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JAN 27 2006

*Transmitted Via U.S. Mail*

January 24, 2006

Ms. Patricia Simmons Pierre  
Project Manager  
Central New York Remediation Section – USEPA Region 2  
290 Broadway, 20<sup>th</sup> Floor  
New York, NY 10007-1866

Re: Pollution Abatement Services Superfund Site - Fourth Operable Unit  
Oswego, New York  
Annual Progress Report  
BBL Project #: 0364.36444 #11

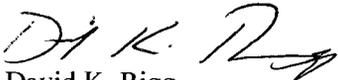
Dear Ms. Simmons Pierre:

On behalf of National Grid and General Motors Corporation (the Settling Defendants), please find enclosed two copies (one bound and one unbound) of the eighth Annual Progress Report for work activities performed during 2005 in connection with the fourth operable unit (OU4) at the Pollution Abatement Services (PAS) Superfund Site located in Oswego, New York. The Annual Progress Report has been prepared in accordance with the requirements outlined in Section X of the Consent Decree for OU4 between the USEPA and the Settling Defendants. That Consent Decree was lodged by the Court on December 15, 1998.

Please note that I have taken over project management responsibilities for M. Cathy Geraci. Feel free to call me at (315) 446-2570 (ext. 19405) if you have any questions regarding the enclosed.

Sincerely,

BLASLAND, BOUCK & LEE, INC.



David K. Rigg  
Sr. Scientist/Manager

JCV/lar  
Enclosures

cc: Chief, New York/Caribbean Superfund Branch, Office of Regional Counsel, United States  
Environmental Protection Agency, Region 2 -- Attention: PAS Superfund Site Attorney  
Chief Environmental Enforcement Section, Environment and Natural Resources Division, United  
States Department of Justice, Re: DOJ # 90-11-2-2A  
Director, Division of Hazardous Waste Remediation, New York State Department of  
Environmental Conservation -- Attention: PAS Site Project Manager  
Daniel Geraghty, New York State Department of Health  
William J. Holzhauer, Esq., National Grid  
James F. Morgan, National Grid  
James F. Hartnett, General Motors Corporation  
William Stephens, Esq., Stephens & Stephens  
James M. Nuss, P.E., L.S.P., Blasland, Bouck & Lee, Inc.

REPORT

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*Annual Progress Report*

*Pollution Abatement Services  
Superfund Site  
Oswego, New York*

January 2006

**BBL**<sup>®</sup>  
BLASLAND, BOUCK & LEE, INC.  
engineers, scientists, economists

***Pollution Abatement Services Superfund Site  
Oswego, New York  
Fourth Operable Unit***

***Annual Progress Report  
Period Covered: January 1, 2005 - December 31, 2005***

This is the eighth Annual Progress Report for the fourth operable unit (OU4) at the Pollution Abatement Services (PAS) Superfund Site (the Site) located in Oswego, New York. This progress report has been prepared in accordance with the requirements set forth in Section X of the OU4 Consent Decree lodged by the Court on December 15, 1998 between the United States Environmental Protection Agency (USEPA), and National Grid and General Motors Corporation (the Settling Defendants). The activities conducted pursuant to the requirements of the OU4 Consent Decree for the year 2005, are summarized below. The previous (seventh) Annual Progress Report was submitted to the USEPA on January 17, 2005 (BBL, 2005a) and covered the period from January 1, 2004 through December 31, 2004.

In accordance with the requirements set forth in the OU4 Consent Decree and the September 1997 Record of Decision (ROD) for OU4 (USEPA, 1997), the August 1999 *PCB Long-Term Monitoring Plan* (Plan) was developed by Blasland, Bouck & Lee, Inc. (BBL) (BBL, 1999a). BBL is the USEPA-approved Supervising Contractor identified in the OU4 Consent Decree. The Plan provides a detailed description of the requirements, methods, and procedures for monitoring the polychlorinated biphenyl (PCB) levels in the sediments and biota (fish) in the creeks and wetlands adjacent to the Site. The Plan was approved by the USEPA in a July 22, 1999 letter (USEPA, 1999a).

The monitoring activities identified in the Plan include sampling of surficial sediments (0 to 3 inch), subsurface sediments (3 to 6 inch and 6 to 12 inch), suspended sediment (trap), and biota (fish). In the third Annual Progress Report (BBL, 2000), BBL proposed that subsurface sediment samples not be collected in the future, and that future long-term monitoring events include the continued collection of surficial sediment, sediment trap, and fish samples in accordance with the Plan. USEPA approved this modification to the Plan on May 30, 2001, as documented in BBL's May 31, 2001 letter to the USEPA (BBL, 2001a).

**I. Actions Taken Toward Compliance with the Consent Decree**

During this reporting period, the seventh round of annual PCB monitoring activities was completed. The monitoring activities were conducted in accordance with the USEPA-approved Plan, as modified in May 2001. The monitoring activities included collecting surficial sediment, sediment trap, and fish samples at the five specified locations in White Creek and Wine Creek. A description of the monitoring and a summary of results obtained are presented in Attachment 1. The references cited herein are also listed in Attachment 1.

**II. Analytical Results and Data Generated**

Prior to commencement of the seventh year of annual monitoring, BBL requested a laboratory change for sediment analysis. A letter proposing the services of Columbia Analytical Services, Inc. (CAS) Rochester, New York laboratory facilities was sent to the USEPA (Ms. Patricia Simmons Pierre, USEPA Project Manager) on March 16, 2005 (BBL, 2005b). Approval for the use of CAS for sediment analysis was provided in a March 24, 2005 letter from USEPA (USEPA, 2005).

The analytical results/data that have been generated during this reporting period, and in association with the OU4 Consent Decree, are solely related to completing the seventh year of annual monitoring identified in the Plan. As previously stated, the monitoring activities included sediment, sediment trap,

and biota sampling. Laboratory analysis of sediment included PCBs and total organic carbon (TOC), and laboratory analysis of biota included PCBs and percent lipids. A summary of that data is presented in Attachment 1. Two complete copies of the analytical data and validated data reports associated with the seventh year of annual monitoring were submitted to the USEPA (Ms. Patricia Simmons Pierre, USEPA Project Manager) on November 21, 2005 (BBL, 2005c).

### **III. Plans and Reports and other Deliverables Completed or Submitted**

In addition to this annual progress report, the only other submittal to the USEPA during this reporting period was the November 21, 2005 submittal, providing two complete copies of the analytical data and validated data reports associated with the seventh year of annual PCB monitoring.

