



May 18, 2006

Eileen Murphy, Director  
NJDEP  
Policy, Planning and Science  
Division of Science, Research & Technology  
P.O. Box 409  
401 East State Street, 1st Floor  
Trenton NJ 08625-0409

**RE: Status Report on PFOA Surface Water Emissions Reduction and Data Summary  
DuPont Chambers Works Manufacturing Facility**

Dear Ms. Murphy:

Attached please find the referenced report summarizing data collected to measure the effectiveness of our PFOA reduction efforts at the DuPont Chambers Works manufacturing facility in Salem County, New Jersey. The facility has been working towards reducing emissions of Perfluorooctanoic acid (PFOA) to the environment through process improvements and source elimination. In 2003 a comprehensive study on the environmental emissions from Chambers Works was conducted as part of a voluntary Letter of Intent submitted by the Telomer Research Program to the United States Environmental Protection Agency (USEPA). The results of this study (previously reported) were evaluated using the West Virginia Screening Levels as established by the C8 Assessment of Toxicity Team (CATT) and showed that surface water and calculated fence line air concentrations were below the CATT established screening levels.

Since 2003, DuPont has continued its emissions reduction program resulting in a 95% reduction in PFOA emissions from the site since 2000 and nearly a 90% reduction since 2003 based on the February 2006 data reported here. In January 2006, DuPont committed to participate in the EPA 2010/15 PFOA Stewardship Program. Chambers Works is an important part of the DuPont commitment to reduce global emissions of PFOA by 98% by year-end 2007. Chambers Works has implemented an aggressive reduction program to achieve 96% reduction by year-end 2006.

In January 2005, Chambers Works implemented a sampling program to measure effectiveness of its PFOA reduction efforts and to identify program areas that need additional focus. The focus of the sampling program was on wastewater emissions. The attached report compiles the data collected and summarizes data trends at the primary NPDES permitted outfall. Additional investigations were conducted on Salem Canal and the landfill leachate. These data are also reported here.


Ms. Eileen Murphy

May 18, 2006

Page 2 of 2

DuPont intends to continue the sampling program through 2006 and expects to submit these results in early 2007. Thank you for your attention and if you have any questions, please contact me at (856) 540-3438.

Sincerely,



Cynthia N. McManus  
Environmental Manager

Attachments

c: S. Rosenwinkle, NJDEP  
F. Faranca, NJDEP  
G. Zeigler, Penns Grove Water Supply Company  
K. Fell, NJDEP  
File

PFOA SURFACE WATER EMISSIONS  
REDUCTIONS STATUS REPORT  
AND DATA SUMMARY  
DUPONT CHAMBERS WORKS  
MANUFACTURING FACILITY  
SALEM COUNTY, NEW JERSEY

Date: May 2006

Project No.: 508501  
18983843.00002



CORPORATE REMEDIATION GROUP  
*An Alliance between  
DuPont and URS Diamond*

Barley Mill Plaza, Building 19  
Wilmington, Delaware 19805

## TABLE OF CONTENTS

<a href="#">1.0 Introduction</a>	1
<a href="#">2.0 Site Setting – Chambers Works</a>	2
<a href="#">3.0 Data Analysis</a>	4
<a href="#">4.0 Chambers Works Site Wastewater Treatment System Sampling and Results</a>	5
<a href="#">4.1 Sample Collection</a>	5
<a href="#">4.2 Data Quality</a>	6
<a href="#">4.3 Chambers Works Wastewater Sampling Results</a>	7
<a href="#">5.0 Salem Canal Surface Water Sampling and Results</a>	9
<a href="#">5.1 Sample Collection</a>	9
<a href="#">5.2 Salem Canal Results</a>	9
<a href="#">6.0 Landfill Leachate Evaluation</a>	11
<a href="#">7.0 Other Site Investigations and Monitoring</a>	12
<a href="#">8.0 References</a>	13

### TABLES

Table 1	Chambers Works Wastewater Sample Location Descriptions
Table 2	Sampling Locations by Month (Jan 2005 through Feb 2006)
Table 3	Average Monthly PFOA Concentrations and Mass Loadings

### FIGURES

Figure 1	Site Location Map
Figure 2	Schematic of the Chambers Works Water Management System
Figure 3	Two-Sample T-Test and CI: January - July 2005 Data 662 WWTP Effluent (lbs/day) vs. 001Outfall (lbs/day)
Figure 4	Average Monthly PFOA Concentration (ppb) at Outfall 001
Figure 5	PFOA monthly mass loading estimates from internal Outfall 662 Jan. 2005 - Feb. 2006 (lbs/day)

### APPENDICES

Appendix A	Data Tables
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## 1.0 INTRODUCTION

