.1117	748.4	12 - 24	VERY DARK OLIVE GRAY FINE SAND, TRACE MEDIUM TO COARSE SAND, LITTLE ORGANICS, TRACE FINE-MEDIUM GRAVEL
K53629	FF-25	6/6/00	SEDIMENT	Point Source and Waste Disposal	12795077.01	305822.1117	748.4	12 - 24	VERY DARK OLIVE GRAY FINE SAND, TRACE MEDIUM TO COARSE SAND, LITTLE ORGANICS, TRACE FINE-MEDIUM GRAVEL
K53830	FF-28	7/19/00	SEDIMENT	Channel Sediment	12795300.69	307989.0317	746.9	0 - 2	VERY DARK OLIVE GRAY SILT & VERY FINE SAND
K53831	FF-28	7/19/00	SEDIMENT	Channel Sediment	12795300.69	307989.0317	746.9	2 - 6	VERY DARK OLIVE GRAY SILT & VERY FINE SAND
K53832	FF-28	7/19/00	SEDIMENT	Channel Sediment	12795300.69	307989.0317	746.9	6 - 14	VERY DARK OLIVE GRAY SILT & VERY FINE SAND, TRACE ORGANICS
K53833	FF-28	7/19/00	SEDIMENT	Channel Sediment	12795300.69	307989.0317	746.9	14 - 23	OLIVE GRAY CLAY, TRACE ORGANICS & WOOD, SHELLS
K53834	FF-28	7/19/00	SEDIMENT	Channel Sediment	12795300.69	307989.0317	746.9	14 - 23	OLIVE GRAY CLAY, TRACE ORGANICS & WOOD, SHELLS
K53683	FF-29	6/14/00	SEDIMENT	Channel Sediment	12796051.62	309949.2895	745.8	0 - 2	OLIVE GRAY FINE-MEDIUM SAND, LITTLE COARSE SAND, TRACE FINE-MEDIUM GRAVEL & ORGANICS

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K53684	FF-29	6/14/00	SEDIMENT	Channel Sediment	12796051.62	309949.2895	745.8	2 - 7	OLIVE GRAY FINE SAND, LITTLE MEDIUM SAND & SILT
K53685	FF-29	6/14/00	SEDIMENT	Channel Sediment	12796051.62	309949.2895	745.8	2 - 7	OLIVE GRAY FINE SAND, LITTLE MEDIUM SAND & SILT
K53779	FF-33	7/12/00	SEDIMENT	Floodplain	12795130.4	324726.7047	737.6	0 - 2	DARK BROWN FINE SANDY SILT, TRACE ROOTLETS
K53780	FF-33	7/12/00	SEDIMENT	Floodplain	12795130.4	324726.7047	737.6	2 - 6	DARK BROWN FINE SANDY SILT, TRACE ROOTLETS
K53781	FF-33	7/12/00	SEDIMENT	Floodplain	12795130.4	324726.7047	737.6	6 - 12	DARK BROWN FINE SANDY SILT, TRACE ROOTLETS & PEAT
K53782	FF-33	7/12/00	SEDIMENT	Floodplain	12795130.4	324726.7047	737.6	12 - 24	DARK BROWN FINE SAND, TRACE ROOTS
K53775	FF-34	7/12/00	SEDIMENT	Floodplain	12795181.47	325148.147	736.2	0 - 2	DARK BROWN SANDY SILT WITH ORGANICS
K53776	FF-34	7/12/00	SEDIMENT	Floodplain	12795181.47	325148.147	736.2	2 - 6	DARK BROWN SANDY SILT WITH ORGANICS
K53777	FF-34	7/12/00	SEDIMENT	Floodplain	12795181.47	325148.147	736.2	6 - 12	GRAY COARSE SANDY GRAVEL, SOME FINE SAND AND SILT
K53778	FF-34	7/12/00	SEDIMENT	Floodplain	12795181.47	325148.147	736.2	12 - 19	DARK GRAY COARSE SAND AND GRAVEL, SOME FINE SAND
K53551	FF-35	5/11/00	SEDIMENT	Channel Sediment	12794450.29	326179.5625	733.0	0 - 2	BROWN SILT, TRACE ORGANICS
K53552	FF-35	5/11/00	SEDIMENT	Channel Sediment	12794450.29	326179.5625	733.0	2 - 6	BROWN SILT, TRACE ORGANICS
K53553	FF-35	5/11/00	SEDIMENT	Channel Sediment	12794450.29	326179.5625	733.0	6 - 15	DARK BROWN COARSE SAND & GRAVEL
K53569	FF-46	5/11/00	SEDIMENT	Channel Sediment	12781990.11	341554.8401	717.8	0 - 2	TAN FINE SAND, SOME SILT
K53570	FF-46	5/11/00	SEDIMENT	Channel Sediment	12781990.11	341554.8401	717.8	2 - 6	TAN FINE SAND, SOME SILT
K53571	FF-46	5/11/00	SEDIMENT	Channel Sediment	12781990.11	341554.8401	717.8	6 - 12	TAN FINE SAND, SOME SILT
K53572	FF-46	5/11/00	SEDIMENT	Channel Sediment	12781990.11	341554.8401	717.8	12 - 24	TAN FINE SAND WITH ORGANICS
K53573	FF-46	5/11/00	SEDIMENT	Channel Sediment	12781990.11	341554.8401	717.8	12 - 24	TAN FINE SAND WITH ORGANICS
K53563	FF-66	5/11/00	SEDIMENT	Exposed Sediment	12753747.98	351362.9726	685.1	0 - 2	BROWN SILTY PEAT
K53564	FF-66	5/11/00	SEDIMENT	Exposed Sediment	12753747.98	351362.9726	685.1	2 - 6	BROWN SILTY PEAT
K53565	FF-66	5/11/00	SEDIMENT	Exposed Sediment	12753747.98	351362.9726	685.1	6 - 12	BROWN SILT, TRACE SAND

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K53566	FF-66	5/11/00	SEDIMENT	Exposed Sediment	12753747.98	351362.9726	685.1	12 - 24	BROWN SILT WITH BLACK ORGANIC MATTER, TRACE SHELLS
K53567	FF-66	5/11/00	SEDIMENT	Exposed Sediment	12753747.98	351362.9726	685.1	24 - 30	BROWN SILT WITH BLACK ORGANIC MATTER, TRACE SHELLS
K53568	FF-66	5/11/00	SEDIMENT	Exposed Sediment	12753747.98	351362.9726	685.1	30 - 34	BROWN FINE SAND, TRACE SILT
K53407	FF-69*	5/4/00	SEDIMENT	Channel Sediment	12750346.84	354971.0039	664.8	0 - 2	BLACK ORGANIC RICH SILT
K53408	FF-69*	5/4/00	SEDIMENT	Channel Sediment	12750346.84	354971.0039	664.8	2 - 6	BLACK ORGANIC RICH SILT
K53409	FF-69*	5/4/00	SEDIMENT	Channel Sediment	12750346.84	354971.0039	664.8	6 - 14	BLACK ORGANIC RICH SILT
K53410	FF-69*	5/4/00	SEDIMENT	Channel Sediment	12750346.84	354971.0039	664.8	14 - 18	GRAY CLAY, STIFF
K53411	FF-69*	5/4/00	SEDIMENT	Channel Sediment	12750346.84	354971.0039	664.8	6 - 14	BLACK ORGANIC RICH SILT
K53532	FF-69	5/11/00	SEDIMENT	Channel Sediment	12750346.84	354971.0039	664.8	0 - 2	DARK BROWN FINE SILT WITH ORGANICS
K53533	FF-69	5/11/00	SEDIMENT	Channel Sediment	12750346.84	354971.0039	664.8	2 - 6	DARK BROWN FINE SILT WITH ORGANICS
K53534	FF-69	5/11/00	SEDIMENT	Channel Sediment	12750346.84	354971.0039	664.8	6 - 12	DARK BROWN SILT, ORGANICS
K53535	FF-69	5/11/00	SEDIMENT	Channel Sediment	12750346.84	354971.0039	664.8	12 - 18	DARK BROWN SILT, ORGANICS
K53536	FF-69	5/11/00	SEDIMENT	Channel Sediment	12750346.84	354971.0039	664.8	18 - 26	GRAY STIFF CLAY WITH TRACE GRAVEL
K53447	FF-71	5/4/00	SEDIMENT	Exposed Sediment	12748014.92	358813.2644	662.7	0 - 2	DARK GRAY SILT WITH ORGANICS
K53448	FF-71	5/4/00	SEDIMENT	Exposed Sediment	12748014.92	358813.2644	662.7	2 - 6	DARK GRAY SILT WITH ORGANICS
K53449	FF-71	5/4/00	SEDIMENT	Exposed Sediment	12748014.92	358813.2644	662.7	6 - 12	DARK GRAY SILT WITH ORGANICS
K53450	FF-71	5/4/00	SEDIMENT	Exposed Sediment	12748014.92	358813.2644	662.7	12 - 24	DARK GRAY SILT WITH ORGANICS, SOME SAND
K53451	FF-71	5/4/00	SEDIMENT	Exposed Sediment	12748014.92	358813.2644	662.7	24 - 30	TAN MEDIUM-COARSE SAND
K53458	FF-78	5/4/00	SEDIMENT	Channel Sediment	12739359.28	360488.1832	656.9	0 - 2	DARK GRAY SILT WITH ORGANICS
K53459	FF-78	5/4/00	SEDIMENT	Channel Sediment	12739359.28	360488.1832	656.9	2 - 6	DARK GRAY SILT WITH ORGANICS
K53460	FF-78	5/4/00	SEDIMENT	Channel Sediment	12739359.28	360488.1832	656.9	6 - 12	DARK GRAY SILT WITH ORGANICS

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K53461	FF-78	5/4/00	SEDIMENT	Channel Sediment	12739359.28	360488.1832	656.9	12 - 18	DARK GRAY SILT WITH ORGANICS, SOME BLACK ORGANIC MATTER
K53462	FF-78	5/4/00	SEDIMENT	Channel Sediment	12739359.28	360488.1832	656.9	18 - 24	DARK GRAY SILT WITH ORGANICS, SOME BLACK ORGANIC MATTER
K53463	FF-78	5/4/00	SEDIMENT	Channel Sediment	12739359.28	360488.1832	656.9	24 - 36	BROWN/GARY FINE SAND, SOME SILT
K53464	FF-78	5/4/00	SEDIMENT	Channel Sediment	12739359.28	360488.1832	656.9	24 - 36	BROWN/GARY FINE SAND, SOME SILT
K53452	FF-79	5/4/00	SEDIMENT	Channel Sediment	12739073.51	360955.6149	658.1	0 - 2	BROWN SILT TOPSOIL
K53453	FF-79	5/4/00	SEDIMENT	Channel Sediment	12739073.51	360955.6149	658.1	2 - 6	GRAY SILTY CLAY
K53454	FF-79	5/4/00	SEDIMENT	Channel Sediment	12739073.51	360955.6149	658.1	6 - 12	GRAY SILTY CLAY
K53455	FF-79	5/4/00	SEDIMENT	Channel Sediment	12739073.51	360955.6149	658.1	12 - 22	GRAY SILTY CLAY
K53456	FF-79	5/4/00	SEDIMENT	Channel Sediment	12739073.51	360955.6149	658.1	22 - 37	GRAY SILTY CLAY
K53457	FF-79	5/4/00	SEDIMENT	Channel Sediment	12739073.51	360955.6149	658.1	22 - 37	GRAY SILTY CLAY
K53417	FF-80	5/4/00	SEDIMENT	Channel Sediment	12737957.23	361337.1956	656.6	0 - 2	BLACK ORGANIC SILT
K53418	FF-80	5/4/00	SEDIMENT	Channel Sediment	12737957.23	361337.1956	656.6	2 - 6	DARK GRAY FINE SAND WITH SILT
K53419	FF-80	5/4/00	SEDIMENT	Channel Sediment	12737957.23	361337.1956	656.6	6 - 12	DARK GRAY FINE SAND WITH SILT
K53420	FF-80	5/4/00	SEDIMENT	Channel Sediment	12737957.23	361337.1956	656.6	6 - 12	DARK GRAY FINE SAND WITH SILT
K53421	FF-80	5/4/00	SEDIMENT	Channel Sediment	12737957.23	361337.1956	656.6	12 - 18	DARK GRAY SILT WITH SAND
K53422	FF-80	5/4/00	SEDIMENT	Channel Sediment	12737957.23	361337.1956	656.6	18 - 24	DARK GRAY SILTY CLAY, TRACE ORGANICS
K53537	FF-80	5/11/00	SEDIMENT	Channel Sediment	12737957.23	361337.1956	656.6	0 - 2	DARK GRAY SANDY SILT, TRACE ORGANICS
K53538	FF-80	5/11/00	SEDIMENT	Channel Sediment	12737957.23	361337.1956	656.6	2 - 6	DARK GRAY SANDY SILT, TRACE ORGANICS
K53539	FF-80	5/11/00	SEDIMENT	Channel Sediment	12737957.23	361337.1956	656.6	6 - 12	DARK GRAY SANDY SILT, TRACE ORGANICS
K53540	FF-80	5/11/00	SEDIMENT	Channel Sediment	12737957.23	361337.1956	656.6	12 - 24	DARK GRAY FINE SILT
K53541	FF-80	5/11/00	SEDIMENT	Channel Sediment	12737957.23	361337.1956	656.6	24 - 36	DARK GRAY FINE SILT

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K53442	FF-81	5/4/00	SEDIMENT	Channel Sediment	12737788.35	361601.9568	656.9	0 - 2	DARK GRAY SILT WITH ORGANICS
K53443	FF-81	5/4/00	SEDIMENT	Channel Sediment	12737788.35	361601.9568	656.9	2 - 6	DARK GRAY SILT WITH ORGANICS
K53444	FF-81	5/4/00	SEDIMENT	Channel Sediment	12737788.35	361601.9568	656.9	6 - 12	DARK GRAY SILT WITH ORGANICS
K53445	FF-81	5/4/00	SEDIMENT	Channel Sediment	12737788.35	361601.9568	656.9	12 - 26	BROWN FINE-MEDIUM SAND, SOME COARSE SAND, TRACE GRAVEL
K53446	FF-81	5/4/00	SEDIMENT	Channel Sediment	12737788.35	361601.9568	656.9	12 - 26	BROWN FINE-MEDIUM SAND, SOME COARSE SAND, TRACE GRAVEL
K53465	FF-83	5/4/00	SEDIMENT	Floodplain	12732137.6	361524.9058	646.2	0 - 2	BROWN SILT WITH SAND
K53466	FF-83	5/4/00	SEDIMENT	Floodplain	12732137.6	361524.9058	646.2	2 - 6	BROWN SILT WITH SAND
K53467	FF-83	5/4/00	SEDIMENT	Floodplain	12732137.6	361524.9058	646.2	6 - 12	BROWN FINE SAND
K53468	FF-83	5/4/00	SEDIMENT	Floodplain	12732137.6	361524.9058	646.2	12 - 24	BROWN FINE SAND
K53469	FF-83	5/4/00	SEDIMENT	Floodplain	12732137.6	361524.9058	646.2	12 - 24	BROWN FINE SAND
K53428	FF-85	5/4/00	SEDIMENT	Floodplain	12730821.39	364744.2293	639.9	0 - 2	SILTY DARK BROWN TOPSOIL
K53429	FF-85	5/4/00	SEDIMENT	Floodplain	12730821.39	364744.2293	639.9	2 - 6	SILTY DARK BROWN TOPSOIL
K53430	FF-85	5/4/00	SEDIMENT	Floodplain	12730821.39	364744.2293	639.9	6 - 12	SILTY DARK BROWN TOPSOIL
K53431	FF-85	5/4/00	SEDIMENT	Floodplain	12730821.39	364744.2293	639.9	12 - 24	TAN/ORANGE FINE SAND, TRACE SILTY
K53432	FF-85	5/4/00	SEDIMENT	Floodplain	12730821.39	364744.2293	639.9	12 - 24	TAN/ORANGE FINE SAND, TRACE SILTY
K53662	FF-92	6/9/00	SEDIMENT	Floodplain	12726409.17	369257.9991	629.9	0 - 2	DARK OLIVE BROWN SILT, TRACE ORGANICS
K53663	FF-92	6/9/00	SEDIMENT	Floodplain	12726409.17	369257.9991	629.9	2 - 6	DARK OLIVE BROWN SILT, TRACE ORGANICS
K53664	FF-92	6/9/00	SEDIMENT	Floodplain	12726409.17	369257.9991	629.9	2 - 6	DARK OLIVE BROWN SILT, TRACE ORGANICS
K53665	FF-92	6/9/00	SEDIMENT	Floodplain	12726409.17	369257.9991	629.9	12 - 14	DARK OLIVE BROWN SILT, TRACE ORGANICS
K53666	FF-92	6/9/00	SEDIMENT	Floodplain	12726409.17	369257.9991	629.9	14 - 24	DARK GRAY FINE SAND, TRACE ORGANICS & SILT
K53470	FF-93	5/4/00	SEDIMENT	Channel Sediment	12723787.79	372757.335	622.7	0 - 2	DARK GRAY FINE SILT, SOME FINE SAND, ORGANIC RICH

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K53471	FF-93	5/4/00	SEDIMENT	Channel Sediment	12723787.79	372757.335	622.7	2 - 6	DARK GRAY FINE SILT, SOME FINE SAND, ORGANIC RICH
K53472	FF-93	5/4/00	SEDIMENT	Channel Sediment	12723787.79	372757.335	622.7	6 - 12	DARK GRAY FINE SILT, SOME FINE SAND, ORGANIC RICH
K53473	FF-93	5/4/00	SEDIMENT	Channel Sediment	12723787.79	372757.335	622.7	12 - 24	DARK GRAY FINE SILT, SOME FINE SAND, ORGANIC RICH
K53474	FF-93	5/4/00	SEDIMENT	Channel Sediment	12723787.79	372757.335	622.7	12 - 24	DARK GRAY FINE SILT, SOME FINE SAND, ORGANIC RICH
K53478	FF-96	5/4/00	SEDIMENT	Channel Sediment	12723427.16	375530 0892	624.8	0 - 2	DARK BROWN SANDY SILT
K53479	FF-96	5/4/00	SEDIMENT	Channel Sediment	12723427.16	375530.0892	624.8	2 - 6	DARK BROWN SANDY SILT
K53480	FF-96	5/4/00	SEDIMENT	Channel Sediment	12723427.16	375530.0892	624.8	6 - 12	TAN-DARK BROWN FINE SAND, SOME SILT
K53481	FF-96	5/4/00	SEDIMENT	Channel Sediment	12723427.16	375530.0892	624.8	12 - 24	TAN-DARK BROWN FINE SAND, SOME SILT
K53482	FF-96	5/4/00	SEDIMENT	Channel Sediment	12723427.16	375530.0892	624.8	12 - 24	TAN-DARK BROWN FINE SAND, SOME SILT
K53768	FF-97	7/7/00	SEDIMENT	Channel Sediment	12723136.99	377214.0326	626.8	0 - 2	DARK OLIVE GRAY SILT
K53769	FF-97	7/7/00	SEDIMENT	Channel Sediment	12723136.99	377214.0326	626.8	2 - 6	DARK OLIVE GRAY SILT
K53770	FF-97	7/7/00	SEDIMENT	Channel Sediment	12723136.99	377214.0326	626.8	6 - 12	DARK OLIVE GRAY SILT
K53771	FF-97	7/7/00	SEDIMENT	Channel Sediment	12723136.99	377214.0326	626.8	12 - 18	DARK OLIVE GRAY SILT WITH LITTLE FINE SAND
K53772	FF-97	7/7/00	SEDIMENT	Channel Sediment	12723136.99	377214.0326	626.8	18 - 24	DARK OLIVE GRAY SILT WITH TRACE FINE SAND & ORGANICS
K53773	FF-97	7/7/00	SEDIMENT	Channel Sediment	12723136.99	377214.0326	626.8	24 - 33	DARK OLIVE GRAY SILT WITH LITTLE VERY FINE SAND
K53774	FF-97	7/7/00	SEDIMENT	Channel Sediment	12723136.99	377214.0326	626.8	24 - 33	DARK OLIVE GRAY SILT WITH LITTLE VERY FINE SAND
K53377	FF-99	5/3/00	SEDIMENT	Channel Sediment	12723020.54	377653.9051	621.8	0 - 2	DARK BROWN SILT
K53378	FF-99	5/3/00	SEDIMENT	Channel Sediment	12723020.54	377653.9051	621.8	2 - 6	DARK BROWN SILT, TOUCH OF GRAY
K53379	FF-99	5/3/00	SEDIMENT	Channel Sediment	12723020.54	377653.9051	621.8	6 - 12	DARK BROWN SILT, TOUCH OF GRAY
K53380	FF-99	5/3/00	SEDIMENT	Channel Sediment	12723020.54	377653.9051	621.8	12 - 24	DARK BROWN SILT, TOUCH OF GRAY
K53381	FF-100	5/3/00	SEDIMENT	Channel Sediment	12724031.6	377084.4102	622.7	0 - 2	DARK BROWN SILT WITH SOME FIINE SAND

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TABLE 1

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REMEDIAL INVESTIGATION REPORT
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Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	Easting	Northing	Elevation (ft amsl)	Depth Increment (in.)	Sample Description
K53382	FF-100	5/3/00	SEDIMENT	Channel Sediment	12724031.6	377084.4102	622.7	2 - 6	DARK BROWN SILT WITH SOME FIINE SAND
K53383	FF-100	5/3/00	SEDIMENT	Channel Sediment	12724031.6	377084.4102	622.7	6 - 12	DARK BROWN SILT WITH SOME FIINE SAND
K53384	FF-100	5/3/00	SEDIMENT	Channel Sediment	12724031.6	377084.4102	622.7	12 - 24	DARK GRAY SOFT AND SILTY
K53667	FF-101	6/13/00	SEDIMENT	Channel Sediment	12724377.78	377179.7234	625.5	0 - 2	VERY DARK BROWN SILT, TRACE ORGANIC MATTER
K53668	FF-101	6/13/00	SEDIMENT	Channel Sediment	12724377.78	377179.7234	625.5	2 - 6	VERY DARK BROWN SILT, LITTLE ORGANIC MATTER
K53669	FF-101	6/13/00	SEDIMENT	Channel Sediment	12724377.78	377179.7234	625.5	6 - 17	VERY DARK BROWN SILT, TRACE ORGANIC MATTER
K53670	FF-101	6/13/00	SEDIMENT	Channel Sediment	12724377.78	377179.7234	625.5	17 - 19	OLIVE GRAY, FINE SAND
K53671	FF-101	6/13/00	SEDIMENT	Channel Sediment	12724377.78	377179.7234	625.5	19 - 24	VERY DARK BROWN SILT, TRACE ORGANIC MATTER
K53672	FF-101	6/13/00	SEDIMENT	Channel Sediment	12724377.78	377179.7234	625.5	19 - 24	VERY DARK BROWN SILT, TRACE ORGANIC MATTER
K53673	FF-102	6/13/00	SEDIMENT	Channel Sediment	12724583.14	377295.228	623.5	0 - 2	VERY DARK BROWN SILT, TRACE ORGANICS
K53674	FF-102	6/13/00	SEDIMENT	Channel Sediment	12724583.14	377295.228	623.5	2 - 6	VERY DARK BROWN SILT, TRACE ORGANICS
K53675	FF-102	6/13/00	SEDIMENT	Channel Sediment	12724583.14	377295.228	623.5	6 - 12	VERY DARK BROWN SILT, TRACE ORGANICS, TRACE FINE-COARSE SAND
K53676	FF-102	6/13/00	SEDIMENT	Channel Sediment	12724583.14	377295.228	623.5	12 - 18	DARK GRAY SILT & CLAY, TRACE ORGANICS & FIBROUS MATERIAL ODOR
K53677	FF-102	6/13/00	SEDIMENT	Channel Sediment	12724583.14	377295.228	623.5	18 - 24	DARK OLIVE BROWN FINE-MEDIUM SAND
K53678	FF-103	6/13/00	SEDIMENT	Channel Sediment	12724703.92	377471.1514	634.0	0 - 2	VERY DARK BROWN SILT, TRACE GRAY PLASTIC SHEETING
K53679	FF-103	6/13/00	SEDIMENT	Channel Sediment	12724703.92	377471.1514	634.0	2 - 6	VERY DARK BROWN SILT, TRACE ORGANICS
K53680	FF-103	6/13/00	SEDIMENT	Channel Sediment	12724703.92	377471.1514	634.0	6 - 15	VERY DARK BROWN SILT, LITTLE ORGANICS
K53681	FF-103	6/13/00	SEDIMENT	Channel Sediment	12724703.92	377471.1514	634.0	15 - 24	DARK OLIVE BROWN, FINE-MEDIUM SAND, TRACE COARSE SAND AND FINE-GRAVEL
K53682	FF-103	6/13/00	SEDIMENT	Channel Sediment	12724703.92	377471.1514	634.0	15 - 24	DARK OLIVE BROWN, FINE-MEDIUM SAND, TRACE COARSE SAND AND FINE-GRAVEL
K53686	FF-104	6/14/00	SEDIMENT	Floodplain	12726113.83	379013.4715	617.4	0 - 2	VERY DARK BROWN SILT & LOOSE ORGANICS
K53687	FF-104	6/14/00	SEDIMENT	Floodplain	12726113.83	379013.4715	617.4	2 - 6	VERY DARK BROWN SILT, TRACE ORGANICS

(See notes on page 24.)

TABLE 1

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Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	Easting	Northing	Elevation (ft amsl)	Depth Increment (In.)	Sample Description
K53688	FF-104	6/14/00	SEDIMENT	Floodplain	12726113.83	379013.4715	617.4	6 - 12	DARK OLIVE GRAY SILT, LITTLE CLAY, TRACE ROOTLETS
K53689	FF-104	6/14/00	SEDIMENT	Floodplain	12726113.83	379013.4715	617.4	12 - 24	DARK OLIVE GRAY SILT, LITTLE CLAY, TRACE ROOTLETS, LITTLE FINE SAND
K53754	FF-105	7/7/00	SEDIMENT	Channel Sediment	12721807.62	379960.7714	622.1	0 - 2	DARK BROWN SILTY TOPSOIL, SOME ROOTS
K53755	FF-105	7/7/00	SEDIMENT	Channel Sediment	12721807.62	379960.7714	622.1	2 - 6	DARK BROWN SILTY TOPSOIL, SOME ROOTS
K53756	FF-105	7/7/00	SEDIMENT	Channel Sediment	12721807.62	379960.7714	622.1	6 - 12	FINE SILT WITH ORGANICS
K53757	FF-105	7/7/00	SEDIMENT	Channel Sediment	12721807.62	379960.7714	622.1	12 - 21	FINE SILT WITH ORGANICS
K53758	FF-105	7/7/00	SEDIMENT	Channel Sediment	12721807.62	379960.7714	622.1	21 - 36	GRAY FINE-MEDIUM SAND
K53385	FF-106	5/3/00	SEDIMENT	Channel Sediment	12723554.95	381992.3845	614.2	0 - 6	DARK BROWN WITH ORGANICS
K53386	FF-106	5/3/00	SEDIMENT	Channel Sediment	12723554.95	381992.3845	614.2	2 - 6	DARK BROWN WITH ORGANICS
K53387	FF-106	5/3/00	SEDIMENT	Channel Sediment	12723554.95	381992.3845	614.2	6 - 12	DARK BROWN WITH ORGANICS
K53388	FF-106	5/3/00	SEDIMENT	Channel Sediment	12723554.95	381992.3845	614.2	12 - 24	DARK BROWN WITH ORGANICS
K53475	FF-107	5/4/00	SEDIMENT	Channel Sediment	12722760.79	382478.5183	614.4	0 - 2	DARK GRAY FINE SILT WITH SOME ORGANICS
K53476	FF-107	5/4/00	SEDIMENT	Channel Sediment	12722760.79	382478.5183	614.4	2 - 6	DARK GRAY FINE SILT WITH SOME ORGANICS
K53477	FF-107	5/4/00	SEDIMENT	Channel Sediment	12722760.79	382478.5183	614.4	6 - 13	DARK GRAY FINE SILT WITH SOME ORGANICS
K53389	FF-108	5/3/00	SEDIMENT	Channel Sediment	12721873.13	382841.3728	614.1	0 - 2	DARK GRAY SILT WITH ORGANICS
K53390	FF-108	5/3/00	SEDIMENT	Channel Sediment	12721873.13	382841.3728	614.1	2 - 6	DARK GRAY SILT WITH ORGANICS
K53391	FF-108	5/3/00	SEDIMENT	Channel Sediment	12721873.13	382841.3728	614.1	6 - 12	DARK GRAY SILT WITH ORGANICS
K53392	FF-108	5/3/00	SEDIMENT	Channel Sediment	12721873.13	382841.3728	614.1	12 - 24	DARK GRAY SILT WITH ORGANICS
K53393	FF-108	5/3/00	SEDIMENT	Channel Sediment	12721873.13	382841.3728	614.1	12 - 24	DARK GRAY SILT WITH ORGANICS
K53394	FF-109	5/3/00	SEDIMENT	Channel Sediment	12718991.13	383574.38	612.5	0 - 2	FINE SANDY SILT, TRACE ORGANICS
K53395	FF-109	5/3/00	SEDIMENT	Channel Sediment	12718991.13	383574.38	612.5	2 - 6	FINE SANDY SILT, TRACE ORGANICS

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Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	Easting	Northing	Elevation (ft amsl)	Depth Increment (in.)	Sample Description
K53396	FF-109	5/3/00	SEDIMENT	Channel Sediment	12718991.13	383574.38	612.5	6 - 12	FINE SANDY SILT, TRACE ORGANICS
K53397	FF-109	5/3/00	SEDIMENT	Channel Sediment	12718991.13	383574.38	612.5	12 - 24	FINE SILT WITH ORGANICS
K53398	FF-109	5/3/00	SEDIMENT	Channel Sediment	12718991.13	383574.38	612.5	12 - 24	FINE SILT WITH ORGANICS
K53748	FF-110	7/7/00	SEDIMENT	Channel Sediment	12717570.8	381602.0875	612.5	0 - 2	DARK BROWN SILT WITH ORGANICS
K53749	FF-110	7/7/00	SEDIMENT	Channel Sediment	12717570.8	381602.0875	612.5	2 - 6	DARK BROWN SILT WITH ORGANICS
K53750	FF-110	7/7/00	SEDIMENT	Channel Sediment	12717570.8	381602.0875	612.5	6 - 12	DARK BROWN SILT WITH ORGANICS
K53751	FF-110	7/7/00	SEDIMENT	Channel Sediment	12717570.8	381602.0875	612.5	12 - 24	DARK BROWN SILT WITH ORGANICS
K53752	FF-110	7/7/00	SEDIMENT	Channel Sediment	12717570.8	381602.0875	612.5	24 - 36	DARK BROWN SILT WITH ORGANICS
K53753	FF-110	7/7/00	SEDIMENT	Channel Sediment	12717570.8	381602.0875	612.5	24 - 36	DARK BROWN SILT WITH ORGANICS
K53742	FF-111	7/7/00	SEDIMENT	Channel Sediment	12714758.71	382492.0859	613.2	0 - 2	DARK BROWN SILT WITH TRACE SAND & ORGANICS
K53743	FF-111	7/7/00	SEDIMENT	Channel Sediment	12714758.71	382492.0859	613.2	2 - 6	DARK BROWN SILT WITH TRACE SAND & ORGANICS
K53744	FF-111	7/7/00	SEDIMENT	Channel Sediment	12714758.71	382492.0859	613.2	6 - 12	DARK BROWN SILT WITH TRACE SAND & ORGANICS
K53745	FF-111	7/7/00	SEDIMENT	Channel Sediment	12714758.71	382492.0859	613.2	12 - 24	DARK BROWN SILT WITH TRACE SAND & ORGANICS
K53746	FF-111	7/7/00	SEDIMENT	Channel Sediment	12714758.71	382492.0859	613.2	24 - 36	DARK BROWN SILT WITH TRACE SAND & ORGANICS
K53747	FF-111	7/7/00	SEDIMENT	Channel Sediment	12714758.71	382492.0859	613.2	24 - 36	DARK BROWN SILT WITH TRACE SAND & ORGANICS
K53737	FF-112	7/7/00	SEDIMENT	Channel Sediment	12707502.11	384997.175	607.8	0 - 2	DARK BROWN SILTY WITH ODOR
K53738	FF-112	7/7/00	SEDIMENT	Channel Sediment	12707502.11	384997.175	607.8	2 - 6	DARK BROWN SILTY WITH ODOR
K53739	FF-112	7/7/00	SEDIMENT	Channel Sediment	12707502.11	384997.175	607.8	6 - 12	DARK BROWN SILTY WITH ODOR
K53740	FF-112	7/7/00	SEDIMENT	Channel Sediment	12707502.11	384997.175	607.8	12 - 24	DARK BROWN SILTY WITH ODOR
K53741	FF-112	7/7/00	SEDIMENT	Channel Sediment	12707502.11	384997.175	607.8	24 - 36	DARK BROWN SILTY WITH ODOR
K53733	FF-113	7/7/00	SEDIMENT	Channel Sediment	12705813.08	385092.8647	609.3	0 - 2	BLACK FINE SILT, ORGANICS

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Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	Easting	Northing	Elevation (ft amsl)	Depth Increment (in.)	Sample Description
K53734	FF-113	7/7/00	SEDIMENT	Channel Sediment	12705813.08	385092.8647	609.3	2 - 8	BLACK FINE SILT, ORGANICS
K53735	FF-113	7/7/00	SEDIMENT	Channel Sediment	12705813.08	385092.8647	609.3	8 - 12	OLIVE FINE-MEDIUM SAND
K53736	FF-113	7/7/00	SEDIMENT	Channel Sediment	12705813.08	385092.8647	609.3	12 - 24	OLIVE FINE-MEDIUM SAND, TRACE SHELLS
K53759	FF-114	7/7/00	SEDIMENT	Channel Sediment	12701133.45	386059.9789	603.4	0 - 2	DARK BROWN SILTY, TRACE SAND & ORGANICS
K53760	FF-114	7/7/00	SEDIMENT	Channel Sediment	12701133.45	386059.9789	603.4	2 - 6	DARK BROWN SILTY, TRACE SAND & ORGANICS
K53761	FF-114	7/7/00	SEDIMENT	Channel Sediment	12701133.45	386059.9789	603.4	6 - 12	DARK BROWN SILTY, TRACE SAND & ORGANICS
K53762	FF-114	7/7/00	SEDIMENT	Channel Sediment	12701133.45	386059.9789	603.4	12 - 24	ORGANICS AND WOOD PEAT
K53763	FF-114	7/7/00	SEDIMENT	Channel Sediment	12701133.45	386059.9789	603.4	24 - 36	ORGANICS AND WOOD PEAT
K53764	FF-114	7/7/00	SEDIMENT	Channel Sediment	12701133.45	386059.9789	603.4	12 - 24	ORGANICS AND WOOD PEAT
K53621	FF-115	6/6/00	SEDIMENT	Channel Sediment	12802493.84	288680.6966	750.5	0 - 2	ORANGE-BROWN FINE-MEDIUM SAND
K53622	FF-115	6/6/00	SEDIMENT	Channel Sediment	12802493.84	288680.6966	750.5	2 - 6	ORANGE-BROWN FINE-MEDIUM SAND
K53623	FF-115	6/6/00	SEDIMENT	Channel Sediment	12802493.84	288680.6966	750.5	6 - 12	6-8" ORANGE-BROWN FINE-MEDIUM SAND, 8-12" OLIVE GRAY FINE-MEDIUM SAND, LITTLE COARSE SAND
K53624	FF-115	6/6/00	SEDIMENT	Channel Sediment	12802493.84	288680.6966	750.5	12 - 24	OLIVE GRAY FINE-MEDIUM SAND, LITTLE COARSE SAND, TRACE FINE GRAVEL
K10645	FF-1	6/1/00	SOIL	Point Source and Waste Disposal	12804829.01	288505.5367	760.3	0 - 6	LIGHT GRAY FIBROUS MATERIAL
K10646	FF-1	6/1/00	SOIL	Point Source and Waste Disposal	12804829.01	288505.5367	760.3	6 - 14	LIGHT GRAY FIBROUS MATERIAL
K10647	FF-1	6/1/00	SOIL	Point Source and Waste Disposal	12804829.01	288505.5367	760.3	14 - 18	DARK GRAY SANDY CLAY
K10648	FF-1	6/1/00	SOIL	Point Source and Waste Disposal	12804829.01	288505.5367	760.3	18 - 24	OLIVE/BROWN SILTY FINE SAND
K10649	FF-1	6/1/00	SOIL	Point Source and Waste Disposal	12804829.01	288505.5367	760.3	18 - 24	OLIVE/BROWN SILTY FINE SAND
K10650	FF-2	6/1/00	SOIL	Point Source and Waste Disposal	12804762.61	288582.1381	759.8	0 - 8	LIGHT GRAY FIBEROUS
K10651	FF-2	6/1/00	SOIL	Point Source and Waste Disposal	12804762.61	288582.1381	759.8	8 - 12	DARK BROWN MOTTLED SILT WITH ROOTS
K10652	FF-2	6/1/00	SOIL	Point Source and Waste Disposal	12804762.61	288582.1381	759.8	12 - 22	DARK BROWN MOTTLED SILT WITH ROOTS, TRACE MOTTLED SAND

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Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	Easting	Northing	Elevation (ft amsl)	Depth Increment (in.)	Sample Description
K10653	FF-2	6/1/00	SOIL	Point Source and Waste Disposal	12804762.61	288582.1381	759.8	12 - 22	DARK BROWN MOTTLED SILT WITH ROOTS, TRACE MOTTLED SAND
K10642	FF-3	6/1/00	SOIL	Point Source and Waste Disposal	12804706.66	288482.7195	758.9	0 - 6	LIGHT GRAY FIBROUS MATERIAL
K10643	FF-3	6/1/00	SOIL	Point Source and Waste Disposal	12804706.66	288482.7195	758.9	6 - 12	LIGHT GRAY FIBROUS MATERIAL
K10644	FF-3	6/1/00	SOIL	Point Source and Waste Disposal	12804706.66	288482.7195	758.9	12 - 24	GRAY FINE SAND
K10672	FF-10	6/1/00	SOIL	Kalamazoo Island	12802110.01	289016.8151	757.9	0 - 6	DARK BROWN SILT WITH FINE SAND
K10673	FF-10	6/1/00	SOIL	Kalamazoo Island	12802110.01	289016.8151	757.9	6 - 16	DARK BROWN SILT WITH FINE SAND
K10674	FF-10	6/1/00	SOIL	Kalamazoo Island	12802110.01	289016.8151	757.9	16 - 24	BROWN/TAN MEDIUM-FINE SAND, TRACE GRAVEL
K10675	FF-10	6/1/00	SOIL	Kalamazoo Island	12802110.01	289016.8151	757.9	16 - 24	BROWN/TAN MEDIUM-FINE SAND, TRACE GRAVEL
K10662	FF-11	6/1/00	SOIL	Kalamazoo Island	12801832.08	289060.1003	756.6	0 - 6	DARK BROWN SANDY SILT WITH ROOTS
K10663	FF-11	6/1/00	SOIL	Kalamazoo Island	12801832.08	289060.1003	756.6	6 - 15	DARK BROWN SANDY SILT WITH ROOTS
K10664	FF-11	6/1/00	SOIL	Kalamazoo Island	12801832.08	289060.1003	756.6	15 - 24	GRAY MEDIUM-COARSE SAND WITH SHELLS
K10669	FF-12	6/1/00	SOIL	Floodplain	12800616.85	289620.354	757.4	0 - 6	DARK BROWN SILT, TRACE ORGANICS
K10670	FF-12	6/1/00	SOIL	Floodplain	12800616.85	289620.354	757.4	6 - 12	DARK BROWN SILT, TRACE ORGANICS
K10671	FF-12	6/1/00	SOIL	Floodplain	12800616.85	289620.354	757.4	12 - 24	DARK BROWN SILT WITH COARSE SAND, ORGANICS & GRAVEL
K10654	FF-21	6/1/00	SOIL	Floodplain	12796860.3	302334.935	754.1	0 - 6	DARK BROWN SILTY SAND, SOME ROOTS
K10655	FF-21	6/1/00	SOIL	Floodplain	12796860.3	302334.935	754.1	6 - 12	DARK BROWN SILTY SAND WITH ROOTS, TRACE MOTTLING
K10656	FF-21	6/1/00	SOIL	Floodplain	12796860.3	302334.935	754.1	12 - 15	TAN-DARK GRAY FINE-MEDIUM SAND WITH MOTTLING
K10657	FF-21	6/1/00	SOIL	Floodplain	12796860.3	302334.935	754.1	15 - 24	DARK GRAY SILTY CLAY
K10658	FF-21	6/1/00	SOIL	Floodplain	12796860.3	302334.935	754.1	15 - 24	DARK GRAY SILTY CLAY
K10820	FF-22	7/7/00	SOIL	Floodplain	12796112.37	303452.0517	751.0	0 - 6	DARK OLIVE GRAY SILT, LITTLE FINE SAND, ROOTLETS
K10821	FF-22	7/7/00	SOIL	Floodplain	12796112.37	303452.0517	751.0	6 - 12	DARK OLIVE GRAY SILT, LITTLE FINE SAND, TRACE MEDIUM SAND

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Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	Easting	Northing	Elevation (ft amsl)	Depth Increment (in.)	Sample Description
K10659	FF-26	6/1/00	SOIL	Kalamazoo Island	12794787.25	305772.9956	762.7	0 - 6	DARK BROWN SILTY TOPSOIL WITH ROOTS
K10660	FF-26	6/1/00	SOIL	Kalamazoo Island	12794787.25	305772.9956	762.7	6 - 14	DARK BROWN SILTY TOPSOIL WITH ROOTS, TRACE MOTTLING, PIECE OF WOOD
K10661	FF-26	6/1/00	SOIL	Kalamazoo Island	12794787.25	305772.9956	762.7	14 - 23	GRAY COARSE SAND WITH SHELLS
K10846	FF-27	7/19/00	SOIL	Floodplain	12794660.15	307494.8714	748.9	0 - 6	DARK BROWN SILT, ROOTLETS
K10847	FF-27	7/19/00	SOIL	Floodplain	12794660.15	307494.8714	748.9	6 - 12	DARK BROWN SILT, ROOTLETS
K10848	FF-27	7/19/00	SOIL	Floodplain	12794660.15	307494.8714	748.9	12 - 23	DARK BROWN SILTY SAND
K10822	FF-30	7/7/00	SOIL	Floodplain	12796233.72	311685.1719	748.2	0 - 6	DARK OLIVE GRAY SILT, LITTLE FINE SAND, ROOTLETS
K10823	FF-30	7/7/00	SOIL	Floodplain	12796233.72	311685.1719	748.2	6 - 12	DARK BROWN SILT WITH LITTLE FINE SAND, ROOTLETS
K10824	FF-30	7/7/00	SOIL	Floodplain	12796233.72	311685.1719	748.2	12 - 23	OLIVE SILT WITH SOME FINE SAND
K10631	FF-31	5/22/00	SOIL	Floodplain	12795934.85	321189.8825	741.3	0 - 6	BROWN SILT WITH ROOTS, WET
K10632	FF-31	5/22/00	SOIL	Floodplain	12795934.85	321189.8825	741.3	6 - 12	BROWN SILTY SAND, TRACE ROOTS, TRACE MOTTLING, WET
K10633	FF-31	5/22/00	SOIL	Floodplain	12795934.85	321189.8825	741.3	12 - 24	12-18" BROWN SILTY SAND, TRACE MOTTLING, WET, 18-24" LIGHT GRAY MEDIUM-COARSE SAND WITH FINE-MEDIUM GRAVEL, SATURATED
K10634	FF-31	5/22/00	SOIL	Floodplain	12795934.85	321189.8825	741.3	12 - 24	12-18" BROWN SILTY SAND, TRACE MOTTLING, WET, 18-24" LIGHT GRAY MEDIUM-COARSE SAND WITH FINE-MEDIUM GRAVEL, SATURATED
K10635	FF-32	5/22/00	SOIL	Kalamazoo Island	12795093.04	323288.5075	739.3	0 - 6	BROWN SILT, TRACE FINE SAND, TRACE ROOTS, MOIST
K10636	FF-32	5/22/00	SOIL	Kalamazoo Island	12795093.04	323288.5075	739.3	6 - 12	BROWN SILT, TRACE FINE SAND, TRACE ROOTS, MOIST
K10637	FF-32	5/22/00	SOIL	Kalamazoo Island	12795093.04	323288.5075	739.3	12 - 24	BROWN SILT, TRACE FINE SAND, TRACE ROOTS, MOIST
K10679	FF-36	6/1/00	SOIL	Floodplain	12794351.18	329805.0472	735.5	0 - 6	DARK BROWN SILT, TRACE SAND, TRACE ROOTS, MOIST
K10680	FF-36	6/1/00	SOIL	Floodplain	12794351.18	329805.0472	735.5	6 - 12	DARK BROWN SILT, TRACE SAND, TRACE ROOTS, MOIST
K10681	FF-36	6/1/00	SOIL	Floodplain	12794351.18	329805.0472	735.5	12 - 24	DARK BROWN SILT, TRACE SAND, TRACE ROOTS, MOIST, 18-24" BROWN MEDIUM-FINE SAND, TRACE SHELLS, SATUARATED
K10676	FF-37	6/1/00	SOIL	Floodplain	12794536.54	330452.9737	748.1	0 - 6	DARK BROWN SILT, ROOTS, SATURATED
K10677	FF-37	6/1/00	SOIL	Floodplain	12794536.54	330452.9737	748.1	6 - 12	DARK BROWN SILT, SOME CLAY, TRACE MOTTLING, ROOTS, SATURATED

(See notes on page 24)

TABLE 1

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

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Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	Easting	Northing	Elevation (ft amsl)	Depth Increment (in.)	Sample Description
K10678	FF-37	6/1/00	SOIL	Floodplain	12794536.54	330452.9737	748.1	12 - 24	BROWN-GRAY SILT, SOME CLAY, TRACE MOTTLING, ROOTS, SATURATED
K10828	FF-38	7/7/00	SOIL	Floodplain	12793522.59	332003.9141	736.5	0 - 6	DARK BROWN SILT & FINE SAND, ROOTLETS
K10829	FF-38	7/7/00	SOIL	Floodplain	12793522.59	332003.9141	736.5	6 - 12	DARK BROWN SILT & FINE SAND, ROOTLETS
K10830	FF-38	7/7/00	SOIL	Floodplain	12793522.59	332003.9141	736.5	12 - 24	OLIVE GRAY SILT, LITTLE FINE SAND, TRACE MEDIUM GRAVEL
K10831	FF-38	7/7/00	SOIL	Floodplain	12793522.59	332003.9141	736.5	12 - 24	OLIVE GRAY SILT, LITTLE FINE SAND, TRACE MEDIUM GRAVEL
K10870	FF-39	7/21/00	SOIL	Floodplain	12791104.24	336100.5065	727.9	0 - 6	DARK BROWN SILTY CLAY WITH ROOTLETS
K10871	FF-39	7/21/00	SOIL	Floodplain	12791104.24	336100.5065	727.9	6 - 15	DARK GRAY CLAY, TRACE MOTTLING
K10872	FF-39	7/21/00	SOIL	Floodplain	12791104.24	336100.5065	727.9	15 - 20	DARK GRAY CLAY, TRACE MOTTLING
K10665	FF-40	6/1/00	SOIL	Kalamazoo Island	12790174.7	337103.1221	729.7	0 - 6	DARK BROWN SILT WITH TOPSOIL
K10666	FF-40	6/1/00	SOIL	Kalamazoo Island	12790174.7	337103.1221	729.7	6 - 12	DARK BROWN SILT WITH ROOTS
K10667	FF-40	6/1/00	SOIL	Kalamazoo Island	12790174.7	337103.1221	729.7	12 - 24	DARK GRAY SILT WITH FINE-MEDIUM SAND
K10668	FF-40	6/1/00	SOIL	Kalamazoo Island	12790174.7	337103.1221	729.7	12 - 24	DARK GRAY SILT WITH FINE-MEDIUM SAND
K10839	FF-41	7/12/00	SOIL	Floodplain	12789101.33	336361.234	728.9	0 - 9	DARK BROWN SILTY SAND, ROOTLETS
K10840	FF-41	7/12/00	SOIL	Floodplain	12789101.33	336361.234	728.9	9 - 12	LIGHT BROWN SAND
K10841	FF-41	7/12/00	SOIL	Floodplain	12789101.33	336361.234	728.9	12 - 24	LIGHT BROWN FINE SAND
K10842	FF-41	7/12/00	SOIL	Floodplain	12789101.33	336361.234	728.9	12 - 24	LIGHT BROWN FINE SAND
K10867	FF-42	7/21/00	SOIL	Floodplain	12788625.26	337329.3071	719.2	0 - 6	DARK BROWN SILTY CLAY WITH ROOTLETS
K10868	FF-42	7/21/00	SOIL	Floodplain	12788625.26	337329.3071	719.2	6 - 12	DARK BROWN SILTY CLAY WITH ROOTLETS
K10869	FF-42	7/21/00	SOIL	Floodplain	12788625.26	337329.3071	719.2	12 - 25	DARK GRAY MEDIUM SAND, SOME GRAVEL
K10682	FF-43	6/1/00	SOIL	Floodplain	12788659.1	338457.1485	726.3	0 - 6	DARK BROWN SILT, TRACE SAND, TRACE ROOTS, SATURATED, TRACE SHELLS
K10683	FF-43	6/1/00	SOIL	Floodplain	12788659.1	338457.1485	726.3	6 - 12	6-8" DARK BROWN SILT, TRACE SAND, TRACE ROOTS, SATURATED, TRACE SHELLS 8-12" BROWN FINE-MEDIUM SAND, TRACE MOTTLING, SATURATED

(See notes on page 24)

TABLE 1

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Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	Easting	Northing	Elevation (ft amsl)	Depth Increment (in.)	Sample Description
K10684	FF-43	6/1/00	SOIL	Floodplain	12788659.1	338457.1485	726.3	12 - 24	12-20" RED BROWN FINE-MEDIUM SAND, SATURATED, 20-24" DARK GRAY FINE-MEDIUM SAND, SATURATED
K10576	FF-44	5/12/00	SOIL	Kalamazoo Island	12783045.43	340430.3675	720.8	0 - 6	BROWN STIFF SILT WITH ROOTS
K10577	FF-44	5/12/00	SOIL	Kalamazoo Island	12783045.43	340430.3675	720.8	6 - 12	BROWN SILT WITH ORGANICS
K10578	FF-44	5/12/00	SOIL	Kalamazoo Island	12783045.43	340430.3675	720.8	12 - 24	BROWN SILT WITH ORGANICS
K10583	FF-45	5/12/00	SOIL	Floodplain	12781418.04	340442.3825	719.7	0 - 6	BROWN SILTY PEAT
K10584	FF-45	5/12/00	SOIL	Floodplain	12781418.04	340442.3825	719.7	6 - 12	BROWN SILTY PEAT
K10585	FF-45	5/12/00	SOIL	Floodplain	12781418.04	340442.3825	719.7	12 - 24	BROWN SILTY PEAT
K10876	FF-47	8/4/00	SOIL	Kalamazoo Island	12781379.68	342614.6456	718.6	0 - 6	DARK BROWN SILTY TOPSOIL
K10877	FF-47	8/4/00	SOIL	Kalamazoo Island	12781379.68	342614.6456	718.6	6 - 12	DARK BROWN SILTY TOPSOIL, LARGE GRAVEL, SOME COARSE SAND
K10843	FF-48	7/12/00	SOIL	Floodplain	12781049.02	341627.6383	722.5	0 - 6	DARK BROWN SILT WITH ORGANICS
K10844	FF-48	7/12/00	SOIL	Floodplain	12781049.02	341627.6383	722.5	6 - 12	DARK BROWN SILT WITH WOOD, TRACE ROOTLETS
K10845	FF-48	7/12/00	SOIL	Floodplain	12781049.02	341627.6383	722.5	12 - 24	DARK BROWN SILTY, TRACE WOOD
K10741	FF-49	6/7/00	SOIL	Kalamazoo Island	12780977.47	342077.1686	715.7	0 - 6	BROWN FINE-COARSE SAND & ROOTLETS, TRACE SILT
K10742	FF-49	6/7/00	SOIL	Kalamazoo Island	12780977.47	342077.1686	715.7	6 - 16	VERY DARK BROWN SILT, FINE SAND, SOME ORGANICS
K10743	FF-49	6/7/00	SOIL	Kalamazoo Island	12780977.47	342077.1686	715.7	16 - 20	BROWN FINE-COARSE SAND
K10744	FF-49	6/7/00	SOIL	Kalamazoo Island	12780977.47	342077.1686	715.7	20 - 24	DARK OLIVE GRAY FINE SAND & SILT, LITTLE ORGANICS
K10873	FF-50	8/4/00	SOIL	Floodplain	12780843.19	342520.1313	719.3	0 - 6	BROWN MEDIUM TO FINE SAND
K10874	FF-50	8/4/00	SOIL	Floodplain	12780843.19	342520.1313	719.3	6 - 12	BROWN MEDIUM TO FINE SAND, SOME COARSE SAND
K10875	FF-50	8/4/00	SOIL	Floodplain	12780843.19	342520.1313	719.3	12 - 24	BROWN FINE SAND, TRACE ORGANICS, TRACE TO SOME SILT
K10721	FF-51	6/7/00	SOIL	Kalamazoo Island	12780914.24	345183.0037	719.6	0 - 6	VERY DARK BROWN SILT, TRACE NATURAL ORGANICS
K10722	FF-51	6/7/00	SOIL	Kalamazoo Island	12780914.24	345183.0037	719.6	6 - 12	VERY DARK BROWN SILT, LITTLE ROOTS, TRACE FINE SAND

(See notes on page 24.)

TABLE 1

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Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	Easting	Northing	Elevation (ft amsl)	Depth Increment (in.)	Sample Description
K10723	FF-51	6/7/00	SOIL	Kalamazoo Island	12780914.24	345183.0037	719.6	6 - 12	VERY DARK BROWN SILT, LITTLE ROOTS, TRACE FINE SAND
K10724	FF-51	6/7/00	SOIL	Kalamazoo Island	12780914.24	345183.0037	719.6	12 - 24	OLIVE BROWN, DARK OLIVE GRAY FINE SAND & SILT, TRACE COARSE SAND & FINE-MEDIUM GRAVEL
K10745	FF-52	6/7/00	SOIL	Kalamazoo Island	12778027.46	347931.6748	713.2	0 - 6	OLIVE GRAY SILT, SOME ORGANICS, TRACE FINE SAND
K10746	FF-52	6/7/00	SOIL	Kalamazoo Island	12778027.46	347931.6748	713.2	6 - 12	VERY DARK BROWN-OLIVE GRAY SILT, LITTLE ORGANICS
K10747	FF-52	6/7/00	SOIL	Kalamazoo Island	12778027.46	347931.6748	713.2	12 - 17	VERY DARK BROWN SILT, LITTLE FINE SAND, TRACE ORGANICS
K10748	FF-53	6/9/00	SOIL	Exposed Sediment	12777701.18	348373.1892	711.1	0 - 6	OLIVE GRAY SILT, CLAY & ORGANICS (ROOTS)
K10749	FF-53	6/9/00	SOIL	Exposed Sediment	12777701.18	348373.1892	711.1	6 - 12	OLIVE GRAY SILT, CLAY & ORGANICS (ROOTS)
K10750	FF-53	6/9/00	SOIL	Exposed Sediment	12777701.18	348373.1892	711.1	12 - 17	DARK GRAY SILT & CLAY, TRACE ROOTS & FIBERS, ODOR
K10751	FF-53	6/9/00	SOIL	Exposed Sediment	12777701.18	348373.1892	711.1	17 - 20	DARK OLIVE GRAY FINE SAND, TRACE MEDIUM-COARSE SAND, TRACE FINE GRAVEL & ORGANICS
K10752	FF-53	6/9/00	SOIL	Exposed Sediment	12777701.18	348373.1892	711.1	6 - 12	OLIVE GRAY SILT, CLAY & ORGANICS (ROOTS)
K10849	FF-54	7/19/00	SOIL	Otsego City Impoundment	12772729.94	351757.9234	703.9	0 - 6	BROWN FINE SAND, ROOTLETS
K10850	FF-54	7/19/00	SOIL	Otsego City Impoundment	12772729.94	351757.9234	703.9	6 - 12	BROWN FINE SAND, ROOTLETS
K10851	FF-54	7/19/00	SOIL	Otsego City Impoundment	12772729.94	351757.9234	703.9	12 - 24	REDDISH BROWN FINE SAND
K10767	FF-55	6/13/00	SOIL	Otsego City Impoundment	12772599.14	353573.2491	698.6	0 - 6	VERY DARK BROWN SILT, TRACE ROOTLETS & ORGANICS
K10768	FF-55	6/13/00	SOIL	Otsego City Impoundment	12772599.14	353573.2491	698.6	6 - 12	DARK BROWN/DARK GRAY SILT, LITTLE FINE SAND, TRACE ORGANICS & ROOTLETS
K10769	FF-55	6/13/00	SOIL	Otsego City Impoundment	12772599.14	353573.2491	698.6	12 - 22	DARK BROWN/DARK GRAY SILT, SOME FINE SAND
K10777	FF-56	6/14/00	SOIL	Otsego City Impoundment	12771594.44	352510.7379	698.9	0 - 6	VERY DARK BROWN SILT & HIGHLY DEGRADED NATURAL ORGANICS, LITTLE ROOTLETS, TRACE GRAY CLAY
K10778	FF-56	6/14/00	SOIL	Otsego City Impoundment	12771594.44	352510.7379	698.9	6 - 12	DARK OLIVE GRAY SILT & CLAY, TRACE ROOTLETS, TRACER ORGANICS
K10779	FF-56	6/14/00	SOIL	Otsego City Impoundment	12771594.44	352510.7379	698.9	12 - 17	DARK OLIVE GRAY SILT & CLAY, TRACE ORGANICS
K10780	FF-56	6/14/00	SOIL	Otsego City Impoundment	12771594.44	352510.7379	698.9	17 - 24	OLIVE GRAY VERY FINE-FINE SAND, TRACE SILT & CLAY & ORGANICS
K10758	FF-57	6/13/00	SOIL	Otsego City Impoundment	12771552.37	353756.4198	698.8	0 - 6	VERY DARK BROWN SILT, LITTLE ROOTLETS & ORGANICS

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Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	Easting	Northing	Elevation (ft amsl)	Depth Increment (in.)	Sample Description
K10759	FF-57	6/13/00	SOIL	Otsego City Impoundment	12771552.37	353756.4198	698.8	6 - 12	VERY DARK BROWN SILT, LITTLE ROOTLETS & ORGANICS, TRACE FINE SAND
K10760	FF-57	6/13/00	SOIL	Otsego City Impoundment	12771552.37	353756.4198	698.8	12 - 18	VERY DARK BROWN SILT, LITTLE ROOTLETS & ORGANICS, TRACE FINE SAND
K10761	FF-57	6/13/00	SOIL	Otsego City Impoundment	12771552.37	353756.4198	698.8	18 - 25	DARK OLIVE GRAY, FINE SAND, LITTLE MEDIUM SAND & LITTLE SILT
K10852	FF-58	7/19/00	SOIL	Otsego City Impoundment	12770584.49	351444.0066	701.5	0 - 6	LIGHT BROWN CLAY, ROOTLETS, TRACE ORGANICS
K10853	FF-58	7/19/00	SOIL	Otsego City Impoundment	12770584.49	351444.0066	701.5	6 - 13	LIGHT BROWN CLAY, ROOTLETS, TRACE ORGANICS
K10854	FF-58	7/19/00	SOIL	Otsego City Impoundment	12770584.49	351444.0066	701.5	13 - 23	DARK BROWN ORGANIC SILT (PEAT)
K10855	FF-58	7/19/00	SOIL	Otsego City Impoundment	12770584.49	351444.0066	701.5	13 - 23	DARK BROWN ORGANIC SILT (PEAT)
K10863	FF-59	7/19/00	SOIL	Otsego City Impoundment	12769068.35	352943.6661	698.5	0 - 8	DARK BROWN SILT, ROOTLETS
K10864	FF-59	7/19/00	SOIL	Otsego City Impoundment	12769068.35	352943.6661	698.5	8 - 12	RED FINE SAND
K10865	FF-59	7/19/00	SOIL	Otsego City Impoundment	12769068.35	352943.6661	698.5	12 - 24	RED FINE-MEDIUM SAND
K10866	FF-59	7/19/00	SOIL	Otsego City Impoundment	12769068.35	352943.6661	698.5	12 - 24	RED FINE-MEDIUM SAND
K10859	FF-60	7/19/00	SOIL	Otsego City Impoundment	12768862.57	351379.962	697.4	0 - 6	DARK BROWN SILT, ROOTLETS & TRACE WOOD
K10860	FF-60	7/19/00	SOIL	Otsego City Impoundment	12768862.57	351379.962	697.4	6 - 12	VERY DARK OLIVE GRAY SILT, ROOTLETS
K10861	FF-60	7/19/00	SOIL	Otsego City Impoundment	12768862.57	351379.962	697.4	12 - 19	VERY DARK BROWN SILT
K10862	FF-60	7/19/00	SOIL	Otsego City Impoundment	12768862.57	351379.962	697.4	19 - 24	OLIVE GRAY FINE SAND
K10773	FF-61	6/14/00	SOIL	Otsego City Impoundment	12768261.15	350715.746	698.9	0 - 6	VERY DARK BROWN ORGANICS, LITTLE SILT (PEAT)
K10774	FF-61	6/14/00	SOIL	Otsego City Impoundment	12768261.15	350715.746	698.9	6 - 12	VERY DARK BROWN ORGANICS, LITTLE SILT (PEAT)
K10775	FF-61	6/14/00	SOIL	Otsego City Impoundment	12768261.15	350715.746	698.9	12 - 24	VERY DARK BROWN ORGANICS, LITTLE SILT (PEAT)
K10776	FF-61	6/14/00	SOIL	Otsego City Impoundment	12768261.15	350715.746	698.9	12 - 24	VERY DARK BROWN ORGANICS, LITTLE SILT (PEAT)
K10856	FF-62	7/19/00	SOIL	Otsego City Impoundment	12768111.54	353126.7575	697.8	0 - 6	DARK BROWN FINE SAND, ROOTLETS, TRACE ORGANICS
K10857	FF-62	7/19/00	SOIL	Otsego City Impoundment	12768111.54	353126.7575	697.8	6 - 12	DARK BROWN FINE SAND, ROOTLETS, TRACE ORGANICS

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Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	Easting	Northing	Elevation (ft amsl)	Depth Increment (in.)	Sample Description
K10858	FF-62	7/19/00	SOIL	Otsego City Impoundment	12768111.54	353126.7575	697.8	12 - 24	DARK OLIVE GRAY FINE SAND, TRACE MEDIUM SAND
K10762	FF-63	6/13/00	SOIL	Otsego City Impoundment	12767748.44	352033.0477	697.1	0 - 6	DARK BROWN SILT, SOME ROOTLETS, TRACE ORGANICS
K10763	FF-63	6/13/00	SOIL	Otsego City Impoundment	12767748.44	352033.0477	697.1	6 - 12	VERY DARK BROWN SILT & ORGANICS
K10764	FF-63	6/13/00	SOIL	Otsego City Impoundment	12767748.44	352033.0477	697.1	12 - 19	VERY DARK BROWN SILT & ORGANICS
K10765	FF-63	6/13/00	SOIL	Otsego City Impoundment	12767748.44	352033.0477	697.1	19 - 24	LIGHT GRAY & DARK BROWN SILT, TRACE ROOTLETS
K10766	FF-63	6/13/00	SOIL	Otsego City Impoundment	12767748.44	352033.0477	697.1	12 - 19	VERY DARK BROWN SILT & ORGANICS
K10573	FF-64	5/12/00	SOIL	Exposed Sediment	12757545.21	352529.9289	679.4	0 - 6	BROWN SILT WITH ROOTLETS
K10574	FF-64	5/12/00	SOIL	Exposed Sediment	12757545.21	352529.9289	679.4	6 - 12	DARK GRAY SILT, FIRM
K10575	FF-64	5/12/00	SOIL	Exposed Sediment	12757545.21	352529.9289	679.4	12 - 24	BROWN/GRAY FINE SAND & SILT
K10579	FF-65	5/12/00	SOIL	Exposed Sediment	12755087.61	352157.1453	676.3	0 - 6	BROWN SILTY TOPSOIL
K10580	FF-65	5/12/00	SOIL	Exposed Sediment	12755087.61	352157.1453	676.3	6 - 12	BROWN SILTY TOPSOIL
K10581	FF-65	5/12/00	SOIL	Exposed Sediment	12755087.61	352157.1453	676.3	12 - 24	BROWN SILTY TOPSOIL
K10582	FF-65	5/12/00	SOIL	Exposed Sediment	12755087.61	352157.1453	676.3	12 - 24	BROWN SILTY TOPSOIL
K10586	FF-67	5/12/00	SOIL	Exposed Sediment	12753607.84	352573.5514	676.3	0 - 6	DARK GRAY SILTY, TRACE SAND, TRACE ORGANICS
K10587	FF-67	5/12/00	SOIL	Exposed Sediment	12753607.84	352573.5514	676.3	6 - 12	DARK GRAY SILTY, TRACE SAND, TRACE ORGANICS
K10588	FF-67	5/12/00	SOIL	Exposed Sediment	12753607.84	352573.5514	676.3	12 - 24	DARK GRAY SILTY, TRACE SAND, TRACE ORGANICS
K10589	FF-67	5/12/00	SOIL	Exposed Sediment	12753607.84	352573.5514	676.3	12 - 24	DARK GRAY SILTY, TRACE SAND, TRACE ORGANICS
K10590	FF-68	5/12/00	SOIL	Exposed Sediment	12750715.03	354957.2417	680.3	0 - 6	DARK BROWN SILT WITH TRACE ROOTS
K10591	FF-68	5/12/00	SOIL	Exposed Sediment	12750715.03	354957.2417	680.3	6 - 12	DARK BROWN SILT WITH TRACE ROOTS
K10592	FF-68	5/12/00	SOIL	Exposed Sediment	12750715.03	354957.2417	680.3	12 - 24	DARK BROWN SILT WITH TRACE ROOTS
K10593	FF-68	5/12/00	SOIL	Exposed Sediment	12750715.03	354957.2417	680.3	12 - 24	DARK BROWN SILT WITH TRACE ROOTS

(See notes on page 24)

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
FIELD NOTE SUMMARY

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	Easting	Northing	Elevation (ft amsl)	Depth Increment (in.)	Sample Description
K10627	FF-70	5/18/00	SOIL	Exposed Sediment	12749492.7	356917.7381	666.6	0 - 2	DARK BROWN SILT AND FINE SAND, TRACE ROOTS, TRACE MOTTLING, MOIST
K10628	FF-70	5/18/00	SOIL	Exposed Sediment	12749492.7	356917.7381	666.6	2 - 6	DARK BROWN SILT AND FINE SAND, TRACE ROOTS, TRACE MOTTLING, MOIST
K10629	FF-70	5/18/00	SOIL	Exposed Sediment	12749492.7	356917.7381	666.6	6 - 12	BROWN SILT, FINE SAND, SOME MOTTLING, TRACE ROOTS, TRACE GRAY CLAY, MOIST
K10630	FF-70	5/18/00	SOIL	Exposed Sediment	12749492.7	356917.7381	666.6	12 - 24	RED-BROWN FINE-MEDIUM SAND, TRACE GRAY CLAY, MOIST
K10556	FF-72	5/12/00	SOIL	Exposed Sediment	12745868.57	359699.0042	660.7	0 - 6	GRAY/BROWN SILT WITH ROOTS
K10557	FF-72	5/12/00	SOIL	Exposed Sediment	12745868.57	359699.0042	660.7	6 - 12	GRAY SILT
K10558	FF-72	5/12/00	SOIL	Exposed Sediment	12745868.57	359699.0042	660.7	12 - 24	DARK GRAY/BROWN SILTY CLAY
K10559	FF-72	5/12/00	SOIL	Exposed Sediment	12745868.57	359699.0042	660.7	12 - 24	DARK GRAY/BROWN SILTY CLAY
K10549	FF-73	5/12/00	SOIL	Exposed Sediment	12745372.75	363937.8891	657.5	0 - 6	BROWN SILT WITH ORGANICS
K10550	FF-73	5/12/00	SOIL	Exposed Sediment	12745372.75	363937.8891	657.5	6 - 16	GRAY SILT, TRACE ROOTS
K10551	FF-73	5/12/00	SOIL	Exposed Sediment	12745372.75	363937.8891	657.5	16 - 24	GRAY FINE SAND
K10564	FF-74	5/12/00	SOIL	Exposed Sediment	12744286.7	363234.642	656.7	0 - 6	DARK BROWN SILTY TOPSOIL WITH ROOT
K10565	FF-74	5/12/00	SOIL	Exposed Sediment	12744286.7	363234.642	656.7	6 - 15	GRAY/BROWN SILT, TRACE SAND
K10566	FF-74	5/12/00	SOIL	Exposed Sediment	12744286.7	363234.642	656.7	6 - 15	GRAY/BROWN SILT, TRACE SAND
K10567	FF-74	5/12/00	SOIL	Exposed Sediment	12744286.7	363234.642	656.7	15 - 18	BROWN/TAN MOTTLED FINE SAND
K10568	FF-74	5/12/00	SOIL	Exposed Sediment	12744286.7	363234.642	656.7	18 - 24	GRAY SILT, STIFF
K10560	FF-75	5/12/00	SOIL	Exposed Sediment	12744128.13	362718.5485	658.3	0 - 6	GRAY SILTY WITH ROOTS
K10561	FF-75	5/12/00	SOIL	Exposed Sediment	12744128.13	362718.5485	658.3	6 - 12	GRAY SILT, STIFF
K10562	FF-75	5/12/00	SOIL	Exposed Sediment	12744128.13	362718.5485	658.3	12 - 20	GRAY SILT, STIFF
K10563	FF-75	5/12/00	SOIL	Exposed Sediment	12744128.13	362718.5485	658.3	20 - 24	BROWN SILTY SAND, SOME MOTTLING
K10552	FF-76	5/12/00	SOIL	Exposed Sediment	12740840.65	361314.7065	657.5	0 - 6	BROWN SILT WITH ORGANICS

(See notes on page 24)

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
FIELD NOTE SUMMARY

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	Easting	Northing	Elevation (ft amsl)	Depth Increment (in.)	Sample Description
K10553	FF-76	5/12/00	SOIL	Exposed Sediment	12740840.65	361314.7065	657.5	6 - 12	GRAY MOTTLED SILT
K10554	FF-76	5/12/00	SOIL	Exposed Sediment	12740840.65	361314.7065	657.5	12 - 18	GRAY SILT
K10555	FF-76	5/12/00	SOIL	Exposed Sediment	12740840.65	361314.7065	657.5	18 - 24	GRAY FINE SILTY CLAY
K10569	FF-77	5/12/00	SOIL	Exposed Sediment	12740026.5	360641.0018	657.5	0 - 6	BROWN SILT WITH ORGANICS
K10570	FF-77	5/12/00	SOIL	Exposed Sediment	12740026.5	360641.0018	657.5	6 - 12	BROWN/GRAY SILT, TRACE SAND & ROOTLETS
K10571	FF-77	5/12/00	SOIL	Exposed Sediment	12740026.5	360641.0018	657.5	12 - 24	GRAY SMOOTH SILT WITH ORGANICS
K10572	FF-77	5/12/00	SOIL	Exposed Sediment	12740026.5	360641.0018	657.5	12 - 24	GRAY SMOOTH SILT WITH ORGANICS
K10753	FF-82	6/13/00	SOIL	Floodplain	12733858.72	361561.7046	650.3	0 - 6	VERY DARK BROWN SILT, LITTLE ROOTLETS, TRACE FINE SAND
K10754	FF-82	6/13/00	SOIL	Floodplain	12733858.72	361561.7046	650.3	6 - 12	VERY DARK BROWN SILT, TRACE ROOTLETS & ORGANICS, TRACE FINE SAND
K10755	FF-82	6/13/00	SOIL	Floodplain	12733858.72	361561.7046	650.3	12 - 20	VERY DARK BROWN SILT, TRACE MEDIUM-COARSE SAND, TRACE FINE GRAVEL
K10756	FF-82	6/13/00	SOIL	Floodplain	12733858.72	361561.7046	650.3	20 - 26	LIGHT OLIVE-BROWN, FINE-MEDIUM SAND, TRACE COARSE SAND, FINE GRAVEL
K10757	FF-82	6/13/00	SOIL	Floodplain	12733858.72	361561.7046	650.3	20 - 26	LIGHT OLIVE-BROWN, FINE-MEDIUM SAND, TRACE COARSE SAND, FINE GRAVEL
K10770	FF-84	6/13/00	SOIL	Floodplain	12731147.8	363580.8137	642.4	0 - 6	VERY DARK BROWN SILT & LIGHT BROWN, FINE SAND, LITTLE ROOTLETS, TRACE ORGANICS
K10771	FF-84	6/13/00	SOIL	Floodplain	12731147.8	363580.8137	642.4	6 - 12	DARK/OLIVE BROWN FINE SAND & SOME MEDIUM SILT, TRACE ROOTLETS
K10772	FF-84	6/13/00	SOIL	Floodplain	12731147.8	363580.8137	642.4	12 - 21	OLIVE BROWN FINE SAND, SOME MEDIUM SAND, TRACE ROOTLETS
K10638	FF-86	6/1/00	SOIL	Floodplain	12730950.97	366670.7216	637.8	0 - 6	DARK BROWN SILTY TOPSOIL WITH ROOTS
K10639	FF-86	6/1/00	SOIL	Floodplain	12730950.97	366670.7216	637.8	6 - 12	DARK BROWN SILTY TOPSOIL, TRACE RUSTY SAND
K10640	FF-86	6/1/00	SOIL	Floodplain	12730950.97	366670.7216	637.8	12 - 17	MOTTLED TAN FINE SAND, TRACE SILT
K10641	FF-86	6/1/00	SOIL	Floodplain	12730950.97	366670.7216	637.8	17 - 23	DARK GRAY SANDY SILT WITH SAND
K10718	FF-87	6/7/00	SOIL	Floodplain	12728016.44	369393.4859	645.8	0 - 6	VERY DARK BROWN SILT, LITTLE ORGANICS, TRACE FINE SAND
K10719	FF-87	6/7/00	SOIL	Floodplain	12728016.44	369393.4859	645.8	6 - 12	VERY DARK BROWN SILT, LITTLE ORGANICS, TRACE FINE SAND

(See notes on page 24)

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
FIELD NOTE SUMMARY

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	Easting	Northing	Elevation (ft amsl)	Depth Increment (in.)	Sample Description
K10720	FF-87	6/7/00	SOIL	Floodplain	12728016.44	369393.4859	645.8	12 - 24	OLIVE GRAY FINE-MEDIUM SAND, TRACE COARSE SAND, SOME IRON STAINING FROM 12-17"
K10733	FF-88	6/7/00	SOIL	Floodplain	12727999.85	368028.1566	633.3	0 - 6	VERY DARK BROWN SILT, SOME CLAY, LITTLE ORGANICS
K10734	FF-88	6/7/00	SOIL	Floodplain	12727999.85	368028.1566	633.3	6 - 12	VERY DARK BROWN SILT, NATURAL ORGANICS (PEAT)
K10735	FF-88	6/7/00	SOIL	Floodplain	12727999.85	368028.1566	633.3	12 - 19	VERY DARK BROWN SILT, NATURAL ORGANICS (PEAT)
K10736	FF-88	6/7/00	SOIL	Floodplain	12727999.85	368028.1566	633.3	19 - 24	OLIVE GRAY FINE-MEDIUM SAND, TRACE SHELLS
K10729	FF-89	6/7/00	SOIL	Floodplain	12727399.18	369219.9563	634.5	0 - 6	VERY DARK BROWN SILT, LITTLE NATURAL ORGANICS, TRACE FINE SAND
K10730	FF-89	6/7/00	SOIL	Floodplain	12727399.18	369219.9563	634.5	6 - 12	LIGHT OLIVE-BROWN, FINE-MEDIUM SAND, TRACE SILT, TRACE ROOTLETS
K10731	FF-89	6/7/00	SOIL	Floodplain	12727399.18	369219.9563	634.5	12 - 24	MEDIUM BROWN FINE-MEDIUM SAND
K10732	FF-89	6/7/00	SOIL	Floodplain	12727399.18	369219.9563	634.5	12 - 24	MEDIUM BROWN FINE-MEDIUM SAND
K10737	FF-90	6/7/00	SOIL	Floodplain	12726552.9	369973.2307	633.7	0 - 6	VERY DARK BROWN SILT, TRACE FINE-SAND, ROOTLETS
K10738	FF-90	6/7/00	SOIL	Floodplain	12726552.9	369973.2307	633.7	6 - 12	VERY DARK BROWN GRADING TO YELLOW-BROWN FINE SAND, SOME SILT
K10739	FF-90	6/7/00	SOIL	Floodplain	12726552.9	369973.2307	633.7	12 - 24	YELLOW-BROWN FINE SAND
K10740	FF-90	6/7/00	SOIL	Floodplain	12726552.9	369973.2307	633.7	12 - 24	YELLOW-BROWN FINE SAND
K10725	FF-91	6/7/00	SOIL	Floodplain	12726401.77	367840.6405	631.7	0 - 6	VERY DARK BROWN SILT & NATURAL ORGANICS (PEAT), TRACE ROOTLETS
K10726	FF-91	6/7/00	SOIL	Floodplain	12726401.77	367840.6405	631.7	6 - 12	VERY DARK BROWN SILT & NATURAL ORGANICS (PEAT), TRACE ROOTLETS, LITTLE OLIVE BROWN SILT & CLAY CHUNKS MEARED FROM 12-24"
K10727	FF-91	6/7/00	SOIL	Floodplain	12726401.77	367840.6405	631.7	12 - 14	OLIVE BROWN SILT, CLAY & ORGANICS
K10728	FF-91	6/7/00	SOIL	Floodplain	12726401.77	367840.6405	631.7	14 - 24	OLIVE GRAY FINE SAND, LITTLE SILT
K10835	FF-94	7/12/00	SOIL	Floodplain	12724705.12	371878.5426	628.4	0 - 6	DARK BROWN SILTY WITH ORGANICS
K10836	FF-94	7/12/00	SOIL	Floodplain	12724705.12	371878.5426	628.4	6 - 12	DARK BROWN SILTY WITH ORGANICS
K10837	FF-94	7/12/00	SOIL	Floodplain	12724705.12	371878.5426	628.4	12 - 20	DARK BROWN SILTY WITH ORGANICS
K10838	FF-94	7/12/00	SOIL	Floodplain	12724705.12	371878.5426	628.4	20 - 24	DARK GRAY SMOOTH CLAY

(See notes on page 24)

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
FIELD NOTE SUMMARY

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	Easting	Northing	Elevation (ft amsl)	Depth Increment (in.)	Sample Description
K10832	FF-95	7/12/00	SOIL	Floodplain	12724624.89	374185.7224	631.1	0 - 6	DARK BROWN SILTY SAND, ROOTLETS, TRACE LARGE GRAVEL
K10833	FF-95	7/12/00	SOIL	Floodplain	12724624.89	374185.7224	631.1	6 - 12	ORANGE MOTTLED SILTY SAND, TRACE ROOTS
K10834	FF-95	7/12/00	SOIL	Floodplain	12724624.89	374185.7224	631.1	12 - 24	ORANGE MOTTLED, SOME ROOTS, SILTY SAND
K10825	FF-98	7/7/00	SOIL	Floodplain	12722725.23	377447.9674	627.6	0 - 6	BROWN FINE-MEDIUM SAND
K10826	FF-98	7/7/00	SOIL	Floodplain	12722725.23	377447.9674	627.6	6 - 12	OLIVE SILT & FINE SAND
K10827	FF-98	7/7/00	SOIL	Floodplain	12722725.23	377447.9674	627.6	12 - 24	OLIVE GRAY SILT, LITTLE FINE SAND

Notes:

* Results for samples collected from core location FF-09 on 6/6/00 and FF-69 on 5/4/00 are presented for completeness, however are not included in data analyses. The core collected at FF-9 was inadvertently collected twice (i.e., FF-09); and due to poor recovery, core location FF-69 was resampled on 5/11/00.

