BIOTA MONITORING STUDY (YEAR 8)
KIN-BUC LANDFILL
OPERABLE UNIT 2
2004

Normandeau Project No. 19136.002

Prepared for:

SC HOLDINGS, INC.

NORMANDEAU ASSOCIATES
ENVIRONMENTAL CONSULTANTS

March 2005

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Kin-Buc Landfill

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2004

Prepared for:

SC HOLDINGS INC.

Edison Township, Middlesex County,
New Jersey

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Normandeau Project No. 19136.002

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1.0 EXECUTIVE SUMMARY

Kin-Buc Landfill (Operable Unit 2) in Edison, New Jersey is a closed facility subject to a US EPA "Record of Decision" which specifies that PCB contaminated sediments in the Edmonds Creek Marsh Area be removed. Edmonds Creek and Edmonds Creek Marsh are part of a 56-acre estuarine inter-tidal emergent wetland, adjacent to Kin-Buc, which flows into the Raritan River. The water is brackish. The affected sediments are mostly a mixture of silts and clays classified as sulfaquents and sulfihemists by the U.S. Geological Survey.

Prior to removal, PCB concentrations in Edmonds Creek sediments were as high as 300 parts per million (ppm) adjacent to the landfill in an area known as "Pool C" (see Figure 4-1 at the end of Section 3.0). Within a section of Edmonds Creek, beginning approximately 1,500 feet upstream from the former "Pool C" discharge and ending at its confluence with the Raritan River 2,000 feet downstream, sediment PCB concentrations exceeded 5 ppm at eleven of forty sample locations. The average concentration for these eleven was 56.7 ppm. The mean for all forty was 17.0 ppm. Areas where sediment concentrations were high (>5.0 ppm) did not include the entire width of the stream channel. In each case where high concentrations were found, they were restricted to either the center of the channel or to one of the stream banks. Thus, the contamination discovered in Edmonds Creek was not evenly distributed.

Remediation has been completed through selective removal of sediment from five areas (referred to as Remediated Zones 1 through 5) where PCB concentrations exceeded 5 ppm. In addition, the landfill has been capped and a slurry wall constructed around the perimeter. A leachate collection system and a leachate treatment plant have been constructed and are in operation. Following the remediation, marsh wetlands were restored and are being maintained to control distribution of an invasive grass (*Phragmites australis*).

The objectives of this monitoring program are to: 1) evaluate whether the remediation effort was successful in achieving a remediation goal of <5 ppm in the sediment, 2) identify reductions in biological uptake of residual PCBs in targeted species that have recolonized the remediated areas, 3) identify decreasing PCB trends over time in the tissue concentrations, and 4) document the re-establishment of invertebrate and fish communities in the remediated areas. Attainment of these objectives would greatly reduce the ecological threats associated with the contaminated sediment while preserving a significant portion of the existing wetland ecosystem by avoiding additional excavation.

All collections and analyses made during the first five years (1995 to 1999) of this study were completed according to a US EPA approved "Biota Monitoring Plan" prepared by EMCON, Mahwah, New Jersey. All collection and analysis protocols used during 1995 through 1999 were retained for three additional years of monitoring conducted during 2002 through 2004.

In order to assess progress toward the remedial goal, seven sampling zones were established in Edmonds Creek to collect and analyze sediment, fiddler crab, and benthic macroinvertebrate samples. As noted, five of the Edmonds Creek zones were established within remediated areas where sediment containing concentrations exceeding 5 ppm were removed. Two zones were established in unremediated areas of Edmonds Creek where sediment concentrations were less than

5 ppm. Unremediated zones were not excavated. Two additional zones were established in a reference creek with similar water quality and sediment characteristics to Edmonds Creek but subject to a different drainage system. Reference zones were sampled in the same manner as Edmonds Creek zones.

Fish and mummichog tissue samples were collected and analyzed from eight zones in both the Edmonds Creek (five from remediated and three from unremediated areas) and Reference Creek systems. In Edmonds Creek, seven of the eight zones from where mummichog tissues were collected overlapped zones where sediment, fiddler crabs, and invertebrate samples were collected. The eighth zone (Unremediated Zone 3) was established in a tributary to Edmonds Creek that flows adjacent to Kin-Buc.

Sediment samples were analyzed for PCBs, Total Organic Carbon (TOC), and Grain Size distribution. In addition, a 28-day Bioaccumulation Study was conducted by exposing a clam, *Macoma nasuta*, to sediments under a controlled laboratory environment. Macoma tissues were analyzed for PCBs and Lipids, as were fiddler crab and mummichog tissues. All fish captured in addition to mummichogs were identified and counted. Benthic macroinvertebrate data were condensed to the following set of ecological metrics: Taxonomic Richness, Community Density, Percent Contribution of the Dominant Taxon, Diversity, and Evenness.

Following regulatory review of the year 5 monitoring report and discussion of the results in a meeting attended by US EPA, Normandeau Associates, and Waste Management personnel on 12 December 2001, several scope revisions were incorporated into a sixth, seventh, and eighth year (2002 through 2004) of monitoring. These are presented in a Monitoring Plan prepared by Normandeau Associates (Normandeau 2002; and a rationale for each is provided below:

1) Due to a concern regarding the possibility of a continuing source of PCB contamination to the Edmonds Creek Marsh sediments that data collected from past and future monitoring efforts will not identify, a visual site investigation was conducted on 6 April 2004. These results were reported separately.

2) The potential for a contamination source entering from the Raritan River was evaluated by collecting a set of four sediment samples each year from the river in the immediate vicinity of the mouth of Edmonds Creek. These samples were analyzed for PCBs, TOCs, and Grain Size. Sample points were located with a GPS unit and mapped.

3) A set of three sediment and corresponding crab tissue samples was collected each year from the Edmonds Creek Marsh Area that serves as a second spatial control. Samples were analyzed for the same parameters as those from Edmonds Creek and the reference creek. Sample points were located with a GPS, mapped, and marked in the field.

4) In the year 6 (2002) report (Normandeau 2003) PCB data from the first six years of monitoring were compared to TOC and percent fines (silt and clay) data, and the correlation between the respective data sets evaluated. A positive correlation between PCB concentrations and TOC concentrations or percent fines may indicate redistribution and reconcentration of residual contaminant in depositional areas. Results were inconclusive, so data from years 7 and 8 were not added, and the analysis not repeated.

5) Because the results obtained from the fiddler crab and macoma clam analyses have proven to be redundant, and because a wider range of values was produced from the fiddler crab analysis, trends in the data were better observed for them than they were from the macoma clams. The fiddler crab analysis was retained for 2002 through 2004 while the macoma clam bioaccumulation analysis was discontinued.

6) The results from the benthic macroinvertebrate and fisheries ecological studies showed that both groups have recolonized the excavated areas of Edmonds Creek. Because this study objective has been met these components of the monitoring effort were discontinued.

7) Sampling from the Reference Creek has produced sufficient data to provide a spatial control applicable to future monitoring. Sediment samples have produced consistent PCB concentrations from year to year. Crab and mummichog results have also been consistent from year to year. Hence, the number of zones from which mummichog tissue samples were collected in the reference creek during 2002 through 2004 was reduced from eight to two.

Results from the monitoring effort are presented below.

Sediment

In 2004, sediment analysis produced mean values that ranged from 0.9 to 4.1 ppm within the Edmonds Creek (both remediated and unremediated) zones, and were 0.3 and 0.4 ppm within the Reference Creek zones. In Edmonds Creek, means within all seven zones met the remediation goal of 5.0 ppm. Prior to removal of contaminated sediments (completed in July 1995), mean PCB concentrations in the Edmonds Creek zones ranged from 1.1 to 45.3 ppm.

The 2004 mean from four samples collected from the Raritan River near the mouth of Edmonds Creek was 1.3 ppm and the mean from three samples collected from the Edmonds Creek Marsh Area was 0.1 ppm. These results show that areas with high residual concentrations are restricted to the stream channel.

In 2004, sample locations where sediment concentrations were high (>5.0 ppm) did not encompass the entire width of the channel. The residual contamination remaining in Edmonds Creek was distributed in a similar uneven pattern as that shown by the pre-remediation data, but at lower concentrations.

The cumulative mean for forty samples collected from the seven zones in Edmonds Creek prior to the remedial excavation was 17.0 ppm. During 1995, a mean of 0.6 ppm was calculated from twenty-eight post-remediation samples in Edmonds Creek indicating that, on a scale of measurement encompassing the length of the study area, the effort reduced the contaminant levels by 16.4 ppm. In 1996 the cumulative mean at Edmonds Creek increased to 2.9 ppm. In 1997 and 1998 the cumulative mean was 3.9 ppm, and in 1999 it was 5.3 ppm. In 2002 and 2003 cumulative means were 2.8 and 6.0 ppm, respectively, and in 2004 it was 2.6 ppm. Thus, since 1996, PCB concentrations have been between 11.0 and 14.4 ppm lower than they were prior to the remedial excavation but the data are not displaying any obvious trend.

Fiddler crabs

In 2004, mean PCB concentrations in the fiddler crab samples ranged from 0.4 to 1.4 ppm within the seven Edmonds Creek zones. Inter-zone means were 0.1 and 0.2 ppm at Reference Creek. During 1995 to 1999 and 2002 to 2004, mean PCB concentrations within Edmonds Creek zones ranged from 0.4 to 3.8 ppm.

Prior to the remedial excavation, US EPA obtained results as high as 14.0 ppm from three tissue samples collected in Edmonds Creek.

During 1995 to 1999 and 2002 to 2004, cumulative means of 1.4, 1.8, 1.6, 1.3, 1.2, 0.8, 1.1, and 0.9 ppm were calculated from Edmonds Creek, respectively, indicating that the remediation goal (a trend toward lower body burdens over time) has been met.

In 2004, the mean from three samples collected from the Edmonds Creek Marsh Area was 0.7 ppm.

Mummichogs

In 2004, results for sixteen Edmonds Creek samples were between 0.6 and 2.1 ppm. Values from four Reference Creek samples were between 0.3 and 0.4 ppm. During 1995 to 1999 and 2002 to 2004, concentrations for Edmonds Creek samples ranged from 0.4 to 3.6 ppm.

During 1995 to 1999 and 2002 to 2004, cumulative means of 0.7, 1.1, 1.9, 1.0, 1.9, 1.8, 1.0 and 1.3 ppm were calculated from Edmonds Creek, respectively. Thus, PCB body burdens fluctuated between 1 and 2 ppm during the course of the study period and displayed no discernible trend.

2.0 INTRODUCTION AND BACKGROUND

During August and September 2004, a series of sediment, fiddler crab, and killifish samples were collected from Edmonds Creek on behalf of SC Holdings, Inc. at Kin-Buc Landfill, Edison, New Jersey. Collections were made during the eighth year of a Biota Monitoring Study. Kin-Buc is a closed facility located adjacent to and immediately west of the Edmonds Creek Marsh (Figure 1). While operative, discharges from the landfill resulted in contamination of marsh sediments with polychlorinated biphenyls (PCBs) and, to a lesser extent, polynuclear aromatic hydrocarbons (PAHs) and inorganics (e.g., metals). The landfill was the subject of a Remedial Investigation/Feasibility Study (RIFS) (Operable Unit 2) focused on the marsh. Remedial Investigation data verified the presence of PCBs in both the marsh sediments and associated aquatic biota. Pre-remediation sediment PCB concentrations measured within the Edmonds Creek channel and banks were as high as 300 parts per million (ppm) (Wehran 1992). Further, pre-remediation data showed that PCB concentrations in the Edmonds Creek Marsh were higher than those in a second nearby marsh, selected as a reference area and not subject to discharges from Kin-Buc.

A United States Environmental Protection Agency Record of Decision (US EPA 1992a) specified that sediments in the Edmonds Creek Marsh containing "hot spots" of PCB be removed. Sediment removal has been completed through selected excavation of five areas, referred to as Remediated Zones 1 through 5. This remedy was based on sediment concentrations, and there was no biological performance standard in the Record of Decision (EMCON 1995). The removal of the most heavily contaminated sediments from the remediated zones was expected to reduce the levels of PCBs in the tissues of the aquatic organisms living there. Two additional zones referred to as Unremediated Zones 1 and 2 were also selected for study. These were not excavated because pre-remediation concentrations there were less than 5 ppm. They were included to provide additional data to evaluate the status of the Edmonds Creek study area.

Edmonds Creek and the Edmonds Creek Marsh Area are part of a 56-acre tidal wetland that drains into the Raritan River in Middlesex County (Edison Township) at Edison, New Jersey (Figure 1). Photographs 1 through 8 showing the Edmonds Creek and Reference Creek study areas are presented as Figure 3. The Edmonds Creek Marsh Area is part of a much larger tidal wetland complex of 437 acres. The entire system is classified by the National Wetlands Inventory Program as an Estuarine Intertidal Emergent Wetland (E2EM) (EMCON 1995). Land use within the drainage basin is primarily industrial and includes Edison Landfill (closed), adjacent to Kin-Buc; ILR Landfill (closed), nearby; Edgeboro Landfill, in East Brunswick; and East Brunswick Landfill (closed), opposite Kin-Buc. Phragmites (*Phragmites australis*) is the predominant form of vegetation present, growing from acidic mucky soils classified by the United States Geological Survey as sulfaquents and sulfihemists (EMCON 1995). The water is brackish with salinity ranging between 0.5 and 15 parts per thousand (ppt).

The Reference Area is also a tidal marsh. It is located directly across the Raritan River from the Edmonds Creek Marsh Area (Figure 2). It was used as a reference area during previous studies concerning Kin-Buc, including the RIFS, and continues to serve as a spatial control for this effort. The Reference Area is in a separate drainage system from Edmonds Creek. A small unnamed

stream flows through the marsh that is referred to as Reference Creek for this study. Vegetation, sediment, and water quality characteristics are similar to those found in Edmonds Creek.
A series of five annual reports summarized data collected during 1995 to 1999 in accordance with a US EPA approved monitoring plan prepared by EMCON in June 1995. The plan, entitled "Biota Monitoring Plan, Kin-Buc Landfill, Operable Unit 2", stated three study objectives:

1) An analysis of PCBs in sediments collected from remediated and unremediated zones in Edmonds Creek and from Reference Creek. These data were used to ascertain whether the clean-up effort was successful in achieving the <5 ppm goal for the remediated areas. Residual PCB concentrations provided information concerning the potential for future biological uptake from the sediments.

2) An assessment of the degree of biological uptake of residual PCBs in targeted species that recolonized the remediated areas. This was accomplished by analyzing tissue samples from two species collected from the study streams and from a laboratory bioaccumulation study with a third. Target species collected in the field were the brackish water fiddler crab (*Uca minax*), a burrower, and a killifish (*Fundulus heteroclitus*), commonly known as the mummichog, which lives in the water column. By analyzing tissue from these two target species, it was possible to ascertain a degree of differential uptake of the contaminant by organisms with different life histories and habitat requirements. A second burrower, a clam commonly known as the bent-nose macoma (*Macoma nasuta*), was introduced to sediments collected from the study area under controlled laboratory conditions. After a 28-day exposure period, tissue samples from these were analyzed for PCBs and the data compared to data produced from the analysis of fiddler crab tissue.

3) A qualitative fish survey and a quantitative benthic macroinvertebrate survey were conducted to monitor the re-establishment of these communities in the excavated areas.

These analyses were repeated each year to detect changes in the body burdens of the target species over an extended period. Ideally, successful removal of PCBs from the Edmonds Creek Marsh would produce a reduction in contaminant concentrations over the course of time. Trend analyses were presented in the annual reports after the third year of data collection.

Following regulatory review of the year 5 (1999) monitoring report and discussion of the results in a meeting attended by US EPA, Normandeau Associates, and Waste Management personnel on 12 December 2001, several scope revisions were incorporated into a sixth (2002), seventh (2003), and eighth (2004) year of monitoring. These scope revisions are summarized in a Monitoring Plan prepared by Normandeau Associates (Normandeau 2002). The revisions and a rationale for each are provided below. Please note that all sampling and analysis protocols established in the original monitoring plan were continued in 2002 through 2004. They are incorporated into the second monitoring plan by reference.

1) Due to a concern regarding the possibility of a continuing source of PCB contamination to the Edmonds Creek Marsh sediments that data collected from past and future monitoring efforts will not identify, a visual site investigation was conducted on 6 April 2004. The results of this investigation were reported separately.

2) The potential for a contamination source entering from the Raritan River was evaluated by collecting a set of four sediment samples each year from the river in the immediate vicinity of the mouth of Edmonds Creek.

3) A set of three sediment and corresponding crab tissue samples was collected each year from the Edmonds Creek Marsh Area that serve as a second spatial control.

4) The PCB data collected during 1995 to 1999 and 2002 were compared to the TOC and percent fines (silt and clay) data (n = 168) and the correlation between the respective data sets evaluated. A strong correlation between PCB concentrations and TOC concentrations or percent fines may indicate redistribution and reconcentration of residual contaminant in depositional areas. Results showed Organic Carbon concentrations to be negatively correlated with PCB concentrations (r = -0.23). No correlation was shown between PCB and Percent Silt-Clay data (r = -0.01). Because no relationship was shown from either analysis, the data from subsequent monitoring were not incorporated into another comparison.

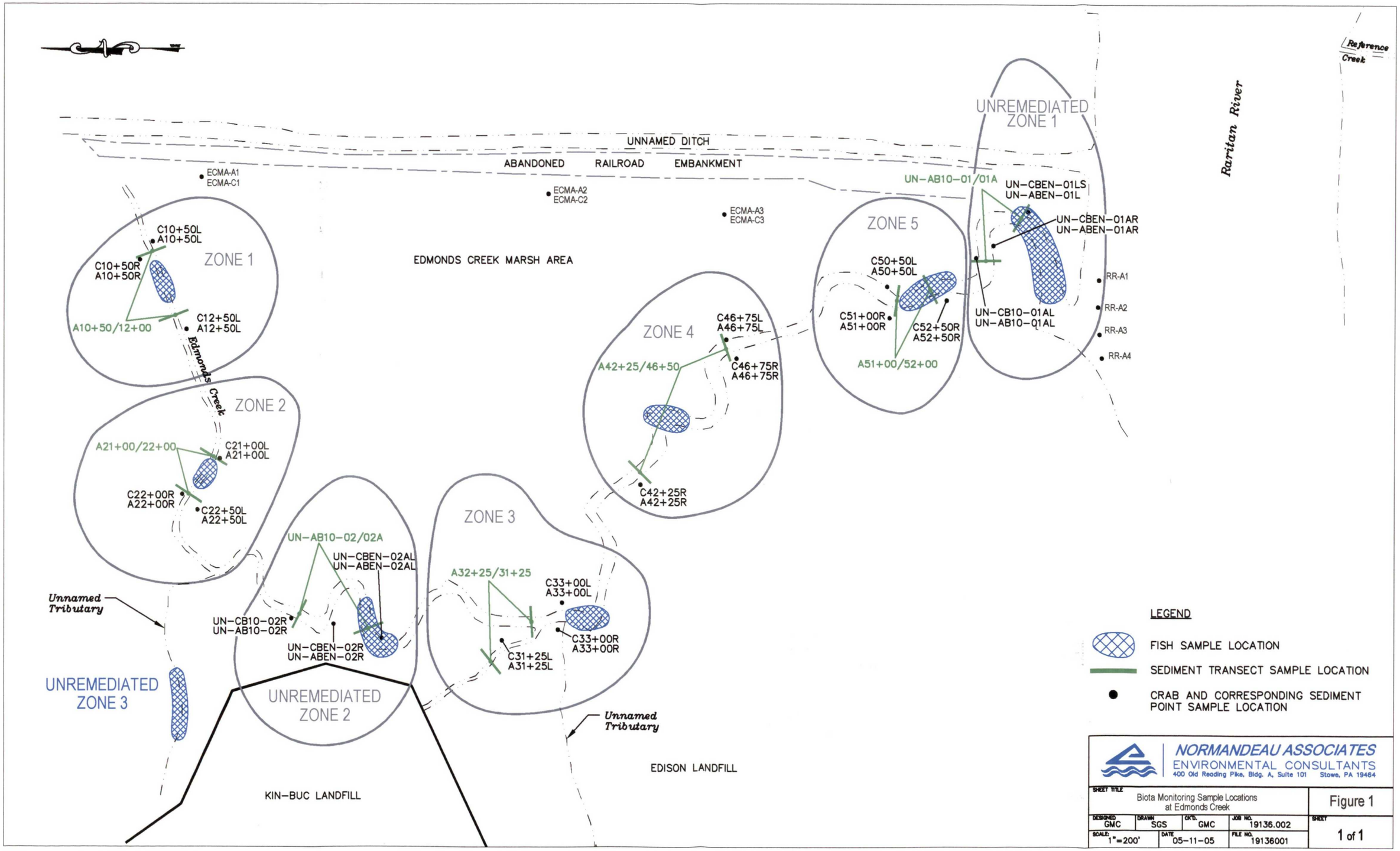
5) Because the results obtained from the fiddler crab and macoma clam analyses have proven to be redundant and because a wider range of values was produced from the fiddler crab analysis, trends in the data were better observed for them than from the macoma clams. The fiddler crab analysis was retained for 2002 through 2004 and the macoma clam bioaccumulation analysis was discontinued.

6) The results from the benthic macroinvertebrate and fisheries ecological studies showed that both groups have recolonized the excavated areas of Edmonds Creek. Because this study objective has been met, these components of the monitoring effort were discontinued.

7) Sampling from the Reference Creek has produced sufficient data to provide a spatial control applicable to future monitoring. Sediment samples have produced consistent PCB concentrations from year to year. Crab and mummichog results have also been consistent. Accordingly, the number of zones from which mummichog samples were collected in the reference creek during 2002 through 2004 was reduced from eight to two.

Information contained in this report was gathered during the eighth year (2004) of the program. During 2004, Normandeau Associates, Inc. collected all sediment and tissue samples. Lancaster Laboratories, Inc., Lancaster, Pennsylvania, performed the analyses. This project is coordinated and this report was prepared by Normandeau in Stowe, Pennsylvania.

This report also provides recommendations pertaining to future study.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ECMA-C1
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ECMA-C2
ECMA-A3
ECMA-C3
EDMONDS CREEK MARSH AREA
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Edmonds Creek
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RR-A2
RR-A3
RR-A4
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UNREMEDIATED ZONE 3
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Unnamed Tributary
KIN-BUC LANDFILL
EDISON LANDFILL
LEGEND
FISH SAMPLE LOCATION
SEDIMENT TRANSECT SAMPLE LOCATION
CRAB AND CORRESPONDING SEDIMENT POINT SAMPLE LOCATION
NORMANDEAU ASSOCIATES
ENVIRONMENTAL CONSULTANTS
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SHEET TITLE
Biota Monitoring Sample Locations at Edmonds Creek
Figure 1
DESIGNED GMC
DRAWN SGS
CK'D. GMC
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SHEET 1 of 1
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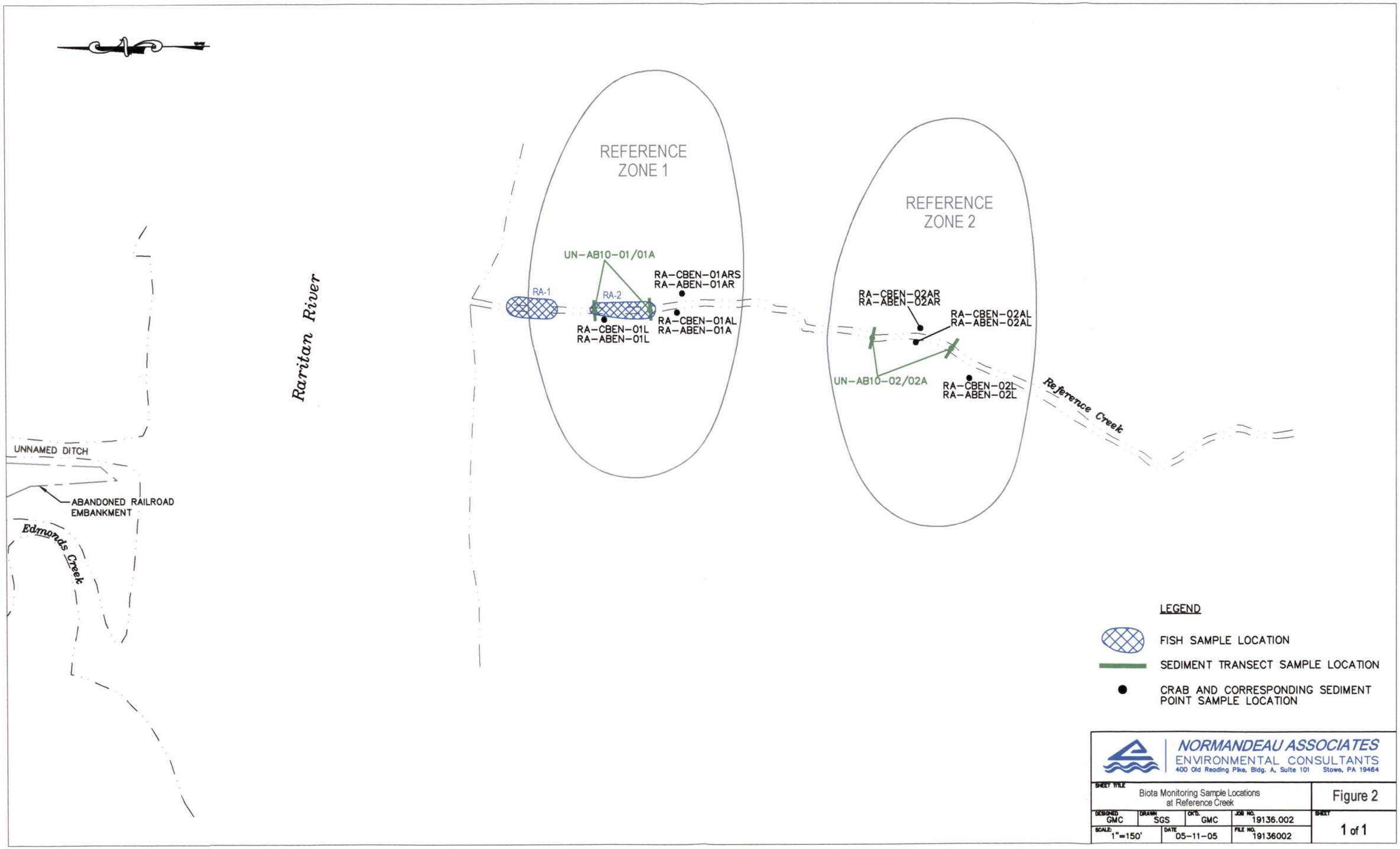

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SHEET TITLE: Biota Monitoring Sample Locations at Reference Creek				Figure 2
DESIGNED: GMC	DRAWN: SGS	CK'D.: GMC	JOB NO.: 19136.002	SHEET: 1 of 1
SCALE: 1"=150'	DATE: 05-11-05		FILE NO.: 19136002	

3.0 SEDIMENT ANALYSIS

Polychlorinated biphenyls are synthetic organic compounds that have been in commercial use since 1929. They were manufactured by the Monsanto Chemical Company under the trade name "Aroclor" by the chlorination of the biphenyl molecule (US FWS 1984). This reaction yielded a wide range of compounds differing in the number and position of chlorine substitutions on the molecule. PCBs are persistent (meaning they decompose slowly), and a suspected carcinogen. They are no longer manufactured in the United States. The physical properties of PCBs depend upon the percentage of chlorine on the molecule. PCBs with a low percentage of chlorine (Aroclor 1060, 1221, 1232, 1242, and 1248) are mobile, colorless oils. Those with an intermediate percentage (Aroclor 1254, 1260, and 1262) are viscous liquids or sticky resins. Higher percentages of chlorine (Aroclor 1268 and 1270) result in white powders (US EPA 1984). PCBs have low solubility in water, but are soluble in organic solvents and, importantly, lipids (fatty tissue). They have entered the aquatic environment through waste discharges to storm and sanitary sewers, dumping of PCB-contaminated materials into landfills and scrapyards, and spills associated with production and use. PCBs are listed by US EPA as a priority pollutant.

PCBs sorb (attach) onto stream sediments and waterborne organic particulates. This characteristic causes stream sediments to act as an environmental repository. Because PCBs have a low solubility, sediment concentrations are usually higher than the surrounding water. Invertebrates and fish accumulate PCBs in their tissues also at concentrations higher than those found in surrounding water. Species at higher trophic (feeding) levels are prone to higher concentrations. Biological contamination may occur through a variety of routes. Aquatic organisms may incorporate PCBs from water, sediment, or food items. For the most part, the lesser chlorinated congeners (chemically related compounds) are more readily subject to metabolism. The forms with five, six, and seven chlorine substitutions are resistant to chemical or biological degradation (US EPA 1990). PCBs are nearly immobile in aquatic environments when concentrations in the liquid phase are controlled by solubility, and transport is controlled by partitioning between stream sediments and water (US EPA 1990). However, low solubility compounds such as PCBs can be physically transported as a sorbent, on colloidal (suspended) clays and organic carbons, and as a solute within mobile organic substances such as oils. Tidal currents are a plausible mechanism for the distribution of PCBs throughout the Edmonds Creek Marsh Area.

Importantly, from an ecological perspective, not all congeners have the same effects. Discrimination of congeners appears operative at many physical, chemical, and biological levels; persistence in the environment varies; and bioaccumulation potential varies among congeners and across trophic levels.

3.1 Materials and Methods

Collection

Nine composite sediment samples were collected from Edmonds and Reference Creeks on 13 through 15 September 2004 at transect locations originally established for the 28-day bioaccumulation tests. Twenty-seven additional composites were collected over the same period at point locations established for collection of the fiddler crab samples. Where transects were used as sampling locators, samples were taken from two transects within each of nine zones and

composited to produce a discrete sample. These samples, consisting of approximately 5-gallons of sediment from each transect, were combined and a sub-portion removed for PCB, TOC, and Grain Size analysis. Sediment samples collected at the locations established for the crab tissue samples consisted of a composite of a minimum of five grabs each. Hence, a total of thirty-six individual samples (plus two field duplicates) was analyzed: twenty from five remediated zones within the Edmonds Creek channel; eight from two unremediated zones; and eight from two reference zones. Sample locations are shown on Figures 1 and 2. Photographs taken of the study area in 2002 are shown as Figure 3, and Figure 4 is a schematic of the sampling locations.

36

20
8
8
36

Sampling locations were established in the field by a surveyor and marked by driving labeled PVC pipes into the substrate. All samples were collected using a decontaminated shovel, post-hole digger, or Petite Ponar Grab sampler. All sample grabs were composited, mixed until homogenous, transferred into glass containers, and chilled prior to transport to the laboratory. Samples were taken from sediment depths of six inches or less in order to represent areas where exposure to feeding biota was likely.

In addition, composites were collected from a set of four point locations in the Raritan River at the confluence of Edmonds Creek. Composites also were collected from a set of three point locations within the Edmonds Creek Marsh Area, distant from the Edmonds Creek channel. These locations were located with a GPS unit.

4
3
43

Analysis

PCB analyses were conducted according to US EPA Method 8082. Organic carbon was analyzed according to US EPA Method 5310B and Grain Size analyzed according to the ASTM Method D-422. Results of the PCB analyses were normalized according to the Total Organic Carbon (OC) content of each sample using the equation:

$$\text{PCB concentration } (\mu g/g \text{ OC}) = \frac{\text{PCB concentration } (\mu g/kg)}{\text{\% organic carbon} \times 10}$$

and reported both as micrograms/kilogram dry weight (parts per billion) and micrograms/gram organic carbon (parts per million). This normalization standardizes the PCB concentrations to the organic carbon content of each sample and allows for an additional comparison of the results. However, because the remediation goal is based upon the whole sediment concentrations, these results are emphasized in the sections that follow. The data are described according to their range, mean, standard error of the mean, and coefficient of variation.

3.2 Results and Discussion

The results from Edmonds Creek are presented first followed by the Raritan River and the Edmonds Creek Marsh Area (Table 1). Results from the reference zones are presented last. Analysis Reports and Quality Control Summaries submitted by Lancaster Labs are provided as Appendix A. Field Data Sheets completed by Normandeau are also in Appendix A. Results are shown for seven Aroclors and for Total PCBs, expressed as dry weight concentrations. Additional results reported are the Percentages of Organic Carbon (OC) and the Percentages of Silt and Clay in the samples. Results are presented in upstream to downstream order beginning with Remediated Zone 1 and progressing to Unremediated Zone 1 (e.g., sample A10+50L was

collected from Remediated Zone 1, A21+00 from Remediated Zone 2, etc.). Samples collected from reference zones are reported in an upstream direction (e.g., RA-ABIO-01/01A was taken from Reference Zone 1).

3.2.1 Edmonds Creek Zones

The 2004 results for Aroclors 1016, 1221, and 1232, were below the minimum detection limit of the analytical method so trace concentrations were estimated by assuming a value of one-half the limit. These were "U" -qualified on the Laboratory Analysis Reports. Estimated values, between the detection limit and the limit of quantification, were "J"-qualified. Aroclors 1242, 1248, 1254, and 1260 were found at detectable concentrations, ranging widely from 74 to 6,700 μg/kg dry wt in individual samples. Aroclors 1248 and 1254 were found in the greatest quantity.

Total PCB concentrations for individual samples (sum of the Aroclors) were also variable, ranging from 479 to 8,960 (average of two field duplicates) μg/kg dry wt (0.5 and 9.0 ppm, respectively). Twenty-three of twenty-eight sample locations yielded results below the 5 ppm remediation goal.

Within particular zones, mean PCB concentrations ranged between 901 (Remediated Zone 2) and 4,055 (Unremediated Zone 2) μg/kg dry wt (0.9 to 4.1 ppm). Mean PCB concentrations (by zone) were less than the remediation goal in all seven zones. The results did not display any spatial pattern relative to the proximity of the sample zones to former Pool C.

The concentrations of Total Organic Carbon in individual samples were very high, ranging from 2.5 to 14.4 percent. Following normalization for organic carbon, Total PCB concentrations for individual samples were again variable, ranging from 6.7 to 204.8 (ave. of two) μg/g OC, averaging between 10.1 and 92.2 μg/g OC, in individual zones.

Results from the grain size analysis showed that most of the samples were composed of silt and clay fines. The amount of silt-clay in individual samples ranged from 34.7 to 86.7 percent. Silt-clay fines exceeded 60 percent in all but four of the samples. Sand was the third most predominant particle size. Coarse particulate organic matter (detritus) was a major component of all of the samples. The high percentages of fines show that the Edmonds Creek sediments have a high capacity to store PCB's, particularly where high concentrations of organic carbon are also present.

3.2.2 Raritan River

Total PCB concentrations from four samples taken from the creek mouth ranged from 68 J to 3,775 μg/kg dry wt (<0.1 to 3.8 ppm). The average was 1,284 μg/kg dry wt (1.3 ppm). In 2003 the average of the four samples was 296 μg/kg dry wt (0.3 ppm) and in 2002 it was 2,219 μg/kg dry wt (2.2 ppm).

3.2.3 Edmonds Creek Marsh Area

Total PCB concentrations for three samples taken from point locations distant from the creek channel ranged from 125 to 154 μg/kg dry wt (0.1 to 0.2 ppm) and averaged 142 μg/kg dry wt (0.1 ppm). Values were lower then those measured from Reference Creek. These data, along with the data produced from the 2003 and 2002 studies that fell within a range of 0.2 to 0.9 ppm for individual samples, indicate that residual PCBs are confined to the stream channel. Sample means from the Marsh Area were 0.7 ppm in 2003 and 0.3 ppm in 2002.

3.2.4 Reference Creek Zones

Concentrations for specific Aroclors measured from the Reference Area, across the Raritan River, were lower than those from Edmonds Creek. Aroclors 1248, 1254, and 1260 were detected in all eight samples. Aroclor concentrations in particular samples ranged between 59 and 340 μg/kg dry wt.

Total PCB concentrations in individual samples were consistent, from 276 to 619 (ave. of two) μg/kg dry wt (0.3 and 0.6 ppm). By zone, sample means were 426 (Zone 1) and 322 (Zone 2) μg/kg dry wt (0.4 and 0.3 ppm).

Total Organic Carbon in individual samples ranged between 4.4 and 5.3 percent. Upon normalization for OC content, individual PCB values ranged between 5.8 and 13.8 (ave. of two) μg/g OC. Mean values by zone were 8.9 and 6.8 μg/g OC.

The silt-clay percentage in individual samples ranged from 75.1 to 84.8 percent. Coarse particulate organic matter was also prevalent.

3.2.5 Eight Year Trend

Edmonds Creek Zones

Trends for Total PCB concentrations in sediment within each zone are displayed as Figures 5 through 11. Because the remediation goal of 5 ppm is based upon whole (un-normalized) sediment concentrations, these results are emphasized for the trend analysis. All results will be given as parts per million.

In 1995, immediately following the remediation effort, mean sediment concentrations were relatively low (from less than 1 to slightly over 1 ppm) within each zone. In some cases sediment means were very near the means calculated from the reference zones. These results indicated that the remediation effort successfully removed most of the contaminant, reducing concentrations well below the remediation goal. One year later, during 1996, mean PCB concentrations had increased by 1 to 5 ppm at all but one of the zones. Within particular zones, 1996 means ranged from less than 1 to slightly over 5 ppm. During 1997 and 1998, means

tended to remain near 1996 values and remained below the remediation goal at all zones except Unremediated Zone 1. In 1999, the data produced means that exceeded the remediation goal within Remediated Zone 4 and Unremediated Zones 1 and 2.

By 2002, seven years after completion of the remedial excavation, mean concentrations in six of seven zones were below the remediation goal and the mean for the seventh was very close. In 2003, concentrations increased but averaged below 5 ppm in four zones. The data from 2004 were encouraging. Nine years following the excavation PCB concentrations averaged below 5 ppm in all seven zones.

It appears that residual PCB's remaining within the stream channel form localized concentrations, due in part to tidal redistribution.

Remediated Zone 1

The mean PCB concentration at Remediated Zone 1 was 0.422 J ppm in 1995. From 1996 to 2004, means stabilized within a range of 1 to 2 ppm (Figure 5). These values were 0.786 (1996), 1.038 J (1997), 0.947 (1998), 1.649 (1999), 1.398 (2002), 1.244 (2003), and 1.028 (2004) ppm.

Remediated Zone 2

At Remediated Zone 2, a similar trend was observed. A 1995 mean of 0.331 J ppm was followed by means of 1.374 (1996), 0.963 J (1997), 1.145 (1998), 1.214, (1999), 2.058 (2002), 2.210 (2003), and 0.901 (2004) ppm (Figure 6). Residual contamination has remained well below the remediation goal. Evidently, concentrations will remain near or less than 2 ppm.

Unremediated Zone 2

At Unremediated Zone 2, a mean PCB concentration of 0.963 ppm was measured immediately following the remediation effort (Figure 7). Subsequent means were 1.577 (1996), 2.366 (1997), 2.327 (1998), 16.535 (1999), 1.544 (2002), 9.611 (2003) and 4.055 (2004) ppm. PCB concentrations had formed at sample point UN-ABEN-02AL and likely nearby, at transect UN-ABIO-02A, forcing mean values within this zone upward during certain years.

Remediated Zone 3

At Remediated Zone 3, a post-remediation mean of 0.528 ppm (1995) was followed by means of 1.674 (1996), 2.340 (1997), 1.970 (1998), 3.026 (1999), 5.462 (2002), 3.180 (2003), and 1.518 (2004) ppm (Figure 8). Thus, PCB concentrations have not shown any clear directional trend but in general remained within the remediation goal. Zone 3 was located near former "Pool C" where a pre-remediation mean of 45.3 ppm was calculated from a set of ten sediment samples and contamination was as high as 300 ppm in individual samples (see Section 3.2.6).

Remediated Zone 4

At Remediated Zone 4, further downstream from OU2, a post-remediation mean of 0.403 ppm was followed by means of 5.558 (1996), 2.698 (1997), 4.234 (1998), 6.410 (1999), 3.010 (2002), 10.063 (2003), and 3.859 (2004) ppm (Figure 9). The data did not show any directional trend. A high value at sample point A42+25R from the 2003 data set forced that years' mean upward.

Zone 4 is located near an area formally known as the "Oil Seeps Area" where a pre-remediation mean of 8.1 ppm was calculated from a set of six sediment samples.

Remediated Zone 5

At Remediated Zone 5, closer to the mouth of Edmonds Creek, no clear trend has been observed. The 1995 - 1999 and 2002 - 2004 means were 0.299, 3.540, 1.966, 2.866, 1.864, 1.394, 3.914, and 3.338 ppm, respectively (Figure 10). Results have remained below the remediation goal each year.

Unremediated Zone 1

High PCB concentrations at sample point UN-ABIO-01AL and/or at transect UN-ABIO-01A, nearby, produced annual means that exceeded the remediation goal during 1997 - 1999 and 2003 (Figure 11). Unremediated Zone 1 is at the mouth of Edmonds Creek. Annual means there were 1.236 (1995), 5.211 (1996), 15.846 (1997), 13.818 (1998), 6.558 (1999), 4.754 (2002), 12.098 (2003) and 3.658 (2004) ppm.

Reference Creek Zones

Trends for sediment concentrations within Reference Creek zones are shown as Figures 12 and 13. Exclusive of three values from the 1996 collections, concentrations within Reference Creek were near or below 1 ppm during the course of the study period. Within Reference Zone 1 sample means were 0.310 U (1995), 2.794 (1996), 0.613 J (1997), 0.838 (1998), 0.622 (1999), 0.727 (2002), 0.467 (2003), and 0.426 (2004) ppm. A nearly identical pattern was observed within Reference Zone 2 where annual means were 0.300 U (1995), 3.692 (1996), 0.526 J (1997), 0.450 (1998), 0.380 (1999), 0.600 (2002), 0.515 (2003), and 0.322 ppm.

3.2.6 Comparisons with Data from the Remedial Investigation/Feasibility Study

At the beginning of this monitoring effort, US EPA assigned a criterion of 5 ppm to be used as a conceptual framework from which the success of the remediation would be evaluated. The objective of the remediation was to ultimately reduce potential exposure to humans and wildlife. Although consistent success in achieving this standard cannot currently be documented from all of the zones, it does appear that most of the contaminant has been removed from the stream channel and, from a broader perspective, a considerable reduction in exposure potential has been achieved. Comparing the data collected from this effort with data collected prior to the remedial excavation illustrates this point. These data are presented in the RIFS report pertaining to this project, entitled: "Kin-Buc Landfill, Operable Unit 2, Draft Final Feasibility Study Report" (Wehran 1992). In the RIFS, sample locations and sediment data from the Edmonds Creek channel, and throughout Edmonds Creek Marsh, are presented as Figure 4-1. A copy of Figure 4-1 is placed at the end of this section.

To provide valid comparisons with data collected after the remediation, pre-remediation data were selected from all sample points located within the confines of the Edmonds Creek Channel (delineated with open triangles on Figure 4-1). Forty such results were available to calculate pre-remediation means from the five remediated and two unremediated zones. Note that specific

sample locations from the RIFS differ from the Biota Monitoring Study locations but were from within or very near the same zones.

Comparisons between pre- and post-remediation means are:

Zone	Pre-remediation mean	1995 mean	1999 mean	2004 Mean
Rem 1	30.8 (max = 81.0, n = 3)	0.4 (max = 0.5, n = 4)	1.7 (max = 4.0, n = 4)	1.0 (max = 1.1, n = 4)
Rem 2	7.6 (max = 17.3, n = 9)	0.3 (max = 0.4, n = 4)	1.2 (max = 1.4, n = 4)	0.9 (max = 1.2, n = 4)
Unrem 2	1.1 (max = 2.5, n = 3)	1.0 (max = 1.9, n = 4)	16.5 (max = 43.7, n = 4)	4.1 (max = 6.9, n = 4)
Rem 3	45.3 (max = 300.0, n = 10)	0.5 (max = 0.7, n = 4)	3.0 (max = 4.8, n = 4)	1.5 (max = 1.7, n = 4)
Rem 4	8.1 (max = 29.7, n = 6)	0.4 (max = 0.5, n = 4)	6.4 (max = 11.4, n = 4)	3.9 (max = 9.0, n = 4)
Rem 5	2.0 (max = 5.3, n = 6)	0.3 (max = 0.4, n = 4)	1.9 (max = 2.5, n = 4)	3.3 (max = 5.8, n = 4)
Unrem 1	1.1 (max = 2.5, n = 3)	1.2 (max = 1.8, n = 4)	6.6 (max = 9.3, n = 4)	3.7 (max = 6.8, n = 4)

Eleven of the forty results from the RIFS were above 5 ppm. The average concentration for these eleven was 56.7 ppm. The cumulative mean for all forty pre-remediation samples was 17.0 ppm. Areas where sediment concentrations were high (>5.0 ppm) did not include the entire width of the stream channel. In each case where high concentrations were found, they were restricted to either, the center of the channel or to one of the banks so the contamination discovered in Edmonds Creek was not evenly distributed.

Beyond the confines of the Edmonds Creek channel (throughout the marsh) pre-remediation concentrations ranged between "non-detectable" to 4.6 ppm (see Figure 4-2). Hence, most of the contaminant had remained concentrated in the channel.

In contrast, none of the twenty-eight results from 1995 were above 5.0 ppm. The average concentration for these was 0.6 ppm. Eight of twenty-eight results from 1999 were above 5 ppm. The cumulative mean for all twenty-eight was 5.3 ppm. In 2004, five of twenty-eight samples produced values above 5.0 ppm and their cumulative average was 2.6 ppm.

Therefore, on a scale of measurement that encompasses the entire length of the study area, concentrations are lower by 14.4 ppm. Again, the areas within the zones where sediment concentrations were high (>5.0 ppm) did not include the entire width of the stream channel. The residual contamination remaining in Edmonds Creek is distributed in a similar uneven pattern shown by the pre-remediation data, but at lower concentrations.

3.2.7 Comparisons with Data from the Remedial Action Report

Blasland, Bouck, & Lee (now BBL Sciences) reported extensive sediment sampling immediately prior to and after the remedial excavation (BBL 1996). Their document is entitled "Remedial Action Report, Kin-Buc Landfill, Operable Unit 2, Edison, New Jersey". BBL established a sampling design intended to define perimeters of each remediated zone that would enclose the areas where sediment concentrations exceeded 5 ppm. Samples were first collected at the perimeter of each zone, based on results of previous remedial design sampling. If these results produced values greater than 5 ppm, additional sampling was conducted and the perimeters extended. Because sample locations were "targeted" for this specific purpose, the data produced

lacked the randomness necessary to calculate representative sample means from each zone, and cannot be compared to 1999 or 2004 means from the Normandeau effort.

However, analysis of 118 pre-excavation samples collected during September through November 1994 did identify particularly high concentrations from specific locations. Individual results as high as 229 and 104 ppm were reported from Zones 4 and 5, respectively (see Tables 4 and 5 in BBL 1996). Combining these results with results from the RIFS show that high PCB concentrations were present over the entire length of the study area prior to the remedial excavation. Analysis of 702 post-excavation "confirmatory" samples, collected from November 1994 to May 1995, produced a range of values between "undetectable" and 5.0 ppm (Tables 8 through 13 in BBL 1996) and confirmed the success of the remediation effort.

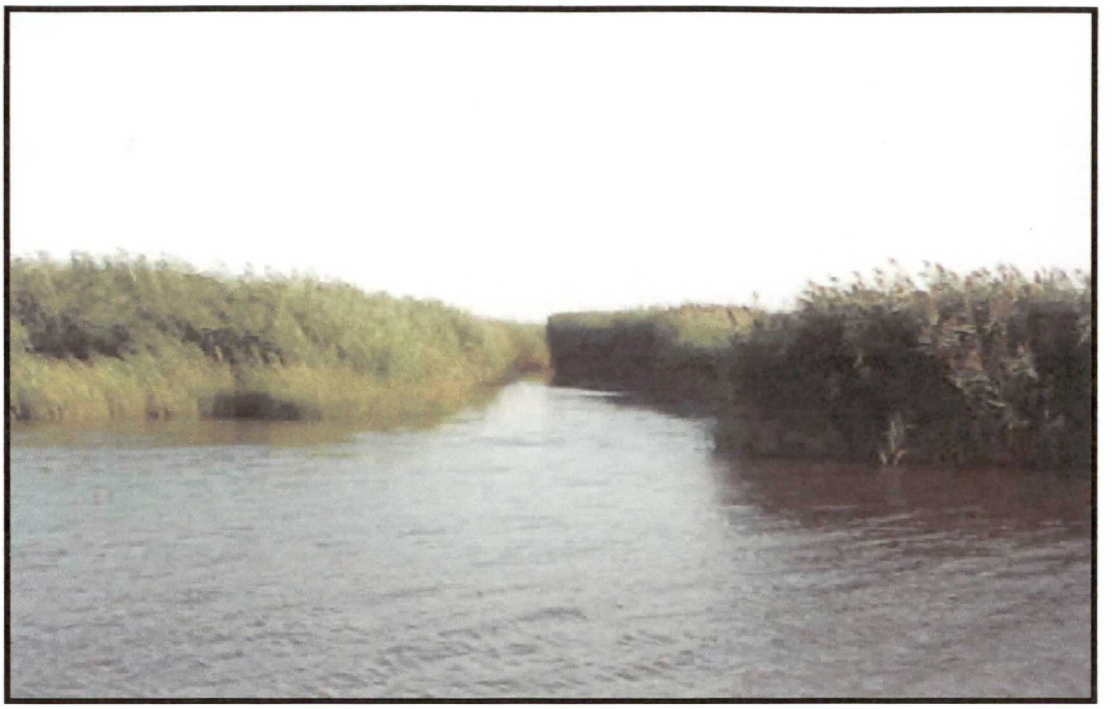


Photo No. 1. Confluence of Reference Creek with Raritan River

Photo No. 2. Reference Creek Zone 2

Figure 3. Edmonds Creek Marsh Area

Normandeau Associates, Inc.
400 Old Reading Pike
Stowe, PA 19464

Photo No. 3. Edmonds Creek Near Unremediated Zone 2

Photo No. 4. Edmonds Creek Remediated Zone 3

Figure 3. (continued)

Normandeau Associates, Inc.
400 Old Reading Pike
Stowe, PA 19464

Photo No. 5. Edmonds Creek near Remediated Zone 4

Photo No. 6. Edmonds Creek near Remediated Zone 4

Figure 3. (continued)

Normandeau Associates, Inc.
400 Old Reading Pike
Stowe, PA 19464

Photo No. 7. Edmonds Creek At Remediated Zone 4

Photo No. 8. Edmonds Creek near Remediated Zone 5

Figure 3. (continued)

Normandeau Associates, Inc.
400 Old Reading Pike
Stowe, PA 19464

Figure 4. Approximate location of PCB sampling stations.

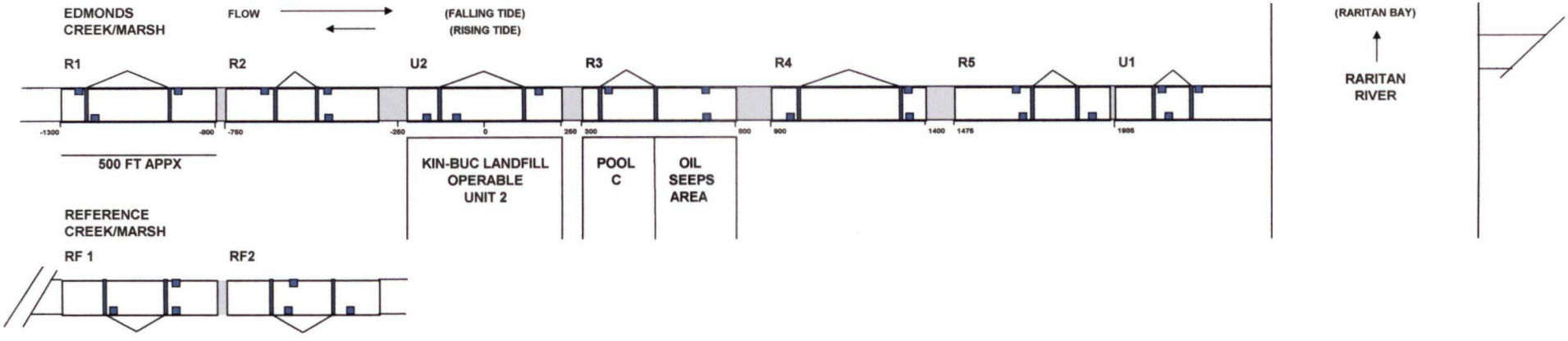


Table 1. Kin-Buc Project - Sediment PCB Data for 2004 Collections (year 8).

Sample ID Number	Sediment Concentration (µg/kg dry wt) A1016	A1221	A1232	A1242	A1248	A1254	A1260	**Sum of Aroclors (µg/kg dry wt)**	Normalized sum of Aroclors (µg/g OC)	% Moisture	% OC	% Silt & Clay
Edmonds Creek Remediated Zone 1:												
A10+50R	13 U	12 U	9 U	9 U	650	320	130	**1,143**	8.0	81.5	14.2	55.6
A10+50L	12 U	10 U	8 U	8 U	560	320	150	**1,068**	8.5	79.4	12.5	68.5
A10+50/12+00	10 U	9 U	7 U	7 U	510	240	110	**893**	9.8	75.6	9.1	70.2
A12+50L	8 U	7 U	6 U	6 U	590	260	130	**1,007**	14.0	68.8	7.2	78.0
							Mean	**1,028**	10.1			
							Std. error of the mean	53	1.4			
							Coefficient of Variation	10.3%	27.0%			
Edmonds Creek Remediated Zone 2:												
A21+00L	8 U	7 U	6 U	6 U	630	250	120	**1,027**	16.0	69.4	6.4	70.6
A21+00/22+00	14 U	12 U	10 U	10 U	690	330	110	**1,176**	19.0	66.0	6.2	67.4
A22+00R	7 U	6 U	5 U	5 U	550	240	110	**923**	15.1	64.7	6.1	74.7
A22+50L	6 U	6 U	5 U	5 U	220	160	77	**479**	6.7	63.6	7.2	71.7
							Mean	**901**	14.2			
							Std. error of the mean	150	2.6			
							Coefficient of Variation	33.3%	37.1%			
Edmonds Creek Unremediated Zone 2:												
UN-ABEN-02R	30 U	26 U	20 U	20 U	2,000	1,400	490	**3,986**	73.8	59.0	5.4	72.2
UN-ABEN-02AL	65 U	60 U	46 U	46 U	4,600	1,700	430	**6,947**	108.5	64.3	6.4	66.6
UN-ABIO-02R	11 U	10 U	8 U	8 U	640	380	170	**1,227**	24.1	57.3	5.1	76.2
UN-ABIO-02/02A	85 U	75 U	60 U	2,400	60 U	1,100	280 J	**4,060**	162.4	44.2	2.5	34.7
							Mean	**4,055**	92.2			
							Std. error of the mean	1,168	29.1			
							Coefficient of Variation	57.6%	63.1%			

Table 1. continued.

Sample ID Number	Sediment Concentration (µg/kg dry wt) A1016	A1221	A1232	A1242	A1248	A1254	A1260	**Sum of Aroclors (µg/kg dry wt)**	Normalized sum of Aroclors (µg/g OC)	% Moisture	% OC	% Silt & Clay
Edmonds Creek Remediated Zone 3:												
A31+25L	6 U	6 U	4 U	4 U	560	370	130	**1,080**	7.5	62.6	14.4	69.3
A31+25/32+25	11 U	10 U	8 U	8 U	980	480	160	**1,665**	35.4	55.4	4.7	42.9
A33+00R	16 U	14 U	10 U	10 U	740	450	150	**1,390**	19.9	69.2	7.0	73.1
A33+00L	12 U	11 U	8 U	8 U	1,200	530	170	**1,937**	38.0	60.2	5.1	80.4
							Mean	**1,518**	25.2			
							Std. error of the mean	184	7.1			
							Coefficient of Variation	24.2%	56.6%			
Edmonds Creek Remediated Zone 4:												
A42+25R	30 U	26 U	20 U	20 U	2,200	720	210	**3,226**	67.2	59.0	4.8	64.3
A42+25/46+50	65 U	60 U	46 U	46 U	6,700	1,800	470 J	**9,187**	191.4	64.2	4.8	57.6
A42+25/46+50 Dup	70 U	60 U	46 U	46 U	6,500	1,600	410 J	**8,732**	218.3	64.5	4.0	-
A46+75R	7 U	6 U	5 U	5 U	680	350	120	**1,173**	25.0	65.9	4.7	62.3
A46+75L	12 U	10 U	8 U	8 U	1,200	630	210	**2,078**	49.5	58.3	4.2	72.9
							Mean	**3,859**	86.7			
							Std. error of the mean	1,751	40.3			
							Coefficient of Variation	90.8%	93.0%			
Edmonds Creek Remediated Zone 5:												
A50+50L	10 U	10 U	7 U	7 U	930	390	180	**1,534**	35.7	54.4	4.3	80.9
A51+00R	60 U	50 U	40 U	40 U	3,600	1,500	560	**5,850**	117.0	58.4	5.0	73.6
A51+00/52+00	60 U	55 U	41 U	41 U	3,600	1.000	400 J	**5,197**	144.4	59.6	3.6	74.8
A52+50R	6 U	5 U	4 U	4 U	520	160	74	**773**	22.7	54.8	3.4	73.1
							Mean	3,338	80.0			
							Std. error of the mean	1,278	29.9			
							Coefficient of Variation	76.6%	74.9%			

Table 1. continued.

Sample ID Number	Sediment Concentration (µg/kg dry wt) A1016	A1221	A1232	A1242	A1248	A1254	A1260	**Sum of Aroclors (µg/kg dry wt)**	Normalized sum of Aroclors (µg/g OC)	% Moisture	% OC	% Silt & Clay
Edmonds Creek Unremediated Zone 1:												
UN-ABEN-01L	6 U	6 U	4 U	4 U	410	210	94	**734**	23.6	59.2	3.1	82.2
UN-ABEN-01AR	26 U	24 U	18 U	18 U	1,600	760	300	**2,746**	85.8	54.2	3.2	86.7
UN-ABIO-01AL	34 U	30 U	24 U	24 U	2,500	1,200	500	**4,312**	82.9	64.6	5.2	77.6
UN-ABIO-01/01A	50 U	46 U	36 U	36 U	4,800	1,400	470	**6,838**	152.0	54.0	4.5	64.2
							Mean	**3,658**	86.1			
							Std. error of the mean	1,288	26.2			
							Coefficient of Variation	70.4%	60.9%			
Raritan River (near the Confluence of Edmonds Creek):												
RR-A1	8 U	8 U	6 U	6 U	680	210	67	**985**	36.5	44.1	2.7	28.2
RR-A2	26 U	23 U	18 U	18 U	2,700	750	240	**3,775**	125.8	54.2	3.0	42.0
RR-A3	6 U	5 U	4 U	4 U	190	67	31 J	**307**	12.3	57.7	2.5	69.1
RR-A4	5 U	4 U	3 U	3 U	25 J	17 J	11 J	**68 J**	3.7	50.7	1.8	56.9
							Mean	**1,284**	44.6			
							Std. error of the mean	853	28.0			
							Coefficient of Variation	132.8%	125.3%			
Edmonds Creek Marsh Area:												
ECMA-A1	5 U	4 U	3 U	3 U	21 J	52	37	**125**	1.1	51.8	11.5	56.2
ECMA-A2	5 U	4 U	3 U	3 U	46	60	33 J	**154**	2.8	51.2	5.5	49.6
ECMA-A3	5 U	4 U	3 U	3 U	12 J	75	46	**148**	1.0	51.1	15.1	71.5
							Mean	**142**	1.6			
							Std. error of the mean	9	0.6			
							Coefficient of Variation	10.8%	63.2%			

Table 1. continued.

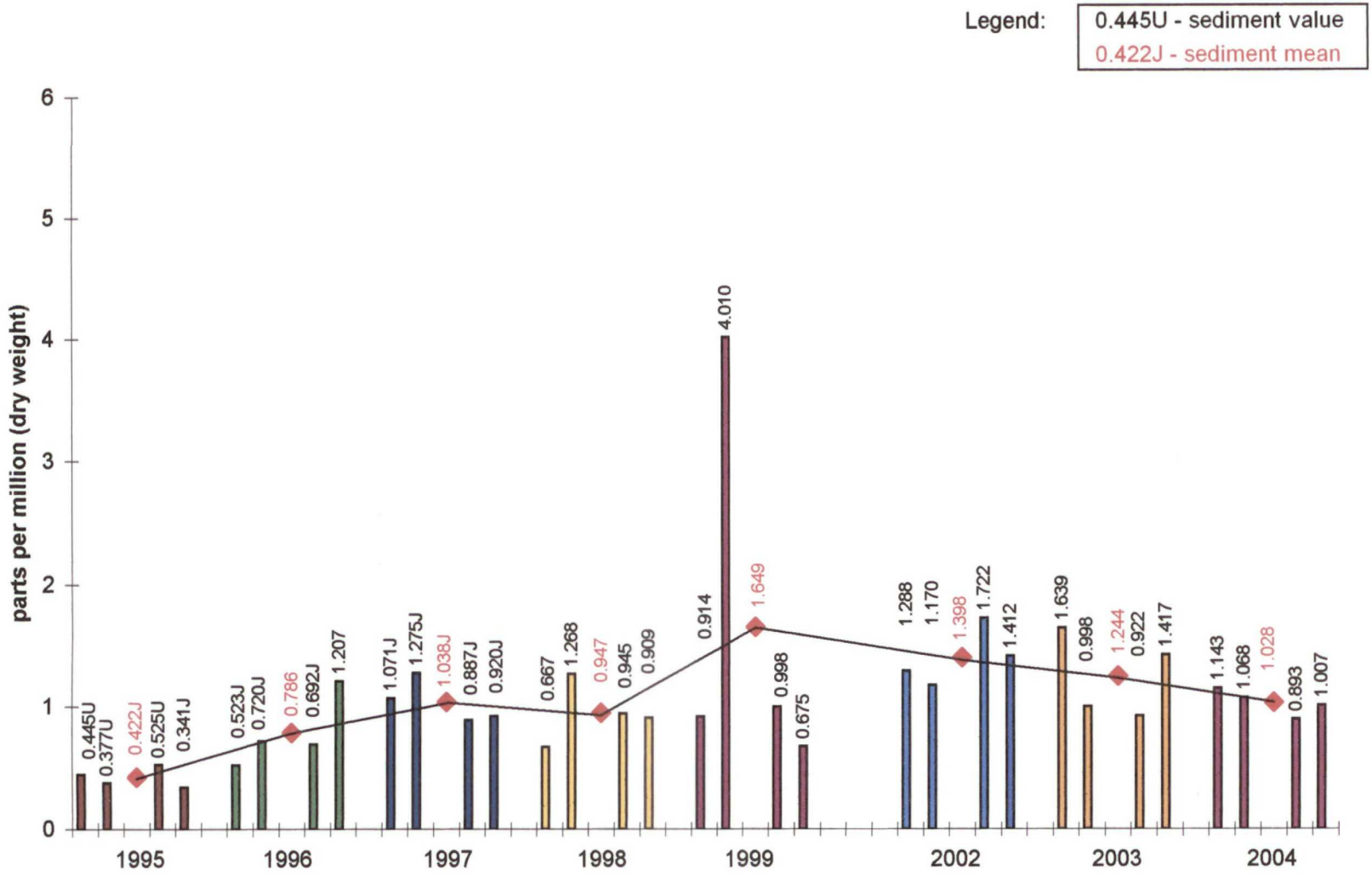
Sample ID Number	Sediment Concentration (µg/kg dry wt) A1016	A1221	A1232	A1242	A1248	A1254	A1260	**Sum of Aroclors (µg/kg dry wt)**	Normalized sum of Aroclors (µg/g OC)	% Moisture	% OC	% Silt & Clay
Reference Creek Zone 1:												
RA-ABEN-01L	6 U	5 U	4 U	4 U	180	160	93	**452**	9.2	56.7	4.9	78.5
RA-ABEN-01AR	6 U	5 U	4 U	4 U	110	120	66	**315**	6.6	58.0	4.8	77.1
RA-ABEN-01AL	6 U	5 U	4 U	4 U	110	120	70	**319**	6.0	57.0	5.3	75.1
RA-ABIO-01/01A	7 U	6 U	5 U	5 U	340	220	120	**703**	16.0	66.2	4.4	76.5
RA-ABIO-01/01A Dup	8 U	6 U	5 U	5 U	260	160	81	**535**	11.6	67.4	4.6	-
							Mean	**426**	8.9			
							Std. error of the mean	72	1.8			
							Coefficient of Variation	33.7%	39.9%			
Reference Creek Zone 2:												
RA-ABEN-02L	6 U	5 U	4 U	4 U	130	150	86	**385**	8.6	57.2	4.5	75.4
RA-ABEN-02AR	5 U	5 U	4 U	4 U	99	100	59	**276**	5.9	54.0	4.7	78.4
RA-ABEN-02AL	6 U	5 U	4 U	4 U	100	120	75	**314**	5.8	56.8	5.4	84.8
RA-ABIO-02/02A	7 U	6 U	5 U	5 U	130	100	60	**313**	7.1	66.2	4.4	78.9
							Mean	**322**	6.8			
							Std. error of the mean	23	0.7			
							Coefficient of Variation	14.2%	19.2%			

Notes:
1) One-half detection limit was assumed for non-detectable, U-qualified, results.
2) Estimated results between the minimum detection limit and the limit of quantitation are J-qualified.

3) Edmonds Creek Cumulative Mean = 2.6 ppm.
4) Reference Creek Cumulative Mean = 0.4 ppm.

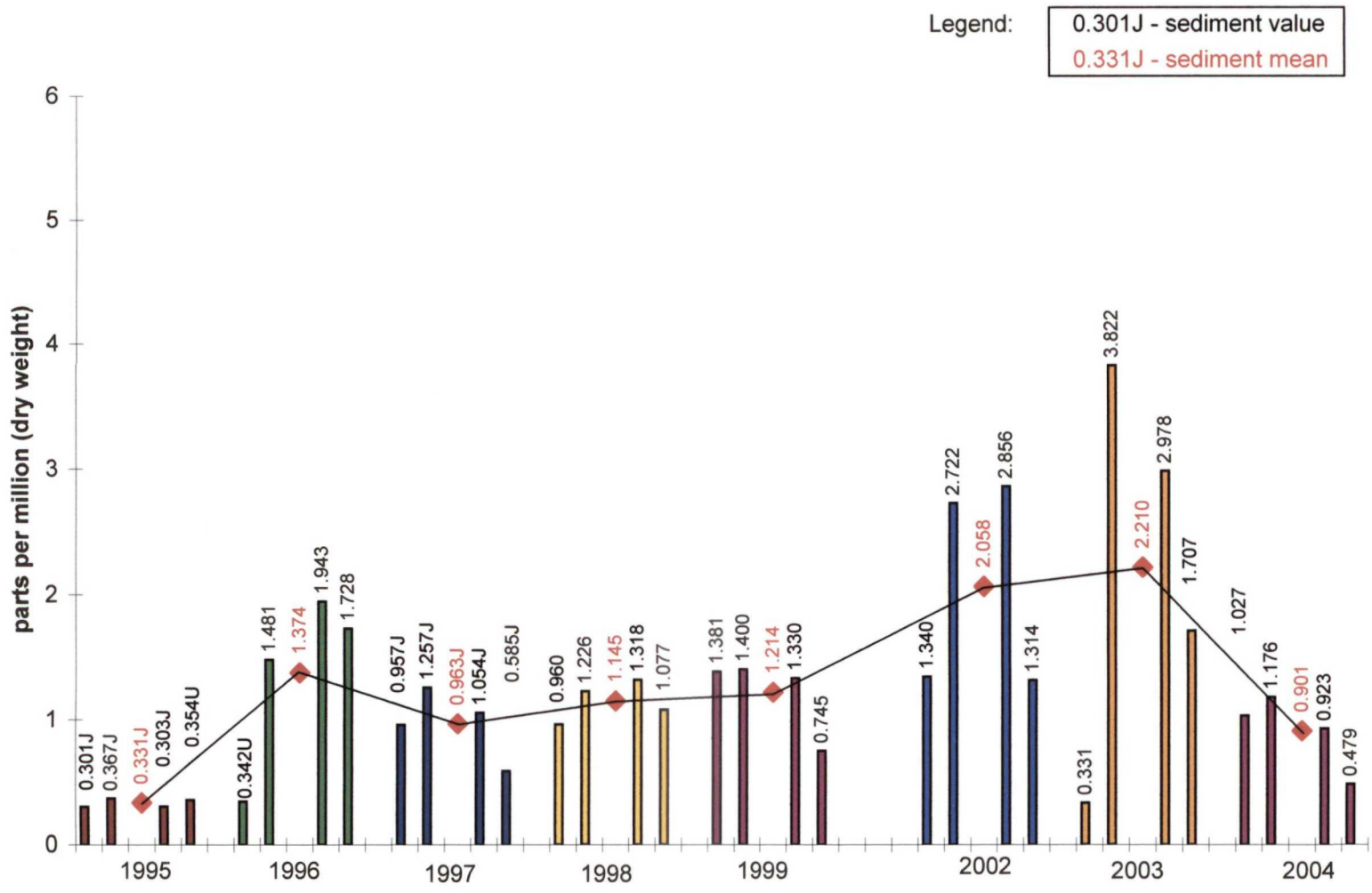
5) Edmonds Creek Marsh Area Mean = 0.1 ppm.
6) Raritan River Mean = 1.3 ppm.

Figure 5. Eight year PCB trend for sediment samples collected from Remediated Zone 1 near Kin-Buc Landfill.



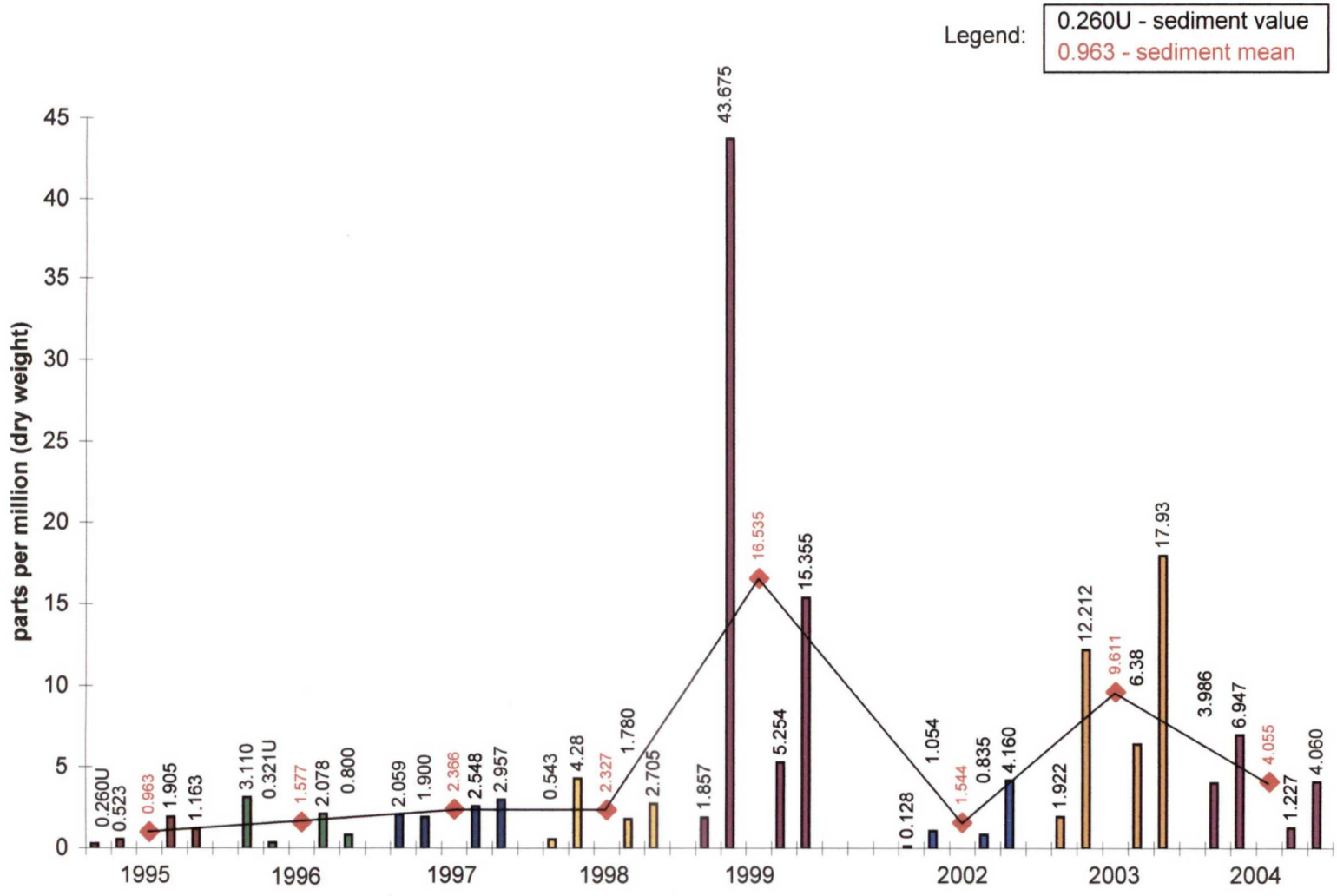
Notes: 1) One-half detection limit was assumed for U-qualified data.
2) Estimated results between the minimum detection limit and the limit of quantitation are J-qualified.