The DuPont Chambers Works manufacturing facility in Deepwater, Salem County, New Jersey, has been working towards reducing emissions of perfluorooctanoic acid (PFOA) to the environment through process improvements and source elimination. During 2003, a comprehensive study of the environmental emissions from Chambers Works was conducted as part of a voluntary Letter of Intent (LOI) submitted by the Telomer Research Program to the United States Environmental Protection Agency (USEPA). The results of this study were reported to the New Jersey Department of Environmental Protection (NJDEP) and USEPA in the *DuPont Telomer Manufacturing Sites: Environmental Assessment of PFOA Levels in Air and Water, September 2003* (DuPont, 2003). The study assessed surface-water emissions to the Delaware River, conducted air dispersion modeling of potential sources, and assessed levels in groundwater and surface waters adjacent to the site. Surface water and calculated fence-line air concentrations were well below the established screening levels as referenced in the report.

Since 2003, DuPont has continued with their emission reduction program resulting in a 95% reduction in PFOA emissions from the site since 2000 and nearly a 90% reduction since 2003 based on the February 2006 data reported here. In January 2006, DuPont committed to participate in the EPA 2010/15 PFOA Stewardship Program. Chambers Works is an important part of the DuPont commitment to reduce global emissions of PFOA by 98% by year-end 2007. Chambers Works has implemented an aggressive reduction program to achieve 96% reduction by year-end 2006.

In January 2005, Chambers Works implemented a sampling program to measure effectiveness of the reduction efforts and to identify program areas that need additional focus. The focus of the sampling program was on wastewater emissions. This data report compiles the data collected and summarizes data trends at the primary NPDES permitted outfall. Additional investigations were conducted on Salem Canal and the landfill leachate. These data are also reported here.

This data report is divided into six sections:

- ❑ Site Setting – Chambers Works
- ❑ Data Analysis
- ❑ Chambers Works Wastewater Treatment System
- ❑ Salem Canal
- ❑ Landfill Leachate System
- ❑ Other Site Investigations and Monitoring

## 2.0 SITE SETTING – CHAMBERS WORKS

The DuPont Chambers Works, located in Deepwater, Salem County, New Jersey, near the Delaware Memorial Bridge (see Figure 1), has manufactured a variety of industrial compounds over the past 86 years. Today the site produces approximately 400 different products. The manufacturing site is approximately 600 acres, bounded by non-manufacturing areas, which include a DuPont owned and maintained wildlife habitat to the north, the Delaware River to the west, Salem canal to the south, and the Deepwater community to the east.

Since the 1970s, the site has operated a groundwater containment system. The Interceptor Well System (IWS) withdraws over 1.5 million gallons of groundwater per day from the underlying aquifers and pumps the water to the site wastewater treatment plant (WWTP) for treatment. The IWS maintains an inward hydraulic gradient over most of the site to prevent off-site migration of groundwater. As demonstrated by approximately 18 years of compliance monitoring under a New Jersey Discharge to Ground Water permit, operation of the interceptor well system ensures that groundwater on the site does not flow toward public-water supply wells in the region (DuPont, 2006).

PFOA is associated with the following process areas at the Chambers Works facility:

- ❑ Fluoroelastomers: PFOA is used as a polymerization aid in the manufacture of specialty fluoroelastomers and perfluoroelastomers. In 2001, the use of PFOA in the standard fluoroelastomers was discontinued, and in 2004 a carbon treatment system was installed to treat washwaters and process cleanouts for the specialty fluoroelastomer and perfluoroelastomer manufacturing process.
- ❑ Fluorotelomers: PFOA is present in trace quantities as an unintended by-product in portions of the fluorotelomer manufacturing process. Telomer chemistry is not made with PFOA, nor is PFOA added during telomer manufacture. The presence of PFOA in fluorotelomers while low is highly variable from not-quantifiable to parts per million.
- ❑ Chambers Works Wastewater Treatment Plant (WWTP): Chambers Works accepts wastewater from off-site commercial sources for treatment. PFOA is present in trace quantities in some commercial wastewater streams. PFOA continues to be used as a processing aid by industry and can also be present as an unintended by-product in other waste streams. PFOA was widely used in commercial products by some companies. A summary of the different sources and uses of PFOA can be found in Prevedouros, et al. (2006).

Since 2003, many PFOA containing wastewater streams to the WWTP have been eliminated through treatment at the generation site or finding alternative treatment.

- ❑ Jackson Laboratory, an analytical facility at Chambers Works, processes some samples containing PFOA for analytical purposes.

