EXHIBIT 10

DuPont Engineering
Pompton Lakes Works
Pompton Lakes, NJ 07442

DuPont Engineering

September 18, 2009

Mr. Frank Faranca
NJDEP
Division of Responsible Party Site Remediation
401 East State Street
P. O. Box 028
Trenton, New Jersey 08625

RE: Acid Brook Delta Area
Remedial Action Selection Report /
Corrective Measures Study
DuPont Pompton Lakes Works: PI # 007411
Pompton Lakes, New Jersey

Dear Mr. Faranca,

Attached please find one electronic copy and three hard copies of the Remedial Action Selection Report/Corrective Measures Study for the Acid Brook Delta Area prepared in accordance with the Technical Requirements for Site Remediation. The Remedial Action Work Plan (RAWP) is scheduled to be submitted in the 4th quarter of 2010 based on the additional sampling and testing that needs to be conducted to support the design elements of the recommended remedy presented in the RASR/CMS.

Should you have any questions, please contact Al Boettler at (302) 892-0647, albert.j.boettler@usa.dupont.com, or me at (973) 492-7733, david.e.epps@usa.dupont.com.

Sincerely,

David E Epps

David E. Epps, P.G.
Project Director, Pompton Lakes Works
DuPont Corporate Remediation Group

Enc.

cc: Clifford Ng, EPA Region II
PLW file

Acid Brook Delta Area Remedial Action Selection Report / Corrective Measures Study

CERTIFICATION I

"I certify under penalty of law that the information provided is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Albert J. Boettler
DuPont Corporate Remediation Group
Senior Consultant

9/17/09
Date

WITNESSED THIS 17 DAY OF September, 2009

Amanda L. Guaglione
Notary Public

AMANDA L. GUAGLIONE
NOTARY PUBLIC
STATE OF NEW JERSEY
MY COMMISSION EXPIRES JUNE 08, 2010

Acid Brook Delta Area Remedial Action Selection Report / Corrective Measures Study

CERTIFICATION II

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Isidoros J. Zanikos
DuPont Corporate Remediation Group
Remediation Team Manager

9/17/09
Date

WITNESSED THIS 17 DAY OF September, 2009

Amanda L. Guaglione
Notary Public

AMANDA L. GUAGLIONE
NOTARY PUBLIC
STATE OF NEW JERSEY
MY COMMISSION EXPIRES JUNE 08, 2010

ACID BROOK DELTA AREA
REMEDIAL ACTION SELECTION REPORT / CORRECTIVE MEASURES STUDY
DUPONT POMPTON LAKES WORKS
POMPTON LAKES, NEW JERSEY

Date: August 2008
Revised: September 2009

Project No.: 507827
18985155.00001

CORPORATE REMEDIATION GROUP
An Alliance between
DuPont and URS Diamond

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Wilmington, Delaware 19805

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EXECUTIVE SUMMARY

The former DuPont Pompton Lakes Works (PLW) site, located in Pompton Lakes, New Jersey, has completed extensive investigations to understand the nature and extent of mercury in Pompton Lake that has resulted from historical operations at the PLW. Through these investigations, mercury in sediment has been identified as the primary constituent of potential concern (COPC) and medium of concern for Pompton Lake. The delineation of mercury in the lake sediment was submitted in the *Revised Acid Brook Delta Remedial Investigation Report* (RIR) dated January 30, 2008 and subsequently approved by the New Jersey Department of Environmental Protection (NJDEP).

The purpose of this Remedial Action Selection Report (RASR)/Corrective Measures Study (CMS) for the Acid Brook Delta (ABD) area is to evaluate potential remedial alternatives to address elevated mercury concentrations in the ABD in Pompton Lake and other site-related metals in the uplands, and propose a remedial alternative to meet the established remedial action objectives (RAOs). This document outlines the remedial alternatives reviewed in terms of their effectiveness in providing protection to human health and the environment as well as their implementability, and selects the preferred alternative for the remediation of the ABD.

Remedial action objectives (RAOs) for the ABD were developed to set long-term goals for protecting human health and the environment:

- Reduce the potential for mercury methylation in the near-shore sediments.
- Reduce the area of exposure of ecological receptors to elevated mercury concentrations in delta sediments.

To accomplish these objectives, removal of sediments where mercury is most likely to methylate was the primary focus of the proposed remedial action. In determining the areal extent of the remedial action to meet the RAOs, site-specific information collected during various investigations provided the lines of evidence necessary to support the RAO limit and the protectiveness of the selected remedial alternative:

- Vertical profiles of mercury concentrations with sediment depth
- Sediment stability
- Patterns of mercury and methylmercury in the surface water
- Patterns of mercury and methylmercury in the sediments of the delta
- Microcosm studies
- Biota studies

A detailed analysis was completed for five remedial alternatives to evaluate the general suitability of various remediation technologies to meet the established RAOs and specific objectives. The selected alternative was Alternative 4 Sediment Removal.

The remedial action area will not be limited to the Acid Brook Delta. Two additional areas, located in the lower Ramapo River channel upstream of the dam, will be included to address the elevated mercury concentration in deeper sediment. One area is located on

the northern side of an island, and the other area is located adjacent to the western shore at the beginning of the channel. The remedial action area will also include the surrounding upland areas that may have been potentially impacted by site-related constituents.

RAOs for the uplands area were preliminary identified as NJDEP Soil Remediation Standards. Additional investigation is needed to further delineate the COPCs for both humans and ecological receptors. Based upon the delineation and with consideration of the restoration plan, the final RAOs will be established to be protective of both receptor groups.

RAOs for the two lower Ramapo River channel areas upstream of the dam are the same as the Acid Brook Delta RAOs. Additional studies are being conducted to determine the best remedial option for these two areas. Additional details will be contained in the Remedial Action Work Plan (RAWP).

Soil exceeding the final soil RAOs are expected be excavated. Remedial activities for soil will be implemented concurrently with the implementation of the ABD remedy and the two areas upstream of the dam. One comprehensive RAWP (Comprehensive Delta Area RAWP) will be developed for the delta, the two areas in the lower Ramapo River channel upstream of the dam and the uplands area associated with the delta.

1.0 INTRODUCTION AND BACKGROUND

1.1 Introduction

The former Pompton Lakes Works (PLW) site, located in Pompton Lakes, New Jersey, started operations in the Acid Brook Valley in 1926, ceased operations in 1994, and was demolished in 1995 (see Figure 1). Between 1991 and 1997, Acid Brook was the subject of remedial efforts that included streambed remediation and excavation of floodplain soils. Between 1995 and 2008, multiple ecological investigations, scientific studies, and remedial investigations were performed that culminated in the submission of the *Draft Remedial Action Proposal* [DuPont Corporate Remediation Group (CRG), 2006] and the *Revised Acid Brook Delta Remedial Investigation Report* (CRG, 2008). New Jersey Department of Environmental Protection (NJDEP), in its letter of May 2008, confirmed that mercury delineation in Pompton Lake was complete. Subsequently, NJDEP, in its letter of June 19, 2008, approved, without conditions, the *Revised Acid Brook Delta Remedial Investigation Report* (RIR) dated January 30, 2008.

The purpose of this Remedial Action Selection Report (RASR)/Corrective Measures Study (CMS) for the Acid Brook Delta (ABD) area is to evaluate potential remedial alternatives to address elevated mercury concentrations in the ABD in Pompton Lake and other site-related metals in the uplands. The ABD area generally includes the portion of Pompton Lake south of the Lakeside Avenue Bridge, east of the discharge point of Acid Brook into Pompton Lake, and west of the centerline of the former Ramapo River channel, as defined by the recent (2007) bathymetric survey of Pompton Lake. The area also includes property historically referred to as the uplands (i.e., the area of the delta that is not submerged) located along the banks of the Acid Brook as it discharges to the ABD and along Lakeside Avenue (see Figure 1A).

The ABD area does not include the following:

- The area of Pompton Lake north of the Lakeside Avenue Bridge
- The area south of the Lakeside Avenue Bridge east of the centerline of the Ramapo River channel
- The lower Ramapo River channel

This document outlines the remedial alternatives reviewed in terms of their effectiveness in providing protection to human health and the environment as well as their implementability, and selects the preferred alternative for the remediation of the ABD area.

Additional data are currently being collected to further refine the boundaries of where remediation will be conducted (e.g., soil samples in the uplands portion of the ABD) as well as support remedy implementation (e.g., geotechnical data). These data will be presented as part of the Remedial Action Work Plan (RAWP) for final approval of the remedies being proposed for the ABD area.

This RASR/CMS has been prepared in accordance with the Technical Requirements for Site Remediation (N.J.A.C. 7:26E) Section 5.1 (Remedial Action Selection) and Section 5.2 (Remedial Action Selection Report) The effective date of the Technical Requirements used was December 17, 2002, as amended on February 3, 2003, July 6, 2004, and July 5, 2005. An NJDEP RASR Checklist is included as Appendix A.

1.2 Regulatory Background Information

In 1988, DuPont entered into an Administrative Consent Order (ACO) with the NJDEP for PLW. In 1992, DuPont was issued a Hazardous and Solid Waste (HSWA) permit by the U.S. Environmental Protection Agency (EPA), Region II. This ACO and HSWA permit, revised in 1996, required DuPont to conduct a remedial investigation addressing contamination at/or emanating from the site. Remedial activities have been implemented both on-site and off-site to protect human health and the environment. Extensive off-site soil cleanup and groundwater monitoring have occurred. On-site stabilization includes the installation and operation of a groundwater treatment system to contain and treat the on-site groundwater volatile organic compound (VOC) plume. In addition, approximately 25 soil remedial and interim remedial activities have been implemented to remediate and stabilize the site.

1.2.1 Physical Setting

Pompton Lake (see Figure 2) is a 196-acre impoundment of the Ramapo River that was originally formed in 1858 when the Pompton Lake Dam was constructed by the U.S. Army Corps of Engineers at the southern end of the lake. The Ramapo River flows over the Pompton Lake Dam. Approximately 1.5 miles downstream, the Ramapo and Pequannock Rivers join to form the Pompton River. The Pompton River flows into the Passaic River, which empties into Newark Bay. In 1908, a larger dam was constructed, and the size of the lake was increased to include the area currently referred to as the ABD.

The lake is eutrophic, which influences many of the key physical, chemical, and biological characteristics of the lake. The mean depth of Pompton Lake is approximately 7 feet, and the maximum depth is approximately 25 feet (see Figure 3). The bathymetry of the lake is dominated by two major features: the original channel of the Ramapo River, which runs along the eastern shoreline of the lake at water depths greater than 6 to 8 feet, and a broad embayment along the central western shoreline, where water depths are generally less than 4 feet. A highway bridge (Lakeside Ave) crosses a narrow part of the northern end of the lake. Private residences are located along much of the lake shoreline.

1.2.2 Geologic and Hydrologic Setting

The majority of the unconsolidated soils in the Acid Brook Valley were deposited as the Wisconsin glacier retreated 20,000 to 17,000 years ago. These alluvial deposits are a fining downward sequence:

- Poorly sorted deposit of sand, gravel, cobbles, boulders, and some sand and silt called the shallow alluvial zone consists of both dislodged Pleistocene till and colluvium deposits.
- A fining downward sequence of fluvial deposits and deltaic sands called the intermediate alluvial zone.
- Fine sand and silts deposited in the glacial lake, directly on bedrock called the deep alluvial zone.

The soils within the upland are generally poorly sorted sands. In the Acid Brook channel, the upper few feet are gravelly sands. Within the delta and Pompton Lake, the peat and sediments overlie these glacial deposits. The peat underlies the sediments and was created when the dam on the Ramapo was enlarged in the early 1900s, flooding the former farmland of the delta area for the first time. The peat disappears moving east and southeast away from the delta into the main part of Pompton Lake, which is the Ramapo River channel. The gravelly sand or clayey sand encountered immediately below the peat is the shallow alluvial zone. The poorly graded sand encountered below that is the intermediate zone.

The lithologic logs of the 1993 VibraCore borings can be found in Appendix E of the *Delta Sampling Report* [DuPont Environmental Services (DERS), June 1994]. Lithologic logs for the more recent cores (January 2003 to October 2007) can be found in Appendix B of the *Revised Acid Brook Delta Remedial Investigation Report* (CRG, January 2008). The delta sediments range in thickness from 0 to 5.2 feet with an average thickness of 1.5 feet. The peat ranges in thickness from 0 to 4.3 feet with an average thickness of 1.9 feet. Cross-section locations are shown in Figure 2. The lithology is illustrated in northwest to southeast and southwest to northeast trending cross-sections, as shown in Figure 3. The cross-section shown in Figure 3 extends from the mouth of Acid Brook southeast across Pompton Lake to the opposite shore and demonstrates how the peat disappears moving out of the delta environment into the main body of the lake where the Ramapo River channel meanders. The Figure 4 cross-section extends across the delta area from Lenox Avenue in the southwest to Lakeside Avenue in the northeast and shows the variability in thickness of the sediments and the peat and better illustrates the underlying glacial deposits that make up the shallow and intermediate alluvial zones.

Base flow in Acid Brook is approximately 0.71 cubic feet per second (cfs) or 0.02 cubic meters per second (cms), but ranges from less than 3.5 cfs (0.01 cms) to greater than 1.4 cfs (0.04 cms). The Ramapo River also flows south and empties into Pompton Lake near its southern extent. The U.S. Geological Survey (USGS) gauging station at the Pompton Lakes Dam shows that average flow over the dam is around 287 cfs (8.1 cms), but ranges from a low flow of 84 cfs (2.4 cms) to a high flow over 500 cfs (14.2 cms). Lake elevation data from recent sampling events (last three years) range from a minimum of

200.22 feet to a maximum of 203.32 feet with an average of 201.19 feet mean sea level North American Vertical Datum of 1988 (NAVD 88).

1.2.3 Pompton Lake Bathymetry

As part of the April 1993 investigation activities, Ocean Surveys, Inc. (OSI) surveyed the lake bottom to approximately a 500-foot radius from the mouth of the delta (where Acid Brook enters Pompton Lake). The 1993 survey was done in the North American Datum of 1927 (NAD 27), National Geodetic Vertical Datum of 1929 (NGVD 29) New Jersey State Plane datum and the resulting bathymetry was presented in the *Delta Sampling Report* (DERS, June 1994). As part of the December 2003 sampling activities, the bathymetry was extended out to the existing data perimeter, approximately an 800-foot radius from the mouth of the delta. The extended survey was done in NAD 83, NAVD 88 New Jersey State Plane datum (current datum).

In 2007, a new bathymetric survey was performed on Pompton Lake south of the bridge in Oakland, New Jersey, extending down the Ramapo River channel to the dam. This survey, done to current datum, replaces the earlier surveys referenced above and is presented as Figure 5. Generally, the top of sediment elevation seems to show very little change over the 14-year period. There appears to be some minor increase in sediment thickness; however, this may be a function of the increased resolution of the 2007 data rather than an actual change to the sediment thickness. Regardless, the variation is likely less than 0.2 feet.

1.3 Previous Investigations and Data Review

1.3.1 Acid Brook Delta Remedial Investigation

Total Mercury in the Acid Brook Delta

The results of the total mercury analyses in sediment can be found in Table 1 and are illustrated in Figure 6. For surface sediment (0 to 0.5-foot interval), the maximum and average mercury concentrations were 367 mg/kg and 9.2 mg/kg, respectively, based on 166 samples. The total mercury isoconcentration map (see Figure 7) for the surface sediment shows the following:

- Highest concentrations, greater than 100 mg/kg, were generally found in the delta near Acid Brook.
- The only area outside the immediate delta area where 20 mg/kg is exceeded in the shallow interval (0 to 0.5 feet) is on the western shore (Transects A through C) (see Figure 6) and at locations 537-288 (Transect E) and 537-342 (Transect F).

For deeper sediment samples (0.5 feet and greater; the bottom interval of sediments analyzed), the maximum and average mercury concentrations were 754 and 50.1 mg/kg, respectively, based on 167 samples. The isoconcentration map for total mercury concentrations for the deep sample interval (i.e., the bottom of the sediment), illustrated in Figure 8, shows the following:

- Sediments having a concentration of 10 mg/kg or greater on the southwestern side of the lake extend further towards the Ramapo River channel than in the surface interval.

Total Mercury in the Lower Ramapo River Channel

The Lower Ramapo River channel is defined, for the purposes of this report, as the area south of Transect M (see Figure 6) ending at the last transect before the dam (Transect S). Analytical results for the channel (Transects M through S and the tributary) showed the following:

- The majority of the surface sediments samples (26 of 36 samples or 72%) collected have mercury concentrations less than 2 mg/kg.
- Concentrations were generally below 2 mg/kg along the eastern shore of the channel in surface sediments. Deeper sediment concentrations in this area ranged from 0.4 to 22.5 mg/kg, with the majority of samples having less than 10 mg/kg.
- In the surface sediment (0 to 0.5 feet), mercury concentrations ranged from 0.13 to 5.9 mg/kg (at the western limit of Transect M). The average mercury concentration of the surface samples (0 to 0.5 feet) was 1.4 mg/kg.
- For the deeper sediment samples (greater than 0.5 feet), the range of mercury concentrations was generally lower than 38 mg/kg. The only exceptions were two concentrations that exceeded 50 mg/kg: 68.3 mg/kg and 58.5 mg/kg. The average concentration of the deep samples (greater than 0.5 feet) was 13.3 mg/kg.
- Overall, surface sediment mercury concentrations less than 2 mg/kg overlay deeper sediment where the concentrations were higher than 2 mg/kg.

Mercury and Methylmercury in Surficial Sediments

Surficial (top 1 cm) sediment samples were collected in delta in 2004/2005 and were analyzed for total mercury and methylmercury to help determine mercury inputs to the sediment column and identify sites of methylmercury production. As indicated in Figure 9, the surficial sediment results showed that near-shore surficial sediments had higher total mercury and methylmercury concentrations and, typically, higher organic carbon than deeper sediments in the delta (note: for this study, deep was 15 cm or 6 inches). The results also indicate that proximity to shore may be a better predictor of methylmercury in sediment and surface water than total mercury in sediment.

A more detailed description of this study was presented in Appendix B of the *Draft Remedial Action Proposal for Acid Brook Delta Sediments* (*Draft Remedial Action Proposal*; CRG, November 2006), which was submitted to NJDEP on November 13, 2006. The *Draft Remedial Action Proposal* and all its appendices are incorporated by reference into this report.

Surface-Water Mercury and Methylmercury Concentrations

Mercury and methylmercury sampling results in surface water showed that delta near-shore areas had higher dissolved mercury and methylmercury concentrations when compared to portions of the delta further from the shore and the rest of Pompton Lake (see Figure 10). The portions of the delta furthest from the shore typically had dissolved methylmercury concentrations that were comparable with, if not less than, those observed in the non-delta portions of the lake.

In addition, dissolved methylmercury concentrations in the lake were comparable to dissolved methylmercury concentrations measured at points upstream of the delta (i.e., sample points from the Ramapo River to north of the Lakeside Avenue Bridge). Assuming that surface-water methylmercury concentrations represent an integration of methylmercury produced by the underlying sediments, these data indicate that the near-shore sediments are likely an important site of mercury methylation in the delta system. Moreover, an analysis of these data (as reported in Appendix A of the *Draft Remedial Action Proposal*) indicated that, at sediment total mercury concentrations below 50 milligrams per kilogram dry weight (mg/kg dry wt), surface-water methylmercury concentrations were comparable to those collected in the upstream reference site and sites not impacted by PLW.

These data taken together suggest that environmental factors such as near-shore versus profundal location are more important in determining surface-water methylmercury concentrations than the total mercury concentration of underlying sediments. A more detailed description of the surface-water sampling and analysis is provided in Appendix A of the *Draft Remedial Action Proposal*, which is incorporated by reference into this report.

Biological Tissue Measurements in Benthic Community Analyses

In 1998 and 2005, mercury and methylmercury concentrations in benthic invertebrates, young of the year (YOY) fish, and algal mats were greater in samples collected from the delta relative to samples collected from background stations. Although tissue concentrations in the delta were elevated relative to background samples, food-web modeling conducted in the 1998 investigation indicated that these tissue concentrations did not pose an unacceptable risk to five avian wildlife receptors. In general, tissue concentrations measured in the delta in 2005 did not indicate an increased accumulation of mercury by chironomids and YOY fish tissue relative to 1998 tissue concentrations.

The results of the 2005 benthic invertebrate community analyses support the conclusion of the 1998 investigation that benthic invertebrate community structure in the delta has not been altered by mercury concentrations in sediment. Based on community metrics and hierarchical cluster analysis, benthic community structure was similar in 1998 and 2005 for delta and background sampling stations and did not correspond with spatial patterns of mercury concentrations in sediments. In general, benthic community characteristics appear to be influenced by proximity to the shoreline or water depth and sediment characteristics. The absence of impacts to the benthic community is supported by the results of sediment toxicity studies, which demonstrated that elevated mercury levels in delta sediments were not associated with increased toxicity to benthic organisms.

A more detailed description of the biological investigation is provided in Appendix D of the *Draft Remedial Action Proposal*, which is incorporated by reference into this report.

1.3.2 Upland Area Remedial Investigation/Interim Remedial Measures

The delta upland encompasses approximately 2.6 acres south of Lakeside Avenue (see Figure 11). Of those 2.6 acres, approximately 0.9 acre is a relatively flat area situated approximately 8 feet above the lake, 0.7 acre is a wooded slope, and 1 acre is relatively flat wetlands along the lake's shore.

Soil/Sediment Characterization

Characterization sampling conducted along Acid Brook (AOC 118) in 1990 determined that the constituents of potential concern (COPCs) in soil were barium, copper, lead, mercury, selenium, and zinc. In 1990 and 1991, investigation sampling was conducted at 103 locations in the uplands in accordance with the March 1989 Dunn Geoscience *Remedial Investigation Work Plan Pompton Lakes Works*.

In April 1993, investigation sampling was conducted at 13 locations in the uplands, according to the March 1993 DERS *Acid Brook Delta Sampling Plan*. The results of these investigations were documented in the June 1994 DERS *Delta Sampling Report*. The analytical results indicated that of the six COPCs in upland soils, lead and mercury are the main COPCs with detected concentrations above New Jersey Residential Direct Contact Soil Cleanup Criteria (NJRDCSCC).

The NJDEP-approved Remedial Investigation Work Plan (RIWP) for the ABD uplands (DuPont CRG 2009) re-evaluated the existing soil data. As indicated in the RIWP, the primary medium of potential concern for the uplands is soil (surface and subsurface). In some areas of the uplands, lead and mercury were identified as COPCs in soil based on a comparison to the NJDEP Soil Remediation Standards (SRSs). Copper, lead, mercury, selenium, and zinc were identified as constituents of potential ecological concern (COPECs) based on a comparison to ecological screening levels.

Additional sampling was proposed within the RIWP (DuPont 2009) to delineate the soil exceedences to the established minimum criteria (lower of the ecological screening levels and SRSs). Information obtained from the implementation of the RIWP will be used as a basis for remedial decision making purposes and will be documented in the Comprehensive Delta Area RAWP.

Interim Remedial Measures

In the delta uplands, outside of the wetlands and wooded slopes, analytical results from the 1990 through 1993 investigation borings identified lead and mercury concentrations above NJRDCSCC. In order to mitigate the potential for migration of these constituents of concern (COCs), an IRM was conducted in July and August 1996. The IRM consisted of excavation of soils containing the COCs exceedences, post excavation sampling, backfilling with clean soil, and re-establishing vegetation. As part of the restoration effort, the community developed a park area that included with picnic tables and seating. Soils were remediated to NJRDCSCC. These activities are documented in the *Phase I of the Acid Brook Delta Project Remedial Action Report* (DERS, 1997), submitted to the NJDEP in January 1997. The IRM limits and post-excavation boring locations and analytical results were contained within the RIWP (DuPont CRG, 2009).

1.3.3 Conceptual Model

Extensive data have been collected in the ABD. Data are also available for the uplands area. A conceptual model of has been formulated by way of integration and analysis of these data. The principle elements of the conceptual model are summarized below.

History

Pompton Lake (see Figure 2) is an impoundment that was created by damming the Ramapo River. The dam was constructed in 1858 and was enlarged in 1908. When the dam was enlarged, the area that is now the delta was submerged. The enlargement of the dam coincided approximately with DuPont shifting operations from the Wanaque River valley (former Lake Inez) to the Acid Brook valley.

Geology/Hydrogeology

- Water depth in the delta area ranges from less than 2 feet near the mouth of Acid Brook to 12 feet approximately on the southwest shore, west of the Ramapo River channel.
- ABD sediments range in thickness from 0 to 5.2 feet with an average thickness of 1.5 feet. The underlying peat ranges in thickness from 0 to 4.3 feet with an average thickness of 1.9 feet.
- Bathymetric surveys were performed approximately 14 years apart, the most recent in 2007. Generally, the top of sediment elevation seems to show very little change over this period. There appears to be some minor increase in sediment thickness; however, this may be a function of the increased resolution of the 2007 data rather than an actual increase in sediment thickness. Regardless, the variation is less than 0.2 feet.

Media of Concern

The sole medium of concern for Pompton Lake is sediment in the area of the discharge of Acid Brook into Pompton Lake (i.e., the ABD) and two locations in the lower Ramapo River upstream from the dam. For the uplands, soil is the primary medium of potential concern.

Delta - Constituents of Potential Concern

- Several site-related metals have been investigated as part of the delta investigations including lead, mercury, copper, selenium, barium and zinc
  - Barium, copper, selenium, and zinc concentrations were below the current RDCSCC. In areas where lead is above the RDCSCC, the lead impacted area will, in this document, be addressed by addressing the co-located mercury impacted area.
  - Copper, lead, mercury, and selenium are elevated relative to sediment screening values. All exhibit similar spatial distributions in that the highest concentrations are near-shore in the vicinity of Acid Brook discharge.
  - Mercury is the sole COPC that methylates and, therefore, has the potential for bioaccumulation.

- Methylmercury was identified as a COPC in the preliminary studies discussed above. It was, however, determined that methylmercury distribution was based primarily on location and not on the concentration of mercury in the sediment. The locations of concern will be addressed in the remaining sections of this report.

Mercury is, therefore, the constituent driving the remediation both in areal extent and in depth and is the primary COPC.

Mercury Distribution

- The highest concentrations, greater than 100 mg/kg, were generally found in the delta near Acid Brook.
- Total mercury concentrations increase with depth.

Uplands Area - Constituents of Potential Concern

Copper, lead, mercury, selenium, and zinc were identified as COPCs for either human health and/or ecological receptors in some areas of the uplands. Additional investigation conducted as part of the RIWP will better define the extent of the COPCs.

Potential Receptors

- Humans may have direct contact with surface water and sediment during recreational activities. Recreational activities on the lake are restricted; swimming and wading are prohibited in the lake. Current uses of the lake include boating and fishing. A state fish consumption advisory is currently in place.
- Ecological receptors, aquatic species in particular, have direct contact with surface water and sediment.
- Both humans and ecological receptors may have direct contact with surficial soil and to a lesser extent subsurface soil. Surface-water flow (i.e., rainfall) may potentially transport soil containing COPCs or COPECs, with the majority of surface-water runoff going to Pompton Lake.

2.0 REMEDIAL ACTION OBJECTIVES AND TECHNOLOGY SCREENING

2.1 Overview

Extensive investigations have been completed to understand the nature and extent of mercury in Pompton Lake that has resulted from historical operations at the PLW. Through these investigations, sediment within the delta area has been identified as the primary media of concern. To be protective of human health and the environment, remedial action objectives (RAOs) have been developed to assist in selecting a remedial alternative to address the elevated concentrations of mercury in sediment. For the uplands area, various metals have exceeded the NJDEP SRSs and ecological screening criteria in soil. While further investigation is still needed, preliminary RAOs have been selected to be protective of human health and the environment.

RAOs are media specific goals that are aimed at protecting human health and the environment. For human receptors, potential exposure to sediment is expected to be minimal. Recreational activities on the lake are restricted. Due to elevated levels of coliform bacteria within the surface water, signs are posted that prohibit swimming and wading in the lake. There is also a state consumption advisory for fish due to mercury, PCBs, chlordane, dioxin and DDX (NJDEP, 2008). Current uses of the lake include boating and fishing. However, potential exposure to sediment is minimal from these activities. It is expected that current use of the lake will continue in the future.