### **IV. Planned Activities for 2006**

In accordance with the Plan and the USEPA-approved modification to that Plan, the eighth annual sediment and biota monitoring event will be conducted during the late spring/early summer (i.e., May through July) 2006. The sediment and biota sampling activities for the year 2006 will be similar to previous years, and will include collecting and analyzing surficial sediment, sediment trap, and biota samples from the same five specified locations in White Creek and Wine Creek. In accordance with Paragraph 20 of the OU4 Consent Decree, the Settling Defendants will notify the USEPA not less than 21 days in advance of the annual monitoring event to be conducted during 2006.

The reporting requirements for the eighth annual monitoring event to be followed by the Settling Defendants will be consistent with those identified in the Plan, and the USEPA-approved modification to the schedule for submitting the annual progress reports identified in a November 23, 1999 letter to Niagara Mohawk from the USEPA (USEPA, 1999b).

### **V. Delays Encountered or Anticipated**

No delays were encountered during 2005, and no delays are anticipated during 2006.

### **VI. Modifications to Plans or Schedules**

There were no modifications to the Plan and/or associated schedules during 2005.

### **VII. Actions Taken in Support of the Community Relations Plan**

In accordance with the requirements of the OU4 Consent Decree, the Settling Defendants will, upon notice by the USEPA, participate in the Community Relations Plan developed by the USEPA. To date, the USEPA has not requested any participation by the Settling Defendants. Accordingly, no actions have been taken by the Settling Defendants in support of the USEPA's Community Relations Plan.

***Pollution Abatement Services Superfund Site  
Oswego, New York  
Fourth Operable Unit***

***Annual Progress Report  
Period Covered: January 1, 2005 - December 31, 2005***

***Attachment 1 - PCB Long-Term Monitoring Data Report***

**1. Introduction**

This attachment to the *Annual Progress Report* provides a summary of the polychlorinated biphenyl (PCB) long-term monitoring data collected in 2005 at the Pollution Abatement Services (PAS) Superfund Site (the Site) located in Oswego, New York. This attachment describes the seventh year of annual monitoring data collected under the United States Environmental Protection Agency (USEPA)-approved *PCB Long-Term Monitoring Plan* (Plan) for the fourth operable unit (OU4) of the PAS Site [Blasland, Bouck & Lee, Inc. (BBL), 1999a] and the USEPA-approved modification to that Plan (BBL, 2001a). The annual monitoring described in the Plan is in response to the Consent Decree lodged by the Court on December 15, 1998 (USEPA, 1998), and the September 30, 1997 *Record of Decision* (ROD) for OU4 (USEPA, 1997). The ROD presents the remedial action selected by the USEPA to address the PCBs detected in the sediments of White and Wine Creeks and the adjacent wetlands. The USEPA-selected remedy presented in the OU4 ROD is long-term annual monitoring of PCB levels in sediments and fish in White and Wine Creeks and the adjacent wetlands.

As documented in the PAS OU4 Consent Decree (USEPA, 1998), the 1996 Phase 2 Supplemental Pre-Remedial Design Study (SPRDS) concluded that although the Site was a source of PCBs before the construction of the containment facility in 1986, the Site is not a present source of PCBs for sediments in White and Wine Creeks or the adjacent wetlands, and that other potential upstream sources of PCBs exist. Additionally, previous PCB sediment monitoring data, collected prior to 1996, indicate that the associated risk levels were relatively low and that there had been an overall decline in PCB concentrations in the creeks (USEPA, 1998).

**2. Overview of the PCB Long-Term Monitoring Activities**

The PCB long-term monitoring activities for the Site identified in the Plan include collecting surficial sediment (0 to 3 inch), subsurface sediment (3 to 6 inch and 6 to 12 inch), suspended sediment (trap), and biota (fish) samples. In the third *Annual Progress Report* (BBL, 2000), BBL proposed that subsurface sediment samples not be collected in the future, and that future long-term monitoring events include the continued collection of surficial sediment, sediment trap, and fish samples in accordance with the Plan. USEPA approved this modification to the Plan on May 30, 2001 (BBL, 2001a). The results of the previous long-term monitoring events, together with the relevant conclusions, were presented to the USEPA in the previous *Annual Progress Reports* (BBL, 1999b; 2000; 2001b; 2003a; 2003d; 2005a) and the *Five-Year Data Review Report* (BBL, 2003c). The data and conclusions presented in these reports confirm the USEPA (1998) conclusion that sediment PCB concentrations have decreased since the sampling rounds that were conducted prior to 1996.

### **3. 2005 PCB Long-Term Monitoring Activities**

The monitoring activities conducted by BBL during the seventh annual (2005) PCB long-term monitoring event focused on White and Wine Creeks (and the adjacent wetland areas) at locations upstream, adjacent to, and downstream of the Site. Specific activities included:

- Sampling of surficial (0 to 3 inch) sediments;
- Installing and sampling of sediment traps; and
- Fish tissue sampling.

As identified in the OU4 ROD and Consent Decree, data generated from the PCB long-term monitoring program is used to monitor PCB concentrations in sediments and biota of White and Wine Creeks and the adjacent wetlands.

#### **3.1 Methods**

This section identifies the sampling locations and describes the methods that were used for the surficial sediment, sediment trap, and biota sampling, and the laboratory analyses. The methods employed followed the procedures outlined in the Plan.

##### **3.1.1 Sample Locations**

The Plan identified the collection of co-located sediment, sediment trap, and biota samples from five locations in White and Wine Creeks and the adjacent wetlands. The sample locations were identified by the 8-foot sections of iron pipe which were driven into the bank during the 1999 sampling round. These locations were determined based on the results of a probing exercise conducted by BBL in 1999 to locate prime sediment depositional areas, and have been sampled during each of the six annual sampling events. These locations (shown on Figure 1) are identified below.

- Location 1: Upstream (east) of the Site, in White Creek, near historical sample location SS-1.
- Location 2: Adjacent to and northeast of the Site, in White Creek, in the vicinity of Phase 2 SPRDS sample location White 11A.
- Location 3: Adjacent to and north of the Site, in White Creek, approximately 50 feet downstream of historical sample location SS-3.
- Location 4: North of the Site in White Creek, in the vicinity of Phase 2 SPRDS sample location White 12B.
- Location 5: Downstream (northwest) of the Site, and downstream of the confluence of White and Wine Creeks, in the vicinity of historical sample location SS-4A.