Figure 6. Eight year PCB trend for sediment samples collected from Remediated Zone 2 near Kin-Buc Landfill.



Notes: 1) One-half detection limit was assumed for U-qualified data.
2) Estimated results between the minimum detection limit and the limit of quantitation are J-qualified.

Figure 7. Eight year PCB trend for sediment samples collected from Unremediated Zone 2 near Kin-Buc Landfill.



Notes: 1) One-half detection limit was assumed for U-qualified data.

Figure 8. Eight year PCB trend for sediment samples collected from Remediated Zone 3 near Kin-Buc Landfill.

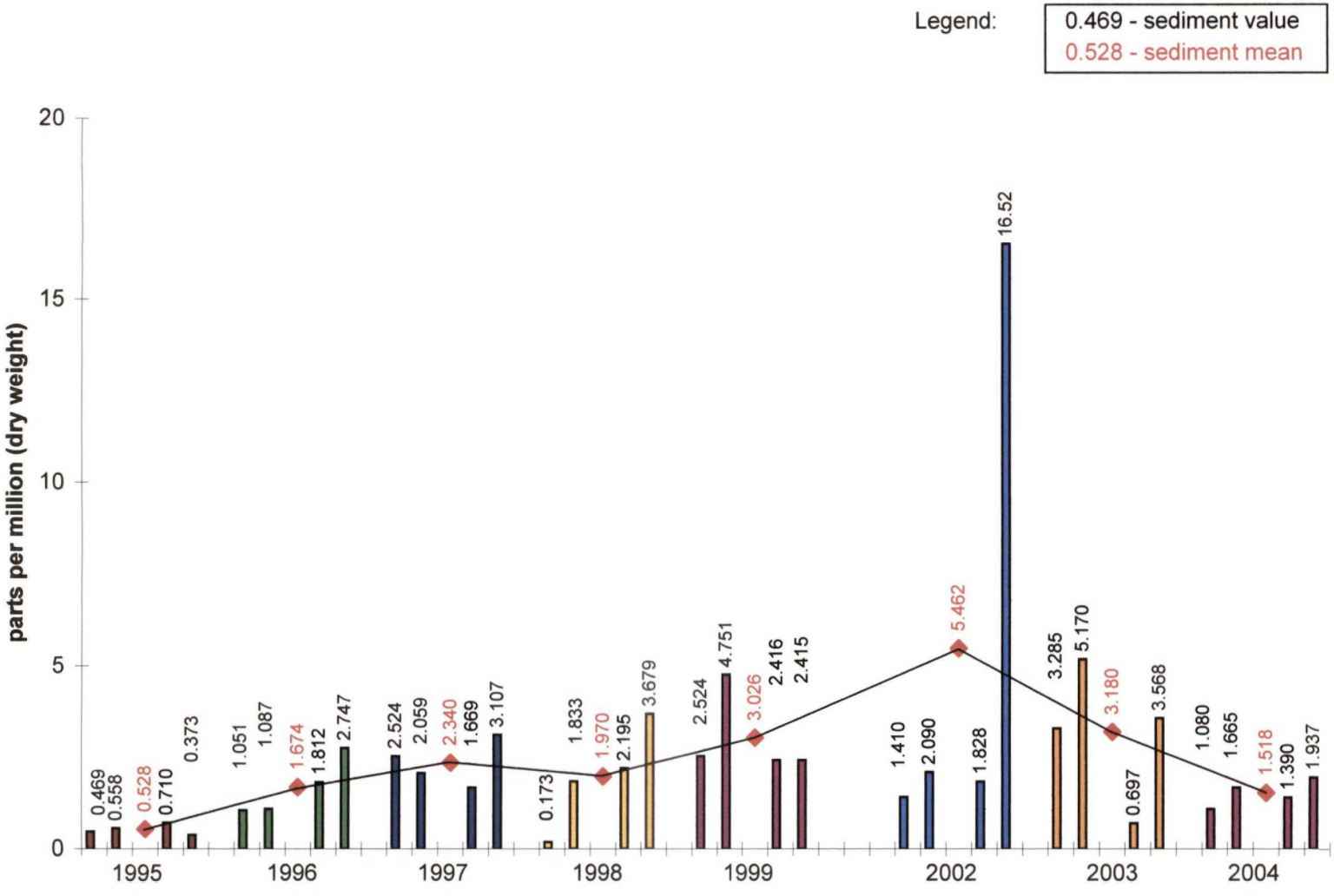


Figure 9. Eight year PCB trend for sediment samples collected from Remediated Zone 4 near Kin-Buc Landfill.

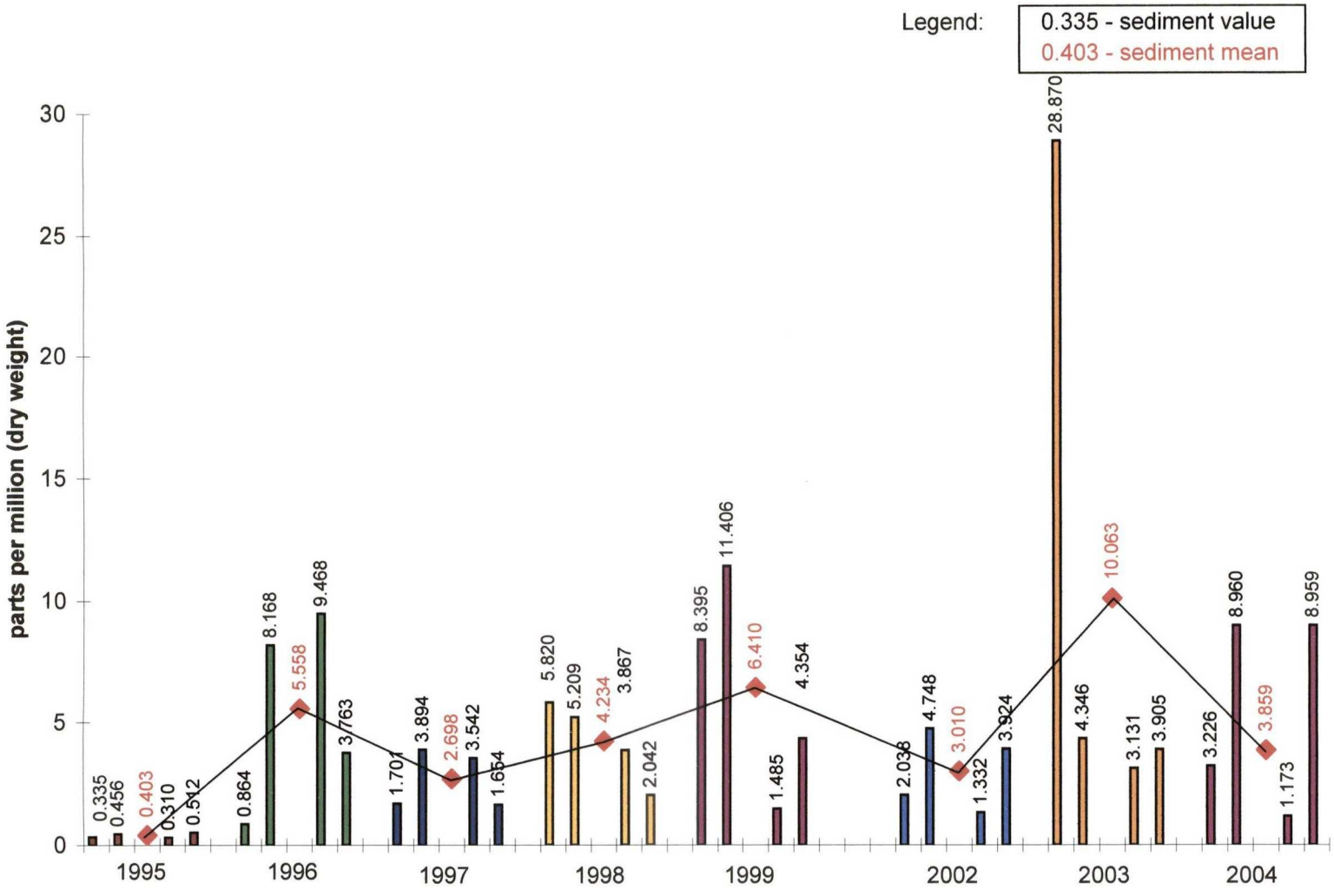
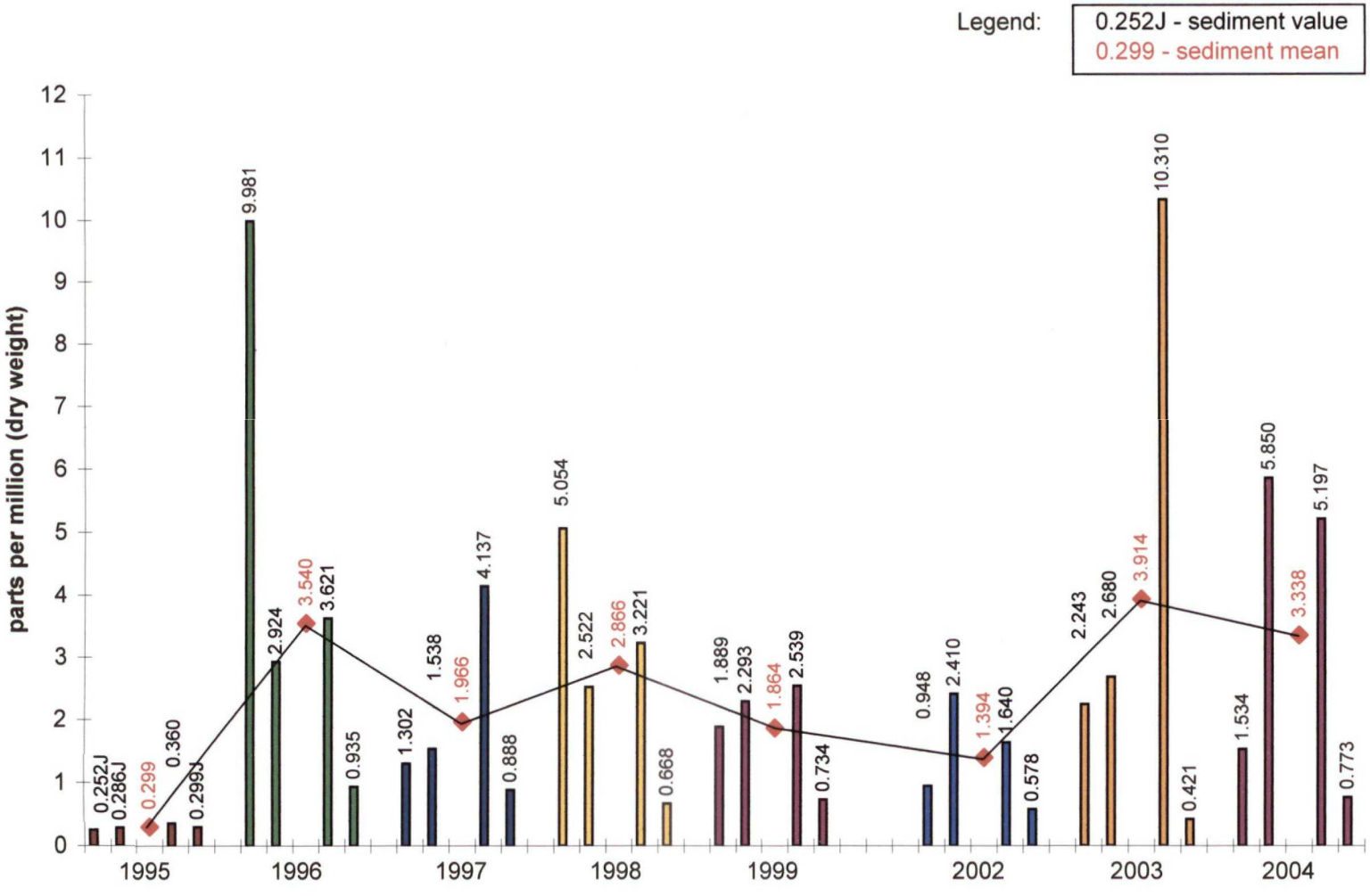
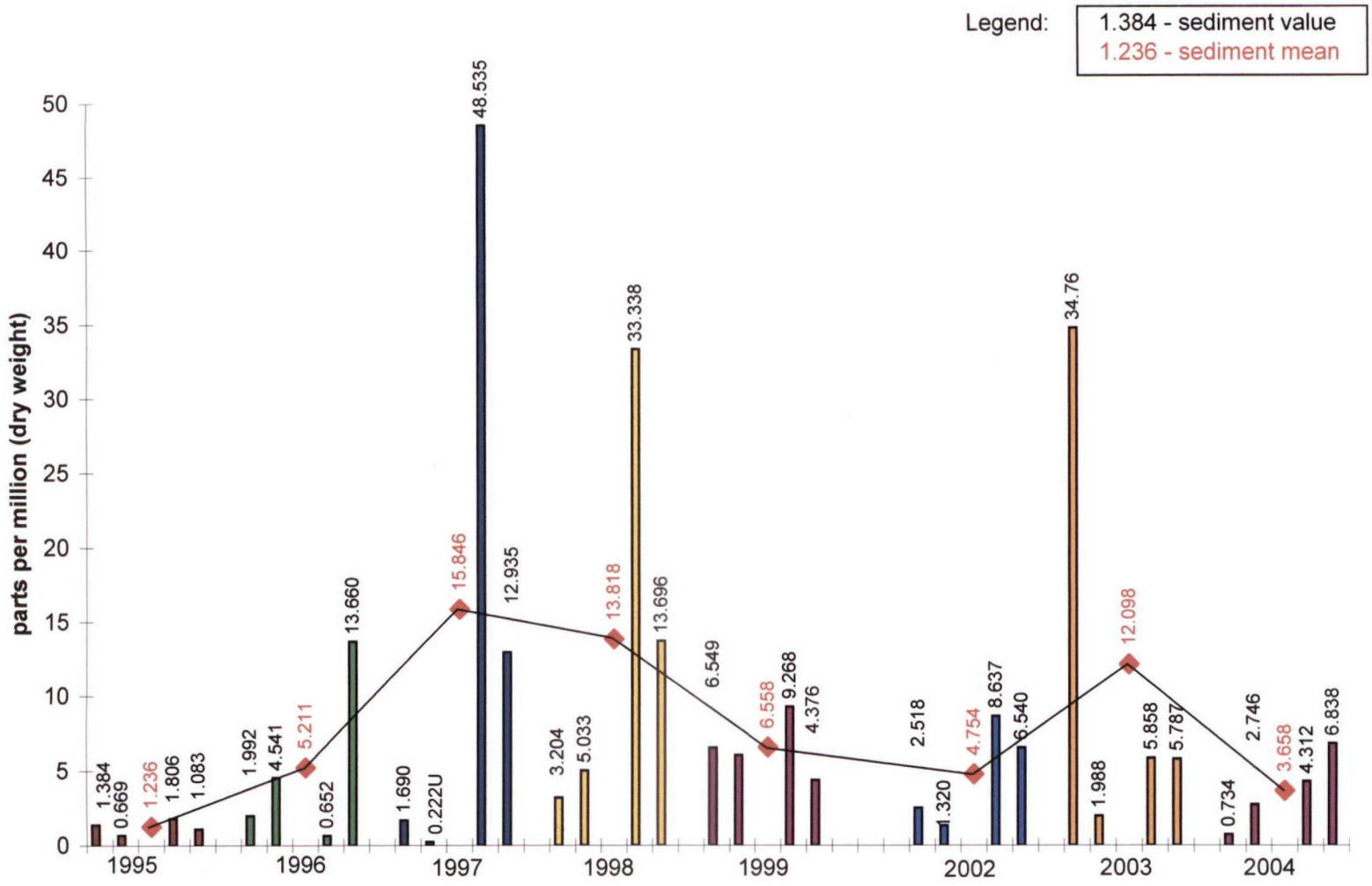


Figure 10. Eight year PCB trend for sediment samples collected from Remediated Zone 5 near Kin-Buc Landfill.



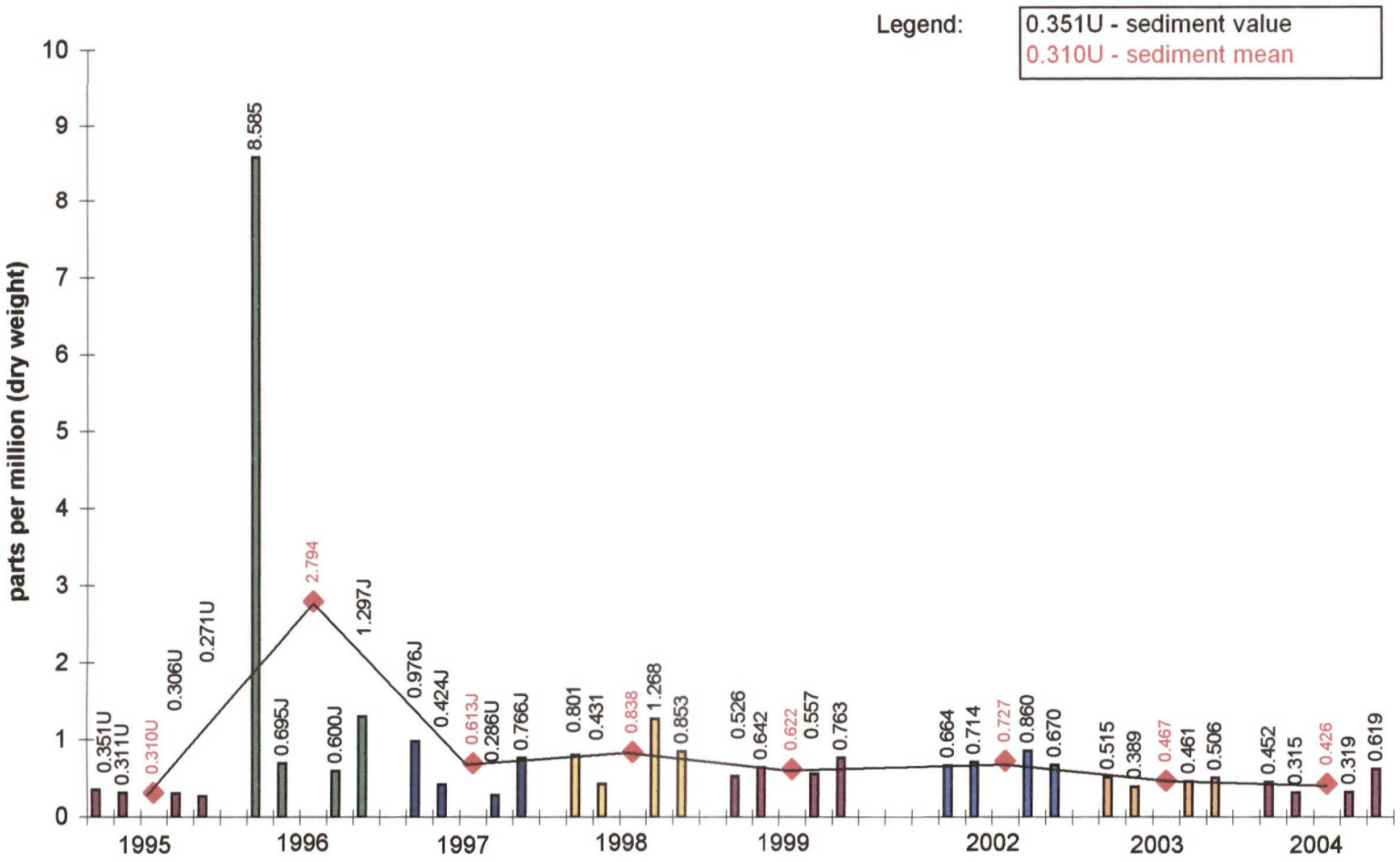
Notes: 1) Estimated results between the minimum detection limit and the limit of quantitation are J-qualified.

Figure 11. Eight year PCB trend for sediment samples collected from Unremediated Zone 1 near Kin-Buc Landfill.



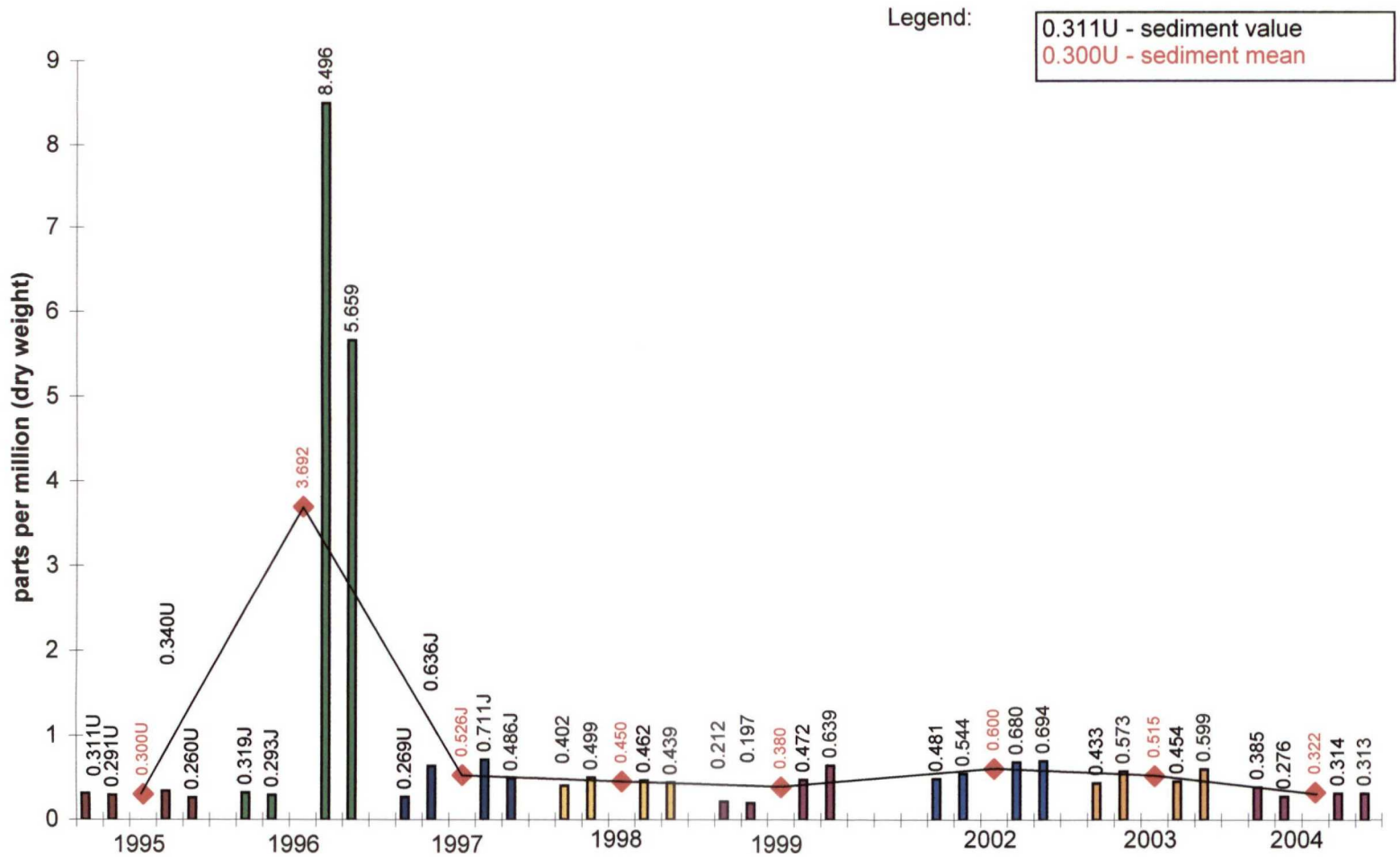
Notes: 1) One-half detection limit was assumed for U-qualified data.
2) Estimated results between the minimum detection limit and the limit of quantitation are J-qualified.

Figure 12. Eight year PCB trend for sediment samples collected from Reference Zone 1 near Kin-Buc Landfill.

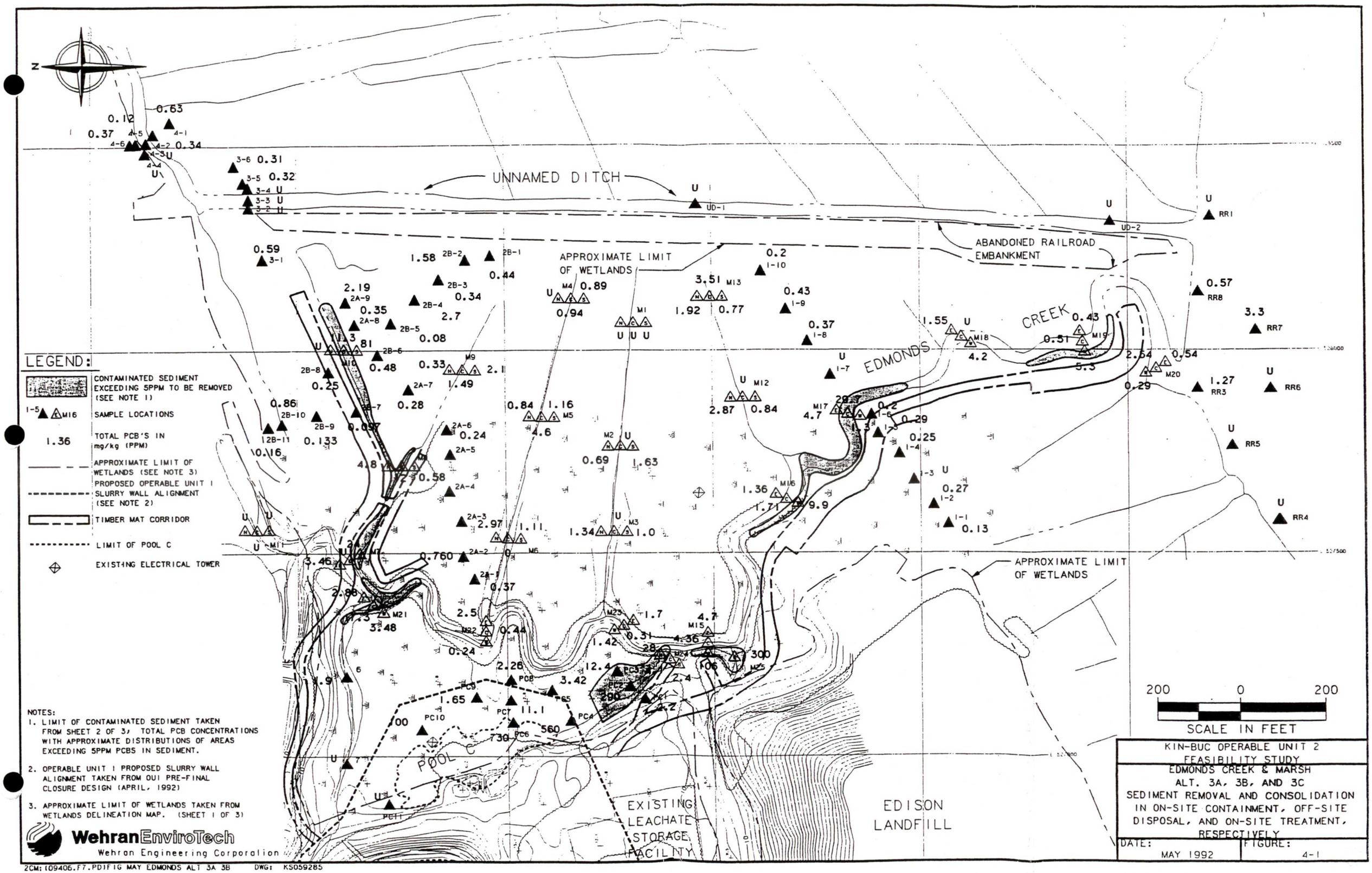


Notes: 1) One-half detection limit was assumed for U-qualified data.
2) Estimated results between the minimum detection limit and the limit of quantitation are J-qualified.

Figure 13. Eight year PCB trend for sediment samples collected from Reference Zone 2 near Kin-Buc Landfill.



Notes: 1) One-half detection limit was assumed for U-qualified data.
2) Estimated results between the minimum detection limit and the limit of quantitation are J-qualified.



2CM:109406.F7.PDIFIG MAY EDMONDS ALT 3A 3B DWG: KS059285

4.0 FIDDLER CRAB TISSUE ANALYSIS

Brackish water fiddler crabs were selected because they are relatively immobile and thus useful for assessing localized impacts. Brackish water fiddler crabs are discernible from a second species of fiddler crab living in the marsh (the sand fiddler) by the presence of a transverse groove on the carapace behind each eye. At low tide they emerge from their burrows in the stream banks to feed upon bacteria, minute algae, and decomposing plant material gleaned from the mud. Habitual burrowers, fiddler crabs are in constant contact with marsh sediments.

4.1 Materials and Methods

Collection

Crabs were collected on 16 to 18 August 2004 from point locations as close to the corresponding sediment sample points as possible (Figures 1 and 2). Twenty-one samples were collected from Edmonds Creek. Three were collected from the Marsh Area and ~~six from Reference~~ Creek. In Edmonds Creek, fifteen samples were collected from remediated zones (three per zone) and six were collected from unremediated zones. Specimens were hand-captured by digging them out of their burrows and their identity confirmed. The samples were then segregated into those consisting of big (>10 grams) and small (<8 grams) individuals. Prior to transport to the laboratory specimens were rinsed with distilled water to remove adhering sediment, placed in aluminum foil, enclosed in zip-loc bags, and frozen.

21
3
24

The samples were analyzed for PCBs according to US EPA Method 8082. Lipids were analyzed according to US EPA Method 3545. PCB results were normalized to Percent Lipid concentrations according to the formula:

$$\text{PCB concentration } (\mu g/g \text{ lipid}) = \frac{\text{PCB concentration } (\mu g/kg)}{\% \text{ lipid} \times 10}$$

and the analytical results reported both as micrograms/kilogram wet weight (whole body burden) and micrograms/gram lipid (normalized). The data were described with the same set of statistics used for the sediment samples.

4.2 Results and Discussion

The results are presented in Table 2, arrayed in same fashion as the sediment data. Concentrations for seven Aroclors are presented first, followed by the Total PCB concentrations expressed as wet weight, and the lipid normalized concentrations, respectively. Laboratory Analysis Reports, Quality Control Reports, and Field Data Sheets are provided in Appendix B.

Comparisons between the samples consisting of big verses small specimens are shown here. Results are given as ppm:

Edmonds Creek:	Big	Small
Remediated Zone 1	0.372 (ave.)	0.406
Remediated Zone 2	0.340	0.834 (ave.)
Unremediated Zone 2	1.167 (ave.)	1.978
Remediated Zone 3	1.012 (ave.)	0.855
Remediated Zone 4	0.730 (ave.)	0.695
Remediated Zone 5	1.064 (ave.)	1.628
Unremediated Zone 1	0.881 (ave.)	1.298
Edmonds Creek Marsh Area:		
ECMA C1, C2, and C3	0.589 (ave.)	0.905
Reference Creek:		
Reference Zone 1	0.147	0.144 (ave.)
Reference Zone 2	0.158	0.208 (ave.)

The smaller specimens were shown to be accumulating PCBs to a greater extent in seven of ten zones. In 2003 samples containing small specimens were higher in six of ten zones, and during 2002 and 1999 the smaller individuals accumulated PCBs to a greater extent in all nine zones. The 1998 results showed the smaller individuals to be accumulating PCBs to a greater extent in six of nine zones. Prior to 1998, the results were inconclusive.

4.2.1 Edmonds Creek Zones

Three Aroclors (1248, 1254, and 1260) were found in the samples collected from Edmonds Creek. Aroclors 1248 and 1254 were the most prevalent. Detectable concentrations for Aroclors 1248 and 1254 ranged from 100 to 1,000 µg/kg wet wt in individual samples. Less concentrated was Aroclor 1260 that ranged from 29 J to 240 µg/kg wet wt.

Whole body burdens ranged from 324 to 1,978 µg/kg wet wt (0.3 and 2.0 ppm) in individual samples.

Mean PCB concentrations within respective zones ranged from 383 (Remediated Zone 1) to 1,437 (Unremediated Zone 2) µg/kg wet wt (0.4 to 1.4 ppm).

The cumulative mean for all twenty-one samples was 0.9 ppm.

Lipid normalized values in individual samples were variable, ranging from 31.2 to 152.2 µg/g lipid. Within particular zones, mean concentrations ranged from 47.2 to 142.3 µg/g lipid.

4.2.2 Edmonds Creek Marsh Area

Concentrations for three samples taken from the marsh ranged from 553 to 905 µg/kg wet wt (0.5 to 0.9 ppm) and averaged 694 µg/kg wet wt (0.7 ppm). Results were slightly higher than those from the reference creek but, on average, lower than those from the stream channel. Thus, data collected from locations distant from Edmonds Creek are suitable as second spatial control. In 2003 and 2002 tissue concentrations in individual samples ranged from 0.1 to 0.6 ppm, and mean values were 0.4 ppm) in 2003 and 0.3 ppm in 2002

4.2.3 Reference Creek Zones

As expected, the lowest concentrations were observed from Reference Creek. Aroclors 1248, 1254, and 1260 were present. Detectable values for these ranged from 26 J to 120 µg/kg wet wt.

When summed, the whole body concentrations ranged from 83 to 230 µg/kg wet wt (0.1 and 0.2 ppm) in individual samples. The results were very consistent. Mean values by zone were 145 µg/kg wet wt (0.1 ppm) at Zone 1 and 192 µg/kg wet wt (0.2 ppm) at Zone 2. These data showed that the Reference Creek fiddlers were less contaminated than those at Edmonds Creek and that the data should provide a good basis of comparison for spatial analyses.

Following lipid normalization, Total PCB concentrations measured from individual tissue samples ranged from 8.3 to 38.3 µg/g lipid. By zone, sample means were 13.4 µg/g lipid at Zone 1 and 24.3 µg/g lipid at Zone 2.

4.2.4 Eight Year Trend

Edmonds Creek Zones

The results of the trend analysis are shown as Figures 14 through 20. Whole sediment means, calculated from three corresponding sample points per zone, are shown with the individual tissue values and tissue means. In an analogous fashion to the sediment trend analysis, whole body results are emphasized.

Encouraging results were obtained from four of seven zones where tissue means have trended downward during the course of study. No clear trends were observed from the remaining three. In 2004, means from five of seven zones were lower than means calculated from the data collected in 1995.

Therefore, the data collected to date show that the remediation goal (a reduction in whole body burden) has been met for this target species.

Remediated Zone 1

Mean concentrations have trended slightly downward and were consistently less than 1 ppm. The 1996 through 1999, and the 2002 through 2004 means, were lower than the 1995 mean. A 1995

mean of 0.673 ppm was followed by means of 1.315 (1996), 0.636 (1997), 0.461 (1998), 0.637 (1999), 0.362 (2002), 0.510 (2003), and 0.383 (2004) ppm (Figure 14).

Remediated Zone 2

No trend has been observed but the 2004 mean was nearly the same as that from 1995 (Figure 15). Annual means were 0.654 (1995), 0.715 (1996), 0.587 (1997), 1.432 (1998), 1.292 (1999), 0.533 (2002), 1.014 (2003), and 0.669 (2004) ppm. Tissue burdens appear to be stable, near or below 1 ppm.

Unremediated Zone 2

During the eight year period, mean PCB concentrations were 1.961 (1995), 2.463 (1996), 1.996 (1997), 2.604 (1998), 1.494 (1999), 0.577 (2002), 2.389 (2003), and 1.437 (2004) ppm (Figure 16). The data have not shown any directional trend.

Remediated Zone 3

At Remediated Zone 3, fiddler crab body burdens have trended slightly downward as relatively high means near 3 ppm in 1996 and 1997 were replaced by lower ones thereafter (Figure 17). The 2004 mean is the lowest recorded for this zone. Annual results were 1.632 (1995), 3.765 (1996), 3.219 (1997), 1.348 (1998), 1.766 (1999), 2.017 (2002), 1.205 (2003), and 0.960 (2004) ppm.

Remediated Zone 4

At Remediated Zone 4, low annual means of 1.017 ppm in 1995 and 0.941 ppm in 1996 were followed by mean of 2.412 ppm in 1997 (Figure 18). Since 1997, means have trended downward assuming values of 1.624 (1998), 1.322 (1999), 0.566 (2002), 0.876 (2003), and 0.718 (2004) ppm. The 2002 through 2004 means were less then that from 1995.

Remediated Zone 5

Tissue means have not formed any trend at Zone 5 (Figure 19). Annual means were 1.151 (1995), 1.662 (1996), 1.316 (1997), 0.747 (1998), 0.570 (1999), 0.551 (2002), 0.609 (2003), and 1.252 (2004) ppm.

Unremediated Zone 1

Tissue burdens have generally trended downward at Unremediated Zone 1 (Figure 20). Annual means were 1.905 (1995), 2.322 (1996), 1.052 (1997), 1.188 (1998), 1.464 (1999), 0.757 (2002), 1.133 (2003), and 1.020 (2004) ppm.

Reference Creek Zones

Tissue means in the fiddler crabs were all less than 0.5 ppm. The data did not indicate any directional trend within either zone (Figures 21 and 22).

4.2.5 Comparisons with Data from the Remedial Investigation/Feasibility Study

During August 1990, US EPA collected three fiddler crab samples from Edmonds Creek for PCB analysis (see Appendix A in Wehran 1992). Two samples were collected from Remediated Zone 3 ("Upper Edmonds Creek") and one sample (plus a field duplicate) was collected from Unremediated Zone 1 ("Lower Edmonds Creek"). Results were 1.0 ppm and 14.0 ppm (wet weight) from Remediated Zone 3 and 0.4 ppm (wet weight) from Unremediated Zone 1. The highest result from Unremediated Zone 3 was obtained near the "Pool C" discharge, where some of the highest sediment concentrations were found before the remediation. The highest sample datum from the current monitoring effort was 5.8 ppm (from Remediated Zone 3 in 1996). No other datum from Zone 3 (or any of the other zones) exceeded 3.8 ppm in any year. The pre-remediation data from the RIFS are limited but suggest that body burdens in the crab tissues have been reduced since the remediation.

Table 2. Kin-Buc Project - Fiddler Crab Tissue PCB Concentrations from 2004 Samples (year 8).

Sample ID Number	PCB Tissue Concentration (µg/kg wet weight) A1016	A1221	A1232	A1242	A1248	A1254	A1260	**Sum of Aroclors (µg/kg wet wt)**	Normalized sum of Aroclors (µg/g lipid)	Percent Lipid
Edmonds Creek Remediated Zone 1:										
C10+50RS	5 U	4 U	3 U	3 U	220	140	31 J	**406**	31.2	1.3
C10+50LB	5 U	4 U	3 U	3 U	210	150	45	**420**	60.0	0.7
C12+50LB	5 U	4 U	3 U	3 U	180	100	29 J	**324**	54.0	0.6
Corresponding Sediment Mean = 1,073 µg/kg (n = 3)							**Mean**	**383**	48.4	
							Std. error of the mean	30	8.8	
							Coefficient of Variation	13.5%	31.4%	
Edmonds Creek Remediated Zone 2:										
C21+00LS	10 U	8 U	6 U	6 U	550	400	110	**1,090**	60.6	1.8
C22+00RS	5 U	4 U	3 U	3 U	300	200	62	**577**	38.5	1.5
C22+50LB	5 U	4 U	3 U	3 U	170	120	35	**340**	42.5	0.8
Corresponding Sediment Mean = 810 µg/kg							**Mean**	**669**	47.2	
							Std. error of the mean	222	6.8	
							Coefficient of Variation	57.3%	24.9%	
Edmonds Creek Unremediated Zone 2:										
UN-CBEN-02RB	10 U	8 U	6 U	6 U	650	440	110	**1,230**	136.7	0.9
UN-CBEN-02ALB	5 U	4 U	3 U	3 U	570	280	63	**928**	116.0	0.8
UN-CBEN-02ALB Dup	10 U	8 U	6 U	6 U	770	390	90	**1,280**	160.0	0.8
UN-CBIO-02RS	24 U	22 U	16 U	16 U	1,000	730	170	**1,978**	152.2	1.3
Corresponding Sediment Mean = 4,053 µg/kg							**Mean**	**1,437**	142.3	
							Std. error of the mean	273	5.0	
							Coefficient of Variation	32.9%	6.0%	

Table 2. continued.

Sample ID Number	PCB Tissue Concentration (µg/kg wet weight) A1016	A1221	A1232	A1242	A1248	A1254	A1260	**Sum of Aroclors (µg/kg wet wt)**	Normalized sum of Aroclors (µg/g lipid)	Percent Lipid
Edmonds Creek Remediated Zone 3:										
C31+25LS	5 U	4 U	3 U	3 U	390	350	100	**855**	61.1	1.4
C33+00RB	5 U	4 U	3 U	3 U	270	260	60	**605**	55.0	1.1
C33+00LB	10 U	8 U	6 U	6 U	920	380	90	**1,420**	88.8	1.6
Corresponding Sediment Mean = 1,469 µg/kg							**Mean**	**960**	68.3	
							Std. error of the mean	241	10.4	
							Coefficient of Variation	43.5%	26.4%	
Edmonds Creek Remediated Zone 4:										
C42+25RS	5 U	4 U	3 U	3 U	350	250	80	**695**	49.6	1.4
C46+75RB	10 U	8 U	6 U	6 U	660	340	83	**1,113**	123.7	0.9
C46+75LB	5 U	4 U	3 U	3 U	160	130	41	**346**	69.2	0.5
Corresponding Sediment Mean = 2,159 µg/kg							**Mean**	**718**	80.8	
							Std. error of the mean	222	22.2	
							Coefficient of Variation	53.5%	47.5%	
Edmonds Creek Remediated Zone 5:										
C50+50LS	24 U	22 U	16 U	16 U	630	700	220	**1,628**	101.8	1.6
C51+00RB	10 U	8 U	6 U	6 U	870	440	110	**1,450**	161.1	0.9
C52+50RB	5 U	4 U	3 U	3 U	440	180	42	**677**	96.7	0.7
Corresponding Sediment Mean = 2,719 µg/kg							**Mean**	**1,252**	119.9	
							Std. error of the mean	292	20.7	
							Coefficient of Variation	40.4%	29.9%	

Table 2. continued.

Sample ID Number	PCB Tissue Concentration (µg/kg wet weight) A1016	A1221	A1232	A1242	A1248	A1254	A1260	**Sum of Aroclors (µg/kg wet wt)**	Normalized sum of Aroclors (µg/g lipid)	Percent Lipid
Edmonds Creek Unremediated Zone 1:										
UN-CBEN-01LB	24 U	22 U	16 U	16 U	630	440	120 J	**1,268**	115.3	1.1
UN-CBEN-01ARB	5 U	4 U	3 U	3 U	240	180	59	**494**	70.6	0.7
UN-CBIO-01ALS	24 U	22 U	16 U	16 U	280	700	240	**1,298**	61.8	2.1
Corresponding Sediment Mean = 2,597 µg/kg							**Mean**	**1,020**	82.6	
							Std. error of the mean	263	16.6	
							Coefficient of Variation	44.7%	34.7%	
Edmonds Creek Marsh Area:										
ECMA-C1B	5 U	4 U	3 U	3 U	150	190	65	**420**	46.7	0.9
ECMA-C1B Dup	10 U	8 U	6 U	6 U	390	310	100	**830**	92.2	0.9
ECMA-C2B	7 U	6U	5 U	5 U	160	260	110	**553**	42.5	1.3
ECMA-C3S	5 U	4 U	3 U	3 U	370	370	150	**905**	56.6	1.6
Corresponding Sediment Mean = 142 µg/kg							**Mean**	**694**	56.2	
							Std. error of the mean	109	7.8	
							Coefficient of Variation	27.0%	40.1%	
Reference Creek Zone 1:										
RA-CBEN-01LS	5 U	4 U	3 U	3 U	27 J	76	35	**83**	8.3	1.0
RA-CBEN-01ARS	5 U	4 U	3 U	3 U	34	110	46	**205**	18.6	1.1
RA-CBEN-01ALB	5 U	4 U	3 U	3 U	26 J	71	35	**147**	-	-
Corresponding Sediment Mean = 362 µg/kg							**Mean**	**145**	13.4	
							Std. error of the mean	35	5.2	
							Coefficient of Variation	42.1%	54.4%	

Table 2. continued.

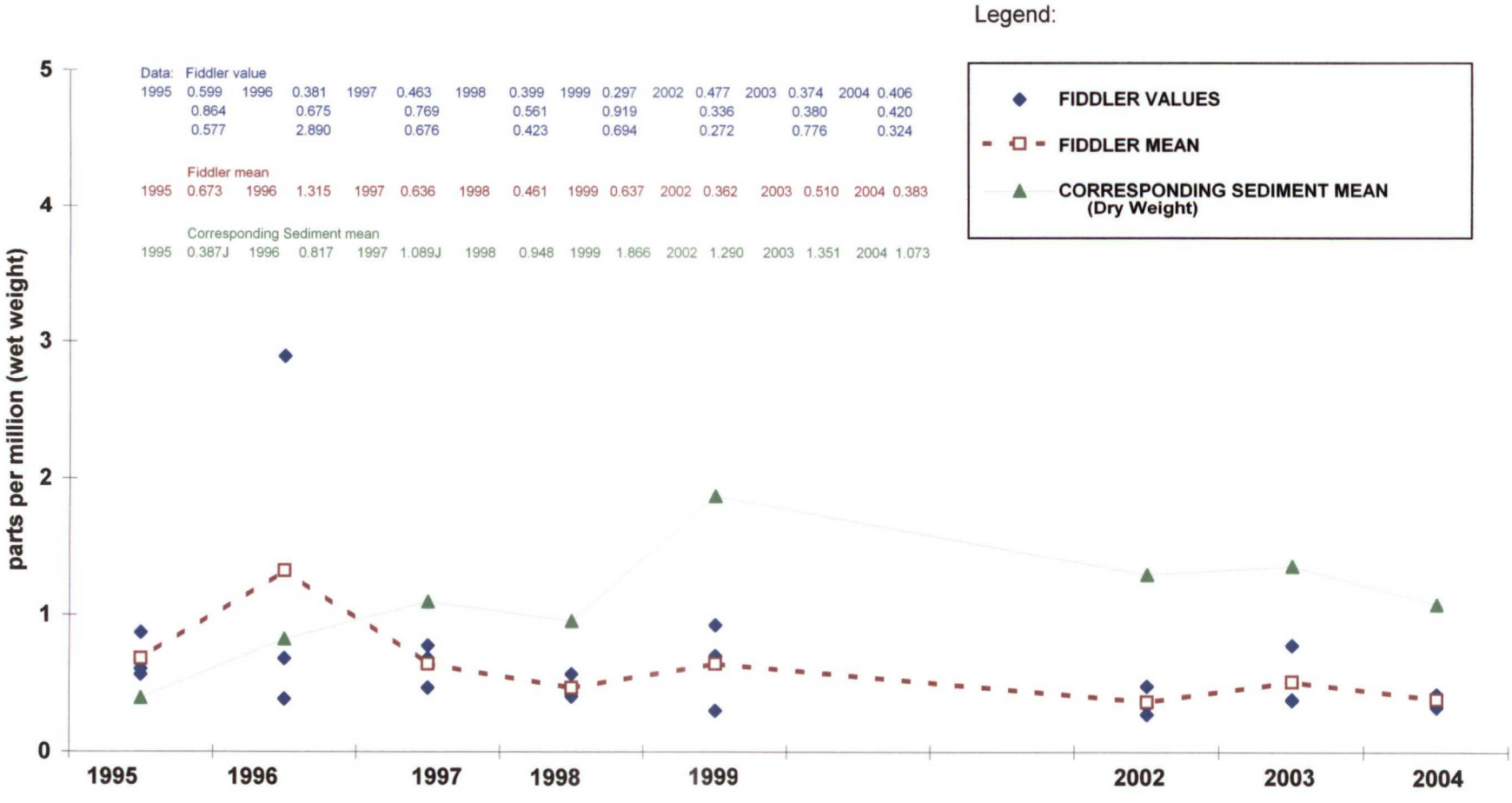
Sample ID Number	PCB Tissue Concentration (µg/kg wet weight) A1016	A1221	A1232	A1242	A1248	A1254	A1260	**Sum of Aroclors (µg/kg wet wt)**	Normalized sum of Aroclors (µg/g lipid)	Percent Lipid
Reference Creek Zone 2:										
RA-CBEN-02LB	5 U	4 U	3 U	3 U	31 J	80	32 J	**158**	17.6	0.9
RA-CBEN-02ARS	5 U	4 U	3 U	3 U	39	120	56	**230**	38.3	0.6
RA-CBEN-02ALS	5 U	4 U	3 U	3 U	34	96	42	**187**	17.0	1.1
Corresponding Sediment Mean = 325 µg/kg							**Mean**	**192**	24.3	
							Std. error of the mean	21	7.0	
							Coefficient of Variation	18.9%	49.9%	

Notes: 1) One-half detection limit was assumed for all U-qualified data.
2) Estimated results between the minimum detection limit and the limit of quantification are J-qualified.

3) **Edmonds Creek cumulative mean = 0.9 ppm**
4) **Reference Creek cumulative mean = 0.2 ppm**

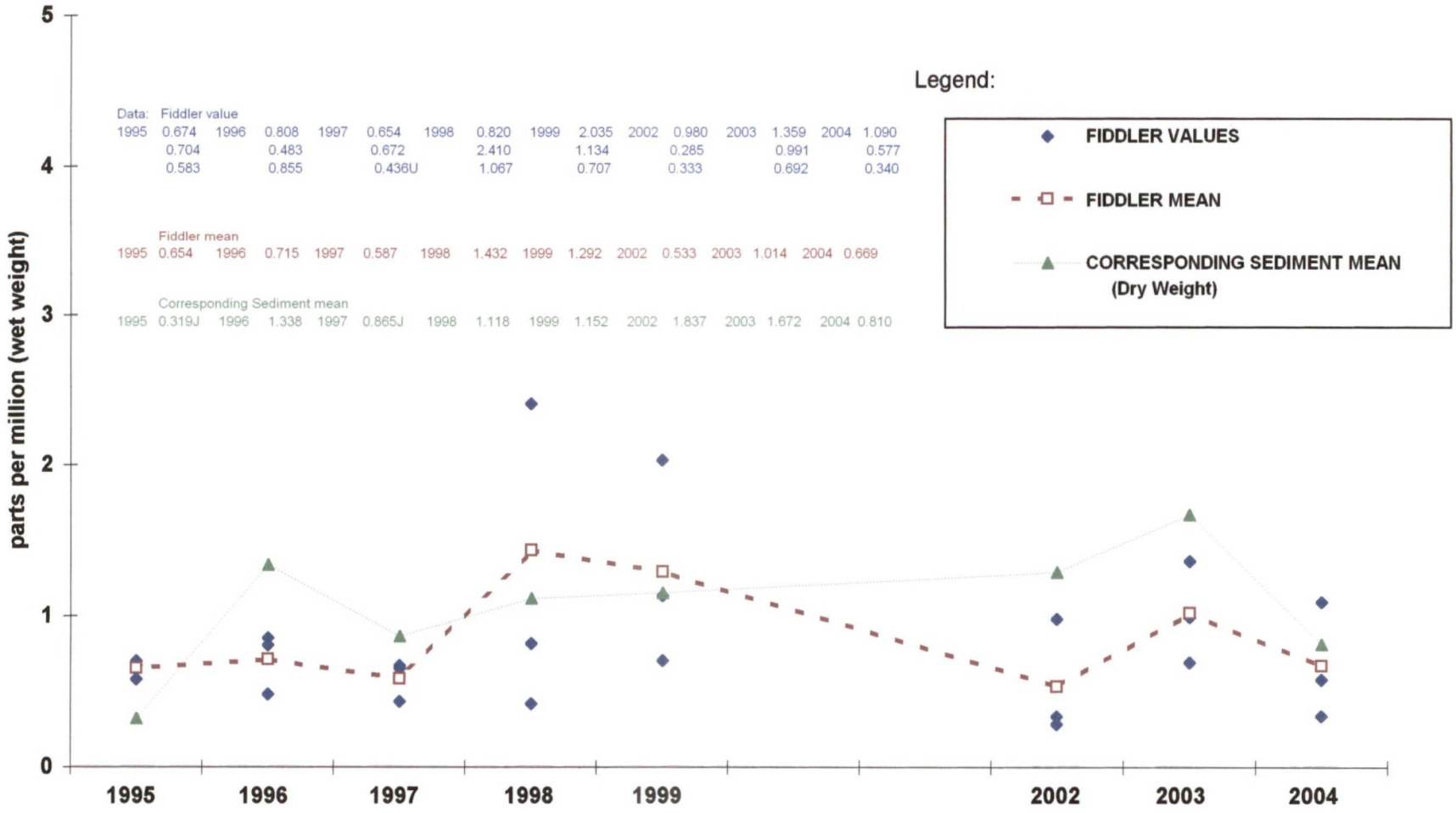
5) Edmonds Creek Marsh Area mean = 0.7 ppm

Figure 14. Eight year PCB trend for fiddler crab tissue samples collected from Remediated Zone 1 near Kin-Buc Landfill.



Notes: 1) Estimated results between the minimum detection limit and the limit of quantitation are J-qualified.

Figure 15. Eight year PCB trend for fiddler crab tissue samples collected from Remediated Zone 2 near Kin-Buc Landfill.



Notes: 1)One-half detection limit was assumed for U-qualified data.
2) Estimated results between the minimum detection limit and the limit of quantitation are J-qualified.

Figure 16. Eight year PCB trend for fiddler crab tissue samples collected from Unremediated Zone 2 near Kin-Buc Landfill.

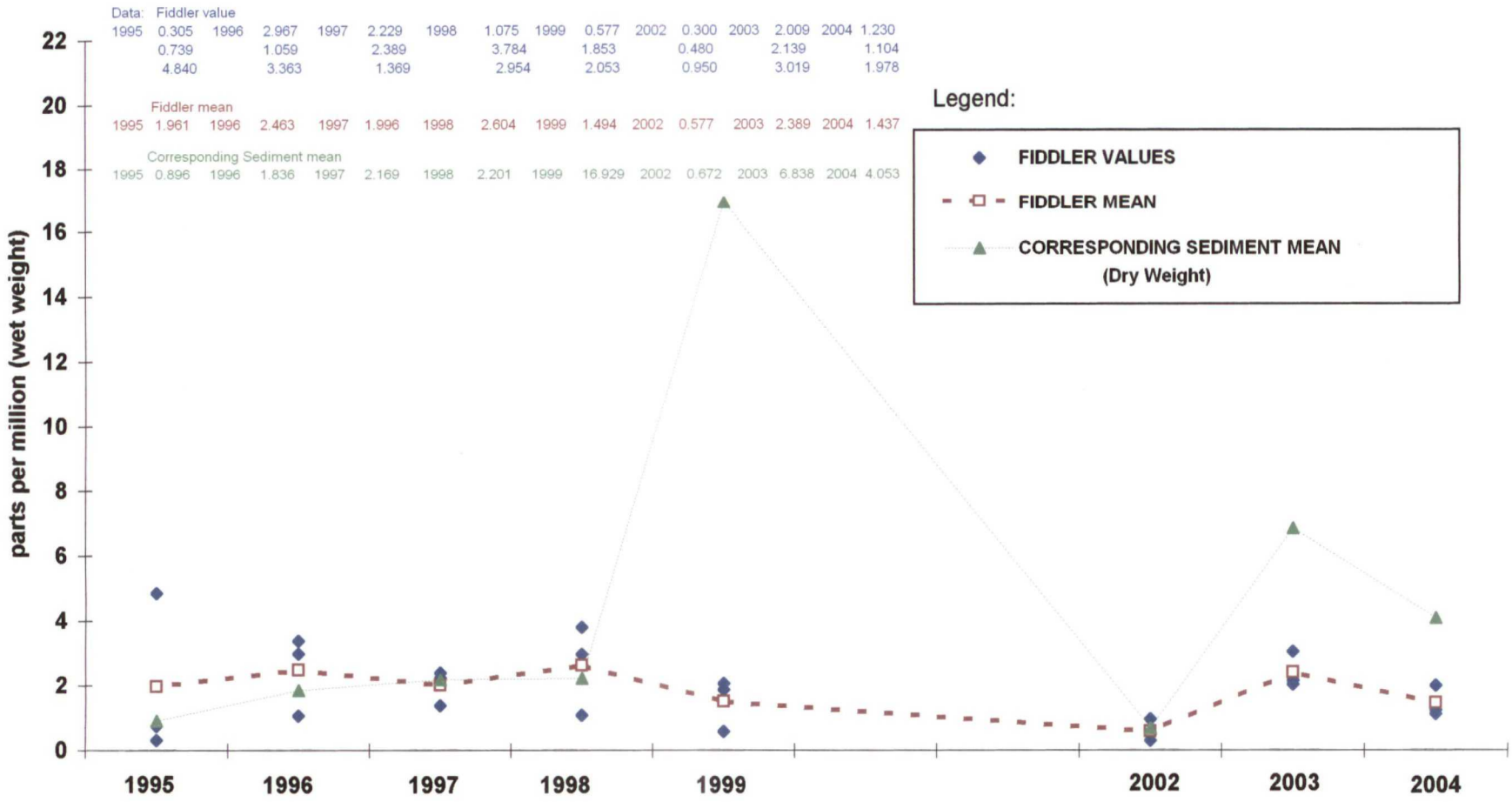


Figure 17. Eight year PCB trend for fiddler crab tissue samples collected from Remediated Zone 3 near Kin-Buc Landfill.

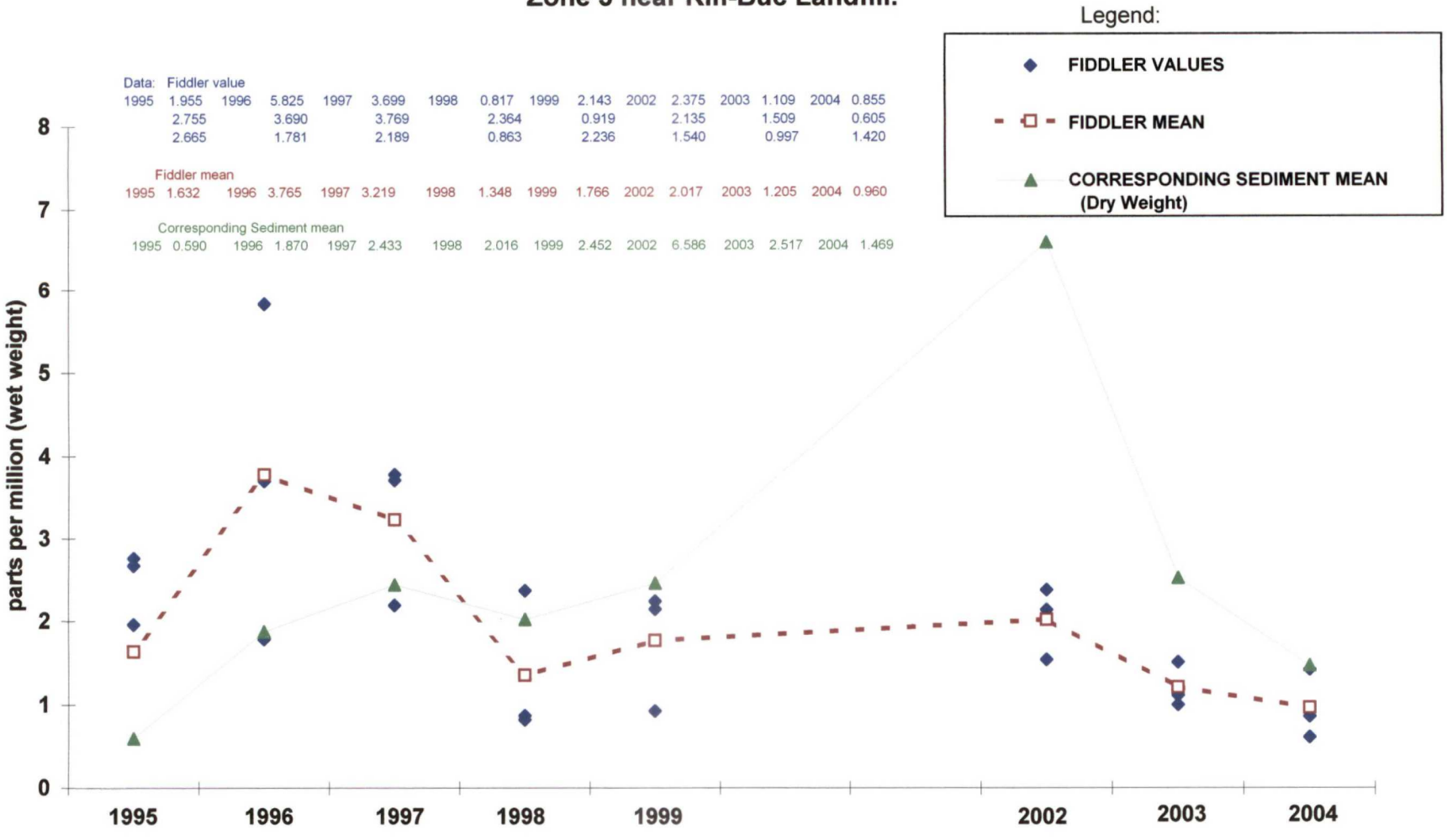


Figure 18. Eight year PCB trend for fiddler crab tissue samples collected from Remediated Zone 4 near Kin-Buc Landfill.

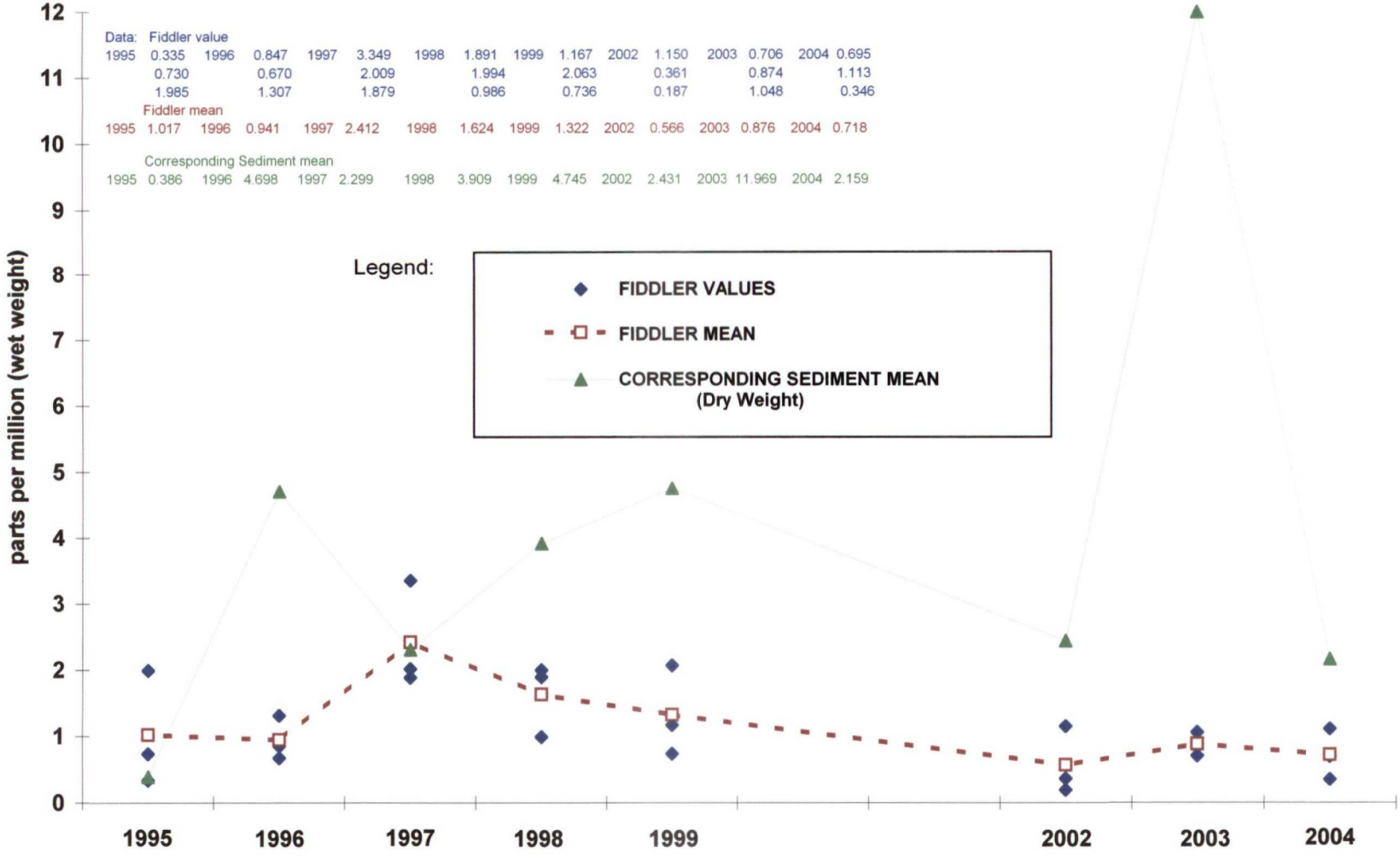
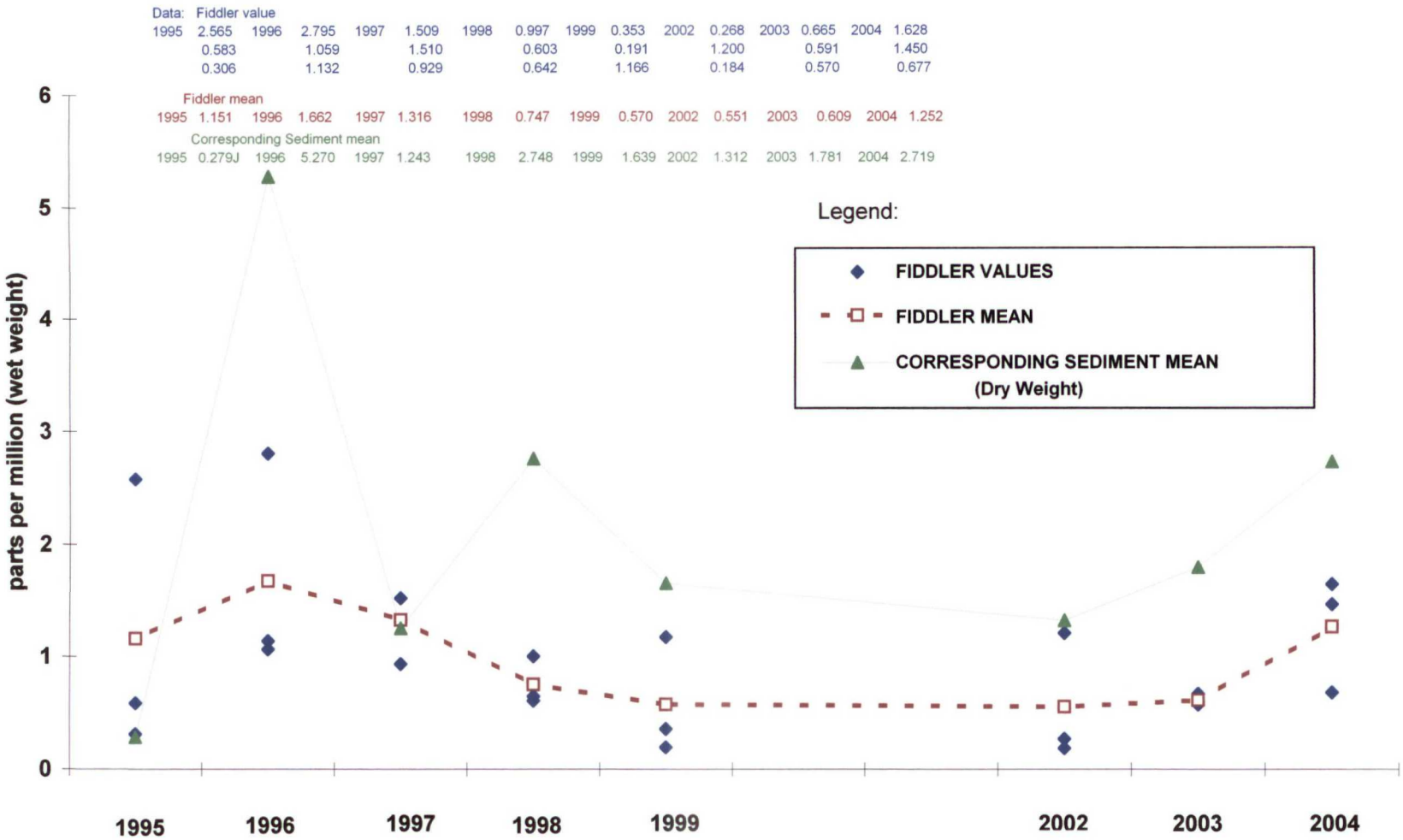


Figure 19. Eight year PCB trend for fiddler crab tissue samples collected from Remediated Zone 5 near Kin-Buc Landfill.



Notes: 1) Estimated results between the minimum detection limit and the limit of quantitation are J-qualified.

Figure 20. Eight year PCB trend for fiddler crab tissue samples collected from Unremediated Zone 1 near Kin-Buc Landfill.