The focus of risk management consideration for sediment will be on the potential concern for ecological receptors. Previous investigations indicated that the delta near-shore areas had higher dissolved mercury and methylmercury concentrations in surface water when compared to portions of the delta further from the shore and the rest of Pompton Lake. For ecological receptors, the Ecological Investigation Phase 2 Report (Exponent, 2003) and the delta investigation report (see Appendix D in the *Draft Remedial Action Proposal*) reported elevated mercury concentrations within biota (fish, benthos, and algae) collected from the delta area compared to reference locations. However, tissue concentrations measured in the delta in 2005 do not indicate an increased accumulation of mercury by chironomids and YOY fish tissue relative to the tissue data collected during the 1998 ecological investigation.

In developing RAOs for the ABD area, both quantitative and qualitative RAOs were considered in reducing potential exposure of ecological receptors to the mercury within the sediment. Based on the information collected from the various investigations and the qualitative RAOs developed, multiple lines-of-evidence approach was used to determine the remedial action area (RAO Limit). These are provided in the following sections. For upland soil, quantitative RAOs were selected.

2.2 Quantitative Remedial Action Objectives (Applicable Remediation Standards)

Quantitative RAOs are typically defined as promulgated numerical criteria that have been developed to be protective of human health or ecological receptors for a particular medium (i.e., sediment, soil). The specific values used for humans may be different than those for ecological receptors because of the differences in toxicity and exposure between the two receptor groups and the medium type. Therefore, while the concentration of a particular constituent in sediment may be unacceptable for ecological receptors, the same concentration in sediment or soil may not result in an unacceptable risk for humans.

NJDEP has promulgated soil remediation standards for residential and nonresidential exposure. However, no promulgated soil standards are available for ecological receptors.

NJDEP does not have any promulgated sediment criteria for evaluating potential human exposure or for ecological receptors. For ecological receptors, NJDEP's 1998 sediment guidance is available to evaluate sediment quality within Baseline Ecological Evaluations as part of implementing the Technical Requirements (N.J.A.C. 7:26E). However, in accordance with the sediment guidance (NJDEP, 1998), these values are not cleanup standards. The sediment guidance recommends a triad approach. The triad consists of three components: evaluating contaminant concentrations within the sediment, measuring toxicity and bioavailability, and conducting a community assessment of the resident biota. All three components are used to provide a weight of evidence for determining if adverse effects are occurring and whether these effects are due to the contaminant in question. A full ecological risk assessment (ERA) is also required to further characterize the potential risk to ecological receptors.

An ecological investigation and an ERA were conducted in two phases for the Pompton Lake delta area (PTI, January 1997; Exponent, 2003). The investigation work included collecting data for a triad approach and providing a weight of evidence for making remedial decisions. A supplemental biological investigation in 2005 was conducted to support the ERA by providing a more current understanding regarding the health and condition of aquatic communities in the delta (CRG, November 2006). In addition, mercury in sediment was delineated down to the sediment screening level of 2 mg/kg in the lake.

As part of the Phase 2 Ecological Investigation, sediment toxicity tests were conducted at 22 sampling locations within the delta and three reference locations using two different species. Benthic community analysis and bulk chemical data were also collected at these locations. As stated in the sediment guidance (NJDEP, 1998), data assimilated by sediment toxicity tests are useful in many ways including developing remedial goals. Mercury sediment concentrations for these 22 locations ranged from 12.2 to 186 mg/kg. Of the 22 sediment samples tested for toxicity endpoints on the delta, only one endpoint at one station was significantly different ($P<0.05$) from reference values. The mercury sediment concentration at this location was 95 mg/kg. It should be noted that sediment toxicity text results may indicate toxicity but are not conclusive as to what caused the toxicity. For the sampling location with the highest mercury sediment concentration (186 mg/kg), sediment toxicity was not significantly different from the reference values.

For the various receptors evaluated within the ERA, the report concludes that none of the measures of benthic macroinvertebrate community structure evaluated on the delta corresponded with spatial patterns of sediment substances of concern (SOCs). Community characteristics appeared to be influenced primarily by habitat-related variables, rather than the SOCs present. A weight of evidence approach showed that sediment SOCs on the delta do not pose potential unacceptable risk to benthic macroinvertebrates on the delta. The 2005 investigation provided similar conclusions indicating that benthic community structure in the delta has not been altered by mercury concentrations in sediment. As part of the ERA, food-web modeling showed that methyl mercury in water, sediment, and prey from Pompton Lake does not pose a potential unacceptable risk to three of the four avian receptors that were evaluated. The resident belted kingfisher, which exclusively stays within the ABD, had a hazard quotient of 1.1 to 1.2 at the 95th percentile level. Hazard quotients less than 1.0 would not be considered a potential concern.

As previously stated, RAOs are selected to address potential unacceptable risks associated with site conditions and the exposure pathways identified. However, for the delta, both the triad weight-of-evidence and ERA indicated that the potential for unacceptable risk for the delta is minimal. In addition, there are no promulgated applicable remediation standards for sediment to use as a quantitative RAO. Therefore, rather than develop a quantitative RAO or a remediation standard based upon the existing triad data, DuPont is proposing a qualitative RAO (narrative standard) to minimize potential exposure of ecological receptors to mercury from sediments. For upland soil, applicable SRSs have been selected as a preliminary RAO. RAOs for soil will be finalized within the Comprehensive Delta Area RAWP; considering both human and ecological receptors, and also with consideration of the restoration plan. Final RAOs for soil will be protective of human health and the environment.

2.3 Qualitative Remedial Action Objectives

As defined N.J.A.C. 7:26E-1.8, remediation standards can be narrative standards to which contaminants must be treated, removed or otherwise cleaned in order to meet health risk or environmental standards. Qualitative RAOs (narrative standards) were developed to set long-term goals for protecting human health and the environment.

It is anticipated that current use of the lake will continue in the future by both human and ecological receptors. Restrictions on human use can be enforced as they currently are; however, restrictions cannot be applied to ecological receptors. While the potential for unacceptable risks were shown to be minimal, the ecological data for the delta indicated that mercury concentrations in some biota were higher on the delta than in the reference areas.

Previous investigations concluded that mercury in the delta sediments appears to be tightly bound to the fine-grained particles as indicated by the TCLP data (DERS, June 1994 and CRG, November 2005); however, biological process in the upper few centimeters of sediment are able to mobilize some mercury in the form of methyl mercury, which then enters the food chain (Exponent, August 1999). Furthermore, the near-shore areas within the delta had higher dissolved mercury and methylmercury concentrations when compared to portions of the delta further from the shore and the rest of Pompton Lake.

In order to be protective of ecological receptors, the following qualitative RAOs for sediment were developed:

- Reduce the potential for mercury methylation in the near-shore sediments.
- Reduce the area of exposure of ecological receptors to elevated mercury concentrations in delta sediments.

These RAOs will be achieved in a manner that balances short-term and long-term risks to human health, safety, and the environment.

2.4 Achievement of RAOs

In determining the areal extent of the remedial action to meet the RAOs (RAO Limit), the sediment delineation data were statistically evaluated to develop specific objectives for addressing mercury in sediment. In addition, site-specific information collected during various investigations provided lines of evidence to support the extent where remedial action is needed. These lines of evidence support the protectiveness of the selected remedial alternative. The final areal extent of the remedial action to meet the RAOs for the upland soils will be based on results of the current sampling program being conducted. These results will be submitted in a separate report and incorporated into the RAWP.

2.4.1 Determination of Uplands RAO Limit

The final soil RAOs to be developed within the Comprehensive Delta Area RAWP for the uplands need to be protective of both humans and ecological receptors. As previously indicated, because of differences in toxicity and exposure between these two receptor groups, the concentrations that would be acceptable to each group would be different.

It has been previously stated that concentrations of COPCs exceeding the applicable SRS will be removed; hence, SRS are considered preliminary RAOs. However, the removal action must also consider concentrations that may be a potential concern to ecological receptors. Data and information obtained from the remedial investigation to be implemented in 2009 will be used to define the extent of the RAO limit. In addition, the final restoration plan may also be taken into consideration when determining the RAO limit for the uplands.

2.4.2 Determination of Delta RAO Limit

To facilitate the application of the remedial action objectives, volume-weighted spatial averaging evaluations were employed to characterize the extent of mercury concentrations in Pompton Lake sediment. Spatial averaging is a geostatistical data evaluation technique used to distribute discrete data over large areas, thereby attributing data to the entire study area rather than just to sample locations. Figure 12 addresses the 0 to 0.5-foot interval (i.e., the shallow interval) as well as the interval between 0.5 feet and the bottom of the sediment layer (i.e., the deep interval). This figure represents volume weighted spatial averages of mercury concentrations in the respective intervals (shallow and deep). The concentrations of the sample(s) used to determine the average concentration of each polygon are shown using a color scale. The concentrations represented by each color are shown in the figure legend. A detailed explanation of the use of volume-weighted spatial averaging is presented in Appendix B.

Shallow Interval

As stated above, Figure 12 shows the results of mapping the 0 to 0.5-foot interval sample results using volume-weighted spatial averaging analysis to draw polygons representing the analytical result at the center of the polygon. Based on the RAOs, the specific objectives for the shallow sediment of the ABD area are as follows:

- Sediment in the shallow interval that are in the near shore environment, defined as samples within 200 feet of the shoreline in water less than 5 feet deep, should be addressed by the selected remedial alternative.
- Sediment with mercury concentrations exceeding 20 mg/kg and in water less than 5 feet deep should be addressed by the selected remedial alternative.

Based on the RAOs, the extent of the area to be addressed during the evaluation of the remedial alternatives is defined as the area west of the RAO Limit as shown in Figure 12. Addressing the area shown in Figure 12 and achieving the objectives presented above would result in the removal of at least 90% of the total mercury impacted sediment in the shallow interval in the ABD area.

Deep Interval

Figure 12 shows the mercury sediment concentrations from samples 0.5 feet below lake bottom surface to the bottom of the sediment layer using volume-weighted special averaging analysis. Based on the RAOs, the specific objectives for the deep sediment of the ABD area are as follows:

- Sediment in the deep interval that are in the near shore environment, defined as samples within 200 feet of the shoreline, and that have total mercury concentrations greater than 50 mg/kg should be addressed by the selected remedial alternative.
- Sediment with mercury analytical results greater than 50 mg/kg should be addressed.
- Sediment in the deep interval should be overlain by sediment with a mercury concentration less than 22 mg/kg regardless of depth.

Based on the RAOs, the extent of the area to be addressed during the evaluation of the remedial alternatives is defined as the area west of the RAO Limit as shown in Figure 12. Addressing the area shown in Figure 12 and achieving the objectives presented above would result in the removal of at least 90% of the total mercury impacted sediment in the deep interval in the ABD area.

2.4.3 Multiple Lines of Evidence

Mercury in sediment has been identified as the primary COPC and medium of concern for Pompton Lake. Like many constituents, toxicity and bioavailability of mercury is highly dependant on site-specific conditions. In particular, mercury is bioaccumulated and most toxic when present in the form of methylmercury (MeHg). Therefore, identifying and minimizing the site specific conditions that foster mercury methylation is the focus of the proposed remedial strategy for the delta. For this reason, removal of sediments where mercury is most likely to methylate is the primary focus of the proposed remedial action. DuPont has conducted numerous investigations that were focused on determining which areas of the sediment are most likely to produce methylmercury.

The lines of evidence in support of the proposed RAO limit include:

- Vertical profiles of mercury with sediment depth
- Biota studies
- Patterns of mercury and methylmercury in the surface water and sediments of the delta

While most have been discussed previously in Section 1.3 of this report and in detail in the *Draft Remedial Action Proposal* (CRG, 2006) for convenience these lines of evidence are briefly summarized below.

Sediment Profile and Stability

Historical discharges from the PLW entered the delta area via Acid Brook. Following the Plant closing in 1994 and the remedial cleanup efforts of Acid Brook and its flood plains from 1991 to 1997, the site's contribution of mercury to the lake were minimized. Mercury concentration profiles indicate the historical mercury contributions from the site are clearly defined in the delta area at depth (see Figure 13). Investigations have also shown that the Ramapo River coming into Pompton Lake continues to contribute mercury to the Lake. This incoming mercury in the river water has the potential to settle out into the sediment throughout the lake system. It is important to acknowledge this background condition since it is not subject to remediation by DuPont. Also, this background contribution will continue to influence Pompton Lake in the future, well after the remedial action is completed.

The completed mercury sediment delineation indicated high mercury sediment concentrations within the delta area and along the western shoreline where the Acid Brook historically discharged into the delta area. The concentrations of mercury and other metals associated with the site were greater with depth, indicating historical deposition, with decreasing concentrations extending outward from the delta area (Exponent, 2003). As indicated in Figure 12, mercury sediment concentrations outside the RAO Limit are relatively uniform and likely reflect background conditions. However, within the RAO limit, the elevated sediment concentrations are the result of historical manufacturing activity.

As previously indicated, the sediment mercury concentration profiles (see Figure 13) show the highest mercury concentration at a depth that would correspond to historical manufacturing at the site. The elevated mercury concentrations have a defined depth where concentrations peak and tail off with cleaner depositional sediment, with little or no indication of mixing within the sediment column. These profiles provide a line of evidence that mercury concentrations at depth are stable.

In summary, the lines of evidence support focusing the remedial action on the near shore delta sediment, which has highest sediment concentrations of mercury and methylmercury attributed to historical manufacturing activities. In addition, higher concentrations of organic carbon are also found in this area and can be a contributing factor for mercury methylation in the near shore environment. Because a stable sediment environment is present, mercury concentrations in the deeper sediments are not a potential concern for methylation or sediment disturbances which may result in mercury entering into the surface water.

Sediment Toxicity and Bioavailability of Mercury

Direct exposure of benthic organisms to elevated mercury concentrations in the delta sediment were not shown to have significant toxicity to test organisms nor did these concentrations alter the benthic community structure (Exponent, 2003). However, the data indicated that mercury was bioavailable and present within aquatic organisms at greater concentrations in the delta area as compared with the reference locations.

Investigations were conducted to determine the conditions supportive of mercury methylation. It was found that location was the best indicator in determining the presence of methylmercury, rather than sediment concentration alone. MeHg was most associated with near shore surficial sediment with higher concentrations of mercury and organic carbon. In addition, the investigations also indicated that mercury methylation in sediments is most stimulated by the addition of fresh mercuric chloride. Therefore, new mercury inputs to Pompton Lake have a greater potential to methylate than the historical mercury contributions from the site. As previously noted, mercury concentrations in deep sediment were found to be stable with little or no mixing. Therefore, mercury concentrations in the deep sediment and further out in the lake are not expected to be significant sources of MeHg.

In summary, the lines of evidence directly support the RAO to reduce the potential for mercury methylation in the near-shore sediments. The presence of mercury in delta sediments has not shown significant toxicity or changes in the benthic community. Therefore, focusing the remedial action on areas with the greatest potential for methylation within the delta area will directly address the concern for the uptake of mercury within the biota and the elevated concentrations within the biota relative to the reference locations.

Surface-Water and Sediment Patterns

Mercury concentrations in the surficial sediment have the potential to enter into the water column through a number of processes including diffusion, desorption, or sediment resuspension. Mercury in the form of MeHg has the additional potential to bioaccumulate through the food chain. Sampling results shown in Figure 10 show concentrations of dissolved mercury and methylmercury in the water column over near shore sediments are typically higher than locations more distant from the shoreline and the reference locations. A similar pattern was observed for methylmercury in surficial sediments suggesting that water column methylmercury may be related to sediment efflux of methylmercury. Methylmercury concentrations in surface water outside the proposed excavation area have dissolved MeHg concentrations similar to background concentrations (as found in the upstream portions of the lake).

In summary, this line of evidence indicates that there is a greater potential for mercury methylation in the near shore delta area verses more distant locations and supports the need to focus the remedial action in this area, thereby supporting the RAO limit.

2.4.4 Conclusion

In determining the areal extent of the remedial action to meet the RAOs, site-specific information collected during various investigations provides the following lines of evidence necessary to support the RAO limit and the protectiveness of the selected remedial alternative:

- Removing sediment in the near shore environment will eliminate the conditions necessary for the greatest potential for mercury methylation; hence the bioavailability of mercury.
- Mercury concentrations in the surficial sediment beyond the proposed remedial area are greatly reduced and are also influenced by background conditions (i.e., Ramapo River).
- Mercury concentrations in the deeper sediment are stable with little potential to methylate.
- Dissolved mercury and methylmercury in the surface water beyond the proposed RAO limit were similar to background concentrations.

In implementing the RAO specific objectives, the proposed remedy will result in the following:

- Approximately 97% reduction in mercury in the surficial sediments (0 to 0.5 feet) and 100% reduction of mercury in the nearshore environment of the ABD
- Approximately 93% reduction in mercury in the deep sediments (>0.5 feet) and
- Approximately 95% reduction overall of mercury in the ABD

The reduction in mercury numbers listed above are based on an assessment of the surface and subsurface materials within the ABD, as discussed in Section 1.3.1. As such, any additional remedial measures considered for specific areas outside of the delta (i.e., within the Lower Ramapo River channel) are not included, and any related remedial benefits are not accounted for in the overall assessment.

2.5 Technology Screening Process and Criteria

The purpose of the technology screening process is to evaluate the general suitability of various remediation technologies to meet the RAOs and specific objectives previously established. Effectiveness and implementability criteria are evaluated for each proposed alternative.

2.5.1 Effectiveness

The effectiveness criterion considers the degree to which the proposed corrective action can attain the stated RAOs and the degree to which the action provides sufficient long-term control to be protective of human and environmental receptors. These factors can generally be assessed by evaluating the following:

- Performance and effectiveness in meeting the RAOs
- Demonstrated performance history at other sites
- Expected long-term durability/reliability
- Maintenance requirements
- Reduction in toxicity, mobility, or volume of contaminants
- Mitigation of the migration of contaminants

2.5.2 Implementability

The criterion of implementability evaluates several factors, both from a technical and administrative standpoint.

Technical Factors

- Engineering and scientific feasibility of the technology
- Availability of services and resources required for implementation
- Uncertainties associated with the construction, operation, and performance
- Whether the technology can be implemented within a reasonable timeframe

Administrative Factors

- Consistency with other applicable laws and regulations
- Impacts on local community, including degree of consistency with local land-use plan and adherence to land-use regulations
- Regulatory acceptance of using innovative technologies, if proposed

2.5.3 Natural Resource Injury

As part of the technology screening process, the potential for the implementation of the remedial alternative to cause a natural resource injury is also evaluated.

2.6 Detailed Analysis of Remedial Alternatives and Criteria

Following effectiveness and implementability, additional aspects of the technologies were evaluated to assess the relative merits of the retained technologies. The evaluation criteria used for detailed analysis are as follows:

- Reduction in toxicity, mobility, or volume
- Remediation sustainability

Although NJDEP does not currently recognize sustainability as a remedial action screening criterion, several of the elements in the sustainability assessment are also elements that can be considered part of the remedial action screening process per New Jersey regulations. Specifically, the remedial action selection procedure includes evaluation of short-term effects of implementation. These would include, for example, occupational risk, particle emissions, odors, and noise.

2.6.1 Reduction of Toxicity, Mobility, and Volume

Reduction of toxicity is a qualitative measure of the alternative's ability to chemically transform the primary constituent(s) into less toxic compounds. Reduction of mobility is a qualitative measure of the alternative's ability to minimize COPC migration, movement, or leachability, thereby reducing the potential for migration of site-specific COPCs into the environment. Reduction of volume is a qualitative measure of the alternative's ability to reduce the volume of the source material.

2.6.2 Remediation Sustainability

Remediation sustainability is an assessment of the overall environmental impacts associated with implementing a remedial action, which includes the impacts associated with off-site activities and production of the materials consumed by the remedial action.

The five primary measures of sustainability identified for the purposes of the remediation sustainability assessment are as follows:

- Greenhouse gas emissions, measured as carbon dioxide equivalents
- Resource consumption such as water and landfill space
- Energy consumption, measured as equivalent kilowatt-hours
- Occupational risk, measured as manpower hours and transportation miles
- Local issues, such as particulate emissions, odors, or noise

Sustainability will not be addressed as part of the remedial action selection process but will be evaluated during the selection of detailed processes related to the implementation of the selected remedial alternative. Sustainability is not a selection criteria included by the NJDEP in the Technical Requirements for Site Remediation.

2.6.3 Summary

The results of the detailed analysis of each remedial alternative, as well as their respective effectiveness and implementability factors, are then compared and the most appropriate alternative selected. This analysis of the remedial alternatives relative to the criteria discussed above is presented in Section 3.0.

3.0 ANALYSIS OF POTENTIAL REMEDIAL ALTERNATIVES

The analysis of potential remedial alternatives focuses on sediment within the RAO limit since it represents the majority of impacted material subject to remediation. It is anticipated that the remedy for the upland soils will be conducted concurrently with sediment remediation. As previously indicated, additional sampling is currently being conducted to finalize the delineation of the COPCs and COPECs. Soil exceeding the final soil RAOs are expected to be excavated. Further information on volumes, stabilization, and disposal will be presented in the Comprehensive Delta Area RAWP.

Two additional areas will be addressed as part of the remedial action being completed in the RAO limit in order to address elevated concentrations at depth. These areas are located in the lower Ramapo River channel upstream of the dam, north of the island, and adjacent to the western shore on Transect M (see Figure 14). Further information on the specific remedial action for these two areas will be included in the Comprehensive Delta Area RAWP.

3.1 Remedial Technologies Screening

The remedial alternatives presented below are being evaluated for the RAO limit:

- No action
- In-situ stabilization
- Capping
- Removal
- Removal and capping

In all instances, the remedial alternative will be evaluated relative to the RAO specific objectives defined in Section 2.4.

3.1.1 Alternative 1: No Action

The limits of the No Action alternative are shown in Figure 12 (i.e., the area west of the RAO Limit). The shallow and deep sediment remedial action areas are the same.

The No Action alternative evaluation entails considering the potential human and ecological risks associated with leaving impacted sediment in place given the current restrictions on the uses of the lake (e.g., no swimming or wading) that are not related to the concentrations of mercury in the sediments.

Effectiveness	Evaluation of the Criteria
Performance and effectiveness in meeting remedial action objectives	Does not meet the criteria for either shallow or deep sediments such as removal, limiting exposure in the near-shore environment, etc.
Performance history at other sites	Not applicable. There is no technical performance history related to a No Action alternative.

Expected long-term durability/reliability	Will rely on natural processes, which have been shown to be effective but have uncertainty.
Maintenance requirements	None
Reduction of toxicity, mobility or volume of contaminants	Volume of contaminants and associated properties would remain the same.
Mitigation of migration of contaminants	None
Implementability – Technical	
Engineering and scientific feasibility of technology	Not applicable. No technology required for this alternative.
Availability of services and resources	Not applicable. No services required for this alternative.
Uncertainties with construction/operation/performance	No uncertainties with construction, operation, or performance.
Implementability in reasonable timeframe	No implementation required; therefore, this is not an issue.
Implementability – Administrative	
Consistency with laws and regulations	The implementation of the No Action alternative is consistent with current laws and regulations. This alternative may not be consistent with NJDEP's evaluation of background and the implications of that evaluation.
Impacts on local community	No remediation implementation impacts.
Regulatory acceptance of using innovative technologies	Not applicable. This alternative is not an innovative technology.
Restricted vs. unrestricted use	Current lake use restrictions would remain in place.
Potential to cause natural resource injury	Sediment exceeding sediment screening levels would remain in place. However, without the implementation of a remedy, no additional injury would occur.

Conclusion

The No Action remedial alternative was not retained for further analysis since the RAO specific objectives will not be met. The No Action alternative will not reduce concentrations or potential migration of mercury in the delta. It is not anticipated that this alternative will be acceptable to the regulatory agencies or to the community.

3.1.2 Alternative 2: In-Situ Stabilization

The limits of the In-Situ Stabilization alternative are shown in Figure 12 (i.e., the area west of the RAO Limit). The shallow and deep sediment remedial action areas are the same.

In-situ stabilization/solidification (ISS) is a broad class of technologies in which contaminated media are mixed with chemical reagents to achieve the following:

- Improve the physical handling properties by transforming soft sludges and sediments to stable material.
- Reduce leachability by forming a monolithic mass with lower permeability.
- Reduce leachability by chemical reactions transforming contaminants to less leachable conditions.

This technology has been successful for solids media with a high water content such as sludges and sediments. The reagents commonly used are Portland cement, lime, and others. For in-situ application, the work area may have to be dewatered before ISS. Reagents would then be added to the wet sediment and mixed in using a rotary mixing head (i.e., auger) or similar equipment. Re-grading after mixing may be required. Restoration after remediation may be required.

Effectiveness	Evaluation of the Criteria
Performance and effectiveness in meeting remedial action objectives	This technology will reduce the bioavailability of contaminants by chemically binding the contaminants to the new matrix. It will also be effective in addressing exposure concerns in the near shore environment and will also reduce mercury methylation in this area.
Performance history at other sites	DuPont has effectively used this at another New Jersey site for stream sediments. This technology has proven effective.
Expected long-term durability/reliability	Method has proven to be reliable and effective in the long term.
Maintenance requirements	No maintenance requirements.
Reduction of toxicity, mobility or volume of contaminants	Reduction of bioavailability (mobility) of metals in the sediment has been demonstrated at other sites. Bench scale studies would be required to determine type and concentration of additives and to demonstrate their efficacy.
Mitigation of the migration of contaminants	Stabilization will reduce the migration of bioavailable mercury and other metals.
Implementability – Technical	
Engineering and scientific feasibility of the technology	Preliminary results of bench scale testing have demonstrated that mercury in sediment can be stabilized to the extent leaching is well below any NJDEP action levels. The engineering component cannot be addressed until the stabilization additives are determined and stabilization bench scale and pilot study(s) are performed.
Availability of services and resources	The contractors and equipment required for in-situ stabilization are readily available.
Uncertainties with construction/operation/performance	Dewatering of some areas may be needed to facilitate operation.
Implementability in reasonable timeframe	May require more than three field seasons because of the limited size of the areas that can be addressed (i.e., the reach limitations of the mixing equipment). Final determination cannot be made until pilot study is performed.
Implementability – Administrative	
Consistency with laws and regulations	Potential for increased volume in lake sediment, which could reduce stormwater management ability of lake. Reduction of permeability of lake sediments may reduce groundwater recharge into lake.
Impacts on local community	Extended impact from construction and cell dewatering. Potential odor problems from exposing lake bottom for extended periods of time. Possibly a longer construction time than other alternatives being considered.

Effectiveness	Evaluation of the Criteria
Regulatory acceptance of using innovative technologies	Approval of the use of an innovative technology may be required.
Restricted vs. unrestricted use	Do not anticipate restrictions on lake use beyond those currently in effect.
Potential to cause natural resource injury	The disturbance of the sediment will adversely impact the benthic communities until re-establishment can take place. There is no information regarding the potential impacts of stabilized sediments vs natural sediments on the re-establishment of the benthic communities.

Conclusion

This technology was not retained for further analysis because a) implementation may take longer than other technologies being considered; b) the contaminants, although no longer bioavailable, will potentially not be removed from the matrix; c) there are uncertainties regarding the re-establishment of benthic communities and other potential changes of the lake; and, d) there are uncertainties regarding impacts to groundwater recharge to or from the lake.

3.1.3 Alternative 3: Capping

The limits of the capping alternative are shown in Figure 12 (i.e., the area west of the RAO Limit). The shallow and deep sediment remedial action areas are the same.

A permeable cap of clean material (the exact nature of the material to be determined) would provide a clear physical separation between impacted sediments and the new benthic population that would re-establish on top of the sediment. The cap would be designed to prevent erosion loss of cap material and to reduce transport of mercury from the sediment to the new benthic zone. This technology has been demonstrated to be effective and reliable for long-term isolation and preventing exposure of ecological receptors.

Effectiveness	Evaluation of the Criteria
Performance and effectiveness in meeting remedial action objectives	Provides a clear physical separation between the contaminated sediments and the new benthic community that would re-establish the top of the cap. Reduces transport of mercury from sediment through cap.
Performance history at other sites	Caps have historically been stable if properly designed and installed.
Expected long-term durability/reliability	A stable cap is expected to provide a base for the re-establishment of a new benthic zone not in communication with the contaminated sediments.
Maintenance requirements	The design criterion is no maintenance. Monitoring of cap stability will be necessary to prevent uncovering of impacted sediments.