### 3.1.2 Sediment Sampling

BBL conducted the sediment sampling on May 24, 2005. New York State Department of Environmental Conservation (NYSDEC) Project Manager, Mr. Matthew Dunham (Environmental Remediation Unit, Remedial Bureau D), was contacted by BBL personnel on April 28, 2005 to setup the schedule for the 2005 field work. The schedule was confirmed verbally during this call. A follow-up call was made by BBL on May 23, 2005 to confirm schedule details for the field work with Mr. Dunham. Mr. Dunham stated to BBL personnel that although he had a conflict and was unavailable to provide oversight during the sampling activities scheduled for May 24, 2005, BBL could proceed with the sampling planned for that day.

On May 24, 2005 surficial sediment samples were collected at each of the aforementioned locations from 0 to 3 inches using a stainless steel corer. At each sample location, the corer was pushed into the sediment, and slowly pulled out. The top three inches of the sediment cores were extracted from the stainless steel tube onto an aluminum pan using a brass push rod. The sediment samples were homogenized and placed in the appropriate sampling jars for shipment to the laboratory, in accordance with procedures identified in the Plan.

### 3.1.3 Sediment Traps

Sediment traps were placed by BBL at each of the five sediment sampling locations described above on May 24, 2005. The sediment traps consisted of pre-cleaned sample jars placed in stainless steel pans. The traps were monitored periodically by BBL for the collection of deposited sediment. Sediment samples from the traps were retrieved by BBL from all locations on June 21, 2005 and placed in the appropriate sampling jars for shipment to the laboratory, in accordance with the procedures identified in the Plan.

### 3.1.4 Biota Sampling

Electrofishing of White and Wine Creeks was conducted on May 24, 2005 by BBL. The objective of the electrofishing, as identified in the Plan, was to collect three composite fish samples from each location. The target species were creek chubs (*Semotilus atromaculatus*) and stickleback (*Culaea inconstans*, *Gasterosteus aculeatus*).

The biota sampling was conducted using a backpack electrofishing unit. Following collection, the appropriate target fish were placed in labeled Ziploc®-type bags, and stored on ice prior to sample processing. Sample processing included dividing the fish into three composite samples per location. Individual fish lengths, numbers of individuals per sample, and total sample weight were recorded. The samples were then wrapped and shipped to the analytical laboratory, in accordance with the procedures detailed in the Plan.

### 3.1.5 Laboratory Analyses

Laboratory analyses of sediments included PCBs and total organic carbon (TOC), in accordance with the requirements in the Plan. The sediment analyses were performed by Columbia Analytical Services, Inc. (Rochester, New York). The sediment and sediment trap samples were analyzed for PCBs using USEPA SW-846 Method 8082 (USEPA, 1986), as referenced in the current NYSDEC Analytical Services Protocol (ASP), and for TOC using USEPA Region 2's Lloyd Kahn Method (USEPA, 1988). The biota samples were analyzed by Pace Analytical Services, Inc. (formerly EnChem Inc.) (Green Bay, Wisconsin) for PCBs using USEPA SW-846

Method 8082, as referenced in the current NYSDEC ASP, and for percent lipids using standard gravimetric techniques. As specified in the OU4 Consent Decree (Paragraph 21), two copies of the validated PCB analytical results, as well as TOC and percent lipids data, were submitted to the USEPA with a November 21, 2005 letter to Ms. Patricia Simmons Pierre, Project Manager (BBL, 2005b).

## **3.2 2005 Results**

This section presents the results obtained during the seventh year of the long-term PCB monitoring program.

### **3.2.1 Sediment Sampling Results**

Analytical results for surficial sediment samples are presented in Table 1 and shown on Figure 1. PCBs were detected in two of the five surficial sediment samples at concentrations of 0.6 mg/kg from the sample duplicate collected from Location 4 and 0.39 mg/kg from Location 5. PCBs were not detected at a concentration exceeding the associated laboratory quantitation limits in the surficial sediment samples collected from Locations 1, 2, and 3. Surficial sediment TOC concentrations ranged from approximately 0.1% (PAS-SS-101) to 1.8% (PAS-SS-501).

### **3.2.2 Sediment Trap Sampling Results**

Analytical results for sediment trap samples from the seventh year of the PCB long-term monitoring program are presented in Table 2 and shown on Figure 1. PCBs were detected in four of the five sediment trap samples, at concentrations ranging from 0.63 mg/kg (PAS-ST-201) to 1.68 mg/kg (PAS-ST-401). PCBs were not detected at a concentration exceeding the associated laboratory quantitation limits from the trap sample collected from upstream Location 1 (PAS-ST-101). Sediment trap TOC concentrations ranged from approximately 5.4% (PAS-ST-101) to 7.2% (PAS-ST-501).

### **3.2.3 Biota Sampling Results**

Three composite samples of brook stickleback and/or creek chub were collected from each of the five sampling locations. Analytical results for biota samples are presented in Table 3 and shown on Figure 2. PCBs were detected in each of the biota samples (including the upstream location). Total PCB concentrations in creek chubs (which were collected only from Locations 1 and 5) ranged from 1.0 mg/kg (Location 1) to 1.49 mg/kg (Location 5). Total PCB concentrations for brook stickleback (which were collected from all five sample locations) ranged from 0.21 mg/kg (Location 1) to 1.8 mg/kg (collected from Location 4). The arithmetic mean total PCB for all of the biota samples collected in 2005 is 1.09 mg/kg. Lipid content was higher for creek chubs (6.0% to 8.1%) than for brook sticklebacks (1.3% to 3.8%).

### **3.2.4 Discussion**

The 2005 PCB data are generally consistent with the previous six rounds of monitoring data. PCBs were not detected in surficial sediment from the upstream location, and the maximum detected surficial sediment PCB concentration in 2005 was 0.6 mg/kg. By comparison, over the last four years the maximum detected PCB concentrations for surficial sediment samples were 0.3 mg/kg (2004), 0.45 mg/kg (2003), 3.1 mg/kg (2002), and 1.8 mg/kg (2001).

For sediment traps, the maximum detected PCB concentration in 2005 was 1.68 mg/kg. Over the last four years the maximum detected PCB concentrations for sediment trap samples were 1.7 mg/kg (2004), 0.32 mg/kg (2003), 0.96 mg/kg (2002), and 1.4 mg/kg (2001). For most years the highest sediment trap PCB concentrations were from Location 4.