In addition, trace amounts of PFOA [part per billion (ppb) levels] are present in wastewaters from the Chambers Works on-site landfill leachate and groundwater treatment system.

### **3.0 DATA ANALYSIS**

Analysis of PFOA in water was performed by Exygen Research, Inc. according to a laboratory Standard Operating Procedure (SOP) developed by Exygen (Exygen, 2005). The analytical method utilizes Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). This method has been validated for the measurement of low levels of PFOA (specifically the PFO ion) in clean water matrices. The method has not been validated for the Chambers Works wastewater samples. Method development work and validation is on-going for the Chambers Works wastewater results. PFOA results in wastewater are presented in this report for comparison purposes and are believed to be adequate for showing overall PFOA emission reductions.

All samples were collected and analyzed according to the DuPont Quality Assurance Project Plan (QAPP) with Sampling and Analysis Plan (SAP), which will be submitted under separate cover.



## 4.0 CHAMBERS WORKS SITE WASTEWATER TREATMENT SYSTEM SAMPLING AND RESULTS

### 4.1 Sample Collection

In January 2005, a monthly sampling program for PFOA at the site was implemented to measure the effectiveness of the reduction efforts and to identify the low-level sources of PFOA to wastewater. The focus of the sampling program was to measure wastewater emissions from the Chambers Works site. Chambers Works has a primary outfall that consists of two NJPDES (#NJD0005100) permitted discharge locations. DSN662 measures the treated effluent from the WWTP. DSN001 measures the combination of the effluent from the WWTP (DSN662), non-process area site stormwater, and non-contact cooling water.

Figure 2 shows the schematic of the Chambers Works wastewater management system. The regional tanks collect process wastewater, building washdowns, and stormwater from different areas of the plant. Wastewater from the regional tanks is pumped to an overhead conveyance system to the WWTP. Table 1 gives a summary of the areas and the associated regional tanks and their identifier.

**Table 1  
Chambers Works Wastewater Sample Location Descriptions**

Location Description	Location ID	Area Served	Sample ID
RT-880C	880C	Regional Tank - A&D Buildings	CWK-Z-RT880C
RT-885F	885F	Regional Tank - EO and 185 Buildings	CWK-Z-RT885F
RT-884J	884J	Regional Tank – ZI and DMA Buildings	CWK-Z-RT884J
RT-882G	882G	Regional Tank – PC West and Jackson Laboratory	CWK-Z-RT882G
RT-883A	883A	Regional Tank – Aramids Intermediates, DPE	CWK-Z-RT883A
Sample Location 803	803	Combined Chambers Works Process Wastewater	CWK-Z-803
Sample Location 529, prior to secondary treatment	529	Combined Process Wastewater, Commercial Wastewater, Landfill Leachate and Groundwater	CWK-Z-529
Permitted Sample Location DSN662	662	Combined Effluent from the WWTP	CWK-Z-662
Permitted Sample Location DSN001	001	WWTP effluent combined with non-contact cooling water and stormwater	CWK-Z-001

Table 1 also describes additional sample locations associated with the site wastewater management system.

Sample location 803 represents the combined Chambers Works process wastewater that enters the WWTP. This location also includes a small portion of the commercial wastewater business.

Sample location 529 includes all wastewater that enters the WWTP after primary treatment. This sample location includes commercial wastewater, landfill leachate, groundwater from the IWS and Chambers Works process wastewater (803).

Sample location DSN662 is a NPDES permitted discharge point. This location includes treated effluent from the WWTP prior to mixing with non-contact cooling water.

Sample location DSN001 is also a NPDES permitted discharge point. This sample location includes treated effluent from the WWTP, stormwater and non-contact cooling water.

A series of five consecutive 24-hour composites were collected at the locations described in Table 1. Table 2 shows the months of sampling at each location. An 'X' denotes that samples were collected from the location for that month. The sample program was effective in identifying trends and process improvements to reduce PFOA in treated effluent.

**Table 2  
Sampling Locations by Month (Jan 2005 through Feb 2006)**

Category	Location ID	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
WWTP	803	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WWTP	529	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WWTP	662	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WWTP	001	X	X	X	X	X	X	X							
Regional Tanks	880C			X	X	X	X	X						X	X
Regional Tanks	882G			X	X	X	X	X						X	X
Regional Tanks	884J			X	X	X	X	X	X	X	X	X	X	X	X
Regional Tanks	885F			X	X	X	X	X	X	X	X	X	X	X	X
Regional Tanks	883A						X	X	X	X	X	X	X	X	X

## 4.2 Data Quality

Because sample locations 662 and 001 are NPDES permitted monitoring locations, sample collection was straightforward and consistently achieved. Furthermore, flow measurements at these two locations are accurate because they are used for compliance sampling.