Effectiveness	Evaluation of the Criteria
Reduction of toxicity, mobility or volume of contaminants	Reduces mobility of contaminated sediments (see below). Reduces potential exposure of biota to impacted sediments. Does not reduce volume of contaminants.
Mitigation of migration of contaminants	Reduces the production of methylmercury to the pore waters because the biologically active zone would be clean. Reduces the upward migration of methylmercury in pore waters. Reduces potential for downstream migration of impacted sediments.
Implementability – Technical	
Engineering and scientific feasibility of the technology	Capping is a proven technology and has been used at several other sites.
Availability of services and resources	Can be constructed with readily available material using a variety of placement methods.
Uncertainties with construction/operation/performance	Limited uncertainties associated with construction and operation of the cap.
Implementability in reasonable timeframe	This is a proven technology that can be implemented in approximately one or two field seasons.
Implementability – Administrative	
Consistency with laws and regulations	Installation of a cap without any coincidental material removal may result in the potential for increased volume in lake sediment which could reduce stormwater management ability of lake.
Impacts on local community	None
Regulatory acceptance of using innovative technologies	Not applicable.
Restricted vs. unrestricted use	Current restrictions on lake use would be maintained.
Potential to cause natural resource injury	Concentrations of contaminants remaining in place would be isolated from the biological active zone. Certified clean material would be used, thereby providing an acceptable substrate for organism to re-colonize. Injury would be limited to the time of re-establishment. Placement of the cap would potentially eliminate the benthic community until they could re-establish.

Conclusion

This technology was not retained for further analysis because capping without excavation would reduce the storage capacity of Pompton Lake. Shallow water near the mouth of the Acid Brook would preclude the placement of cap materials without prior excavation. While the potential for migration and bioavailability would be minimized by the cap, the volume of the contaminants would still remain. Capping is not a remedial alternative that, as a stand-alone technology, meets the RAO specific objectives.

3.1.4 Alternative 4: Removal

The limits of the Removal Alternative are shown in Figure 15 (i.e., the area west of the RAO Limit line). The shallow and deep sediment remedial action areas are the same.

Sediment removal can be accomplished by several proven methods (e.g., hydraulic dredging, mechanical dredging, or excavation in the dry). Multiple methods of removal may be implemented depending on the depth of the water in the removal area (i.e., dry excavation is increasingly difficult with increasing water depth and would, therefore, likely be limited to water depths of 5 feet or less). The method of removal would be determined during the remedial design phase.

The Acid Brook Delta Sediment Re-use Plan (October 31, 2005), approved by NJDEP in its letter of May 19, 2006 included the results of the in-situ characterization of sediment relative to TCLP and SPLP criteria. The plan states that sediment exceeding either the TCLP or site-specific SPLP criteria would be disposed off-site at a licensed disposal facility. Sediment not exceeding either the TCLP or SPLP criteria will be transported to the Pompton Lakes Works Site and be re-used as part of the redevelopment of the site. Re-use of this sediment would be completed in a manner that is protective of human health and the environment and would not impact groundwater. Sediment stabilization for either re-use as part of the overall site redevelopment or disposal at an off-site facility could be accomplished either at the lake or the DuPont Pompton Lakes facility. However, all sediment must be transported back to the DuPont Pompton Lakes facility for solidification/dewatering processing before either trucking to an off-site disposal facility or reuse on-site.

To promote removal of sediments in the remediation area, the peat layer underlying the sediments may also be removed. The decision on whether or not to remove the peat layer will be determined based on the removal method proposed in the RAWP. In areas where the peat layer is not present, the sediment could be removed to a pre-determined depth (or geologic unit). Placement of an Eco-layer (clean layer of material; i.e., sand) within the removal area will also be considered in the RAWP. Depending on the removal method, residual concentrations may remain from the resuspension and settling of suspended materials. Placement of a clean material would provide a protective layer for aquatic and benthic organisms. Details on the need for the layer, depth of material placement, and type of material used will be provided in the RAWP.

Sediment designated for off-site disposal at a licensed disposal facility would be transported by truck. The method for transport of sediment designated for re-use will be presented in the RAWP. The methods under consideration include truck transport or pipeline transport. Determining factors include, but are not limited to, water content, excavation method, accessibility for the installation of a temporary pipeline, the number of trucks required, and the location of the initial sediment de-watering.

Effectiveness	Evaluation of the Criteria
Performance and effectiveness in meeting remedial action objectives	The remedial action objectives and specific objectives, as defined in Sections 2.3 and 2.4, inclusive, would be met by removing sediment from the area shown in Figure 15.
Performance history at other sites	Removal methods have successfully been used at other sites.
Expected long-term durability/reliability	Physical removal of sediments, regardless of method, promotes long-term durability and reliability.
Maintenance requirements	None

Effectiveness	Evaluation of the Criteria
Reduction of toxicity, mobility or volume of contaminants	Reduces total mercury mass in the delta by 90%. Significantly reduces average mercury concentration in the entire lake.
Mitigation of migration of contaminants	Precautions can be taken during the sediment removal to minimize migration of suspended materials within the water column and to reduce the potential for residual material to remain after the removal is complete.
Implementability – Technical	
Engineering and scientific feasibility of technology	Sediment removal is a remedial alternative that has been approved by state and federal regulators at other sites.
Availability of services and resources	Can be implemented with existing contractors and equipment.
Uncertainties with construction/operation/performance	Sediment dewatering and stabilization methods must be specified. Sediment transport method must be specified.
Implementability in reasonable timeframe	Can be implemented within a reasonable timeframe (two field seasons for construction related activities). The time of implementation will be dependent on the removal method, dewatering, and disposal method, and permitting requirements.
Implementability – Administrative	
Consistency with laws and regulations	Can be implemented consistent with current laws and regulations.
Impacts on local community	There will be limited access to portions of the lake during the implementation of the remedy. Selected removal method may have specific impacts associated with technology (e.g., odor, dust control measures, traffic, etc.).
Regulatory acceptance of using innovative technologies	Not applicable.
Restricted vs. unrestricted use	Current restrictions on lake use would be maintained.
Potential to cause natural resource injury	Removal of sediment will eliminate the benthic community; however, this will be a short-term disturbance until the benthos can re-colonize. Contaminants will be removed, thereby removing the potential for additional injury. Sediment mobilization during removal could be controlled by the use of a silt curtain or other similar technology to minimize potential impacts to the water column.

Conclusion

This technology can be implemented with equipment that is readily available, should be acceptable to the NJDEP and to the public, removes mercury impacted sediment from the delta, and can be implemented in a reasonable amount of time. This technology is, therefore, retained for further evaluation.

3.1.5 Alternative 5: Removal and Capping

The limits of the Removal and Capping Alternative are shown in Figure 16 (i.e., the area west of the RAO Limit). The removal and capping alternative includes a combination of the technologies discussed in Sections 3.1.3 (Capping) and 3.1.4 (Removal). In these alternative selected areas, primarily deeper water areas (greater than 5 feet), would be addressed via capping. No sediment removal would be implemented in the areas to be capped. The restoration of the sediment removal areas would be designed to address the need to keep the storage capacity of the lake equal to or greater than the current storage capacity.

The sediment removal, sediment re-use issues, and sediment transport discussion in Section 3.1.4 (Alternative 4: Removal) is incorporated by reference into this section.

Effectiveness	**Evaluation of the Criteria**
Performance and effectiveness in meeting remedial action objectives	The remedial action objectives and specific objectives, as defined in Sections 2.3 and 2.4, inclusive, would be met by removing sediment from the area shown in Figure 16.
Performance history at other sites	Both remedial technologies are proven technologies used at multiple sites.
Expected long-term durability/reliability	As stated above, the long-term reliability of both methods has been demonstrated.
Maintenance requirements	The cap would be designed to withstand storm conditions without maintenance. The re-establishment of the natural biota with time will further stabilize the cap.
Reduction of toxicity, mobility or volume of contaminants	Sediment removal reduces the volume of the contaminants in Pompton Lakes. Capping prevents exposure to residual concentrations.
Mitigation of migration of contaminants	Migration is mitigated by both removal and capping.
Implementability – Technical	
Engineering and scientific feasibility of technology	As discussed above, both removal and capping are proven technologies.
Availability of services and resources	Both technologies can be implemented with readily available equipment and contractors.
Uncertainties with construction/operation/performance	Sediment dewatering and stabilization methods must be specified. Sediment transport method must be specified. Cap thickness and material type to be determined by ecological restoration plan.
Implementability in reasonable timeframe	Can be implemented within a reasonable timeframe (two field seasons for construction-related activities). The time of implementation will be dependent on the removal method, dewatering, and disposal method, and permitting requirements.
Implementability – Administrative	
Consistency with laws and regulations	Can be implemented consistent with current laws and regulations.
Impacts on local community	There will be limited access to portions of the lake during the implementation of the remedy. Selected removal method may have specific impacts associated with technology (e.g., odor, dust control measures, traffic, etc.).
Regulatory acceptance of using innovative technologies	Not applicable.

Effectiveness	Evaluation of the Criteria
Restricted vs. unrestricted use	Current restrictions on lake use would be maintained.
Potential to cause natural resource injury	Removal of sediment/capping will eliminate the benthic community; however, this will be a short-term disturbance until the benthos can re-colonize. Contaminants will be removed, thereby removing the potential for additional injury. In deep water areas where a cap is in place with no excavation, placement of the cap would potentially eliminate the benthic community until they could re-establish. Concentrations of the contaminants remaining in place would be isolated from the biologically active zone. Certified clean material would be used, thereby providing an acceptable substrate for organisms to re-colonize.

Conclusion

This technology can be implemented with equipment that is readily available, should be acceptable to the NJDEP and to the public, removes mercury impacted sediment from the delta, and can be implemented in a reasonable amount of time. This technology is, therefore, retained for further evaluation.

3.1.6 Summary and Remedial Alternatives

Five remedial alternatives were reviewed. Based on the screening evaluation presented above, the alternatives that were retained for further review are *Removal* and *Removal and Capping* (Alternatives 4 and 5, respectively).

3.2 Comparison of Selected Remedial Alternatives

3.2.1 Alternative 4: Removal

The removal area (see Figure 15) consists of approximately 25.8 acres centered at the discharge point of Acid Brook into Pompton Lake. Water depth in most of this area is less than 5 feet with the exception of the southwest portion of the removal area adjacent to the shore. The removal will focus on the mercury-impacted sediment. The underlying peat may or may not be removed based on the ability to segregate the sediment from the peat. The total sediment removal volume would be approximately 57,000 cubic yards. If the underlying peat were also removed, the total volume would increase to greater than 90,000 cubic yards (approximate).

This removal scenario would do the following:

- Reduce the mass of mercury in the surficial sediment (0 to 0.5 feet) by approximately 97%, including 100% of the mercury in the near shore environment.
- Reduce the mercury mass in the deep sediment (>0.5 feet) by approximately 93%.
- Reduce the total mercury mass in the ABD by approximately 95%.

These calculations are based the ABD as defined in Figure 12. The volume weighted average mercury concentration in ABD sediment would be reduced from approximately 54.1 mg/kg to approximately 2.9 mg/kg.

The removal action for the ABD uplands will consider both human health and ecological receptors and therefore be protective of both receptor groups. Data and information obtained from the remedial investigation used to define the extent of the RAO limit will be presented in the Comprehensive Delta Area RAWP.

The removal alternative has, in Section 3.1.4, demonstrated the following:

- It is protective of public health, safety, and the environment.
- It can be implemented with known technology in a reasonable amount of time.
- It can be implemented without contravention of federal, state, or local laws.
- It has limited potential to cause natural resource injury.

3.2.2 Alternative 5: Removal and Capping

The remediation area (see Figure 16) consists of approximately 25.8 acres centered at the discharge point of Acid Brook into Pompton Lake. Water depth in most of this area is less than 5 feet with the exception of the southwest portion of the removal area adjacent to the shore. The removal will focus on the mercury impacted sediment. The underlying peat may or may not be removed based on the ability to segregate the sediment from the peat. The total sediment removal volume would be approximately 45,500 cubic yards. If the underlying peat were also removed, the total volume would increase to greater than 80,000 cubic yards (approximate).

The uplands removal action would be the same as Alternative 4. The removal action for the ABD uplands will consider both human health and ecological receptors and therefore be protective of both receptor groups. Data and information obtained from the remedial investigation used to define the extent of the RAO limit will be presented in the Comprehensive Delta Area RAWP.

The capping area would consist of the area identified in Figure 16. This area is approximately 500 feet from the discharge point of Acid Brook and is a minimum of 200 feet from shore. The cap would consist of approximately 12 inches of certified clean fill. The specifications of the fill will be included in the Acid Brook Delta RAWP.

This removal and capping scenario would do the following:

- Reduce the mass of mercury in the surficial sediment (0 to 0.5 feet) by approximately 97%, including 100% of the mercury impacted sediments in the near shore environment.
- Reduce the mercury mass in the deep sediment (>0.5 feet) by approximately 87%.
- Reduce the total mercury mass in the ABD by approximately 91%.

These calculations are based the ABD as defined in Figure 12. The volume weighted average mercury concentration in ABD sediment would be reduced from approximately 54.1 mg/kg to approximately 5.0 mg/kg.

The alternative has, in Section 3.1.5, demonstrated the following:

- It is protective of public health, safety, and the environment.
- It can be implemented with known technology in a reasonable amount of time.
- It can be implemented without contravention of federal, state, or local laws.
- It has limited potential to cause natural resource injury.

3.2.3 Comparison and Selection of Remedy

The table below compares the two remedial alternatives retained. The selection criteria are listed in the left hand column. The criteria are scored using an arbitrary system that assigns a "1" or "0" depending on the efficacy of the alternative in addressing those criteria as compared to each other. The total score is calculated in the last row of the table. The results demonstrate that while both alternatives have positive impacts on the environment, the Removal Alternative (Alternative 4) proves to be the preferred alternative because of its better performance in categories such as long-term durability, maintenance, etc.

Criteria	Removal	Removal & Capping	Comment
Effectiveness in meeting RAOs	1	1	
Performance history	1	1	
Long term durability/reliability	1	0	No cap stability requirements for removal
Maintenance	1	0	No cap maintenance for removal
Reduces Toxicity	1	1	
Reduces Mobility	1	1	Slight edge to removal because zero mobility for removed material
Reduces Volume	1	0	Slight increase in volume removed under the removal alternative
Reduces Migration	1	1	
Feasibility of the Technology	1	1	
Availability of Resources	1	1	
Uncertainties with construction/operation/ performance	1	1	
Implementable in reasonable timeframe	1	1	
Consistent with laws and regulations	1	1	
Impacts on the community	0	0	Not applicable – impacts essentially the same
Innovative technology	0	0	Not applicable – impacts essentially the same
Restricted use	0	0	Same restrictions for both alternatives
Cause natural resource injury	1	1	
Total	**14**	**11**	

4.0 SELECTED REMEDIAL ALTERNATIVE

The selected remedial alternative is Alternative 4: Removal (see Figure 15). This alternative consists of removing approximately 57,000 cubic yards of sediment from an area of approximately 25.8 acres. The total amount of material removed would increase to greater than 90,000 cubic yards if the peat is removed as well. Although Alternative 5: Removal and Capping (see Figure 16) is viable, Alternative 4: Removal was selected because:

- Removal reduces the potential for mercury methylation in the near-shore sediments within the delta.
- Removal increases the amount of material removed from the lake and will, therefore, increase the water storage capacity of Pompton Lake.
- There are no concerns regarding contaminant mobility if the contaminant is removed.
- There are no concerns regarding cap stability during storm events.
- There is no need for a long-term cap monitoring program.

In conclusion, while Alternative 5 is a viable remedial alternative for the Acid Brook Delta, Alternative 4: Sediment Removal is a preferred alternative for remediation of sediments within the Acid Brook delta area. It is expected that the remedial action activities for the ABD and those identified for the upland areas will occur concurrently.

5.0 SCHEDULE

The preparation of a Comprehensive RAWP for the ABD and the uplands area is contingent upon: a) the NJDEP unconditional approval of this RASR/CMS, approval and implementation of the uplands RIWPs, and the completion of ongoing studies accumulating the necessary information for the final selection of the appropriate removal method, transport method, and sediment stabilization method. Ongoing studies include, but are not limited to, elutriate tests, dewatering tests, leaching tests and general water quality parameters. Also, additional sampling must be implemented to support possible revisions to the Soil Re-Use Plan. It is anticipated that these test will be completed by the end of June 2010.

The Comprehensive Delta Area RAWP will be prepared subsequent to the completion of the aforementioned testing. The submission of the plan is anticipated to be in the fourth quarter of 2010. This is contingent upon the NJDEP approval of the RASR in mid-October 2009.

6.0 REFERENCES

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TABLE

Table 1
Total Mercury Analytical Results
2003 through 2007
DuPont Pompton Lakes Works
Pompton Lakes, New Jersey

Boring Id	Top (feet)	Bottom (feet)	Date Sampled	Sample Type	Mercury Results (mg/kg)	Hit	Sample Number	Lab Number	Project Name
537-204	0	0.5	12/9/2003		157.158	1	POM-E-537-204-0	537204-001	UPL_XRF_537_2003-2004
537-205	0	0.5	12/9/2003		696.525	1	POM-E-537-205-0	537205-001	UPL_XRF_537_2003-2004
537-206	0	0.5	12/9/2003		236.542	1	POM-E-537-206-0	537206-001	UPL_XRF_537_2003-2004
537-207	0	0.5	12/9/2003		83.928	1	POM-E-537-207-0	537207-001	UPL_XRF_537_2003-2004
537-208	0	0.5	12/9/2003		1485.969	1	POM-E-537-208-0	537208-001	UPL_XRF_537_2003-2004
537-209	0	0.5	12/9/2003		103.33	1	POM-E-537-209-0	537209-001	UPL_XRF_537_2003-2004
537-210	0	0.5	12/9/2003		330.589	1	POM-E-537-210-0	537210-001	UPL_XRF_537_2003-2004
537-211	0	0.5	12/9/2003		71.423	1	POM-E-537-211-0	537211-001	UPL_XRF_537_2003-2004
537-212	0	0.5	12/9/2003		188.515	1	POM-E-537-212-0	537212-001	UPL_XRF_537_2003-2004
537-213	0	0.5	12/9/2003		90.716	1	POM-E-537-213-0	537213-001	UPL_XRF_537_2003-2004
537-214	0	0.5	12/9/2003		357.675	1	POM-E-537-214-0	537214-001	UPL_XRF_537_2003-2004
537-215	0	0.5	12/9/2003		210.991	1	POM-E-537-215-0	537215-001	UPL_XRF_537_2003-2004
537-216	0	0.5	12/9/2003		361.43	1	POM-E-537-216-0	537216-001	UPL_XRF_537_2003-2004
537-217	0	0.5	12/9/2003		54.903	1	POM-E-537-217-0	537217-001	UPL_XRF_537_2003-2004
537-218	0	0.5	12/9/2003		132.208	1	POM-E-537-218-0	537218-001	UPL_XRF_537_2003-2004
537-219	0	0.5	12/9/2003		102.802	1	POM-E-537-219-0	537219-001	UPL_XRF_537_2003-2004
537-220	0	0.5	12/9/2003		121.32	1	POM-E-537-220-0	537220-001	UPL_XRF_537_2003-2004
537-221	0	0.5	12/9/2003		111.554	1	POM-E-537-221-0	537221-001	UPL_XRF_537_2003-2004
537-222	0	0.5	12/9/2003		383.945	1	POM-E-537-222-0	537222-001	UPL_XRF_537_2003-2004
537-222	0	0.5	12/9/2003	DUP	495.737	1	POM-E-537-222-0DUP	537222-002	UPL_XRF_537_2003-2004
537-223	0	0.5	12/9/2003		81.934	1	POM-E-537-223-0	537223-001	UPL_XRF_537_2003-2004
537-224	0	0.5	12/9/2003		9.273	1	POM-E-537-224-0	537224-001	UPL_XRF_537_2003-2004
537-225	0	0.5	12/9/2003		63.626	1	POM-E-537-225-0	537225-001	UPL_XRF_537_2003-2004
537-226	0	0.5	12/9/2003		128.098	1	POM-E-537-226-0	537226-001	UPL_XRF_537_2003-2004
537-227	0	0.5	12/9/2003		3.955	1	POM-E-537-227-0	537227-001	UPL_XRF_537_2003-2004
537-228	0	0.5	12/9/2003		600.324	1	POM-E-537-228-0	537228-001	UPL_XRF_537_2003-2004
537-229	0	0.5	12/9/2003		73.031	1	POM-E-537-229-0	537229-001	UPL_XRF_537_2003-2004
537-230	0	0.5	12/9/2003		62.079	1	POM-E-537-230-0	537230-001	UPL_XRF_537_2003-2004
537-231	0	0.5	12/9/2003		61.207	1	POM-E-537-231-0	537231-001	UPL_XRF_537_2003-2004
537-232	0	0.5	12/9/2003		114.571	1	POM-E-537-232-0	537232-001	UPL_XRF_537_2003-2004
537-233	0	0.5	12/15/2003		57.223	1	POM-E-537-233-0	537233-001	UPL_XRF_537_2003-2004
537-234	0	0.5	12/15/2003		ND ()	0	POM-E-537-234-0	537234-001	UPL_XRF_537_2003-2004
537-235	0	0.5	12/15/2003		15.769	1	POM-E-537-235-0	537235-001	UPL_XRF_537_2003-2004
537-236	0	0.5	12/8/2003		56.4 J	1	POM-E-537-236-(0-0.5)	4188487-HG	ACID BROOK DELTA SEDIMENTS
537-236	0	0.5	12/15/2003		73.949	1	POM-E-537-236-0	537236-001	UPL_XRF_537_2003-2004
537-237	0	0.5	12/8/2003		113 J	1	POM-E-537-237-(0-0.5)	4188488-HG	ACID BROOK DELTA SEDIMENTS
537-237	0	0.5	12/15/2003		43.425	1	POM-E-537-237-0	537237-001	UPL_XRF_537_2003-2004
537-238	0	0.5	12/8/2003		23.5 J	1	POM-E-537-238-(0-0.5)	4188489-HG	ACID BROOK DELTA SEDIMENTS
537-238	0	0.5	12/15/2003		19.857	1	POM-E-537-238-0	537238-001	UPL_XRF_537_2003-2004
537-239	0	0.5	12/8/2003		7.14 J	1	POM-E-537-239-(0-0.5)	4188490-HG	ACID BROOK DELTA SEDIMENTS
537-239	0	0.5	12/15/2003		0.814	1	POM-E-537-239-0	537239-001	UPL_XRF_537_2003-2004
537-240	0	0.5	12/15/2003		12.12	1	POM-E-537-240-0	537240-001	UPL_XRF_537_2003-2004
537-241	0	0.5	12/15/2003		8.409	1	POM-E-537-241-0	537241-001	UPL_XRF_537_2003-2004
537-242	0	0.5	12/21/2003		109.023	1	POM-E-537-242-0	537242-001	UPL_XRF_537_2003-2004
537-243	0	0.5	12/15/2003		12.386	1	POM-E-537-243-0	537243-001	UPL_XRF_537_2003-2004
537-244	0	0.5	12/21/2003		109.516	1	POM-E-537-244-0	537244-001	UPL_XRF_537_2003-2004
537-245	0	0.5	12/21/2003		4.515	1	POM-E-537-245-0	537245-001	UPL_XRF_537_2003-2004
537-246	0	0.5	12/21/2003		120.602	1	POM-E-537-246-0	537246-001	UPL_XRF_537_2003-2004
537-247	0	0.5	12/21/2003		7.618	1	POM-E-537-247-0	537247-001	UPL_XRF_537_2003-2004
537-248	0	0.5	12/21/2003		175.965	1	POM-E-537-248-0	537248-001	UPL_XRF_537_2003-2004
537-249	0	0.5	12/21/2003		9.169	1	POM-E-537-249-0	537249-001	UPL_XRF_537_2003-2004
537-250	0	0.5	12/21/2003		669.686	1	POM-E-537-250-0	537250-001	UPL_XRF_537_2003-2004
537-250	0	0.5	12/21/2003	DUP	98.082	1	POM-E-537-250-0DUP	537250-002	UPL_XRF_537_2003-2004
537-251	0	0.5	12/21/2003		ND ()	0	POM-E-537-251-0	537251-001	UPL_XRF_537_2003-2004
537-252	0	0.5	12/21/2003		90.642	1	POM-E-537-252-0	537252-001	UPL_XRF_537_2003-2004
537-253	0	0.5	12/20/2003		15.1 J	1	POM-E-537-253-(0-0.5)	4190929-HG	ACID BROOK DELTA SEDIMENTS
537-253	0	0.5	1/29/2004		10.807	1	POM-E-537-253	537253-001	UPL_XRF_537_2003-2004
537-254	0	0.5	12/21/2003		39.946	1	POM-E-537-254-0	5372540-001	UPL_XRF_537_2003-2004
537-255	0	0.5	12/20/2003		27.4 J	1	POM-E-537-255-(0-0.5)	4190933-HG	ACID BROOK DELTA SEDIMENTS