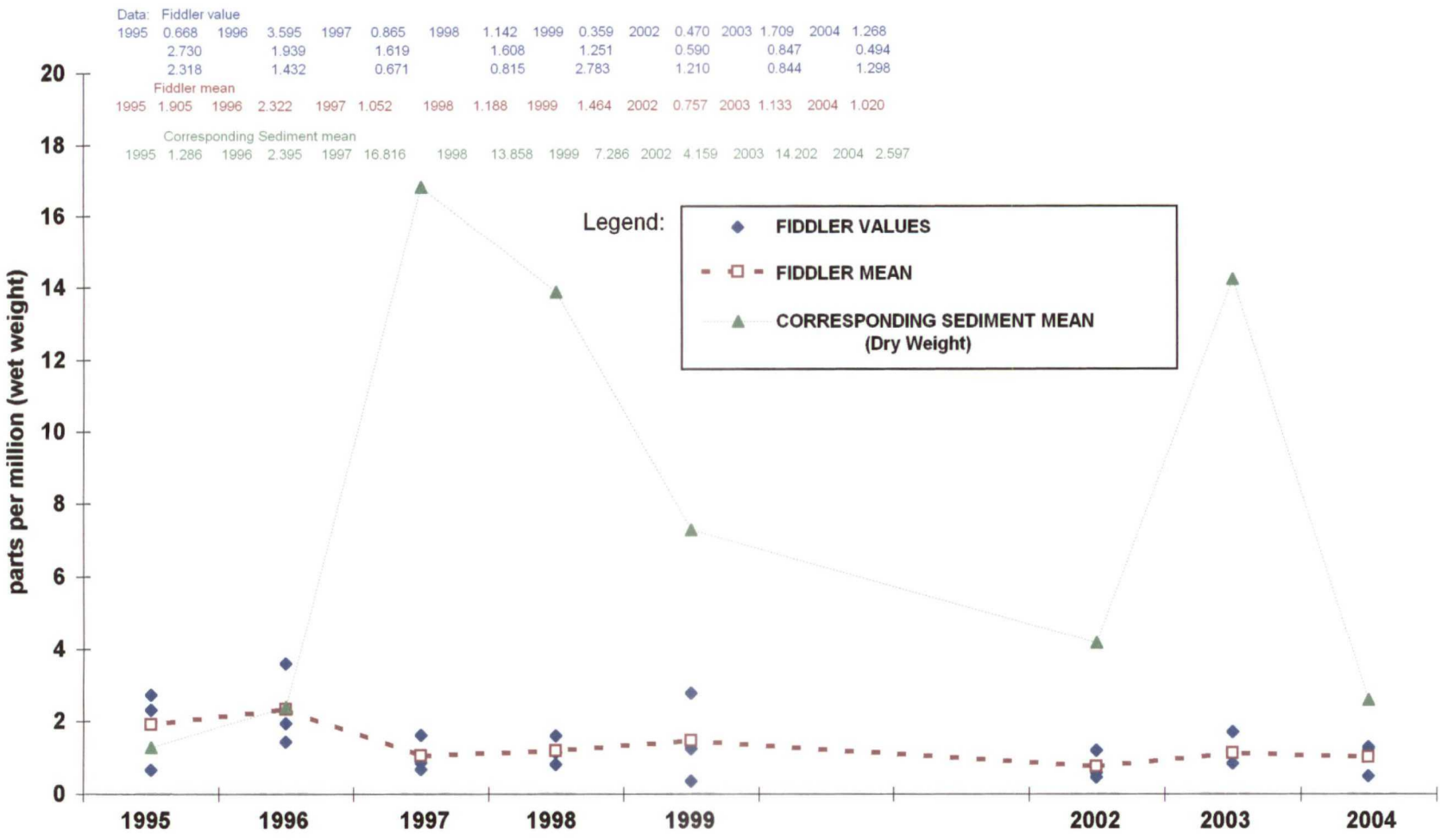
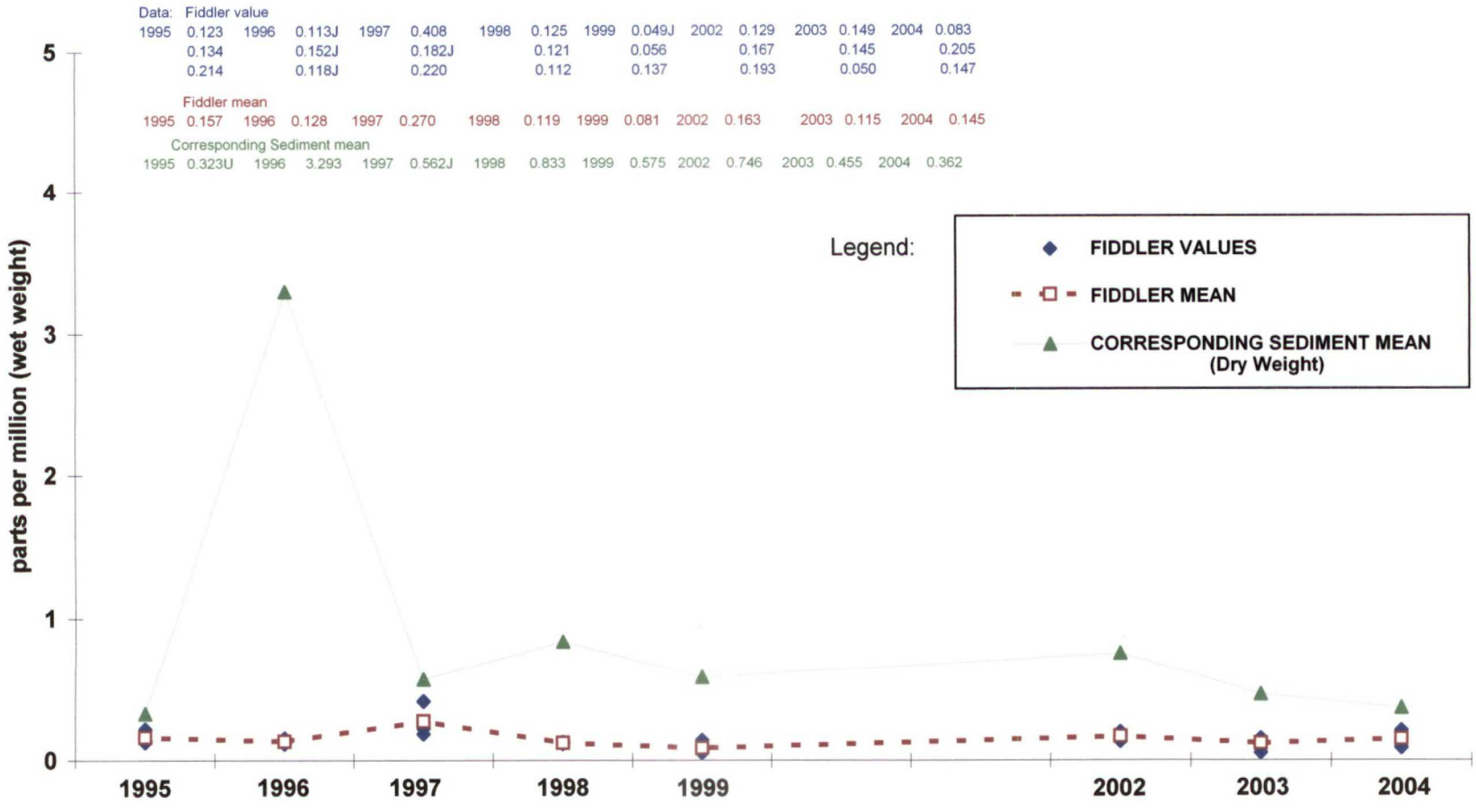
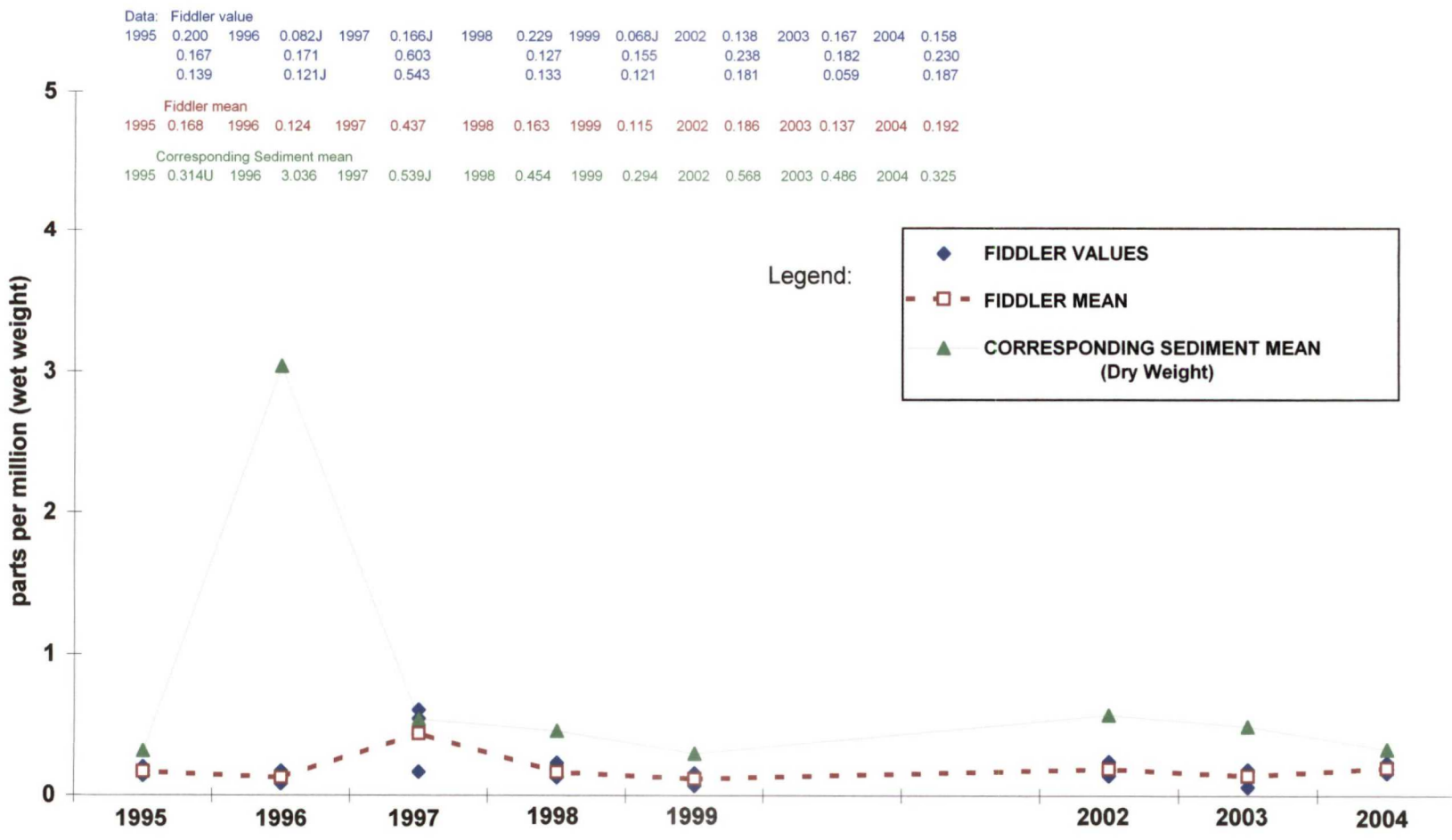


Figure 21. Eight year PCB trend for fiddler crab tissue samples collected from Reference Zone 1 near Kin-Buc Landfill.



Notes: 1) One-half detection limit was assumed for U-qualified data.
2) Estimated results between the minimum detection limit and the limit of quantitation are J-qualified.

Figure 22. Eight year PCB trend for fiddler crab tissue samples collected from Reference Zone 2 near Kin-Buc Landfill.



Notes: 1) One-half detection limit was assumed for U-qualified data.
2) Estimated results between the minimum detection limit and the limit of quantitation are J-qualified.

5.0 MUMMICHOG TISSUE ANALYSIS

An eight-foot block seine was used to collect fish. The collection strategy for the fish tissue analysis differed somewhat from that of the fiddler crabs because fish are too mobile to be a good indicator of local (within zone) differences in PCB uptake. The mummichog (*Fundulus heteroclitus*) is a small killifish that over-winters by burrowing into the substrate. The species exhibits a limited home range and can be used to show differences in PCB uptake at a broader scale (Edmonds Creek versus Reference Creek).

5.1 Materials and Methods

Collection

Mummichogs were collected on 17 and 18 August from eight zones in Edmonds Creek, and from two zones in Reference Creek (Figures 1 and 2).

From Edmonds Creek, samples were taken from five remediated and three unremediated zones. Captured fish were rinsed with distilled water, placed in aluminum foil and zip-loc bags, and then frozen prior to analysis. Two samples were collected at each zone; one consisting of juveniles and a second of mature individuals. A total of sixteen samples was submitted for analysis. Fish were captured from two zones in Reference Creek to produce four additional samples. All specimens used for analysis were measured and lengths recorded.

Analysis

Tissue samples were analyzed for PCBs and Percent Lipids using the same procedures employed for the fiddler crabs. The PCB results were normalized to the lipid content of the tissues and reported both as micrograms per kilogram wet weight and micrograms per gram lipid. Descriptive statistics used to evaluate the data were range, mean, standard error of the mean, and coefficient of variation.

5.2 Results and Discussion

As expected, there was little difference in the PCB results between individual zones at Edmonds Creek. In the Reference Area, PCB concentrations in the fish tissues were comparatively low. PCB data are given as Table 3. Analysis Reports, Quality Control Reports, and Field Data Sheets are provided in Appendix C.

A comparison between samples consisting of adult fish versus samples containing only juvenile fish is provided here. Results are given as ppm.

Edmonds Creek:	Juveniles	Adults
Remediated Zone 1	1.561	1.130
Remediated Zone 2	1.420	1.270
Unremediated Zone 3	1.470	1.270
Unremediated Zone 2	2.082	1.498
Remediated Zone 3	1.157	1.244
Remediated Zone 4	1.327	1.378
Remediated Zone 5	0.851	0.617
Unremediated Zone 1	0.815	0.871
Reference Creek:		
Reference Zone 1	0.280	0.308
Reference Zone 2	0.285	0.441

Results from Edmonds Creek showed slightly greater uptake in the juvenile fish. Data from previous monitoring years were inconclusive.

5.2.1 Edmonds Creek Zones

Three Aroclors were detected. Aroclor 1248 was the most prevalent ranging from 420 to 1,400 µg/kg wet wt in individual samples. Aroclor 1254 was detected within a range of 130 to 460 µg/kg wet wt, and Aroclor 1260 concentrations ranged between 51 J and 330 µg/kg wet wt.

Total PCB concentrations for individual samples were generally between 1 and 2 ppm. Results ranged between 617 and 2,082 µg/kg wet wt (0.6 and 2.1 ppm).

The average for sixteen samples was 1.3 ppm near the middle of the range of values observed to this point in the study. Since the onset of monitoring in 1995 cumulative means for the Edmonds Creek samples have ranged between 0.7 and 1.9 ppm.

Following lipid normalization, the Total PCB concentrations were variable. Values ranged between 38.8 and 115.7 µg/g lipid in individual samples.

5.2.2 Reference Creek Zones

Aroclor concentrations were lower in the fish from Reference Creek. Aroclors 1248, 1254, and 1260 were detected at concentrations between 62 and 220 µg/kg wet wt.

Total PCB concentrations ranged from 280 to 441 µg/kg wet wt (0.3 to 0.4 ppm) in individual samples. The mean for all four was 0.3 ppm.

Lipid normalized concentrations were from 23.2 to 35.4 µg/g lipid in particular samples.

5.2.3 Eight Year Trend

Edmonds Creek Zones

Trends in the PCB data observed from the mummichog samples collected at Edmonds Creek are given as Figures 23 through 30. All results are given in parts per million. Relatively low means, between 0.5 and 0.8 ppm, were observed in 1995. From 1996 to 2004, means within specific zones did not produce clear trends but tended to fluctuate between 0.7 and 2.5 ppm. Most results were below 2 ppm.

Remediated Zones 1 through 2 and Unremediated Zone 3

These zones are located upstream from former "Pool C".

At Remediated Zone 1, mean values from 1995 to 2004 were 0.590, 0.885, 1.784, 1.182, 2.553, 2.440, 0.798, and 1.561 ppm (Figure 23), respectively. Thus, tissue means did not show any directional trend.

At Remediated Zone 2, means were 0.652 (1995), 0.769 (1996), 1.887 (1997), 1.063 (1998), 2.295 (1999), 2.210 (2002), 0.918 (2003), and 1.345 (2004) ppm (Figure 24). Between 1996 and 2004, means tended to fluctuate within a range of 1 to 2 ppm and did not indicate any directional trend.

As shown on Figure 1, fish were collected from a small tributary to Edmonds Creek at Unremediated Zone 3. The tributary is located a short distance downstream from Remediated Zone 2. There, a post-remediation mean of 0.657 (1995) ppm preceded means of 1.070, 1.819, 0.993, 1.480, 1.898, 1.042, and 1.246 ppm (Figure 25) during 1996 through 2004, respectively. Between 1996 and 2004, means fluctuated within a range of 1 and 2 ppm. The data did not show any trend.

Unremediated Zone 2, and Remediated Zones 3 and 4

These zones are located adjacent to former "Pool C" (Unremediated Zone 2 and Remediated Zone 3) or downstream from the former "Oil Seeps Area" and "Pool C" (Remediated Zone 4).

From Unremediated Zone 2, 1995 to 2004 means were 0.502, 0.905, 2.892, 0.797, 1.528, 2.180, 0.993, and 1.790 ppm (Figure 26), respectively. From 1996 to 2004, annual means fluctuated between 1 and 3 ppm and did not show any directional trend.

At Remediated Zone 3, the 1995 mean was 0.684 ppm (Figure 27). Subsequent means fluctuated between 1 and 2 ppm. Results were 1.108 (1996), 1.925 (1997), 0.972 (1998), 1.672 (1999), 1.495 (2002), 0.912 (2003), and 1.200 (2004) ppm. No trend was indicated.

Means within Remediated Zone 4, were generally consistent from year to year (Figure 28). Values were 0.724 (1995), 1.129 (1996), 1.384 (1997), 0.899 (1998), 1.192 (1999), 1.147 (2002), 1.076 ppm (2003), and 1.352 (2004) ppm. Thus, body burdens have remained near 1 ppm, throughout the monitoring period.

Remediated Zone 5 and Unremediated Zone 1

These zones are located near the mouth of Edmonds Creek.

At Remediated Zone 5, means have been fairly stable, between 0.7 and 1.5 ppm. A post-remediation mean of 0.681 (1995) ppm preceded means of 1.345 (1996), 1.564 (1997), 1.382 (1998), 1.438 (1999), 1.285 (2002), 1.084 (2003), and 0.734 (2004) ppm (Figure 29).

Furthest downstream, at Unremediated Zone 1, the means for the two tissue samples collected each year were 0.754 (1995), 1.173 (1996), 1.928 (1997), 0.988 (1998), 2.724 (1999), 1.731 (2002), 0.851 (2003), and 0.843 (2004) ppm (Figure 30). Thus, concentrations have fluctuated within a range of 1 and 3 ppm since 1996 but have not shown any trend.

Reference Creek Zones

Trends observed from Reference Creek within the eight zones initially established for this monitoring program are described in Normandeau Associates (2000). Trends from two zones sampled in 2002 through 2004 are described here. These data are displayed as Figures 31 and 32. Annual means in Reference Zones 1 and 2 ranged from 0.102 to 1.678 ppm. All inter-zone annual means except one were less than 1 ppm.

Edmonds Creek and Reference Creek Cumulative Means

The following table lists annual cumulative means, from all Edmonds Creek and Reference Creek zones combined, for each sample matrix. Values are expressed as parts per million rounded to the nearest tenth. Please note that the 1996 results for the macoma clams contain a positive bias due to mortality incurred during the exposure period and resultant loss of tissue available for analysis. Consequently, the detection limits were erroneously high. These values are marked with an asterisk. The bias was most pronounced for the results obtained from the reference creek because none of the Aroclors were detectable there during 1996. Aroclors 1248 and/or 1254 were detectable from most of the tissue samples collected from Edmonds Creek in 1996, so those results were more representative.

Edmonds Creek:

Year	Sediment	Fiddler Crabs	Macoma Clams	Mummichogs
Pre-remediation	17.0 ppm	--	--	--
1995	0.6 ppm	1.4 ppm	0.8 ppm	0.7 ppm
1996	2.9 ppm	1.8 ppm	1.4* ppm	1.1 ppm
1997	3.9 ppm	1.6 ppm	0.9 ppm	1.9 ppm
1998	3.9 ppm	1.3 ppm	0.5 ppm	1.0 ppm
1999	5.3 ppm	1.2 ppm	0.7 ppm	1.9 ppm
2002	2.8 ppm	0.8 ppm	--	1.8 ppm
2003	6.0 ppm	1.1 ppm	--	1.0 ppm
2004	2.6 ppm	0.9 ppm	--	1.3 ppm

Measurements from Edmonds Creek show that the cumulative sediment means fluctuated between 2.6 and 6.0 ppm during the last seven monitoring years. They remain well below the pre-remediation mean.

A discernible downward trend has been observed from the fiddler crab analyses. During the first three monitoring years cumulative means ranged from 1.4 to 1.8 ppm. Since then results have been lower, ranging between 0.8 and 1.3 ppm during the last five years. As noted, these data indicated that remediation effort successfully achieved the stated goal (a reduction in body burden over time).

The mummichog data fluctuated from year to year and did not show any directional trend after 1997.

Reference Creek:

Year	Sediment	Fiddler Crabs	Macoma Clams	Mummichogs
1995	0.3 ppm	0.2 ppm	0.1 ppm	0.4 ppm
1996	2.9 ppm	0.1 ppm	1.2 U* ppm	0.6 ppm
1997	0.5 ppm	0.5 ppm	<0.1 ppm	1.2 ppm
1998	0.6 ppm	0.1 ppm	<0.1 ppm	0.2 ppm
1999	0.5 ppm	<0.1 ppm	<0.1 ppm	0.3 ppm
2002	0.7 ppm	0.2 ppm	--	0.3 ppm
2003	0.5 ppm	0.1 ppm	--	0.2 ppm
2004	0.4 ppm	0.2 ppm	--	0.3 ppm

Results from Reference Creek were consistent from year to year for each matrix.

Table 3. Kin-Buc Project - Mummichog Tissue PCB Concentrations from 2004 Samples (year 8).

Sample ID Number	PCB Tissue Concentration (µg/kg wet weight) A1016	A1221	A1232	A1242	A1248	A1254	A1260	**Sum of Aroclors (µg/kg wet wt)**	Normalized sum of Aroclors (µg/g lipid)	Percent Lipid
Edmonds Creek Zones:										
Rem Zone 1:										
F-01J	19 U	17 U	13 U	13 U	1,300	460	170	**1,992**	110.7	1.8
F-01A	10 U	8 U	6 U	6 U	770	230	100	**1,130**	62.8	1.8
							Mean	**1,561**	86.8	
							Std. error of the mean	433	24.0	
							Coefficient of Variation	39.1%	39.0%	
Rem Zone 2:										
F-02J	10 U	8 U	6 U	6 U	990	340	100	**1,420**	78.9	1.8
F-02A	10 U	8 U	6 U	6 U	870	270	100	**1,270**	79.4	1.6
							Mean	**1,345**	79.2	
							Std. error of the mean	75	0.3	
							Coefficient of Variation	7.9%	0.4%	
Unrem Zone 3:										
UN-F-03J	10 U	8 U	6 U	6 U	960	330	110	**1,470**	91.9	1.6
UN-F-03A	10 U	8 U	6 U	6 U	720	200	73	**1,023**	78.7	1.3
							Mean	**1,246**	85.3	
							Std. error of the mean	224	6.6	
							Coefficient of Variation	25.4%	10.9%	
Unrem Zone 2:										
UN-F-02J	19 U	17 U	13 U	13 U	1,400	460	160	**2,082**	115.7	1.8
UN-F-02A	24 U	22 U	16 U	16 U	1,000	310	110 J	**1,498**	88.1	1.7
							Mean	**1,790**	101.9	
							Std. error of the mean	293	13.8	
							Coefficient of Variation	23.1%	19.2%	

Table 3. continued.

Sample ID Number	PCB Tissue Concentration (µg/kg wet weight) A1016	A1221	A1232	A1242	A1248	A1254	A1260	**Sum of Aroclors (µg/kg wet wt)**	Normalized sum of Aroclors (µg/g lipid)	Percent Lipid
Rem Zone 3:										
F-03J	10 U	8 U	6 U	6 U	680	350	97	**1,157**	60.9	1.9
F-03A	10 U	8 U	6 U	6 U	840	280	88	**1,238**	65.2	1.9
F-03A Dup	10 U	8 U	6 U	6 U	900	230	89	**1,249**	54.3	2.3
							Mean	**1,200**	60.4	
							Std. error of the mean	44	0.4	
							Coefficient of Variation	5.1%	1.1%	
Rem Zone 4:										
F-04J	10 U	8 U	6 U	6 U	910	300	87	**1,327**	73.7	1.8
F-04A	24 U	22 U	16 U	16 U	680	290	330	**1,378**	114.8	1.2
							Mean	**1,352**	94.2	
							Std. error of the mean	26	20.6	
							Coefficient of Variation	2.7%	30.9%	
Rem Zone 5:										
F-05J	10 U	8 U	6 U	6 U	570	200	51 J	**851**	42.6	2.0
F-05A	5 U	4 U	3 U	3 U	420	130	52	**617**	47.5	1.3
							Mean	**734**	45.1	
							Std. error of the mean	117	2.4	
							Coefficient of Variation	22.5%	7.7%	
Unrem Zone 1:										
UN-F-01J	10 U	8 U	6 U	6 U	540	190	55 J	**815**	38.8	2.1
UN-F-01A	10 U	8 U	6 U	6 U	550	220	71	**871**	51.2	1.7
							Mean	**843**	45.0	
							Std. error of the mean	28	6.2	
							Coefficient of Variation	4.7%	19.5%	

Table 3. continued.

Sample ID Number	PCB Tissue Concentration (µg/kg wet weight) A1016	A1221	A1232	A1242	A1248	A1254	A1260	**Sum of Aroclors (µg/kg wet wt)**	Normalized sum of Aroclors (µg/g lipid)	Percent Lipid
Reference Creek Zones:										
Ref Zone 1:										
RA-F-01J	5 U	4 U	3 U	3 U	62	140	63	**280**	31.8	0.9
RA-F-01A	5 U	4 U	3 U	3 U	75	140	78	**308**	35.4	0.9
							Mean	**294**	33.6	
							Std. error of the mean	14	1.8	
							Coefficient of Variation	6.7%	7.6%	
Ref Zone 2:										
RA-F-02J	5 U	4 U	3 U	3 U	66	140	64	**285**	23.8	1.2
RA-F-02A	5 U	4 U	3 U	3 U	110	220	96	**441**	23.2	1.9
							Mean	**363**	23.5	
							Std. error of the mean	78	0.3	
							Coefficient of Variation	30.4%	1.8%	

Notes: 1) One-half detection limit was assumed for a U-qualified data.
2) Estimated results between the minimum detection limit and the limit of quantitation are J-qualified.

3) Edwards Creek cumulative mean = 1.3 ppm
4) Reference Creek cumulative mean = 0.3 ppm

Figure 23. Eight year PCB trend for mummichog tissue samples collected from Remediated Zone 1 near Kin-Buc Landfill.

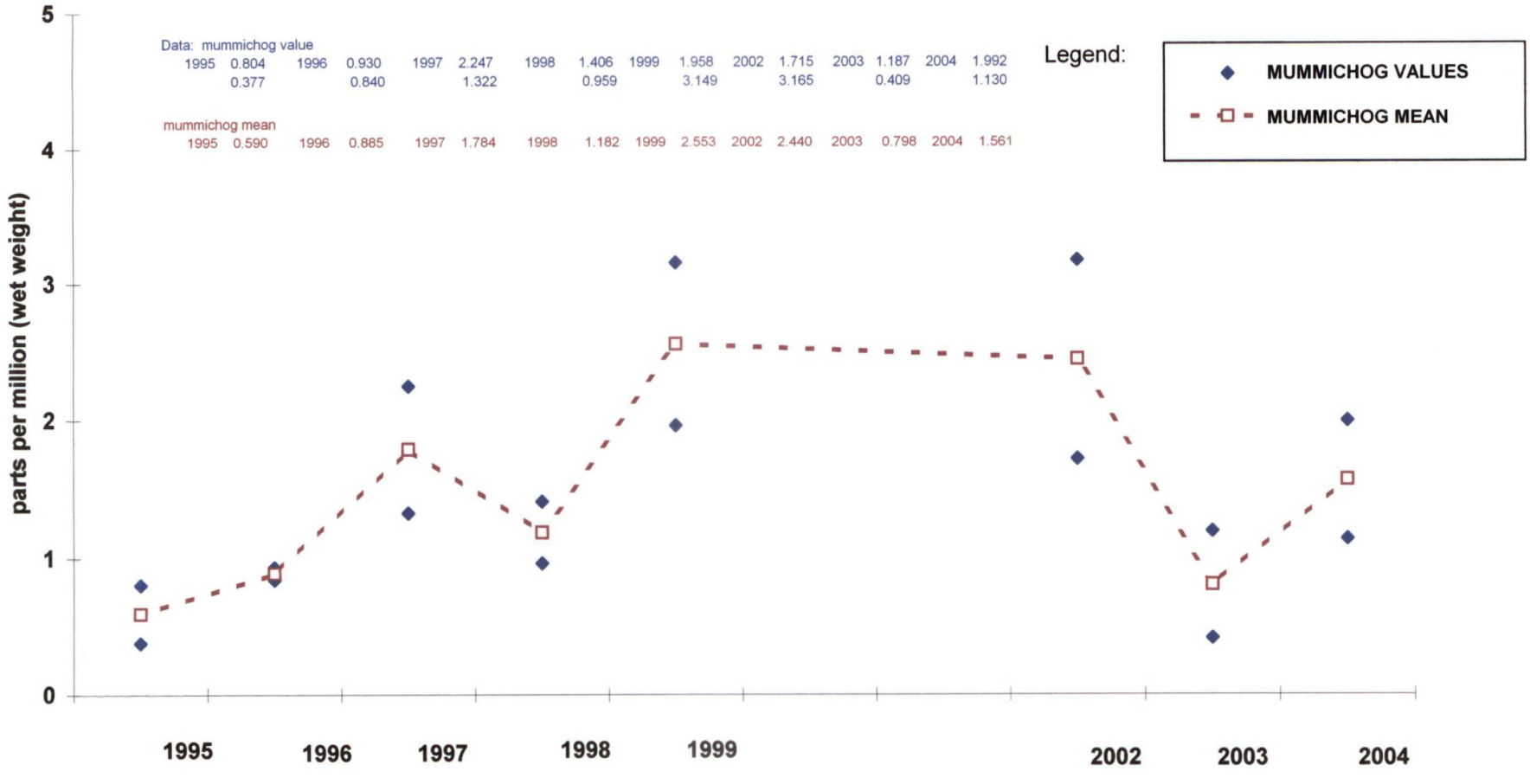


Figure 24. Eight year PCB trend for mummichog tissue samples collected from Remediated Zone 2 near Kin-Buc Landfill.

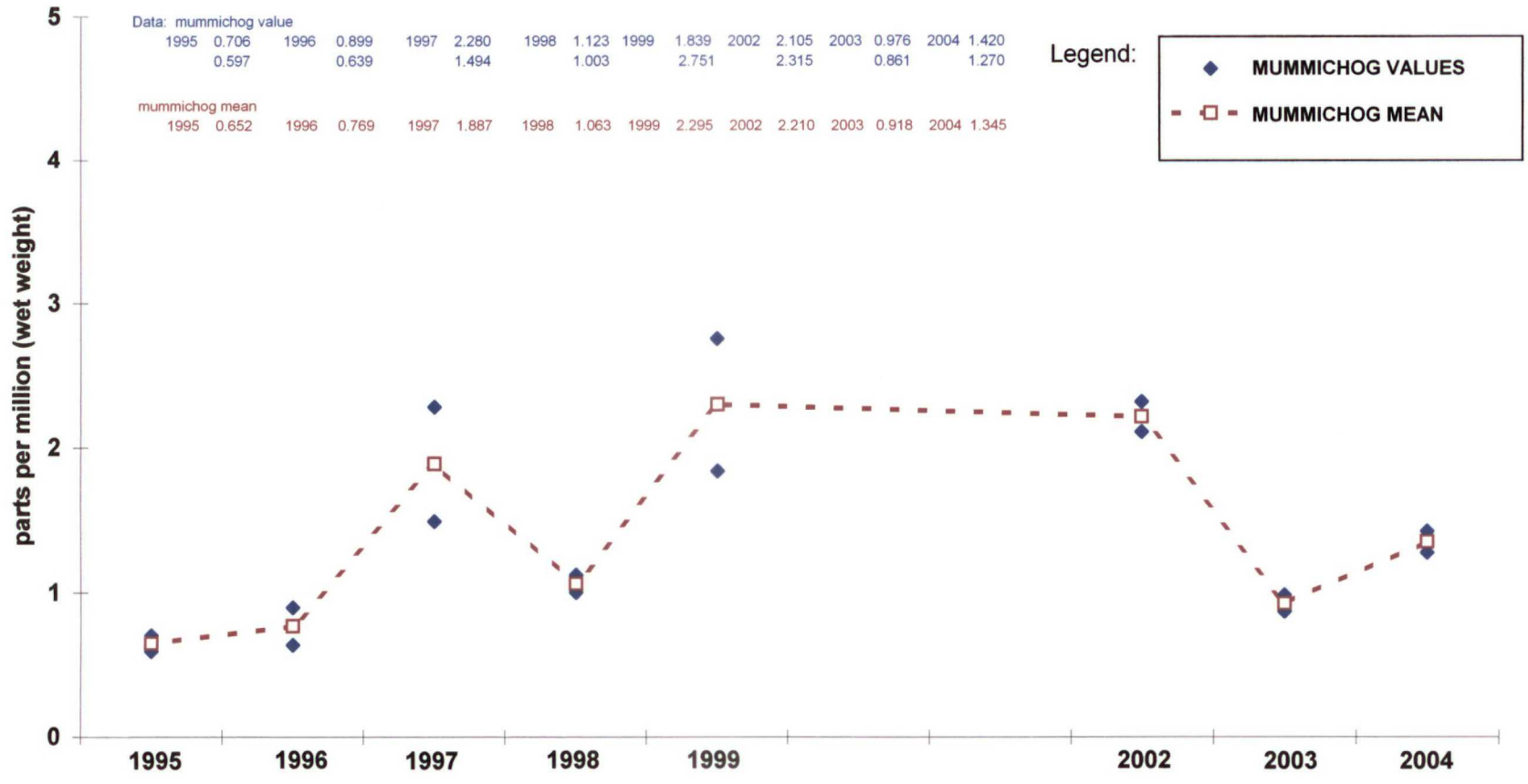


Figure 25. Eight year PCB trend for mummichog tissue samples collected from Unremediated Zone 3 near Kin-Buc Landfill.

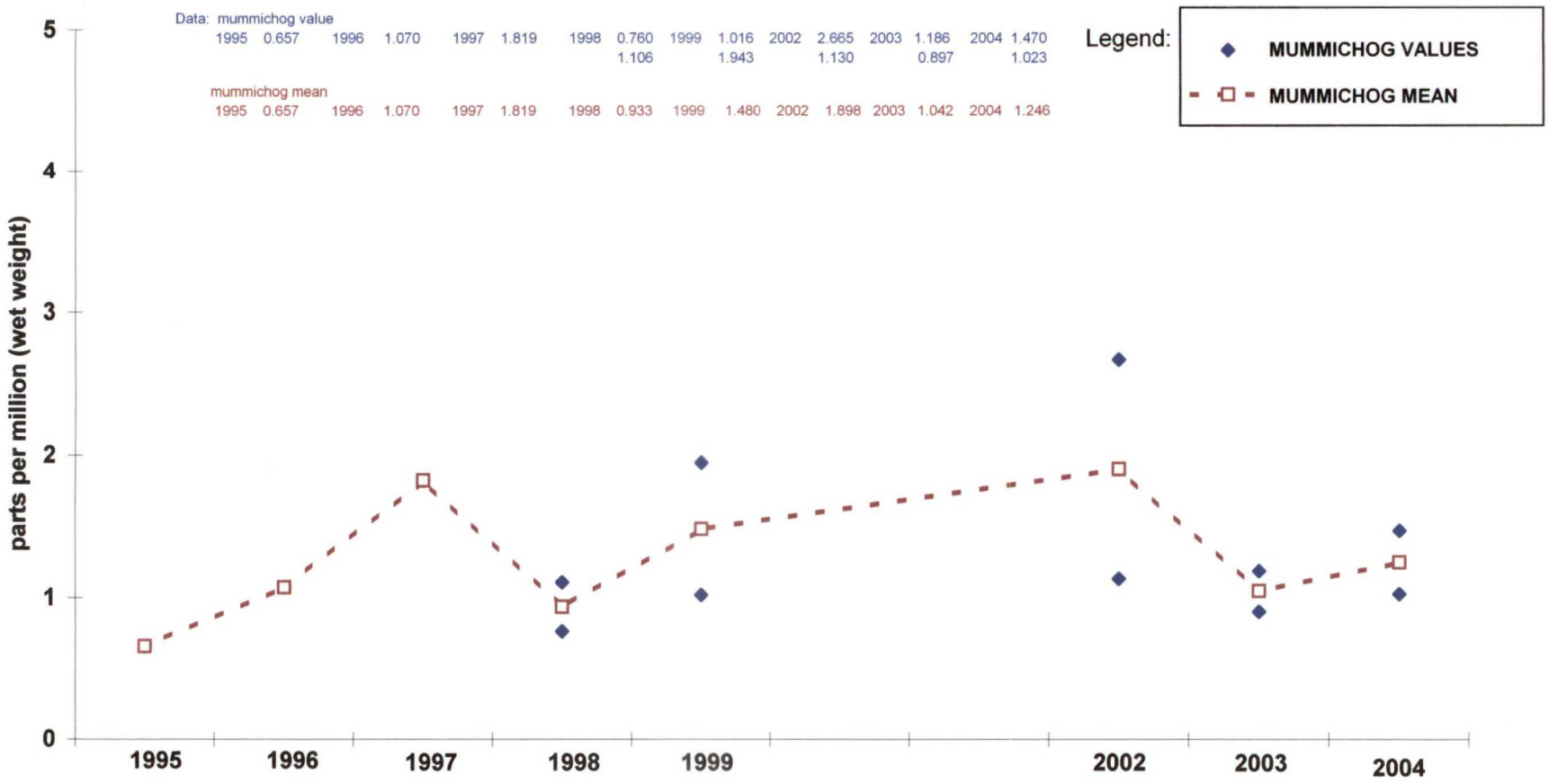


Figure 26. Eight year PCB trend for mummichog tissue samples collected from Unremediated Zone 2 near Kin-Buc Landfill.

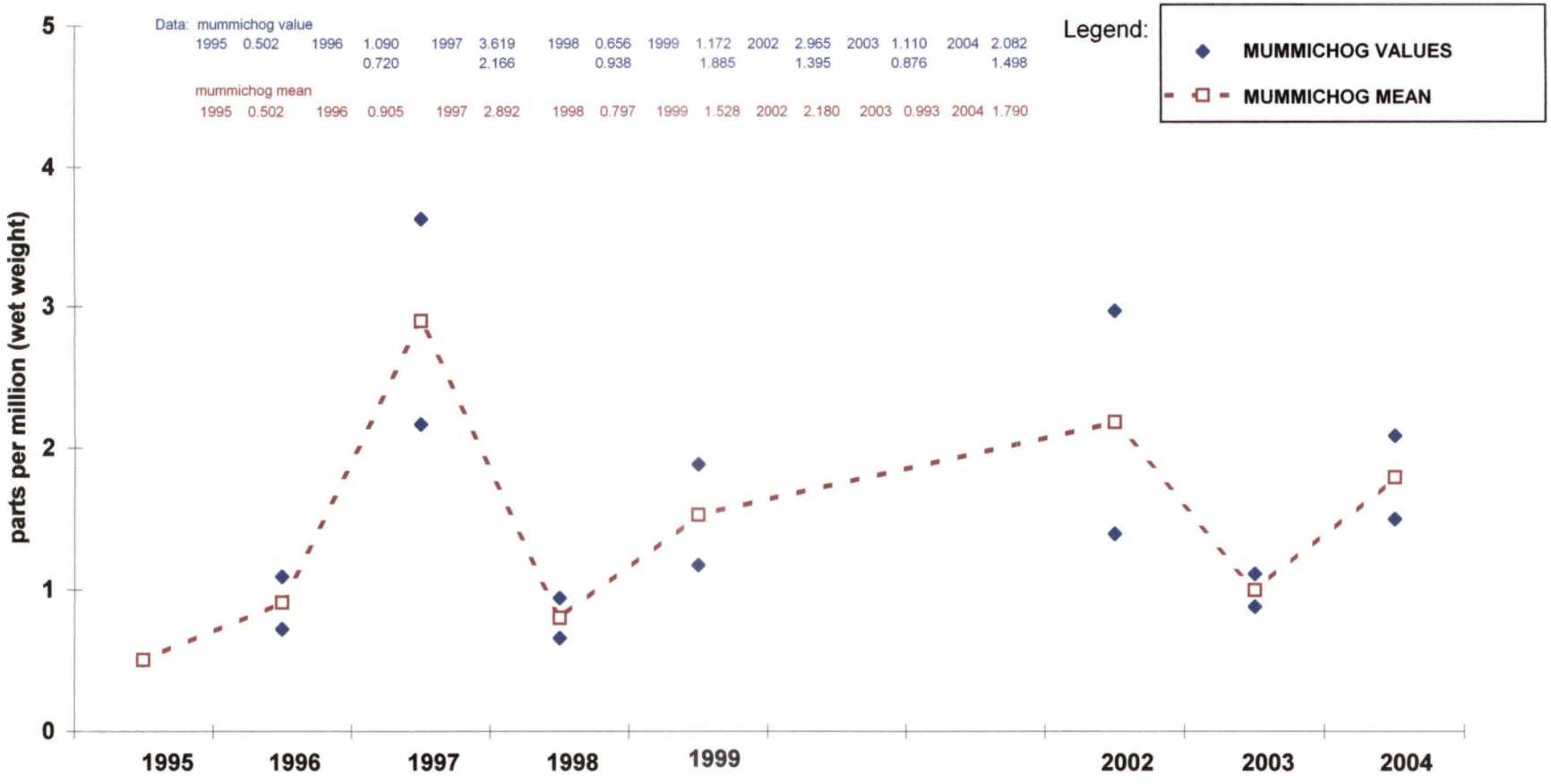


Figure 27. Eight year PCB trend for mummichog tissue samples collected from Remediated Zone 3 near Kin-Buc Landfill.

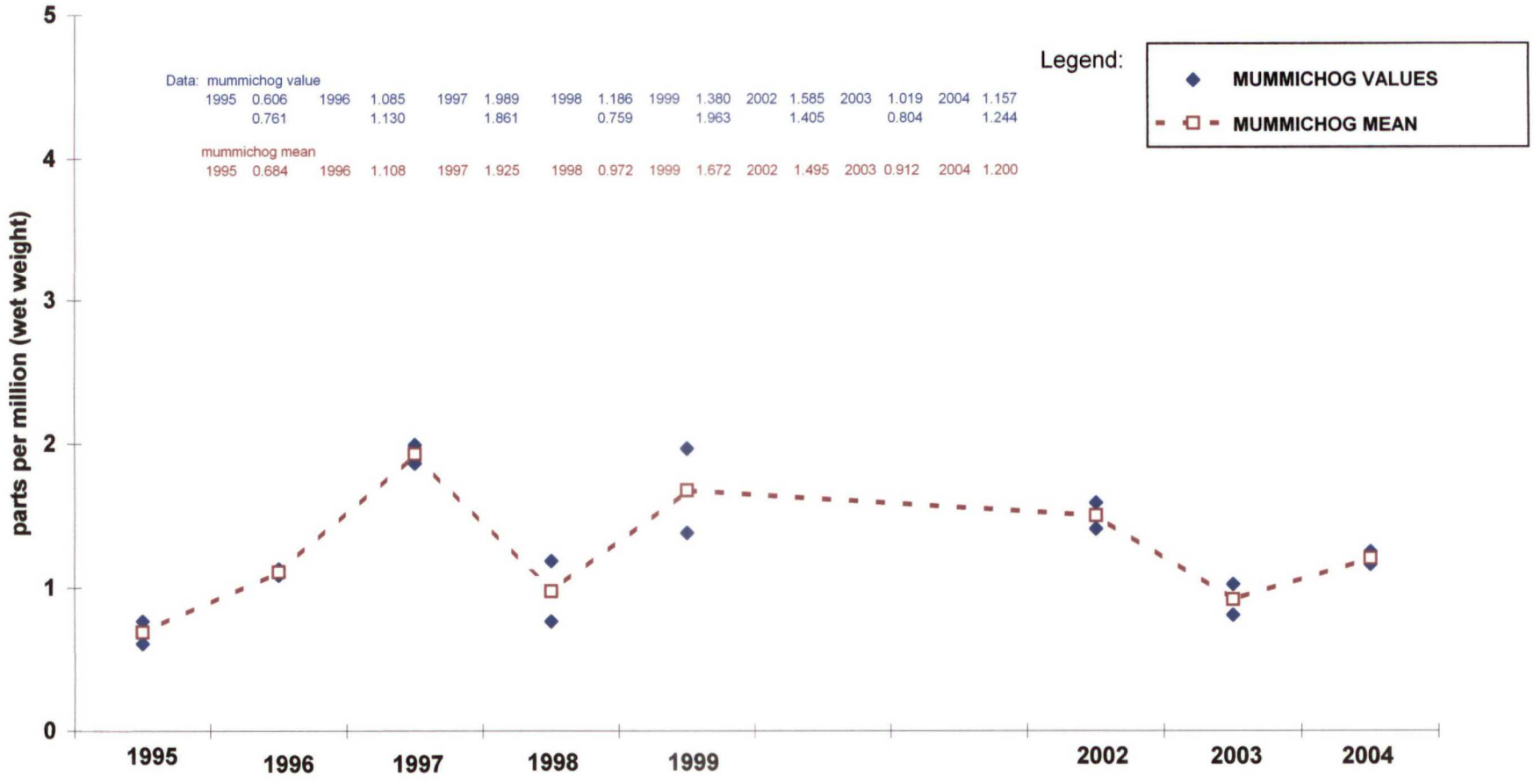


Figure 28. Eight year PCB trend for mummichog tissue samples collected from Remediated Zone 4 near Kin-Buc Landfill.

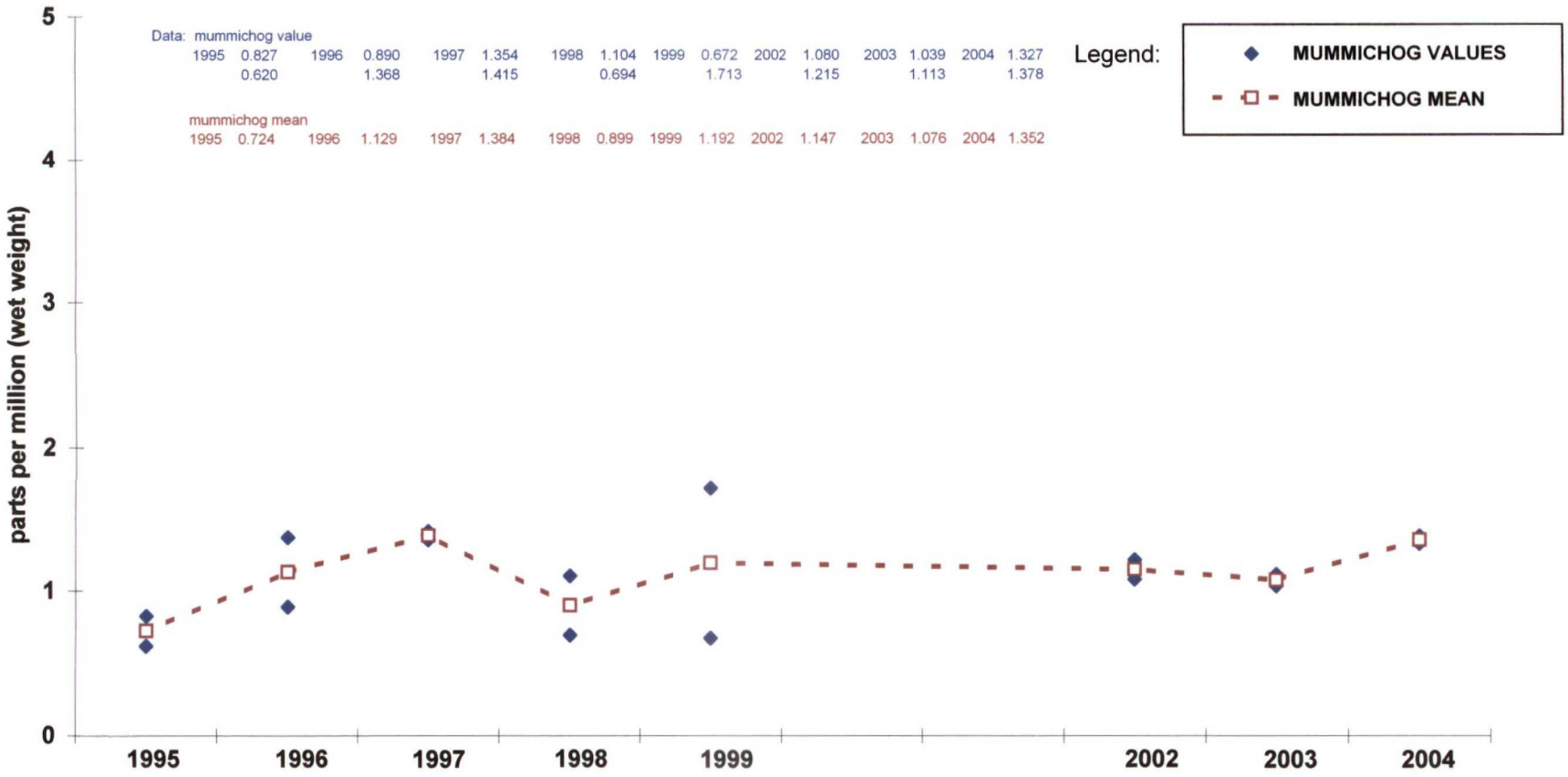


Figure 29. Eight year PCB trend for mummichog tissue samples collected from Remediated Zone 5 near Kin-Buc Landfill.

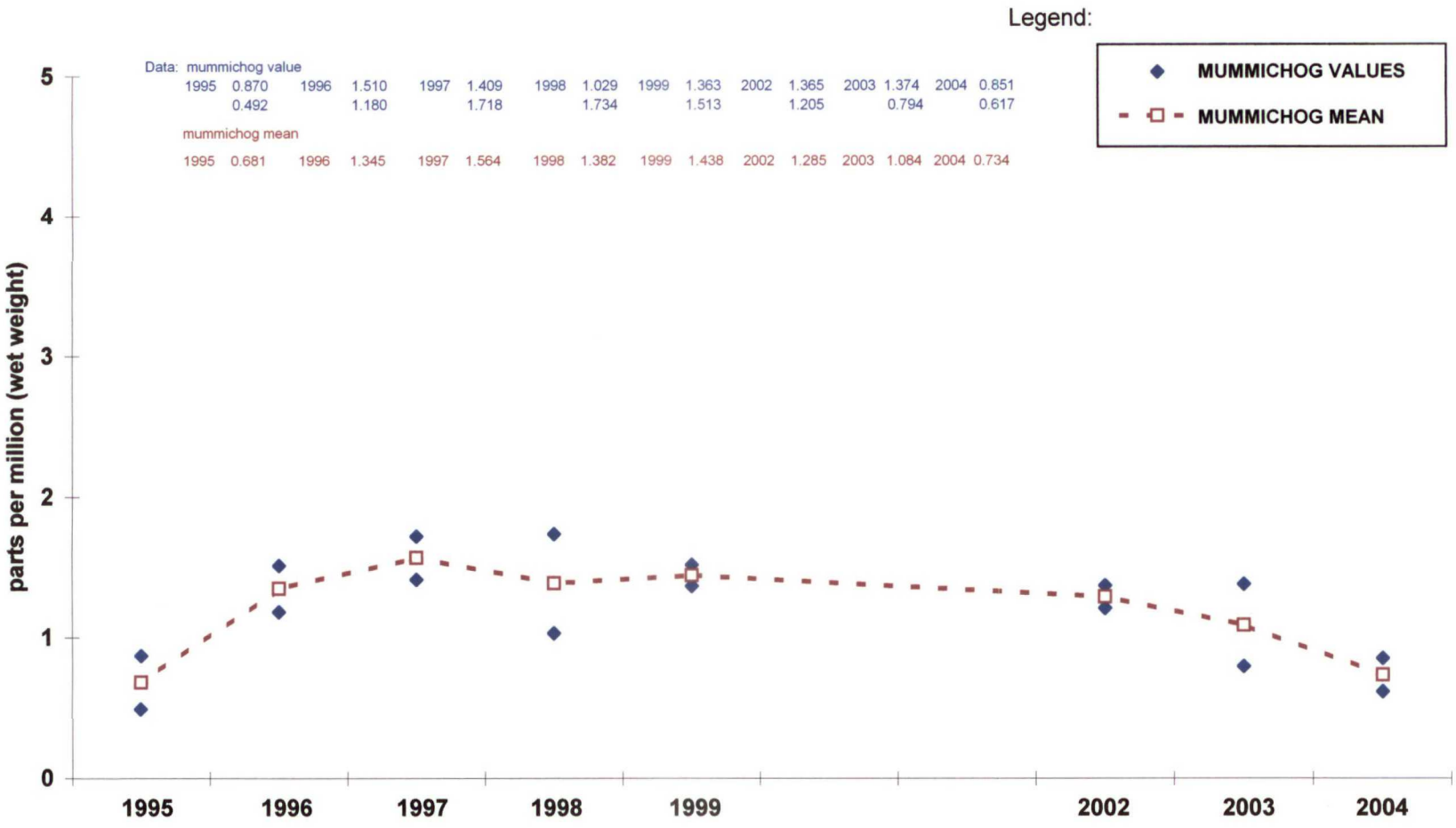


Figure 30. Eight year PCB trend for mummichog tissue samples collected from Unremediated Zone 1 near Kin-Buc Landfill.

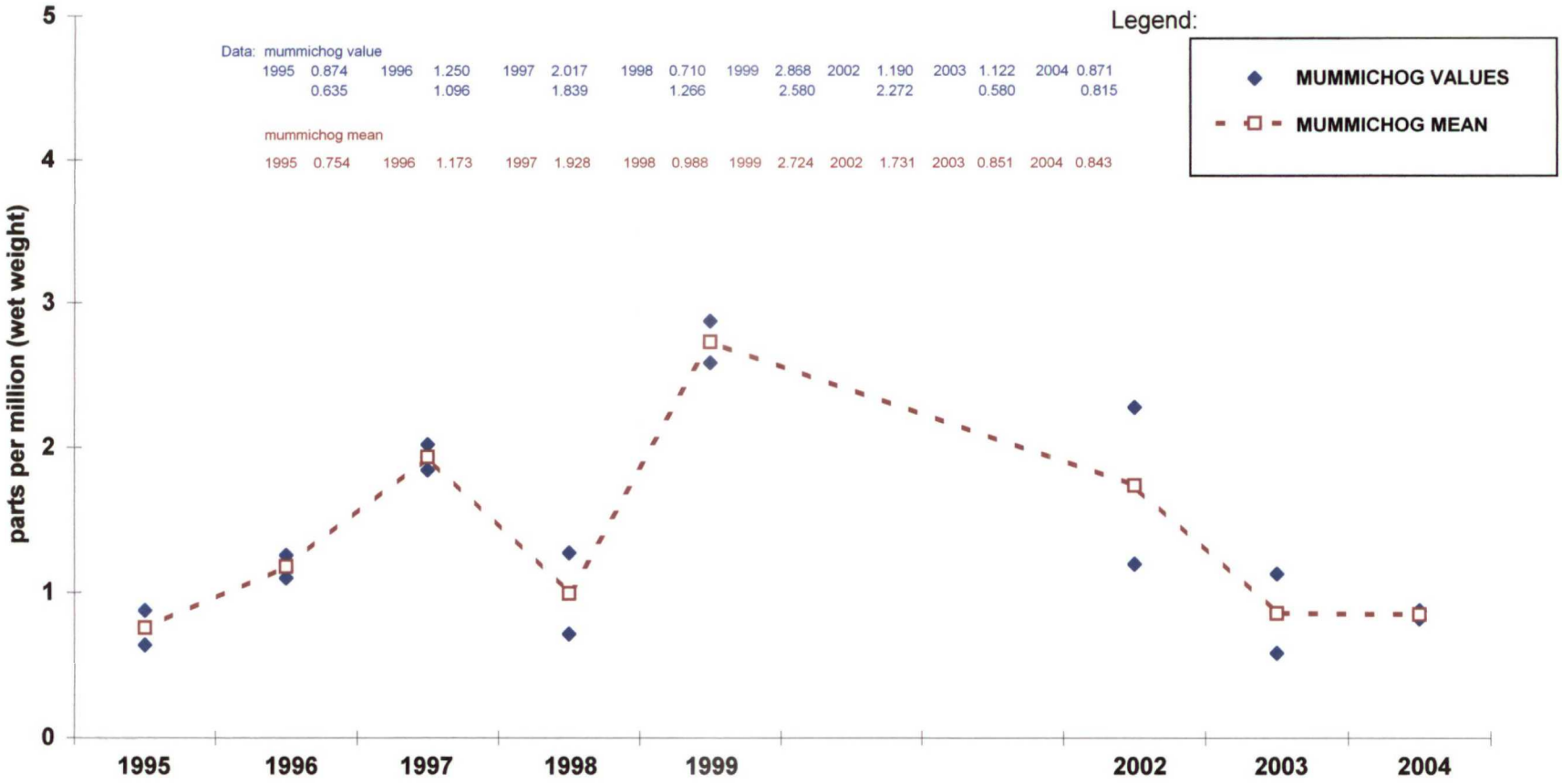


Figure 31. Eight year PCB trend for mummichog tissue samples collected from Reference Zone 1 near Kin-Buc Landfill.

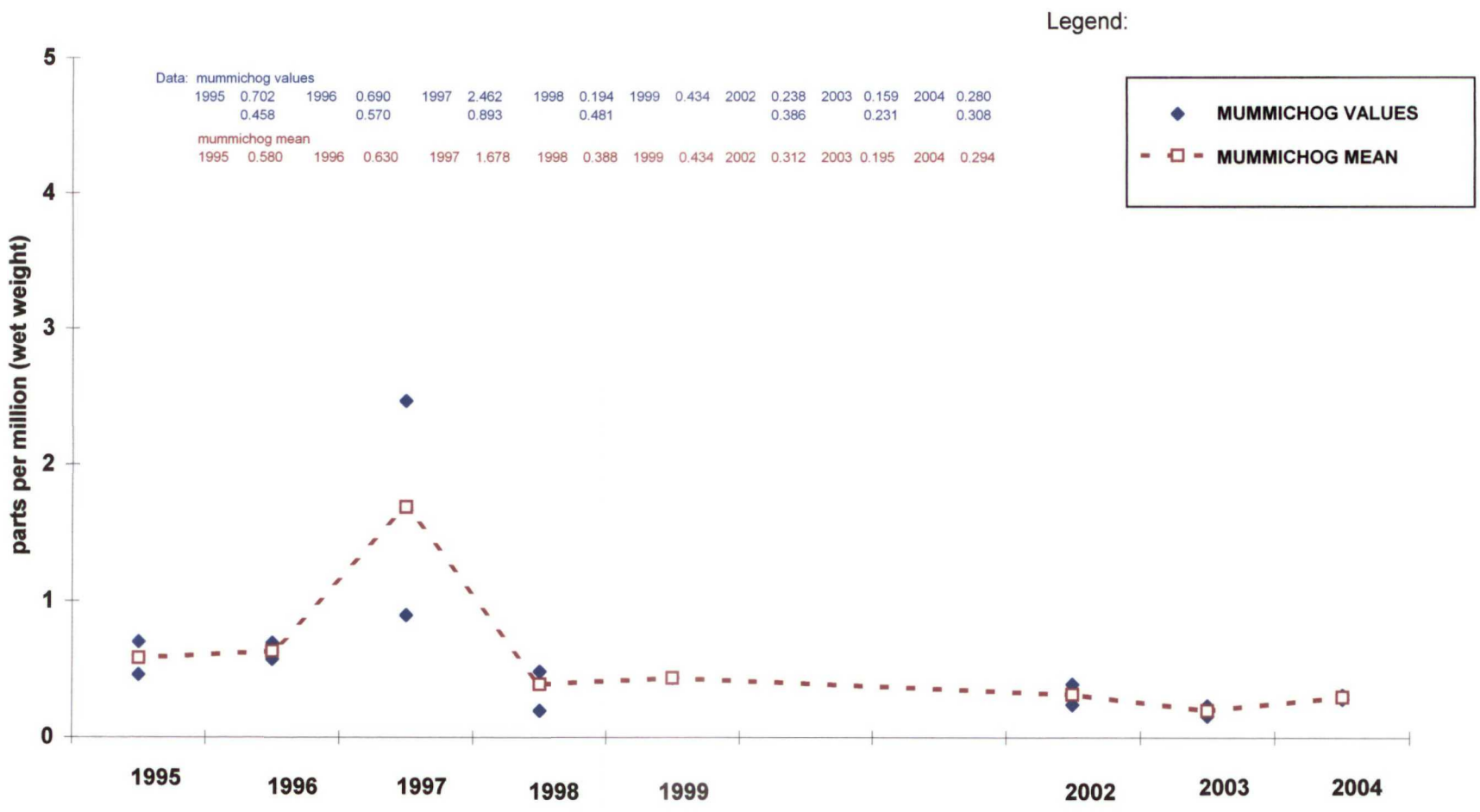
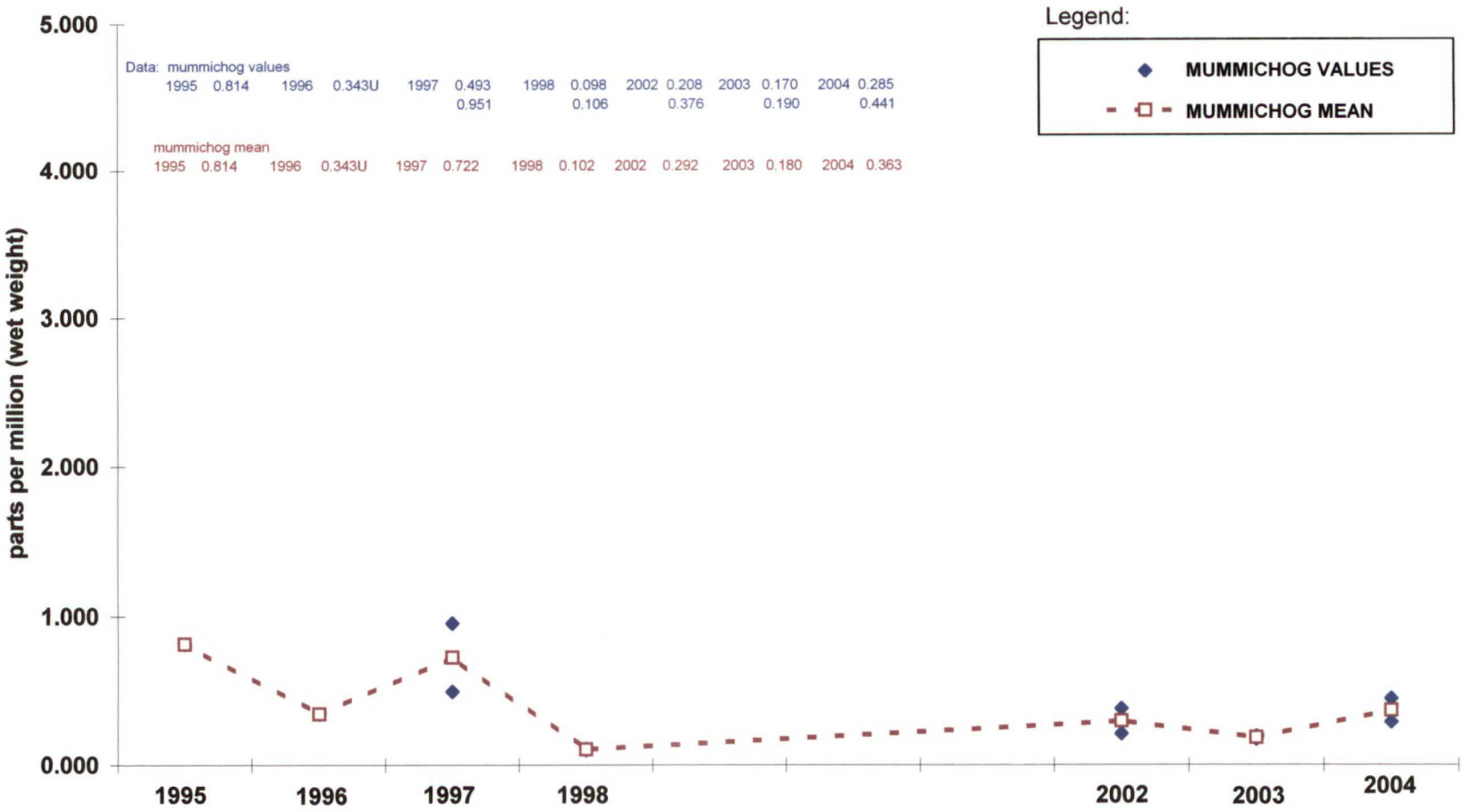


Figure 32. Seven year PCB trend for mummichog tissue samples collected from Reference Zone 2 near Kin-Buc Landfill.



6.0 RECOMMENDATIONS FOR FUTURE STUDY

It seems clear from the data presented above that a substantial reduction in the potential for exposure to humans and wildlife has been achieved as a result of the remedial excavation. Sediment concentrations are below the remediation goal throughout the majority of the study area, while concentrations that exceed it appear to be localized. Tissue burdens of the fiddler crabs have trended downward. Ecological data collected through 1999 showed that fish and invertebrate communities had re-colonized the excavated areas.

However, because sediment concentrations exceed 5 ppm at some locations and the mummichog analysis do not show a clear trend, additional monitoring at a reduced scope seems warranted. The following recommendations for future study are offered to maintain a monitoring effort sensitive enough to detect trends of the most concern in the data set, yet curtail study components that are redundant or no longer necessary.

1) All sampling in Reference Creek can be discontinued. The data now available are sufficient to describe the reference condition. The results for the sediment and tissue samples from each target organism have been consistent over time and are unlikely to change.

2) Fiddler crab and/or Sediment sampling from the Edmonds Creek Marsh Area and from the Raritan River at the mouth of Edmonds Creek can be curtailed. The results from three years of monitoring at both locations have been consistently low.

3) Sufficient data have now been collected to reduce monitoring frequency to a bi-annual schedule.

7.0 REFERENCES

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APPENDIX A

Lancaster Laboratories

ANALYTICAL RESULTS

Prepared for:

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464
610-705-5733

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 912675. Samples arrived at the laboratory on Friday, September 17, 2004.

Client Description	Lancaster Labs Number
UN-ABEN-01L Composite Sediment Sample	4355480
UN-ABIO-01AL Composite Sediment Sample	4355481
UN-ABEN-01AR Composite Sediment Sample	4355482
UN-ABIO-01/01A Composite Sediment Sample	4355483
A51+00/52+00 Composite Sediment Sample	4355484
A52+50R Composite Sediment Sample	4355485
A51+00R Composite Sediment Sample	4355486
A50+50L Composite Sediment Sample	4355487
RA-ABIO-01/01A Composite Sediment Sample	4355488
RA-ABIO-01/01A Dup Composite Sediment Sample	4355489
RA-ABEN-01L Composite Sediment Sample	4355490
RA-ABEN-01AL Composite Sediment Sample	4355491
RA-ABEN-01AR Composite Sediment Sample	4355492
RA-ABIO-02/02A Composite Sediment Sample	4355493
RA-ABEN-02L Composite Sediment Sample	4355494
RA-ABEN-02AR Composite Sediment Sample	4355495
RA-ABEN-02AL Composite Sediment Sample	4355496
A10+50/12+00 Composite Sediment Sample	4355497
A10+50R Composite Sediment Sample	4355498
A10+50L Composite Sediment Sample	4355499
A12+50L Composite Sediment Sample	4355500
A21+00/22+00 Composite Sediment Sample	4355501
A21+00L Composite Sediment Sample	4355502
A22+00R Composite Sediment Sample	4355503
A22+50L Composite Sediment Sample	4355504
UN-ABIO-02/02A Composite Sediment Sample	4355505
UN-ABIO-02R Composite Sediment Sample	4355506
UN-ABEN-02R Composite Sediment Sample	4355507
UN-ABEN-02AL Composite Sediment Sample	4355508

Lancaster Laboratories

A32+25/31+25 Composite Sediment Sample	4355509
A33+00L Composite Sediment Sample	4355510
A31+25L Composite Sediment Sample	4355511
A33+00R Composite Sediment Sample	4355512
A42+25/46+50 Composite Sediment Sample	4355513
A42+25/46+50 Dup Composite Sediment Sample	4355514
A42+25R Composite Sediment Sample	4355515
A46+75L Composite Sediment Sample	4355516
A46+75R Composite Sediment Sample	4355517
Field Blank Water Sample	4355518
RR-A1 Composite Sediment Sample	4355519
RR-A2 Composite Sediment Sample	4355520
RR-A3 Composite Sediment Sample	4355521
RR-A4 Composite Sediment Sample	4355522
ECMA-A3 Composite Sediment Sample	4355523
ECMA-A2 Composite Sediment Sample	4355524
ECMA-A1 Composite Sediment Sample	4355525

1 COPY TO Normandeau Associates Attn: Mr. George Christian

Questions? Contact your Client Services Representative
Jill S Wolgemuth at (717) 656-2300.

Respectfully Submitted,

Elizabeth A. Smith
Senior Chemist

MEMBER ACIL
Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Lancaster Laboratories

ANALYTICAL RESULTS

Prepared for:

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464
610-705-5733

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 912667. Samples arrived at the laboratory on Friday, September 17, 2004.

Client Description	Lancaster Labs Number
UN-ABEN-01L Composite Sediment Sample	4355351
UN-ABIO-01AL Composite Sediment Sample	4355352
UN-ABEN-01AR Composite Sediment Sample	4355353
UN-ABIO-01/01A Composite Sediment Sample	4355354
A51+00/52+00 Composite Sediment Sample	4355355
A52+50R Composite Sediment Sample	4355356
A51+00R Composite Sediment Sample	4355357
A50+50L Composite Sediment Sample	4355358
RA-ABIO-01/01A Composite Sediment Sample	4355359
RA-ABEN-01L Composite Sediment Sample	4355360
RA-ABEN-01AL Composite Sediment Sample	4355361
RA-ABEN-01AR Composite Sediment Sample	4355362
RA-ABIO-02/02A Composite Sediment Sample	4355363
RA-ABEN-02L Composite Sediment Sample	4355364
RA-ABEN-02AR Composite Sediment Sample	4355365
RA-ABEN-02AL Composite Sediment Sample	4355366
A10+50/12+00 Composite Sediment Sample	4355367
A10+50R Composite Sediment Sample	4355368
A10+50L Composite Sediment Sample	4355369
A12+50L Composite Sediment Sample	4355370
A21+00/22+00 Composite Sediment Sample	4355371
A21+00L Composite Sediment Sample	4355372
A22+00R Composite Sediment Sample	4355373
A22+50L Composite Sediment Sample	4355374
UN-ABIO-02/02A Composite Sediment Sample	4355375
UN-ABIO-02R Composite Sediment Sample	4355376
UN-ABEN-02R Composite Sediment Sample	4355377
UN-ABEN-02AL Composite Sediment Sample	4355378
A32+25/31+25 Composite Sediment Sample	4355379

Lancaster Laboratories

A33+00L Composite Sediment Sample	4355380
A31+25L Composite Sediment Sample	4355381
A33+00R Composite Sediment Sample	4355382
A42+25/46+50 Composite Sediment Sample	4355383
A42+25R Composite Sediment Sample	4355384
A46+75L Composite Sediment Sample	4355385
A46+75R Composite Sediment Sample	4355386
RR-A1 Composite Sediment Sample	4355387
RR-A2 Composite Sediment Sample	4355388
RR-A3 Composite Sediment Sample	4355389
RR-A4 Composite Sediment Sample	4355390
ECMA-A3 Composite Sediment Sample	4355391
ECMA-A2 Composite Sediment Sample	4355392
ECMA-A1 Composite Sediment Sample	4355393

METHODOLOGY

The specific methodologies used in obtaining the enclosed analytical results are indicated on the laboratory chronicles.

1 COPY TO	Normandeau Associates	Attn: Mr. George Christian
1 COPY TO	Data Package Group	

Questions? Contact your Client Services Representative
Jill S Wolgemuth at (717) 656-2300.

Respectfully Submitted,

Erik J. Frederiksen
Group Leader

MEMBER

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Request / Environmental Services Chain of Custody

Lancaster Laboratories
Where quality is a science.

For Lancaster Laboratories use only
Acct. # 07418 Group# 912675 Sample # 4355480-525

COC # 065453

Please print. Instructions on reverse side correspond with circled numbers.