For fish, the maximum detected PCB concentration in 2005 was 1.8 mg/kg from Location 4. This is generally lower than or similar to the maximum detected PCB concentrations for fish tissue samples over the last four years: 2.8 mg/kg (2004) from Location 3, 2.0 mg/kg (2003) from Location 5, 1.7 mg/kg (2002) from Location 4, and 3.4 mg/kg (2001) from Location 4.

The relative ecological risks from the Site were evaluated consistent with the site-specific ecological risk assessment (ERA) [Appendix B of the *Focused Feasibility Study* (ENVIRON, 1997)]. According to the food web models presented in the site-specific ERA, a fish PCB concentration of 1.0 mg/kg results in a hazard quotient for wildlife (i.e., mink) of 0.82. Similarly, the current arithmetic mean PCB concentration of the 2005 fish samples is 1.09 mg/kg, which would also result in hazard quotient of less than 1. A hazard quotient of less than 1 indicates that ecological risks at the Site are insignificant.

#### 4. Summary

In 2005, surficial sediment, suspended sediment, and biota were collected as part of the PCB long-term monitoring program for OU4 of the Site. The data collected in 2005 indicate the following:

- PCBs were detected in two out of five surficial sediment samples from White and Wine Creeks. The PCB concentrations were generally similar to or lower than previous sediment PCB concentrations.
- PCBs were detected in four out of five sediment trap samples. The PCB concentrations detected in sediment traps are generally consistent with previous monitoring data.
- PCBs were detected in fish samples from all five locations, ranging from non-detect to 1.8 mg/kg. These concentrations are consistent with recent years (2002 to 2004), and lower than the maximum fish PCB concentrations detected in 2000 and 2001 (approximately 2 to 3 mg/kg).
- Based on the results of a previous site-specific ecological risk assessment (ENVIRON, 1997), fish PCB concentrations in White and Wine Creeks do not represent a significant ecological risk because the HQ value would be less than 1 based on the 2005 data.

According to the Plan and the USEPA-approved modification to that Plan, the schedule for monitoring activities in the year 2006 involves collecting another round of surficial sediment, sediment trap, and biota samples. Results of the future monitoring rounds along with the existing historical data and the results of the seven previous rounds of sampling will be used to: 1) monitor PCB concentrations in sediments and biota of White and Wine Creeks and the adjacent wetlands; and 2) confirm that PCB concentrations continue to decline over time and remain at concentrations that pose no significant risk to the ecological community.

## 5. References

Blasland, Bouck & Lee, Inc. (BBL). 1999a. *PCB Long-Term Monitoring Plan*. August 1999. Syracuse, NY.

BBL. 1999b. *Annual Progress Report, Period Covered: April 17, 1999 - December 31, 1999*. Letter from M. Cathy Geraci of BBL to the U.S. Environmental Protection Agency (USEPA) Chief, Central New York Remediation Section. December 20, 1999.

BBL. 2000. *Annual Progress Report, Period Covered: January 1, 2000 - December 31, 2000*. Letter from M. Cathy Geraci of BBL to the USEPA Chief, Central New York Remediation Section. December 1, 2000.

BBL. 2001a. Letter from M. Cathy Geraci of BBL to Patricia Simmons of the USEPA. May 31, 2001.

BBL. 2001b. *Annual Progress Report, Period Covered: January 1, 2001 - December 31, 2001*. Letter from M. Cathy Geraci of BBL to Patricia Simmons Pierre of the USEPA. December 17, 2001.

BBL. 2003a. *Annual Progress Report, Period Covered: January 1, 2002 - December 31, 2002*. Letter from M. Cathy Geraci of BBL to Patricia Simmons Pierre of the USEPA. January 30, 2003.

BBL. 2003b. Letter from M. Cathy Geraci to Patricia Simmons Pierre of the USEPA. October 17, 2003.

BBL. 2003c. *Five-Year Data Review Report - Pollution Abatement Services Superfund Site - Operable Unit 4*. November 2003.

BBL. 2003d. *Annual Progress Report, Period Covered: January 1, 2003 - December 31, 2003*. Letter from M. Cathy Geraci to Patricia Simmons Pierre of the USEPA. November 2003.

BBL. 2004. Letter from M. Cathy Geraci to Patricia Simmons Pierre of the USEPA. November 11, 2004.

BBL. 2005a. *Annual Progress Report, Period Covered: January 1, 2004 - December 31, 2004*. Letter from M. Cathy Geraci to Patricia Simmons Pierre of the USEPA. January 2005.

BBL. 2005b. Letter from M. Cathy Geraci to Patricia Simmons Pierre of the USEPA. March 16, 2005.

BBL. 2005c. Letter from M. Cathy Geraci to Patricia Simmons Pierre of the USEPA. November 21, 2005.

ENVIRON. 1997. *Final Focused Feasibility Study for PCB-Impacted Sediments in the Vicinity of the PAS Superfund Site, Oswego, New York*. Arlington, VA. August 20, 1997.

USEPA. 1986. *Test Methods for Evaluating Solid Waste*. SW-846. Third Edition. Office of Solid Waste and Emergency Response, Washington, DC. November 1986.

USEPA. 1988. *Determination of Total Organic Carbon in Sediment (Lloyd Kahn Method)*. USEPA Region 2, Environmental Services Division. Edison, NJ. July 27, 1988.

USEPA. 1997. *Record of Decision - Operable Unit 4 - Pollution Abatement Services, Oswego, New York*. USEPA Region 2. New York, NY. September 1997.

USEPA. 1998. *Pollution Abatement Services Superfund Site Operable Unit 4 Consent Decree*. USEPA Region 2. New York, NY. December 15, 1998.

USEPA. 1999a. Letter from Patricia Simmons of USEPA to M. Cathy Geraci of BBL approving the *PCB Long-Term Monitoring Plan*. July 22, 1999.

USEPA. 1999b. Letter from Carol Berns of USEPA to William Weiss, Esq., of Niagara Mohawk regarding annual report submittal schedule. November 23, 1999.

USEPA. 2005. Letter from Patricia Simmons Pierre of USEPA to M. Cathy Geraci of BBL approving the laboratory change request for sediment analysis. March 24, 2005.