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537-255	0	0.5	1/29/2004		38.997	1	POM-E-537-255	537255-001	UPL_XRF_537_2003-2004
537-255	0	0.5	12/20/2003	DUP	24.7 J	1	POM-E-537-255-(0-0.5)-DUP	4190934-HG	ACID BROOK DELTA SEDIMENTS
537-255	0	0.5	1/29/2004	DUP	26.068	1	POM-E-537-255DUP	537255-002	UPL_XRF_537_2003-2004
537-256	0	0.5	12/28/2003		20.973	1	POM-E-537-256-0	537256-001	UPL_XRF_537_2003-2004
537-257	0	0.5	12/20/2003		16.5 J	1	POM-E-537-257-(0-0.5)	4190935-HG	ACID BROOK DELTA SEDIMENTS
537-257	0	0.5	1/29/2004		7.817	1	POM-E-537-257	537257-001	UPL_XRF_537_2003-2004
537-257	0	0.5	12/20/2003	DUP	17 J	1	POM-E-537-257-(0-0.5)-DUP	4190936-HG	ACID BROOK DELTA SEDIMENTS
537-257	0	0.5	1/29/2004	DUP	19.036	1	POM-E-537-257DUP	537257-002	UPL_XRF_537_2003-2004
537-258	0	0.5	12/28/2003		13.139	1	POM-E-537-258-0	537258-001	UPL_XRF_537_2003-2004
537-259	0	0.5	12/20/2003		23 J	1	POM-E-537-259-(0-0.5)	4190937-HG	ACID BROOK DELTA SEDIMENTS
537-259	0	0.5	1/29/2004		36.158	1	POM-E-537-259	537259-001	UPL_XRF_537_2003-2004
537-259	0	0.5	12/20/2003	DUP	24.4 J	1	POM-E-537-259(0-0.5)-DUP	4190939-HG	ACID BROOK DELTA SEDIMENTS
537-260	0	0.5	12/28/2003		9.209	1	POM-E-537-260-0	537260-001	UPL_XRF_537_2003-2004
537-261	0	0.5	12/28/2003		12.95	1	POM-E-537-261-0	537261-001	UPL_XRF_537_2003-2004
537-262	0	0.5	12/28/2003		3.221	1	POM-E-537-262-0	537262-001	UPL_XRF_537_2003-2004
537-263	0	0.5	12/28/2003		59.809	1	POM-E-537-263-0	537263-001	UPL_XRF_537_2003-2004
537-264	0	0.5	12/28/2003		16.84	1	POM-E-537-264-0	537264-001	UPL_XRF_537_2003-2004
537-265	0	0.5	12/28/2003		133.17	1	POM-E-537-265-0	537265-001	UPL_XRF_537_2003-2004
537-266	0	0.5	12/28/2003		ND ()	0	POM-E-537-266-0	537266-001	UPL_XRF_537_2003-2004
537-267	0	0.5	12/28/2003		167.779	1	POM-E-537-267-0	537267-001	UPL_XRF_537_2003-2004
537-268	0	0.5	12/28/2003		39.546	1	POM-E-537-268-0	537268-001	UPL_XRF_537_2003-2004
537-268	0	0.5	12/28/2003	DUP	36.564	1	POM-E-537-268-0/DUP	537268-002	UPL_XRF_537_2003-2004
537-269	0	0.5	12/28/2003		61.747	1	POM-E-537-269-0	537269-001	UPL_XRF_537_2003-2004
537-270	0	0.5	12/28/2003		48.356	1	POM-E-537-270-0	537270-001	UPL_XRF_537_2003-2004
537-271	0	0.5	12/28/2003		36.082	1	POM-E-537-271-0	537271-001	UPL_XRF_537_2003-2004
537-272	0	0.5	8/2/2004		49.1 J	1	POM-E-537-272(0-.5)	4323307-HG	ABD HG DELIN SAMP RND 1 8/04
537-272	1.25	1.75	8/2/2004		369 J	1	POM-E-537-272(1.25-1.75)	4323309-HG	ABD HG DELIN SAMP RND 1 8/04
537-272	2.25	2.75	8/2/2004		2.52 J	1	POM-E-537-272(2.25-2.75)	4323308-HG	ABD HG DELIN SAMP RND 1 8/04
537-273	0	0.5	8/2/2004		35.8 J	1	POM-E-537-273(0-.5)	4323310-HG	ABD HG DELIN SAMP RND 1 8/04
537-273	1	1.5	8/2/2004		359 J	1	POM-E-537-273(1-1.5)	4323312-HG	ABD HG DELIN SAMP RND 1 8/04
537-273	2	2.5	8/2/2004		353 J	1	POM-E-537-273(2-2.5)	4323311-HG	ABD HG DELIN SAMP RND 1 8/04
537-274	0	0.5	8/2/2004		41.1 J	1	POM-E-537-274(0-0.5)	4323313-HG	ABD HG DELIN SAMP RND 1 8/04
537-274	1	1.5	8/2/2004		57.5 J	1	POM-E-537-274(1-1.5)	4323314-HG	ABD HG DELIN SAMP RND 1 8/04
537-275	0	0.5	8/3/2004		16.5 J	1	POM-E-537-275(0-0.5)	4323254-HG	ABD HG DELIN SAMP RND 1 8/04
537-275	0.75	1.25	8/3/2004		70.3 J	1	POM-E-537-275(0.75-1.25)	4323302-HG	ABD HG DELIN SAMP RND 1 8/04
537-275	1.75	2.25	8/3/2004		1.17 J	1	POM-E-537-275(1.75-2.25)	4323255-HG	ABD HG DELIN SAMP RND 1 8/04
537-276	0	0.5	8/3/2004		9.09 J	1	POM-E-537-276(0-0.5)	4323303-HG	ABD HG DELIN SAMP RND 1 8/04
537-276	1	1.5	8/3/2004		58.1 J	1	POM-E-537-276(1-1.5)	4323304-HG	ABD HG DELIN SAMP RND 1 8/04
537-277	0	0.5	8/3/2004		7.52 J	1	POM-E-537-277(0-0.5)	4323305-HG	ABD HG DELIN SAMP RND 1 8/04
537-277	1.25	1.75	8/3/2004		37.9 J	1	POM-E-537-277(1.25-1.75)	4323306-HG	ABD HG DELIN SAMP RND 1 8/04
537-278	0	0.5	8/3/2004		6.26 J	1	POM-E-537-278(0-0.5)	4323338-HG	ABD HG DELIN SAMP RND 1 8/04
537-278	1.5	2	8/3/2004		47.7 J	1	POM-E-537-278(1.5-2.0)	4323339-HG	ABD HG DELIN SAMP RND 1 8/04
537-279	0	0.5	8/3/2004		7.61 J	1	POM-E-537-279(0-0.5)	4323340-HG	ABD HG DELIN SAMP RND 1 8/04
537-279	0.5	1	8/3/2004		5.65 J	1	POM-E-537-279(.5-1.0)	4323341-HG	ABD HG DELIN SAMP RND 1 8/04
537-280	0	0.5	8/3/2004		7.61 J	1	POM-E-537-280(0-0.5)	4323342-HG	ABD HG DELIN SAMP RND 1 8/04
537-280	0	0.5	8/3/2004	DUP	15.2 J	1	POM-E-537-280(0-0.5)-DUP	4323347-HG	ABD HG DELIN SAMP RND 1 8/04
537-280	0.5	1	8/3/2004		21.5 J	1	POM-E-537-280(.5-1.0)	4323346-HG	ABD HG DELIN SAMP RND 1 8/04
537-281	0	0.5	8/3/2004		2.81 J	1	POM-E-537-281(0-0.5)	4323315-HG	ABD HG DELIN SAMP RND 1 8/04
537-281	0	0.5	8/3/2004	DUP	2.55 J	1	POM-E-537-281(0-0.5)-DUP	4323348-HG	ABD HG DELIN SAMP RND 1 8/04
537-282	0	0.5	8/3/2004		6.46 J	1	POM-E-537-282(0-0.5)	4323316-HG	ABD HG DELIN SAMP RND 1 8/04
537-282	1	1.5	8/3/2004		15.9 J	1	POM-E-537-282(1.0-1.5)	4323317-HG	ABD HG DELIN SAMP RND 1 8/04
537-283	0	0.5	8/3/2004		13.5 J	1	POM-E-537-283(0-0.5)	4323318-HG	ABD HG DELIN SAMP RND 1 8/04
537-283	0	0.5	8/3/2004	DUP	13.1 J	1	POM-E-537-283(0-.5)-DUP	4323322-HG	ABD HG DELIN SAMP RND 1 8/04
537-283	1.5	2	8/3/2004		49.6 J	1	POM-E-537-283(1.5-2.0)	4323323-HG	ABD HG DELIN SAMP RND 1 8/04
537-284	0	0.5	8/26/2004		42.2 J	1	POM-E-537-284-0-0.5	4341625-HG	ABD HG DELIN SAMP RND 2 8/04
537-284	1.5	2	8/26/2004		0.414 J	1	POM-E-537-284-(1.5-2.0)	4341626-HG	ABD HG DELIN SAMP RND 2 8/04
537-285	0	0.5	8/26/2004		23.4 J	1	POM-E-537-285-0-0.5	4341627-HG	ABD HG DELIN SAMP RND 2 8/04
537-285	1	1.5	8/26/2004		510 J	1	POM-E-537-285-(1.0-1.5)	4341628-HG	ABD HG DELIN SAMP RND 2 8/04
537-286	0	0.5	8/26/2004		19.4 J	1	POM-E-537-286-0-0.5	4341629-HG	ABD HG DELIN SAMP RND 2 8/04

Table 1
Total Mercury Analytical Results
2003 through 2007
DuPont Pompton Lakes Works
Pompton Lakes, New Jersey

Boring Id	Top (feet)	Bottom (feet)	Date Sampled	Sample Type	Mercury Results (mg/kg)	Hit	Sample Number	Lab Number	Project Name
537-286	0.75	1.25	8/26/2004		80.6 J	1	POM-E-537-286-(.75-1.25)	4341630-HG	ABD HG DELIN SAMP RND 2 8/04
537-287	0	0	8/26/2004		12.3 J	1	POM-E-537-287-0-0.5	4341633-HG	ABD HG DELIN SAMP RND 2 8/04
537-287	0	0.5	8/26/2004	DUP	8 J	1	POM-E-537-287(0-0.5)-DUP	4341637-HG	ABD HG DELIN SAMP RND 2 8/04
537-287	0.75	1.25	8/26/2004		39.7 J	1	POM-E-537-287-(0.75-1.25)	4341657-HG	ABD HG DELIN SAMP RND 2 8/04
537-288	0	0	8/26/2004		59.9 J	1	POM-E-537-288-0-0.5	4341658-HG	ABD HG DELIN SAMP RND 2 8/04
537-288	1	1.5	8/26/2004		8.78 J	1	POM-E-537-288-(1.0-1.5)	4341659-HG	ABD HG DELIN SAMP RND 2 8/04
537-289	0	0	8/26/2004		5.71 J	1	POM-E-537-289-0-0.5	4341660-HG	ABD HG DELIN SAMP RND 2 8/04
537-289	1	1.5	8/26/2004		38.8 J	1	POM-E-537-289-(1.0-1.5)	4341661-HG	ABD HG DELIN SAMP RND 2 8/04
537-290	0	0.5	8/26/2004		4.29 J	1	POM-E-537-290-0-0.5	4341619-HG	ABD HG DELIN SAMP RND 2 8/04
537-290	0.5	1	8/26/2004		21.9 J	1	POM-E-537-290-0.5-1.0	4341620-HG	ABD HG DELIN SAMP RND 2 8/04
537-291	0	0.5	8/26/2004		4.75 J	1	POM-E-537-291-0-0.5	4341623-HG	ABD HG DELIN SAMP RND 2 8/04
537-291	1	1.5	8/26/2004		28.5 J	1	POM-E-537-291-(1.0-1.5)	4341624-HG	ABD HG DELIN SAMP RND 2 8/04
537-292	0	0.5	8/26/2004		4 J	1	POM-E-537-292-0-0.5	4341621-HG	ABD HG DELIN SAMP RND 2 8/04
537-292	1.25	1.75	8/26/2004		23.2 J	1	POM-E-537-292-(1.25-1.75)	4341622-HG	ABD HG DELIN SAMP RND 2 8/04
537-293	0	0.5	8/27/2004		2.28 J	1	POM-E-537-293-0-0.5	4341611-HG	ABD HG DELIN SAMP RND 2 8/04
537-294	0	0.5	8/27/2004		4.57 J	1	POM-E-537-294-0-0.5	4341612-HG	ABD HG DELIN SAMP RND 2 8/04
537-294	0	0.5	8/27/2004	DUP	3.9 J	1	POM-E-537-294(0-0.5)-DUP	4341616-HG	ABD HG DELIN SAMP RND 2 8/04
537-294	1.5	2	8/27/2004		14.4 J	1	POM-E-537-294-(1.5-2.0)	4341617-HG	ABD HG DELIN SAMP RND 2 8/04
537-295	0	0.5	8/27/2004		0.922 J	1	POM-E-537-295-0-0.5	4341618-HG	ABD HG DELIN SAMP RND 2 8/04
537-296	1.5	2	9/29/2004		188 J	1	POM-E-537-296-(1.5-2)	4366737-HG	ABD HG DELIN SAMP RND 3 10/04
537-297	0	0.5	9/29/2004		66.7 J	1	POM-E-537-297-(0-0.5)	4366738-HG	ABD HG DELIN SAMP RND 3 10/04
537-297	1.5	2	9/29/2004		509 J	1	POM-E-537-297-(1.5-2.0)	4366739-HG	ABD HG DELIN SAMP RND 3 10/04
537-298	0	0.5	9/29/2004		17.3 J	1	POM-E-537-298-(0-0.5)	4366740-HG	ABD HG DELIN SAMP RND 3 10/04
537-298	0.5	1	9/29/2004		330 J	1	POM-E-537-298-(0.5-1.0)	4366741-HG	ABD HG DELIN SAMP RND 3 10/04
537-299	0	0.5	9/30/2004		17 J	1	POM-E-537-299-(0-0.5)	4366742-HG	ABD HG DELIN SAMP RND 3 10/04
537-299	0	0.5	9/30/2004	DUP	12.5 J	1	POM-E-537-299-(0-0.5)-DUP	4366746-HG	ABD HG DELIN SAMP RND 3 10/04
537-299	1.5	2	9/30/2004		215 J	1	POM-E-537-299-(1.5-2.0)	4366747-HG	ABD HG DELIN SAMP RND 3 10/04
537-300	0	0.5	9/30/2004		9.29 J	1	POM-E-537-300-(0-0.5)	4366748-HG	ABD HG DELIN SAMP RND 3 10/04
537-300	1.5	2	9/30/2004		81.9 J	1	POM-E-537-300-(1.5-2.0)	4366758-HG	ABD HG DELIN SAMP RND 3 10/04
537-300	1.5	2	9/30/2004	DUP	99 J	1	POM-E-537-300-(1.5-2.0)-DUP	4366762-HG	ABD HG DELIN SAMP RND 3 10/04
537-301	0	0.5	9/30/2004		6.07 J	1	POM-E-537-301-(0-0.5)	4366749-HG	ABD HG DELIN SAMP RND 3 10/04
537-301	1.5	2	9/30/2004		37.4 J	1	POM-E-537-301-(1.5-2.0)	4366750-HG	ABD HG DELIN SAMP RND 3 10/04
537-302	0	0.5	9/30/2004		5.75 J	1	POM-E-537-302-(0-0.5)	4366751-HG	ABD HG DELIN SAMP RND 3 10/04
537-302	1	1.5	9/30/2004		57.1 J	1	POM-E-537-302-(1-1.5)	4366752-HG	ABD HG DELIN SAMP RND 3 10/04
537-303	0	0.5	9/30/2004		3.98 J	1	POM-E-537-303-(0-0.5)	4366753-HG	ABD HG DELIN SAMP RND 3 10/04
537-303	1	1.5	9/30/2004		33.8 J	1	POM-E-537-303-(1-1.5)	4366754-HG	ABD HG DELIN SAMP RND 3 10/04
537-304	0	0.5	9/30/2004		4.32 J	1	POM-E-537-304-(0-0.5)	4366755-HG	ABD HG DELIN SAMP RND 3 10/04
537-304	1.25	1.75	9/30/2004		22.3 J	1	POM-E-537-304-(1.25-1.75)	4366756-HG	ABD HG DELIN SAMP RND 3 10/04
537-305	0	0.5	9/30/2004		3.21 J	1	POM-E-537-305-(0-0.5)	4366763-HG	ABD HG DELIN SAMP RND 3 10/04
537-305	1.5	2	9/30/2004		21.4 J	1	POM-E-537-305-(1.5-2.0)	4366764-HG	ABD HG DELIN SAMP RND 3 10/04
537-306	0	0.5	9/30/2004		1.68 J	1	POM-E-537-306-(0-0.5)	4366765-HG	ABD HG DELIN SAMP RND 3 10/04
537-307	0	0.5	9/30/2004		3.74 J	1	POM-E-537-307(0-0.5)	4367666-HG	ABD HG DELIN SAMP RND 3 10/04
537-307	1.5	2	9/30/2004		13 J	1	POM-E-537-307(1.5-2.0)	4367667-HG	ABD HG DELIN SAMP RND 3 10/04
537-308	0	0.5	9/30/2004		2.33 J	1	POM-E-537-308-(0-0.5)	4366768-HG	ABD HG DELIN SAMP RND 3 10/04
537-309	1.5	2	10/26/2004		6.19	1	POM-E-537-309(1.5-2.0)	4390539-HG	ABD HG DELIN SAMP RND 4 10/04
537-310	0	0.5	10/26/2004		13.3	1	POM-E-537-310(0-0.5)	4390540-HG	ABD HG DELIN SAMP RND 4 10/04
537-311	0	0.5	10/26/2004		3.22	1	POM-E-537-311(0-0.5)	4390541-HG	ABD HG DELIN SAMP RND 4 10/04
537-312	0	0.5	10/26/2004		11.4	1	POM-E-537-312(0-0.5)	4390542-HG	ABD HG DELIN SAMP RND 4 10/04
537-312	0	0.5	10/26/2004	DUP	16.3	1	POM-E-537-312(0-0.5)-DUP	4390546-HG	ABD HG DELIN SAMP RND 4 10/04
537-312	1	1.5	10/26/2004		608	1	POM-E-537-312(1-1.5)	4390547-HG	ABD HG DELIN SAMP RND 4 10/04
537-313	0	0.5	10/27/2004		7.06	1	POM-E-537-313(0-0.5)	4390548-HG	ABD HG DELIN SAMP RND 4 10/04
537-313	1	1.5	10/27/2004		72.8	1	POM-E-537-313(1-1.5)	4390549-HG	ABD HG DELIN SAMP RND 4 10/04
537-314	0	0.5	10/27/2004		6.39	1	POM-E-537-314(0-0.5)	4390550-HG	ABD HG DELIN SAMP RND 4 10/04
537-314	1	1.5	10/27/2004		43.1	1	POM-E-537-314(1-1.5)	4390551-HG	ABD HG DELIN SAMP RND 4 10/04
537-315	0	0.5	10/27/2004		17.4	1	POM-E-537-315(0-0.5)	4390552-HG	ABD HG DELIN SAMP RND 4 10/04
537-316	0	0.5	10/27/2004		4.54	1	POM-E-537-316(0-0.5)	4390554-HG	ABD HG DELIN SAMP RND 4 10/04
537-316	0	0.5	10/27/2004	DUP	2.52	1	POM-E-537-316(0-0.5)-DUP	4390558-HG	ABD HG DELIN SAMP RND 4 10/04
537-316	1	1.5	10/27/2004		34.4	1	POM-E-537-316(1.0-1.5)	4390559-HG	ABD HG DELIN SAMP RND 4 10/04
537-317	0	0.5	10/27/2004		3.07	1	POM-E-537-317(0-0.5)	4390560-HG	ABD HG DELIN SAMP RND 4 10/04

Table 1
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2003 through 2007
DuPont Pompton Lakes Works
Pompton Lakes, New Jersey

Boring Id	Top (feet)	Bottom (feet)	Date Sampled	Sample Type	Mercury Results (mg/kg)	Hit	Sample Number	Lab Number	Project Name
537-317	0.5	1	10/27/2004		18.4	1	POM-E-537-317(0.5-1.0)	4390561-HG	ABD HG DELIN SAMP RND 4 10/04
537-318	0	0.5	10/27/2004		3.42	1	POM-E-537-318(0-0.5)	4390562-HG	ABD HG DELIN SAMP RND 4 10/04
537-318	1.5	2	10/27/2004		35.8	1	POM-E-537-318(1.5-2.0)	4390563-HG	ABD HG DELIN SAMP RND 4 10/04
537-319	0	0.5	10/27/2004		3.53	1	POM-E-537-319(0-0.5)	4390564-HG	ABD HG DELIN SAMP RND 4 10/04
537-320	0	0.5	10/27/2004		3.41	1	POM-E-537-320(0-0.5)	4390565-HG	ABD HG DELIN SAMP RND 4 10/04
537-320	0	0	10/27/2004		15.2	1	POM-E-537-320(1-1.5)	4390566-HG	ABD HG DELIN SAMP RND 4 10/04
537-321	0	0.5	10/27/2004		0.91	1	POM-E-537-321(0-0.5)	4390568-HG	ABD HG DELIN SAMP RND 4 10/04
537-321	1.5	2	10/27/2004		19.1	1	POM-E-537-321(1.5-2)	4390569-HG	ABD HG DELIN SAMP RND 4 10/04
537-322	0	0.5	11/22/2004		15.9 J	1	POM-E-537-322(0-0.5)	4414396-HG	ABD HG DELIN SAMP RND 5 11/04
537-322	1.25	1.75	11/22/2004		754 J	1	POM-E-537-322(1.25-1.75)	4414397-HG	ABD HG DELIN SAMP RND 5 11/04
537-323	0	0.5	11/22/2004		9.76 J	1	POM-E-537-323(0-0.5)	4414411-HG	ABD HG DELIN SAMP RND 5 11/04
537-323	1	1.5	11/22/2004		13.9 J	1	POM-E-537-323(1-1.5)	4414412-HG	ABD HG DELIN SAMP RND 5 11/04
537-324	0	0.5	11/22/2004		7.65 J	1	POM-E-537-324(0-0.5)	4414413-HG	ABD HG DELIN SAMP RND 5 11/04
537-324	1	1.5	11/22/2004		56 J	1	POM-E-537-324(1-1.5)	4414414-HG	ABD HG DELIN SAMP RND 5 11/04
537-325	0	0.5	11/23/2004		6.36 J	1	POM-E-537-325(0-0.5)	4414415-HG	ABD HG DELIN SAMP RND 5 11/04
537-325	1	1.5	11/23/2004		19.6 J	1	POM-E-537-325(1-1.5)	4414416-HG	ABD HG DELIN SAMP RND 5 11/04
537-326	0	0.5	11/23/2004		4.25 J	1	POM-E-537-326(0-0.5)	4414417-HG	ABD HG DELIN SAMP RND 5 11/04
537-326	1.5	2	11/23/2004		11 J	1	POM-E-537-326(1.5-2.0)	4414418-HG	ABD HG DELIN SAMP RND 5 11/04
537-327	0	0.5	11/23/2004		1.07 J	1	POM-E-537-327(0-0.5)	4414419-HG	ABD HG DELIN SAMP RND 5 11/04
537-327	0	0.5	11/23/2004	DUP	1.01 J	1	POM-E-537-327(0-0.5)-DUP	4414420-HG	ABD HG DELIN SAMP RND 5 11/04
537-328	0	0.5	11/23/2004		7.14 J	1	POM-E-537-328(0-0.5)	4414421-HG	ABD HG DELIN SAMP RND 5 11/04
537-328	0.75	1.25	11/23/2004		17 J	1	POM-E-537-328(0.75-1.25)	4414425-HG	ABD HG DELIN SAMP RND 5 11/04
537-329	0	0.5	11/23/2004		1.8 J	1	POM-E-537-329(0-0.5)	4414426-HG	ABD HG DELIN SAMP RND 5 11/04
537-330	0	0.5	11/23/2004		4.58 J	1	POM-E-537-330(0-0.5)	4414427-HG	ABD HG DELIN SAMP RND 5 11/04
537-330	1	1.5	11/23/2004		8.36 J	1	POM-E-537-330(1-1.5)	4414428-HG	ABD HG DELIN SAMP RND 5 11/04
537-331	0	0.5	1/13/2005		16.5	1	POM-E-537-331(0-0.5)	4448211-HG	ABD HG DELIN SAMP RND 6 12/04
537-331	1	1.5	1/13/2005		179	1	POM-E-537-331(1.0-1.5)	4448212-HG	ABD HG DELIN SAMP RND 6 12/04
537-332	0	0.5	1/13/2005		9.73	1	POM-E-537-332(0-0.5)	4448213-HG	ABD HG DELIN SAMP RND 6 12/04
537-332	0.75	1.25	1/13/2005		81.2	1	POM-E-537-332(0.75-1.25)	4448214-HG	ABD HG DELIN SAMP RND 6 12/04
537-333	0	0.5	1/13/2005		6.57	1	POM-E-537-333(0-0.5)	4448215-HG	ABD HG DELIN SAMP RND 6 12/04
537-333	0	0.5	1/13/2005	DUP	6.57	1	POM-E-537-333(0-0.5)-DUP	4448216-HG	ABD HG DELIN SAMP RND 6 12/04
537-333	0.75	1.25	1/13/2005		62.5	1	POM-E-537-333(0.75-1.25)	4448217-HG	ABD HG DELIN SAMP RND 6 12/04
537-334	0	0.5	1/13/2005		7.19	1	POM-E-537-334(0-0.5)	4448221-HG	ABD HG DELIN SAMP RND 6 12/04
537-335	0	0.5	1/13/2005		3.73	1	POM-E-537-335(0-0.5)	4448222-HG	ABD HG DELIN SAMP RND 6 12/04
537-335	1.25	1.75	1/13/2005		7.84	1	POM-E-537-335(1.25-1.75)	4448223-HG	ABD HG DELIN SAMP RND 6 12/04
537-335	2.5	3	1/13/2005		27.2	1	POM-E-537-335(2.5-3.0)	4448224-HG	ABD HG DELIN SAMP RND 6 12/04
537-336	0	0.5	1/13/2005		3.91	1	POM-E-537-336(0-0.5)	4448225-HG	ABD HG DELIN SAMP RND 6 12/04
537-337	0	0.5	1/13/2005		4.05	1	POM-E-537-337(0-0.5)	4448226-HG	ABD HG DELIN SAMP RND 6 12/04
537-337	1	1.5	1/13/2005		11.9	1	POM-E-537-337(1.0-1.5)	4448227-HG	ABD HG DELIN SAMP RND 6 12/04
537-338	0	0.5	1/13/2005		2.92	1	POM-E-537-338(0-0.5)	4448228-HG	ABD HG DELIN SAMP RND 6 12/04
537-338	0.5	1	1/13/2005		8.2	1	POM-E-537-338(0.5-1.0)	4448229-HG	ABD HG DELIN SAMP RND 6 12/04
537-339	0	0.5	4/19/2005		367 J	1	POM-E-537-339(0-0.5)	4507450-HG	ABD HG DELIN SAMP RND 7 4/05
537-339	0.5	1	4/19/2005		24.9 J	1	POM-E-537-339(0.5-1.0)	4507451-HG	ABD HG DELIN SAMP RND 7 4/05
537-340	0	0.5	4/19/2005		8.21 J	1	POM-E-537-340(0-0.5)	4507452-HG	ABD HG DELIN SAMP RND 7 4/05
537-340	1.5	2	4/19/2005		71.7 J	1	POM-E-537-340(1.5-2.0)	4507453-HG	ABD HG DELIN SAMP RND 7 4/05
537-341	0	0.5	4/19/2005		5.4 J	1	POM-E-537-341(0-0.5)	4507454-HG	ABD HG DELIN SAMP RND 7 4/05
537-341	1	1.5	4/19/2005		71.2 J	1	POM-E-537-341(1.0-1.5)	4507455-HG	ABD HG DELIN SAMP RND 7 4/05
537-342	0	0.5	4/19/2005		21.2 J	1	POM-E-537-342(0-0.5)	4507456-HG	ABD HG DELIN SAMP RND 7 4/05
537-343	0	0.5	4/19/2005		3.14 J	1	POM-E-537-343(0-0.5)	4507457-HG	ABD HG DELIN SAMP RND 7 4/05
537-343	0	0.5	4/19/2005	DUP	3 J	1	POM-E-537-343(0-0.5)-DUP	4507458-HG	ABD HG DELIN SAMP RND 7 4/05
537-343	1.25	1.75	4/19/2005		4.9 J	1	POM-E-537-343(1.25-1.75)	4507459-HG	ABD HG DELIN SAMP RND 7 4/05
537-343	2.25	2.75	4/19/2005		23.3 J	1	POM-E-537-343(2.25-2.75)	4507463-HG	ABD HG DELIN SAMP RND 7 4/05
537-344	0	0.5	4/19/2005		3.39 J	1	POM-E-537-344(0-0.5)	4507464-HG	ABD HG DELIN SAMP RND 7 4/05
537-345	0	0.5	4/19/2005		4.77 J	1	POM-E-537-345(0-0.5)	4507465-HG	ABD HG DELIN SAMP RND 7 4/05
537-345	0.75	1.25	4/19/2005		12 J	1	POM-E-537-345(0.75-1.25)	4507466-HG	ABD HG DELIN SAMP RND 7 4/05
537-346	0	0.5	4/19/2005		4.57 J	1	POM-E-537-346(0-0.5)	4507467-HG	ABD HG DELIN SAMP RND 7 4/05
537-371	0	0.5	6/8/2005		19	1	POM-E-537-371(0-0.5)	4541271-HG	ABD HG DELIN SAMP RND 8 6/05
537-371	0.5	1	6/8/2005		257	1	POM-E-537-371(0.5-1.0)	4541272-HG	ABD HG DELIN SAMP RND 8 6/05
537-372	0	0.5	6/8/2005		9.85	1	POM-E-537-372(0-0.5)	4541280-HG	ABD HG DELIN SAMP RND 8 6/05

Table 1
Total Mercury Analytical Results
2003 through 2007
DuPont Pompton Lakes Works
Pompton Lakes, New Jersey