(See notes on page 24)

TABLE 2

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

REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
PARTICLE SIZE ANALYSIS RESULTS

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Classification	SDG Number	Depth Increment (in.)	Percent Solids (%)	Percentile Sizes (microns)			Percent Finer Than				
								16%	50%	84%	Gravel	#10 Sieve	#40 Sieve	#200 Sieve	5 microns
K53547	FF-4	5/11/00	SEDIMENT	Channel Sediment	KAL238	0 - 2	31.4	22.2	121	279	99.8	98.9	92.5	27.1	3.5
K53548	FF-4	5/11/00	SEDIMENT	Channel Sediment	KAL238	2 - 6	36.3	12	107	241	100	99.7	93.9	36.3	5.6
K53549	FF-4	5/11/00	SEDIMENT	Channel Sediment	KAL238	6 - 12	90.1	285	2695	9407	63.9	45.3	29	6	1.3
K53550	FF-4	5/11/00	SEDIMENT	Channel Sediment	KAL238	12 - 22	87.2	281	2912	9898	63.7	43.2	24.9	6.4	1.5
K53558	FF-5	5/11/00	SEDIMENT	Channel Sediment	KAL238	0 - 2	40.3	2.4	47	133	100	100	99.2	72.7	20.4
K53559	FF-5	5/11/00	SEDIMENT	Channel Sediment	KAL238	2 - 6	40.8	2.1	41	130	100	100	99.8	74.1	23.6
K53560	FF-5	5/11/00	SEDIMENT	Channel Sediment	KAL238	6 - 12	42.8	<1.4	16.8	74	100	100	99.9	84.7	31.9
K53561	FF-5	5/11/00	SEDIMENT	Channel Sediment	KAL239	12 - 24	44.8	3.6	37.1	90	100	100	98.3	82.6	20.5
K53554	FF-6	5/11/00	SEDIMENT	Channel Sediment	KAL238	0 - 2	84.7	214	1944	7431	72.6	50.5	27.7	11.6	1.8
K53555	FF-6	5/11/00	SEDIMENT	Channel Sediment	KAL238	2 - 6	82.4	302	2147	13933	64.2	49.2	25.8	4.4	1.6
K53556	FF-6	5/11/00	SEDIMENT	Channel Sediment	KAL238	6 - 12	91.7	291	823	4930	83.5	65.8	29.1	7.1	1.4
K53557	FF-6	5/11/00	SEDIMENT	Channel Sediment	KAL238	12 - 20	90.3	321	3341	9147	60.3	40.2	20.5	7.7	1.1
K53584	FF-7	5/11/00	SEDIMENT	Channel Sediment	KAL240	0 - 2	26.4	<1.4	10.8	93	100	99.9	99	82.5	34.3
K53585	FF-7	5/11/00	SEDIMENT	Channel Sediment	KAL240	2 - 6	31.3	<1.4	11.6	70	100	99.6	97.6	86.7	32.1
K53586	FF-7	5/11/00	SEDIMENT	Channel Sediment	KAL240	6 - 12	38.8	1.9	10.2	56	100	100	99.8	93.6	28.4
K53587	FF-7	5/11/00	SEDIMENT	Channel Sediment	KAL240	12 - 24	44.1	1.4	11.6	2861	90.8	80.9	78.6	71.7	34.9
K53579	FF-8	5/11/00	SEDIMENT	Channel Sediment	KAL239	0 - 2	79.8	162	230	374	100	100	93.5	5	2
K53580	FF-8	5/11/00	SEDIMENT	Channel Sediment	KAL239	2 - 6	79.4	160	228	371	100	99.9	93.6	5.3	2.6
K53581	FF-8	5/11/00	SEDIMENT	Channel Sediment	KAL240	6 - 12	88.1	154	220	360	100	100	94.2	4.8	2.5
K53582	FF-8	5/11/00	SEDIMENT	Channel Sediment	KAL240	12 - 24	90.7	146	245	602	99.4	97.2	78.5	4.9	1.7
K53574	FF-9	5/11/00	SEDIMENT	Channel Sediment	KAL239	0 - 2	70.3	148	549	3764	89.7	73.8	44	11.7	2.5
K53575	FF-9	5/11/00	SEDIMENT	Channel Sediment	KAL239	2 - 6	66.6	166	387	2992	91.8	79.6	54	6	1.7
K53576	FF-9	5/11/00	SEDIMENT	Channel Sediment	KAL239	6 - 12	72.8	141	244	654	98.9	96	75.7	6	3.4
K53577	FF-9	5/11/00	SEDIMENT	Channel Sediment	KAL239	12 - 24	79	152	241	487	100	99.4	82	5.7	2.4
K53602	FF-09*	6/6/00	SEDIMENT	Channel Sediment	KAL249	0 - 2	68.1	74	797	5376	81.8	62.1	34.6	16.2	0.5
K53603	FF-09*	6/6/00	SEDIMENT	Channel Sediment	KAL249	2 - 6	64.9	109	201	649	96.2	89.9	81.1	7.3	2.3
K53604	FF-09*	6/6/00	SEDIMENT	Channel Sediment	KAL250	6 - 12	79.5	131	214	421	99.1	96.7	84.5	5.3	1.8
K53605	FF-09*	6/6/00	SEDIMENT	Channel Sediment	KAL250	12 - 24	80.5	136	252	744	99.1	95.6	72	9.3	1.7
K53598	FF-13	6/6/00	SEDIMENT	Channel Sediment	KAL249	0 - 2	87.9	5.2	51	119	100	100	98.8	75.5	15.6
K53599	FF-13	6/6/00	SEDIMENT	Channel Sediment	KAL249	2 - 6	91.7	331	4470	14113	51.6	35.9	22.1	2.1	0.9
K53600	FF-13	6/6/00	SEDIMENT	Channel Sediment	KAL249	6 - 12	92.8	388	4570	13016	51.3	31.4	17.7	2.2	0.6
K53601	FF-13	6/6/00	SEDIMENT	Channel Sediment	KAL249	12 - 18	91.6	514	4935	12992	49	28.8	14.8	1.3	0.7
K53616	FF-14	6/6/00	SEDIMENT	Channel Sediment	KAL249	0 - 2	81.3	216	357	1135	99.5	91.9	65.8	1.9	1
K53617	FF-14	6/6/00	SEDIMENT	Channel Sediment	KAL249	2 - 6	79.2	228	355	704	98.7	97.2	69.6	4.2	1
K53618	FF-14	6/6/00	SEDIMENT	Channel Sediment	KAL249	6 - 12	92.5	196	318	571	100	99.1	78	5.4	1.3
K53619	FF-14	6/6/00	SEDIMENT	Channel Sediment	KAL249	12 - 24	80	217	341	681	99.8	98.4	73.2	2.3	0.5

(See notes on page 12.)

TABLE 2

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REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
PARTICLE SIZE ANALYSIS RESULTS

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	SDG Number	Depth Increment (in.)	Percent Solids (%)	Percentile Sizes (microns)			Percent Finer Than				
								16%	50%	84%	Gravel	#10 Sieve	#40 Sieve	#200 Sieve	5 microns
K53630	FF-15	6/6/00	SEDIMENT	Channel Sediment	KAL249	0 - 2	74	64	2000	14490	55.2	50	45.3	20.5	1.2
K53631	FF-15	6/6/00	SEDIMENT	Channel Sediment	KAL249	2 - 6	74.3	93	247	6929	79	72	61.2	14.2	1.1
K53632	FF-15	6/6/00	SEDIMENT	Channel Sediment	KAL249	6 - 12	65.5	179	6729	21350	44.5	40.4	34.8	7.2	2.2
K53633	FF-15	6/6/00	SEDIMENT	Channel Sediment	KAL249	12 - 24	86.9	178	2066	20224	58.1	49.8	39.3	6.9	0.5
K53839	FF-16	7/19/00	SEDIMENT	Channel Sediment	KAL262	0 - 2	69.3	251	1778	26136	58.9	51.6	30	6.5	1.8
K53840	FF-16	7/19/00	SEDIMENT	Channel Sediment	KAL262	2 - 6	58.3	2.9	38.8	212	99.6	99.3	92	74.3	20.7
K53841	FF-16	7/19/00	SEDIMENT	Channel Sediment	KAL262	6 - 12	69.8	253	21370	32525	30.1	28.2	22.4	9.4	2.2
K53612	FF-17	6/6/00	SEDIMENT	Floodplain	KAL250	0 - 2	88.2	421	6035	25735	45.7	33.6	16.2	2.7	0.8
K53613	FF-17	6/6/00	SEDIMENT	Floodplain	KAL250	2 - 6	90.8	798	7747	21175	38.2	24.5	9.5	1.6	0.5
K53614	FF-17	6/6/00	SEDIMENT	Floodplain	KAL250	6 - 12	94.3	590	18804	32634	36.4	29.7	11.8	0.7	0.2
K53615	FF-17	6/6/00	SEDIMENT	Floodplain	KAL250	12 - 24	88.2	334	714	4429	84.7	78.7	25.4	3.9	1
K53835	FF-18	7/19/00	SEDIMENT	Point Source and Waste Disposal	KAL262	0 - 2	78.2	339	5087	25230	49.1	37.6	20.3	3.2	0.6
K53836	FF-18	7/19/00	SEDIMENT	Point Source and Waste Disposal	KAL262	2 - 6	74.7	346	5344	19105	48	33.3	19.4	7.3	0.8
K53837	FF-18	7/19/00	SEDIMENT	Point Source and Waste Disposal	KAL262	6 - 12	86.3	298	1555	8812	72.2	55.3	26.7	8.7	0.1
K53838	FF-18	7/19/00	SEDIMENT	Point Source and Waste Disposal	KAL262	12 - 16	68.3	191	384	4213	87.2	70.8	57.8	10.4	0.8
K53634	FF-19	6/6/00	SEDIMENT	Point Source and Waste Disposal	KAL250	0 - 2	77.2	201	415	2081	93.9	83.7	51.5	5.7	2.7
K53635	FF-19	6/6/00	SEDIMENT	Point Source and Waste Disposal	KAL250	2 - 6	75.8	81	309	1217	93.7	88.7	65.9	15.3	1.5
K53636	FF-19	6/6/00	SEDIMENT	Point Source and Waste Disposal	KAL250	6 - 10	79.5	102	415	5451	83.1	73.2	50.9	13	2
K53637	FF-19	6/6/00	SEDIMENT	Point Source and Waste Disposal	KAL250	10 - 24	52.2	3.6	26.3	119	100	99.9	97.8	79	19
K53607	FF-20	6/6/00	SEDIMENT	Point Source and Waste Disposal	KAL250	0 - 2	53.8	46	281	1358	97.2	91.2	60.3	36.5	5.2
K53608	FF-20	6/6/00	SEDIMENT	Point Source and Waste Disposal	KAL250	2 - 6	82	386	847	2899	94.3	79	18.3	4.9	1.4
K53609	FF-20	6/6/00	SEDIMENT	Point Source and Waste Disposal	KAL250	6 - 12	94.2	267	497	1310	99	93.3	44.3	4.4	0.4
K53610	FF-20	6/6/00	SEDIMENT	Point Source and Waste Disposal	KAL250	12 - 24	93.8	236	422	992	99.4	95.4	50.5	4.7	2.5
K53765	FF-23	7/7/00	SEDIMENT	Channel Sediment	KAL259	0 - 2	79.6	48.3	326	3329	90.2	78.2	57.8	28.1	4.9
K53766	FF-23	7/7/00	SEDIMENT	Channel Sediment	KAL259	2 - 6	85.4	265	7583	23851	46.6	36.9	23.7	7.9	0.2
K53767	FF-23	7/7/00	SEDIMENT	Channel Sediment	KAL259	6 - 18	80.1	209	873	4896	83.8	64.4	34.7	9.1	1.4
K53827	FF-24	7/19/00	SEDIMENT	Point Source and Waste Disposal	KAL262	0 - 2	19.6	8.3	55	192	100	99.6	95.1	63.2	9.3
K53828	FF-24	7/19/00	SEDIMENT	Point Source and Waste Disposal	KAL262	2 - 6	31.6	3.7	83	281	97.6	96	90.9	48.2	17.8
K53829	FF-24	7/19/00	SEDIMENT	Point Source and Waste Disposal	KAL262	6 - 14	71.4	40	74	1514	91	85.9	73.9	51.2	5.4
K53625	FF-25	6/6/00	SEDIMENT	Point Source and Waste Disposal	KAL251	0 - 2	71.3	174	350	803	100	94.7	64.1	10.7	2.3
K53626	FF-25	6/6/00	SEDIMENT	Point Source and Waste Disposal	KAL251	2 - 6	81	221	1895	10958	59.7	50.5	33.7	5.1	1.9
K53627	FF-25	6/6/00	SEDIMENT	Point Source and Waste Disposal	KAL251	6 - 12	78.3	186	530	4864	83.7	75.3	44.9	11	2.2
K53628	FF-25	6/6/00	SEDIMENT	Point Source and Waste Disposal	KAL251	12 - 24	76.5	210	3892	14016	52.9	43.6	30.7	4.5	1.6
K53830	FF-28	7/19/00	SEDIMENT	Channel Sediment	KAL262	0 - 2	20.2	7	53	127	100	100	98.3	72.3	11.4
K53831	FF-28	7/19/00	SEDIMENT	Channel Sediment	KAL262	2 - 6	28.2	5.8	56	140	100	100	98.5	64.9	14.7
K53832	FF-28	7/19/00	SEDIMENT	Channel Sediment	KAL262	6 - 14	36.6	4.6	49	141	100	100	98	65.5	16.8

(See notes on page 12.)

TABLE 2

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

REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
PARTICLE SIZE ANALYSIS RESULTS

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	SDG Number	Depth Increment (in.)	Percent Solids (%)	Percentile Sizes (microns)			Percent Finer Than				
								16%	50%	84%	Gravel	#10 Sieve	#40 Sieve	#200 Sieve	5 microns
K53833	FF-28	7/19/00	SED MENT	Channel Sediment	KAL262	14 - 23	32.1	3.1	30.1	91	100	100	98.9	82	21.9
K53683	FF-29	6/14/00	SED MENT	Channel Sediment	KAL255	0 - 2	81.4	279	572	4042	85.7	79.1	43.2	6.8	0.6
K53684	FF-29	6/14/00	SED MENT	Channel Sediment	KAL255	2 - 7	74.1	83	227	649	97.3	93.3	79.2	14.9	2.7
K53779	FF-33	7/12/00	SED MENT	Floodplain	KAL260	0 - 2	22.7	18.1	63	361	100	100	86.8	62.2	2.8
K53780	FF-33	7/12/00	SED MENT	Floodplain	KAL260	2 - 6	28.9	16	82	401	100	100	84.8	48	6
K53781	FF-33	7/12/00	SED MENT	Floodplain	KAL260	6 - 12	24.9	13	86	559	100	100	81.5	47.4	2.1
K53782	FF-33	7/12/00	SED MENT	Floodplain	KAL260	12 - 24	60.1	46.5	156	227	100	100	99.3	27.8	1.2
K53775	FF-34	7/12/00	SED MENT	Floodplain	KAL260	0 - 2	66.6	78	850	15072	61.3	54.8	42.9	15.7	2.3
K53776	FF-34	7/12/00	SED MENT	Floodplain	KAL260	2 - 6	80.6	185	787	15624	71.3	61.1	36.8	10.1	1.3
K53777	FF-34	7/12/00	SED MENT	Floodplain	KAL260	6 - 12	84	62	536	10602	81.9	68.3	46.8	21.8	2.3
K53778	FF-34	7/12/00	SED MENT	Floodplain	KAL260	12 - 19	82.8	733	5502	25735	46.2	24.6	11.8	0.3	0
K53551	FF-35	5/11/00	SED MENT	Channel Sediment	KAL238	0 - 2	25.4	3.8	63	164	100	100	98.2	56.3	17.1
K53552	FF-35	5/11/00	SED MENT	Channel Sediment	KAL238	2 - 6	29.9	2.2	47	141	100	100	99	66	24.1
K53553	FF-35	5/11/00	SED MENT	Channel Sediment	KAL238	6 - 15	89.1	214	2277	8854	64.3	48.4	26.6	10.6	2.3
K53569	FF-46	5/11/00	SED MENT	Channel Sediment	KAL239	0 - 2	79.2	160	255	411	100	99.6	87	4.6	2.7
K53570	FF-46	5/11/00	SED MENT	Channel Sediment	KAL239	2 - 6	73.9	126	250	417	100	99.9	85.7	11	5.2
K53571	FF-46	5/11/00	SED MENT	Channel Sediment	KAL239	6 - 12	66.9	180	303	484	100	99.4	82.2	7	2.4
K53572	FF-46	5/11/00	SED MENT	Channel Sediment	KAL239	12 - 24	66.8	53	214	507	96.9	94.1	82.1	29.5	2.4
K53563	FF-66	5/11/00	SED MENT	Exposed Sediment	KAL239	0 - 2	25.2	8.4	22.2	69	100	100	98.6	87.8	8.8
K53564	FF-66	5/11/00	SED MENT	Exposed Sediment	KAL239	2 - 6	22.1	9.3	20.3	59.3	100	100	99.2	90.5	11
K53565	FF-66	5/11/00	SED MENT	Exposed Sediment	KAL239	6 - 12	45.4	3.5	17.6	62	100	100	99	94.1	22
K53566	FF-66	5/11/00	SED MENT	Exposed Sediment	KAL239	12 - 24	55.1	2.7	11.3	38.9	100	100	99.9	98.4	26.2
K53567	FF-66	5/11/00	SED MENT	Exposed Sediment	KAL239	24 - 30	68.7	2.6	16.3	130	100	100	99.3	74.1	24.8
K53568	FF-66	5/11/00	SED MENT	Exposed Sediment	KAL239	30 - 34	83.1	77	228	419	96.8	95.3	84.9	15.8	4.5
K53409	FF-69*	5/4/00	SED MENT	Channel Sediment	KAL217	6 - 14	31.2	8	55	139	94.3	94	93	66.5	11.7
K53410	FF-69*	5/4/00	SEDIMENT	Channel Sediment	KAL217	14 - 18	78.4	<1.3	8.1	3031	86.5	82.5	77.2	71.9	41.6
K53532	FF-69	5/11/00	SEDIMENT	Channel Sediment	KAL237	0 - 2	76.7	60	324	998	95.7	92.8	65.2	22.9	0.8
K53533	FF-69	5/11/00	SEDIMENT	Channel Sediment	KAL237	2 - 6	51.2	44	232	638	97.5	94.7	78.4	29	3.3
K53534	FF-69	5/11/00	SEDIMENT	Channel Sediment	KAL237	6 - 12	36.3	14.9	57	140	100	99.9	97.8	67.5	10
K53535	FF-69	5/11/00	SEDIMENT	Channel Sediment	KAL237	12 - 18	40.8	10.5	186	13648	66.2	63.1	55.7	37.4	8.6
K53536	FF-69	5/11/00	SEDIMENT	Channel Sediment	KAL237	18 - 26	75.7	<1.3	7.7	347	96.7	95.3	87.9	73.5	42.9
K53447	FF-71	5/4/00	SEDIMENT	Exposed Sediment	KAL217	0 - 2	56.5	<1.4	7.8	57	100	100	99.4	92.2	42.3
K53448	FF-71	5/4/00	SEDIMENT	Exposed Sediment	KAL217	2 - 6	54	<1.3	5	50	100	100	99.8	94.8	49.8
K53449	FF-71	5/4/00	SEDIMENT	Exposed Sediment	KAL217	6 - 12	56.5	4.7	56	269	100	100	89	64.2	16.5
K53450	FF-71	5/4/00	SEDIMENT	Exposed Sediment	KAL217	12 - 24	64.8	10.3	66	304	100	98.2	88.9	56.5	10
K53451	FF-71	5/4/00	SEDIMENT	Exposed Sediment	KAL217	24 - 30	84.9	182	372	1970	96.6	84.3	58.1	7.1	1.6

(See notes on page 12.)

TABLE 2

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

REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
PARTICLE SIZE ANALYSIS RESULTS

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	SDG Number	Depth Increment (in.)	Percent Solids (%)	Percentile Sizes (microns)			Percent Finer Than				
								16%	50%	84%	Gravel	#10 Sieve	#40 Sieve	#200 Sieve	5 microns
K53458	FF-78	5/4/00	SEDIMENT	Channel Sediment	KAL218	0 - 2	25.9	7.7	38.9	115	100	99.6	96.3	77.5	11.3
K53459	FF-78	5/4/00	SEDIMENT	Channel Sediment	KAL218	2 - 6	30.2	11	19.7	51	100	100	99.5	95.4	11.8
K53460	FF-78	5/4/00	SEDIMENT	Channel Sediment	KAL218	6 - 12	31.5	4.2	18.3	54	100	100	99.5	96.2	17.9
K53461	FF-78	5/4/00	SEDIMENT	Channel Sediment	KAL218	12 - 18	35.4	10.1	17.4	62	100	100	99.5	88.9	8.4
K53462	FF-78	5/4/00	SEDIMENT	Channel Sediment	KAL218	18 - 24	78.3	49	157	234	100	99.8	99.3	22.5	5.3
K53463	FF-78	5/4/00	SEDIMENT	Channel Sediment	KAL218	24 - 36	76.7	38.2	134	224	100	100	99.2	28	6.5
K53452	FF-79	5/4/00	SEDIMENT	Channel Sediment	KAL217	0 - 2	39.3	12.5	57	385	100	99.2	85.4	69.1	9
K53453	FF-79	5/4/00	SEDIMENT	Channel Sediment	KAL217	2 - 6	45.1	7.8	50	233	100	100	89.4	76.8	10.6
K53454	FF-79	5/4/00	SEDIMENT	Channel Sediment	KAL218	6 - 12	38.9	<1.3	9.6	58	100	100	99.9	97.6	38.9
K53455	FF-79	5/4/00	SEDIMENT	Channel Sediment	KAL218	12 - 22	41.9	1.8	11.8	66	100	100	99.7	91.2	26.3
K53456	FF-79	5/4/00	SEDIMENT	Channel Sediment	KAL218	22 - 37	76	6.5	84	169	100	100	99.5	46.5	14.4
K53537	FF-80	5/11/00	SEDIMENT	Channel Sediment	KAL237	0 - 2	59.6	87	147	203	100	100	98.4	8.9	1.7
K53538	FF-80	5/11/00	SEDIMENT	Channel Sediment	KAL237	2 - 6	68.5	69	142	208	100	100	97.6	17.8	2.6
K53539	FF-80	5/11/00	SEDIMENT	Channel Sediment	KAL237	6 - 12	52.9	22.5	125	189	100	100	97.5	23.9	6.2
K53540	FF-80	5/11/00	SEDIMENT	Channel Sediment	KAL237	12 - 24	48.2	26.6	92	175	100	100	97.5	42.9	11.4
K53541	FF-80	5/11/00	SEDIMENT	Channel Sediment	KAL238	24 - 36	35.6	<1.3	12	32.5	100	100	99.5	97	32.3
K53442	FF-81	5/4/00	SEDIMENT	Channel Sediment	KAL217	0 - 2	30	19.7	84	339	100	99.8	91.1	48.3	7.6
K53443	FF-81	5/4/00	SEDIMENT	Channel Sediment	KAL217	2 - 6	42.7	6.2	74	387	100	99.1	87.6	50.8	14.5
K53444	FF-81	5/4/00	SEDIMENT	Channel Sediment	KAL217	6 - 12	57.1	7.7	165	506	98.4	95.2	82.4	38	13.3
K53445	FF-81	5/4/00	SEDIMENT	Channel Sediment	KAL217	12 - 26	85.1	117	233	4200	85	80	71.9	9.1	4.3
K53465	FF-83	5/4/00	SEDIMENT	Floodplain	KAL218	0 - 2	84.4	90	230	397	100	100	89.1	14	1.8
K53466	FF-83	5/4/00	SEDIMENT	Floodplain	KAL218	2 - 6	86.9	88	231	400	100	100	88.7	14.4	2.2
K53467	FF-83	5/4/00	SEDIMENT	Floodplain	KAL218	6 - 12	93.9	160	252	415	100	100	86.2	6.9	2.1
K53468	FF-83	5/4/00	SEDIMENT	Floodplain	KAL218	12 - 24	92.5	104	207	354	100	99.9	94.6	10.6	2.9
K53428	FF-85	5/4/00	SEDIMENT	Floodplain	KAL217	0 - 2	69.1	15.4	99	226	100	100	94.1	44.1	8
K53429	FF-85	5/4/00	SEDIMENT	Floodplain	KAL217	2 - 6	70.2	17.2	106	236	100	100	93.3	42.2	7.4
K53430	FF-85	5/4/00	SEDIMENT	Floodplain	KAL217	6 - 12	75.3	14.8	95	160	100	100	99.1	43.8	8.1
K53431	FF-85	5/4/00	SEDIMENT	Floodplain	KAL217	12 - 24	84.5	110	193	317	100	99.9	95.9	7.6	2.6
K53662	FF-92	6/9/00	SEDIMENT	Floodplain	KAL254	0 - 2	31.8	10.2	46	94	100	100	98.4	82.2	8.5
K53663	FF-92	6/9/00	SEDIMENT	Floodplain	KAL254	2 - 6	25.6	4.7	38.5	139	100	100	94	75.7	16.6
K53665	FF-92	6/9/00	SEDIMENT	Floodplain	KAL254	12 - 14	29.1	3.8	22.9	71	100	100	97.3	87.1	19.3
K53666	FF-92	6/9/00	SEDIMENT	Floodplain	KAL254	14 - 24	71.9	87	175	265	100	100	96.9	12.6	3.5
K53470	FF-93	5/4/00	SEDIMENT	Channel Sediment	KAL218	0 - 2	17.5	11.4	40	66	100	100	99.7	95.1	5.7
K53471	FF-93	5/4/00	SEDIMENT	Channel Sediment	KAL218	2 - 6	28.6	7.5	29.6	63	100	100	99.6	95.3	11.6
K53472	FF-93	5/4/00	SEDIMENT	Channel Sediment	KAL218	6 - 12	33	5.9	24.8	61	100	100	99.6	93.6	14.1
K53473	FF-93	5/4/00	SEDIMENT	Channel Sediment	KAL218	12 - 24	34	3.3	19.8	59	100	100	99.7	93.2	19.6

(See notes on page 12.)

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

REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
PARTICLE SIZE ANALYSIS RESULTS

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	SDG Number	Depth Increment (in.)	Percent Solids (%)	Percentile Sizes (microns)			Percent Finer Than				
								16%	50%	84%	Gravel	#10 Sieve	#40 Sieve	#200 Sieve	5 microns
K53768	FF-97	7/7/00	SEDIMENT	Channel Sediment	KAL259	0 - 2	30.4	2.3	41.3	90	100	100	99.4	81.2	24.7
K53769	FF-97	7/7/00	SEDIMENT	Channel Sediment	KAL259	2 - 6	35.6	4	60	156	100	100	98.8	57	18.8
K53770	FF-97	7/7/00	SEDIMENT	Channel Sediment	KAL259	6 - 12	38	2.8	51	128	100	100	99.2	69.4	21.3
K53771	FF-97	7/7/00	SEDIMENT	Channel Sediment	KAL259	12 - 18	72.4	80	178	236	100	99.8	98.4	14.9	5.1
K53772	FF-97	7/7/00	SEDIMENT	Channel Sediment	KAL259	18 - 24	68.3	15.2	116	199	100	99.8	99.7	33.1	9.5
K53773	FF-97	7/7/00	SEDIMENT	Channel Sediment	KAL259	24 - 33	67.7	1.9	70	161	100	100	100	51.8	19.2
K53381	FF-100	5/3/00	SEDIMENT	Channel Sediment	KAL216	0 - 2	39.5	2.4	12.4	59	100	100	99.2	93.6	26.6
K53382	FF-100	5/3/00	SEDIMENT	Channel Sediment	KAL216	2 - 6	39.8	2.3	19.2	60	100	100	99.4	92.8	26.2
K53383	FF-100	5/3/00	SEDIMENT	Channel Sediment	KAL216	6 - 12	39.4	1.7	9.7	50	100	100	99.6	94.8	32.3
K53384	FF-100	5/3/00	SEDIMENT	Channel Sediment	KAL216	12 - 24	41.9	<1.3	3.7	46	100	100	99.8	93.7	56
K53667	FF-101	6/13/00	SEDIMENT	Channel Sediment	KAL254	0 - 2	44.6	8.6	60	161	99	97.1	94.2	60.6	10.1
K53668	FF-101	6/13/00	SEDIMENT	Channel Sediment	KAL254	2 - 6	40.4	5.3	41.8	122	99.5	99.5	97.4	74	15.4
K53669	FF-101	6/13/00	SEDIMENT	Channel Sediment	KAL254	6 - 17	45.4	5.9	40.8	127	100	99.9	98.1	73.2	14.5
K53670	FF-101	6/13/00	SEDIMENT	Channel Sediment	KAL254	17 - 19	57.3	104	230	391	100	99.6	90.5	10.6	2.5
K53671	FF-101	6/13/00	SEDIMENT	Channel Sediment	KAL254	19 - 24	52.3	9.1	66	176	100	100	96.6	55	11.5
K53673	FF-102	6/13/00	SEDIMENT	Channel Sediment	KAL254	0 - 2	42.1	5.2	29.9	114	100	99	96	80	15.6
K53674	FF-102	6/13/00	SEDIMENT	Channel Sediment	KAL254	2 - 6	38.2	6.8	44.1	163	99.1	97.7	94.7	71.2	12.2
K53675	FF-102	6/13/00	SEDIMENT	Channel Sediment	KAL254	6 - 12	60.5	9.3	72	1325	96.3	86.7	77.8	51.6	11.8
K53676	FF-102	6/13/00	SEDIMENT	Channel Sediment	KAL254	12 - 18	42.8	<1.3	6.6	71	99.6	99.6	98.1	85	43.6
K53677	FF-102	6/13/00	SEDIMENT	Channel Sediment	KAL255	18 - 24	87.6	144	244	654	100	99.1	72.7	4.9	0.2
K53678	FF-103	6/13/00	SEDIMENT	Channel Sediment	KAL255	0 - 2	29.3	1.8	11.5	61	99.3	98.7	95.9	90.9	28.2
K53679	FF-103	6/13/00	SEDIMENT	Channel Sediment	KAL255	2 - 6	15.5	<1.3	17.6	63	100	100	97.7	91	26.2
K53680	FF-103	6/13/00	SEDIMENT	Channel Sediment	KAL255	6 - 15	48.6	2.5	30.4	225	100	98.9	91.7	66.8	23.4
K53681	FF-103	6/13/00	SEDIMENT	Channel Sediment	KAL255	15 - 24	66.7	219	547	2170	94.6	83.3	41.2	7.2	0.5
K53686	FF-104	6/14/00	SEDIMENT	Floodplain	KAL255	0 - 2	50.4	36.2	63	142	100	99.3	94.5	64.6	4.4
K53687	FF-104	6/14/00	SEDIMENT	Floodplain	KAL255	2 - 6	58.3	12.6	58	158	100	100	90.8	65.5	9.4
K53688	FF-104	6/14/00	SEDIMENT	Floodplain	KAL255	6 - 12	53.9	1.3	23	73	100	100	99.4	85.2	30
K53689	FF-104	6/14/00	SEDIMENT	Floodplain	KAL255	12 - 24	64.6	2.9	68	167	96.1	94.7	93.9	52.7	19.3
K53754	FF-105	7/7/00	SEDIMENT	Channel Sediment	KAL258	0 - 2	42.2	6.1	49	100	100	100	98.3	80	13.6
K53755	FF-105	7/7/00	SEDIMENT	Channel Sediment	KAL258	2 - 6	43.9	37.8	90	159	100	100	97.1	42.2	5.5
K53756	FF-105	7/7/00	SEDIMENT	Channel Sediment	KAL258	6 - 12	64.2	2.8	96	188	100	100	99.5	42.4	19.3
K53757	FF-105	7/7/00	SEDIMENT	Channel Sediment	KAL258	12 - 21	70.9	2.3	63	158	100	100	99.8	55.3	22.3
K53758	FF-105	7/7/00	SEDIMENT	Channel Sediment	KAL258	21 - 36	75.3	34.1	157	240	100	100	98.5	25.9	9.4
K53386	FF-106	5/3/00	SEDIMENT	Channel Sediment	KAL216	2 - 6	40.7	2.8	45	86	100	100	99.7	81.6	19.6
K53388	FF-106	5/3/00	SEDIMENT	Channel Sediment	KAL216	12 - 24	41.7	<1.3	8.8	70	100	100	97	86.7	39.7
K53392	FF-108	5/3/00	SEDIMENT	Channel Sediment	KAL216	12 - 24	61.1	1.5	22.4	94	100	100	99.9	79.5	27.7

(See notes on page 12.)

TABLE 2

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

REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
PARTICLE SIZE ANALYSIS RESULTS

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	SDG Number	Depth Increment (in.)	Percent Solids (%)	Percentile Sizes (microns)			Percent Finer Than				
								16%	50%	84%	Gravel	#10 Sieve	#40 Sieve	#200 Sieve	5 microns
K53394	FF-109	5/3/00	SEDIMENT	Channel Sediment	KAL216	0 - 2	45	6.8	40.4	69	100	100	99.7	91	14.3
K53395	FF-109	5/3/00	SEDIMENT	Channel Sediment	KAL216	2 - 6	44.8	3.9	34.2	68	100	100	99.8	90.7	18.4
K53396	FF-109	5/3/00	SEDIMENT	Channel Sediment	KAL216	6 - 12	42.8	<1.4	10.6	55	100	100	100	96.7	31.5
K53397	FF-109	5/3/00	SEDIMENT	Channel Sediment	KAL216	12 - 24	43	<1.3	4.3	38.5	100	100	99.8	97.6	54
K53748	FF-110	7/7/00	SEDIMENT	Channel Sediment	KAL258	0 - 2	33.7	5.9	20.1	52	100	100	99.9	97.9	14.6
K53749	FF-110	7/7/00	SEDIMENT	Channel Sediment	KAL258	2 - 6	27	<1.4	8.9	25	100	100	100	99.7	38.1
K53750	FF-110	7/7/00	SEDIMENT	Channel Sediment	KAL258	6 - 12	34.4	3	13.2	41.1	100	100	100	99.4	20.9
K53751	FF-110	7/7/00	SEDIMENT	Channel Sediment	KAL258	12 - 24	35	<1.4	6.3	21.3	100	100	99.3	98.7	44.5
K53752	FF-110	7/7/00	SEDIMENT	Channel Sediment	KAL258	24 - 36	49.6	1.6	35.8	192	100	100	92.9	59.4	26.7
K53742	FF-111	7/7/00	SEDIMENT	Channel Sediment	KAL257	0 - 2	31.3	18.2	51	74	100	100	98.1	85.6	6
K53743	FF-111	7/7/00	SEDIMENT	Channel Sediment	KAL257	2 - 6	32.4	7.8	40.5	69	100	100	98.6	90.8	11.5
K53744	FF-111	7/7/00	SEDIMENT	Channel Sediment	KAL257	6 - 12	33.6	3.8	18.8	58	100	100	99.5	96.6	19.1
K53745	FF-111	7/7/00	SEDIMENT	Channel Sediment	KAL258	12 - 24	35.5	1.7	11.7	44.1	100	100	99.8	98.7	25.2
K53746	FF-111	7/7/00	SEDIMENT	Channel Sediment	KAL258	24 - 36	41.6	1.8	18.3	98	100	100	99.9	68	25.9
K53737	FF-112	7/7/00	SEDIMENT	Channel Sediment	KAL257	0 - 2	29.8	3.5	10	27	100	100	99.8	99.4	25.2
K53738	FF-112	7/7/00	SEDIMENT	Channel Sediment	KAL257	2 - 6	29.9	3.6	10.5	28	100	100	100	99.8	23.4
K53740	FF-112	7/7/00	SEDIMENT	Channel Sediment	KAL257	12 - 24	25.6	<1.4	7.8	24.7	100	100	99.8	99.3	31.3
K53741	FF-112	7/7/00	SEDIMENT	Channel Sediment	KAL257	24 - 36	33.8	<1.3	5	29.8	100	100	99.9	99.3	49.9
K53733	FF-113	7/7/00	SEDIMENT	Channel Sediment	KAL257	0 - 2	25.6	6.4	27.6	262	100	100	91.1	71.8	11.3
K53734	FF-113	7/7/00	SEDIMENT	Channel Sediment	KAL257	2 - 8	36.8	10	174	812	99.4	97.4	70.7	45.1	7.9
K53735	FF-113	7/7/00	SEDIMENT	Channel Sediment	KAL257	8 - 12	83.1	54	336	5785	81.8	78.1	61.5	21.7	4.4
K53736	FF-113	7/7/00	SEDIMENT	Channel Sediment	KAL257	12 - 24	89.2	159	406	5680	82.1	75.3	52.6	10.1	2.1
K53759	FF-114	7/7/00	SEDIMENT	Channel Sediment	KAL258	0 - 2	31.8	<1.4	7.6	32.4	100	100	99.5	96.5	42.4
K53760	FF-114	7/7/00	SEDIMENT	Channel Sediment	KAL258	2 - 6	30.9	<1.3	5.3	28.3	100	100	99.8	97.4	49
K53761	FF-114	7/7/00	SEDIMENT	Channel Sediment	KAL258	6 - 12	35.7	<1.3	6	41.3	100	100	99.5	96.4	45.8
K53762	FF-114	7/7/00	SEDIMENT	Channel Sediment	KAL258	12 - 24	16.7	2.4	13.8	162	100	100	95.3	78.1	32
K53763	FF-114	7/7/00	SEDIMENT	Channel Sediment	KAL258	24 - 36	12.4	2.5	16.1	408	100	100	84.5	68.4	28.2
K53621	FF-115	6/6/00	SEDIMENT	Channel Sediment	KAL250	0 - 2	80.5	401	763	1697	99.4	93.2	17.7	3.4	0.4
K53622	FF-115	6/6/00	SEDIMENT	Channel Sediment	KAL250	2 - 6	82.9	359	675	1475	98.9	96	21.8	4.2	1.8
K53623	FF-115	6/6/00	SEDIMENT	Channel Sediment	KAL250	6 - 12	87	338	722	1720	99.4	91.2	23.1	5.3	0.9
K53624	FF-115	6/6/00	SEDIMENT	Channel Sediment	KAL250	12 - 24	84	240	650	1590	99.5	93.3	30.6	8.2	2.3
K10647	FF-1	6/1/00	SOIL	Point Source and Waste Disposal	KAL246	14 - 18	66.9	<1.3	37.3	178	99.4	98.6	95.6	68.5	25.1
K10648	FF-1	6/1/00	SOIL	Point Source and Waste Disposal	KAL246	18 - 24	77.2	10.5	91	230	98	94.1	88.6	44.9	11.1
K10650	FF-2	6/1/00	SOIL	Point Source and Waste Disposal	KAL246	0 - 8	57.6	<1.3	6.2	54	100	100	95.9	90.7	45.1
K10651	FF-2	6/1/00	SOIL	Point Source and Waste Disposal	KAL246	8 - 12	57.6	2.9	41	146	100	100	93.9	74.9	20
K10652	FF-2	6/1/00	SOIL	Point Source and Waste Disposal	KAL246	12 - 22	68.4	8.3	59	159	100	99.9	95.4	62.4	13.2

(See notes on page 12)

TABLE 2

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

REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
PARTICLE SIZE ANALYSIS RESULTS

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	SDG Number	Depth Increment (in.)	Percent Solids (%)	Percentile Sizes (microns)			Percent Finer Than				
								16%	50%	84%	Gravel	#10 Sieve	#40 Sieve	#200 Sieve	5 microns
K10642	FF-3	6/1/00	SOIL	Point Source and Waste Disposal	KAL246	0 - 6	49.9	<1.3	5.6	49	100	100	97.5	93.6	47.3
K10644	FF-3	6/1/00	SOIL	Point Source and Waste Disposal	KAL246	12 - 24	72.2	86	182	302	96	95.5	93.1	13.1	3.3
K10672	FF-10	6/1/00	SOIL	Kalamazoo Island	KAL247	0 - 6	83.8	91	214	354	100	99.9	96.3	13.6	2.3
K10673	FF-10	6/1/00	SOIL	Kalamazoo Island	KAL247	6 - 16	82.2	93	263	412	99.6	99.1	87.1	14.3	1.7
K10674	FF-10	6/1/00	SOIL	Kalamazoo Island	KAL247	16 - 24	87.6	175	257	400	99.9	99.7	90	6.4	1.4
K10662	FF-11	6/1/00	SOIL	Kalamazoo Island	KAL247	0 - 6	65.5	46	160	332	100	99.9	93.3	27.9	4.6
K10663	FF-11	6/1/00	SOIL	Kalamazoo Island	KAL247	6 - 15	66.7	11.7	157	367	100	99.8	89.2	36.7	9.2
K10664	FF-11	6/1/00	SOIL	Kalamazoo Island	KAL247	15 - 24	82.8	237	367	726	99.5	98.4	65.8	4.4	1.6
K10669	FF-12	6/1/00	SOIL	Floodplain	KAL247	0 - 6	67.1	27.3	145	2733	88.4	82.4	73.4	36.6	5.1
K10670	FF-12	6/1/00	SOIL	Floodplain	KAL247	6 - 12	72.8	19.3	103	327	99.3	96.6	89.2	44	7.7
K10671	FF-12	6/1/00	SOIL	Floodplain	KAL247	12 - 24	81.3	67	199	805	97.1	90.5	75.5	18.1	4
K10654	FF-21	6/1/00	SOIL	Floodplain	KAL246	0 - 6	69.2	43	175	304	100	100	98	22.8	6
K10655	FF-21	6/1/00	SOIL	Floodplain	KAL246	6 - 12	76.4	67	221	359	100	100	97.5	17.2	4.2
K10656	FF-21	6/1/00	SOIL	Floodplain	KAL246	12 - 15	78.4	153	250	379	99.8	99.8	96.1	9.9	2.2
K10657	FF-21	6/1/00	SOIL	Floodplain	KAL246	15 - 24	64.9	9.2	79	231	100	100	96.9	49.1	11.9
K10820	FF-22	7/7/00	SOIL	Floodplain	KAL256	0 - 6	35.9	10.6	28.9	224	100	99.3	93.8	68.9	6.6
K10821	FF-22	7/7/00	SOIL	Floodplain	KAL256	6 - 12	59.1	8.7	424	8339	77.2	67.7	50.1	25.5	10.9
K10659	FF-26	6/1/00	SOIL	Kalamazoo Island	KAL247	0 - 6	49.6	11.7	62	441	100	100	83.7	59.8	9
K10660	FF-26	6/1/00	SOIL	Kalamazoo Island	KAL247	6 - 14	55.8	8.4	60	275	99.7	99.1	88.9	59.4	12
K10661	FF-26	6/1/00	SOIL	Kalamazoo Island	KAL247	14 - 23	78.2	143	392	1258	99.5	94	54.4	9.9	1.5
K10846	FF-27	7/19/00	SOIL	Floodplain	KAL261	0 - 6	41.5	5.5	42.5	162	100	100	91.9	75.9	14.4
K10847	FF-27	7/19/00	SOIL	Floodplain	KAL261	6 - 12	39.8	<1.3	18.3	74	100	100	99.5	84.5	32.1
K10848	FF-27	7/19/00	SOIL	Floodplain	KAL261	12 - 23	58.6	8.6	78	215	100	100	98.9	49.3	10.3
K10822	FF-30	7/7/00	SOIL	Floodplain	KAL256	0 - 6	47.5	2.1	16.6	90	100	100	98.5	82.5	26.8
K10823	FF-30	7/7/00	SOIL	Floodplain	KAL256	6 - 12	56.1	<1.3	29.9	193	99.5	97.5	94.8	67.9	26
K10824	FF-30	7/7/00	SOIL	Floodplain	KAL257	12 - 23	69.6	13.1	161	293	100	99.3	94.6	28	11.5
K10631	FF-31	5/22/00	SOIL	Floodplain	KAL245	0 - 6	46.9	4.4	46	232	99.8	99.3	94.4	63	17.5
K10632	FF-31	5/22/00	SOIL	Floodplain	KAL245	6 - 12	58.3	2.6	86	335	99	96.1	90.5	48	18.3
K10633	FF-31	5/22/00	SOIL	Floodplain	KAL245	12 - 24	72	34.6	242	1275	94.1	86.9	70.9	24.3	7.9
K10635	FF-32	5/22/00	SOIL	Kalamazoo Island	KAL245	0 - 6	57.7	5.5	62	237	100	100	94.4	58.9	14.8
K10636	FF-32	5/22/00	SOIL	Kalamazoo Island	KAL245	6 - 12	57.6	6.4	84	253	98.4	97.6	94.6	48.2	14.3
K10637	FF-32	5/22/00	SOIL	Kalamazoo Island	KAL245	12 - 24	62.3	5.1	115	248	98.8	98.7	97.1	41.3	15.8
K10679	FF-36	6/1/00	SOIL	Floodplain	KAL248	0 - 6	60.9	18.1	70	249	100	100	91.9	53.2	9
K10680	FF-36	6/1/00	SOIL	Floodplain	KAL248	6 - 12	55.4	5.3	64	205	100	100	95.7	54.9	15.7
K10681	FF-36	6/1/00	SOIL	Floodplain	KAL248	12 - 24	62.6	16.4	209	422	100	98.6	84.5	29.7	8.8
K10676	FF-37	6/1/00	SOIL	Floodplain	KAL247	0 - 6	47.1	4	48	182	100	99.8	91.6	70.5	17.6

(See notes on page 12.)

TABLE 2

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

REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
PARTICLE SIZE ANALYSIS RESULTS

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	SDG Number	Depth Increment (in.)	Percent Solids (%)	Percentile Sizes (microns)			Percent Finer Than				
								16%	50%	84%	Gravel	#10 Sieve	#40 Sieve	#200 Sieve	5 microns
K10677	FF-37	6/1/00	SOIL	Floodplain	KAL247	6 - 12	50.9	1.7	30	124	100	99.9	95.9	77.9	28.4
K10678	FF-37	6/1/00	SOIL	Floodplain	KAL248	12 - 24	50.5	2.3	42	151	100	99.7	94.8	68.2	22.7
K10828	FF-38	7/7/00	SOIL	Floodplain	KAL257	0 - 6	40.7	2.2	20.6	111	100	100	98.2	78.4	26.7
K10829	FF-38	7/7/00	SOIL	Floodplain	KAL257	6 - 12	45.9	2.2	23.9	132	100	100	97.7	73.2	26.1
K10830	FF-38	7/7/00	SOIL	Floodplain	KAL257	12 - 24	44.7	37	156	10648	79.9	78.6	72.6	39.6	5.2
K10870	FF-39	7/21/00	SOIL	Floodplain	KAL263	0 - 6	50.9	2.1	15.7	73	100	100	95.6	84.7	28.7
K10871	FF-39	7/21/00	SOIL	Floodplain	KAL263	6 - 15	69.7	222	559	1513	99.3	93.4	40.2	7.7	1.4
K10872	FF-39	7/21/00	SOIL	Floodplain	KAL263	15 - 20	59.5	2.6	21.9	142	100	98.6	92.8	74.9	23.5
K10665	FF-40	6/1/00	SOIL	Kalamazoo Island	KAL247	0 - 6	49.9	6.7	42.4	127	100	100	92.6	79.3	12.6
K10666	FF-40	6/1/00	SOIL	Kalamazoo Island	KAL247	6 - 12	54.6	4.5	43.5	171	100	100	97.5	69.1	17.3
K10667	FF-40	6/1/00	SOIL	Kalamazoo Island	KAL247	12 - 24	61.8	15.6	221	410	100	99.1	86.6	25.6	7.7
K10839	FF-41	7/12/00	SOIL	Floodplain	KAL260	0 - 9	68.2	10.2	151	351	100	99.8	93	37.3	11.4
K10840	FF-41	7/12/00	SOIL	Floodplain	KAL260	9 - 12	84.3	95	241	401	100	100	89	13	3
K10841	FF-41	7/12/00	SOIL	Floodplain	KAL260	12 - 24	84.9	53	148	265	100	99.8	95.9	21.5	5.6
K10867	FF-42	7/21/00	SOIL	Floodplain	KAL263	0 - 6	53.4	1.8	24.9	224	100	99.9	97.1	68.5	28
K10868	FF-42	7/21/00	SOIL	Floodplain	KAL263	6 - 12	79.8	205	340	696	97.4	94.8	73.8	6.2	1.3
K10869	FF-42	7/21/00	SOIL	Floodplain	KAL263	12 - 25	80.2	245	456	4469	85.3	72.6	49	1.3	0.4
K10682	FF-43	6/1/00	SOIL	Floodplain	KAL248	0 - 6	53.4	5.5	57	218	100	99.9	95	57.3	15.3
K10683	FF-43	6/1/00	SOIL	Floodplain	KAL248	6 - 12	58.9	7	65	201	100	100	98.6	55.6	13.9
K10684	FF-43	6/1/00	SOIL	Floodplain	KAL248	12 - 24	65.8	13.6	110	222	100	100	98.5	39.6	10.4
K10576	FF-44	5/12/00	SOIL	Kalamazoo Island	KAL241	0 - 6	49.2	4.3	33.7	215	100	100	89	78.3	17.9
K10577	FF-44	5/12/00	SOIL	Kalamazoo Island	KAL241	6 - 12	46.5	3.4	41	169	100	100	93	72.1	19.5
K10578	FF-44	5/12/00	SOIL	Kalamazoo Island	KAL241	12 - 24	56.5	8.8	138	248	100	99.8	94.8	32.8	12.6
K10583	FF-45	5/12/00	SOIL	Floodplain	KAL242	0 - 6	32.1	2.8	18.8	79	100	99.2	95.6	83.6	24.2
K10584	FF-45	5/12/00	SOIL	Floodplain	KAL242	6 - 12	37.2	2.4	16.8	67	100	99.7	98.3	88.2	25.8
K10585	FF-45	5/12/00	SOIL	Floodplain	KAL242	12 - 24	47.5	3	26.1	91	100	99.9	98.8	81.5	23.1
K10876	FF-47	8/4/00	SOIL	Kalamazoo Island	KAL263	0 - 6	58.1	1.6	16.1	189	100	99.8	93.5	71.1	30.5
K10877	FF-47	8/4/00	SOIL	Kalamazoo Island	KAL263	6 - 12	82.2	60	1254	11859	70.5	55.9	37.7	18.5	3.5
K10843	FF-48	7/12/00	SOIL	Floodplain	KAL260	0 - 6	34.3	<1.3	5.1	48.5	100	100	98.9	93.2	49.6
K10844	FF-48	7/12/00	SOIL	Floodplain	KAL260	6 - 12	40.1	<1.3	6.7	60	100	100	98.7	93.1	43.8
K10845	FF-48	7/12/00	SOIL	Floodplain	KAL260	12 - 24	45.7	2.7	63	187	100	99.7	97	54.6	21.1
K10741	FF-49	6/7/00	SOIL	Kalamazoo Island	KAL252	0 - 6	85	234	1324	3251	97.9	72.4	24.7	7.9	1.6
K10742	FF-49	6/7/00	SOIL	Kalamazoo Island	KAL252	6 - 16	71.7	83	259	757	98.1	95	72.9	15.3	1.6
K10743	FF-49	6/7/00	SOIL	Kalamazoo Island	KAL252	16 - 20	78.2	264	621	1542	99.2	92.4	31.7	4.3	0.7
K10744	FF-49	6/7/00	SOIL	Kalamazoo Island	KAL252	20 - 24	77.6	101	277	447	99.9	99	83.3	14.2	3
K10873	FF-50	8/4/00	SOIL	Floodplain	KAL263	0 - 6	86.3	252	412	1106	99.9	95.9	52.8	0.9	0.3

(See notes on page 12.)

TABLE 2

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

REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
PARTICLE SIZE ANALYSIS RESULTS

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	SDG Number	Depth Increment (in.)	Percent Solids (%)	Percentile Sizes (microns)			Percent Finer Than				
								16%	50%	84%	Gravel	#10 Sieve	#40 Sieve	#200 Sieve	5 microns
K10874	FF-50	8/4/00	SOIL	Floodplain	KAL263	6 - 12	83.9	179	392	2466	98.2	81.1	53.8	4.3	0.3
K10875	FF-50	8/4/00	SOIL	Floodplain	KAL263	12 - 24	65.3	152	264	413	99.6	96.7	86.7	7.9	3
K10721	FF-51	6/7/00	SOIL	Kalamazoo Island	KAL252	0 - 6	65.6	24.8	163	391	100	96.9	86.9	31.8	6.5
K10722	FF-51	6/7/00	SOIL	Kalamazoo Island	KAL252	6 - 12	70.3	44	209	544	99.7	99.4	80.4	25	4.8
K10724	FF-51	6/7/00	SOIL	Kalamazoo Island	KAL252	12 - 24	73.3	42.7	193	363	99.3	97.2	91.1	23.8	5.4
K10745	FF-52	6/7/00	SOIL	Kalamazoo Island	KAL252	0 - 6	62.2	18.7	131	368	100	99.7	88.1	40.1	7
K10746	FF-52	6/7/00	SOIL	Kalamazoo Island	KAL252	6 - 12	58.9	6.4	67	308	100	100	89.9	54.7	15.3
K10747	FF-52	6/7/00	SOIL	Kalamazoo Island	KAL252	12 - 17	67.1	10.9	169	356	99.2	98.3	91.4	36.1	9.8
K10748	FF-53	6/9/00	SOIL	Exposed Sediment	KAL253	0 - 6	35.1	<1.3	4.3	40	100	100	99.2	95.3	52.7
K10749	FF-53	6/9/00	SOIL	Exposed Sediment	KAL253	6 - 12	43	<1.3	3.3	46.8	100	100	99.9	96.5	55.8
K10750	FF-53	6/9/00	SOIL	Exposed Sediment	KAL253	12 - 17	42.9	<1.3	4.3	51	100	99.9	99.8	92.8	52.7
K10751	FF-53	6/9/00	SOIL	Exposed Sediment	KAL253	17 - 20	74	64	287	3343	95.1	73.4	57.9	17.4	7.5
K10849	FF-54	7/19/00	SOIL	Otsego City Impoundment	KAL261	0 - 6	92.4	79	263	534	96.6	95.7	80.6	15.7	6
K10850	FF-54	7/19/00	SOIL	Otsego City Impoundment	KAL261	6 - 12	92.4	111	263	455	100	99.4	83	13.1	3.5
K10851	FF-54	7/19/00	SOIL	Otsego City Impoundment	KAL261	12 - 24	88.6	163	284	592	99.6	97	78.3	7.5	1.4
K10767	FF-55	6/13/00	SOIL	Otsego City Impoundment	KAL253	0 - 6	31.6	7.1	47	360	100	100	85.7	70.4	12.5
K10768	FF-55	6/13/00	SOIL	Otsego City Impoundment	KAL254	6 - 12	45.7	4.3	48	172	100	100	96.1	66.1	18
K10769	FF-55	6/13/00	SOIL	Otsego City Impoundment	KAL254	12 - 22	49.7	5.3	52	213	100	100	97.4	54.9	15.2
K10777	FF-56	6/14/00	SOIL	Otsego City Impoundment	KAL255	0 - 6	29.2	1.4	16.4	62	100	100	99.1	91	35.2
K10778	FF-56	6/14/00	SOIL	Otsego City Impoundment	KAL255	6 - 12	30.2	<1.3	10.6	65	100	100	99.1	90.8	37.6
K10779	FF-56	6/14/00	SOIL	Otsego City Impoundment	KAL255	12 - 17	51.3	9.9	113	299	98.9	98.7	93.4	41.6	9.9
K10780	FF-56	6/14/00	SOIL	Otsego City Impoundment	KAL255	17 - 24	74.2	15.1	191	355	100	99.5	93.5	25.1	9.3
K10758	FF-57	6/13/00	SOIL	Otsego City Impoundment	KAL253	0 - 6	43.6	<1.3	7.1	64	100	100	99.1	88.1	45
K10759	FF-57	6/13/00	SOIL	Otsego City Impoundment	KAL253	6 - 12	45	<1.3	19	134	100	100	98.1	73.1	33.7
K10760	FF-57	6/13/00	SOIL	Otsego City Impoundment	KAL253	12 - 18	47.4	<1.3	11	94	100	100	99.1	81	35
K10761	FF-57	6/13/00	SOIL	Otsego City Impoundment	KAL253	18 - 25	70.4	87	240	385	100	100	92.9	15	4.4
K10852	FF-58	7/19/00	SOIL	Otsego City Impoundment	KAL261	0 - 6	71.7	6.5	16.2	45.9	100	100	100	98.4	13.5
K10853	FF-58	7/19/00	SOIL	Otsego City Impoundment	KAL261	6 - 13	65.6	<1.3	4.5	14.4	100	99.9	99.8	98.6	53
K10854	FF-58	7/19/00	SOIL	Otsego City Impoundment	KAL261	13 - 23	30.5	6.2	194	360	100	99.7	86	32.7	14.1
K10863	FF-59	7/19/00	SOIL	Otsego City Impoundment	KAL261	0 - 8	40.2	<1.4	25.4	143	100	100	96.4	76.3	30.2
K10864	FF-59	7/19/00	SOIL	Otsego City Impoundment	KAL261	8 - 12	84.6	207	330	595	100	99.6	76.6	3.6	1
K10865	FF-59	7/19/00	SOIL	Otsego City Impoundment	KAL261	12 - 24	82.3	256	400	780	100	99.2	55.9	2	1.3
K10859	FF-60	7/19/00	SOIL	Otsego City Impoundment	KAL261	0 - 6	19.8	<1.4	10.7	68	100	100	97.8	88.6	32.6
K10860	FF-60	7/19/00	SOIL	Otsego City Impoundment	KAL261	6 - 12	22.7	1.7	16.6	70	100	100	97.5	86.6	29.5
K10861	FF-60	7/19/00	SOIL	Otsego City Impoundment	KAL261	12 - 19	17.8	1.6	21.9	675	98.6	98.3	79.3	63.1	28.5
K10862	FF-60	7/19/00	SOIL	Otsego City Impoundment	KAL261	19 - 24	67.1	115	218	432	100	99.7	83.8	9.3	3.1

(See notes on page 12)

TABLE 2

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

REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
PARTICLE SIZE ANALYSIS RESULTS

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	SDG Number	Depth Increment (in.)	Percent Solids (%)	Percentile Sizes (microns)			Percent Finer Than				
								16%	50%	84%	Gravel	#10 Sieve	#40 Sieve	#200 Sieve	5 microns
K10773	FF-61	6/14/00	SOIL	Otsego City Impoundment	KAL255	0 - 6	14.5	6.3	30.3	182	100	100	91.9	74.8	12.2
K10774	FF-61	6/14/00	SOIL	Otsego City Impoundment	KAL255	6 - 12	15.2	<1.4	12	857	100	100	74.6	64	28
K10775	FF-61	6/14/00	SOIL	Otsego City Impoundment	KAL255	12 - 24	14.5	10.9	81	1005	100	100	69.2	49.5	6.4
K10856	FF-62	7/19/00	SOIL	Otsego City Impoundment	KAL261	0 - 6	69	199	332	595	100	98.2	77.1	8.4	1.5
K10857	FF-62	7/19/00	SOIL	Otsego City Impoundment	KAL261	6 - 12	78.9	202	327	619	100	99	75.7	4.1	1.1
K10858	FF-62	7/19/00	SOIL	Otsego City Impoundment	KAL261	12 - 24	79.5	215	442	2481	92.5	82.2	49.1	8.8	0.8
K10762	FF-63	6/13/00	SOIL	Otsego City Impoundment	KAL253	0 - 6	22.3	6.9	49.9	1316	100	100	66.1	56.8	14
K10763	FF-63	6/13/00	SOIL	Otsego City Impoundment	KAL253	6 - 12	14.2	9.8	35.3	1480	100	100	58.1	51.9	13.2
K10764	FF-63	6/13/00	SOIL	Otsego City Impoundment	KAL253	12 - 19	13.4	14.9	33.9	1308	100	100	65.8	57	8.3
K10765	FF-63	6/13/00	SOIL	Otsego City Impoundment	KAL253	19 - 24	27.6	5.2	37.1	147	100	100	94.2	77.1	15.6
K10573	FF-64	5/12/00	SOIL	Exposed Sediment	KAL241	0 - 6	60.8	23.5	110	339	100	100	87.6	41.8	6.6
K10574	FF-64	5/12/00	SOIL	Exposed Sediment	KAL241	6 - 12	57.4	5.4	54	391	100	99.6	85.1	64.3	15.1
K10575	FF-64	5/12/00	SOIL	Exposed Sediment	KAL241	12 - 24	79.7	184	359	801	98.2	95.2	61.2	6.4	2.9
K10579	FF-65	5/12/00	SOIL	Exposed Sediment	KAL241	0 - 6	40.4	4.2	52	214	100	99.9	92.7	68.2	18
K10580	FF-65	5/12/00	SOIL	Exposed Sediment	KAL241	6 - 12	47.6	6.1	57	261	100	99.9	93	65.9	14.2
K10581	FF-65	5/12/00	SOIL	Exposed Sediment	KAL242	12 - 24	61	11.2	165	19217	82.4	81.8	80.3	30.5	9
K10586	FF-67	5/12/00	SOIL	Exposed Sediment	KAL242	0 - 6	44.2	1.4	31	183	100	100	91.2	78.4	28.9
K10587	FF-67	5/12/00	SOIL	Exposed Sediment	KAL242	6 - 12	45.1	2.2	33.8	75	100	100	93.6	84	26.3
K10588	FF-67	5/12/00	SOIL	Exposed Sediment	KAL242	12 - 24	45.2	2	35.5	111	100	100	95	80.9	27.5
K10590	FF-68	5/12/00	SOIL	Exposed Sediment	KAL242	0 - 6	47.3	4.9	54	571	100	100	80.4	65.5	16.2
K10591	FF-68	5/12/00	SOIL	Exposed Sediment	KAL242	6 - 12	41.1	4.4	34.3	159	100	100	91.4	79.2	18.6
K10592	FF-68	5/12/00	SOIL	Exposed Sediment	KAL242	12 - 24	37.9	3	31.4	166	99.7	99.5	93.6	79.4	23.8
K10627	FF-70	5/18/00	SOIL	Exposed Sediment	KAL244	0 - 2	59.1	3.5	58	228	100	99.9	94.3	55.3	19.9
K10628	FF-70	5/18/00	SOIL	Exposed Sediment	KAL244	2 - 6	67.1	3	77	216	100	100	98.3	49.5	20.4
K10629	FF-70	5/18/00	SOIL	Exposed Sediment	KAL244	6 - 12	65.2	6.3	75	201	99.9	99.8	97.9	50	13.9
K10630	FF-70	5/18/00	SOIL	Exposed Sediment	KAL244	12 - 24	69.5	10.7	130	231	100	100	99.6	35	10.4
K10556	FF-72	5/12/00	SOIL	Exposed Sediment	KAL240	0 - 6	56.5	<1.3	7.1	72	100	99.9	93.6	85.4	42
K10557	FF-72	5/12/00	SOIL	Exposed Sediment	KAL240	6 - 12	56.8	<1.3	4.6	56	99.4	99.2	96 6	90.7	51.6
K10558	FF-72	5/12/00	SOIL	Exposed Sediment	KAL240	12 - 24	70.9	3.3	38.2	137	100	100	94.3	74.8	19.7
K10549	FF-73	5/12/00	SOIL	Exposed Sediment	KAL240	0 - 6	53.7	1.5	19.2	259	100	99.9	95 2	67.1	30.6
K10550	FF-73	5/12/00	SOIL	Exposed Sediment	KAL240	6 - 16	53.6	2.6	43	144	100	100	98.3	65.2	22.2
K10551	FF-73	5/12/00	SOIL	Exposed Sediment	KAL240	16 - 24	80.4	48	208	358	100	100	96.1	20.1	7.2
K10564	FF-74	5/12/00	SOIL	Exposed Sediment	KAL241	0 - 6	59.1	25.8	104	233	100	99.9	91.7	40.6	6.4
K10565	FF-74	5/12/00	SOIL	Exposed Sediment	KAL241	6 - 15	56.3	3.7	52	175	100	100	96 6	63.6	19.2
K10567	FF-74	5/12/00	SOIL	Exposed Sediment	KAL241	15 - 18	78.9	63	190	333	100	100	96 2	18.6	3.4
K10568	FF-74	5/12/00	SOIL	Exposed Sediment	KAL241	18 - 24	69.7	9.6	71	166	100	99.8	97 9	52.2	9.4

(See notes on page 12.)

TABLE 2

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

REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
PARTICLE SIZE ANALYSIS RESULTS

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	SDG Number	Depth Increment (in.)	Percent Solids (%)	Percentile Sizes (microns)			Percent Finer Than				
								16%	50%	84%	Gravel	#10 Sieve	#40 Sieve	#200 Sieve	5 microns
K10560	FF-75	5/12/00	SOIL	Exposed Sediment	KAL240	0 - 6	56.6	<1.3	6.4	57	100	99.9	96	91.4	45.3
K10561	FF-75	5/12/00	SOIL	Exposed Sediment	KAL241	6 - 12	55.9	<1.3	4.5	50	100	100	95 6	91.5	51.5
K10562	FF-75	5/12/00	SOIL	Exposed Sediment	KAL241	12 - 20	54.8	<1.3	10.8	69	100	99.8	95 6	87.2	34.9
K10563	FF-75	5/12/00	SOIL	Exposed Sediment	KAL241	20 - 24	84.3	108	243	463	98.6	96.4	83 1	11.2	2.4
K10552	FF-76	5/12/00	SOIL	Exposed Sediment	KAL240	0 - 6	37.1	11.5	63	292	100	99.2	88 7	62	10.1
K10553	FF-76	5/12/00	SOIL	Exposed Sediment	KAL240	6 - 12	41.5	3.1	46	216	100	99.8	90 2	76.4	20.4
K10554	FF-76	5/12/00	SOIL	Exposed Sediment	KAL240	12 - 18	38.6	<1.3	10.2	57	100	100	99 2	95.8	35
K10555	FF-76	5/12/00	SOIL	Exposed Sediment	KAL240	18 - 24	37.8	<1.3	7.7	53	100	100	97 8	93.7	39.7
K10569	FF-77	5/12/00	SOIL	Exposed Sediment	KAL241	0 - 6	35.5	3.8	39.9	125	100	100	94 9	76.4	19.7
K10570	FF-77	5/12/00	SOIL	Exposed Sediment	KAL241	6 - 12	43.3	6.6	61	191	99.7	99.6	91 5	62	13.2
K10571	FF-77	5/12/00	SOIL	Exposed Sediment	KAL241	12 - 24	38.4	<1.3	6.7	51	100	100	98 8	95.2	42.9
K10753	FF-82	6/13/00	SOIL	Floodplain	KAL253	0 - 6	60.7	2.1	58	192	100	99.4	97 5	55.5	23.5
K10754	FF-82	6/13/00	SOIL	Floodplain	KAL253	6 - 12	58.7	2	54	216	99.5	98.6	95 6	56.9	23
K10755	FF-82	6/13/00	SOIL	Floodplain	KAL253	12 - 20	53.7	15.1	196	1395	95.3	88	71 4	33.5	12
K10756	FF-82	6/13/00	SOIL	Floodplain	KAL253	20 - 26	82.2	164	269	561	98.6	96.8	79 9	5.7	3
K10770	FF-84	6/13/00	SOIL	Floodplain	KAL254	0 - 6	78.9	132	257	543	100	100	79 6	9.4	0.9
K10771	FF-84	6/13/00	SOIL	Floodplain	KAL254	6 - 12	83.3	109	241	557	100	99.8	78 3	10.6	1.2
K10772	FF-84	6/13/00	SOIL	Floodplain	KAL254	12 - 21	85.5	112	331	709	100	99.6	65	12.3	1.9
K10638	FF-86	6/1/00	SOIL	Floodplain	KAL246	0 - 6	61.9	9.4	59	208	100	100	91 3	62.1	10.8
K10639	FF-86	6/1/00	SOIL	Floodplain	KAL246	6 - 12	72.4	9.8	88	186	100	100	99 1	45.6	11.5
K10640	FF-86	6/1/00	SOIL	Floodplain	KAL246	12 - 17	79.7	64	163	243	100	100	99	18.6	4.4
K10641	FF-86	6/1/00	SOIL	Floodplain	KAL246	17 - 23	55.7	8.7	72	179	100	100	99.2	51.4	11.5
K10718	FF-87	6/7/00	SOIL	Floodplain	KAL251	0 - 6	59.9	1.6	25.9	206	100	99.6	94.5	69.6	28.7
K10719	FF-87	6/7/00	SOIL	Floodplain	KAL251	6 - 12	69	3.2	102	379	100	99.7	88.2	43.6	19.5
K10720	FF-87	6/7/00	SOIL	Floodplain	KAL251	12 - 24	77.6	120	293	634	100	98	73.4	11.3	4.4
K10733	FF-88	6/7/00	SOIL	Floodplain	KAL251	0 - 6	26.9	<1.3	5.1	118	100	99.5	95.9	80.8	49.4
K10734	FF-88	6/7/00	SOIL	Floodplain	KAL251	6 - 12	32.9	<1.3	9	68.5	100	100	97.8	86.1	41.3
K10735	FF-88	6/7/00	SOIL	Floodplain	KAL251	12 - 19	34.7	2.8	45.4	373	100	99.8	86.6	63	22.7
K10736	FF-88	6/7/00	SOIL	Floodplain	KAL251	19 - 24	72.7	239	401	777	100	99.3	55.4	9.4	4.4
K10729	FF-89	6/7/00	SOIL	Floodplain	KAL251	0 - 6	75.9	7	128	443	100	99.3	83.5	35.9	12.7
K10730	FF-89	6/7/00	SOIL	Floodplain	KAL251	6 - 12	93	158	608	1538	99.8	94	35.6	11.7	3.3
K10731	FF-89	6/7/00	SOIL	Floodplain	KAL251	12 - 24	89.5	173	355	808	99.7	96.9	62.8	7.8	2.5
K10737	FF-90	6/7/00	SOIL	Floodplain	KAL252	0 - 6	78.5	3.1	160	405	100	99.4	86.4	39.8	20
K10738	FF-90	6/7/00	SOIL	Floodplain	KAL252	6 - 12	86	4.9	204	423	100	99.1	84.5	30.7	16.1
K10739	FF-90	6/7/00	SOIL	Floodplain	KAL252	12 - 24	87.7	195	358	2393	87.6	83.4	62.2	4.2	1.7
K10725	FF-91	6/7/00	SOIL	Floodplain	KAL251	0 - 6	15.1	2.1	25.5	230	100	98.6	88.6	75.8	23

(See notes on page 12)

TABLE 2

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

REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
PARTICLE SIZE ANALYSIS RESULTS

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	SDG Number	Depth Increment (in.)	Percent Solids (%)	Percentile Sizes (microns)			Percent Finer Than				
								16%	50%	84%	Gravel	#10 Sieve	#40 Sieve	#200 Sieve	5 microns
K10726	FF-91	6/7/00	SOIL	Floodplain	KAL251	6 - 12	17.8	<1.4	25.1	211	100	100	91.6	73.2	33
K10727	FF-91	6/7/00	SOIL	Floodplain	KAL251	12 - 14	53.7	2.1	79	193	100	100	99.9	48.6	22.5
K10728	FF-91	6/7/00	SOIL	Floodplain	KAL251	14 - 24	78	10.5	93	208	100	100	99	12.9	3.2
K10835	FF-94	7/12/00	SOIL	Floodplain	KAL260	0 - 6	30.5	<1.4	5.4	51	100	100	99.1	91.9	48.5
K10836	FF-94	7/12/00	SOIL	Floodplain	KAL260	6 - 12	29.9	<1.4	6.3	58	100	100	99.7	93.5	45.7
K10837	FF-94	7/12/00	SOIL	Floodplain	KAL260	12 - 20	42.7	1.7	17.8	71	100	100	99	86.4	29.2
K10838	FF-94	7/12/00	SOIL	Floodplain	KAL260	20 - 24	71.1	1.6	25.5	135	100	98.6	97.8	70.3	25.6
K10832	FF-95	7/12/00	SOIL	Floodplain	KAL260	0 - 6	82.5	19.4	135	238	100	98.7	96.7	34.3	8.9
K10833	FF-95	7/12/00	SOIL	Floodplain	KAL260	6 - 12	86	13.7	138	235	99.3	99.1	97.4	32.9	10.4
K10834	FF-95	7/12/00	SOIL	Floodplain	KAL260	12 - 24	83.2	12.9	164	317	96.1	94.7	90.2	27.4	12.1
K10825	FF-98	7/7/00	SOIL	Floodplain	KAL257	0 - 6	81.1	79	217	392	97	95.5	88.8	15.5	3.1
K10826	FF-98	7/7/00	SOIL	Floodplain	KAL257	6 - 12	71.6	39.8	123	226	100	100	98.6	33.5	4.5
K10827	FF-98	7/7/00	SOIL	Floodplain	KAL257	12 - 24	61.3	19.1	155	327	100	99.6	94.3	33.7	8.8

Notes:

* Results for samples collected from core location FF-09 on 6/6/00 and FF-69 on 5/4/00 are presented for completeness, however are not included in data analyses. The core collected at FF-9 was inadvertently collected twice (i.e., FF-09); and due to poor recovery, core location FF-69 was resampled on 5/11/00.

(See notes on page 12.)

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
PCB ANALYSIS RESULTS[1]

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	SDG Number	Depth Increment (in.)	QC Performed	Total Organic Carbon (mg/kg)	Aroclor 1232 (mg/kg)	Aroclor 1242 (mg/kg)	Aroclor 1248 (mg/kg)	Aroclor 1254 (mg/kg)	Aroclor 1260 (mg/kg)	Total PCB (mg/kg)
K53547	FF-4	5/11/00	SEDIMENT	Channel Sediment	KAL238	0 - 2		84000	0.12 U	0.065 J	0.12 U	0.42	0.086 J	0.57 J
K53548	FF-4	5/11/00	SEDIMENT	Channel Sediment	KAL238	2 - 6		25000	0.073 U	0.073 U	0.073 U	0.092	0.073 J	0.092
K53549	FF-4	5/11/00	SEDIMENT	Channel Sediment	KAL238	6 - 12		1700 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 J	0.054 U
K53550	FF-4	5/11/00	SEDIMENT	Channel Sediment	KAL238	12 - 22		8600 J	0.054 U	0.031 J	0.054 U	0.054 U	0.054 J	0.031 J
K53558	FF-5	5/11/00	SEDIMENT	Channel Sediment	KAL238	0 - 2		96000	0.13 U	0.13 U	0.13 U	0.49	0.072 J	0.56 J
K53559	FF-5	5/11/00	SEDIMENT	Channel Sediment	KAL238	2 - 6		100000	0.12 U	0.10 J	0.12 U	0.61	0.079 J	0.79 J
K53560	FF-5	5/11/00	SEDIMENT	Channel Sediment	KAL238	6 - 12		100000	0.23 U	0.39	0.23 U	1.8	0.20 J	2.4 J
K53561	FF-5	5/11/00	SEDIMENT	Channel Sediment	KAL239	12 - 24	MS/MSD	69000	0.11 U	0.17	0.11 U	0.54	0.16	0.87
K53562	FF-5	5/11/00	SEDIMENT	Channel Sediment	KAL239	12 - 24	DUP(K53561)	76000	0.10 U	0.13	0.10 U	0.46	0.10 J	0.69 J
K53554	FF-6	5/11/00	SEDIMENT	Channel Sediment	KAL238	0 - 2		970 J	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K53555	FF-6	5/11/00	SEDIMENT	Channel Sediment	KAL238	2 - 6		620 J	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U	0.052 U
K53556	FF-6	5/11/00	SEDIMENT	Channel Sediment	KAL238	6 - 12		4800 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K53557	FF-6	5/11/00	SEDIMENT	Channel Sediment	KAL238	12 - 20		560 J	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K53584	FF-7	5/11/00	SEDIMENT	Channel Sediment	KAL240	0 - 2		110000	0.14 U	0.14 U	0.14 U	1.0	0.16	1.2
K53585	FF-7	5/11/00	SEDIMENT	Channel Sediment	KAL240	2 - 6		120000	0.13 U	0.13 U	0.26	0.80	0.094 J	1.2 J
K53586	FF-7	5/11/00	SEDIMENT	Channel Sediment	KAL240	6 - 12		80000	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K53587	FF-7	5/11/00	SEDIMENT	Channel Sediment	KAL240	12 - 24	MS/MSD	72000	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K53588	FF-7	5/11/00	SEDIMENT	Channel Sediment	KAL240	12 - 24	DUP(K53587)	83000	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K53579	FF-8	5/11/00	SEDIMENT	Channel Sediment	KAL239	0 - 2		4100	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K53580	FF-8	5/11/00	SEDIMENT	Channel Sediment	KAL239	2 - 6		5500	0.060 U	0.060 U	0.060 U	0.036 J	0.060 U	0.036 J
K53581	FF-8	5/11/00	SEDIMENT	Channel Sediment	KAL240	6 - 12		7800	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K53582	FF-8	5/11/00	SEDIMENT	Channel Sediment	KAL240	12 - 24		3900 J	0.056 U	0.042 J	0.056 U	0.042 J	0.056 U	0.084 J
K53583	FF-8	5/11/00	SEDIMENT	Channel Sediment	KAL240	12 - 24	DUP(K53582)	26000 J	0.056 U	0.039 J	0.056 U	0.045 J	0.056 U	0.084 J
K53574	FF-9	5/11/00	SEDIMENT	Channel Sediment	KAL239	0 - 2		8400	0.056 U	0.056 U	0.056 U	0.16	0.056 U	0.16
K53575	FF-9	5/11/00	SEDIMENT	Channel Sediment	KAL239	2 - 6		20000	0.060 U	0.060 U	0.060 U	0.41	0.033 J	0.44 J
K53576	FF-9	5/11/00	SEDIMENT	Channel Sediment	KAL239	6 - 12		8600	0.068 U	0.068 U	0.068 U	0.25	0.068 U	0.25
K53577	FF-9	5/11/00	SEDIMENT	Channel Sediment	KAL239	12 - 24		8500	0.065 UJ	0.065 UJ	0.053 J	0.13 J	0.065 UJ	0.18 J
K53578	FF-9	5/11/00	SEDIMENT	Channel Sediment	KAL239	12 - 24	DUP(K53577)	5400	0.064 U	0.064 U	0.064 U	0.20	0.064 U	0.20
K53602	FF-09*	6/6/00	SEDIMENT	Channel Sediment	KAL249	0 - 2		6700 J	0.056 U	0.056 U	0.056 U	0.54	0.051 J	0.59 J
K53603	FF-09*	6/6/00	SEDIMENT	Channel Sediment	KAL249	2 - 6		7800	0.055 U	0.055 U	0.055 U	0.095	0.055 U	0.095
K53604	FF-09*	6/6/00	SEDIMENT	Channel Sediment	KAL250	6 - 12	MS/MSD	14000	0.063 U	0.050 J	0.063 U	0.33	0.063 U	0.38 J
K53605	FF-09*	6/6/00	SEDIMENT	Channel Sediment	KAL250	12 - 24		31000	0.24 U	0.24 U	0.30	1.4	0.24 U	1.7
K53606	FF-09*	6/6/00	SEDIMENT	Channel Sediment	KAL250	12 - 24	DUP(K53605)	3900	0.061 U	0.061 U	0.036 J	0.18	0.061 U	0.22 J
K53598	FF-13	6/6/00	SEDIMENT	Channel Sediment	KAL249	0 - 2		3400	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U
K53599	FF-13	6/6/00	SEDIMENT	Channel Sediment	KAL249	2 - 6		2100	0.054 U	0.054 U	0.039 J	0.053 J	0.054 U	0.092 J
K53600	FF-13	6/6/00	SEDIMENT	Channel Sediment	KAL249	6 - 12		1800	0.052 U	0.045 J	0.038 J	0.050 J	0.052 U	0.13 J
K53601	FF-13	6/6/00	SEDIMENT	Channel Sediment	KAL249	12 - 18		1400	0.053 U	0.045 J	0.053 U	0.029 J	0.053 U	0.074 J
K53616	FF-14	6/6/00	SEDIMENT	Channel Sediment	KAL249	0 - 2		2100	0.052 UJ	0.052 UJ	0.052 UJ	0.052 UJ	0.052 UJ	0.052 UJ
K53617	FF-14	6/6/00	SEDIMENT	Channel Sediment	KAL249	2 - 6		2400	0.050 U	0.039 J	0.050 U	0.044 J	0.050 U	0.083 J
K53618	FF-14	6/6/00	SEDIMENT	Channel Sediment	KAL249	6 - 12	MS/MSD-PCB	3900	0.054 U	0.087	0.054 U	0.34	0.030 J	0.46 J
K53619	FF-14	6/6/00	SEDIMENT	Channel Sediment	KAL249	12 - 24		5100 J	0.11 U	0.11 U	0.46	0.60	0.13	1.2
K53620	FF-14	6/6/00	SEDIMENT	Channel Sediment	KAL249	12 - 24	DUP(K53619)	2000	0.054 U	0.027 J	0.035 J	0.090	0.054 U	0.15 J

(See notes on page 12.)