(1)
Client: Normandeau Associates Acct. #: 07418
Project Name/#: Rio Bue PWSID #:
Project Manager: George Christian P.O.#:
Sampler: CDD, JDC Quote #: 145427A
Name of state where samples were collected: NJ

For Lab Use Only
FSC:
SCR #:

(6) Temperature of samples upon receipt (if requested)

1 of 6

(2) Sample Identification	Date Collected	Time Collected	(3) Grab	Composite	Matrix (4): Soil	Water (Check if Potable / NPDES Applicable)	Other Sediment	Total # of Containers	(5) PCB (Tot)	TOC	Grain Size							Remarks
UN-ABEN-01L	9-13-04	1515		✓			✓	2	✓	✓	✓							PCB/TOC in 500
UN-ABIO-01AL	9-13-04	1530		✓			✓	2	✓	✓	✓							ml glass containers
UN-ABEN-01AR	9-13-04	1540		✓			✓	2	✓	✓	✓							
UN-ABIO-01/01A	9-13-04	1600		✓			✓	2	✓	✓	✓							Grain Size samples
																		in zip-loc bags
A51+00/52+00	9-13-04	1615		✓			✓	2	✓	✓	✓							
A52+50R	9-13-04	1635		✓			✓	2	✓	✓	✓							
A51+00R	9-13-04	1655		✓			✓	2	✓	✓	✓							
A50+50L	9-13-04	1705		✓			✓	2	✓	✓	✓							

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax E-mail
Phone #: Fax #:
E-mail address:

(8) **Data Package Options** (please circle if required)
QC Summary Type VI (Raw Data)
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (CLP)

SDG Complete? Yes No

Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal Chain of Custody required? Yes No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	9/14/04	1100	[signature]	9/17/04	1150
[signature]	9/17/04	1540			

Relinquished by:	Date	Time	Received by:	Date	Time
			[signature]	9/17/04	1540

Analysis Request / Environmental Services Chain of Custody

Lancaster Laboratories
Where quality is a science.

For Lancaster Laboratories use only
Acct. # 07418 Group# 912675 Sample # 4355480-525 **COC #** 0067944

Please print. Instructions on reverse side correspond with circled numbers.

(1)
Client: Normandeau Associates Acct. #: 07418
Project Name/#: Kin Buc PWSID #:
Project Manager: George Christian P.O.#:
Sampler: CDD, JDC Quote #: 145427A
Name of state where samples were collected: NJ

For Lab Use Only
FSC:
SCR #:

(2) (3) (4) (5) (6)

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Other Sediment	Total # of Containers	PCB (Tot)	TOC	Grain Size							Remarks
RA-AB10-01/01A	9-13-04	1725		✓			✓	2	✓	✓	✓							
RA-AB10-01/01A "Dup"	9-13-04	1727		✓			✓	2	✓	✓								
RA-ABEN-01L	9-13-04	1740		✓			✓	2	✓	✓	✓							
RA-ABEN-01AL	9-13-04	1750		✓			✓	2	✓	✓	✓							
RA-ABEN-01AR	9-13-04	1805		✓			✓	2	✓	✓	✓							
RA-AB10-02/02A	9-13-04	1825		✓			✓	2	✓	✓	✓							
RA-ABEN-02L	9-13-04	1840		✓			✓	2	✓	✓	✓							
RA-ABEN-02AR	9-13-04	1855		✓			✓	2	✓	✓	✓							
RA-ABEN-02AL	9-13-04	1905		✓			✓	2	✓	✓	✓							

2 of 6

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax E-mail
Phone #: Fax #:
E-mail address:

(8) **Data Package Options** (please circle if required)
QC Summary Type VI (Raw Data)
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (CLP)

SDG Complete? Yes No
Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal Chain of Custody required? Yes No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
Seth Christ	9/16/04	1100	P. Lefever	9/17/04	1150
P. Lefever	9/17/04	1540			
			Jessica B	9/17/04	1540

Lancaster Laboratories, Inc., 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 (717) 656-2300
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.
2102 Rev. 10/27/02

Analysis Request / Environmental Services Chain of Custody

Lancaster Laboratories
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For Lancaster Laboratories use only
Acct. # 07418 Group# 9126675 Sample # 4355480-525

COC # 0067945

Please print. Instructions on reverse side correspond with circled numbers.

(1)
Client: Normandeau Associates Acct. #: 07418
Project Name/#: Kin Buc PWSID #:
Project Manager: George Christian P.O.#:
Sampler: CUD, JOC Quote #:
Name of state where samples were collected: NJ

For Lab Use Only
FSC:
SCR #:

(2) (3) (4) (5) (6)

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water (☐ Potable ☐ NPDES Check if Applicable)	Matrix: Other Sediment	Total # of Containers	PCB Total	TOC	Grain Size	Remarks (3 of 6)	Temperature of samples upon receipt (if requested)
A10+50/12+00	9-14-04	0945		✓			✓	2	✓	✓	✓		
A10+50 R	9-14-04	1000		✓			✓	2	✓	✓	✓		
A10+50 L	9-14-04	1007		✓			✓	2	✓	✓	✓		
A12+50 L	9-14-04	1015		✓			✓	2	✓	✓	✓		
A21+00/22+00	9-14-04	1035		✓			✓	2	✓	✓	✓		
A21+00L	9-14-04	1045		✓			✓	2	✓	✓	✓		
A22+00R	9-14-04	1055		✓			✓	2	✓	✓	✓		
A22+50L	9-14-04	1105		✓			✓	2	✓	✓	✓		

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax E-mail
Phone #: Fax #:
E-mail address:

(8) **Data Package Options** (please circle if required)
QC Summary Type VI (Raw Data)
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (CLP)

SDG Complete? Yes No
Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal Chain of Custody required? Yes No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	9-16-04	1100	[signature]	9/17/04	1150
[signature]	9/17/04	1540			
			[signature]	9/17/04	1540

Analysis Request / Environmental Services Chain of Custody

Lancaster Laboratories
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For Lancaster Laboratories use only

Acct. # 07418 Group# 9126075 Sample # 4355480-525 **COC #** 0067946

Please print. Instructions on reverse side correspond with circled numbers.

(1)
Client: Normandeau Associates Acct. #: 07418
Project Name/#: Kin Buc PWSID #:
Project Manager: George Christian P.O.#:
Sampler: CDD, JDC Quote #:
Name of state where samples were collected: NJ

For Lab Use Only
FSC:
SCR #:

(2) (3) (4) (5) (6)

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Other Sediment	Total # of Containers	PCB (Tot)	TOC	Grain Size							Remarks
UN-AB10-02 / 02A	9-14-04	1135		✓			✓	2	✓	✓	✓							
UN-AB10-02R	9-14-04	1150		✓			✓	2	✓	✓	✓							
UN-ABEN-02R	9-14-04	1205		✓			✓	2	✓	✓	✓							
UN-ABEN-02AL	9-14-04	1215		✓			✓	2	✓	✓	✓							
A32+25 / 31+25	9-14-04	1250		✓			✓	2	✓	✓	✓							
A33+00L	9-14-04	1325		✓			✓	2	✓	✓	✓							
A31+25L	9-14-04	1340		✓			✓	2	✓	✓	✓							
A33+00R	9-14-04	1355		✓			✓	2	✓	✓	✓							

4 of 6

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax E-mail
Phone #: Fax #:
E-mail address:

(8) **Data Package Options** (please circle if required)
QC Summary Type VI (Raw Data)
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (CLP)

SDG Complete? Yes No
Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal Chain of Custody required? Yes No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	9-16-04	1100	P. Lefever	9/17/04	1150
P. Lefever	9/17/04	1540			
			[signature]	9/17/04	1540

Lancaster Laboratories, Inc., 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 (717) 656-2300
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

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Analysis Request / Environmental Services Chain of Custody

Lancaster Laboratories
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For Lancaster Laboratories use only

Acct. # 07418 Group# 912675 Sample # 4355480-525 **COC #** 0067947

Please print. Instructions on reverse side correspond with circled numbers.

(1)
Client: Normandeau Associates Acct. #: 07418
Project Name/#: Kin Buc PWSID #:
Project Manager: George Christian P.O.#:
Sampler: CDD, JDC Quote #:
Name of state where samples were collected: NJ

For Lab Use Only
FSC:
SCR #:

(2) (3) (4) (5) (6)

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water (Potable / NPDES)	Other Sediment	Total # of Containers	PCB (Tot)	TOC	Grain Size							Remarks (5 of 6)	Temperature of samples upon receipt (if requested)
A 42+25/46+50	9-14-04	1440		✓			✓	2	✓	✓	✓								
A 42+25/46+50 "Dup"	9-14-04	1442		✓			✓	1	✓	✓									
A 42 + 25 R	9-14-04	1505		✓			✓	2	✓	✓	✓								
A 46 + 75 L	9-14-04	1520		✓			✓	2	✓	✓	✓								
A 46 + 75 R	9-14-04	1530		✓			✓	2	✓	✓	✓								
"Field Blank"	9-14-04	1550				X		1	✓	✓									
RR-A1	9-14-04	1705		✓			✓	2	✓	✓	✓								
RR-A2	9-14-04	1725		✓			✓	2	✓	✓	✓								

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax E-mail
Phone #: Fax #:
E-mail address:

(8) **Data Package Options** (please circle if required)
QC Summary Type VI (Raw Data)
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (CLP)

SDG Complete? Yes No
Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal Chain of Custody required? Yes No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	9-16-04	1100	P. Lefever	9/17/04	1150
P. Lefever	9/17/04	1540			
			[signature]	9/17/04	1540

Lancaster Laboratories, Inc., 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 (717) 656-2300
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

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Analysis Request / Environmental Services Chain of Custody

Lancaster Laboratories
Where quality is a science.

For Lancaster Laboratories use only

Acct. # 07418 Group# 912675 Sample # 4355480-525

COC # 0067948

Please print. Instructions on reverse side correspond with circled numbers.

(1)
Client: Normandeau Associates Acct. #: 07418
Project Name/#: Kin Buc PWSID #:
Project Manager: George Cheistian P.O.#:
Sampler: CDD, JDC Quote #:
Name of state where samples were collected: NJ

For Lab Use Only
FSC:
SCR #:

(2) (3) (4) (5) (6)

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water (Potable / NPDES)	Other (Check if Applicable)	Total # of Containers	PCB (Tot)	TOC	Grain Size						Remarks (6 of 6)	Temperature of samples upon receipt (if requested)
RR-A3	9-14-04	1755		✓			✓	2	✓	✓	✓							
RR-A4	9-14-04	1820		✓			✓	2	✓	✓	✓							
ECMA-A3	9-15-04	1020		✓			✓	2	✓	✓	✓							
ECMA-A2	9-15-04	1040		✓			✓	2	✓	✓	✓							
ECMA-A1	9-15-04	1055		✓			✓	2	✓	✓	✓							

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax E-mail
Phone #: Fax #:
E-mail address:

(8) **Data Package Options** (please circle if required)
QC Summary Type VI (Raw Data)
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (CLP)

SDG Complete? Yes No
Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal Chain of Custody required? Yes No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
Gregory Cheistian	9/16/04	1100	P. Lefevre	9/17/04	1150
P. Lefevre	9/17/04	1540			
			Jessica Bu	9/17/04	1540

Lancaster Laboratories, Inc., 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 (717) 656-2300
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.
2102 Rev. 10/27/02

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355498

A10+50R Composite Sediment Sample
Kin-Buc Landfill

Collected:09/14/2004 10:00 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:15
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

1050R

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	81.5	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	142,000.	6,710.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	26.	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	23.	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	18.	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	18.	ug/kg	1
01499	PCB-1248	12672-29-6	650.	18.	ug/kg	1
01500	PCB-1254	11097-69-1	320.	20.	ug/kg	1
01501	PCB-1260	11096-82-5	130.	18.	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/21/2004 10:59	William C Schwebel	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 09:38	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/23/2004 03:45	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/21/2004 17:00	Luis E Villamil	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355368

A10+50R Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 10:00 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

A105R SDG#: KBL07-18

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	99.9	0.50	% Passing	1
07138	4.75 mm	n.a.	97.4	0.50	% Passing	1
07139	3.35 mm	n.a.	95.5	0.50	% Passing	1
07140	2.36 mm	n.a.	84.2	0.50	% Passing	1
07141	1.18 mm	n.a.	74.6	0.50	% Passing	1
07142	0.6 mm	n.a.	67.6	0.50	% Passing	1
07143	0.3 mm	n.a.	63.0	0.50	% Passing	1
07144	0.15 mm	n.a.	57.8	0.50	% Passing	1
07145	0.075 mm	n.a.	55.6	0.50	% Passing	1
07146	0.064 mm	n.a.	56.0	0.50	% Passing	1
07147	0.05 mm	n.a.	55.5	0.50	% Passing	1
07148	0.02 mm	n.a.	49.0	0.50	% Passing	1
07149	0.005 mm	n.a.	25.5	0.50	% Passing	1
07150	0.002 mm	n.a.	14.5	0.50	% Passing	1
07151	0.001 mm	n.a.	10.0	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355368

A10+50R Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 10:00 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

A105R SDG#: KBL07-18

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/20/2004 13:00	Catherine L Cammauf	1

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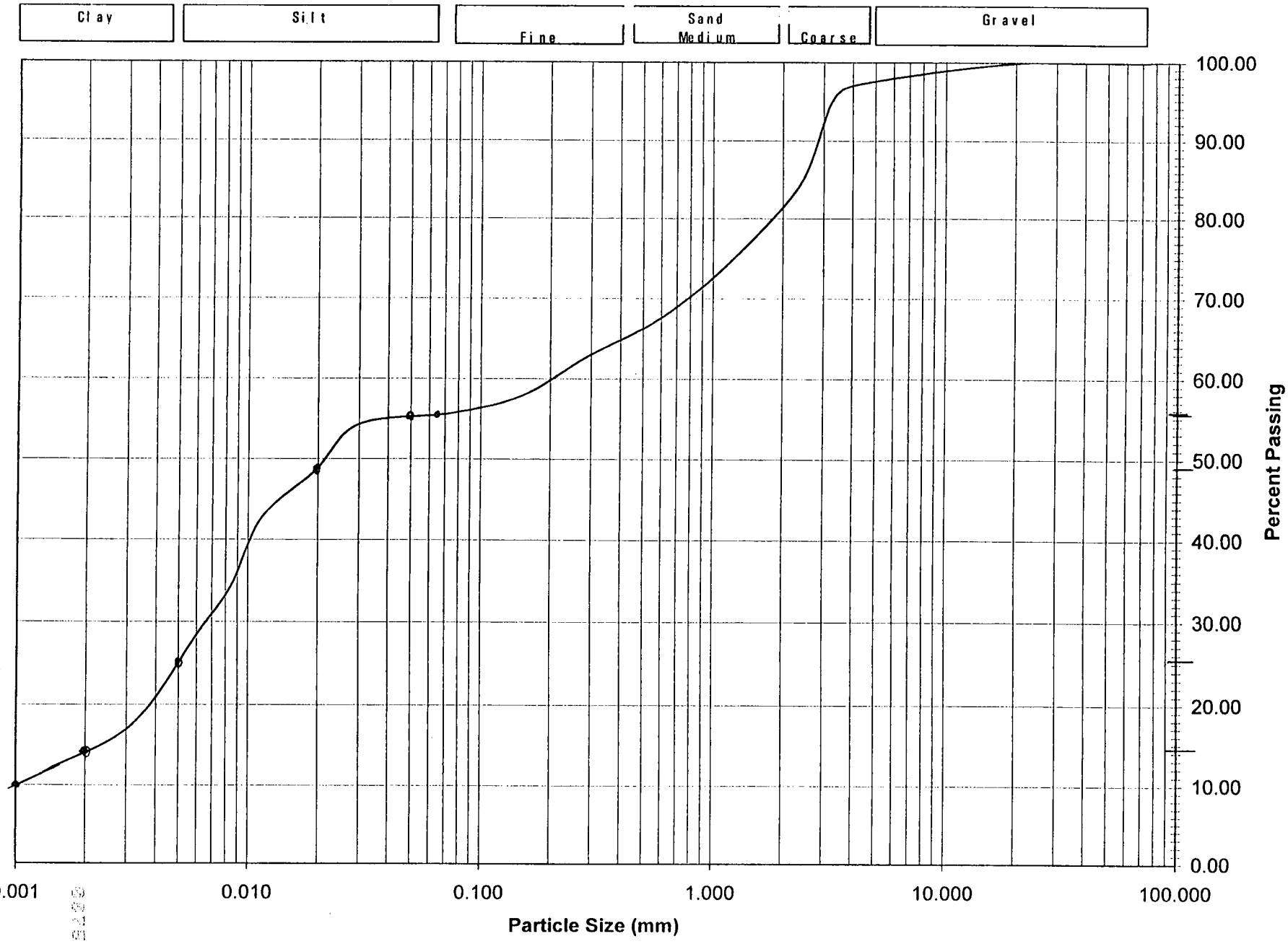
4355368

Particle Size Distribution



Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355499

A10+50L Composite Sediment Sample
Kin-Buc Landfill

Collected:09/14/2004 10:07 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:15
Discard: 11/01/2004

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Stowe PA 19464

L1050

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	79.4	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	125,000.	7,280.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	23.	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	21.	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	16.	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	16.	ug/kg	1
01499	PCB-1248	12672-29-6	560.	16.	ug/kg	1
01500	PCB-1254	11097-69-1	320.	18.	ug/kg	1
01501	PCB-1260	11096-82-5	150.	16.	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/22/2004 16:56	Scott W Freisher	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 10:02	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/24/2004 17:22	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/22/2004 03:40	David V Hershey Jr	1

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PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355369

A10+50L Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 10:07 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

1050L SDG#: KBL07-19

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	99.9	0.50	% Passing	1
07138	4.75 mm	n.a.	98.2	0.50	% Passing	1
07139	3.35 mm	n.a.	95.8	0.50	% Passing	1
07140	2.36 mm	n.a.	87.6	0.50	% Passing	1
07141	1.18 mm	n.a.	80.7	0.50	% Passing	1
07142	0.6 mm	n.a.	76.7	0.50	% Passing	1
07143	0.3 mm	n.a.	73.1	0.50	% Passing	1
07144	0.15 mm	n.a.	70.2	0.50	% Passing	1
07145	0.075 mm	n.a.	68.5	0.50	% Passing	1
07146	0.064 mm	n.a.	67.5	0.50	% Passing	1
07147	0.05 mm	n.a.	63.5	0.50	% Passing	1
07148	0.02 mm	n.a.	54.5	0.50	% Passing	1
07149	0.005 mm	n.a.	31.0	0.50	% Passing	1
07150	0.002 mm	n.a.	18.0	0.50	% Passing	1
07151	0.001 mm	n.a.	8.0	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

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Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355369

A10+50L Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 10:07 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

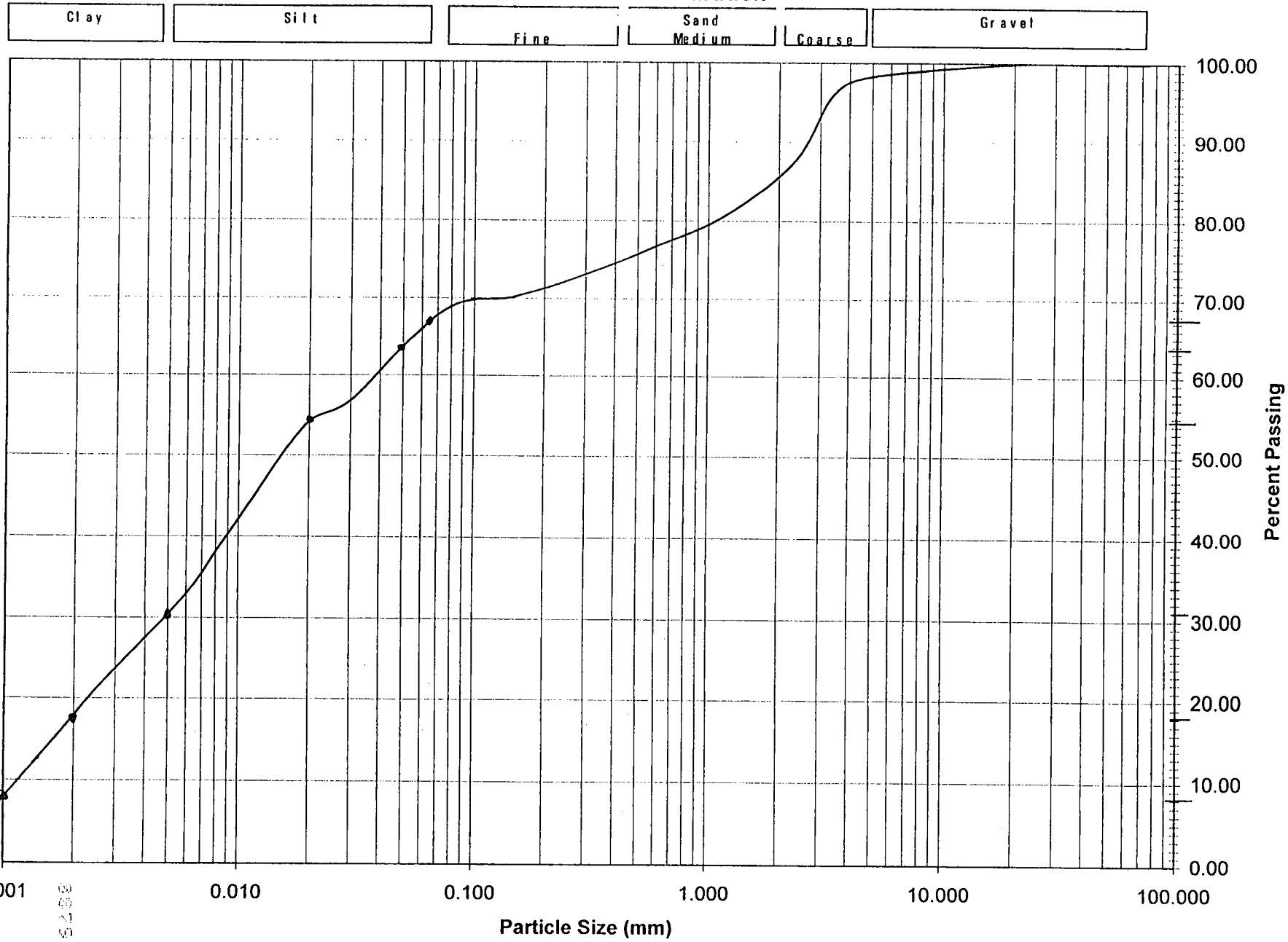
1050L SDG#: KBL07-19

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/20/2004 13:00	Catherine L Cammauf	1

4355369

Particle Size Distribution



Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355497

A10+50/12+00 Composite Sediment Sample
Kin-Buc Landfill

Collected:09/14/2004 09:45 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:15
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

12-00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	75.6	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	91,300.	5,340.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	20.	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	18.	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	14.	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	14.	ug/kg	1
01499	PCB-1248	12672-29-6	510.	14.	ug/kg	1
01500	PCB-1254	11097-69-1	240.	15.	ug/kg	1
01501	PCB-1260	11096-82-5	110.	14.	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/21/2004 10:59	William C Schwebel	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 09:30	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/23/2004 12:43	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/21/2004 17:00	Luis E Villamil	1

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Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355367

A10+50/12+00 Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 09:45 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
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Stowe PA 19464

A1050 SDG#: KBL07-17

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	96.0	0.50	% Passing	1
07139	3.35 mm	n.a.	93.7	0.50	% Passing	1
07140	2.36 mm	n.a.	84.9	0.50	% Passing	1
07141	1.18 mm	n.a.	82.9	0.50	% Passing	1
07142	0.6 mm	n.a.	80.3	0.50	% Passing	1
07143	0.3 mm	n.a.	76.4	0.50	% Passing	1
07144	0.15 mm	n.a.	73.0	0.50	% Passing	1
07145	0.075 mm	n.a.	70.2	0.50	% Passing	1
07146	0.064 mm	n.a.	70.0	0.50	% Passing	1
07147	0.05 mm	n.a.	69.0	0.50	% Passing	1
07148	0.02 mm	n.a.	59.5	0.50	% Passing	1
07149	0.005 mm	n.a.	31.5	0.50	% Passing	1
07150	0.002 mm	n.a.	19.0	0.50	% Passing	1
07151	0.001 mm	n.a.	12.0	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355367

A10+50/12+00 Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 09:45 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
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A1050 SDG#: KBL07-17

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/20/2004 13:00	Catherine L Cammauf	1

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2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
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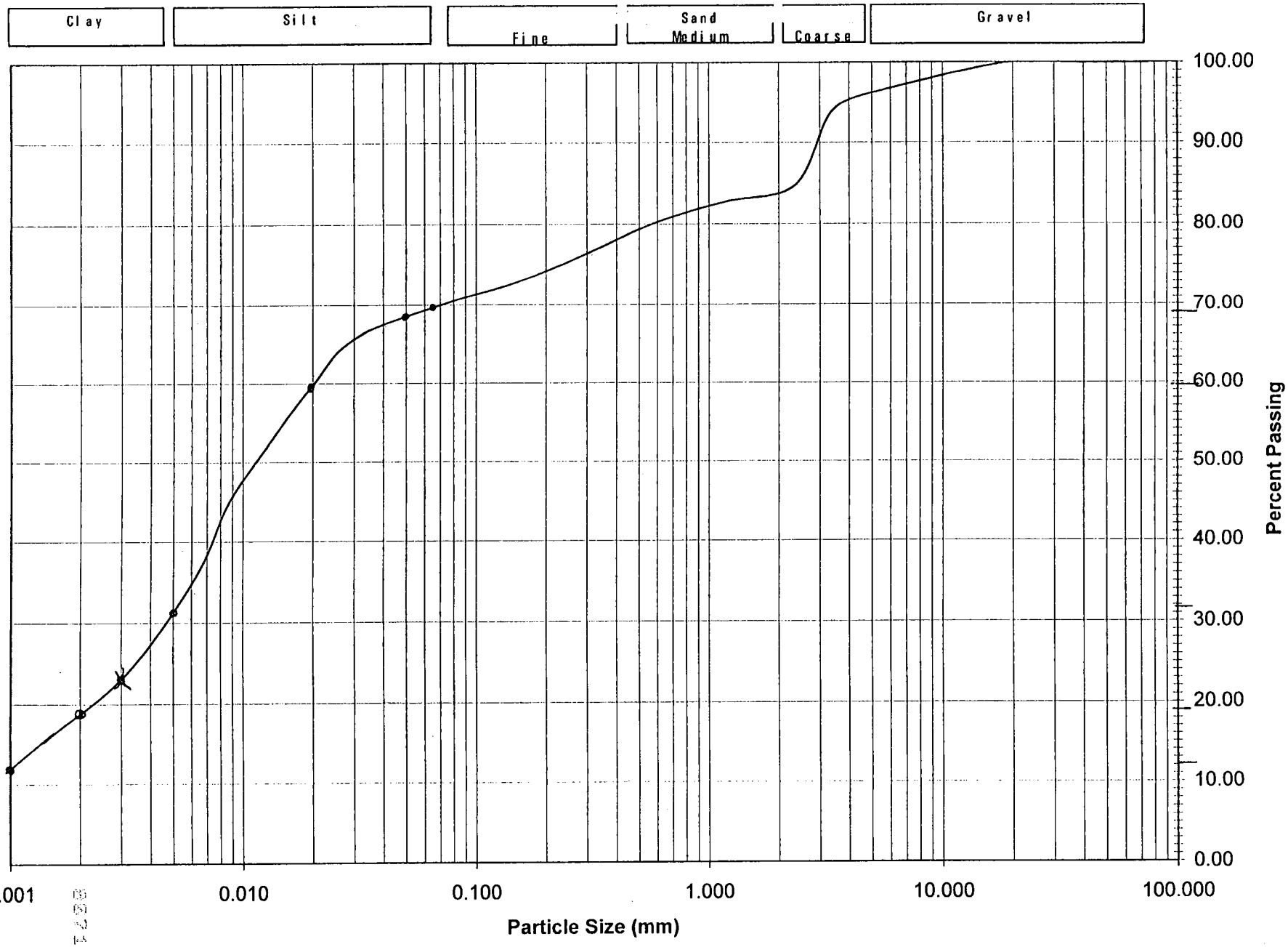
4355367

Particle Size Distribution



BIOASSAY LOCATION DATA SHEET

Date: 9-14-01 Station: A10150/12150

Nearest Town: Edison Stream: Edwards Cr.

Location: Remediated Area 1

Weather Conditions: cloudy Air Temperature ≈ 75°F

Average Width: — Average Depth: —

Bottom Materials: silt/clay/debris

Flow (cfs): Mid Tide / outgoing (0945)

Shoreline Vegetation: Forested

Instream Cover: Abundant ____ Common ____ Scarce —

Color: Blue ____ Green ____ Tea ____ Brown(Muddy) —

Shade: Densely Shaded ____ Partly Shaded ✓ Open ____

Aquatic Vegetation: Sand

Dams: —

Description of Sample Site: Most upst. remediated area

Evidence of Erosion or Pollution: none

Water Quality Measurements:

Secchi disk ~~Depth~~	Water Temp	Dissolved Oxygen	pH	Salinity	Cond
0.8'	22.0C	3.6	6.6	3.0 ppt	5940 KG

Collection Methods	Effort
Petite Ponar	15-grab composite

Remarks: ~~# field dup collected here~~

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355500

A12+50L Composite Sediment Sample
Kin-Buc Landfill

Collected:09/14/2004 10:15 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:15
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
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Stowe PA 19464

1250L

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	68.8	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	72,100.	4,870.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	15.	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	14.	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	11.	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	11.	ug/kg	1
01499	PCB-1248	12672-29-6	590.	11.	ug/kg	1
01500	PCB-1254	11097-69-1	260.	12.	ug/kg	1
01501	PCB-1260	11096-82-5	130.	11.	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/22/2004 16:56	Scott W Freisher	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 10:27	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/24/2004 18:32	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/22/2004 03:40	David V Hershey Jr	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355370

A12+50L Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 10:15 by CDD

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

A1250 SDG#: KBL07-20

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	99.1	0.50	% Passing	1
07139	3.35 mm	n.a.	95.9	0.50	% Passing	1
07140	2.36 mm	n.a.	85.9	0.50	% Passing	1
07141	1.18 mm	n.a.	84.3	0.50	% Passing	1
07142	0.6 mm	n.a.	82.8	0.50	% Passing	1
07143	0.3 mm	n.a.	81.2	0.50	% Passing	1
07144	0.15 mm	n.a.	79.5	0.50	% Passing	1
07145	0.075 mm	n.a.	78.0	0.50	% Passing	1
07146	0.064 mm	n.a.	78.0	0.50	% Passing	1
07147	0.05 mm	n.a.	75.0	0.50	% Passing	1
07148	0.02 mm	n.a.	67.0	0.50	% Passing	1
07149	0.005 mm	n.a.	35.0	0.50	% Passing	1
07150	0.002 mm	n.a.	20.0	0.50	% Passing	1
07151	0.001 mm	n.a.	12.5	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

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Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355370

A12+50L Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 10:15 by CDD

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

A1250 SDG#: KBL07-20

Account Number: 07418

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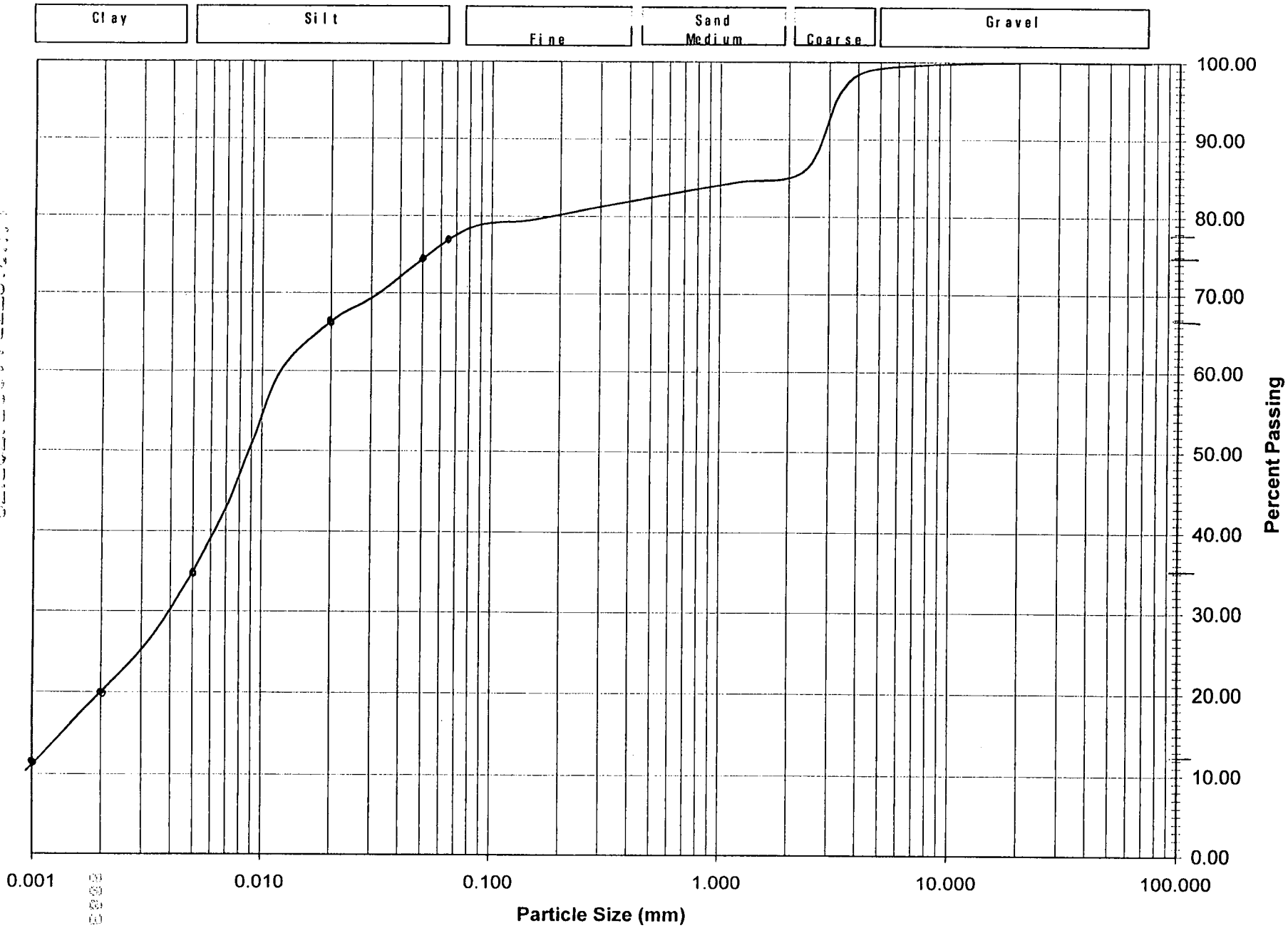
Building A - Suite 101
Stowe PA 19464

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/20/2004 13:00	Catherine L Cammauf	1

4355370

Particle Size Distribution



Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355502

A21+00L Composite Sediment Sample
Kin-Buc Landfill

Collected:09/14/2004 10:45 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:15
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

21-00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	69.4	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	63,800.	3,690.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	16.	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	14.	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	11.	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	11.	ug/kg	1
01499	PCB-1248	12672-29-6	630.	11.	ug/kg	1
01500	PCB-1254	11097-69-1	250.	12.	ug/kg	1
01501	PCB-1260	11096-82-5	120.	11.	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/22/2004 16:56	Scott W Freisher	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 11:07	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/24/2004 19:19	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/22/2004 03:40	David V Hershey Jr	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355372

A21+00L Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 10:45 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

A2100 SDG#: KBL07-22

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	97.6	0.50	% Passing	1
07139	3.35 mm	n.a.	92.6	0.50	% Passing	1
07140	2.36 mm	n.a.	81.1	0.50	% Passing	1
07141	1.18 mm	n.a.	79.1	0.50	% Passing	1
07142	0.6 mm	n.a.	77.0	0.50	% Passing	1
07143	0.3 mm	n.a.	74.8	0.50	% Passing	1
07144	0.15 mm	n.a.	72.7	0.50	% Passing	1
07145	0.075 mm	n.a.	70.6	0.50	% Passing	1
07146	0.064 mm	n.a.	68.5	0.50	% Passing	1
07147	0.05 mm	n.a.	63.5	0.50	% Passing	1
07148	0.02 mm	n.a.	48.0	0.50	% Passing	1
07149	0.005 mm	n.a.	25.0	0.50	% Passing	1
07150	0.002 mm	n.a.	14.0	0.50	% Passing	1
07151	0.001 mm	n.a.	9.5	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

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Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355372

A21+00L Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 10:45 by CDD

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

A2100 SDG#: KBL07-22

Account Number: 07418

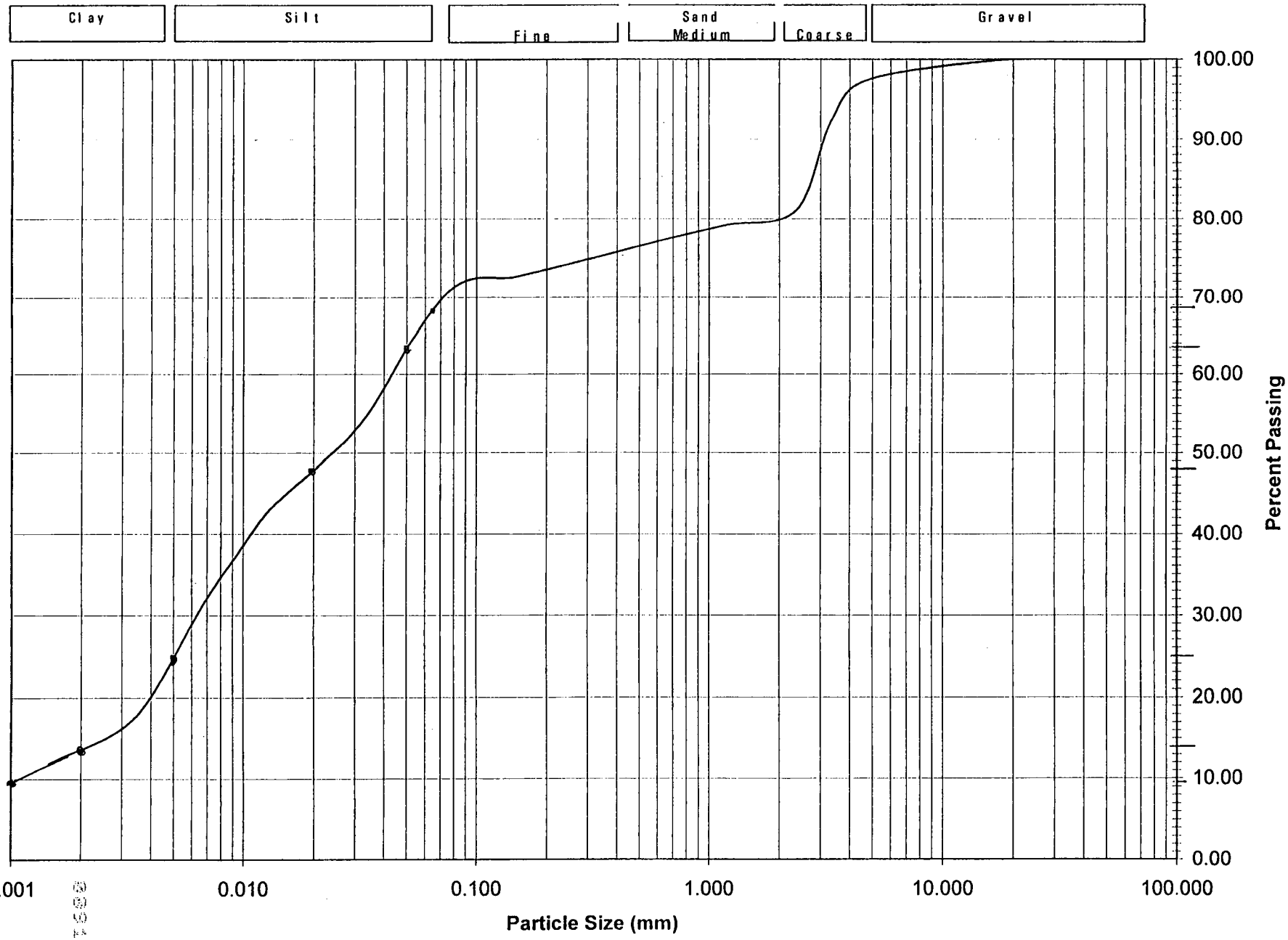
Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/21/2004 09:00	Catherine L Cammauf	1

4355372

Particle Size Distribution



Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355501

A21+00/22+00 Composite Sediment Sample
Kin-Buc Landfill

Collected:09/14/2004 10:35 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:15
Discard: 11/01/2004

Normandeau Associates, Inc.
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21-22

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	66.0	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	61,500.	5,660.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	28.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.	25.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.	19.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.	19.	ug/kg	2
01499	PCB-1248	12672-29-6	690.	19.	ug/kg	2
01500	PCB-1254	11097-69-1	330.	22.	ug/kg	2
01501	PCB-1260	11096-82-5	110.	19.	ug/kg	2

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/22/2004 16:56	Scott W Freisher	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 10:35	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/30/2004 01:35	Douglas D Seitz	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/22/2004 03:40	David V Hershey Jr	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355371

A21+00/22+00 Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 10:35 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
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Stowe PA 19464

A2122 SDG#: KBL07-21

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	99.8	0.50	% Passing	1
07138	4.75 mm	n.a.	99.0	0.50	% Passing	1
07139	3.35 mm	n.a.	95.9	0.50	% Passing	1
07140	2.36 mm	n.a.	87.1	0.50	% Passing	1
07141	1.18 mm	n.a.	85.0	0.50	% Passing	1
07142	0.6 mm	n.a.	81.2	0.50	% Passing	1
07143	0.3 mm	n.a.	75.0	0.50	% Passing	1
07144	0.15 mm	n.a.	70.1	0.50	% Passing	1
07145	0.075 mm	n.a.	67.4	0.50	% Passing	1
07146	0.064 mm	n.a.	66.5	0.50	% Passing	1
07147	0.05 mm	n.a.	64.0	0.50	% Passing	1
07148	0.02 mm	n.a.	53.0	0.50	% Passing	1
07149	0.005 mm	n.a.	28.0	0.50	% Passing	1
07150	0.002 mm	n.a.	19.0	0.50	% Passing	1
07151	0.001 mm	n.a.	13.0	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

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Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355371

A21+00/22+00 Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 10:35 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
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Stowe PA 19464

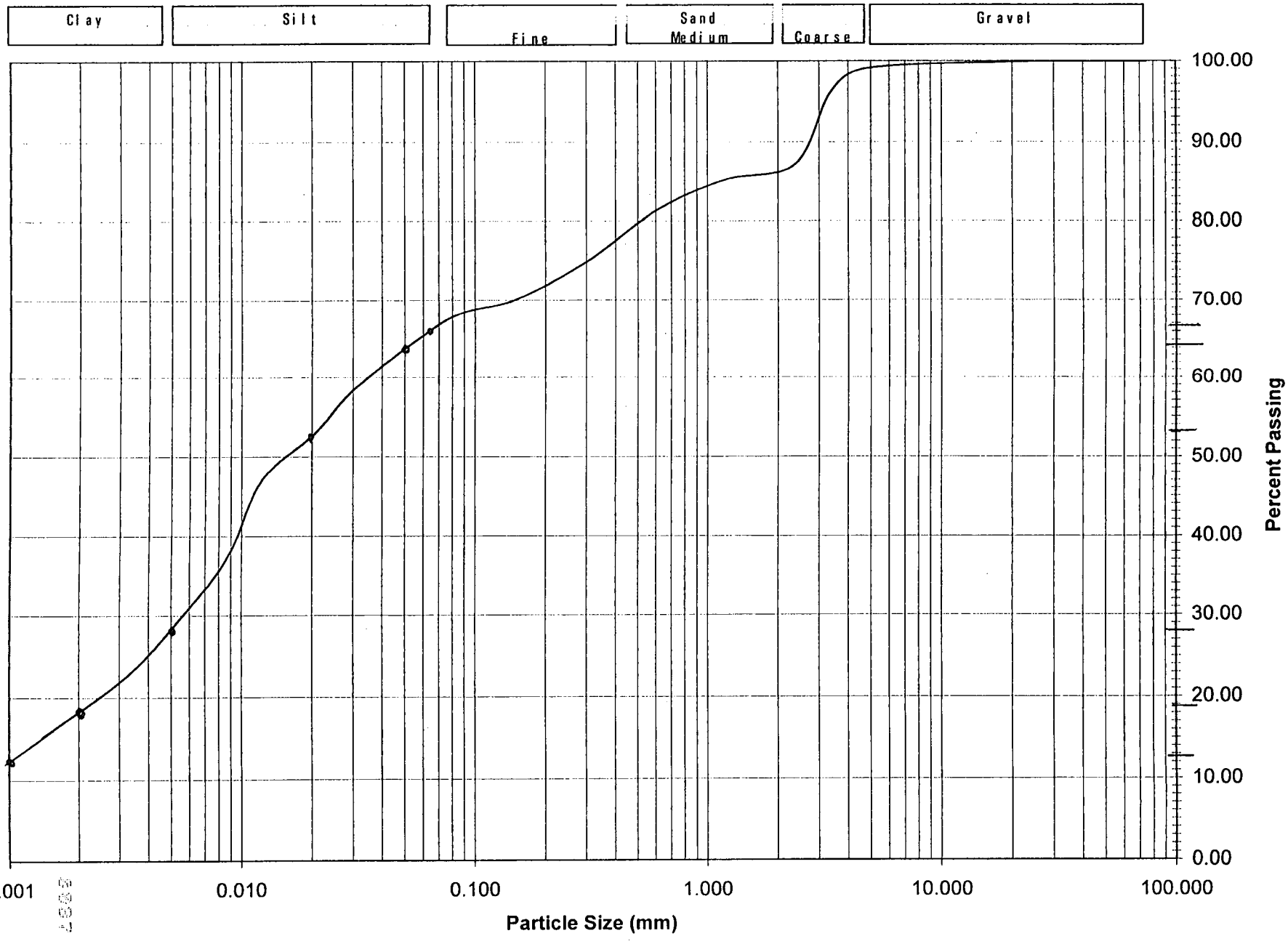
A2122 SDG#: KBL07-21

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/21/2004 09:00	Catherine L Cammauf	1

4355371

Particle Size Distribution



BIOASSAY LOCATION DATA SHEET

Date: 9/14/00 Station: A 21+00 / 22+00

Nearest Town: Edison Stream: Edwards Creek

Location: Remediated Zone 2

Weather Conditions: cloudy Air Temperature ± 75°F

Average Width: Average Depth:

Bottom Materials: silt/clay / detritus

Flow (cfs): Mid Tide / outgoing (10:35 am)

Shoreline Vegetation: Fragmite / Spartina / herbaceous plants

Instream Cover: Abundant Common Scarce ✓

Color: Blue Green Tea Brown(Muddy) ✓

Shade: Densely Shaded Partly Shaded Open ✓

Aquatic Vegetation: some + SAV (water weed)

Dams: –

Description of Sample Site: upst. fr. Operable Unit 2

Evidence of Erosion or Pollution: none

Water Quality Measurements:

Secchi disk ~~Depth~~	Water Temp	Dissolved Oxygen	pH	Salinity	Cond
0.7	22.5 C	3.8	6.6	3.0	5990
					KT

Collection Methods	Effort
Petite ponar	12 grab composite

Remarks:

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355503

A22+00R Composite Sediment Sample
Kin-Buc Landfill

Collected:09/14/2004 10:55 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:15
Discard: 11/01/2004

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400 Old Reading Pike
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22-00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	64.7	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	60,600.	4,590.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	14.	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	12.	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	9.3	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	9.3	ug/kg	1
01499	PCB-1248	12672-29-6	550.	9.3	ug/kg	1
01500	PCB-1254	11097-69-1	240.	10.	ug/kg	1
01501	PCB-1260	11096-82-5	110.	9.3	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/22/2004 16:56	Scott W Freisher	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 11:15	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/24/2004 19:42	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/22/2004 03:40	David V Hershey Jr	1

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Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355373

A22+00R Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 10:55 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
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Stowe PA 19464

A220R SDG#: KBL07-23

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	99.0	0.50	% Passing	1
07139	3.35 mm	n.a.	93.0	0.50	% Passing	1
07140	2.36 mm	n.a.	84.8	0.50	% Passing	1
07141	1.18 mm	n.a.	83.4	0.50	% Passing	1
07142	0.6 mm	n.a.	81.8	0.50	% Passing	1
07143	0.3 mm	n.a.	79.6	0.50	% Passing	1
07144	0.15 mm	n.a.	76.9	0.50	% Passing	1
07145	0.075 mm	n.a.	74.7	0.50	% Passing	1
07146	0.064 mm	n.a.	74.0	0.50	% Passing	1
07147	0.05 mm	n.a.	71.0	0.50	% Passing	1
07148	0.02 mm	n.a.	59.0	0.50	% Passing	1
07149	0.005 mm	n.a.	35.0	0.50	% Passing	1
07150	0.002 mm	n.a.	25.5	0.50	% Passing	1
07151	0.001 mm	n.a.	18.0	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355373

A22+00R Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 10:55 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

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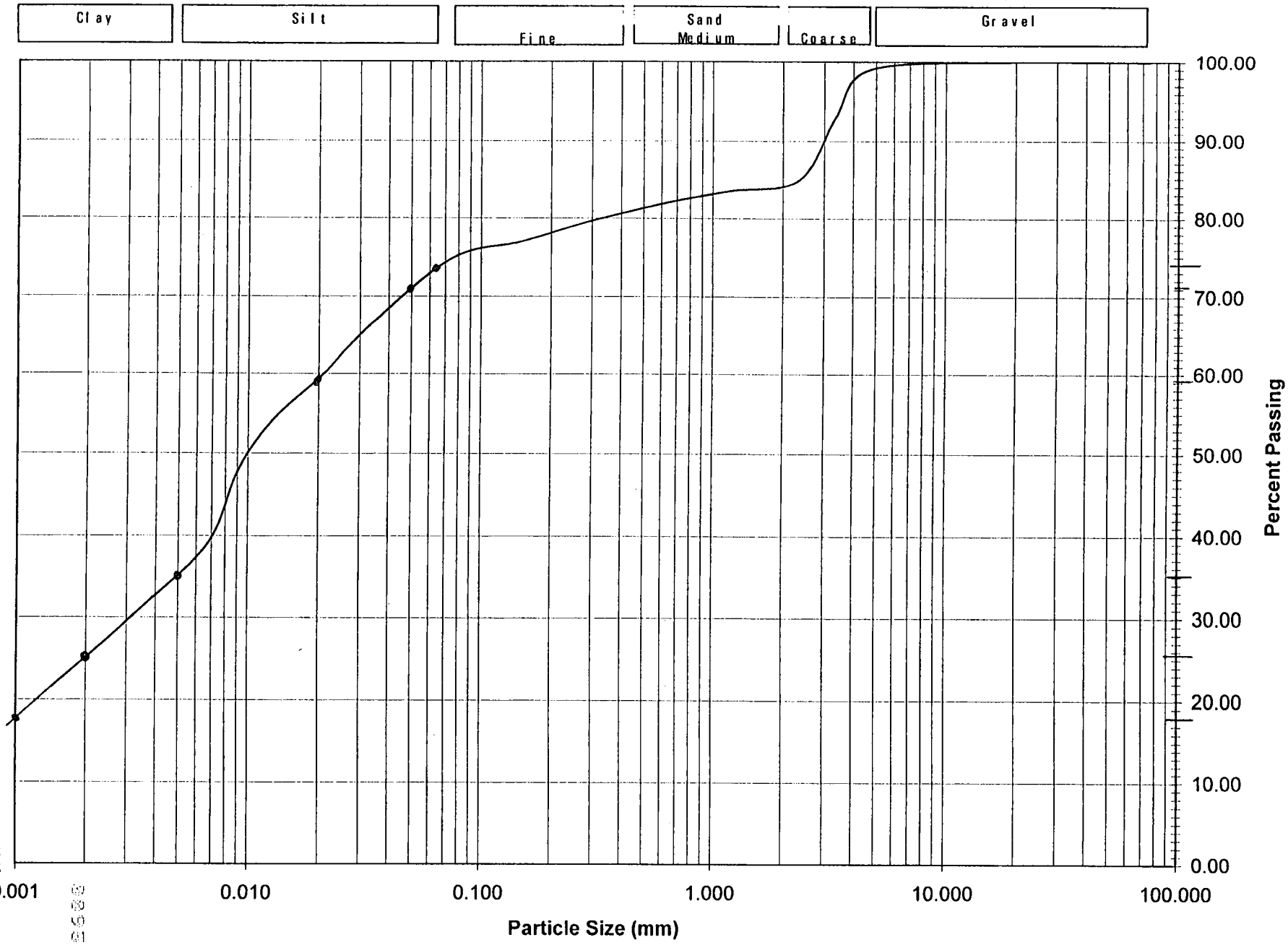
A220R SDG#: KBL07-23

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/21/2004 09:00	Catherine L Cammauf	1

4355373

Particle Size Distribution



Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355504

A22+50L Composite Sediment Sample
Kin-Buc Landfill

Collected:09/14/2004 11:05 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:15
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

22-50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	63.6	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	72,100.	3,610.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	13.	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	12.	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	9.1	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	9.1	ug/kg	1
01499	PCB-1248	12672-29-6	220.	9.1	ug/kg	1
01500	PCB-1254	11097-69-1	160.	10.	ug/kg	1
01501	PCB-1260	11096-82-5	77.	9.1	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/22/2004 16:56	Scott W Freisher	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 11:25	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/24/2004 20:05	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/22/2004 03:40	David V Hershey Jr	1

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Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355374

A22+50L Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 11:05 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
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Stowe PA 19464

A2250 SDG#: KBL07-24

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	99.6	0.50	% Passing	1
07139	3.35 mm	n.a.	94.7	0.50	% Passing	1
07140	2.36 mm	n.a.	82.3	0.50	% Passing	1
07141	1.18 mm	n.a.	80.7	0.50	% Passing	1
07142	0.6 mm	n.a.	78.5	0.50	% Passing	1
07143	0.3 mm	n.a.	76.2	0.50	% Passing	1
07144	0.15 mm	n.a.	73.8	0.50	% Passing	1
07145	0.075 mm	n.a.	71.7	0.50	% Passing	1
07146	0.064 mm	n.a.	72.0	0.50	% Passing	1
07147	0.05 mm	n.a.	69.0	0.50	% Passing	1
07148	0.02 mm	n.a.	59.5	0.50	% Passing	1
07149	0.005 mm	n.a.	32.0	0.50	% Passing	1
07150	0.002 mm	n.a.	16.0	0.50	% Passing	1
07151	0.001 mm	n.a.	8.0	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

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Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355374

A22+50L Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 11:05 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

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400 Old Reading Pike
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Stowe PA 19464

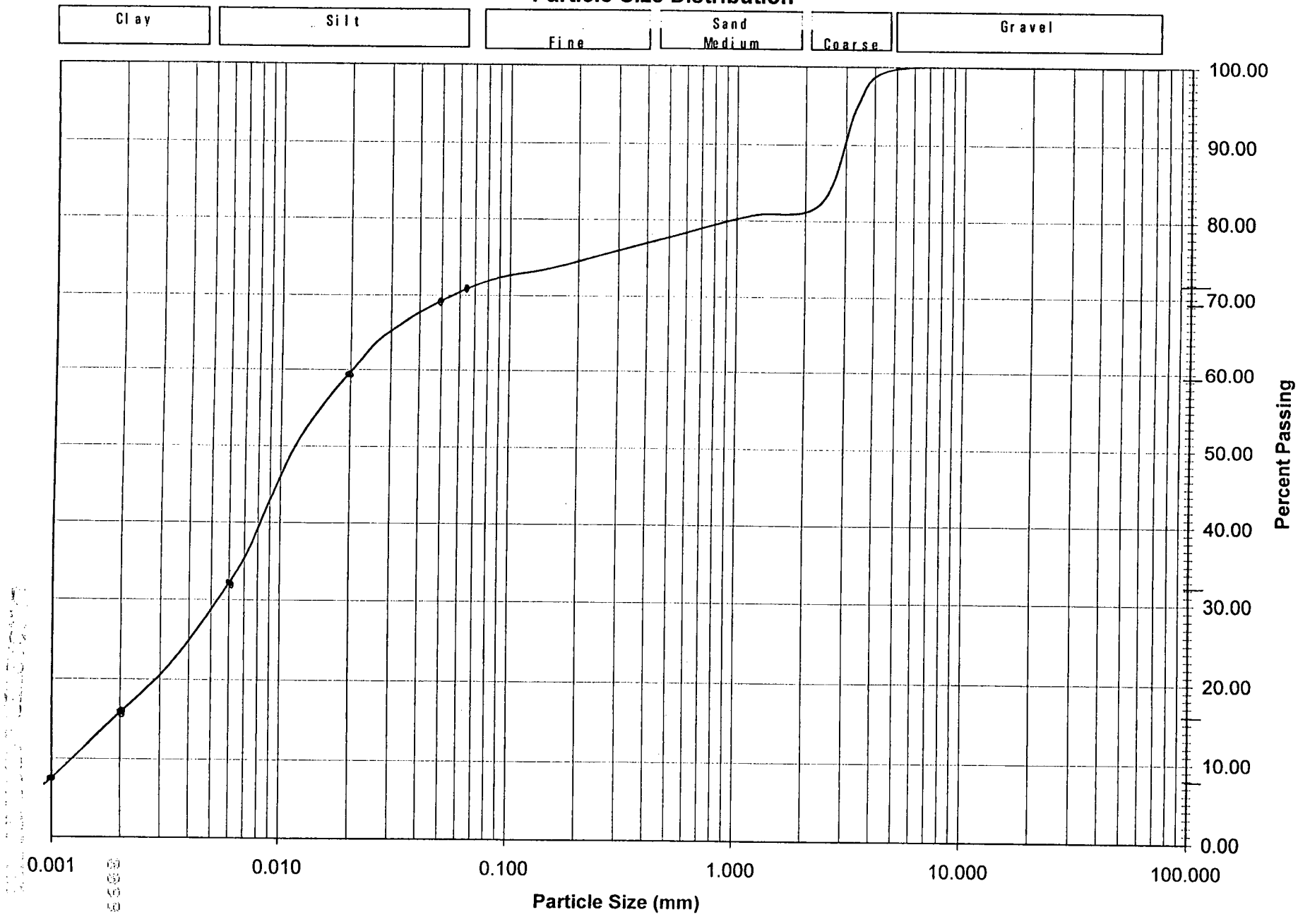
A2250 SDG#: KBL07-24

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/21/2004 09:00	Catherine L Cammauf	1

4355374

Particle Size Distribution



Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355507

UN-ABEN-02R Composite Sediment Sample
Kin-Buc Landfill

Collected:09/14/2004 12:05 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:16
Discard: 11/01/2004

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ABEN2

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	59.0	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	54,000.	3,040.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	59.	ug/kg	5
01496	PCB-1221	11104-28-2	N.D.	52.	ug/kg	5
01497	PCB-1232	11141-16-5	N.D.	40.	ug/kg	5
01498	PCB-1242	53469-21-9	N.D.	40.	ug/kg	5
01499	PCB-1248	12672-29-6	2,000.	40.	ug/kg	5
01500	PCB-1254	11097-69-1	1,400.	45.	ug/kg	5
01501	PCB-1260	11096-82-5	490.	40.	ug/kg	5
	The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.					

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/22/2004 16:56	Scott W Freisher	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 11:59	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/24/2004 21:15	Douglas D Seitz	5
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/22/2004 03:40	David V Hershey Jr	1

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PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355377

UN-ABEN-02R Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 12:05 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

ABENR SDG#: KBL07-27

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	99.8	0.50	% Passing	1
07138	4.75 mm	n.a.	95.9	0.50	% Passing	1
07139	3.35 mm	n.a.	89.7	0.50	% Passing	1
07140	2.36 mm	n.a.	77.8	0.50	% Passing	1
07141	1.18 mm	n.a.	77.2	0.50	% Passing	1
07142	0.6 mm	n.a.	76.4	0.50	% Passing	1
07143	0.3 mm	n.a.	75.4	0.50	% Passing	1
07144	0.15 mm	n.a.	73.8	0.50	% Passing	1
07145	0.075 mm	n.a.	72.2	0.50	% Passing	1
07146	0.064 mm	n.a.	71.5	0.50	% Passing	1
07147	0.05 mm	n.a.	68.0	0.50	% Passing	1
07148	0.02 mm	n.a.	59.0	0.50	% Passing	1
07149	0.005 mm	n.a.	30.0	0.50	% Passing	1
07150	0.002 mm	n.a.	17.0	0.50	% Passing	1
07151	0.001 mm	n.a.	11.0	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355377

UN-ABEN-02R Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 12:05 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
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Stowe PA 19464

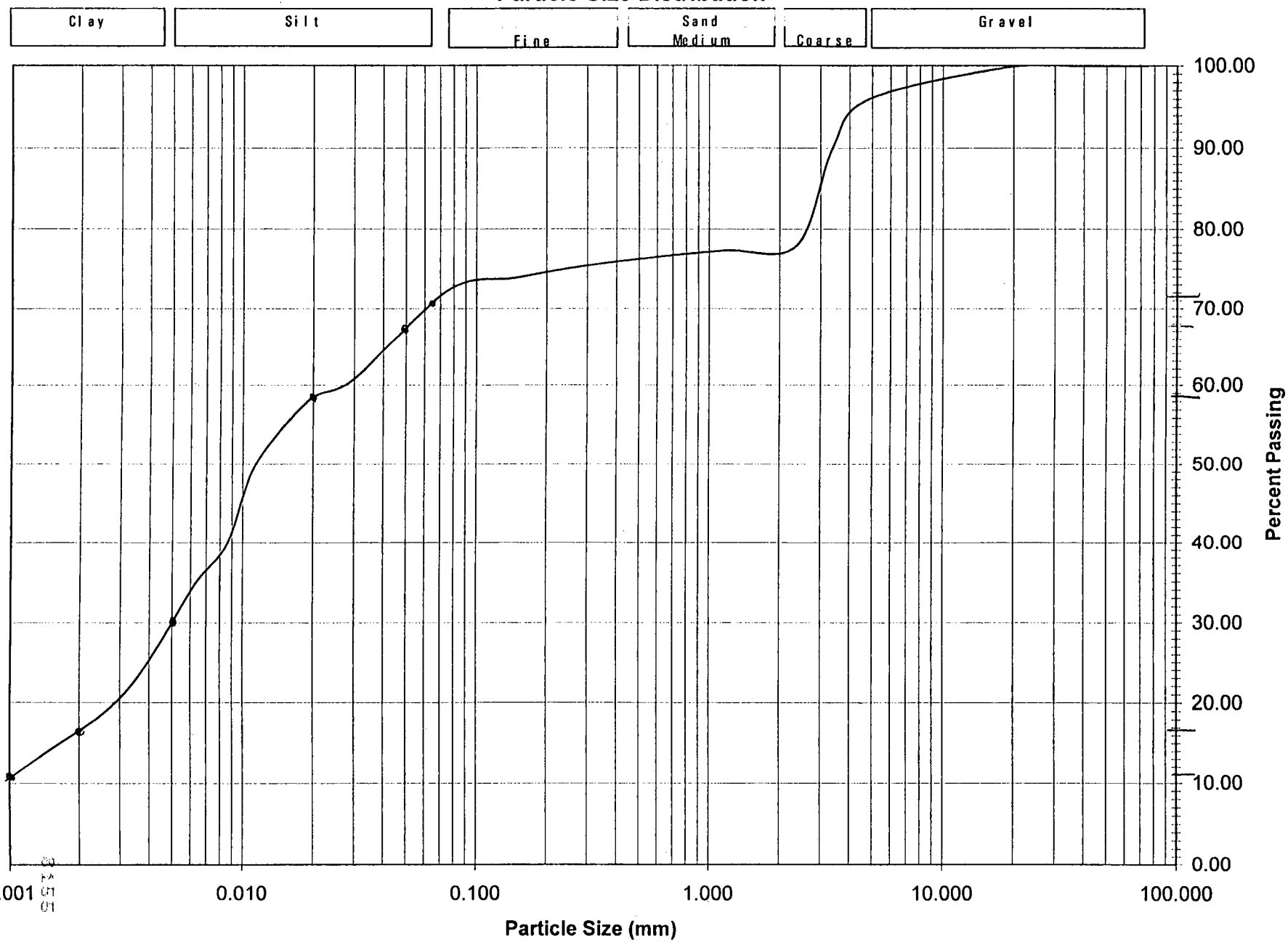
ABENR SDG#: KBL07-27

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/21/2004 09:00	Catherine L Cammauf	1

4355377

Particle Size Distribution



Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355508

UN-ABEN-02AL Composite Sediment Sample
Kin-Buc Landfill

Collected:09/14/2004 12:15 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:16
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

ABENA

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	64.3		0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						
02079	TOC Solids/Sludges Combustion	n.a.	63,900.		5,080.	mg/kg	1
01216	PCBs in Solids						
01495	PCB-1016	12674-11-2	N.D.		130.	ug/kg	10
01496	PCB-1221	11104-28-2	N.D.		120.	ug/kg	10
01497	PCB-1232	11141-16-5	N.D.		92.	ug/kg	10
01498	PCB-1242	53469-21-9	N.D.		92.	ug/kg	10
01499	PCB-1248	12672-29-6	4,600.		92.	ug/kg	10
01500	PCB-1254	11097-69-1	1,700.		100.	ug/kg	10
01501	PCB-1260	11096-82-5	430.	J	92.	ug/kg	10
	Accurate surrogate recoveries could not be determined due to the dilution required for analysis of the sample.						