It was significantly more difficult to obtain representative samples from sample locations upstream of 662, particularly those associated with the regional tanks. The data from these internal locations were used for qualitative comparisons of relative contributions from the area. The data were not accurate enough for quantitative assessments.

Furthermore, the analytical method has not been validated for these sample locations because of potential sample matrix effects.

At the end of 2005, DuPont Chambers Works added on-site capability to analyze for PFOA in wastewaters. Work began to refine the Chambers Works analytical method and by year-end comparison samples were being collected and analyzed. The comparison work will be presented in a follow-up report on method validation for PFOA in wastewater.

### **4.3 Chambers Works Wastewater Sampling Results**

A total of five consecutive composite samples were collected each month from January 2005 to February 2006 from the effluent of the WWTP – Sample location DSN662. In addition, for the month January 2005 through August 2005 matching composite samples were collected at Chambers Works outfall – Sample location DSN001 (see Table A-1, Appendix A). To facilitate comparison of the data between the two locations, flow measurements from each location were used to calculate mass loadings. The January through July data were compared using a two-sample t-test (see Figure 3). The results of the analysis showed no statistical difference ( $p > 0.05$ ) between the measurements at 662 and 001. Thus after August 2005 results from 662 were used to represent total wastewater emissions.

Table 3 shows the average monthly PFOA concentrations at DSN001 for the study period. The data presented from September 2005 to February 2006 is the calculated value based on DSN662 concentration measurements. The estimated mass loading is based on the DSN662 flow measurements. Figure 4 plots the average PFOA concentrations at DSN001. These data show a downward trend in PFOA concentrations at the outfall. This reduction is attributable to several actions taken at the site to reduce PFOA emissions.

**Table 3  
 Average Monthly PFOA Concentrations and Mass Loadings**

Year	Month	DSN001 Conc. ug/L	Estimated Mass lbs/day
2005	Jan	22.0	4.6
	Feb	21.5	4.4
	Mar	26.0	5.7
	Apr	42.1	7.5
	May	18.4	4.3
	Jun	74.8	16.5
	Jul	53.2	9.4
	Aug	50.5	9.2
	Sep	56.1	10.6
	Oct	49.3	12.9
	Nov	43.8	9.6
	Dec	25.3	5.2
2006	Jan	16.2	3.5
	Feb	15.0	3.1

\* Sep05-Feb06 Calculated from DSN662  
 ug/L = parts per billion (ppb)

For comparison, the average concentration measured at DSN001 from the 2003 study (DuPont, 2003) is shown in Figure 4. The 2003 average was based on five composite samples collected over a three-month period. The data collected in 2005-2006 are significantly lower concentrations.

Figure 5 shows data collected from DSN662 from January 2005 to February 2006 on a mass basis as average monthly pounds per day. These were calculated from the five composite and the daily flow measurements on the day of sample. January and February 2006 are approaching the year end 2006 goal of <1000 lbs/yr PFOA water emissions from Chambers Works.

The data from the other internal sample locations including the regional tanks and sample locations 529 and 803 are presented in Table A-2 of Appendix A. As discussed earlier, difficulties in sample collection and flow measurements limit this data to qualitative comparisons. Programs have been developed to address the significant contributors of PFOA to wastewater.

## **5.0 SALEM CANAL SURFACE WATER SAMPLING AND RESULTS**

### **5.1 Sample Collection**

Salem Canal is a freshwater, manmade canal that is approximately 7,000 feet long and 200 feet wide located along the southern edge of the site (see Figure 1). In 1933, DuPont constructed Munson Dam, isolating the freshwater of the canal from the brackish tidal water of the Delaware River. A freshwater intake structure was constructed at the dam allowing DuPont to withdraw water for plant use.

The plant intake withdraws an average of 9.5 million gallons a day from the canal for plant use. Excess drainage from the canal watershed is released into the Delaware River at low tide using manual floodgates at Munson Dam. The water level in the canal is maintained at an elevation of approximately 1.74 feet (NGVD 29) during the summer months, equivalent to a water depth of approximately 5 feet. An elevation of approximately 1.04 feet (NGVD 29) is maintained during the other times of the year.

Sanitary water from the Salem Canal is treated for solids, iron and bacteria with a final treatment using two granular activated carbon (GAC) beds in series prior to distribution to the plant sanitary system. Process water from the Salem Canal is treated for solids, iron and bacteria prior to distribution to the plant process water.

In 2005, sampling of the Salem Canal intake began for analysis of PFOA. Fourteen 24-hour composite samples from the intake were collected from April through June.