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
PCB ANALYSIS RESULTS[1]

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	SDG Number	Depth Increment (in.)	QC Performed	Total Organic Carbon (mg/kg)	Aroclor 1232 (mg/kg)	Aroclor 1242 (mg/kg)	Aroclor 1248 (mg/kg)	Aroclor 1254 (mg/kg)	Aroclor 1260 (mg/kg)	Total PCB (mg/kg)
K53630	FF-15	6/6/00	SEDIMENT	Channel Sediment	KAL249	0 - 2		81000	0.10 U	0.53	0.10 U	0.60	0.056 J	1.2 J
K53631	FF-15	6/6/00	SEDIMENT	Channel Sediment	KAL249	2 - 6		34000	0.083 UJ	0.18 J	0.20 J	0.42 J	0.083 UJ	0.80 J
K53632	FF-15	6/6/00	SEDIMENT	Channel Sediment	KAL249	6 - 12		58000	0.98 U	8.5	0.98 U	9.2	0.98 U	18
K53633	FF-15	6/6/00	SEDIMENT	Channel Sediment	KAL249	12 - 24		15000	0.061 UJ	0.12 J	0.061 UJ	0.096 J	0.061 UJ	0.22 J
K53839	FF-16	7/19/00	SEDIMENT	Channel Sediment	KAL262	0 - 2		13000	0.12 U	0.12 U	0.91	0.12 U	0.12 U	0.91
K53840	FF-16	7/19/00	SEDIMENT	Channel Sediment	KAL262	2 - 6		12000	0.62 U	2.0	3.7	0.62 U	0.32 J	6.0 J
K53841	FF-16	7/19/00	SEDIMENT	Channel Sediment	KAL262	6 - 12		56000	1.6 U	8.1	9.4	1.6 U	1.6 U	18
K53842	FF-16	7/19/00	SEDIMENT	Channel Sediment	KAL262	2 - 6	DUP(K53840)	20000	0.62 U	2.0	2.9	0.45 J	0.62 U	5.4 J
K53612	FF-17	6/6/00	SEDIMENT	Floodplain	KAL250	0 - 2		2400	0.052 U	0.24	0.052 U	0.069	0.052 U	0.31
K53613	FF-17	6/6/00	SEDIMENT	Floodplain	KAL250	2 - 6		3900	0.053 UJ	0.11 J	0.053 UJ	0.037 J	0.053 UJ	0.15 J
K53614	FF-17	6/6/00	SEDIMENT	Floodplain	KAL250	6 - 12		2600	0.052 U	0.27	0.052 U	0.064	0.052 U	0.33
K53615	FF-17	6/6/00	SEDIMENT	Floodplain	KAL250	12 - 24		2400	0.056 U	0.18	0.056 U	0.047 J	0.056 U	0.23 J
K53835	FF-18	7/19/00	SEDIMENT	Point Source and Waste Disposal	KAL262	0 - 2		21000	0.078 U	0.29	0.078 U	0.2[illegible]	0.10	0.60
K53836	FF-18	7/19/00	SEDIMENT	Point Source and Waste Disposal	KAL262	2 - 6		20000	0.59 U	0.59 U	2.3	2.8	0.59 U	5.1
K53837	FF-18	7/19/00	SEDIMENT	Point Source and Waste Disposal	KAL262	6 - 12		6900 J	1.1 U	1.1 U	1.1	5.5	1.1 U	6.7
K53838	FF-18	7/19/00	SEDIMENT	Point Source and Waste Disposal	KAL262	12 - 16		1400 J	0.13 U	0.13 U	0.47	0.16	0.13 U	0.63
K53634	FF-19	6/6/00	SEDIMENT	Point Source and Waste Disposal	KAL250	0 - 2		17000 J	0.056 U	0.076	0.056 U	0.10	0.056 U	0.18
K53635	FF-19	6/6/00	SEDIMENT	Point Source and Waste Disposal	KAL250	2 - 6		23000	0.065 U	0.12	0.065 U	0.17	0.065 U	0.29
K53636	FF-19	6/6/00	SEDIMENT	Point Source and Waste Disposal	KAL250	6 - 10		18000	3.4 U	22	3.4 U	4.7	3.4 U	27
K53637	FF-19	6/6/00	SEDIMENT	Point Source and Waste Disposal	KAL250	10 - 24		120000	0.29 U	0.65	0.29 U	0.85	0.29 U	1.5
K53607	FF-20	6/6/00	SEDIMENT	Point Source and Waste Disposal	KAL250	0 - 2		10000	0.059 U	0.041 J	0.059 U	0.092	0.094	0.23 J
K53608	FF-20	6/6/00	SEDIMENT	Point Source and Waste Disposal	KAL250	2 - 6		14000 J	0.052 U	0.052 U	0.052 U	0.051 J	0.034 J	0.085 J
K53609	FF-20	6/6/00	SEDIMENT	Point Source and Waste Disposal	KAL250	6 - 12		7500	0.052 U	0.052 U	0.052 U	0.044 J	0.052 U	0.044 J
K53610	FF-20	6/6/00	SEDIMENT	Point Source and Waste Disposal	KAL250	12 - 24		4500	0.052 U	0.037 J	0.052 U	0.037 J	0.084	0.16 J
K53611	FF-20	6/6/00	SEDIMENT	Point Source and Waste Disposal	KAL250	12 - 24	DUP(K53610)	5400	0.054 U	0.054 U	0.054 U	0.054 U	0.098	0.098
K53765	FF-23	7/7/00	SEDIMENT	Channel Sediment	KAL259	0 - 2		4900	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K53766	FF-23	7/7/00	SEDIMENT	Channel Sediment	KAL259	2 - 6		14000	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U
K53767	FF-23	7/7/00	SEDIMENT	Channel Sediment	KAL259	6 - 18		6500	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U
K53827	FF-24	7/19/00	SEDIMENT	Point Source and Waste Disposal	KAL262	0 - 2		250000	0.45 U	0.39 J	0.45 U	0.45 U	0.45 U	0.39 J
K53828	FF-24	7/19/00	SEDIMENT	Point Source and Waste Disposal	KAL262	2 - 6		83000	0.15 U	0.28	0.15 U	0.094 J	0.15 U	0.37 J
K53829	FF-24	7/19/00	SEDIMENT	Point Source and Waste Disposal	KAL262	6 - 14		150000	0.12 U	0.73	0.12 U	0.12 U	0.12 U	0.73
K53625	FF-25	6/6/00	SEDIMENT	Point Source and Waste Disposal	KAL251	0 - 2		4900 J	0.059 U	0.037 J	0.059 U	0.035 J	0.059 U	0.072 J
K53626	FF-25	6/6/00	SEDIMENT	Point Source and Waste Disposal	KAL251	2 - 6		1500 J	0.060 U	0.059 J	0.060 U	0.060	0.060 U	0.12 J
K53627	FF-25	6/6/00	SEDIMENT	Point Source and Waste Disposal	KAL251	6 - 12		3600 J	0.061 U	0.050 J	0.048 J	0.065	0.061 U	0.16 J
K53628	FF-25	6/6/00	SEDIMENT	Point Source and Waste Disposal	KAL251	12 - 24		11000 J	0.068 U	0.18	0.14	0.23	0.034 J	0.58 J
K53629	FF-25	6/6/00	SEDIMENT	Point Source and Waste Disposal	KAL251	12 - 24	DUP(K53628)	38000 J	0.070 U	0.16	0.15	0.15	0.070 U	0.46
K53830	FF-28	7/19/00	SEDIMENT	Channel Sediment	KAL262	0 - 2		360000	0.61 U	1.7	2.6	2.9	0.61 U	7.2
K53831	FF-28	7/19/00	SEDIMENT	Channel Sediment	KAL262	2 - 6		150000	1.8 U	4.1	3.5	1.9	1.8 U	9.5
K53832	FF-28	7/19/00	SEDIMENT	Channel Sediment	KAL262	6 - 14	MS/MSD	110000	1.6 U	7.1	3.8	2.9	1.6 U	14
K53833	FF-28	7/19/00	SEDIMENT	Channel Sediment	KAL262	14 - 23		140000	8.9 U	66	8.9 U	8.9 U	8.9 U	66
K53834	FF-28	7/19/00	SEDIMENT	Channel Sediment	KAL262	14 - 23	DUP(K53833)	100000	8.5 U	60	8.5 U	8.5 U	8.5 U	60
K53683	FF-29	6/14/00	SEDIMENT	Channel Sediment	KAL255	0 - 2		6800	0.061 U	0.039 J	0.048 J	0.047 J	0.061 U	0.13 J

(See notes on page 12.)

TABLE 3

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REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
PCB ANALYSIS RESULTS[1]

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	SDG Number	Depth Increment (in.)	QC Performed	Total Organic Carbon (mg/kg)	Aroclor 1232 (mg/kg)	Aroclor 1242 (mg/kg)	Aroclor 1248 (mg/kg)	Aroclor 1254 (mg/kg)	Aroclor 1260 (mg/kg)	Total PCB (mg/kg)
K53684	FF-29	6/14/00	SEDIMENT	Channel Sediment	KAL255	2 - 7		31000	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U
K53685	FF-29	6/14/00	SEDIMENT	Channel Sediment	KAL255	2 - 7	DUP(K53684)	21000	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U
K53779	FF-33	7/12/00	SEDIMENT	Floodplain	KAL260	0 - 2		130000 J	0.17 U	0.17 U	0.13 J	0.17 U	0.17 U	0.13 J
K53780	FF-33	7/12/00	SEDIMENT	Floodplain	KAL260	2 - 6		100000 J	0.14 U	0.14 U	0.13 J	0.14 U	0.14 U	0.13 J
K53781	FF-33	7/12/00	SEDIMENT	Floodplain	KAL260	6 - 12		120000 J	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
K53782	FF-33	7/12/00	SEDIMENT	Floodplain	KAL260	12 - 24		29000 J	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U
K53775	FF-34	7/12/00	SEDIMENT	Floodplain	KAL260	0 - 2		13000 J	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U
K53776	FF-34	7/12/00	SEDIMENT	Floodplain	KAL260	2 - 6		25000 J	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U
K53777	FF-34	7/12/00	SEDIMENT	Floodplain	KAL260	6 - 12	MS/MSD	5100 J	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K53778	FF-34	7/12/00	SEDIMENT	Floodplain	KAL260	12 - 19		1800 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K53551	FF-35	5/11/00	SEDIMENT	Channel Sediment	KAL238	0 - 2		140000	0.29 U	0.68	1.2	0.96	0.26 J	3.1 J
K53552	FF-35	5/11/00	SEDIMENT	Channel Sediment	KAL238	2 - 6		120000	0.61 U	2.1	4.0	1.7	0.42 J	8.2 J
K53553	FF-35	5/11/00	SEDIMENT	Channel Sediment	KAL238	6 - 15		6900	0.054 U	0.054 U	0.10	0.029 J	0.054 U	0.13 J
K53569	FF-46	5/11/00	SEDIMENT	Channel Sediment	KAL239	0 - 2		11000	0.056 U	0.056 U	0.17	0.11	0.033 J	0.31 J
K53570	FF-46	5/11/00	SEDIMENT	Channel Sediment	KAL239	2 - 6		4500	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K53571	FF-46	5/11/00	SEDIMENT	Channel Sediment	KAL239	6 - 12		2900	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U
K53572	FF-46	5/11/00	SEDIMENT	Channel Sediment	KAL239	12 - 24		28000	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U
K53573	FF-46	5/11/00	SEDIMENT	Channel Sediment	KAL239	12 - 24	DUP(K53572)	12000	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U
K53563	FF-66	5/11/00	SEDIMENT	Exposed Sediment	KAL239	0 - 2		48000	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
K53564	FF-66	5/11/00	SEDIMENT	Exposed Sediment	KAL239	2 - 6		38000	0.12 U	0.074 J	0.12 U	0.12 U	0.12 U	0.074 J
K53565	FF-66	5/11/00	SEDIMENT	Exposed Sediment	KAL239	6 - 12		45000	2.1 U	14	2.1 U	1.7 J	2.1 U	16 J
K53566	FF-66	5/11/00	SEDIMENT	Exposed Sediment	KAL239	12 - 24		33000	0.085 U	0.25	0.085 U	0.12	0.085 U	0.37
K53567	FF-66	5/11/00	SEDIMENT	Exposed Sediment	KAL239	24 - 30		17000	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U
K53568	FF-66	5/11/00	SEDIMENT	Exposed Sediment	KAL239	30 - 34		14000	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U
K53407	FF-69*	5/4/00	SEDIMENT	Channel Sediment	KAL216	0 - 2		78000	0.14 U	1.4	0.14 U	0.55	0.091 J	2.0 J
K53408	FF-69*	5/4/00	SEDIMENT	Channel Sediment	KAL216	2 - 6		120000	0.10 U	1.3	0.10 U	0.33	0.10 U	1.6
K53409	FF-69*	5/4/00	SEDIMENT	Channel Sediment	KAL217	6 - 14		110000 J	1.6 U	13	1.6 U	1.5 J	1.6 U	15 J
K53410	FF-69*	5/4/00	SEDIMENT	Channel Sediment	KAL217	14 - 18		12000 J	0.064 U	0.16	0.064 U	0.064 U	0.064 J	0.16
K53411	FF-69*	5/4/00	SEDIMENT	Channel Sediment	KAL217	6 - 14	DUP(K53409)	91000 J	1.4 U	7.9	1.4 U	0.86 J	1.4 U	8.8 J
K53532	FF-69	5/11/00	SEDIMENT	Channel Sediment	KAL237	0 - 2		110000	0.16 U	1.4	0.14 J	0.42	0.11 J	2.1 J
K53533	FF-69	5/11/00	SEDIMENT	Channel Sediment	KAL237	2 - 6		56000	0.089 U	1.1	0.089 U	0.26	0.089 U	1.4
K53534	FF-69	5/11/00	SEDIMENT	Channel Sediment	KAL237	6 - 12		110000	0.42 U	3.1	0.42 U	1.2	0.42 U	4.3
K53535	FF-69	5/11/00	SEDIMENT	Channel Sediment	KAL237	12 - 18		70000	0.54 U	5.1	0.54 U	0.54	0.54 U	5.6
K53536	FF-69	5/11/00	SEDIMENT	Channel Sediment	KAL237	18 - 26		6300	0.063 U	0.53	0.063 U	0.063 U	0.063 U	0.53
K53447	FF-71	5/4/00	SEDIMENT	Exposed Sediment	KAL217	0 - 2		110000 J	4.5 U	4.5 U	25	3.6 J	4.5 U	29 J
K53448	FF-71	5/4/00	SEDIMENT	Exposed Sediment	KAL217	2 - 6		110000 J	1.8 U	1.8 U	4.4	3.0	1.8 U	7.4
K53449	FF-71	5/4/00	SEDIMENT	Exposed Sediment	KAL217	6 - 12		110000 J	0.88 U	0.88 U	1.5	3.1	0.66 J	5.3 J
K53450	FF-71	5/4/00	SEDIMENT	Exposed Sediment	KAL217	12 - 24		51000 J	0.25 U	0.25 U	1.6	0.36	0.18 J	2.1 J
K53451	FF-71	5/4/00	SEDIMENT	Exposed Sediment	KAL217	24 - 30		1400 J	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K53458	FF-78	5/4/00	SEDIMENT	Channel Sediment	KAL218	0 - 2		170000	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
K53459	FF-78	5/4/00	SEDIMENT	Channel Sediment	KAL218	2 - 6		97000	0.31 U	2.2	0.31 U	0.84	0.18 J	3.2 J
K53460	FF-78	5/4/00	SEDIMENT	Channel Sediment	KAL218	6 - 12		130000	0.16 U	0.16 U	0.16 U	0.15 J	0.38	0.53 J

(See notes on page 12)

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
PCB ANALYSIS RESULTS[1]

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	SDG Number	Depth Increment (in.)	QC Performed	Total Organic Carbon (mg/kg)	Aroclor 1232 (mg/kg)	Aroclor 1242 (mg/kg)	Aroclor 1248 (mg/kg)	Aroclor 1254 (mg/kg)	Aroclor 1260 (mg/kg)	Total PCB (mg/kg)
K53461	FF-78	5/4/00	SEDIMENT	Channel Sediment	KAL218	12 - 18		110000	0.15 U	0.15 U	0.15 U	0.15 U	0.26	0.26
K53462	FF-78	5/4/00	SEDIMENT	Channel Sediment	KAL218	18 - 24		3600	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U
K53463	FF-78	5/4/00	SEDIMENT	Channel Sediment	KAL218	24 - 36		3200	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U
K53464	FF-78	5/4/00	SEDIMENT	Channel Sediment	KAL218	24 - 36	DUP(K53463)	4200	0.065 U	0.065 U	0 065 U	0.065 U	0.065 U	0.065 U
K53452	FF-79	5/4/00	SEDIMENT	Channel Sediment	KAL217	0 - 2		120000 J	0.12 U	0.68	0.35	0.68	0.14	1.9
K53453	FF-79	5/4/00	SEDIMENT	Channel Sediment	KAL217	2 - 6	MS/MSD	99000 J	1.2 U	1.2 U	8 8	4.6	0 76 J	14 J
K53454	FF-79	5/4/00	SEDIMENT	Channel Sediment	KAL218	6 - 12		110000	0.25 U	2.0	0.25 U	1.4	0 20 J	3.6 J
K53455	FF-79	5/4/00	SEDIMENT	Channel Sediment	KAL218	12 - 22		130000	0.13 U	0.19	0.13 U	0.16	0.30	0 65
K53456	FF-79	5/4/00	SEDIMENT	Channel Sediment	KAL218	22 - 37		2900	0.063 U	0.046 J	0 063 U	0.063 U	0.063 U	0.046 J
K53457	FF-79	5/4/00	SEDIMENT	Channel Sediment	KAL218	22 - 37	DUP(K53456)	4300	0.063 U	0.063 U	0 063 U	0 063 U	0.063 U	0.063 U
K53537	FF-80	5/11/00	SEDIMENT	Channel Sediment	KAL237	0 - 2		6700	0.067 U	0.44	0 067 U	0.098	0.067 U	0.54
K53538	FF-80	5/11/00	SEDIMENT	Channel Sediment	KAL237	2 - 6		28000 J	0.075 U	0.53	0.075 U	0.15	0.075 U	0.68
K53539	FF-80	5/11/00	SEDIMENT	Channel Sediment	KAL237	6 - 12		33000	0.17 U	0.71	0 58	0.55	0 10 J	1.9 J
K53540	FF-80	5/11/00	SEDIMENT	Channel Sediment	KAL237	12 - 24	MS/MSD	63000	2.1 U	14	2.1 U	2.2	2.1 U	16
K53541	FF-80	5/11/00	SEDIMENT	Channel Sediment	KAL238	24 - 36		76000	14 U	110	14 U	9.8 J	14 U	120 J
K53442	FF-81	5/4/00	SEDIMENT	Channel Sediment	KAL217	0 - 2		92000 J	0.25 U	2.4	0.39	0.77	0.25 U	3.6
K53443	FF-81	5/4/00	SEDIMENT	Channel Sediment	KAL217	2 - 6		63000 J	0.95 U	11	0.95 U	2.3	0.95 U	13
K53444	FF-81	5/4/00	SEDIMENT	Channel Sediment	KAL217	6 - 12		71000 J	10 U	69	10 U	6.7 J	10 U	76 J
K53445	FF-81	5/4/00	SEDIMENT	Channel Sediment	KAL217	12 - 26		2800 J	0.059 U	0.092	0 059 U	0.059 U	0.059 U	0.092
K53446	FF-81	5/4/00	SEDIMENT	Channel Sediment	KAL217	12 - 26	DUP(K53445)	2800 J	0.058 U	0.24	0.058 U	0.033 J	0.058 U	0.27 J
K53465	FF-83	5/4/00	SEDIMENT	Floodplain	KAL218	0 - 2		16000	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K53466	FF-83	5/4/00	SEDIMENT	Floodplain	KAL218	2 - 6		7800	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K53467	FF-83	5/4/00	SEDIMENT	Floodplain	KAL218	6 - 12		720	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K53468	FF-83	5/4/00	SEDIMENT	Floodplain	KAL218	12 - 24		1700 J	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K53469	FF-83	5/4/00	SEDIMENT	Floodplain	KAL218	12 - 24	DUP(K53468)	1500	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K53428	FF-85	5/4/00	SEDIMENT	Floodplain	KAL217	0 - 2		47000 J	0.074 U	0.19	0.074 U	0 31	0.065 J	0.57 J
K53429	FF-85	5/4/00	SEDIMENT	Floodplain	KAL217	2 - 6		36000 J	0.068 U	0.20	0.068 U	0.32	0.058 J	0.58 J
K53430	FF-85	5/4/00	SEDIMENT	Floodplain	KAL217	6 - 12		23000 J	0.066 U	0.066 U	0.066 U	0.051 J	0.066 U	0.051 J
K53431	FF-85	5/4/00	SEDIMENT	Floodplain	KAL217	12 - 24		2500 J	0.057 U	0 057 U	0.057 U	0.057 U	0.057 U	0.057 U
K53432	FF-85	5/4/00	SEDIMENT	Floodplain	KAL217	12 - 24	DUP(K53431)	2400 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K53662	FF-92	6/9/00	SEDIMENT	Floodplain	KAL254	0 - 2		140000	0.16 U	0.90	0.71	0 48	0.086 J	2.2 J
K53663	FF-92	6/9/00	SEDIMENT	Floodplain	KAL254	2 - 6		130000	0.31 U	0.73	0.86	0.52	0.31 U	2.1
K53664	FF-92	6/9/00	SEDIMENT	Floodplain	KAL254	2 - 6	DUP(K53663)	130000	0.16 U	0.57	0.62	0.40	0.16 U	1.6
K53665	FF-92	6/9/00	SEDIMENT	Floodplain	KAL254	12 - 14		130000	2.6 U	17	2.6 U	2.5 J	2.6 U	20 J
K53666	FF-92	6/9/00	SEDIMENT	Floodplain	KAL254	14 - 24	MS/MSD	11000	0.36 U	2.2	0.36 U	0.21 J	0.36 U	2.4 J
K53470	FF-93	5/4/00	SEDIMENT	Channel Sed ment	KAL218	0 - 2		110000	0.18 U	1.8	0.18 U	0.53	0.097 J	2.4 J
K53471	FF-93	5/4/00	SEDIMENT	Channel Sed ment	KAL218	2 - 6		98000	0 16 U	2.1	0 16 U	0.61	0.16 U	2.7
K53472	FF-93	5/4/00	SEDIMENT	Channel Sed ment	KAL218	6 - 12		95000	0.71 U	11	0 71 U	2.2	0.71 U	13
K53473	FF-93	5/4/00	SEDIMENT	Channel Sed ment	KAL218	12 - 24	MS/MSD	110000	4.1 U	39	4.1 U	3.0 J	4.1 U	42 J
K53474	FF-93	5/4/00	SEDIMENT	Channel Sed ment	KAL219	12 - 24	DUP(K53473)	100000	3.8 U	30	3.8 U	3.2 J	3.8 U	33 J
K53478	FF-96	5/4/00	SEDIMENT	Channel Sed ment	KAL219	0 - 2		54000	0.093 U	0.24	0.29	0.29	0.057 J	0.88 J
K53479	FF-96	5/4/00	SEDIMENT	Channel Sed ment	KAL219	2 - 6		8300	0.060 U	0.060 U	0.56	0.16	0.071	0.79

(See notes on page 12)

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
PCB ANALYSIS RESULTS[1]

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	SDG Number	Depth Increment (in.)	QC Performed	Total Organic Carbon (mg/kg)	Aroclor 1232 (mg/kg)	Aroclor 1242 (mg/kg)	Aroclor 1248 (mg/kg)	Aroclor 1254 (mg/kg)	Aroclor 1260 (mg/kg)	Total PCB (mg/kg)
K53480	FF-96	5/4/00	SEDIMENT	Channel Sediment	KAL219	6 - 12	MS/MSD	36000	0.15 U	1.2	1.5	0.82	0.15 J	3.5
K53481	FF-96	5/4/00	SEDIMENT	Channel Sediment	KAL219	12 - 24		2000	0.19 U	1.3	0.95	0.31	0.19 J	2.6
K53482	FF-96	5/4/00	SEDIMENT	Channel Sediment	KAL219	12 - 24	DUP(K53481)	1300	0.13 U	0.71	0.82	0.18	0.13 J	1.7
K53768	FF-97	7/7/00	SEDIMENT	Channel Sediment	KAL259	0 - 2		80000	0.13 U	1.8	0.13 U	0.57	0.13 U	2.4
K53769	FF-97	7/7/00	SEDIMENT	Channel Sediment	KAL259	2 - 6		82000	0.13 U	1.7	0.13 U	0.58	0.13 U	2.3
K53770	FF-97	7/7/00	SEDIMENT	Channel Sediment	KAL259	6 - 12		86000	0.26 U	2.1	0.26 U	0.57	0.26 U	2.7
K53771	FF-97	7/7/00	SEDIMENT	Channel Sediment	KAL259	12 - 18		7300	0.067 U	0.10	0.084	0.047 J	0.067 U	0.23 J
K53772	FF-97	7/7/00	SEDIMENT	Channel Sediment	KAL259	18 - 24	MS/MSD	28000	0.072 U	0.11	0.15	0.10	0.072 U	0.36
K53773	FF-97	7/7/00	SEDIMENT	Channel Sediment	KAL259	24 - 33		24000	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U	0.072 U
K53774	FF-97	7/7/00	SEDIMENT	Channel Sediment	KAL259	24 - 33	DUP(K53773)	13000	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U
K53377	FF-99	5/3/00	SEDIMENT	Channel Sediment	KAL219	0 - 2		26000	0.18 U	2.7	0.18 U	0.82	0.18 U	3.5
K53378	FF-99	5/3/00	SEDIMENT	Channel Sediment	KAL219	2 - 6		81000	0.26 U	3.2	0.26 U	1.1	0.26 U	4.3
K53379	FF-99	5/3/00	SEDIMENT	Channel Sediment	KAL219	6 - 12		79000	7.1 U	50	7.1 U	3.6 J	7.1 U	54 J
K53380	FF-99	5/3/00	SEDIMENT	Channel Sediment	KAL219	12 - 24		71000	0.34 U	3.9	0.34 U	0.34 U	0.52	4.4
K53381	FF-100	5/3/00	SEDIMENT	Channel Sediment	KAL216	0 - 2		110000	0.12 U	1.8	0.12 U	0.65	0.12 U	2.5
K53382	FF-100	5/3/00	SEDIMENT	Channel Sediment	KAL216	2 - 6		100000	0.12 U	1.8	0.12 U	0.54	0.11 J	2.5 J
K53383	FF-100	5/3/00	SEDIMENT	Channel Sediment	KAL216	6 - 12		110000	0.64 U	8.7	0.64 U	1.4	0.64 U	10
K53384	FF-100	5/3/00	SEDIMENT	Channel Sediment	KAL216	12 - 24		71000	5.7 U	37	5.7 U	5.0 J	5.7 U	42 J
K53667	FF-101	6/13/00	SEDIMENT	Channel Sediment	KAL254	0 - 2		91000	0.12 U	1.2	0.24	0.42	0.095 J	2.0 J
K53668	FF-101	6/13/00	SEDIMENT	Channel Sediment	KAL254	2 - 6		77000	0.12 U	1.2	0.24	0.40	0.086 J	1.9 J
K53669	FF-101	6/13/00	SEDIMENT	Channel Sediment	KAL254	6 - 17		82000	0.18 U	2.2	0.18 U	0.70	0.18 U	2.9
K53670	FF-101	6/13/00	SEDIMENT	Channel Sediment	KAL254	17 - 19		14000	0.068 U	0.35	0.24	0.16	0.068 U	0.75
K53671	FF-101	6/13/00	SEDIMENT	Channel Sediment	KAL254	19 - 24		42000	0.094 U	0.052 J	0.094 U	0.094 U	0.094 U	0.052 J
K53672	FF-101	6/13/00	SEDIMENT	Channel Sediment	KAL254	19 - 24	DUP(K53671)	46000	0.10 U	0.090 J	0.10 U	0.10 U	0.10 U	0.090 J
K53673	FF-102	6/13/00	SEDIMENT	Channel Sediment	KAL254	0 - 2		84000	0.11 U	0.61	0.55	0.40	0.070 J	1.6 J
K53674	FF-102	6/13/00	SEDIMENT	Channel Sediment	KAL254	2 - 6		69000	0.10 UJ	0.61 J	0.55 J	0.36 J	0.060 J	1.6 J
K53675	FF-102	6/13/00	SEDIMENT	Channel Sediment	KAL254	6 - 12		53000	0.83 U	4.9	0.83 U	0.87	0.83 U	5.8
K53676	FF-102	6/13/00	SEDIMENT	Channel Sediment	KAL254	12 - 18	MS/MSD	73000	11 U	54	11 U	5.5 J	11 U	60 J
K53677	FF-102	6/13/00	SEDIMENT	Channel Sediment	KAL255	18 - 24		3900	0.55 U	3.2 JN	0.55 U	0.55 U	0.55 U	3.2 J
K53678	FF-103	6/13/00	SEDIMENT	Channel Sediment	KAL255	0 - 2		82000	0.12 U	0.72	0.69	0.48	0.091 J	2.0 J
K53679	FF-103	6/13/00	SEDIMENT	Channel Sediment	KAL255	2 - 6		83000	0.12 U	0.66	0.70	0.43	0.10 J	1.9 J
K53680	FF-103	6/13/00	SEDIMENT	Channel Sediment	KAL255	6 - 15		76000	0.20 U	1.4	0.20 U	0.39	0.20 U	1.8
K53681	FF-103	6/13/00	SEDIMENT	Channel Sediment	KAL255	15 - 24		18000	0.070 U	0.37	0.36	0.16	0.070 U	0.89
K53682	FF-103	6/13/00	SEDIMENT	Channel Sediment	KAL255	15 - 24	DUP(K53681)	12000	0.077 U	0.20	0.18	0.11	0.077 U	0.49
K53686	FF-104	6/14/00	SEDIMENT	Floodplain	KAL255	0 - 2		90000	0.093 U	0.68	0.17	0.45	0.070 J	1.4 J
K53687	FF-104	6/14/00	SEDIMENT	Floodplain	KAL255	2 - 6		42000	0.25 U	0.25 U	1.9	1.2	0.22 J	3.3 J
K53688	FF-104	6/14/00	SEDIMENT	Floodplain	KAL255	6 - 12	MS/MSD	61000	0.92 U	0.92 U	7.4	2.1	0.59 J	10 J
K53689	FF-104	6/14/00	SEDIMENT	Floodplain	KAL255	12 - 24		22000	0.072 U	0.072 U	0.17	0.039 J	0.072 U	0.21 J
K53754	FF-105	7/7/00	SEDIMENT	Channel Sediment	KAL258	0 - 2		88000	0.22 U	0.58	0.47	0.43	0.22 U	1.5
K53755	FF-105	7/7/00	SEDIMENT	Channel Sediment	KAL258	2 - 6		75000	0.21 U	0.96	0.76	0.67	0.12 J	2.5 J
K53756	FF-105	7/7/00	SEDIMENT	Channel Sediment	KAL258	6 - 12		28000	2.4 U	14	2.4 U	1.4 J	2.4 U	15 J
K53757	FF-105	7/7/00	SEDIMENT	Channel Sediment	KAL258	12 - 21	MS/MSD	18000	0.070 U	0.038 J	0.070 U	0.070 U	0.070 U	0.038 J

(See notes on page 12.)

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
PCB ANALYSIS RESULTS[1]

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	SDG Number	Depth Increment (in.)	QC Performed	Total Organic Carbon (mg/kg)	Aroclor 1232 (mg/kg)	Aroclor 1242 (mg/kg)	Aroclor 1248 (mg/kg)	Aroclor 1254 (mg/kg)	Aroclor 1260 (mg/kg)	Total PCB (mg/kg)
K53758	FF-105	7/7/00	SEDIMENT	Channel Sediment	KAL258	21 - 36		15000	0.069 U	0.083	0.069 U	0.069 U	0.069 U	0.083
K53385	FF-106	5/3/00	SEDIMENT	Channel Sediment	KAL216	0 - 2		82000	0.13 U	1.1	0.13 U	0.34	0.13 U	1.4
K53386	FF-106	5/3/00	SEDIMENT	Channel Sediment	KAL216	2 - 6		94000	0.43 U	5.1	0.43 U	1.1	0.43 U	6.2
K53387	FF-106	5/3/00	SEDIMENT	Channel Sediment	KAL216	6 - 12		87000	1.5 U	16	1.5 U	2.4	1.5 U	18
K53388	FF-106	5/3/00	SEDIMENT	Channel Sediment	KAL216	12 - 24		65000	1.2 UJ	5.1 J	1.2 UJ	0.74 J	1.2 UJ	5.8 J
K53475	FF-107	5/4/00	SEDIMENT	Channel Sediment	KAL219	0 - 2		110000	3.4 U	20	4.9	2.1 J	3.4 U	27 J
K53476	FF-107	5/4/00	SEDIMENT	Channel Sediment	KAL219	2 - 6		110000	3.8 U	27	3.8 U	4.3	3.8 U	31
K53477	FF-107	5/4/00	SEDIMENT	Channel Sediment	KAL219	6 - 13		100000	2.9 U	22	2.9 U	3.4	2.9 U	25
K53389	FF-108	5/3/00	SEDIMENT	Channel Sediment	KAL216	0 - 2		24000	0.096 U	1.1	0.096 U	0.17	0.096 U	1.3
K53390	FF-108	5/3/00	SEDIMENT	Channel Sediment	KAL216	2 - 6		19000	0.87 U	6.8	0.87 U	0.95	0.87 U	7.8
K53391	FF-108	5/3/00	SEDIMENT	Channel Sediment	KAL216	6 - 12		21000	0.75 U	0.75 U	2.4 JN	0.75 U	0.75 U	2.4 J
K53392	FF-108	5/3/00	SEDIMENT	Channel Sediment	KAL216	12 - 24		47000	0.081 U	0.081 U	0.081 U	0.081 U	0.081 U	0.081 U
K53393	FF-108	5/3/00	SEDIMENT	Channel Sediment	KAL216	12 - 24	DUP(K53392)	37000	0.081 U	0.049 J	0.081 U	0.081 U	0.081 U	0.049 J
K53394	FF-109	5/3/00	SEDIMENT	Channel Sediment	KAL216	0 - 2		95000	0.23 U	1.7	0.23 U	0.40	0.23 U	2.1
K53395	FF-109	5/3/00	SEDIMENT	Channel Sediment	KAL216	2 - 6		77000	0.33 U	3.3	0.33 U	0.67	0.33 U	4.0
K53396	FF-109	5/3/00	SEDIMENT	Channel Sediment	KAL216	6 - 12		96000	2.3 U	18	2.3 U	3.6	2.3 U	22
K53397	FF-109	5/3/00	SEDIMENT	Channel Sediment	KAL216	12 - 24		62000	3.4 U	32	3.4 U	5.1	3.4 U	37
K53398	FF-109	5/3/00	SEDIMENT	Channel Sediment	KAL216	12 - 24	DUP(K53397)	71000	5.5 U	47	5.5 U	6.4	5.5 U	53
K53748	FF-110	7/7/00	SEDIMENT	Channel Sediment	KAL258	0 - 2		64000	0.31 U	2.5	0.31 U	0.48	0.31 U	3.0
K53749	FF-110	7/7/00	SEDIMENT	Channel Sediment	KAL258	2 - 6		61000	0.40 U	2.9	0.40 U	0.66	0.40 U	3.6
K53750	FF-110	7/7/00	SEDIMENT	Channel Sediment	KAL258	6 - 12		80000	0.77 U	7.7	0.77 U	1.4	0.77 U	9.1
K53751	FF-110	7/7/00	SEDIMENT	Channel Sediment	KAL258	12 - 24		67000	7.1 U	53	7.1 U	7.6	7.1 U	61
K53752	FF-110	7/7/00	SEDIMENT	Channel Sediment	KAL258	24 - 36		41000	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U
K53753	FF-110	7/7/00	SEDIMENT	Channel Sediment	KAL258	24 - 36	DUP(K53752)	54000	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K53742	FF-111	7/7/00	SEDIMENT	Channel Sediment	KAL257	0 - 2		95000	0.26 U	2.0	0.26 U	0.63	0.26 U	2.6
K53743	FF-111	7/7/00	SEDIMENT	Channel Sediment	KAL257	2 - 6		100000	0.27 U	2.6	0.27 U	0.71	0.27 U	3.3
K53744	FF-111	7/7/00	SEDIMENT	Channel Sediment	KAL257	6 - 12		100000	0.78 U	11	0.78 U	2.1	0.78 U	13
K53745	FF-111	7/7/00	SEDIMENT	Channel Sediment	KAL258	12 - 24		77000	3.0 U	19	3.0 U	4.2	3.0 U	23
K53746	FF-111	7/7/00	SEDIMENT	Channel Sediment	KAL258	24 - 36		93000	2.8 U	22	2.8 U	1.5 J	2.8 U	24 J
K53747	FF-111	7/7/00	SEDIMENT	Channel Sediment	KAL258	24 - 36	DUP(K53746)	60000	3.5 U	32	3.5 U	2.1 J	3.5 U	34 J
K53737	FF-112	7/7/00	SEDIMENT	Channel Sediment	KAL257	0 - 2		81000	0.34 U	2.0	0.34 U	0.69	0.34 U	2.7
K53738	FF-112	7/7/00	SEDIMENT	Channel Sediment	KAL257	2 - 6		75000	0.34 U	1.9	0.34 U	0.67	0.34 U	2.6
K53739	FF-112	7/7/00	SEDIMENT	Channel Sediment	KAL257	6 - 12		73000	0.50 U	1.9	1.1	0.90	0.50 U	3.9
K53740	FF-112	7/7/00	SEDIMENT	Channel Sediment	KAL257	12 - 24		98000	0.88 U	11	0.88 U	1.7	0.88 U	13
K53741	FF-112	7/7/00	SEDIMENT	Channel Sediment	KAL257	24 - 36		78000	1.7 U	13	1.7 U	4.7	1.7 U	18
K53733	FF-113	7/7/00	SEDIMENT	Channel Sediment	KAL257	0 - 2		120000	0.34 U	0.73	0.41	0.39	0.34 U	1.5
K53734	FF-113	7/7/00	SEDIMENT	Channel Sediment	KAL257	2 - 8		100000	0.12 U	0.17	0.11 J	0.085 J	0.12 U	0.37 J
K53735	FF-113	7/7/00	SEDIMENT	Channel Sediment	KAL257	8 - 12		2700	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K53736	FF-113	7/7/00	SEDIMENT	Channel Sediment	KAL257	12 - 24		10000	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K53759	FF-114	7/7/00	SEDIMENT	Channel Sediment	KAL258	0 - 2		59000	0.12 U	1.2	0.12 U	0.35	0.12 U	1.6
K53760	FF-114	7/7/00	SEDIMENT	Channel Sediment	KAL258	2 - 6		71000	0.25 U	2.2	0.25 U	0.56	0.25 U	2.8
K53761	FF-114	7/7/00	SEDIMENT	Channel Sediment	KAL258	6 - 12		88000	0.66 U	7.7	0.66 U	1.3	0.66 U	9.0

(See notes on page 12)

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
PCB ANALYSIS RESULTS[1]

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	SDG Number	Depth Increment (in.)	QC Performed	Total Organic Carbon (mg/kg)	Aroclor 1232 (mg/kg)	Aroclor 1242 (mg/kg)	Aroclor 1248 (mg/kg)	Aroclor 1254 (mg/kg)	Aroclor 1260 (mg/kg)	Total PCB (mg/kg)
K53762	FF-114	7/7/00	SEDIMENT	Channel Sediment	KAL258	12 - 24		330000	0.29 U	0.15 J	0.29 U	0.29 U	0.29 U	0.15 J
K53763	FF-114	7/7/00	SEDIMENT	Channel Sediment	KAL258	24 - 36		420000	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
K53764	FF-114	7/7/00	SEDIMENT	Channel Sediment	KAL258	12 - 24	DUP(K53762)	300000	0.24 U	0.69	0.24 U	0.21 J	0.24 U	0.90 J
K53621	FF-115	6/6/00	SEDIMENT	Channel Sediment	KAL250	0 - 2		3200	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U	0.051 U
K53622	FF-115	6/6/00	SEDIMENT	Channel Sediment	KAL250	2 - 6		3100	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K53623	FF-115	6/6/00	SEDIMENT	Channel Sediment	KAL250	6 - 12		4100	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K53624	FF-115	6/6/00	SEDIMENT	Channel Sediment	KAL250	12 - 24		2400	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K10645	FF-1	6/1/00	SOIL	Point Source and Waste Disposal	KAL246	0 - 6		82000	0.12 U	0.44	0.12 U	0.33	0.16	0.93
K10646	FF-1	6/1/00	SOIL	Point Source and Waste Disposal	KAL246	6 - 14		130000	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
K10647	FF-1	6/1/00	SOIL	Point Source and Waste Disposal	KAL246	14 - 18		24000	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U
K10648	FF-1	6/1/00	SOIL	Point Source and Waste Disposal	KAL246	18 - 24		14000	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K10649	FF-1	6/1/00	SOIL	Point Source and Waste Disposal	KAL246	18 - 24	DUP(K10648)	11000	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K10650	FF-2	6/1/00	SOIL	Point Source and Waste Disposal	KAL246	0 - 8		69000	0.089 U	0.089 U	0.089 U	0.22	0.047 J	0.27 J
K10651	FF-2	6/1/00	SOIL	Point Source and Waste Disposal	KAL246	8 - 12		44000	0.085 U	0.085 U	0.085 U	0.085 U	0.085 J	0.085 U
K10652	FF-2	6/1/00	SOIL	Point Source and Waste Disposal	KAL246	12 - 22		27000	0.075 U	0.075 U	0.075 U	0.075 U	0.075 J	0.075 U
K10653	FF-2	6/1/00	SOIL	Point Source and Waste Disposal	KAL246	12 - 22	DUP(K10652)	24000	0.076 U	0.076 U	0.076 U	0.076 U	0.076 J	0.076 U
K10642	FF-3	6/1/00	SOIL	Point Source and Waste Disposal	KAL246	0 - 6		71000	0.11 U	0.11 U	0.11 U	0.15 JN	0.11 U	0.15 J
K10643	FF-3	6/1/00	SOIL	Point Source and Waste Disposal	KAL246	6 - 12		160000	150	74	17 U	17 U	17 U	220
K10644	FF-3	6/1/00	SOIL	Point Source and Waste Disposal	KAL246	12 - 24		10000	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
K10672	FF-10	6/1/00	SOIL	Kalamazoo Island	KAL247	0 - 6		18000	0.059 U	0.059 U	0.059 U	0.072	0.059 U	0.072
K10673	FF-10	6/1/00	SOIL	Kalamazoo Island	KAL247	6 - 16		6200	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K10674	FF-10	6/1/00	SOIL	Kalamazoo Island	KAL247	16 - 24		110 UJ	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K10675	FF-10	6/1/00	SOIL	Kalamazoo Island	KAL247	16 - 24	DUP(K10674)	1000 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K10662	FF-11	6/1/00	SOIL	Kalamazoo Island	KAL247	0 - 6		28000	0.072 U	0.072 U	0.072 U	0.46	0.13	0.59
K10663	FF-11	6/1/00	SOIL	Kalamazoo Island	KAL247	6 - 15		37000	0.074 U	0.074 U	0.074 U	0.24	0.056 J	0.30 J
K10664	FF-11	6/1/00	SOIL	Kalamazoo Island	KAL247	15 - 24		500 J	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K10669	FF-12	6/1/00	SOIL	Floodplain	KAL247	0 - 6		62000	0.074 U	0.074 U	0.074 U	0.90	0.071 J	0.97 J
K10670	FF-12	6/1/00	SOIL	Floodplain	KAL247	6 - 12		43000	0.072 U	0.072 U	0.072 U	0.64	0.045 J	0.69 J
K10671	FF-12	6/1/00	SOIL	Floodplain	KAL247	12 - 24		7200	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
K10654	FF-21	6/1/00	SOIL	Floodplain	KAL246	0 - 6		18000	0.069 U	0.15	0.069 U	0.34	0.069 J	0.56 J
K10655	FF-21	6/1/00	SOIL	Floodplain	KAL246	6 - 12		14000	0.063 U	0.063 U	0.063 U	0.064	0.037 J	0.10 J
K10656	FF-21	6/1/00	SOIL	Floodplain	KAL246	12 - 15		5500	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U	0.064 U
K10657	FF-21	6/1/00	SOIL	Floodplain	KAL246	15 - 24		34000	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U
K10658	FF-21	6/1/00	SOIL	Floodplain	KAL247	15 - 24	DUP(K10657)	31000	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U
K10820	FF-22	7/7/00	SOIL	Floodplain	KAL256	0 - 6		140000 J	0.14 U	0.14 U	0.10 J	0.37	0.14 U	0.47 J
K10821	FF-22	7/7/00	SOIL	Floodplain	KAL256	6 - 12		27000 J	0.073 U	0.073 U	0.073 U	0.043 J	0.073 U	0.043 J
K10659	FF-26	6/1/00	SOIL	Kalamazoo Island	KAL247	0 - 6		64000	0.094 UJ	0.094 UJ	0.094 UJ	0.094 UJ	0.094 UJ	0.094 UJ
K10660	FF-26	6/1/00	SOIL	Kalamazoo Island	KAL247	6 - 14		44000	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U	0.088 U
K10661	FF-26	6/1/00	SOIL	Kalamazoo Island	KAL247	14 - 23	MS/MSD	9600	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U
K10846	FF-27	7/19/00	SOIL	Floodplain	KAL261	0 - 6		15000	0.12 U	0.12 U	0.49	0.58	0.25	1.3
K10847	FF-27	7/19/00	SOIL	Floodplain	KAL261	6 - 12		55000	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
K10848	FF-27	7/19/00	SOIL	Floodplain	KAL261	12 - 23		29000	0.080 U	0.080 U	0.080 U	0.080 U	0.080 U	0.080 U

(See notes on page 12.)

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
PCB ANALYSIS RESULTS[1]

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	SDG Number	Depth Increment (in.)	QC Performed	Total Organic Carbon (mg/kg)	Aroclor 1232 (mg/kg)	Aroclor 1242 (mg/kg)	Aroclor 1248 (mg/kg)	Aroclor 1254 (mg/kg)	Aroclor 1260 (mg/kg)	Total PCB (mg/kg)
K10822	FF-30	7/7/00	SOIL	Floodplain	KAL256	0 - 6		120000 J	0.31 U	0.31 U	0.31 U	1.2	0.23 J	1.4 J
K10823	FF-30	7/7/00	SOIL	Floodplain	KAL256	6 - 12		90000 J	0.17 U	0.17 U	0.17 U	0.46	0.12 J	0.58 J
K10824	FF-30	7/7/00	SOIL	Floodplain	KAL257	12 - 23		13000	0.074 U	0.074 U	0.074 UJ	0.074 U	0.074 U	0.074 UJ
K10631	FF-31	5/22/00	SOIL	Floodplain	KAL245	0 - 6		77000 J	0.098 U	0.098 U	0.098 U	0.16	0.053 J	0.21 J
K10632	FF-31	5/22/00	SOIL	Floodplain	KAL245	6 - 12		27000 J	0.080 U	0.080 U	0.080 U	0.047 J	0.080 U	0.047 J
K10633	FF-31	5/22/00	SOIL	Floodplain	KAL245	12 - 24		13000 J	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U
K10634	FF-31	5/22/00	SOIL	Floodplain	KAL245	12 - 24	DUP(K10633)	15000 J	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U	0.074 U
K10635	FF-32	5/22/00	SOIL	Kalamazoo Island	KAL245	0 - 6		73000 J	0.18 U	0.79	0.18 U	1.2	0.22	2.2
K10636	FF-32	5/22/00	SOIL	Kalamazoo Island	KAL245	6 - 12		35000 J	0.15 U	0.15 U	0.70	0.45	0.17	1.3
K10637	FF-32	5/22/00	SOIL	Kalamazoo Island	KAL245	12 - 24	MS/MSD	22000 J	0.079 U	0.079 U	0.076 J	0.055 J	0.079 U	0.13 J
K10679	FF-36	6/1/00	SOIL	Floodplain	KAL248	0 - 6		67000 J	0.082 U	0.40	0.082 U	0.83	0.17	1.4
K10680	FF-36	6/1/00	SOIL	Floodplain	KAL248	6 - 12		54000 J	0.088 U	0.088 U	0.15	0.19	0.062 J	0.40 J
K10681	FF-36	6/1/00	SOIL	Floodplain	KAL248	12 - 24		18000 J	0.074 U	0.074 U	0.045 J	0.051 J	0.074 U	0.096 J
K10676	FF-37	6/1/00	SOIL	Floodplain	KAL247	0 - 6		100000	0.31 U	0.31 U	2.6	1.9	0.58	5.1
K10677	FF-37	6/1/00	SOIL	Floodplain	KAL247	6 - 12		44000	0.094 U	0.094 U	0.87	0.64	0.18	1.7
K10678	FF-37	6/1/00	SOIL	Floodplain	KAL248	12 - 24	MS/MSD	43000 J	0.10 U	0.10 U	0.48	0.38	0.10	0.96
K10828	FF-38	7/7/00	SOIL	Floodplain	KAL257	0 - 6		100000	0.35 U	0.35 U	0.37 J	0.88	0.25 J	1.5 J
K10829	FF-38	7/7/00	SOIL	Floodplain	KAL257	6 - 12	MS/MSD	98000	0.21 U	0.21 U	0.21 UJ	0.59	0.21 U	0.59 J
K10830	FF-38	7/7/00	SOIL	Floodplain	KAL257	12 - 24		22000	0.081 U	0.081 U	0.081 U	0.081 U	0.081 U	0.081 U
K10831	FF-38	7/7/00	SOIL	Floodplain	KAL257	12 - 24	DUP(K10830)	22000	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
K10870	FF-39	7/21/00	SOIL	Floodplain	KAL263	0 - 6		62000 J	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
K10871	FF-39	7/21/00	SOIL	Floodplain	KAL263	6 - 15		13000 J	0.071 U	0.071 U	0.071 U	0.071 U	0.071 J	0.071 U
K10872	FF-39	7/21/00	SOIL	Floodplain	KAL263	15 - 20		52000 J	0.091 U	0.091 U	0.091 U	0.091 U	0.091 J	0.091 U
K10665	FF-40	6/1/00	SOIL	Kalamazoo Island	KAL247	0 - 6		85000	0.48 U	0.48 U	3.1	2.1	0.59	5.8
K10666	FF-40	6/1/00	SOIL	Kalamazoo Island	KAL247	6 - 12		81000	0.45 U	0.45 U	3.2	2.2	0.46	5.9
K10667	FF-40	6/1/00	SOIL	Kalamazoo Island	KAL247	12 - 24		9800	0.070 U	0.070 U	0.094	0.079	0.070 J	0.17
K10668	FF-40	6/1/00	SOIL	Kalamazoo Island	KAL247	12 - 24	DUP(K10667)	7700	0.065 U	0.065 U	0.15	0.15	0.065 U	0.30
K10839	FF-41	7/12/00	SOIL	Floodplain	KAL260	0 - 9		23000 J	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U	0.069 U
K10840	FF-41	7/12/00	SOIL	Floodplain	KAL260	9 - 12		3900 J	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K10841	FF-41	7/12/00	SOIL	Floodplain	KAL260	12 - 24		3700 J	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U
K10842	FF-41	7/12/00	SOIL	Floodplain	KAL260	12 - 24	DUP(K10841)	2200 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K10867	FF-42	7/21/00	SOIL	Floodplain	KAL263	0 - 6		45000 J	0.35 U	0.35 U	1.1	1.3	0.30 J	2.7 J
K10868	FF-42	7/21/00	SOIL	Floodplain	KAL263	6 - 12		2600 J	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K10869	FF-42	7/21/00	SOIL	Floodplain	KAL263	12 - 25		2900 J	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K10682	FF-43	6/1/00	SOIL	Floodplain	KAL248	0 - 6		69000 J	0.096 U	0.096 U	0.096 U	1.3	0.18	1.5
K10683	FF-43	6/1/00	SOIL	Floodplain	KAL248	6 - 12		34000 J	0.085 U	0.085 U	0.085 U	0.13	0.085 U	0.13
K10684	FF-43	6/1/00	SOIL	Floodplain	KAL248	12 - 24		12000 J	0.076 U	0.076 U	0.076 U	0.039 J	0.076 U	0.039 J
K10576	FF-44	5/12/00	SOIL	Kalamazoo Island	KAL241	0 - 6		140000	0.51 U	0.51 U	2.9	3.2	0.86	7.0
K10577	FF-44	5/12/00	SOIL	Kalamazoo Island	KAL241	6 - 12		71000	0.20 U	0.20 U	0.55	0.74	0.18 J	1.5 J
K10578	FF-44	5/12/00	SOIL	Kalamazoo Island	KAL241	12 - 24		35000	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U	0.084 U
K10583	FF-45	5/12/00	SOIL	Floodplain	KAL242	0 - 6		76000	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K10584	FF-45	5/12/00	SOIL	Floodplain	KAL242	6 - 12		67000	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U

(See notes on page 12)

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
PCB ANALYSIS RESULTS[1]

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	SDG Number	Depth Increment (in.)	QC Performed	Total Organic Carbon (mg/kg)	Aroclor 1232 (mg/kg)	Aroclor 1242 (mg/kg)	Aroclor 1248 (mg/kg)	Aroclor 1254 (mg/kg)	Aroclor 1260 (mg/kg)	Total PCB (mg/kg)
K10585	FF-45	5/12/00	SOIL	Floodplain	KAL242	12 - 24	MS/MSD	76000 J	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
K10876	FF-47	8/4/00	SOIL	Kalamazoo Island	KAL263	0 - 6		66000 J	0.85 U	0.85 U	3.4	1.9	0.55 J	5.9 J
K10877	FF-47	8/4/00	SOIL	Kalamazoo Island	KAL263	6 - 12		24000 J	0.060 U	0.060 U	0.16	0.11	0.033 J	0.30 J
K10843	FF-48	7/12/00	SOIL	Floodplain	KAL260	0 - 6		110000 J	1.4 U	1.4 U	10	3.7	0.84 J	15 J
K10844	FF-48	7/12/00	SOIL	Floodplain	KAL260	6 - 12		70000 J	0.23 U	0.23 U	1.7	0.37	0.20 J	2.3 J
K10845	FF-48	7/12/00	SOIL	Floodplain	KAL260	12 - 24		49000 J	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U
K10741	FF-49	6/7/00	SOIL	Kalamazoo Island	KAL252	0 - 6		50000	0.056 U	0.056 U	0.17	0.16	0.039 J	0.37 J
K10742	FF-49	6/7/00	SOIL	Kalamazoo Island	KAL252	6 - 16		50000	0.066 U	0.066 U	0.20	0.23	0.26	0.69
K10743	FF-49	6/7/00	SOIL	Kalamazoo Island	KAL252	16 - 20		4800	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K10744	FF-49	6/7/00	SOIL	Kalamazoo Island	KAL252	20 - 24		21000	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
K10873	FF-50	8/4/00	SOIL	Floodplain	KAL263	0 - 6		4000 J	0.057 U	0.083	0.043 J	0.057 U	0.057 U	0.13 J
K10874	FF-50	8/4/00	SOIL	Floodplain	KAL263	6 - 12		6400 J	0.060 U	0.088	0.089	0.12	0.060 U	0.30
K10875	FF-50	8/4/00	SOIL	Floodplain	KAL263	12 - 24		19000 J	1.5 U	16	1.5 U	2.3	1.5 U	18
K10721	FF-51	6/7/00	SOIL	Kalamazoo Island	KAL252	0 - 6		38000	0.22 U	0.22 U	2.0	0.93	0.33	3.3
K10722	FF-51	6/7/00	SOIL	Kalamazoo Island	KAL252	6 - 12		40000	0.30 U	0.30 U	2.7	1.4	0.32	4.4
K10723	FF-51	6/7/00	SOIL	Kalamazoo Island	KAL252	6 - 12	DUP(K10722)	34000	0.29 U	0.29 U	1.8	0.91	0.24 J	3.0 J
K10724	FF-51	6/7/00	SOIL	Kalamazoo Island	KAL252	12 - 24	MS/MSD-PCB/DUP-TOC	20000	0.071 U	0.071 U	0.076	0.071 U	0.071 U	0.076
K10745	FF-52	6/7/00	SOIL	Kalamazoo Island	KAL252	0 - 6		82000	0.76 U	0.76 U	6.5	2.7	0.76 U	9.2
K10746	FF-52	6/7/00	SOIL	Kalamazoo Island	KAL252	6 - 12		83000	1.7 U	1.7 U	11	3.4	1.0 J	15 J
K10747	FF-52	6/7/00	SOIL	Kalamazoo Island	KAL252	12 - 17		31000	0.079 U	0.079 U	0.30	0.31	0.063 J	0.67 J
K10748	FF-53	6/9/00	SOIL	Exposed Sediment	KAL253	0 - 6		92000	1.4 U	7.1	19	2.0	1.2 J	29 J
K10749	FF-53	6/9/00	SOIL	Exposed Sediment	KAL253	6 - 12		91000	3.7 U	3.7 U	45	8.1	3.8	57
K10750	FF-53	6/9/00	SOIL	Exposed Sediment	KAL253	12 - 17	MS/MSD	110000	3.8 U	15	10	27	3.8 U	52
K10751	FF-53	6/9/00	SOIL	Exposed Sediment	KAL253	17 - 20		49000	0.064 U	0.39	0.064 U	0.39	0.064 U	0.78
K10752	FF-53	6/9/00	SOIL	Exposed Sediment	KAL253	6 - 12	DUP(K10749)	95000	3.6 U	26	34	14	3.6 U	74
K10849	FF-54	7/19/00	SOIL	Otsego City Impoundment	KAL261	0 - 6		14000	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K10850	FF-54	7/19/00	SOIL	Otsego City Impoundment	KAL261	6 - 12		6000	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U
K10851	FF-54	7/19/00	SOIL	Otsego City Impoundment	KAL261	12 - 24		1600	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K10767	FF-55	6/13/00	SOIL	Otsego City Impoundment	KAL253	0 - 6		180000	0.45 U	0.45 U	6.2	2.2	0.66	9.1
K10768	FF-55	6/13/00	SOIL	Otsego City Impoundment	KAL254	6 - 12		160000	0.11 U	0.11 U	0.26	0.29	0.22	0.77
K10769	FF-55	6/13/00	SOIL	Otsego City Impoundment	KAL254	12 - 22		81000	0.094 U	0.10 JN	0.094 U	0.094 U	0.094 U	0.10 J
K10777	FF-56	6/14/00	SOIL	Otsego City Impoundment	KAL255	0 - 6		140000	0.86 U	0.86 U	6.2	1.6	0.57 J	8.4 J
K10778	FF-56	6/14/00	SOIL	Otsego City Impoundment	KAL255	6 - 12		140000	3.1 U	13	16	3.7	3.1 U	33
K10779	FF-56	6/14/00	SOIL	Otsego City Impoundment	KAL255	12 - 17		49000	0.092 U	0.092 U	0.16	0.092 U	0.092 U	0.16
K10780	FF-56	6/14/00	SOIL	Otsego City Impoundment	KAL255	17 - 24	MS/MSD	4800	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U	0.066 U
K10758	FF-57	6/13/00	SOIL	Otsego City Impoundment	KAL253	0 - 6		130000	0.33 U	0.33 U	4.4	2.6	0.67	7.7
K10759	FF-57	6/13/00	SOIL	Otsego City Impoundment	KAL253	6 - 12	MS/MSD	150000	0.11 U	0.11 U	1.2	0.45	0.57	2.2
K10760	FF-57	6/13/00	SOIL	Otsego City Impoundment	KAL253	12 - 18		81000	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
K10761	FF-57	6/13/00	SOIL	Otsego City Impoundment	KAL253	18 - 25		9600	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U
K10852	FF-58	7/19/00	SOIL	Otsego City Impoundment	KAL261	0 - 6		16000	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K10853	FF-58	7/19/00	SOIL	Otsego City Impoundment	KAL261	6 - 13	MS/MSD	19000	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U	0.075 U
K10854	FF-58	7/19/00	SOIL	Otsego City Impoundment	KAL261	13 - 23		340000	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U

(See notes on page 12.)

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
PCB ANALYSIS RESULTS[1]

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	SDG Number	Depth Increment (in.)	QC Performed	Total Organic Carbon (mg/kg)	Aroclor 1232 (mg/kg)	Aroclor 1242 (mg/kg)	Aroclor 1248 (mg/kg)	Aroclor 1254 (mg/kg)	Aroclor 1260 (mg/kg)	Total PCB (mg/kg)
K10855	FF-58	7/19/00	SOIL	Otsego City Impoundment	KAL261	13 - 23	DUP(K10854)	120000	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K10863	FF-59	7/19/00	SOIL	Otsego City Impoundment	KAL261	0 - 8		140000	0.12 U	0.12 U	0.21	0.12 U	0.12 U	0.21
K10864	FF-59	7/19/00	SOIL	Otsego City Impoundment	KAL261	8 - 12		9200	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K10865	FF-59	7/19/00	SOIL	Otsego City Impoundment	KAL261	12 - 24		8300	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K10866	FF-59	7/19/00	SOIL	Otsego City Impoundment	KAL262	12 - 24	DUP(K10865)	14000 J	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K10859	FF-60	7/19/00	SOIL	Otsego City Impoundment	KAL261	0 - 6		190000	0.47 U	0.47 U	2.6	1.2	0.33 J	4.1 J
K10860	FF-60	7/19/00	SOIL	Otsego City Impoundment	KAL261	6 - 12		240000	0.23 U	0.19 J	0.23 U	0.23 U	0.23 U	0.19 J
K10861	FF-60	7/19/00	SOIL	Otsego City Impoundment	KAL261	12 - 19		160000	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
K10862	FF-60	7/19/00	SOIL	Otsego City Impoundment	KAL261	19 - 24		6300	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
K10773	FF-61	6/14/00	SOIL	Otsego City Impoundment	KAL255	0 - 6		370000	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
K10774	FF-61	6/14/00	SOIL	Otsego City Impoundment	KAL255	6 - 12		430000	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
K10775	FF-61	6/14/00	SOIL	Otsego City Impoundment	KAL255	12 - 24		480000	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
K10776	FF-61	6/14/00	SOIL	Otsego City Impoundment	KAL255	12 - 24	DUP(K10775)	370000	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
K10856	FF-62	7/19/00	SOIL	Otsego City Impoundment	KAL261	0 - 6		20000	0.071 U	0.071 U	0.065 J	0.044 J	0.071 U	0.11 J
K10857	FF-62	7/19/00	SOIL	Otsego City Impoundment	KAL261	6 - 12		5300	0.064 U	0.054 J	0.064 U	0.033 J	0.064 J	0.087 J
K10858	FF-62	7/19/00	SOIL	Otsego City Impoundment	KAL261	12 - 24		11000	0.066 U	0.31	0.19	0.086	0.066 J	0.59
K10762	FF-63	6/13/00	SOIL	Otsego City Impoundment	KAL253	0 - 6		260000	0.24 U	0.24 U	0.24 U	0.24 J	0.24 U	0.24 U
K10763	FF-63	6/13/00	SOIL	Otsego City Impoundment	KAL253	6 - 12		420000	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
K10764	FF-63	6/13/00	SOIL	Otsego City Impoundment	KAL253	12 - 19		460000	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
K10765	FF-63	6/13/00	SOIL	Otsego City Impoundment	KAL253	19 - 24		78000	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
K10766	FF-63	6/13/00	SOIL	Otsego City Impoundment	KAL253	12 - 19	DUP(K10764)	440000	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
K10573	FF-64	5/12/00	SOIL	Exposed Sediment	KAL241	0 - 6		98000	1.6 U	1.6 U	7.0	3.6	1.6 U	11
K10574	FF-64	5/12/00	SOIL	Exposed Sediment	KAL241	6 - 12		100000	0.89 U	0.89 U	4.0	7.0	0.55 J	12 J
K10575	FF-64	5/12/00	SOIL	Exposed Sediment	KAL241	12 - 24		14000	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U	0.063 U
K10579	FF-65	5/12/00	SOIL	Exposed Sediment	KAL241	0 - 6		97000	0.60 U	0.60 U	1.7	3.5	0.48 J	5.7 J
K10580	FF-65	5/12/00	SOIL	Exposed Sediment	KAL241	6 - 12		100000	0.53 U	0.53 U	2.0	2.9	0.41 J	5.3 J
K10581	FF-65	5/12/00	SOIL	Exposed Sediment	KAL242	12 - 24		49000	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U
K10582	FF-65	5/12/00	SOIL	Exposed Sediment	KAL242	12 - 24	DUP(K10581)	64000	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
K10586	FF-67	5/12/00	SOIL	Exposed Sediment	KAL242	0 - 6		79000	5.7 U	21	27	13	5.7 U	61
K10587	FF-67	5/12/00	SOIL	Exposed Sediment	KAL242	6 - 12		100000	2.2 U	2.2 U	13	9.5	1.2 J	24 J
K10588	FF-67	5/12/00	SOIL	Exposed Sediment	KAL242	12 - 24		140000	0.48 U	2.2	0.48 U	0.83	0.30 J	3.4 J
K10589	FF-67	5/12/00	SOIL	Exposed Sediment	KAL242	12 - 24	DUP(K10588)	150000	0.24 U	0.83	0.69	0.83	0.28	2.7
K10590	FF-68	5/12/00	SOIL	Exposed Sediment	KAL242	0 - 6		150000	0.11 U	0.11 U	0.11 U	0.11 U	0.43	0.43
K10591	FF-68	5/12/00	SOIL	Exposed Sediment	KAL242	6 - 12		130000	0.12 U	0.12 U	0.12 U	0.12 U	0.12	0.12
K10592	FF-68	5/12/00	SOIL	Exposed Sediment	KAL242	12 - 24	MS/MSD	75000	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
K10593	FF-68	5/12/00	SOIL	Exposed Sediment	KAL242	12 - 24	DUP(K10592)	93000	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
K10627	FF-70	5/18/00	SOIL	Exposed Sediment	KAL244	0 - 2		69000	0.82 U	0.82 U	1.8	1.2	0.82 U	3.0
K10628	FF-70	5/18/00	SOIL	Exposed Sediment	KAL244	2 - 6		36000	0.14 U	0.14 U	0.45	0.24	0.087 J	0.78 J
K10629	FF-70	5/18/00	SOIL	Exposed Sediment	KAL244	6 - 12		31000	0.076 U	0.076 U	0.15	0.084	0.076 U	0.23
K10630	FF-70	5/18/00	SOIL	Exposed Sediment	KAL244	12 - 24		16000	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U	0.070 U
K10556	FF-72	5/12/00	SOIL	Exposed Sediment	KAL240	0 - 6		100000	4.4 U	4.4 U	21	9.3	2.6 J	33 J
K10557	FF-72	5/12/00	SOIL	Exposed Sediment	KAL240	6 - 12		93000	2.6 U	2.6 U	12	4.3	2.6 U	16

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TABLE 3

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

REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
PCB ANALYSIS RESULTS[1]

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	SDG Number	Depth Increment (in.)	QC Performed	Total Organic Carbon (mg/kg)	Aroclor 1232 (mg/kg)	Aroclor 1242 (mg/kg)	Aroclor 1248 (mg/kg)	Aroclor 1254 (mg/kg)	Aroclor 1260 (mg/kg)	Total PCB (mg/kg)
K10558	FF-72	5/12/00	SOIL	Exposed Sediment	KAL240	12 - 24		47000	0.15 U	0.15 U	0.56	0.17	0.15 J	0.73
K10559	FF-72	5/12/00	SOIL	Exposed Sediment	KAL240	12 - 24	DUP(K10558)	43000	0.39 U	0.39 U	2.7	0.48	0.22 J	3.4 J
K10549	FF-73	5/12/00	SOIL	Exposed Sediment	KAL240	0 - 6		44000	0.35 U	0.35 U	1.9	0.76	0.35 U	2.7
K10550	FF-73	5/12/00	SOIL	Exposed Sediment	KAL240	6 - 16		39000	0.27 U	0.27 U	0.85	2.2	0.27 U	3.1
K10551	FF-73	5/12/00	SOIL	Exposed Sediment	KAL240	16 - 24		6200 J	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K10564	FF-74	5/12/00	SOIL	Exposed Sediment	KAL241	0 - 6		81000	0.082 U	0.082 U	0.94	0.72	0.094	1.8
K10565	FF-74	5/12/00	SOIL	Exposed Sediment	KAL241	6 - 15		56000	0.46 U	0.46 U	3.0	3.0	0.38 J	6.4 J
K10566	FF-74	5/12/00	SOIL	Exposed Sediment	KAL241	6 - 15	DUP(K10565)	55000	0.36 U	0.36 U	2.6	3.1	0.36 J	6.1 J
K10567	FF-74	5/12/00	SOIL	Exposed Sediment	KAL241	15 - 18		5300	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K10568	FF-74	5/12/00	SOIL	Exposed Sediment	KAL241	18 - 24		26000	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U	0.071 U
K10560	FF-75	5/12/00	SOIL	Exposed Sediment	KAL240	0 - 6		110000	8.5 U	21	47	8.5 U	8.5 U	68
K10561	FF-75	5/12/00	SOIL	Exposed Sediment	KAL241	6 - 12		94000	0.88 U	0.88 U	5.6	9.6	0.72 J	16 J
K10562	FF-75	5/12/00	SOIL	Exposed Sediment	KAL241	12 - 20		82000	0.093 U	0.093 U	0.093 U	0.52	0.22	0.74
K10563	FF-75	5/12/00	SOIL	Exposed Sediment	KAL241	20 - 24		6800	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K10552	FF-76	5/12/00	SOIL	Exposed Sediment	KAL240	0 - 6		100000	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
K10553	FF-76	5/12/00	SOIL	Exposed Sediment	KAL240	6 - 12		90000	2.4 U	2.4 U	24	4.1	2.4 U	28
K10554	FF-76	5/12/00	SOIL	Exposed Sediment	KAL240	12 - 18		120000	0.26 U	2.2	0.26 U	1.0	0.22 J	3.4 J
K10555	FF-76	5/12/00	SOIL	Exposed Sediment	KAL240	18 - 24		63000	14 U	120	14 U	9.4 J	14 U	130 J
K10569	FF-77	5/12/00	SOIL	Exposed Sediment	KAL241	0 - 6		110000	0.27 U	0.27 U	1.4	1.0	0.26 J	2.7 J
K10570	FF-77	5/12/00	SOIL	Exposed Sediment	KAL241	6 - 12	MS/MSD	79000	0.54 U	0.54 U	5.1	2.2	0.56	7.9
K10571	FF-77	5/12/00	SOIL	Exposed Sediment	KAL241	12 - 24		110000	6.8 U	32	7.2	4.6 J	6.8 U	44 J
K10572	FF-77	5/12/00	SOIL	Exposed Sediment	KAL241	12 - 24	DUP(K10571)	120000	0.68 U	6.0	0.68 U	1.2	0.35 J	7.6 J
K10753	FF-82	6/13/00	SOIL	Floodplain	KAL253	0 - 6		64000	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U	0.082 U
K10754	FF-82	6/13/00	SOIL	Floodplain	KAL253	6 - 12		55000	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U
K10755	FF-82	6/13/00	SOIL	Floodplain	KAL253	12 - 20		100000	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
K10756	FF-82	6/13/00	SOIL	Floodplain	KAL253	20 - 26		3800	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U	0.060 U
K10757	FF-82	6/13/00	SOIL	Floodplain	KAL253	20 - 26	DUP(K10756)	3500	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K10770	FF-84	6/13/00	SOIL	Floodplain	KAL254	0 - 6		26000	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U	0.061 U
K10771	FF-84	6/13/00	SOIL	Floodplain	KAL254	6 - 12		13000	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K10772	FF-84	6/13/00	SOIL	Floodplain	KAL254	12 - 21		9300	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K10638	FF-86	6/1/00	SOIL	Floodplain	KAL246	0 - 6		56000	0.081 U	0.74	0.081 U	0.88	0.15	1.8
K10639	FF-86	6/1/00	SOIL	Floodplain	KAL246	6 - 12		17000	0.067 U	0.067 U	0.067 U	0.15	0.053 J	0.20 J
K10640	FF-86	6/1/00	SOIL	Floodplain	KAL246	12 - 17		5100	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U	0.062 U
K10641	FF-86	6/1/00	SOIL	Floodplain	KAL246	17 - 23		46000	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U	0.091 U
K10718	FF-87	6/7/00	SOIL	Floodplain	KAL251	0 - 6		76000 J	0.16 U	0.16 U	0.55	0.85	0.16 J	1.6 J
K10719	FF-87	6/7/00	SOIL	Floodplain	KAL251	6 - 12		25000 J	0.069 U	0.069 U	0.069 U	0.21	0.051 J	0.26 J
K10720	FF-87	6/7/00	SOIL	Floodplain	KAL251	12 - 24		10000 J	0.065 U	0.065 U	0.065 U	0.065 J	0.065 U	0.065 U
K10733	FF-88	6/7/00	SOIL	Floodplain	KAL251	0 - 6		140000 J	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
K10734	FF-88	6/7/00	SOIL	Floodplain	KAL251	6 - 12		160000 J	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
K10735	FF-88	6/7/00	SOIL	Floodplain	KAL251	12 - 19		150000 J	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
K10736	FF-88	6/7/00	SOIL	Floodplain	KAL251	19 - 24		3000 J	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U
K10729	FF-89	6/7/00	SOIL	Floodplain	KAL251	0 - 6		30000 J	0.065 U	0.065 U	0.065 U	0.068	0.065 U	0.068

(See notes on page 12.)

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
2000 FOCUSED SEDIMENT AND SOIL
PCB ANALYSIS RESULTS[1]

Sample ID	BBL ID	Sample Date	Sample Matrix	Sample Sub-classification	SDG Number	Depth Increment (in.)	QC Performed	Total Organic Carbon (mg/kg)	Aroclor 1232 (mg/kg)	Aroclor 1242 (mg/kg)	Aroclor 1248 (mg/kg)	Aroclor 1254 (mg/kg)	Aroclor 1260 (mg/kg)	Total PCB (mg/kg)
K10730	FF-89	6/7/00	SOIL	Floodplain	KAL251	6 - 12		1400 J	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U
K10731	FF-89	6/7/00	SOIL	Floodplain	KAL251	12 - 24		2100 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K10732	FF-89	6/7/00	SOIL	Floodplain	KAL251	12 - 24	DUP(K10731)	310 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K10737	FF-90	6/7/00	SOIL	Floodplain	KAL252	0 - 6		25000	0.064 U	0.064 U	0.064 U	0.033 J	0.064 U	0.033 J
K10738	FF-90	6/7/00	SOIL	Floodplain	KAL252	6 - 12		11000	0.058 U	0.058 U	0.058 U	0.053 U	0.058 U	0.058 U
K10739	FF-90	6/7/00	SOIL	Floodplain	KAL252	12 - 24	MS/MSD	950	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K10740	FF-90	6/7/00	SOIL	Floodplain	KAL252	12 - 24	DUP(K10739)	600	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U
K10725	FF-91	6/7/00	SOIL	Floodplain	KAL251	0 - 6		240000 J	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
K10726	FF-91	6/7/00	SOIL	Floodplain	KAL251	6 - 12		280000 J	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
K10727	FF-91	6/7/00	SOIL	Floodplain	KAL251	12 - 14		13000 J	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U
K10728	FF-91	6/7/00	SOIL	Floodplain	KAL251	14 - 24		4700 J	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
K10835	FF-94	7/12/00	SOIL	Floodplain	KAL260	0 - 6		130000 J	0.17 U	0.17 U	1.2	0.77	0.19	2.2
K10836	FF-94	7/12/00	SOIL	Floodplain	KAL260	6 - 12		140000 J	0.70 U	0.70 U	3.9	1.8	0.41 J	6.1 J
K10837	FF-94	7/12/00	SOIL	Floodplain	KAL260	12 - 20		37000 J	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U	0.087 U
K10838	FF-94	7/12/00	SOIL	Floodplain	KAL260	20 - 24		16000 J	0.073 U	0.073 U	0.073 U	0.073 U	0.073 U	0.073 U
K10832	FF-95	7/12/00	SOIL	Floodplain	KAL260	0 - 6		13000 J	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
K10833	FF-95	7/12/00	SOIL	Floodplain	KAL260	6 - 12		6400 J	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U	0.057 U
K10834	FF-95	7/12/00	SOIL	Floodplain	KAL260	12 - 24		2400 J	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U
K10825	FF-98	7/7/00	SOIL	Floodplain	KAL257	0 - 6		2300	0.061 U	0.061 U	0.061 UJ	0.061 U	0.061 U	0.061 UJ
K10826	FF-98	7/7/00	SOIL	Floodplain	KAL257	6 - 12		12000	0.075 U	0.075 U	0.075 UJ	0.075 U	0.075 U	0.075 UJ
K10827	FF-98	7/7/00	SOIL	Floodplain	KAL257	12 - 24		29000	0.39 U	2.2	0.39 UJ	0.30 J	0.39 U	2.5 J

Notes:

1. Showing only those coumpounds present above the quantitation limit.
* Results for samples collected from core location FF-09 on 6/6/00 and FF-69 on 5/4/00 are presented for completeness, however are not included in data analyses. The core collected at FF-9 was inadvertently collected twice (i.e., FF-09); and due to poor recovery, core location FF-69 was resampled on 5/11/00.

Notes Explaining Data Qualifiers:

J - The coumpound/analyte was positively identified; however the associated numerical value is an estimated concentration only.
JN - The analysis indicates the presence of a coumpound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
U - The coumpound was analyzed for but not detected. The associated value is the coumpound quantitation limit.
UJ - The compound was not detected above the sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

(See notes on page 12.)