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/22/2004 16:56	Scott W Freisher	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 12:08	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/30/2004 02:21	Douglas D Seitz	10
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/22/2004 03:40	David V Hershey Jr	1

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355378

UN-ABEN-02AL Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 12:15 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

SBENL SDG#: KBL07-28

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	98.5	0.50	% Passing	1
07139	3.35 mm	n.a.	95.3	0.50	% Passing	1
07140	2.36 mm	n.a.	89.8	0.50	% Passing	1
07141	1.18 mm	n.a.	88.4	0.50	% Passing	1
07142	0.6 mm	n.a.	86.7	0.50	% Passing	1
07143	0.3 mm	n.a.	82.4	0.50	% Passing	1
07144	0.15 mm	n.a.	71.1	0.50	% Passing	1
07145	0.075 mm	n.a.	66.6	0.50	% Passing	1
07146	0.064 mm	n.a.	66.0	0.50	% Passing	1
07147	0.05 mm	n.a.	64.0	0.50	% Passing	1
07148	0.02 mm	n.a.	52.0	0.50	% Passing	1
07149	0.005 mm	n.a.	22.5	0.50	% Passing	1
07150	0.002 mm	n.a.	14.5	0.50	% Passing	1
07151	0.001 mm	n.a.	9.0	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355378

UN-ABEN-02AL Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 12:15 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

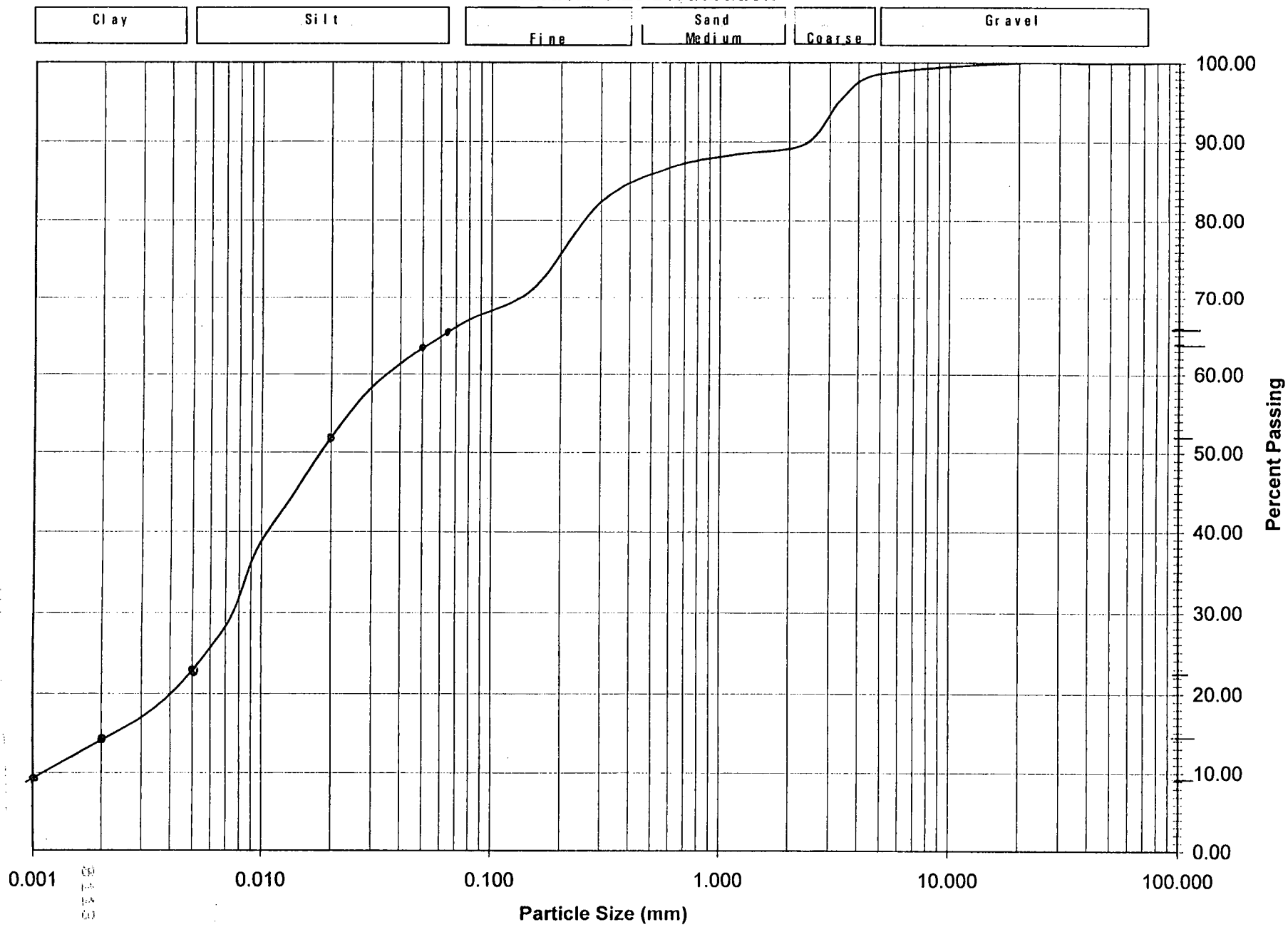
SBENL SDG#: KBL07-28

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/21/2004 09:00	Catherine L Cammauf	1

4355378

Particle Size Distribution



Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355506

UN-ABIO-02R Composite Sediment Sample
Kin-Buc Landfill

Collected:09/14/2004 11:50 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:16
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

UN02R

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	57.3	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	51,100.	4,020.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	22.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.	20.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.	15.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.	15.	ug/kg	2
01499	PCB-1248	12672-29-6	640.	15.	ug/kg	2
01500	PCB-1254	11097-69-1	380.	17.	ug/kg	2
01501	PCB-1260	11096-82-5	170.	15.	ug/kg	2

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/22/2004 16:56	Scott W Freisher	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 11:43	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/24/2004 20:52	Douglas D Seitz	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/22/2004 03:40	David V Hershey Jr	1

MEMBER ACIL
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Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355376

UN-ABIO-02R Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 11:50 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

AB02R SDG#: KBL07-26

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	98.8	0.50	% Passing	1
07139	3.35 mm	n.a.	95.2	0.50	% Passing	1
07140	2.36 mm	n.a.	82.5	0.50	% Passing	1
07141	1.18 mm	n.a.	81.9	0.50	% Passing	1
07142	0.6 mm	n.a.	80.8	0.50	% Passing	1
07143	0.3 mm	n.a.	79.3	0.50	% Passing	1
07144	0.15 mm	n.a.	77.7	0.50	% Passing	1
07145	0.075 mm	n.a.	76.2	0.50	% Passing	1
07146	0.064 mm	n.a.	74.0	0.50	% Passing	1
07147	0.05 mm	n.a.	69.5	0.50	% Passing	1
07148	0.02 mm	n.a.	57.5	0.50	% Passing	1
07149	0.005 mm	n.a.	31.5	0.50	% Passing	1
07150	0.002 mm	n.a.	18.0	0.50	% Passing	1
07151	0.001 mm	n.a.	11.5	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355376

UN-ABIO-02R Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 11:50 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

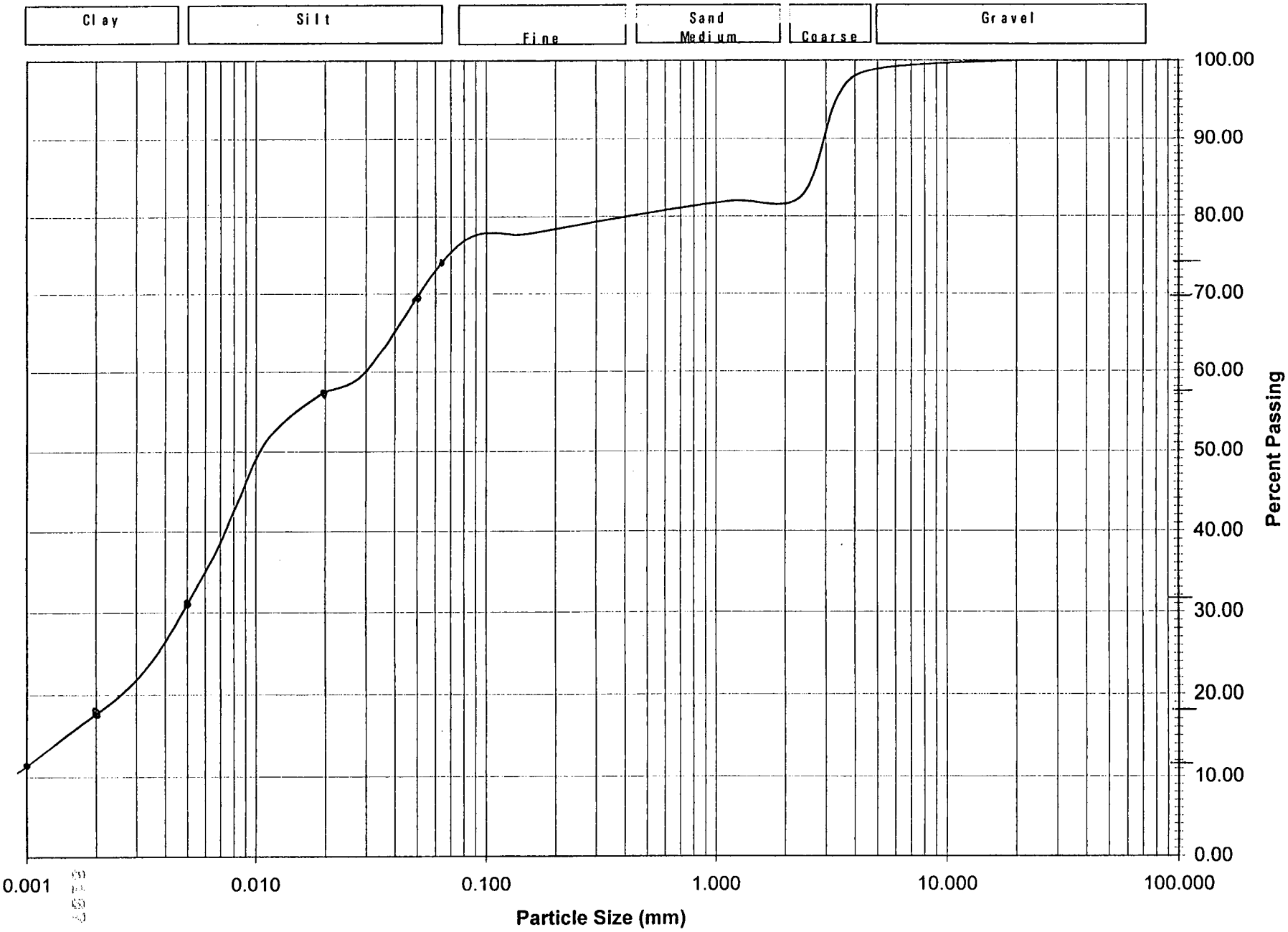
AB02R SDG#: KBL07-26

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/21/2004 09:00	Catherine L Cammauf	1

4355376

Particle Size Distribution



Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355505

UN-ABIO-02/02A Composite Sediment Sample
Kin-Buc Landfill

Collected:09/14/2004 11:35 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:15
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

UN02A

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	44.2		0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						
02079	TOC Solids/Sludges Combustion	n.a.	24,600.		1,940.	mg/kg	1
01216	PCBs in Solids						
01495	PCB-1016	12674-11-2	N.D.		170.	ug/kg	20
01496	PCB-1221	11104-28-2	N.D.		150.	ug/kg	20
01497	PCB-1232	11141-16-5	N.D.		120.	ug/kg	20
01498	PCB-1242	53469-21-9	2,400.		120.	ug/kg	20
01499	PCB-1248	12672-29-6	N.D.		120.	ug/kg	20
01500	PCB-1254	11097-69-1	1,100.		130.	ug/kg	20
01501	PCB-1260	11096-82-5	280.	J	120.	ug/kg	20

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/22/2004 16:56	Scott W Freisher	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 11:35	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/30/2004 01:58	Douglas D Seitz	20
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/22/2004 03:40	David V Hershey Jr	1

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355375

UN-ABIO-02/02A Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 11:35 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

AB02A SDG#: KBL07-25

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	97.4	0.50	% Passing	1
07139	3.35 mm	n.a.	95.4	0.50	% Passing	1
07140	2.36 mm	n.a.	92.1	0.50	% Passing	1
07141	1.18 mm	n.a.	85.7	0.50	% Passing	1
07142	0.6 mm	n.a.	76.3	0.50	% Passing	1
07143	0.3 mm	n.a.	55.4	0.50	% Passing	1
07144	0.15 mm	n.a.	37.7	0.50	% Passing	1
07145	0.075 mm	n.a.	34.7	0.50	% Passing	1
07146	0.064 mm	n.a.	35.0	0.50	% Passing	1
07147	0.05 mm	n.a.	34.0	0.50	% Passing	1
07148	0.02 mm	n.a.	27.0	0.50	% Passing	1
07149	0.005 mm	n.a.	14.5	0.50	% Passing	1
07150	0.002 mm	n.a.	8.0	0.50	% Passing	1
07151	0.001 mm	n.a.	5.0	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

Lancaster Laboratories, Inc.
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PO Box 12425
Lancaster, PA 17605-2425
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Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355375

UN-ABIO-02/02A Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 11:35 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
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Stowe PA 19464

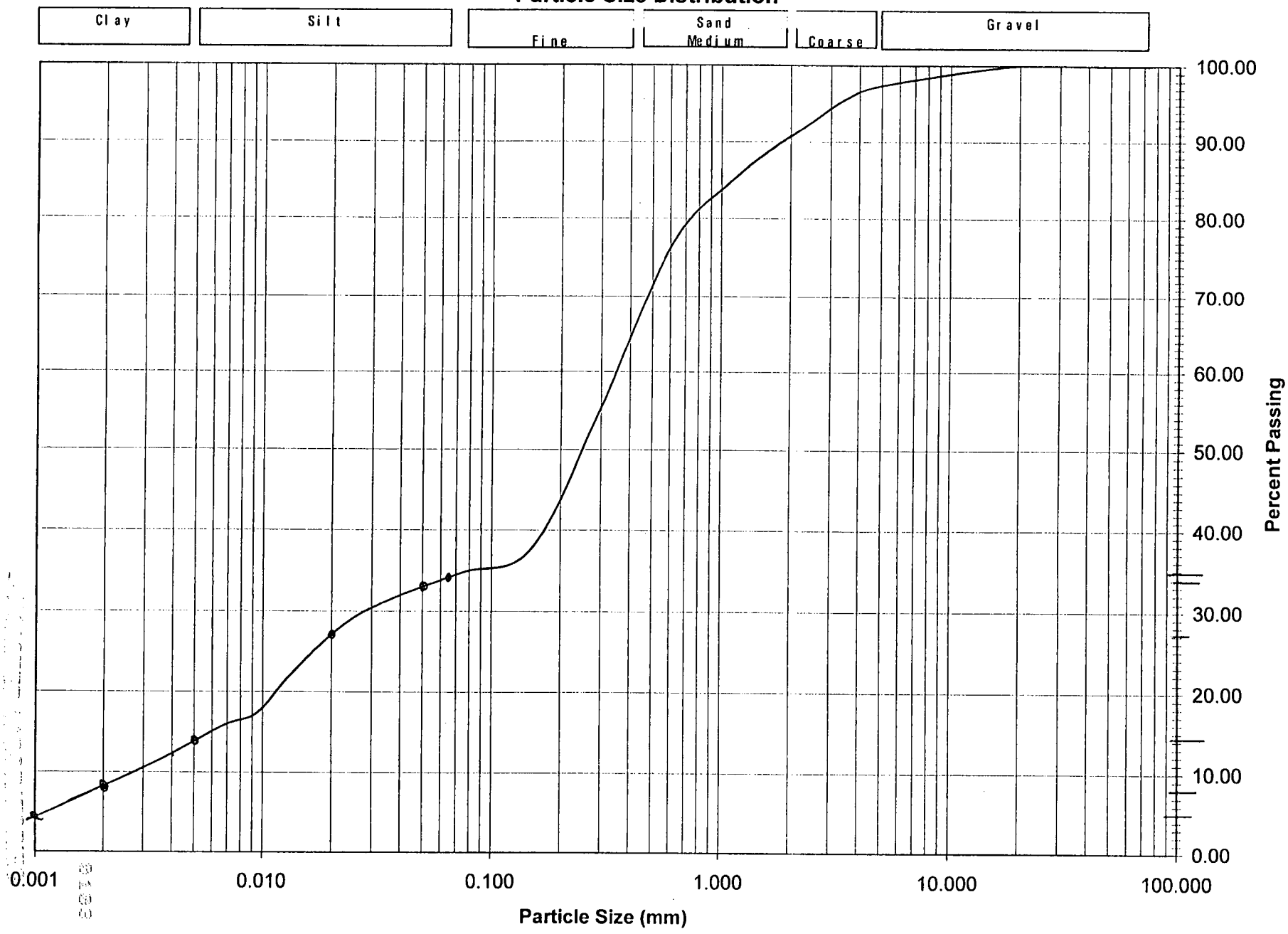
AB02A SDG#: KBL07-25

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/21/2004 09:00	Catherine L Cammauf	1

4355375-BKG

Particle Size Distribution



BIOASSAY LOCATION DATA SHEET

Date: 9/14/04 Station: UN-ABIO-/02/02A

Nearest Town: Edison Stream: Edmonds Cr.

Location: Unremediated Zone - 2

Weather Conditions: cloudy Air Temperature ± 75°F

Average Width: Average Depth:

Bottom Materials: sand / silt / clay / detritus

Flow (cfs): Mid Tide / outgoing (11:35 AM)

Shoreline Vegetation: Fragmite

Instream Cover: Abundant Common Scarce ✓

Color: Blue Green Tea Brown(Muddy) ✓

Shade: Densely Shaded Partly Shaded ✓ Open

Aquatic Vegetation: Fragmite

Dams:

Description of Sample Site: Adjacent to OU2

Evidence of Erosion or Pollution: oil flecks on water surface / oil in substrate

Water Quality Measurements:

Secchi disk ~~Depth~~	Water Temp	Dissolved Oxygen	pH	Salinity	Cond
0.7'	22.0	3.7	6.7	3.5	6,050

Collection Methods	Effort
Petite Ponar	10 grab grab composite at each zone

Remarks:

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355511

A31+25L Composite Sediment Sample
Kin-Buc Landfill

Collected:09/14/2004 13:40 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:16
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

3125L

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	62.6	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	144,000.	3,820.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	13.	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	11.	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	8.8	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	8.8	ug/kg	1
01499	PCB-1248	12672-29-6	560.	8.8	ug/kg	1
01500	PCB-1254	11097-69-1	370.	9.9	ug/kg	1
01501	PCB-1260	11096-82-5	130.	8.8	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/22/2004 16:56	Scott W Freisher	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 13:05	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/30/2004 03:31	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/22/2004 03:40	David V Hershey Jr	1

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355381

A31+25L Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 13:40 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

A3125 SDG#: KBL07-31

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	95.3	0.50	% Passing	1
07139	3.35 mm	n.a.	92.9	0.50	% Passing	1
07140	2.36 mm	n.a.	79.5	0.50	% Passing	1
07141	1.18 mm	n.a.	78.1	0.50	% Passing	1
07142	0.6 mm	n.a.	76.1	0.50	% Passing	1
07143	0.3 mm	n.a.	73.7	0.50	% Passing	1
07144	0.15 mm	n.a.	71.3	0.50	% Passing	1
07145	0.075 mm	n.a.	69.3	0.50	% Passing	1
07146	0.064 mm	n.a.	69.0	0.50	% Passing	1
07147	0.05 mm	n.a.	66.0	0.50	% Passing	1
07148	0.02 mm	n.a.	54.0	0.50	% Passing	1
07149	0.005 mm	n.a.	25.0	0.50	% Passing	1
07150	0.002 mm	n.a.	15.0	0.50	% Passing	1
07151	0.001 mm	n.a.	8.0	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

MEMBER
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Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355381

A31+25L Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 13:40 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
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Stowe PA 19464

A3125 SDG#: KBL07-31

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/21/2004 09:00	Catherine L Cammauf	1

4355381

Particle Size Distribution

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355509

A32+25/31+25 Composite Sediment Sample
Kin-Buc Landfill

Collected:09/14/2004 12:50 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:16
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

31-25

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	55.4	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	46,700.	3,750.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	22.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.	19.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.	15.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.	15.	ug/kg	2
01499	PCB-1248	12672-29-6	980.	15.	ug/kg	2
01500	PCB-1254	11097-69-1	480.	17.	ug/kg	2
01501	PCB-1260	11096-82-5	160.	15.	ug/kg	2
	The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.					

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/22/2004 16:56	Scott W Freisher	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 12:15	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/30/2004 02:45	Douglas D Seitz	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/22/2004 03:40	David V Hershey Jr	1

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355379

A32+25/31+25 Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 12:50 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

A3225 SDG#: KBL07-29

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	99.8	0.50	% Passing	1
07138	4.75 mm	n.a.	96.2	0.50	% Passing	1
07139	3.35 mm	n.a.	91.8	0.50	% Passing	1
07140	2.36 mm	n.a.	86.4	0.50	% Passing	1
07141	1.18 mm	n.a.	79.7	0.50	% Passing	1
07142	0.6 mm	n.a.	70.4	0.50	% Passing	1
07143	0.3 mm	n.a.	56.6	0.50	% Passing	1
07144	0.15 mm	n.a.	46.4	0.50	% Passing	1
07145	0.075 mm	n.a.	42.9	0.50	% Passing	1
07146	0.064 mm	n.a.	42.5	0.50	% Passing	1
07147	0.05 mm	n.a.	40.0	0.50	% Passing	1
07148	0.02 mm	n.a.	26.0	0.50	% Passing	1
07149	0.005 mm	n.a.	12.5	0.50	% Passing	1
07150	0.002 mm	n.a.	8.0	0.50	% Passing	1
07151	0.001 mm	n.a.	5.0	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

MEMBER ACIL
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2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355379

A32+25/31+25 Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 12:50 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

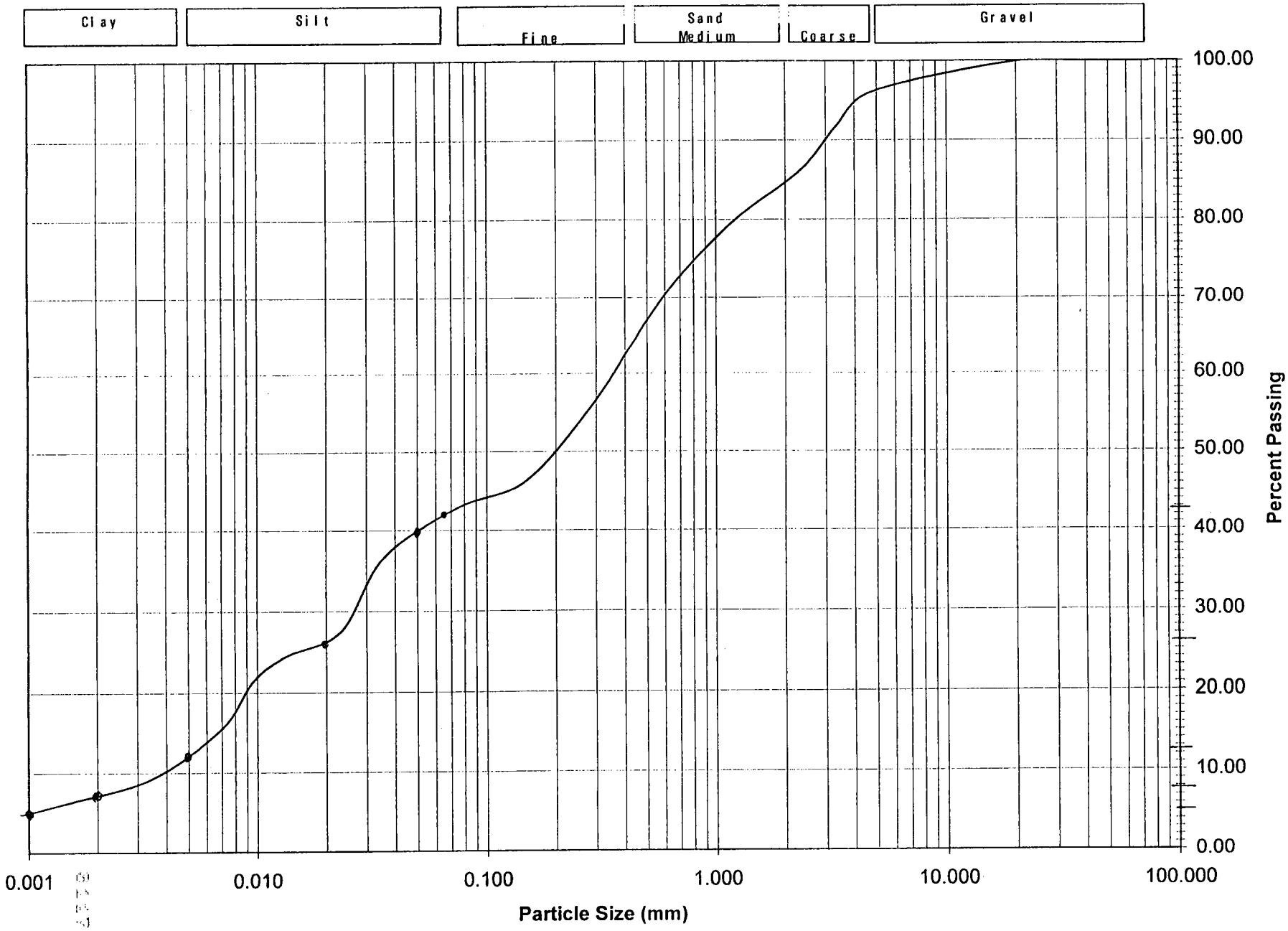
A3225 SDG#: KBL07-29

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/21/2004 09:00	Catherine L Cammauf	1

4355379

Particle Size Distribution



BIOASSAY LOCATION DATA SHEET

Date: 9/14/04 Station: A 31+25 / 32+25

Nearest Town: Edison Stream: Edmonds Cr.

Location: Remediated Zone 3

Weather Conditions: cloudy Air Temperature ± 75°F

Average Width: — Average Depth: —

Bottom Materials: silt / clg / detritus (some sand)

Flow (cfs): Mid tide / Outgoing (12:50 PM)

Shoreline Vegetation:

Instream Cover: Abundant ____ Common ____ Scarce ✓

Color: Blue ____ Green ____ Tea ____ Brown(Muddy) ✓

Shade: Densely Shaded ____ Partly Shaded ____ Open ✓

Aquatic Vegetation: Fragmite / Spartina

Dams: —

Description of Sample Site: near old "Pool C" and "oil seeps" area

Evidence of Erosion or Pollution: none

Water Quality Measurements:

Secchi disk ~~Depth~~	Water Temp	Dissolved Oxygen	pH	Salinity	Cond
0.6'	23.0	5.4	6.8	3.5	6220
					(Ley)

Collection Methods	Effort
Petite Ponar	10 grabs compost from
	each transect

Remarks:

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355512

A33+00R Composite Sediment Sample
Kin-Buc Landfill

Collected:09/14/2004 13:55 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:16
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

3300R

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	69.2	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	70,200.	5,690.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	31.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.	28.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.	21.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.	21.	ug/kg	2
01499	PCB-1248	12672-29-6	740.	21.	ug/kg	2
01500	PCB-1254	11097-69-1	450.	24.	ug/kg	2
01501	PCB-1260	11096-82-5	150.	21.	ug/kg	2

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/22/2004 16:56	Scott W Freisher	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 13:13	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/30/2004 03:54	Douglas D Seitz	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/22/2004 03:40	David V Hershey Jr	1

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355382

A33+00R Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 13:55 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

A3300 SDG#: KBL07-32

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	99.8	0.50	% Passing	1
07138	4.75 mm	n.a.	92.9	0.50	% Passing	1
07139	3.35 mm	n.a.	88.1	0.50	% Passing	1
07140	2.36 mm	n.a.	79.5	0.50	% Passing	1
07141	1.18 mm	n.a.	78.8	0.50	% Passing	1
07142	0.6 mm	n.a.	77.5	0.50	% Passing	1
07143	0.3 mm	n.a.	75.9	0.50	% Passing	1
07144	0.15 mm	n.a.	74.4	0.50	% Passing	1
07145	0.075 mm	n.a.	73.1	0.50	% Passing	1
07146	0.064 mm	n.a.	73.0	0.50	% Passing	1
07147	0.05 mm	n.a.	72.5	0.50	% Passing	1
07148	0.02 mm	n.a.	58.0	0.50	% Passing	1
07149	0.005 mm	n.a.	27.0	0.50	% Passing	1
07150	0.002 mm	n.a.	15.0	0.50	% Passing	1
07151	0.001 mm	n.a.	9.5	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355382

A33+00R Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 13:55 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

A3300 SDG#: KBL07-32

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/21/2004 09:00	Catherine L Cammauf	1

4355382

Particle Size Distribution

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355510

A33+00L Composite Sediment Sample
Kin-Buc Landfill

Collected:09/14/2004 13:25 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:16
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

33-00

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	60.2	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	50,700.	3,510.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	24.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.	22.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.	17.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.	17.	ug/kg	2
01499	PCB-1248	12672-29-6	1,200.	17.	ug/kg	2
01500	PCB-1254	11097-69-1	530.	19.	ug/kg	2
01501	PCB-1260	11096-82-5	170.	17.	ug/kg	2
	The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.					

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/22/2004 16:56	Scott W Freisher	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 12:57	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/30/2004 03:08	Douglas D Seitz	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/22/2004 03:40	David V Hershey Jr	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355380

A33+00L Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 13:25 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

A3301 SDG#: KBL07-30

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	97.0	0.50	% Passing	1
07139	3.35 mm	n.a.	93.7	0.50	% Passing	1
07140	2.36 mm	n.a.	86.5	0.50	% Passing	1
07141	1.18 mm	n.a.	85.8	0.50	% Passing	1
07142	0.6 mm	n.a.	85.0	0.50	% Passing	1
07143	0.3 mm	n.a.	83.8	0.50	% Passing	1
07144	0.15 mm	n.a.	82.1	0.50	% Passing	1
07145	0.075 mm	n.a.	80.4	0.50	% Passing	1
07146	0.064 mm	n.a.	79.0	0.50	% Passing	1
07147	0.05 mm	n.a.	77.0	0.50	% Passing	1
07148	0.02 mm	n.a.	66.0	0.50	% Passing	1
07149	0.005 mm	n.a.	36.0	0.50	% Passing	1
07150	0.002 mm	n.a.	22.5	0.50	% Passing	1
07151	0.001 mm	n.a.	20.0	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

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Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355380

A33+00L Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 13:25 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

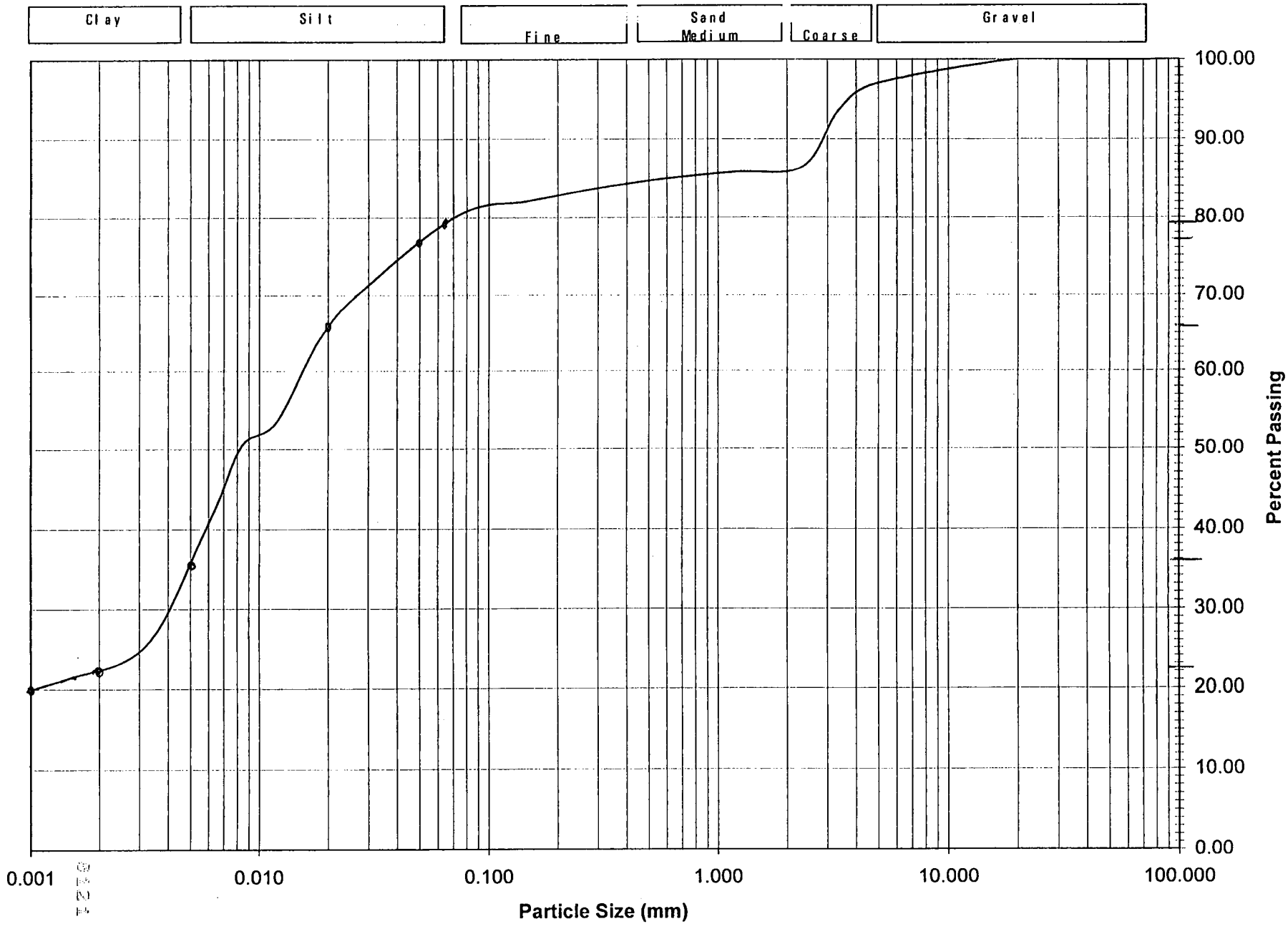
A3301 SDG#: KBL07-30

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/21/2004 09:00	Catherine L Cammauf	1

4355380

Particle Size Distribution



Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355515

A42+25R Composite Sediment Sample
Kin-Buc Landfill

Collected:09/14/2004 15:05 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:16
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

4225R

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	59.0	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	47,700.	3,830.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	59.	ug/kg	5
01496	PCB-1221	11104-28-2	N.D.	52.	ug/kg	5
01497	PCB-1232	11141-16-5	N.D.	40.	ug/kg	5
01498	PCB-1242	53469-21-9	N.D.	40.	ug/kg	5
01499	PCB-1248	12672-29-6	2,200.	40.	ug/kg	5
01500	PCB-1254	11097-69-1	720.	45.	ug/kg	5
01501	PCB-1260	11096-82-5	210.	40.	ug/kg	5
	The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.					

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/23/2004 14:37	Scott W Freisher	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 13:39	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/30/2004 05:04	Douglas D Seitz	5
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/22/2004 03:40	David V Hershey Jr	1

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Lancaster, PA 17605-2425
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Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355384

A42+25R Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 15:05 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:03
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

A425R SDG#: KBL07-34

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	93.3	0.50	% Passing	1
07139	3.35 mm	n.a.	84.6	0.50	% Passing	1
07140	2.36 mm	n.a.	70.0	0.50	% Passing	1
07141	1.18 mm	n.a.	69.7	0.50	% Passing	1
07142	0.6 mm	n.a.	69.2	0.50	% Passing	1
07143	0.3 mm	n.a.	68.3	0.50	% Passing	1
07144	0.15 mm	n.a.	66.3	0.50	% Passing	1
07145	0.075 mm	n.a.	64.3	0.50	% Passing	1
07146	0.064 mm	n.a.	63.0	0.50	% Passing	1
07147	0.05 mm	n.a.	59.0	0.50	% Passing	1
07148	0.02 mm	n.a.	50.0	0.50	% Passing	1
07149	0.005 mm	n.a.	26.0	0.50	% Passing	1
07150	0.002 mm	n.a.	15.0	0.50	% Passing	1
07151	0.001 mm	n.a.	9.5	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

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Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355384

A42+25R Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 15:05 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:03
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

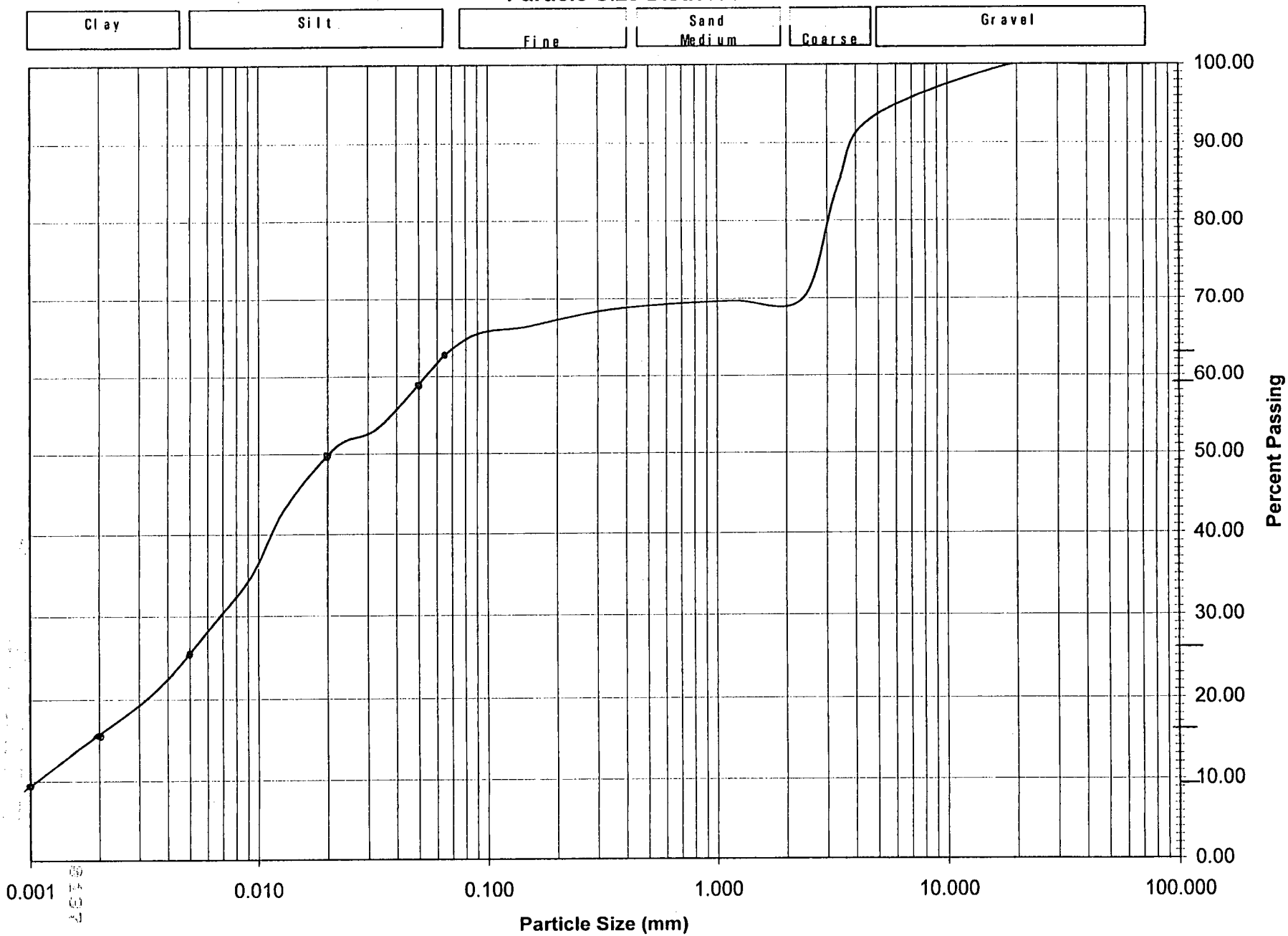
A425R SDG#: KBL07-34

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/21/2004 09:00	Catherine L Cammauf	1

4355384

Particle Size Distribution



Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355513

A42+25/46+50 Composite Sediment Sample
Kin-Buc Landfill

Collected:09/14/2004 14:40 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:16
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

42-25

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	64.2		0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						
02079	TOC Solids/Sludges Combustion	n.a.	48,000.		3,770.	mg/kg	1
01216	PCBs in Solids						
01495	PCB-1016	12674-11-2	N.D.		130.	ug/kg	10
01496	PCB-1221	11104-28-2	N.D.		120.	ug/kg	10
01497	PCB-1232	11141-16-5	N.D.		92.	ug/kg	10
01498	PCB-1242	53469-21-9	N.D.		92.	ug/kg	10
01499	PCB-1248	12672-29-6	6,700.		92.	ug/kg	10
01500	PCB-1254	11097-69-1	1,800.		100.	ug/kg	10
01501	PCB-1260	11096-82-5	470.	J	92.	ug/kg	10
	Accurate surrogate recoveries could not be determined due to the dilution required for analysis of the sample.						

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/22/2004 16:56	Scott W Freisher	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 13:21	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/30/2004 04:18	Douglas D Seitz	10
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/22/2004 03:40	David V Hershey Jr	1

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717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355383

A42+25/46+50 Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 14:40 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

A4225 SDG#: KBL07-33

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	95.8	0.50	% Passing	1
07139	3.35 mm	n.a.	85.6	0.50	% Passing	1
07140	2.36 mm	n.a.	73.1	0.50	% Passing	1
07141	1.18 mm	n.a.	71.8	0.50	% Passing	1
07142	0.6 mm	n.a.	69.4	0.50	% Passing	1
07143	0.3 mm	n.a.	65.1	0.50	% Passing	1
07144	0.15 mm	n.a.	59.8	0.50	% Passing	1
07145	0.075 mm	n.a.	57.6	0.50	% Passing	1
07146	0.064 mm	n.a.	58.0	0.50	% Passing	1
07147	0.05 mm	n.a.	59.0	0.50	% Passing	1
07148	0.02 mm	n.a.	55.0	0.50	% Passing	1
07149	0.005 mm	n.a.	28.0	0.50	% Passing	1
07150	0.002 mm	n.a.	17.0	0.50	% Passing	1
07151	0.001 mm	n.a.	10.0	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355514

A42+25/46+50 Dup Composite Sediment Sample
Kin-Buc Landfill

Collected:09/14/2004 14:42 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:16
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

4225D

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	64.5		0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						
02079	TOC Solids/Sludges Combustion	n.a.	40,100.		5,360.	mg/kg	1
01216	PCBs in Solids						
01495	PCB-1016	12674-11-2	N.D.		140.	ug/kg	10
01496	PCB-1221	11104-28-2	N.D.		120.	ug/kg	10
01497	PCB-1232	11141-16-5	N.D.		93.	ug/kg	10
01498	PCB-1242	53469-21-9	N.D.		93.	ug/kg	10
01499	PCB-1248	12672-29-6	6,500.		93.	ug/kg	10
01500	PCB-1254	11097-69-1	1,600.		100.	ug/kg	10
01501	PCB-1260	11096-82-5	410.	J	93.	ug/kg	10
	Accurate surrogate recoveries could not be determined due to the dilution required for analysis of the sample.						

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/23/2004 14:37	Scott W Freisher	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 13:28	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/30/2004 04:41	Douglas D Seitz	10
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/22/2004 03:40	David V Hershey Jr	1

MEMBER ACIL
Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355383

A42+25/46+50 Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 14:40 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

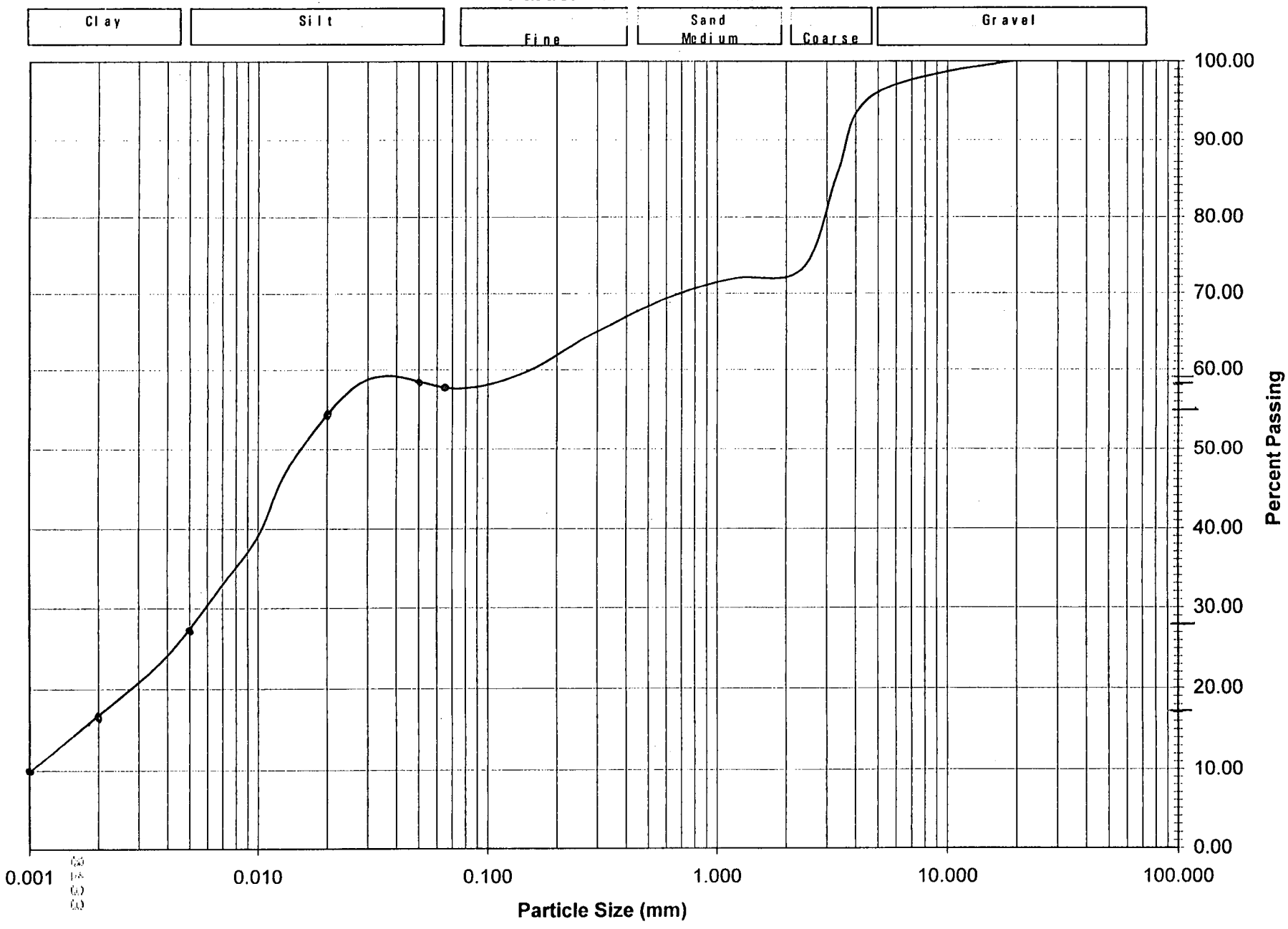
A4225 SDG#: KBL07-33

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/21/2004 09:00	Catherine L Cammauf	1

4355383

Particle Size Distribution



BIOASSAY LOCATION DATA SHEET

Date: 9/14/04 Station: A 42+25 / 46+50

Nearest Town: Edison Stream: Edmonds Creek

Location: ~~Adjacent to OU 2~~ Unremediated Zone # 4

Weather Conditions: ~~cl~~ cloudy Air Temperature ± 75°F

Average Width: Average Depth:

Bottom Materials: sand / silt / clay / detritus

Flow (cfs): Mid tide / outgoing (1135 AM)

Shoreline Vegetation: Fragmite

Instream Cover: Abundant Common Scarce ✓

Color: Blue Green Tea Brown(Muddy) ✓

Shade: Densely Shaded Partly Shaded ✓ Open

Aquatic Vegetation: same

Dams: —

Description of Sample Site: ~~Adjacent to Operable Unit 2~~ Downstr. fr old "Oil seeps Area

Evidence of Erosion or Pollution: ~~only small in substrate / oil flakes on water surface, oil in substrate~~ none

Water Quality Measurements:

Secchi disk ~~Depth~~	Water Temp	Dissolved Oxygen	pH	Salinity	Cond
0.6'	22.0	~~6.6~~	6.6	3.0	5940 Kt
		3.6			

Collection Methods	Effort
Petite Ponar	15 grab composit

Remarks: Field dup collected here

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355517

A46+75R Composite Sediment Sample
Kin-Buc Landfill

Collected:09/14/2004 15:30 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:16
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

4675R

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	65.9	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	46,600.	4,960.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	14.	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	13.	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	9.7	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	9.7	ug/kg	1
01499	PCB-1248	12672-29-6	680.	9.7	ug/kg	1
01500	PCB-1254	11097-69-1	350.	11.	ug/kg	1
01501	PCB-1260	11096-82-5	120.	9.7	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/23/2004 14:37	Scott W Freisher	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 13:54	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/30/2004 05:51	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/22/2004 03:40	David V Hershey Jr	1

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355386

A46+75R Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 15:30 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:03
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

A46-R SDG#: KBL07-36

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	96.4	0.50	% Passing	1
07139	3.35 mm	n.a.	83.4	0.50	% Passing	1
07140	2.36 mm	n.a.	67.7	0.50	% Passing	1
07141	1.18 mm	n.a.	67.0	0.50	% Passing	1
07142	0.6 mm	n.a.	66.3	0.50	% Passing	1
07143	0.3 mm	n.a.	65.3	0.50	% Passing	1
07144	0.15 mm	n.a.	63.7	0.50	% Passing	1
07145	0.075 mm	n.a.	62.3	0.50	% Passing	1
07146	0.064 mm	n.a.	62.0	0.50	% Passing	1
07147	0.05 mm	n.a.	59.0	0.50	% Passing	1
07148	0.02 mm	n.a.	49.0	0.50	% Passing	1
07149	0.005 mm	n.a.	24.0	0.50	% Passing	1
07150	0.002 mm	n.a.	14.0	0.50	% Passing	1
07151	0.001 mm	n.a.	6.0	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355386

A46+75R Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 15:30 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:03
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

A46-R SDG#: KBL07-36

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/21/2004 09:00	Catherine L Cammauf	1

4355386

Particle Size Distribution

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355516

A46+75L Composite Sediment Sample
Kin-Buc Landfill

Collected:09/14/2004 15:20 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:16
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

4675L

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	58.3	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	42,400.	3,500.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	23.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.	21.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.	16.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.	16.	ug/kg	2
01499	PCB-1248	12672-29-6	1,200.	16.	ug/kg	2
01500	PCB-1254	11097-69-1	630.	18.	ug/kg	2
01501	PCB-1260	11096-82-5	210.	16.	ug/kg	2

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/23/2004 14:37	Scott W Freisher	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 13:47	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/30/2004 05:28	Douglas D Seitz	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/22/2004 03:40	David V Hershey Jr	1

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355385

A46+75L Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 15:20 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:03
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

A46-L SDG#: KBL07-35

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	99.4	0.50	% Passing	1
07139	3.35 mm	n.a.	93.8	0.50	% Passing	1
07140	2.36 mm	n.a.	79.0	0.50	% Passing	1
07141	1.18 mm	n.a.	78.2	0.50	% Passing	1
07142	0.6 mm	n.a.	77.2	0.50	% Passing	1
07143	0.3 mm	n.a.	76.1	0.50	% Passing	1
07144	0.15 mm	n.a.	74.6	0.50	% Passing	1
07145	0.075 mm	n.a.	72.9	0.50	% Passing	1
07146	0.064 mm	n.a.	72.0	0.50	% Passing	1
07147	0.05 mm	n.a.	69.0	0.50	% Passing	1
07148	0.02 mm	n.a.	57.5	0.50	% Passing	1
07149	0.005 mm	n.a.	28.0	0.50	% Passing	1
07150	0.002 mm	n.a.	17.0	0.50	% Passing	1
07151	0.001 mm	n.a.	11.0	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355385

A46+75L Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 15:20 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:03
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

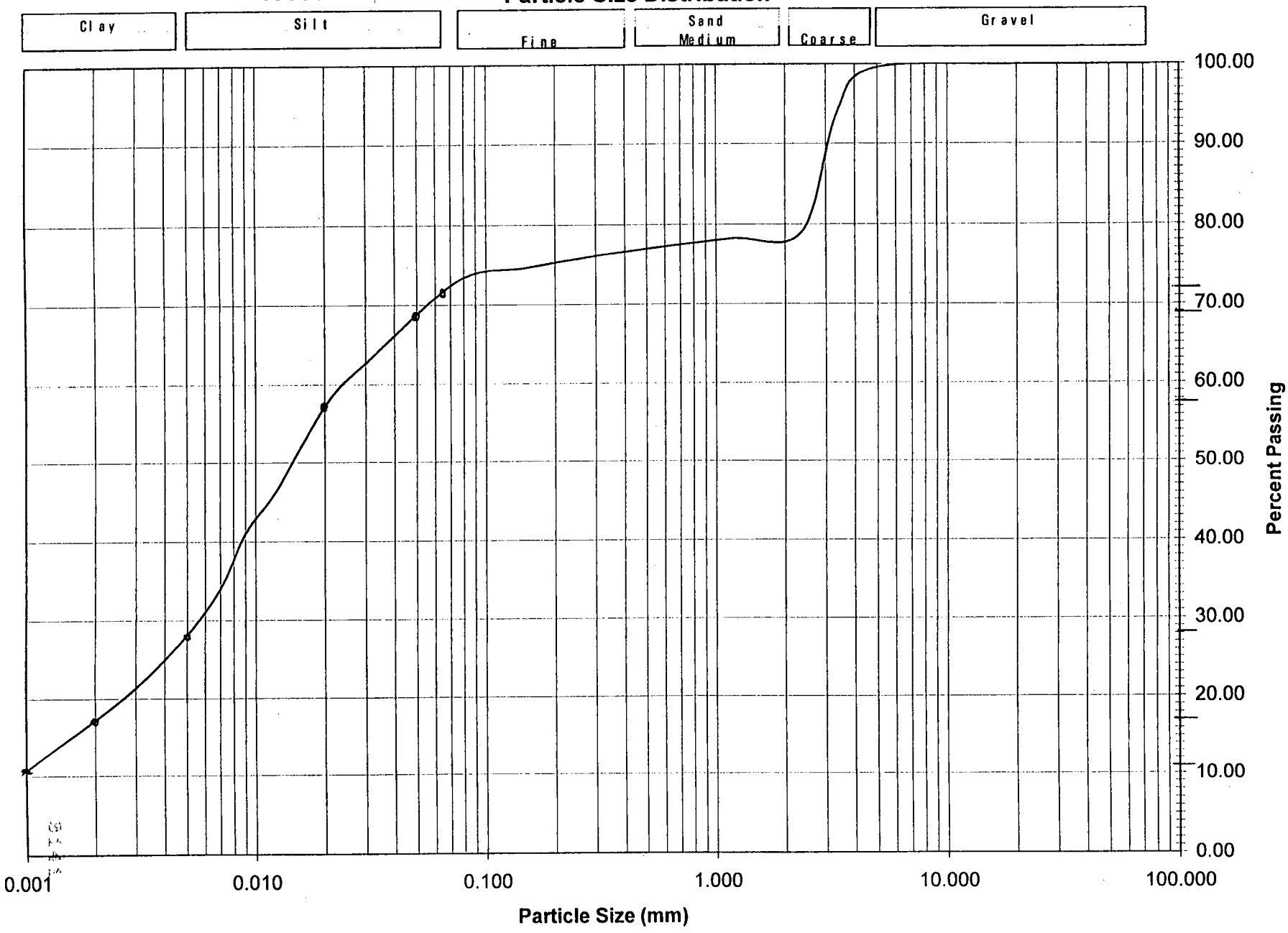
A46-L SDG#: KBL07-35

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/21/2004 09:00	Catherine L Cammauf	1

4355385

Particle Size Distribution



Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355487

A50+50L Composite Sediment Sample
Kin-Buc Landfill

Collected:09/13/2004 17:05 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:15
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

KIN50

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	54.4	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	42,900.	2,490.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	21.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.	19.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.	14.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.	14.	ug/kg	2
01499	PCB-1248	12672-29-6	930.	14.	ug/kg	2
01500	PCB-1254	11097-69-1	390.	16.	ug/kg	2
01501	PCB-1260	11096-82-5	180.	14.	ug/kg	2

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/21/2004 10:59	William C Schwebel	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/22/2004 12:52	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/23/2004 18:08	Douglas D Seitz	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/21/2004 17:00	Luis E Villamil	1

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355358

A50+50L Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 17:05 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:01
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

A5050 SDG#: KBL07-08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	99.8	0.50	% Passing	1
07139	3.35 mm	n.a.	96.2	0.50	% Passing	1
07140	2.36 mm	n.a.	85.8	0.50	% Passing	1
07141	1.18 mm	n.a.	85.1	0.50	% Passing	1
07142	0.6 mm	n.a.	84.2	0.50	% Passing	1
07143	0.3 mm	n.a.	83.2	0.50	% Passing	1
07144	0.15 mm	n.a.	82.0	0.50	% Passing	1
07145	0.075 mm	n.a.	80.9	0.50	% Passing	1
07146	0.064 mm	n.a.	79.5	0.50	% Passing	1
07147	0.05 mm	n.a.	76.5	0.50	% Passing	1
07148	0.02 mm	n.a.	63.5	0.50	% Passing	1
07149	0.005 mm	n.a.	31.0	0.50	% Passing	1
07150	0.002 mm	n.a.	20.0	0.50	% Passing	1
07151	0.001 mm	n.a.	15.0	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

MEMBER
Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355358

A50+50L Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 17:05 by CDD

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:01
Discard: 11/11/2004

A5050 SDG#: KBL07-08

Account Number: 07418

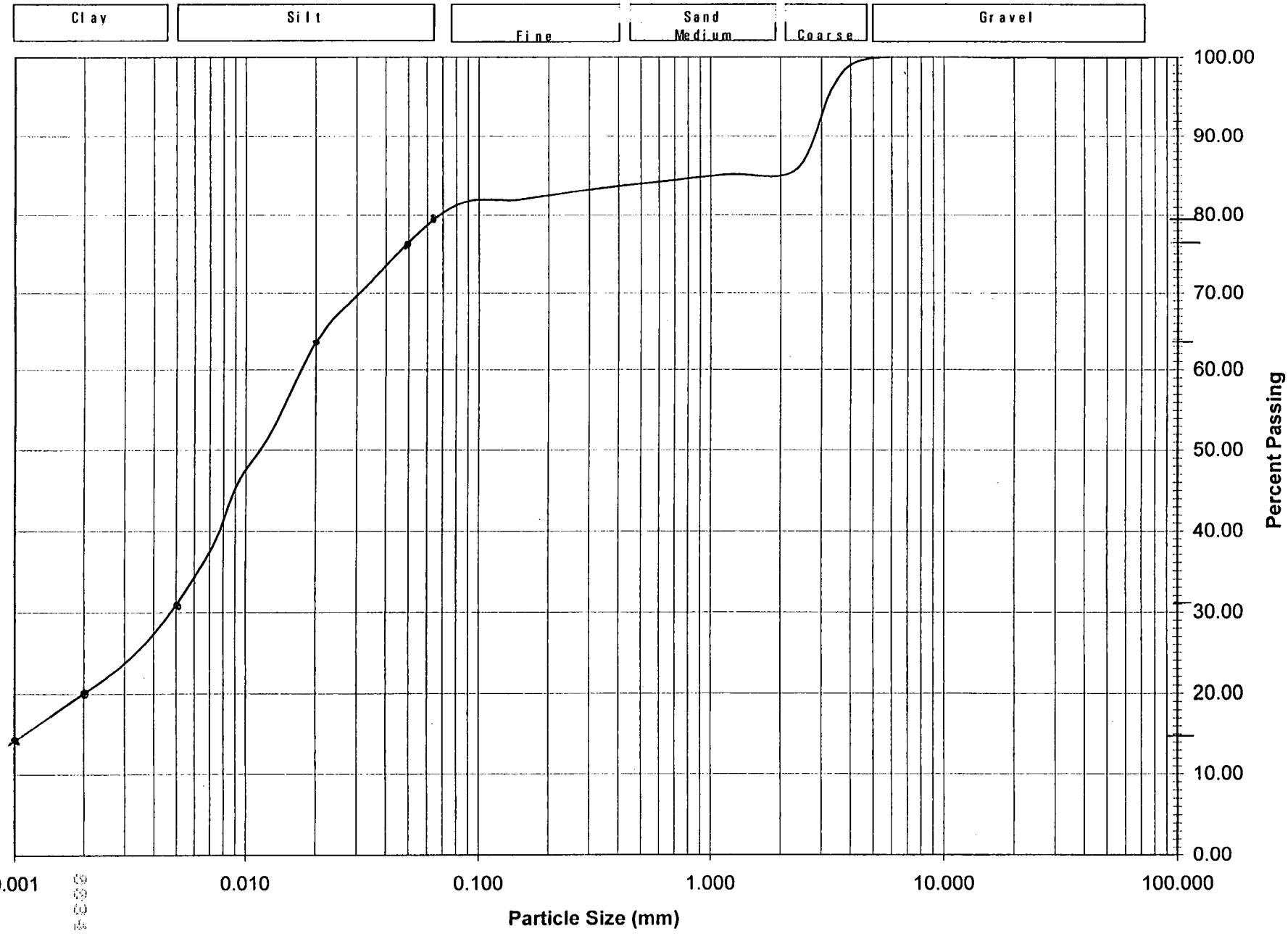
Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/20/2004 13:00	Catherine L Cammauf	1

4355358

Particle Size Distribution



Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355486

A51+00R Composite Sediment Sample
Kin-Buc Landfill

Collected:09/13/2004 16:55 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:15
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

KI51R

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	58.4	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	49,700.	3,630.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	120.	ug/kg	10
01496	PCB-1221	11104-28-2	N.D.	100.	ug/kg	10
01497	PCB-1232	11141-16-5	N.D.	79.	ug/kg	10
01498	PCB-1242	53469-21-9	N.D.	79.	ug/kg	10
01499	PCB-1248	12672-29-6	3,600.	79.	ug/kg	10
01500	PCB-1254	11097-69-1	1,500.	89.	ug/kg	10
01501	PCB-1260	11096-82-5	560.	79.	ug/kg	10
	Accurate surrogate recoveries could not be determined due to the dilution required for analysis of the sample.					

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/21/2004 10:59	William C Schwebel	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/22/2004 11:56	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/24/2004 11:32	Douglas D Seitz	10
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/21/2004 17:00	Luis E Villamil	1

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355357

A51+00R Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 16:55 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:01
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

A510R SDG#: KBL07-07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	99.5	0.50	% Passing	1
07139	3.35 mm	n.a.	96.3	0.50	% Passing	1
07140	2.36 mm	n.a.	80.6	0.50	% Passing	1
07141	1.18 mm	n.a.	79.7	0.50	% Passing	1
07142	0.6 mm	n.a.	78.5	0.50	% Passing	1
07143	0.3 mm	n.a.	77.2	0.50	% Passing	1
07144	0.15 mm	n.a.	75.4	0.50	% Passing	1
07145	0.075 mm	n.a.	73.6	0.50	% Passing	1
07146	0.064 mm	n.a.	73.0	0.50	% Passing	1
07147	0.05 mm	n.a.	69.0	0.50	% Passing	1
07148	0.02 mm	n.a.	56.0	0.50	% Passing	1
07149	0.005 mm	n.a.	31.0	0.50	% Passing	1
07150	0.002 mm	n.a.	18.0	0.50	% Passing	1
07151	0.001 mm	n.a.	10.0	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

MEMBER
Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355357

A51+00R Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 16:55 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:01
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

A510R SDG#: KBL07-07

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/20/2004 13:00	Catherine L Cammauf	1

4355357

Particle Size Distribution

LAKOSTEN ASSOCIATES

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355484

A51+00/52+00 Composite Sediment Sample
Kin-Buc Landfill

Collected:09/13/2004 16:15 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:15
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

KIN51

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	59.6		0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						
02079	TOC Solids/Sludges Combustion	n.a.	36,200.		3,120.	mg/kg	1
01216	PCBs in Solids						
01495	PCB-1016	12674-11-2	N.D.		120.	ug/kg	10
01496	PCB-1221	11104-28-2	N.D.		110.	ug/kg	10
01497	PCB-1232	11141-16-5	N.D.		82.	ug/kg	10
01498	PCB-1242	53469-21-9	N.D.		82.	ug/kg	10
01499	PCB-1248	12672-29-6	3,600.		82.	ug/kg	10
01500	PCB-1254	11097-69-1	1,000.		92.	ug/kg	10
01501	PCB-1260	11096-82-5	400.	J	82.	ug/kg	10
	Accurate surrogate recoveries could not be determined due to the dilution required for analysis of the sample.						

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/21/2004 10:59	William C Schwebel	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/22/2004 11:12	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/24/2004 11:08	Douglas D Seitz	10
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/21/2004 17:00	Luis E Villamil	1

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355355

A51+00/52+00 Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 16:15 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:01
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

A5100 SDG#: KBL07-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	99.8	0.50	% Passing	1
07139	3.35 mm	n.a.	97.5	0.50	% Passing	1
07140	2.36 mm	n.a.	89.7	0.50	% Passing	1
07141	1.18 mm	n.a.	88.2	0.50	% Passing	1
07142	0.6 mm	n.a.	84.8	0.50	% Passing	1
07143	0.3 mm	n.a.	79.6	0.50	% Passing	1
07144	0.15 mm	n.a.	76.3	0.50	% Passing	1
07145	0.075 mm	n.a.	74.8	0.50	% Passing	1
07146	0.064 mm	n.a.	73.5	0.50	% Passing	1
07147	0.05 mm	n.a.	70.0	0.50	% Passing	1
07148	0.02 mm	n.a.	61.0	0.50	% Passing	1
07149	0.005 mm	n.a.	38.0	0.50	% Passing	1
07150	0.002 mm	n.a.	24.0	0.50	% Passing	1
07151	0.001 mm	n.a.	15.5	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355355

A51+00/52+00 Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 16:15 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:01
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

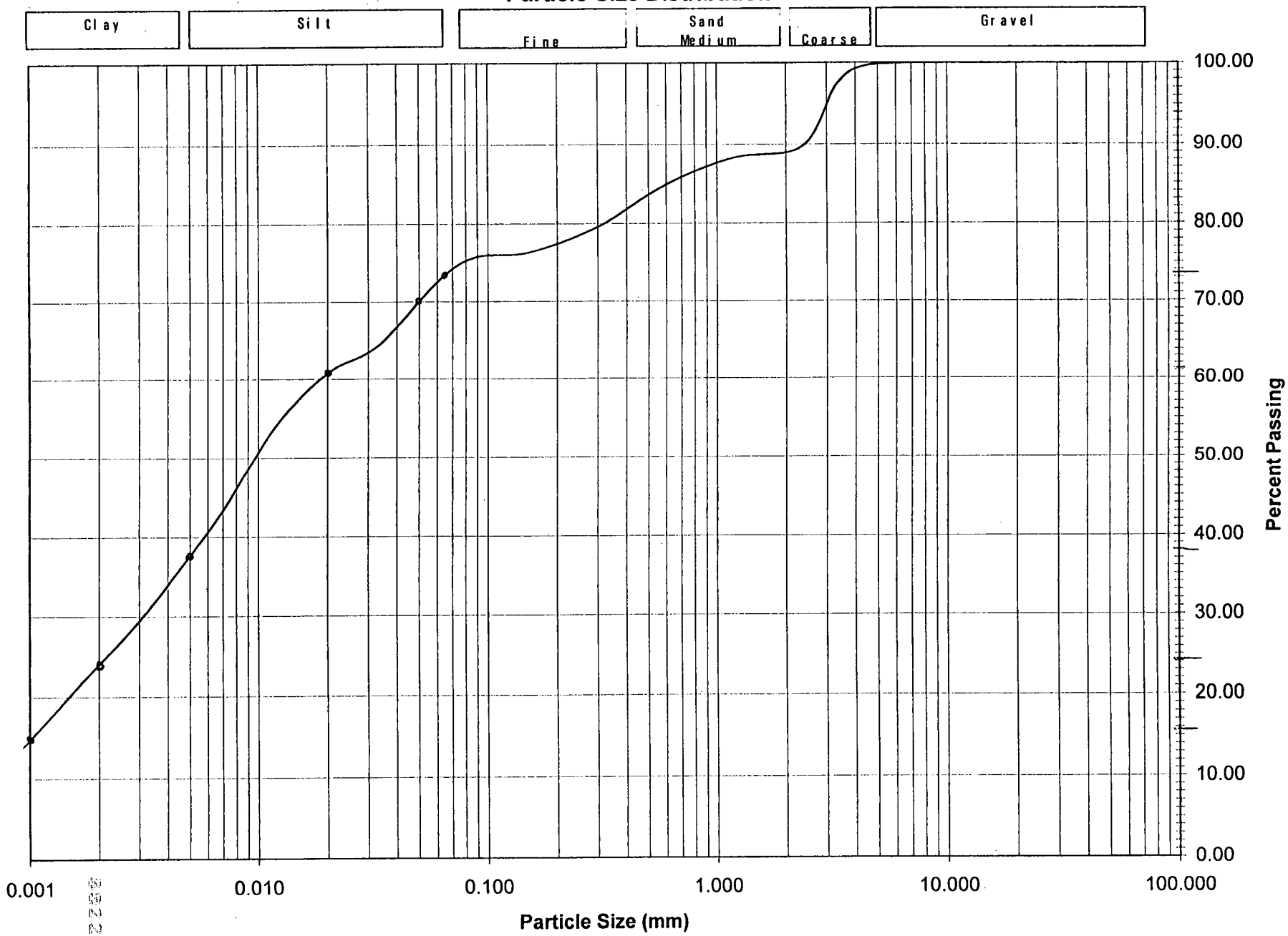
A5100 SDG#: KBL07-05

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/20/2004 13:00	Catherine L Cammauf	1

4355355

Particle Size Distribution



BIOASSAY LOCATION DATA SHEET

Date: 9-13-04 Station: A51+00 / 52+00

Nearest Town: Edison Stream: Edmonds Cr

Location: Remediated Zone 5

Weather Conditions: ptly cloudy Air Temperature ± 80°F

Average Width: Average Depth:

Bottom Materials: silt/clay/detritus

Flow (cfs): low Tide / incoming ~~[illegible]~~ (4:15 PM)

Shoreline Vegetation:

Instream Cover: Abundant Common Scarce ✓

Color: Blue Green Tea Brown(Muddy) ✓

Shade: Densely Shaded Partly Shaded Open ✓

Aquatic Vegetation:

Dams: —

Description of Sample Site: Downstr. remediated zone

Evidence of Erosion or Pollution: none

Water Quality Measurements:

Secchi disk ~~Depth~~	Water Temp	Dissolved Oxygen	pH	Salinity	Cond
0.8'	25.0 C	5.8	6.9	0.5 ppt	4630 (KT)

Collection Methods	Effort
Petite ponar	10 grab composit from each transect

Remarks:

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355485

A52+50R Composite Sediment Sample
Kin-Buc Landfill

Collected:09/13/2004 16:35 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:15
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

KIN52

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	54.8	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	33,500.	2,870.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	11.	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	9.5	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	7.3	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	7.3	ug/kg	1
01499	PCB-1248	12672-29-6	520.	7.3	ug/kg	1
01500	PCB-1254	11097-69-1	160.	8.2	ug/kg	1
01501	PCB-1260	11096-82-5	74.	7.3	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/21/2004 10:59	William C Schwebel	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/22/2004 11:40	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/23/2004 07:16	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/21/2004 17:00	Luis E Villamil	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355356

A52+50R Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 16:35 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:01
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

A5250 SDG#: KBL07-06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	88.5	0.50	% Passing	1
07139	3.35 mm	n.a.	87.3	0.50	% Passing	1
07140	2.36 mm	n.a.	78.7	0.50	% Passing	1
07141	1.18 mm	n.a.	77.7	0.50	% Passing	1
07142	0.6 mm	n.a.	76.5	0.50	% Passing	1
07143	0.3 mm	n.a.	75.6	0.50	% Passing	1
07144	0.15 mm	n.a.	74.4	0.50	% Passing	1
07145	0.075 mm	n.a.	73.1	0.50	% Passing	1
07146	0.064 mm	n.a.	72.0	0.50	% Passing	1
07147	0.05 mm	n.a.	68.0	0.50	% Passing	1
07148	0.02 mm	n.a.	59.0	0.50	% Passing	1
07149	0.005 mm	n.a.	35.5	0.50	% Passing	1
07150	0.002 mm	n.a.	22.5	0.50	% Passing	1
07151	0.001 mm	n.a.	13.0	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355356

A52+50R Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 16:35 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:01
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

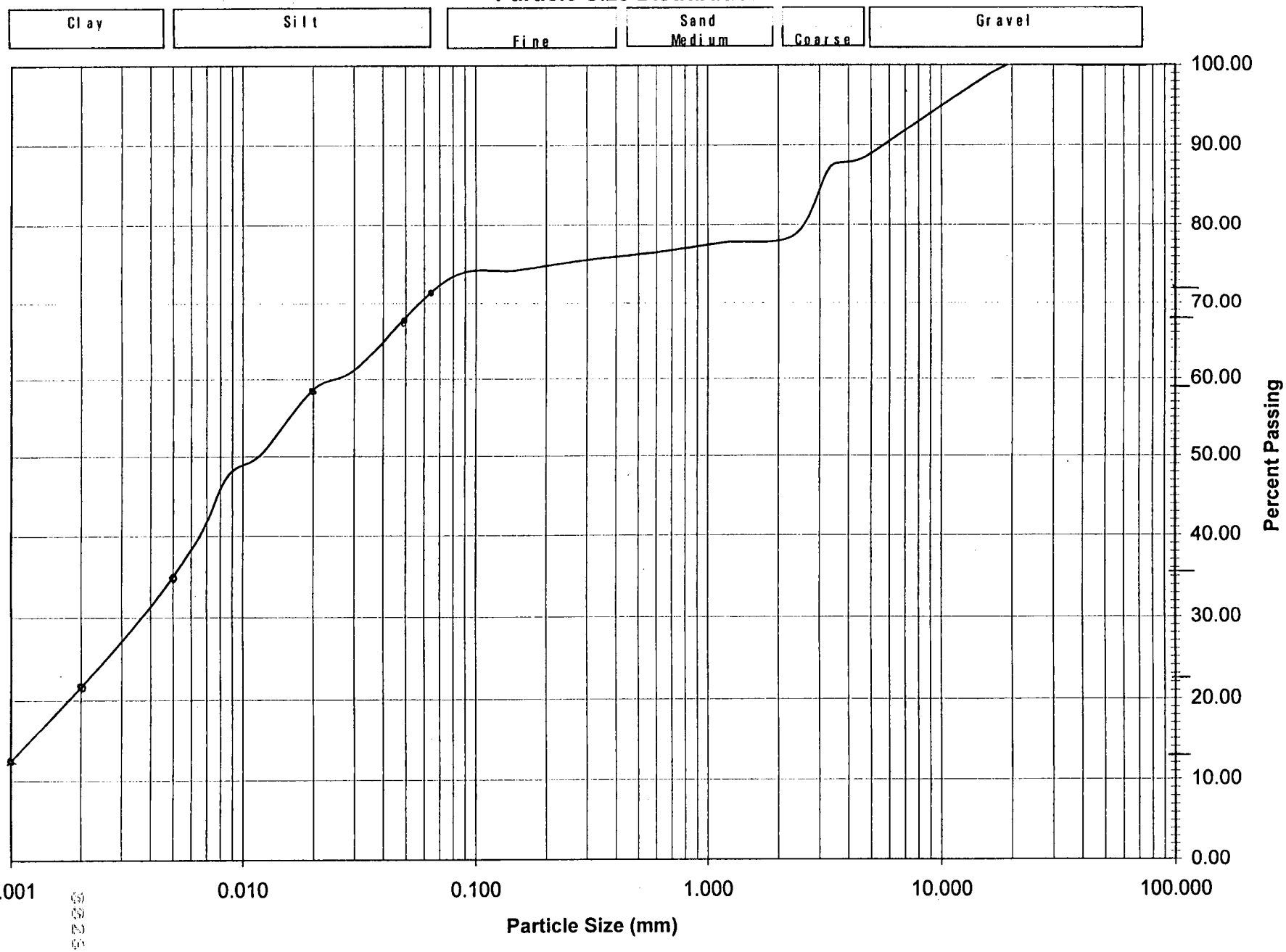
A5250 SDG#: KBL07-06

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/20/2004 13:00	Catherine L Cammauf	1

4355356

Particle Size Distribution



Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355480

UN-ABEN-01L Composite Sediment Sample
Kin-Buc Landfill

Collected:09/13/2004 15:15 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:14
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

KIN0L

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	59.2	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	30,600.	2,260.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	12.	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	11.	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	8.1	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	8.1	ug/kg	1
01499	PCB-1248	12672-29-6	410.	8.1	ug/kg	1
01500	PCB-1254	11097-69-1	210.	9.1	ug/kg	1
01501	PCB-1260	11096-82-5	94.	8.1	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/21/2004 10:59	William C Schwebel	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/22/2004 07:58	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/23/2004 05:19	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/21/2004 17:00	Luis E Villamil	1

MEMBER
Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355351

UN-ABEN-01L Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 15:15 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:01
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

UN01L SDG#: KBL07-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	98.8	0.50	% Passing	1
07139	3.35 mm	n.a.	97.3	0.50	% Passing	1
07140	2.36 mm	n.a.	91.2	0.50	% Passing	1
07141	1.18 mm	n.a.	90.6	0.50	% Passing	1
07142	0.6 mm	n.a.	89.4	0.50	% Passing	1
07143	0.3 mm	n.a.	87.2	0.50	% Passing	1
07144	0.15 mm	n.a.	84.5	0.50	% Passing	1
07145	0.075 mm	n.a.	82.2	0.50	% Passing	1
07146	0.064 mm	n.a.	81.5	0.50	% Passing	1
07147	0.05 mm	n.a.	79.0	0.50	% Passing	1
07148	0.02 mm	n.a.	72.5	0.50	% Passing	1
07149	0.005 mm	n.a.	41.0	0.50	% Passing	1
07150	0.002 mm	n.a.	28.0	0.50	% Passing	1
07151	0.001 mm	n.a.	19.5	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355351

UN-ABEN-01L Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 15:15 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:01
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

UN01L SDG#: KBL07-01

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/20/2004 13:00	Catherine L Cammauf	1

4355351-BKG

Particle Size Distribution

LANCASTER LABORATORIES

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355482

UN-ABEN-01AR Composite Sediment Sample
Kin-Buc Landfill

Collected:09/13/2004 15:40 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:14
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

KIN0R

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	54.2	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	31,600.	2,550.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	52.	ug/kg	5
01496	PCB-1221	11104-28-2	N.D.	47.	ug/kg	5
01497	PCB-1232	11141-16-5	N.D.	36.	ug/kg	5
01498	PCB-1242	53469-21-9	N.D.	36.	ug/kg	5
01499	PCB-1248	12672-29-6	1,600.	36.	ug/kg	5
01500	PCB-1254	11097-69-1	760.	40.	ug/kg	5
01501	PCB-1260	11096-82-5	300.	36.	ug/kg	5
	The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.					