Additionally, samples were collected from the Canal, before carbon treatment, between carbon treatment, and after carbon treatment. From September through February 2005, samples were collected only from between and after carbon bed treatment.

In December 2005, an additional investigation of PFOA in the Salem Canal was conducted. The purpose of the study was to better understand sources of PFOA to the Salem Canal. A 24-hour composite sample was collected at the upstream boundary of the Chambers Works site and another 24-hour composite was collected at the sanitary water intake. At the same time groundwater samples were collected from temporary monitoring wells located adjacent to the canal.

### **5.2 Salem Canal Results**

During April and May of 2003, twenty-four hour composite samples were collected from the Salem Canal intake for determination of PFOA (DuPont, 2003). PFOA was detected in the two samples at 0.064 and 0.089 ug/L, respectively.

In 2005, additional sampling of the Salem Canal intake began for analysis of PFOA as part of our emissions reduction program for the compound at the site. Fourteen 24-hour composite samples from the intake were collected from April through June. Results from this testing are presented in Table A-3 of Appendix A and show that during this

monitoring period, the concentrations of PFOA in the Canal ranged from 0.052 to 0.533 ug/L.

Additionally, samples were collected from the Canal, before the carbon, between the carbon beds, and after the carbon. Not all locations were sampled during each month, and from September through December, samples were collected only from between and after the carbon beds. It should be noted that samples collected in June, July, August and September are not believed to be representative as evidenced by the after carbon samples having reported PFOA levels greater than the between carbon samples. Because the samples are not believed to be representative, it is not possible to evaluate the sampling results from between or after the carbon beds during the period of June through September. For the October through December sampling events, PFOA concentrations in the treated (“After Carbon”) samples ranged from less than detection (<0.0034 ug/L) to 0.0255 ug/L.

Salem Canal surface-water samples have also been collected for PFOA analysis. In May 2003, a grab sample was collected at the railroad bridge where Salem Canal enters the plant (DuPont, 2003). PFOA was not detected in the sample. In December 2005, a 24-hour composite surface-water sample was collected from the railroad bridge for analysis of PFOA. PFOA was reported in this sample at 0.145 ug/L. During this time, groundwater samples were also collected from three temporary wells installed along the canal with PFOA results less than 8 ug/L (see Table A-3, Appendix A). DuPont currently is planning to collect additional samples for PFOA in the surface water of Salem Canal and upstream in Salem Creek to more fully evaluate potential sources of the compound to the canal.

## **6.0 LANDFILL LEACHATE EVALUATION**

Chambers Works operates a Resource Conservation and Recovery Act (RCRA) permitted hazardous waste landfill for sludge materials from the WWTP. The landfill leachate system includes five main collection sumps, two groundwater recovery wells and a solids dewatering pad. Wastewater is collected from these locations and combined in a common header to the WWTP. Samples were collected from these locations in 2005 and analyzed for PFOA. In addition, three 24-hour composite samples were collected from the landfill leachate header.

Concentrations of landfill leachate header material range from 92 to 151 ug/L. Data are presented in Table A-4, Appendix A)

## **7.0 OTHER SITE INVESTIGATIONS AND MONITORING**

In addition to this work, the site is working with NJDEP on a site groundwater Preliminary Assessment/Site Investigation of PFOA. The work plan has been developed and the investigation is planned for 2006.

As of October 2005, the Chambers Work NJPDES permit (#NJD0005100) requires DuPont to collect weekly grab samples for PFOA at location 662. These are reported monthly to the NJDEP.

For the period March 28, 2005 to February 24, 2006, samples were collected from the carbon treatment system installed in 2004 at fluoroelastomers. Samples were collected after the carbon beds, and the data ranged from 0.119 to 76.2 ug/L (see Table A-5, Appendix A). This confirmed the effectiveness of the treatment.



## 8.0 REFERENCES

DuPont. April 2006. *Second Semester 2005 Semi-Annual NJPDES-DGW Report for Chambers Works Complex, Deepwater, New Jersey*. DuPont CRG Project No. 507141-18984551.

\_\_\_\_\_. September 2003. *DuPont Telomer Manufacturing Sites: Environmental Assessment of PFOA Levels in Air and Water*. DuPont CRG Project No. 508501-18983843. 2003.