Boring Id	Top (feet)	Bottom (feet)	Date Sampled	Sample Type	Mercury Results (mg/kg)	Hit	Sample Number	Lab Number	Project Name
537-372	0	0.5	6/8/2005	DUP	9.37	1	POM-E-537-372(0-0.5)-DUP	4541283-HG	ABD HG DELIN SAMP RND 8 6/05
537-372	1.5	2	6/8/2005		135	1	POM-E-537-372(1.5-2.0)	4541276-HG	ABD HG DELIN SAMP RND 8 6/05
537-373	0	0.5	6/8/2005		7.43	1	POM-E-537-373(0-0.5)	4541281-HG	ABD HG DELIN SAMP RND 8 6/05
537-373	1.5	2	6/8/2005		78.3	1	POM-E-537-373(1.5-2.0)	4541282-HG	ABD HG DELIN SAMP RND 8 6/05
537-374	0	0.5	6/8/2005		0.545	1	POM-E-537-374(0-0.5)	4541284-HG	ABD HG DELIN SAMP RND 8 6/05
537-375	0	0.5	6/8/2005		2.9	1	POM-E-537-375(0-0.5)	4541285-HG	ABD HG DELIN SAMP RND 8 6/05
537-375	1.25	1.75	6/8/2005		5.71	1	POM-E-537-375(1.25-1.75)	4541286-HG	ABD HG DELIN SAMP RND 8 6/05
537-375	2.5	3	6/8/2005		13.2	1	POM-E-537-375(2.5-3.0)	4541287-HG	ABD HG DELIN SAMP RND 8 6/05
537-376	0	0.5	6/8/2005		0.147	1	POM-E-537-376(0-0.5)	4541288-HG	ABD HG DELIN SAMP RND 8 6/05
537-377	0	0.5	6/8/2005		3.28	1	POM-E-537-377(0-0.5)	4541289-HG	ABD HG DELIN SAMP RND 8 6/05
537-377	0.75	1.25	6/8/2005		13.2	1	POM-E-537-377(0.75-1.25)	4541290-HG	ABD HG DELIN SAMP RND 8 6/05
537-378	0	0.5	6/8/2005		2.94	1	POM-E-537-378(0-0.5)	4541291-HG	ABD HG DELIN SAMP RND 8 6/05
537-381	0	0.5	8/29/2005		18.1 J	1	POM-E-537-381(0.0-0.5)	4594818-HG	ABD HG DELIN SAMP RND 9 8/05
537-381	0.5	1	8/29/2005		394 J	1	POM-E-537-381(6-12)	4594819-HG	ABD HG DELIN SAMP RND 9 8/05
537-381	1	1.67	8/29/2005		135 J	1	POM-E-537-381(12-20)	4594820-HG	ABD HG DELIN SAMP RND 9 8/05
537-382	0	0.5	8/29/2005		8.1 J	1	POM-E-537-382(0.0-0.5)	4594821-HG	ABD HG DELIN SAMP RND 9 8/05
537-382	0.5	1	8/29/2005		101 J	1	POM-E-537-382(6-12)	4594822-HG	ABD HG DELIN SAMP RND 9 8/05
537-382	1	1.67	8/29/2005		4.25 J	1	POM-E-537-382(12-20)	4594823-HG	ABD HG DELIN SAMP RND 9 8/05
537-383	0	0.5	8/29/2005		4.3 J	1	POM-E-537-383(0.0-0.5)	4594824-HG	ABD HG DELIN SAMP RND 9 8/05
537-383	0	0.6	8/29/2005	DUP	8.14 J	1	POM-E-537-383(0.0-0.6)-DUP	4594825-HG	ABD HG DELIN SAMP RND 9 8/05
537-383	0.5	1	8/29/2005		6.11 J	1	POM-E-537-383(6-12)	4594826-HG	ABD HG DELIN SAMP RND 9 8/05
537-383	1	1.67	8/29/2005		0.0348 J	1	POM-E-537-383(12-20)	4594827-HG	ABD HG DELIN SAMP RND 9 8/05
537-384	0	0.5	8/29/2005		1.01 J	1	POM-E-537-384(0.0-0.5)	4594828-HG	ABD HG DELIN SAMP RND 9 8/05
537-385	0	0.5	8/29/2005		2.43	1	POM-E-537-385(0.0-0.5)	4593887-HG	ABD HG DELIN SAMP RND 9 8/05
537-385	0.5	1	8/29/2005		3.04 J	1	POM-E-537-385(6-12)	4594829-HG	ABD HG DELIN SAMP RND 9 8/05
537-385	1	1.67	8/29/2005		3.5 J	1	POM-E-537-385(12-20)	4594830-HG	ABD HG DELIN SAMP RND 9 8/05
537-386	0	0.5	8/29/2005		4.27 J	1	POM-E-537-386(0.0-0.5)	4594831-HG	ABD HG DELIN SAMP RND 9 8/05
537-386	0.5	1	8/29/2005		11.5 J	1	POM-E-537-386(6-12)	4594835-HG	ABD HG DELIN SAMP RND 9 8/05
537-387	0	0.5	8/29/2005		1.77 J	1	POM-E-537-387(0.0-0.5)	4594836-HG	ABD HG DELIN SAMP RND 9 8/05
537-402	0	0.5	12/1/2005		13.4	1	POM-E-537-402(0-0.5)	4661330-HG	ABD HG DELIN SAMP RND 10 12/05
537-402	1.5	2	12/1/2005		230	1	POM-E-537-402(1.5-2.0)	4661331-HG	ABD HG DELIN SAMP RND 10 12/05
537-403	0	0.5	12/1/2005		8.76	1	POM-E-537-403(0-0.5)	4661332-HG	ABD HG DELIN SAMP RND 10 12/05
537-403	1.5	2	12/1/2005		110	1	POM-E-537-403(1.5-2.0)	4661333-HG	ABD HG DELIN SAMP RND 10 12/05
537-404	0	0.5	12/1/2005		7.07	1	POM-E-537-404(0-0.5)	4661334-HG	ABD HG DELIN SAMP RND 10 12/05
537-404	0.9	1.4	12/1/2005		41.1	1	POM-E-537-404(0.9-1.4)	4661335-HG	ABD HG DELIN SAMP RND 10 12/05
537-405	0	0.5	12/1/2005		2.09	1	POM-E-537-405(0-0.5)	4661336-HG	ABD HG DELIN SAMP RND 10 12/05
537-405	0.8	1.3	12/1/2005		4.06	1	POM-E-537-405(0.8-1.3)	4661337-HG	ABD HG DELIN SAMP RND 10 12/05
537-405	1.8	2.3	12/1/2005		12.4	1	POM-E-537-405(1.8-2.3)	4661338-HG	ABD HG DELIN SAMP RND 10 12/05
537-405	1.8	2.3	12/1/2005	DUP	14	1	POM-E-537-405(1.8-2.3)-DUP	4661342-HG	ABD HG DELIN SAMP RND 10 12/05
537-406	0	0.5	12/1/2005		2.55	1	POM-E-537-406(0-0.5)	4661343-HG	ABD HG DELIN SAMP RND 10 12/05
537-406	0.6	1.1	12/1/2005		5.31	1	POM-E-537-406(0.6-1.1)	4661344-HG	ABD HG DELIN SAMP RND 10 12/05
537-407	0	0.5	12/1/2005		1.35	1	POM-E-537-407(0-0.5)	4663789-HG	ABD HG DELIN SAMP RND 10 12/05
537-410	0	0.5	5/2/2006		16	1	POM-E-537-410(0-0.5)	4762697-HG	ABD HG DELIN SAMP RND 11 5/06
537-410	0.8	1.2	5/2/2006		19.8	1	POM-E-537-410(0.8-1.2)	4762698-HG	ABD HG DELIN SAMP RND 11 5/06
537-411	0	0.5	5/2/2006		6.73	1	POM-E-537-411(0-0.5)	4762686-HG	ABD HG DELIN SAMP RND 11 5/06
537-411	0.7	1.3	5/2/2006		7.83	1	POM-E-537-411(0.7-1.3)	4762687-HG	ABD HG DELIN SAMP RND 11 5/06
537-411	1.6	2.2	5/2/2006		160	1	POM-E-537-411(1.6-2.2)	4762688-HG	ABD HG DELIN SAMP RND 11 5/06
537-412	0	0.5	5/2/2006		4.84	1	POM-E-537-412(0-0.5)	4762692-HG	ABD HG DELIN SAMP RND 11 5/06
537-412	1.1	1.7	5/2/2006		11.3	1	POM-E-537-412(1.1-1.7)	4762693-HG	ABD HG DELIN SAMP RND 11 5/06
537-413	0	0.5	5/2/2006		1.37	1	POM-E-537-413(0.0-0.5)	4762694-HG	ABD HG DELIN SAMP RND 11 5/06
537-413	1	1.6	5/2/2006		7.17	1	POM-E-537-413(1.0-1.6)	4762695-HG	ABD HG DELIN SAMP RND 11 5/06
537-413	1	1.6	5/2/2006	DUP	7.16	1	POM-E-537-413(1.0-1.6)-DUP	4762696-HG	ABD HG DELIN SAMP RND 11 5/06
537-414	0	0.4	5/2/2006		1.78	1	POM-E-537-414(0.0-0.4)	4762699-HG	ABD HG DELIN SAMP RND 11 5/06
537-414	0.4	0.9	5/2/2006		3.74	1	POM-E-537-414(0.4-0.9)	4762700-HG	ABD HG DELIN SAMP RND 11 5/06
537-415	0	0.5	5/25/2006		7.54	1	POM-E-537-415(0-0.5)	4780421-HG	ABD HG DELIN SAMP RND 12 5/06
537-415	1.9	2.4	5/25/2006		1.53	1	POM-E-537-415(1.9-2.4)	4780422-HG	ABD HG DELIN SAMP RND 12 5/06
537-416	0	0.5	5/25/2006		2.75	1	POM-E-537-416(0-0.5)	4780423-HG	ABD HG DELIN SAMP RND 12 5/06
537-416	1.5	2	5/25/2006		353	1	POM-E-537-416(1.5-2.0)	4780424-HG	ABD HG DELIN SAMP RND 12 5/06
537-416	1.5	2	5/25/2006	DUP	194	1	POM-E-537-416(1.5-2.0)-DUP	4780434-HG	ABD HG DELIN SAMP RND 12 5/06

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Boring Id	Top (feet)	Bottom (feet)	Date Sampled	Sample Type	Mercury Results (mg/kg)	Hit	Sample Number	Lab Number	Project Name
537-417	0	0.5	5/25/2006		5.48	1	POM-E-537-417(0-0.5)	4780425-HG	ABD HG DELIN SAMP RND 12 5/06
537-417	0.5	1	5/25/2006		3.77	1	POM-E-537-417(0.5-1.0)	4780430-HG	ABD HG DELIN SAMP RND 12 5/06
537-418	0	0.5	5/25/2006		1.6	1	POM-E-537-418(0-0.5)	4780426-HG	ABD HG DELIN SAMP RND 12 5/06
537-419	1.5	2	5/25/2006		8.39	1	POM-E-537-419(1.5-2.0)	4780427-HG	ABD HG DELIN SAMP RND 12 5/06
537-420	0	0.5	5/25/2006		2.41	1	POM-E-537-420(0-0.5)	4780428-HG	ABD HG DELIN SAMP RND 12 5/06
537-421	0.4	0.9	5/25/2006		0.791	1	POM-E-537-421(0.4-0.9)	4780429-HG	ABD HG DELIN SAMP RND 12 5/06
537-422	0	0.5	6/15/2006		10	1	POM-E-537-422(0-0.5)	4795582-HG	ABD HG DELIN SAMP RND 13 6/06
537-423	0.6	1.1	6/15/2006		118	1	POM-E-537-423(0.6-1.1)	4795583-HG	ABD HG DELIN SAMP RND 13 6/06
537-423	0.6	1.1	6/15/2006	DUP	102	1	POM-E-537-423(0.6-1.1)-DUP	4795584-HG	ABD HG DELIN SAMP RND 13 6/06
537-424	0	0.5	6/15/2006		6.06	1	POM-E-537-424(0-0.5)	4795585-HG	ABD HG DELIN SAMP RND 13 6/06
537-425	1.2	1.7	6/15/2006		99.8	1	POM-E-537-425(1.2-1.7)	4795586-HG	ABD HG DELIN SAMP RND 13 6/06
537-426	0	0.4	6/15/2006		5.03	1	POM-E-537-426(0-0.4)	4795590-HG	ABD HG DELIN SAMP RND 13 6/06
537-427	0.95	1.55	6/15/2006		2.11	1	POM-E-537-427(0.95-1.55)	4795591-HG	ABD HG DELIN SAMP RND 13 6/06
537-427	2	2.5	6/15/2006		12.9	1	POM-E-537-427(2.0-2.5)	4795592-HG	ABD HG DELIN SAMP RND 13 6/06
537-428	0	0.4	6/15/2006		1.96	1	POM-E-537-428(0-0.4)	4795593-HG	ABD HG DELIN SAMP RND 13 6/06
537-429	0.1	0.6	6/15/2006		5.12	1	POM-E-537-429(0.1-0.6)	4795594-HG	ABD HG DELIN SAMP RND 13 6/06
537-430	0	0.5	7/13/2006		8.11	1	POM-E-537-430(0-0.5)	4814790-HG	ABD HG DELIN SAMP RND 14 7/06
537-431	0	0.5	8/3/2006		2.56	1	POM-E-537-431(0.0-0.5)	4832200-HG	ABD HG DELIN SAMP RND 15 8/06
537-431	0	0.5	8/3/2006	DUP	2.57	1	POM-E-537-431(0.0-0.5)-DUP	4832208-HG	ABD HG DELIN SAMP RND 15 8/06
537-431	1.2	1.7	8/3/2006		13	1	POM-E-537-431(1.2-1.7)	4832201-HG	ABD HG DELIN SAMP RND 15 8/06
537-432	0	0.5	8/3/2006		1.92	1	POM-E-537-432(0-0.5)	4832205-HG	ABD HG DELIN SAMP RND 15 8/06
537-432	1	1.5	8/3/2006		7.54	1	POM-E-537-432(1.0-1.5)	4832206-HG	ABD HG DELIN SAMP RND 15 8/06
537-433	0.9	1.4	7/13/2006		1.9	1	POM-E-537-433(0.9-1.4)	4814791-HG	ABD HG DELIN SAMP RND 14 7/06
537-433	1.8	2.3	7/13/2006		8.76	1	POM-E-537-433(1.8-2.3)	4814792-HG	ABD HG DELIN SAMP RND 14 7/06
537-435	0	0.5	7/13/2006		3.4	1	POM-E-537-435(0-0.5)	4814793-HG	ABD HG DELIN SAMP RND 14 7/06
537-435	1.975	2.475	7/13/2006		2.77	1	POM-E-537-435(1.975-2.475)	4814799-HG	ABD HG DELIN SAMP RND 14 7/06
537-435	1.975	2.475	7/13/2006	DUP	3	1	POM-E-537-435(1.975-2.475)-DUP	4814798-HG	ABD HG DELIN SAMP RND 14 7/06
537-435	4	4.5	7/13/2006		14.5	1	POM-E-537-435(4.0-4.5)	4814794-HG	ABD HG DELIN SAMP RND 14 7/06
537-434B	0.3	0.6	8/3/2006		3.15	1	POM-E-537-434B(0.3-0.6)	4832207-HG	ABD HG DELIN SAMP RND 15 8/06
537-436	0.6	1.1	8/3/2006		0.908	1	POM-E-537-436(0.6-1.1)	4832209-HG	ABD HG DELIN SAMP RND 15 8/06
537-437	1.4	1.9	8/3/2006		8.54	1	POM-E-537-437(1.4-1.9)	4832210-HG	ABD HG DELIN SAMP RND 15 8/06
537-438	0	0.5	8/24/2006		1.54	1	POM-E-537-438(0-0.5)	4851145-HG	ABD HG DELIN SAMP RND 16 8/06
537-440	0.9	1.4	8/24/2006		6.17	1	POM-E-537-440(0.9-1.4)	4851146-HG	ABD HG DELIN SAMP RND 16 8/06
537-440	0.9	1.4	8/24/2006	DUP	6.61	1	POM-E-537-440(0.9-1.4)-DUP	4851150-HG	ABD HG DELIN SAMP RND 16 8/06
537-442	0.9	1.4	9/7/2006		5.96	1	POM-E-537-442(0.9-1.4)	4860502-HG	ABD HG DELIN SAMP RND 17 9/06
537-442	0.9	1.4	9/7/2006	DUP	6.34	1	POM-E-537-442(0.9-1.4)-DUP	4860506-HG	ABD HG DELIN SAMP RND 17 9/06
537-443	1.3	1.8	9/7/2006		7.77	1	POM-E-537-443(1.3-1.8)	4860507-HG	ABD HG DELIN SAMP RND 17 9/06
537-444	1.1	1.6	9/21/2006		1.27	1	POM-E-537-444(1.1-1.6)	4871846-HG	ABD HG DELIN SAMP RND 18 9/06
537-444	1.1	1.6	9/21/2006	DUP	1.36	1	POM-E-537-444(1.1-1.6)-DUP	4871850-HG	ABD HG DELIN SAMP RND 18 9/06
537-445	1	1.5	9/21/2006		1.89	1	POM-E-537-445(1.0-1.5)	4871851-HG	ABD HG DELIN SAMP RND 18 9/06
537-445	2	2.5	9/21/2006		11.8	1	POM-E-537-445(2.0-2.5)	4871852-HG	ABD HG DELIN SAMP RND 18 9/06
537-446	1.5	2	9/21/2006		5.56	1	POM-E-537-446(1.5-2.0)	4871853-HG	ABD HG DELIN SAMP RND 18 9/06
537-447	1.3	1.6	9/21/2006		7.07	1	POM-E-537-447(1.3-1.6)	4871854-HG	ABD HG DELIN SAMP RND 18 9/06
537-448	0	0.5	1/11/2007		1.03	1	POM-E-537-448(0.0-0.5)	4959120-HG	ABD HG DELIN SAMP RND 19 1/07
537-449	0	0.5	1/11/2007		6.32 J	1	POM-E-537-449(0.0-0.5)	4959121-HG	ABD HG DELIN SAMP RND 19 1/07
537-449	1.05	1.55	1/11/2007		14.1	1	POM-E-537-449(1.05-1.55)	4959115-HG	ABD HG DELIN SAMP RND 19 1/07
537-449	1.05	1.55	1/11/2007	DUP	12.5	1	POM-E-537-449(1.05-1.55)-DUP	4959119-HG	ABD HG DELIN SAMP RND 19 1/07
537-449	2.1	2.6	1/11/2007		2.92	1	POM-E-537-449(2.1-2.6)	4959123-HG	ABD HG DELIN SAMP RND 19 1/07
537-450	0	0.5	1/11/2007		2.89	1	POM-E-537-450(0.0-0.5)	4959122-HG	ABD HG DELIN SAMP RND 19 1/07
537-451	0	0.5	1/11/2007		1.57 J	1	POM-E-537-451(0.0-0.5)	4959124-HG	ABD HG DELIN SAMP RND 19 1/07
537-451	1.25	1.75	1/11/2007		2.6 J	1	POM-E-537-451(1.25-1.75)	4959125-HG	ABD HG DELIN SAMP RND 19 1/07
537-451	2.5	3	1/11/2007		12.6 J	1	POM-E-537-451(2.5-3.0)	4959126-HG	ABD HG DELIN SAMP RND 19 1/07
537-452	0	0.5	1/12/2007		0.913 J	1	POM-E-537-452(0.0-0.5)	4959127-HG	ABD HG DELIN SAMP RND 19 1/07
537-452	0.75	1.25	1/12/2007		16.4 J	1	POM-E-537-452(0.75-1.25)	4959128-HG	ABD HG DELIN SAMP RND 19 1/07
537-452	0.75	1.25	1/12/2007	DUP	38.6 J	1	POM-E-537-452(0.75-1.25)-DUP	4959129-HG	ABD HG DELIN SAMP RND 19 1/07
537-452	1.5	2	1/12/2007		0.287 J	1	POM-E-537-452(1.5-2.0)	4959130-HG	ABD HG DELIN SAMP RND 19 1/07
537-453	0	0.5	1/12/2007		5.92 J	1	POM-E-537-453(0.0-0.5)	4959134-HG	ABD HG DELIN SAMP RND 19 1/07
537-453	1.35	1.85	1/12/2007		3.64 J	1	POM-E-537-453(1.35-1.85)	4959135-HG	ABD HG DELIN SAMP RND 19 1/07
537-453	2.7	3.2	1/12/2007		68.3 J	1	POM-E-537-453(2.7-3.2)	4959136-HG	ABD HG DELIN SAMP RND 19 1/07

Table 1
Total Mercury Analytical Results
2003 through 2007
DuPont Pompton Lakes Works
Pompton Lakes, New Jersey

Boring Id	Top (feet)	Bottom (feet)	Date Sampled	Sample Type	Mercury Results (mg/kg)	Hit	Sample Number	Lab Number	Project Name
537-454	0	0.5	1/12/2007		0.609	1	POM-E-537-454(0.0-0.5)	4959144-HG	ABD HG DELIN SAMP RND 19 1/07
537-454	1.4	1.9	1/12/2007		15	1	POM-E-537-454(1.4-1.9)	4959145-HG	ABD HG DELIN SAMP RND 19 1/07
537-455	0	0.5	1/12/2007		0.375	1	POM-E-537-455(0.0-0.5)	4959146-HG	ABD HG DELIN SAMP RND 19 1/07
537-455	1.1	1.6	1/12/2007		4.44	1	POM-E-537-455(1.1-1.6)	4959147-HG	ABD HG DELIN SAMP RND 19 1/07
537-456	0	0.5	1/12/2007		0.764	1	POM-E-537-456(0.0-0.5)	4959148-HG	ABD HG DELIN SAMP RND 19 1/07
537-456	0.85	1.35	1/12/2007		2.2	1	POM-E-537-456(0.85-1.35)	4959149-HG	ABD HG DELIN SAMP RND 19 1/07
537-456	1.8	2.3	1/12/2007		15.6	1	POM-E-537-456(1.8-2.3)	4959150-HG	ABD HG DELIN SAMP RND 19 1/07
537-457	0	0.5	1/12/2007		0.456 J	1	POM-E-537-457(0.0-0.5)	4959138-HG	ABD HG DELIN SAMP RND 19 1/07
537-457	1.1	1.5	1/12/2007		5.82 J	1	POM-E-537-457(1.1-1.5)	4959139-HG	ABD HG DELIN SAMP RND 19 1/07
537-458	0	0.5	1/12/2007		0.912 J	1	POM-E-537-458(0.0-0.5)	4959140-HG	ABD HG DELIN SAMP RND 19 1/07
537-458	1.2	1.7	1/12/2007		12.4 J	1	POM-E-537-458(1.2-1.7)	4959141-HG	ABD HG DELIN SAMP RND 19 1/07
537-459	0	0.5	1/12/2007		0.132 J	1	POM-E-537-459(0.0-0.5)	4959142-HG	ABD HG DELIN SAMP RND 19 1/07
537-459	0.9	1.4	1/12/2007		3.55 J	1	POM-E-537-459(0.9-1.4)	4959143-HG	ABD HG DELIN SAMP RND 19 1/07
537-460	0	0.5	1/16/2007		0.352 J	1	POM-E-537-460(0.0-0.5)	4961288-HG	ABD HG DELIN SAMP RND 19 1/07
537-460	1.5	2	1/16/2007		14.1	1	POM-E-537-460(1.5-2.0)	4961289-HG	ABD HG DELIN SAMP RND 19 1/07
537-461	0	0.5	1/16/2007		0.2 J	1	POM-E-537-461(0.0-0.5)	4961290-HG	ABD HG DELIN SAMP RND 19 1/07
537-461	1.2	1.7	1/16/2007		6.02	1	POM-E-537-461(1.2-1.7)	4961291-HG	ABD HG DELIN SAMP RND 19 1/07
537-461	1.2	1.7	1/16/2007	DUP	11.3	1	POM-E-537-461(1.2-1.7)-DUP	4961292-HG	ABD HG DELIN SAMP RND 19 1/07
537-461	2.4	2.9	1/16/2007		22.5	1	POM-E-537-461(2.4-2.9)	4961296-HG	ABD HG DELIN SAMP RND 19 1/07
537-462	0	0.5	1/16/2007		0.302 J	1	POM-E-537-462(0.0-0.5)	4961293-HG	ABD HG DELIN SAMP RND 19 1/07
537-462	0.9	1.4	1/16/2007		2.89	1	POM-E-537-462(0.9-1.4)	4961294-HG	ABD HG DELIN SAMP RND 19 1/07
537-462	1.7	2.2	1/16/2007		13.9	1	POM-E-537-462(1.7-2.2)	4961295-HG	ABD HG DELIN SAMP RND 19 1/07
537-463	0	0.5	1/16/2007		2.06	1	POM-E-537-463(0.0-0.5)	4961302-HG	ABD HG DELIN SAMP RND 19 1/07
537-463	1.4	1.9	1/16/2007		16.3	1	POM-E-537-463(1.4-1.9)	4961303-HG	ABD HG DELIN SAMP RND 19 1/07
537-464	0	0.5	1/16/2007		2.25	1	POM-E-537-464(0.0-0.5)	4961304-HG	ABD HG DELIN SAMP RND 19 1/07
537-464	0.5	1	1/16/2007		0.0441 J	1	POM-E-537-464(0.5-1.0)	4961305-HG	ABD HG DELIN SAMP RND 19 1/07
537-465	0	0.5	1/16/2007		2.04	1	POM-E-537-465(0.0-0.5)	4961306-HG	ABD HG DELIN SAMP RND 19 1/07
537-465	1.1	1.6	1/16/2007		15.7	1	POM-E-537-465(1.1-1.6)	4961297-HG	ABD HG DELIN SAMP RND 19 1/07
537-465	2.1	2.6	1/16/2007		17.7	1	POM-E-537-465(2.1-2.6)	4961307-HG	ABD HG DELIN SAMP RND 19 1/07
537-466	0	0.5	1/16/2007		1.71	1	POM-E-537-466(0.0-0.5)	4961308-HG	ABD HG DELIN SAMP RND 19 1/07
537-466	0.5	1	1/16/2007		0.0223 J	1	POM-E-537-466(0.5-1.0)	4961309-HG	ABD HG DELIN SAMP RND 19 1/07
537-467	0	0.5	1/16/2007		1.89	1	POM-E-537-467(0.0-0.5)	4961310-HG	ABD HG DELIN SAMP RND 19 1/07
537-467	0.9	1.4	1/16/2007		3.79	1	POM-E-537-467(0.9-1.4)	4961311-HG	ABD HG DELIN SAMP RND 19 1/07
537-467	1.7	2.2	1/16/2007		25.3	1	POM-E-537-467(1.7-2.2)	4961312-HG	ABD HG DELIN SAMP RND 19 1/07
537-468	0	0.5	1/16/2007		2.47	1	POM-E-537-468(0.0-0.5)	4961313-HG	ABD HG DELIN SAMP RND 19 1/07
537-469	0	0.5	1/17/2007		1.11	1	POM-E-537-469(0.0-0.5)	4962084-HG	ABD HG DELIN SAMP RND 19 1/07
537-469	1.1	1.6	1/17/2007		2.56	1	POM-E-537-469(1.1-1.6)	4962085-HG	ABD HG DELIN SAMP RND 19 1/07
537-469	1.1	1.6	1/17/2007	DUP	2.38	1	POM-E-537-469(1.1-1.6)-DUP	4962090-HG	ABD HG DELIN SAMP RND 19 1/07
537-469	2	2.5	1/17/2007		10.6	1	POM-E-537-469(2.0-2.5)	4962086-HG	ABD HG DELIN SAMP RND 19 1/07
537-470	0	0.5	1/17/2007		2.29	1	POM-E-537-470(0.0-0.5)	4962096-HG	ABD HG DELIN SAMP RND 19 1/07
537-470	0.6	1.1	1/17/2007		18.3	1	POM-E-537-470(0.6-1.1)	4962097-HG	ABD HG DELIN SAMP RND 19 1/07
537-471	0	0.5	1/17/2007		0.488	1	POM-E-537-471(0.0-0.5)	4962098-HG	ABD HG DELIN SAMP RND 19 1/07
537-471	0.5	1	1/17/2007		0.0201 J	1	POM-E-537-471(0.5-1.0)	4962099-HG	ABD HG DELIN SAMP RND 19 1/07
537-472	0	0.5	1/17/2007		1.18	1	POM-E-537-472(0.0-0.5)	4962100-HG	ABD HG DELIN SAMP RND 19 1/07
537-472	1.1	1.6	1/17/2007		2.1	1	POM-E-537-472(1.1-1.6)	4962101-HG	ABD HG DELIN SAMP RND 19 1/07
537-472	2.1	2.6	1/17/2007		22	1	POM-E-537-472(2.1-2.6)	4962102-HG	ABD HG DELIN SAMP RND 19 1/07
537-473	0	0.5	1/17/2007		1.28	1	POM-E-537-473(0.0-0.5)	4962091-HG	ABD HG DELIN SAMP RND 19 1/07
537-473	0.6	1.1	1/17/2007		2.58	1	POM-E-537-473(0.6-1.1)	4962092-HG	ABD HG DELIN SAMP RND 19 1/07
537-474	0	0.5	1/17/2007		2.42	1	POM-E-537-474(0.0-0.5)	4962093-HG	ABD HG DELIN SAMP RND 19 1/07
537-474	1	1.5	1/17/2007		23.6	1	POM-E-537-474(1.0-1.5)	4962094-HG	ABD HG DELIN SAMP RND 19 1/07
537-475	0	0.5	1/11/2007		0.229 J	1	POM-E-537-475(0.0-0.5)	4959110-HG	ABD HG DELIN SAMP RND 19 1/07
537-475	1.2	1.7	1/11/2007		2.88	1	POM-E-537-475(1.2-1.7)	4959111-HG	ABD HG DELIN SAMP RND 19 1/07
537-476	0	0.5	1/11/2007		0.281 J	1	POM-E-537-476(0.0-0.5)	4959112-HG	ABD HG DELIN SAMP RND 19 1/07
537-476	1.5	2	1/11/2007		0.0525 J	1	POM-E-537-476(1.5-2.0)	4959113-HG	ABD HG DELIN SAMP RND 19 1/07
537-477	0	0.5	4/19/2007		2.75	1	POM-E-537-477(0.0-0.5)	5035879-HG	ABD HG DELIN RND 20 4/07
537-477	0.7	1.2	4/19/2007		10	1	POM-E-537-477(0.7-1.2)	5035880-HG	ABD HG DELIN RND 20 4/07
537-478	0	0.5	4/19/2007		1.07	1	POM-E-537-478(0.0-0.5)	5035881-HG	ABD HG DELIN RND 20 4/07
537-478	0.9	1.4	4/19/2007		8.97	1	POM-E-537-478(0.9-1.4)	5035882-HG	ABD HG DELIN RND 20 4/07
537-478	1.9	2.4	4/19/2007		17.8	1	POM-E-537-478(1.9-2.4)	5035883-HG	ABD HG DELIN RND 20 4/07