**Table 1**

**Pollution Abatement Services Superfund Site  
Operable Unit 4  
Oswego, New York  
PCB Long-Term Monitoring Program Report**

**Surficial Sediment Sample Results for PCBs and TOC (2005)**

<b>Location</b>	<b>Sample Identification</b>	<b>Total PCB Concentration (mg/kg)</b>	<b>TOC (mg/kg)</b>
1	PAS-SS-101	ND (0.085)	933
2	PAS-SS-201	ND (0.096)	16,400
3	PAS-SS-301	ND (0.080)	2,180
4	PAS-SS-401	ND (0.089) [0.6 J]	10,200 [15,400]
5	PAS-SS-501	0.39	17,900

**Notes:**

1. Samples were collected by Blasland, Bouck & Lee, Inc. on May 24, 2005.
2. Samples were analyzed for PCBs using the USEPA SW-846 Method 8082 and for total organic carbon (TOC) using USEPA Region 2's Lloyd Kahn Method.
3. ND = Not detected. Each PCB Aroclor was not detected above the laboratory quantitation limit shown in parentheses.
4. Duplicate results in brackets.
5. J = The compound was positively identified; however, the associated numerical value is an estimated concentration only.
6. All samples collected from the 0- to 3-inch interval.
7. Total PCB concentrations represent total Aroclors.

**Table 2**

**Pollution Abatement Services Superfund Site  
Operable Unit 4  
Oswego, New York  
PCB Long-Term Monitoring Program Report**

**Sediment Trap Sample Results for PCBs and TOC (2005)**

<b>Location</b>	<b>Sample Identification</b>	<b>Total PCB Concentration (mg/kg)</b>	<b>TOC (mg/kg)</b>
1	PAS-ST-101	ND (0.73)	54,400
2	PAS-ST-201	0.63 J	55,600
3	PAS-ST-301	1.05 J	70,600
4	PAS-ST-401	1.66 [1.68 J]	54,100 [62,900]
5	PAS-ST-501	1.04 JN	71,800

**Notes:**

1. Sediment traps were placed by Blasland, Bouck & Lee, Inc. on May 24, 2005, and trap sediment samples were collected on June 21, 2005.
2. Samples were analyzed for PCBs using the USEPA SW-846 Method 8082 and for total organic carbon (TOC) using USEPA Region 2's Lloyd Kahn Method.
3. ND = Not detected. Each PCB Aroclor was not detected above the laboratory quantitation limit shown in parentheses.
4. Duplicate results in brackets.
5. J = The compound was positively identified; however, the associated numerical value is an estimated concentration only.
6. N = The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
7. Total PCB concentrations represent total Aroclors.

**Table 3**

**Pollution Abatement Services Superfund Site  
Operable Unit 4  
Oswego, New York  
PCB Long-Term Monitoring Program Report**

**Biota Sample Results for PCBs and Percent Lipids (2005)**

<b>Location</b>	<b>Sample Identification</b>	<b>Species</b>	<b>No. of Individuals per Sample</b>	<b>Length Range (cm)</b>	<b>Total Sample Weight (g)</b>	<b>Lipid (%)</b>	<b>Total PCB Concentration (mg/kg)</b>
1	PAS-BS-119	Brook Stickleback	16	3.5 - 4.1	11.1	2.21	0.210
	PAS-BS-120	Brook Stickleback	16	4.0 - 4.8	16.3	2.24	0.563
	PAS-BS-121	Creek Chub	7	6.3 - 8.6	34.1	8.07	1.00
2	PAS-BS-216	Brook Stickleback	25	4.4 - 5.1	28.9	2.68	1.23
	PAS-BS-217	Brook Stickleback	25	3.7 - 4.4	19.4	2.12	0.740
	PAS-BS-218	Brook Stickleback	25	3.6 - 4.9	23.9	3.78	1.70
3	PAS-BS-316	Brook Stickleback	20	4.3 - 5.1	22.3	1.33	0.720
	PAS-BS-317	Brook Stickleback	25	3.7 - 5.3	25.6	2.52	0.960
	PAS-BS-318	Brook Stickleback	25	3.2 - 4.7	17.3	2.75	0.780
4	PAS-BS-416	Brook Stickleback	15	4.5 - 5.2	19.7	1.50	1.70
	PAS-BS-417	Brook Stickleback	30	3.6 - 4.7	25.5	2.02	1.80
	PAS-BS-418	Brook Stickleback	30	3.4 - 4.2	19.6	3.05	1.71
5	PAS-BS-519	Brook Stickleback	11	3.9 - 5.4	12.1	1.67	0.450
	PAS-BS-520	Creek Chub	6	7.3 - 8.3	33.9	6.00	1.49
	PAS-BS-521	Creek Chub	10	6.9 - 8.3	59.6	7.46	1.26
<b>Arithmetic Mean</b>							<b>1.09</b>

**Notes:**

1. Samples were collected by Blasland, Bouck & Lee, Inc. (BBL) on May 24, 2005 (Locations 1-5).
2. Samples were analyzed for PCBs using the USEPA SW-846 Method 8020 and for percent lipids using gravimetric techniques.
3. Total PCB concentrations represent total Aroclors.
4. Location 5 \*MS/MSD

SAINT PAUL'S CEMETERY

CONRAIL

WINE CREEK WETLANDS

HOLLIDAY PROPERTY

SMITH'S BEACH ROAD

SAMPLE ID(DEPTH)	TOTAL PCBs (mg/kg)						
	1999	2000	2001	2002	2003	2004	2005
SEDIMENT							
PAS-SS-501(0-3")	ND(0.03)	ND(0.024)	0.034	ND(0.049)	ND(0.050)	0.21J	[0.047J] 0.085J 0.39
SEDIMENT TRAP							
PAS-ST-501	0.06	0.42	[0.48]	0.081	0.19	0.25J	[0.33] 0.40J 1.04JN

SAMPLE ID(DEPTH)	TOTAL PCBs (mg/kg)						
	1999	2000	2001	2002	2003	2004	2005
SEDIMENT							
PAS-SS-401(0-3")	0.17J	0.014J	0.090	3.1D	0.45	0.076J	[0.085J] ND(0.089) [0.6J]
SEDIMENT TRAP							
PAS-ST-401	0.86	1.1	1.4	0.96	0.32J	1.7J	[1.0J] 1.66 [1.68J]