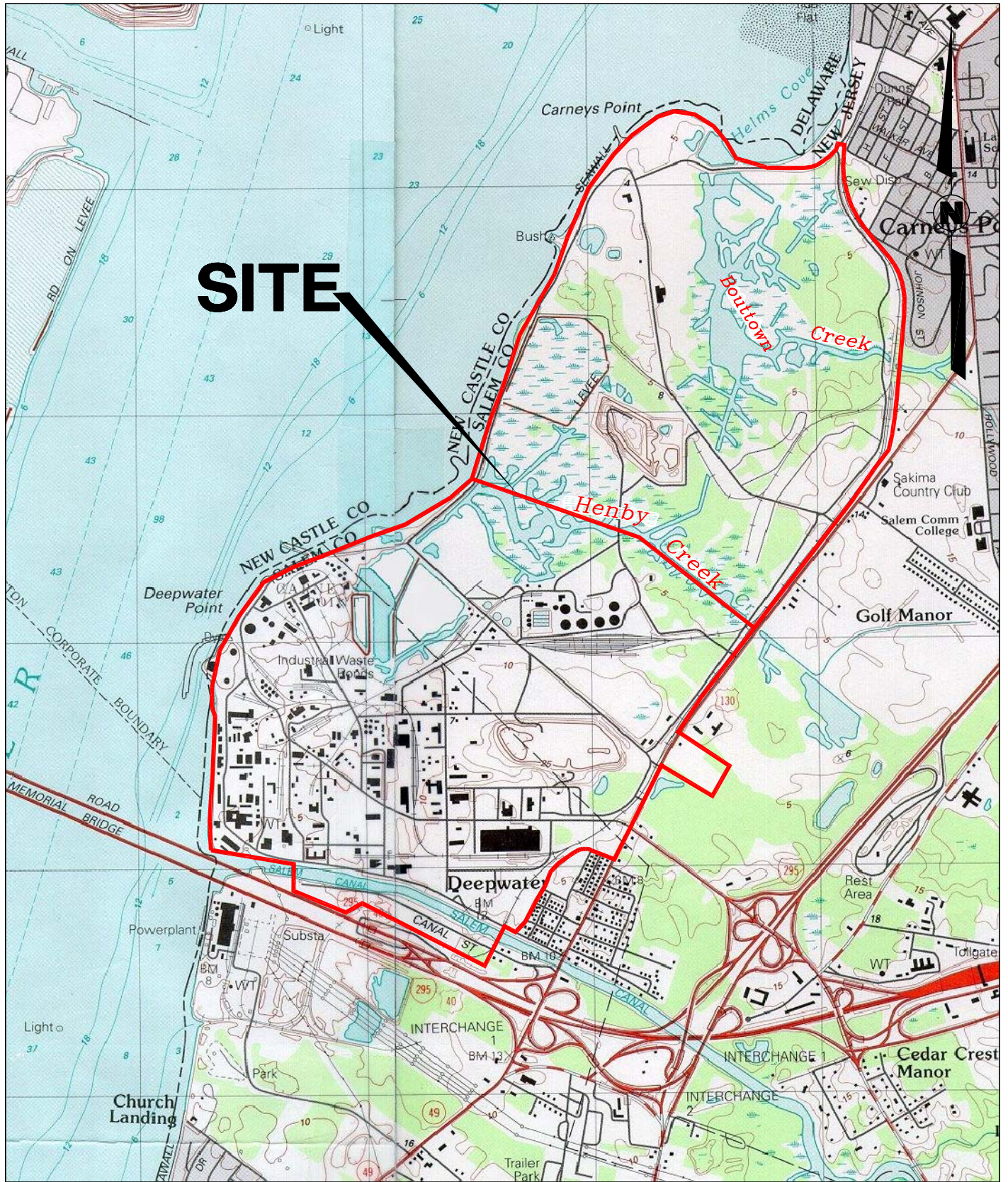
Exygen. August 15, 2005. *Method Analysis for the Determination of Perfluorooctanoic Acid (PFOA) in Water: Revision 2*. SOP No. 01M-008-046 Revision 2 (V0001013).

Prevedouros, Konstantinos, Ian T. Cousins, Robert C. Buck and Stephen Korzeniowski. 2006. Sources, Fate and Transport of Perfluorocarboxylates, *Environmental Science and Technology*, Vol. 40, No. 1., 2006.

West Virginia Department of Environmental Protection. 2002a. C8 Assessment of Toxicity Team (CATT) Aquatic Life Advisory concentration for C8, October 2002.

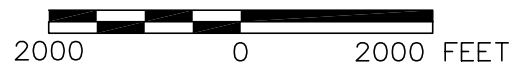
\_\_\_\_\_. 2002b. Final Ammonium Perfluorooctanoate (C8) Assessment of Toxicity (CATT) Report, August 2002.