Attachment

Attachment 1

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Field Documentation

Projects (continued)

04/27/00 BTL/DEG - BBL LK - CDM/MDEQ
LOCATION: FF 109
DESCRIPTION: cove in river
WATER DEPTH: 2.9
SED PEN: 43
SED REC: 3.4
TIME: 1015

4/27/00
Location - FF 107
Description: Backwater surrounded
By cattails
Water Depth = 1.1
Sed Pen - 4.0/3.5
Sed Rec: 1.1
Sed Depth: 4.0
Time: 1045

4/27/00
Location: FF 106
Description: Lilly pads
Water Depth: 1.5
Sed Pen: 3.8
Sed Depth: ~~4.0~~ 10+
Sed Rec: 2.9
Time: 1100

4/27/00
Location: FF-100
Description: Mud Flat
Water Depth: 0.0
Sed Pe- 6.5
Sed Depth: 10+
Sed Rec: 4.1
Time: 1350

4/27/00
Location FF-99
Description: Above bay park
Water Depth 1.4
Sed Rec 6.1
Sed Depth 10+
Sed Rec 3.8
Time: 1415

4/27/00

Location = FF96

Description = Brushy island

Water depth: 0.0

Sed Pen: 4.5

Sed depth: 6.0

Sed Rec: 3.6

Time 1440

4/27/00

LOCATION = FF-93

DESCRIPTION = COVE OFF THE MAIN RIVER CHANNEL

WATER DEPTH = 1.6'

SED. PEN = 5.8'

SED DEPTH = ~~10+~~

SED REC. = 2.3'

TIME - 1510

4/27/00 | 5/02/00

LOCATION = FF-71

DESCRIPTIONS = WOODS, TALL REEDS

WATER DEPTH = 0.0

SED. PEN. = 5.3

SED. DEPTH = 3.0

SED. REC = 2.4

TIME 1225

2" - core

1. GS Core

6-2"/2-6" GS containers

BTL/DEQ - BBL JG. COM/MDEQ

5/2/00

LOCATION = FF-72

DESCRIPTION: Reeds, SPARSE TREES

WATER DEPTH: 0.0

SED PEN 4.2

SED DEPTH 3.0

SED REC. 1.9

TIME 1250

2" core

1.7 GS core

6-2"/2-6" GS. containers

BTL/DEQ - BBL JG-COM/MDEQ

5/2/00
LOCATION : FF 73
DESCRIPTION : GRASSY WOODLAND
WATER DEPTH : 0.0
SED. PEN. 6.2
SED. DEPTH 3.5
SED REC. 2.4
TIME 1320

2" core
1.1 GS core
0-2"/2'-6" GS CONTAINER

BTL/DEEP : BBC JG-COM/MDEQ

5/2/00
LOCATION : FF 74
DESCRIPTION : GRASSY
WATER DEPTH : 0.0
SED. PEN : 4.3
SED DEPTH : 4.0
SED REC. 2.1
TIME : 1410

2" core
1.5' GS core
0-2/2-6 GS CONTAINERS

BTL/DEEP-BBC JG-COM/MDEQ

Thurs 5/2/00

Location ~~FF~~ 75
Description Reeds
WATER DEPTH 0.0
SED PEN 5.6
SED. DEPTH 4.1
SED. REC ~~1.5~~ 1.9
TIME 1420

2" core
1.3 GS core
0-2/2-6 GS CONTAINERS

BTL/DGG - BBL JG - CDM/MDEQ

05/02/00

Location FF 79
Description: Reed ~~Eelgrass~~ Pennisetum
WATER DEPTH = 0.0
SED PEN: ~~4.0~~ 6.3
SED DEPTH 4.0
SED. REC. 3.1
TIME. 1450

2" Core
1.0' GS core
0-2/2-6 GS CONTAINERS

BTL/DGG - BBL JG - CDM/MDEQ

05/02/00
Location : FF 81
Description : Grassy cove
WATER DEPTH = 1.0
SED. PEN : 4.2
SED. DEPTH :
SED REC. : 3.0
TIME 1510

2" SAMPLE CORE
1.3 GS CORE
0-2/2-6 GS CONTAINERS

BTL/DEG-BBL JG-COM/MDEQ

05/02/00
Location : FF 80
Description : River @ end of launch
WATER DEPTH : 1.0
SED. PEN : 6.0
SED. DEPTH : 10+
SED. REC : 2.1
TIME 1551

2" SAMPLE CORE
1.4 GS CORE
0-2/2-6 GS CONTAINERS

BTL/DEG-BBL JG-COM/MDEQ

5/3/00
Location: FF 83
Description: WOODS
Water Depth: 0.0
Sed Pen: 3.6
Sed Depth:
Sed Rec: 2.9
Time 1440

2" core
16 GS core
0-2/2-6 GS containers

BTL/DEG - BBL JG - COM/MDEQ

05/03/00
Location: FF 85
Description: WOODS
Water Depth: 0.0
Sed Depth: 2.9
Sed Pen: 2.9
Sed Rec: 1.9
Time: 1222

2" core
13 GS core
0-2/ 2-6 GS containers
Disk: Focused 5
Picture 1 of 14

BTL/DEG - BBL JG COM/MDEP

05/03/00
Location FF-78
Description Marshy cove
Water Depth: 0.6
Sed Depth: 10+
Sed Pen: 4.0
Sed Rec: 3.1
Time 1510
2" core
2.2 GS core
0-2/2.6 GS containers
DISK: Focused 5
Picture: 20F 14

BTL/DEP-BBL JE-COM/MOEQ

05/03/00
Location FF-77
Description CATTAILS BY MARSH GRASS
Water Depth: 0.0
Sed Depth: 10+
Sed Pen: 7.6
Sed Rec: 2.0
Time 1535

2" core
1.3 GS core
0-2/2.6 GS ~~containers~~ BAGS
DISK Focused 5
Picture 3 of 14

BTL/DEP: BBL JE - COM/MOEQ

05/03/00

Location : FF 76

Description : Grassy marsh

Water Depth : 0.0

Sed Depth : 10+

Sed Pen : 6.3

Sed Rec : 2.0

Time 1600

2" core

1.9' GS core

0-2/2-6+ GS ~~contains~~ BAGS

DISK Focused 5

PICTURE 4 OF 14

BTL/DEG - BBL JG - CDM/MDEQ

05/03/00

Location FF-69

Description cove

Water Depth 0.9

Sed Pen 1.8

Sed Rec 1.8

Sed Depth 1.8

Time 1608

2" core

1.6 GS core

0-2/2-6 GRAIN BAGS

DISK : Focused 5

PICTURE 5 OF 14

BTL/DEG - BBL JG - CDM/MDEQ

05/04/00

Location FF-66

Description Otsego Emporium

Water Depth: 7.6

Sed Depth: 5.1

Sed Pen: 5.1

Sed Rec: 3.6

Time 1010

2" core

1.9' GS core

0-2/2-6 GS containers

Disk: Focused 5

Picture 6 of 14

BTL/DEQ-BBL JG-COM/MDEQ

05/04/00

Location: FF-68

Description: Cattails/edge of woods

Water Depth: 0.0

Sed Depth: 2.4

Sed Pen: 2.4

Sed Rec: —

Time: 1110

Disk: Focused 5

x Picture: 7 of 14

Hand augered location as with 4 attempts with 2" lexan only yielded 1' each. Samples were collected in pieces of lexan from

0-2

2-6

6-12

12-24

as no sample jars were present in the field

1' GS core

0-2/2-6 GS containers

BTL/DEQ-BBL JG-COM/MDEQ

05/04/00
LOCATION : FF-67
~~Time~~ Description :
WATER DEPTH : 0.0
SED DEPTH : 10+
SED PEN : 11.0
SED REC : —
TIME : 1153
DISK : FOCUSED 5
PICTURE 8 OF 14
HAND AUGERED AS STANDING LEXAN ONLY
retrieved 1.6' OF REC AT A
DEPTH OF 11' Collected samples
in LEXAN AS SAMPLE JARS ARE
NOT PRESENT SAMPLES COLLECTED INCLUDE
0-2
2-6"
6-12"
12-24"

1.6' GS core
0-2/2-6 GS CONTAINERS

BTL/DEG-BBL JG-CDM/MDEQ

05/04/00
LOCATION FF-68
~~Time~~ Description : GRASSY. LOWLAND
WATER DEPTH : 0.0
SED DEPTH : 10+
SED PEN : 5.0
SED REC : 2.0
TIME 13:00

2" core
1.9' GS core
0-2/2-6 GS CONTAINERS

DISK: FOCUSED 5
PICTURE: 9 OF 14

BTL/DEG-BBL JG-CDM/MDEQ

05/04/00

Location : FF 64

Description: GRASSY NEAR OVERPASS

Water Depth : 0.6

Sed Depth : 10+

Sed Pen : 6.3

Sed Rec : 2.4

Time : 1320

2" CORE

1.6 GS core

0.2/2.6 GS containers

DISK : FOCUSED 5

PICTURE : 10 OF 14

BTL/DEG-BBL JG-CDM/MDEQ

05/04/00

Location : FF 35

Description : WOODED COVE

Water Depth : 0.1

Sed Depth : 1.8

Sed Pen : 1.8

Sed Rec : 1.8

Time 1500

2" core

1' GS core

0.2/2.6 GS containers

DISK : FOCUSED 5

PICTURE : 11 3/4 OF 14

BTL/DEG-BBL JG-CDM/MDEQ

05/04/00
Location : FF 44
Description : wooded Island
Water Depth : 0.0
Sed Depth : 10+
Sed Pen : 6.0
Sed Rec : 2.0
Time : 1600

2" Core
1.5' GS core
0-2/2-6 GS CONTAINERS

DISK : FOCUSED 5
PICTURE : 12 OF 14

BTL/DEG-BBL JG-CDM/MDEQ

05/04/00
Location : FF 46
Description : cove be downstream of dam
Water Depth : 0.7
Sed Depth : ~~10+~~ 4.0
Sed Pen : 4.0
Sed Rec : 2.1
Time : 1620

2" core
1.5 GS core
0-2/2-6 GS CONTAINERS

DISK : FOCUSED 5
PICTURE : 13 OF 14

BTL/DEG-BBL JG-CDM/MDEQ

03/04/00
Location : FF 45
Description : meander channel, duckweed
Water Depth : 0.1
Sed Depth : 10+
Sed Pen : 63
Sed Rec : 2.9
Time 1655

2" core
1.1 GS core
0.2/2.6 GS containers

Disk : Focused 5
Picture : 14 of 14

BTL/DEG-BBL JG . COM/MOEQ

4/27/00
Location : FF 108
Description :
Water Depth : 1.1
Sed Depth :
Sed Pen : 2.7
Sed Rec : 2.0
Time : 1116

5/8/00

Location: FF 4
Description:
Sed/Water Depth: 1.3
Sed Depth: 2.1
Sed Pen: 2.1
Sed Rec: 2.1
Time: 1545

2" LEXAN
2" - 1.8' GS core
GS BAGS 0.2/2.6

5/9/00
Found Sampling
Attendance: TIW, JG, CDM
Weather: Overcast + cloudy

Location: FF-80
Descrip: Near Bridge
Method: 3" - Lexan
Water Depth: .7'
Probe: 5.9'
Penetration: 5.9'
Recovery: 4.5'
0-2" - Grain size

Picture Disk FF-1A pic #1

12:10

Location: FF-7
Descrip: River Island, Dry
Method: 3" Lexane
Water @ .3'
Probe: 7.0'
Penetration: 7.0'
Recovery: ~~5.0~~ 2.9'
0-2" GS

PICTURE # 2 DISC 1A

12:30

Location: FF+7b
Descrip: Island, Dry
Method: 3" Lexane
Water @ surface
Probe: 6.7'
Penetration: 6.7'
Recovery: 3.3'
0-2" GS

PICTURE #3 DISC 1A

13:40 Location: FF-74

Descrip: Dry + Grassy

Method: 3.0" Lexane

Water @ .7'

Probe: 5.7'

Penetration: 5.7'

Recovery: 2.8'

0-2" Grain Size

Pic 4 ... Disc 1A

13:45 Location: FF-75

Descrip: Dry - Gravel

Method: 3" Lexane

Water @ 1.0'

Probe: 5.5'

Penetration: 5.5'

Recovery: 2.3'

0-2" Grain Size

Pic # 5 Disc 1A

14:30

Location: FF-73
Descrip: Off Inflow channel wet
Method: 3" Vibracore
Water @ surface
Probe: 6.5
Penetration: 6.5'
Recovery: 3.3

Pic # 6 Disc 1A

15:00

Location: FF-72
Descrip: Grassy + Dry
Method: 3" Vibracore
Water @ 1.2'
Probe: 4.2'
Penetration: 4.2'
Recovery: 2.8'

Pic # 7 Disc 1A

16:00

Location: FF-69

Descrip: Backwater

Method: 3" Lexane

Water Depth: 2.0'

PROBE: 3.0'

Penetration: 3.0'

Recovery: 2.3

PICTURE # 8 DISK 1A

FILE No.566 08/01 '00 13:27 ID:BLASLAND BOUCK LEE INC FAX:16163855828 PAGE 2

LOCATION: FF-70 5/10/00
DESCRIPTION: FLOODPLAIN 1400
METHOD: 3" HAND AUGER
WATER DEPTH: —
PROBE: —
PENETRATION: —
RECOVERY: —

HAND AUGURED & PLACED INTO JARS FOR ANALYSIS:
0-2"
2-6"
6-12"
12-24"

SOIL DESCRIPTION:
0-2" DARK BROWN SILT & FINE SAND TRACE ROOTS TRACE MOTTLING, MOIST
2-6" SAME AS ABOVE
6-12" BROWN SILT & FINE SAND SOME MOTTLING TRACE ROOTS TRACE GREY CLAY, MOIST
12-24" RED-BROWN F-M SAND TRACE GREY CLAY, MOIST

PICTURE #1 DISK 1B

LOCATION: FF-69
DESCRIPTION: BACKWATER
METHOD: 3" LEWIS
WATER DEPTH: 2.0'
PROBE: 3.0'
PENETRATION: 3.0'
RECOVERY: 2.8

PICTURE # 8 DISK 1A

AUG-01-2000 15:09 16163855828 95%

TO ANN GRECO FROM: NICOLE ZERBE

(2 pages Total)

ocation : FF-31

ESCRIPTION : RIVER TRIBUTARY BANK

METHOD : HAND AUGER

ATER DEPTH : 0.05' BGS

ROBE : 2.0'

HAND AUGERED + PLACED INTO JARS OF INTERVALS (0-6"), (6-12"), (12-24")

SOIL DESCRIPTIONS :

0-6" - BROWN SILT W/ ROOTS, WET.

6-12" - BROWN SILTY SAND, TRACE ROOTS TRACE MOTTLING, WET.

12-18" - SAME AS ABOVE, NO ROOTS.

18-24" - LIGHT GRAY MED - CRS. SAND WITH F - MED GRAVEL, SATURATED

5/22/00 1530

* DUP-1 @ (12-24")

PIC : DISK # 1B

PICTURE # 2

LOCATION : FF-32

DESCRIPTION : RIVER BANK

METHOD : HAND AUGER

WATER DEPTH : 2" BGS

PROBE : 3.9'

HAND AUGERED + PLACED INTO GLASS JARS OF INTERVALS (0-6"), (6-12"), (12-24")

SOIL DESCRIPTIONS :

0-6" BROWN SILT TRACE FINE SAND TRACE ROOTS, MOIST.

6-12" SAME AS ABOVE.

12-24" SAME AS ABOVE

* MS/MSD @ (12-24")

5/22/00 1700

PICTURE DISK # 1B

PICTURE # 3

AUG-01-2000 15:09 16163855828 97% P.01

FILE No.566 08/01 '00 13:26 ID:BLASLAND BOUCK LEE INC FAX:16163855828 PAGE 1

LOCATION: FF-43
DESCRIPTION: RIVER FLOODPLAIN
METHOD: 3" HAND AUGER
WATER DEPTH: 0.3'
PROBE: 4.0'

HAND AUGERED & PLACED INTO JARS OF INTERVALS (0-6"), (6-12"), (12-24") (24-36")

SOIL DESCRIPTIONS:

0-6" DARK BROWN SLT TRACE SAND, TRACE ROOTS, SATURATED, TRACE SHELLS.
6-8" SAME AS ABOVE.
8-12" BROWN FINE-MED SAND, TRACE MOTTLING SATURATED
12-20" RED-BROWN F-M SAND SATURATED.
20-24" DARK GREY F-M SAND SATURATED.
24-36" SAME AS ABOVE.

5/23/00 1100

PICTURE DISK # FF-1B
PICTURE # 4

DATE: 5/24/00
ATTENDANCE: TW, JA, BH, HM, CDM
WEATHER: Sunny & clear 70°

10:30 LOCATION: FF-1
DESCRIP: WOODED & thick
METHOD: Lexane Tube
WATER @ 1.5'
PROBE: 4.0'
PENETRATION: 4.0'
RECOVERY: 2.3'

DISK # FF-1B
PICTURE # 4

50

Location: FF-2

11:00 Description: WOODED + DRY

Method: Lexane tube

Water @ 1.3'

Probe: 3.3'

Penetration: 3.2

Recovery: 1.8'

Refusal

PICTURE DISC # 1D

PICTURE # 1

51

11:10 Location: FF-3

Description: WOODED + WET

Method: Lexane tube

Water @ 1.0'

Probe: 4.0'

Penetration: 4.0'

Recovery: 2.1'

PICTURE DISC # 1D

PICTURE # 2

(52)

11:30

Location: FF-9

Descrip: New GP Install

Method: Lexane Tube

Water D. 5.0' Depth

Probe: 5.0' +

Penetration: 4.0'

Recovery: 2.7'

0-2" Grain Size

2-6"

This core was inadvertently collected twice per TTW.

AEG

Picture Disc # ID

Picture # 3

(53)

12:10

Location: FF-9 TTW 115

Descrip: Per Dan Cummins GP

Method: Lexane Tube

Water Depth: 7.5'

Probe: 5.0'

Penetration: 4.5'

Recovery: 3.1

0-2" > Grain Size

2-6"

Picture Disc # ID

Picture # 4

(54)

Location: FF-10

12:40 Descrip: ~~In Creek~~ on Island

Method: Lexane Tube

Water Depth: 10' Down to H_2O

Probe: 3.2'

Penetration: 4.5'

Recovery: 3.3'

Picture Disc # 1D

Picture # 5

(55)

Location: FF-11

13:20 Descrip: Flooded Island

Method: Lexane Tube

Water e/Depth: 1.75' depth

Probe: 5.0'

Penetration: 4.5'

Recovery: 2.3'

0-2" \
2-6" > Grain Size

Picture Disc # 1D

Picture # 6

13:40 LOCATION: FF-12

DESCRIP: Deposition area

METHOD: Lexane Tube

WATER @ / DEPTH: 3'

PROBE: 2.1'

PENETRATION: 5.5'

RECOVERY: 3.4'

* TWO T.E INF POINTS LOCATED ON TRAIL BRIDGE.

PICTURE DISC # 1D

PIC # 7

14:20 LOCATION: FF-13

DESCRIP: FN RIVER, NEAR TRUSSEL

METHOD: Lexane Tube

WATER @ / DEPTH: 8.1'

PROBE: 2.0'

PENETRATION: 2.0'

RECOVERY: 1.5'

0-2" > GRAIN SIZE

2-6"

PICTURE DISC # 1E

PIC # 1

(53)

14:45 Location: FF-14

Descrip: In River

Method: Lexane Tube

Water @/ Depth: 3.2'

Probe: @ 4.0'

Penetration: 3.4'

Recovery: 2.6'

Refusal

0-2" \ Grain Size

2-6" /

Picture Disc # E

Picture # 2

(54)

15:30 Location: FF-15

Descrip: Near Bridge / In River

Method: Lexan Tube

Water @/ Depth: 6.35'

Probe: 2.0'

Penetration: 2.8'

Recovery: 2.1'

Refusal

0-2" \ Grain Size

2-6" /

Picture Disc # E

Picture # 3

(60)

16:10

LOCATION: FF-17

DESCRIP: IN PONDED AREA

METHOD: LEXANE TUBE

WATER DEPTH: 6.6'

PROBE: 3.1'

PENETRATION: 3.5'

RECOVERY: 2.9'

0-2' }
2-6' } > GRAIN SIZE

PICTURE DISK # 1E

PICTURE # 4

(61)

LOCATION: FF-40

DESCRIPTION: FLOODPLAIN

METHOD: 3" LEXANE TUBE

WATER DEPTH: 0.5'

PROBE: 6.0'

PENETRATION: 5.4'

RECOVERY: 2.4'

5/23/00 1150

PICTURE DISK # FF-1C

PICTURE # 1

(62)

LOCATION: FF-37
DESCRIPTION: FLOODPLAIN
METHOD: 3" HAND AUGER
WATER DEPTH: 6.8'
PROBE: 4.0'
HAND AUGURED + PLACED INTO JARS FOR ANALYSIS.

SOIL DESCRIPTIONS:
0-6 - DARK BROWN SILT, ROOTS, SATURATED
6-12 - DARK BROWN SILT, SOME CLAY, TRACE MOTTLING, ROOTS, SATURATED
12-24 - BROWN-GREY SILT SOME CLAY TRACE MOTTLING, ROOTS, SATURATED
24-36 - DARK GREY FINE SAND TRACE ROOTS, SATURATED.

* MS/MSD @ (12-24")
5/23/00 1325

PICTURE DISK # FF-1C
PICTURE # 2

(63)

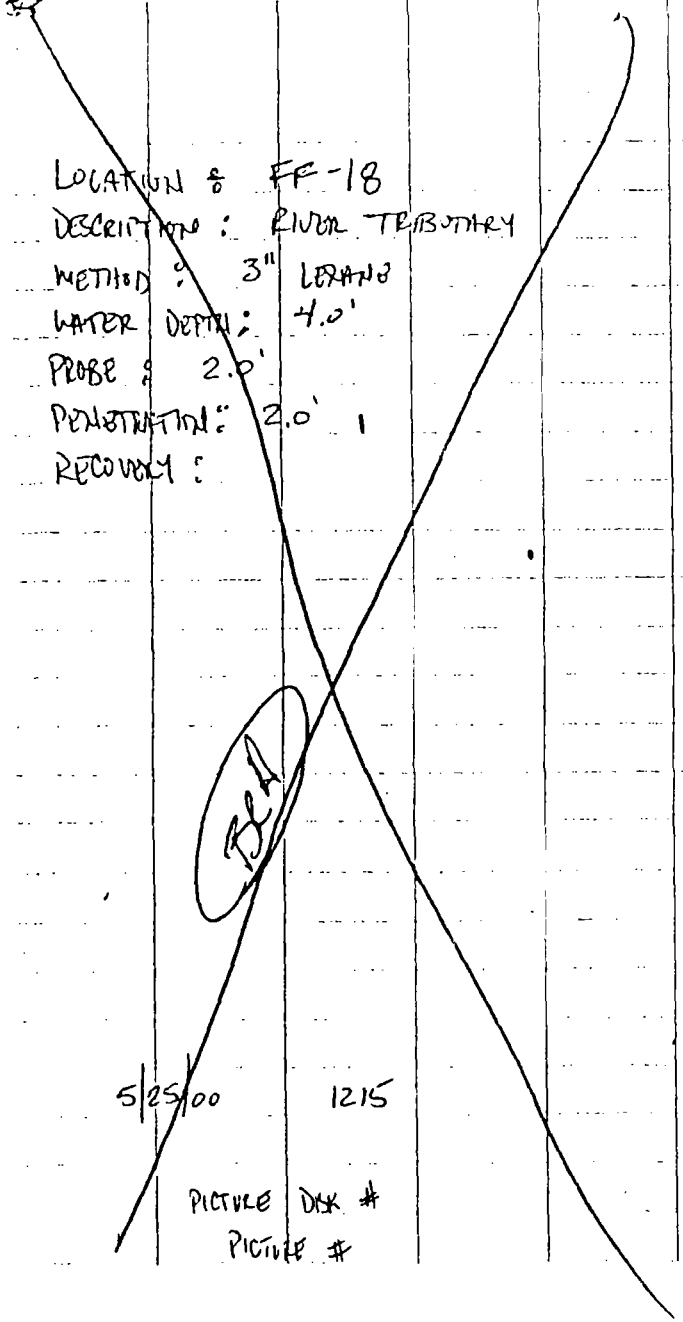
LOCATION: FF-36
DESCRIPTION: FLOODPLAIN
METHOD: 3" HAND AUGER
WATER DEPTH: 8.6' BGS
PROBE: 3.0'
HAND AUGURED + PLACED INTO 4 OZ JARS FOR ANALYSIS.

SOIL DESCRIPTIONS:
0-6" - DARK BROWN SILT, TRACE SAND TRACE ROOTS, MOIST
6-12" - SAME AS ABOVE.
12-18" - SAME AS ABOVE.
18-24" - BROWN M-F SAND TRACE SHELLS, SATURATED.
24-36" - BROWN F-M SAND, TRACE CRS SAND TRACE GRAVEL SATURATED

5/23/00 1415

PICTURE DISK # FF-1C
PICTURE # 3

LOCATION : FF-18
DESCRIPTION : RIVER TRIBUTARY
METHOD : 3" LEXAN
WATER DEPTH : 4.0'
PROBE : 2.0'
PENETRATION : 2.0'
RECOVERY :



5/25/00 1215

PICTURE DISK #
PICTURE #

LOCATION : FF-19
DESCRIPTION : RIVER COVE
METHOD : 3" LEXAN
WATER DEPTH : 3.0'
PROBE : 8.0'
PENETRATION : 5.0'
RECOVERY : 3.7'
0-2" > GRAIN SIZE.
2-6"

5/25/00 1220

PICTURE DISK # 1E
PICTURE # 5

(64)

LOCATION: FF-20
DESCRIPTION: RIVER TRIBUTARY.
METHOD: 3" LEXAN TUBES
WATER DEPTH: 5.35
PROBE: 4.2'
PENETRATION: 6.0'
RECOVERY: 4.2'

0-2" } GRAIN SIZE
2-6" }

5/25/00 1245

PICTURE DISK #: FF-1E
PICTURE #: 6

(63)

LOCATION: FF-21
DESCRIPTION: WOODED / FLOODPLAIN
METHOD: LEXAN TUBE
WATER DEPTH: .1'
PROBE: 3.8'
PENETRATION: 4.0'
RECOVERY: 3.0'

1335 5/25/00

PICTURE DISK # FF-1E
PICTURE # 7

(64)

LOCATION: FF-25
DESCRIP: Near River outfall
METHOD: Lexan Tube
WATER DEPTH: 8.5'
PROBE: 2.0'
PENETRATION: 1.5'
RECOVERY: 1.5'
0-2" > GRAIN SIZE
2-6"

14:50 5/25/00

PICTURE DISC # 1E
PICTURE # 8

(65)

LOCATION: FF-26
DESCRIP: Island
METHOD: Lexan Tube
WATER DEPTH: .3'
PROBE: 2.0'
PENETRATION: 2.3'
RECOVERY: 1.9'

15:10 5/25/00

PICTURE DISC # 1E
PICTURE # 9

(20)

DATE: 5/30/00

ATTENDANCE: TW, JA, BH, Heather CDM

Weather: Rain + overcast 75°

Location: FF-86

Descrip: Island, wooded

Method: Lexane Tube

Water @ 10'

Probe: 5.0'

Penetration: 4.8'

Recovery: 1.7'

Picture Disc # 1 F

Picture # 1

(21)

ATTENDANCE: TW, JT, KM, Heather CDM

Weather: RAIN, CRAPPY

DATE: 6/5/00

15:10 LOCATION: FF-90

Descrip: Wooded + Wet

Method: Lexane Tube

Water @ —

Probe: 3.0'

Penetration: 3.1'

Recovery: 2.0"

Picture Disc # 1F

Picture # 2

(72)

1530

Location: FF 92

Description: river meander

Method: Lexan tube

Probe: —

Water @ / Depth 1.6

Penetration ~~5.8'~~ 5.8'

Recovery: 4.3'

Dix ~ Et - 1F

pic # 3

(73)

1600

Location: FF-91
description: wood & wet
method: Lexan tube
probe: 2.6
water:
penetration: 4.3'
recovery: 2.2'

Dix = Et - IF
p.c #4

16:45

Location: ~~wooded~~ FF 89
Desc: wooded & wet
method: Lexan tube
probe: 1.6"
penetration: 3.9'
recovery: 2.7'

Dix - ET-1F
pic #5

DATE: 6/6/00
Weather: sunny & 70°
ATTENDANCE: HW, Richard CDM

LOCATION: FF-49
Descrip: Island
Method: Lexane:
Water @
Probe:
Penetration:
Recovery:

Disc # FF-1F
pic # 6

1705

Location - FF-88
Descr - wooded/wet
Method - Lexan tube
probe - 38'
penetration - 4'
recovery - 26'

Dix - ET - 1F
pic #6

(98)

1730

Location: FF-87
Descr: wooded/wet
method: lexan tube
probe - 3'
penetration: 3.1'
recovery: 1.8'

Dix- ET-1F
pic #7

(99)

DATE: 6/6/00
Attendance: TTW, Richard CDM
Weather: Sunny & 70°

11:45 Location: FF-49
Descript: Island
Method: Lexan
Water @ 1.5
Probe: 4.0'
Penetration: 3.0'
Recovery: 2.0'

Disc # FF-1F
pic # 8

(92)

12:45 Location: FF-51
Descrip: Inland
Method: Lexan Tube
Water @ 1.5'
Probe: 3.0'
Penetration: 3.2'
Recovery: 1.9'

Disc # FF-1F
pic # 9

(93)

13:30 Location: FF-52
Descrip: Inland
Method: Lexan Tube
Water @ 1.5'
Probe: 2.0'
Penetration: 2.5'
Recovery: 1.5'
* To coarse to go deeper even with Angel.

Disc FF-1F
pic # 10

13:35 LOCATION: FF-55

DESCRIP: Gravel Floodplain

METHOD: Lexane

WATER @ 3.5' surface

PROBE: 2.5'

PENETRATION: 2.5'

RECOVERY: 1.7'

DISK FF-1[illegible]

PIC # 11

DATE: 6/8/00

ATTENDANCE: TW, Richard (CDM), JR, JA

WEATHER: Sunny + Clear 70°

10:00

LOCATION: FF-101

DESCRIP: Near Allegan City Dam.

* POINT HAS been Moved due to Health + safety Reasons.

METHOD: Lexane tube

WATER DEPTH: 1.5

PROBE: 5.0'

PENETRATION: 5.0'

RECOVERY: 3.7'

0-2" } GRAIN SIZE

2-6" }

PICTURE DISK FF-16

PIC # 1

(86)

10:30

Location: FF - 102

Descrip: Middle of Backwater
Near Dam

Method: Lekane tube

Water Depth: 3.6'

Probe: 4.4'

Penetration: 4.4'

Recovery: 4.1'

Picture Disc FF - 16
Pic # 2

(87)

10:50

Location: FF - 103

Descrip: OTHER END OF Bridge

Method: Lekane tube

Water Depth: 5.6'

Probe: 3.9'

Penetration: 3.9'

Recovery: ~~4.1'~~ 3.1 (AEG)

Picture Disc FF - 16
Pic # 3

88

12:50

Location: FP-84

Descrip: Floop plain

Method: Lexane

Water @ —

Probe: ~~4.0~~ 2.1'

Penetration: ~~4.0~~ 2.1'

Recovery: 1.9

Disc # FF-16

pic # 4

89

13:25

Location: FF-82

Descrip: Wooded & moist

* point was move to lowspot 30-40' west southwest

Method: lexane tube

water @ .6'

Probe: 3.8

Penetration: 3.8'

Recovery: 2.5'

Disc # FF-16

pic # 5

89

15:00 Location: FF-63

Descrip: swampy + wet

Method: Lexane Tube

Water Depth: .6' Below surface

Probe: 6.0'

Penetration: 6.0'

Recovery: 2.3'

Disc # FF-16

Pic #6

90

15:30 Location: FF-57

Descrip: Tall Grass Dry

Method: Lexan Tube

Water @ 1.5'

Probe: 4.0'

Penetration: 4.0'

Recovery: 2.2'

Disc # FF-16

Pic #7

(98)

16:05

Location: FF-55
Descrip: Wooded + Wet
Method: Lexane Tube
Water @ 1.5'
Probe: 3.8
Penetration: 3.3'
Recovery: 1.9

PICTURE Disc FF # 19
Pic # 8

Date: 6/13/00
Attendance: JTG, NR (BBL), HM (COM)
Weather: 70° overcast / Rain

(98)

Location: FF-104
Descrip: Wooded Area
Method: Lexane Tube
Water: ~1.5
Probe: 4.0
Penetration: 4.0
Recovery: 2.0

Picture Disc FF# 4H
Pic # 1

Location: FF-56
Description: Tall grass / Lightly Wooded
Method:
Water: 0
Probe: 3.8
Penetration: 3.2
Recovery: 20

Picture Disc # FF 14
Pic. # 2

Location: FF-61
Description: Wooded Area
Method: Lexane Tube
Water: at ground surface
Probe: 5.0
Penetration 3.0
Recovery: 1.9

Picture Disc # FF 14
Pic # 3

Location: FF-29
Description: Location was in River
Method: Lexane
Water: + 2.0 ft
Probe: 1.0
Penetration: 1.3
Recovery: 0.6

Picture Disc # 1H
Pic # 4

Date: 6/29/00
Weather: Sunny + 70°
Attendance: TTW, EG (COM)

11:30 Location: FF-114
Descrip: In Lake Allegan, In Bay
Method: 2" Lexane
Water Depth: 11.0'
Probe: Too Deep
Penetration: 7.0'
Recovery: 4.7'

0-2" grain size
2-6" grain size

Picture Disc # 1H
Pic # 1

12:20 Location: FF-113

Descrip: Bar Inv Lake Allegan

Method: 2" Ekmane

Water Depth: 5.0'

Probe: 1.5'

Penetration: 3.0'

Recovery: 2.3'

0-2" grain size

2-6" grain size

Picture Disk 1 I

pic # 2

13:00 Location: FF-112

Descrip: BAR Inv Lake Allegan

Method: 2" Ekmane

Water Depth: 6.8'

Probe: 3.0 +

Penetration: 8.0'

Recovery: 4.3

0-2" grain size

2-6" grain size

Picture Disk 1 I

pic # 3

(100)

LOCATION: FF - 111

14:05 DESCRIP: Near Road, Small Bay, Shallow

METHOD: 3" Lexan

WATER DEPTH: 1.5'

PROBE: 7.5'

PENETRATION: 6.5'

RECOVERY: 4.7

0-2" GRAIN SIZE

2-6" GRAIN SIZE

PICTURE DISC I

PIC # 4

(101)

LOCATION: FF-110

DESCRIP: LAKE AUGUSTA, SEMI-BACKWATER

METHOD: 3" LEXAN

WATER DEPTH: 2.0'

PROBE: 6.0'

PENETRATION: 5.0'

14:45 RECOVERY: 3.0'

0-2" GRAIN SIZE

2-6" GRAIN SIZE

PICTURE DISC I I

PIC # 5

(10)

15:30 Location: FF-105

Descrip: Island in channel

Method: Lekane Tube 3"

Water @ -2.5 Down

Probe: 2.0'

Penetration: 3.8

Recovery: 2.7'

Picture Disc 1 I

pic # 6

(10)

DATE: 6/30/00

ATTENDANCE: TW, AS, CDM

Weather: Sunny + 70°

10:45 Location: FF-30

Descrip: Wooded + moist

Method: 3" Lexane

Water @ .6'

Probe: 2.5'

Penetration: 3.0'

Recovery: 1.8'

Picture Disc 1 I

pic # 1

11:30 Location: FF-22

Descrip: Swampy, Big puddle

Method: 3" Lexane

Water Depth: 2.0'

Probe: .5'

Penetration: 1.0'

Recovery: 1.0'

* Low Recovery due to very coarse sand + gravel

- Augering could not be done due to water

PICTURE DISC FF-15

pic #2

12:00 Location: FF-23

Descrip: Near stream inlet

Method: 3" Lexane

Water Depth: 2.0'

Probe: .5'

Penetration: 1.6'

Recovery: 1.6'

* Very coarse sand hard low recovery

PICTURE DISC FF-15

PIC # 3

(106)

13:00 Location: FF-38

Descript: WOODED & Moist

Method: 3" Lexane

Water @ .2'

Probe: 2.0'

Penetration: 4.0'

Recovery: 2.9'

Picture Disc FF-15

pic # 4

(107)

DATE: 7/5/00

Attendance: TTW, AS, CDM

Weather: Sunny & Hot 85°

12:40 Location: FF-37

Descript: South of M-99 Bridge

Method: 3" Lexane

Water Depth: 4.0'

Probe: ~~Hand~~ TTW 3.5'

Penetration: 3.0'

Recovery: 2.9'

Picture Disc FF-15

pic #5

(108)

12:50 Location: FF-98
Description: South of 89 on shore
Method: 3" Lexane
Water @ -.6'
Probe: 3.0'
Penetration: 4.0'
Recovery: 3.3'

Picture Disc = FF-15
pic # 6

(109)

Date: 7/7/00
Attendance: ~~Sunny 80°~~ JTG, DEG, Elizabeth Murray (CPM)
Weather: Sunny 80°

1520 Location: FF94
Description: Approx. 200' off of Bank
Method 3" Lexane
Water: -0.5
Probe 4.8
Penetration 4.4
Recovery: 2.5

0-2" grainsize
2-6" grainsize

Picture Disk # 1K
pic # ~~FF~~ 6

(110)

1600

Location: FF-95
Descrip: Dry ground/hardwood/pines
Method: 3" Lexane -
Water: 0
Probe: 0.8
Penetration: 0.8
Recovery: 0.2

Picture Disk # 1K
Picture # 2

(111)

2000 Focus sampling Investigation

DATE: 5/3/00

ATTENDANCE: TW, AS (CDM)

CORE: FF-99 PCB, TOC

14:55	KS3377	0-2"	PS	DB silt
14:55	KS3378	2-6"	PCB, TOC PS	SAA, touch of grey
14:55	KS3379	6-12"	PCB, TOC PS	SAA
14:55	KS3380	12-24"	PCB, TOC PS	SAA

CORE: FF-100 PCB TOC

15:15	KS3381	0-2"	PS	DB silty w/ some fine sand
15:15	KS3382	2-6"		SAA
15:15	KS3383	6-12"		SAA
15:15	KS3384	12-24"		DG soft fine silty

FF-106 PCB, TOC

15:35	KS3385	0-2"	PS	Dark brown w/ organics
15:35	KS3386	2-6"		SAA
15:35	KS3387	6-12"		SAA
15:35	KS3388	12-24"		SAA

12

Core: FF-108
PCB, TOC

15:50	KS3389	0-2"	FS	Dark Gray silt w/ organics
15:50	KS3390	2-6"		SAA
15:50	KS3391	6-12"		SAA
15:50	KS3392	12-24"		SAA
D-1	KS3393		Dup of	KS3392

Core: FF-109
PCB, TOC

14:10	KS3394	0-2"	FS	Fine sandy silt, trace organics
14:10	KS3395	2-6"		SAA
14:10	KS3396	6-12"		SAA
14:10	KS3397	12-24"		Fine silt w/ organics
D-2	KS3398		Dup of	KS3397

K D-

DATE: 5/4/00

ATTENDANCE: TTW, AS (CDM)

2000 Focus Sampling

Core FF - 75

11:40	K53399	PCB, TOC PS	0-2"	Brown silt w/ Trace organics
11:40	K53400		2-6"	Brown silt w/ Trace gray silt
11:40	K53401		6-15"	SAA
11:40	K53402	MS/MSD	AB-22"	~~SAA~~ Brown/ silty sand

Core: FF - 72

12:00	K53403	0-2"	PCB, TOC PS	DB, silty w/ organics
12:00	K53404	2-6"		DB/Gray silt w/ trace organics
12:00	K53405	6-15"		SAA, Trace orangish Brown silt
12:00	K53406	15-24"		Tan silt w fine sand.
~~D-3~~	~~K53407~~ Duplicate	of	~~K53406~~ TTW	

Core: FF - 69

12:10	K53407	0-2"	PCB, TOC PS	Black organic Rich silt
12:10	K53408	2-6"		SAA
12:10	K53409	6-14"		SAA
12:10	K53410	14-18"		Gray clay stiff
* D-3	K53411	Dup of	K53409	*

Core: FF-74

12:20	KS3412	0-2"	PCB, TOC PS	DB	Topsoil silt w/ organics
12:30	KS3413	2-6"		SAA, Trace fine sand	
12:30	KS3414	6-15"		SAA, Trace fine sand + clay	
12:30	KS3415	15-18"		GRY	Fine sand, some silt
12:30	KS3416	18-25"			Dark Gray silt w/ Trace Fine Sand

Core: FF-80

13:00	KS3417	0-2"	PCB, TOC PS		Black organic silt
13:00	KS3418	2-6"			DG Fine sand with silt
13:00	KS3419	6-12"			SAA
D-4 ~~13:00~~	KS3420			Dup of KS3419	
13:00	KS3421	12-18	PCB, TOC PS		Dark Gray silt with sand
13:00	KS3422	18-24"			Dark Gray silty clay trace organics

Core: FF-83 PCB, TOC

13:20	KS3423	0-2"	PS	lgt gray silt w/ roots
13:20	KS3424	2-6"	MS/MSD	SAA
13:20	KS3425	6-14"		lgt gray sandy silt, trace organics
13:20	KS3426	14-24"		SAA
13:20	KS3427	24-29"		SAA

Core: FF-85 PCB, TOC

13:50	KS3428	0-2"	PS	silty DB, Topsoil
13:50	KS3429	2-6"		SAA
13:50	KS3430	6-12"		SAA
13:50	KS3431	12-24		TAN/ORANGE fine sand trace silty.
D-5	KS3432	Dup of KS3431		

Core: FF-76 PCB, TOC

14:05	KS3433	0-2"	PS	DB silty topsoil w/ organics
14:05	KS3434	2-8"		SAA
14:05	KS3435	8-14"		lgt gray silty trace clay
14:05	KS3436	14-24"		SAA, trace organics (roots).
D-6	KS3437	Dup of KS3436		

CORE: FF-77

14:20	KS3438	0-2"	PCB, TOC PS	DB silty with organics
14:20	KS3439	2-6"		SAA.
	KS3440	6-12"		Lt Gray silty clay w/ trace brown silt + organics
	KS3441	12-24"		Dark Gray silt with BOM

15:30

15:30

CORE: FF-81

14:45	KS3442	0-2"	PCB, TOC PS	DG silty w/ ORGANICS
14:45	KS3443	2-6"		SAA
	KS3444	6-12"		SAA
	KS3445	12-26		Brown fine to medium sand some coarse sand; trace gravel
D-7	KS3446			Dup of KS3445

* Core Length in Field water did not match length of the lab.

D-8

15:50

CORE: FF-71

15:10	KS3447	0-2"	PCB, TOC PS	DG silt w ORGANICS
	KS3448	2-6"		SAA
	KS3449	6-12"		SAA
	KS3450	12-24"		SAA, some sand
	KS3451	24-30"		Tan medium to coarse sand.

D-9

CORE: FF-79
PCB, TOC
PS

15:30	K53452	0-2"		Brown silt topsoil
15:30	K53453	2-6"	MS/MSD	Gray silty clay
	K53454	6-12"		SAA
	K53455	12-22"		SAA
	K53456	22-37"		SAA
D-8	K53457			Dup of K53456

CORE: FF-78
PCB, TOC
PS

15:50	K53458	0-2"		DG silt w/ organics
	K53459	2-6"		SAA
	K53460	6-12 ~~[illegible]~~	TRW	SAA
	K53461	12-18 ~~18-[illegible]~~		SAA, some BOM
	K53462	18-24" ~~[illegible]~~		SAA Brown/Gray fine sand, some silt
~~[illegible]~~	K53463	24-36	~~Dup of~~	~~K53462~~
D-9	K53464			Dup of K53463

core: FF-83

16:15	K53465	0-2"	PCB, TOC PS	Brown silt with sand
	K53466	2-6"		SAA
	K53467	6-12"		Brown fine sand
	K53468	12-24"		SAA
D-10	K53469	Dup of K53468		

core: FF-93

16:20	K53470	0-2"	PCB, TOC PS	Dark gray fine silt, some fine sand, organic rich
	K53471	2-6"		SAA
	K53472	6-12"		SAA
	K53473	12-24"	MS/MSD	SAA
D-11	K53474	Dup. of K53473		

FF-107

16:15	KS3475	0-2"	DCB, TOC PS	Dark Gray fine silt with some organics
	KS3476	2-6"		SAA
	KS3477	6-13"		SAA

FF-96

16:45	KS3478	0-2"	DCB, TOC DB	DB sandy silt
	KS3479	2-6"		SAA
	KS3480	6-12"	MS/MSD	Tan to DB fine sand, some silt
	KS3481	12-24		SAA
D-12	KS3482		Dup of KS3478	

5/11/00

ATTENDANCE: TTW AS (CDM)

CORE: FF-69

14:00	KS3532	0-2"	PCB, TOC PS	DB fine silt w/ organics	Resampled poor reco...
	KS3533	2-6"		SAA	
	KS3534	6-12"		DB silt, organics	
	KS3535	12-18"		SAA	
	KS3536	18-26		GRAY stiff clay with trace gravel.	

CORE: FF-80

14:10	KS3537	0-2"	PCB, TOC PS	DG sandy silt, trace organics	Resampled ... poor recov...
	KS3538	2-6"		SAA	
	KS3539	6-12"		SAA	
	KS3540	12-24"	MS/MSD	DG fine silt	
	KS3541	24-36"		SAA	

Kpr 261-7

14:40	KS3542	0-2"	PCB, TOC PS	TAN/Olive Brown fine sand trace silty trace gravel.	
	KS3543	2-6"		SAA	
	KS3544	6-12"		SAA	
	KS3545	12-24		SAA	
D-1	KS3546			Dup of KS3545	

2'8

			FF-4 PCB, TOC	
14:00	KS3547	0-2"	PS	Brown silt w/ organics
	KS3548	2-6"		Brown silt some sand
	KS3549	6-12"		Brown coarse sand + gravel
	KS3550	12-22"		SAA
			FF-35 PCB, TOC	
15:00	KS3551	0-2"	PS	Brown silty, trace organics
	KS3552	2-6"		SAA
	KS3553	6-15"		DB coarse sand + gravel
	~~KS3554~~	12-15		SAA
			FF-6 PCB, TOC	
15:15	KS3554	0-2"	PS	Brown fine sand + gravel
	KS3555	2-6"		Coarse sand + gravel
	KS3556	6-12"		SAA
	KS3557	12-20		SAA

FF-5
PCB, TOC

15:25	KS3558	0-2"	DS	Brown silt w/ organics
	KS3559	2-6"		Brown/Grey sandy silt
	KS3560	6-12"		DG sandy silt, strong odor
	KS3561	12-24"	MS/MSD	SAA
D-2	KS3562			Dup of KS3561

FF-66
PCB TOC

15:35	KS3563	0-2"	DS	Brown silty peat
	KS3564	2-6"		SAA
	KS3565	6-12"		Brown silt, trace sand
	KS3566	12-24"		Brown silt w/ Boss, trace shell
	KS3567	24-30'		Brown silt w/ SAA
	KS3568	30-34"		Brown fine sand, trace silt

FF-46
PCB/TOC

15:50	KS3569	0-2"	DS	Tan fine sand, some silt
	KS3570	2-6"		SAA
	KS3571	6-12"		SAA
	KS3572	12-24		Tan fine sand w/ organics
D-3	KS3573			Dup of KS3572

FF-9
PCB, TOC

16:00 KS3574 0-2" PS Brown coarse sand + gravel

KS3575 2-6" SAA

KS3576 6-12" Dark Gray fine sand, some gravel

KS3577 12-24" SAA

D-4 KS3578 Dup. of KS3572

FF-8
PCB, TOC

16:15 KS3579 0-2" PS DB / olive fine silty sand

KS3580 2-6" Olive fine sand, trace organics

KS3581 6-12" Olive fine sand, trace silt

KS3582 12-24" Olive fine sand.

D-5 KS3583 Dup of KS3582

FF-7
PCB, TOC

16:20 KS3584 0-2" PS DB silty w/ shells

KS3585 2-6" SAA

KS3586 6-12" SAA

KS3587 12-24" MS/MSD SAA trace gravel

D-6 KS3588 Dup of KS3587

DATE: 5/12/00

ATTENDANCE: JTW, AS (CDM)

			CORE: FF-73		
			PCB, TOC		Resampled AEG
09:00	K10549	0-6"	DS	Brown silt w/ organics	
	K10550	6-18"		Gray silt, tan Root	
	K10551	18-24"		Gray fine sand.	
			FF-76		
			PCB, TOC		Resampled
9:15	K10552	0-6"	DS	Brown silt w/organics	AEG
	K10553	6-12"		Gray mottled silt	
	K10554	12-18"		Gray silt	
	K10555	18-24		Gray fine silty clay	
			FF-72		
			PCB, TOC		Resampled
9:30	K10556	0-6"	DS	Gray/Brown silt w/ Roots	AE
	K10557	6-12"		GRAY silt	
	K10558	12-24"		DG/Brown silty clay	
D-1	K10559		Dup of K10558		

Core: FF-75 — Resampled AEG

9:45	K10560	0-6"	PCB.TCE 75	Gray silty with roots...
	K10561	6-12"		Gray silt stiff
	K10562	12-20		Gray silt stiff
	K10563	20-24		Brown silty sand, some mottling

FF-74 — Resampled AEG

9:50	K10564	0-6"	PCB.TCE 73	DB/silty topsoil with root
	K10565	6-15"		Gray/Brown silt, trace sand
D-2	K10566	Dup of K10565		
	K10567	15-18		Brown/Tan mottled fine sand
	K10568	18-24		Gray silt, stiff.

Core: FF-77 — Resampled AEG

10:10	K10569	0-6"	PCB.TCE 73	Brown silt with organics...
	K10570	6-12"	MS/MSD	Brown/Gray silt trace sand + rootlets
	K10571	12-24"		Gray smooth silt w/ organics
D-3	K10572	Dup of K10571		

			Core: FF-64 PCB, TOC	
10:30	K10573	0-6"	PS	Brown silt with Rootlets
	K10574	6-12"		Dk brn silt, firm
	K10575	12-24"		Brown/orange fine sand + silt
			FF-44 PCB, TOC	
10:40	K10576	0-6"	PS	Brown stiff silt w/ Roots
	K10577	6-12"		Brown silt w/organics
	K10578	12-24"		SAA
			FF-65 PCB, TOC	
10:55	K10579	0-6"	PS	Brown silty topsoil
	K10580	6-12"		SAA
	K10581	12-24		SAA
D-4	K10582	Dup of K10581		
			FF-45 PCB, TOC	
11:20	K10583	0-6"	PS	Brown silty peat
	K10584	6-12"		SAA
	K10585	12-24"	MS/MSD	SAA

11:30	K10586	0-6"	FF-67 PCB, TOC DS	D6 silt some or trace sand trace organics
	K10587	6-12"		SAA
	K10588	12-24"		SAA
D-5	K10589	Dup of K10588		

11:40	K10590	0-6"	FF-68 PCB, TOC DS	D8 silt with trace roots
	K10591	6-12"		SAA
	K10592	12-24	MS/MSD	
D-6	K10593	Dup of K10592		

TO: Ann Greco
FROM: N. ZERBEL

Page 1 of 6

5/18/00

FF-70 + Nalio Ager In The Field

PCB, TOC
PS

14:30 K10627 0-2" (0-2)

K10628 2-6" (2-6)

K10629 6-12" (6-12)

K10630 12-24" (12-24)

Do you need the descriptions for these?

FF-103

K53681 - 15-24" dk. olive brown, F-M SAND, tr. C-Sand & F-Gravel. PCB/TOC GS

K53682 - Dupe of K53681. → PCB/TOC

FF-111

K53747 - dup of K53746

FF-114

K53762 12-24 PCB/TOC GS organics & woodpeat

K53763 24-36 " SAA

K53764 dupe of K53762 PCB/TOC

(FF-21 Hand)

Page 2 of 6

Focused Sampling
Hand Auger In the field
5/22/00

Location: FF-21
PCB, TOC

15:36	K10631	0-6"	PS
15:30	K10632	6-12"	
15:30	K10633	12-24	
D-1	K10634	12-24	PCB, TOC Dup of K10633

Descrips In Field Log Book

Location: FF-32
PCB, TOC

17:00	K10635	0-6"	PS
	K10636	6-12"	
	K10637	12-24	MS/MSD

Descrips In Field Log Book

10 K10724 12-24" MS/MSD included — Olive brown f-SAND+SILT, tr c-Sand + f-m Gravel.

Page 3 of 6

FF-91

10 K10725 0-6" PCB/TOC GS — Very dk brown SILT + natural organics (PEAT) tr. rootlets

K10726 6-12" — SAA, little olive brown SILT + CLAY chunks smeared from 12-24"

K10727 12-14" — Olive brown SILT, CLAY + organics

K10728 14-24" — Olive gray f-SAND, little Silt.

FF-89

K10729 0-6" PCB/TOC GS — Very dark brown SILT, little natural organics, tr f-SAND

K10730 6-12" — Light olive-brown f-m SAND, tr Silt, tr- rootlets

K10731 12-24" — m-brown f-m SAND

2 K10732 Dupe of K10731 PCBs/TOCs

	K53771	12-18		SAA w/ little F-Sand.
	K53773	18-24		SAA w/ tr. F-Sand & organics
	K53772	24-33		SAA w/ little V. F-SAND.
D-4	K53774	Dupe of ~~K53772~~ K53773		

Page 4 of 6

Core: FF-22

1545	K10820	0-6"	PCB/TOC GS	dk. olive grey SILT, little F-Sand, rootlets
	K10821	6-12"		dk olive grey SILT, little F-Sand, tr. M-Sand.

Core FF-30

1600	K10822	0-6"	PCB/TOC GS	dk. olive grey SILT, little F-Sand, rootlets.
	K10823	6-12"		dk brown SILT w/ little F-Sand, rootlets.
	K10824	12-23"		olive SILT w/ some F-Sand.

[redacted]

K53618 6-12" MS/MSD — Light olive-brown f-m SAND, tr C-Sand, Silt tr organics

K53619 12-24" — SAA Olive-brown

D-3 K53620 Dupe of K53619 PCB/TOC

FF-115

1600 K53621 0-2" PCB/TOC OS — orange-brown f-m SAND

K53622 2-6" — SAA

K53623 6-12" — SAA 6-8" Olive gray f-m SAND, little C-Sand

K53624 12-24" — Olive gray f-m SAND, little C-Sand tr. f-gravel.

Page 5 of 6

FF-25

1610 K53625 0-2" PCB/TOC OS — Olive brown f-SAND, tr m-c Sand, tr org.

K53626 2-6" — Very dk olive gray f-SAND, tr m-c Sand

K53627 6-12" — SAA, little organics, tr f-Gravel

K53628 12-24" — SAA, little f-m Gravel.

D-4 K53629 Dupe of K53628 PCB's TOC

CORE: FF - 48

13:05	K10843	0-6"	PCB, TOC PS	DB	silt w/ organics
	K10844	6-12"		DB	silt w/ wood, trace rootlets
	K10845	12-24"		DB	SILTY, trace wood

Page 6 of 6

CORE: FF - 34

13:15	K53775	0-2"	PCB, TOC PS	DB	sandy silty w/ organics
	K53776	2-6"		SAA	
	K53777	6-12"	MS/MSD		med/coarse sandy gravel, some fine sand & silt.
	K53778	12-24"		DB	coarse sand & gravel, some fine sand

Core: FF - 33

13:30	K53779	0-2"	PCB, TOC PS	DB	F-SANDY SILT, trace rootlets
	K53780	2-6"		SAA	
	K53781	6-12"		SAA,	trace peat
	K53782	12-24"		DB	F-SAND, trace roots

DATE: 6/1/00

ATTENDANCE: TIW, AS, Heather, CDM

CORE: FF-36

			PCB, TOC PS	
11:40	K10638	0-6"		DB silty topsoil w/ roots
	K10639	6-12"		DB silty topsoil, trace rusty sand
	K10640	12-17"		Mottled tan fine sand, trace silt
	K10641	17-23"		DG sandy silt w/ sand

CORE: FF-3

			PCB, TOC PS	
11:50	K10642	0-6		Lgt GRAY fibrous material
	K10643	6-12"		SAA
	K10644	12-24		GRAY fine sand

CORE: FF-1

			PCB, TOC PS	
12:10	K10645	0-6"		Lgt Gray Fibrous material
	K10646	6-18"		SAA
	K10647	14-18		DG sandy clay
~~D-1~~	K10648	18-24"		Olive/Brown silty fine sand.
D-1	K10649			Dup of K10648

Core: FF-2

PCB, TOC

12:30	K10650	0-8"	PS	Lt Gray paper fiberous
	K10651	8-12"		DB mottled silt w/ roots
	K10652	12-22"		SAA, trace mottled sand
D-2	K10653	Dup of K10652		

Core: FF-21

12:40	K10654	0-6"	PCB, TOC	DB silty sand, some roots
	K10655	6-12"	PS	DB silty sand, with Roots, trace mottling
	K10656	12-15'		Tan to Dark Gray fine to medium sand w/ mottling.
	K10657	15-24"		DB silty clay
D-3	K10658	Dup of K10657		

Core: FF-26

PCB, TOC

13:00	K10659	0-6"	PS	DB. silty topsoil w/ Roots
	K10660	6-14"		SAA, TRACE mottling, piece of wood.
	K10661	14-23"	ms/msd	GRAY coarse sand w/ shells

CORE: FF-11
PCB/TOC

13:10	K10662	0-6"	PS	DB	sandy silty w/ roots
	K10663	6-15"		SAA	
	K10664	15-24"		GRAY medium to coarse sand w/ shells	

CORE: FF-10
PCB/TOC

13:30	K10665	0-6"	PS	DB	silty w/ topsoil
	K10666	6-12"		DB	silty with Roots
	K10667	12-24"		DG	silty w/ fine to medium sand.
D-4	K10668	Dup of K10667			

CORE: FF-12
PCB/TOC

13:40	K10669	0-6"	PS	DB	silty/ trace organics
	K10670	6-12"		SAA	
	K10671	12-24"		DB	silt with coarse sand, organics + gravel

CORE: FF-10

			PCB, TOC	
13:50	K10672	0-6"	PS	DB silt with fine sand
	K10673	6-16"		SAA
	K10674	16-24"	↓	Brown/TAN medium to fine sand trace gravel.
D-5	K10675	Dup of K10674		

CORE: FF-37

			PCB, TOC	
14:10	K10676	0-6"	PS	Descriptions in field notes
	K10677	6-12"		Hand auger in the field
	K10678	12-24"	MS/MSD	

CORE: FF-36

			PCB, TOC	
14:15	K10679	0-6"	PS	Descrips in field book
	K10680	6-12"		
	K10681	12-24		

CORE: FF-33

			PCB, TOC	
14:20	K10682	0-6"	PS	Descrips in field book
	K10683	6-12"		
	K10684	12-24"		

6/6/00 BBL: LMS CDM: A. Sautner

FF-13

Time				
1400	K53598	0-2"	PCB/TOC GS	F-M GRAVEL, little brown f-SAND
	K53599	2-6"		Olive gray f-SAND + f-m GRAVEL, little m-C Sand
	K53600	6-12"		Olive gray f-C SAND + f-M GRAVEL
	K53601	12-~~24~~ 18"		SAA

FF-09

This core was inadvertently recollected and analyzed. AEG per TTW

1430	K53602	0-2"	PCB/TOC GS	Light olive brown f-SAND, little C-Sand + wood
	K53603	2-6"		SAA
	K53604	6-12" MS/MSD 6-12" for PCB/TOC.		Olive brown f-SAND, little wood + natural organics
	K53605	12-24"		Dk olive gray f-SAND to 21", 21-24" Dk brown/black f-SILT + highly degraded natural organics.
D-1	K53606	Dupe of 12-24" for PCB/TOC		

FF-20

1450	K53607	0-2"	PCB/TOC GS	Olive brown f-M SAND + Loose organics, tr Silt
	K53608	2-6"		SAA, little loose organics trace plastic
	K53609	6-12"		Olive brown f-M SAND, tr organics
	K53610	12-~~24~~ 21"		SAA
	K53611	Dupe of K53610		PCBs/TOC

6/6/00

FF-17

1500	K53612	0-2"	PCB/TOC GS	olive brown f-m Sand little f-m Gravel, tr Silt
	K53613	2-6"		Olive brown f-m SAND, little c-Sand, Some f-m GRavel, tr cobble
	K53614	6-12"		SAA, no cobble
	K53615	12-24"		Dk olive gray f-m SAND tr c-Sand, tr f-m Gravel.

FF-14

1530	K53616	0-2"	PCB/TOC GS	M-brown f-m SAND, little c-Sand
	K53617	2-6"		SAA, tr org
	K53618	6-12" MS/MSD		Light olive-brown f-m SAND, tr c-Sand, Silt + organics
	K53619	12-24"		SAA Olive-brown
D-3	K53620	Dupe of K53619	PCB/TOC	

FF-115

1600	K53621	0-2"	PCB/TOC GS	orange-brown f-m SAND
	K53622	2-6"		SAA
	K53623	6-12"		SAA 6-8" Olive gray f-m SAND, little c-Sand
	K53624	12-24"		Olive gray f-m SAND, little c-Sand tr. f-gravel.

FF-25

1[illegible]	K53[illegible]	[illegible]	PCB/TOC	olive brown f-SAND, tr

6/6/00			FF-15		
1620	K53630	0-2"	PCBs/TOC GS	Very dk brown SILT, tr natural organics	
	K53631	2-6"		Brown f-SAND+SILT, tr c-Sand f-m Gravel, trace plastic sheeting + brick	
	K53632	6-12"		Very dk gray f-SAND, SILT + ORGAN/ WOOD, tr plastic (sheeting?)	
	K53633	12-24"		Very Dk gray f-SAND, little m-c Sand; tr f-c Gravel (Concretions) tr organics, brick	
			FF-19		
1630	K53634	0-2"	PCB/TOC GS	Olive brown f-m SAND, tr organic material & f-m Gravel, tr c-Sand · trace Silt	
	K53635	2-6"		Olive brown f-m SAND, tr Silt, tr organics, tr. clear plastic tr c-Sand + f-m Gravel	
	K53636	6-10"		Olive brown f-m SAND, tr c-Sand + f-Gravel, little cemented Sands, tr black Silt + fibrous material, odor.	
40	K53637	10-24"		Black, very dk brown SILT, trace fibrous material, odor	

6/7/00 BBL: LMS CPM: A. Santini

Time					
			FF-87		
1410	K10718	0-6"	PCB/TOC GS		Very dk brown SILT, little organics, +r f-SAND
	K10719	6-12"			SAA
	K10720	12-24"			Olive gray f-m SAND, tr c-Sand, some fe staining from 12-17"
			FF-51		
1430	K10721	0-6"	PCB/TOC GS		Very dk brown SILT, tr natural organics
1430	K10722	6-12"			Very dark brown SILT, little roots, tr f-Sand.
D-1	K10723	Dupe of		K10722 PCB/TOC	
1430	K10724 MS/MSD included	12-24"			Olive brown & dk olive gray f-SAND+SILT, tr c-Sand + f-m Gravel.
			FF-91		
1500	K10725	0-6"	PCB/TOC GS		Very dk brown SILT + natural organics (PEAT) tr. rootlets
	K10726	6-12"			SAA, little olive brown SILT + CLAY chunks smeared from 12-24"
	K10727	12-14"			Olive brown SILT, CLAY + organics
	K10728	14-24"			Olive gray f-SAND, little Silt.
			FF-89		
1510	K10729	0-6"	PCB&TOC GS		Very dark brown SILT, little natural organics, tr f-SAND
	K10730	6-12"			Light olive-brown, f-m SAND, tr Silt, tr- rootlets

6/7/00

			FF-88 PCB/TOC GS	
1530	K10733	0-6"		Very dk brown SILT, some clay, little organics
	K10734	6-12"		Very dark brown SILT + natural organics (PEAT).
	K10735	~~12-24"~~ 12-19"		SAA
	K10736	19-24"		Olive gray f-m SAND, trace shells
			FF-90 PCBs/TOC GS	
1540	K10737	0-6"		Very dark brown SILT, tr f-Sand, rootlets
	K10738	6-12"		Very dark brown grading to yellow-brown f-SAND, some silt
	K10739	12-24" + MS/MSD	PCBs/TOC	Yellow-brown f-SAND.
D-3	K10740	Dupe of K10739	PCBs/TOC	
			FF-49 PCB/TOC GS	
1600	K10741	0-6"		Brown f-c SAND + ROOTLETS, tr. Silt
	K10742	6-16"		Very dk brown SILT / some + f-SAND organics, tr ~~f-Sand~~
	K10743	16-20"		Brown f-c SAND
	K10744	20-24"		Dk olive gray f-SAND + SILT, little organics
			FF-52 PCB/TOC GS	
1615	K10745	0-6"		Olive gray SILT, some organics, tr. f-Sand
	K10746	6-12"		Very Dk brown + olive gray SILT, little organics
	K10747	12-17"		Very dk brown SILT, little f-Sand, + organics.

6/
A1
A2
C1
A3
A4
AC
C2
C3
A6
A7
C4
A8
A9
C5

6/9/00 BBL: LMS CDM: A. Santin

FF-92 PCB/TOC GS (River)

0940	K53662	0-2"		Dk olive brown SILT, trace organics
	K53663	2-6"		SAA
D-1	K53664	~~6-12"~~	Dupe of	K53663 PCBs/TOC
	K53665	12-14" ~~+2 [illegible]~~		SAA
	K53666	14-24" MS/MSD taken		Dk gray f-SAND, trace organics + Silt

FF-53 PCB/TOC GS (Floodplain)

1000	K10748	0-~~6~~"		olive gray SILT, CLAY & organics (roots).
	K10749	6-12"		SAA
	K10750	12-17" MS/MSD taken		Dk gray SILT + CLAY, trace roots + fibers, odor
	K10751	17-20"		Dk olive gray f-SAND tr m-C Sand, tr f-Gravel + organics
D-1	K10752	Dupe of	~~K10751~~ K10749	PCBs/TOC 6-12"

6/13/00 BBL: L. Sanders CDM: A. Schaffner

FF-101

Time				
1240	K53667	0-2"	PCB/TOC GS	very dk brown SILT, tr. organic matter
	K53668	2-6"		SAA, little organic matter.
	K53669	6-17" per COM		SAA, trace organic matter.
	K53670	17-19" per COM	PCB/TOC ONLY	Olive gray, F-SAND
	K53671	19-24"	PCB/TOC GS	very dk. brown SILT, tr. organic matter.
D-1	K53672	DUPE of K53670		PCB/TOC

FF-102

TIME				
1300	K53673	0-2"	PCB/TOC GS	very dk brown SILT, tr. organics
1300	K53674	2-6"		SAA
1300	K53675	6-12"		SAA, tr. F-C Sand
1300	K53676	12-18" MS/MSD, PCBs & Lab DUP TOC taken 12-18"		dk. gray SILT & CLAY, tr. organics & fibrous material odor.
1300	K53677	18-24"		dk. olive brown F-M SAND

FF-103

TIME				
1320	K53678	0-2"	PCB/TOC GS	Very dk. brown SILT, tr. gray plastic sheeting
1320	K53679	2-6"		very dk. brown SILT, tr. organics
1320	K53680	6-12"		SAA, little organics

6/13/00 BBL: L. Sanders COM: A. Santini

TIME		FF-82		
1350	K10753	0-6"	PCB/TOC GS	very dk. brown SILT, little rootlets, tr. F-Sand.
1350	K10754	6-12"		SAA, tr. rootlets & organics, tr. F-Sand.
1350	K10755	12-20" 18"		SAA, tr. M-C Sand, tr. F-Gravel.
1350	K10756	20-26"		light olive-brown, F-M SAND, tr. C-Sand & F-Gravel
D-1	K10757	Dupe of K10756	PCB/TOC	

TIME		FF-57		
1400	K10758 &	0-6"	PCB/TOC GS	v. dk. brown SILT, little rootlets & organics
1400	K10759	6-12" MS/MSD, PCBs & Lab Dupe take 6-12"		SAA, tr. F-Sand
1400	K10760	12-18" per COM		SAA
1400	K10761	18-25"		dk. olive gray F-SAND, little M-Sand, tr. and little Silt.

TIME		FF-63		
1500	K10762	0-6"	PCB/TOC GS	dk. brown SILT, some rootlets, tr. organics.
1500	K10763	6-12"		very dk brown SILT and ORGANICS.
1500	K10764	12-19"		SAA
1500	K10765	19-24"		light gray and dk. brown SILT, tr. rootlets.

6/13/00 BBL: L. Sanders CDM: A. Santini

TIME				
		FF-55		
1520	K10767	0-6"	PCB/TOC GS	very dk. brown SILT, tr. rootlets and organics.
1520	K10768	6-12"	~~MS/MSD PCB, TOC~~ Dupe TOC ~~taken 6-12" NS~~	dk brown/dk gray SILT, little F-Sand, tr. organics and rootlets.
1520	K10769	12-22" no recovery 22-24"	~~per COM~~	dk brown/dk gray SILT, Some F-Sand.
~~1520~~	~~K10770~~ NS			
		FF-84		
1530	K10770	0-6"	PCB/TOC GS	very dk. brown SILT and light brown F-Sand, little rootlets, tr. organics.
1530	K10771	6-12"		dk/olive brown NS F-SAND and Some M-~~Sand~~ Silt, tr. rootlets.
1530	K10772	12-21" no recovery 21-24"		olive brown F-SAND, Some M-Sand, tr. rootlets.

6/14

TIME

1401

140

D—

TIME

14

14

14

6/14/00 BBL: L. Sanders CDM: A. Santini

TIME				
		FF-29		
1400	K53683	0-2"	PCB/TOC GS	olive gray FM SAND, little C-Sand, tr. F-M Gravel and organics.
1400	K53684	2-7"	↓	olive gray F-SAND, little M-Sand and Silt.
D-1	K53685	dupe of K53684	PCB/TOC	
		FF-104		
TIME-1408 NR	K53686	0-2"	PCB/TOC GS	very dk. brown SILT and loose organics.
1415	K53687	2-6"	↓	very dk. brown SILT, tr. organics.
1415	K53688	6-12" MS/MSD, PCB, Lab dupe taken 6-12"		dk. olive gray SILT, little Clay, tr. rootlets
1415	K53689	12-24"	↓	SAA, little F-Sand

6/14/00 BBL: L. Sanders COM: A. Santini

TIME			FF61	
1430	K10773	0-6"	PCB/TOC GS	very dk. brown ORGANICS little Silt. (PEAT)
1430	K10774	6-12"		SAA
1430	K10775	12-24"		SAA
D-1	K10776	lab dupe of K10775	PCB/TOC	

TIME			FF-56	
1440	K10777	0-6"	PCB/TOC GS	very dk. brown SILT and highly degraded Natural Organics, little rootlets, tr. gray Clay
1440	K10778	6-12"		dk. olive gray SILT and CLAY, tr. rootlets, tr. organics
1440	K10779	12-17" per com		SAA, no rootlets.
1440	K10780	17-24" per com MS/MSD, PCB, TOC lab dupe taken 17-24"	PCB/TOC	olive gray very fine to F SAND, trace Silt and Clay and Organics

Date: 7/7/00

Attendees: TW, AS, CPM

SEDIMENT CORE: FF-113

13:45	KS3733	PCB, TOC PS	0-2"	Black Fine 9:14, organics	
13:45	KS3734		2-8"	SAA	
	KS3735		8-12"	olive f.s. to med. sand	
	KS3736		12-24"	SAA, trace shells	

CORE: FF-112

13:50	KS3737	0-2"	PCB, TOC PS	DB 9:14	with odor
	KS3738	2-6"		SAA	
	KS3739	6-12"	No Particle size	SAA	
	KS3740	12-24"		SAA	
	KS3741	24-36"		SAA	

CORE: FF-111

14:15	KS3742	0-2"	PCB, TOC PS	DB silt	w/ trace sand + organics
	KS3743	2-6"		SAA	
	KS3744	6-12"		SAA	
	KS3745	12-24"		SAA	
	KS3746	24-36		SAA	

CORE: FF-110

14:30	K53748	0-2"	PCB, TOC PS	DB silt with organics
	K53749	2-6"		SAA
	K53750	6-12"		SAA
	K53751	12-24"		SAA
	K53752	24-34"		SAA
D-2	K53753		Dup of	K53752

CORE: FF-105

14:45	K53754	0-2"	PCB, TOC PS	DB silty topsoil, some roots
	K53755	2-6"		SAA
	K53756	6-12"		Fine silty with organics
	K53757	12-21 MS/MSD		~~[illegible]~~ SAA
	K53758	21-36"		GRAY fine to medium sand

CORE: FF-114

15:00	K53759	0-2"	PCB, TOC PS	DB silty, trace sand + organics
	K53760	2-6"		SAA
	K53761	6-12"		SAA
				[illegible] + [illegible] Peat

TIM
15
15

TIME:				
		Core FF-23		
1520	K53765	0-2"	PCB/TOC GS	olive grey M-C SAND & gravel
	K53766	2-6"		olive grey M-C SAND & gravel
	K53767	6-18"		SAA
		Core: FF-97		
1530	K53768	0-2"	PCB/TOC GS	DK. olive grey SILT + little ~~& some F-Sand~~.
	K53769	2-6		SAA
	K53770	6-12		SAA
	K53771	12-24 18	NZ	SAA w/ little F-Sand.
	K53773	18-24		SAA w/ tr. F-Sand & organics
	K53772	24-33		SAA w/ little V. F-SAND.
D-4	K53774	Dupe of ~~K53772~~ K53773	NZ	
		Core: FF-22		
1545	K10820	0-6"	PCB/TOC GS	dk. olive grey SILT, little F-Sand, rootlets
	K10821	6-12"		dk. olive grey SILT, little F-Sand, tr. M-Sand.
		Core FF-30		
1600	K10822	0-6"	PCB/TOC GS	dk. olive grey SILT, little F-Sand, rootlets.
	K10823	6-12"		dk brown SILT w/ little F-Sand, rootlets.

TIME				
		Core: FF-98		
1605	K10825	0-6"	RCB/TOC 65	brown F-M SAND
↓	K10826	6-12"	↓	olive SILT & F-SAND.
↓	K10827	12-24	↓	olive grey SILT, little F-Sand.
		Core: FF-38		
1615	K10828	0-6	RCB/TOC 65	dk brown SILT & F-Sand, rootlets.
↓	K10829	6-12	MS/MSD	SAA
↓	K10830	12-24	↓	olive grey SILT, little F-Sand, tr. M-gravel.
D-1	K10831	Dup of K10830		

Date: 7/12/00

Attendance: TW, KM, AS, CDM

2000 Core Sectioning

Core: FF-95

12:20	K10832	0-6"	PCB, TOC PS	DB silty sand, rootlets throughout, trace large gravel
	K10833	6-12"		Greenish mottled silty sand, trace roots,
	K10834	12-24"		Greenish mottled, some roots silty sand.

Core: FF-94

12:40	K10835	0-6"	PCB, TOC PS	DB silty with organics
	K10836	6-12"		SAA
	K10837	12-20"		SAA
	K10838	20-24"		DB [illegible] clay

Core: FF-41

12:50	K10839	0-9"	PCB, TOC PS	DB silty sand, rootlets
	K10840	~~6-9"~~ 9-12"		LB ~~fine~~ SAND
	K10841	12-24"		LB F-SAND
Dup	D-1 K10842	Dup of K10841		

13:05

13:15

13:30

Core: FF - 48

13:05	K10843	0-6"	PCB, TOC, PS	DB silt w/ organics
	K10844	6-12"		DB silt w/ wood, trace rootlets
	K10845	12-24"		DB SILTY, trace wood

Core: FF - 34

13:15	K53775	0-2"	PCB, TOC, PS	DB sandy silty w/ organics
	K53776	2-6"		SAA
	K53777	6-12"		DB coarse sandy gravel, some fine sand + silt.
	K53778	12-24"		DB coarse sand + gravel, some fine sand

Core: FF - 33

13:30	K53779	0-2"	PCB, TOC, PS	DB F-SANDY SILT, trace rootlets
	K53780	2-6"		SAA
	K53781	6-12"		SAA, trace peat
	K53782	12-24"		DB F-SAND, trace roots

2000 Core Sectioning

7/19/00 Attendance: NZ, JTG, AS-CBD

book	TIME				
			Core: FF-27		
	0830	K10846 NZ	0-6"	PCB/TOC 65	dk. brown SILT, rootlets.
	0840	K10847	6-12"		SAA
	0850	K10848	12-23"		dk. brown SILTY SAND.
			Core: FF-54		
	0900	K10849	0-6"	PCB/TOC 63	brown F-SAND, rootlets
		K10850	6-12"		SAA
		K10851	12-24"		reddish-brown F-SAND.
			Core: FF-58		
	0910	K10852	0-6"	PCB/TOC 65	lt. brown CLAY, rootlets, tr. organics.
		K10853	6-12" MS, PCB, TOC		~~lt. SAA~~ NZ SAA
		K10854	12-23 NZ	lab dupe	taken 6-13" dk. brown organic SILT (PEAT).
	D-1	K10855	dupe of K10854 NZ		PCB/TOC
			Core: FF-62		
	0930	K10856	0-6"	PCB/TOC 65	dk. brown F-SAND, rootlets, tr. organics.
		K10857	6-12"		SAA
		K10858	12-24"		dk. olive grey F-SAND, tr. M-sand.

7/19/00

Core: FF-60

0945 K10859 0-6" PCB/TOC 65 dk. brown SILT, rootlets; tr. wood

K10860 6-12" v. dk. olive grey SILT, rootlets

K10861 12-19" v. dk. brown SILT.

K10862 19-24" olive grey F-SAND,

Core: FF-59

1000 K10863 ~~0-6~~ 0-8" PCB/TOC 65 dk brown SILT, rootlets.

K10864 8-12 red F-SAND

K10865 12-24 red F-M SAND

D-2 K10866 dupe of K10865

7/19/00

Time:

1010

1030

D-1

1040

1100

D-2

2000 Core Sectioning

7/19/00 Attendance: NLT, JTG, AS-CDM

Time:			
	Core: FF-24		
1010	K53827	0-2" PCB/TOC GS	dk.grey SILT, tr. organics.
	K53828	2-6"	~~SAA, tr. organics.~~ SAA
	K53829	6-14"	Blue-grey CLAY, tr. C-Sand & F-M gravel.
	Core: FF-28		
1030	K53830	0-2" PCB/TOC GS	v. dk. dk grey SILT & v. F-SAND.
	K53831	2-6"	SAA
	K53832	6-14" MS/MSD PCB & TOC Lab 6-14	SAA, tr. organics.
	K53833	14-23" ~~MS/MSD~~ DUP & TOC Lab GS PCB DUPE	use SAA dk grey CLAY, tr. organics & wood, shells.
D-1	K53834	dupe of K53833	PCB/TOC
	Core: FF-~~X~~18		
1040	K53835	0-2" PCB/TOC GS	dk. dk grey M-SAND, tr. F-M gravel.
	K53836	2-6"	SAA
	K53837	6-12"	dk grey F-C SAND, tr. F-gravel.
	K53838	12-16"	dk grey F-M SAND, tr. C-sand & F-gravel.
	Core: FF-16 PCB TOC		
1100	K53839	0-2" GS	dk. dk grey F-M SAND, little F-M gravel
	K53840	2-6"	dk. dk grey F-M SAND.
	K53841	6-12"	dk. dk grey F-SAND & SILT, tr. M-gravel.
D-2	K53842	dupe of K53840 (2-6)	TOC/PCB

DATE: 7/21/00

ATTENDANCE: TW, AS

TIME:

CORE: FF-42

PCB, TOC

13:15	k10867	0-6"	DS	DB	silty clay w/ rootlets
	k10868	6-12"			
	k10869	12-25"		DG	sand, some gravel

CORE: FF-39

PCB, TOC

13:35	k10870	0-6"	DS	DB	silty clay w/ rootlets
	k10871	6-15"		DG	clay, rocks mottling
	k10872	15-20"		DG	

1200
1205
1208
1210
1215
1220
1230
1235
1240
1245
1250
1255

DATE: 8/4/00

ATTENDANCE: TW, AK (CDM)

			FP-50 Duplicate	
10:45	t10873	0-6"	DB	Brown medium to fine sand
	t10874	6-12"		SAA, some coarse sand.
	t10875	12-24"		Brown fine sand, trace organics trace to some silt.

			FP-42 Duplicate	
10:50	t10876	0-6"	FP	DB, silty topsoil
	t10877	6-12"		DB silty topsoil, large gravel some coarse sand.

Appendix F

ELASLAND, BOUCK & LEE, INC.
engineers & scientists

Impacts of the MDNR Dam Removal

Appendix F: Impacts of the MDNR Dam Removal

The Plainwell, Otsego, and Trowbridge dams were originally constructed for the production of hydroelectric power. Use of the dams for power generation ceased in December 1965, and they were deeded to a predecessor of the Michigan Department of Natural Resources (MDNR) by Consumers Power Company in September 1967. The MDNR drew down the three impoundments by permanently opening the dams in the early 1970s. In 1987, the dams were removed down to their sills.

As a result of the drawdown of water in the impoundments, the conditions of the Kalamazoo River have been altered such that the scope and complexity and, consequently, the duration and cost of investigating and remediating the Site have increased significantly. This section reviews the physical alterations and added potential remedial needs and costs caused by drawing down the impoundments. Physical impacts resulting from these drawdown activities include altered channel hydraulics, increased sediment erosion and transport, and habitat modification. The added potential remedial needs and response costs are related to increased exposure to polychlorinated biphenyls (PCB), increased potential risks to human health and the environment, increased Remedial Investigation/Feasibility Study (RI/FS) and remedial action scope and complexity, temporary reversal of ongoing natural attenuation, and potential for natural resource damage (NRD) liabilities.

Physical Effects of Drawdown Operations

Altered Channel Hydraulics. Rivers tend to approach equilibrium states or near-equilibrium states over time. The rapid drawdown of the impoundments interrupted this natural tendency of the Kalamazoo River to approach equilibrium conditions by drastically altering the channel hydraulics (Voskov et al., 1991). Hydraulic head was reduced by about 5 to 10 feet at each dam (Donahue & Associates, 1990), and the impounded areas were changed from sediment depositional environments where PCB-containing sediment would have been gradually buried under cleaner sediment, to unstable erosional environments with hundreds of acres of newly exposed former sediments and floodplains. The exposed sediment banks, which contain a significant mass of PCB, are now susceptible to undercutting and downstream transport due to increased river velocities, decreased side-slope stability, and potential channel meandering.

Sediment Erosion and Transport. The release of impounded water resulting from drawdown and dam removal increased flow velocities near the dams by factors ranging from 5 to 15 (GZA-Donohue, 1990). The high velocities increased erosion of the channel bed and side slopes, resulting in downstream transport and dispersal/redistribution of PCB-containing sediments (Anderson, 1991; Anderson and Creal, 1989). Results of analyses of sediment core

samples collected from the former impoundments (Blasland, Bouck & Lee, Inc, [BBL], 1994) were used to estimate the mass of PCB and volume of PCB-containing sediments that were transported as a result of opening the dams. A representative channel cross-section showing both pre- and post-drawdown channel profiles and water surface levels, as well as the estimated cross-sectional area of former sediment that was removed and transported downstream are presented in Attachment 1 to this appendix. The estimated volumes of PCB-containing sediments that were transported downstream from the Plainwell, Otsego, and Trowbridge impoundments are 257,400 cubic yards (cy), 353,200 cy, and 465,500 cy, respectively. The estimated PCB mass associated with the sediment volumes redistributed in the river from the former Plainwell, Otsego and Trowbridge impoundments are 3,800 kg, 5,235 kg, and 5,789 kg, respectively.

Habitat Modification. Permanently opening the three dams resulted in a net reduction in water elevation of about 5 to 10 feet in each impoundment, exposing approximately 200- to 800-foot-wide sections of sediments on both sides of the river that previously were under water (Blasland & Bouck Engineers, P.C. [BBEPC], 1992). Thus, areas that were once under water were rapidly turned into floodplains and/or wetlands, and areas that were once wetlands or low-lying floodplains became upland habitats, significantly altering the geographic configuration of the habitat and the quality of the environment.