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/21/2004 10:59	William C Schwebel	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/22/2004 08:14	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/24/2004 10:21	Douglas D Seitz	5
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/21/2004 17:00	Luis E Villamil	1

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355353

UN-ABEN-01AR Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 15:40 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:01
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

-01AR SDG#: KBL07-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	99.2	0.50	% Passing	1
07139	3.35 mm	n.a.	97.3	0.50	% Passing	1
07140	2.36 mm	n.a.	91.3	0.50	% Passing	1
07141	1.18 mm	n.a.	91.0	0.50	% Passing	1
07142	0.6 mm	n.a.	90.5	0.50	% Passing	1
07143	0.3 mm	n.a.	89.7	0.50	% Passing	1
07144	0.15 mm	n.a.	88.2	0.50	% Passing	1
07145	0.075 mm	n.a.	86.7	0.50	% Passing	1
07146	0.064 mm	n.a.	85.0	0.50	% Passing	1
07147	0.05 mm	n.a.	82.5	0.50	% Passing	1
07148	0.02 mm	n.a.	68.5	0.50	% Passing	1
07149	0.005 mm	n.a.	38.0	0.50	% Passing	1
07150	0.002 mm	n.a.	23.5	0.50	% Passing	1
07151	0.001 mm	n.a.	14.0	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355353

UN-ABEN-01AR Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 15:40 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:01
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

-01AR SDG#: KBL07-03

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/20/2004 13:00	Catherine L Cammauf	1

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355481

UN-ABIO-01AL Composite Sediment Sample
Kin-Buc Landfill

Collected:09/13/2004 15:30 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:14
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

KIN0A

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	64.6	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	52,400.	3,590.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	68.	ug/kg	5
01496	PCB-1221	11104-28-2	N.D.	61.	ug/kg	5
01497	PCB-1232	11141-16-5	N.D.	47.	ug/kg	5
01498	PCB-1242	53469-21-9	N.D.	47.	ug/kg	5
01499	PCB-1248	12672-29-6	2,500.	47.	ug/kg	5
01500	PCB-1254	11097-69-1	1,200.	52.	ug/kg	5
01501	PCB-1260	11096-82-5	500.	47.	ug/kg	5
	Accurate surrogate recoveries could not be determined due to the dilution required for analysis of the sample.					

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/21/2004 10:59	William C Schwebel	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/22/2004 08:06	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/23/2004 16:11	Douglas D Seitz	5
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/21/2004 17:00	Luis E Villamil	1

MEMBER
Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355352

UN-ABIO-01AL Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 15:30 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:01
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

UN01A SDG#: KBL07-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	99.3	0.50	% Passing	1
07139	3.35 mm	n.a.	95.7	0.50	% Passing	1
07140	2.36 mm	n.a.	89.9	0.50	% Passing	1
07141	1.18 mm	n.a.	88.7	0.50	% Passing	1
07142	0.6 mm	n.a.	87.2	0.50	% Passing	1
07143	0.3 mm	n.a.	85.1	0.50	% Passing	1
07144	0.15 mm	n.a.	81.0	0.50	% Passing	1
07145	0.075 mm	n.a.	77.6	0.50	% Passing	1
07146	0.064 mm	n.a.	75.5	0.50	% Passing	1
07147	0.05 mm	n.a.	70.5	0.50	% Passing	1
07148	0.02 mm	n.a.	58.0	0.50	% Passing	1
07149	0.005 mm	n.a.	27.0	0.50	% Passing	1
07150	0.002 mm	n.a.	15.0	0.50	% Passing	1
07151	0.001 mm	n.a.	7.0	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355352

UN-ABIO-01AL Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 15:30 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:01
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

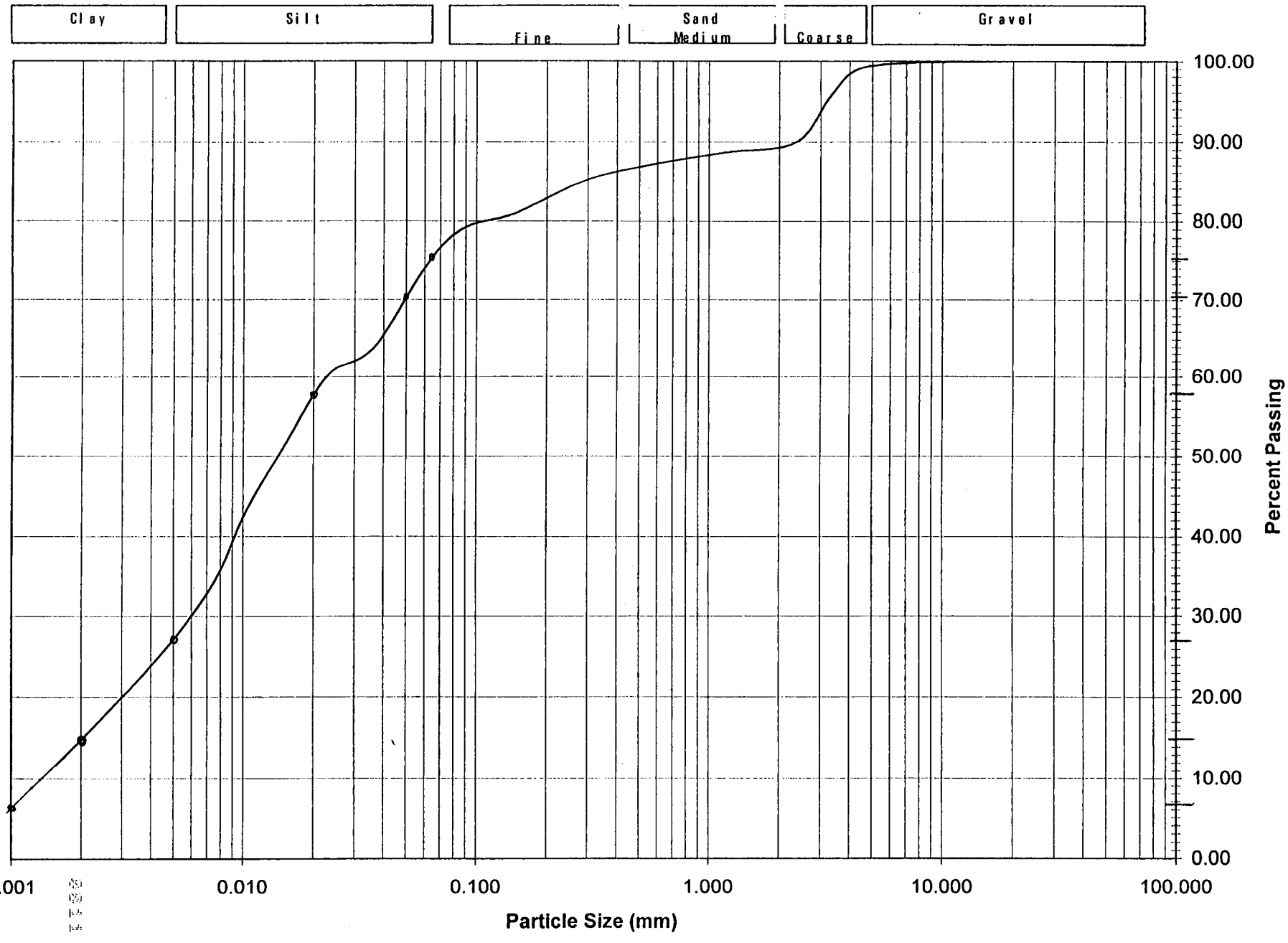
UN01A SDG#: KBL07-02

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/20/2004 13:00	Catherine L Cammauf	1

4355352

Particle Size Distribution



LANCASTER LABORATORIES

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355483

UN-ABIO-01/01A Composite Sediment Sample
Kin-Buc Landfill

Collected:09/13/2004 16:00 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:15
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

KIN1A

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	54.0	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	44,700.	2,490.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	100.	ug/kg	10
01496	PCB-1221	11104-28-2	N.D.	93.	ug/kg	10
01497	PCB-1232	11141-16-5	N.D.	72.	ug/kg	10
01498	PCB-1242	53469-21-9	N.D.	72.	ug/kg	10
01499	PCB-1248	12672-29-6	4,800.	72.	ug/kg	10
01500	PCB-1254	11097-69-1	1,400.	80.	ug/kg	10
01501	PCB-1260	11096-82-5	470.	72.	ug/kg	10
	Accurate surrogate recoveries could not be determined due to the dilution required for analysis of the sample.					

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/21/2004 10:59	William C Schwebel	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/22/2004 08:22	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/24/2004 10:45	Douglas D Seitz	10
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/21/2004 17:00	Luis E Villamil	1

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Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355354

UN-ABIO-01/01A Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 16:00 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:01
Discard: 11/11/2004

Normandeau Associates, Inc.
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Stowe PA 19464

UN01- SDG#: KBL07-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	96.5	0.50	% Passing	1
07139	3.35 mm	n.a.	90.4	0.50	% Passing	1
07140	2.36 mm	n.a.	79.0	0.50	% Passing	1
07141	1.18 mm	n.a.	75.9	0.50	% Passing	1
07142	0.6 mm	n.a.	72.1	0.50	% Passing	1
07143	0.3 mm	n.a.	68.7	0.50	% Passing	1
07144	0.15 mm	n.a.	65.8	0.50	% Passing	1
07145	0.075 mm	n.a.	64.2	0.50	% Passing	1
07146	0.064 mm	n.a.	63.0	0.50	% Passing	1
07147	0.05 mm	n.a.	59.0	0.50	% Passing	1
07148	0.02 mm	n.a.	49.0	0.50	% Passing	1
07149	0.005 mm	n.a.	27.0	0.50	% Passing	1
07150	0.002 mm	n.a.	19.0	0.50	% Passing	1
07151	0.001 mm	n.a.	13.0	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355354

UN-ABIO-01/01A Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 16:00 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:01
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
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Stowe PA 19464

UN01- SDG#: KBL07-04

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/20/2004 13:00	Catherine L Cammauf	1

4355354

Particle Size Distribution

BIOASSAY LOCATION DATA SHEET

Date: 9-13-04 Station: UN-ABIO-01/01A

Nearest Town: Edison Stream: Edmonds Cr

Location: Unremediated Zone 1

Weather Conditions: ptly Cloudy Air Temperature ≈ 80°F

Average Width: Average Depth:

Bottom Materials: silt/clay

Flow (cfs): low tide / ~~Incoming~~ ~~(4:05 pm)~~ outgoing (2:40 pm)

Shoreline Vegetation: Fragmite

Instream Cover: Abundant Common Scarce ✓

Color: Blue Green Tea Brown(Muddy) ✓

Shade: Densely Shaded Partly Shaded Open ✓

Aquatic Vegetation: Same

Dams: —

Description of Sample Site: at mouth of Edmonds Cr (Raritan R.)

Evidence of Erosion or Pollution: none

Water Quality Measurements:

Secchi disk ~~Depth~~	Water Temp	Dissolved Oxygen	pH	Salinity	Cond
0.9'	~~25.5°C~~	~~5.9 ppm~~	~~6.9 s.u~~	~~4660~~	~~4660~~
	22.7	5.4	6.7	~~0.6 ppt~~	KT
				~~0.5 ppt~~	6210
				3.5 ppt	

Collection Methods	Effort
Petite Ponar	≥ 5 grab composit for each Transect

Remarks:

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355519

RR-A1 Composite Sediment Sample
Kin-Buc Landfill

Collected:09/14/2004 17:05 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:16
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

A1-RR

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	44.1	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	27,100.	3,250.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	17.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.	15.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.	12.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.	12.	ug/kg	2
01499	PCB-1248	12672-29-6	680.	12.	ug/kg	2
01500	PCB-1254	11097-69-1	210.	13.	ug/kg	2
01501	PCB-1260	11096-82-5	67.	12.	ug/kg	2
	The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.					

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/23/2004 14:37	Scott W Freisher	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 14:02	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/30/2004 06:14	Douglas D Seitz	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/22/2004 03:40	David V Hershey Jr	1

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355387

RR-A1 Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 17:05 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:03
Discard: 11/11/2004

Normandeau Associates, Inc.
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RR-A1 SDG#: KBL07-37

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	91.6	0.50	% Passing	1
07138	4.75 mm	n.a.	64.5	0.50	% Passing	1
07139	3.35 mm	n.a.	60.6	0.50	% Passing	1
07140	2.36 mm	n.a.	57.5	0.50	% Passing	1
07141	1.18 mm	n.a.	54.3	0.50	% Passing	1
07142	0.6 mm	n.a.	45.0	0.50	% Passing	1
07143	0.3 mm	n.a.	32.8	0.50	% Passing	1
07144	0.15 mm	n.a.	29.3	0.50	% Passing	1
07145	0.075 mm	n.a.	28.2	0.50	% Passing	1
07146	0.064 mm	n.a.	28.5	0.50	% Passing	1
07147	0.05 mm	n.a.	28.0	0.50	% Passing	1
07148	0.02 mm	n.a.	22.0	0.50	% Passing	1
07149	0.005 mm	n.a.	12.5	0.50	% Passing	1
07150	0.002 mm	n.a.	8.0	0.50	% Passing	1
07151	0.001 mm	n.a.	5.0	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355387

RR-A1 Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 17:05 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:03
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

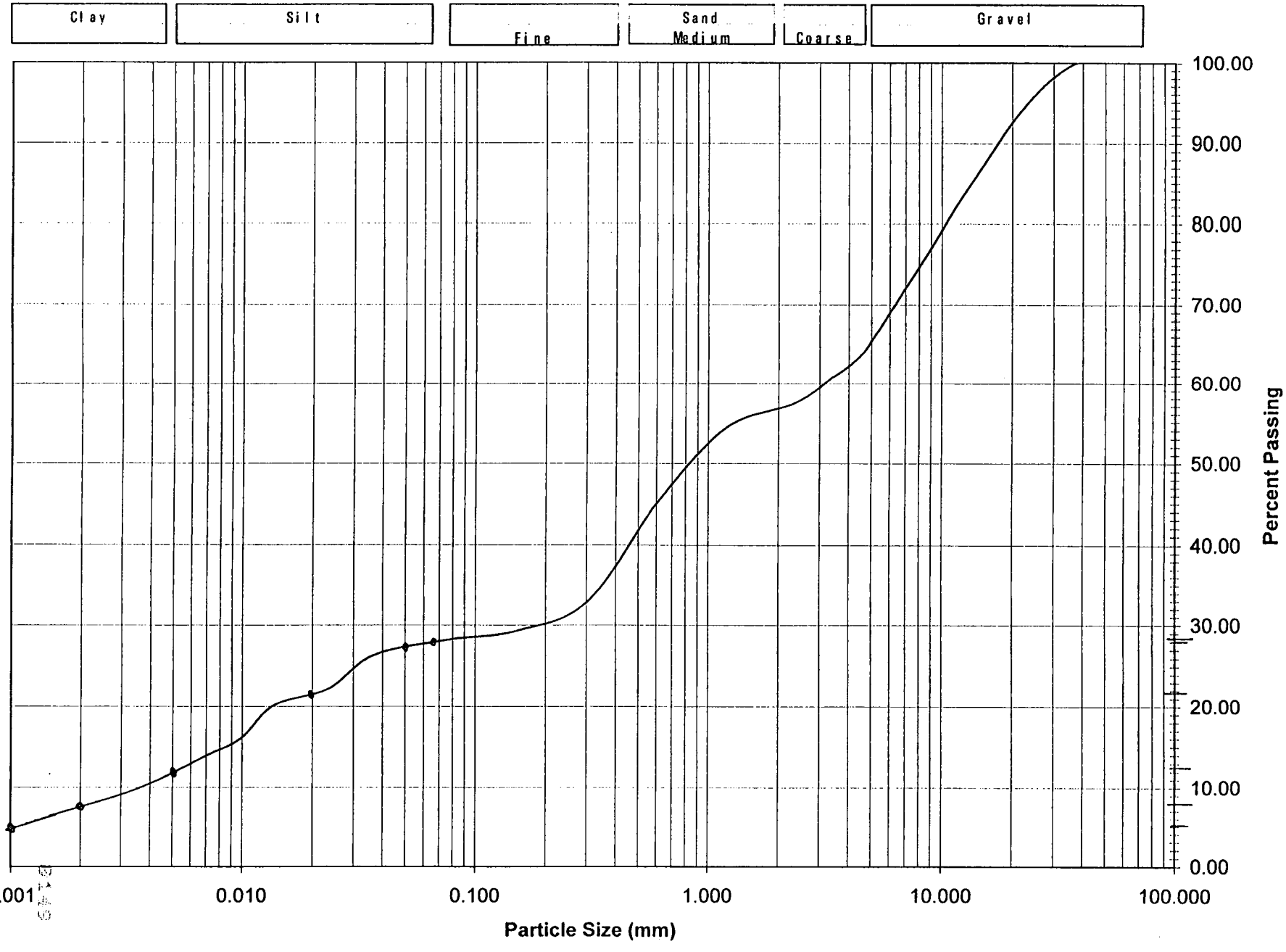
RR-A1 SDG#: KBL07-37

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/21/2004 09:00	Catherine L Cammauf	1

4355387

Particle Size Distribution



Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355520

RR-A2 Composite Sediment Sample
Kin-Buc Landfill

Collected:09/14/2004 17:25 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:16
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

A2-RR

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	54.2	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	29,700.	3,130.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	52.	ug/kg	5
01496	PCB-1221	11104-28-2	N.D.	47.	ug/kg	5
01497	PCB-1232	11141-16-5	N.D.	36.	ug/kg	5
01498	PCB-1242	53469-21-9	N.D.	36.	ug/kg	5
01499	PCB-1248	12672-29-6	2,700.	36.	ug/kg	5
01500	PCB-1254	11097-69-1	750.	40.	ug/kg	5
01501	PCB-1260	11096-82-5	240.	36.	ug/kg	5

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/23/2004 14:37	Scott W Freisher	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/27/2004 07:46	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/30/2004 01:11	Douglas D Seitz	5
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/22/2004 17:00	Luis E Villamil	1

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355388

RR-A2 Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 17:25 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:03
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

RR-A2 SDG#: KBL07-38

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	94.9	0.50	% Passing	1
07139	3.35 mm	n.a.	87.8	0.50	% Passing	1
07140	2.36 mm	n.a.	74.9	0.50	% Passing	1
07141	1.18 mm	n.a.	68.8	0.50	% Passing	1
07142	0.6 mm	n.a.	60.8	0.50	% Passing	1
07143	0.3 mm	n.a.	50.9	0.50	% Passing	1
07144	0.15 mm	n.a.	44.6	0.50	% Passing	1
07145	0.075 mm	n.a.	42.0	0.50	% Passing	1
07146	0.064 mm	n.a.	41.0	0.50	% Passing	1
07147	0.05 mm	n.a.	38.0	0.50	% Passing	1
07148	0.02 mm	n.a.	29.0	0.50	% Passing	1
07149	0.005 mm	n.a.	12.0	0.50	% Passing	1
07150	0.002 mm	n.a.	6.5	0.50	% Passing	1
07151	0.001 mm	n.a.	5.0	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355388

RR-A2 Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 17:25 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:03
Discard: 11/11/2004

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400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

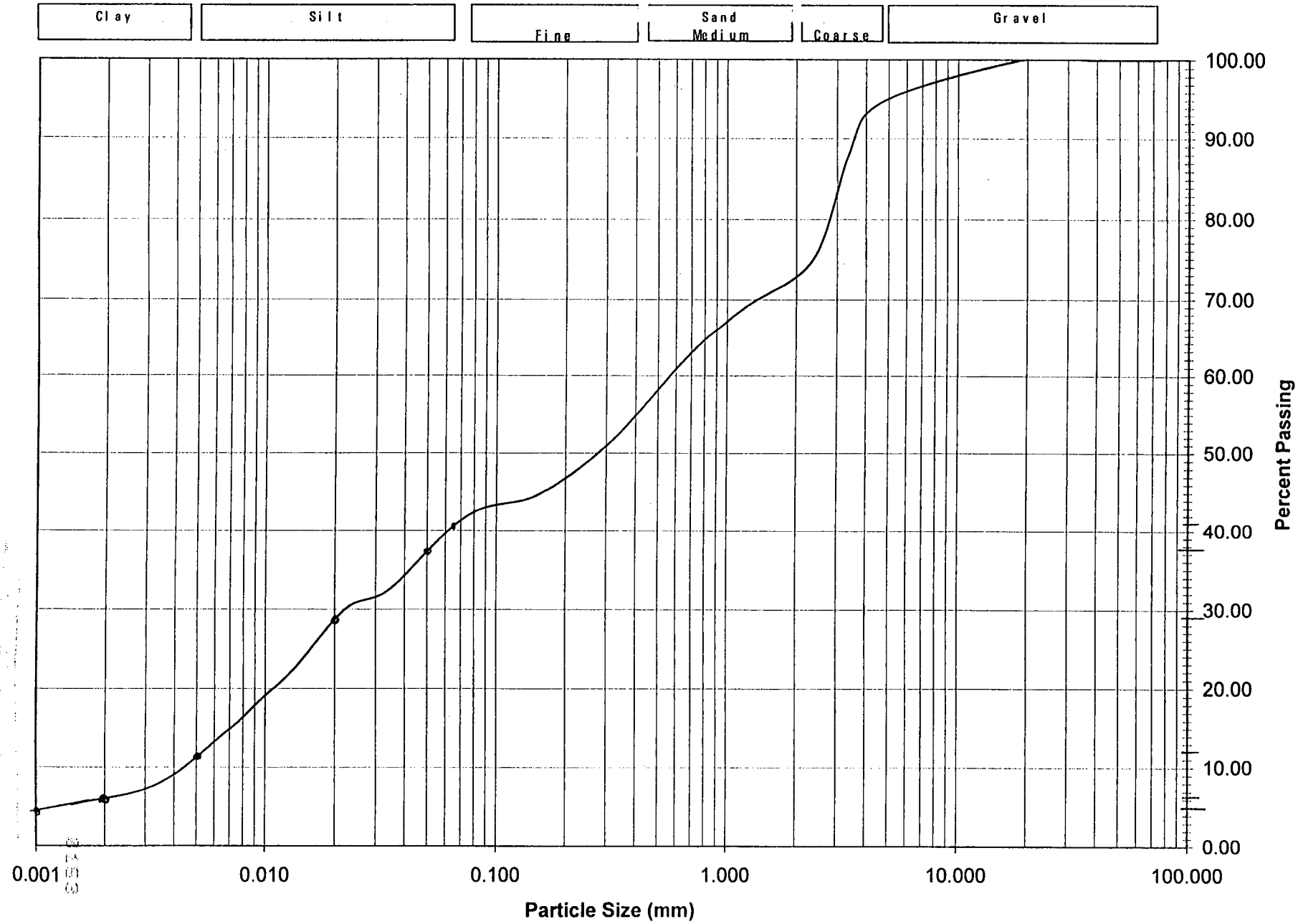
RR-A2 SDG#: KBL07-38

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/21/2004 09:00	Catherine L Cammauf	1

4355388

Particle Size Distribution



Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355521

RR-A3 Composite Sediment Sample
Kin-Buc Landfill

Collected:09/14/2004 17:55 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:16
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

A3-RR

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	57.7		0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						
02079	TOC Solids/Sludges Combustion	n.a.	25,300.		2,880.	mg/kg	1
01216	PCBs in Solids						
01495	PCB-1016	12674-11-2	N.D.		11.	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.		10.	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.		7.8	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.		7.8	ug/kg	1
01499	PCB-1248	12672-29-6	190.		7.8	ug/kg	1
01500	PCB-1254	11097-69-1	67.		8.7	ug/kg	1
01501	PCB-1260	11096-82-5	31.	J	7.8	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/23/2004 14:37	Scott W Freisher	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/27/2004 08:10	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/24/2004 13:52	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/22/2004 17:00	Luis E Villamil	1

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355389

RR-A3 Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 17:55 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:03
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

RR-A3 SDG#: KBL07-39

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	94.7	0.50	% Passing	1
07139	3.35 mm	n.a.	85.2	0.50	% Passing	1
07140	2.36 mm	n.a.	71.3	0.50	% Passing	1
07141	1.18 mm	n.a.	71.1	0.50	% Passing	1
07142	0.6 mm	n.a.	70.8	0.50	% Passing	1
07143	0.3 mm	n.a.	70.4	0.50	% Passing	1
07144	0.15 mm	n.a.	69.9	0.50	% Passing	1
07145	0.075 mm	n.a.	69.1	0.50	% Passing	1
07146	0.064 mm	n.a.	69.0	0.50	% Passing	1
07147	0.05 mm	n.a.	68.0	0.50	% Passing	1
07148	0.02 mm	n.a.	53.5	0.50	% Passing	1
07149	0.005 mm	n.a.	32.5	0.50	% Passing	1
07150	0.002 mm	n.a.	21.0	0.50	% Passing	1
07151	0.001 mm	n.a.	12.5	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355389

RR-A3 Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 17:55 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:03
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

RR-A3 SDG#: KBL07-39

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/21/2004 09:00	Catherine L Cammauf	1

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

4355389

Particle Size Distribution

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355522

RR-A4 Composite Sediment Sample
Kin-Buc Landfill

Collected:09/14/2004 18:20 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:16
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

A4-RR

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	50.7		0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						
02079	TOC Solids/Sludges Combustion	n.a.	18,200.		1,760.	mg/kg	1
01216	PCBs in Solids						
01495	PCB-1016	12674-11-2	N.D.		9.7	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.		8.7	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.		6.7	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.		6.7	ug/kg	1
01499	PCB-1248	12672-29-6	25.	J	6.7	ug/kg	1
01500	PCB-1254	11097-69-1	17.	J	7.5	ug/kg	1
01501	PCB-1260	11096-82-5	11.	J	6.7	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/23/2004 14:37	Scott W Freisher	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/27/2004 08:18	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/24/2004 14:15	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/22/2004 17:00	Luis E Villamil	1

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PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355390

RR-A4 Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 18:20 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:03
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
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Stowe PA 19464

RR-A4 SDG#: KBL07-40

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	96.1	0.50	% Passing	1
07138	4.75 mm	n.a.	85.4	0.50	% Passing	1
07139	3.35 mm	n.a.	74.6	0.50	% Passing	1
07140	2.36 mm	n.a.	61.5	0.50	% Passing	1
07141	1.18 mm	n.a.	61.1	0.50	% Passing	1
07142	0.6 mm	n.a.	60.6	0.50	% Passing	1
07143	0.3 mm	n.a.	59.5	0.50	% Passing	1
07144	0.15 mm	n.a.	58.2	0.50	% Passing	1
07145	0.075 mm	n.a.	56.9	0.50	% Passing	1
07146	0.064 mm	n.a.	56.0	0.50	% Passing	1
07147	0.05 mm	n.a.	52.0	0.50	% Passing	1
07148	0.02 mm	n.a.	40.0	0.50	% Passing	1
07149	0.005 mm	n.a.	26.0	0.50	% Passing	1
07150	0.002 mm	n.a.	17.0	0.50	% Passing	1
07151	0.001 mm	n.a.	10.0	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355390

RR-A4 Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/14/2004 18:20 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:03
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
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Stowe PA 19464

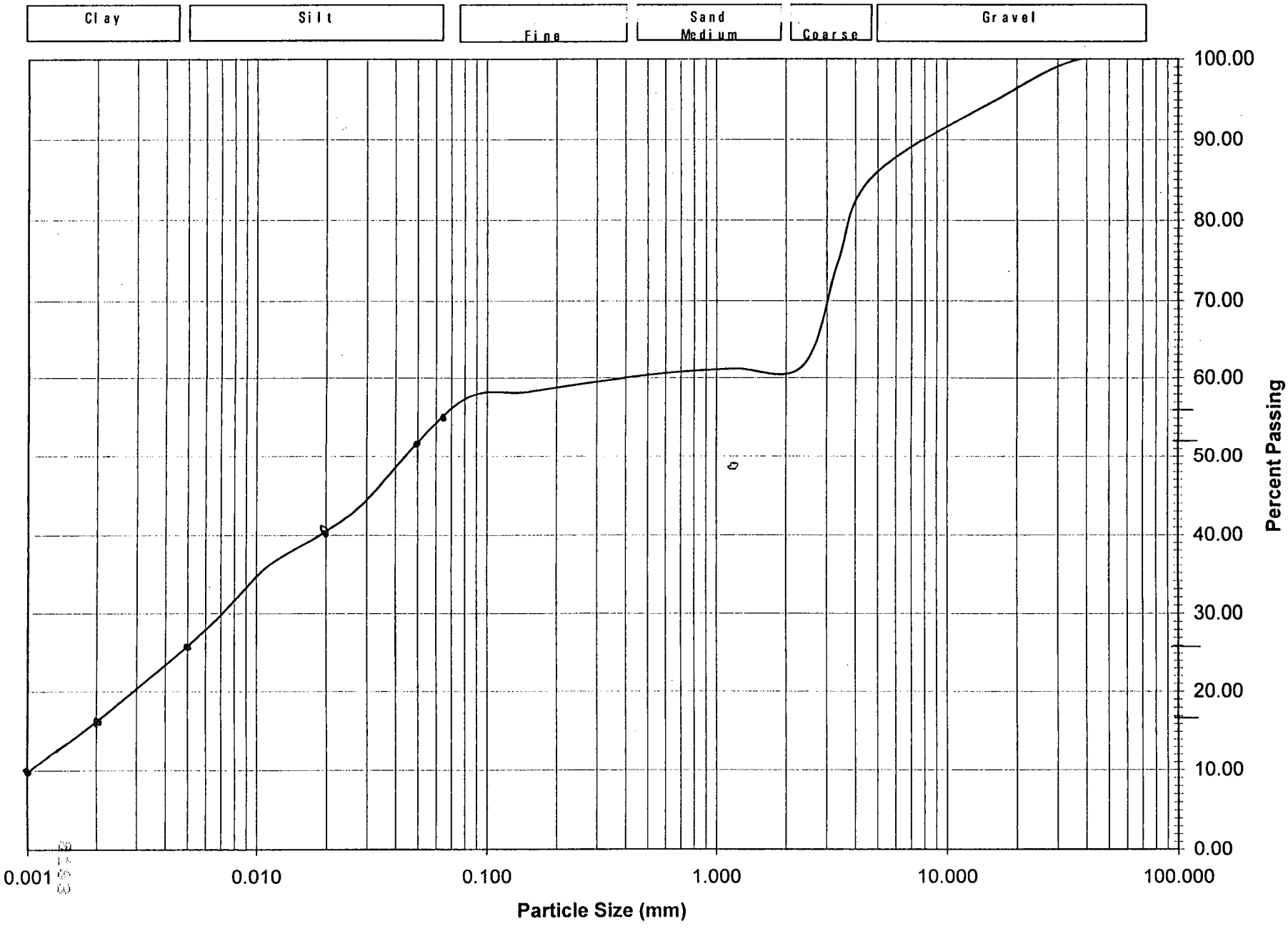
RR-A4 SDG#: KBL07-40

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/21/2004 09:00	Catherine L Cammauf	1

4355390

Particle Size Distribution



BIOASSAY LOCATION DATA SHEET

Date: 9/14/04 Station: RR A1-4

Nearest Town: Edison Stream: Raritan River

Location: @ River Road

Weather Conditions: cloudy Air Temperature ≈ 70°F

Average Width: Average Depth: —

Bottom Materials: silt-/clay

Flow (cfs): low tide / outgoing (@ (5:00 PM)

Shoreline Vegetation: Phragmite / Spartina

Instream Cover: Abundant Common Scarce ✓

Color: Blue Green Tea Brown(Muddy) —

Shade: Densely Shaded Partly Shaded Open ✓

Aquatic Vegetation: some

Dams:

Description of Sample Site: near mouth of Edmonds Creek

Evidence of Erosion or Pollution: none

Water Quality Measurements:

~~Depth~~ Secchi disk	Water Temp	Dissolved Oxygen	pH	Salinity	Cond
1.5	23.5	4.6	6.9	6.5	11,800

Collection Methods	Effort
petite ponar	10-grab composite at each of 4 point locations.

Remarks:

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355525

ECMA-A1 Composite Sediment Sample
Kin-Buc Landfill

Collected:09/15/2004 10:55 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:16
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

A1-EC

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	51.8		0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						
02079	TOC Solids/Sludges Combustion	n.a.	115,000.		2,930.	mg/kg	1
01216	PCBs in Solids						
01495	PCB-1016	12674-11-2	N.D.		10.	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.		8.9	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.		6.8	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.		6.8	ug/kg	1
01499	PCB-1248	12672-29-6	21.	J	6.8	ug/kg	1
01500	PCB-1254	11097-69-1	52.		7.7	ug/kg	1
01501	PCB-1260	11096-82-5	37.		6.8	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/23/2004 14:37	Scott W Freisher	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/27/2004 08:41	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/24/2004 15:25	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/22/2004 17:00	Luis E Villamil	1

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355393

ECMA-A1 Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/15/2004 10:55 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:03
Discard: 11/11/2004

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Stowe PA 19464

MA-A1 SDG#: KBL07-43*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	99.3	0.50	% Passing	1
07139	3.35 mm	n.a.	98.9	0.50	% Passing	1
07140	2.36 mm	n.a.	98.7	0.50	% Passing	1
07141	1.18 mm	n.a.	89.6	0.50	% Passing	1
07142	0.6 mm	n.a.	79.6	0.50	% Passing	1
07143	0.3 mm	n.a.	68.5	0.50	% Passing	1
07144	0.15 mm	n.a.	61.0	0.50	% Passing	1
07145	0.075 mm	n.a.	56.2	0.50	% Passing	1
07146	0.064 mm	n.a.	55.0	0.50	% Passing	1
07147	0.05 mm	n.a.	52.0	0.50	% Passing	1
07148	0.02 mm	n.a.	39.0	0.50	% Passing	1
07149	0.005 mm	n.a.	15.5	0.50	% Passing	1
07150	0.002 mm	n.a.	8.5	0.50	% Passing	1
07151	0.001 mm	n.a.	5.5	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

MEMBER
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Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355393

ECMA-A1 Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/15/2004 10:55 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:03
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

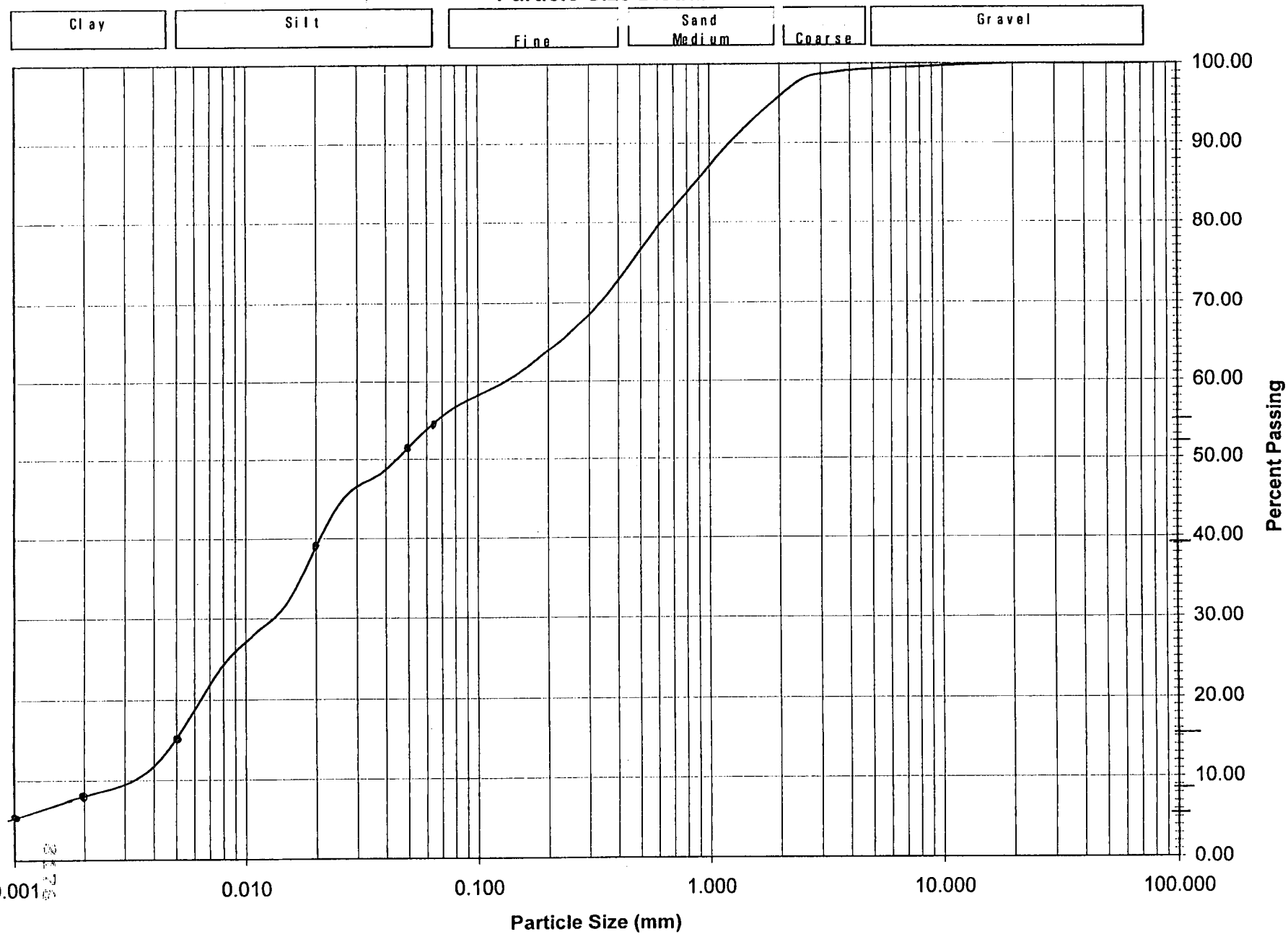
MA-A1 SDG#: KBL07-43*

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/21/2004 09:00	Catherine L Cammauf	1

4355393

Particle Size Distribution



Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355524

ECMA-A2 Composite Sediment Sample
Kin-Buc Landfill

Collected:09/15/2004 10:40 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:16
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

A2-EC

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	51.2		0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						
02079	TOC Solids/Sludges Combustion	n.a.	55,000.		2,880.	mg/kg	1
01216	PCBs in Solids						
01495	PCB-1016	12674-11-2	N.D.		9.8	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.		8.8	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.		6.8	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.		6.8	ug/kg	1
01499	PCB-1248	12672-29-6	46.		6.8	ug/kg	1
01500	PCB-1254	11097-69-1	60.		7.6	ug/kg	1
01501	PCB-1260	11096-82-5	33.	J	6.8	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/23/2004 14:37	Scott W Freisher	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/27/2004 08:33	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/24/2004 15:02	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/22/2004 17:00	Luis E Villamil	1

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355392

ECMA-A2 Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/15/2004 10:40 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:03
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

MA-A2 SDG#: KBL07-42

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	97.7	0.50	% Passing	1
07139	3.35 mm	n.a.	96.9	0.50	% Passing	1
07140	2.36 mm	n.a.	94.5	0.50	% Passing	1
07141	1.18 mm	n.a.	88.1	0.50	% Passing	1
07142	0.6 mm	n.a.	81.4	0.50	% Passing	1
07143	0.3 mm	n.a.	70.2	0.50	% Passing	1
07144	0.15 mm	n.a.	56.3	0.50	% Passing	1
07145	0.075 mm	n.a.	49.6	0.50	% Passing	1
07146	0.064 mm	n.a.	49.0	0.50	% Passing	1
07147	0.05 mm	n.a.	46.0	0.50	% Passing	1
07148	0.02 mm	n.a.	29.0	0.50	% Passing	1
07149	0.005 mm	n.a.	14.0	0.50	% Passing	1
07150	0.002 mm	n.a.	7.0	0.50	% Passing	1
07151	0.001 mm	n.a.	4.0	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

MEMBER
Lancaster Laboratories, Inc.
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Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355392

ECMA-A2 Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/15/2004 10:40 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:03
Discard: 11/11/2004

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400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

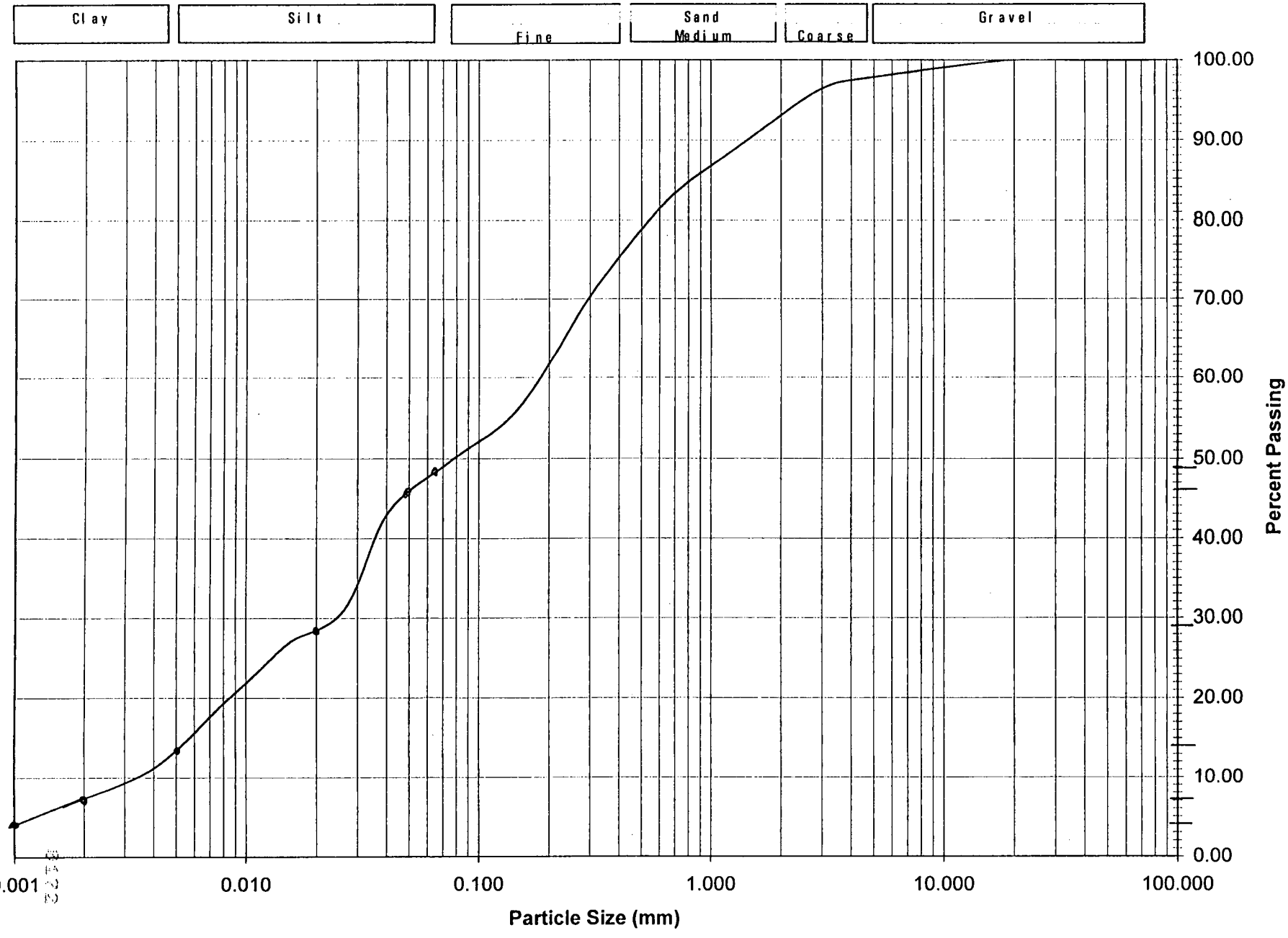
MA-A2 SDG#: KBL07-42

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/21/2004 09:00	Catherine L Cammauf	1

4355392-BKG

Particle Size Distribution



Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355523

ECMA-A3 Composite Sediment Sample
Kin-Buc Landfill

Collected:09/15/2004 10:20 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:16
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

A3-EC

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	51.1		0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.						
02079	TOC Solids/Sludges Combustion	n.a.	151,000.		3,850.	mg/kg	1
01216	PCBs in Solids						
01495	PCB-1016	12674-11-2	N.D.		9.8	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.		8.8	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.		6.7	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.		6.7	ug/kg	1
01499	PCB-1248	12672-29-6	12.	J	6.7	ug/kg	1
01500	PCB-1254	11097-69-1	75.		7.6	ug/kg	1
01501	PCB-1260	11096-82-5	46.		6.7	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/23/2004 14:37	Scott W Freisher	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/27/2004 08:25	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/24/2004 14:39	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/22/2004 17:00	Luis E Villamil	1

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355391

ECMA-A3 Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/15/2004 10:20 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:03
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

MA-A3 SDG#: KBL07-41

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	99.4	0.50	% Passing	1
07139	3.35 mm	n.a.	98.8	0.50	% Passing	1
07140	2.36 mm	n.a.	98.1	0.50	% Passing	1
07141	1.18 mm	n.a.	91.7	0.50	% Passing	1
07142	0.6 mm	n.a.	85.1	0.50	% Passing	1
07143	0.3 mm	n.a.	79.1	0.50	% Passing	1
07144	0.15 mm	n.a.	74.3	0.50	% Passing	1
07145	0.075 mm	n.a.	71.5	0.50	% Passing	1
07146	0.064 mm	n.a.	69.0	0.50	% Passing	1
07147	0.05 mm	n.a.	61.0	0.50	% Passing	1
07148	0.02 mm	n.a.	47.0	0.50	% Passing	1
07149	0.005 mm	n.a.	28.0	0.50	% Passing	1
07150	0.002 mm	n.a.	19.0	0.50	% Passing	1
07151	0.001 mm	n.a.	16.5	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

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Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355391

ECMA-A3 Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/15/2004 10:20 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:03
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

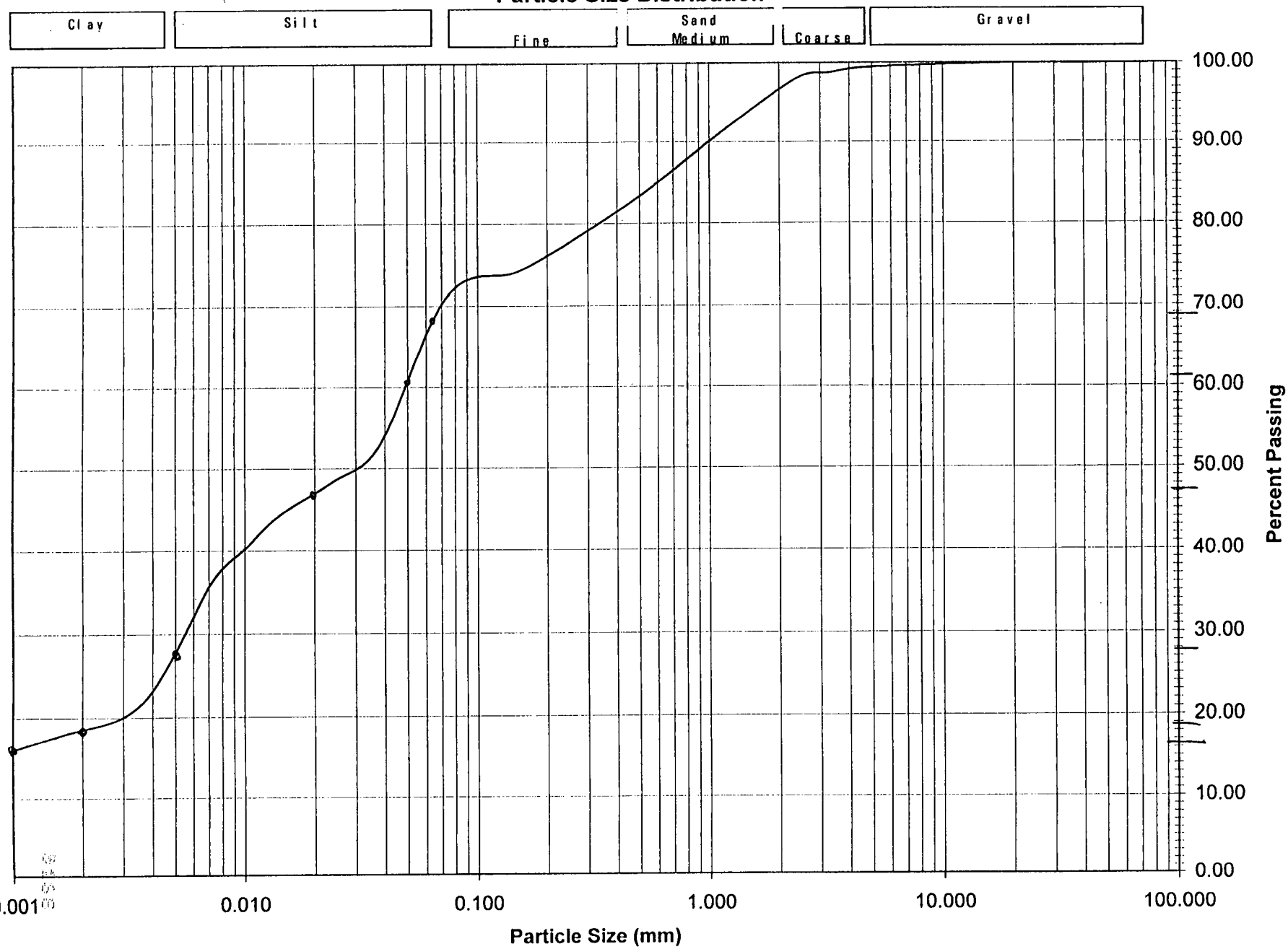
MA-A3 SDG#: KBL07-41

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/21/2004 09:00	Catherine L Cammauf	1

4355391

Particle Size Distribution



Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355490

RA-ABEN-01L Composite Sediment Sample
Kin-Buc Landfill

Collected:09/13/2004 17:40 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:15
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

KI01L

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	56.7	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	48,700.	2,510.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	11.	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	9.9	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	7.6	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	7.6	ug/kg	1
01499	PCB-1248	12672-29-6	180.	7.6	ug/kg	1
01500	PCB-1254	11097-69-1	160.	8.5	ug/kg	1
01501	PCB-1260	11096-82-5	93.	7.6	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/21/2004 10:59	William C Schwebel	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 08:15	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/23/2004 09:59	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/21/2004 17:00	Luis E Villamil	1

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355360

RA-ABEN-01L Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 17:40 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:01
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

RA01L SDG#: KBL07-10

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	99.4	0.50	% Passing	1
07139	3.35 mm	n.a.	96.7	0.50	% Passing	1
07140	2.36 mm	n.a.	84.5	0.50	% Passing	1
07141	1.18 mm	n.a.	83.5	0.50	% Passing	1
07142	0.6 mm	n.a.	82.5	0.50	% Passing	1
07143	0.3 mm	n.a.	81.3	0.50	% Passing	1
07144	0.15 mm	n.a.	79.9	0.50	% Passing	1
07145	0.075 mm	n.a.	78.5	0.50	% Passing	1
07146	0.064 mm	n.a.	77.0	0.50	% Passing	1
07147	0.05 mm	n.a.	72.0	0.50	% Passing	1
07148	0.02 mm	n.a.	57.0	0.50	% Passing	1
07149	0.005 mm	n.a.	28.0	0.50	% Passing	1
07150	0.002 mm	n.a.	15.0	0.50	% Passing	1
07151	0.001 mm	n.a.	6.5	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355360

RA-ABEN-01L Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 17:40 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:01
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

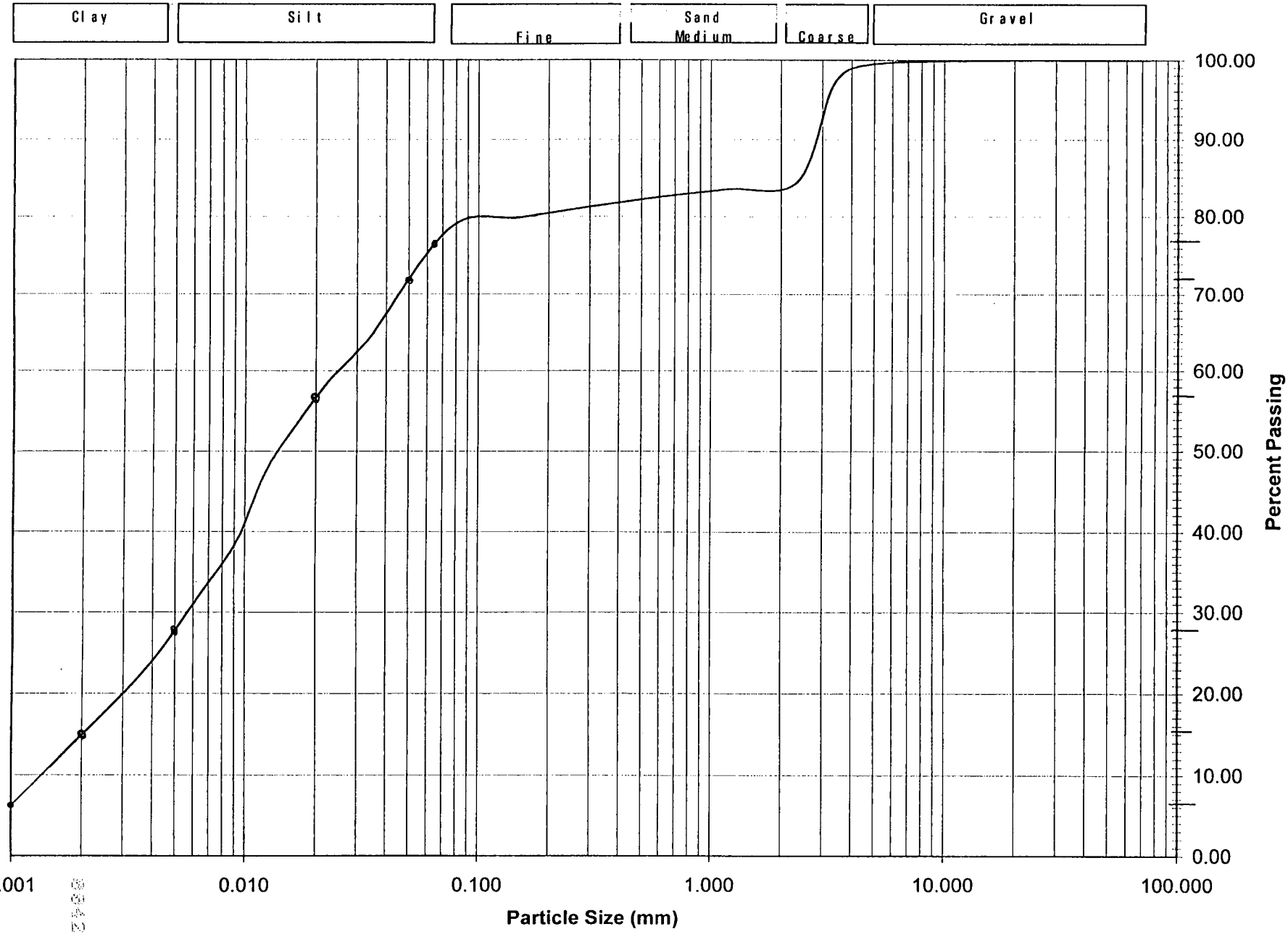
RA01L SDG#: KBL07-10

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/20/2004 13:00	Catherine L Cammauf	1

4355360

Particle Size Distribution



Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355492

RA-ABEN-01AR Composite Sediment Sample
Kin-Buc Landfill

Collected:09/13/2004 18:05 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:15
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

K01AR

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	58.0	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	48,400.	2,800.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	11.	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	10.	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	7.9	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	7.9	ug/kg	1
01499	PCB-1248	12672-29-6	110.	7.9	ug/kg	1
01500	PCB-1254	11097-69-1	120.	8.8	ug/kg	1
01501	PCB-1260	11096-82-5	66.	7.9	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/21/2004 10:59	William C Schwebel	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 08:31	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/23/2004 10:46	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/21/2004 17:00	Luis E Villamil	1

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355362

RA-ABEN-01AR Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 18:05 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:01
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

R01AR SDG#: KBL07-12

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	99.7	0.50	% Passing	1
07139	3.35 mm	n.a.	94.9	0.50	% Passing	1
07140	2.36 mm	n.a.	82.7	0.50	% Passing	1
07141	1.18 mm	n.a.	82.2	0.50	% Passing	1
07142	0.6 mm	n.a.	81.5	0.50	% Passing	1
07143	0.3 mm	n.a.	80.3	0.50	% Passing	1
07144	0.15 mm	n.a.	78.7	0.50	% Passing	1
07145	0.075 mm	n.a.	77.1	0.50	% Passing	1
07146	0.064 mm	n.a.	77.0	0.50	% Passing	1
07147	0.05 mm	n.a.	74.0	0.50	% Passing	1
07148	0.02 mm	n.a.	58.5	0.50	% Passing	1
07149	0.005 mm	n.a.	27.5	0.50	% Passing	1
07150	0.002 mm	n.a.	15.5	0.50	% Passing	1
07151	0.001 mm	n.a.	6.5	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355362

RA-ABEN-01AR Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 18:05 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:01
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

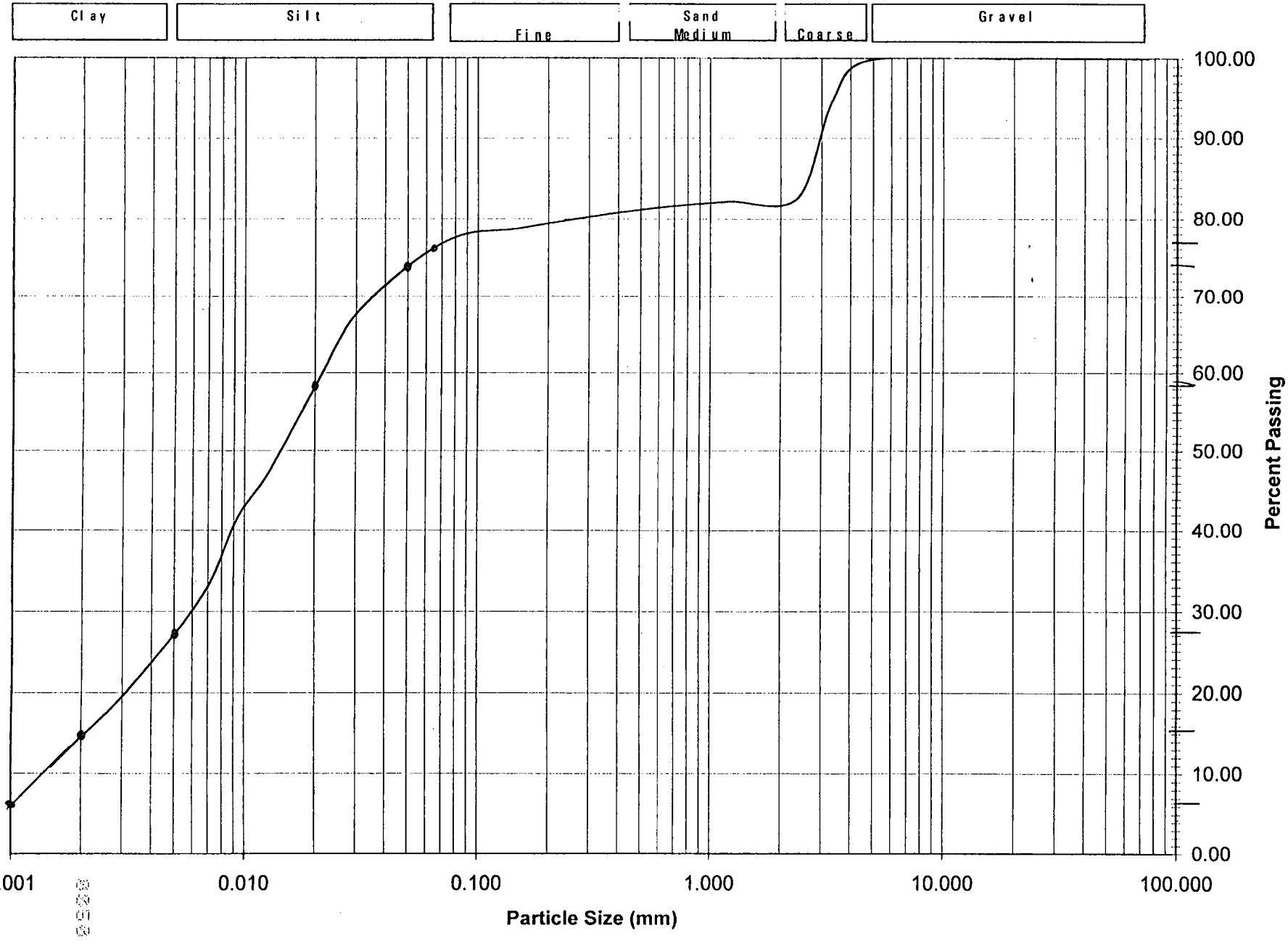
R01AR SDG#: KBL07-12

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/20/2004 13:00	Catherine L Cammauf	1

4355362

Particle Size Distribution



Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355491

RA-ABEN-01AL Composite Sediment Sample
Kin-Buc Landfill

Collected:09/13/2004 17:50 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:15
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

K01AL

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	57.0	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	52,800.	3,100.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	11.	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	10.	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	7.7	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	7.7	ug/kg	1
01499	PCB-1248	12672-29-6	110.	7.7	ug/kg	1
01500	PCB-1254	11097-69-1	120.	8.6	ug/kg	1
01501	PCB-1260	11096-82-5	70.	7.7	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/21/2004 10:59	William C Schwebel	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 08:23	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/23/2004 10:22	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/21/2004 17:00	Luis E Villamil	1

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355361

RA-ABEN-01AL Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 17:50 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:01
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

R01AL SDG#: KBL07-11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	99.3	0.50	% Passing	1
07139	3.35 mm	n.a.	94.8	0.50	% Passing	1
07140	2.36 mm	n.a.	79.9	0.50	% Passing	1
07141	1.18 mm	n.a.	79.5	0.50	% Passing	1
07142	0.6 mm	n.a.	78.9	0.50	% Passing	1
07143	0.3 mm	n.a.	77.9	0.50	% Passing	1
07144	0.15 mm	n.a.	76.5	0.50	% Passing	1
07145	0.075 mm	n.a.	75.1	0.50	% Passing	1
07146	0.064 mm	n.a.	73.0	0.50	% Passing	1
07147	0.05 mm	n.a.	68.0	0.50	% Passing	1
07148	0.02 mm	n.a.	52.0	0.50	% Passing	1
07149	0.005 mm	n.a.	26.0	0.50	% Passing	1
07150	0.002 mm	n.a.	15.0	0.50	% Passing	1
07151	0.001 mm	n.a.	8.0	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355361

RA-ABEN-01AL Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 17:50 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:01
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

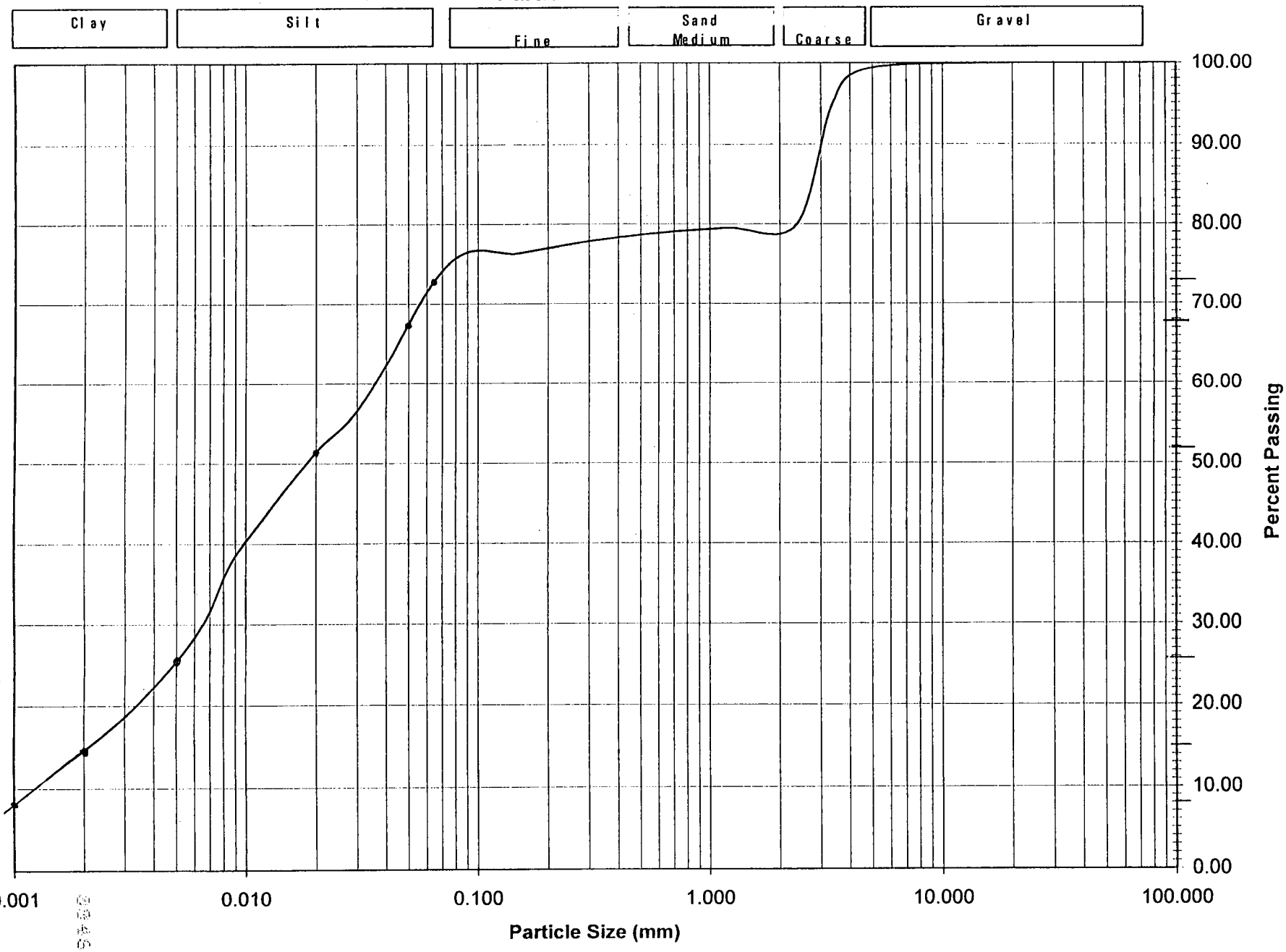
R01AL SDG#: KBL07-11

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/20/2004 13:00	Catherine L Cammauf	1

4355361

Particle Size Distribution



Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355488

RA-ABIO-01/01A Composite Sediment Sample
Kin-Buc Landfill

Collected:09/13/2004 17:25 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:15
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

KINRA

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	66.2	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	43,600.	4,190.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	14.	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	13.	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	9.8	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	9.8	ug/kg	1
01499	PCB-1248	12672-29-6	340.	9.8	ug/kg	1
01500	PCB-1254	11097-69-1	220.	11.	ug/kg	1
01501	PCB-1260	11096-82-5	120.	9.8	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/21/2004 10:59	William C Schwebel	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 07:29	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/23/2004 08:26	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/21/2004 17:00	Luis E Villamil	1

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355489

RA-ABIO-01/01A Dup Composite Sediment Sample
Kin-Buc Landfill

Collected:09/13/2004 17:27 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:15
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

KI01A

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	67.4	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	46,000.	3,310.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	15.	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	13.	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	10.	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	10.	ug/kg	1
01499	PCB-1248	12672-29-6	260.	10.	ug/kg	1
01500	PCB-1254	11097-69-1	160.	11.	ug/kg	1
01501	PCB-1260	11096-82-5	81.	10.	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/21/2004 10:59	William C Schwebel	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 07:37	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/23/2004 08:49	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/21/2004 17:00	Luis E Villamil	1

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355359

RA-ABIO-01/01A Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 17:25 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:01
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

RA01A SDG#: KBL07-09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	99.8	0.50	% Passing	1
07139	3.35 mm	n.a.	96.1	0.50	% Passing	1
07140	2.36 mm	n.a.	82.9	0.50	% Passing	1
07141	1.18 mm	n.a.	82.2	0.50	% Passing	1
07142	0.6 mm	n.a.	81.0	0.50	% Passing	1
07143	0.3 mm	n.a.	79.6	0.50	% Passing	1
07144	0.15 mm	n.a.	77.7	0.50	% Passing	1
07145	0.075 mm	n.a.	76.5	0.50	% Passing	1
07146	0.064 mm	n.a.	76.0	0.50	% Passing	1
07147	0.05 mm	n.a.	74.5	0.50	% Passing	1
07148	0.02 mm	n.a.	62.0	0.50	% Passing	1
07149	0.005 mm	n.a.	29.5	0.50	% Passing	1
07150	0.002 mm	n.a.	16.0	0.50	% Passing	1
07151	0.001 mm	n.a.	8.5	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355359

RA-ABIO-01/01A Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 17:25 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:01
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

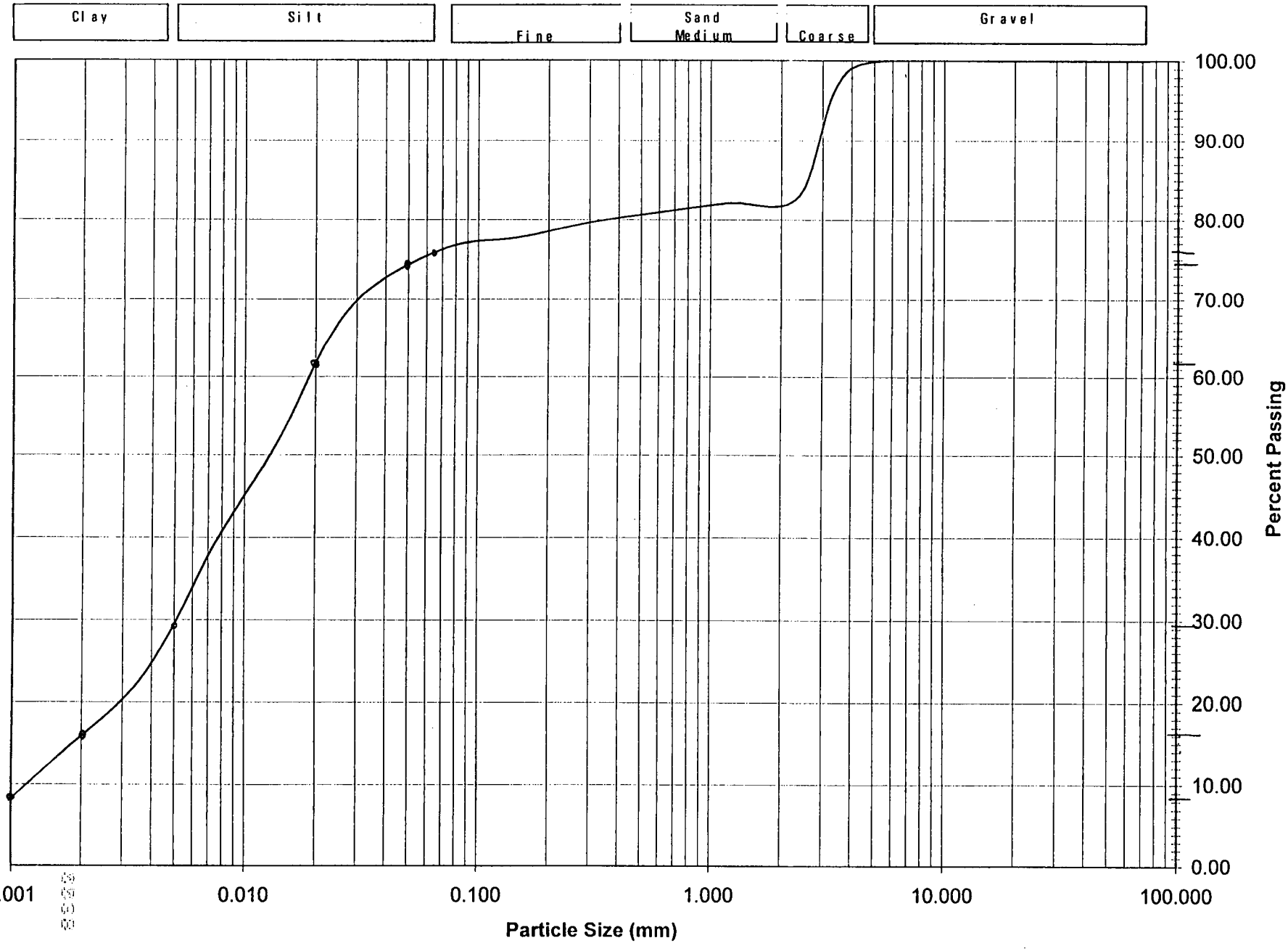
RA01A SDG#: KBL07-09

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/20/2004 13:00	Catherine L Cammauf	1