SAMPLE ID(DEPTH)	TOTAL PCBs (mg/kg)						
	1999	2000	2001	2002	2003	2004	2005
SEDIMENT							
PAS-SS-301(0-3")	ND(0.03)	ND(0.042)	1.8	0.50	0.040J	0.300	ND(0.080)
SEDIMENT TRAP							
PAS-ST-301	1.2	[1.2]	0.62	0.42	ND(0.17)	0.059J	0.40J 1.05J

SAMPLE ID(DEPTH)	TOTAL PCBs (mg/kg)						
	1999	2000	2001	2002	2003	2004	2005
SEDIMENT							
PAS-SS-201(0-3")	ND(0.03)	0.015J	[0.013J]	0.042	[0.047]	ND(0.052)	[0.072] 0.054J ND(0.096)
SEDIMENT TRAP							
PAS-ST-201	0.53	0.25	0.30	[0.25]	0.81	[0.50]	0.32 0.40J 0.63J

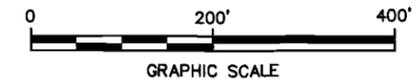
SAMPLE ID(DEPTH)	TOTAL PCBs (mg/kg)						
	1999	2000	2001	2002	2003	2004	2005
SEDIMENT							
PAS-SS-101(0-3")	ND(0.02)	ND(0.021)	ND(0.022)	ND(0.41)	ND(0.044)	ND(0.084)	ND(0.085)
SEDIMENT TRAP							
PAS-ST-101	ND(0.08)	ND(0.033)	ND(0.12)	ND(0.15)	ND(0.14)	ND(1.00)	ND(0.73)

LEGEND

- 1 [Hatched Box] APPROXIMATE LONG-TERM MONITORING FISH SAMPLING LOCATION
- 1 [Square] APPROXIMATE LONG-TERM MONITORING SEDIMENT SAMPLING LOCATION
- [Dashed Line] FENCE (SITE BOUNDARY)
- [Dotted Line] SLURRY WALL
- [Dashed Line] APPROXIMATE LOCATION OF SUBSURFACE LEACHATE COLLECTION TRENCH
- [Wavy Line] LAND AREAS SUBJECT TO FREQUENT, SHALLOW INUNDATION
- [Dotted Line] WETLAND AREAS DELINEATED BY MENZIE-CURA & ASSOCIATES, INC. (AUGUST 1992)
- [Arrow] DIRECTION OF WATER FLOW

NOTES:

1. BASE MAP ADAPTED FROM TOPOGRAPHIC MAP DEVELOPED BY LOCKWOOD MAPPING, INC. BASED ON AN APRIL 14, 1993 AERIAL PHOTOGRAPH; SOME STREAM-GAUGE LOCATIONS ARE INFERRED; LOCATION OF SLURRY WALL BASED ON SITE PLAN DRAWN BY DUNN GEOSCIENCE CORP. (DEC. 1984), TITLED "BORING, WELL & TEST PIT PLOT PLAN;" LOCATION OF SUBSURFACE LEACHATE-RECOVERY TRENCHES BASED ON SITE MAP PROVIDED BY O'BRIEN & GERE ENGINEERING INC.
2. SURFACE WATER IS SHOWN IN BLUE; AREAS SHADED GREEN REPRESENT WETLAND AREAS DELINEATED BY MENZIE-CURA & ASSOCIATES, INC. (AUGUST 1992).
3. ND = NOT DETECTED. EACH PCB AROCLOR WAS NOT DETECTED ABOVE THE LABORATORY QUANTITATION LIMIT SHOWN IN PARENTHESIS.
4. J = THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER, THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY.
5. D = THE COMPOUND WAS ANALYZED AT A SECONDARY DILLUTION.
6. N = THE ANALYSIS INDICATES THE PRESENCE OF A COMPOUND FOR WHICH THERE IS PRESUMPTIVE EVIDENCE TO MAKE A TENTATIVE IDENTIFICATION.
7. [ ] = DUPLICATE SAMPLE RESULTS.
8. TOTAL PCB CONCENTRATIONS REPRESENT TOTAL AROCLORS.



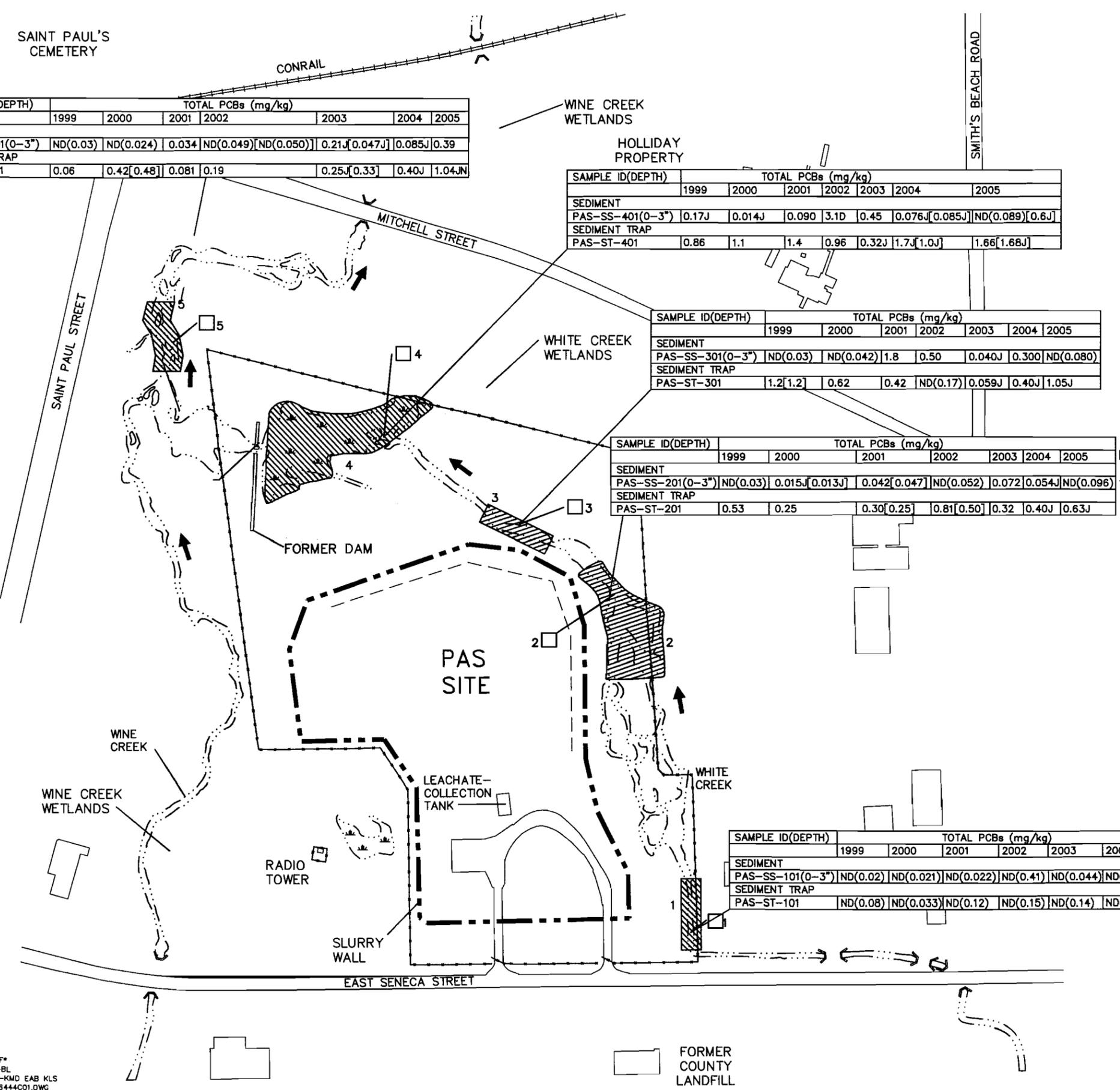
POLLUTION ABATEMENT SERVICES SITE  
OSWEGO, NEW YORK  
**PCB LONG-TERM MONITORING PROGRAM REPORT**  
**PCB LONG-TERM MONITORING PROGRAM RESULTS FOR SEDIMENT (1999 TO 2005)**