Increased Complexity and Need for Response

Increased Exposure Pathways and Potential Risk. MDNR's actions in the impoundments also had an impact on potential risks to human health and the environmental from PCB exposure. Drawdown of the impoundments changed each area from a flooded, aquatic environment to an exposed, terrestrial environment, and interrupted and likely reversed several years of decreasing PCB exposure to aquatic organisms. Natural attenuation, primarily as a result of the ongoing deposition of progressively cleaner sediment, would have continued to decrease the exposure of aquatic organisms to PCB, and subsequently, would have lowered potential health risks to people who eat fish from the river. By exposing hundreds of acres of former sediments, drawdown of the impoundments caused an increased potential in PCB bioavailability and created new exposure pathways for terrestrial biota receptors and potentially impacted food chains since land animals and plants were able to colonize the drained areas.

In addition to increasing terrestrial biota exposure potential, the downstream transport of PCB-containing sediment increased PCB exposure potential for aquatic biota (in particular, fish) below the dams, as well for the anglers who catch and eat fish from the river. By releasing sediments formerly retained in the impoundments, the areal extent of PCB distribution downstream of each impoundment was increased, thereby extending the total length of river and shoreline where potential human and ecological exposure to PCB could occur. These exposed sediments are accessible to human trespassers, hunters, and anglers, presenting potential dermal and ingestion exposure pathways

that did not previously exist. Additional evaluation of the risks associated with these newly created pathways were required. Fortunately, ongoing studies, discussed in more detail in the *Supplement to the Kalamazoo River RI/FS*, indicate that this will be eliminated as a pathway of concern.

Increased Remedial Action Scope and Complexity. The release and dispersal of sediments (especially the deeper sediments with higher PCB concentrations) from the former impoundments has increased the scope, complexity, duration, and cost of site investigation and remediation.

The accelerated sediment erosion and transport, redistribution of sediment/soil domains, and increased exposure associated with impoundment drawdown increased the scope of the remedial investigation. There are clearly distinguishable investigations and associated costs that would not have been undertaken but for the drawdown of the impoundments. For example, the terrestrial biota investigation and the former impoundment exposed sediment investigation would have been greatly limited or entirely unnecessary.

Impoundment drawdown altered potential exposure pathways from aquatic to terrestrial biota due to increased PCB potential bioavailability, increased potential for PCB bioaccumulation (due to increased exposure and broader food chains), and removed the potential for natural attenuation processes to bury the PCB-containing sediment under progressively cleaner sediment, making it unavailable for uptake by ecological receptors. These factors in turn increased the potential risks and overall complexity of the assessment process and its resulting risk characterizations.

Impoundment drawdown will increase the complexity of the feasibility study by increasing the array and analysis of appropriate remedial technologies. For example, remedial alternatives now must address a wider variety of media types, larger sediment volumes, and greater geographic scope. In addition, altered wetland/terrestrial/floodplain sediment environments add to volumes that may be addressed by remediation, and slope instability (due to drawdown) increases the cost and complexity of evaluating potential alternatives.

Impoundment drawdown will also increase the cost and complexity of the remedial design, if remediation is deemed necessary, due to the need to address the above mentioned factors. Moreover, the cost to address potential source controls, such as mitigating the undercutting and erosion of the banks in the former impoundments, would not have been necessary if the MDNR had not permanently opened the three dams. Drawdown of the impoundments may also lead to an increase in duration, scope, and cost of long-term monitoring beyond what would be expected under no-action or natural attenuation alternatives.

Loss of Ongoing Natural Recovery. Prior to drawdown of the three MDNR-owned impoundments, the Kalamazoo River was approaching equilibrium conditions. Vertical sediment profiles of these areas indicate that a process of natural attenuation was active as cleaner sediments were being deposited over the deeper, higher concentration sediments, which would have the effect of isolating the PCB-containing sediments and decreasing their bioavailability (BBL, 1994; NUS, 1986). During drawdown, and again during dam removal to sill levels, local flow velocities increased in these zones, thereby changing them from depositional to erosional environments.

If a baseline is established corresponding to pre-drawdown conditions (early 1970s) when PCB production and use were curtailed by industry and deposition of PCB in sediment was in decline, the drawdowns disrupted and set back the process of recovery natural. But for these actions, the former impoundments would have continued to recover naturally as PCB-containing sediments were buried under progressively cleaner sediments from upstream. Comparing the pre-drawdown baseline to present conditions, over 20 years of natural attenuation via sedimentation at a rate of approximately 0.25 to 1.13 inches per year have been lost (BBL, 1994; Voskov et al., 1991). In addition to this loss, drawdown of the impoundments caused the release and downstream transport of PCB-containing sediment, thereby interrupting and turning back natural attenuation in other areas of the river (e.g., downstream of dams) as sediments with higher PCB concentrations were deposited on top of sediments with lower concentrations. In fact, much of the PCB mass now present in Lake Allegan may be attributable to sediment transport caused by drawdown of the impoundments.

Potential for Increased Resource Restoration Needs Created by Drawdown. Impoundment drawdown and removal of dams to sill levels potentially caused certain natural resource injuries, or exacerbated others, due to the accelerated physical changes (channel hydraulics, channel equilibrium, sediment transport, and habitat modification), and creation of PCB exposure pathways to terrestrial organisms. For example, the release and greater geographic dispersal of PCB-containing sediments (Anderson and Creal, 1989) likely have had adverse effects on the status, severity, and areal extent of Kalamazoo River fish consumption advisories.

MDNR Recognition of PCB Issues in Relation to Dam Management

The MDNR was aware of both the existence and physical condition of PCB-containing sediments in the Kalamazoo River, particularly the sediments trapped behind the Plainwell, Otsego, and Trowbridge dams, based on investigations conducted prior to the decision to remove the dams. The agency still chose to drawdown the impoundments and remove the dams to their sill levels, despite the known potential adverse effects associated with these actions. In reference to dam removal, former Deputy Director of Resource Management, Mr. C. D. Harris, stated in 1974 that "one of the major reasons the Department accepted these dams from the State from Consumers Power Company was on recommendations of the Water Resources staff that it was important these dams be retained as they served in

providing settling basins for waste being carried by the river and removal [of the dams] would eliminate this benefit and further degrade the quality of the downstream waters." Mr. Harris also questioned whether MDNR "has fully recognized future liabilities to which this Department may be held responsible with reference to downstream silting which very likely will occur if any one of these dams is removed to the bed of the stream" (Harris, 1974).

Despite publishing dam inspection reports which cite serious safety issues (each dam has received a "high hazard" rating) (Hayes, 1995a, 1995b, 1995c, 1996a, 1996b, 1996c), the MDNR has neglected maintenance of the Plainwell, Otsego, and Trowbridge dam sills, resulting in an increased risk of future releases from the former impoundments. This neglect may also result in increased maintenance costs over the long term, as the condition of disrepair has accelerated erosion of the adjacent banks and dam sill structures.

Summary

Drawdown of impoundments and removal of the dam superstructures lead to the following physical impacts and increased liabilities:

Physical Impacts:

- Alteration of channel hydraulics and side-slope instability;
- Disruption of the riverbed's natural progression toward equilibrium;
- Release and downstream transport of formerly stable PCB-containing sediment; and
- Alteration (and in some cases degradation) of aquatic and terrestrial habitat.

Increased Complexity and Need for Response:

- Alteration of the Site to create a condition of ongoing PCB release from the banks of exposed sediment in the former impoundments;
- Alteration of exposure pathways and increase in potential risks to human health and the environment;
- Temporary reversal of ongoing natural attenuation;
- Increased RI/FS scope and process;
- The need to consider/analyze the implications of sill removal;
- The need to identify and establish MDNR as a cost-sharing potentially responsible party (PRP);
- Increased remedial design and construction complexity;
- Increased long-term monitoring needs;
- Increased time to complete the Superfund process;
- Potential creation or exacerbation of natural resource injuries; and

- Increased cost and scope of primary restoration.

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Attachment

Attachment 1

BLASLAND BOUCK & LEE, INC.
engineers & scientists

Former Impoundment PCB Losses Due to Drawdown

Attachment 1: Former Impoundment PCB Losses Due to Drawdown

Purpose

To estimate the mass of polychlorinated biphenyls (PCB) transported downstream as a direct result of the Michigan Department of Natural Resources' (MDNR's) drawdown of water impounded by the Plainwell, Otsego, and Trowbridge dams.

Approach

Impoundment drawdown caused the Kalamazoo River to carve a new channel into the former impoundment sediment and transport the displaced material downstream. Transects in each of the former impoundments were sampled as part of the Former Impoundment Sediment Investigation, and analyzed for PCB (BBL, 1994a). Using these data and channel geometry data collected during the Sediment Characterization Investigation (BBL, 1994b), the volume of sediment scoured from the former sediment beds was estimated and the mass of PCB associated with that sediment was calculated.

Assumptions

- Exposed sediment samples immediately adjacent to the current river channel represent the sediment characteristics and PCB concentrations in the sediment transported downstream by the Kalamazoo River after impoundment drawdown.

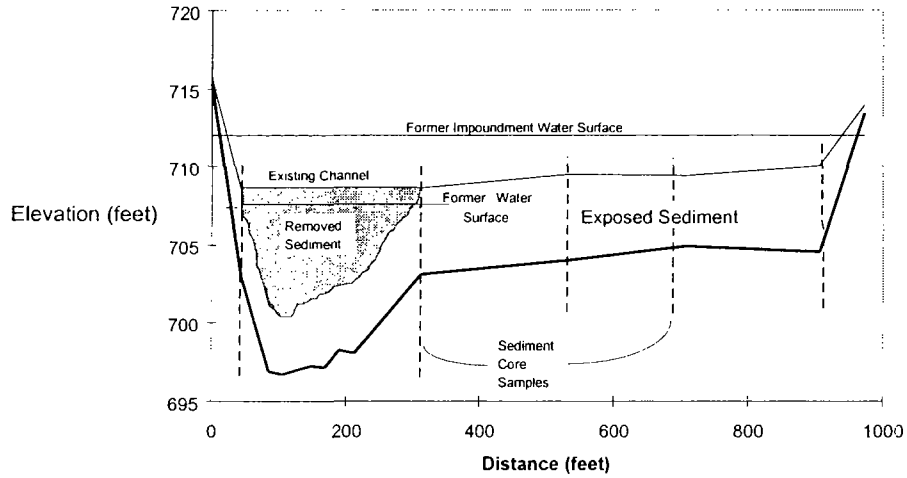
- Sediment depth and PCB data from a given transect are representative of the longitudinal interval defined by one-half the distance from that transect to the nearest transect in both the upstream and downstream directions.

- Specific weight of the sediment is 80 pounds per cubic foot (pcf).

Methods

An example of a former impoundment cross-section illustrating the relevant components of sediment volume and PCB mass estimation is presented below.

Example of a Former Impoundment Cross-Section



- The cross-section of each former impoundment transect was plotted showing the former impoundment water elevation, the top of the former sediments (assumed to be the current floodplain surface), and the bottom of the former sediments.

- Using channel geometry from the nearest river cross-sections, the existing channel was plotted within each of the former impoundment transects. All cross-sections and sampling points were surveyed to provide accurate geographic coordinates and surface elevations.

- PCB data from exposed sediment samples adjacent to the existing channel were averaged arithmetically by depth interval to estimate the PCB concentration, by depth, in the former impoundment sediment that was displaced by the down-cutting river channel.

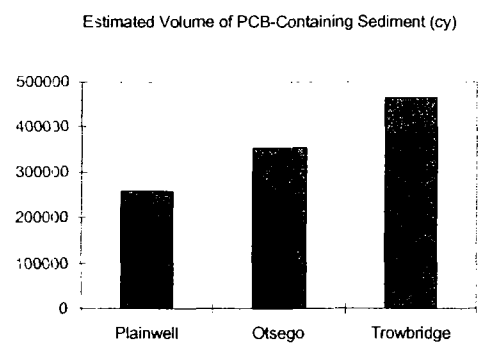
- Volumes of PCB-containing sediments transported downstream were calculated for each depth interval using the cross-sectional area and the distances between the two nearest transects. The mass of PCB within these volumes was estimated using the average PCB concentration and a specific weight of 80 pcf of sediment. If an exposed sediment sample indicated that PCB were not present at a given depth interval, these data were not included in the sediment volume or PCB mass calculations.

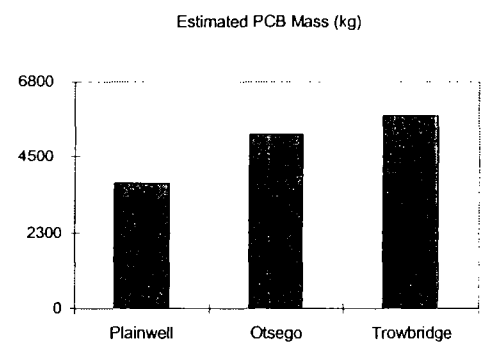
- Total sediment volume and PCB mass removed from each former impoundment was calculated.

Results

- The estimated volumes of sediments that contained PCB that were transported downstream from the former Plainwell, Otsego, and Trowbridge impoundments as a result of drawdown are 257,400 cubic yards (cy), 353,200 cy, and 465,000 cy, respectively.

- The estimated mass of PCB associated with each of the sediment volumes removed from the former Plainwell, Otsego and Trowbridge impoundments are 3,800 kilograms (kg), 5,234 kg, and 5,789 kg, respectively.





Notes

Sediment volumes and PCB masses were estimated based on the current former impoundment topography (i.e., after drawdown) and account for the sediment displaced by the river channel itself. The pre-drawdown bathymetry of the impoundments is not known, so no estimate was made of former sediment volumes removed from other geographical areas of the former sediment bed.

The calculated sediment volumes and PCB mass removed were least in the former Plainwell Impoundment and greatest in the former Trowbridge Impoundment. However, the ratio of PCB mass removed to volume of sediment removed is lowest for the former Trowbridge Impoundment and highest for the former Otsego Impoundment. The highest average and individual PCB concentrations were both observed in the former Otsego Impoundment. Also, PCB concentrations decreased with depth more sharply in the former Trowbridge Impoundment than in the former

Plainwell and Otsego impoundments, indicating that the rate of sediment erosion decreased as the riverbed elevation dropped.

No consideration was given to the volume of sediments observed at the bottom of the existing Kalamazoo River channel. These sediments could potentially have originated from the former impoundments that settled in the old (pre-dam construction) river channel or sediment more recently transported from upstream sources and deposited in the channel after drawdown of the impoundments had occurred.

References

Blasland, Bouck & Lee, Inc. (BBL). 1994a. *Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site - Draft Technical Memorandum 12 - Former Impoundment Sediment Investigation* (Syracuse, NY: May 1994).

BBL. 1994b. *Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site - Draft Technical Memorandum 10 - Sediment Characterization/Geostatistical Pilot Study* (Syracuse, NY: July 1994).

Appendix G

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Estimation of Former Impoundment Sediment Volume and PCB Mass

Appendix G: Estimation of Former Impoundment Sediment Volume and PCB Mass

The former Plainwell, Otsego, and Trowbridge impoundments were acquired by the State of Michigan in 1967. In the early 1970s, the dams were removed by the MDNR, which lowered the impoundments down to their sill levels where they remain today. This draw-down created floodplain areas along the impoundments, which are composed of former sediments that are now exposed. *Draft Technical Memorandum 12* (Blasland, Bouck & Lee, Inc., 1994) presented the results of sampling along 21 transects within these former impoundments and the analyses of samples from 159 cores from those transects.

This appendix describes the process used to estimate the volume of former sediments and the mass of PCB in these former sediments as well as the results of these estimations. The volume and mass estimates presented here may differ from other preliminary estimates.

Methods

The estimates of former sediment volume and PCB mass were calculated for each depth interval individually (0 to 0.5 feet, 0.5 to 1.5 feet, 1.5 to 2.5 feet, etc.). Tables 1 through 3 present the values and results of calculations used for each former impoundment. Included in each table is a column of line numbers that correspond to a specific calculation or value. Lines 1 through 10 present information used as input to, or as a result of, calculations leading to estimates of former sediment volume and PCB mass. Lines 11 and higher present PCB concentration data from individual core samples. A detailed description of each calculation on a line-by-line basis (Lines 1 to 10) is presented below.

Average PCB Concentration (Line 1)

The arithmetic average PCB concentration for a given depth interval was calculated for all samples (lines 11 and higher) located within the former sediment of an impoundment (as shown on Figures 1 through 3). Where duplicate samples were encountered, the average of the original and duplicate sample was used. Samples with PCB concentrations reported as not detected were counted as one-half of the detection limit.

Sample Count (Line 2)

The sample count for each depth interval was based upon the total number of samples (from lines 11 and higher) from that depth interval.

Total Area of Former Sediment (Line 3)

The area of former sediments in each impoundment was estimated through the use of a planimeter. To allow for the use of the planimeter, the area of former sediments in each impoundment was subdivided, and the surface area of each subdivision was determined individually and then later totaled for the entire impoundment. The subdivisions and the estimated area of each subdivision are shown on Figures 1 through 3. These areas were later computed using AutoCAD software and were found to be within 3% of the original estimate.

Area Fraction (Line 4)

To account for the variations in the depth of the former sediments, an area fraction for each depth interval was determined by dividing the number of samples in a given depth interval (line 2) by the number of samples present in the surficial layer.

Former Sediment Volume (Lines 6 and 7)

The volume of former sediment in a given depth layer was calculated as the product of the total area (line 3), the area fraction (line 4), and the thickness of the former sediment layer (line 5). The volume was then converted from cubic feet to cubic yards (cy).

Former Sediment Mass (Line 8)

The mass of former sediment was estimated using a dry-weight density of 1.2 tons/cy and the volume of former sediment (line 7). This number was then converted from English tons to kilograms (kg).

Estimated PCB Mass (Line 9)

The PCB mass was calculated as the product of the mass of former sediment (line 9) and the average PCB concentration of that depth interval (line 1). The resulting mass was then converted from milligrams (mg) to kg.

Average Depth of Former Sediment (Line 10)

The average depth of former sediment was calculated by dividing the total volume of sediment (line 6) by the total area of sediment (line 3).

Results

The results of these calculations for each subdivision and the totals for each former impoundment are found in Table 4. The former Trowbridge Impoundment is estimated to contain the highest mass of PCB, at 15,373 kg; the former Plainwell Impoundment is estimated to contain the lowest mass of PCB, at 3,160 kg. The former Otsego Impoundment is estimated to contain 6,274 kg of PCB.

References

Blasland, Bouck & Lee, Inc., 1994. *Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site – Draft Technical Memorandum 12 – Former Impoundment Sediment Investigation* (Syracuse, NY: May 1994)

Tables

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
CALCULATIONS AND VALUES USED TO ESTIMATE FORMER SEDIMENT VOLUME AND PCB MASS
FOR THE FORMER PLAINWELL IMPOUNDMENT

Line	Depth Interval (ft)	0 - 0.5'	0.5 - 1.5'	1.5 - 2.5'	2.5 - 3.5'	3.5 - 4.5'	4.5 - 5.5'	5.5 - 5.9'	Total
1	Average PCB (mg/kg)	14.0	14.0	8.0	3.1	1.9	0.91	0.38	
2	Sample Count	32	30	28	25	14	7	1	
3	Total Area (ft^2)	2565874	2565874	2565874	2565874	2565874	2565874	2565874	
4	Area Fraction	1.00	0.94	0.88	0.78	0.44	0.22	0.03	
5	Layer Thickness (ft)	0.5	1	1	1	1	1	0.4	
6	Volume (ft^3)	1282937	2405507	2245140	2004589	1122570	561285	32073	
7	Volume (cy)	47516	89093	83153	74244	41577	20788	1188	357,559
8	Soil Mass (kg)	51835838	97192197	90712717	80993497	45356359	22678179	1295896	
9	PCB Mass (kg)	726	1361	726	251	86	21	0	3,171
10	Average Depth (ft)								3.76

		Total PCB Results by Depth Increment (mg/kg)						
Line	Location	0 - 0.5'	0.5 - 1.5'	1.5 - 2.5'	2.5 - 3.5'	3.5 - 4.5'	4.5 - 5.5'	5.5 - 5.9'
11	PES1-2	19	2.3	1.5	0.66			
12	PES1-3	18	55	45	1.7			
13	PES1-4	29	36.5	3.2	1.2			
14	PES1-5	4	0.46	0.067				
15	PES1-6	33	20	12	2.3			
16	PES2-2	27	59	1.5				
17	PES2-3	4	1.7					
18	PES2-4	13.5	3.5	0.62	0.33			
19	PES2-5	2	0.78	0.15	0.065			
20	PES2-6	3.7	4.1	0.45	0.033			
21	PES3-2	54	2.3	1.5	1.2	0.024		
22	PES3-3	85	64.5	5.4	1.1			
23	PES3-4	5.8	9.2	3.6	1.1	0.77	0.04	
24	PES3-5	5.4	7.7	4.4	0.46			
25	PES3-6	0.71	0.36	0.43	0.055			
26	PES4-2	1.6	0.84	0.11	0.047			
27	PES4-3	4.5	1.7	0.9	0.45	0.029		
28	PES4-4	1.1	0.18	0.034				
29	PES4-5	11	0.94					
30	PES4-6	10.9	26	2.6	5.4	5.1		
31	PES5-1	0.029						
32	PES5-2	30	28	25	5.8	3	0.074	
33	PES5-3	6.4	19	84	31	13	5.3	
34	PES5-4	2.2	0.73	4.6	1.7	0.32	0.06	
35	PES5-5	1.09	0.52	0.089	0.061	0.0385		
36	PES5-6	2.6	2.1	0.65	0.063	0.24	0.2	
37	PES6-1	0.86						
38	PES6-2	33	25	11	7.5	1.1		
39	PES6-3	25	37	2.8	0.58	0.072		
40	PES6-4	8.9	1.9	7.4	7.9	0.077	0.083	
41	PES6-5	0.89	0.32	0.088	0.0495	0.05		
42	PES6-6	6.75	5.4	3.4	6.6	2.6	0.62	0.38

TABLE 2

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

REMEDIAL INVESTIGATION REPORT
CALCULATIONS AND VALUES USED TO ESTIMATE FORMER SEDIMENT VOLUME AND PCB MASS
FOR THE FORMER OTSEGO IMPOUNDMENT

Line	Depth Interval (ft)	0 - 0.5'	0.5 - 1.5'	1.5 - 2.5'	2.5 - 3.5'	3.5 - 4.5'	4.5 - 5.5'	5.5 - 6.5'	Total
1	Average PCB (mg/kg)	12.77	20.06	12.56	5.46	5.91	3.35	0.63	
2	Sample Count	27	26	25	19	17	12	5	
3	Total Area (ft^2)	3338706	3338706	3338706	3338706	3338706	3338706	3338706	
4	Area Fraction	1.00	0.96	0.93	0.70	0.63	0.44	0.19	
5	Layer Thickness (ft)	0.5	1	1	1	1	1	1	
6	Volume (ft^3)	1669353	3215050	3091394	2349460	2102148	1483869	618279	
7	Volume (cy)	61828	119076	114496	87017	77857	54958	22899	538,132
8	Soil Mass (kg)	67448606	129901019	124904826	94927668	84935282	59954316	24980965	
9	PCB Mass (kg)	861	2606	1569	518	502	201	16	6,274
10	Average Depth (ft)								4.35

		Total PCB Results by Depth Increment (mg/kg)						
Line	Location	0 - 0.5'	0.5 - 1.5'	1.5 - 2.5'	2.5 - 3.5'	3.5 - 4.5'	4.5 - 5.5'	5.5 - 5.9'
11	OES1-2	6.4	3.4	5	0.57	0.06	0.18	
12	OES1-3	8.35	1.4	0.0325				
13	OES1-4	32	24	2.2	0.59			
14	OES1-5	12	4.3	1.4				
15	OES1-6	6.6	38	24	22	5.8	0.53	
16	OES2-2	16	4.3	1.7	0.34	0.0305		
17	OES2-3	9.4	5.8	0.37				
18	OES2-4	9.55	27	7.1	2.4	4.4	7.9	2.4
19	OES2-5	36	11	5.8	1.2	0.36	0.15	
20	OES2-6	26	9.9	6.3	4.4	4.2	4.7	0.1
21	OES3-2	2.2	0.15					
22	OES3-3	27	9.6	16	5	3.6		
23	OES3-4	27	22	21	0.99			
24	OES3-5	6.8	1	0.41	1.1	0.16	0.048	
25	OES3-6	26.5	0.075	15	4.4	3.7		
26	OES3-7	9.3						
27	OES4-2	6.3	1.6	0.27				
28	OES4-3	33	41	42	8.8	0.54	0.032	
29	OES4-4	6.6	7.9	0.47	1.1	2.4	0.032	
30	OES4-5	2.2	36	102	30	72	24	0.08
31	OES5-4	0.85	0.4	0.07	0.055	0.034		
32	OES5-5	15.5	110	15	1.8	0.064		
33	OES5-6	14	120	25	6.5	0.83	1	0.15
34	OES6-3	0.18	0.65	0.0385				
35	OES6-4	0.13	33	1.9	1.4	0.4	0.075	
36	OES6-5	0.54	8.2	21	11	1.9	1.6	0.44
37	OES6-6	4.35	0.99	0.0285				

TABLE 3

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

REMEDIAL INVESTIGATION REPORT
CALCULATIONS AND VALUES USED TO ESTIMATE FORMER SEDIMENT VOLUME AND PCB MASS
FOR THE FORMER TROWBRIDGE IMPOUNDMENT

Line	Depth Interval (ft)	0 - 0.5'	0.5 - 1.5'	1.5 - 2.5'	2.5 - 3.5'	3.5 - 4.5'	4.5 - 5.5'	5.5 - 6.5'	Total
1	Average PCB (mg/kg)	15.21	12.23	4.57	1.20	0 63	0.51	0.04	
2	Sample Count	64	61	46	31	18	7	2	
3	Total Area (ft^2)	16284879	16284879	16284879	16284879	16284879	16284879	16284879	
4	Area Fraction	1 00	0 95	0 72	0 48	0 28	0.11	0.03	
5	Layer Thickness (ft)	0 5	1	1	1	1	1	1	
6	Volume (ft^3)	8142440	15521525	11704757	7887988	4580122	1781159	508902.5	
7	Volume (cy)	301572	574871	433510	292148	169634	65969	18848	1,856,552
8	Soil Mass (kg)	3.29E+08	6.27E+08	4.73E+08	3.19E+08	1.85E+08	71966006	20561716	
9	PCB Mass (kg)	5004	7670	2161	384	117	37	1	15,373
10	Average Depth (ft)								3.08

		Total PCB Results by Depth Increment (mg/kg)						
Line	Location	0 - 0.5'	0.5 - 1.5'	1.5 - 2.5'	2.5 - 3.5'	3.5 - 4.5'	4.5 - 5.5'	5.5 - 5.9'
11	TES1-1	1.2						
12	TES1-2	24	25	1.2	0 034			
13	TES1-3	44	9.1	1 6	0 17	0 0385		
14	TES1-4	18	7	2	0.65			
15	TES1-5	48	34	10.15	0.67			
16	TES1-6	11	25	7.6	1.6	0.051		
17	TES1-7	46	17	8.5	0.059			
18	TES1-8	18	6	0.24	0.031			
19	TES1-9	3 9	0.14	0.0325				
20	TES2-2	0 44	0.029					
21	TES2-3	0 053	0 0295					
22	TES2-4	4.6	0.3	0.037				
23	TES2-5	26	4 1	0 795	0.098			
24	TES2-6	31	3	4 5	8	0.8		
25	TES2-7	81	30	7.9	0 11	0.067		
26	TES2-8	21	16	1 1				
27	TES2-9	8.7	42	0 69	0 037			
28	TES3-2	0.135	0.125	0.21				
29	TES3-3	74.5	38	0 095				
30	TES3-4	32	61	6 8	1 5	0.38	0.051	
31	TES3-5	41	25	4.8	4.2	1 35	0.37	0.035
32	TES3-6	21 5	19	8.7	0 59	0.65	0.42	
33	TES3-7	9 7	43	3 5	0 62	0 3		
34	TES3-9	19	0 066	0 03				
35	TES4-2	11 35	1.4	0 22				
36	TES4-3	17	0 74	0 042	0.0495	0 044		
37	TES4-4	15	21	10	1.6	5.6		
38	TES4-5	17	24	19		0.74	2.2	
39	TES4-6	31	30	16	0.18			
40	TES4-7	16	7.7	2 1	0.0445			
41	TES4-8	2 1	0.155					
42	TES5-1	0 096						
43	TES5-2	33	2	0 035	0 031			
44	TES5-3	40	5.7	0.055	0.046			
45	TES5-4	7 1	2 3	0.078	0 09	0 035		
46	TES5-5	1.4	1.5	0.75				
47	TES5-6	1.3	1.4					
48	TES5-7	5 042	4.5	0.031				
49	TES5-8	13	1.5	0.032				
50	TES5-9	7.4	0.7	0 19				
51	TES6-1	26 4	7.6	1.9	0.29	0.16	0 047	
52	TES6-2	1 3	10	0.5	1.1	0 039		
53	TES6-3	0.0375	0.0325					
54	TES6-4	0.081	15.5	18	1.8	0.029		
55	TES6-5	1.5	0.068					
56	TES6-6	0.063	0.0335					
57	TES7-2	16.5	77	36	0 43	0 17	0 029	
58	TES7-3	25	1.9	0.032				
59	TES7-4	28	0.47	0.032				
60	TES7-5	7 6	29	4.8	0.62			
61	TES7-6	8.15	17	7.5	1.4			
62	TES7-7	9.6	38	14	1.2	0.93	0.46	0.048
63	TES7-8	13	37 5	8 3	0 068			
64	TES7-9	7.9	1 7	0 037	10	0.033		
65	TES7-10	0.051						
66	TES8-2	0.0285	0 0265					
67	TES8-3	6.1	0.0275					
68	TES8-4	6.3	0.027					
69	TES8-5	0 16	0.0275					
70	TES9-2	0.0365	0.0335					
71	TES9-3	0.038	0.034					
72	TES9-4	0 13	0.042					
73	TES9-5	11	0.27	0.048				
74	TES9-6	2	0 26					

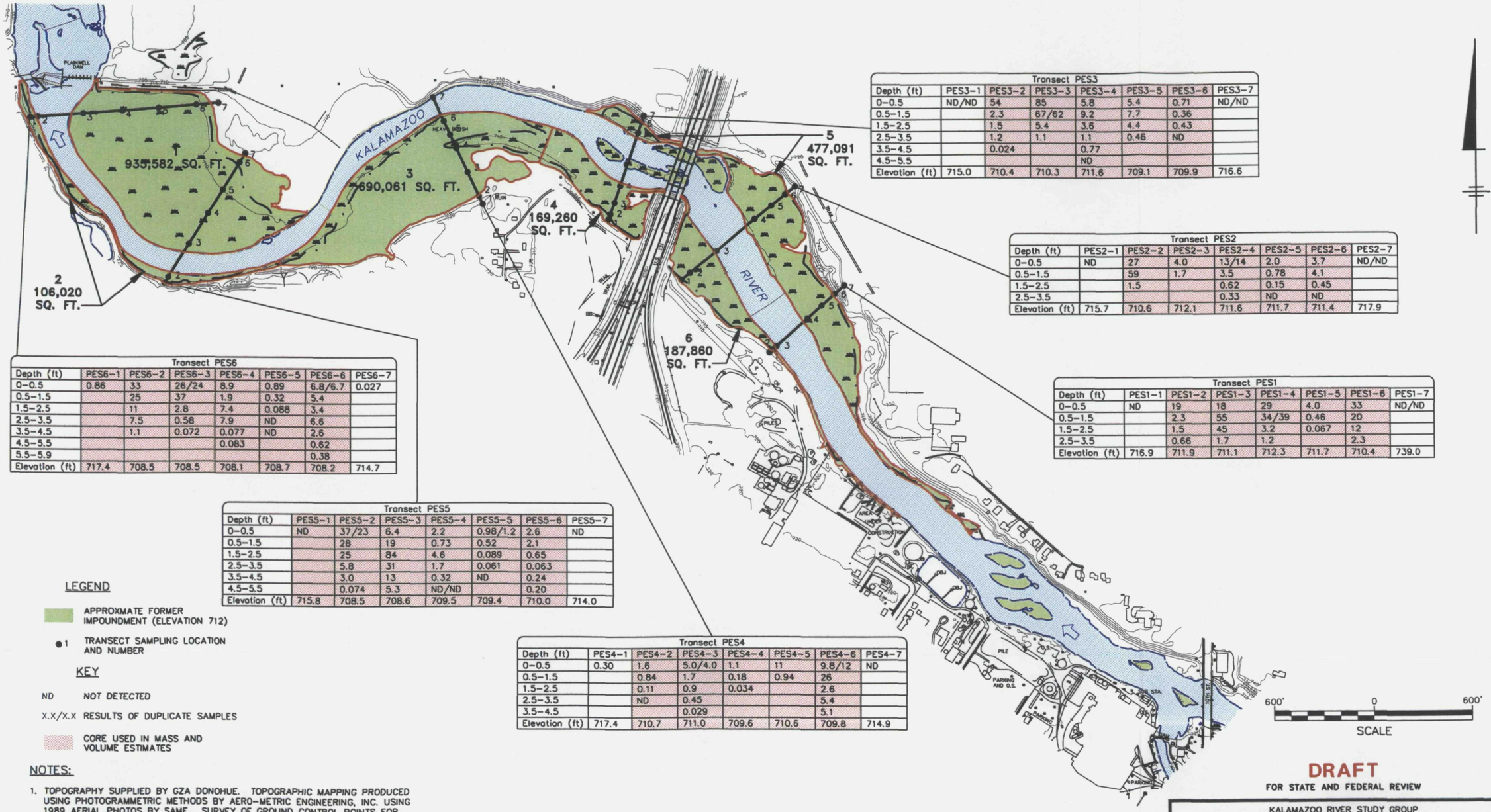
TABLE 4

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

REMEDIAL INVESTIGATION REPORT
SUMMARY OF FORMER SEDIMENT VOLUME AND PCB MASS ESTIMATES
FOR THE FORMER IMPOUNDMENTS

Parameter	Former Impoundment		
	Plainwell	Otsego	Trowbridge
Area of Former Sediments (ac)	59	77	374
Average Depths of Former Sediments (ft)	3.8	4.4	3.1
Volume of Former Sediment (cy)	357,559	538,132	1,856,552
Mass of PCB (kg)	3,160	6,274	15,373

Figures



Transect PES6

Depth (ft)	PES6-1	PES6-2	PES6-3	PES6-4	PES6-5	PES6-6	PES6-7
0-0.5	0.86	33	26/24	8.9	0.89	6.8/6.7	0.027
0.5-1.5		25	37	1.9	0.32	5.4	
1.5-2.5		11	2.8	7.4	0.088	3.4	
2.5-3.5		7.5	0.58	7.9	ND	6.6	
3.5-4.5		1.1	0.072	0.077	ND	2.6	
4.5-5.5				0.083		0.62	
5.5-5.9						0.38	
Elevation (ft)	717.4	708.5	708.5	708.1	708.7	708.2	714.7

Transect PES5

Depth (ft)	PES5-1	PES5-2	PES5-3	PES5-4	PES5-5	PES5-6	PES5-7
0-0.5	ND	37/23	6.4	2.2	0.98/1.2	2.6	ND
0.5-1.5		28	19	0.73	0.52	2.1	
1.5-2.5		25	84	4.6	0.089	0.65	
2.5-3.5		5.8	31	1.7	0.061	0.063	
3.5-4.5		3.0	13	0.32	ND	0.24	
4.5-5.5		0.074	5.3	ND/ND		0.20	
Elevation (ft)	715.8	708.5	708.6	709.5	709.4	710.0	714.0

Transect PES4

Depth (ft)	PES4-1	PES4-2	PES4-3	PES4-4	PES4-5	PES4-6	PES4-7
0-0.5	0.30	1.6	5.0/4.0	1.1	11	9.8/12	ND
0.5-1.5		0.84	1.7	0.18	0.94	26	
1.5-2.5		0.11	0.9	0.034		2.6	
2.5-3.5		ND	0.45			5.4	
3.5-4.5			0.029			5.1	
Elevation (ft)	717.4	710.7	711.0	709.6	710.6	709.8	714.9

Transect PES3

Depth (ft)	PES3-1	PES3-2	PES3-3	PES3-4	PES3-5	PES3-6	PES3-7
0-0.5	ND/ND	54	85	5.8	5.4	0.71	ND/ND
0.5-1.5		2.3	67/62	9.2	7.7	0.36	
1.5-2.5		1.5	5.4	3.6	4.4	0.43	
2.5-3.5		1.2	1.1	1.1	0.46	ND	
3.5-4.5		0.024		0.77			
4.5-5.5				ND			
Elevation (ft)	715.0	710.4	710.3	711.6	709.1	709.9	716.6

Transect PES2

Depth (ft)	PES2-1	PES2-2	PES2-3	PES2-4	PES2-5	PES2-6	PES2-7
0-0.5	ND	27	4.0	13/14	2.0	3.7	ND/ND
0.5-1.5		59	1.7	3.5	0.78	4.1	
1.5-2.5		1.5		0.62	0.15	0.45	
2.5-3.5				0.33	ND	ND	
Elevation (ft)	715.7	710.6	712.1	711.8	711.7	711.4	717.9

Transect PES1

Depth (ft)	PES1-1	PES1-2	PES1-3	PES1-4	PES1-5	PES1-6	PES1-7
0-0.5	ND	19	18	29	4.0	33	ND/ND
0.5-1.5		2.3	55	34/39	0.46	20	
1.5-2.5		1.5	45	3.2	0.067	12	
2.5-3.5		0.66	1.7	1.2		2.3	
Elevation (ft)	716.9	711.9	711.1	712.3	711.7	710.4	739.0

LEGEND

APPROXMATE FORMER IMPOUNDMENT (ELEVATION 712)

●1 TRANSECT SAMPLING LOCATION AND NUMBER

KEY

ND NOT DETECTED

X.X/X.X RESULTS OF DUPLICATE SAMPLES

CORE USED IN MASS AND VOLUME ESTIMATES

NOTES:

1. TOPOGRAPHY SUPPLIED BY GZA DONOHUE. TOPOGRAPHIC MAPPING PRODUCED USING PHOTOGRAMMETRIC METHODS BY AERO-METRIC ENGINEERING, INC. USING 1989 AERIAL PHOTOS BY SAME. SURVEY OF GROUND CONTROL POINTS FOR TOPOGRAPHIC MAPPING PERFORMED BY MDNR.
2. TRANSECT LOCATIONS SURVEYED BY BLASLAND, BOUCK & LEE, INC ON 12/29/93.
3. ALL ELEVATIONS ARE NATIONAL GEODETIC VERTICAL DATUM, 1929.
4. SAMPLE RESULTS AS REPORTED BY AQUATEC, INC., 1994.
5. DATA REFLECT TOTAL PCB CONCENTRATIONS (mg/kg) DERIVED FROM THE SUM OF INDIVIDUAL AROCLORS.

X: 64524X00.DWG
L: ON=*; OFF=REF*
P: STD-PCP/BL
8/3/00 SYR-S4-AK SDL
64524500/APPEND/64524G17.DWG

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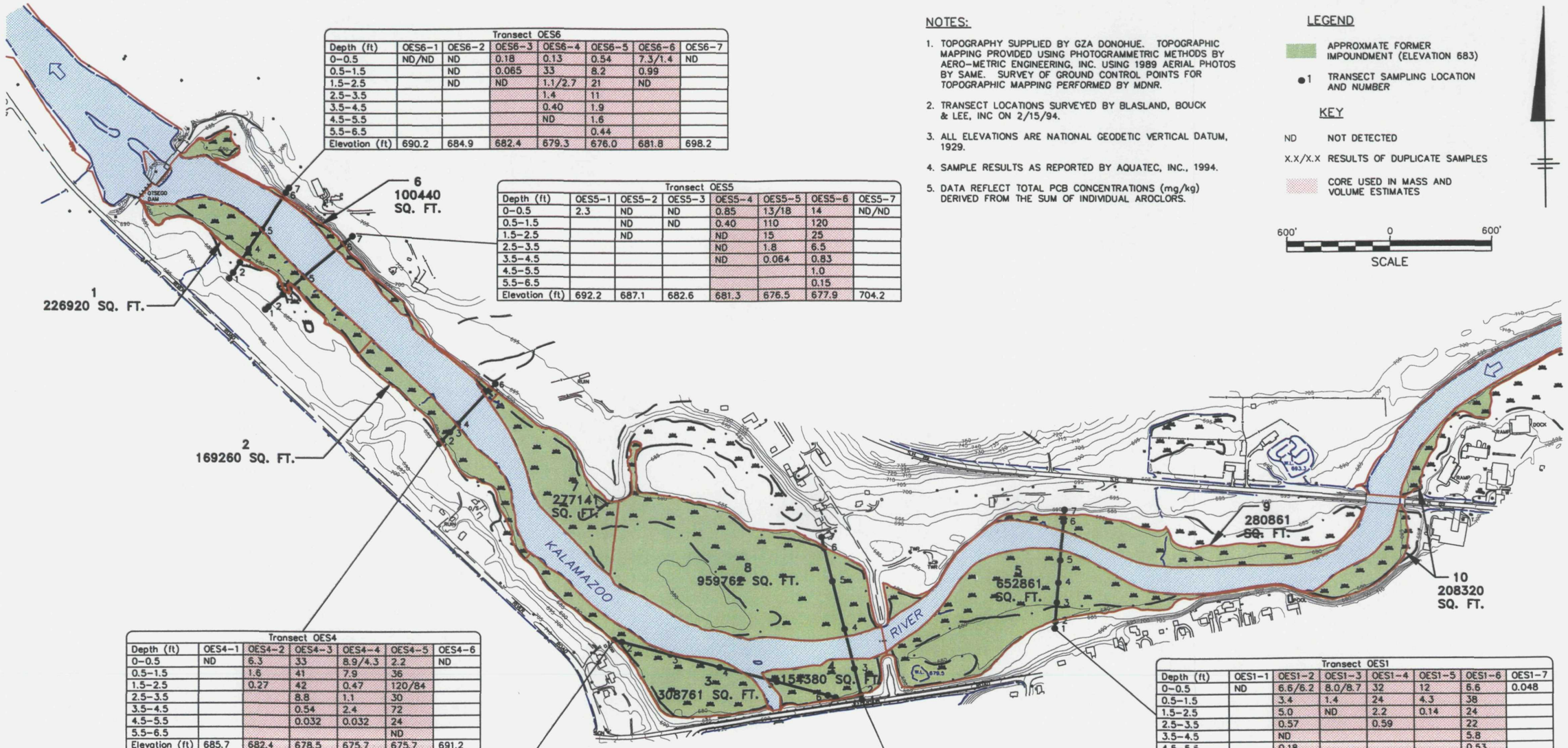
KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER SUPERFUND SITE

REMEDIAL INVESTIGATION REPORT

FORMER PLAINWELL IMPOUNDMENT SEDIMENT PCB DATA

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

FIGURE 1



Transect OES6

Depth (ft)	OES6-1	OES6-2	OES6-3	OES6-4	OES6-5	OES6-6	OES6-7
0-0.5	ND/ND	ND	0.18	0.13	0.54	7.3/1.4	ND
0.5-1.5		ND	0.065	33	8.2	0.99	
1.5-2.5		ND	ND	1.1/2.7	21	ND	
2.5-3.5				1.4	11		
3.5-4.5				0.40	1.9		
4.5-5.5				ND	1.6		
5.5-6.5					0.44		
Elevation (ft)	690.2	684.9	682.4	679.3	676.0	681.8	698.2

Transect OES5

Depth (ft)	OES5-1	OES5-2	OES5-3	OES5-4	OES5-5	OES5-6	OES5-7
0-0.5	2.3	ND	ND	0.85	13/18	14	ND/ND
0.5-1.5		ND	ND	0.40	110	120	
1.5-2.5		ND		ND	15	25	
2.5-3.5				ND	1.8	6.5	
3.5-4.5				ND	0.064	0.83	
4.5-5.5						1.0	
5.5-6.5						0.15	
Elevation (ft)	692.2	687.1	682.6	681.3	676.5	677.9	704.2

NOTES:

1. TOPOGRAPHY SUPPLIED BY GZA DONOHUE. TOPOGRAPHIC MAPPING PROVIDED USING PHOTOGRAMMETRIC METHODS BY AERO-METRIC ENGINEERING, INC. USING 1989 AERIAL PHOTOS BY SAME. SURVEY OF GROUND CONTROL POINTS FOR TOPOGRAPHIC MAPPING PERFORMED BY MDNR.
2. TRANSECT LOCATIONS SURVEYED BY BLASLAND, BOUCK & LEE, INC ON 2/15/94.
3. ALL ELEVATIONS ARE NATIONAL GEODETIC VERTICAL DATUM, 1929.
4. SAMPLE RESULTS AS REPORTED BY AQUATEC, INC., 1994.
5. DATA REFLECT TOTAL PCB CONCENTRATIONS (mg/kg) DERIVED FROM THE SUM OF INDIVIDUAL AROCLORS.

LEGEND

- APPROXMATE FORMER IMPOUNDMENT (ELEVATION 683)
- ●1 TRANSECT SAMPLING LOCATION AND NUMBER

KEY

- ND NOT DETECTED
- X.X/X.X RESULTS OF DUPLICATE SAMPLES
- CORE USED IN MASS AND VOLUME ESTIMATES

600' 0 600'
SCALE

Transect OES4

Depth (ft)	OES4-1	OES4-2	OES4-3	OES4-4	OES4-5	OES4-6
0-0.5	ND	6.3	33	8.9/4.3	2.2	ND
0.5-1.5		1.6	41	7.9	36	
1.5-2.5		0.27	42	0.47	120/84	
2.5-3.5			8.8	1.1	30	
3.5-4.5			0.54	2.4	72	
4.5-5.5			0.032	0.032	24	
5.5-6.5					ND	
Elevation (ft)	685.7	682.4	678.5	675.7	675.7	691.2

Transect OES3

Depth (ft)	OES3-1	OES3-2	OES3-3	OES3-4	OES3-5	OES3-6	OES3-7
0-0.5	ND	2.2	24/30	27/27	6.8	24/29	9.3
0.5-1.5		0.15	9.6	22	1.0	ND	
1.5-2.5			16	21	0.41	15	
2.5-3.5			5.0	0.99	1.1	5.6/3.2	
3.5-4.5			3.6		0.16	3.7	
4.5-5.5					0.048		
Elevation (ft)	691.1	681.3	677.1	678.0	678.7	678.1	688.6

Transect OES2

Depth (ft)	OES2-1	OES2-2	OES2-3	OES2-4	OES2-5	OES2-6	OES2-7
0-0.5	ND	15/17	9.4	10/9.1	36	26	ND
0.5-1.5		4.3	5.8	27	11	9.9	
1.5-2.5		1.7	0.37	7.1	5.8	6.3	
2.5-3.5		0.34		2.4	1.2	4.4	
3.5-4.5		ND		4.4	0.36	4.2	
4.5-5.5				7.9	0.15	4.7	
5.5-6.5				2.4		0.10	
Elevation (ft)	686.9	680.4	679.7	677.5	678.1	677.8	685.1

Transect OES1

Depth (ft)	OES1-1	OES1-2	OES1-3	OES1-4	OES1-5	OES1-6	OES1-7
0-0.5	ND	6.6/6.2	8.0/8.7	32	12	6.6	0.048
0.5-1.5		3.4	1.4	24	4.3	38	
1.5-2.5		5.0	ND	2.2	0.14	24	
2.5-3.5		0.57		0.59		22	
3.5-4.5		ND				5.8	
4.5-5.5		0.18				0.53	
Elevation (ft)	686.1	679.1	677.2	679.4	678.7	677.9	685.9

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

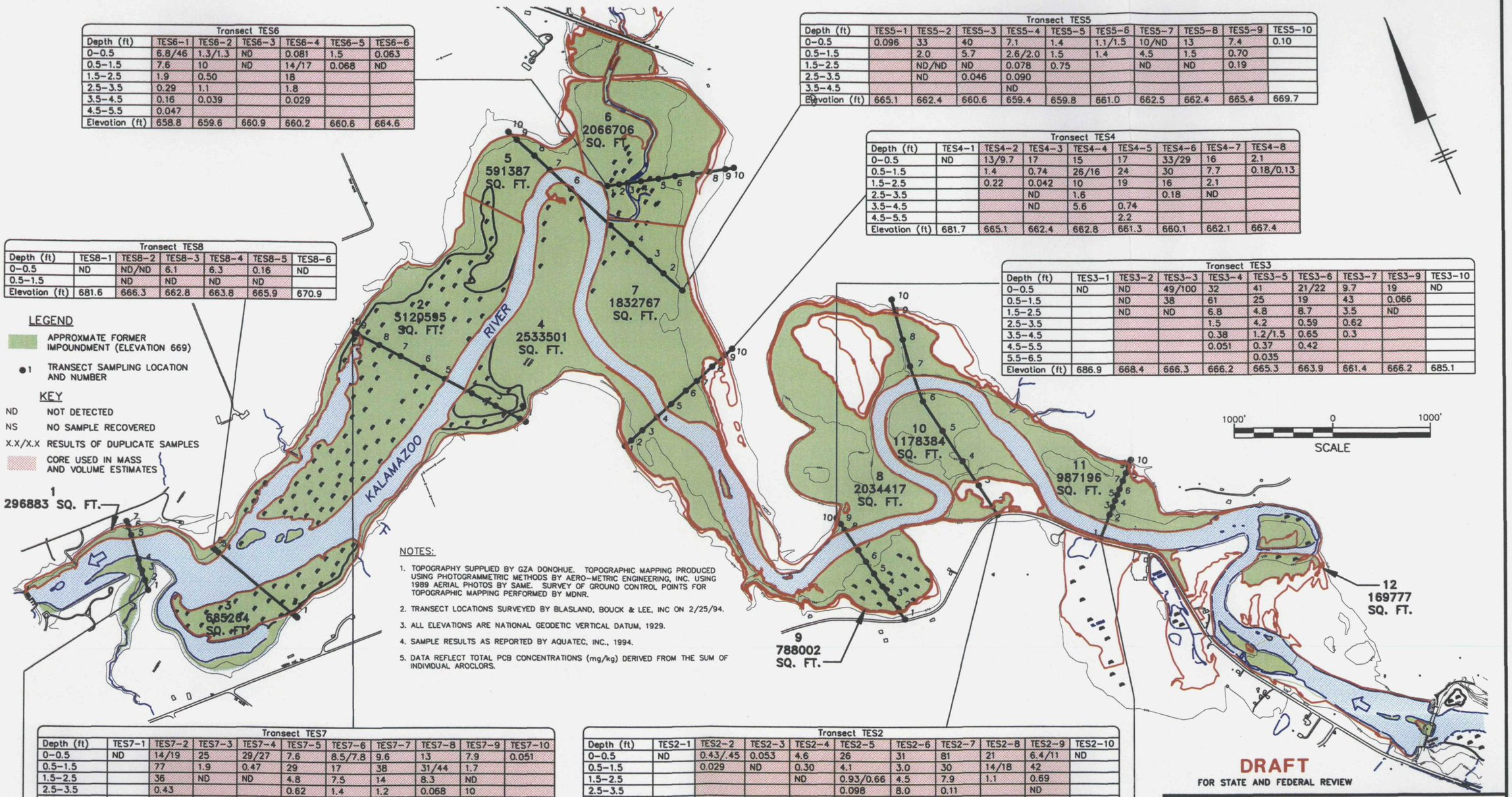
REMEDIAL INVESTIGATION REPORT

FORMER OTSEGO IMPOUNDMENT SEDIMENT PCB DATA

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

FIGURE 2

X: 64524X00.DWG
L: ON=*; OFF=REF*
P: STD-PCP/BL
8/3/00 SYR-54-AK SDL
64524500/APPEND/64524G18.DWG



LEGEND

- APPROXMATE FORMER IMPOUNDMENT (ELEVATION 669)
- ●1 TRANSECT SAMPLING LOCATION AND NUMBER

KEY

- ND NOT DETECTED
- NS NO SAMPLE RECOVERED
- X.X/X.X RESULTS OF DUPLICATE SAMPLES
- CORE USED IN MASS AND VOLUME ESTIMATES

NOTES:

1. TOPOGRAPHY SUPPLIED BY GZA DONOHUE. TOPOGRAPHIC MAPPING PRODUCED USING PHOTOGRAMMETRIC METHODS BY AERO-METRIC ENGINEERING, INC. USING 1989 AERIAL PHOTOS BY SAME. SURVEY OF GROUND CONTROL POINTS FOR TOPOGRAPHIC MAPPING PERFORMED BY MDNR.
2. TRANSECT LOCATIONS SURVEYED BY BLASLAND, BOUCK & LEE, INC ON 2/25/94.
3. ALL ELEVATIONS ARE NATIONAL GEODETIC VERTICAL DATUM, 1929.
4. SAMPLE RESULTS AS REPORTED BY AQUATEC, INC., 1994.
5. DATA REFLECT TOTAL PCB CONCENTRATIONS (mg/kg) DERIVED FROM THE SUM OF INDIVIDUAL AROCLORS.

Transect TES6

Depth (ft)	TES6-1	TES6-2	TES6-3	TES6-4	TES6-5	TES6-6
0-0.5	6.8/46	1.3/1.3	ND	0.081	1.5	0.063
0.5-1.5	7.6	10	ND	14/17	0.068	ND
1.5-2.5	1.9	0.50		18		
2.5-3.5	0.29	1.1		1.8		
3.5-4.5	0.16	0.039		0.029		
4.5-5.5	0.047					
Elevation (ft)	658.8	659.6	660.9	660.2	660.6	664.6

Transect TES5

Depth (ft)	TES5-1	TES5-2	TES5-3	TES5-4	TES5-5	TES5-6	TES5-7	TES5-8	TES5-9	TES5-10
0-0.5	0.096	33	40	7.1	1.4	1.1/1.5	10/ND	13	7.4	0.10
0.5-1.5		2.0	5.7	2.6/2.0	1.5	1.4	4.5	1.5	0.70	
1.5-2.5		ND/ND	ND	0.078	0.75		ND	ND	0.19	
2.5-3.5		ND	0.046	0.090						
3.5-4.5				ND						
Elevation (ft)	665.1	662.4	660.6	659.4	659.8	661.0	662.5	662.4	665.4	669.7

Transect TES4

Depth (ft)	TES4-1	TES4-2	TES4-3	TES4-4	TES4-5	TES4-6	TES4-7	TES4-8
0-0.5	ND	13/9.7	17	15	17	33/29	16	2.1
0.5-1.5		1.4	0.74	26/16	24	30	7.7	0.18/0.13
1.5-2.5		0.22	0.042	10	19	16	2.1	
2.5-3.5			ND	1.6		0.18	ND	
3.5-4.5			ND	5.6	0.74			
4.5-5.5					2.2			
Elevation (ft)	681.7	665.1	662.4	662.8	661.3	660.1	662.1	667.4

Transect TES8

Depth (ft)	TES8-1	TES8-2	TES8-3	TES8-4	TES8-5	TES8-6
0-0.5	ND	ND/ND	6.1	6.3	0.16	ND
0.5-1.5		ND	ND	ND	ND	
Elevation (ft)	681.6	666.3	662.8	663.8	665.9	670.9

Transect TES3

Depth (ft)	TES3-1	TES3-2	TES3-3	TES3-4	TES3-5	TES3-6	TES3-7	TES3-9	TES3-10
0-0.5	ND	ND	49/100	32	41	21/22	9.7	19	ND
0.5-1.5		ND	38	61	25	19	43	0.066	
1.5-2.5		ND	ND	6.8	4.8	8.7	3.5	ND	
2.5-3.5				1.5	4.2	0.59	0.62		
3.5-4.5				0.38	1.2/1.5	0.65	0.3		
4.5-5.5				0.051	0.37	0.42			
5.5-6.5					0.035				
Elevation (ft)	686.9	668.4	666.3	666.2	665.3	663.9	661.4	666.2	685.1

Transect TES7

Depth (ft)	TES7-1	TES7-2	TES7-3	TES7-4	TES7-5	TES7-6	TES7-7	TES7-8	TES7-9	TES7-10
0-0.5	ND	14/19	25	29/27	7.6	8.5/7.8	9.6	13	7.9	0.051
0.5-1.5		77	1.9	0.47	29	17	38	31/44	1.7	
1.5-2.5		36	ND	ND	4.8	7.5	14	8.3	ND	
2.5-3.5		0.43			0.62	1.4	1.2	0.068	10	
3.5-4.5		0.17					0.93		ND	
4.5-5.5		0.029					0.46			
5.5-6.5							0.048			
Elevation (ft)	674.2	660.2	661.8	661.6	660.0	659.1	658.5	658.8	659.1	666.1

Transect TES2

Depth (ft)	TES2-1	TES2-2	TES2-3	TES2-4	TES2-5	TES2-6	TES2-7	TES2-8	TES2-9	TES2-10
0-0.5	ND	0.43/.45	0.053	4.6	26	31	81	21	6.4/11	ND
0.5-1.5		0.029	ND	0.30	4.1	3.0	30	14/18	42	
1.5-2.5				ND	0.93/0.66	4.5	7.9	1.1	0.69	
2.5-3.5					0.098	8.0	0.11		ND	
3.5-4.5						0.80	0.067			
Elevation (ft)	673.2	666.9	667.4	663.7	665.7	663.6	664.7	664.9	667.5	700.6

Transect TES9

Depth (ft)	TES9-1	TES9-2	TES9-3	TES9-4	TES9-5	TES9-6	TES9-7
0-0.5	ND	ND	ND	0.13	11	2.0/2.0	ND
0.5-1.5		ND	ND	0.042	0.27	0.026	
1.5-2.5					0.048		
Elevation (ft)	672.5	662.9	661.8	660.6	660.9	665.8	681.5

Transect TES1

Depth (ft)	TES1-1	TES1-2	TES1-3	TES1-4	TES1-5	TES1-6	TES1-7	TES1-8	TES1-9	TES1-10
0-0.5	1.2	26/22	44	18	48	11	46	18	4.0/3.8	ND
0.5-1.5		25	9.1	7.0	34	25	17	6.0	0.14	
1.5-2.5		1.2	1.6	2.0	7.3/13	7.6	8.6/8.4	0.24	ND	
2.5-3.5		0.034	0.17	0.65	0.67	1.6	0.059	ND		
3.5-4.5			ND			0.051				
Elevation (ft)	666.7	666.3	665.5	666.1	666.1	665.6	666.7	666.8	667.5	693.6

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

REMEDIAL INVESTIGATION REPORT

FORMER TROWBRIDGE IMPOUNDMENT SEDIMENT PCB DATA

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

FIGURE 3

X: 64524X00.DWG
L: ON=*; OFF=REF*
P: STD-PCP/BL

10/24/00 SYR-54-AK SDL
64524500/APPEND/64524G19.DWG

Appendix H

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Physical Characterization of Riverbanks within the Former Impoundments

Appendix H: Physical Characterization of Riverbanks within the Former Plainwell, Otsego, and Trowbridge Impoundments

Riverbank Characterization

This appendix presents the methods and results of a physical characterization of riverbanks within the former Plainwell, Otsego, and Trowbridge impoundments.

In June and July of 1998, a small motorboat was used to observe substantial areas of the former Plainwell, Otsego, and Trowbridge impoundments. In some areas, especially in the former Otsego Impoundment, boat access was not available; therefore, bridges or other access points were used for bank observations and photographs. Figures 1 through 3 show the former impoundments, along with transect locations used to characterize riverbank conditions.

Based on extensive photographs and written observations, seven typical bank types were defined. The two general categories are marsh vegetation (three types) and areas with tree/shrub vegetation (four types). The three marsh vegetation bank types are described as follows:

Marsh Vegetation Bank Type 1: Root mat is at water level, and there is minimal erosion above the water line.

Marsh Vegetation Bank Type 2: Overhanging root mat is 6 inches to 2 feet above water line, and the bank is eroded/recessed to a near vertical face.

Marsh Vegetation Bank Type 3: Steep (45 degrees plus) exposed face 1 foot to 3 feet high above sloping (3H:1V to 10H:1V) spalled material, which is typically 6 inches to 12 inches above the water line. Root mat is at the top of the exposed face with little overhang.

The four tree/shrub vegetation bank types are described as follows:

Tree/Shrub Vegetation Bank Type 1: Tree/shrub root mat, grass, and leaf mold nearly to waterline. Slopes usually flatter than 4H:1V.

Tree/Shrub Vegetation Bank Type 2: Tipping trees/dead stumps due to erosion of soil from below the tree roots. Slopes can be steeper than 4H:1V locally.

Tree/Shrub Vegetation Bank Type 3: Near vertical clay (1 to 3 feet thick) above exposed sand. Sand usually slopes down to water at 2H:1V or flatter. Steeper sand can occur on outside bank of curve, where more active erosion is occurring.

Tree/Shrub Vegetation Bank Type 4: Steep sand slopes that are partially bare.

Sample pictures of each of the bank types are provided in Attachment 1. Using the photographs, field observations, and the above-defined bank types, the banks at each transect were characterized.

Tables 1 and 2 identify the bank type corresponding to the left and right bank of each transect. The lengths indicated for each transect represent the bank for a distance of half-way to the next transect both in the upstream and the downstream directions. For example, at KPT-66 it is assumed that Marsh Vegetation Bank Type 1 applies for the length from half-way between KPT-66 and KPT-67 to half-way between KPT-65 and KPT-66. In cases where the dam was downstream of the transect, the full distance to the dam was included, as indicated on the tables. In cases where more than one bank type is indicated, the length was divided equally among the different types. A summary table of lengths for each bank type is provided in Table 3.

Tables

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
IDENTIFICATION OF BANK TYPE FOR TRANSECTS IN THE FORMER PLAINWELL, OTSEGO, AND TROWBRIDGE IMPOUNDMENTS (NORTH OR RIGHT BANK LOOKING DOWNSTREAM)

Location	Bank Type - North or Right Bank (looking downstream)							Segment Length (ft)
	Marsh 1	Marsh 2	Marsh 3	Tree/Shrub 1	Tree/Shrub 2	Tree/Shrub 3	Tree/Shrub 4	
Plainwell								
KPT- 56				X				330
KPT- 57				X				780
KPT- 58	X							750
KPT- 59				X				540
KPT- 60				X	X			780
KPT- 61		X						1170
KPT- 62	X							1140
KPT- 63								870
KPT- 64					X			630
KPT- 65					X			720
KPT- 66	X							1110
*KPT- 67	X							900
Total Bank Length (ft) - Plainwell	3900	1170	0	2040	1740	0	0	9720
Otsego								
KPT- 85				X				495
KPT- 86				X				1095
KPT- 87	X	X						1710
KPT- 88					X			1560
KPT- 89	X	X						975
KPT- 90	X	X						930
KPT- 91	X	X						825
KPT- 92	X	X						840
KPT- 93		X						840
*KPT- 94					X			1350
Total Bank Length (ft) - Otsego	2640	3480	0	1590	2910	0	0	10620
Trowbridge								
*KPT- 95					X			2425
KPT- 96					X	X		2100
KPT- 97						X		2000
KPT- 98						X		1075
KPT- 99			X					2650
KPT- 100			X					2675
KPT- 101					X			1450
KPT- 102		X						1650
KPT- 103	X	X	X					1700
KPT- 104			X					2025
KPT- 105			X					1750
KPT- 106			X					1025
KPT- 107			X					3325
KPT- 108						X		3600
*KPT- 109							X	2200
Total Bank Length (ft) - Trowbridge	567	2217	14017	0	4925	7725	2200	31650
Total North Bank Length (ft)	**7107**	**6867**	**14017**	**3630**	**9575**	**7725**	**2200**	**51990**

Notes:
* Includes distance from dam to transect.
Segment length is equal to the distance between the indicated transect to half-way between the transects surrounding it.

TABLE 2

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

REMEDIAL INVESTIGATION REPORT
IDENTIFICATION OF BANK TYPE FOR TRANSECTS IN THE FORMER PLAINWELL, OTSEGO, AND TROWBRIDGE IMPOUNDMENTS (SOUTH OR LEFT BANK LOOKING DOWNSTREAM)

Location	Bank Type - South or Left Bank (looking downstream)							Segment Length (ft)
	Marsh 1	Marsh 2	Marsh 3	Tree/Shrub 1	Tree/Shrub 2	Tree/Shrub 3	Tree/Shrub 4	
Plainwell								
KPT- 56				X				330
KPT- 57				X				810
KPT- 58					X			810
KPT- 59	X							570
KPT- 60	X			X				780
KPT- 61				X				1110
KPT- 62	X							1080
KPT- 63	X							870
KPT- 64								630
KPT- 65	X							810
KPT- 66		X						1200
*KPT- 67		X						1020
Total Bank Length (ft) - Plainwell	3720	2220	0	2640	810	0	0	10020
Otsego								
KPT- 85	X			X				450
KPT- 86	X			X				1080
KPT- 87	X	X						1710
KPT- 88	X							1575
KPT- 89					X			1365
KPT- 90		X						1275
KPT- 91	X	X						900
KPT- 92	X							915
KPT- 93	X							810
*KPT- 94	X	X						1290
Total Bank Length (ft) - Otsego	6015	3225	0	765	1365	0	0	11370
Trowbridge								
*KPT- 95					X			2425
KPT- 96					X	X		2100
KPT- 97						X		2000
KPT- 98						X		1075
KPT- 99		X						2650
KPT- 100		X						2675
KPT- 101					X			1450
KPT- 102		X						1650
KPT- 103	X	X	X					1700
KPT- 104			X					2025
KPT- 105			X					1750
KPT- 106			X					1025
KPT- 107			X					3325
KPT- 108							X	3600
KPT- 109							X	2200
Total Bank Length (ft) - Trowbridge	567	7542	8692	0	4925	4125	5800	31650
Total South Bank Length (ft)	**10302**	**12987**	**8692**	**3405**	**7100**	**4125**	**5800**	**53040**

Notes:
* Includes distance from dam to transect
Segment length is equal to the distance between the indicated transect to half-way between the transects surrounding it

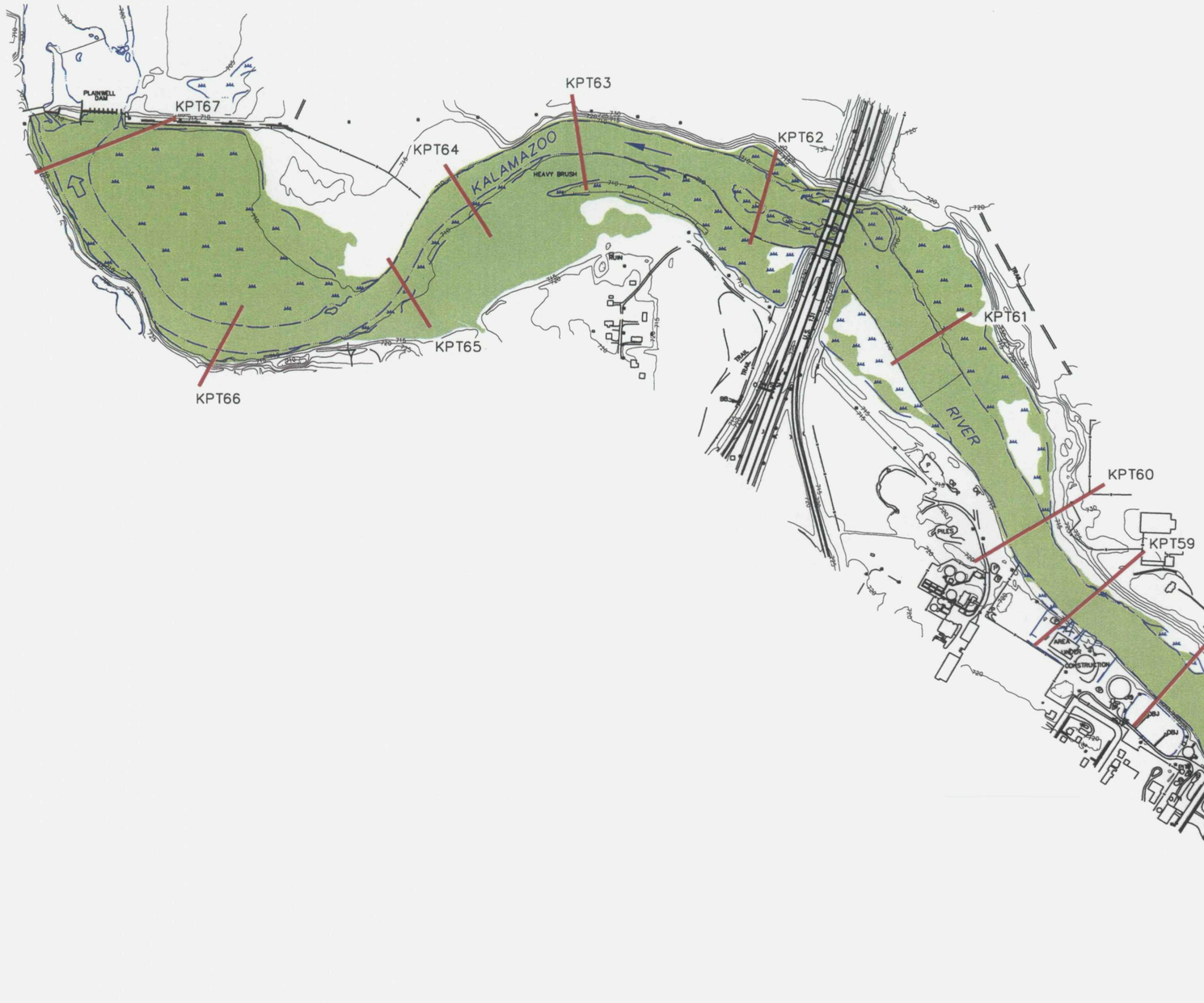
TABLE 3

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

REMEDIAL INVESTIGATION REPORT
SUMMARY OF BANK TYPE LENGTHS IN THE FORMER PLAINWELL, OTSEGO, AND TROWBRIDGE IMPOUNDMENTS

	Location			
Bank Type	Plainwell (ft)	Otsego (ft)	Trowbridge (ft)	Total (ft)
Marsh 1	7,620	8,655	1,133	17,408
Marsh 2	3,390	6,705	9,758	19,853
Marsh 3	0	0	22,708	22,708
Tree/Shrub 1	4,680	2,355	0	7,035
Tree/Shrub 2	2,550	4,275	9,850	16,675
Tree/Shrub 3	0	0	11,850	11,850
Tree/Shrub 4	0	0	8,000	8,000

Figures



LEGEND

- APPROXIMATE FORMER IMPOUNDMENT (ELEVATION 712)
- TRANSECT SAMPLING LOCATION AND NUMBER

NOTES:

1. TOPOGRAPHY SUPPLIED BY GZA DONOHUE. TOPOGRAPHIC MAPPING PRODUCED USING PHOTOGRAMMETRIC METHODS BY AERO-METRIC ENGINEERING, INC. USING 1989 AERIAL PHOTOS BY SAME. SURVEY OF GROUND CONTROL POINTS FOR TOPOGRAPHIC MAPPING PERFORMED BY MDNR.
2. TRANSECT LOCATIONS SURVEYED BY BLASLAND, BOUCK & LEE, INC ON 12/29/93.
3. ALL ELEVATIONS ARE NATIONAL GEODETIC VERTICAL DATUM, 1929.

600' 0 600'
SCALE

DRAFT
FOR STATE AND FEDERAL REVIEW

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

REMEDIAL INVESTIGATION REPORT

FORMER PLAINWELL IMPOUNDMENT

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE 1

X: 64524X00.DWG
L: ON=*,OFF=REF
P: STD-PCP/BL
10/23/00 SYR-54-SDL KMD
64524500/APP-C/34524G01.DWG

DRAFT

FOR STATE AND FEDERAL REVIEW

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

REMEDIAL INVESTIGATION REPORT

FORMER OTSEGO IMPOUNDMENT

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

FIGURE 2

X: 64524X00
L: ON=*.OFF=REF
P: STD-PCP/BL
10/23/00 SYR-54-SDL KMD
64524500/APP-C/34524G02.DWG

LEGEND

APPROXMATE FORMER IMPOUNDMENT (ELEVATION 669)

TRANSECT SAMPLING LOCATION

NOTES:

1. TOPOGRAPHY SUPPLIED BY GZA DONOHUE. TOPOGRAPHIC MAPPING PROVIDED USING PHOTOGRAMMETRIC METHODS BY AERO-METRIC ENGINEERING, INC. USING 1989 AERIAL PHOTOS BY SAME. SURVEY OF GROUND CONTROL POINTS FOR TOPOGRAPHIC MAPPING PERFORMED BY MDNR.
2. TRANSECT LOCATIONS SURVEYED BY BLASLAND, BOUCK & LEE, INC ON 2/15/94.
3. ALL ELEVATIONS ARE NATIONAL GEODETIC VERTICAL DATUM, 1929.

KPT104
KPT105
KPT103
KALAMAZOO RIVER
KPT102
KPT106
KPT109
KPT108
KPT107
KPT99
KPT100
KPT98
KPT101
KPT97
KPT96
KPT95

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1000' 0 1000'
SCALE

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

REMEDIAL INVESTIGATION REPORT

FORMER TROWBRIDGE IMPOUNDMENT

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

FIGURE 3

X: 64524X00.DWG
L: ON=*,OFF=REF
P: STD-PCP/BL
10/23/00 SYR-54-SDL KMD
64524500/APP-C/34524G03.DWG

Attachment

Attachment 1

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Former Impoundment
Typical Bank Types

Former Impoundment Typical Bank Types

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MARSH VEGETATION BANK TYPE 1
Root mat at water level, minimal erosion above water line.

MARSH VEGETATION BANK TYPE 2
Overhanging root mat 6" to 2' above water line, bank is eroded/recessed near vertical face.

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Former Impoundment Typical Bank Types

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MARSH VEGETATION BANK TYPE 3
Steep (45°+) exposed face 1' to 3' high above sloping (3H:1V to 10H:1V) spalled material typically 6" to 12" above water line. Root mat is at top of exposed face with little overhang.

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Former Impoundment Typical Bank Types

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TREE/SHRUB BANK TYPE 1
Tree/shrub rootmat, grass and leaf mold nearly to waterline. Slopes usually flatter than 4H:1V.

TREE/SHRUB BANK TYPE 2
Tipping trees/dead stumps due to erosion of soil from below the tree roots. Slopes can be steeper than 4H:1V locally.

Former Impoundment Typical Bank Types

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FOR STATE AND FEDERAL REVIEW

TREE/SHRUB BANK TYPE 3
Near vertical clay (1' to 3' thick) above exposed sand. Sand usually slopes down to water at 2H:1V or flatter. Steeper sand can occur on outside bank of curve where more active erosion is occurring.

TREE/SHRUB BANK TYPE 4
Steep sand slopes that are partially bare.

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Appendix I

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Estimation of PCB Loading (per unit volume) from Riverbank Erosion in the Former Impoundments

Appendix I: Estimation of PCB Loading (per unit volume) from Riverbank Erosion in the Former Impoundments

The former Plainwell, Otsego, and Trowbridge impoundments were acquired by the State of Michigan in 1967. In the early 1970s, the dams were permanently opened by the Michigan Department of Natural Resources (MDNR), which dramatically lowered the water levels in the impoundments, forced the river to cut a new channel, and created unstable, erodible riverbanks. In 1987, the dams were removed down to their sill levels where they remain today. The opening of the dams created new floodplain areas in each of the impoundments; the soils in these floodplains are composed of former channel sediments that are now exposed and vegetated. Since the dams were opened during the peak period of historical polychlorinated biphenyl (PCB) deposition, levels of PCB in these exposed sediments are higher than levels that would be expected in floodplain soils deposited under typical deposition conditions. This, coupled with the erodible, unstable nature of the riverbanks, has resulted in a significant ongoing source of PCB (relative to other river sources) to the river. *Draft Technical Memorandum 12* (BBL, 1994) presented the results of sampling and analysis of 159 cores from along 21 transects in the exposed sediment/floodplain areas within these former impoundments.

Evidence of soil erosion from the former impoundment banks has been observed as sloughing of blocks of soil into the river, probably due to alternate wetting and drying and freezing and thawing cycles. This appendix estimates potential PCB loading to the Kalamazoo River from the former impoundment banks associated with the sloughing activity. PCB data collected during the 1994 Remedial Investigation (RI) were used in conjunction with soil characterization data to constrain the PCB mass estimates associated with varying volumes of hypothetical bank erosion. The results of this analysis show that the mass of PCB potentially contributed to the river from the banks of the former impoundments is significant enough to maintain the observed PCB levels in surface water, and therefore should be explicitly considered further in the development of remedial alternatives. Subsequent to and in direct response to these estimates, surveyed measurements of the bank changes since 1993 were made in 1999 to quantitate an average annual contribution of PCB to the river; these results are presented in the Supplement to the Kalamazoo River RI/FS. In addition, a program to monitor bank changes was established in 2000 to refine and reduce uncertainty of the erosion estimates. This effort, too, is described in the Supplement to the Kalamazoo River RI/FS.

To estimate the mass of PCB per unit volume of former impoundment soil eroded, the following assumptions were made:

- PCB are distributed uniformly throughout the entire volume of former sediment in each impoundment.
- There has been no new deposition of material along the banks since the drawdowns.
- Erosion/sloughing of the soil is represented by volumes and masses of rectangular blocks.

Methods

To represent the sloughing of blocks of sediment into the channel, a uniform distribution of PCB mass was assumed in a "buffer strip," a 25-foot wide strip, 5 feet high, along the banks of the former impoundments. The ratio of volume of the buffer strip to the total volume of exposed sediment in each impoundment was applied to the total PCB mass in each impoundment to derive the mass of PCB available in the buffer strip. The available PCB mass was then normalized to a unit basis of grams of PCB per inch of thickness and foot of length, which was applied to varying hypothetical sizes of sloughed material. The table below shows the values and equations used to determine this PCB mass per unit basis for each to the former impoundments.

Impoundment	Plainwell	Otsego	Trowbridge	Variable	Value
Total Sediment Volume (cy)	338.000	538,000	1,857,000	A	ENTERED
Length of Banks (ft)	18,000	22,000	63,000	B	ENTERED
Depth of Sediment (ft)	5	5	5	C	ENTERED
Volume of 25 ft Buffer Strip (cy)	83,000	102,000	292,000	D	= (25*B*C)/27
Fraction of Volume in Strip	0.23	0.19	0.16	E	= D/A
Total PCB Mass (kg)	3,160	6,274	15,373	F	ENTERED
PCB Mass in Buffer (kg)	740	1,200	2,400	G	= F*E
PCB (kg/lateral inch)	2.4	4.0	8.0	H	= G/25/12
PCB (g/lateral inch/longitudinal ft)	0.14	0.18	0.13	I	= H/B*1000
PCB in 1 ft block 100 ft long (g)	164	216	153	J	= I*100*12

Results

Estimates of PCB loading by thickness and length of hypothetical eroded blocks are presented for each impoundment on Figure 1. These figures illustrate the potential for PCB loading from the banks to be a significant contribution to the sediment bed and water column. Subsequent measurements conducted at the former impoundments allowed for estimation of bank retreat; these results are presented in the Supplement to the Kalamazoo River RI/FS. It should be noted that even 1,000 foot-long segments of sediment, not necessarily contiguous in each impoundment, represent only 5.5, 4.5, and 1.6 percent of the total lengths of the banks of the former Plainwell, Otsego, and Trowbridge impoundments; the available PCB potentially eroded is much higher than shown in Figure 1.

Figure 2 compares potential PCB contributions of a 1,000-foot segment from each of the three former impoundments. The rate of PCB loading on a per unit basis is highest in the former Otsego Impoundment and lowest in the former Trowbridge Impoundment. The total PCB loading for each of the impoundments, assuming uniform rates of erosion along the entire length of respective stream banks, is shown in Figure 3. That figure shows that although the former Trowbridge Impoundment exhibits the lowest per unit PCB loading rate (shown in Figure 2), the mass of erodible PCB is greatest due to its considerable length relative to the former Plainwell and Otsego impoundments.

Figure 2. Loading from Riverbanks of Former Impoundments on a Unit Length Basis.