4355359

Particle Size Distribution



BIOASSAY LOCATION DATA SHEET

Date: 9/13/01 Station: RA-ABIO-01/01A

Nearest Town: ~~Edison~~ New Brunswick Stream: Reference Creek

Location: Ref Reference Area 1

Weather Conditions: ptly cloudy Air Temperature ≈ 75°F

Average Width: — Average Depth: —

Bottom Materials: silt/clay/detritus

Flow (cfs): Mod. Tide (incoming) (6:15 PM)

Shoreline Vegetation: Forested

Instream Cover: Abundant ____ Common ____ Scarce ✓

Color: Blue ____ Green ____ Tea ____ Brown(Muddy) ✓

Shade: Densely Shaded ____ Partly Shaded ✓ Open ____

Aquatic Vegetation: none

Dams:

Description of Sample Site: Downstream Reference Area

Evidence of Erosion or Pollution: none

Water Quality Measurements:

~~Depth~~ Secchi disk	Water Temp	Dissolved Oxygen	pH	Salinity	Cond
0.7'	24.5C	4.2 ppm	6.8	5.5 ppt	9990 KT

Collection Methods	Effort
Petite Ponar	12 grabs composit from each transect

Remarks: Field dup collected here

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355494

RA-ABEN-02L Composite Sediment Sample
Kin-Buc Landfill

Collected:09/13/2004 18:40 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:15
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

KI02L

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	57.2	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	44,900.	2,680.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	11.	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	10.	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	7.7	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	7.7	ug/kg	1
01499	PCB-1248	12672-29-6	130.	7.7	ug/kg	1
01500	PCB-1254	11097-69-1	150.	8.6	ug/kg	1
01501	PCB-1260	11096-82-5	86.	7.7	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/21/2004 10:59	William C Schwebel	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 08:46	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/23/2004 11:32	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/21/2004 17:00	Luis E Villamil	1

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355364

RA-ABEN-02L Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 18:40 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

RA02L SDG#: KBL07-14

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	99.3	0.50	% Passing	1
07139	3.35 mm	n.a.	95.0	0.50	% Passing	1
07140	2.36 mm	n.a.	80.1	0.50	% Passing	1
07141	1.18 mm	n.a.	79.5	0.50	% Passing	1
07142	0.6 mm	n.a.	78.6	0.50	% Passing	1
07143	0.3 mm	n.a.	77.6	0.50	% Passing	1
07144	0.15 mm	n.a.	76.5	0.50	% Passing	1
07145	0.075 mm	n.a.	75.4	0.50	% Passing	1
07146	0.064 mm	n.a.	74.0	0.50	% Passing	1
07147	0.05 mm	n.a.	72.0	0.50	% Passing	1
07148	0.02 mm	n.a.	56.5	0.50	% Passing	1
07149	0.005 mm	n.a.	28.0	0.50	% Passing	1
07150	0.002 mm	n.a.	15.0	0.50	% Passing	1
07151	0.001 mm	n.a.	8.0	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355364

RA-ABEN-02L Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 18:40 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

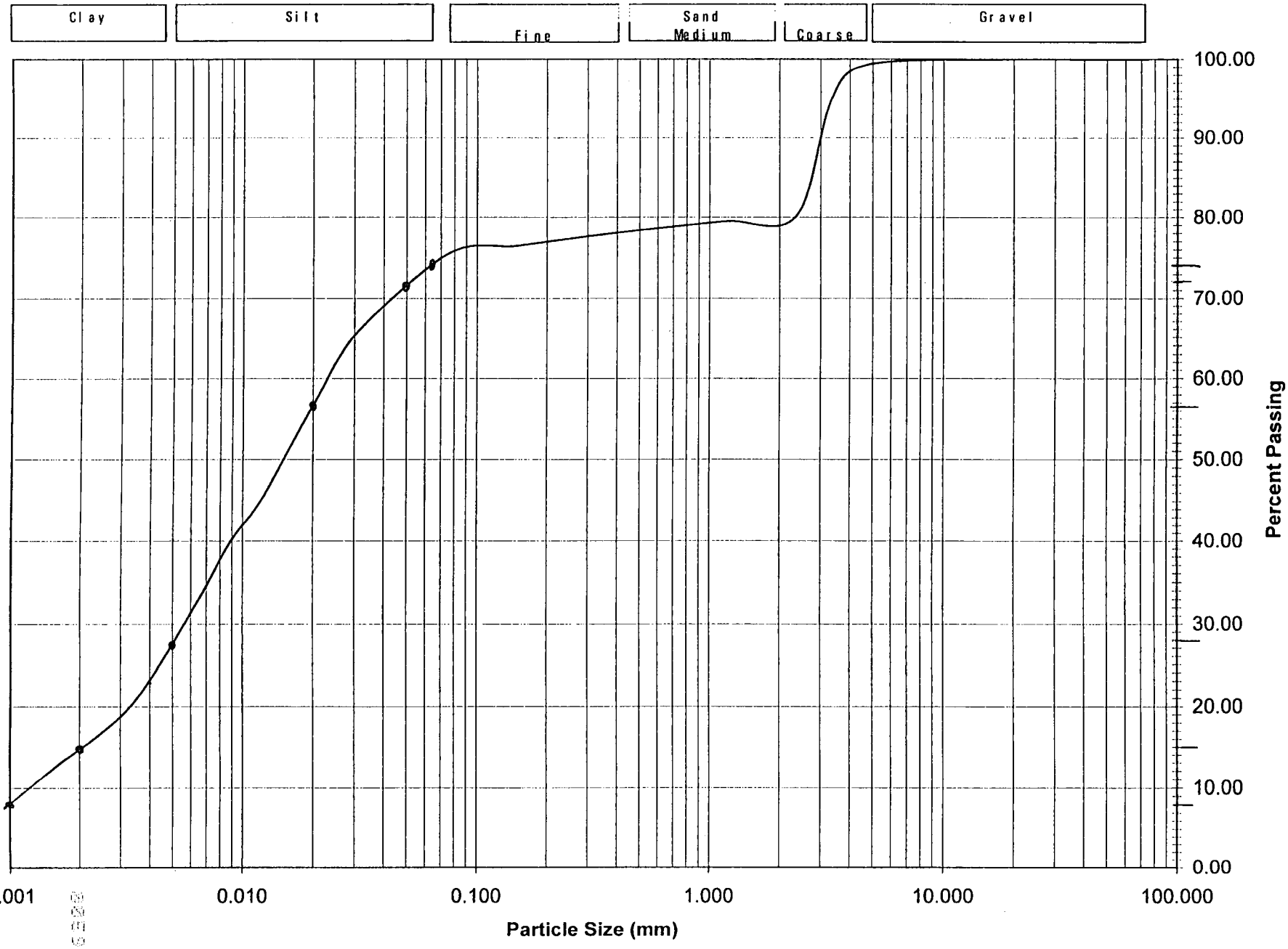
RA02L SDG#: KBL07-14

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/20/2004 13:00	Catherine L Cammauf	1

4355364

Particle Size Distribution



Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355495

RA-ABEN-02AR Composite Sediment Sample
Kin-Buc Landfill

Collected:09/13/2004 18:55 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:15
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

K02AR

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	54.0	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	47,100.	2,360.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	10.	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	9.3	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	7.2	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	7.2	ug/kg	1
01499	PCB-1248	12672-29-6	99.	7.2	ug/kg	1
01500	PCB-1254	11097-69-1	100.	8.0	ug/kg	1
01501	PCB-1260	11096-82-5	59.	7.2	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/21/2004 10:59	William C Schwebel	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 08:54	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/23/2004 11:56	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/21/2004 17:00	Luis E Villamil	1

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355365

RA-ABEN-02AR Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 18:55 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

R02AR SDG#: KBL07-15

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	99.5	0.50	% Passing	1
07139	3.35 mm	n.a.	97.0	0.50	% Passing	1
07140	2.36 mm	n.a.	83.0	0.50	% Passing	1
07141	1.18 mm	n.a.	82.6	0.50	% Passing	1
07142	0.6 mm	n.a.	81.8	0.50	% Passing	1
07143	0.3 mm	n.a.	80.8	0.50	% Passing	1
07144	0.15 mm	n.a.	79.7	0.50	% Passing	1
07145	0.075 mm	n.a.	78.4	0.50	% Passing	1
07146	0.064 mm	n.a.	77.0	0.50	% Passing	1
07147	0.05 mm	n.a.	71.0	0.50	% Passing	1
07148	0.02 mm	n.a.	59.0	0.50	% Passing	1
07149	0.005 mm	n.a.	30.0	0.50	% Passing	1
07150	0.002 mm	n.a.	16.0	0.50	% Passing	1
07151	0.001 mm	n.a.	8.0	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355365

RA-ABEN-02AR Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 18:55 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

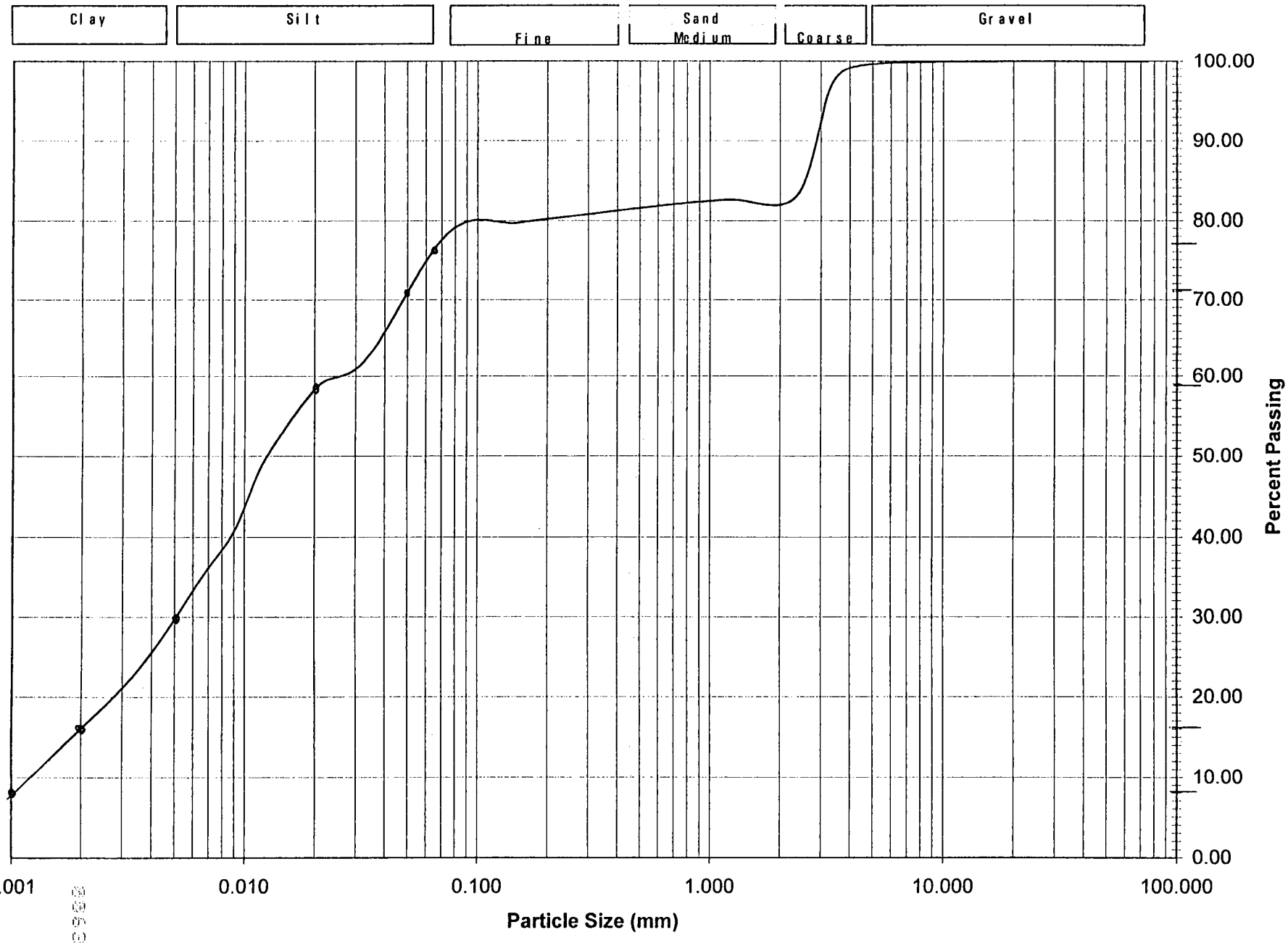
R02AR SDG#: KBL07-15

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/20/2004 13:00	Catherine L Cammauf	1

4355365

Particle Size Distribution



Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355496

RA-ABEN-02AL Composite Sediment Sample
Kin-Buc Landfill

Collected:09/13/2004 19:05 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:15
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

K02AL

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	56.8	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	53,400.	2,430.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	11.	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	10.	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	7.6	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	7.6	ug/kg	1
01499	PCB-1248	12672-29-6	100.	7.6	ug/kg	1
01500	PCB-1254	11097-69-1	120.	8.6	ug/kg	1
01501	PCB-1260	11096-82-5	75.	7.6	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/21/2004 10:59	William C Schwebel	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 09:22	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/23/2004 12:19	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/21/2004 17:00	Luis E Villamil	1

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355366

RA-ABEN-02AL Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 19:05 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

R02AL SDG#: KBL07-16

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	99.7	0.50	% Passing	1
07139	3.35 mm	n.a.	98.1	0.50	% Passing	1
07140	2.36 mm	n.a.	90.0	0.50	% Passing	1
07141	1.18 mm	n.a.	89.4	0.50	% Passing	1
07142	0.6 mm	n.a.	88.6	0.50	% Passing	1
07143	0.3 mm	n.a.	87.6	0.50	% Passing	1
07144	0.15 mm	n.a.	86.2	0.50	% Passing	1
07145	0.075 mm	n.a.	84.8	0.50	% Passing	1
07146	0.064 mm	n.a.	84.0	0.50	% Passing	1
07147	0.05 mm	n.a.	82.0	0.50	% Passing	1
07148	0.02 mm	n.a.	69.0	0.50	% Passing	1
07149	0.005 mm	n.a.	33.5	0.50	% Passing	1
07150	0.002 mm	n.a.	18.0	0.50	% Passing	1
07151	0.001 mm	n.a.	8.0	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355366

RA-ABEN-02AL Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 19:05 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:02
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

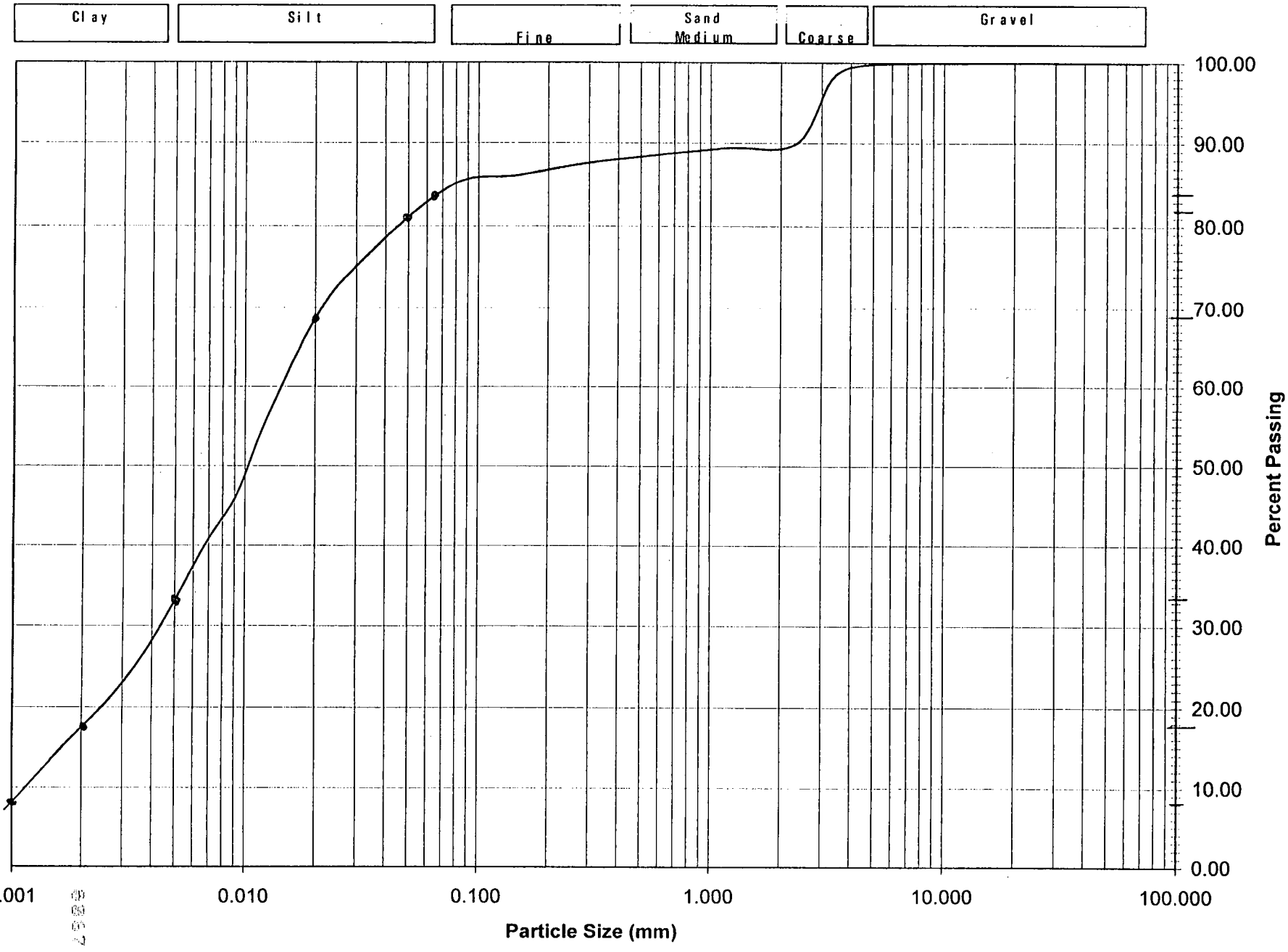
R02AL SDG#: KBL07-16

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/20/2004 13:00	Catherine L Cammauf	1

4355366

Particle Size Distribution



Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355493

RA-ABIO-02/02A Composite Sediment Sample
Kin-Buc Landfill

Collected:09/13/2004 18:25 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:15
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

KI02A

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	66.2	0.50	%	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.					
02079	TOC Solids/Sludges Combustion	n.a.	43,600.	3,120.	mg/kg	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	14.	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	13.	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	9.8	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	9.8	ug/kg	1
01499	PCB-1248	12672-29-6	130.	9.8	ug/kg	1
01500	PCB-1254	11097-69-1	100.	11.	ug/kg	1
01501	PCB-1260	11096-82-5	60.	9.8	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	09/21/2004 10:59	William C Schwebel	1
02079	TOC Solids/Sludges Combustion	SM18 5310B, modified	1	09/23/2004 08:38	Timothy M Petree	1
01216	PCBs in Solids	SW-846 8082	1	09/23/2004 11:09	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	09/21/2004 17:00	Luis E Villamil	1

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355363

RA-ABIO-02/02A Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 18:25 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:01
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

RA02A SDG#: KBL07-13

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
07103	Grain Size to 1 um					
07135	75 mm	n.a.	100.	0.50	% Passing	1
07136	37.5 mm	n.a.	100.	0.50	% Passing	1
07137	19 mm	n.a.	100.	0.50	% Passing	1
07138	4.75 mm	n.a.	99.6	0.50	% Passing	1
07139	3.35 mm	n.a.	95.9	0.50	% Passing	1
07140	2.36 mm	n.a.	83.0	0.50	% Passing	1
07141	1.18 mm	n.a.	82.6	0.50	% Passing	1
07142	0.6 mm	n.a.	82.2	0.50	% Passing	1
07143	0.3 mm	n.a.	81.3	0.50	% Passing	1
07144	0.15 mm	n.a.	79.8	0.50	% Passing	1
07145	0.075 mm	n.a.	78.9	0.50	% Passing	1
07146	0.064 mm	n.a.	79.0	0.50	% Passing	1
07147	0.05 mm	n.a.	77.0	0.50	% Passing	1
07148	0.02 mm	n.a.	68.0	0.50	% Passing	1
07149	0.005 mm	n.a.	34.0	0.50	% Passing	1
07150	0.002 mm	n.a.	21.0	0.50	% Passing	1
07151	0.001 mm	n.a.	13.5	0.50	% Passing	1

The hydrometer values (particle sizes 0.064 mm to 0.001 mm) are interpolated from the plotted data.

State of New Jersey Lab Certification No. PA011

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 4355363

RA-ABIO-02/02A Composite Sediment Sample
Kin-Buc Landfill - NJ

Collected:09/13/2004 18:25 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/11/2004 at 09:01
Discard: 11/11/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

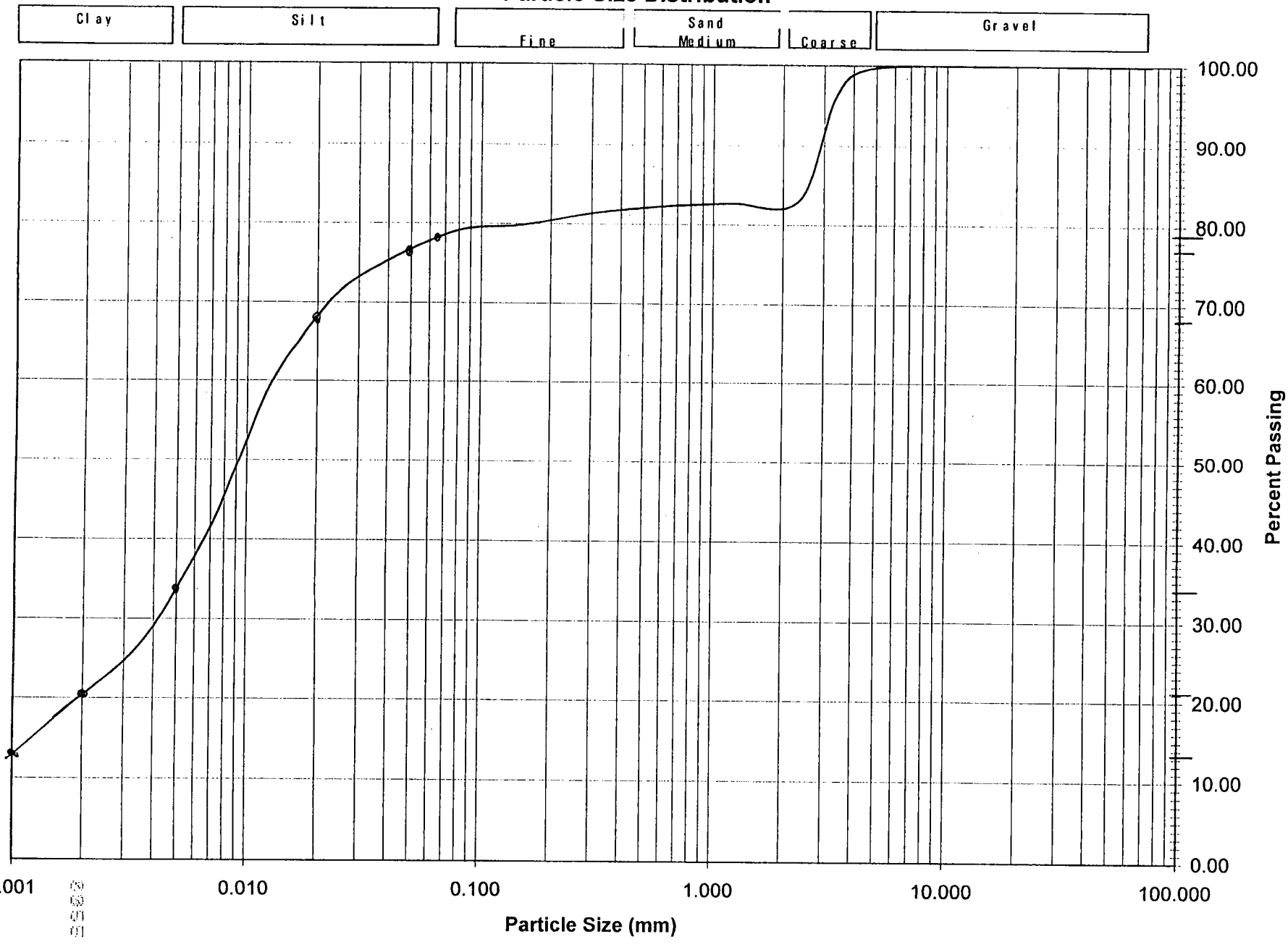
RA02A SDG#: KBL07-13

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07103	Grain Size to 1 um	ASTM D-422	1	09/20/2004 13:00	Catherine L Cammauf	1

4355363

Particle Size Distribution



BIOASSAY LOCATION DATA SHEET

Date: 9/13/04 Station: RA-ABIO-02/02A

Nearest Town: New Brunswick Stream: Reference

Location: Reference Area #2

Weather Conditions: ptly cloudy Air Temperature ≈ >50°F

Average Width: — Average Depth: —

Bottom Materials: silt/clay/detritus

Flow (cfs): high tide / incoming flow (6:25 PM)

Shoreline Vegetation: Frequite

Instream Cover: Abundant ____ Common ____ Scarce ✓

Color: Blue ____ Green ____ Tea ____ Brown(Muddy) ✓

Shade: Densely Shaded ____ Partly Shaded ✓ Open ____

Aquatic Vegetation: Frequite

Dams: ____

Description of Sample Site: Upstream Reference Area

Evidence of Erosion or Pollution: none

Water Quality Measurements:

~~Depth~~ Secchi disk	Water Temp	Dissolved Oxygen	pH	Salinity	Cond
0.8'	24.5°C	4.1	6.8	5.5	10,100 µS

Collection Methods	Effort
Petite Ponar	10 grabs composit

Remarks: ____

Lancaster Laboratories

Lancaster Laboratories Sample No. WW 4355518

Field Blank Water Sample
Kin-Buc Landfill

Collected:09/14/2004 15:50 by CDD

Account Number: 07418

Submitted: 09/17/2004 15:40
Reported: 10/01/2004 at 16:16
Discard: 11/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

FIELD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00273	Total Organic Carbon	n.a.	15.4	0.50	mg/l	1
00173	PCBs in Water					
00639	PCB-1016	12674-11-2	N.D.	0.11	ug/l	1
00640	PCB-1221	11104-28-2	N.D.	0.18	ug/l	1
00641	PCB-1232	11141-16-5	N.D.	0.11	ug/l	1
00642	PCB-1242	53469-21-9	N.D.	0.11	ug/l	1
00643	PCB-1248	12672-29-6	N.D.	0.11	ug/l	1
00644	PCB-1254	11097-69-1	N.D.	0.11	ug/l	1
00645	PCB-1260	11096-82-5	N.D.	0.11	ug/l	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00273	Total Organic Carbon	EPA 415.1	1	09/21/2004 13:41	Timothy M Petree	1
00173	PCBs in Water	SW-846 8082	1	09/23/2004 14:57	Artie D Kunselman	1
00817	Water Sample Pest. Extraction	SW-846 3510C	1	09/21/2004 15:45	Desiree J Wann	1

Lancaster Laboratories

Quality Control Summary

Client Name: Normandeau Associates, Inc.
Reported: 10/01/04 at 04:16 PM

Group Number: 912675

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 042650008A	Sample number(s): 4355518							
PCB-1016	N.D.	0.10	ug/l	82	82	52-123	0	30
PCB-1221	N.D.	0.17	ug/l					
PCB-1232	N.D.	0.10	ug/l					
PCB-1242	N.D.	0.10	ug/l					
PCB-1248	N.D.	0.10	ug/l					
PCB-1254	N.D.	0.10	ug/l					
PCB-1260	N.D.	0.10	ug/l	86	86	62-133	0	30
Batch number: 042650014A	Sample number(s): 4355480-4355498							
PCB-1016	N.D.	4.8	ug/kg	93		72-120		
PCB-1221	N.D.	4.3	ug/kg					
PCB-1232	N.D.	3.3	ug/kg					
PCB-1242	N.D.	3.3	ug/kg					
PCB-1248	N.D.	3.3	ug/kg					
PCB-1254	N.D.	3.7	ug/kg					
PCB-1260	N.D.	3.3	ug/kg	93		76-122		
Batch number: 042650020A	Sample number(s): 4355499-4355517,4355519							
PCB-1016	N.D.	4.8	ug/kg	91		72-120		
PCB-1221	N.D.	4.3	ug/kg					
PCB-1232	N.D.	3.3	ug/kg					
PCB-1242	N.D.	3.3	ug/kg					
PCB-1248	N.D.	3.3	ug/kg					
PCB-1254	N.D.	3.7	ug/kg					
PCB-1260	N.D.	3.3	ug/kg	93		76-122		
Batch number: 04265011111B	Sample number(s): 4355518							
Total Organic Carbon	N.D.	0.50	mg/l	97		85-111		
Batch number: 04265011131A	Sample number(s): 4355480-4355488							
TOC Solids/Sludges Combustion	N.D.	60.0	mg/kg	97		65-127		
Batch number: 04265011131B	Sample number(s): 4355489-4355498							
TOC Solids/Sludges Combustion	N.D.	60.0	mg/kg	97		65-127		
Batch number: 04265011132A	Sample number(s): 4355499-4355508							

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Lancaster Laboratories

Quality Control Summary

Client Name: Normandeau Associates, Inc. Group Number: 912675
Reported: 10/01/04 at 04:16 PM

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
TOC Solids/Sludges Combustion	N.D.	60.0	mg/kg	98		65-127		
Batch number: 04265011132B	Sample number(s): 4355509-4355517,4355519							
TOC Solids/Sludges Combustion	N.D.	60.0	mg/kg	98		65-127		
Batch number: 04265820004A	Sample number(s): 4355480-4355481,4355492-4355498							
Moisture				100		99-101		
Batch number: 04265820004B	Sample number(s): 4355482-4355491							
Moisture				100		99-101		
Batch number: 042660001A	Sample number(s): 4355520-4355525							
PCB-1016	N.D.	4.8	ug/kg	87		72-120		
PCB-1221	N.D.	4.3	ug/kg					
PCB-1232	N.D.	3.3	ug/kg					
PCB-1242	N.D.	3.3	ug/kg					
PCB-1248	N.D.	3.3	ug/kg					
PCB-1254	N.D.	3.7	ug/kg					
PCB-1260	N.D.	3.3	ug/kg	88		76-122		
Batch number: 04266820004A	Sample number(s): 4355499-4355502,4355504							
Moisture				100		99-101		
Batch number: 04266820004B	Sample number(s): 4355503,4355505-4355513							
Moisture				100		99-101		
Batch number: 04267820002A	Sample number(s): 4355514-4355517,4355519							
Moisture				100		99-101		
Batch number: 04267820002B	Sample number(s): 4355520-4355525							
Moisture				100		99-101		
Batch number: 04271011131A	Sample number(s): 4355520-4355525							
TOC Solids/Sludges Combustion	N.D.	60.0	mg/kg	94		65-127		

Sample Matrix Quality Control

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 042650014A	Sample number(s): 4355480-4355498								
PCB-1016	118	121	45-125	3	50				
PCB-1260	99	100	32-139	1	50				
Batch number: 042650020A	Sample number(s): 4355499-4355517,4355519								

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Lancaster Laboratories

Quality Control Summary

Client Name: Normandeau Associates, Inc. Group Number: 912675
Reported: 10/01/04 at 04:16 PM

Sample Matrix Quality Control

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
PCB-1016	111	102	45-125	8	50				
PCB-1260	83	81	32-139	3	50				
Batch number: 04265011111B	Sample number(s): 4355518								
Total Organic Carbon	98		57-138			0.64 J	0.68 J	7* (1)	4
Batch number: 04265011131A	Sample number(s): 4355480-4355488								
TOC Solids/Sludges Combustion	96		71-136			N.D.	N.D.	0 (1)	14
Batch number: 04265011131B	Sample number(s): 4355489-4355498								
TOC Solids/Sludges Combustion	94		71-136			15,000.	16,100.	7 (1)	14
Batch number: 04265011132A	Sample number(s): 4355499-4355508								
TOC Solids/Sludges Combustion	101		71-136			25,700.	24,200.	6 (1)	14
Batch number: 04265011132B	Sample number(s): 4355509-4355517,4355519								
TOC Solids/Sludges Combustion	95		71-136			20,800.	20,200.	3	14
Batch number: 04265820004A	Sample number(s): 4355480-4355481,4355492-4355498								
Moisture						59.2	57.1	3	15
Batch number: 04265820004B	Sample number(s): 4355482-4355491								
Moisture						54.2	55.7	3	15
Batch number: 042660001A	Sample number(s): 4355520-4355525								
PCB-1016	97	106	45-125	9	50				
PCB-1260	49	44	32-139	3	50				
Batch number: 04266820004A	Sample number(s): 4355499-4355502,4355504								
Moisture						63.6	63.7	0	15
Batch number: 04266820004B	Sample number(s): 4355503,4355505-4355513								
Moisture						57.3	57.6	1	15
Batch number: 04267820002A	Sample number(s): 4355514-4355517,4355519								
Moisture						34.4	34.6	0	15
Batch number: 04267820002B	Sample number(s): 4355520-4355525								
Moisture						22.6	20.6	10	15
Batch number: 04271011131A	Sample number(s): 4355520-4355525								
TOC Solids/Sludges Combustion	94		71-136			13,600.	13,200.	3 (1)	14

Surrogate Quality Control

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Lancaster Laboratories

Quality Control Summary

Client Name: Normandeau Associates, Inc. Group Number: 912675
Reported: 10/01/04 at 04:16 PM

Surrogate Quality Control

Analysis Name: PCBs in Water
Batch number: 042650008A

	Tetrachloro-m-xylene	Decachlorobiphenyl
4355518	82	34
Blank	79	95
LCS	78	98
LCSD	77	97
Limits:	43-122	13-130

Analysis Name: PCBs in Solids
Batch number: 042650014A

	Tetrachloro-m-xylene	Decachlorobiphenyl
4355480	95	104
4355481	100	170*
4355482	111	142*
4355483	132	176*
4355484	130	166*
4355485	95	99
4355486	110	188*
4355487	104	125
4355488	96	105
4355489	99	104
4355490	98	106
4355491	100	106
4355492	96	104
4355493	98	103
4355494	98	105
4355495	104	111
4355496	97	104
4355497	96	102
4355498	91	97
Blank	92	95
LCS	101	106
MS	108	116
MSD	111	119
Limits:	53-139	41-132

Analysis Name: PCBs in Solids
Batch number: 042650020A

	Tetrachloro-m-xylene	Decachlorobiphenyl
4355499	93	102
4355500	95	102
4355501	80	108
4355502	82	89

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Lancaster Laboratories

Quality Control Summary

Client Name: Normandeau Associates, Inc. Group Number: 912675
Reported: 10/01/04 at 04:16 PM

Surrogate Quality Control

4355503	93	100
4355504	95	99
4355505	124	127
4355506	97	117
4355507	107	153*
4355508	103	170*
4355509	107	141*
4355510	95	160*
4355511	100	115
4355512	97	132
4355513	122	245*
4355514	121	178*
4355515	106	142*
4355516	103	132
4355517	101	114
4355519	103	175*
Blank	95	99
LCS	94	97
MS	92	98
MSD	96	101
Limits:	53-139	41-132

Analysis Name: PCBs in Solids
Batch number: 042660001A

	Tetrachloro-m-xylene	Decachlorobiphenyl
4355520	73	126
4355521	97	104
4355522	111	114
4355523	94	90
4355524	101	109
4355525	99	95
Blank	90	100
LCS	89	103
MS	101	141*
MSD	101	129
Limits:	53-139	41-132

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Lancaster Laboratories

Quality Control Summary

Client Name: Normandeau Associates, Inc.
Reported: 10/11/04 at 09:03 AM

Group Number: 912667

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max

Sample Matrix Quality Control

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 04264710301A	Sample number(s): 4355351-4355370								
75 mm						100.	100.	0	20
37.5 mm						100.	100.	0	20
19 mm						100.	100.	0	20
4.75 mm						98.8	98.8	0	20
3.35 mm						97.3	97.3	0	20
2.36 mm						91.2	91.2	0	20
1.18 mm						90.6	90.2	0	20
0.6 mm						89.4	88.6	1	20
0.3 mm						87.2	86.1	1	20
0.15 mm						84.5	83.4	1	20
0.075 mm						82.2	81.1	1	20
0.064 mm						81.5	80.0	2	20
0.05 mm						79.0	77.0	3	20
0.02 mm						72.5	68.0	6	20
0.005 mm						41.0	38.0	8	20
0.002 mm						28.0	25.0	11	20
0.001 mm						19.5	15.0	26*	20
Batch number: 04265710301A	Sample number(s): 4355371-4355374,4355376-4355379,4355387,4355391-4355393								
75 mm						100.	100.	0	20
37.5 mm						100.	100.	0	20
19 mm						100.	100.	0	20
4.75 mm						97.7	97.7	0	20
3.35 mm						96.9	96.9	0	20
2.36 mm						94.5	94.5	0	20
1.18 mm						88.1	89.5	2	20
0.6 mm						81.4	82.2	1	20
0.3 mm						70.2	69.8	1	20
0.15 mm						56.3	55.4	2	20

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Lancaster Laboratories

Quality Control Summary

Client Name: Normandeau Associates, Inc. Group Number: 912667
Reported: 10/11/04 at 09:03 AM

Sample Matrix Quality Control

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
0.075 mm						49.6	49.2	1	20
0.064 mm						49.0	47.5	3	20
0.05 mm						46.0	42.0	9	20
0.02 mm						29.0	29.0	0	20
0.005 mm						14.0	13.0	7	20
0.002 mm						7.0	7.0	0	20
0.001 mm						4.0	4.0	0 (1)	20
Batch number: 04265710301B	Sample number(s): 4355375,4355380-4355386,4355388-4355390								
75 mm						100.	100.	0	20
37.5 mm						100.	100.	0	20
19 mm						100.	100.	0	20
4.75 mm						97.4	97.4	0	20
3.35 mm						95.4	95.4	0	20
2.36 mm						92.1	92.1	0	20
1.18 mm						85.6	85.2	0	20
0.6 mm						76.3	73.6	4	20
0.3 mm						55.4	53.6	3	20
0.15 mm						37.7	37.8	0	20
0.075 mm						34.7	35.1	1	20
0.064 mm						35.0	35.0	0	20
0.05 mm						34.0	32.0	6	20
0.02 mm						27.0	28.0	4	20
0.005 mm						14.5	14.5	0	20
0.002 mm						8.0	9.0	12	20
0.001 mm						5.0	7.0	33*	20

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

APPENDIX B

Analysis Report

Lancaster Laboratories

RECEIVED SEP - 9 2004

ANALYTICAL RESULTS

Prepared for:

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464
610-705-5733

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 908900. Samples arrived at the laboratory on Friday, August 20, 2004.

Client Description	Lancaster Labs Number
C10+50LB 90g Composite Crab Tissue Sample	4336246
C10+50RS 70g Composite Crab Tissue Sample	4336247
C12+50LB 80g Composite Crab Tissue Sample	4336248
C21+00LS 60g Composite Crab Tissue Sample	4336249
C22+00RS 54g Composite Crab Tissue Sample	4336250
C22+50LB 70g Composite Crab Tissue Sample	4336251
C31+25LS 74g Composite Crab Tissue Sample	4336252
C33+00RB 98g Composite Crab Tissue Sample	4336253
C33+00LB 89g Composite Crab Tissue Sample	4336254
UN-CBEN-02RB 100g Composite Crab Tissue Sample	4336255
UN-CBIO-02RS 60g Composite Crab Tissue Sample	4336256
UN-CBEN-02ALB 105g Composite Crab Tissue Sample	4336257
UN-CBEN-02ALB-Dup 105g Composite Crab Tissue	4336258
C42+25RS 61g Composite Crab Tissue Sample	4336259
C46+75RB 91g Composite Crab Tissue Sample	4336260
C46+75LB 110g Unspiked Composite Crab Tissue	4336261
C46+75LB 110g Matrix Spike Composite Crab Tissue	4336262
C46+75LB 110g Matrix Spike Dup Composite Crab	4336263
C50+50LS 88g Composite Crab Tissue Sample	4336264
C51+00RB 95g Composite Crab Tissue Sample	4336265
C52+50RB 70g Composite Crab Tissue Sample	4336266
UN-CBEN-01LB 138g Unspiked Composite Crab Tissue	4336267
UN-CBEN-01LB 138g Matrix Spike Composite Crab	4336268
UN-CBEN-01LB 138g Matrix Spike Dup Composite	4336269
UN-CBEN-01ARB Composite Crab Tissue Sample	4336270
UN-CBIO-01ALS 58g Composite Crab Tissue Sample	4336271
ECMA-C1B 115g Composite Crab Tissue Sample	4336272
ECMA-C1B-Dup 110g Composite Crab Tissue Sample	4336273
ECMA-C2B 120g Unspiked Composite Crab Tissue	4336274

Analysis Report

Lancaster Laboratories

ECMA-C2B 120g Matrix Spike Composite Crab Tissue	4336275
ECMA-C2B 120g Matrix Spike Dup Composite Crab	4336276
ECMA-C3S 58g Composite Crab Tissue Sample	4336277
RA-CBEN-01LS 85g Composite Crab Tissue Sample	4336278
RA-CBEN-01ARS 65g Composite Crab Tissue Sample	4336279
RA-CBEN-01ALB 80g Composite Crab Tissue Sample	4336280
RA-CBEN-02LB 99g Composite Crab Tissue Sample	4336281
RA-CBEN-02ARS 56g Composite Crab Tissue Sample	4336282
RA-CBEN-02ALS 102g Composite Crab Tissue Sample	4336283

1 COPY TO Normandeau Associates Attn: Mr. George Christian

Questions? Contact your Client Services Representative
Jill S Wolgemuth at (717) 656-2300.

Respectfully Submitted,

MEMBER ACIL
Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Reque[illegible] Environmental Services Chain of C[illegible]tody

Lancaster Laboratories
Where quality is a science.

grp 908900

For Lancaster Laboratories use only
Acct. # 7418 Sample # 4336246-83

Please print. Instructions on reverse side correspond with circled numbers. temp 5-6°C TJB

1

Client: Normandeau Assoc. Acct. #:
Project Name/#: Kin-Buc PWSID #:
Project Manager: G. Christson P.O.#
Sampler: [illegible], CDD Quote #:
Name of state where samples were collected: NJ

For lab use only
FSC:
SCR #:

186

2 Sample Identification	Date Collected	Time Collected	3		4 Matrix				5 Analyses Requested: PCB (Aroclor)	Pct. lipid							6 Remarks
C 10+50 LB	8-18-04	—		✓			✓	1	✓	✓							90g - Crab
C 10+50 RS	"	—		✓			✓	1	✓	✓							70g - "
C 12+50 LB	"	—		✓			✓	1	✓	✓							80g - "
C 21+00 LS	"	—		✓			✓	1	✓	✓							60g - "
C 22+00 RS	"	—		✓			✓	1	✓	✓							54g - "
C 22+50 LB	"	—		✓			✓	1	✓	✓							70g - "
C 31+25 LS	8-17-04	—		✓			✓	1	✓	✓							74g - "
C 33+00 RB	"	—		✓			✓	1	✓	✓							98g - "
C 33+00 LB	"	—		✓			✓	1	✓	✓							89g - "
UN-CBEN-02 RB	"	—		✓			✓	1	✓	✓							100g - "

7 **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax
Phone #: Fax #:

8 **Data Package Options** (please circle if requested)
QC Summary Type VI (Raw Data)
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (CLP)

SDG Complete? Yes No

Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)

Internal Chain of Custody required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
[illegible]	8/20/04	9:00	[illegible]	[illegible]	10:30
[illegible]	8/20/04	17:30			
			Jessica Bu[illegible]	8/20/04	1730

9

Analysis Reque: Environmental Services Chain of C tody

Lancaster Laboratories
Where quality is a science.

grp 908900

For Lancaster Laboratories use only
Acct. # 7418 Sample # 4336246-8B

Please print. Instructions on reverse side correspond with circled numbers. temp 5-6 °C TJB (2 of 6)

(1)
Client: Normandeau Assoc. Acct. #:
Project Name/#: Km-Bec PWSID #:
Project Manager: G. Christian P.O.#
Sampler: Chris, CWD Quote #:
Name of state where samples were collected: NJ

For lab use only
FSC:
SCR #:

(2) (3) (4) (5) (6)

Sample Identification	Date Collected	Time Collected	Matrix						Analysis Requested: PCB (Aroclor)	o/o Lipid							Remarks
UN-CBIO-02RS	8-17-04	—		✓			✓	✓	✓	✓							60g - Chris
UN-CBEN-02ALB	"	—		✓			✓	✓	✓	✓							105g - "
UN-CBEN-02ALB dup	"	—		✓			✓	✓	✓	✓							105g - "
C 42+25 RS	"	—		✓			✓	✓	✓	✓							61g - "
C 46+75 RB	"	—		✓			✓	✓	✓	✓							91g - "
C 46+75 LB	"	—		✓			✓	✓	✓	✓							110g - " (MS/MSD)
C 50+50 LS	8-16-04	—		✓			✓	✓	✓	✓							88g - "
C 51+00 RB	8-18-04	—		✓			✓	✓	✓	✓							95g - "
C 52+50 RB	"	—		✓			✓	✓	✓	✓							70g - "
UN-CBEN-01LB	8-16-04	—		✓			✓	✓	✓	✓							138g - " (MS/MSD)

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax
Phone #: Fax #:

(8) **Data Package Options** (please circle if requested)
QC Summary Type VI (Raw Data)
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (CLP)

SDG Complete? Yes No

Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal Chain of Custody required? Yes No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	8-20-04	0900	[signature]	8/20/04	10:30
[signature]	8/20/04	17:30			
			[signature]	8/20/04	1730

Analysis Reque[illegible] Environmental Services Chain of C[illegible]stody

Lancaster Laboratories
Where quality is a science.

For Lancaster Laboratories use only
grp 908900 Acct. # 7418 Sample # 4336246-83

Please print. Instructions on reverse side correspond with circled numbers. temp 5-6°C TIB 3 of 6

(1)
Client: Normandeau Acct. #:
Project Name/#: Km-Bus PWSID #:
Project Manager: G. Christian P.O.#
Sampler: Glue, CDD Quote #:
Name of state where samples were collected: NJ

For lab use only
FSC:
SCR #:

(2) (3) (4) (5) (6)

Sample Identification	Date Collected	Time Collected	Matrix					PCB (Aroclor)	% Lipid						Remarks
UN-CBEN-01ARB	8-17-04	–		✓		✓	1	✓	✓						? - crab
UN-CBIO-01ALS	8-16-04	–		✓		✓	1	✓	✓						58g - crab
ECMA-C1B	8-18-04	–		✓		✓	1	✓	✓						115g - crab
ECMA-C1B dup	8-18-04	–		✓		✓	1	✓	✓						110g - "
ECMA-C2B	8-18-04	–		✓		✓	1	✓	✓						120g - " (MS/MSD)
ECMA-C3S	"	–		✓		✓	1	✓	✓						58g - "
RA-CBEN-01LS	"	–		✓		✓	1	✓	✓						85g - "
RA-CBEN-01ARS	"	–		✓		✓	1	✓	✓						65g - "
RA-CBEN-01ALB	"	–		✓		✓	1	✓	✓						80g - "
RA-CBEN-02LB	"	–		✓		✓	1	✓	✓						99g - "

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax
Phone #: Fax #:

(8) **Data Package Options** (please circle if requested)
QC Summary Type VI (Raw Data)
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (CLP)

SDG Complete? Yes No

Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)

Internal Chain of Custody required? Yes No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
Geoffrey Clark	8-20-04	0900	Bill Dix Hong	8/20/04	0130
Bill Dix Hong	8/20/04	7:30			
			Jessica Bu[illegible]	8/20/04	1730

Lancaster Laboratories, Inc., 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 (717) 656-2300
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

2102 Rev. 3/7/01

Analysis Reque[illegible] Environmental Services Chain of C[illegible]stody

Lancaster Laboratories
Where quality is a science.

For Lancaster Laboratories use only
grp 908900 Acct. # 7418 Sample # 4336246-83

Please print. Instructions on reverse side correspond with circled numbers. temp 5-6°C TJB (4 of 6)

(1)
Client: Normandeau Acct. #:
Project Name/#: Km-Buc PWSID #:
Project Manager: G. Christian P.O.#
Sampler: Gue, CDD Quote #:
Name of state where samples were collected: NJ

For lab use only
FSC:
SCR #:

(2) (3) (4) (5) (6)

									PCB (Aroclor)	% Lipid							Remarks
RA-CBEN-02ARS	8-18-04	–		✓			✓	1	✓	✓							56g – crab
RA-CBEN-02ALS	8-18-04	–		✓			✓	1	✓	✓							102g – "
F01J	8-17-04	–		✓			✓	1	✓	✓							63g – Fish
F01A	"	–		✓			✓	1	✓	✓							70g – "
F02J	8-17-04	–		✓			✓	1	✓	✓							63g – "
F02A	"	–		✓			✓	1	✓	✓							63g – "
~~F03J~~ UN-F03J	"	–		✓			✓	1	✓	✓							62g – "
~~F03A~~ UN-F03A	"	–		✓			✓	1	✓	✓							63g – "
UN-F02J	"	–		✓			✓	1	✓	✓							63g – "

32 crab samples (2 field dups)

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax
Phone #: Fax #:

(8) **Data Package Options** (please circle if requested)
QC Summary Type VI (Raw Data)
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (CLP)

SDG Complete? Yes No

Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)

Internal Chain of Custody required? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	8-20-04	0910	[signature]	8/20/04	10:30
[signature]	8/20/04	17:30			
			Jessica B[illegible]	8/20/04	1730

Lancaster Laboratories, Inc., 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 (717) 656-2300
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client

2102 Rev. 3/7/01

Analysis Reque[illegible] Environmental Services Chain of C[illegible]tody

Lancaster Laboratories
Where quality is a science.

grp 908903

For Lancaster Laboratories use only
Acct. # 7418 Sample # 4336286-306

Please print. Instructions on reverse side correspond with circled numbers. temp 5-6°C TJB (5 of 6)

(1)
Client: Kim - Norman Chan Acct. #:
Project Name/#: Kim - Buc PWSID #:
Project Manager: G. Christian P.O.#
Sampler: Glue, CDD Quote #:
Name of state where samples were collected: NJ

For lab use only
FSC:
SCR #:

(2) (3) (4) (5) (6)

Sample Identification	Date Collected	Time Collected	Matrix						PCB (Aroclor)	% Lipid						Remarks
UN-F02 A	8-17-04	–		✓		✓	1		✓	✓						65g - fish
F03 J	"	–		✓		✓	1		✓	✓						62g - "
F03 A	"	–		✓		✓	1		✓	✓						65g - "
F03 A dup	"	–		✓		✓	1		✓	✓						65g - "
F04 J	"	–		✓		✓	1		✓	✓						62g - "
F04 A	"	–		✓		✓	1		✓	✓						70g - "
F05 J	"	–		✓		✓	1		✓	✓						66g - "
F05 A	"	–		✓		✓	1		✓	✓						64g - "
UN-F01 J	"	–		✓		✓	1		✓	✓						65g - "
UN-F01 A	"	–		✓		✓	1		✓	✓						67g - "

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax
Phone #: Fax #:

(8) **Data Package Options** (please circle if requested)
QC Summary Type VI (Raw Data)
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (CLP)

SDG Complete? Yes No

Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)

Internal Chain of Custody required? Yes No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	8/20-04	0900	[signature]	8/20/04	12:30
[signature]	8/20/04	17:30			
			[signature]	8/20/04	1730

Lancaster Laboratories, Inc., 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 (717) 656-2300
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client

2102 Rev. 3/7/01

Analysis Reque[illegible] Environmental Services Chain of C[illegible]tody

Lancaster Laboratories
Where quality is a science.

grp 908903

For Lancaster Laboratories use only
Acct. # 7418 Sample # 4336286-306

Please print. Instructions on reverse side correspond with circled numbers. tenn 5-6' C TB

(1)
Client: Norwood Clean
Acct. #:
Project Name/#: Km-Bac
PWSID #:
Project Manager: G. Christian
P.O.#
Sampler: Blue, CDD
Quote #:
Name of state where samples were collected: NJ

For lab use only
FSC:
SCR #:

(2) (3) (4) (5) (6)

Client Sample Identification	Date	Time	Matrix						PCB (Aroclor) % Lipid								Remarks
RA-F01 J	8-18-04	—		✓		✓	1		✓	✓							63g - Fish
RA-F01 A	"	—		✓		✓	1		✓	✓							73g - "
RA-F02 J	"	—		✓		✓	1		✓	✓							143g - " (MS/MSD)
RA-F02 A	"	—		✓		✓	1		✓	✓							72g - "
																	"21 fish samples"

(7) **Turnaround Time Requested** (TAT) (please circle) Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax
Phone #: Fax #:

(8) **Data Package Options** (please circle if requested)
QC Summary
Type I (Tier I)
Type II (Tier II)
Type III (NJ Red. Del.)
Type IV (CLP)
Type VI (Raw Data)
GLP
Other

SDG Complete? Yes No

Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)

Internal Chain of Custody required? Yes No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	8-20-04	0900	[signature]	8/20/04	10:30
[signature]	8/20/04	17:30			
			Jessica Bu[illegible]	8/20/04	1730

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336247

C10+50RS 70g Composite Crab Tissue Sample
Kin-Buc Landfill

Collected:08/18/2004 by CDD

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:36
Discard: 10/07/2004

50---

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.3		0.10	% by wt.	1
01216	PCBs in Solids						
01495	PCB-1016	12674-11-2	N.D.		9.6	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.		8.6	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.		6.6	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.		6.6	ug/kg	1
01499	PCB-1248	12672-29-6	220.		6.6	ug/kg	1
01500	PCB-1254	11097-69-1	140.		7.4	ug/kg	1
01501	PCB-1260	11096-82-5	31.	J	6.6	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 18:20	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/25/2004 11:20	Artie D Kunselman	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/24/2004 21:20	Karen L Beyer	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: 8-18-04 Station: C10150 RBS

Nearest Town: Edison Stream: Edwards Cr.

Location: Remediated fines #1

Weather Conditions: overcast/hazy Air Temperature 85°F

Average Width: Average Depth:

Bottom Materials: silt/clay/detritus

Flow (cfs): ebb tide (3:45 PM)

Shoreline Vegetation: Fragmented

Instream Cover: Abundant Common ✓ Scarce

Color: Blue Green Tea Brown(Muddy) ✓

Shade: Densely Shaded Partly Shaded ✓ Open

Aquatic Vegetation: Fragmented

Dams:

Description of Sample Site: [illegible]

Evidence of Erosion or Pollution: [illegible]

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Cond

Collection Methods	Effort
[illegible]	70g composite

Remarks: Corresponding sediment sample collected on 9/14/04 @ 1000

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336246

C10+50LB 90g Composite Crab Tissue Sample
Kin-Buc Landfill

Collected:08/18/2004 by CDD

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:36
Discard: 10/07/2004

10-50

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	0.70	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	9.6	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	8.6	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	6.6	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	6.6	ug/kg	1
01499	PCB-1248	12672-29-6	210.	6.6	ug/kg	1
01500	PCB-1254	11097-69-1	150.	7.4	ug/kg	1
01501	PCB-1260	11096-82-5	45.	6.6	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 18:20	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/25/2004 10:59	Artie D Kunselman	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/24/2004 21:20	Karen L Beyer	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: 8-18-04 Station: C 10-50 LB

Nearest Town: Edwards Stream: Edwards Cr.

Location: [illegible]

Weather Conditions: [illegible] Air Temperature [illegible]

Average Width: Average Depth:

Bottom Materials: [illegible]

Flow (cfs): [illegible] (3:45 pm)

Shoreline Vegetation: Forested

Instream Cover: Abundant Common ✓ Scarce

Color: Blue Green Tea Brown(Muddy) ✓

Shade: Densely Shaded Partly Shaded ✓ Open

Aquatic Vegetation: Some

Dams:

Description of Sample Site: Upstream [illegible]

Evidence of Erosion or Pollution: [illegible]

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Cond

Collection Methods	Effort
Hand [illegible]	[illegible]

Remarks: Corresponding sediment sample collected on 9/14/04 @ 1007

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336248

C12+50LB 80g Composite Crab Tissue Sample
Kin-Buc Landfill

Collected:08/18/2004 by CDD

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:36
Discard: 10/07/2004

12-50

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	0.62		0.10	% by wt.	1
01216	PCBs in Solids						
01495	PCB-1016	12674-11-2	N.D.		9.6	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.		8.6	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.		6.6	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.		6.6	ug/kg	1
01499	PCB-1248	12672-29-6	180.		6.6	ug/kg	1
01500	PCB-1254	11097-69-1	100.		7.4	ug/kg	1
01501	PCB-1260	11096-82-5	29.	J	6.6	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 18:20	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/25/2004 11:41	Artie D Kunselman	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/24/2004 21:20	Karen L Beyer	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: 8-18-04 Station: C 12+50 L B

Nearest Town: Edison Stream: Edwards Cr.

Location: Upstream [illegible]

Weather Conditions: [illegible] Air Temperature [illegible]

Average Width: Average Depth:

Bottom Materials: [illegible]

Flow (cfs):

Shoreline Vegetation: Frequent

Instream Cover: Abundant Common ✓ Scarce

Color: Blue Green Tea Brown(Muddy) ✓

Shade: Densely Shaded Partly Shaded ✓ Open

Aquatic Vegetation: Frequent, SAV

Dams:

Description of Sample Site: Upstream [illegible]

Evidence of Erosion or Pollution: none

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Cond

Collection Methods	Effort
[illegible]	[illegible]

Remarks: Corresponding sediment sample collected on 9/14/04 @ 1105

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336249

C21+00LS 60g Composite Crab Tissue Sample
Kin-Buc Landfill

Collected:08/18/2004 by CDD

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:36
Discard: 10/07/2004

21-00

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.8	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	19.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.	17.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.	13.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.	13.	ug/kg	2
01499	PCB-1248	12672-29-6	550.	13.	ug/kg	2
01500	PCB-1254	11097-69-1	400.	15.	ug/kg	2
01501	PCB-1260	11096-82-5	110.	13.	ug/kg	2

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 18:20	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/25/2004 14:52	Artie D Kunselman	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/24/2004 21:20	Karen L Beyer	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: 8-18-04 Station: C2[illegible]00LS

Nearest Town: Edison Stream: Edwards Cr.

Location: Remediated Zone -2

Weather Conditions: overcast / [illegible] Air Temperature [illegible]°F

Average Width: Average Depth:

Bottom Materials: [illegible]

Flow (cfs): [illegible] ([illegible])

Shoreline Vegetation: [illegible]

Instream Cover: Abundant Common ✓ Scarce

Color: Blue Green Tea Brown(Muddy) ✓

Shade: Densely Shaded Partly Shaded ✓ Open

Aquatic Vegetation: SAV

Dams:

Description of Sample Site: [illegible]

Evidence of Erosion or Pollution: none

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Cond

Collection Methods	Effort
[illegible]	65 [illegible]

Remarks: Corresponding sediment sample collected on 9/14/04 @ 1045

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336250

C22+00RS 54g Composite Crab Tissue Sample
Kin-Buc Landfill

Collected:08/18/2004 by CDD

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:36
Discard: 10/07/2004

22-00

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.5	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	9.6	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	8.6	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	6.6	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	6.6	ug/kg	1
01499	PCB-1248	12672-29-6	300.	6.6	ug/kg	1
01500	PCB-1254	11097-69-1	200.	7.4	ug/kg	1
01501	PCB-1260	11096-82-5	62.	6.6	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 18:20	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/25/2004 12:24	Artie D Kunselman	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/24/2004 21:20	Karen L Beyer	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: 8-18-04 Station: C 22100RS

Nearest Town: Edison NJ Stream: Edwards Cr.

Location: Remediated zone 2

Weather Conditions: overcast / humid / breeze Air Temperature ± 80° F

Average Width: Average Depth:

Bottom Materials: silt / clay / detritus

Flow (cfs): ebb tide (sizable)

Shoreline Vegetation: Equate / Spartina / herbaceous plants

Instream Cover: Abundant Common ✓ Scarce

Color: Blue Green Tea Brown(Muddy) ✓

Shade: Densely Shaded Partly Shaded ✓ Open

Aquatic Vegetation: SAV

Dams:

Description of Sample Site: Upst. fr. 00-2

Evidence of Erosion or Pollution: none

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Cond

Collection Methods	Effort
[illegible]	[illegible]

Remarks: Corresponding sediment sample collected on 9/14/04 @ 1055

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336251

C22+50LB 70g Composite Crab Tissue Sample
Kin-Buc Landfill

Collected:08/18/2004 by CDD

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:36
Discard: 10/07/2004

22-50

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	0.79	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	9.6	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	8.6	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	6.6	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	6.6	ug/kg	1
01499	PCB-1248	12672-29-6	170.	6.6	ug/kg	1
01500	PCB-1254	11097-69-1	120.	7.4	ug/kg	1
01501	PCB-1260	11096-82-5	35.	6.6	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 18:20	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/25/2004 12:45	Artie D Kunselman	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/24/2004 21:20	Karen L Beyer	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: [illegible] Station: [illegible]

Nearest Town: [illegible] Stream: [illegible]

Location: Remediated Zone 2

Weather Conditions: overcast / humid / breeze Air Temperature ± 25°F

Average Width: Average Depth:

Bottom Materials: silt / clay / detritus

Flow (cfs): ebb tide (4:55 pm)

Shoreline Vegetation: Fragmite, spartina, [illegible]

Instream Cover: Abundant Common ✓ Scarce

Color: Blue Green Tea Brown(Muddy) ✓

Shade: Densely Shaded Partly Shaded ✓ Open

Aquatic Vegetation: SAV

Dams:

Description of Sample Site: [illegible]

Evidence of Erosion or Pollution: none

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Cond

Collection Methods	Effort
[illegible]	[illegible]

Remarks: Corresponding sediment sample collected on 9/14/04 @ 1105

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336255

UN-CBEN-02RB 100g Composite Crab Tissue Sample
Kin-Buc Landfill

Collected:08/17/2004 by CDD

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:36
Discard: 10/07/2004

CBEN2

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	0.91	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	19.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.	17.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.	13.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.	13.	ug/kg	2
01499	PCB-1248	12672-29-6	650.	13.	ug/kg	2
01500	PCB-1254	11097-69-1	440.	15.	ug/kg	2
01501	PCB-1260	11096-82-5	110.	13.	ug/kg	2

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 18:10	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/25/2004 14:10	Artie D Kunselman	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/24/2004 21:20	Karen L Beyer	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: 8-17-04 Station: UN-CBEN-02 RB

Nearest Town: Elkton Stream: Edmonds Cr.

Location: Unnamed trib. - 2

Weather Conditions: Pty cloudy / breeze Air Temperature 85°F

Average Width: — Average Depth: —

Bottom Materials: silt / clay

Flow (cfs): low flow / backwater (2:30 pm)

Shoreline Vegetation: Forested

Instream Cover: Abundant ____ Common ____ Scarce ✓

Color: Blue ____ Green ____ Tea ____ Brown(Muddy) ✓

Shade: Densely Shaded ____ Partly Shaded ____ Open ✓

Aquatic Vegetation: none

Dams: —

Description of Sample Site: [illegible] 002

Evidence of Erosion or Pollution: [illegible] small in substrate

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Conc

Collection Methods	Effort
[illegible]	100 [illegible]

Remarks: Corresponding sediment sample collected on 9/14/04 @ ~~1150~~ 1205 ~~1150~~

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336257

UN-CBEN-02ALB 105g Composite Crab Tissue Sample
Kin-Buc Landfill

Collected:08/17/2004 by CDD

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:36
Discard: 10/07/2004

CBN2A

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	0.81	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	9.6	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	8.6	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	6.6	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	6.6	ug/kg	1
01499	PCB-1248	12672-29-6	570.	6.6	ug/kg	1
01500	PCB-1254	11097-69-1	280.	7.4	ug/kg	1
01501	PCB-1260	11096-82-5	63.	6.6	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 18:10	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/25/2004 15:56	Artie D Kunselman	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/24/2004 21:20	Karen L Beyer	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336258

UN-CBEN-02ALB-Dup 105g Composite Crab Tissue Sample
Kin-Buc Landfill
Collected:08/17/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:36
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

02-FD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	0.76	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	19.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.	17.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.	13.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.	13.	ug/kg	2
01499	PCB-1248	12672-29-6	770.	13.	ug/kg	2
01500	PCB-1254	11097-69-1	390.	15.	ug/kg	2
01501	PCB-1260	11096-82-5	90.	13.	ug/kg	2

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 18:10	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/25/2004 16:17	Artie D Kunselman	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/24/2004 21:20	Karen L Beyer	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: 8-17-04

Station: UN-CBEN-02ALB

Nearest Town: Edison

Stream: Edwards Cr

Location: Unremediated Zone-2

Weather Conditions: ptly cloudy / breeze

Air Temperature ± 85°F

Average Width: –

Average Depth: –

Bottom Materials: silt/clay

Flow (cfs): mid tide / outgoing

Shoreline Vegetation: Fragmites

Instream Cover: Abundant ____ Common ____ Scarce ✓

Color: Blue ____ Green ____ Tea ____ Brown(Muddy) –

Shade: Densely Shaded ____ Partly Shaded ____ Open ✓

Aquatic Vegetation: same

Dams:

Description of Sample Site: Above Pool C; adjacent to OU 2

Evidence of Erosion or Pollution: none

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Cond

Collection Methods	Effort
Hand Capture	105 g composite

Remarks: Field Dup Tube Here: UN-CBEN-02ALB Dup = 105 g also
Corresponding sediment sample collected on 9/14/04 @ 1215

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336256

UN-CBIO-02RS 60g Composite Crab Tissue Sample
Kin-Buc Landfill

Collected:08/17/2004 by CDD

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:36
Discard: 10/07/2004

CBIO2

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.3	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	48.	ug/kg	5
01496	PCB-1221	11104-28-2	N.D.	43.	ug/kg	5
01497	PCB-1232	11141-16-5	N.D.	33.	ug/kg	5
01498	PCB-1242	53469-21-9	N.D.	33.	ug/kg	5
01499	PCB-1248	12672-29-6	1,000.	33.	ug/kg	5
01500	PCB-1254	11097-69-1	730.	37.	ug/kg	5
01501	PCB-1260	11096-82-5	170.	33.	ug/kg	5

Accurate surrogate recoveries could not be determined due to the dilution required for analysis of the sample.

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 18:10	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/25/2004 14:31	Artie D Kunselman	5
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/24/2004 21:20	Karen L Beyer	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: 8-17-04 Station: UN-CBIO-02RS

Nearest Town: Edison Stream: Edmonds Cr

Location: Unremediated Zone - 2

Weather Conditions: pt cloudy / calm Air Temperature ± 75°F

Average Width: — Average Depth: —

Bottom Materials: silt / clay / detritus

Flow (cfs): low tide / outgoing (2:45 pm)

Shoreline Vegetation: Fragmite

Instream Cover: Abundant _____ Common _____ Scarce ✓

Color: Blue _____ Green _____ Tea _____ Brown(Muddy) ✓

Shade: Densely Shaded _____ Partly Shaded _____ Open ✓

Aquatic Vegetation: Fragmite

Dams: _____

Description of Sample Site: Adjacent to 0u-2

Evidence of Erosion or Pollution: only odor to substrate / oil flies on water

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Cond

Collection Methods	Effort
Hand Capture	60 g composite

Remarks: Corresponding sediment sample collected on 9/14/04 @ 1150

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336252

C31+25LS 74g Composite Crab Tissue Sample
Kin-Buc Landfill

Collected:08/17/2004 by CDD

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:36
Discard: 10/07/2004

31-25

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.4	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	9.6	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	8.6	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	6.6	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	6.6	ug/kg	1
01499	PCB-1248	12672-29-6	390.	6.6	ug/kg	1
01500	PCB-1254	11097-69-1	350.	7.4	ug/kg	1
01501	PCB-1260	11096-82-5	100.	6.6	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 18:10	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/25/2004 13:06	Artie D Kunselman	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/24/2004 21:20	Karen L Beyer	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: 8-17-04 Station: C 31+25 L S

Nearest Town: Edison Stream: Edwards Cr.

Location:

Weather Conditions: pty cloudy / breeze Air Temperature 85°F

Average Width: — Average Depth: —

Bottom Materials: silt / clay / detritus

Flow (cfs): high tide / outgoing (11:55 Am)

Shoreline Vegetation: Fragmites

Instream Cover: Abundant _____ Common _____ Scarce —

Color: Blue _____ Green _____ Tea _____ Brown(Muddy) —

Shade: Densely Shaded _____ Partly Shaded _____ Open —

Aquatic Vegetation: same

Dams: —

Description of Sample Site: Adjacent to "Pond C" near old discharge channel

Evidence of Erosion or Pollution: none

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Cond

Collection Methods	Effort
Hand Capture	74 g carpet

Remarks: Corresponding sediment sample collected on 9/14/04 @ 1340

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336253

C33+00RB 98g Composite Crab Tissue Sample
Kin-Buc Landfill

Collected:08/17/2004 by CDD

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:36
Discard: 10/07/2004

33-00

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.1	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	9.6	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	8.6	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	6.6	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	6.6	ug/kg	1
01499	PCB-1248	12672-29-6	270.	6.6	ug/kg	1
01500	PCB-1254	11097-69-1	260.	7.4	ug/kg	1
01501	PCB-1260	11096-82-5	60.	6.6	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 18:10	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/25/2004 13:27	Artie D Kunselman	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/24/2004 21:20	Karen L Beyer	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: 8-17-04 Station: C 33100 RB

Nearest Town: Edison Stream: Edwards Cr (Trib)

Location: Remediated Zone - 3

Weather Conditions: pt cloud / calm Air Temperature ± 85°F

Average Width: — Average Depth: —

Bottom Materials:

Flow (cfs): mid-tide / Outgoing (12:15 pm)

Shoreline Vegetation: Spartina

Instream Cover: Abundant _____ Common _____ Scarce —

Color: Blue _____ Green _____ Tea _____ Brown(Muddy) —

Shade: Densely Shaded _____ Partly Shaded _____ Open —

Aquatic Vegetation: sand

Dams:

Description of Sample Site: 1mm downstr. for old discharge channel from "old Pond C"

Evidence of Erosion or Pollution: none

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Cond

Collection Methods	Effort
Hand Capture	92 g capture

Remarks: Corresponding sediment sample collected on 9/14/04 @ 1355

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336254

C33+00LB 89g Composite Crab Tissue Sample
Kin-Buc Landfill

Collected:08/17/2004 by CDD

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:36
Discard: 10/07/2004

33---

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.6	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	19.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.	17.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.	13.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.	13.	ug/kg	2
01499	PCB-1248	12672-29-6	920.	13.	ug/kg	2
01500	PCB-1254	11097-69-1	380.	15.	ug/kg	2
01501	PCB-1260	11096-82-5	90.	13.	ug/kg	2

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 18:10	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/25/2004 13:49	Artie D Kunselman	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/24/2004 21:20	Karen L Beyer	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: 8-17-04 Station: C 33100 LB

Nearest Town: Edison Stream: Edwards Cr.