## **FIGURES**



**SITE**

SCALE



**Corporate Remediation Group**  
*An Alliance between  
 DuPont and URS Diamond*



Barley Mill Plaza, Building 19  
 Wilmington, Delaware 19805

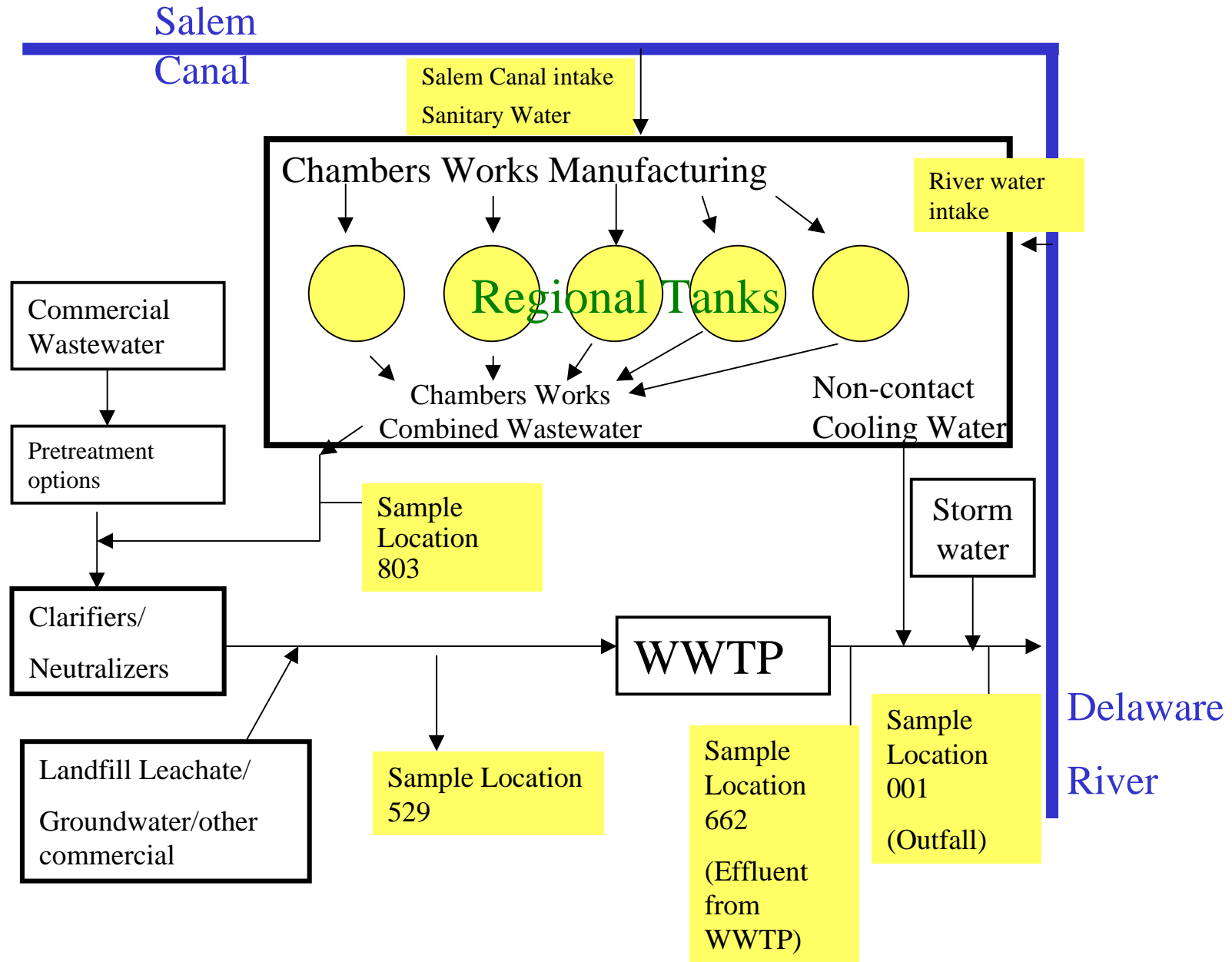
**SITE LOCATION MAP**

DuPONT CHAMBERS WORKS  
 DEEPWATER, NEW JERSEY

SCALE 1" = 2000'	DESIGNED	DRAWN D.H. ENGLISH	CAD FILE NO. FIG. 1
DATE 07/22/2005	CHECKED	APPROVED	FIGURE 1

SOURCE: USGS QUADRANGLE: WILMINGTON (SOUTH), DE-NJ (1993)  
 SOURCE: USGS QUADRANGLE: PENNS GROVE, NJ-DE (1993)

Figure 2. Schematic of Chambers Works Water Management System.