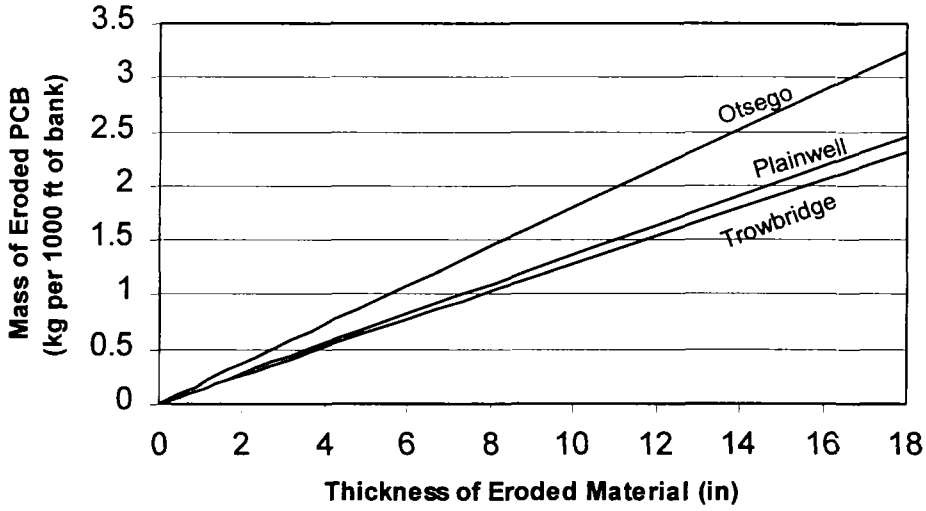
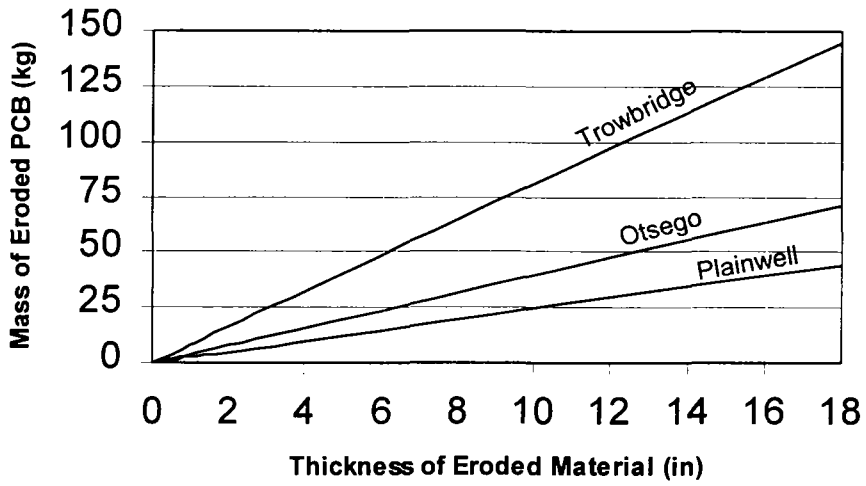


Figure 3. Loading From Total Length of Riverbanks in Former Impoundments



The PCB load estimates from the former impoundment banks indicate the potential significance of these banks as an ongoing source of PCB to the Kalamazoo River. Based on the magnitude of potential loading resulting from the sloughing of a relatively small percentage of the total bank soil, it was determined that measurements of lateral erosion rates were necessary to constrain and refine these estimates prior to the development of remedial alternatives. In 1999, bank locations in each of the former impoundments that were surveyed in 1993 were resurveyed to estimate the actual annual rate of erosion. These results, presented in the Supplement to the Kalamazoo River RI/FS, affect the development and selection of the preferred remedial alternative in the Feasibility Study report. Additional work to characterize the riverbanks is ongoing. In 2000, a bank monitoring program was initiated by the Kalamazoo River Study Group (KRSG) to periodically monitor movement of the banks; the first results of these monitoring activities will be available in the summer of 2001. These activities are also presented in the Supplement to the Kalamazoo River RI/FS.

Appendix J

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Kalamazoo River Surface Water Data from the Lake Michigan Mass Balance Study

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
LAKE MICHIGAN MASS BALANCE STUDY PESTICIDE DATA (ng/L)

Date Sampled	Flow (cfs)	Sample ID	Fraction	a-Chlordane	g-Chlordane	cis-Nonachlor	DDD	DDE	DDT	Toxaphene	HCB	a-HCH	g-HCH	Oxychlordane
4/12/94	2050	TKALAG01	D	0.0390	0.0360	0.0000	0.0760	0.0490	0.0000	0.0000	0.0100	0.2700	0.2100	0.0000
4/12/94	2050	TKALAG01	P	0.0620	0.0640	0.0000	0.1800	0.2400	0.0630	0.0000	0.0000	0.0000	0.0000	0.0000
4/26/94	1990	TKALAG02	D	0.0500		0.0000	0.0930	0.0410	0.0000	0.0000	0.0000	0.1300	0.1900	0.0000
4/26/94	1990	TKALAG02	P	0.1300	0.1600	0.0410	0.3700	0.2600	0.1000	0.0000		0.0000	0.0000	0.0000
4/29/94	2350	TKALAG03	D	0.0500	0.0280	0.0000	0.0940	0.0530	0.0000	0.0000	0.0073	0.1200	0.2800	0.0000
4/29/94	2350	TKALAG03	P	0.1100	0.1400	0.0470	0.2600	0.2600	0.1000	0.0000	0.0061	0.0000	0.0000	0.0000
5/4/94	2700	TKALAG04	D	0.0480	0.0270	0.0000	0.0860	0.0500	0.0000	0.0000	0.0069	0.0000	0.0000	0.0000
5/4/94	2700	TKALAG04	P	0.0810	0.0980	0.0330	0.2000	0.1700	0.0550	0.0000	0.0000	0.0000	0.0000	0.0000
5/4/94	2700	TKALAG04	D	0.0620	0.0280	0.0000	0.0960	0.0690	0.0000	0.0000	0.0075	0.0000	0.0000	0.0000
5/4/94	2700	TKALAG04	P	0.0750	0.0900	0.0310	0.1800	0.1600	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5/10/94	2140	TKALAG05	D	0.0590	0.0330	0.0000	0.1300	0.0640	0.0000	0.0000	0.0070	0.1300	0.2900	0.0000
5/10/94	2140	TKALAG05	P	0.1000	0.1300	0.0440	0.2300	0.2200	0.0640	0.0000	0.0000	0.0000	0.0000	0.0000
5/19/94	1820	TKALAG06	D	0.0410	0.0290	0.0000	0.0820	0.0980	0.0000	0.0000	0.0000	0.0730	0.1200	0.0000
5/19/94	1820	TKALAG06	P	0.0860	0.1200	0.0390	0.2400	0.3900	0.0660	0.0000	0.0000	0.0000	0.0000	0.0000
6/3/94	1250	TKALAG07	D	0.0440	0.0320	0.0000	0.0880	0.0690	0.0000	0.0000	0.0077	0.1100	0.2900	0.0000
6/3/94	1250	TKALAG07	P	0.1200	0.1600	0.0540	0.3800	0.5700	0.0760	0.0000	0.0069	0.0000	0.0000	0.0000
6/16/94	1340	TKALAG08	D	0.0470	0.0330	0.0000	0.1000	0.0510	0.0000	0.0000	0.0160	0.0700	0.2500	0.0000
6/16/94	1340	TKALAG08	P	0.0580	0.0640	0.0260	0.1600		0.0520	0.0000		0.0000	0.0000	0.0000
6/29/94	4160	TKALAG09	D	0.0490	0.0370	0.0000	0.0800	0.0630	0.0000	0.0000	0.0095	0.1400	0.7200	0.0000
6/29/94	4160	TKALAG09	P	0.0480	0.0560	0.0260	0.1200	0.2100	0.0840	0.0000	0.0000	0.0000	0.0000	0.0000
7/2/94	3120	TKALAG10	D	0.0450	0.0360	0.0000	0.0840	0.0680	0.0000	0.0000	0.0000	0.1300	0.3900	0.0000
7/2/94	3120	TKALAG10	P	0.0570	0.0720	0.0270	0.1500	0.2500	0.2300	0.0000	0.0000	0.0000	0.0000	0.0000
7/7/94	3030	TKALAG11	D	0.0660	0.0510	0.0000	0.1300	0.0750	0.0000	0.0000	0.0000	0.1700	0.4300	0.0000
7/7/94	3030	TKALAG11	P	0.0510	0.0560	0.0240	0.1100	0.2100	0.1200	0.0000	0.0000	0.0000	0.0000	0.0000
7/12/94	2330	TKALAG12	D	0.0550	0.0320	0.0000	0.0930	0.0630	0.0000	0.0000	0.0000	0.0930	0.2600	0.0000
7/12/94	2330	TKALAG12	P	0.0600	0.0740	0.0280	0.1700	0.2600	0.0890	0.0000	0.0000	0.0000	0.0000	0.0000
7/20/94	1970	TKALAG13	D	0.0410	0.0330	0.0000	0.0910	0.0620	0.0000	0.0000	0.0000	0.0850	0.2000	0.0000
7/20/94	1970	TKALAG13	P	0.0870	0.1000	0.0390	0.2300	0.3200	0.0600	0.0000	0.0000	0.0000	0.0000	0.0000
8/11/94	1510	TKALAG14	D	0.0430	0.0330	0.0000	0.0820	0.0460	0.0000	0.0000	0.0000	0.0710	0.1600	0.0000
8/11/94	1510	TKALAG14	P	0.0730	0.0870	0.0350	0.1900	0.3100	0.0730	0.0000	0.0000	0.0000	0.0000	0.0000
8/25/94	2600	TKALAG15	D	0.0510	0.0420	0.0000	0.1200	0.0560	0.0000	0.0000	0.0120	0.1400	0.3000	0.0000
8/25/94	2600	TKALAG15	P	0.0450	0.0490	0.0220	0.1300	0.2000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000
8/31/94	2040	TKALAG16	D	0.0550		0.0000	0.1100	0.0560	0.0000	0.0000	0.0077	0.0000	0.0620	0.0000
8/31/94	2040	TKALAG16	P	0.0710	0.0790	0.0260	0.2200	0.3100	0.0560	0.0000	0.0000	0.0000	0.0000	0.0000
8/31/94	2040	TKALAG16	D	0.0540		0.0000	0.1100	0.0500	0.0000	0.0000	0.0000	0.0000	0.1300	0.0000
8/31/94	2040	TKALAG16	P	0.0720	0.0790	0.0280	0.2200	0.3300	0.0560	0.0000	0.0000	0.0000	0.0000	0.0000

(See notes on Page 3)

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
LAKE MICHIGAN MASS BALANCE STUDY PESTICIDE DATA (ng/L)

Date Sampled	Flow (cfs)	Sample ID	Fraction	a-Chlordane	g-Chlordane	cis-Nonachlor	DDD	DDE	DDT	Toxaphene	HCB	a-HCH	g-HCH	Oxychlordane
9/28/94	1690	TKALAG17	D	0.0410		0.0000	0.0960	0.0490	0.0000	0.0000	0.0000	0.0000	0.0500	0.0000
9/28/94	1690	TKALAG17	P	0.0880	0.0910	0.0350	0.2400	0.3500	0.0700	0.0000	0.0000	0.0000	0.0000	0.0000
10/20/94	1410	TKALAG18	D	0.0380	0.0330	0.0000	0.0710	0.0410	0.0000	0.0000	0.0088	0.1200	0.2800	0.0000
10/20/94	1410	TKALAG18	P	0.0580	0.0700	0.0210	0.1400	0.2600	0.0000	0.0000	0.0000	0.0000	0.0000	0 0000
11/2/94	2100	TKALAG19	D	0.0340	0.0270	0.0000	0.0900	0.0310	0.0000	0.0000	0.0061	0.1300	0.1800	0 0000
11/2/94	2100	TKALAG19	P	0.0460	0.0530	0.0000	0.1600	0.2200	0.0740	0.0000	0.0000	0.0000	0.0000	0.0000
11/10/94	4070	TKALAG20	D	0.0330	0.0270	0.0000	0.0690	0.0460	0.0000	0.0000	0.0080	0.2000	0.3900	0.0000
11/10/94	4070	TKALAG20	P	0.0290	0.0310	0.0000	0.0730	0.1300	0.0970	0.0000	0.0000	0.0000	0.0000	0.0000
11/15/94	2740	TKALAG21	D	0.0360	0.0240	0.0000	0.0850	0.0360	0.0750	0.0000	0.0073	0.0800	0.1500	0.0000
11/15/94	2740	TKALAG21	P	0.0390	0.0430	0.0220	0.1200	0.1600	0.0910	0.0000	0.0000	0.0000	0.0000	0.0000
12/15/94	2310	TKALAG22	D	0.0300	0.0270	0.0000	0.0730	0.0300	0.0580	0.0000	0.0100	0.1300	0.1700	0.0000
12/15/94	2310	TKALAG22	P	0.0000	0.0000	0.0000	0.0710	0.0670	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1/26/95	3090	TKALAG23	D	0 0230		0.0000	0.0550	0.0370	0.0000	0.0000	0.0064	0.0000	0 0870	0.0000
1/26/95	3090	TKALAG23	P	0 0230	0.0250	0.0000	0.0520	0.0880	0.0740	0.0000	0.0000	0.0000	0.0000	0.0000
2/23/95	2180	TKALAG24	D	0 0270		0.0000	0.0550	0.0330	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2/23/95	2180	TKALAG24	P	0.0460	0.0530	0.0000	0.0840	0.1100	0.0870	0.0000	0.0000	0.0000	0.0000	0.0000
3/13/95	3300	TKALAG25	D	0.0260		0.0000	0.0540	0.0440	0.0000	0.0000	0.0084	0.0000	0.0000	0.0000
3/13/95	3300	TKALAG25	P	0.0410	0.0410	0.0000	0.1100	0.1400	0.2100	0.0000	0.0000	0.0000	0.0000	0.0000
3/16/95	3430	TKALAG26	D	0.0300		0.0000	0.0760	0.0440	0.0000	0.0000	0.0000	0.0620	0.1100	0.0000
3/16/95	3430	TKALAG26	P	0.0460	0.0470	0.0000	0.1300	0.1700	0.0950	0.0000	0.0000	0.0000	0.0000	0.0000
3/21/95	2920	TKALAG27	D	0.0350		0.0000	0.0930	0.0480	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3/21/95	2920	TKALAG27	P	0.0590	0.0630	0.0230	0.1600	0.2200	0.1700	0.0000	0.0000	0.0000	0.0000	0.0000
4/11/95	2510	TKALAG28	D	0.0490	0.0400	0.0000	0.0940	0.0870	0.0000	0.0000	0.0092	0.2100		0.0000
4/11/95	2510	TKALAG28	P	0.0480	0.0520	0.0000	0.1900	0.2000	0.0000	0.0000	0.0000	0.0000	0 0000	0.0000
4/11/95	2510	TKALAG28	D	0.0000	0.0000	0.0000	0.0000	0.0280	0.0000	0.0000		0.0830	0.0830	0.0000
4/11/95	2510	TKALAG28	P	0.0570	0.0650	0.0280	0.2800	0.2500	0.0000	0.0000	0.0058	0.0000	0.0000	0.0000
4/17/95	2560	TKALAG29	D	0.0440		0.0000	0.0980	0.0510	0.0000	0.0000	0.0089	0.0650	0.0920	0 0000
4/17/95	2560	TKALAG29	P	0.0660	0.0670	0.0260	0.2100		0.0850	0.0000		0.0000	0.0000	0 0000
4/27/95	2600	TKALAG30	D	0.0390		0.0000	0.0750	0.0520	0.0000	0.0000	0.0084	0.0560	0.0730	0.0000
4/27/95	2600	TKALAG30	P	0.0720	0.0730	0.0250	0.2000	0.4200	0.4100	0 0000	0.0089	0.0000	0.0000	0.0000
5/2/95	2710	TKALAG31	D	0.0430		0.0000	0.0870	0.0490	0.0000	0.0000	0.0082	0.0500	0.0640	0.0000
5/2/95	2710	TKALAG31	P							0.0000		0.0000	0.0000	0.0000
5/19/95	2300	TKALAG32	D	0.0530		0.0000	0.1400	0.0710	0.0000	0.0000	0.0120	0.0000	0.0700	0.0000
5/19/95	2300	TKALAG32	P	0.1000	0.1100	0.0400	0.2900	0.3900	0.1000	0.0000	0.0067	0.0000	0.0000	0.0000
6/1/95	2020	TKALAG33	D	0.0450		0.0000	0.1100	0.0560	0.0000	0.0000	0.0082	0.0000	0.1000	0.0000
6/1/95	2020	TKALAG33	P	0.1300	0.1300	0.0470	0.3800	0.4700	0.0790	0.0000	0.0077	0.0000	0.0000	0.0000

(See notes on Page 3)

TABLE 1

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

REMEDIAL INVESTIGATION REPORT
LAKE MICHIGAN MASS BALANCE STUDY PESTICIDE DATA (ng/L)

Date Sampled	Flow (cfs)	Sample ID	Fraction	a-Chlordane	g-Chlordane	cis-Nonachlor	DDD	DDE	DDT	Toxaphene	HCB	a-HCH	g-HCH	Oxychlordane
6/21/95	1390	TKALAG34	D	0.0510		0.0000	0.1300	0.0710	0.0000	0.0000	0.0110	0.0000	0.0000	0.0000
6/21/95	1390	TKALAG34	P	0.0950	0.0970	0.0400	0.3200	0.4300	0.1100	0.0000	0.0062	0.0000	0.0000	0.0000
8/22/95	1870	TKALAG35	D	0.0560		0.0000	0.1400	0.0670	0.0000	0.0000	0.0084	0.0000	0.1300	0.0000
8/22/95	1870	TKALAG35	P	0.0980	0.1000	0.0400	0.2800	0.4500	0.1100	0.0000	0.0062	0.0000	0.0000	0.0000
9/25/95	1060	TKALAG36	D	0.0230	0.0000	0.0000	0.0730	0.0480	0.0000	0.0000	0.0060	0.0000	0.0000	0.0000
9/25/95	1060	TKALAG36	P		0.0370	0.0000	0.1100	0.1600	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
9/25/95	1060	TKALAG36	D	0.0250	0.0000	0.0000	0.0730	0.0370	0.0000	0.0000	0.0061	0.0000	0.0000	0.0000
9/25/95	1060	TKALAG36	P		0.0340	0.0000	0.0900	0.1600	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
10/17/95	1060	TKALAG37	D	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
10/17/95	1060	TKALAG37	P		0.0430	0.0000	0.1100	0.1900	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
10/30/95	1510	TKALAG38	D	0.0280	0.0220	0.0000	0.0800	0.0440	0.0000	0.0000	0.0130	0.0000	0.0000	0.0000
10/30/95	1510	TKALAG38	P		0.0350	0.0000	0.0910	0.1500	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Notes:
Data provided to BBL by USEPA on October 1, 1999.
D denotes dissolved PCB fraction.
P denotes particulate PCB fraction.

TABLE 2

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

REMEDIAL INVESTIGATION REPORT
LAKE MICHIGAN MASS BALANCE STUDY PCB CONGENER DATA (ng/L)

Date Sampled	Flow (cfs)	Sample ID	Fraction	P003	P004_A	P005_A	P006	P007	P015_A	P016_A	P017	P018	P019	P022	P024_A	P025	P026	P028_A	P033	P037_A	P040	P041_A	P044
4/12/94	2050	TKALAG01	D			0.3614	0 0726	0.0569		0 5297	0.3381	0.4818	0 0608	0.1411	0.0537		0 1553	1 0681		0.2249	0 1142	0 3570	0 4383
4/12/94	2050	TKALAG01	P			0.3221	0.0415	0.0000		0.3252	0.2817	0 3076	0 0000	0.2040	0.0429		0 2527	1.9637		0.5023	0 1481	0.5738	0.6566
4/26/94	1990	TKALAG02	D			0 2310	0.0334	0.0000		0.3990	0.2580	0.4230	0.0218	0 0924	0 0440		0.1160	0.8800		0 1660	0.0690	0 2710	0 3510
4/26/94	1990	TKALAG02	P			0.6276	0 0657			0.3448	0 5172	0.5972		0.4166			0 4359	4.1600		0 9890	0 2634	1.2262	1.4041
4/29/94	2350	TKALAG03	D	0 2 739	0 0625	0 3118	0 0532	0 0346	0.6399	0.5038		0.4373	0 0280	0 1021	0 0511	0 0476	0 1149	0 7967	0 0827	0 1938	0 0772	0 2644	0.3287
4/29/94	2350	TKALAG03	P	0 0000	0 0000	0.4099	0.0000	0 0000	0.5536	0.2553		0 3463	0.0071	0 2670	0 0296	0 1446	0.2461	2.1034	0 2035	0 6679	0.1943	0 7664	0 8205
5/4/94	2700	TKALAG04	D	0 0000	0 0289	0.3013	0.0541	0.0174	0.5972	0 4619		0 4158	0.0146	0.0993	0 0471	0.0475	0.1111	0.7574	0 0773	0 1946	0.0518	0.2310	0 2914
5/4/94	2700	TKALAG04	P	0 0000	0.0000	0.2799	0.0000	0.0000	0.3693	0 1374		0 2343	0.0000	0 1592	0.0243	0.0810	0.1447	1.2737	0 1082	0 5104	0.1333	0 5050	0.5893
5/4/94	2700	TKALAG04	D	0 0000	0 0000	0.3228	0 0574	0.0000	0.6859	0 5379		0.4823	0.0237	0.1174	0.0516	0.0565	0.1263	0.8900	0 0869	0.2342	0.0754	0 2775	0.3515
5/4/94	2700	TKALAG04	P	0 0000	0 0000	0.2499	0.0000	0.0000	0.3962	0 1414		0.2514	0.0000	0.1677	0 0214	0.0838	0.1462	1.3233	0 1163	0.4457	0 1314	0 4991	0 6056
5/10/94	2140	TKALAG05	D	0 0000	0 0839	0 3479	0.0577	0 0107	0.7143	0.5605		0 4802	0 0354	0 1165	0 0561	0.0558	0.1307	0 9146	0 0910	0.2209	0.0871	0 2925	0 3571
5/10/94	2140	TKALAG05	P	0.0000	0 0000	0 5304	0.0682	0.0175	0 7096	0 3596		0.4287	0.0000	0.3539	0 0294	0 1887	0.3294	2 7867	0 2822	0.7545	0 2239	0 8908	0.9476
5/19/94	1820	TKALAG06	D	0.0000	0 0385	0 3613	0.0501	0.0178	0 7477	0.5710		0.5265	0.0185	0.1264	0 0567	0.0575	0.1457	0 9993	0.1002	0 2407	0 0848	0.3268	0.4027
5/19/94	1820	TKALAG06	P	0.0000	0.0000	0 4981	0.0813	0.0200	0 6703	0.2964		0.4119	0.0000	0.3283	0.0463	0 1731	0.2930	2.6475	0 2679	0 9038	0.1744	0 9383	1.0280
6/3/94	1250	TKALAG07	D	0 0000	0 0000	0 5298		0 0218	0 8674	0.6003		0.6284		0.1576	0 0688	0 0646	0.1654	1.1605	0 1387	0 2681	0.0757	0 3582	0.4563
6/3/94	1250	TKALAG07	P		0 0000	0 6557	0.1022	0.0294	1.0195	0.3827		0.6193	0.0000	0.4709	0 0670	0 2489	0.4192	3 8762	0 3803	1 1292	0 2953	1 3696	1.5071
6/16/94	1340	TKALAG08	D	0 0000	0 0000	0 2900		0.0000	0.5432	0.3992		0.4383	0.0000	0.1143	0 0447	0 0473	0.1168	0.9149	0 0971	0.2389	0.0589	0 3210	0.3994
6/16/94	1340	TKALAG08	P																				
6/29/94	4160	TKALAG09	D	0 0000	0 0379	0 3544	0 0674	0 0156	0.5476	0.3902		0.3708	0.0160	0.1089	0 0406	0.0407	0.1057	0 7655	0.0881	0 1954	0.0568	0.2534	0.3009
6/29/94	4160	TKALAG09	P	0 0000	0 0000	0.2471	0 0000	0.0112	0.2425	0.1141		0.1330	0 0000	0 1445	0.0187	0 0676	0.1070	1.0915	0 1225		0 0771	0 3723	0.4344
7/2/94	3120	TKALAG10	D	0 0000	0 0463	0 3287	0.0638	0.0141	0.5504	0 4213		0.3967	0.0203	0.1109	0 0439	0 0427	0.1079	0 7873	0.0844	0.2056	0 0693	0 2636	0.3153
7/2/94	3120	TKALAG10	P	0 0000	0 0000	0 2630		0.0000	0.3213	0.1497		0.2143	0.0000	0.1816	0 0240	0 0874	0.1500	1.3605	0 1625		0 1089	0 4812	0.5512
7/7/94	3030	TKALAG11	D	0 0000	0 0000	0.3944	0 0794	0.0167	0.6649	0 4771		0.4824	0.0151	0 1363	0.0529	0 0537	0.1345	0 9622	0 1091	0.2552	0 0784	0.3283	0.4032
7/7/94	3030	TKALAG11	P	0 0000	0 0000	0.1512	0.0221	0.0080	0.2107	0 1042		0.1289	0.0023	0 1081	0 0167	0 0501	0.0841	0 8551	0 0893	0.2537	0 0633	0 3389	0.3395
7/12/94	2330	TKALAG12	D	0 0000	0 0390	0 3584	0.0536	0 0153	0.6305	0 4188		0.4461	0 0181	0 1254	0.0488	0 0503	0.1233	0 9263	0 0965	0.2314	0 0734	0 2897	0.3557
7/12/94	2330	TKALAG12	P	0 0000	0 0000	0 2636	0.0412	0.0000	0.3385	0 1658		0.2111	0.0037	0 1884	0.0238	0 0857	0.1504	1 4666	0 1512	0 4247	0.1161	0 5062	0 5450
7/20/94	1970	TKALAG13	D	0 0000	0 0421	0.4167	0.0790	0.0178	0 6949	0 4811		0.4922	0.0191	0 1469	0.0551	0 0576	0 1374	1.0221	0 1125	0.2637	0 0860	0 3221	0.3976
7/20/94	1970	TKALAG13	P	0 0000	0 0000	0.3548	0.0533	0.0135	0.5387	0.2186		0.3326	0 0000	0 2687	0.0360	0 1223	0 2162	2 1399	0 2120	0.6696	0.1742	0 7622	0.8317
8/11/94	1510	TKALAG14	D	0 0000	0.0000	0 4623	0.0815	0.0206	0.7104	0 4408		0.5103	0.0000	0 1262	0.0562	0 0522	0 1377	0 9581	0 1050	0.2203	0 0590	0.2918	0 3637
8/11/94	1510	TKALAG14	P	0 0000	0 0000	0 3405	0.0485	0.0172	0.5245	0 2324		0.3389	0.0084	0.2287	0.0388	0 1113	0 2064	1 8482	0 1998	0 5148	0 1406	0.6549	0 7208
8/25/94	2600	TKALAG15	D	0 0000	0 0786	0 4010	0.0819	0 0182	0.7026	0 5314		0.5292	0 0303	0.1399	0.0565	0.0558	0.1370	0.9886	0 1028	0 2521	0.0864	0 3199	0.4046
8/25/94	2600	TKALAG15	P	0 0000	0 0000	0.2524	0.0377	0 0102	0.3146	0 1377		0.1972	0.0000	0.1783	0.0234	0.0814	0 1360	1.3501	0.1370	0.4028	0.1049	0.1605	0 5204
8/31/94	2040	TKALAG16	D	0 0000	0 1472	0 5074	0.0907	0.0172	0.7330	0.5650		0.5573	0.0519	0.1662	0.0580	0 0647	0.1677	1.1824	0 1397	0 2854	0.1059	0 3740	0 4693
8/31/94	2040	TKALAG16	P	0 0000	0.0000	0 3404	0.0530	0.0107	0.4685	0 2094		0.2992	0.0070	0.2588	0.0310	0 1221	0.2216	1.9941	0 2047	0.6286	0.1813	0 7378	0 8235
8/31/94	2040	TKALAG16	D	0 0000	0 1373	0 4266	0.0817	0 0178	0.6962	0 5377		0.5400	0 0483	0.1486	0 0590	0.0610	0.1557	1.0809	0 1154	0.2713	0 1038	0 3560	0 4420
8/31/94	2040	TKALAG16	P	0 0000	0 0000	0 3549	0.0538	0 0123	0.4742	0.2143		0.3041	0.0000	0 2751	0 0329	0.1282	0.2293	2 0794	0.2102	0 6196	0.1824	0 7501	0 8105
9/28/94	1690	TKALAG17	D	0 0000	0 0783	0 3153	0.0562	0.0128	0.4991	0.4246		0.4004	0 0300	0.1280	0 0390	0.0482	0.1240	0 8989	0 1037	0 2202	0.0838	0 3001	0.3824
9/28/94	1690	TKALAG17	P	0.0000	0.0000	0 3675	0.0585		0.5718	0.2368		0 3644	0.0085	0.2725	0.0373	0 1248	0 2377	2 1193	0 2299	0.7232	0 2085	0.8260	0 9578
10/20/94	1410	TKALAG18	D	0 0000	0.0426	0 3842	0.0662	0.0194	0 5792	0.4740		0 4486	0.0205	0.1105	0 0469	0.0440	0 1097	0 7789	0 0886	0.1840	0.0602	0.2340	0.3084
10/20/94	1410	TKALAG18	P	0.0000	0 0000	0.2650	0 0409	0.0112	0.4402	0 1652		0.2838	0.0000	0 1835	0.0313	0.0919	0 1758	1.4632	0 1555	0 5078	0.1457	0.5959	0.6760
11/2/94	2100	TKALAG19	D	0.0000	0 0872	0 3018		0.0152	0.5204	0 4539		0.4032	0.0290	0 1032	0.0464	0 0445	0.1148	0 7318	0.0871	0 1930	0 0730	0 2578	0.3222
11/2/94	2100	TKALAG19	P	0.0000	0 0000	0 2584	0.0346	0.0000	0.2759	0 1555		0.1336	0.0000	0.1690	0.0236	0 0720	0.1409	1 2476	0 1474	0.3942	0 1175	0 4962	0 5625

(See Notes on Page 9)

TABLE 2

ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER SUPERFUND SITE REMEDIAL INVESTIGATION REPORT LAKE MICHIGAN MASS BALANCE STUDY PCB CONGENER DATA (ng/L)

Date Sampled	Flow (cfs)	Sample ID	Fraction	P045	P046	P047_A	P049	P051	P052	P053	P056_A	P063	P066	P070_A	P074	P077_A	P082	P083	P084_A	P085	P087	P089	P091	P095
4/12/94	2050	TKALAG01	D	0.0830	0.0624	0.4528	0.3512		0.4673		0.1611		0.4731	0.3367	0.0881	0.2598	0.0085		0.1712		0.0755		0.0476	
4/12/94	2050	TKALAG01	P	0.0905	0.0643	0.6691	0.6349		0.6991		0.5148		1.4790	0.9104	0.2869	0.9228	0.0724		0.4039		0.2351		0.1502	
4/26/94	1990	TKALAG02	D	0.0583	0.0425	0.2520	0.2750		0.3700		0.1200		0.3580	0.2430	0.0657	0.1830	0.0129		0.1210	0.0000	0.0460		0.0413	
4/26/94	1990	TKALAG02	P	0.1848	0.1018	1.4552	1.4193		1.5503		1.1434		3.2621	2.0386		2.0152	0.1208		0.8510		0.4841		0.3269	
4/29/94	2350	TKALAG03	D	0.0304	0.0446	0.1204	0.2452	0.0276	0.4635	0.0703	0.0820	0.0120	0.2042	0.1264	0.0532	0.1399	0.0133	0.0111	0.1242	0.0211	0.0383	0.0047	0.0323	0.1477
4/29/94	2350	TKALAG03	P	0.1288	0.0717	0.3753	0.7324	0.0282	1.1354	0.1124	0.5007	0.0606	1.4092	0.6489	0.3004	1.1010	0.0830	0.0834	0.6245	0.2024	0.2716	0.0245	0.2066	0.6782
5/4/94	2700	TKALAG04	D	0.0679	0.0349	0.0995	0.2201	0.0200	0.4162	0.0624	0.0763	0.0100	0.2001	0.1205	0.0496	0.1310	0.0122	0.0095	0.1091	0.0201	0.0348	0.0044	0.0280	0.1307
5/4/94	2700	TKALAG04	P	0.0958	0.0486	0.2639	0.5412	0.0128	0.8635	0.0779	0.3290	0.0378	0.9893	0.4452	0.1996	0.7492	0.0532	0.0537	0.4370	0.1385	0.1848	0.0165	0.1422	0.5003
5/4/94	2700	TKALAG04	D	0.0824	0.0467	0.1211	0.2749	0.0237	0.5174	0.0744	0.0967	0.0133	0.2542	0.1631	0.0651	0.1709	0.0117	0.0130	0.1427	0.0267	0.0465	0.0060	0.0374	0.1681
5/4/94	2700	TKALAG04	P	0.0950	0.0503	0.2719	0.5598	0.0124	0.8927	0.0836	0.3254	0.0368	0.9622	0.4709	0.1987	0.7463	0.0492	0.0549	0.4355	0.1365	0.1897	0.0176	0.1414	0.5018
5/10/94	2140	TKALAG05	D	0.0687	0.0491	0.1234	0.2725	0.0240	0.4934	0.0757	0.0991	0.0139	0.2469	0.1500	0.0648	0.1668	0.0160	0.0128	0.1414	0.0252	0.0447	0.0053	0.0366	0.1634
5/10/94	2140	TKALAG05	P	0.1434	0.0789	0.4509	0.8934	0.0367	1.3619	0.1312	0.6337	0.0642	1.8473	0.8279	0.3805	1.2351	0.0944	0.0914	0.7000	0.2318	0.3069	0.0265	0.2313	0.7641
5/19/94	1820	TKALAG06	D	0.0859	0.0461	0.1385	0.3048	0.0279	0.5502	0.0870	0.1035	0.0159	0.2663	0.1638	0.0658	0.1840	0.0149	0.0144	0.1554	0.0281	0.0482	0.0054	0.0410	0.1884
5/19/94	1820	TKALAG06	P	0.1295	0.0660	0.4688	0.8945	0.0324	1.3773	0.1359	0.6265	0.0655	1.7705	0.8308	0.3773	1.3404	0.0995	0.0960	0.7420	0.2459	0.3256	0.0275	0.2519	0.8363
6/3/94	1250	TKALAG07	D	0.0854	0.0409	0.1478	0.3411	0.0291	0.6355	0.0958	0.1117	0.0178	0.2924	0.1813	0.0722	0.1957	0.0173	0.0148	0.1661	0.0294	0.0501	0.0049	0.0445	0.2152
6/3/94	1250	TKALAG07	P	0.2011	0.1000	0.7087	1.3262	0.0410	2.0552	0.1999	0.9080	0.1104	2.6515	1.1813	0.5581	1.9799	0.1364	0.1496	1.0740	0.3655	0.4661	0.0371	0.3616	1.2310
6/16/94	1340	TKALAG08	D	0.0640	0.0294	0.1335	0.3037	0.0231	0.5571	0.0779	0.1077	0.0155	0.2900	0.1754	0.0748	0.2060	0.0114	0.0143	0.1525	0.0310	0.0515	0.0067	0.0422	0.1993
6/16/94	1340	TKALAG08	P																					
6/29/94	4160	TKALAG09	D	0.0566	0.0291	0.1033	0.2428	0.0181	0.4222	0.0595	0.0920	0.0124	0.2513	0.1451	0.0604	0.1740	0.0118	0.0117	0.1170	0.0269	0.0447	0.0046	0.0347	0.1588
6/29/94	4160	TKALAG09	P	0.0522	0.0270	0.1727	0.3608	0.0111	0.5565	0.0517	0.2795	0.0294	0.8689	0.3765	0.1743	0.6288	0.0417	0.0414	0.2919	0.1192	0.1435	0.0110	0.1037	0.3461
7/2/94	3120	TKALAG10	D	0.0708	0.0368	0.1099	0.2435	0.0196	0.4309	0.0637	0.0931	0.0123	0.2495	0.1427	0.0576	0.1705	0.0114	0.0117	0.1263	0.0263	0.0424	0.0051	0.0348	0.1540
7/2/94	3120	TKALAG10	P	0.0740	0.0410	0.2364	0.4799	0.0118	0.7444	0.0735	0.3444	0.0355	1.0576	0.4653	0.2025	0.7828	0.0547	0.0520	0.3922	0.1421	0.1804	0.0153	0.1322	0.4456
7/7/94	3030	TKALAG11	D	0.0815	0.0402	0.1404	0.3111	0.0247	0.5626	0.0830	0.1317	0.0162	0.3519	0.1866	0.0808	0.2516	0.0166	0.0180	0.1788	0.0429	0.0664	0.0073	0.0536	0.2273
7/7/94	3030	TKALAG11	P	0.0446	0.0225	0.1576	0.3134	0.0121	0.4966	0.0464	0.2310	0.0271	0.6926	0.3162	0.1469	0.5325	0.0345	0.0377	0.2589	0.1026	0.1309	0.0105	0.0930	0.3113
7/12/94	2330	TKALAG12	D	0.0755	0.0383	0.1228	0.2723	0.0217	0.4827	0.0709	0.1047	0.0140	0.2742	0.1580	0.0665	0.1813	0.0115	0.0128	0.1398	0.0280	0.0454	0.0052	0.0377	0.1667
7/12/94	2330	TKALAG12	P	0.0745	0.0384	0.2449	0.4825	0.0142	0.7425	0.0687	0.3689	0.0395	1.1259	0.5064	0.2227	0.7895	0.0557	0.0530	0.3890	0.1417	0.1850	0.0143	0.1298	0.4361
7/20/94	1970	TKALAG13	D	0.0870	0.0448	0.1353	0.2936	0.0247	0.5173	0.0793	0.1232	0.0153	0.3085	0.1746	0.0726	0.2012	0.0150	0.0141	0.1560	0.0318	0.0502	0.0056	0.0418	0.1819
7/20/94	1970	TKALAG13	P	0.1141	0.0597	0.3947	0.7663	0.0202	1.1606	0.1017	0.5329	0.0573	1.6606	0.7412	0.3372	1.1360	0.0810	0.0758	0.5863	0.2052	0.2751	0.0211	0.1958	0.6605
8/11/94	1510	TKALAG14	D	0.0666	0.0319	0.1317	0.2835	0.0253	0.5278	0.0842	0.0971	0.0137	0.2433	0.1449	0.0650	0.1685	0.0113	0.0126	0.1378	0.0268	0.0464	0.0048	0.0392	0.1769
8/11/94	1510	TKALAG14	P	0.1033	0.0555	0.3277	0.6338	0.0272	1.0095	0.1041	0.4053	0.0534	1.1542	0.5868	0.2635	0.9332	0.0711	0.0660	0.5076	0.1634	0.2201	0.0202	0.1701	0.5856
8/25/94	2600	TKALAG15	D	0.0880	0.0517	0.1306	0.3145	0.0242	0.5591	0.0817	0.1070	0.0146	0.2848	0.1631	0.0681	0.1994	0.0158	0.0138	0.1503	0.0296	0.0480	0.0055	0.0409	0.1886
8/25/94	2600	TKALAG15	P	0.0695	0.0337	0.2280	0.4665	0.0129	0.7245	0.0666	0.3240	0.0363	0.9821	0.4539	0.1948	0.7534	0.0499	0.0511	0.3726	0.1333	0.1773	0.0133	0.1267	0.4338
8/31/94	2040	TKALAG16	D	0.1100	0.0617	0.1535	0.3505	0.0280	0.6308	0.0974	0.1229	0.0194	0.3072	0.1967	0.0809	0.2196	0.0149	0.0156	0.1804	0.0326	0.0549	0.0067	0.0487	0.2175
8/31/94	2040	TKALAG16	P	0.1151	0.0600	0.3715	0.7085	0.0195	1.1025	0.1027	0.5105	0.0603	1.5134	0.7162	0.3008	1.1351	0.0935	0.0818	0.5846	0.2041	0.2687	0.0219	0.1960	0.6597
8/31/94	2040	TKALAG16	D	0.1048	0.0580	0.1477	0.3298	0.0272	0.5899	0.0905	0.1153	0.0187	0.2954	0.1831	0.0741	0.2019	0.0145	0.0151	0.1744	0.0308	0.0520	0.0061	0.0457	0.2067
8/31/94	2040	TKALAG16	P	0.1156	0.0583	0.3755	0.7161	0.0184	1.0947	0.1032	0.5192	0.0611	1.5288	0.7317	0.3113	1.1271	0.0812	0.0814	0.5859	0.2039	0.2696	0.0221	0.1982	0.6578
9/28/94	1690	TKALAG17	D	0.0877	0.0464	0.1241	0.2817	0.0222	0.5036	0.0725	0.1014	0.0165	0.2515	0.1535	0.0703	0.1708	0.0108	0.0123	0.1456	0.0257	0.0442	0.0057	0.0371	0.1742
9/28/94	1690	TKALAG17	P	0.1404	0.0745	0.4287	0.8330	0.0170	1.3263	0.1264	0.5551	0.0709	1.5618	0.7619	0.3274	1.2683	0.0924	0.0907	0.7160	0.2259	0.3073	0.0266	0.2335	0.8143
10/20/94	1410	TKALAG18	D	0.0639	0.0327	0.0954	0.2275	0.0202	0.4335	0.0644	0.0710	0.0101	0.1760	0.1158	0.0452	0.1293	0.0093	0.0090	0.1032	0.0179	0.0339	0.0035	0.0273	0.1340
10/20/94	1410	TKALAG18	P	0.0995	0.0515	0.3022	0.5956	0.0185	0.9466	0.0922	0.3642	0.0443	1.0349	0.4806	0.2236	0.9010	0.0641	0.0660	0.4986	0.1534	0.2077	0.0198	0.1633	0.5627
11/2/94	2100	TKALAG19	D	0.0690	0.0393	0.1007	0.2328	0.0187	0.4376	0.0683	0.0969	0.0137	0.2159	0.1399	0.0610	0.1361	0.0129	0.0108	0.1231	0.0235	0.0401	0.0000	0.0311	0.1453
11/2/94	2100	TKALAG19	P	0.0783	0.0411	0.2502	0.4915	0.0179	0.7542	0.0634	0.3206	0.0418	0.9515	0.4251	0.1992	0.8008	0.0516	0.0589	0.4304	0.1400	0.1833	0.0154	0.1358	0.4557

(See Notes on Page 9)

TABLE 2

ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER SUPERFUND SITE
REMEDIAL INVESTIGATION REPORT
LAKE MICHIGAN MASS BALANCE STUDY PCB CONGENER DATA (ng/L)

Date Sampled	Flow (cfs)	Sample ID	Fraction	P037	P099	P10[illegible]	P105_A	P118	P123_A	P128	P132_A	P135_A	P136	P137_A	P138_A	P141	P146	P149	P151	P158	P167	P170_A	P171_A
4/12/94	2050	TKALAG01	D	0.0592	0.0673	0.1509		0.0516		0.0000	0.0556	0.0039	0.0000	0.0000	0.0463	0.0000	0.0000	0.0306	0.0114		0.0000	0.0000	0.0000
4/12/94	2050	TKALAG01	P	0.2092	0.3263	0.5075		0.5035		0.1035	0.6315	0.0631		0.0000	0.5591		0.1082	0.2758	0.0791		0.0223	0.1788	0.0238
4/26/94	1990	TKALAG02	D	0.0408	0.0548	0.1070		0.0543		0.0093	0.0691	0.0085	0.0000	0.0000	0.0562	0.0000	0.0103	0.0372	0.0118		0.0000	0.0000	0.0000
4/26/94	1990	TKALAG02	P	0.4303	0.6924	1.0745		0.8413		0.1693	1.1076	0.1115		0.0000	0.9321		0.1972	0.4924	0.1414		0.0000	0.2932	
4/29/94	2350	TKALAG03	D	0.0239	0.0476	0.1139	0.0639	0.0570	0.0341	0.0070		0.0135	0.0000	0.0000	0.0587	0.0073	0.0000		0.0111	0.0071	0.0000	0.0058	0.0028
4/29/94	2350	TKALAG03	P	0.2050	0.4053	0.7839	0.7120	0.5880	0.3274	0.1182		0.1253	0.1233	0.0065	0.7780	0.0802			0.0972	0.0756	0.0293	0.1104	0.0263
5/4/94	2700	TKALAG04	D	0.0253	0.0429	0.1032	0.0640	0.0533	0.0316	0.0065		0.0120	0.0000	0.0000	0.0531	0.0070			0.0098	0.0059	0.0000	0.0051	0.0025
5/4/94	2700	TKALAG04	P	0.1363	0.2827	0.5511	0.4841	0.3899	0.2228	0.0754		0.0803	0.0796	0.0040	0.5125	0.0519	0.0000		0.0383	0.0474	0.0181	0.0682	0.0167
5/4/94	2700	TKALAG04	D	0.0336	0.0575	0.1371	0.0699	0.0657	0.0385	0.0076		0.0133	0.0000	0.0000	0.0636	0.0075	0.0000		0.0118	0.0065	0.0000	0.0053	0.0000
5/4/94	2700	TKALAG04	P	0.1395	0.2851	0.5774	0.4792	0.3728	0.2262	0.0733		0.0800	0.0791	0.0037	0.4976	0.0493	0.0424		0.0700	0.0464	0.0161	0.0663	0.0166
5/10/94	2140	TKALAG05	D	0.0330	0.0553	0.1299	0.0757	0.0678	0.0417	0.0085		0.0161	0.0000	0.0000	0.0687	0.0088	0.0000		0.0138	0.0071	0.0017	0.0067	0.0030
5/10/94	2140	TKALAG05	P	0.2254	0.4920	0.9361	0.8486	0.7062	0.3844	0.1384		0.1420	0.1436	0.0079	0.8961	0.0926	0.1509		0.0672	0.0814	0.0339	0.1293	0.0314
5/19/94	1820	TKALAG06	D	0.0360	0.0613	0.1455	0.0665	0.0583	0.0385	0.0075		0.0145	0.0000	0.0000	0.0626	0.0075	0.0000		0.0135	0.0064	0.0015	0.0062	0.0024
5/19/94	1820	TKALAG06	P	0.2383	0.4780	0.9444	0.9025	0.7065	0.4039	0.1446		0.1547	0.1238	0.0073	0.9613	0.0996			0.1298	0.1057	0.0301	0.1315	0.0330
6/3/94	1250	TKALAG07	D	0.0378	0.0646	0.1613	0.0740	0.0653	0.0437	0.0083		0.0162	0.0000	0.0000	0.0673	0.0082	0.0000		0.0151	0.0064	0.0000	0.0063	0.0020
6/3/94	1250	TKALAG07	P	0.3642	0.7018	1.3844	1.2066	0.9840	0.5659	0.2039		0.2199	0.1800	0.0104	1.3372	0.1398	0.2158		0.1837	0.1490	0.0428	0.1828	0.0463
6/16/94	1340	TKALAG08	D	0.0354	0.0655	0.1556	0.0732	0.0599	0.0407	0.0079		0.0131	0.0000	0.0000	0.0686	0.0076	0.0000		0.0123	0.0030	0.0000	0.0067	0.0000
6/16/94	1340	TKALAG08	P																				
6/29/94	4150	TKALAG09	D	0.0307	0.0557	0.1322	0.0847	0.0617	0.0459	0.0087		0.0173	0.0145	0.0009	0.0766	0.0106			0.0170	0.0073	0.0017	0.0118	0.0033
6/29/94	4150	TKALAG09	P	0.1038	0.2150	0.4139	0.4313	0.3568	0.1869	0.0731		0.0714	0.0581	0.0033	0.4878	0.0492			0.0611	0.0501	0.0162	0.0684	0.0164
7/2/94	3120	TKALAG10	D	0.0302	0.0540	0.1229	0.0667	0.0589	0.0353	0.0079		0.0131	0.0000	0.0000	0.0608	0.0072	0.0000		0.0126	0.0060	0.0000	0.0052	0.0020
7/2/94	3120	TKALAG10	P	0.1311	0.2690	0.5194	0.5339	0.4176	0.2366	0.0881		0.0871	0.0731	0.0042	0.5732	0.0603			0.0743	0.0624	0.0183	0.0813	0.0203
7/7/94	3030	TKALAG11	D	0.0466	0.0851	0.1895	0.1189	0.0922	0.0635	0.0158		0.0230	0.0207	0.0000	0.1131	0.0133	0.0178		0.0219	0.0127	0.0030	0.0124	0.0037
7/7/94	3030	TKALAG11	P	0.0944	0.1903	0.3640	0.3449	0.2704	0.1564	0.0563		0.0589	0.0459	0.0027	0.3756	0.0398	0.0533		0.0510	0.0445	0.0132	0.0538	0.0133
7/12/94	2330	TKALAG12	D	0.0329	0.0587	0.1344	0.0670	0.0598	0.0360	0.0080		0.0131	0.0000	0.0000	0.0609	0.0071	0.0000		0.0121	0.0061	0.0000	0.0049	0.0018
7/12/94	2330	TKALAG12	P	0.1366	0.2652	0.5186	0.5160	0.4311	0.2269	0.0843		0.0826	0.0698	0.0000	0.5616	0.0590	0.0822		0.0707	0.0623	0.0189	0.0787	0.0191
7/20/94	1970	TKALAG13	D	0.0374	0.0639	0.1430	0.0793	0.0677	0.0414	0.0099		0.0153	0.0000	0.0000	0.0743	0.0086	0.0117		0.0143	0.0075	0.0017	0.0067	0.0023
7/20/94	1970	TKALAG13	P	0.2007	0.3988	0.7895	0.7400	0.5990	0.3294	0.1155		0.1171	0.1004	0.0057	0.7589	0.0832	0.1226		0.1023	0.0839	0.0253	0.1042	0.0264
8/11/94	1510	TKALAG14	D	0.0323	0.0588	0.1395	0.0699	0.0552	0.0403	0.0077		0.0146	0.0138	0.0000	0.0616	0.0079	0.0000		0.0138	0.0056	0.0000	0.0063	0.0022
8/11/94	1510	TKALAG14	P	0.1643	0.3325	0.6642	0.7054	0.5276	0.3194	0.1097		0.1181	0.0820	0.0056	0.7319	0.0767	0.1273		0.0994	0.0855	0.0239	0.1025	0.0259
8/25/94	2600	TKALAG15	D	0.0358	0.0652	0.1467	0.0759	0.0646	0.0407	0.0092		0.0144	0.0000	0.0000	0.0701	0.0077	0.0122		0.0140	0.0072	0.0000	0.0060	0.0000
8/25/94	2600	TKALAG15	P	0.1312	0.2591	0.5095	0.5054	0.3804	0.2223	0.0821		0.0839	0.0671	0.0041	0.5245	0.0559	0.0849		0.0711	0.0620	0.0177	0.0785	0.0194
8/31/94	2040	TKALAG16	D	0.0408	0.0701	0.1684	0.0779	0.0656	0.0444	0.0081		0.0161	0.0000	0.0000	0.0709	0.0082	0.0105		0.0145	0.0068	0.0000	0.0065	0.0000
8/31/94	2040	TKALAG16	P	0.2070	0.4080	0.7770	0.8718	0.6876	0.3975	0.1359		0.1489	0.1050	0.0068	0.9583	0.0975	0.1500		0.1268	0.1006	0.0288	0.1362	0.0332
8/31/94	2040	TKALAG16	D	0.0389	0.0668	0.1567	0.0698	0.0632	0.0393	0.0072		0.0145	0.0000	0.0000	0.0641	0.0068	0.0000		0.0125	0.0056	0.0000	0.0052	0.0000
8/31/94	2040	TKALAG16	P	0.2064	0.4082	0.7709	0.7397	0.5852	0.3379	0.1132		0.1249	0.1015	0.0059	0.8126	0.0823	0.1311		0.1061	0.0864	0.0244	0.1169	0.0275
9/28/94	1690	TKALAG17	D	0.0328	0.0554	0.1337	0.0561	0.0514	0.0335	0.0058		0.0117	0.0000	0.0000	0.0510	0.0060	0.0000		0.0105	0.0051	0.0000	0.0042	0.0000
9/28/94	1690	TKALAG17	P	0.2290	0.4541	0.9112	0.8472	0.6141	0.4087	0.1262		0.1465	0.1253	0.0071	0.9125	0.0963	0.0939		0.1265	0.0991	0.0271	0.1233	0.0340
10/20/94	1410	TKALAG18	D	0.0233	0.0392	0.1002	0.0498	0.0409	0.0292	0.0051		0.0100	0.0000	0.0000	0.0425	0.0061	0.0000		0.0106	0.0000	0.0000	0.0041	0.0000
10/20/94	1410	TKALAG18	P	0.1632	0.3154	0.6397	0.5946	0.4268	0.2769	0.0955		0.1030	0.0828	0.0046	0.6233	0.0663	0.1060		0.0865	0.0718	0.0195	0.0805	0.0197
11/2/94	2100	TKALAG19	D	0.0288	0.0463	0.1136	0.0491	0.0490	0.0271	0.0047		0.0109	0.0000	0.0000	0.0440	0.0055	0.0090		0.0095	0.0000	0.0000	0.0036	0.0000
11/2/94	2100	TKALAG19	P	0.1284	0.2801	0.5408	0.4975	0.4428	0.2233	0.0757		0.0832	0.0709	0.0000	0.5490	0.0529	0.0861		0.0690	0.0647	0.0181	0.0808	0.0183

(See Notes on Page 9)

TABLE 2

ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER SUPERFUND SITE REMEDIAL INVESTIGATION REPORT LAKE MICHIGAN MASS BALANCE STUDY PCB CONGENER DATA (ng/L)

Date Sampled	Flow (cfs)	Sample ID	Fraction	P172	P174	P177	P178	P180	P182_A	P183	P185	P193	P194	P195_A	P196_A	P198	P199	P201	P204	P206	P207	Total PCBs (ng/L)
4/12/94	2050	TKALAG01	D	0.0000	0.0062	0.0000	0.0000		0.0109	0.0059	0.0000		0.0000	0.0000	0.0141		0.0000	0.0086		0.0000		8.0149
4/12/94	2050	TKALAG01	P	0.0235	0.0685	0.0505	0.0219	0.1741	0.0809	0.0507	0.0000		0.0347	0.0473	0.0785		0.0000	0.0666		0.0390		17.0839
4/26/94	1990	TKALAG02	D	0.0000	0.0100	0.0000	0.0000	0.0000	0.0137	0.0000	0.0000		0.0000	0.0000	0.0162		0.0000	0.0125		0.0000		6.1159
4/26/94	1990	TKALAG02	P		0.1125			0.2859	0.1166	0.0879				0.0892				0.1166		0.0643		33.3577
4/29/94	2350	TKALAG03	D	0.0000	0.0085	0.0046	0.0028	0.0148	0.0104	0.0058	0.0000	0.0000	0.0039	0.0019	0.0109	0.0000	0.0000	0.0092		0.0020	0.0000	7.0002
4/29/94	2350	TKALAG03	P	0.0303	0.1040	0.0723	0.0361	0.2321	0.1126	0.0627	0.0088	0.0179	0.0546	0.0269	0.1157	0.0000	0.0078	0.1028		0.0338	0.0037	21.4052
5/4/94	2700	TKALAG04	D	0.0000	0.0078	0.0044	0.0026	0.0135	0.0097	0.0052	0.0000	0.0000	0.0000	0.0017	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	6.1342
5/4/94	2700	TKALAG04	P	0.0185	0.0656	0.0444	0.0226	0.1464	0.0734	0.0383	0.0063	0.0109	0.0329	0.0166	0.0733	0.0000	0.0048	0.0659		0.0217	0.0022	14.3834
5/4/94	2700	TKALAG04	D	0.0000	0.0070	0.0043	0.0000	0.0126	0.0094	0.0053	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	7.2908
5/4/94	2700	TKALAG04	P	0.0180	0.0649	0.0429	0.0220	0.1405	0.0690	0.0378	0.0059	0.0105	0.0313	0.0159	0.0725	0.0000	0.0047	0.0670		0.0212	0.0000	14.5569
5/10/94	2140	TKALAG05	D	0.0000	0.0101	0.0057	0.0035	0.0174	0.0122	0.0067	0.0000	0.0000	0.0000	0.0021	0.0110	0.0000	0.0000	0.0088		0.0000	0.0000	7.5419
5/10/94	2140	TKALAG05	P	0.0356	0.1214	0.0803	0.0427	0.2815	0.1375	0.0753	0.0115	0.0201	0.0665	0.0314	0.1467	0.0035	0.0097	0.1287		0.0429	0.0043	26.1896
5/19/94	1820	TKALAG06	D	0.0017	0.0077	0.0046	0.0027	0.0147	0.0093	0.0058	0.0008	0.0000	0.0035	0.0017	0.0077	0.0000	0.0000	0.0070		0.0014	0.0000	8.0045
5/19/94	1820	TKALAG06	P	0.0353	0.1289	0.0882	0.0436	0.2786	0.1398	0.0706	0.0122	0.0224	0.0706	0.0342			0.0095			0.0440	0.0049	26.0958
6/3/94	1250	TKALAG07	D	0.0000	0.0083	0.0051	0.0026	0.0156	0.0091	0.0045	0.0000	0.0000	0.0036	0.0018	0.0075	0.0000	0.0000	0.0072		0.0000	0.0000	8.9921
6/3/94	1250	TKALAG07	P	0.0483	0.1704	0.1210	0.0596	0.3634	0.1862	0.1007	0.0160	0.0290	0.0910	0.0441	0.1847	0.0043	0.0123	0.1696		0.0580	0.0059	38.1981
6/16/94	1340	TKALAG08	D	0.0000	0.0084	0.0050	0.0000	0.0161	0.0102	0.0000	0.0000	0.0000	0.0030	0.0000	0.0000	0.0000	0.0000	0.0075		0.0000	0.0000	7.1882
6/16/94	1340	TKALAG08	P																			0.0000
6/29/94	4160	TKALAG09	D	0.0031	0.0123	0.0094	0.0071	0.0293	0.0194	0.0074	0.0012	0.0023	0.0069	0.0034	0.0140	0.0000	0.0000	0.0140		0.0023	0.0000	6.5454
6/29/94	4160	TKALAG09	P	0.0174	0.0638	0.0439	0.0212	0.1421	0.0694	0.0368	0.0058	0.0102	0.0343	0.0172	0.0700	0.0000	0.0047	0.0673		0.0219	0.0021	11.1724
7/2/94	3120	TKALAG10	D	0.0000	0.0074	0.0045	0.0025	0.0137	0.0086	0.0045	0.0000	0.0000	0.0023	0.0013	0.0063	0.0000	0.0000	0.0060		0.0000	0.0000	6.5253
7/2/94	3120	TKALAG10	P	0.0209	0.0771	0.0550	0.0268	0.1743	0.0848	0.0449	0.0073	0.0128	0.0423	0.0205	0.0858	0.0019	0.0058	0.0817		0.0271	0.0028	14.0411
7/7/94	3030	TKALAG11	D	0.0031	0.0142	0.0092	0.0047	0.0277	0.0162	0.0084	0.0014	0.0021	0.0055	0.0032	0.0144	0.0000	0.0000	0.0133		0.0036	0.0000	8.4983
7/7/94	3030	TKALAG11	P	0.0140	0.0510	0.0348	0.0173	0.1092	0.0540	0.0291	0.0046	0.0091	0.0276	0.0134	0.0594	0.0019	0.0037	0.0535		0.0185	0.0018	9.5867
7/12/94	2330	TKALAG12	D	0.0000	0.0071	0.0044	0.0000	0.0132	0.0085	0.0044	0.0000	0.0000	0.0020	0.0013	0.0060	0.0000	0.0000	0.0057		0.0000	0.0000	7.1860
7/12/94	2330	TKALAG12	P	0.0198	0.0721	0.0515	0.0250	0.1671	0.0811	0.0421	0.0065	0.0119	0.0382	0.0191	0.0799	0.0020	0.0054	0.0767		0.0255	0.0025	14.8154
7/20/94	1970	TKALAG13	D	0.0018	0.0089	0.0057	0.0030	0.0166	0.0102	0.0052	0.0000	0.0000	0.0030	0.0016	0.0080	0.0000	0.0000	0.0076		0.0016	0.0000	8.0760
7/20/94	1970	TKALAG13	P	0.0263	0.0993	0.0715	0.0344	0.2278	0.1107	0.0591	0.0088	0.0157	0.0520	0.0248	0.1084	0.0025	0.0071	0.1021		0.0329	0.0035	21.8174
8/11/94	1510	TKALAG14	D	0.0000	0.0084	0.0048	0.0027	0.0150	0.0100	0.0051	0.0000	0.0000	0.0026	0.0016	0.0078	0.0000	0.0000	0.0073		0.0014	0.0000	7.5327
8/11/94	1510	TKALAG14	P	0.0261	0.0976	0.0681	0.0330	0.2128	0.1065	0.0578	0.0085	0.0164	0.0511	0.0247	0.1089	0.0023	0.0071	0.0976		0.0332	0.0033	18.8932
8/25/94	2600	TKALAG15	D	0.0000	0.0077	0.0049	0.0000	0.0148	0.0095	0.0046	0.0000	0.0000	0.0025	0.0015	0.0069	0.0000	0.0000	0.0063		0.0000	0.0000	8.1246
8/25/94	2600	TKALAG15	P	0.0203	0.0717	0.0507	0.0251	0.1635	0.0810	0.0423	0.0066	0.0115	0.0389	0.0197	0.0875	0.0013	0.0054	0.0766		0.0272	0.0026	13.9403
8/31/94	2040	TKALAG16	D	0.0000	0.0079	0.0049	0.0000	0.0125	0.0092	0.0047	0.0000	0.0000	0.0000	0.0000	0.0068	0.0000	0.0000	0.0063		0.0000	0.0000	9.2937
8/31/94	2040	TKALAG16	P	0.0335	0.1248	0.0879	0.0413	0.2776	0.1335	0.0710	0.0112	0.0191	0.0611	0.0312	0.1315	0.0034	0.0088	0.1221		0.0398	0.0042	21.9970
8/31/94	2040	TKALAG16	D	0.0000	0.0063	0.0039	0.0000	0.0104	0.0073	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0048		0.0000	0.0000	3.6444
8/31/94	2040	TKALAG16	P	0.0292	0.1062	0.0748	0.0352	0.2365	0.1147	0.0595	0.0096	0.0164	0.0523	0.0268	0.1149	0.0000	0.0074	0.1053		0.0342	0.0035	21.4002
9/28/94	1690	TKALAG17	D	0.0000	0.0063	0.0036	0.0000	0.0104	0.0075	0.0036	0.0000	0.0000	0.0018	0.0000	0.0058	0.0000	0.0000	0.0051		0.0000	0.0000	7.0043
9/28/94	1690	TKALAG17	P	0.0330	0.1228	0.0851	0.0421	0.2644	0.1337	0.0709	0.0112	0.0190	0.0589	0.0296	0.1246	0.0000	0.0085	0.1215		0.0378	0.0039	23.8982
10/20/94	1410	TKALAG18	D	0.0000	0.0062	0.0035	0.0000	0.0125	0.0086	0.0042	0.0000	0.0000	0.0028	0.0017	0.0082	0.0000	0.0000	0.0071		0.0000	0.0000	5.2385
10/20/94	1410	TKALAG18	P	0.0211	0.0780	0.0545	0.0272	0.1756	0.0880	0.0467	0.0071	0.0124	0.0383	0.0188	0.0847	0.0019	0.0050	0.0774		0.0243	0.0028	16.6628
11/2/94	2100	TKALAG19	D	0.0000	0.0055	0.0032	0.0000	0.0091	0.0063	0.0034	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0039		0.0000	0.0000	6.2340
11/2/94	2100	TKALAG19	P	0.0201	0.0678	0.0492	0.0237	0.1569	0.0721	0.0383	0.0059	0.0000	0.0393	0.0181	0.0774	0.0019	0.0051	0.0717		0.0262	0.0000	14.1011

(See Notes on Page 9)

TABLE 2

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

REMEDIAL INVESTIGATION REPORT
LAKE MICHIGAN MASS BALANCE STUDY PCB CONGENER DATA (ng/L)

Date Sampled	Flow (cfs)	Sample ID	Fraction	P003	P004_A	P005_A	P006	P007	P015_A	P016_A	P017	P018	P019	P022	P024_A	P025	P026	P028_A	P033	P037_A	P040	P041_A	P044
11/10/94	4070	TKALAG20	D	0.0000	0.0718	0.2849	0.0508	0.0134	0.4374	0.3635		0.3247	0.0199	0.0878	0.0360	0.0350	0.0875	0.6098	0.0731	0.1558	0.0512	0.1979	0.2476
11/10/94	4070	TKALAG20	P	0.0000	0.0000	0.1332	0.0194	0.0047	0.1469	0.0848		0.0882	0.0000	0.0678	0.0119	0.0311	0.0555	0.5222	0.0607	0.1920	0.0527	0.2192	0.2564
11/15/94	2740	TKALAG21	D	0.0000	0.0930	0.2329		0.0178	0.4892	0.4304		0.3774	0.0279	0.0992	0.0424	0.0412	0.1084	0.6800	0.0780	0.1759	0.0613	0.2297	0.2952
11/15/94	2740	TKALAG21	P	0.0000	0.0000	0.2167	0.0387	0.0000	0.2036	0.1463		0.0975	0.0000	0.1533	0.0193	0.0716	0.1272	1.0888	0.1181	0.3346	0.0969	0.3542	0.4521
12/15/94	2310	TKALAG22	D	0.0000	0.0000	0.1225	0.0000	0.0000	0.2463	0.2204		0.1907	0.0176	0.0684	0.0209	0.0224	0.0658	0.3849	0.0448	0.1160	0.0394	0.1513	0.1821
12/15/94	2310	TKALAG22	P	0.0000	0.0000	0.0487	0.0000	0.0000	0.0505			0.0226	0.0000	0.0319	0.0000	0.0106	0.0226	0.2086	0.0258	0.0942	0.0298	0.0973	0.1313
1/26/95	3090	TKALAG23	D	0.0000	0.0000	0.0745	0.0000	0.0000	0.1446	0.1578		0.1202	0.0000	0.0641		0.0155		0.3342	0.0493	0.1095	0.0378	0.1480	0.1826
1/26/95	3090	TKALAG23	P	0.0000	0.0000	0.0487	0.0000	0.0000	0.0494	0.0282		0.0261	0.0000	0.0288	0.0000	0.0000	0.0177	0.1850	0.0232	0.0934	0.0207	0.0763	0.0936
2/23/95	2130	TKALAG24	D	0.0000	0.0000	0.0930	0.0000	0.0000	0.1882	0.1917		0.1503	0.0083	0.0592	0.0143	0.0193		0.3578	0.0503	0.1110	0.0394	0.1484	0.1857
2/23/95	2130	TKALAG24	P	0.0000	0.0000	0.0975	0.0000	0.0000	0.1058	0.0635		0.0492	0.0000	0.0589		0.0240	0.0393	0.4255	0.0491	0.1991	0.0529	0.1849	0.2411
3/13/95	3300	TKALAG25	D	0.0000	0.0000	0.1091	0.0000	0.0000	0.1901	0.1846		0.1554		0.0463	0.0129	0.0150	0.0365	0.2950	0.0354	0.0953	0.0344	0.1242	0.1629
3/13/95	3300	TKALAG25	P	0.0000	0.0000	0.1021		0.0000	0.1120	0.0736		0.0540	0.0000	0.0633		0.0267	0.0469	0.4463	0.0502	0.1845	0.0521	0.1829	0.2297
3/16/95	3430	TKALAG26	D	0.0000	0.0000	0.1183	0.0199	0.0000	0.2538	0.2437		0.2029	0.0133	0.0651	0.0205	0.0228	0.0611	0.4380	0.0515	0.1380	0.0483	0.1838	0.2293
3/16/95	3430	TKALAG26	P	0.0000	0.0000	0.1587	0.0253	0.0000	0.1812	0.0888		0.0858	0.0000	0.0999		0.0467	0.0741	0.7366	0.0990	0.2784	0.0762	0.2930	0.3546
3/21/95	2920	TKALAG27	D	0.0000	0.0000	0.1694	0.0319	0.0000	0.3500	0.3448		0.2787	0.0172	0.0820	0.0267	0.0333	0.0862	0.6104	0.0773	0.1730	0.0609	0.2326	0.2927
3/21/95	2920	TKALAG27	P	0.0000	0.0000	0.2370	0.0398	0.0000	0.2762	0.1446		0.1419	0.0000	0.1398		0.0709	0.1252	1.0588	0.1200	0.3874	0.1103	0.4174	0.5143
4/11/95	2510	TKALAG28	D	0.0000	0.0000	0.3946	0.0658	0.0292	0.5842	0.4234		0.4334	0.0106	0.1347		0.0636	0.1454	1.0530	0.1250	0.2694	0.0833	0.3519	0.4253
4/11/95	2510	TKALAG28	P	0.0000	0.0000	0.2708	0.0442		0.2882	0.2038		0.1914	0.0105	0.1436	0.0229	0.0754	0.1324	1.0979	0.1336	0.3144	0.0976	0.4109	0.4362
4/11/95	2510	TKALAG28	D	0.0000	0.0000				0.5289	0.4616		0.4147		0.1947		0.0337	0.0865	0.7921	0.1659	0.3786	0.1647	0.5529	0.5794
4/11/95	2510	TKALAG28	P	0.0000	0.0000	0.3831	0.0624		0.4198	0.2976		0.2677	0.0128	0.2079	0.0284	0.1057	0.2018	1.6588	0.2012	0.4649	0.1398	0.5968	0.6255
4/17/95	2560	TKALAG29	D	0.0000	0.0903	0.2935	0.0515		0.4839	0.4621		0.3969	0.0368	0.1134	0.0424	0.0379	0.1104	0.7885	0.0613	0.1933	0.0763	0.2737	0.3431
4/17/95	2560	TKALAG29	P																				
4/27/95	2600	TKALAG30	D	0.0000	0.0803	0.2821	0.0404		0.4352	0.4105		0.3590	0.0301	0.0945	0.0368	0.0321	0.0959	0.6142	0.0602	0.1568	0.0589	0.2172	0.2736
4/27/95	2600	TKALAG30	P	0.0000	0.0000	0.2794	0.0438	0.0000	0.3031	0.1684		0.1665		0.1760	0.0277	0.0846	0.1469	1.3147	0.1575	0.4597	0.1457	0.5363	0.6347
5/2/95	2710	TKALAG31	D	0.0000	0.1156	0.2884	0.0499		0.4637	0.4380		0.3778	0.0351	0.1083	0.0387	0.0372	0.0988	0.7078	0.0838	0.1726	0.0680	0.2425	0.3050
5/2/95	2710	TKALAG31	P	0.0000	0.0000	0.2585	0.0397	0.0000	0.2766	0.1492		0.1368	0.0000	0.1501		0.0721	0.1323	1.1435	0.1323	0.4065	0.1173	0.4214	0.5396
5/19/95	2300	TKALAG32	D	0.0000	0.1458	0.4456	0.0742		0.7068	0.6831		0.5775	0.0498	0.2424	0.0612	0.0783	0.1881	1.3622	0.1719	0.3894	0.1553	0.5462	0.6338
5/19/95	2300	TKALAG32	P	0.0000	0.0000	0.4976			0.5633	0.2875		0.3191	0.0125	0.3136	0.0470	0.1645	0.2931	2.4644	0.2629	0.7721	0.2263	0.8940	1.0121
6/1/95	2020	TKALAG33	D	0.0000	0.1181	0.4093	0.0628		0.6442	0.5988		0.5143	0.0503	0.1685	0.0559	0.0540	0.1493	1.1229	0.1074	0.2750	0.1061	0.3791	0.4539
6/1/95	2020	TKALAG33	P	0.0000	0.0000	0.5919	0.0950		0.7932	0.3400		0.4743	0.0165	0.4221	0.0610	0.2136	0.3755	3.2999	0.3417	1.0706	0.3209	1.2131	1.3939
6/21/95	1390	TKALAG34	D	0.0000	0.1309	0.5081	0.0773		0.6783	0.5135		0.5240	0.0505	0.1919	0.0600	0.0629	0.1527	1.2507	0.1418	0.3103	0.1198	0.4104	0.4952
6/21/95	1390	TKALAG34	P	0.0000	0.0000	0.5227	0.0823		0.7210	0.3249		0.4496	0.0146	0.4325	0.0540	0.1997	0.3421	3.2891	0.3379	0.9290	0.2657	1.0958	1.1857
8/22/95	1870	TKALAG35	D	0.0000	0.1998	0.5683	0.1204		0.7959	0.5653		0.6176	0.0653	0.1940	0.0673	0.0715	0.1856	1.2890	0.1392	0.3231	0.1160	0.4320	0.5445
8/22/95	1870	TKALAG35	P	0.0000	0.0000	0.4461	0.0733		0.6289	0.2731		0.3942	0.0123	0.3455	0.0450	0.1689	0.2951	2.6458	0.2762	0.8096	0.2356	0.9647	1.0558
9/25/95	1060	TKALAG36	D	0.0000	0.1706	0.5556	0.0969		0.6128	0.5092		0.4393	0.0501	0.1700	0.0567	0.0642	0.1582	0.9590	0.1439	0.2655	0.1033	0.3717	0.4242
9/25/95	1060	TKALAG36	P	0.0000	0.0000	0.1433	0.0218	0.0000	0.2952	0.1295		0.1892	0.0074	0.1234	0.0230	0.0573	0.1147	0.8579	0.0959	0.3482	0.1098	0.4265	0.4924
9/25/95	1060	TKALAG36	D	0.0000	0.1599	0.5117	0.0946		0.5776	0.4717		0.4204	0.0483	0.1387	0.0542	0.0610	0.1465	0.8648	0.1151	0.2248	0.0938	0.3161	0.3643
9/25/95	1060	TKALAG36	P	0.0000	0.0000	0.1451	0.0214	0.0000	0.2618	0.1123		0.1573	0.0068	0.1125	0.0230	0.0466	0.0918	0.7685	0.0785	0.3389	0.1063	0.4155	0.4821
10/17/95	1060	TKALAG37	D	0.0000		0.3615	0.0602		0.4217	0.3659		0.3166	0.0360	0.1011	0.0409	0.0418	0.1120	0.6483	0.0865	0.1766	0.0713	0.2491	0.2849
10/17/95	1060	TKALAG37	P	0.0000	0.0000	0.1967		0.0000	0.2809	0.1277		0.1706	0.0079	0.1305	0.0242	0.0634	0.1245	1.0029	0.1100	0.3759	0.1206	0.4744	0.5462
10/30/95	1510	TKALAG38	D	0.0000	0.1048	0.4941	0.0736		0.4905	0.4469		0.3614	0.0354	0.1563	0.0454	0.0526	0.1345	0.8402	0.1396	0.2164	0.0909	0.3108	0.3703
10/30/95	1510	TKALAG38	P	0.0000	0.0000	0.1839	0.0259	0.0000	0.2090	0.1004		0.0822	0.0066	0.1144	0.0181	0.0472	0.0952	0.5244	0.0918	0.3043	0.1004	0.3777	0.4308

(See Notes on Page 9)

TABLE 2

ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER SUPERFUND SITE REMEDIAL INVESTIGATION REPORT LAKE MICHIGAN MASS BALANCE STUDY PCB CONGENER DATA (ng/L)

Date Sampled	Flow (cfs)	Sample ID	Fraction	P045	P046	P047_A	P049	P051	P052	P053	P056_A	P063	P066	P070_A	P074	P077_A	P082	P083	P084_A	P085	P087	P089	P091	P095
11/10/94	4070	TKALAG20	D	0.0543	0.0290	0.0817	0.1886	0.0162	0.3478	0.0517	0.0621	0.0085	0.1653	0.1026	0.0418	0.1293	0.0084	0.0092	0.0927	0.0180	0.0354	0.0029	0.0256	0.1191
11/10/94	4070	TKALAG20	P	0.0359	0.0207	0.1102	0.2200	0.0103	0.3612	0.0343	0.1340	0.0146	0.4075	0.1869	0.0783	0.3959	0.0261	0.0270	0.2040	0.0654	0.0907	0.0087	0.0679	0.2358
11/15/94	2740	TKALAG21	D	0.0651	0.0370	0.0921	0.2192	0.0166	0.4130	0.0608	0.0686	0.0117	0.1730	0.1129	0.0419	0.1231	0.0106	0.0099	0.1092	0.0180	0.0346	0.0000	0.0273	0.1352
11/15/94	2740	TKALAG21	P	0.0637	0.0335	0.1959	0.3836	0.0164	0.6061	0.0505	0.2658		0.8406	0.3233	0.1455	0.7142	0.0451	0.0523	0.3588	0.1251	0.1593	0.0125	0.1140	0.3833
12/15/94	2310	TKALAG22	D	0.0267	0.0188	0.0564	0.1369	0.0095	0.2518	0.0355	0.0507	0.0080	0.1293	0.0820	0.0306	0.0909		0.0071	0.0733	0.0129	0.0281	0.0000	0.0190	0.0901
12/15/94	2310	TKALAG22	P	0.0221	0.0103	0.0516	0.1047	0.0063	0.1879	0.0150	0.0671	0.0000	0.2068	0.0730	0.0334	0.2323	0.0155	0.0159	0.1246	0.0405	0.0560	0.0049	0.0378	0.1320
1/26/95	3090	TKALAG23	D	0.0335	0.0169	0.0555	0.1243	0.0094	0.2510	0.0254	0.0747	0.0092	0.1667	0.1016	0.0455	0.1101	0.0061	0.0072	0.0775	0.0182	0.0345	0.0045	0.0190	0.0962
1/26/95	3090	TKALAG23	P	0.0151	0.0083	0.0372	0.0705	0.0039	0.1460	0.0122	0.0576	0.0071	0.1805	0.0759	0.0283	0.1942	0.0157	0.0121	0.1033	0.0330	0.0476	0.0045	0.0316	0.1168
2/23/95	2180	TKALAG24	D	0.0361	0.0190	0.0587	0.1298	0.0150	0.2541	0.0322	0.0550	0.0000	0.1347	0.0836	0.0368	0.0982	0.0051	0.0070	0.0766	0.0150	0.0283	0.0040	0.0185	0.0934
2/23/95	2180	TKALAG24	P	0.0361	0.0197	0.0955	0.1921	0.0094	0.3435	0.0305	0.1202	0.0132	0.3325	0.1186	0.0602	0.3386	0.0253	0.0219	0.1973	0.0595	0.0854	0.0080	0.0581	0.2212
3/13/95	3300	TKALAG25	D	0.0364	0.0150	0.0543	0.1195	0.0193	0.2309	0.0269	0.0455	0.0079	0.1197	0.0707	0.0305	0.0867	0.0052	0.0058	0.0671	0.0128	0.0241	0.0038	0.0176	0.0839
3/13/95	3300	TKALAG25	P	0.0367	0.0133	0.0934	0.1852	0.0095	0.3449	0.0305	0.1356	0.0152	0.4135	0.1689	0.0705	0.3681	0.0264	0.0248	0.2035	0.0665	0.0886	0.0083	0.0635	0.2309
3/16/95	3430	TKALAG26	D	0.0479	0.0250	0.0744	0.1669	0.0157	0.3155	0.0413	0.0713	0.0104	0.1811	0.1088	0.0460	0.1403	0.0079	0.0102	0.1017	0.0218	0.0382	0.0047	0.0266	0.1243
3/16/95	3430	TKALAG26	P	0.0526	0.0237	0.1473	0.2974	0.0106	0.5030	0.0528	0.2149	0.0227	0.6642	0.2657	0.1137	0.5437	0.0404	0.0366	0.2875	0.1005	0.1302	0.0113	0.0917	0.3302
3/21/95	2920	TKALAG27	D	0.0635	0.0340	0.0958	0.2125	0.0203	0.3999	0.0581	0.0788	0.0116	0.2029	0.1234	0.0550	0.1546	0.0088	0.0113	0.1202	0.0224	0.0409	0.0051	0.0316	0.1428
3/21/95	2920	TKALAG27	P	0.0747	0.0393	0.2147	0.4298	0.0118	0.7104	0.0660	0.2837	0.0311	0.8590	0.3627	0.1536	0.7257	0.0562	0.0507	0.3970	0.1280	0.1699	0.0147	0.1247	0.4478
4/11/95	2510	TKALAG28	D	0.0740	0.0375	0.1541	0.3400	0.0238	0.5899	0.0760	0.1572	0.0276	0.3983	0.2267	0.1122	0.3440	0.0199	0.0235	0.2062	0.0510	0.0829	0.0050	0.0572	0.2493
4/11/95	2510	TKALAG28	P	0.0662	0.0384	0.1788	0.3694	0.0181	0.5949	0.0583	0.2666	0.0284	0.7609	0.3691	0.1586	0.6753	0.0401	0.0481	0.3316	0.1099	0.1476	0.0118	0.1107	0.3583
4/11/95	2510	TKALAG28	D	0.0877	0.0541	0.1707	0.3257	0.0168	0.6082	0.0733	0.6443	0.0349	0.8258	0.5024	0.2428	0.3498	0.0416	0.0264	0.2789	0.0938	0.1406	0.0120	0.0685	0.2548
4/11/95	2510	TKALAG28	P	0.0907	0.0526	0.2600	0.5283	0.0248	0.8580	0.0797	0.4069	0.0426	1.1610	0.5502	0.2478	0.8946	0.0543	0.0637	0.4609	0.1544	0.2079	0.0152	0.1437	0.5117
4/17/95	2530	TKALAG29	D	0.0446	0.0389	0.1005	0.2559	0.0204	0.4765	0.0636	0.0818	0.0000	0.2120	0.1342	0.0563	0.1663	0.0127	0.0125	0.1367	0.0231	0.0404	0.0043	0.0360	0.1689
4/17/95	2530	TKALAG29	P																					
4/27/95	2600	TKALAG30	D	0.0402	0.0327	0.0805	0.1986	0.0190	0.3768	0.0547	0.0646	0.0000	0.1637	0.1029	0.0443	0.1106	0.0078	0.0081	0.0945	0.0155	0.0291	0.0035	0.0228	0.1205
4/27/95	2600	TKALAG30	P	0.0986	0.0548	0.2725	0.5186	0.0135	0.8435	0.0862	0.3466	0.0397	0.9755	0.4482	0.1943	0.8583	0.0634	0.0645	0.4924	0.1532	0.2115	0.0202	0.1529	0.5314
5/2/95	2710	TKALAG31	D	0.0462	0.0359	0.0929	0.2283	0.0184	0.4248	0.0580	0.0777	0.0000	0.2022	0.1252	0.0537	0.1484	0.0106	0.0107	0.1188	0.0217	0.0382	0.0039	0.0300	0.1450
5/2/95	2710	TKALAG31	P	0.0798	0.0442	0.2284	0.4593	0.0100	0.7371	0.0653	0.2902	0.0314	0.8653	0.3761	0.1575	0.7486	0.0599	0.0518	0.4125	0.1300	0.1715	0.0160	0.1258	0.4562
5/19/95	2300	TKALAG32	D	0.1181	0.0715	0.1803	0.4099	0.0354	0.7391	0.1053	0.2880	0.0255	0.5514	0.3359	0.1642	0.2946	0.0310	0.0228	0.2466	0.0607	0.0908	0.0079	0.0659	0.2642
5/19/95	2300	TKALAG32	P	0.1476	0.0790	0.4497	0.8674	0.0288	1.3371	0.1312	0.6001	0.0720	1.7683	0.8301	0.3509	1.3664	0.1052	0.0987	0.7520	0.2436	0.3172	0.0277	0.2316	0.8096
6/1/95	2020	TKALAG33	D	0.0709	0.0539	0.1358	0.3287	0.0278	0.5766	0.0849	0.1358	0.0139	0.3384	0.1984	0.0922	0.2080	0.0155	0.0155	0.1709	0.0316	0.0511	0.0058	0.0423	0.1938
6/1/95	2020	TKALAG33	P	0.2079	0.1139	0.5158	1.1898	0.0298	1.8550	0.1784	0.8308	0.0982	2.4398	1.1504	0.4885	1.8024	0.1316	0.1322	1.0209	0.3244	0.4258	0.0375	0.3176	1.1107
6/21/95	1390	TKALAG34	D	0.0818	0.0576	0.1574	0.3640	0.0296	0.6435	0.0873	0.1559	0.0156	0.3865	0.2290	0.0980	0.2608	0.0175	0.0189	0.1994	0.0374	0.0653	0.0064	0.0540	0.2452
6/21/95	1390	TKALAG34	P	0.1707	0.0847	0.5283	1.0151	0.0322	1.5223	0.1453	0.8136	0.0933	2.3257	1.1096	0.4925	1.5786	0.1282	0.1115	0.8231	0.2989	0.3901	0.0303	0.2674	0.9161
8/22/95	1870	TKALAG35	D	0.1067	0.0660	0.1704	0.3934	0.0338	0.6954	0.0998	0.1527	0.0210	0.3657	0.2234	0.0885	0.2499	0.0170	0.0182	0.2066	0.0348	0.0606	0.0059	0.0545	0.2455
8/22/95	1870	TKALAG35	P	0.1534	0.0789	0.4767	0.9170	0.0256	1.4086	0.1328	0.6747	0.0839	1.9494	0.9356	0.4079	1.4988	0.1117	0.1068	0.8124	0.2696	0.3502	0.0319	0.2565	0.8765
9/25/95	1060	TKALAG36	D	0.0937	0.0515	0.1366	0.3046	0.0294	0.5291	0.0724	0.1470	0.0130	0.3136	0.1984	0.0833	0.2234	0.0149	0.0166	0.1894	0.0355	0.0684	0.0078	0.0452	0.1922
9/25/95	1060	TKALAG36	P	0.0781	0.0367	0.2267	0.4568	0.0162	0.7165	0.0678	0.2272	0.0348	0.6404	0.3395	0.1365	0.6090	0.0383	0.0500	0.3719	0.1085	0.1548	0.0150	0.1187	0.4193
9/25/95	1060	TKALAG36	D	0.0838	0.0472	0.1227	0.2692	0.0269	0.4574	0.0659	0.1012	0.0113	0.2393	0.1518	0.0618	0.1648	0.0117	0.0125	0.1376	0.0245	0.0424	0.0061	0.0348	0.1402
9/25/95	1060	TKALAG36	P	0.0784	0.0359	0.2269	0.4168	0.0102	0.6779	0.0621	0.2308	0.0325	0.6501	0.3275	0.1329	0.6078	0.0346	0.0437	0.3685	0.1048	0.1414	0.0138	0.1149	0.3963
10/17/95	1060	TKALAG37	D	0.0638	0.0345	0.1008	0.2167	0.0219	0.3711	0.0515	0.0799	0.0116	0.1954	0.1243	0.0476	0.1385	0.0103	0.0103	0.1169	0.0202	0.0365	0.0066	0.0268	0.1153
10/17/95	1060	TKALAG37	P	0.0833	0.0429	0.2388	0.4352	0.0137	0.7335	0.0702	0.2791	0.0387	0.7395	0.3855	0.1607	0.7220	0.0472	0.0541	0.4302	0.1245	0.1717	0.0172	0.1291	0.4435
10/30/95	1510	TKALAG38	D	0.0796	0.0427	0.1139	0.2592	0.0221	0.4753	0.0624	0.1227	0.0121	0.2668	0.1959	0.0688	0.2287	0.0185	0.0160	0.1772	0.0356	0.0725	0.0069	0.0458	0.1993
10/30/95	1510	TKALAG38	P	0.0643	0.0348	0.1846	0.3508	0.0112	0.5848	0.0534	0.2380	0.0297	0.6332	0.2803	0.1329	0.6172	0.0329	0.0442	0.3492	0.1057	0.1449	0.0132	0.1036	0.3601