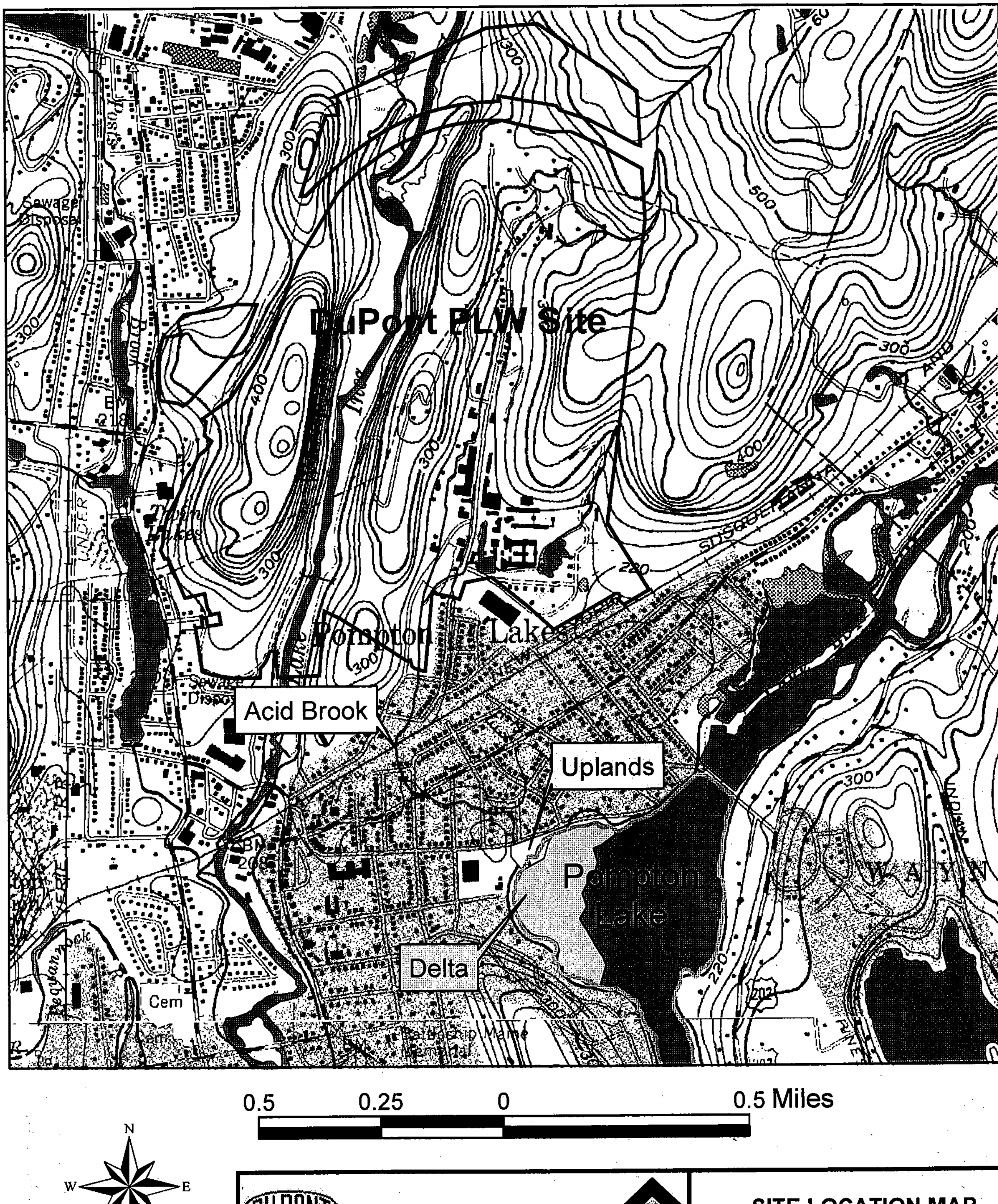
Table 1
Total Mercury Analytical Results
2003 through 2007
DuPont Pompton Lakes Works
Pompton Lakes, New Jersey

Boring Id	Top (feet)	Bottom (feet)	Date Sampled	Sample Type	Mercury Results (mg/kg)	Hit	Sample Number	Lab Number	Project Name
537-478	1.9	2.4	4/19/2007	DUP	20.6	1	POM-E-537-478(1.9-2.4)-DUP	5035887-HG	ABD HG DELIN RND 20 4/07
537-479	0	0.5	4/19/2007		0.893	1	POM-E-537-479(0.0-0.5)	5035888-HG	ABD HG DELIN RND 20 4/07
537-479	0.9	1.4	4/19/2007		10.4	1	POM-E-537-479(0.9-1.4)	5035889-HG	ABD HG DELIN RND 20 4/07
537-480	0	0.5	4/20/2007		1.4	1	POM-E-537-480(0.0-0.5)	5035890-HG	ABD HG DELIN RND 20 4/07
537-480	1.2	1.7	4/20/2007		58.5	1	POM-E-537-480(1.2-1.7)	5035891-HG	ABD HG DELIN RND 20 4/07
537-481	0	0.5	5/1/2007		0.624 J	1	POM-E-537-481(0-0.5)	5045735-HG	ABD HG DELIN RND 20 4/07
537-481	0	0.5	5/1/2007	DUP	0.622 J	1	POM-E-537-481(0-0.5)-DUP	5045739-HG	ABD HG DELIN RND 20 4/07
537-482	0	0.5	4/20/2007		2.16	1	POM-E-537-482(0.0-0.5)	5035892-HG	ABD HG DELIN RND 20 4/07
537-482	1.2	1.7	4/20/2007		25.4	1	POM-E-537-482(1.2-1.7)	5035893-HG	ABD HG DELIN RND 20 4/07
537-483	0	0.5	4/20/2007		1.96	1	POM-E-537-483(0.0-0.5)	5035894-HG	ABD HG DELIN RND 20 4/07
537-483	0.7	1.2	4/20/2007		38	1	POM-E-537-483(0.7-1.2)	5035895-HG	ABD HG DELIN RND 20 4/07
537-484	0	0.5	4/20/2007		0.913	1	POM-E-537-484(0.0-0.5)	5035896-HG	ABD HG DELIN RND 20 4/07
537-484	0.9	1.4	4/20/2007		3.08	1	POM-E-537-484(0.9-1.4)	5035897-HG	ABD HG DELIN RND 20 4/07
537-484	1.8	2.3	4/20/2007		19.6	1	POM-E-537-484(1.8-2.3)	5035901-HG	ABD HG DELIN RND 20 4/07
537-484	1.8	2.3	4/20/2007	DUP	20.5	1	POM-E-537-484(1.8-2.3)-DUP	5035902-HG	ABD HG DELIN RND 20 4/07
537-485	0	0.5	4/20/2007		1.91	1	POM-E-537-485(0.0-0.5)	5035903-HG	ABD HG DELIN RND 20 4/07
537-485	0.5	0.8	4/20/2007		1.07	1	POM-E-537-485(0.5-0.8)	5035904-HG	ABD HG DELIN RND 20 4/07
537-486	0	0.5	4/23/2007		0.357 J	1	POM-E-537-486(0.0-0.5)	5035905-HG	ABD HG DELIN RND 20 4/07
537-487	0	0.5	4/11/2007		0.811	1	POM-E-537-487(0.0-0.5)	5027996-HG	ABD HG DELIN RND 20 4/07
537-487	0.5	1	4/11/2007		0.732	1	POM-E-537-487(0.5-1.0)	5027997-HG	ABD HG DELIN RND 20 4/07
537-488	0	0.5	4/11/2007		0.636	1	POM-E-537-488(0.0-0.5)	5027998-HG	ABD HG DELIN RND 20 4/07
537-488	0.95	1.45	4/11/2007		2.56	1	POM-E-537-488(0.95-1.45)	5027999-HG	ABD HG DELIN RND 20 4/07
537-488	1.9	2.4	4/11/2007		6.86	1	POM-E-537-488(1.9-2.4)	5028000-HG	ABD HG DELIN RND 20 4/07
537-489	0	0.5	4/11/2007		2.58	1	POM-E-537-489(0.0-0.5)	5027986-HG	ABD HG DELIN RND 20 4/07
537-489	1	1.5	4/11/2007		10.8	1	POM-E-537-489(1.0-1.5)	5027987-HG	ABD HG DELIN RND 20 4/07
537-489	2	2.5	4/11/2007		19.7	1	POM-E-537-489(2.0-2.5)	5027988-HG	ABD HG DELIN RND 20 4/07
537-489	2	2.5	4/11/2007	DUP	19.4	1	POM-E-537-489(2.0-2.5)-DUP	5027993-HG	ABD HG DELIN RND 20 4/07
537-490	0	0.5	4/11/2007		0.379	1	POM-E-537-490(0.0-0.5)	5027992-HG	ABD HG DELIN RND 20 4/07
537-491	0	0.4	4/11/2007		0.493	1	POM-E-537-491(0.0-0.4)	5028001-HG	ABD HG DELIN RND 20 4/07
537-491	0.6	1.1	4/11/2007		21.2	1	POM-E-537-491(0.6-1.1)	5028002-HG	ABD HG DELIN RND 20 4/07
537-492	0	0.5	4/11/2007		1.79	1	POM-E-537-492(0.0-0.5)	5028003-HG	ABD HG DELIN RND 20 4/07
537-492	1.4	1.9	4/11/2007		2.6	1	POM-E-537-492(1.4-1.9)	5028004-HG	ABD HG DELIN RND 20 4/07
537-492	2.8	3.3	4/11/2007		20.2	1	POM-E-537-492(2.8-3.3)	5028005-HG	ABD HG DELIN RND 20 4/07
537-493	0	0.5	4/11/2007		0.927	1	POM-E-537-493(0.0-0.5)	5028006-HG	ABD HG DELIN RND 20 4/07
537-493	1.25	1.85	4/11/2007		8.72	1	POM-E-537-493(1.25-1.85)	5028007-HG	ABD HG DELIN RND 20 4/07
537-493	2.5	3	4/11/2007		0.0481 J	1	POM-E-537-493(2.5-3.0)	5028008-HG	ABD HG DELIN RND 20 4/07
537-494	0	0.5	4/23/2007		11.6	1	POM-E-537-494(0.0-0.5)	5035907-HG	ABD HG DELIN RND 20 4/07
537-494	0.9	1.4	4/23/2007		21.4	1	POM-E-537-494(0.9-1.4)	5035908-HG	ABD HG DELIN RND 20 4/07
537-494	1.8	2.3	4/23/2007		361	1	POM-E-537-494(1.8-2.3)	5035909-HG	ABD HG DELIN RND 20 4/07
537-495	0	0.5	4/23/2007		65.1	1	POM-E-537-495(0.0-0.5)	5035910-HG	ABD HG DELIN RND 20 4/07
537-495	0.5	0.8	4/23/2007		5.88	1	POM-E-537-495(0.5-0.8)	5035911-HG	ABD HG DELIN RND 20 4/07
537-496	0	0.5	4/23/2007		1.45	1	POM-E-537-496(0.0-0.5)	5035912-HG	ABD HG DELIN RND 20 4/07
537-496	0.5	1	4/23/2007		6.14	1	POM-E-537-496(0.5-1.0)	5035913-HG	ABD HG DELIN RND 20 4/07
537-496	0.5	1	4/23/2007	DUP	7.4	1	POM-E-537-496(0.5-1.0)-DUP	5035914-HG	ABD HG DELIN RND 20 4/07
537-497	0	0.5	4/23/2007		4.25	1	POM-E-537-497(0.0-0.5)	5035915-HG	ABD HG DELIN RND 20 4/07
537-497	1.25	1.75	4/23/2007		5.81	1	POM-E-537-497(1.25-1.75)	5035916-HG	ABD HG DELIN RND 20 4/07
537-497	2.5	3	4/23/2007		118	1	POM-E-537-497(2.5-3.0)	5035920-HG	ABD HG DELIN RND 20 4/07
537-498	0	0.5	4/23/2007		4.08	1	POM-E-537-498(0.0-0.5)	5035921-HG	ABD HG DELIN RND 20 4/07
537-498	0.5	1	4/23/2007		5.55	1	POM-E-537-498(0.5-1.0)	5035922-HG	ABD HG DELIN RND 20 4/07
537-499	0	0.5	8/22/2007		1.77	1	POM-E-537-499(0.0-0.5)	5137230-HG	ABD HG DELIN SAMP RND 21 8/07
537-499	1.3	1.8	8/22/2007		3.03	1	POM-E-537-499(1.3-1.8)	5137236-HG	ABD HG DELIN SAMP RND 21 8/07
537-499	2.5	3	8/22/2007		12.9	1	POM-E-537-499(2.5-3.0)	5137232-HG	ABD HG DELIN SAMP RND 21 8/07
537-500	0	0.5	8/22/2007		1.56	1	POM-E-537-500(0.0-0.5)	5137231-HG	ABD HG DELIN SAMP RND 21 8/07
537-500	0.8	1.3	8/22/2007		2.25	1	POM-E-537-500(0.8-1.3)	5137238-HG	ABD HG DELIN SAMP RND 21 8/07
537-500	1.6	2.1	8/22/2007		9.67	1	POM-E-537-500(1.6-2.1)	5137237-HG	ABD HG DELIN SAMP RND 21 8/07
537-500	1.6	2.1	8/22/2007	DUP	9.15	1	POM-E-537-500(1.6-2.1)-DUP	5137240-HG	ABD HG DELIN SAMP RND 21 8/07
537-501	1.15	1.65	8/23/2007		4.01	1	POM-E-537-501(1.15-1.65)	5140273-HG	ABD HG DELIN SAMP RND 21 8/07
537-501	2.3	2.8	8/23/2007		7.09	1	POM-E-537-501(2.3-2.8)	5140272-HG	ABD HG DELIN SAMP RND 21 8/07
537-502	0.5	1	8/23/2007		5.81	1	POM-E-537-502(0.5-1.0)	5140274-HG	ABD HG DELIN SAMP RND 21 8/07

Table 1
Total Mercury Analytical Results
2003 through 2007
DuPont Pompton Lakes Works
Pompton Lakes, New Jersey

Boring Id	Top (feet)	Bottom (feet)	Date Sampled	Sample Type	Mercury Results (mg/kg)	Hit	Sample Number	Lab Number	Project Name
537-503	0.7	1.2	8/23/2007		7.87	1	POM-E-537-503(0.7-1.2)	5142138-HG	ABD HG DELIN SAMP RND 21 8/07
537-505	1.2	1.7	8/22/2007		5.02	1	POM-E-537-505(1.2-1.7)	5137239-HG	ABD HG DELIN SAMP RND 21 8/07
537-506	1.1	1.6	8/22/2007		1.45	1	POM-E-537-506(1.1-1.6)	5140271-HG	ABD HG DELIN SAMP RND 21 8/07
537-506	2.2	2.7	8/22/2007		5.05	1	POM-E-537-506(2.2-2.7)	5140270-HG	ABD HG DELIN SAMP RND 21 8/07
537-508	0.5	0.85	8/23/2007		5.58	1	POM-E-537-508(0.5-0.85)	5140275-HG	ABD HG DELIN SAMP RND 21 8/07
537-509	1.1	1.6	10/17/2007		4.48	1	POM-E-537-509(1.1-1.6)	5189357-HG	ABD HG DELIN SAMP RND 22 10/07
537-510	0.7	1.2	10/17/2007		4.68	1	POM-E-537-510(0.7-1.2)	5189361-HG	ABD HG DELIN SAMP RND 22 10/07
537-510	0.7	1.2	10/17/2007	DUP	5.48	1	POM-E-537-510(0.7-1.2)-DUP	5189362-HG	ABD HG DELIN SAMP RND 22 10/07
537-511	1.1	1.6	10/18/2007		3.96	1	POM-E-537-511(1.1-1.6)	5190899-HG	ABD HG DELIN SAMP RND 22 10/07
537-512	0.5	0.9	10/18/2007		1.46	1	POM-E-537-512(0.5-0.9)	5190900-HG	ABD HG DELIN SAMP RND 22 10/07
537-513	0.5	0.9	10/18/2007		0.401 J	1	POM-E-537-513(0.5-0.9)	5190901-HG	ABD HG DELIN SAMP RND 22 10/07
537-518	2	2.5	10/17/2007		1.86	1	POM-E-537-518(2.0-2.5)	5189363-HG	ABD HG DELIN SAMP RND 22 10/07
537-518	4	4.5	10/17/2007		2.16	1	POM-E-537-518(4.0-4.5)	5189364-HG	ABD HG DELIN SAMP RND 22 10/07
537-519	1	1.5	10/17/2007		1.41	1	POM-E-537-519(1.0-1.5)	5189365-HG	ABD HG DELIN SAMP RND 22 10/07
537-520	0.5	1	10/18/2007		1.08	1	POM-E-537-520(0.5-1.0)	5190888-HG	ABD HG DELIN SAMP RND 22 10/07
537-527	1.25	1.75	11/14/2007		13.2	1	POM-E-537-527(1.25-1.75)	5214659-HG	ABD HG DELIN SAMP RND 23 11/07
537-527	2.5	3	11/14/2007		0.0456 J	1	POM-E-537-527(2.5-3.0)	5214665-HG	ABD HG DELIN SAMP RND 23 11/07
537-527	2.5	3	11/14/2007	DUP	0.0497 J	1	POM-E-537-527(2.5-3.0)-DUP	5214663-HG	ABD HG DELIN SAMP RND 23 11/07
537-529	0.7	1.2	11/14/2007		0.388	1	POM-E-537-529(0.7-1.2)	5214666-HG	ABD HG DELIN SAMP RND 23 11/07
537-530	2.35	2.87	11/14/2007		3.31	1	POM-E-537-530(2.35-2.87)	5217236-HG	ABD HG DELIN SAMP RND 23 11/07
537-530	4.7	5.2	11/14/2007		2.16	1	POM-E-537-530(4.7-5.2)	5217237-HG	ABD HG DELIN SAMP RND 23 11/07
537-531	2.15	2.65	11/14/2007		1.73	1	POM-E-537-531(2.15-2.65)	5220356-HG	ABD HG DELIN SAMP RND 23 11/07
537-531	4.3	4.8	11/14/2007		1.88	1	POM-E-537-531(4.3-4.8)	5220355-HG	ABD HG DELIN SAMP RND 23 11/07
537-532	1.5	2	11/14/2007		2.53	1	POM-E-537-532(1.5-2.0)	5220353-HG	ABD HG DELIN SAMP RND 23 11/07
537-532	3	3.5	11/14/2007		0.0193 J	1	POM-E-537-532(3.0-3.5)	5220354-HG	ABD HG DELIN SAMP RND 23 11/07
537-533	1.6	2.1	11/14/2007		1.36	1	POM-E-537-533(1.6-2.1)	5228068-HG	ABD HG DELIN SAMP RND 23 11/07

FIGURES



Base is portions of the USGS Wanaque and Pompton Plains QUAD

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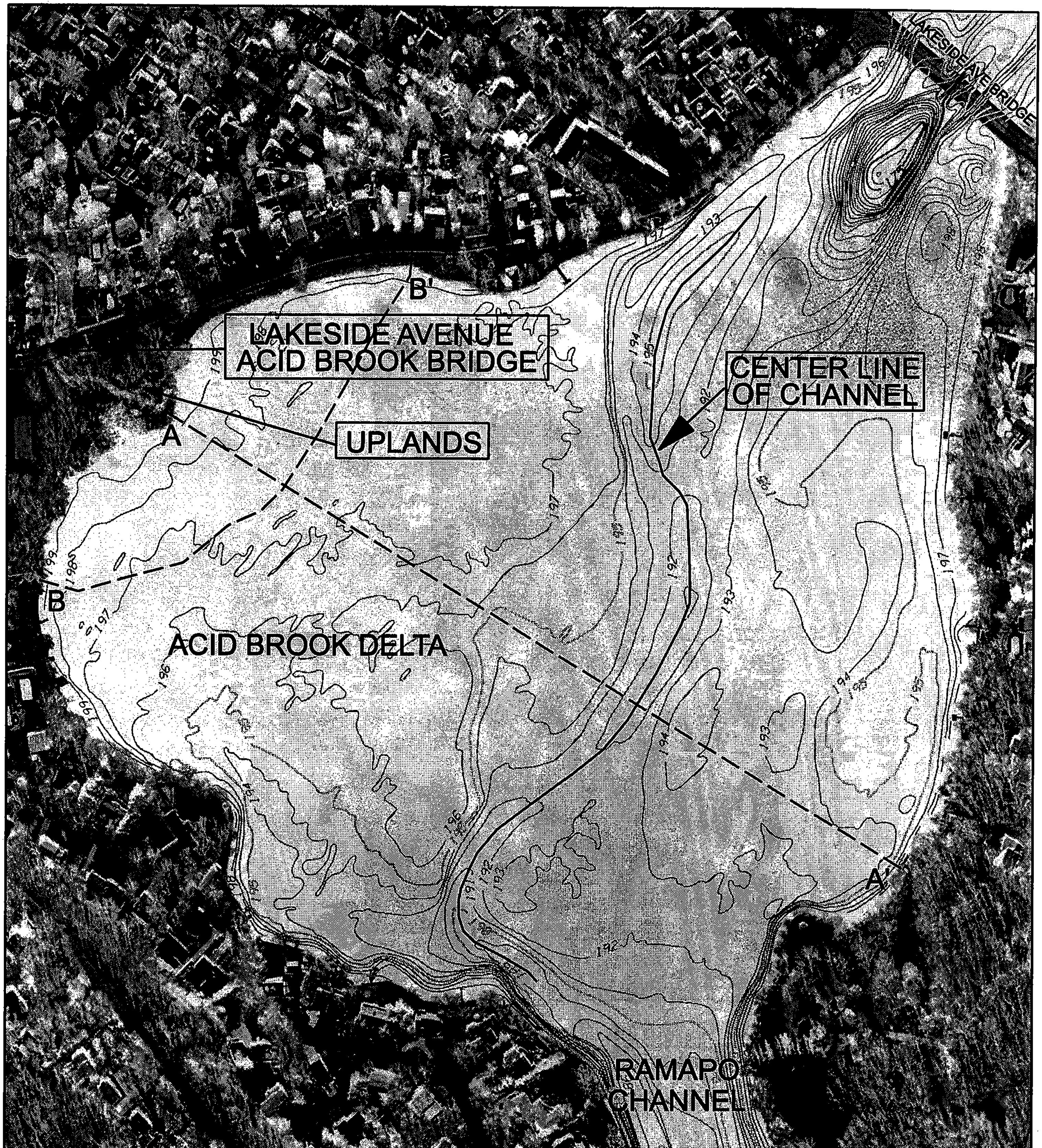
An Alliance between DuPont and URS Diamond Group
2000 Cannonball Road
Pompton Lakes, New Jersey 07442

SITE LOCATION MAP

DuPont Pompton Lakes Works
Pompton Lakes, New Jersey
Figure 1



LEGEND

Bathymetry NAVD 88 feet MSL based on April 2007 soundings collected by Ocean Survey, Inc.

184 1 foot contour

185 5 foot contour

Scale: 1 inch = 300 feet

Base maps are portions of the New Jersey 2002 High Resolution Orthophotography 5000 foot Tiles J4A9 and J4A13.

Drawing: RASR Fig_01A.dgn

CORPORATE REMEDIATION GROUP

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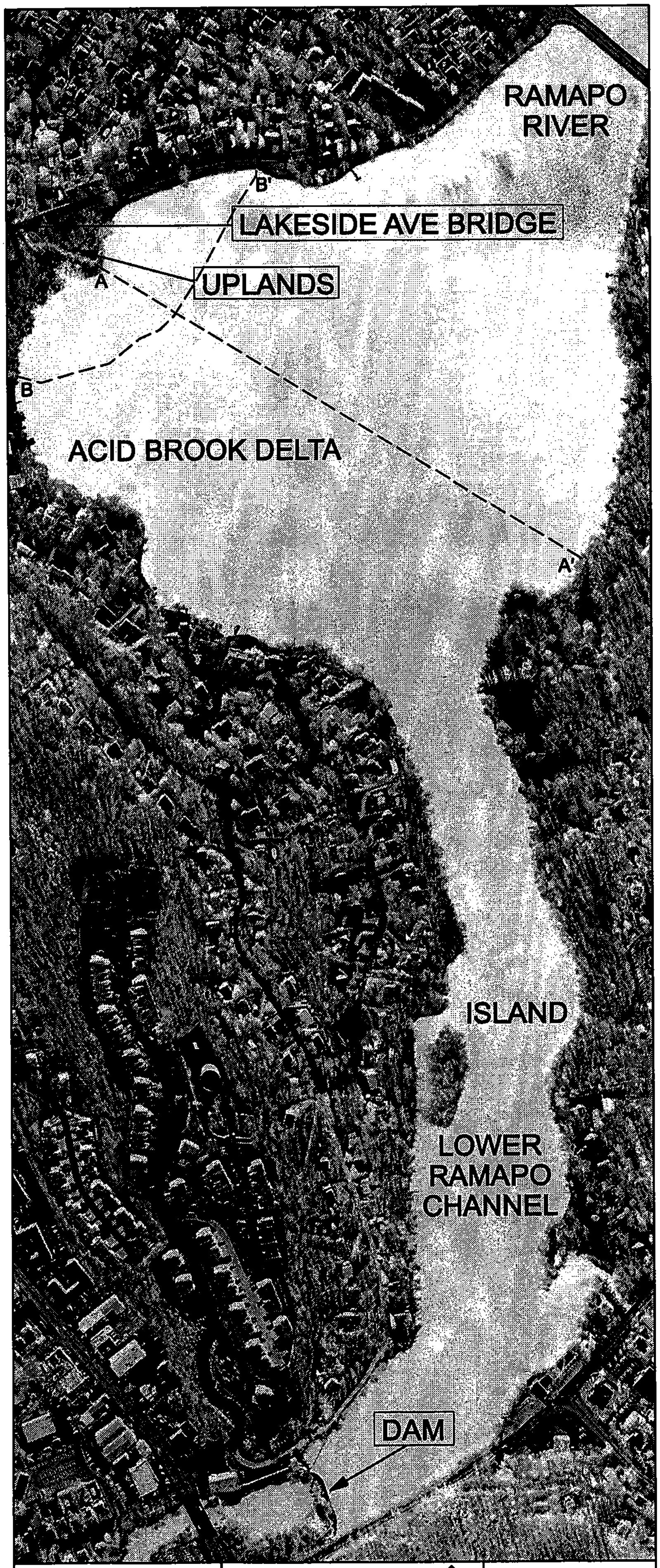
Pompton Lake, New Jersey