Location: Remediated Zone - 3

Weather Conditions: silt / clay / detritus Air Temperature ≈ 80°F

Average Width: — Average Depth: —

Bottom Materials: pH, clay / brown

Flow (cfs): mid tide / outgoing (12:50)

Shoreline Vegetation: Fragmite / Spartan

Instream Cover: Abundant ____ Common ____ Scarce ✓

Color: Blue ____ Green ____ Tea ____ Brown(Muddy) ✓

Shade: Densely Shaded ____ Partly Shaded ____ Open ✓

Aquatic Vegetation: Sand

Dams: —

Description of Sample Site: opposite of "pool C"

Evidence of Erosion or Pollution: none

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Cond

Collection Methods	Effort
Hand Capture	89 g compost

Remarks: Corresponding sediment sample collected on 9/14/04 @ 1325

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336259

C42+25RS 61g Composite Crab Tissue Sample
Kin-Buc Landfill

Collected:08/17/2004 by CDD

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:36
Discard: 10/07/2004

42-25

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.4	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	9.6	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	8.6	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	6.6	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	6.6	ug/kg	1
01499	PCB-1248	12672-29-6	350.	6.6	ug/kg	1
01500	PCB-1254	11097-69-1	250.	7.4	ug/kg	1
01501	PCB-1260	11096-82-5	80.	6.6	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 18:10	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/25/2004 16:39	Artie D Kunselman	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/24/2004 21:20	Karen L Beyer	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: 8-17-04 Station: C 42+25RS

Nearest Town: Edison, NJ Stream: Edwards Cr.

Location: Roundabout Area - 4

Weather Conditions: ptly cloudy / breeze Air Temperature ± ~~80~~ 80°F

Average Width: — Average Depth: —

Bottom Materials: soil/clay/detritus

Flow (cfs): high tide / outgoing (11:45 AM)

Shoreline Vegetation: Fragmites / Spartina

Instream Cover: Abundant _____ Common _____ Scarce ✓

Color: Blue _____ Green _____ Tea _____ Brown(Muddy) ✓

Shade: Densely Shaded _____ Partly Shaded _____ Open ✓

Aquatic Vegetation: same

Dams: —

Description of Sample Site: downstr. for Oil Seeps Area

Evidence of Erosion or Pollution: none

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Cond

Collection Methods	Effort
Hand Capture	61 g composite

Remarks: Corresponding sediment sample collected on 9/14/04 @ 1505

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336260

C46+75RB 91g Composite Crab Tissue Sample
Kin-Buc Landfill

Collected:08/17/2004 by CDD

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:36
Discard: 10/07/2004

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

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CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	0.87	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	19.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.	17.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.	13.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.	13.	ug/kg	2
01499	PCB-1248	12672-29-6	660.	13.	ug/kg	2
01500	PCB-1254	11097-69-1	340.	15.	ug/kg	2
01501	PCB-1260	11096-82-5	83.	13.	ug/kg	2

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 18:10	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/25/2004 17:00	Artie D Kunselman	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/24/2004 21:20	Karen L Beyer	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: 17 Aug 04 Station: C 46+75 RB

Nearest Town: Edson Stream: Edmonds Co.

Location: Remediated from 4

Weather Conditions: pty cloudy / breeze Air Temperature ± 80 F

Average Width: — Average Depth: —

Bottom Materials: soil / clay / detritus

Flow (cfs): high tide / outgoing (11:20 AM)

Shoreline Vegetation: fragments

Instream Cover: Abundant _____ Common _____ Scarce —

Color: Blue _____ Green _____ Tea _____ Brown(Muddy) —

Shade: Densely Shaded _____ Partly Shaded _____ Open —

Aquatic Vegetation: same

Dams: _____

Description of Sample Site: downstream of "Oil seeps here"

Evidence of Erosion or Pollution: oil finds on water surface

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Cond

Collection Methods	Effort
Hand capture	91 g composite

Remarks: Corresponding sediment sample collected on 9/14/05 @ 1530

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336261

C46+75LB 110g Unspiked Composite Crab Tissue Sample
Kin-Buc Landfill
Collected:08/17/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:36
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

46-75 SDG#: XXX01-01BKG

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	0.51	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	9.6	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	8.6	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	6.6	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	6.6	ug/kg	1
01499	PCB-1248	12672-29-6	160.	6.6	ug/kg	1
01500	PCB-1254	11097-69-1	130.	7.4	ug/kg	1
01501	PCB-1260	11096-82-5	41.	6.6	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 23:55	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/26/2004 14:01	Artie D Kunselman	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/24/2004 21:20	Karen L Beyer	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336262

C46+75LB 110g Matrix Spike Composite Crab Tissue Sample
Kin-Buc Landfill
Collected:08/17/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:36
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

46-75 SDG#: XXX01-01MS

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	470.	19.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.	17.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.	13.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.	13.	ug/kg	2
01499	PCB-1248	12672-29-6	N.D.	13.	ug/kg	2
01500	PCB-1254	11097-69-1	N.D.	15.	ug/kg	2
01501	PCB-1260	11096-82-5	520.	13.	ug/kg	2

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01216	PCBs in Solids	SW-846 8082	1	08/25/2004 17:42	Artie D Kunselman	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/24/2004 21:20	Karen L Beyer	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336263

C46+75LB 110g Matrix Spike Dup Composite Crab Tissue Sample
Kin-Buc Landfill
Collected:08/17/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:36
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

46-75 SDG#: XXX01-01MSD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	360.	19.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.	17.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.	13.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.	13.	ug/kg	2
01499	PCB-1248	12672-29-6	N.D.	13.	ug/kg	2
01500	PCB-1254	11097-69-1	N.D.	15.	ug/kg	2
01501	PCB-1260	11096-82-5	420.	13.	ug/kg	2

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01216	PCBs in Solids	SW-846 8082	1	08/25/2004 18:03	Artie D Kunselman	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/24/2004 21:20	Karen L Beyer	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: 17 Aug 04 Station: C 46+75 LB

Nearest Town: Edison Stream: Edmonds Cr.

Location: Remediated Jars #4

Weather Conditions: ptly cloudy/breeze Air Temperature

Average Width: Average Depth:

Bottom Materials: silt/clay/detritus

Flow (cfs): high tide/outgoing (1100 [illegible])

Shoreline Vegetation: Spartina, T

Instream Cover: Abundant — Common — Scarce —

Color: Blue Green Tea Brown(Muddy) ✓

Shade: Densely Shaded Partly Shaded Open ✓

Aquatic Vegetation: same

Dams: —

Description of Sample Site: nr. Oil seps area

Evidence of Erosion or Pollution: none

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Cond

Collection Methods	Effort
Hand Capture	110 g composit

Remarks: good for MS/MSD

Corresponding sediment sample collected on 5/14/04 @ 1520

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336264

C50+50LS 88g Composite Crab Tissue Sample
Kin-Buc Landfill

Collected:08/16/2004 by CDD

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:36
Discard: 10/07/2004

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

50-50

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.6	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	48.	ug/kg	5
01496	PCB-1221	11104-28-2	N.D.	43.	ug/kg	5
01497	PCB-1232	11141-16-5	N.D.	33.	ug/kg	5
01498	PCB-1242	53469-21-9	N.D.	33.	ug/kg	5
01499	PCB-1248	12672-29-6	630.	33.	ug/kg	5
01500	PCB-1254	11097-69-1	700.	37.	ug/kg	5
01501	PCB-1260	11096-82-5	220.	33.	ug/kg	5

Accurate surrogate recoveries could not be determined due to the dilution required for analysis of the sample.

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 18:10	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/25/2004 18:24	Artie D Kunselman	5
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/24/2004 21:20	Karen L Beyer	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: 9-16-04 Station: C 50+50 L S

Nearest Town: Edison Stream: Edwards Cr

Location: Roadbed Area - 5

Weather Conditions: [illegible] Air Temperature

Average Width: Average Depth:

Bottom Materials: silt/clay/detritus

Flow (cfs): [illegible]

Shoreline Vegetation: Sparse

Instream Cover: Abundant Common Scarce —

Color: Blue Green Tea Brown(Muddy) —

Shade: Densely Shaded Partly Shaded Open —

Aquatic Vegetation: some

Dams:

Description of Sample Site: Lower Roadbed Area

Evidence of Erosion or Pollution: none

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Cond
Surf = 0.8'	24.0 C	5.5	7.0	4.0	5,500

Collection Methods	Effort
hand [illegible]	[illegible]

Remarks: [illegible] for [illegible]
Corresponding Sediment sample collected on 9/13/04 @ 1705

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336265

C51+00RB 95g Composite Crab Tissue Sample
Kin-Buc Landfill

Collected:08/18/2004 by CDD

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:36
Discard: 10/07/2004

50-00

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	0.86	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	19.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.	17.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.	13.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.	13.	ug/kg	2
01499	PCB-1248	12672-29-6	870.	13.	ug/kg	2
01500	PCB-1254	11097-69-1	440.	15.	ug/kg	2
01501	PCB-1260	11096-82-5	110.	13.	ug/kg	2

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 18:20	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/25/2004 18:46	Artie D Kunselman	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/24/2004 21:20	Karen L Beyer	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: 8-12-04 Station: C51+00 RB

Nearest Town: Edison Stream: Edwards C.

Location: Roundhead Lane 5

Weather Conditions: [illegible] Air Temperature [illegible] °F

Average Width: Average Depth:

Bottom Materials: [illegible]

Flow (cfs): [illegible]

Shoreline Vegetation: Fragmite

Instream Cover: Abundant Common Scarce ✓

Color: Blue Green Tea Brown(Muddy) ✓

Shade: Densely Shaded Partly Shaded Open ✓

Aquatic Vegetation: Fragmite

Dams:

Description of Sample Site: Downstream Roundhead Lane

Evidence of Erosion or Pollution: none

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Cond

Collection Methods	Effort
[illegible]	95 [illegible]

Remarks: Corresponding Sediment Sample coll. on 9/13/04 @ 1655

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336266

C52+50RB 70g Composite Crab Tissue Sample
Kin-Buc Landfill

Collected:08/18/2004 by CDD

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:37
Discard: 10/07/2004

52-50

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	0.70	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	9.6	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	8.6	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	6.6	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	6.6	ug/kg	1
01499	PCB-1248	12672-29-6	440.	6.6	ug/kg	1
01500	PCB-1254	11097-69-1	180.	7.4	ug/kg	1
01501	PCB-1260	11096-82-5	42.	6.6	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 18:20	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/25/2004 19:07	Artie D Kunselman	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/24/2004 21:20	Karen L Beyer	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: 8-18-04 Station: C 51+50 A B

Nearest Town: Edison Stream: Edwards Cr.

Location: Remediated Zone - 5

Weather Conditions: Hazy / Humid / Breeze Air Temperature 5 25C

Average Width: Average Depth:

Bottom Materials: silt/clay

Flow (cfs): low tide / outgoing (3:00)

Shoreline Vegetation: Fragmite

Instream Cover: Abundant Common Scarce ✓

Color: Blue Green Tea Brown(Muddy) ✓

Shade: Densely Shaded Partly Shaded Open ✓

Aquatic Vegetation: Fragmite

Dams:

Description of Sample Site: Downstream Remediated Zone

Evidence of Erosion or Pollution: none

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Cond

Collection Methods	Effort
[illegible]	[illegible]

Remarks: Corresponding Sediment sample collected on 9/13/04 @ 1635

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336267

UN-CBEN-01LB 138g Unspiked Composite Crab Tissue Sample
Kin-Buc Landfill
Collected:08/16/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:37
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

CBEN1 SDG#: XXX02-01BKG

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.1		0.10	% by wt.	1
01216	PCBs in Solids						
01495	PCB-1016	12674-11-2	N.D.		48.	ug/kg	5
01496	PCB-1221	11104-28-2	N.D.		43.	ug/kg	5
01497	PCB-1232	11141-16-5	N.D.		33.	ug/kg	5
01498	PCB-1242	53469-21-9	N.D.		33.	ug/kg	5
01499	PCB-1248	12672-29-6	630.		33.	ug/kg	5
01500	PCB-1254	11097-69-1	440.		37.	ug/kg	5
01501	PCB-1260	11096-82-5	120.	J	33.	ug/kg	5

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 18:10	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/25/2004 20:53	Artie D Kunselman	5
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 07:00	Ginelle L Haines	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336268

UN-CBEN-01LB 138g Matrix Spike Composite Crab Tissue Sample
Kin-Buc Landfill
Collected:08/16/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:37
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

CBEN1 SDG#: XXX02-01MS

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	460.	48.	ug/kg	5
01496	PCB-1221	11104-28-2	N.D.	43.	ug/kg	5
01497	PCB-1232	11141-16-5	N.D.	33.	ug/kg	5
01498	PCB-1242	53469-21-9	N.D.	33.	ug/kg	5
01499	PCB-1248	12672-29-6	N.D.	33.	ug/kg	5
01500	PCB-1254	11097-69-1	N.D.	37.	ug/kg	5
01501	PCB-1260	11096-82-5	540.	33.	ug/kg	5

The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01216	PCBs in Solids	SW-846 8082	1	08/25/2004 21:14	Artie D Kunselman	5
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 07:00	Ginelle L Haines	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336269

UN-CBEN-01LB 138g Matrix Spike Dup Composite
Crab Tissue Sample
Kin-Buc Landfill
Collected:08/16/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:37
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

CBEN1 SDG#: XXX02-01MSD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	430.	48.	ug/kg	5
01496	PCB-1221	11104-28-2	N.D.	43.	ug/kg	5
01497	PCB-1232	11141-16-5	N.D.	33.	ug/kg	5
01498	PCB-1242	53469-21-9	N.D.	33.	ug/kg	5
01499	PCB-1248	12672-29-6	N.D.	33.	ug/kg	5
01500	PCB-1254	11097-69-1	N.D.	37.	ug/kg	5
01501	PCB-1260	11096-82-5	510.	33.	ug/kg	5

The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01216	PCBs in Solids	SW-846 8082	1	08/25/2004 21:35	Artie D Kunselman	5
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 07:00	Ginelle L Haines	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: 16 18 August 2004 Station: UN-CREN-01LB

Nearest Town: Edison Stream: Edmonds cr

Location: Un Remediated Zone + 1

Weather Conditions: pt cloud / calm Air Temperature ± 75° F

Average Width: — Average Depth: —

Bottom Materials: silt/clay/detritus

Flow (cfs): high tide / incoming (6:30 pm)

Shoreline Vegetation: fragmite

Instream Cover: Abundant _____ Common _____ Scarce ✓

Color: Blue _____ Green _____ Tea _____ Brown(Muddy) ✓

Shade: Densely Shaded _____ Partly Shaded _____ Open ✓

Aquatic Vegetation: _____

Dams: —

Description of Sample Site: Downst unremediated zone nr. crab mouth

Evidence of Erosion or Pollution: none

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Cond

Collection Methods	Effort
Hand Capture	138 g composite (MS - MSD)

Remarks: Use for MS/MSD Correspondy ~~#~~ Sediment sample collected on 9-13-04 @ 1530

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336270

UN-CBEN-01ARB Composite Crab Tissue Sample
Kin-Buc Landfill

Collected:08/17/2004 by CDD

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:37
Discard: 10/07/2004

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

CBN1A

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	0.67	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	9.6	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	8.6	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	6.6	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	6.6	ug/kg	1
01499	PCB-1248	12672-29-6	240.	6.6	ug/kg	1
01500	PCB-1254	11097-69-1	180.	7.4	ug/kg	1
01501	PCB-1260	11096-82-5	59.	6.6	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 23:55	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/25/2004 21:56	Artie D Kunselman	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 07:00	Ginelle L Haines	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: 2-7-04

Station: UN-CHEM-01 AAB

Nearest Town: Edison

Stream: Edmonds Cr.

Location: Unremediated flow #1

Weather Conditions: [illegible]

Air Temperature [illegible]

Average Width: —

Average Depth: —

Bottom Materials: silt / clay / [illegible]

Flow (cfs): [illegible] (6:15 [illegible])

Shoreline Vegetation: Fragmented

Instream Cover: Abundant ____ Common ____ Scarce ✓

Color: Blue ____ Green ____ Tea ____ Brown(Muddy) ✓

Shade: Densely Shaded ____ Partly Shaded ____ Open ✓

Aquatic Vegetation: same

Dams: —

Description of Sample Site: [illegible] mouth

Evidence of Erosion or Pollution: [illegible]

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Conc

Collection Methods	Effort
Hand-capture	

Remarks: Corresponding Sed. sample coll on 9-13-04 @ ~~1540~~ 1530

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336271

UN-CBIO-01ALS 58g Composite Crab Tissue Sample
Kin-Buc Landfill

Collected:08/16/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:37
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

CBIO1

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	2.1	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	48.	ug/kg	5
01496	PCB-1221	11104-28-2	N.D.	43.	ug/kg	5
01497	PCB-1232	11141-16-5	N.D.	33.	ug/kg	5
01498	PCB-1242	53469-21-9	N.D.	33.	ug/kg	5
01499	PCB-1248	12672-29-6	280.	33.	ug/kg	5
01500	PCB-1254	11097-69-1	700.	37.	ug/kg	5
01501	PCB-1260	11096-82-5	240.	33.	ug/kg	5

The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 18:10	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/25/2004 22:17	Artie D Kunselman	5
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 07:00	Ginelle L Haines	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: 16 ~~18~~ August 04 Station: UN-CBIO-01ALS

Nearest Town: Edison Stream: Edwards Cr

Location: Unnamed fork #1

Weather Conditions: pt cloud / calm Air Temperature ± 80°F

Average Width: — Average Depth: —

Bottom Materials: silt / clay / detritus

Flow (cfs): High Tide / incoming (Cl[illegible])

Shoreline Vegetation: Fragmented / sparse

Instream Cover: Abundant _____ Common _____ Scarce ✓

Color: Blue _____ Green _____ Tea _____ Brown(Muddy) ✓

Shade: Densely Shaded _____ Partly Shaded _____ Open ✓

Aquatic Vegetation: some

Dams: —

Description of Sample Site: Downstream unnamed fork

Evidence of Erosion or Pollution: none

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Conc

Collection Methods	Effort
Hand [illegible]	5T @ [illegible]

Remarks: Corresponding sediment sample collected on 9/13/04 @ 1530

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336272

ECMA-C1B 115g Composite Crab Tissue Sample
Kin-Buc Landfill

Collected:08/18/2004 by CDD

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:37
Discard: 10/07/2004

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

C1B--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	0.91	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	9.6	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	8.6	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	6.6	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	6.6	ug/kg	1
01499	PCB-1248	12672-29-6	150.	6.6	ug/kg	1
01500	PCB-1254	11097-69-1	190.	7.4	ug/kg	1
01501	PCB-1260	11096-82-5	65.	6.6	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 18:20	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/25/2004 22:38	Artie D Kunselman	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 07:00	Ginelle L Haines	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336273

ECMA-C1B-Dup 110g Composite Crab Tissue Sample
Kin-Buc Landfill

Collected:08/18/2004 by CDD

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:37
Discard: 10/07/2004

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

C1BFD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	0.89	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	19.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.	17.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.	13.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.	13.	ug/kg	2
01499	PCB-1248	12672-29-6	390.	13.	ug/kg	2
01500	PCB-1254	11097-69-1	310.	15.	ug/kg	2
01501	PCB-1260	11096-82-5	100.	13.	ug/kg	2

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 18:20	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/25/2004 23:00	Artie D Kunselman	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 07:00	Ginelle L Haines	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: 18 August 2004 Station: ECWA-C1B

Nearest Town: Edison Stream: Edwards Cr. Nearest Area

Location:

Weather Conditions: overcast / humid Air Temperature ≈ 25°F

Average Width: — Average Depth: —

Bottom Materials: silt / clay / detritus

Flow (cfs): [illegible] (10:00 am)

Shoreline Vegetation: Forested

Instream Cover: Abundant _____ Common _____ Scarce —

Color: Blue _____ Green _____ Tea _____ Brown(Muddy) —

Shade: Densely Shaded _____ Partly Shaded _____ Open —

Aquatic Vegetation: [illegible]

Dams: —

Description of Sample Site: Back from Crab near Remediated Zones and [illegible]

Evidence of Erosion or Pollution: none

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Cond

Collection Methods	Effort
Hand Collection	1.5 [illegible]
	[illegible]

Remarks: Field dup [illegible] ECWA-C1B dup

~~Corresponding~~ Corresponding sediment sample coll. on 9/15/04 @ 1055

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336274

ECMA-C2B 120g Unspiked Composite Crab Tissue Sample
Kin-Buc Landfill
Collected:08/18/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:37
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

C2B-- SDG#: XXX03-01BKG

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.3	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	14.	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	13.	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	9.9	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	9.9	ug/kg	1
01499	PCB-1248	12672-29-6	160.	9.9	ug/kg	1
01500	PCB-1254	11097-69-1	260.	11.	ug/kg	1
01501	PCB-1260	11096-82-5	110.	9.9	ug/kg	1

Due to insufficient sample size, we were unable to report our usual reporting limits. The values reported represent the lowest reporting limits obtainable.

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 23:55	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	09/01/2004 15:24	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	2	08/31/2004 16:00	Luis E Villamil	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336275

ECMA-C2B 120g Matrix Spike Composite Crab Tissue Sample
Kin-Buc Landfill
Collected:08/18/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:37
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

C2B-- SDG#: XXX03-01MS

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	530.	14.	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	13.	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	9.9	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	9.9	ug/kg	1
01499	PCB-1248	12672-29-6	N.D.	9.9	ug/kg	1
01500	PCB-1254	11097-69-1	N.D.	11.	ug/kg	1
01501	PCB-1260	11096-82-5	560.	9.9	ug/kg	1

Due to insufficient sample size, we were unable to report our usual reporting limits. The values reported represent the lowest reporting limits obtainable.

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01216	PCBs in Solids	SW-846 8082	1	09/01/2004 15:48	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	2	08/31/2004 16:00	Luis E Villamil	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336276

ECMA-C2B 120g Matrix Spike Dup Composite Crab Tissue Sample
Kin-Buc Landfill
Collected:08/18/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:37
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

C2B-- SDG#: XXX03-01MSD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	460.	14.	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	13.	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	9.9	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	9.9	ug/kg	1
01499	PCB-1248	12672-29-6	N.D.	9.9	ug/kg	1
01500	PCB-1254	11097-69-1	N.D.	11.	ug/kg	1
01501	PCB-1260	11096-82-5	480.	9.9	ug/kg	1

Due to insufficient sample size, we were unable to report our usual reporting limits. The values reported represent the lowest reporting limits obtainable.

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01216	PCBs in Solids	SW-846 8082	1	09/01/2004 16:11	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	2	08/31/2004 16:00	Luis E Villamil	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: 8-18-05 Station: Ecut-C1 B

Nearest Town: Edison Stream: Edwards Cr. Mark Ave

Location: Edwards Cr. Mark Ave

Weather Conditions: [illegible] Air Temperature ± 80° F

Average Width: Average Depth:

Bottom Materials: [illegible]

Flow (cfs): [illegible]

Shoreline Vegetation: Exotic

Instream Cover: Abundant Common Scarce

Color: Blue Green Tea Brown(Muddy)

Shade: Densely Shaded Partly Shaded Open

Aquatic Vegetation: none

Dams:

Description of Sample Site: [illegible]

Evidence of Erosion or Pollution: none

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Cond

Collection Methods	Effort
Hand [illegible]	120 [illegible]

Remarks: Corresponding sediment sample collected on 9/18/05 @ 1040

MS/MSD

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336277

ECMA-C3S 58g Composite Crab Tissue Sample
Kin-Buc Landfill

Collected:08/18/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:37
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

C3S--

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.6	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	9.6	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	8.6	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	6.6	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	6.6	ug/kg	1
01499	PCB-1248	12672-29-6	370.	6.6	ug/kg	1
01500	PCB-1254	11097-69-1	370.	7.4	ug/kg	1
01501	PCB-1260	11096-82-5	150.	6.6	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 23:55	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/27/2004 13:20	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 07:00	Ginelle L Haines	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: 8-18-04 Station: ECMP-C3S

Nearest Town: Edison Stream: [illegible]

Location: Edmonds Creek Wiarch Area

Weather Conditions: hot/humid Air Temperature ± 85°F

Average Width: Average Depth:

Bottom Materials: silt/clay/[illegible]

Flow (cfs): [illegible] (11:30 am)

Shoreline Vegetation: [illegible]

Instream Cover: Abundant Common Scarce

Color: Blue Green Tea Brown(Muddy)

Shade: Densely Shaded Partly Shaded Open

Aquatic Vegetation: none

Dams:

Description of Sample Site: Adjacent to Remediated [illegible] 5 [illegible]

Evidence of Erosion or Pollution: none

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Conc

Collection Methods	Effort
Hand [illegible]	58 [illegible]

Remarks: Corresponding sediment sample collected on 9/15/04 at 10:20 AM

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336278

RA-CBEN-01LS 85g Composite Crab Tissue Sample
Kin-Buc Landfill

Collected:08/18/2004 by CDD

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:37
Discard: 10/07/2004

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

01LS-

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	0.95		0.10	% by wt.	1
01216	PCBs in Solids						
01495	PCB-1016	12674-11-2	N.D.		9.6	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.		8.6	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.		6.6	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.		6.6	ug/kg	1
01499	PCB-1248	12672-29-6	27.	J	6.6	ug/kg	1
01500	PCB-1254	11097-69-1	76.		7.4	ug/kg	1
01501	PCB-1260	11096-82-5	35.		6.6	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 23:55	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/27/2004 14:02	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 07:00	Ginelle L Haines	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: 8-18-04 Station: PA-CREN-01LS

Nearest Town: Edison Stream: Reference Creek

Location: [illegible]

Weather Conditions: [illegible] Air Temperature [illegible]

Average Width: Average Depth:

Bottom Materials: [illegible]

Flow (cfs): [illegible] (2:10 PM)

Shoreline Vegetation: Frequent

Instream Cover: Abundant Common Scarce ✓

Color: Blue Green Tea Brown(Muddy) ✓

Shade: Densely Shaded Partly Shaded ✓ Open

Aquatic Vegetation: Frequent

Dams:

Description of Sample Site: [illegible]

Evidence of Erosion or Pollution: none

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Cond

Collection Methods	Effort
[illegible]	[illegible]

Remarks: Corresponding Sediment sample collected on 9/13/04 @ 1740

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336279

RA-CBEN-01ARS 65g Composite Crab Tissue Sample
Kin-Buc Landfill

Collected:08/18/2004 by CDD

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:37
Discard: 10/07/2004

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

01ARS

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.1	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	9.6	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	8.6	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	6.6	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	6.6	ug/kg	1
01499	PCB-1248	12672-29-6	34.	6.6	ug/kg	1
01500	PCB-1254	11097-69-1	110.	7.4	ug/kg	1
01501	PCB-1260	11096-82-5	46.	6.6	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 23:55	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/27/2004 14:23	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 07:00	Ginelle L Haines	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: 8-12-04 Station: [illegible]

Nearest Town: Edison Stream: Reference Creek

Location: Reference Zone #1

Weather Conditions: overcast / breeze / humid Air Temperature [illegible]

Average Width: Average Depth:

Bottom Materials: silt / clay / [illegible]

Flow (cfs): [illegible]

Shoreline Vegetation: [illegible]

Instream Cover: Abundant Common Scarce ✓

Color: Blue Green Tea Brown(Muddy) ✓

Shade: Densely Shaded Partly Shaded ✓ Open

Aquatic Vegetation: Fragmite

Dams:

Description of Sample Site: [illegible]

Evidence of Erosion or Pollution: [illegible]

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Cond

Collection Methods	Effort
[illegible]	[illegible]

Remarks: Corresponding sediment sample collected on 9/13/04 @ 1805

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336280

RA-CBEN-01ALB 80g Composite Crab Tissue Sample
Kin-Buc Landfill

Collected:08/18/2004 by CDD

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:37
Discard: 10/07/2004

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

01ALB

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	8,930. ?		0.10	% by wt.	1
01216	PCBs in Solids						
01495	PCB-1016	12674-11-2	N.D.		9.6	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.		8.6	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.		6.6	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.		6.6	ug/kg	1
01499	PCB-1248	12672-29-6	26.	J	6.6	ug/kg	1
01500	PCB-1254	11097-69-1	71.		7.4	ug/kg	1
01501	PCB-1260	11096-82-5	35.		6.6	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 23:55	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/27/2004 15:27	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 07:00	Ginelle L Haines	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: 9-13-04 Station: RA-CREN-01ALK

Nearest Town: Edison Stream: Rahway C.

Location: Rahway Lane

Weather Conditions: cloudy / humid / [illegible] Air Temperature [illegible]

Average Width: Average Depth:

Bottom Materials: [illegible]

Flow (cfs): [illegible] (1:30 pm)

Shoreline Vegetation: [illegible]

Instream Cover: Abundant Common Scarce ✓

Color: Blue Green Tea Brown(Muddy) ✓

Shade: Densely Shaded Partly Shaded ✓ Open

Aquatic Vegetation: [illegible]

Dams:

Description of Sample Site: [illegible]

Evidence of Erosion or Pollution: none

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Cond

Collection Methods	Effort
[illegible]	[illegible]

Remarks: Corresponding sediment sample collected on 9/13/04 @ 1750

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336281

RA-CBEN-02LB 99g Composite Crab Tissue Sample
Kin-Buc Landfill

Collected:08/18/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:37
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

02LB-

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	0.86		0.10	% by wt.	1
01216	PCBs in Solids						
01495	PCB-1016	12674-11-2	N.D.		9.6	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.		8.6	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.		6.6	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.		6.6	ug/kg	1
01499	PCB-1248	12672-29-6	31.	J	6.6	ug/kg	1
01500	PCB-1254	11097-69-1	80.		7.4	ug/kg	1
01501	PCB-1260	11096-82-5	32.	J	6.6	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 23:55	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/27/2004 15:48	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 07:00	Ginelle L Haines	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: 2-15-01 Station: PA-CBEN-02LB

Nearest Town: Edison Stream: Delaware C

Location: Delaware Falls #1

Weather Conditions: overcast / humid Air Temperature [illegible]

Average Width: Average Depth:

Bottom Materials: silt / clay / [illegible]

Flow (cfs): High Tide / outgoing (12:00 noon)

Shoreline Vegetation: Fragmite

Instream Cover: Abundant Common Scarce ✓

Color: Blue Green Tea Brown(Muddy) —

Shade: Densely Shaded Partly Shaded ✓ Open

Aquatic Vegetation: Fragmite

Dams:

Description of Sample Site: Upstream [illegible] Delaware [illegible]

Evidence of Erosion or Pollution: none

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Cond

Collection Methods	Effort
[illegible]	[illegible]

Remarks: Corresponding sediment sample collected on 9/13/01 @ 1840

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336282

RA-CBEN-02ARS 56g Composite Crab Tissue Sample
Kin-Buc Landfill

Collected:08/18/2004 by CDD

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:37
Discard: 10/07/2004

02ARS

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	0.63	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	9.6	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	8.6	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	6.6	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	6.6	ug/kg	1
01499	PCB-1248	12672-29-6	39.	6.6	ug/kg	1
01500	PCB-1254	11097-69-1	120.	7.4	ug/kg	1
01501	PCB-1260	11096-82-5	56.	6.6	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 23:55	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/27/2004 16:09	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 07:00	Ginelle L Haines	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: 8-18-04 Station: RA-CBEN-02APS

Nearest Town: Edison Stream: Reference Cr.

Location: Reference Zone - 2

Weather Conditions: overcast / humid / breeze Air Temperature 5 90°F

Average Width: — Average Depth: —

Bottom Materials: silt / clay / detritus

Flow (cfs): High Tide / outgoing

Shoreline Vegetation: Fragmite

Instream Cover: Abundant _____ Common _____ Scarce ✓

Color: Blue _____ Green _____ Tea _____ Brown(Muddy) ✓

Shade: Densely Shaded _____ Partly Shaded ✓ Open _____

Aquatic Vegetation: Fragmite

Dams: _____

Description of Sample Site: Upstream reference zone

Evidence of Erosion or Pollution: none

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Cond

Collection Methods	Effort
[illegible]	56 g [illegible]

Remarks: Corresponding sediment sample collected on 9/13/04 @ 1855

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336283

RA-CBEN-02ALS 102g Composite Crab Tissue Sample
Kin-Buc Landfill

Collected:08/18/2004 by CDD

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:37
Discard: 10/07/2004

02ALS

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.1	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	9.6	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	8.6	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	6.6	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	6.6	ug/kg	1
01499	PCB-1248	12672-29-6	34.	6.6	ug/kg	1
01500	PCB-1254	11097-69-1	96.	7.4	ug/kg	1
01501	PCB-1260	11096-82-5	42.	6.6	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 23:55	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/27/2004 16:31	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 07:00	Ginelle L Haines	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

CRAB TISSUE COLLECTION DATA SHEET

Date: 8-18-04 Station: RA-CREN-02ALS

Nearest Town: Edson Stream: Reference Creek

Location: Reference Zone - 2

Weather Conditions: overcast / breeze Air Temperature ≈ 85°C

Average Width: Average Depth:

Bottom Materials: silt/clay / debris

Flow (cfs): Mid Tide / outgoing (2 [illegible])

Shoreline Vegetation: Fragmite

Instream Cover: Abundant Common Scarce —

Color: Blue Green Tea Brown(Muddy) —

Shade: Densely Shaded Partly Shaded — Open

Aquatic Vegetation: Fragmite

Dams:

Description of Sample Site: Upstream reference zone

Evidence of Erosion or Pollution: none

Water Quality Measurements:

Depth	Water Temp	Dissolved Oxygen	pH	Salinity	Cond

Collection Methods	Effort
[illegible]	102 g compost

Remarks: Corresponding sediment sample collected on 9/13/04 @ 1905

Lancaster Laboratories

Quality Control Summary

Client Name: Normandeau Associates, Inc.
Reported: 09/06/04 at 02:37 PM

Group Number: 908900

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 042370006A	Sample number(s): 4336267-4336273							
PCB-1016	N.D.	4.8	ug/kg	87		72-120		
PCB-1221	N.D.	4.3	ug/kg					
PCB-1232	N.D.	3.3	ug/kg					
PCB-1242	N.D.	3.3	ug/kg					
PCB-1248	N.D.	3.3	ug/kg					
PCB-1254	N.D.	3.7	ug/kg					
PCB-1260	N.D.	3.3	ug/kg	93		76-122		
Batch number: 042370008A	Sample number(s): 4336277-4336283							
PCB-1016	N.D.	4.8	ug/kg	86		72-120		
PCB-1221	N.D.	4.3	ug/kg					
PCB-1232	N.D.	3.3	ug/kg					
PCB-1242	N.D.	3.3	ug/kg					
PCB-1248	N.D.	3.3	ug/kg					
PCB-1254	N.D.	3.7	ug/kg					
PCB-1260	N.D.	3.3	ug/kg	88		76-122		
Batch number: 042370009A	Sample number(s): 4336246-4336266							
PCB-1016	N.D.	4.8	ug/kg	94		72-120		
PCB-1221	N.D.	4.3	ug/kg					
PCB-1232	N.D.	3.3	ug/kg					
PCB-1242	N.D.	3.3	ug/kg					
PCB-1248	N.D.	3.3	ug/kg					
PCB-1254	N.D.	3.7	ug/kg					
PCB-1260	N.D.	3.3	ug/kg	102		76-122		
Batch number: 0423710274193A	Sample number(s): 4336252-4336260,4336264,4336267,4336271							
Percent Lipids	N.D.	0.10	% by wt.					
Batch number: 0423710274193b	Sample number(s): 4336246-4336251,4336265-4336266,4336272-4336273							
Percent Lipids	N.D.	0.10	% by wt.					
Batch number: 0423710274193c	Sample number(s): 4336274,4336277-4336283							
Percent Lipids	N.D.	0.10	% by					

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Lancaster Laboratories

Quality Control Summary

Client Name: Normandeau Associates, Inc. Group Number: 908900
Reported: 09/06/04 at 02:37 PM

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 0423710274193d	Sample number(s): 4336261,4336270							
Percent Lipids	N.D.	0.10	% by wt.					
Batch number: 042440007A	Sample number(s): 4336274-4336276							
PCB-1016	N.D.	14.	ug/kg	94		72-120		
PCB-1221	N.D.	13.	ug/kg					
PCB-1232	N.D.	9.9	ug/kg					
PCB-1242	N.D.	9.9	ug/kg					
PCB-1248	N.D.	9.9	ug/kg					
PCB-1254	N.D.	11.	ug/kg					
PCB-1260	N.D.	9.9	ug/kg	94		76-122		

Sample Matrix Quality Control

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 042370006A	Sample number(s): 4336267-4336273								
PCB-1016	137*	129*	45-125	6	50				
PCB-1260	128	119	32-139	6	50				
Batch number: 042370008A	Sample number(s): 4336277-4336283								
PCB-1016	96	103	45-125	7	50				
PCB-1260	108	112	32-139	4	50				
Batch number: 042370009A	Sample number(s): 4336246-4336266								
PCB-1016	142*	108	45-125	27	50				
PCB-1260	145*	114	32-139	22	50				
Batch number: 042440007A	Sample number(s): 4336274-4336276								
PCB-1016	106	93	45-125	13	50				
PCB-1260	90	74	32-139	15	50				

Surrogate Quality Control

Analysis Name: PCBs in Solids
Batch number: 042370006A

Tetrachloro-m-xylene	Decachlorobiphenyl

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Lancaster Laboratories

Quality Control Summary

Client Name: Normandeau Associates, Inc. Group Number: 908900
Reported: 09/06/04 at 02:37 PM

Surrogate Quality Control

4336267	91	129
4336268	104	141*
4336269	99	138*
4336270	90	111
4336271	98	149*
4336272	91	113
4336273	91	122
Blank	91	104
LCS	88	105
MS	104	141*
MSD	99	138*
Limits:	53-139	41-132

Analysis Name: PCBs in Solids
Batch number: 042370008A

	Tetrachloro-m-xylene	Decachlorobiphenyl
4336277	92	112
4336278	87	101
4336279	89	104
4336280	89	106
4336281	88	104
4336282	90	108
4336283	91	109
Blank	86	84
LCS	88	89
MS	83	176*
MSD	91	177*
Limits:	53-139	41-132

Analysis Name: PCBs in Solids
Batch number: 042370009A

	Tetrachloro-m-xylene	Decachlorobiphenyl
4336246	95	113
4336247	92	108
4336248	95	110
4336249	93	124
4336250	88	107
4336251	86	105
4336252	96	117
4336253	97	114
4336254	83	109
4336255	92	123
4336256	103	140*
4336257	90	108
4336258	87	114
4336259	89	114

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Lancaster Laboratories

Quality Control Summary

Client Name: Normandeau Associates, Inc. Group Number: 908900
Reported: 09/06/04 at 02:37 PM

Surrogate Quality Control

4336260	84	112
4336261	88	89
4336262	93	126
4336263	92	126
4336264	97	148*
4336265	93	123
4336266	89	113
Blank	91	106
LCS	93	107
MS	93	126
MSD	92	126
Limits:	53-139	41-132

Analysis Name: PCBs in Solids
Batch number: 042440007A

	Tetrachloro-m-xylene	Decachlorobiphenyl
4336274	91	109
4336275	92	113
4336276	86	104
Blank	90	102
LCS	94	110
MS	92	113
MSD	86	104
Limits:	53-139	41-132

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

APPENDIX C

Lancaster Laboratories

RECEIVED SEP - 9 2004

ANALYTICAL RESULTS

Prepared for:

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464
610-705-5733

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 908903. Samples arrived at the laboratory on Friday, August 20, 2004.

Client Description	Lancaster Labs Number
F01J 63g Composite Fish Tissue Sample	4336286
F01A 70g Composite Fish Tissue Sample	4336287
F02J 63g Composite Fish Tissue Sample	4336288
F02A 63g Composite Fish Tissue Sample	4336289
UN-F03J 62g Composite Fish Tissue Sample	4336290
UN-F03A 63g Composite Fish Tissue Sample	4336291
UN-F02J 63g Composite Fish Tissue Sample	4336292
UN-F02A 65g Composite Fish Tissue Sample	4336293
F03J 62g Composite Fish Tissue Sample	4336294
F03A 65g Composite Fish Tissue Sample	4336295
F03A-Dup 65g Composite Fish Tissue Sample	4336296
F04J 62g Composite Fish Tissue Sample	4336297
F04A 70g Composite Fish Tissue Sample	4336298
F05J 66g Composite Fish Tissue Sample	4336299
F05A 64g Composite Fish Tissue Sample	4336300
UN-F01J 65g Composite Fish Tissue Sample	4336301
UN-F01A 67g Composite Fish Tissue Sample	4336302
RA-F01J 63g Composite Fish Tissue Sample	4336303
RA-F01A 73g Composite Fish Tissue Sample	4336304
RA-F02J 143g Unspiked Composite Fish Tissue	4336305
RA-F02A 72g Composite Fish Tissue Sample	4336306

1 COPY TO Normandeau Associates Attn: Mr. George Christian

Lancaster Laboratories

Questions? Contact your Client Services Representative
Jill S Wolgemuth at (717) 656-2300.

Respectfully Submitted,

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

RECEIVED SEP - 3 2004

ANALYTICAL RESULTS

Prepared for:

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464
610-705-5733

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 908972. Samples arrived at the laboratory on Friday, August 20, 2004.

Client Description	Lancaster Labs Number
RA-F02J 143g Matrix Spike Composite Fish Tissue	4336694
RA-F02J 143g Matrix Spike Dup Composite Fish	4336695

1 COPY TO Normandeau Associates Attn: Mr. George Christian

Questions? Contact your Client Services Representative
Jill S Wolgemuth at (717) 656-2300.

Respectfully Submitted,

Elizabeth A. Smith
Senior Chemist

MEMBER ACIL
Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336286

F01J 63g Composite Fish Tissue Sample
Kin-Buc Landfill

Collected:08/17/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:35
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

F01J-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.8	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	38.	ug/kg	4
01496	PCB-1221	11104-28-2	N.D.	34.	ug/kg	4
01497	PCB-1232	11141-16-5	N.D.	26.	ug/kg	4
01498	PCB-1242	53469-21-9	N.D.	26.	ug/kg	4
01499	PCB-1248	12672-29-6	1,300.	26.	ug/kg	4
01500	PCB-1254	11097-69-1	460.	30.	ug/kg	4
01501	PCB-1260	11096-82-5	170.	26.	ug/kg	4

The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 23:55	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/30/2004 14:54	Douglas D Seitz	4
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 07:00	Ginelle L Haines	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336287

F01A 70g Composite Fish Tissue Sample
Kin-Buc Landfill

Collected:08/17/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:35
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

F01A-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.8	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	19.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.	17.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.	13.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.	13.	ug/kg	2
01499	PCB-1248	12672-29-6	770.	13.	ug/kg	2
01500	PCB-1254	11097-69-1	230.	15.	ug/kg	2
01501	PCB-1260	11096-82-5	100.	13.	ug/kg	2

The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 23:55	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/27/2004 17:55	Douglas D Seitz	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 07:00	Ginelle L Haines	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

FISH DATA

DATE 8-17-04
SITE Remediated Jar #1
SAMPLE # F-013 A
METHOD 8' block seine
COMMENTS Water Temp: pH = 6.9 Sal = 2.0 Cond = 5100 Dis Ox = 5.8

TEMP ±85°F
TIME 3:00 PM
NAME CDR, GMC
WEATHER ptly cloudy / calm

Fish Tide / out grip

Code	SPECIES	# INDIVIDUALS	TOTAL # INDIVIDUALS	LENGTH - INDIVIDUALS / SPECIES (mm)												
	mummichog (adults)	10	10 (70g)	82	73	81	84	73	82	79	80	81	74			
	Mummichog (juveniles)	25	88 (63g)	[illegible]	[illegible]	[illegible]	42	33	35	36	39	[illegible]	[illegible]	36	39	24
				28	39	42	38	42	30	46	[illegible]	[illegible]	31	32	45	
	"	25		35	37	28	43	38	40	36	42	28	28	36	34	32
				30	42	46	38	38	30	42	33	28	31	30	27	
	"	25		22	23	27	33	42	32	39	36	38	[illegible]	[illegible]	[illegible]	40
				33	38	27	30	26	25	21	37	[illegible]	[illegible]	[illegible]	50	
		13		30	25	44	45	29	26	23	50	20	[illegible]	24	42	46

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336288

F02J 63g Composite Fish Tissue Sample
Kin-Buc Landfill

Collected:08/17/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:35
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

F02J-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.8	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	19.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.	17.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.	13.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.	13.	ug/kg	2
01499	PCB-1248	12672-29-6	960.	13.	ug/kg	2
01500	PCB-1254	11097-69-1	330.	15.	ug/kg	2
01501	PCB-1260	11096-82-5	100.	13.	ug/kg	2

The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 23:55	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/27/2004 18:38	Douglas D Seitz	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 07:00	Ginelle L Haines	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336289

F02A 63g Composite Fish Tissue Sample
Kin-Buc Landfill

Collected:08/17/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:35
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

F02A-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.6	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	19.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.	17.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.	13.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.	13.	ug/kg	2
01499	PCB-1248	12672-29-6	870.	13.	ug/kg	2
01500	PCB-1254	11097-69-1	270.	15.	ug/kg	2
01501	PCB-1260	11096-82-5	100.	13.	ug/kg	2

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 23:55	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/30/2004 15:15	Douglas D Seitz	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 07:00	Ginelle L Haines	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

FISH DATA

DATE: Remedial June 1
SITE: 8.17.08
SAMPLE #: F-02 3, A
METHOD: 8' block seine
COMMENTS: Water Temp pH 6.9 [illegible] 5.6 [illegible] 5,050 [illegible] 2.0

TEMP: ± 85°F
TIME: 3:15 PM
NAME: Aug CDA
WEATHER: pt. cloud / brass

Code	SPECIES	# INDIVIDUALS	TOTAL # INDIVIDUALS	LENGTH - INDIVIDUALS / SPECIES (mm)												
	Mummichog	10	10 (6 3/8)	64	69	76	87	73	92	80	75	80	68			
	"	26	18 (6 3/8)	40	28	[illegible]	38	27	32	[illegible]	36	38	43	35	[illegible]	37
				42	28	33	40	41	36	33	49	44	[illegible]	32	50	
	"	25		38	49	44	46	46	45	33	33	35	48	35	40	48
				29	33	35	34	26	22	27	21	33	48	45	38	
	"	25		42	40	41	37	33	34	49	38	29	27	26	38	40
				41	43	27	42	30	42	49	46	50	48	44	46	
		3		33	27	38										

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336290

UN-F03J 62g Composite Fish Tissue Sample
Kin-Buc Landfill

Collected:08/17/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:35
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

UF03J

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.6	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	19.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.	17.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.	13.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.	13.	ug/kg	2
01499	PCB-1248	12672-29-6	990.	13.	ug/kg	2
01500	PCB-1254	11097-69-1	340.	15.	ug/kg	2
01501	PCB-1260	11096-82-5	110.	13.	ug/kg	2

The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 23:55	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/27/2004 19:41	Douglas D Seitz	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 07:00	Ginelle L Haines	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336291

UN-F03A 63g Composite Fish Tissue Sample
Kin-Buc Landfill

Collected:08/17/2004 by CDD

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:35
Discard: 10/07/2004

UF03A

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.3	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	19.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.	17.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.	13.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.	13.	ug/kg	2
01499	PCB-1248	12672-29-6	720.	13.	ug/kg	2
01500	PCB-1254	11097-69-1	200.	15.	ug/kg	2
01501	PCB-1260	11096-82-5	73.	13.	ug/kg	2

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 23:55	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/30/2004 15:37	Douglas D Seitz	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 07:00	Ginelle L Haines	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

FISH DATA

DATE 8-17-04
SITE Unnamed [illegible] (Stn)
SAMPLE # UN-F03 I, A
METHOD 8' block seine
COMMENTS Water temp 26.5 C Dis [illegible] 5.4 pH 6.9 [illegible] 2.0 [illegible] 2,670 (ebb tide)

TEMP ± 85°
TIME 4:00 PM (ebb tide)
NAME Gue, CDM
WEATHER [illegible] / Calm

Code	SPECIES	# INDIVIDUALS	TOTAL # INDIVIDUALS	LENGTH - INDIVIDUALS / SPECIES (mm)												
	Mummichog (adult)	9	9 (63g)	68	95	70	84	[illegible]	76	78	74	69				
	" (Juveniles)	55	55 (62g)	33	40	34	33	33	50	38	40	[illegible]	[illegible]	48	36	38
				37	46	49	40	42	[illegible]	38	33	[illegible]	[illegible]	[illegible]	[illegible]	
	" "	25		43	49	50	38	44	41	50	36	43	47	[illegible]	[illegible]	30
				48	46	48	50	34	38	35	47	49	27	[illegible]	33	
		5		29	27	33	25	42								

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336292

UN-F02J 63g Composite Fish Tissue Sample
Kin-Buc Landfill

Collected:08/17/2004 by CDD

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:35
Discard: 10/07/2004

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

UF02J

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.8	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	38.	ug/kg	4
01496	PCB-1221	11104-28-2	N.D.	34.	ug/kg	4
01497	PCB-1232	11141-16-5	N.D.	26.	ug/kg	4
01498	PCB-1242	53469-21-9	N.D.	26.	ug/kg	4
01499	PCB-1248	12672-29-6	1,400.	26.	ug/kg	4
01500	PCB-1254	11097-69-1	460.	30.	ug/kg	4
01501	PCB-1260	11096-82-5	160.	26.	ug/kg	4

The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 23:55	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/30/2004 15:58	Douglas D Seitz	4
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 07:00	Ginelle L Haines	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336293

UN-F02A 65g Composite Fish Tissue Sample
Kin-Buc Landfill

Collected:08/17/2004 by CDD

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:35
Discard: 10/07/2004

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

UF02A

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.7	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	48.	ug/kg	5
01496	PCB-1221	11104-28-2	N.D.	43.	ug/kg	5
01497	PCB-1232	11141-16-5	N.D.	33.	ug/kg	5
01498	PCB-1242	53469-21-9	N.D.	33.	ug/kg	5
01499	PCB-1248	12672-29-6	1,000.	33.	ug/kg	5
01500	PCB-1254	11097-69-1	310.	37.	ug/kg	5
01501	PCB-1260	11096-82-5	110. J	33.	ug/kg	5

The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 23:55	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/27/2004 21:27	Douglas D Seitz	5
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 07:00	Ginelle L Haines	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

FISH DATA

DATE 8-17-03
SITE Unconsolidated fine 2
SAMPLE # UN 1-02 [illegible]
METHOD 8' B
COMMENTS water temp 26.5 pH 7.0 Dis O [illegible] Sal [illegible] cond 2620

TEMP 80°F
TIME 4:20 pm [illegible]
NAME Gene, CDD
WEATHER [illegible] 80°F

Code	SPECIES	# INDIVIDUALS	TOTAL # INDIVIDUALS	LENGTH - INDIVIDUALS / SPECIES (mm)												
	Minnow [illegible] (cold)	12	17 (65g)	75	76	76	74	80	78	72	69	73	71	72	78	
	" (juvenile)	25	51 (63g)	42	40	38	60	48	33	41	33	30	44	46	36	40
				41	38	36	29	26	27	50	28	29	25	33	36	
	" "	25		42	33	30	32	22	21	32	50	41	26	42	50	46
				44	60	49	36	30	24	50	49	47	26	27	60	
	" "	1		49												

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336294

F03J 62g Composite Fish Tissue Sample
Kin-Buc Landfill

Collected:08/17/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:35
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

F03J-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.9	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	19.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.	17.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.	13.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.	13.	ug/kg	2
01499	PCB-1248	12672-29-6	680.	13.	ug/kg	2
01500	PCB-1254	11097-69-1	350.	15.	ug/kg	2
01501	PCB-1260	11096-82-5	97.	13.	ug/kg	2

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 23:55	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/30/2004 16:19	Douglas D Seitz	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 07:00	Ginelle L Haines	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336295

F03A 65g Composite Fish Tissue Sample
Kin-Buc Landfill

Collected:08/17/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:35
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

F03A-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.9	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	19.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.	17.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.	13.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.	13.	ug/kg	2
01499	PCB-1248	12672-29-6	840.	13.	ug/kg	2
01500	PCB-1254	11097-69-1	280.	15.	ug/kg	2
01501	PCB-1260	11096-82-5	88.	13.	ug/kg	2

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 23:55	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/30/2004 16:40	Douglas D Seitz	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 07:00	Ginelle L Haines	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336296

F03A-Dup 65g Composite Fish Tissue Sample
Kin-Buc Landfill

Collected:08/17/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:35
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

F3AFD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	2.3	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	19.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.	17.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.	13.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.	13.	ug/kg	2
01499	PCB-1248	12672-29-6	900.	13.	ug/kg	2
01500	PCB-1254	11097-69-1	230.	15.	ug/kg	2
01501	PCB-1260	11096-82-5	89.	13.	ug/kg	2

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 23:55	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/30/2004 17:02	Douglas D Seitz	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 07:00	Ginelle L Haines	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

FISH DATA

DATE: 8-17-04
SITE: [illegible] Zone 3
SAMPLE #: [illegible]
METHOD: [illegible]
COMMENTS: [illegible]

TEMP: [illegible]
TIME: [illegible]
NAME: [illegible]
WEATHER: [illegible]

Code	SPECIES	# INDIVIDUALS	TOTAL # INDIVIDUALS	LENGTH - INDIVIDUALS / SPECIES (mm)												
	[illegible]	9	9 (66g)	82	80	86	74	89	75	81	73	73				
	[illegible]	8	8 (66g)	71	78	71	90	80	78	81	89					
	[illegible]	26	69 (166g)	39	36	38	48	35	36	35	48	50	46	29	33	26
				38	41	42	40	36	41	36	31	33	39	27	31	
	" "	26		47	40	36	33	38	39	48	41	31	32	46	31	33
				34	38	49	40	36	46	40	50	39	29	31	30	
	" "	19		39	40	41	33	40	38	49	41	46	38	42	40	39
				38	46	45	49	47	45							

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336297

F04J 62g Composite Fish Tissue Sample
Kin-Buc Landfill

Collected:08/17/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:35
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

F04J-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.8	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	19.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.	17.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.	13.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.	13.	ug/kg	2
01499	PCB-1248	12672-29-6	910.	13.	ug/kg	2
01500	PCB-1254	11097-69-1	300.	15.	ug/kg	2
01501	PCB-1260	11096-82-5	87.	13.	ug/kg	2

The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 23:55	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/27/2004 23:56	Douglas D Seitz	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 07:00	Ginelle L Haines	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336298

F04A 70g Composite Fish Tissue Sample
Kin-Buc Landfill

Collected:08/17/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:35
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

F04A-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.2	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	48.	ug/kg	5
01496	PCB-1221	11104-28-2	N.D.	43.	ug/kg	5
01497	PCB-1232	11141-16-5	N.D.	33.	ug/kg	5
01498	PCB-1242	53469-21-9	N.D.	33.	ug/kg	5
01499	PCB-1248	12672-29-6	680.	33.	ug/kg	5
01500	PCB-1254	11097-69-1	290.	37.	ug/kg	5
01501	PCB-1260	11096-82-5	330.	33.	ug/kg	5

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 23:55	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/26/2004 16:51	Artie D Kunselman	5
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 16:30	Luis E Villamil	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

FISH DATA

DATE 8-17-09
SITE [illegible] Area 2
SAMPLE # F 04 I, A
METHOD 8" [illegible]
COMMENTS [illegible]

TEMP [illegible]
TIME 4:35 PM ([illegible])
NAME [illegible]
WEATHER

Code	SPECIES	# INDIVIDUALS	TOTAL # INDIVIDUALS	LENGTH - INDIVIDUALS / SPECIES (mm)												
	[illegible] ([illegible])	8	8 (70%)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	86	73					
	[illegible] ([illegible])	25	56 (69%)	42	35	60	41	49	37	39	48	50	37	46	46	45
				50	48	50	38	30	39	26	48	35	33	47	46	
		25		38	49	46	49	50	47	48	30	27	42	49	50	39
				41	44	48	47	30	27	28	50	46	48	33	38	

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336299

F05J 66g Composite Fish Tissue Sample
Kin-Buc Landfill

Collected:08/17/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:36
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

F05J-

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	2.0		0.10	% by wt.	1
01216	PCBs in Solids						
01495	PCB-1016	12674-11-2	N.D.		19.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.		17.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.		13.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.		13.	ug/kg	2
01499	PCB-1248	12672-29-6	570.		13.	ug/kg	2
01500	PCB-1254	11097-69-1	200.		15.	ug/kg	2
01501	PCB-1260	11096-82-5	51.	J	13.	ug/kg	2

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 23:55	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/30/2004 14:12	Douglas D Seitz	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 16:30	Luis E Villamil	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336300

F05A 64g Composite Fish Tissue Sample
Kin-Buc Landfill

Collected:08/17/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:36
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

F05A-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.3	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	9.6	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	8.6	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	6.6	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	6.6	ug/kg	1
01499	PCB-1248	12672-29-6	420.	6.6	ug/kg	1
01500	PCB-1254	11097-69-1	130.	7.4	ug/kg	1
01501	PCB-1260	11096-82-5	52.	6.6	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 23:55	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/30/2004 12:26	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 16:30	Luis E Villamil	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

FISH DATA

DATE 8-17-04
SITE [illegible]
SAMPLE # [illegible]
METHOD [illegible] series
COMMENTS [illegible]

TEMP [illegible]
TIME [illegible] (elab [illegible])
NAME [illegible]
WEATHER [illegible]

Code	SPECIES	# INDIVIDUALS	TOTAL # INDIVIDUALS	LENGTH - INDIVIDUALS / SPECIES (mm)												
	Mammoth (Catostomus)	7	7 (6 [illegible])	77	78	86	89	86	78	81						
	" (Quercus)	[illegible]	66 ([illegible])	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	30	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	45	48
				46	38	44	43	41	29	32	33	46	45	38	41	
	" "	20		43	45	44	31	33	32	44	30	42	43	39	47	50
				45	38	41	39	38	41	40	38	46	33	38	36	
	" "	16		39	34	40	42	47	46	42	43	39	41	40	30	41
				40	44	38										

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336301

UN-F01J 65g Composite Fish Tissue Sample
Kin-Buc Landfill

Collected:08/17/2004 by CDD

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:36
Discard: 10/07/2004

Account Number: 07418

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

UF01J

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	2.1		0.10	% by wt.	1
01216	PCBs in Solids						
01495	PCB-1016	12674-11-2	N.D.		19.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.		17.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.		13.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.		13.	ug/kg	2
01499	PCB-1248	12672-29-6	540.		13.	ug/kg	2
01500	PCB-1254	11097-69-1	190.		15.	ug/kg	2
01501	PCB-1260	11096-82-5	55.	J	13.	ug/kg	2

The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 23:55	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/26/2004 17:55	Artie D Kunselman	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 16:30	Luis E Villamil	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336302

UN-F01A 67g Composite Fish Tissue Sample
Kin-Buc Landfill

Collected:08/17/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:36
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

UF01A

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.7	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	19.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.	17.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.	13.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.	13.	ug/kg	2
01499	PCB-1248	12672-29-6	550.	13.	ug/kg	2
01500	PCB-1254	11097-69-1	220.	15.	ug/kg	2
01501	PCB-1260	11096-82-5	71.	13.	ug/kg	2

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 23:55	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/30/2004 14:33	Douglas D Seitz	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 16:30	Luis E Villamil	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

FISH DATA

DATE [illegible]
SITE [illegible]
SAMPLE # [illegible]
METHOD 8' block seine
COMMENTS [illegible]

TEMP [illegible]
TIME [illegible] ebb [illegible]
NAME [illegible]
WEATHER [illegible]

Code	SPECIES	# INDIVIDUALS	TOTAL # INDIVIDUALS	LENGTH - INDIVIDUALS / SPECIES (mm)												
	[illegible]	9	9 (6 [illegible])	[illegible]	[illegible]	[illegible]	[illegible]	18	[illegible]	[illegible]	80	99				
	[illegible]	25	56 (6 [illegible])	41	[illegible]	[illegible]	[illegible]	19	30	46	47	[illegible]	[illegible]	[illegible]	46	46
				48	[illegible]	39	38	27	33	42	38	36	36	37	37	
		25		35	41	47	36	36	31	42	38	36	37	50	40	47
				44	44	38	40	47	49	44	46	48	50	40	33	
		6		47	38	46	46	44	42							

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336303

RA-F01J 63g Composite Fish Tissue Sample
Kin-Buc Landfill

Collected:08/18/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:36
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

RAF1J

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	0.88	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	9.6	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	8.6	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	6.6	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	6.6	ug/kg	1
01499	PCB-1248	12672-29-6	62.	6.6	ug/kg	1
01500	PCB-1254	11097-69-1	140.	7.4	ug/kg	1
01501	PCB-1260	11096-82-5	63.	6.6	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 23:55	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/30/2004 13:08	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 16:30	Luis E Villamil	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336304

RA-F01A 73g Composite Fish Tissue Sample
Kin-Buc Landfill

Collected:08/17/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:36
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

RAF1A

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	0.87	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	9.6	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	8.6	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	6.6	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	6.6	ug/kg	1
01499	PCB-1248	12672-29-6	75.	6.6	ug/kg	1
01500	PCB-1254	11097-69-1	140.	7.4	ug/kg	1
01501	PCB-1260	11096-82-5	78.	6.6	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 23:55	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/30/2004 13:29	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 16:30	Luis E Villamil	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

FISH DATA

DATE [illegible]
SITE [illegible]
SAMPLE # [illegible]
METHOD [illegible]
COMMENTS [illegible]

TEMP [illegible]
TIME [illegible]
NAME [illegible]
WEATHER [illegible]

[illegible] (Gasper)

Code	SPECIES	# INDIVIDUALS	TOTAL # INDIVIDUALS	LENGTH - INDIVIDUALS / SPECIES (mm)												
	[illegible]	7	7 ([illegible])	[illegible]	[illegible]	90	[illegible]	[illegible]	75	96						
	[illegible]	25	66 ([illegible])	42	26	31	27	50	40	42	28	[illegible]	50	43	27	34
				31	44	27	42	43	46	38	50	39	41	34	46	
		25		44	48	29	48	41	39	40	44	29	28	50	42	44
			([illegible])	48	35	38	29	46	38	29	38	30	47	38	44	
		16		40	29	27	32	44	46	28	47	26	29	31	43	47
				50	46	48										

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336305

RA-F02J 143g Unspiked Composite Fish Tissue Sample
Kin-Buc Landfill
Collected:08/17/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:36
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

RAF2J SDG#: XXX04-01BKG

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.2	0.10	% by wt.	1
	This sample was randomly selected as batch duplicate QC. The statistical limit for duplicated is 13.5%. The RPD between this sample and duplicate was 16%. No additional sample was available to repeat the analysis. The result of the duplicate was 1.40%. The background value was reported.					
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	9.6	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	8.6	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	6.6	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	6.6	ug/kg	1
01499	PCB-1248	12672-29-6	66.	6.6	ug/kg	1
01500	PCB-1254	11097-69-1	140.	7.4	ug/kg	1
01501	PCB-1260	11096-82-5	64.	6.6	ug/kg	1

State of New Jersey Lab Certification No. PA011

The matrix spike/matrix spike duplicate for this sample is entered as LLI Samnple 4336694-95.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 18:10	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/26/2004 15:47	Artie D Kunselman	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 16:30	Luis E Villamil	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336694

RA-F02J 143g Matrix Spike Composite Fish Tissue Sample
Kin-Buc Landfill
Collected:08/17/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 08/31/2004 at 13:47
Discard: 10/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

RAF2J SDG#: XXX04-01MS

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	330.	19.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.	17.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.	13.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.	13.	ug/kg	2
01499	PCB-1248	12672-29-6	N.D.	13.	ug/kg	2
01500	PCB-1254	11097-69-1	N.D.	15.	ug/kg	2
01501	PCB-1260	11096-82-5	420.	13.	ug/kg	2

State of New Jersey Lab Certification No. PA011

The unspiked portion of this sample is LLI 4336305.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01216	PCBs in Solids	SW-846 8082	1	08/26/2004 16:09	Artie D Kunselman	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 16:30	Luis E Villamil	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

MEMBER ACIL
Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336695

RA-F02J 143g Matrix Spike Dup Composite Fish Tissue Sample
Kin-Buc Landfill
Collected:08/17/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 08/31/2004 at 13:47
Discard: 10/01/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

RAF2J SDG#: XXX04-01MSD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	340.	19.	ug/kg	2
01496	PCB-1221	11104-28-2	N.D.	17.	ug/kg	2
01497	PCB-1232	11141-16-5	N.D.	13.	ug/kg	2
01498	PCB-1242	53469-21-9	N.D.	13.	ug/kg	2
01499	PCB-1248	12672-29-6	N.D.	13.	ug/kg	2
01500	PCB-1254	11097-69-1	N.D.	15.	ug/kg	2
01501	PCB-1260	11096-82-5	440.	13.	ug/kg	2

State of New Jersey Lab Certification No. PA011

The unspiked portion of this sample is LLI 4336305.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01216	PCBs in Solids	SW-846 8082	1	08/26/2004 16:30	Artie D Kunselman	2
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 16:30	Luis E Villamil	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. G5 4336306

RA-F02A 72g Composite Fish Tissue Sample
Kin-Buc Landfill

Collected:08/17/2004 by CDD

Account Number: 07418

Submitted: 08/20/2004 17:30
Reported: 09/06/2004 at 14:36
Discard: 10/07/2004

Normandeau Associates, Inc.
400 Old Reading Pike
Building A - Suite 101
Stowe PA 19464

RAF2A

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
04193	Percent Lipids	n.a.	1.9	0.10	% by wt.	1
01216	PCBs in Solids					
01495	PCB-1016	12674-11-2	N.D.	9.6	ug/kg	1
01496	PCB-1221	11104-28-2	N.D.	8.6	ug/kg	1
01497	PCB-1232	11141-16-5	N.D.	6.6	ug/kg	1
01498	PCB-1242	53469-21-9	N.D.	6.6	ug/kg	1
01499	PCB-1248	12672-29-6	110.	6.6	ug/kg	1
01500	PCB-1254	11097-69-1	220.	7.4	ug/kg	1
01501	PCB-1260	11096-82-5	96.	6.6	ug/kg	1

State of New Jersey Lab Certification No. PA011

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
04193	Percent Lipids	SW-846 3545 Modified	1	08/24/2004 18:20	Kelly E Brickley	1
01216	PCBs in Solids	SW-846 8082	1	08/30/2004 13:51	Douglas D Seitz	1
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	08/25/2004 16:30	Luis E Villamil	1
02487	Food and Tissue Preparation	PAM 10/99 (Modified)	1	08/23/2004 16:00	Jason A Heisey	n.a.

FISH DATA

DATE 8 18 01
SITE [illegible]
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METHOD [illegible]
COMMENTS [illegible] pH = [illegible] Sal = 2.0 [illegible]

TEMP [illegible]
TIME [illegible]
NAME [illegible]
WEATHER [illegible]

Code	SPECIES	# INDIVIDUALS	TOTAL # INDIVIDUALS	LENGTH - INDIVIDUALS / SPECIES (mm)												
	[illegible]	16	16 (18 g)	76	77	78	77	[illegible]	[illegible]	82	100	84	92	85	102	82
				81	77	82										
	[illegible]	25	68 (79 g)	29	50	29	38	[illegible]	49	40	[illegible]	[illegible]	[illegible]	[illegible]	26	27
				50	47	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	48	49	48	[illegible]	[illegible]	
	" "	25		[illegible]	[illegible]	48	[illegible]	[illegible]	[illegible]	[illegible]	42	[illegible]	[illegible]	[illegible]	[illegible]	
				[illegible]	26	26	28	48	[illegible]	48	[illegible]	[illegible]	27	26	31	
	" "	18		30	24	26	28	42	31	30	29	27	28	26	39	50
				[illegible]	25	26	49	50								

Lancaster Laboratories

Quality Control Summary

Client Name: Normandeau Associates, Inc. Group Number: 908903
Reported: 09/06/04 at 02:36 PM

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 042370008A	Sample number(s): 4336286-4336297							
PCB-1016	N.D.	4.8	ug/kg	86		72-120		
PCB-1221	N.D.	4.3	ug/kg					
PCB-1232	N.D.	3.3	ug/kg					
PCB-1242	N.D.	3.3	ug/kg					
PCB-1248	N.D.	3.3	ug/kg					
PCB-1254	N.D.	3.7	ug/kg					
PCB-1260	N.D.	3.3	ug/kg	88		76-122		
Batch number: 0423710274193b	Sample number(s): 4336305-4336306							
Percent Lipids	N.D.	0.10	% by wt.					
Batch number: 0423710274193c	Sample number(s): 4336303							
Percent Lipids	N.D.	0.10	% by wt.					
Batch number: 0423710274193d	Sample number(s): 4336286-4336302,4336304							
Percent Lipids	N.D.	0.10	% by wt.					
Batch number: 042380014A	Sample number(s): 4336298-4336306							
PCB-1016	N.D.	9.6	ug/kg	90		72-120		
PCB-1221	N.D.	8.6	ug/kg					
PCB-1232	N.D.	6.6	ug/kg					
PCB-1242	N.D.	6.6	ug/kg					
PCB-1248	N.D.	6.6	ug/kg					
PCB-1254	N.D.	7.4	ug/kg					
PCB-1260	N.D.	6.6	ug/kg	89		76-122		

Sample Matrix Quality Control

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Lancaster Laboratories

Quality Control Summary

Client Name: Normandeau Associates, Inc. Group Number: 908903
Reported: 09/06/04 at 02:36 PM

Sample Matrix Quality Control

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 042370008A	Sample number(s): 4336286-4336297								
PCB-1016	96	103	45-125	7	50				
PCB-1260	108	112	32-139	4	50				
Batch number: 042380014A	Sample number(s): 4336298-4336306								
PCB-1016	99	102	45-125	3	50				
PCB-1260	106	113	32-139	6	50				

Surrogate Quality Control

Analysis Name: PCBs in Solids
Batch number: 042370008A

	Tetrachloro-m-xylene	Decachlorobiphenyl
4336286	117	245*
4336287	89	194*
4336288	95	197*
4336289	96	121
4336290	92	196*
4336291	102	127
4336292	114	237*
4336293	92	449*
4336294	98	122
4336295	104	129
4336296	103	129
4336297	94	197*
Blank	86	84
LCS	88	89
MS	83	176*
MSD	91	177*
Limits:	53-139	41-132

Analysis Name: PCBs in Solids
Batch number: 042380014A

	Tetrachloro-m-xylene	Decachlorobiphenyl
4336298	93	121
4336299	90	108
4336300	73	81
4336301	82	170*
4336302	75	95
4336303	87	100
4336304	92	108

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Lancaster Laboratories

Quality Control Summary

Client Name: Normandeau Associates, Inc. Group Number: 908903
Reported: 09/06/04 at 02:36 PM

Surrogate Quality Control

4336305	92	97
4336306	97	114
Blank	89	84
LCS	92	91
MS	95	107
MSD	95	108
Limits:	53-139	41-132

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Lancaster Laboratories

Quality Control Summary

Client Name: Normandeau Associates, Inc.
Reported: 08/31/04 at 01:47 PM

Group Number: 908972

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 042380014A	Sample number(s): 4336694-4336695							
PCB-1016	N.D.	9.6	ug/kg	90		72-120		
PCB-1221	N.D.	8.6	ug/kg					
PCB-1232	N.D.	6.6	ug/kg					
PCB-1242	N.D.	6.6	ug/kg					
PCB-1248	N.D.	6.6	ug/kg					
PCB-1254	N.D.	7.4	ug/kg					
PCB-1260	N.D.	6.6	ug/kg	89		76-122		

Sample Matrix Quality Control

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 042380014A	Sample number(s): 4336694-4336695								
PCB-1016	99	102	45-125	3	50				
PCB-1260	106	113	32-139	6	50				

Surrogate Quality Control

Analysis Name: PCBs in Solids
Batch number: 042380014A

	Tetrachloro-m-xylene	Decachlorobiphenyl
4336694	95	107
4336695	95	108
Blank	89	84
LCS	92	91
MS	95	107
MSD	95	108
Limits:	53-139	41-132

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

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Lancaster Laboratories

Quality Control Summary

Client Name: Normandeau Associates, Inc. Group Number: 908972
Reported: 08/31/04 at 01:47 PM

Surrogate Quality Control

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.