(See Notes on Page 9)

TABLE 2

ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER SUPERFUND SITE REMEDIAL INVESTIGATION REPORT LAKE MICHIGAN MASS BALANCE STUDY PCB CONGENER DATA (ng/L)

Date Sampled	Flow (cfs)	Sample ID	Fraction	P097	P099	P101	P105_A	P118	P123_A	P128	P132_A	P135_A	P136	P137_A	P138_A	P141	P146	P149	P151	P158	P167	P170_A	P171_A
11/10/94	4070	TKALAG20	D	0.0231	0.0402	0.0973	0.0484	0.0411	0.0263	0.0053		0.0098	0.0000	0.0000	0.0436	0.0054	0.0000		0.0101	0.0049	0.0000	0.0035	0.0014
11/10/94	4070	TKALAG20	P	0.0683	0.1335	0.2715	0.2965	0.1886	0.1349	0.0485		0.0481	0.0409	0.0026	0.3110	0.0332	0.0517		0.0408	0.0360	0.0097	0.0480	0.0126
11/15/94	2740	TKALAG21	D	0.0243	0.0426	0.1055	0.0452	0.0399	0.0261	0.0044		0.0108	0.0000	0.0000	0.0406	0.0046	0.0000		0.0104	0.0000	0.0000	0.0028	0.0000
11/15/94	2740	TKALAG21	P	0.1219	0.2389	0.4624	0.4494	0.3913	0.1963	0.0704		0.0728	0.0612	0.0000	0.5101	0.0482	0.0793		0.0600	0.0627	0.0170	0.0803	0.0173
12/15/94	2310	TKALAG22	D	0.0175	0.0298	0.0755	0.0312	0.0291	0.0170	0.0032		0.0079	0.0000	0.0000	0.0287	0.0035	0.0000		0.0000	0.0029	0.0000	0.0019	0.0000
12/15/94	2310	TKALAG22	P	0.0392	0.0744	0.1536	0.1505	0.1145	0.0684	0.0225		0.0245	0.0000	0.0000	0.1665	0.0164	0.0241		0.0204	0.0196	0.0054	0.0234	0.0055
1/26/95	3090	TKALAG23	D	0.0213	0.0330	0.0834	0.0338	0.0312	0.0192	0.0031		0.0067	0.0000	0.0000	0.0312	0.0044	0.0000		0.0064	0.0035	0.0000	0.0031	0.0000
1/26/95	3090	TKALAG23	P	0.0325	0.0604	0.1285	0.1510	0.0882	0.0709	0.0220		0.0251	0.0000	0.0014	0.1668	0.0196			0.0219	0.0133	0.0049	0.0262	0.0074
2/23/95	2180	TKALAG24	D	0.0184	0.0307	0.0766	0.0291	0.0259	0.0175	0.0025		0.0060	0.0000	0.0000	0.0253	0.0033	0.0000		0.0055	0.0029	0.0000	0.0000	0.0000
2/23/95	2180	TKALAG24	P	0.0603	0.1143	0.2433	0.2394	0.1562	0.1154	0.0335		0.0399	0.0349	0.0000	0.2513	0.0281			0.0354	0.0269	0.0070	0.0355	0.0098
3/13/95	3300	TKALAG25	D	0.0164	0.0274	0.0683	0.0329	0.0274	0.0189	0.0031		0.0064	0.0000	0.0000	0.0300	0.0038	0.0000		0.0058	0.0032	0.0000	0.0025	0.0000
3/13/95	3300	TKALAG25	P	0.0651	0.1212	0.2553	0.2574	0.1712	0.1215	0.0388		0.0424	0.0360	0.0020	0.2796	0.0305	0.0421		0.0366	0.0296	0.0082	0.0393	0.0104
3/16/95	3430	TKALAG26	D	0.0267	0.0446	0.1063	0.0517	0.0423	0.0294	0.0052		0.0103	0.0000	0.0000	0.0478	0.0057	0.0000		0.0092	0.0050	0.0000	0.0038	0.0000
3/16/95	3430	TKALAG26	P	0.0945	0.1865	0.3671	0.3840	0.2819	0.1796	0.0604		0.0638	0.0537	0.0000	0.4326	0.0447	0.0631		0.0546	0.0460	0.0126	0.0610	0.0162
3/21/95	2920	TKALAG27	D	0.0295	0.0496	0.1186	0.0546	0.0470	0.0308	0.0058		0.0110	0.0000	0.0000	0.0515	0.0060	0.0000		0.0096	0.0054	0.0000	0.0042	0.0000
3/21/95	2920	TKALAG27	P	0.1281	0.2513	0.5046	0.5402	0.3873	0.2520	0.0826		0.0897	0.0710	0.0042	0.5819	0.0614	0.0904		0.0752	0.0637	0.0175	0.0824	0.0211
4/11/95	2510	TKALAG28	D	0.0527	0.1100	0.2409	0.1898	0.1441	0.0905	0.0271		0.0312	0.0301	0.0013	0.1853	0.0192	0.0326		0.0282	0.0182	0.0056	0.0258	0.0065
4/11/95	2510	TKALAG28	P	0.1119	0.2167	0.4502	0.4005	0.2850	0.1791	0.0672		0.0677	0.0578	0.0033	0.4221	0.0432	0.0691		0.0570	0.0447	0.0165	0.0399	0.0163
4/11/95	2510	TKALAG28	D	0.0769	0.1034	0.2260	0.1163	0.1323	0.0512	0.0096		0.0171	0.0000	0.0000	0.0821	0.0171			0.0192	0.0000	0.0000	0.0139	0.0000
4/11/95	2510	TKALAG28	P	0.1516	0.2899	0.6172	0.5695	0.3983	0.2501	0.0922		0.0925	0.0762	0.0044	0.6106	0.0591	0.0925		0.0775	0.0595	0.0224	0.0358	0.0217
4/17/95	2560	TKALAG29	D	0.0298	0.0535	0.1302	0.0673	0.0518	0.0373	0.0068		0.0148	0.0000	0.0000	0.0602	0.0067	0.0118			0.0059	0.0000	0.0045	0.0000
4/17/95	2560	TKALAG29	P																				
4/27/95	2600	TKALAG30	D	0.0200	0.0348	0.0895	0.0402	0.0324	0.0210	0.0040		0.0088	0.0000	0.0000	0.0365	0.0042	0.0000		0.0000	0.0000	0.0000	0.0041	0.0000
4/27/95	2600	TKALAG30	P	0.1612	0.2909	0.5798	0.5680	0.4232	0.2592	0.0900		0.1000	0.0894	0.0044	0.6239	0.0636	0.0979		0.0843	0.0663	0.0425	0.0934	0.0229
5/2/95	2710	TKALAG31	D	0.0267	0.0470	0.1187	0.0596	0.0500	0.0331	0.0058		0.0124	0.0000	0.0000	0.0526	0.0063	0.0000		0.0108	0.0052	0.0000	0.0041	0.0000
5/2/95	2710	TKALAG31	P	0.1345	0.2481	0.5028	0.5476	0.4037	0.2516	0.0834		0.0894	0.0725	0.0039	0.5936	0.0594	0.0921		0.0761	0.0565	0.0176	0.0873	0.0208
5/19/95	2300	TKALAG32	D	0.0479	0.0922	0.2054	0.1085	0.1140	0.0567	0.0124		0.0210	0.0000	0.0000	0.1016	0.0132	0.0160		0.0190	0.0118	0.0024	0.0132	0.0039
5/19/95	2300	TKALAG32	P	0.2446	0.4694	0.9081	0.9328	0.7396	0.4215	0.1453		0.1591	0.1380	0.0071	1.0412	0.1010	0.1584		0.1337	0.1050	0.0299	0.1486	0.0356
6/1/95	2020	TKALAG33	D	0.0363	0.0647	0.1526	0.0706	0.0656	0.0362	0.0081			0.0000	0.0000	0.0668	0.0073	0.0118			0.0069	0.0000	0.0060	0.0000
6/1/95	2020	TKALAG33	P	0.3284	0.6174	1.2225	1.1448	0.9195	0.5190	0.1777		0.1940	0.1780	0.0084	1.2590	0.1224	0.2061		0.1645	0.1312	0.0375	0.1742	0.0406
6/21/95	1390	TKALAG34	D	0.0455	0.0819	0.2060	0.1130	0.0829	0.0617	0.0119		0.0242	0.0000	0.0000	0.1035	0.0116	0.0171		0.0213	0.0107	0.0000	0.0090	0.0029
6/21/95	1390	TKALAG34	P	0.2919	0.5606	1.0642	1.0872	0.9324	0.4846	0.1775		0.1794	0.1550	0.0084	1.2503	0.1181	0.1959		0.1516	0.1282	0.0379	0.1768	0.0420
8/22/95	1870	TKALAG35	D	0.0435	0.0776	0.1835	0.0864	0.0728	0.0453	0.0093			0.0000	0.0000	0.0787	0.0077				0.0082	0.0000	0.0069	0.0000
8/22/95	1870	TKALAG35	P	0.2718	0.5239	0.9973	1.0290	0.8207	0.4644	0.1611		0.1740	0.1540	0.0078	1.1254	0.1098	0.1893		0.1469	0.1197	0.0342	0.1577	0.0375
9/25/95	1060	TKALAG36	D	0.0427	0.0681	0.1677	0.0771	0.0664	0.0426	0.0080		0.0170	0.0000	0.0010	0.0718	0.0085	0.0105		0.0160	0.0081	0.0000	0.0107	0.0038
9/25/95	1060	TKALAG36	P	0.1216	0.2292	0.4652	0.3478	0.2538	0.1744	0.0597		0.0654	0.0713	0.0026	0.3691	0.0377	0.0643		0.0548	0.0389	0.0147	0.0572	0.0136
9/25/95	1060	TKALAG36	D	0.0311	0.0538	0.1268	0.0550	0.0542	0.0290	0.0060		0.0123	0.0000	0.0000	0.0519	0.0049	0.0081		0.0128	0.0059	0.0000	0.0052	0.0018
9/25/95	1060	TKALAG36	P	0.1126	0.2139	0.4340	0.3290	0.2330	0.1618	0.0483		0.0566	0.0604	0.0026	0.3400	0.0364	0.0539		0.0532	0.0360	0.0094	0.0538	0.0128
10/17/95	1060	TKALAG37	D	0.0252	0.0448	0.1073	0.0487	0.0464	0.0250	0.0055		0.0111	0.0000	0.0000	0.0463	0.0045	0.0074		0.0090	0.0051	0.0000	0.0047	0.0018
10/17/95	1060	TKALAG37	P	0.1346	0.2440	0.4768	0.4285	0.3078	0.2071	0.0661		0.0762	0.0761	0.0035	0.4473	0.0496	0.0743		0.0734	0.0493	0.0135	0.0762	0.0173
10/30/95	1510	TKALAG38	D	0.0438	0.0711	0.1851	0.0813	0.0712	0.0472	0.0076		0.0193	0.0000	0.0006	0.0700	0.0084	0.0110		0.0182	0.0083	0.0000	0.0058	0.0020
10/30/95	1510	TKALAG38	P	0.1127	0.2049	0.4205	0.3256	0.2372	0.1521	0.0516		0.0536	0.0616	0.0025	0.3454	0.0343	0.0552		0.0524	0.0371	0.0107	0.0530	0.0139

(See Notes on Page 9)

TABLE 2

ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER
SUPERFUND SITE
REMEDIAL INVESTIGATION REPORT
LAKE MICHIGAN MASS BALANCE STUDY PCB CONGENER DATA (ng/L)

Date Sampled	Flow (cfs)	Sample ID	Fraction	P172	P174	P177	P178	P180	P182_A	P183	P185	P193	P194	P195_A	P196_A	P198	P199	P201	P204	P206	P207	Total PCBs (ng/L)
11/10/94	4070	TKALAG20	D	0.0000	0.0050	0.0030	0.0017	0.0096	0.0064	0.0032	0.0000	0.0000	0.0019	0.0011	0.0050	0.0000	0.0000	0.0044		0.0000	0.0000	5.1402
11/10/94	4070	TKALAG20	P	0.0119	0.0462	0.0303	0.0149	0.1025	0.0492	0.0265	0.0043	0.0069	0.0244	0.0126	0.0538	0.0013	0.0034	0.0489		0.0184	0.0000	6.9138
11/15/94	2740	TKALAG21	D	0.0000	0.0042	0.0000	0.0000	0.0068	0.0051	0.0026	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	5.6861
11/15/94	2740	TKALAG2	P	0.0191	0.0635	0.0470	0.0215	0.1501	0.0664	0.0370	0.0057	0.0111	0.0402	0.0184	0.0763	0.0000	0.0050	0.0698		0.0252	0.0000	2.0345
12/15/94	2310	TKALAG22	D	0.0000	0.0030	0.0000	0.0000	0.0045	0.0034	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	3.3123
12/15/94	2310	TKALAG22	P	0.0057	0.0204	0.0147	0.0068	0.0463	0.0212	0.0117	0.0019	0.0000	0.0112	0.0052	0.0222	0.0000	0.0015	0.0203		0.0072	0.0000	3.3368
1/26/95	3090	TKALAG23	D	0.0000	0.0050	0.0028	0.0000	0.0087	0.0062	0.0031	0.0000	0.0000	0.0018	0.0014	0.0000	0.0000	0.0000	0.0000		0.0014	0.0000	3.0356
1/26/95	3090	TKALAG23	P	0.0057	0.0276	0.0179	0.0083	0.0610	0.0285	0.0151	0.0028	0.0041	0.0143	0.0074	0.0311	0.0000	0.0021	0.0303		0.0095	0.0000	3.0048
2/23/95	2180	TKALAG24	D	0.0000	0.0034	0.0022	0.0000	0.0050	0.0042	0.0031	0.0000	0.0000	0.0000	0.0000	0.0040	0.0000	0.0000	0.0034		0.0000	0.0000	3.0874
2/23/95	2180	TKALAG24	P	0.0098	0.0361	0.0240	0.0117	0.0780	0.0395	0.0210	0.0037	0.0052	0.0176	0.0091	0.0392	0.0000	0.0000	0.0375		0.0129	0.0000	5.7536
3/13/95	3300	TKALAG25	D	0.0000	0.0041	0.0023	0.0000	0.0066	0.0046	0.0022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0034		0.0000	0.0000	2.8503
3/13/95	3300	TKALAG25	P	0.0131	0.0395	0.0266	0.0127	0.0847	0.0414	0.0216	0.0037	0.0061	0.0189	0.0098	0.0409	0.0000	0.0026	0.0390		0.0133	0.0000	3.1864
3/16/95	3430	TKALAG26	D	0.0000	0.0056	0.0031	0.0000	0.0091	0.0065	0.0034	0.0000	0.0000	0.0000	0.0000	0.0045	0.0000	0.0000	0.0040		0.0000	0.0000	4.1146
3/16/95	3430	TKALAG26	P	0.0151	0.0625	0.0399	0.0196	0.1328	0.0634	0.0324	0.0065	0.0095	0.0311	0.0159	0.0679	0.0000	0.0043	0.0644		0.0220	0.0000	9.5337
3/21/95	2920	TKALAG27	D	0.0000	0.0056	0.0034	0.0000	0.0098	0.0065	0.0032	0.0000	0.0000	0.0016	0.0000	0.0000	0.0000	0.0000	0.0043		0.0000	0.0000	5.2181
3/21/95	2920	TKALAG27	P	0.0208	0.0793	0.0551	0.0261	0.1755	0.0851	0.0443	0.0071	0.0123	0.0402	0.0200	0.0848	0.0000	0.0056	0.0795		0.0270	0.0000	13.2019
4/11/95	2510	TKALAG28	D	0.0061	0.0262	0.0169	0.0082	0.0559	0.0282	0.0143	0.0022	0.0039	0.0128	0.0065	0.0275	0.0000	0.0000	0.0256		0.0076	0.0000	9.3301
4/11/95	2510	TKALAG28	P	0.0173	0.0619	0.0432	0.0203	0.1409	0.0665	0.0347	0.0054	0.0107	0.0367	0.0186	0.0712	0.0017	0.0045	0.0663		0.0234	0.0026	11.8187
4/11/95	2510	TKALAG28	D	0.0000	0.0224	0.0128	0.0000	0.0405	0.0245	0.0117	0.0000	0.0000	0.0000	0.0000	0.0160	0.0000	0.0000	0.0181		0.0000	0.0000	10.2181
4/11/95	2510	TKALAG28	P	0.0229	0.0833	0.0580	0.0274	0.1982	0.0902	0.0479	0.0068	0.0146	0.0483	0.0235	0.0942	0.0023	0.0057	0.0860		0.0323	0.0032	16.9089
4/17/95	2560	TKALAG29	D	0.0000	0.0066	0.0042	0.0000	0.0108	0.0075	0.0037	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0043		0.0000	0.0000	6.4638
4/17/95	2560	TKALAG29	P																			0.0000
4/27/95	2600	TKALAG30	D	0.0000	0.0041	0.0024	0.0000	0.0072	0.0050	0.0026	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	5.1849
4/27/95	2600	TKALAG30	P	0.0233	0.0853	0.0585	0.0285	0.1848	0.0908	0.0475	0.0075	0.0137	0.0441	0.0232	0.0952	0.0018	0.0064	0.0850		0.0310	0.0031	15.5753
5/2/95	2710	TKALAG31	D	0.0000	0.0057	0.0037	0.0000	0.0097	0.0069	0.0034	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	5.9836
5/2/95	2710	TKALAG31	P	0.0272	0.0796	0.0542	0.0260	0.1716	0.0850	0.0436	0.0069	0.0123	0.0412	0.0213	0.0880	0.0018	0.0057	0.0786		0.0302	0.0000	13.6024
5/19/95	2300	TKALAG32	D	0.0033	0.0158	0.0101	0.0050	0.0305	0.0169	0.0096	0.0000	0.0000	0.0063	0.0030	0.0133	0.0000	0.0000	0.0126		0.0027	0.0000	11.5987
5/19/95	2300	TKALAG32	P	0.0369	0.1365	0.0917	0.0448	0.2959	0.1423	0.0762	0.0120	0.0212	0.0684	0.0341	0.1460	0.0031	0.0094	0.1311		0.0457	0.0000	25.9587
6/1/95	2020	TKALAG33	D	0.0000	0.0076	0.0045	0.0025	0.0127	0.0082	0.0044	0.0000	0.0000	0.0024	0.0014	0.0054	0.0000	0.0000	0.0052		0.0000	0.0000	8.6489
6/1/95	2020	TKALAG33	P	0.0432	0.1610	0.1079	0.0520	0.3519	0.1680	0.0897	0.0142	0.0245	0.0809	0.0407	0.1692	0.0042	0.0111	0.1501		0.0577	0.0057	34.5017
6/21/95	1390	TKALAG34	D	0.0000	0.0114	0.0072	0.0040	0.0201	0.0128	0.0068	0.0000	0.0000	0.0034	0.0017	0.0077	0.0000	0.0000	0.0075		0.0000	0.0000	9.7753
6/21/95	1390	TKALAG34	P	0.0436	0.1577	0.1090	0.0532	0.3505	0.1708	0.0899	0.0140	0.0253	0.0823	0.0423	0.1691	0.0044	0.0116	0.1542		0.0552	0.0071	31.7062
8/22/95	1870	TKALAG35	D	0.0000	0.0085	0.0057	0.0000	0.0157	0.0092	0.0049	0.0000	0.0000	0.0033	0.0016	0.0071	0.0000	0.0000	0.0066		0.0000	0.0000	10.2887
8/22/95	1870	TKALAG35	P	0.0392	0.1426	0.1018	0.0470	0.3136	0.1532	0.0826	0.0129	0.0227	0.0707	0.0360	0.1506	0.0030	0.0100	0.1358		0.0473	0.0045	28.1269
9/25/95	1060	TKALAG36	D	0.0028	0.0116	0.0076	0.0040	0.0218	0.0120	0.0066	0.0000	0.0000	0.0053	0.0026	0.0099	0.0000	0.0000	0.0107		0.0019	0.0000	8.6342
9/25/95	1060	TKALAG36	P	0.0144	0.0494	0.0357	0.0166	0.1045	0.0528	0.0288	0.0045	0.0087	0.0234	0.0119	0.0524	0.0011	0.0032	0.0449		0.0144	0.0015	11.2080
9/25/95	1060	TKALAG36	D	0.0000	0.0058	0.0034	0.0017	0.0093	0.0053	0.0028	0.0000	0.0000	0.0020	0.0015	0.0000	0.0000	0.0000	0.0044		0.0000	0.0000	7.3717
9/25/95	1060	TKALAG36	P	0.0137	0.0477	0.0336	0.0160	0.1005	0.0520	0.0281	0.0042	0.0087	0.0220	0.0112	0.0481	0.0012	0.0028	0.0432		0.0132	0.0013	10.5716
10/17/95	1060	TKALAG37	D	0.0000	0.0056	0.0033	0.0017	0.0083	0.0049	0.0029	0.0000	0.0000	0.0020	0.0015	0.0000	0.0000	0.0000	0.0041		0.0000	0.0000	5.6021
10/17/95	1060	TKALAG37	P	0.0196	0.0653	0.0467	0.0219	0.1378	0.0693	0.0368	0.0061	0.0122	0.0318	0.0163	0.0676	0.0020	0.0042	0.0619		0.0189	0.0019	12.5584
10/30/95	1510	TKALAG38	D	0.0021	0.0077	0.0045	0.0024	0.0125	0.0076	0.0043	0.0000	0.0000	0.0020	0.0010	0.0000	0.0000	0.0000	0.0045		0.0000	0.0000	7.5853
10/30/95	1510	TKALAG38	P	0.0154	0.0515	0.0372	0.0168	0.1129	0.0525	0.0296	0.0045	0.0096	0.0275	0.0136	0.0571	0.0010	0.0034	0.0514		0.0167	0.0016	9.8083

(See Notes on Page 9)

TABLE 2

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

REMEDIAL INVESTIGATION REPORT
LAKE MICHIGAN MASS BALANCE STUDY PCB CONGENER DATA (ng/L)

Notes

Data provided to BBL by USEPA on October 1, 1999

D denotes dissolved PCB fraction

P denotes particulate PCB fraction

(See Notes on Page 9)

Appendix K

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

PCB Sources and Source Controls on the Kalamazoo River

Appendix K: PCB Sources and Source Controls on the Kalamazoo River

The presence of polychlorinated biphenyls (PCB) in the Kalamazoo River, particularly within the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site (Site), has been the subject of a number of studies since PCB were first identified in its water, sediments, and fish in 1971[1]. PCB have entered the Kalamazoo River by routes including direct discharge (e.g., wastewater effluent), indirect discharge through publicly owned treatment works (POTWs), non-point source runoff from upland areas, and erosion of exposed PCB-containing sediments from riverbanks. Point sources that contributed PCB to the river include paper-manufacturing facilities that recycled waste paper between the late 1950s and early 1970s, and a variety of other industries that used PCB products. PCB were widely used to insulate and transfer heat in electrical systems, and were also used in the manufacture of carbonless copy paper from 1957 through 1971. Although carbonless copy paper was not manufactured by paper companies in the Kalamazoo River basin, it was included in some post-consumer wastepaper that was recycled by local paper companies.

The Kalamazoo River Study Group (KRSG) is made up of current and former owners of some of the paper mills and recycling facilities that recycled post-consumer waste paper in the Kalamazoo River watershed. Because some of this waste paper included carbonless copy paper manufactured with PCB, the recycling process produced a waste stream containing PCB. During this era, recyclers were unaware that they were handling and discharging PCB. At that time, wastewater discharge regulations were focused on improving water clarity and levels of dissolved oxygen (DO) in the Kalamazoo River, and the potential hazards of PCB were not recognized or well understood.

Identification of non-KRSG sources of PCB to the river and an assessment of their contribution, both past and present, are important because any remedial effort focused on PCB will only succeed if all sources of PCB are controlled.

This appendix summarizes information pertinent to the assessment of both past and present sources of PCB to the Site. This information was compiled based on:

- A series of investigations into known and potential dischargers of PCB to the Site;

[1] These studies are summarized in the *Description of the Current Situation* (DCS) Report (BBEPC, 1992).

- Results of the Remedial Investigation (RI), including sediment and fish PCB data, providing empirical evidence of historical and ongoing discharges of PCB that cannot be attributed to paper recycling; and

- Results from investigations and remedial activities at the KRSG mills and Operable Units (OUs).

This information shows that: 1) KRSG sources have been controlled or will soon be controlled due to a series of response actions already accomplished or under way, 2) the largest external ongoing source of PCB to the Kalamazoo River is the miles of eroding and erodible riverbank created when the Michigan Department of Natural Resources (MDNR) drew down the water levels in its three former impoundments at Plainwell, Otsego, and Trowbridge, and 3) uninvestigated point and non-point sources upstream of the Site and elsewhere in the watershed may still be significant with respect to sustaining the levels of PCB observed in fish.

Known and Potential Historical Dischargers of PCB to the Site

In the United States, PCB were produced for commercial purposes exclusively by Monsanto under the trade name Aroclor. The average chlorine content of a particular Aroclor product in most cases was evident in the specific product name. For example, Aroclor 1242 is 42% chlorine by weight. Although most PCB produced in the United States were used in electrical component manufacturing (i.e., capacitors and transformers), they also were used in other applications, including hydraulic fluids, cutting oils, heat transfer fluids, wax casting, and carbonless copy paper (Durfee et al., 1976).

The presence of PCB attributable to paper and non-paper industries is evident in the Kalamazoo River RI data. The PCB composition of paper-making residuals (residuals) studied at the OUs is dominated by PCB apparently originating from and still resembling Aroclor 1242. Higher-chlorinated PCB Aroclors (e.g., Aroclors 1254 and 1260), which were more often used in electrical equipment and other applications, typically are not found or are evident in very low concentrations in residuals. However, as described in the RI report, PCB from higher-chlorinated Aroclors have consistently been detected in fish, sediment, and water collected from the Kalamazoo River. In fact, some samples contained elevated PCB resembling Aroclor 1254 with little or no "lower" Aroclors identified.

When manufactured, Aroclors were composed of various combinations of chlorobiphenyls. As shown in the table below, Aroclor 1242 does not contain concentrations of hexa-, hepta-, octa-, or nona-chlorobiphenyls (the higher-chlorinated chlorobiphenyls), while Aroclors 1254 and 1260 do contain these chlorobiphenyls.

Chlorobiphenyl	% in Aroclors			
	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
Mono-	1	--	--	--
Di-	13	1	--	--
Tri-	45	22	1	--
Tetra-	31	49	15	--
Penta-	10	27	53	12
Hexa-	--	2	26	42
Hepta-	--	--	4	38
Octa-	--	--	--	7
Nona-	--	--	--	1

Reference: Erickson, 1997.

Dyes and Aroclor 1242 were contained within the hardened microcapsules on the back of carbonless copy paper. This use of Aroclor 1242 resulted in PCB contamination of waste paper sources and secondary fiber nationally. Approximately 44 million pounds of Aroclor 1242, roughly 6% of Monsanto's domestic sales of all Aroclors between 1957 and 1971, were sold for use in carbonless copy paper manufacturing (Carr et al., 1977). None of the KRSG paper companies were involved in the manufacture of this PCB-containing paper. However, when waste paper containing the carbonless copy paper was recycled, PCB were inadvertently released to the environment.

By 1971, concerns had grown regarding the persistence and bioaccumulation of PCB in the environment, and Monsanto decided to restrict PCB sales to applications involving only closed electrical systems. In 1971, PCB were replaced by alkyl-biphenyls in the production of carbonless copy paper, and the amount of PCB discharged by paper recycling facilities diminished rapidly (Carr et al., 1977). The manufacture of all PCB in the United States ceased in 1977 (Agency for Toxic Substances and Disease Registry [ATSDR], 1997).

Aroclor 1254 received limited use within the paper industry in "flexographic" inks that were used on plastic packaging. Carr et al. (1977) estimated that a total of 50,000 pounds of Aroclor 1254 were used nationwide in these inks. Given the nature of this packaging (plastic or paper containing plastic adhesives that contained negligible amounts of fiber), it would not have been an attractive stock for recycling. Consequently, Carr et al. (1977) concluded that these inks were unlikely to have significantly contributed PCB to waste streams within the paper

industry. Therefore, it is reasonable to assume that deinking operations involving carbonless copy paper generated a waste stream containing Aroclor 1242, but no appreciable amount of Aroclor 1254.

Several KRSG mill properties and the four OUs within the Site have been eliminated as sources of PCB to the Kalamazoo River. Active use of the OUs has ceased, and each mill property and OU has separate remedial programs complete or under way. Remedial activities at these locations, briefly described later in this appendix, include the consolidation of residuals into landfills, capping and closing of landfills, removal of material from the sediment beds immediately adjacent to some OUs, and the complete removal of sediment from the former Bryant Mill Pond. The combined OU remediations have isolated an estimated 55,000 kilograms (kg) of PCB, approximately one-half of the total PCB mass within the entire Site (i.e., OUs, river, and former impoundments).

Non-KRSG Sources

Paper mills along the Kalamazoo River that are not represented by KRSG members also used waste paper as feedstock, and therefore handled and discharged PCB. In addition to paper mills, numerous facilities along the Kalamazoo River are known purchasers and/or dischargers of PCB to the Kalamazoo River.

In addition to industrial facilities, another potential external non-point source of PCB to the Kalamazoo River is general runoff from industrialized urban areas. This runoff may contain additional "reservoirs" of PCB that could be mobilized and transported to the river. For example, PCB-containing sediments and other solids probably persist in sewer systems or storm drainageways, albeit at much lower levels than historical maximums. Similarly, exposed soils that may have been affected by PCB (e.g., soils at scrapyards such as the KAMAR facility in Kalamazoo, where PCB have been detected in shredded scrap metal "fluff" from automobiles) may be transported to the river via non-point surface water runoff.

Exposed Former Sediments

Based on RI data and calculations presented in Appendix G, the exposed former sediments within the three state-owned former impoundments appear to be the greatest remaining external source of PCB to the Kalamazoo River. An estimated 24,500 kg of PCB are contained in the approximately 2,800,000 cubic yards (cy) of former sediments that were exposed when the MDNR drew down the Plainwell, Otsego, and Trowbridge impoundments in the 1970s. As the impoundments were drawn down and water levels fell, the Kalamazoo River cut a new channel into the impoundment sediments, releasing the underlying PCB-containing material and dispersing it downstream. At the same time, the approximately 1,100-acre combined surface area of the three impoundments was drained, thereby

exposing the former sediments on either side of the newly cut river channel. Since drawdown in the 1970s and subsequent removal of the remaining dam structures down to their sills in 1987, the river has been flowing through, and coming in contact with, this mass of PCB-containing former sediments. Consequently, the banks of the river channel have been susceptible to sloughing and erosion, which appear to be the most significant transport pathway for ongoing external loading of PCB to the river downstream of Plainwell. This is an important point, because this continual influx of bioavailable PCB may be substantially affecting PCB concentrations in fish – the only significant exposure pathway for both humans and ecological receptors. Surface runoff may represent another potential transport pathway for these source materials, but such a pathway is expected to be much less significant due to the relatively level topography of the exposed sediment areas and the fact that the riverbanks are heavily vegetated and appear stable (except along their exposed banks at the river's edge).

Inactive Hazardous Waste Sites

Within Allegan and Kalamazoo counties, there are four National Priorities-Listed (NPL) sites: three in Kalamazoo County and one in Allegan County. These sites are described below.

The Rockwell International Corporation Superfund Site (Rockwell Site) (USEPA ID # MID006028062) is located in the City of Allegan, along the Kalamazoo River, downstream of the Allegan City Dam. The majority of the Rockwell Site is still in the Remedial Investigation/Feasibility Study (RI/FS) stage; a No Action Record of Decision (ROD) for the on-site landfill was signed in 1995. The Auto Ion Chemicals, Inc. Superfund Site (Auto Ion) (USEPA ID # MID980794382) is located in the City of Kalamazoo, on the Kalamazoo River upstream of the Portage Creek confluence. In 1985, remedial action was performed, and the abandoned building was torn down in 1986. The Michigan Disposal/Cork Street Landfill USEPA Superfund Site is located in the City of Kalamazoo. Davis Creek, which empties into the Kalamazoo River, borders a portion of the eastern site boundary. A cap is currently under construction. The K&L Avenue Landfill (USEPA ID # MID980506463) is located in Oshtemo Township and is not located near the Kalamazoo River.

Three of these NPL sites have had PCB contamination, and at least two (Rockwell International Superfund Site and Auto Ion Superfund Site) have very clear evidence of PCB discharges to the river. In the discharge from Auto Ion, up to 12 milligrams per kilogram (mg/kg) of Aroclor 1254-like PCB was detected in a mound of sediment in the river 5 feet downstream of the historical discharge from the site (total PCB in this sample was 39 mg/kg). This Superfund site is also in the immediate vicinity of KPT-20 sediment cores, where elevated PCB concentrations, quantitated as Aroclor 1254, were detected down to 5 feet deep in the sediment bed, a depth of contamination quite uncharacteristic elsewhere in the Kalamazoo River. Water samples collected from the river behind a boom that contains oil seeping

from the Rockwell Site also contained an Aroclor 1254-like PCB, which marks the releases from that site (Brown, 1997).

According to the MDEQ, there are 46 sites in Allegan County and 96 sites in Kalamazoo County in the Part 201 *Contaminated Sites in Michigan Database*, with 6 sites listing PCB as a pollutant. Five of the 96 sites in Kalamazoo County list PCB as a pollutant. Other than the Site, the listed facilities are the Speareflex Site in the City of Kalamazoo, the Panelyte Site in the City of Kalamazoo (adjacent to the Allied Paper, Inc. Operable Unit [Allied OU]), the D Ave Cooper Township Site in Cooper Township, and the Former Consumers Energy Site in the City of Kalamazoo. Of the 46 Allegan County sites, only the Rockwell Site has PCB listed as a pollutant (MDEQ, 1999). All of the sites that list PCB as a pollutant are located in the vicinity of or along the shores of the Kalamazoo River.

According to the MDEQ, there are 73 sites in Calhoun County in the Part 201 *Contaminated Sites in Michigan Database*, with 2 sites listing PCB as a pollutant. The Brooks Foundry Building Area and the Brooks Foundry Lagoon Area are both located near the North Branch of the Kalamazoo River in Albion (MDEQ, 1999).

The approximate locations of these Superfund sites and the Part 201 sites are presented on Figure 1.

Empirical Evidence of Non-Paper Sources in PCB Composition

In the early stages of the RI, it became apparent there were significant sources of PCB to the Kalamazoo River unrelated to the activities of the KRSG members. The clearest illustration of this was the PCB-related fish consumption advisories for Morrow Lake and the measured levels and types of PCB found in Morrow Lake sediment. Morrow Lake is upstream of the Site and all KRSG facilities. More subtle information was discovered upon review of the chemical fingerprints of the composition of PCB found in fish collected and analyzed by the State of Michigan.

Data from samples collected upstream of the KRSG facilities and the Site show that PCB are present in the river prior to any influence from a KRSG facility. For example, historical sediment and surface water PCB data for Morrow Lake presented in the DCS (BBEPC, 1992) show that a maximum PCB concentration of 2.4 mg/kg was detected in surficial sediment samples from Morrow Lake. Downstream of Morrow Dam, four sediment transects (KPT-1 through KPT-4) upstream of any KRSG facilities or OUs were collected in 1993 as part of the sediment investigation. PCB, quantified as Aroclor 1254, were detected in 5 out of 36 core samples from these transects. PCB were also detected in a number of surface water samples collected at River Street in Comstock in 1985 and 1986, and in a sample collected during the surface water investigation (see Sections 2 and 4 of the RI Report for details). In addition, PCB have been detected in fish from Morrow Lake and near Ceresco, also upstream of the Site. The

MDCH's current fish advisory recommends no consumption of carp from the Kalamazoo River from Battle Creek to Morrow Dam due to the presence of PCB (MDCH, 2000).

Additional data were collected in the fall of 1999 when MDEQ/Camp Dresser & McKee, Inc. (CDM) collected surface water samples at 20 sampling locations on the Kalamazoo River and four locations on Portage Creek. At each sampling location, surface water samples were collected from the left and right banks and at mid-channel and submitted for total PCB and total organic carbon (TOC) analysis. Of the 20 sampling locations on the Kalamazoo River, four sampling locations were located upstream of KRSG facilities and OUs (Ceresco Dam, Morrow Dam, Comstock, and Sprinkle Road). Analytical results for surface water samples collected at all four locations indicated detectable concentrations of PCB. On October 21, 1999, a sample collected from the right bank of the Comstock sampling location had a total PCB concentration of 11 nanograms per liter (ng/L). This concentration was greater than 43% of all samples collected downstream of Sprinkle Road.

On Portage Creek, two of the four sampling locations were upstream of KRSG facilities and OUs. One sample, collected on October 21, 1999, had a total PCB concentration of 11 ng/L. This concentration was greater than 79% of all samples collected downstream of KRSG facilities and OUs.

On January 11, 2000, MDEQ/CDM collected more surface water samples along Portage Creek (four locations) and the Kalamazoo River (seven locations) for homolog-specific PCB analysis. Two locations on Portage Creek and two locations on the Kalamazoo River were upstream of the KRSG facilities and OUs. At each location, samples were collected from the left bank, mid-channel, and right bank.

The two upstream locations on the Kalamazoo River were Comstock and Sprinkle Road. All three samples collected near Comstock had nondetectable total PCB concentrations. The sample collected near the right bank near Sprinkle Road had a total PCB concentration of 1.6 ng/L (35% were identified as trichlorobiphenyls, and 65% were identified as tetrachlorobiphenyls).

The two upstream locations on Portage Creek were Garden Lane and Kilgore Road. The sample collected near the left bank near Garden Lane, which forms the upstream boundary of Bicentennial Park, had a total PCB concentration of 2.1 ng/L (78% were identified as trichlorobiphenyls, and 22% were identified as tetrachlorobiphenyls). All three samples collected near Kilgore Road had nondetectable total PCB concentrations. The sample collected near the right bank near Cork Street, which forms the upstream boundary of the Allied OU, had a total PCB concentration of 5.8 ng/L (22% were identified as dichlorobiphenyls, 47% were identified as trichlorobiphenyls, and 32% were identified as tetrachlorobiphenyls).

Analytical traces known as chromatograms provide information, akin to a "fingerprint," regarding the composition of PCB in fish found at the Site. Chromatograms can identify substantial differences between the composition of PCB in fish that could potentially be attributed to paper manufacturing and the PCB composition actually found in many Kalamazoo River fish. For example, the PCB found in carp samples collected in Morrow Lake in 1986 are characterized by much higher proportions of heavier PCB compounds (i.e., higher molecular weight such as Aroclor 1254) than the composition of the PCB found in Portage Creek carp collected during the same sampling event. The lighter PCB compounds found in Portage Creek fish reflect exposure to releases associated with waste paper recycling at the local paper mills during the 1960s, while the heavier PCB compounds detected in Kalamazoo River fish are associated with releases not related to waste paper recycling.

The composition of PCB found in fish within the Kalamazoo River downstream of Portage Creek clearly shows the contribution of PCB compounds from sources other than papermaking. Chromatograms for Lake Allegan fish reflect PCB composition very similar to chromatograms for Morrow Lake fish, which have the heavier PCB composition. There is also some correspondence between the chromatograms for the Lake Allegan fish and the Portage Creek fish; however, the evidence of non-paper industry sources of PCB to Kalamazoo River fish is unmistakable. This evidence further supports the conclusion that there were historical non-paper PCB discharges to the Kalamazoo River, some of which still may be active and may be influencing the level of PCB in Kalamazoo River fish. Consequently, the potential current contribution of these PCB sources must be addressed to ensure effective remediation of the Site.

Based on an evaluation of sediment and fish PCB data for the Kalamazoo River from the Ceresco Impoundment through New Richmond (downstream of the Site), there is evidence of releases from PCB sources unrelated to the recycling of waste paper. Chromatographic data and the reported best-fit Aroclor-equivalent concentrations were evaluated for evidence of PCB sources that cannot be reasonably explained by releases originating from the recycling of waste paper.

Aroclor-equivalent concentration data (the amount of PCB quantified as various Aroclors in sediment and fish) have been produced by the Site's analytical laboratory on a consistent basis using a statistical method. In this method, chromatograms of individual Aroclors and various combinations of Aroclors are statistically compared (step-wise multiple linear regression) to the chromatogram of a fish or sediment sample. The comparison that produces the least error is then used to quantify the total PCB in the sample as a single Aroclor or combination of multiple Aroclors.

The spatial distribution of sediment chromatographic data and Aroclor data were reviewed for evidence of discontinuities or gradients that might suggest the influence of a particular historical or current point source of PCB. Because fish play a central role in determining the need for responses at aquatic sites with PCB contamination such

as the Kalamazoo River, the spatial distribution of fish chromatographic data and Aroclor data were also evaluated to determine the significance of non-paper PCB sources.

Evidence of spatial gradients in the composition of sediment PCB was assessed through three approaches. The first approach estimated the average chlorine content of the PCB mixtures in sediment samples. These estimates were obtained by summing the product of each of the Aroclor-equivalent concentrations in a sediment sample and the percent weight of chlorine in the particular Aroclor used for quantitation. The second approach evaluated the ratios of Aroclor 1242 to Aroclor 1254. Aroclor 1242 and Aroclor 1254 were used because there is clear evidence of their discharge to the river, and their compositions do not overlap to a great degree. These ratios were calculated for all samples that had more than 60% of the total PCB quantitated as Aroclor 1242 and/or Aroclor 1254. The third approach involved the estimation of PCB homolog distributions in each of the river segments. The distribution of homologs was approximated by applying the known distribution of PCB homologs in Aroclors (Erickson, 1997) to the Aroclor equivalent concentrations of PCB in sediment.

Figure 2 displays the average chlorine content of the PCB mixtures found in sediment samples by location along the Kalamazoo River from Morrow Dam through Lake Allegan. The data are displayed for samples that contained PCB concentrations in excess of 1 mg/kg. Average percent chlorination in sediment samples, as displayed in Figure 2, varies over a range from 42% to 60%. The data show only a very slight downward trend with increasing distance along the Kalamazoo River; the regression line through the data implies a decrease of 3.5% chlorine content from 47.5% content to 44% chlorine content between Morrow Dam and Lake Allegan Dam, as reflected on Figure 2. There do not appear to be any abrupt discontinuities that can be identified within the overall scatter of the plotted data that would suggest the influence of a single point source of PCB.

Similarly, the ratio of PCB quantified as Aroclor 1242 to that quantified as Aroclor 1254 in sediment samples, shown on Figure 3, generally increases with distance along the river; however, no abrupt shifts that might be evident of a substantial influence of a single point source are apparent within the scatter of data. The data in Figure 3 have been separated to discriminate between surface and subsurface sediment samples and concentrations greater than 10 mg/kg PCB as well as concentrations less than 10 mg/kg PCB. As in Figure 2, there are no abrupt discontinuities along the length that would identify a substantial influence of any single point source of PCB.

Table 1 presents summary information regarding the distribution of Aroclor 1242 to Aroclor 1254 ratios in the Kalamazoo River and Portage Creek sediment. Compared to the Kalamazoo River, ratios of Aroclor 1242 to Aroclor 1254 are higher in Portage Creek, reflecting a much greater proportion of Aroclor 1242-like PCB attributable to historical paper-making operations in the vicinity and upstream of Alcott Street along Portage Creek. Evidence of

discharges of other types of PCB (including Aroclor 1254) to Portage Creek by sources other than paper-making operations was found in two samples collected at the same location immediately upstream of Axtell Creek, which contained 69 and 3.4 mg/kg of PCB quantified in total as Aroclor 1254.

The distribution of Aroclor 1242 to Aroclor 1254 ratios for Portage Creek can be considered a conservative model of the ratios of Aroclor 1242 to Aroclor 1254 that would exist in the Kalamazoo River if the only source of PCB to the river had been the recycling of waste paper. It is conservative because, as noted above, there is very clear evidence of historical Aroclor 1254 discharges in Portage Creek in the area of Axtell Creek. Waste paper recycling might actually have a higher Aroclor 1242 to Aroclor 1254 ratio than the distribution provided in Table 1 for Portage Creek. Despite the possibility that the contribution of waste paper recycling could be overestimated by using Portage Creek as a reference, it is apparent that the ratios of Aroclor 1242 to Aroclor 1254 in Portage Creek sediment are much higher than the ratios found in sediments along the Kalamazoo River. The principal reason for the difference in Aroclor 1242 to Aroclor 1254 ratios between Portage Creek and the Kalamazoo River is the greater contribution of higher molecular weight (i.e., Aroclor 1254-like) PCB from sources other than waste paper recycling to the river.

The approximate homolog composition of sediment PCB mixtures along the Kalamazoo River and Portage Creek is illustrated on Figure 4. These homolog distributions represent averages determined by concentration weighting (Schulz et al., 1989). The data for the Kalamazoo River relative to Portage Creek display subtle increases in the relative amounts of pentachlorobiphenyls and hexachlorobiphenyls with increasing distance downstream of Portage Creek. Furthermore, the data show substantially higher relative concentrations of pentachlorobiphenyls and hexachlorobiphenyls upstream of Portage Creek. As discussed below, these increases in pentachlorobiphenyls and hexachlorobiphenyls, which cannot be accounted for by discharges from waste paper recycling, are significant because these are the homologs that comprise the highest PCB levels observed in fish. This means there have been sources of heavier PCB mixtures such as Aroclor 1254 within and upstream of the Site.

For equal levels of exposure to Aroclor-derived PCB, fish accumulate more hexachlorobiphenyls than pentachlorobiphenyls, more pentachlorobiphenyls than tetrachlorobiphenyls, more tetrachlorobiphenyls than trichlorobiphenyls, and more trichlorobiphenyls than dichlorobiphenyls. Dichlorobiphenyls and monochlorobiphenyls are accumulated only to a very slight extent.

Figure 5 presents fish chromatograms for white suckers collected from Bryant Mill Pond, Morrow Lake, and the Trowbridge Impoundment in addition to chromatograms for Aroclor 1242 and 1254 standards (Figure 6). Suckers were used to illustrate the PCB compositions because they represent the most standardized fish sample collected

upstream of and within the Site. The three specimens used to illustrate PCB composition represent the upper end of PCB concentrations measured in white sucker at these locations.

Chromatograms from the fish tissue PCB analyses can be compared by identifying common peaks to indicate the relative abundance of certain PCB compounds. For example, peak "G" in each of the chromatograms on Figures 5 and 6 is the same peak. The labeling also includes the number of chlorine atoms associated with the predominant PCB compounds believed to be associated with each peak.

The similarity between Morrow Lake fish and Aroclor 1254 can be seen by examination and comparison of the prominent amplitude of peaks G through K on Figures 5 and 6. In contrast, peaks G through K have a relatively low amplitude in both Aroclor 1242 (Figure 6) and Bryant Mill Pond fish (Figure 5). The Bryant Mill Pond fish chromatogram represents the distribution of PCB resulting from concentrated exposure to PCB originating from waste paper recycling. By comparison, Figure 5 presents a chromatogram for a fish collected in the Trowbridge Impoundment, downstream of both Morrow Lake and Bryant Mill Pond, which clearly shows in peaks G through K the prominence of Aroclor 1254 as well as the presence of peaks also seen in Bryant Mill Pond fish and Aroclor 1242 (e.g., peaks A through G).

The figures illustrate the predominance of Aroclor 1242-derived PCB in Bryant Mill Pond fish and the predominance of Aroclor 1254-like PCB in Morrow Lake fish. In fish from the Trowbridge Impoundment, there is very clear evidence of higher levels of Aroclor 1254-like PCB than those found in Bryant Mill Pond fish. The levels of Aroclor 1254-like PCB in the Trowbridge Impoundment fish cannot be explained by waste paper recycling sources of PCB alone.

Aroclor 1254-derived PCB congeners are prominent in the composition of PCB found in Kalamazoo River fish. These PCB congeners are prominent because they bioaccumulate in fish to a greater extent than Aroclor 1242-derived PCB congeners. The propensity for PCB to bioaccumulate in fish has been related to the chemical property referred to as the octanol-water partition coefficient (K_{ow}). In general, PCB congeners with greater K_{ow} values will accumulate to higher levels in aquatic biota than will PCB congeners with lesser K_{ow} values. Figure 7 is a figure taken from a research article by Parkerton et al. (1993) that relates the biota sediment accumulation factor (BSAF) for PCB to the logarithm of the octanol-water partition coefficient (log K_{ow}). The BSAF is the ratio of PCB levels in an aquatic organism to the PCB level in surface sediment. To this figure, lines were added showing the approximate log K_{ow} for Aroclor 1242 and Aroclor 1254 (taken from ATSDR, 1998; also see Shiu and Mackay, 1986 for K_{ow} values for PCB congeners) and the corresponding BSAFs. As illustrated on Figure 7, for equal amounts of Aroclor 1242 and

Aroclor 1254 in surface sediment, aquatic organisms would accumulate more than three times the amount of Aroclor 1254-like PCB than Aroclor 1242-like PCB.

To evaluate the approximate quantity of Aroclor 1254-derived PCB congeners in Kalamazoo River fish, the estimated PCB congener concentrations associated with certain chromatogram peaks from Kalamazoo River fish samples taken from different points along the river. The chromatogram peaks for which PCB congener concentrations were estimated are peaks A, G, and K, which were previously discussed. Peak A congeners are prominent components of Aroclor 1242 and fish from Bryant Mill Pond. (Bryant Mill Pond fish are used to represent the composition of PCB that would be expected in the Kalamazoo River if the only source of PCB to the Kalamazoo River was the recycling of paper, because the predominant source of PCB to both the sediments and fish of Bryant Mill Pond was the recycling of paper at the former Allied Paper, Inc. mills.) The peak A trichlorobiphenyls constitute 11% of Aroclor 1242, whereas they comprise only 0.5% of Aroclor 1254 (Schulz et al., 1989). On the other hand, the congeners associated with peak K are prominent in Aroclor 1254, comprising approximately 4% of this mixture while comprising only 0.5% of Aroclor 1242 (Schulz et al., 1989). Peak G has congeners that comprise 8.9% of Aroclor 1254 and 1.6% of Aroclor 1242. For the 1993 Kalamazoo River and Bryant Mill Pond fish samples, PCB congener concentrations were calculated for peaks A, G, and K using peak response factors developed from the response of Aroclor standards run on the RTX-5 column and the mass analyses of Aroclors reported for the SE-54 column by Schulz et al. (1989). Use of other analyses of Aroclors such as that by Frame (1997) would yield similar findings. Ratios of those congener concentrations were calculated and are summarized in Figures 8, 9, and 10.

Figures 8 and 9 present PCB concentration ratios for peaks A/G and peaks A/K, respectively. These two figures illustrate the variations in these ratios and the absence of any significant effect of total PCB concentration on the variability of these ratios. As also evident in Figures 8 and 9, the A/G and A/K ratios of Bryant Mill Pond fish and Morrow Lake fish respectively plot above and below the data for fish collected at Plainwell Dam, Lake Allegan, and Saugatuck on the Kalamazoo River. As qualitatively illustrated and explained earlier in this appendix, the composition of PCB in Kalamazoo River fish is a blending of the Aroclor 1242-like PCB mixture as characterized by Bryant Mill Pond fish and the Aroclor 1254-like mixture as characterized by Morrow Lake fish. In Figure 10, that blending is evident in the average peak PCB concentration ratios for various sections of the Kalamazoo River as ratios falling above those for Morrow Lake and below those for Bryant Mill Pond. This figure also presents the approximate line representing equal (50%/50%) proportions of the Aroclor 1242-derived and Aroclor 1254-derived PCB in fish. Fish plotting above that line would have most of their PCB composition derived from an Aroclor 1242-like mixture and fish plotting below that line would have most of their PCB composition derived from an Aroclor 1254-like mixture. Based upon a review of the PCB chromatograms for fish and this quantitative analysis, roughly

half of the PCB currently found in Kalamazoo River fish are derived from Aroclors other than Aroclor 1242, principally Aroclor 1254.

In contrast to the composition of PCB in fish, Aroclor 1254-derived PCB represents a comparatively smaller proportion of the total mass of PCB in the total volume of PCB-containing sediments of the Kalamazoo River.

Lake Allegan contains approximately 70% of the total PCB mass in the sediments and approximately 44% of the entire river surface of the section of the river from Morrow Lake through Lake Allegan. The PCB quantified by the laboratory as either Aroclor 1254 or Aroclor 1260 comprise approximately 12% of the PCB mass in the sediments of Lake Allegan. There are two reasons that the proportion of Aroclor 1254-derived PCB in the total volume of PCB-containing sediments is much smaller than the proportion of Aroclor 1254-derived PCB in fish. The first reason is that the proportion of Aroclor 1254-derived PCB in the surface sediments, which directly affects PCB bioaccumulation in fish, is much higher than the proportion of Aroclor 1254-derived PCB in the deeper sediments which are no longer influencing PCB concentrations in fish. The second reason, which has been described previously, is that Aroclor 1254 is much more bioaccumulative than Aroclor 1242.

To support this conclusion, Figure 11 presents the chronology of PCB deposition in sediments in Kalamazoo Lake situated near the downstream end of the Kalamazoo River. These cores are the only cores collected downstream of Allegan that have acceptable ^{137}Cs patterns for use in estimating the age of sediment strata. Such cores are generally useful in conducting remedial investigations because they can provide for an assessment of temporal trends where other time series observations are lacking. All three cores exhibit similar significant features with respect to a transition in the relative importance of Aroclor 1254-like PCB. The majority of the total PCB mass in all of the cores is derived from Aroclor 1242 or similar mixtures (i.e., Aroclor 1016, Aroclor 1248). All cores show the trend of steeply declining Aroclor 1242 concentrations in sediments deposited since the mid-1970s to early 1980s. Since the peak in the late 1970s to the early 1980s, concentrations of Aroclor 1242-like PCB have been declining at faster rates than Aroclor 1254-like PCB. The half times for the Aroclor 1254-quantified or Aroclor 1260-quantified PCB in these cores from the late 1970s range from 7.4 years (KL2-1) to 13.3 years (KL2-4), whereas half times for the PCB quantified as the Aroclor 1242-like PCB range from 3.2 years (KL2-1) to 4.6 years (KL2-2). Finally, the proportion of Aroclor 1254-like PCB in surface sediment has been increasing.

For the cores represented on Figure 11, the 1990-93 sediment strata represent 3 to 4 inches of near-surface sediment. Of that, the bioavailable zone is represented by perhaps as little as the top 2 inches of sediment. Within the top 2 inches, Aroclor 1254-like PCB (the laboratory did not quantify any PCB in the top 2 inches of these cores as Aroclor 1260) comprises 23% (cores K2-1, KL2-2) to 31% (core K2-4) of the total PCB mass. Those proportions are much

greater than the proportions in deeper sediments, which, when initially deposited, were formerly in the bioavailable zone. Today, the proportions of the more bioaccumulative Aroclor 1254-like PCB in the bioavailable zone of sediments are consistent with the findings of approximately half of the PCB in fish derived from Aroclor 1254, based upon the differences in the bioaccumulation of Aroclor 1242-like and Aroclor 1254-like PCB. So, the disproportionate levels of Aroclor 1254-like PCB to Aroclor 1242-like PCB in fish with respect to their relative quantities in the total volume of sediment are not only related to the differences in their propensity to bioaccumulate but also are related to the greater proportions of Aroclor 1254-like PCB in bioavailable zone sediment than in the total volume of PCB-containing sediment.

Although the origin and downstream influence of specific point sources of PCB are not apparent from the chromatographic data, it is very clear that sources of PCB that cannot be reasonably attributed to waste paper recycling continue to contribute substantially to the levels of PCB observed in fish. Furthermore, as expected from the scientific information regarding the accumulation of PCB in fish, these other sources contribute proportionately more PCB to the total amount of PCB in fish than they contribute to the total PCB mass in sediment.

Investigation and Remedial Activities at the KRSG Mills and Related Areas

As part of the Kalamazoo River RI, six properties were investigated to assess both the potential for PCB to be released to the river and the presence of PCB in areas where residuals had been stored for disposal. In addition, selected samples were analyzed for polychlorinated dibenzodioxins/dibenzofurans (PCDD/PCDF) and Contract Laboratory Program Target Compound List/Target Analyte List (TCL/TAL) constituents. Remedial efforts at the mills and related areas have consisted of a number of voluntary source-control activities as described below. These voluntary efforts were often performed in advance of the issuance of a Record of Decision (ROD) or Administrative Order by Consent (AOC). Activities were performed with MDEQ oversight and were accompanied by environmental monitoring of water, air, or soils. The remedial work also involved cooperation with local residents. The six properties where voluntary remediation occurred are as follows (figures referenced are in the RI report):

- Former Allied Paper, Inc. Bryant Mill property (Figure 2-1);
- Former King Mill property (Figure 2-2);
- Georgia-Pacific Kalamazoo Mill and property (Figure 1-15);
- Plainwell, Inc. Mill and property (Figure 2-3);
- The King Street Storm Sewer (KSSS) (Figure 1-15); and
- Former Allied Paper Company Monarch Mill (Figure 2-4).

Additional information on the six properties can be found in the DCS (BBEPC, 1992), *Technical Memorandum 1* (BBL, 1994a), and *Technical Memorandum 15* (BBL, 1996c). The mill investigations are briefly described below as well as in Section 2.2 of the RI Report. Descriptions of the investigation and action at each of the OUs follows the mill discussions below (see Section 1.3 of the RI Report for a brief background discussion).

Former Allied Paper, Inc. Bryant Mill (Portage Paper Mill)

The 40-acre former Allied Paper, Inc. Bryant Mill (Portage Paper Mill) property (divided into Mills "C" and "D") is located along Portage Creek (Figure 2-1), approximately 3 miles upstream from its confluence with the Kalamazoo River. Mill C was bordered to the south by Alcott Street, to the north by Bryant Street, to the east by Portage Road, and to the west by Portage Creek. It has been demolished since the start of the RI process. Mill D crosses over the creek and is bordered to the south by Bryant Street, to the north by Reed Street, to the east by Belford Street, and to the west by the railroad tracks. The northern part of the mill property is bordered by residential areas, and commercial and industrial properties border the mill to the southwest, south, and southeast.

No remedial response actions were performed at the former Allied Paper, Inc. Bryant Mill. As directed by the *RI/FS Work Plan* (BBEPC, 1993), several locations at the former Allied Paper, Inc. Bryant Mill were to be sampled to evaluate the presence of PCB associated with the wastewater and process water conveyances. However, the historical residuals were removed from the Bryant clarifier in May 1992. Therefore, when the sampling team and an MDNR representative visited the property to examine the sampling locations identified in the Work Plan and the storm water catchment area sampling location identified in the *Technical Memorandum 1* (BBL, 1994a), it was observed that there were little historical residuals in the proposed sampling locations. As a result, the MDNR determined that it was not necessary to collect samples.

Former King Mill

The former King Mill property, covering approximately 28 acres, is located at 1608 Lake Street in the City of Kalamazoo. The property is bordered by East Vine Street on the north, Clarence Street to the west, Lake Street to the south, and railroad tracks to the east (Figure 2-2). The former King Mill ceased operations in 1971 and was demolished in 1978 by Dore Enterprises (Hager, 1979). Investigation activities were performed to determine the presence of PCB associated with the mill's former lagoons and clarifiers, and to assess whether storm water runoff or drainage from a 48-inch-diameter pipe that originates at the site was a potential contributor of PCB to the river. The results of the investigation indicated the presence of residuals only in the vicinity of the former lagoons; no residuals were associated with the clarifiers or the storm water runoff or drainage. Additional investigation activities

were conducted to further delineate the extent of residuals within the former lagoons. The data collected for the former clarifier and storm water discharge indicated no additional response was necessary at these locations.

In response to the RI activities, voluntary remedial response actions were conducted at the former King Mill consisting of the removal of PCB-containing residuals and soils in two former lagoons (Lagoon EW and Lagoon NS) located east of the former plant. In the fall of 1999, approximately 11,000 cy of residuals were excavated voluntarily from Lagoon EW and disposed of in the King Highway Landfill-OU (KHL-OU). After the residuals were removed, the area was backfilled, graded, and revegetated. Excavation of the lagoons was administered under the KHL-OU AOC (MDEQ, 2000). It is anticipated that additional voluntary removal activities will be undertaken to remove residuals remaining at the property.

Georgia-Pacific Kalamazoo Mill and Property

The Georgia-Pacific Mill property is located in Kalamazoo Township (Figure 1-15). The mill has been operated as a paper-making facility by several different companies since the mid-1800s, and continues to produce paper. Investigation activities were performed to determine the presence of PCB associated with the mill's five former lagoons, the former wastewater treatment system clarifier, storm water runoff at the mill, and the nature and extent of residuals on the property. The results of the investigation indicated the need to further evaluate only the former lagoons, while the data collected at the clarifier and catch basin indicated no additional response was necessary at these locations. Additional investigation activities were conducted to further delineate the extent of residuals within the mill and lagoon area.

In response to the findings of the RI activities, PCB-containing residuals were voluntarily excavated and removed from six former lagoons (Lagoons 1, 2, 3, 3A, 4, and 5; Lagoon 3A was identified during the excavation) on mill property adjacent to the Kalamazoo River that received process wastewater from the mill. Between November 1998 and September 1999, approximately 33,000 cy of residuals were excavated from the lagoons and disposed of in the KHL-OU. After the residuals were removed, the area was backfilled, graded, and revegetated. In addition, PCB-containing materials from the floodplain adjacent to the lagoons were excavated and placed in the KHL-OU. After removing the residuals, that area was also backfilled, graded, and revegetated. Subsequent verification sampling showed compliance with the 9.9 mg/kg criterion established by the MDEQ for the mill lagoons. In addition, approximately 5,000 cy of material were removed from the floodplain from July to September 1999, and placed in the KHL-OU. After excavation, the areas were backfilled and approximately 400 feet of riprap (5 feet wide and 6 inches thick) were placed on top of geotextile along the riverbank. Closure of the lagoons and floodplain is being administered under the KHL-OU AOC (MDEQ, 2000).

Plainwell, Inc. Mill and Property

The 34-acre Plainwell, Inc. Mill is located at 200 Allegan Street in the City of Plainwell (Figure 2-3) and has produced a wide variety of paper products for over 100 years. Historically, residuals from this mill were disposed of at the 12th Street Landfill OU, just downstream of the Plainwell Dam. An investigation of the mill property was performed in 1994 to evaluate the presence of PCB at the former lagoons, the former wastewater treatment system, and the storm water conveyances on the property. The results of the investigation indicated the need to address sediment in storm water Outfall B only. The data collected at the other locations indicated that no response was necessary (BBL, 1996c).

Voluntary remedial response actions at the Plainwell, Inc. Mill consisted of the removal of PCB-containing sediment present in storm water Outfall B. As part of the mill's maintenance, the storm water conveyances were cleared out and the sediment was disposed of properly. Sediment that had collected in a sump along Outfall B was removed in December 1995. Sediment that subsequently accumulated in the sump was sampled in October 1996 and was found to contain PCB at a concentration of 7.2 mg/kg (Brown, 1996). Based upon these results, all drainage pipes leading to Outfall B were cleaned using a high-pressure washer system in November 1997, and the sediment and flush water were appropriately disposed of off site (Cowin, 1998).

KSSS

The approximately 2-acre KSSS property is located adjacent to the western edge of the KHL-OU (Figure 1-15) in the City of Kalamazoo, and consists of the east and west banks of an inlet (approximately 135 feet long) with two culverts at its head. This outfall historically had received wastes and runoff from the former King Mill facility. The results of an investigation conducted in this area indicated a remedial response was necessary. Additional investigation activities were conducted to further delineate the extent of residuals within the KSSS floodplain.

In response to RI results, voluntary remedial response actions at the KSSS consisted of the removal of PCB-containing soils/residuals. In June 1999, approximately 5,000 cy of soils/residuals were excavated from the KSSS and disposed of in the KHL-OU. Subsequent verification sampling showed that the 1 mg/kg clean-up criterion, established for the KSSS area, was achieved. After the materials were removed, the area was backfilled, graded, and revegetated; then about 550 linear feet of riprap (5 feet wide and 6 inches thick) were placed on top of geotextile along the river and outfall channel. The closure of the KSSS is being administered under the KHL-OU AOC (MDEQ, 2000).

Former Allied Paper Company Monarch Mill

The former Monarch Mill property is located southeast of the intersection of Cork Street and the railroad track (Figure 1-4). The property, which was owned and operated by the Allied Paper Company, is bordered to the north by Cork Street, to the west by the railroad bed, and to the south and east by commercial property and light manufacturing facilities. An investigation of the mill property was performed to determine the presence of PCB in the former mill area. The results of the investigation are documented in *Technical Memorandum 15* (BBL, 1996c) and indicated that no additional response was necessary. Based on the results of investigation findings, no voluntary remedial response actions have been undertaken at the former Allied Paper Company Monarch Mill, and no AOC or ROD is anticipated for this Site component.

Investigation and Remedial Response Activities at the OUs

As part of the overall Site investigation, four areas were segregated into Operable Units (OUs). At each OU the RI/FFS process was conducted independently based upon the results obtained during each RI. Voluntary remedial efforts were performed or are planned and consisted of a number of source-control activities. Remedial activities conducted or proposed at each OU are described below.

Allied OU

The 73-acre Allied OU is located along Portage Creek between Alcott and Cork streets in the City of Kalamazoo, Michigan (Figure 1-14). The OU comprises several land-based disposal areas and the former Bryant Mill Pond, a 22-acre area along Portage Creek into which wastewater from the Allied Paper, Inc. operations historically was discharged. Remedial investigation work at the Allied OU is presented in *Technical Memorandum 4 - Results of the Air Investigation* (BBL, 1994c), *Technical Memorandum 7* (BBL, 1997b), *Addendum to Technical Memorandum 7* (BBL, 1999c), and *Draft Technical Memorandum 11* (BBL, 2000). An RI/FS report is anticipated to be prepared for the Allied OU in 2000 that will document findings of the RI, evaluate remedial alternatives, and recommend a preferred remedy for the OU.

Remedial response actions conducted in the 1980s and early 1990s at the Allied OU consisted of the removal and disposal of PCB-containing residuals and sediments, stabilization of disposal area berms along Portage Creek, extraction and treatment of surface water, and construction of a landfill cap over disposal areas occupying approximately 18 acres of the site. An erosion control plan was voluntarily implemented at the former Type III Landfill area of the OU in 1991. This effort included construction of a soil cap, drainage swales, and storm water retention basins; grading of the landfill cap; and seeding with erosion control vegetation. Other voluntary actions

include seeding of the former lagoon areas of the OU to stabilize soils and facilitate evapotransportation in 1991 and 1992. In 1993 and 1995, gabion baskets were installed on either side of Portage Creek to stabilize the berm in the areas of the Bryant Historic Residuals Dewatering Lagoon (HRDL) and Monarch HRDL, respectively.

Pursuant to an agreement with the U. S. Environmental Protection Agency (USEPA) and Millennium Holdings, Inc. (MHI) (USEPA, 1998b), in 1998-99 MHI financed a removal action conducted by the USEPA whereby approximately 150,000 cy of PCB-containing residuals and sediments were excavated from the former Bryant Mill Pond and placed into the land-based disposal areas on site. In accordance with sampling procedures established in the *Final Work Plan - Interim Removal Action at Bryant Mill Pond* (Weston, 1998), approximately 92% of confirmation samples exhibited concentrations of PCB less than 1 mg/kg. Excavated areas were backfilled with an approximately equal volume of clean sand. The residuals and sediments placed into the disposal areas on site were subsequently graded, covered with clean fill, and vegetated with grass.

In January 2000, MHI voluntarily initiated an interim response measure (IRM) to close the disposal areas into which material from the former Bryant Mill Pond had been placed. Consistent with the IRM *Draft Engineering Design Report* (BBL, 1999b), the berm of the disposal areas into which material from the former Bryant Mill Pond was placed was stabilized where it borders Portage Creek with approximately 2,700 linear feet of sheetpile installed near the toe of the berm. The MDEQ has provided assurance to MHI that installation of the sheetpile wall is consistent with what it expects will be the final remedy for the OU (Cornelius, 1999). Groundwater within the sheetpile is being extracted and treated during construction of the IRM. Residuals were removed from soils present between the sheetpile and Portage Creek, and consolidated into the disposal areas. A final cover system consistent with Act 451, Part 115 requirements, including a flexible membrane liner (FML), will be constructed over the disposal areas. Construction of the IRM and the cover system are both expected to be completed by the end of October 2000.

King Highway Landfill OU (KHL-OU)

The 23-acre KHL-OU is located in the City of Kalamazoo and Kalamazoo Township (Figure 1-15). The KHL-OU was originally a series of four settling lagoons that were used to dewater residuals from the Georgia-Pacific Kalamazoo Paper Mill. In 1983, the MDNR licensed three of the lagoons as a Type III landfill. From 1987 to 1996, the KHL received dewatered residuals from the mill's belt-filter presses.

Remedial investigation activities and results are presented and summarized in *Technical Memorandum 6 - KHL-OU* (BBL, 1994b) and the *Remedial Investigation Report* (BBL, 1994e). The *Final Submittal in Support of the Remedial Investigation/Focused Feasibility Study - KHL-OU* (BBL, 1997a) was submitted to the MDEQ in 1997. Additional supporting documentation included *Draft Addendum 1 to the Remedial Investigation Report - Cell 4 Investigation*

(BBL, 1995b) and *Addendum 2 to the Remedial Investigation Report - Additional Groundwater Sampling* (BBL, 1996a). A Feasibility Study (FS) was conducted and presented in the *Focused Feasibility Study* (FFS) Report (BBL, 1994f). A ROD for the KHL-OU was signed in 1998 (USEPA, 1998a); the remedy selected in the ROD included containment via capping following the consolidation of select residuals/soils/sediments.

Remedial response actions consistent with the KHL-OU ROD began in 1996 and are anticipated to be completed in 2000. As part of the remedy, PCB-containing sediments identified in the river adjacent to the KHL-OU were removed during August and September 1999. Approximately 6,000 cy of sediments were excavated from the northern edge of the KHL-OU and disposed of in Cell 4 of the KHL-OU, while approximately 5,000 cy were removed from within the perimeter berm behind the sheetpile wall, and 1,000 cy were removed from in front of the sheetpile wall. After the materials in front of the sheetpile wall were removed, approximately 700 linear feet of riprap (5 feet wide and 6 inches thick) were placed on top of geotextile along the sheetpile wall. The area behind the sheetpile wall was backfilled and revegetated along with the landfill. As part of the consolidation efforts, the KHL-OU received approximately 95,000 cy of residuals from the northern edge of the OU, the KSSS, the former King Mill, and the Georgia-Pacific Mill Lagoons. In addition, dike-stabilization and erosion-control measures were implemented along the perimeter of the OU. Appropriate long-term institutional controls and maintenance are also part of the selected remedy. Construction of the Part 115, Type III landfill cap is complete. Closure of the KHL-OU is being administered by the Remedial Design/Remedial Action (RD/RA) AOC finalized in February 2000 (MDEQ, 2000).

Willow Boulevard/A-Site OU (WB/A-OU)

The 32-acre WB/A-OU is located in Kalamazoo Township, in the Lakewood neighborhood (Figure 1-16). The OU consists of the Willow Boulevard Site, A-Site, and the area east of Davis Creek. Davis Creek runs along the eastern edge of the A-Site, and Olmstead Creek separates the Willow Boulevard Site from the A-Site and runs along the southern edge of the A-Site. The Willow Boulevard Site and A-Site received residuals from the Georgia-Pacific Kalamazoo Mill and predecessors. In addition, the area east of Davis Creek received some residuals from the A-Site, which was originally a series of dewatering lagoons used by the King Mill.

Remedial investigation activities at the WB/A-OU are presented and summarized in *Technical Memorandum 5 - Results of the Air Investigation* (BBL, 1994d), *Technical Memorandum 9* (BBL, 1995a), and *Draft Addendum to Technical Memorandum 9* (BBL, 1996b). A *Draft Remedial Investigation/Focused Feasibility Study* (RI/FFS) for the OU was prepared and submitted to the MDEQ in July 1999 (BBL, 1999a) and is currently undergoing review. The total amount of residuals associated with the OU is approximately 640,000 cy; the Willow Boulevard Site and A-Site contain an estimated 150,000 cy and 480,000 cy of residuals, respectively. The area east of Davis Creek has

an estimated 3,800 cy of residuals, and the area south of the A-Site berm has an estimated 2,900 cy of residuals. Based on the results of the initial investigation activities, additional voluntary investigation activities were conducted on the Adkins and Wadsworth properties south of the A-Site, and on the Wright and Bloomfield properties in the AMW-3A area. No residuals were found on the Adkins and Wadsworth properties. At the Wadsworth properties, one out of nine samples had detectable PCB at a concentration of 0.12 mg/kg. Average surficial PCB concentration on the Wright property was 0.85 mg/kg, and the average surficial PCB concentration on the Bloomfield property was 0.42 mg/kg.

Sheetpiling installed at the A-Site as an IRM extended about 2,000 feet along the Kalamazoo River and 150 feet along Davis Creek. This wall was installed to an elevation 2 feet above the 100-year flood elevation (767 feet). As an additional interim remedial action, PCB-containing sediments along the western bank of the Willow Boulevard Site and the Olmstead Creek confluence with the Kalamazoo River were excavated. From November 1999 to January 2000, approximately 7,000 cy of sediments were excavated and disposed of at the Willow Boulevard Site; approximately 6,700 cy were excavated from the western bank, and 300 cy were removed from Olmstead Creek confluence. Upon completion of the excavation activities, the bank of the Willow Boulevard Site was stabilized with geotextile and riprap. The disposal area at the Willow Boulevard Site was graded and temporarily capped with a 6-inch-thick sand layer.

12th Street Landfill OU

The approximately 6.5-acre 12th Street Landfill OU is located 1.5 miles northwest of the City of Plainwell (Figure 1-17). RI activities at the 12th Street Landfill OU are presented and summarized in *Technical Memorandum 0* (Geraghty & Miller, 1994a), *Technical Memorandum 8* (Geraghty & Miller, 1994b), and *Remedial Investigation Report* (Geraghty & Miller, 1996). Approximately 1,600 cy of PCB-containing soils are present in wetlands north and west of the landfill. and an undetermined volume of residuals is present in the Kalamazoo River immediately east of the landfill.

Voluntary remedial response actions at the 12th Street Landfill OU conducted to date consist of the placement of 1 to 7 feet of topsoil over the landfill, and seeding to establish vegetation in 1984. The selected remedy for the OU, which was presented in the *Focused Feasibility Study Report* (Geraghty & Miller, 1997), includes excavation, consolidation, and on-site containment of PCB-containing soils and residuals into the existing 200,000-cy landfill. A Proposed Plan was completed in 1997, while a ROD is awaited from MDEQ.