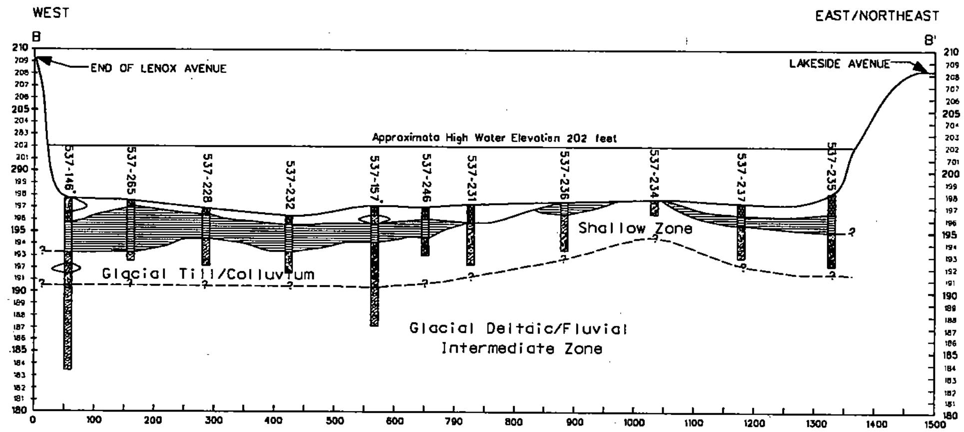
Aerial Extent of the Acid Brook Delta

Acid Brook Delta
DuPont Pompton Lakes Works

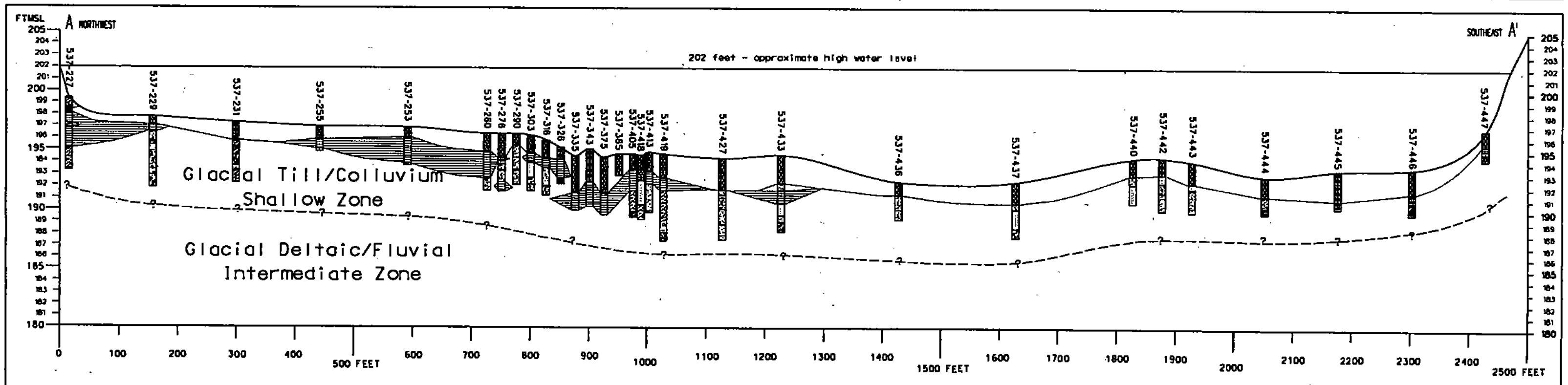
Figure 1A



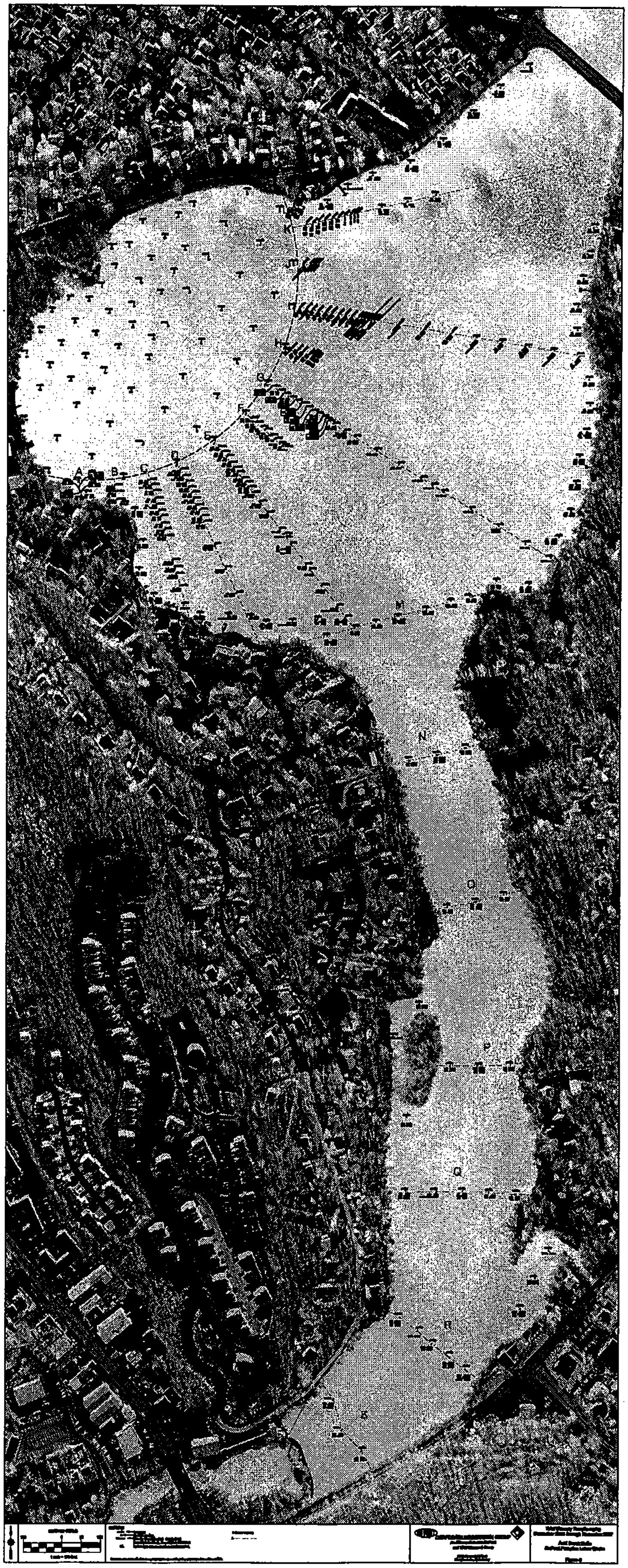
LEGEND 1 Inch = 370 feet Base maps are portions of the New Jersey 2002 High Resolution Orthophotography 5000 foot Tiles J4A9 and J4A13.	CORPORATE REMEDIATION GROUP *An Alliance Between DuPont and URS Diamond Group* 2000 Cannonball Road Pompton Lakes, New Jersey	Pompton Lake Site Map Acid Brook Delta DuPont Pompton Lakes Works Figure 2

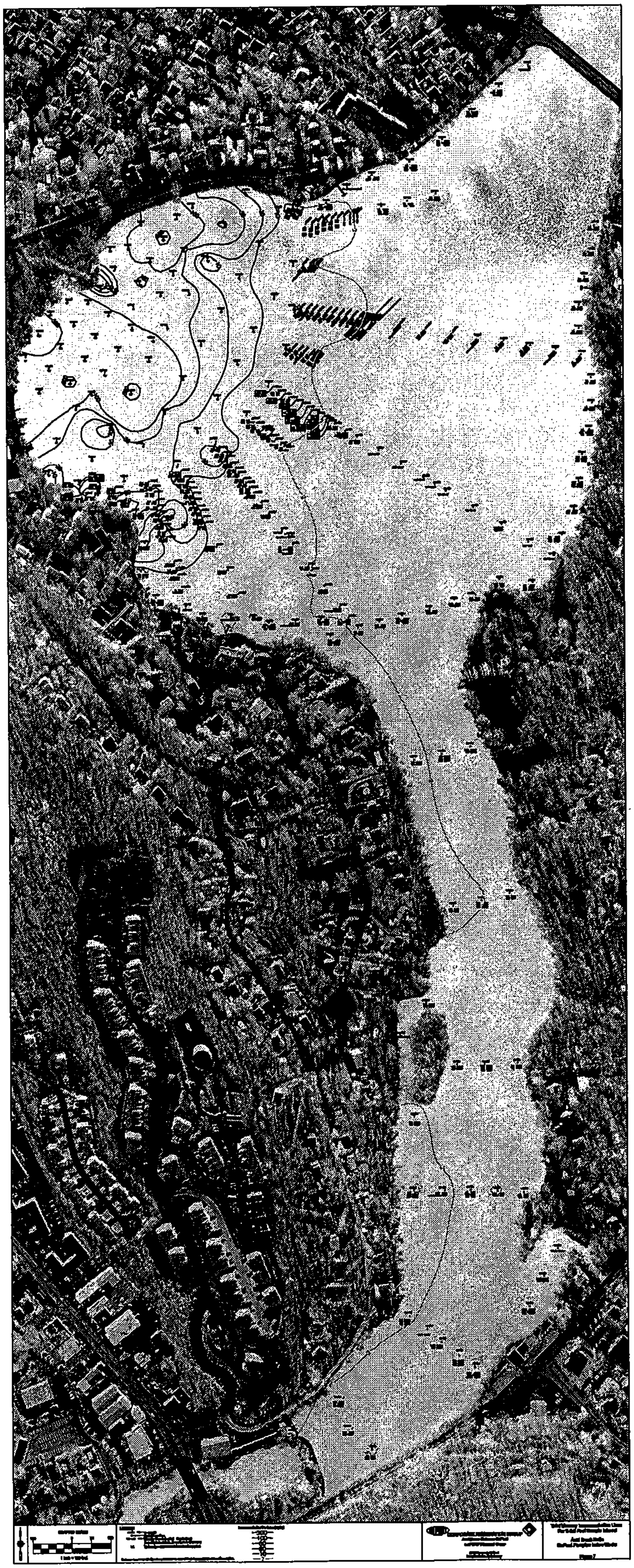


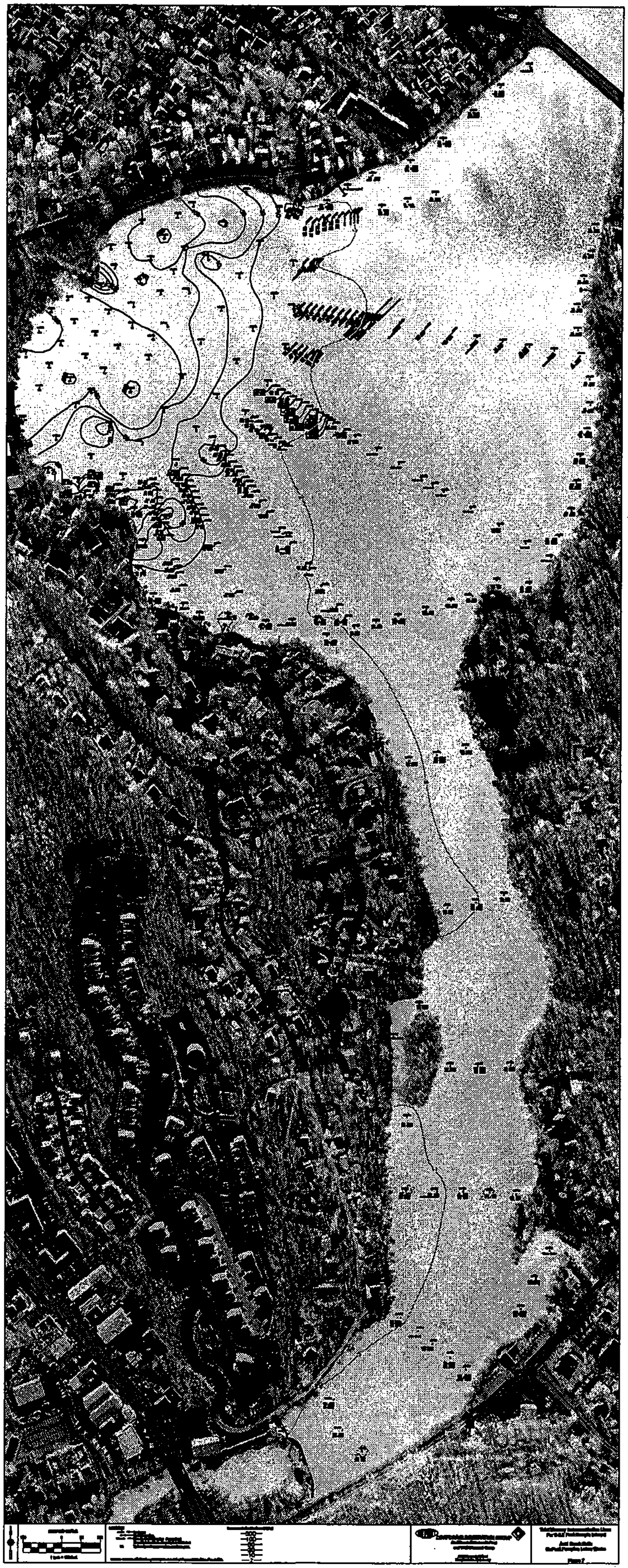
Cross-Section B-B'
Acid Brook Delta
DuPont Pompton Lakes Works
Figure 4

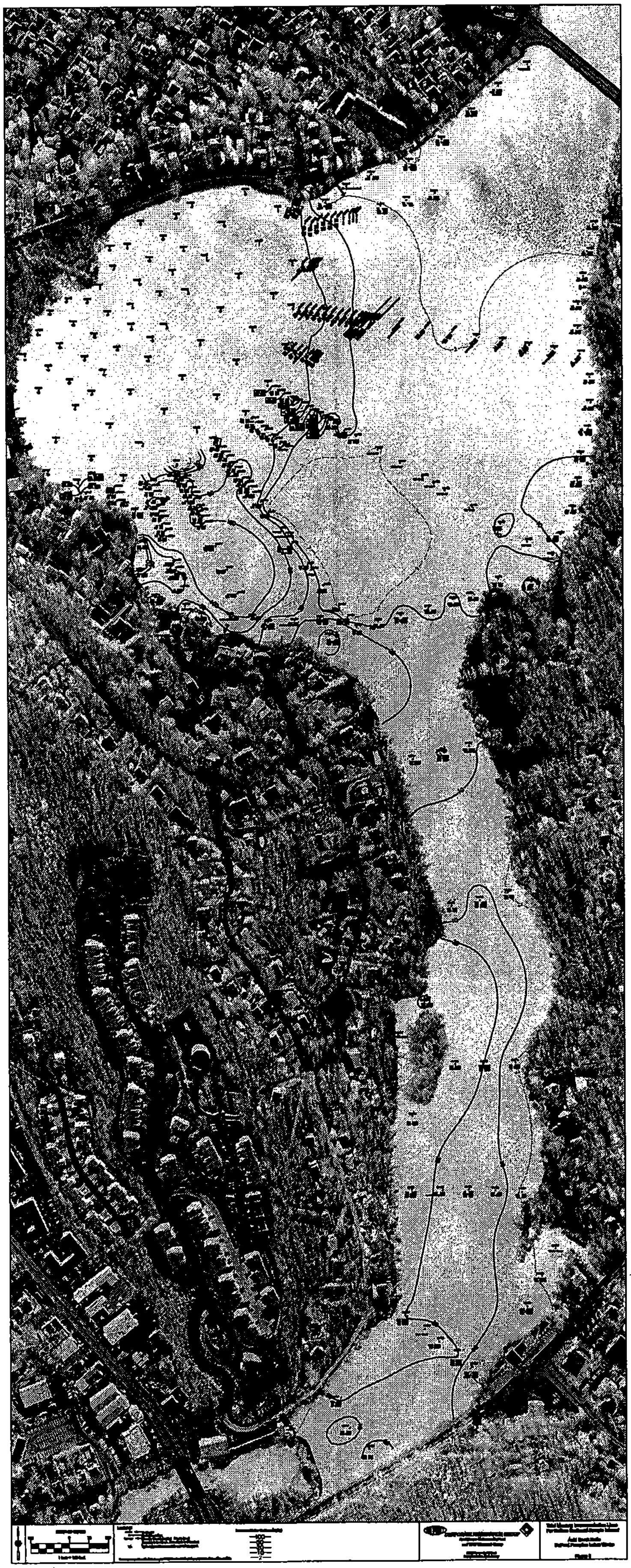


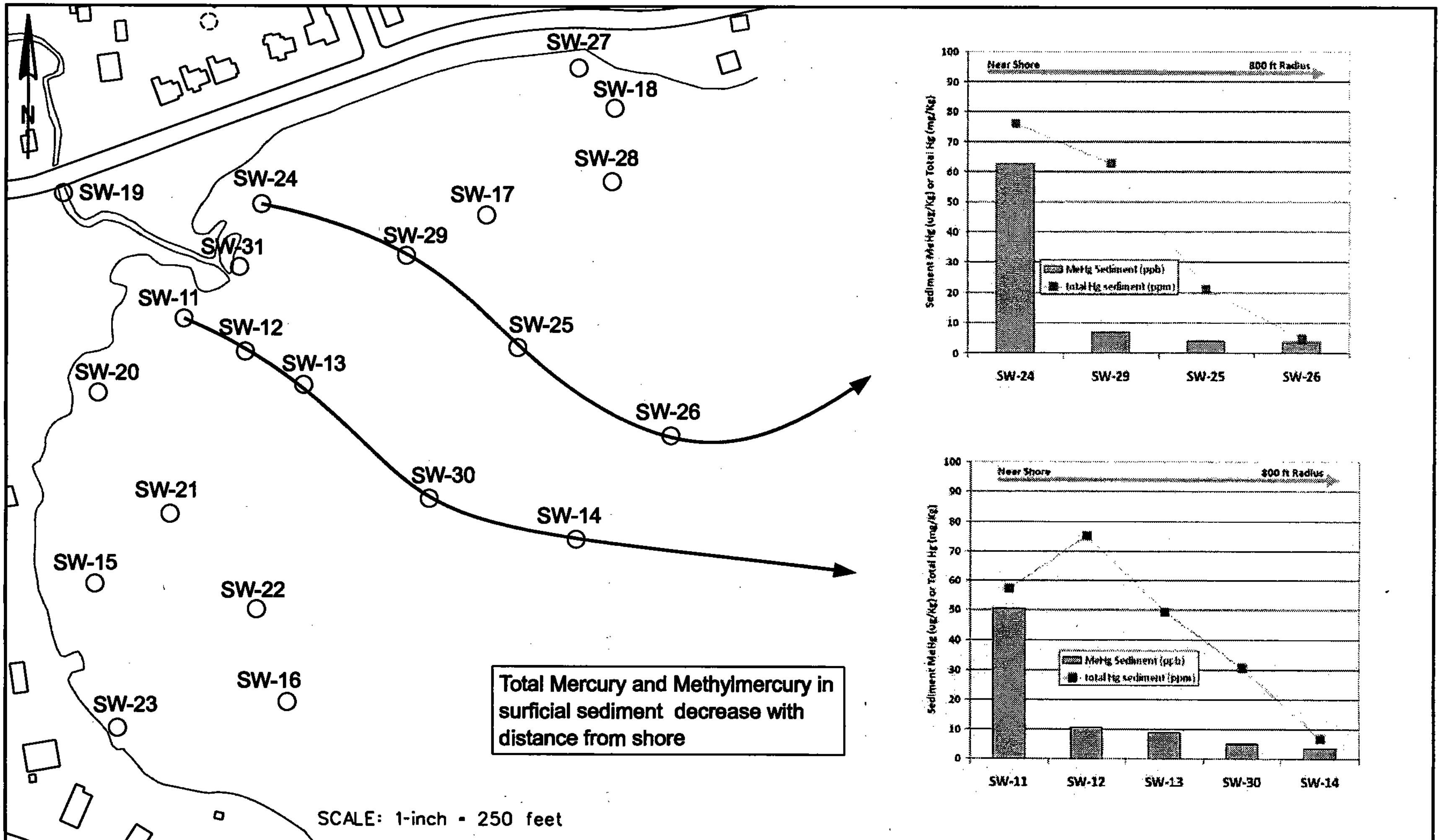
Cross-Section A-A'
Acid Brook Delta
DuPont Pompton Lakes Works
Figure 3











LEGEND

Sample ID

○ Location

MAPPER: ME Vetter

DATE: September 14, 2009

RASR Fig_9.dgn

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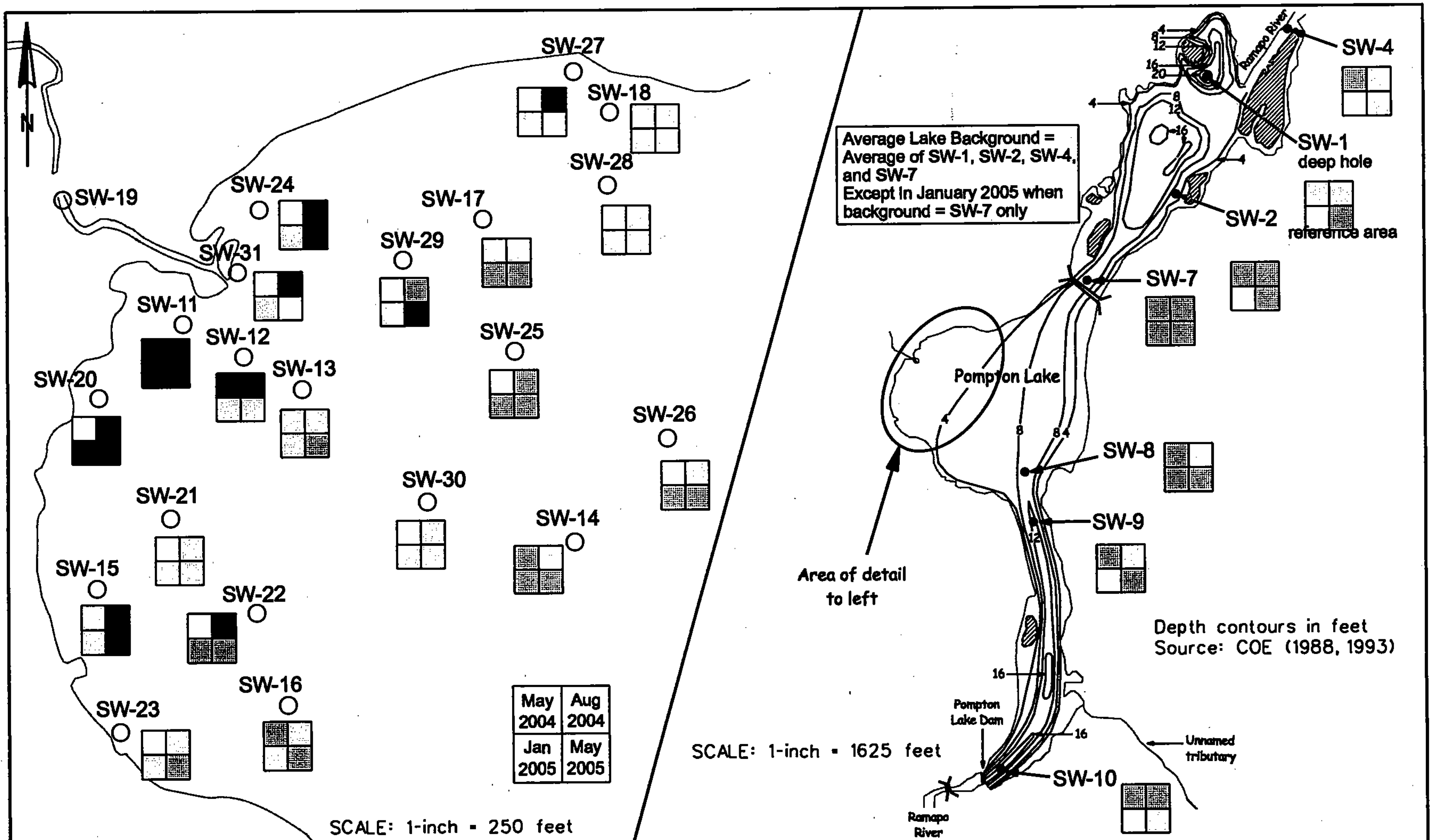
Pompton Lakes, New Jersey

Total Mercury and Methylmercury in Surficial Sediments

Acid Brook Delta
DuPont Pompton Lakes Works
Pompton Lakes, New Jersey

Figure 9



LEGEND

Sample ID

○ •

- ≤ 1X Average of Lake Background
- > 1X - ≤ 2X Average of Lake Background
- > 2X Average of Lake Background
- Sample Not Collected

MAPPER: ME Vetter
DATE: September 14, 2009
DRAWING: RASR Fig_10.dgn

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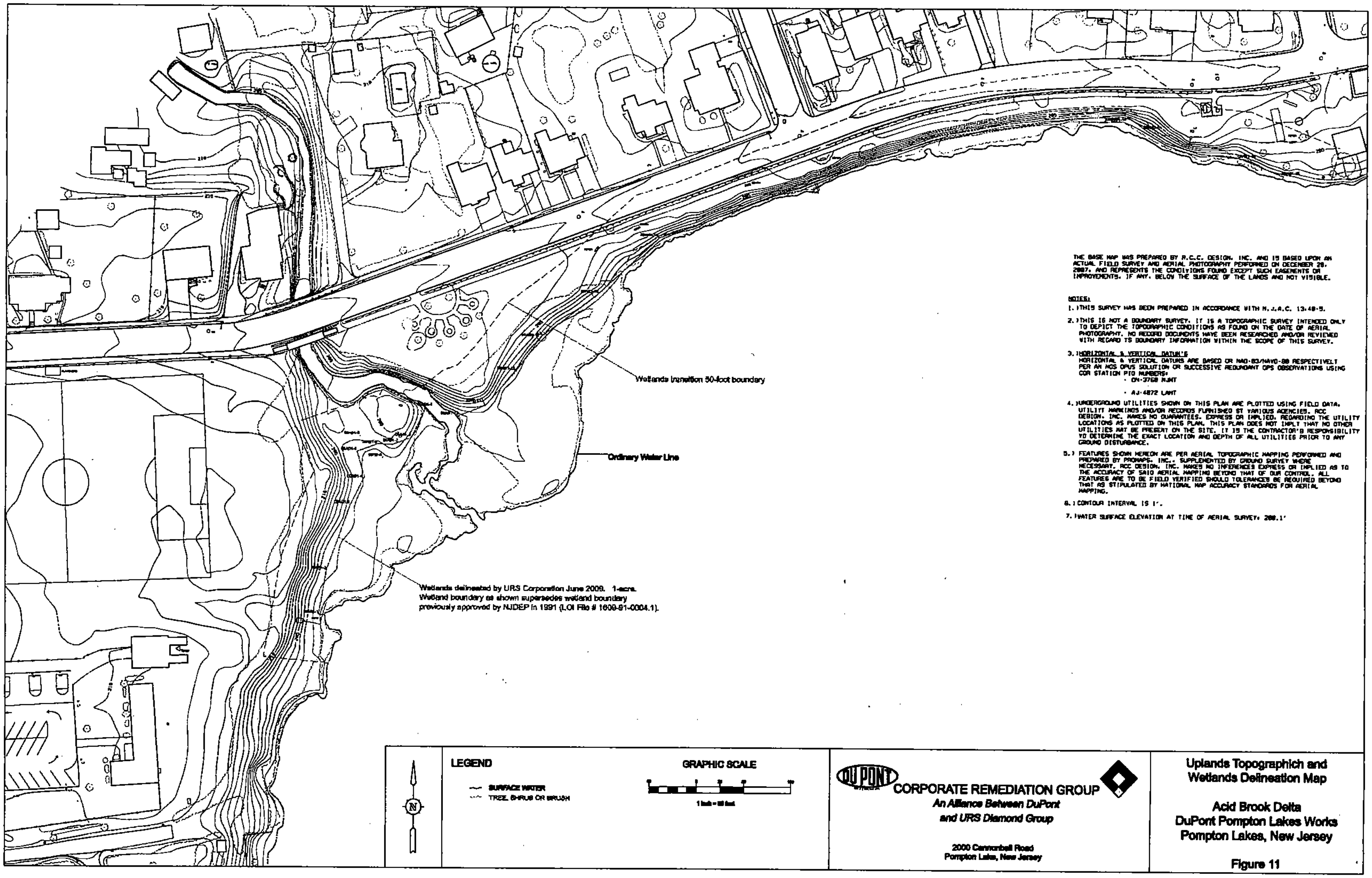
2000 Cannonball Road
Pompton Lakes, New Jersey