FIGURE 1

X: NONE  
L: DN=\*, OFF=REF\*  
P: PAGESET/PLT-BL  
1/23/06 SYR-85-KMD EAB KLS  
36444003/PCB/36444001.DWG

FORMER COUNTY LANDFILL



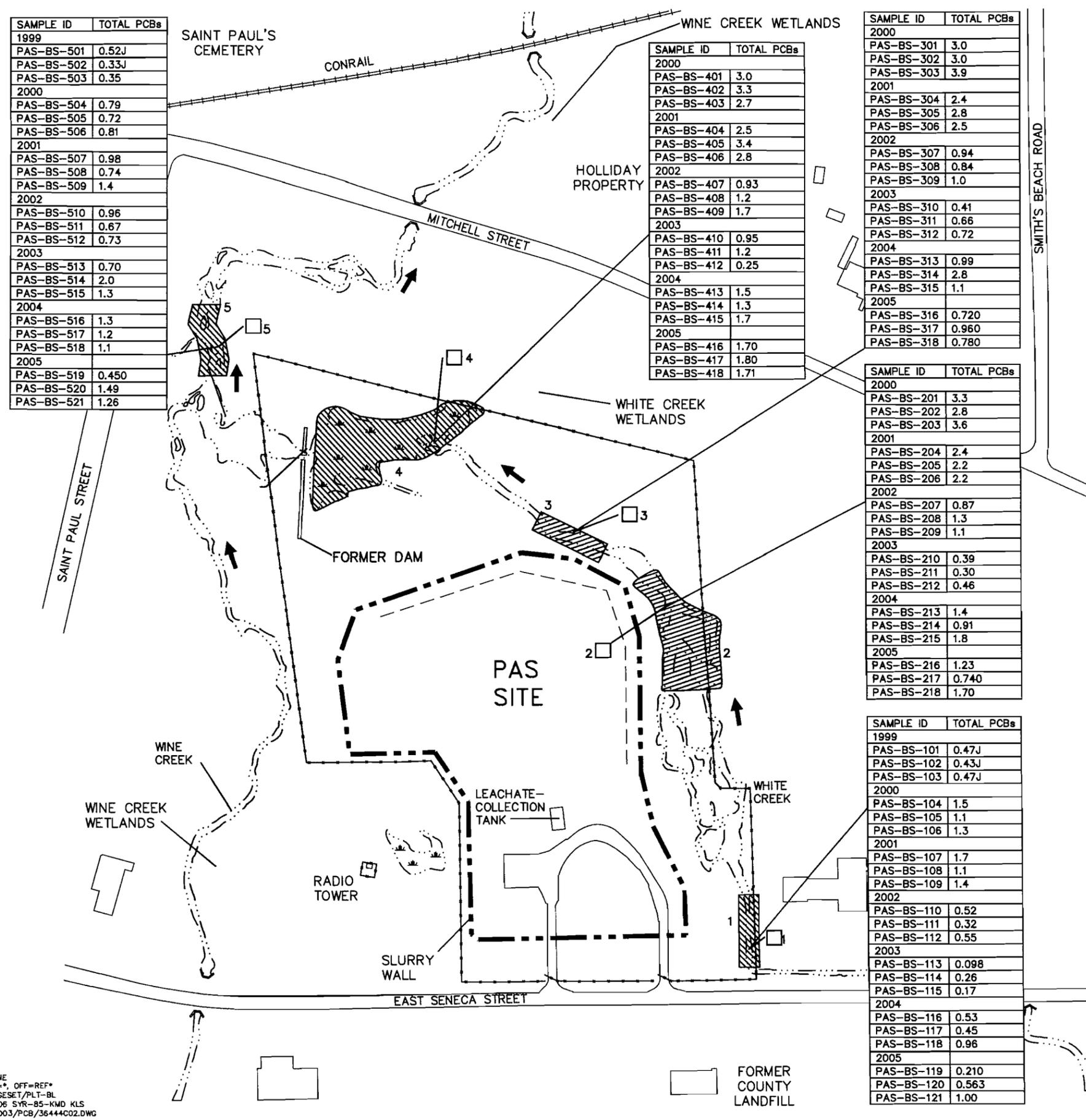
SAMPLE ID	TOTAL PCBs
1999	
PAS-BS-501	0.52J
PAS-BS-502	0.33J
PAS-BS-503	0.35
2000	
PAS-BS-504	0.79
PAS-BS-505	0.72
PAS-BS-506	0.81
2001	
PAS-BS-507	0.98
PAS-BS-508	0.74
PAS-BS-509	1.4
2002	
PAS-BS-510	0.96
PAS-BS-511	0.67
PAS-BS-512	0.73
2003	
PAS-BS-513	0.70
PAS-BS-514	2.0
PAS-BS-515	1.3
2004	
PAS-BS-516	1.3
PAS-BS-517	1.2
PAS-BS-518	1.1
2005	
PAS-BS-519	0.450
PAS-BS-520	1.49
PAS-BS-521	1.26