A voluntary IRM has been proposed for the 12th Street Landfill OU consistent with the ROD that is expected to be issued. For the IRM, PCB-containing soils and residuals in the adjacent wetlands would be removed and consolidated

onto the landfill. Residuals in the Kalamazoo River that are visibly contiguous with the landfill would be removed from the river and placed on the landfill. Following consolidation of these materials and regrading of the landfill to promote proper drainage, a final cover system consistent with Act 451, Part 115 requirements would be constructed over the landfill. In addition, stabilization and erosion-control measures would be implemented along the river perimeter of the landfill to reduce the potential mobility of residuals to the Kalamazoo River. Appropriate long-term institutional controls and maintenance would be implemented with the selected remedy. The ROD for the OU is expected to be signed during the second half of 2000.

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Table

TABLE 1

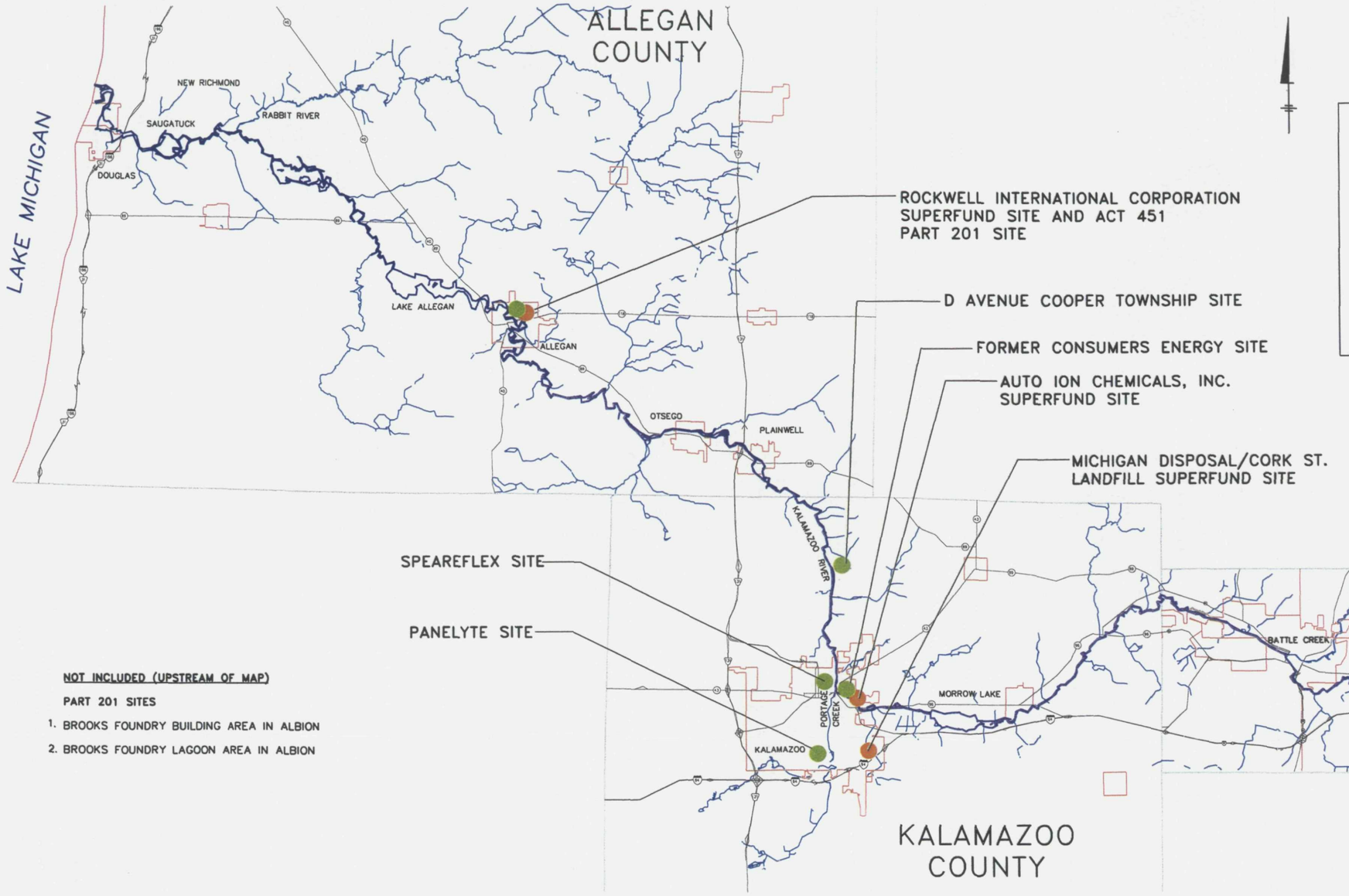
ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER SUPERFUND SITE

REMEDIAL INVESTIGATION REPORT
RATIO OF AROCLOR 1242 TO AROCLOR 1254 BY REACH IN
KALAMAZOO RIVER SEDIMENT

Kalamazoo River Sediment > 1 mg/kg							
Description	**N**	**Median**	**Range**	**5th Percentile**	**10th Percentile**	**90th Percentile**	**95th Percentile**
Morrow Lake							
Morrow Dam to Portage Creek Confluence	9	1.8	0 to >20	0	0	>20	>20
Portage Creek Confluence to Main Street, Plainwell	18	3.7	0.45 to >20	0.45	2.0	>20	>20
Main Street, Plainwell to Plainwell Dam	17	6.3	1.2 to >20	1.0	1.5	>20	>20
Plainwell Dam to Otsego City Dam	20	5.8	1.3 to >20	1.3	2.0	>20	>20
Otsego City Dam to Otsego Dam	15	2.0	0 to 7	0	0.33	7	7
Otsego Dam to Trowbridge Dam	17	3.3	1.0 to >20	0.90	1.0	>20	>20
Trowbridge Dam to Allegan City Line	22	2.9	1.1 to >20	1.1	1.2	>20	>20
Allegan City Line to Allegan City Dam	33	6.7	0 to >20	1.2	1.5	>20	>20
Allegan City Dam to Allegan Dam	70	6.2	1.2 to >20	1.7	3.0	12.4	>20
Portage Creek	66	>20	0 to >20	1.5	4.4	>20	>20

Notes:
Includes only those samples with PCB concentrations greater than 1.0 mg/kg and where 60% or more of the total PCB is the sum of Aroclors 1242 and 1254.
Percentiles were extrapolated where necessary and should be considered estimates only.

Figures



0 5 MILES 10 MILES

APPROXIMATE GRAPHIC SCALE

DRAFT

FOR STATE AND FEDERAL REVIEW

NOT INCLUDED (UPSTREAM OF MAP)

PART 201 SITES

1. BROOKS FOUNDRY BUILDING AREA IN ALBION
2. BROOKS FOUNDRY LAGOON AREA IN ALBION

LEGEND

- SUPERFUND SITE
- ACT 451 PART 201 SITE

NOTES:

1. ALLEGAN, KALAMAZOO AND CALHOUN COUNTY MAPPING OBTAINED FROM MICHIGAN RESOURCE INFORMATION SYSTEM.
2. ALL LOCATIONS ARE APPROXIMATE.

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SUPERFUND SITES AND ACT 451 PART 201 SITES WITH PCB ISSUES

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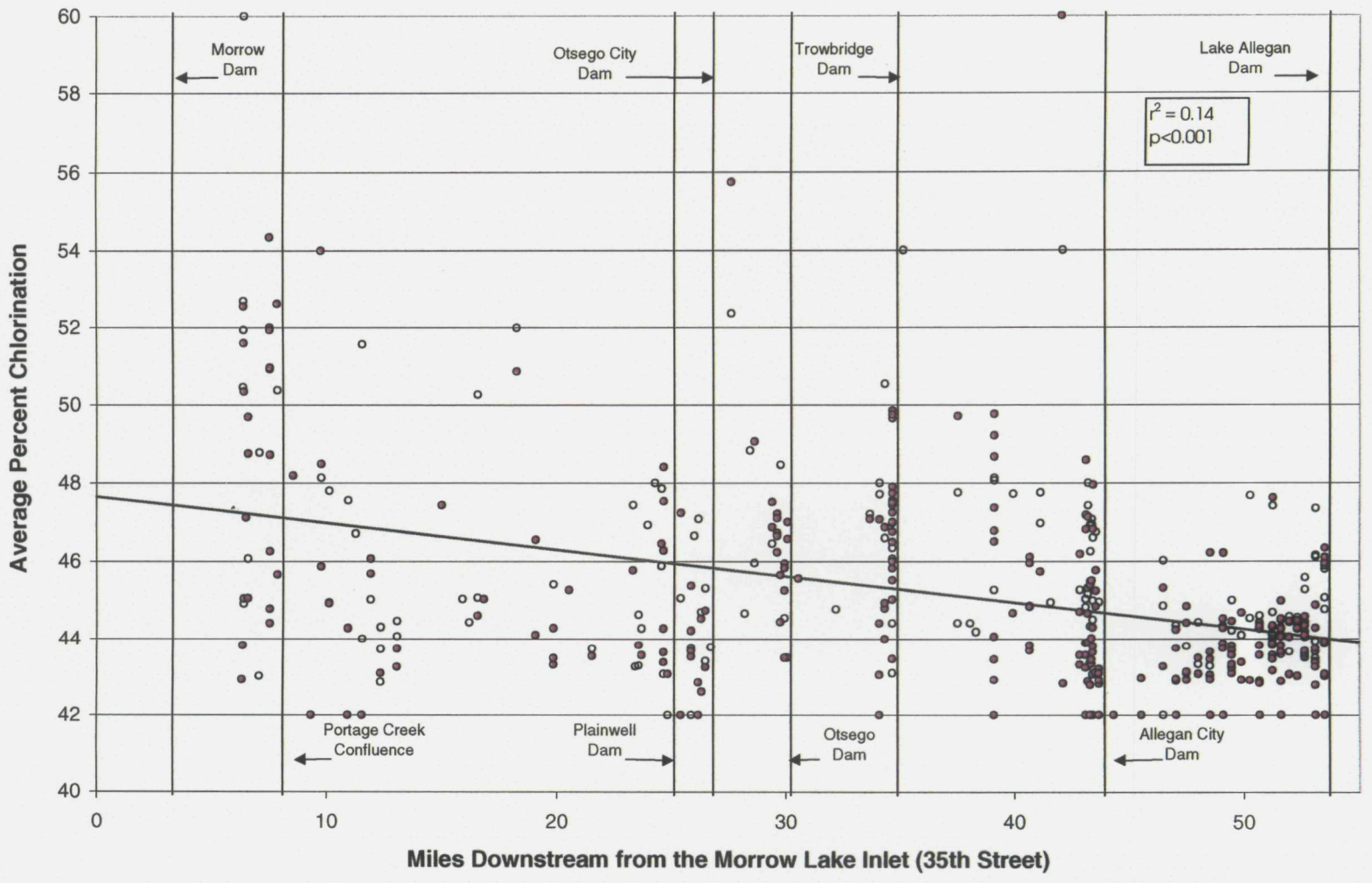
FIGURE 1

X: 64524X00.DWG
L: ON=*;OFF=REF
P: STD-PCP/BL
10/23/00 SYR-54-CBM NES KMD
64524500/APPEND/64524G01.DWG



LEGEND

- ○ Surface
- ● Subsurface

NOTE:
All samples with PCB > 1 mg/kg (n=445)

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DOWNSTREAM TREND IN AVERAGE PERCENT CHLORINATION OF DETECTED PCB

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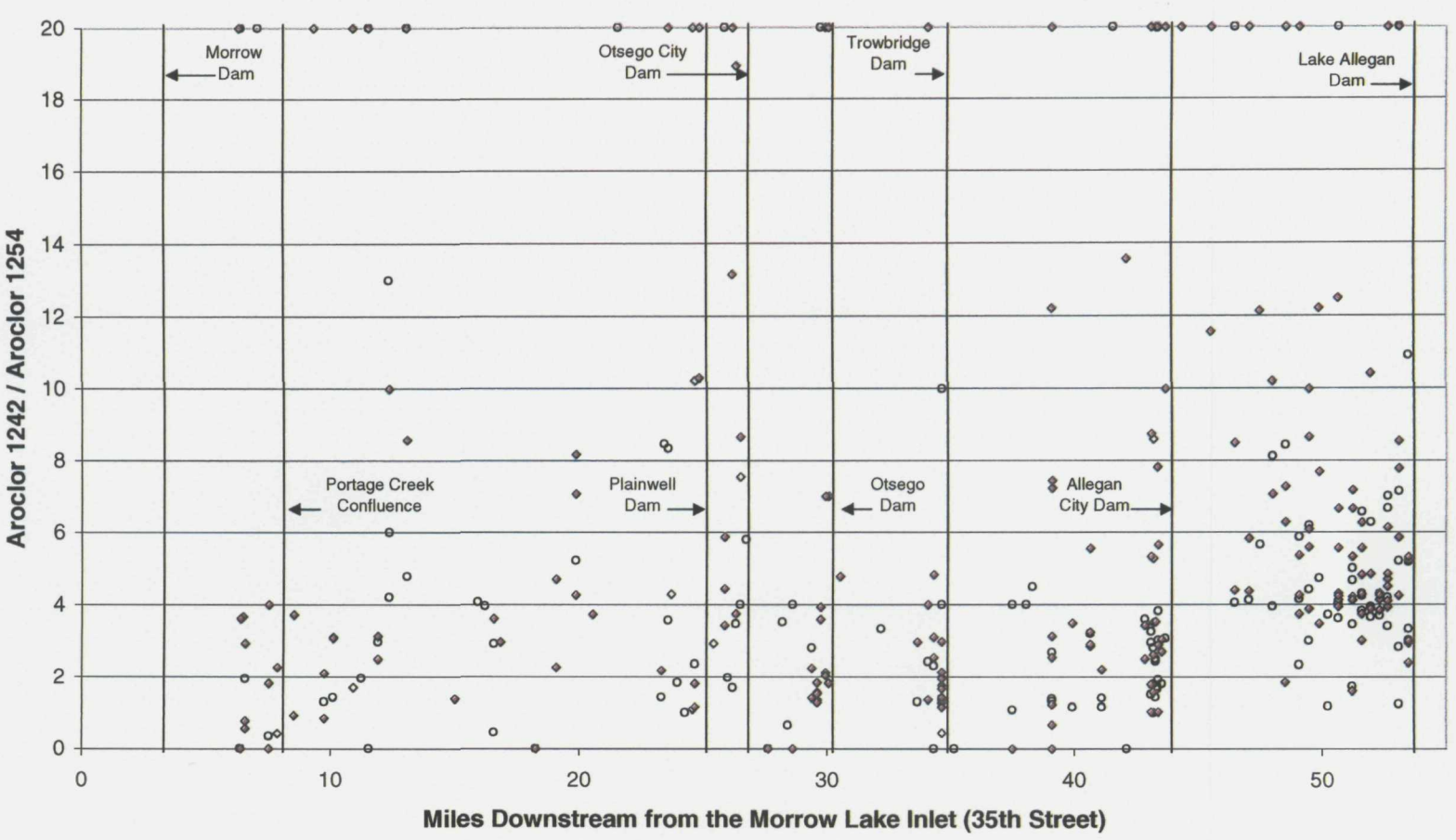
FIGURE 2

MFE_Apx L figs 2 & 3_fig 2



LEGEND

- ○ Surficial < 10 mg/kg
- ● Surficial > 10 mg/kg
- ◇ Subsurface <10 mg/kg
- ◆ Subsurface >10 mg/kg

NOTES:

1. All samples >1 mg/kg total PCB, by transect.
2. A ratio of 20 indicates those samples that are 95% or more Aroclor 1242 and 5% or less Aroclor 1254

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RATIO OF AROCLOR 1242 TO AROCLOR 1254 IN KALAMAZOO RIVER SEDIMENT

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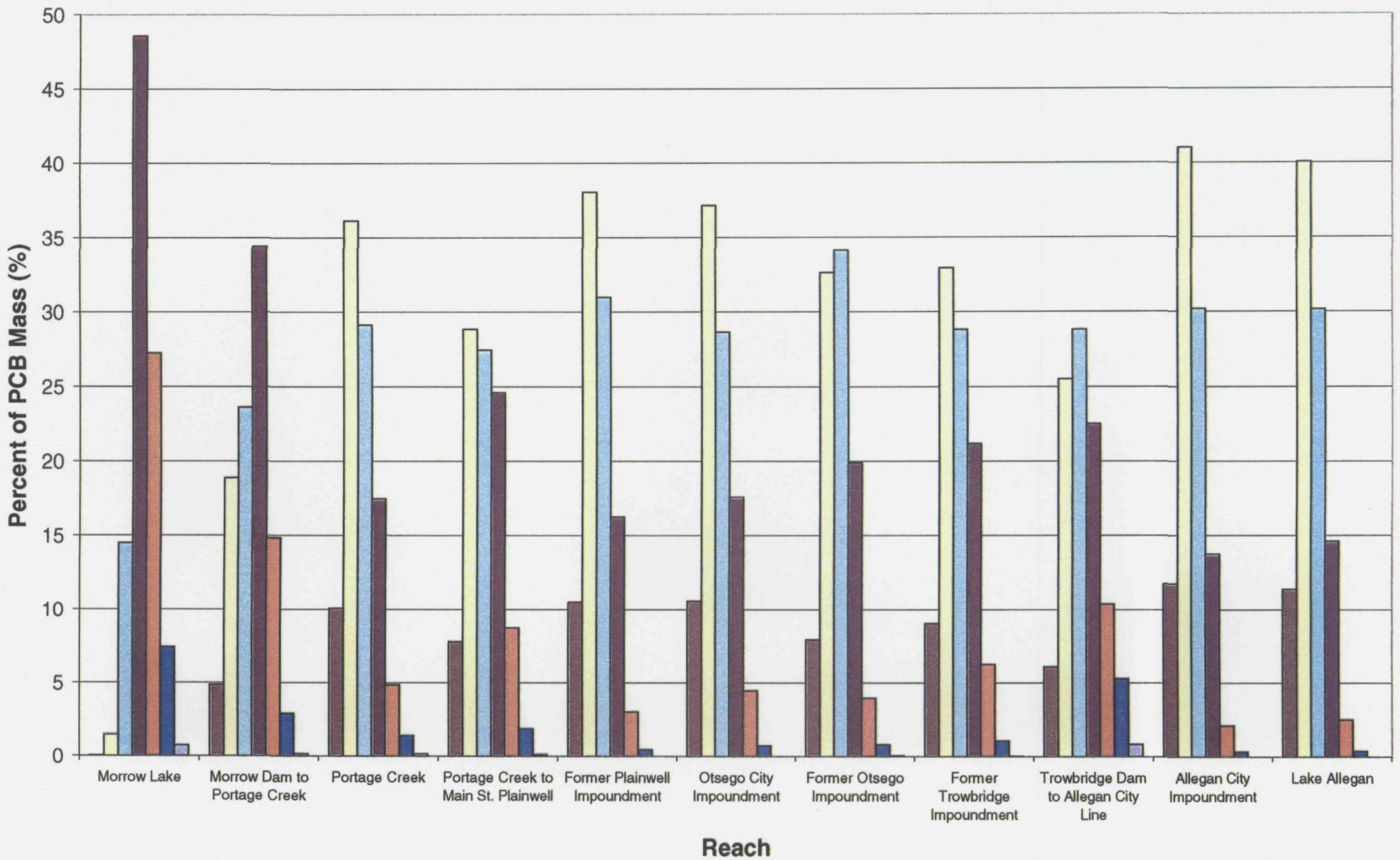
FIGURE 3



NUMBER OF CHLORINES

2 3 4 5 6 7 8

NOTE:
Homologs with one and nine chlorines contributed less than one percent of the total PCB concentration and are not shown.

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SEDIMENT PCB HOMOLOG DISTRIBUTION

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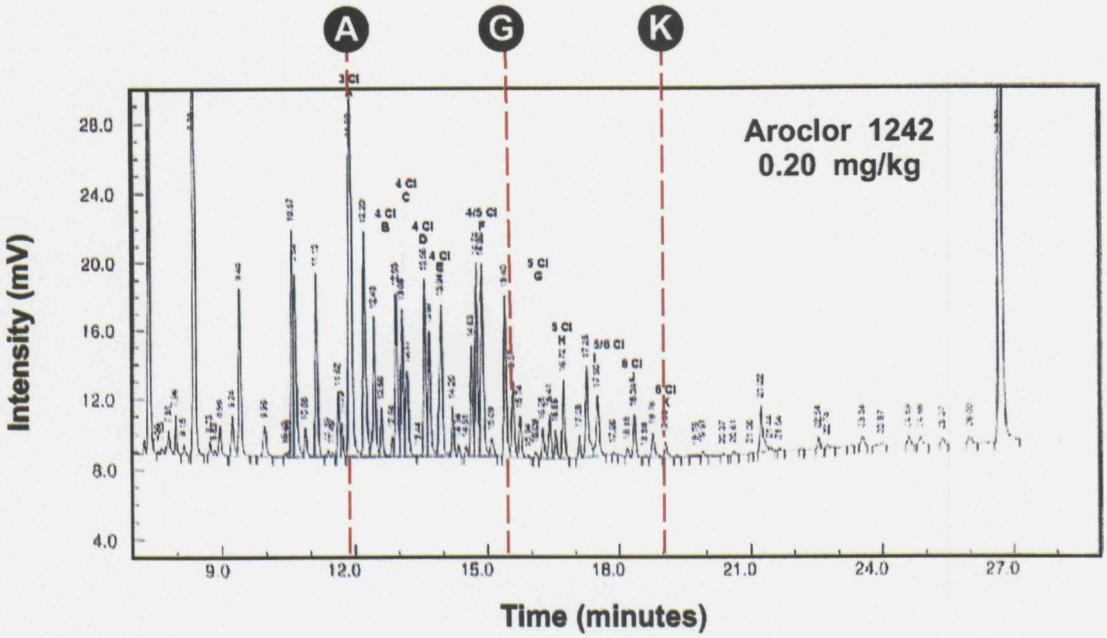
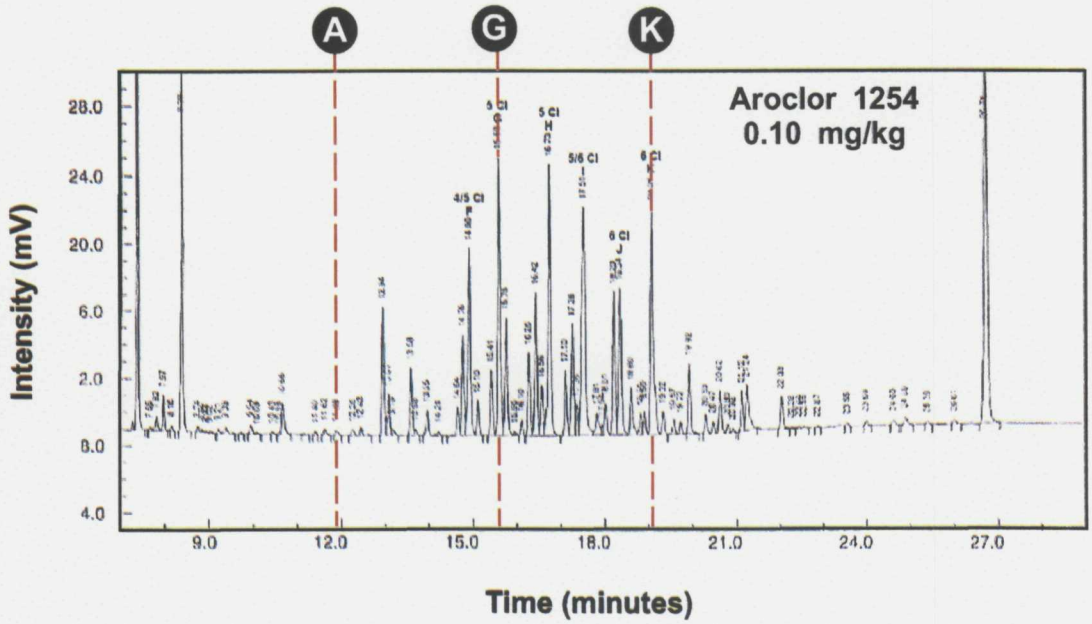
FIGURE 4





NOTE:
Peak A = 2, 4', 5 & 2, 4, 4'-Trichlorobiphenyls
Peak G = 2, 2', 3, 4', 5 & 2, 2', 4, 5, 5'-Pentachlorobiphenyls
Peak K = 2, 3, 3', 4, 5, 6 & 2, 2', 3, 4, 4', 5' &
2, 3, 3', 4, 4', 6-Hexachlorobiphenyls

08/00 SYR-D54 -DJH LBR
64524500/64524n33.CDR

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AROCLOR 1242 AND AROCLOR 1254 STANDARD CHROMATOGRAMS

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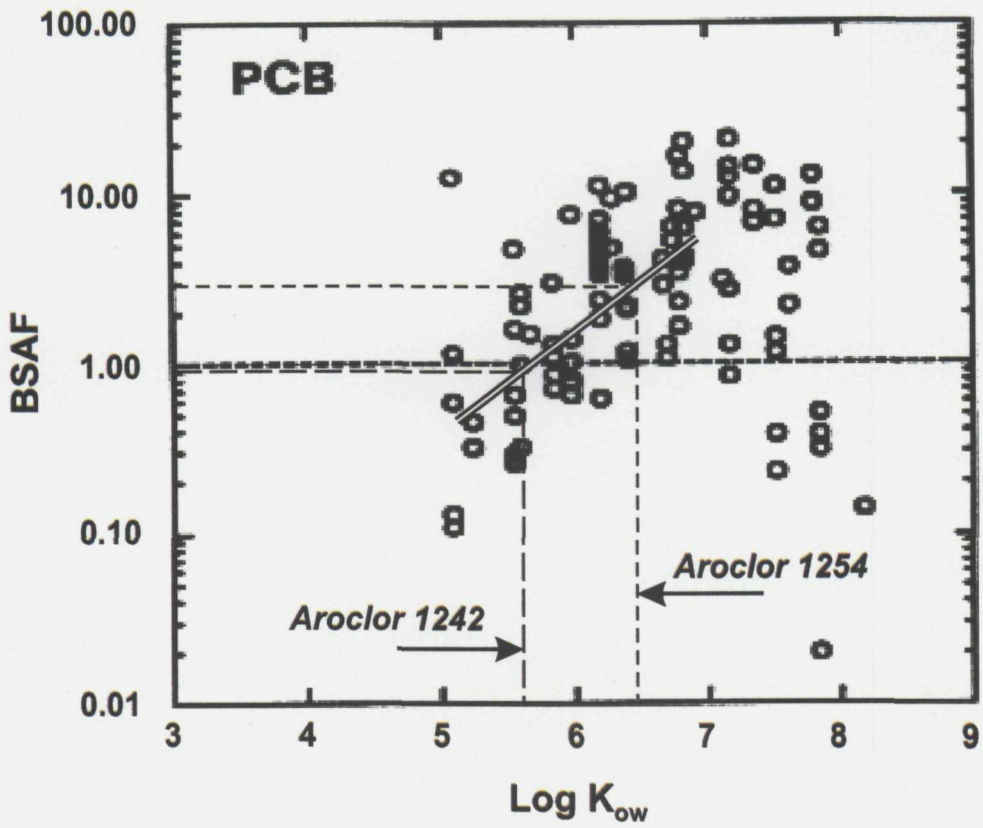
FIGURE 6



REFERENCE: Parkerton et al., 1993

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RELATIONSHIP BETWEEN BSAF AND LOG K_{ow}

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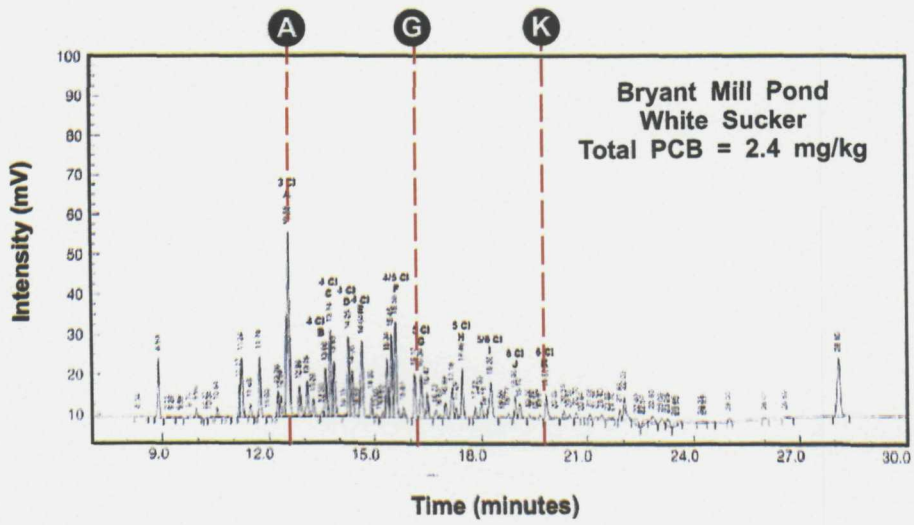
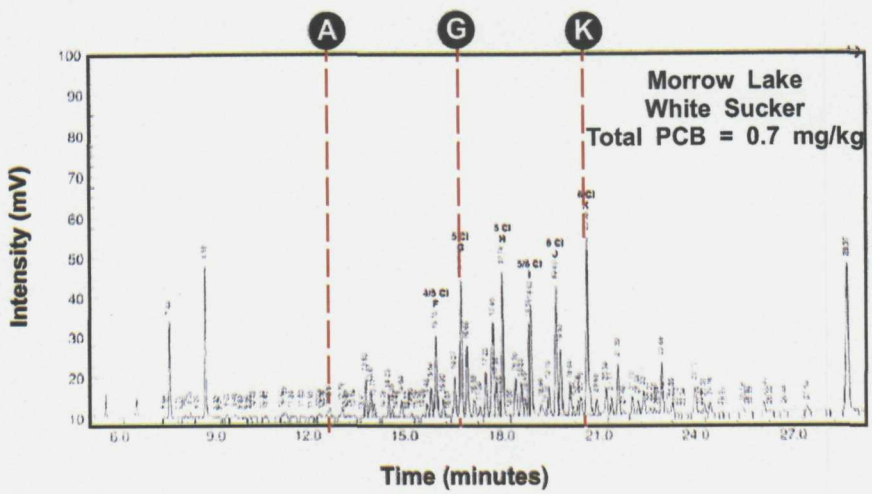
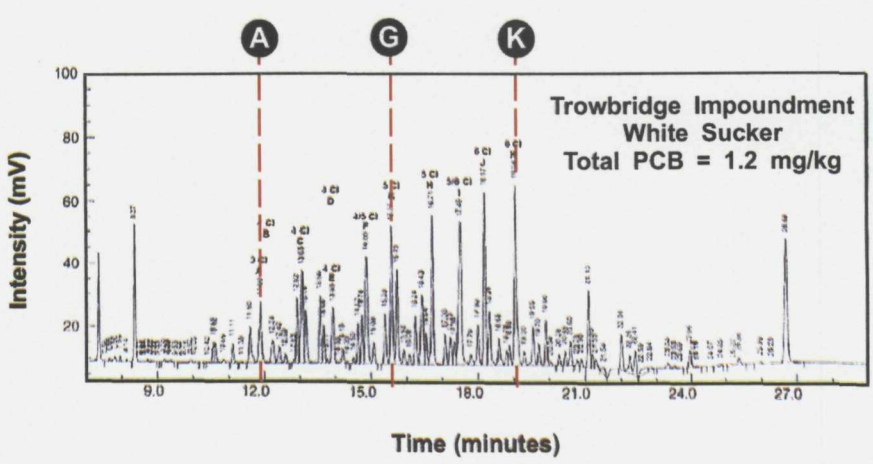
FIGURE 7

08/00 SYR-D54-DJH
64524500/64524n51.CDR







NOTE:
Peak A = 2, 4', 5 & 2, 4, 4'-Trichlorobiphenyls
Peak G = 2, 2', 3, 4', 5 & 2, 2', 4, 5, 5'-Pentachlorobiphenyls
Peak K = 2, 3, 3', 4, 5, 6 & 2, 2', 3, 4, 4', 5' &
2, 3, 3', 4, 4', 6-Hexachlorobiphenyls

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08/00 SYR-D54 -DJH LBR
64524500/64524n32.CDR

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CHROMATOGRAMS OF PORTAGE CREEK AND KALAMAZOO RIVER FISH SAMPLES

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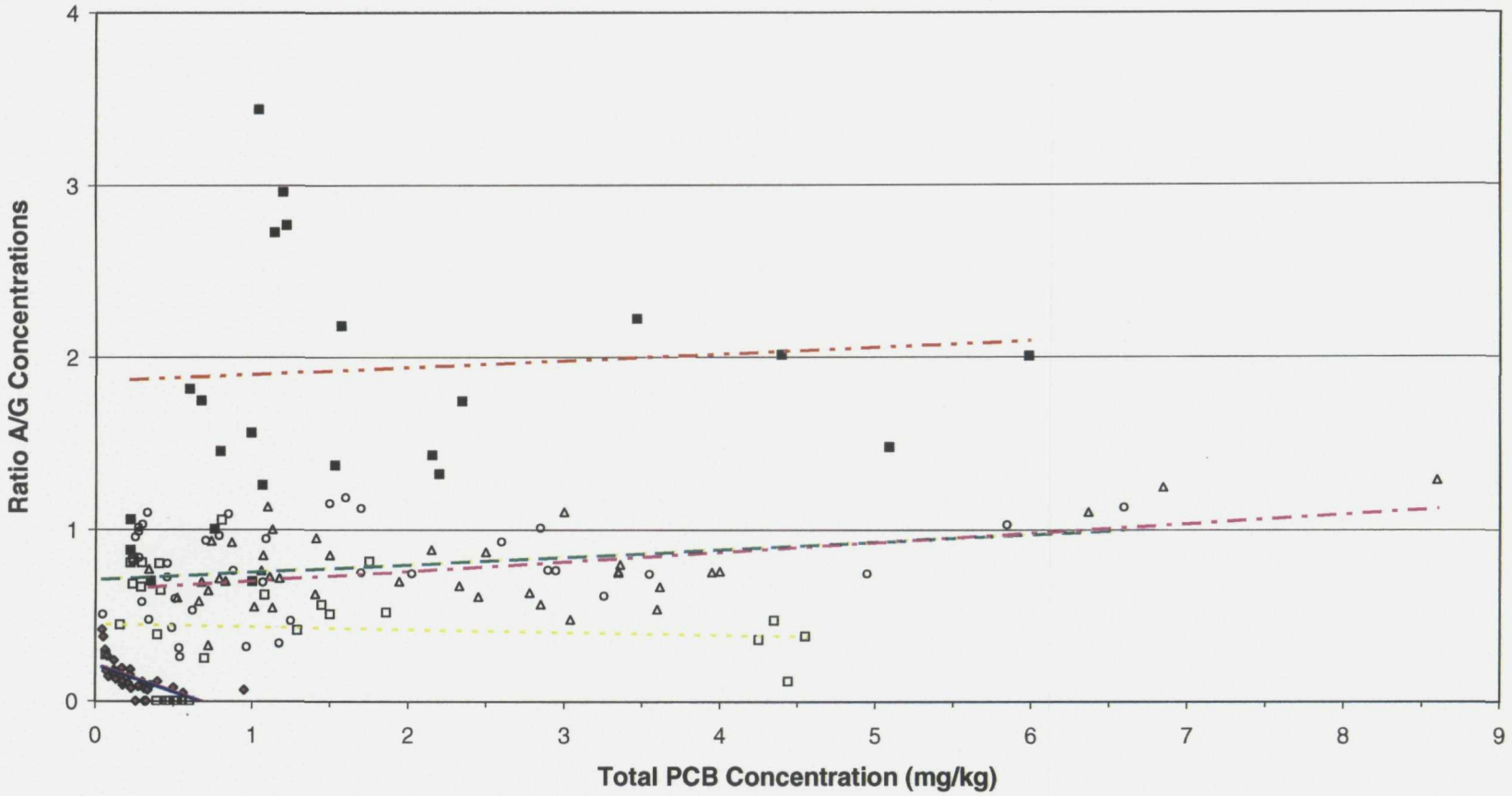
FIGURE 5



LEGEND

- Morrow Lake
- Bryant Mill Pond
- Lake Allegan
- Plainwell Dam
- Near Saugatuck
- Linear Regression Line - Morrow Lake ($r^2 = 0.34$)
- Linear Regression Line - Bryant Mill Pond ($r^2 = 0.0025$)
- Linear Regression Line - Lake Allegan ($r^2 = 0.069$)
- Linear Regression Line - Plainwell Dam ($r^2 = 0.24$)
- Linear Regression Line - Near Saugatuck ($r^2 = 0.0047$)

NOTE:
Peak A = 2,4',5 & 2,4,4'-Trichlorobiphenyls
Peak G = 2,2',3,4',5 & 2,2',4,5,5'-Pentachlorobiphenyls

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A/G PCB CONCENTRATION RATIO VS TOTAL PCB - 1993 FISH DATA

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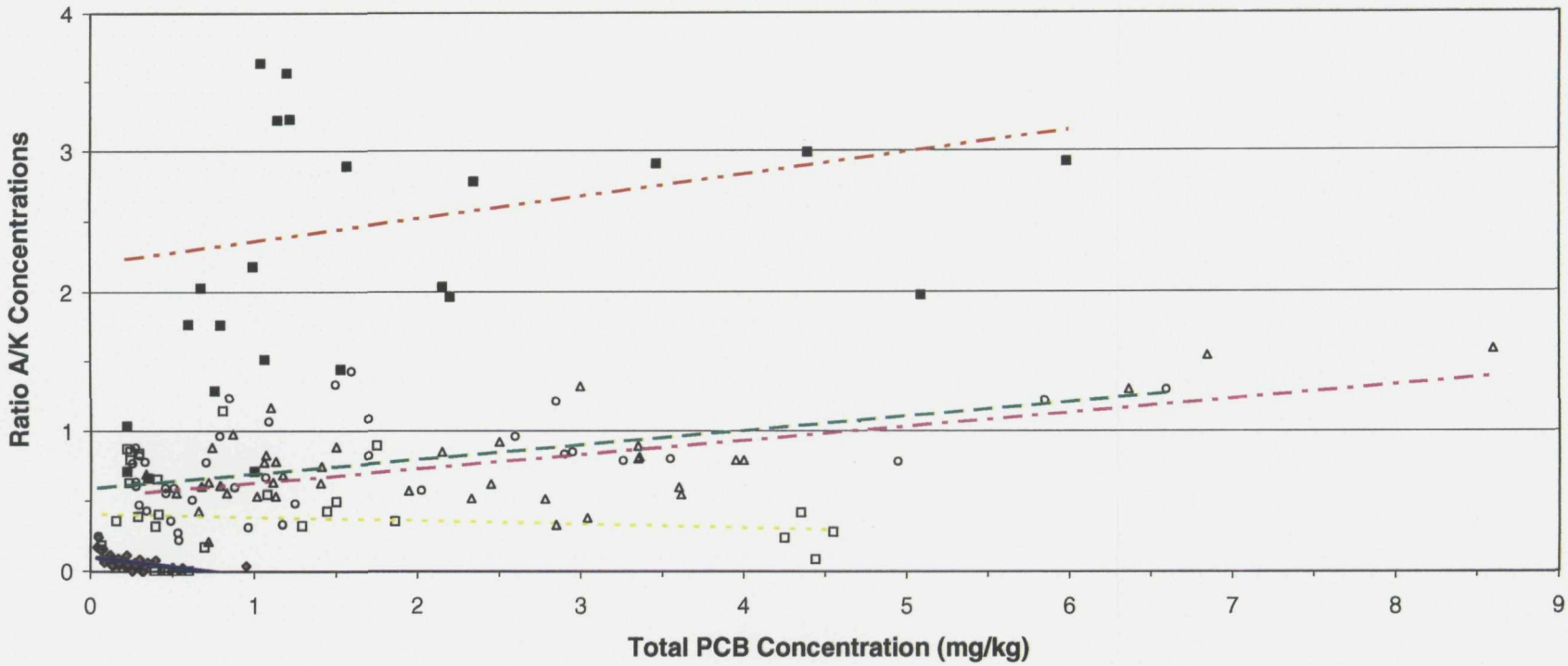
FIGURE 8

MFE_Apx L AGKfigs_8



LEGEND

- Morrow Lake
- Bryant Mill Pond
- Lake Allegan
- Plainwell Dam
- Near Saugatuck
- Linear Regression Line - Morrow Lake ($r^2 = 0.25$)
- Linear Regression Line - Bryant Mill Pond ($r^2 = 0.017$)
- Linear Regression Line - Lake Allegan ($r^2 = 0.26$)
- Linear Regression Line - Plainwell Dam ($r^2 = 0.38$)
- Linear Regression Line - Near Saugatuck ($r^2 = 0.010$)

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NOTE:
Peak A = 2,4',5 & 2,4,4'-Trichlorobiphenyls
Peak K = 2,3,3',4,5,6 & 2,2',3,4,4',5' & 2,3,3',4,4',6-Hexachlorobiphenyls

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A/K PCB CONCENTRATION RATIO VS TOTAL PCB - 1993 FISH DATA

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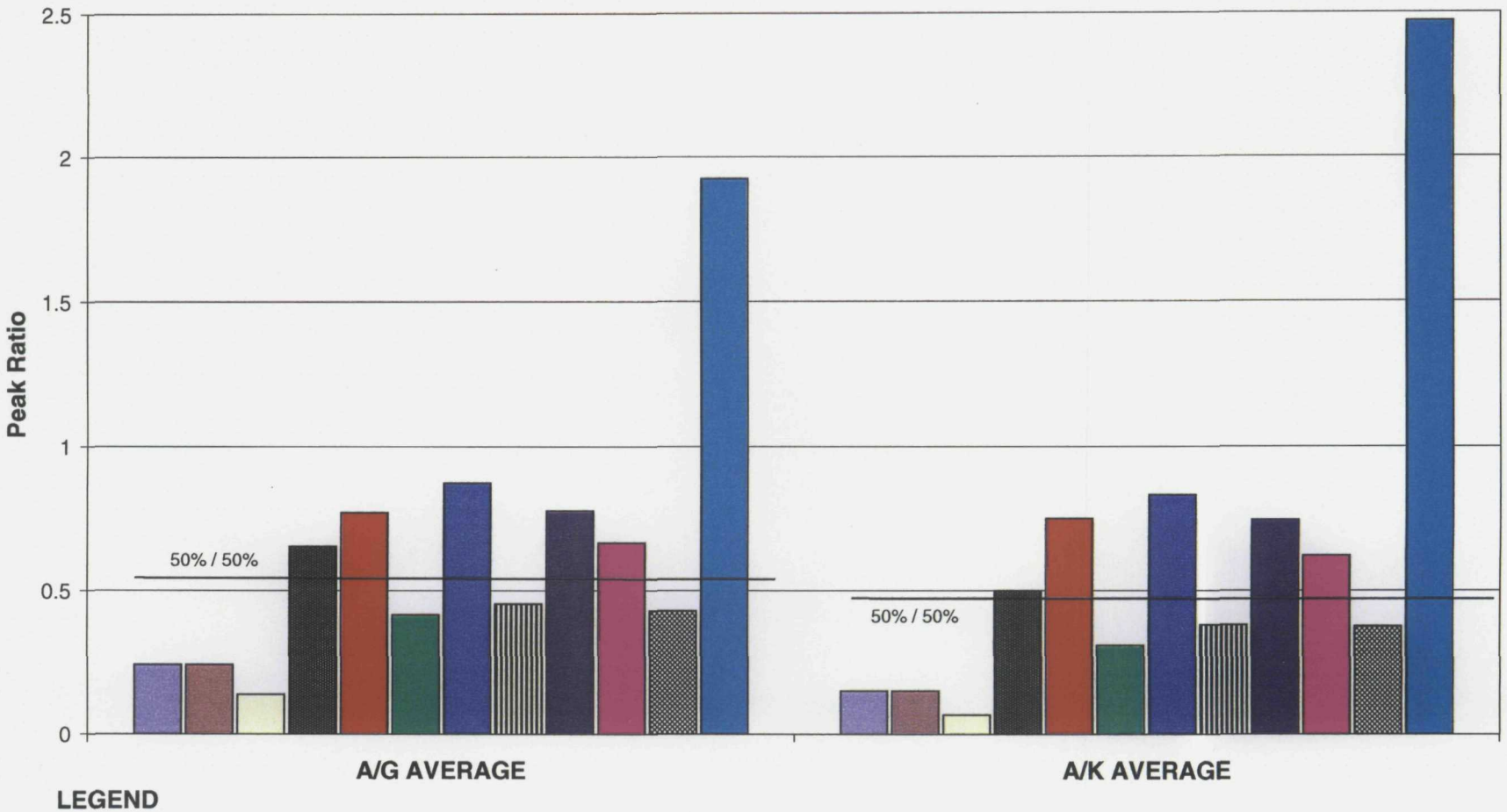
FIGURE 9



LEGEND

- Upstream of Battle Creek
- Downstream of Morrow Lake
- Plainwell Dam
- Otsego Dam
- Lake Allegan
- Near Saugatuck
- Morrow Lake
- Near Mosel Ave
- Otsego City Impoundment
- Trowbridge Dam
- Downstream of Lake Allegan
- Bryant Mill Pond

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NOTE:
Peak A = 2,4',5 & 2,4,4'-Trichlorobiphenyls
Peak G = 2,2',3,4',5 & 2,2',4,5,5'-Pentachlorobiphenyls
Peak K = 2,3,3',4,5,6 & 2,2',3,4,4',5' & 2,3,3',4,4',6-Hexachlorobiphenyls

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PCB CHROMATOGRAM PEAKS A/G AND A/K PCB CONCENTRATION RATIO AVERAGES - 1993 FISH DATA

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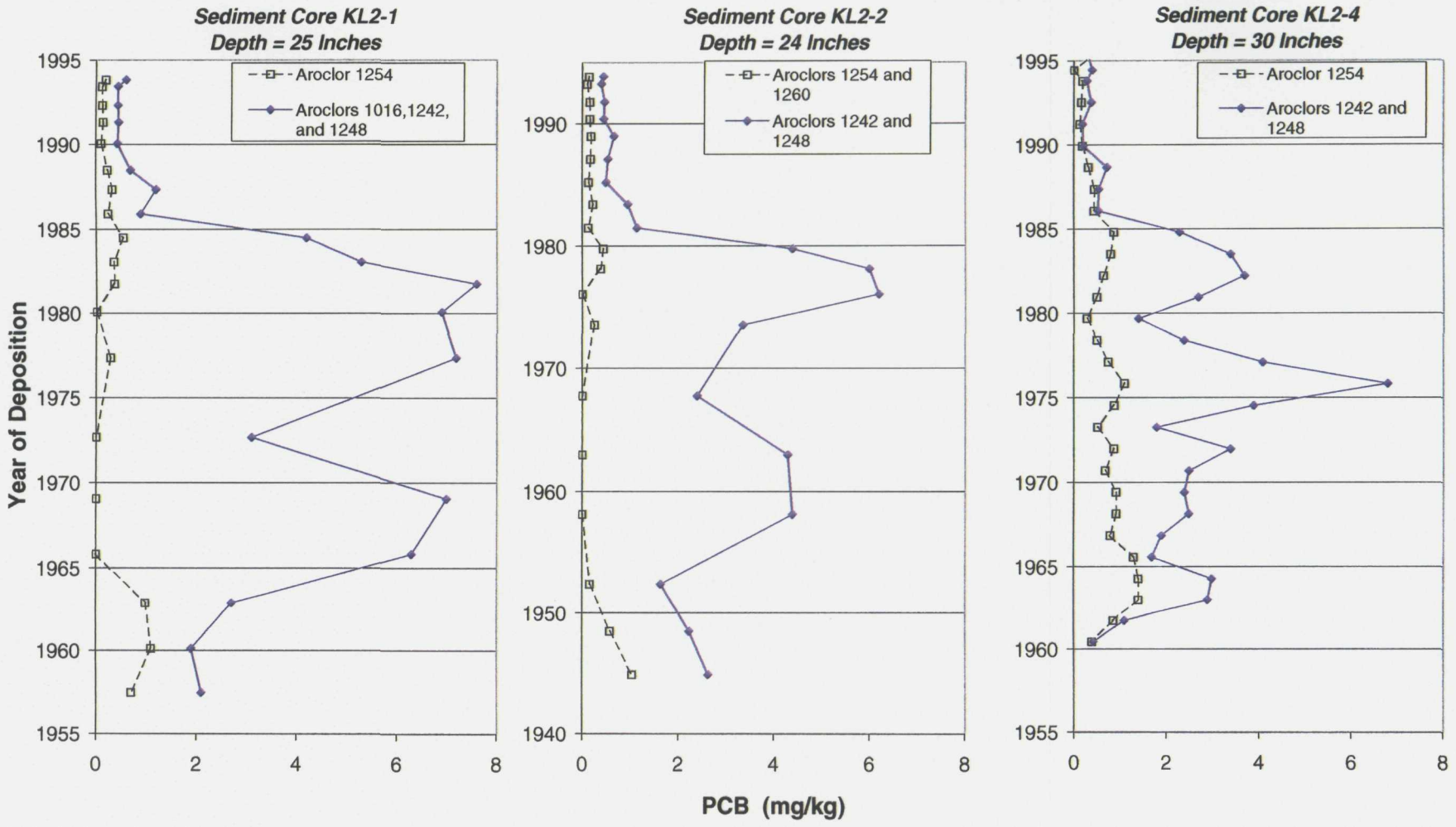
FIGURE 10



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PCB DEPOSITION CHRONOLOGIES FROM CORES COLLECTED IN KALAMAZOO LAKE

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FIGURE 11

MFE_Apx L allgeos_11

Appendix L

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Physical and Chemical Properties of PCB

Appendix L: Physical and Chemical Properties of PCB

Polychlorinated biphenyls (PCB) belong to a group of synthetic organic compounds known as chlorinated hydrocarbons. The 209 PCB congeners, differing in the number and arrangement of chlorine atoms on the biphenyl molecule, all have the same basic chemical structure and similar properties ranging from oily liquids to waxy solids. In the United States, PCB were produced as mixtures of PCB congeners for commercial purposes exclusively by Monsanto Industrial Chemicals Company under the trade name Aroclor. In general, PCB are chemically and thermally stable (Amend and Lederman, 1992). If released to soil and aquatic systems with sediments, PCB will adhere to particles, with the degree of adsorption generally increasing with the degree of chlorination of the PCB and the organic content of the soil/sediment. PCB generally do not leach significantly in aqueous soil systems. If released to water, adsorption to sediment and suspended matter is an important fate process.

For combustion, a temperature in excess of 1000°C is required, so PCB are essentially nonflammable. PCB are durable compounds and good conductors of heat, but resistant to passing electric currents, oxidation, acids, bases, or hydrolysis. Thus, in water, transformation processes such as hydrolysis and oxidation do not significantly degrade PCB such as Aroclor 1242, Aroclor 1254, and Aroclor 1260 (Callahan et al., 1979). These properties made PCB extremely desirable for a wide variety of industrial applications, including the manufacture of electric components such as capacitors and transformers.

PCB are hydrophobic and hardly miscible in water. PCB tend to favor a nonpolar phase and will partition away from water to most solids. The solubilities of Aroclor 1242, Aroclor 1254, and Aroclor 1260 in water at 25°C are 240 micrograms per liter (µg/L), 12 µg/L and 3 µg/L, respectively (Erickson, 1997). A trend of decreasing water solubility with increasing chlorination is evident from these values. In addition, PCB have very high K_{OW} (octanol/water partition coefficient) values. K_{OW} represents a ratio of a chemical in octanol to that in water in an equilibrated octanol-water system and is inversely proportional to a chemical's solubility in water. This coefficient is considered as an index of the potential of a chemical to be bioaccumulated. Higher K_{OW} values reflect greater bioaccumulation potential. The log K_{OW} values for Aroclor 1242, Aroclor 1254, and Aroclor 1260 are 5.6, 6.5, and 6.8, respectively (Agency for Toxic Substances and Disease Registry [ATSDR], 1998). A trend of increasing K_{OW} values with increasing chlorination is evident from these values. The combination of low water solubility and high K_{OW} indicates that PCB have a high affinity for suspended solids, especially those high in total organic carbon (TOC) (Chou and Griffin, 1986).

PCB also have very high K_{OC} values (the sorption constant normalized for the organic carbon content of soil). The log K_{OC} values for Aroclor 1242, Aroclor 1254, and Aroclor 1260 are 4.09, 4.81, 5.54, respectively (Chou and Griffin, 1986). The relatively large K_{OC} values for PCB indicate that they adsorb readily to organic materials such as sediments and soils, with adsorption increasing with the chlorine content of the mixture and the organic content of the environmental media (Versar, Inc., 1998). The increased affinity of more chlorinated PCB for sediment/particulates with high organic carbon content (high K_{OC}) is aided by the increased hydrophobicity of those same chlorinated PCB.

PCB tend to sorb to organics in the environment such as soil, suspended sediments, bottom sediments or aquifer solids, and animal membranes. PCB bind rapidly to the organic matter fraction of soil, with maximum binding observed within 30 days of contact and with the majority of the binding occurring to the humic portion of the organic matter (Kohl and Rice, 1998). Due to this strong affinity to organic carbon, PCB are quite immobile in soils and sediments. Soil or sediment characteristics that affect the mobility of PCB include soil density, particle size distribution, moisture content, and permeability. Additionally, meteorological and chemical characteristics such as amount of precipitation, TOC content, and the presence of organic colloids also affects PCB mobility (USEPA, 1990).

Particulates released to the Kalamazoo River from paper-related sources are generally high in organic carbon content, with significantly higher organic carbon content than naturally occurring river sediments. Due to the high affinity of PCB for solids with a high organic carbon content, PCB will bind more readily and tightly with the paper-related particulates than the naturally occurring river sediments. Once bound to sediments/particulates, the PCB are appreciably immobilized.

Henry's Law constant is the ratio between vapor pressure (saturated) and the solubility of the compound in water. A high Henry's Constant is indicative of a volatile chemical that preferentially accumulates in the air phase. A low Henry's Constant is indicative of a non-volatile chemical that preferentially accumulates in the water phase. Volatile chemicals have Henry's Constants greater than approximately 2.5×10^{-3} atmospheres-cubic meter/mole (atm-m^3/mol). Henry's Law constant values for Aroclor 1242, Aroclor 1254, and Aroclor 1260 at 25°C are 5.2×10^{-4}, 2.0×10^{-3}, and 4.6×10^{-3} atm-m^3/mol, respectively. These values indicate that volatilization can be a significant environmental transport process for PCB dissolved in surface water; however, the strong adsorption to sediment significantly decreases the volatilization rate from the aquatic phase (ATSDR, 1998).

In general, the biodegradability of PCB in aerobic systems decreases as the degree of chlorination increases. Mono-, di-, and trichlorinated biphenyls aerobically biodegrade relatively rapidly, tetrachlorinated biphenyls biodegrade slowly, and higher-chlorinated biphenyls are resistant to biodegradation. Abramowicz (1990) indicates that no aerobic microorganisms have been reported to degrade the more highly chlorinated commercial mixture Aroclor 1260. Anaerobic dechlorination of PCB that occurs in sediments reduces the levels of higher chlorinated biphenyls and results in the accumulation of lower chlorinated biphenyls. The more highly chlorinated PCB are extremely resistant to conventional aerobic transformation, but they will undergo anaerobic reductive dechlorination which results in significant reduction of any toxicity associated with PCB.

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Appendix M

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Anaerobic PCB Dechlorinatioin in Kalamazoo River Sediments - A Preliminary Assessment

Appendix M: Preliminary Assessment of Chromatographic Evidence of Anaerobic PCB Dechlorination in Kalamazoo River Sediments

Evidence of anaerobic polychlorinated biphenyl (PCB) dechlorination is apparent in chromatograms of sediment core samples collected from the Kalamazoo River. The evidence consists of chromatogram patterns consistent with known processes of biological dechlorination of PCB in sediment (Abramowicz 1990). Various patterns of anaerobic dechlorination of PCB have been observed in the environment. In general, the most common patterns are associated with the removal of chlorine atoms from the meta and, to a lesser extent, para position on the molecule. In general, chlorine atoms in the ortho position on the molecule are considerably less susceptible to dechlorination; although, in some natural systems and in the laboratory ortho dechlorination has been demonstrated.

The potential significance of anaerobic dechlorination is that it reduces the toxicity and bioaccumulation potential of PCB mixtures in the environment. The selective removal of chlorines from the meta and para positions can be highly effective in reducing the "dioxin-like" toxicity of PCB mixtures (dioxin-like toxicity refers to the set of toxic effects including teratogenic and reproductive effects that begin with interaction with the Ah receptor). The reader is referred to the following references for more information about anaerobic PCB dechlorination in the environment and its ability to detoxify PCB mixtures: Brown et al. (1987a, b, c); Bedard et al. (1987); Quensen et al. (1990); Alder et al. (1993); and Abromowicz (1990).

The chromatographic patterns associated with dechlorination are characterized by the reduction in the heights and areas of certain peaks associated with dechlorinating PCB molecules and the corresponding increase of other peaks associated with the less chlorinated products of dechlorination. The nature of the correspondence between reduced and enhanced peaks provides some insight into the specific dechlorination processes at work.

Sediment sample chromatograms for the Kalamazoo River were reviewed to assess evidence of dechlorination. The RI/FS Work Plan (BBEPC, 1993) had anticipated the use of chromatographic data for these purposes. All sediment samples were analyzed on gas chromatography systems with RTX-5 and RTX-35 capillary columns and electron capture detectors. The correspondence of the RTX-5 column peak patterns for Aroclors to those from the analysis of the composition of Aroclor mixtures on a SE-54 column by Schulz et al. (1989) was illustrated in the RI/FS Work Plan The Schulz et al. (1989) reference is important because it allows the identification of the congeners associated with chromatogram peaks. Subsequent analysis of PCB mixtures by Frame (1997) confirmed Schulz et al. (1989) peak assignments with very few exceptions.

The review of Kalamazoo River sediment chromatograms provides evidence of anaerobic dechlorination in a pattern consistent with at least meta-chlorine removal. In a number of Kalamazoo River sediment samples, the evidence of dechlorination is rather subtle. An example is shown on Figure 1 for two sections of core FF-109 collected during 2000 from Lake Allegan. In this figure, chromatograms for the 0 to 2-inch sample (surface) and 12 to 24-inch (deep) samples are presented. Strong correspondence between the core samples PCB composition and Aroclors 1242 and 1254 can be seen by matching the major peaks in those Aroclors to the sample peaks. Certain peaks have been labeled to assist the explanation.

Peaks to the left of Peak G relative to those to the right of Peak G are lower in the surface sample chromatogram than in the chromatogram of the deep sample. Although dissolution weathering and varying ratios of Aroclor 1242- and Aroclor 1254-derived PCB account for some of this very general pattern, dechlorination also appears to be occurring and responsible for some of this shift. Dechlorination is expected to be more extensive in deeper sediments with higher concentrations because they have been anaerobic longer and because the higher concentrations would generally be more bioavailable to the dechlorinating microorganisms.

More specific evidence of dechlorination in Figure 1 is demonstrated by the apparent loss of the congeners associated with Peak J. The predominant congener associated with this peak is 2,2',3,4,5'-pentachlorobiphenyl. The disappearance of this peak, which accounts for approximately 3.8 percent of Aroclor 1254 and 0.8 percent of Aroclor 1242 according to Schulz et al. (1989), cannot be explained by dissolution weathering. The reason is that the Aroclor 1254 peaks earlier in the chromatogram that represent more soluble congeners are still relatively large. However, the loss of chlorine from the meta positions (3, 5') on this molecule is consistent with the apparent growth of Peak H associated with 2,2',4,5'-tetrachlorobiphenyl (e.g., Brown and Wagner, 1990) and Peak C which is associated with 2,2',4-trichlorobiphenyl.

A more intermediate degree of PCB dechlorination is evident in the chromatogram for the Otsego City Impoundment sediment sample KPT 69-5 taken from a depth interval of 12 to 23 inches (Figure 2). More extensive dechlorination is evident in this figure, as the growth in peaks labeled A, C, D, and E. Of particular note is that Peak A is a relatively small component of Aroclor 1242. It is associated with 2,4'-dichlorobiphenyl which would be one of the products of meta dechlorination. Peaks D and E are associated with congeners tentatively identified as 2,3',4-trichlorobiphenyl and 2,3',4-trichlorobiphenyl, respectively. These congeners are relatively small components (0.8 – 1.3%) of Aroclor 1242. Consequently their abundance in this sample cannot be explained by Aroclor 1242 or indeed other Aroclors. These congeners have been found enriched in sediments with active anaerobic dechlorination systems including the Accushnet Estuary in Massachusetts (Brown and Wagner, 1990), the Hudson River (Brown et al., 1987a), and Silver Lake, Massachusetts (Brown et al., 1987a). Also evident in Figure 2 is the depletion of peaks J and K relative to still-

prominent Aroclor 1254 peaks in the sample. Both peaks are associated with meta-substituted, higher molecular weight PCB (pentachlorobiphenyls and hexachlorobiphenyls). Brown and Wagner (1990) in studying the dechlorination of PCB in the Accushuet Estuary suggests the dechlorination of the major components of peaks J and K were responsible for the enrichment of congeners associated with peaks D and H. The prominence of peaks in sediment sample chromatograms such as peaks A, D, and E that are not prominent in Aroclors and the correspondence between PCB congeners apparently being depleted and forming to patterns of anaerobic dechlorination seen elsewhere provide confidence that these chromatographic pattern shifts are indeed attributable to anaerobic dechlorination.

More extensively dechlorinated sediments than those illustrated here are present in various locations in the river. A comprehensive spatial analysis and quantitative assessments of the extent of dechlorination will be completed to determine the significance of anaerobic dechlorination to the detoxification of PCB mixtures at the Site and its role in determining the ultimate fate of PCB in the Kalamazoo River.

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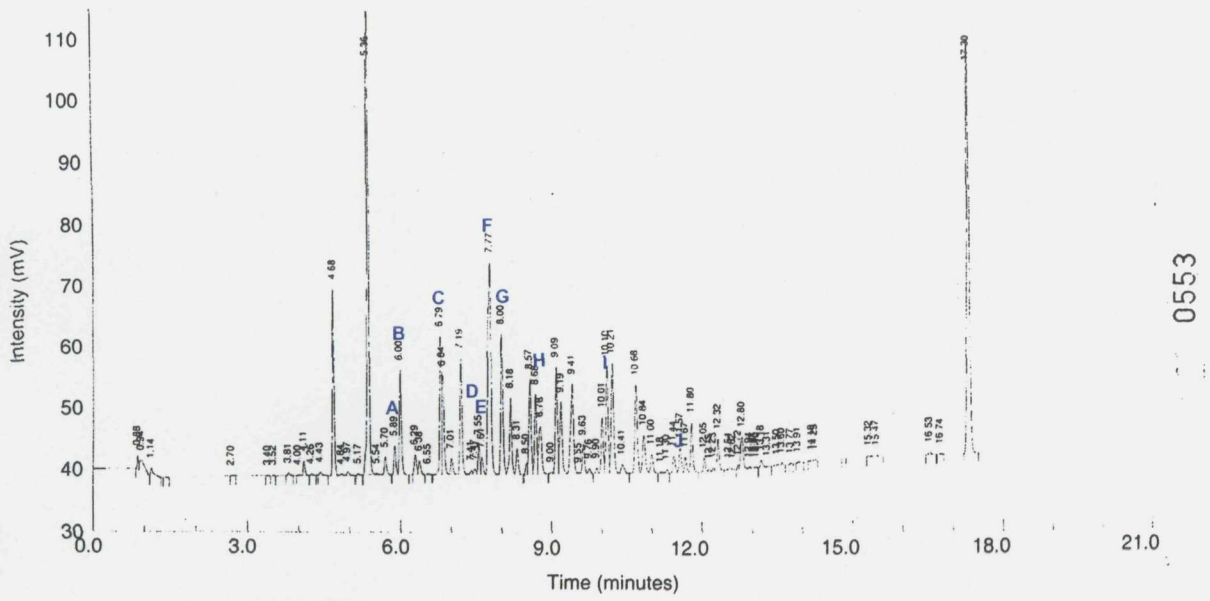
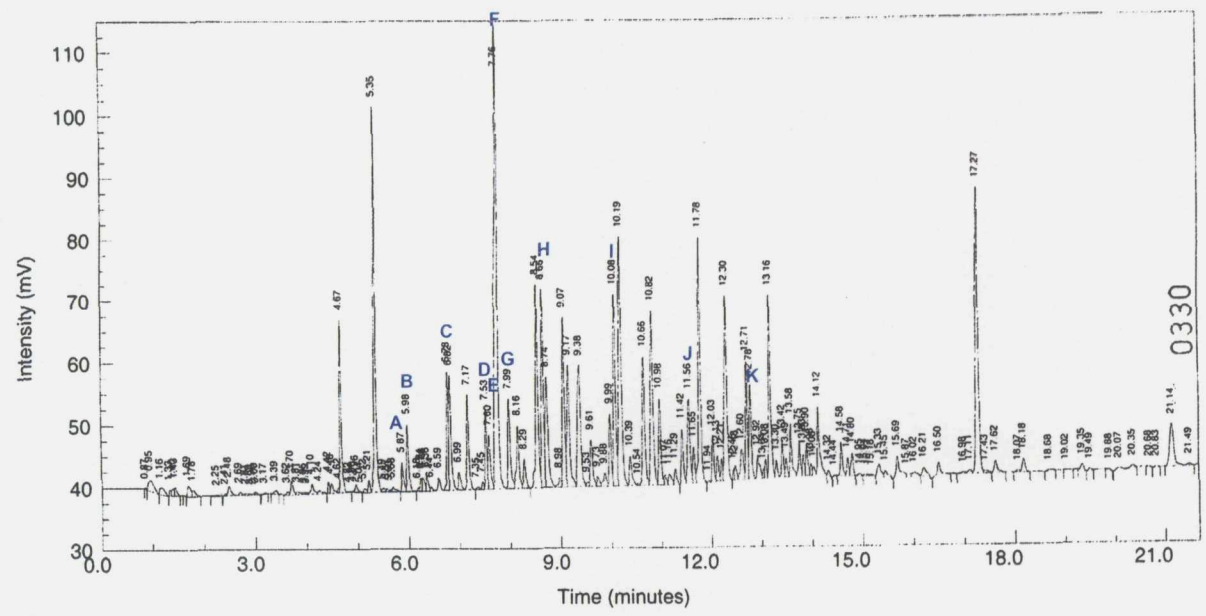
Aroclor 1242



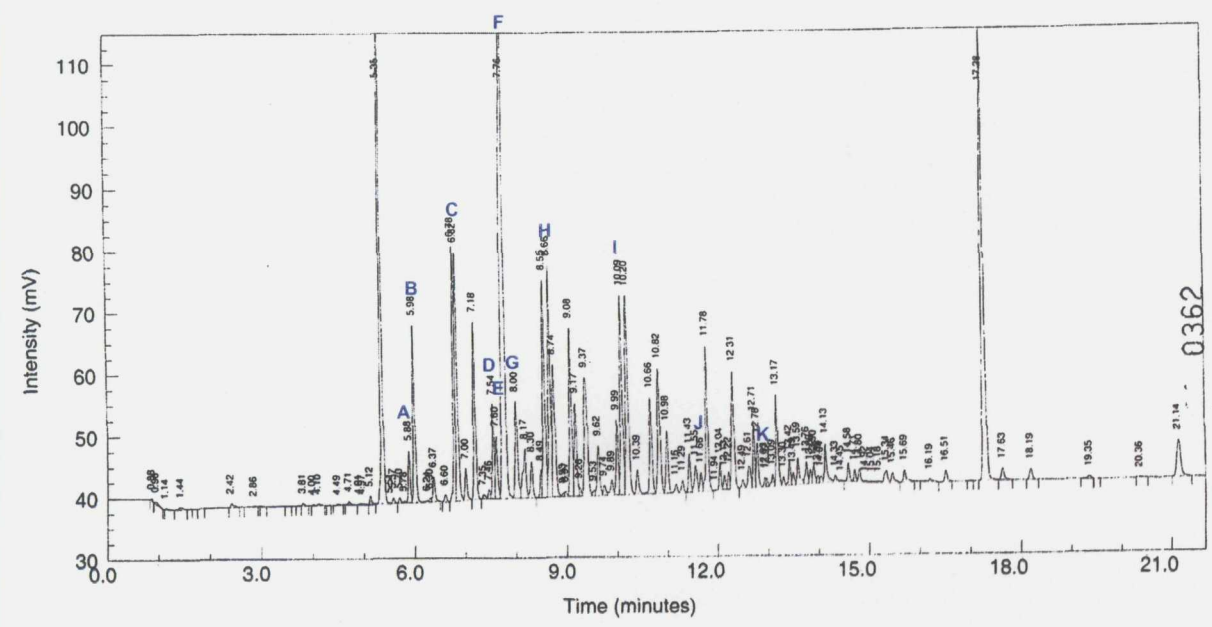
Chromatogram AR1242200

FF-109
0-2 inches
2.1 mg/kg



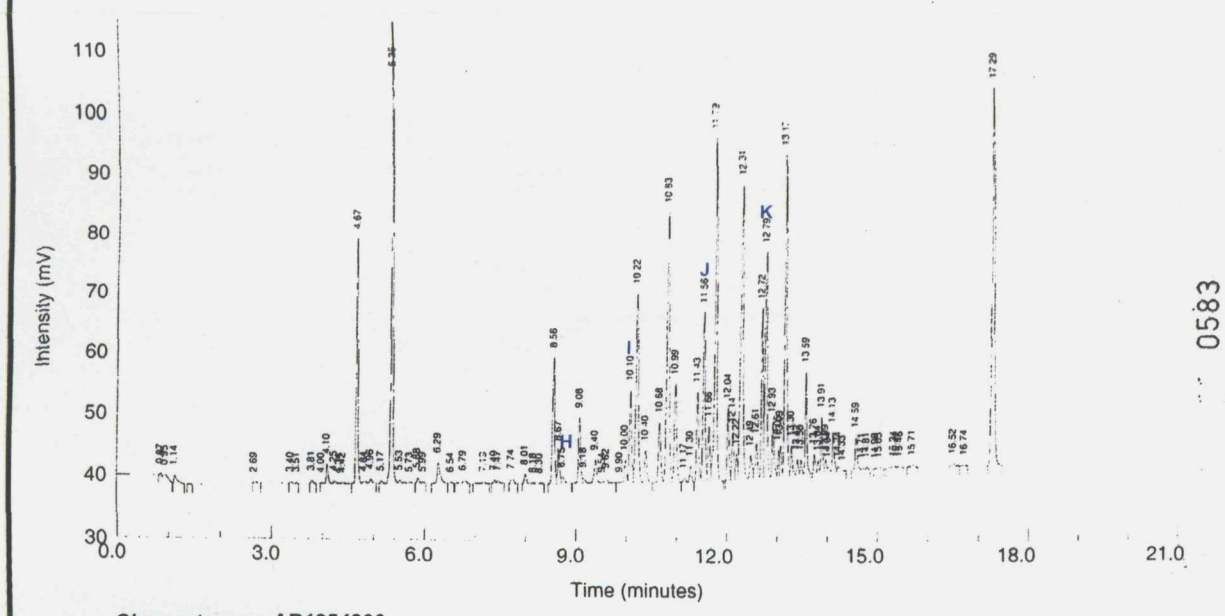
Chromatogram K53394

FF-109
12-24 inches
37 mg/kg



Chromatogram K53397

Aroclor 1254



Chromatogram AR1254200

10/00 SYR-D54-DJH LAS
64524500/64524n62.CDR

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

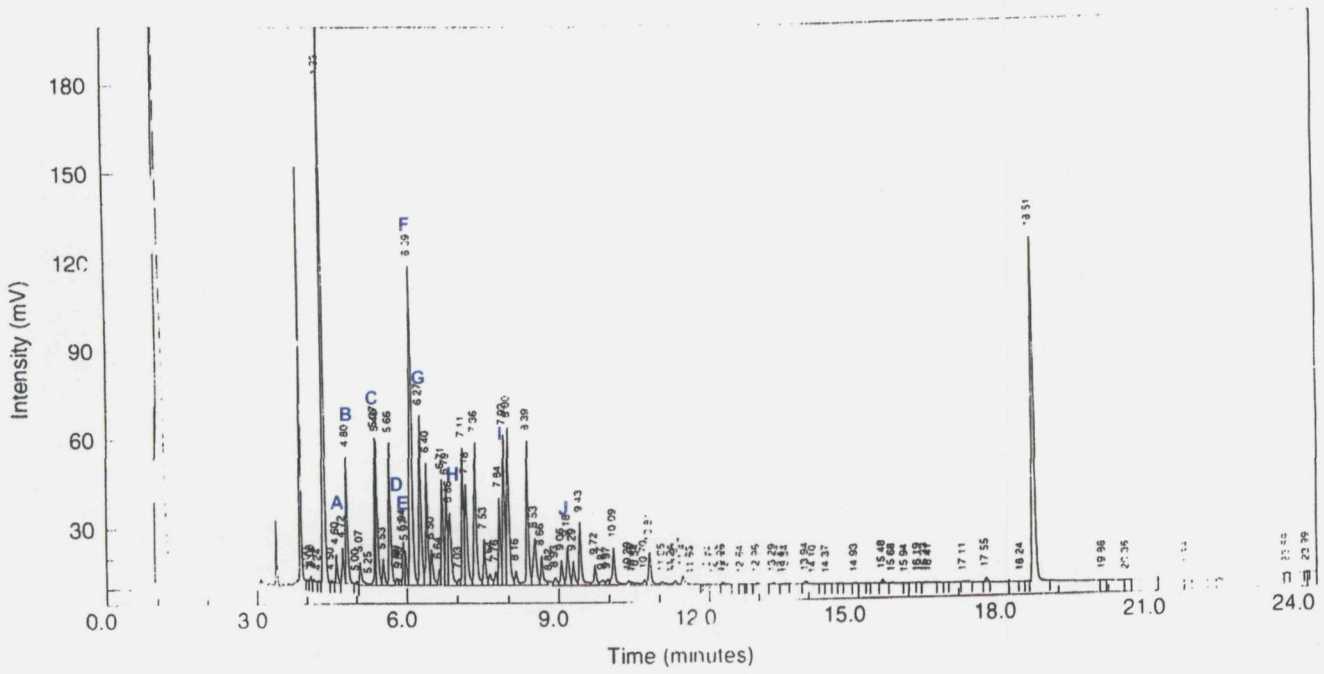
REMEDIAL INVESTIGATION REPORT

AROCLOR AND LAKE ALLEGAN SEDIMENT CHROMATOGRAMS

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

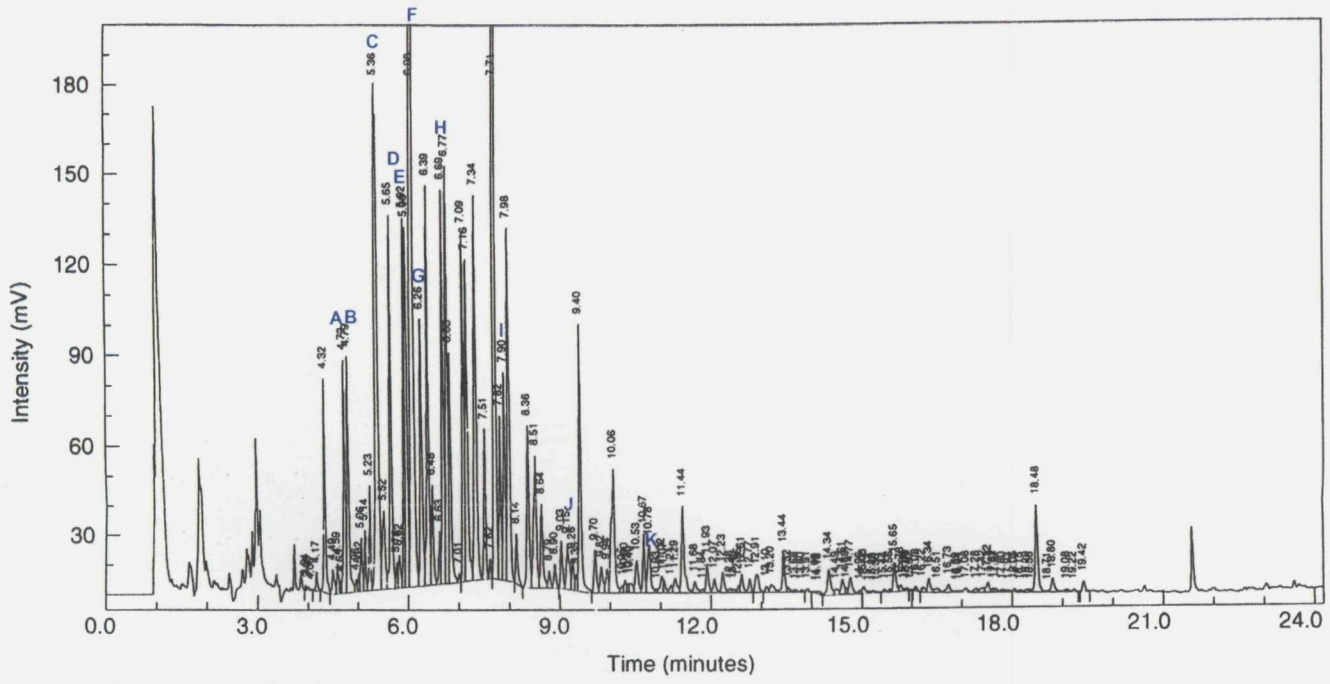
FIGURE 1

Aroclor 1242



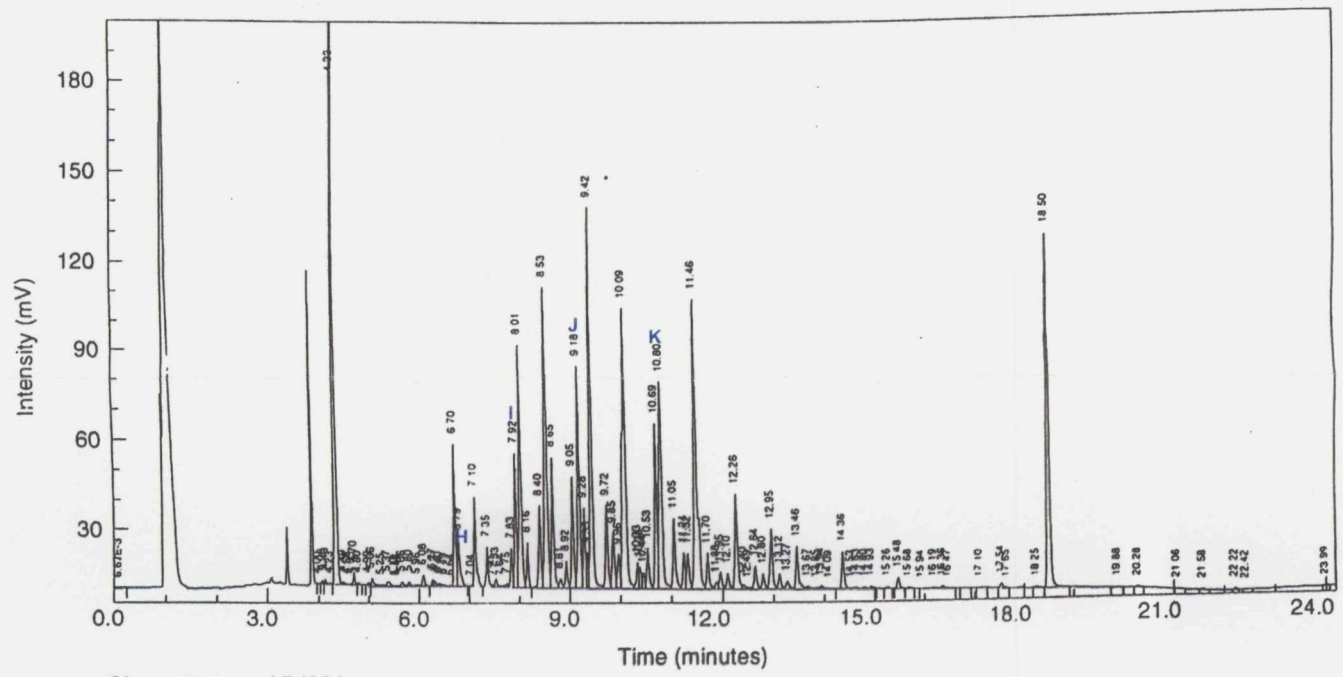
Chromatogram AR1242

KPT 69-5
12-23 inches
25 mg/kg



Chromatogram K50535

Aroclor 1254



Chromatogram AR1254

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REMEDIAL INVESTIGATION REPORT

AROCLOR AND OTSEGO CITY IMPOUNDMENT SEDIMENT CHROMATOGRAMS

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

FIGURE **2**

10/00 SYR-D54-DJH LAS
64524500/64524n63.CDR