Dissolved Methylmercury In Surface Water

Acid Brook Delta
DuPont Pompton Lakes Works
Pompton Lake, New Jersey

Figure 10


Wetlands transition 50-foot boundary
Ordinary Water Line
Wetlands delineated by URS Corporation June 2008. 1-acre.
Wetland boundary as shown supersedes wetland boundary
previously approved by NJDEP in 1991 (LOI File # 1609-91-0004.1).
THE BASE MAP WAS PREPARED BY R.C.C. DESIGN, INC. AND IS BASED UPON AN ACTUAL FIELD SURVEY AND AERIAL PHOTOGRAPHY PERFORMED ON DECEMBER 28, 2007, AND REPRESENTS THE CONDITIONS FOUND EXCEPT SUCH EASEMENTS OR IMPROVEMENTS, IF ANY, BELOW THE SURFACE OF THE LANDS AND NOT VISIBLE.
NOTES:
1.) THIS SURVEY HAS BEEN PREPARED IN ACCORDANCE WITH N.J.A.C. 13:40-5.
2.) THIS IS NOT A BOUNDARY SURVEY. IT IS A TOPOGRAPHIC SURVEY INTENDED ONLY TO DEPICT THE TOPOGRAPHIC CONDITIONS AS FOUND ON THE DATE OF AERIAL PHOTOGRAPHY. NO RECORD DOCUMENTS HAVE BEEN RESEARCHED AND/OR REVIEWED WITH REGARD TO BOUNDARY INFORMATION WITHIN THE SCOPE OF THIS SURVEY.
3.) HORIZONTAL & VERTICAL DATUM'S
HORIZONTAL & VERTICAL DATUMS ARE BASED ON NAD-83/NAVD-88 RESPECTIVELY PER AN NGS OPUS SOLUTION OR SUCCESSIVE REDUNDANT GPS OBSERVATIONS USING COR STATION PID NUMBERS:
· DN-3768 NJNT
· AJ-4872 LAMT
4.) UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE PLOTTED USING FIELD DATA, UTILITY MARKINGS AND/OR RECORDS FURNISHED BY VARIOUS AGENCIES. RCC DESIGN, INC. MAKES NO GUARANTEES, EXPRESS OR IMPLIED, REGARDING THE UTILITY LOCATIONS AS PLOTTED ON THIS PLAN. THIS PLAN DOES NOT IMPLY THAT NO OTHER UTILITIES MAY BE PRESENT ON THE SITE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO ANY GROUND DISTURBANCE.
5.) FEATURES SHOWN HEREON ARE PER AERIAL TOPOGRAPHIC MAPPING PERFORMED AND PREPARED BY PROMAPS, INC., SUPPLEMENTED BY GROUND SURVEY WHERE NECESSARY. RCC DESIGN, INC. MAKES NO INFERENCES EXPRESS OR IMPLIED AS TO THE ACCURACY OF SAID AERIAL MAPPING BEYOND THAT OF OUR CONTROL. ALL FEATURES ARE TO BE FIELD VERIFIED SHOULD TOLERANCES BE REQUIRED BEYOND THAT AS STIPULATED BY NATIONAL MAP ACCURACY STANDARDS FOR AERIAL MAPPING.
6.) CONTOUR INTERVAL IS 1'.
7.) WATER SURFACE ELEVATION AT TIME OF AERIAL SURVEY: 208.1'
N
LEGEND
SURFACE WATER
TREE, SHRUB OR BRUSH
GRAPHIC SCALE
DUPONT
CORPORATE REMEDIATION GROUP
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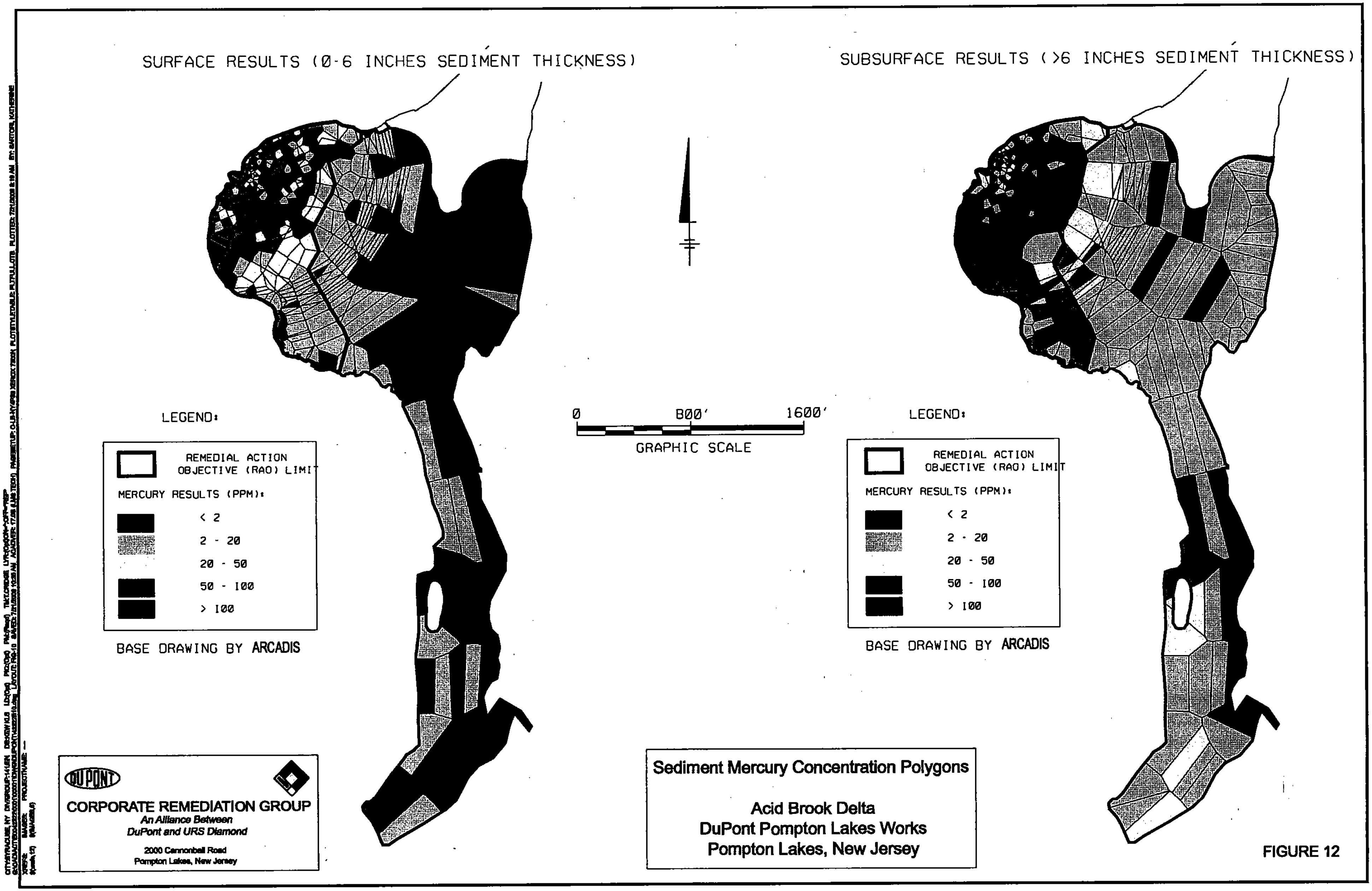
2000 Cannonball Road
Pompton Lakes, New Jersey
Uplands Topographich and Wetlands Delineation Map
Acid Brook Delta
DuPont Pompton Lakes Works
Pompton Lakes, New Jersey
Figure 11


SURFACE RESULTS (0-6 INCHES SEDIMENT THICKNESS)
SUBSURFACE RESULTS (>6 INCHES SEDIMENT THICKNESS)
LEGEND:
REMEDIAL ACTION OBJECTIVE (RAO) LIMIT
MERCURY RESULTS (PPM):
< 2
2 - 20
20 - 50
50 - 100
> 100
BASE DRAWING BY ARCADIS
0
800'
1600'
GRAPHIC SCALE
DUPONT
CORPORATE REMEDIATION GROUP
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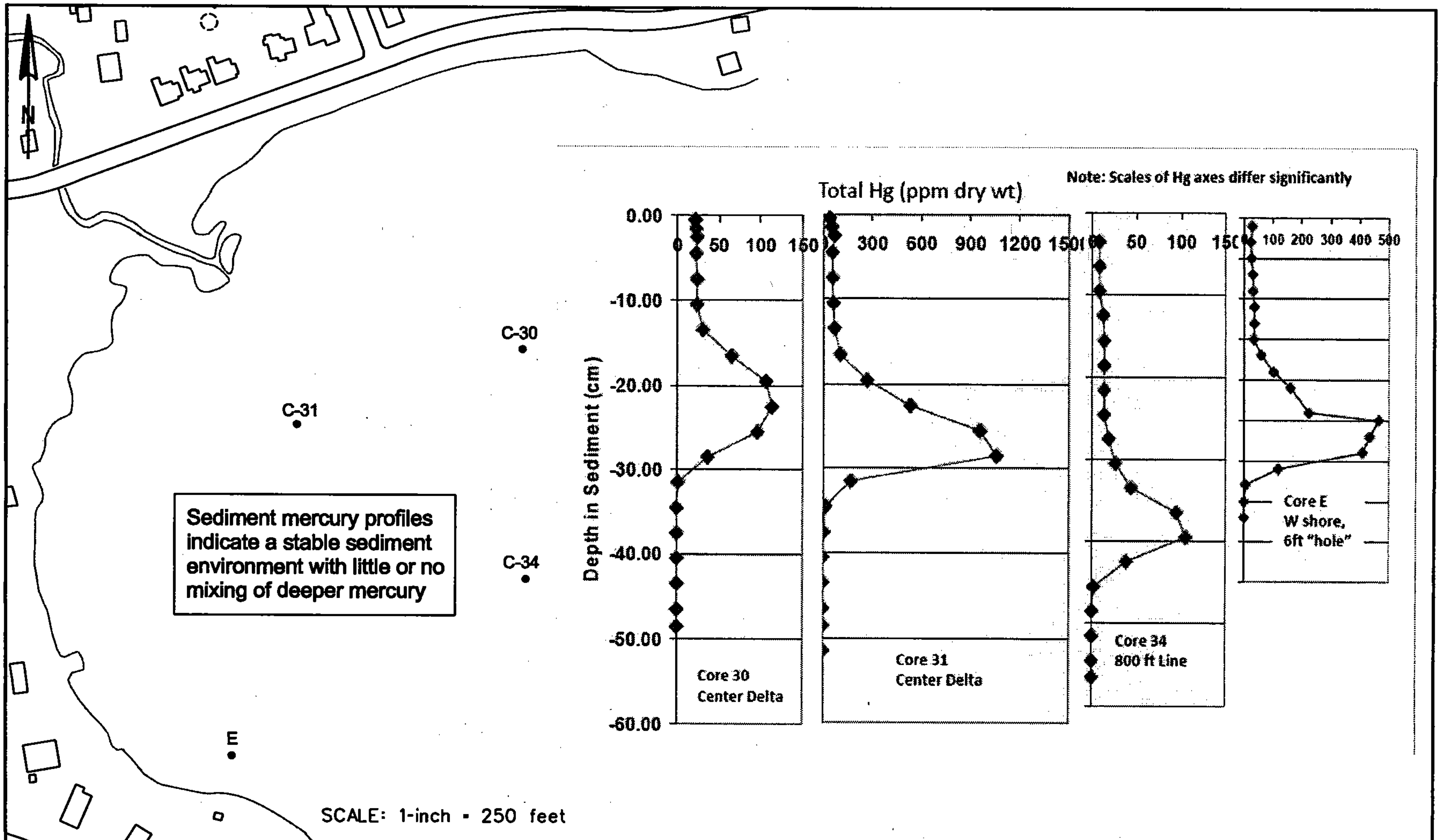
2000 Cannonball Road
Pompton Lakes, New Jersey
Sediment Mercury Concentration Polygons
Acid Brook Delta
DuPont Pompton Lakes Works
Pompton Lakes, New Jersey
FIGURE 12



LEGEND

- Thin Sliced Cores August 2004

MAPPER: ME Vetter
DATE: September 14, 2009
DRAWING: RASR Fig_13.dgn

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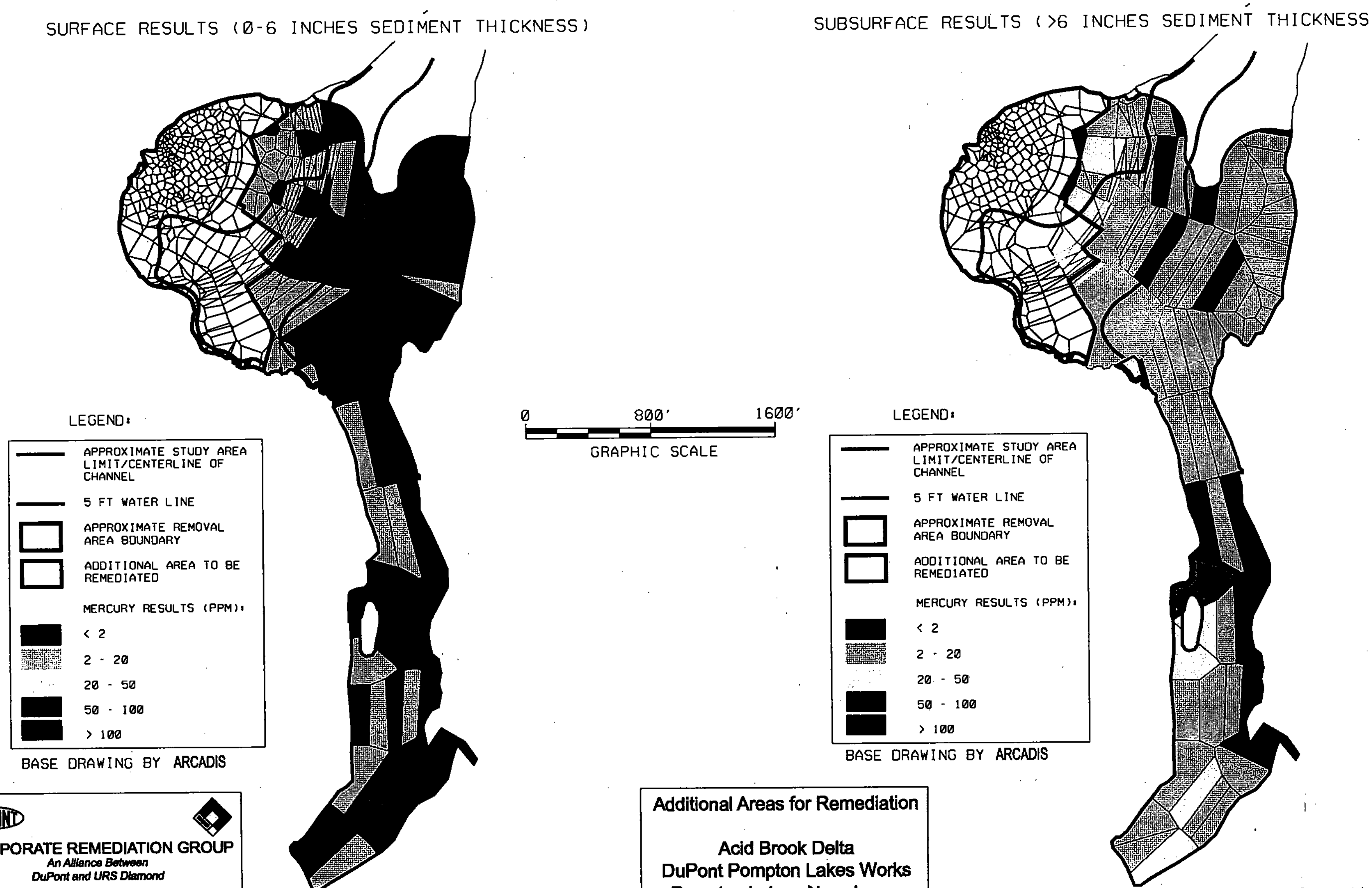
2000 Cannonball Road
Pompton Lakes, New Jersey

Total Mercury Profiles vs Sediment Depth

ACID BROOK DELTA
DUPONT POMPTON LAKES WORKS
POMPTON LAKE, NEW JERSEY

Figure 13



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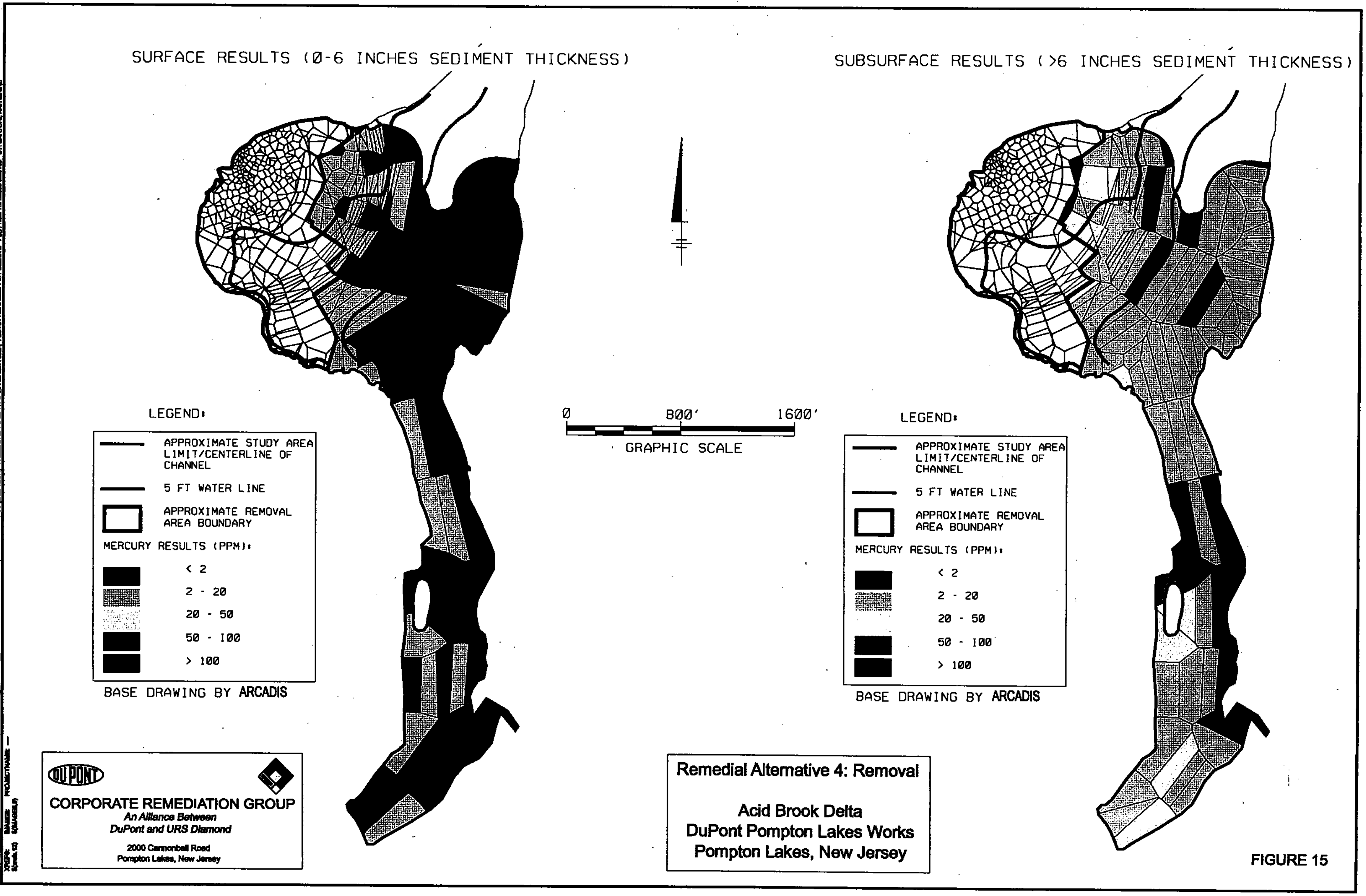
2000 Cannonball Road
Pompton Lakes, New Jersey

Additional Areas for Remediation

Acid Brook Delta
DuPont Pompton Lakes Works
Pompton Lakes, New Jersey

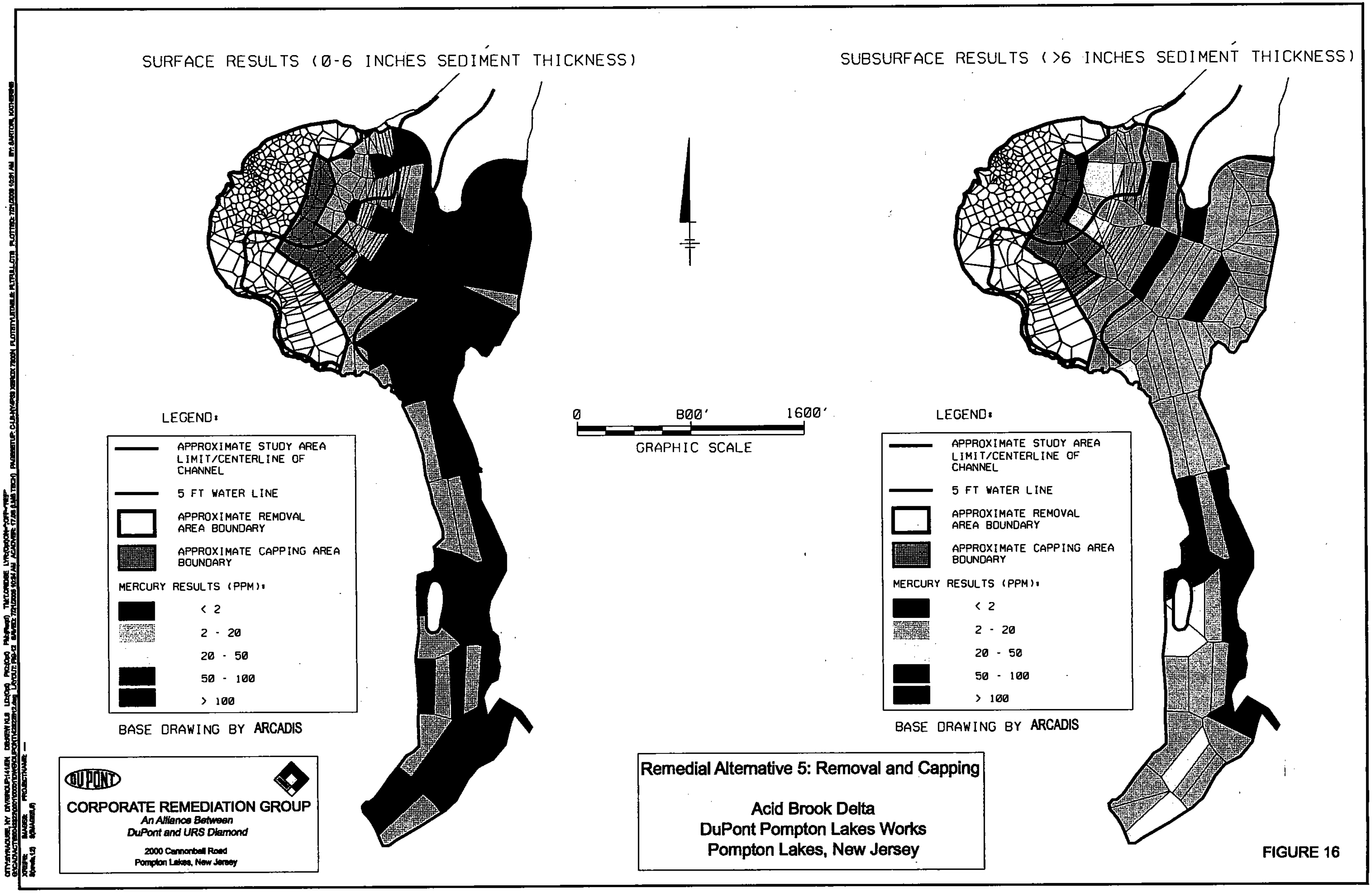
FIGURE 14



Remedial Alternative 4: Removal

Acid Brook Delta
DuPont Pompton Lakes Works
Pompton Lakes, New Jersey

FIGURE 15



Remedial Alternative 5: Removal and Capping

Acid Brook Delta
DuPont Pompton Lakes Works
Pompton Lakes, New Jersey

FIGURE 16

APPENDICES

APPENDIX A

REMEDIAL ACTION SELECTION REPORT CHECKLIST

SRP CHECKLIST:		REMEDIAL ACTION SELECTION REPORT			
	N.J.A.C. 7:26E-	**Use this checklist to assure that the remedial action selected meets all requirements.**	**Included: Yes/No/Not Applicable**	**Page #**	**Comments**
Remedial Action Selection Objectives					
	5.1(b)	Have objectives/goals been properly identified for each AOC?	YES	Sections 2.2, 2.3 and 2.4	This RASR addresses both the mercury impacted sediments in Pompton Lake and the delta uplands.
	5.1(c)1	Are selected remedial actions protective of public health and safety and the environment?	YES	Sections 3.2 and 3.3	
	5.1(c)2	Are selected remedial actions implementable?	YES	Sections 3.2 and 3.3	
	5.1(c)3	Are selected remedial actions consistent with applicable laws and regulations?	YES	Sections 3.2 and 3.3	
	5.1(c)4	Are impacts of the selected remedial action on the local community acceptable?	YES	Sections 3.2 and 3.3	
	5.1(c)5	Do selected remedial actions pose low potential to cause injury to natural resources?	YES	Sections 3.2 and 3.3	
	5.1(d)	Is required information included and adequate to support approval of the use of an innovative technology?	Not Applicable		
	5.1(e)	Does the selected remedial action include compliance with the requirements for the use of engineering and institutional controls N.J.A.C. 7:26E-8 when applicable?	Not Applicable	Sections 3.2 and 3.3	
Remedial action selection Report					
	5.2(a)1	Has a RASR been submitted for a restricted use remedial action?	NO		Use restrictions already exist on Pompton Lake. No changes are proposed to these restrictions. For the upland areas, remediation will be to applicable Soil Remediation Standards; no restrictions are expected.
	5.2(a)2	Has a RASR been submitted for a remedial action involving the use of innovative technology?	Not Applicable		
	5.2(a)3	Has a RASR been submitted for a remedial action that will take more than 5 years to complete?	NO		Proposed remedial action is anticipated to be less than five construction seasons subsequent to completion of pilot studies and permits
	5.2(a)4	Has a RASR been submitted for a remedial action involving ground water, surface water, sediment or ecological impacts?	YES		For the lake delta, the primary media of concern is sediment. Surface water is a concern only during construction. Ecological receptors are considered for both the lake delta and the associated uplands.
	5.2(c)1	Is a detailed description of the selected remedial action included and adequate?	YES	Sections 3.2 and 3.3	
	5.2(c)2	Is a list of remediation standards that will be achieved for each media at each AOC included and adequate?	YES	Section 2.2 to 2.4	For the upland areas, preliminary standards have been identified. Remediation standards will be finalized in the RAWP and consider both ecological and final restoration plan.
	5.2(c)3	Is a discussion of how the remedial action satisfies applicable criteria included and adequate?	YES	Section 3.3	
	5.2(c)4	Has adequate additional required information to support remedy selection been submitted?	YES	Section 2.4.3	Multiple lines of evidence have been summarized from the previous investigations.
	5.2(d)	Has the RASR been submitted with the RI Report or the RA Work Plan, when Department pre-approval of the remedial action workplan is sought or required per 6.1(b)?	Not Applicable		
	5.2(e)	Has the RASR been submitted with the RA Report when Department pre-approval of the remedial action workplan is not sought or required per 6.1(b)?	Not Applicable		
Certification					
	Varies (see certification checklist)	Has the required certification been submitted?	YES		Certifications attached to cover letter.

NOTE: Yes = required and addressed; No = required and not addressed (indicate page # for justification); NA = not required

APPENDIX B

VOLUME WEIGHTED SPATIAL AVERAGING

VOLUME-WEIGHTED SPATIAL AVERAGING

Volume-weighted spatial averaging evaluations were employed to characterize the extent of mercury concentrations. Spatial averaging is a geostatistical data evaluation technique used to distribute discrete data over large areas, thereby attributing data to the entire study area rather than just to sample locations.

Prior to initiating spatial averaging evaluations, two detailed site maps were developed. These maps included the site boundary and sample locations within the boundary. One map was developed to represent surface sampling activities, and a second map was developed to represent subsurface sampling activities. For the purposes of these evaluations, the surface depth increment represented the top 6 inches of sediment, and the subsurface depth increment represented materials located below a depth of 6 inches.

Using the detailed site maps, Thiessen polygons were drawn about each sample location for both the surface and subsurface depth increments such that the entire study area was divided among the collection of sample-location-specific polygons. The creation of Thiessen polygons involves the use of computer software to draw perpendicular bisector lines between adjacent sample locations. The intersections of the perpendicular bisector lines create two-dimensional, sample-location-specific polygon areas about each sample location.

Once developed, the area of each polygon was calculated. Each polygon is associated with a specific sample location and corresponding mercury concentration. For the surface depth increment, the mercury analytical result from the 0 to 6-inch depth increment at each sample location was assigned to its corresponding polygon. For the subsurface depth increment, an arithmetic average of the mercury analytical results from sediments collected below a depth of 6 inches at each sample location was assigned to its corresponding polygon.

Once the maps were developed, polygon areas calculated, and analytical data processed, the following steps were conducted to produce a volume-weighted spatial average mercury concentration:

1. For each polygon within the surface depth increment, corresponding volumes were calculated by multiplying the polygon area by a thickness of 6 inches. For each polygon within the subsurface depth increment, corresponding volumes were calculated by multiplying the polygon area by the sediment thickness observed at that sample location minus the top 6 inches.
2. The sediment volume associated with each polygon was then multiplied by the mercury result associated with that polygon. As indicated above, mercury results used in subsurface evaluations are arithmetic averages of subsurface analytical results observed at each location.
3. The product of each of the polygon sediment volume and the related mercury concentration was then summed across the entire study area for both the surface and subsurface depth increments.

4. The two sums (surface and subsurface) were then added and divided by the total estimated sediment volume within the study area.

By performing the evaluation steps described above, a volume-weighted spatial average mercury concentration was derived for the entire study area (incorporating both surface and subsurface sediments). In addition, the mass removal of the remedial alternatives could be calculated.