SAMPLE ID	TOTAL PCBs
2000	
PAS-BS-401	3.0
PAS-BS-402	3.3
PAS-BS-403	2.7
2001	
PAS-BS-404	2.5
PAS-BS-405	3.4
PAS-BS-406	2.8
2002	
PAS-BS-407	0.93
PAS-BS-408	1.2
PAS-BS-409	1.7
2003	
PAS-BS-410	0.95
PAS-BS-411	1.2
PAS-BS-412	0.25
2004	
PAS-BS-413	1.5
PAS-BS-414	1.3
PAS-BS-415	1.7
2005	
PAS-BS-416	1.70
PAS-BS-417	1.80
PAS-BS-418	1.71

SAMPLE ID	TOTAL PCBs
2000	
PAS-BS-301	3.0
PAS-BS-302	3.0
PAS-BS-303	3.9
2001	
PAS-BS-304	2.4
PAS-BS-305	2.8
PAS-BS-306	2.5
2002	
PAS-BS-307	0.94
PAS-BS-308	0.84
PAS-BS-309	1.0
2003	
PAS-BS-310	0.41
PAS-BS-311	0.66
PAS-BS-312	0.72
2004	
PAS-BS-313	0.99
PAS-BS-314	2.8
PAS-BS-315	1.1
2005	
PAS-BS-316	0.720
PAS-BS-317	0.960
PAS-BS-318	0.780

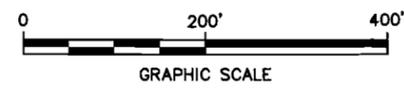
SAMPLE ID	TOTAL PCBs
2000	
PAS-BS-201	3.3
PAS-BS-202	2.8
PAS-BS-203	3.6
2001	
PAS-BS-204	2.4
PAS-BS-205	2.2
PAS-BS-206	2.2
2002	
PAS-BS-207	0.87
PAS-BS-208	1.3
PAS-BS-209	1.1
2003	
PAS-BS-210	0.39
PAS-BS-211	0.30
PAS-BS-212	0.46
2004	
PAS-BS-213	1.4
PAS-BS-214	0.91
PAS-BS-215	1.8
2005	
PAS-BS-216	1.23
PAS-BS-217	0.740
PAS-BS-218	1.70

SAMPLE ID	TOTAL PCBs
1999	
PAS-BS-101	0.47J
PAS-BS-102	0.43J
PAS-BS-103	0.47J
2000	
PAS-BS-104	1.5
PAS-BS-105	1.1
PAS-BS-106	1.3
2001	
PAS-BS-107	1.7
PAS-BS-108	1.1
PAS-BS-109	1.4
2002	
PAS-BS-110	0.52
PAS-BS-111	0.32
PAS-BS-112	0.55
2003	
PAS-BS-113	0.098
PAS-BS-114	0.26
PAS-BS-115	0.17
2004	
PAS-BS-116	0.53
PAS-BS-117	0.45
PAS-BS-118	0.96
2005	
PAS-BS-119	0.210
PAS-BS-120	0.563
PAS-BS-121	1.00



- LEGEND**
- 1 [Hatched Box] APPROXIMATE LONG-TERM MONITORING FISH SAMPLING LOCATION
  - 1 [Square Box] APPROXIMATE LONG-TERM MONITORING SEDIMENT SAMPLING LOCATION
  - [Solid Line] FENCE (SITE BOUNDARY)
  - [Dashed Line] SLURRY WALL
  - [Dotted Line] APPROXIMATE LOCATION OF SUBSURFACE LEACHATE COLLECTION TRENCH
  - [Blue Area] LAND AREAS SUBJECT TO FREQUENT, SHALLOW INUNDATION
  - [Green Area] WETLAND AREAS DELINEATED BY MENZIE-CURA & ASSOCIATES, INC. (AUGUST 1992)
  - [Arrow] DIRECTION OF WATER FLOW

- NOTES:**
1. BASE MAP ADAPTED FROM TOPOGRAPHIC MAP DEVELOPED BY LOCKWOOD MAPPING, INC. BASED ON AN APRIL 14, 1993 AERIAL PHOTOGRAPH; SOME STREAM-GAUGE LOCATIONS ARE INFERRED; LOCATION OF SLURRY WALL BASED ON SITE PLAN DRAWN BY DUNN GEOSCIENCE CORP. (DEC. 1984), TITLED "BORING, WELL & TEST PIT PLAN;" LOCATION OF SUBSURFACE LEACHATE-RECOVERY TRENCHES BASED ON SITE MAP PROVIDED BY O'BRIEN & GERE ENGINEERING INC.
  2. SURFACE WATER IS SHOWN IN BLUE; AREAS SHADED GREEN REPRESENT WETLAND AREAS DELINEATED BY MENZIE-CURA & ASSOCIATES, INC. (AUGUST 1992).
  3. J = THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER, THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY.
  4. CONCENTRATIONS ARE REPORTED IN MILLIGRAMS PER KILOGRAM (mg/kg).
  5. BIOTA DATA FOR 1999 ARE NOT AVAILABLE FOR LOCATIONS 2, 3, AND 4 BECAUSE SAMPLES WERE NOT COLLECTED DUE TO SITE CONDITIONS (LOW FLOW CONDITIONS IN WHITE CREEK LIMITED SAMPLE AVAILABILITY).
  6. TOTAL PCB CONCENTRATIONS REPRESENT TOTAL AROCLORS.



POLLUTION ABATEMENT SERVICES SITE  
 OSWEGO, NEW YORK  
**PCB LONG-TERM MONITORING PROGRAM REPORT**  
**PCB LONG-TERM MONITORING PROGRAM**  
**RESULTS FOR BIOTA**  
**(1999 TO 2005)**

X: NONE  
 L: ON=\*, OFF=REF\*  
 P: PAGESET/PLT-BL  
 1/23/06 SYR-85-KWD KLS  
 36444003/PCB/36444002.DWG

[Square Box] FORMER COUNTY LANDFILL