## Figure 3

### Two-Sample T-Test and CI: January - July 2005 Data 662 WWTP Effluent (lbs/day) vs. 001 Outfall (lbs/day)

#### Two-Sample T-Test and CI: 662 WWTP Effluent (lbs/day), 001 Outfall (lbs/day)

Two-sample T for 662 WWTP Effluent (lbs/day) vs 001 Outfall (lbs/day)

	N	Mean	StDev	SE Mean
662 WWTP Effluen	34	7.60	4.47	0.77
001 Outfall (lbs	35	8.90	6.53	1.1

Difference = mu (662 WWTP Effluent (lbs/day)) - mu (001 Outfall (lbs/day))

Estimate for difference: -1.30297

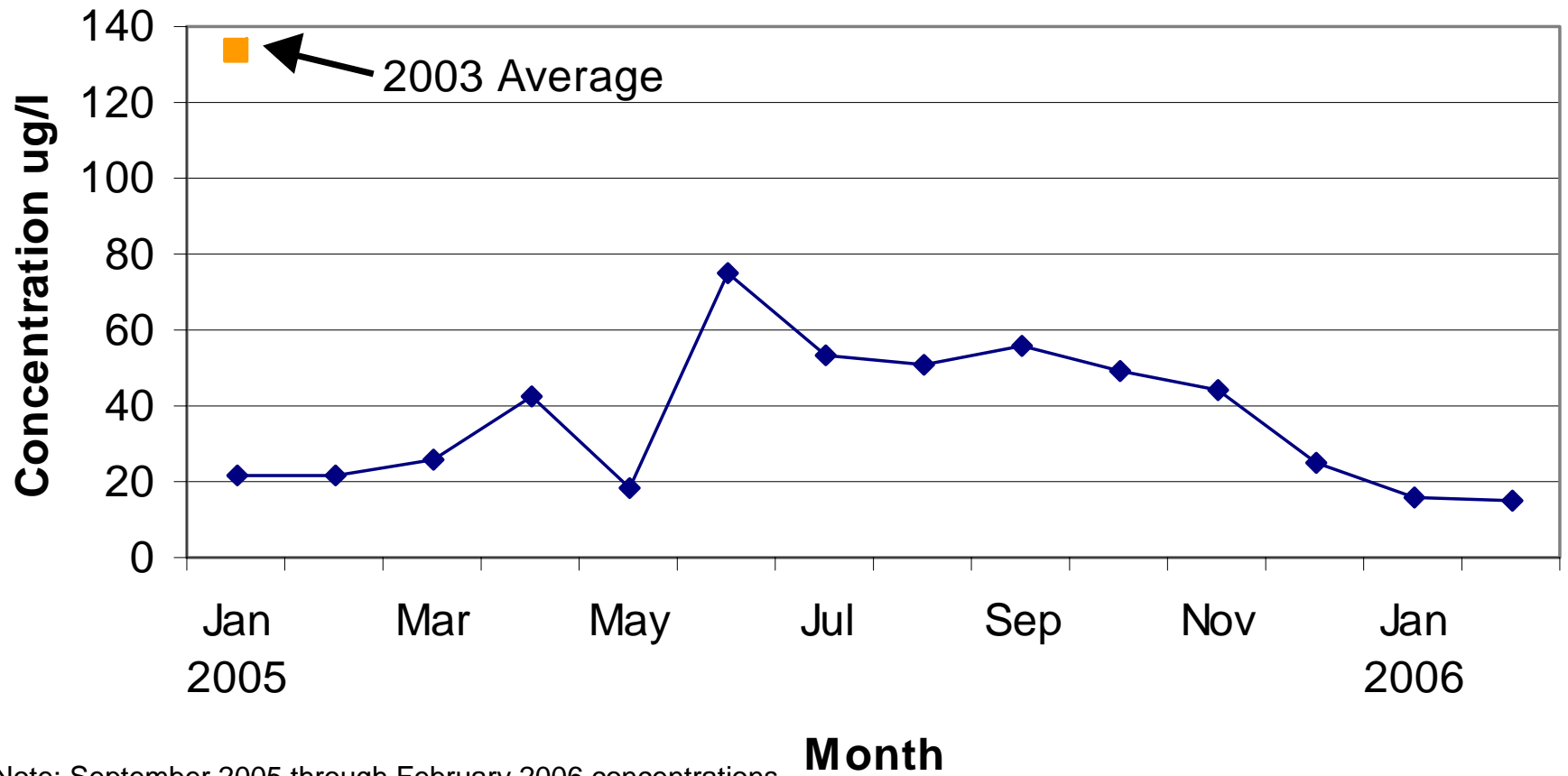
95% CI for difference: (-3.99991, 1.39398)

T-Test of difference = 0 (vs not =): T-Value = -0.96 P-Value = 0.338 DF = 67

Both use Pooled StDev = 5.6112

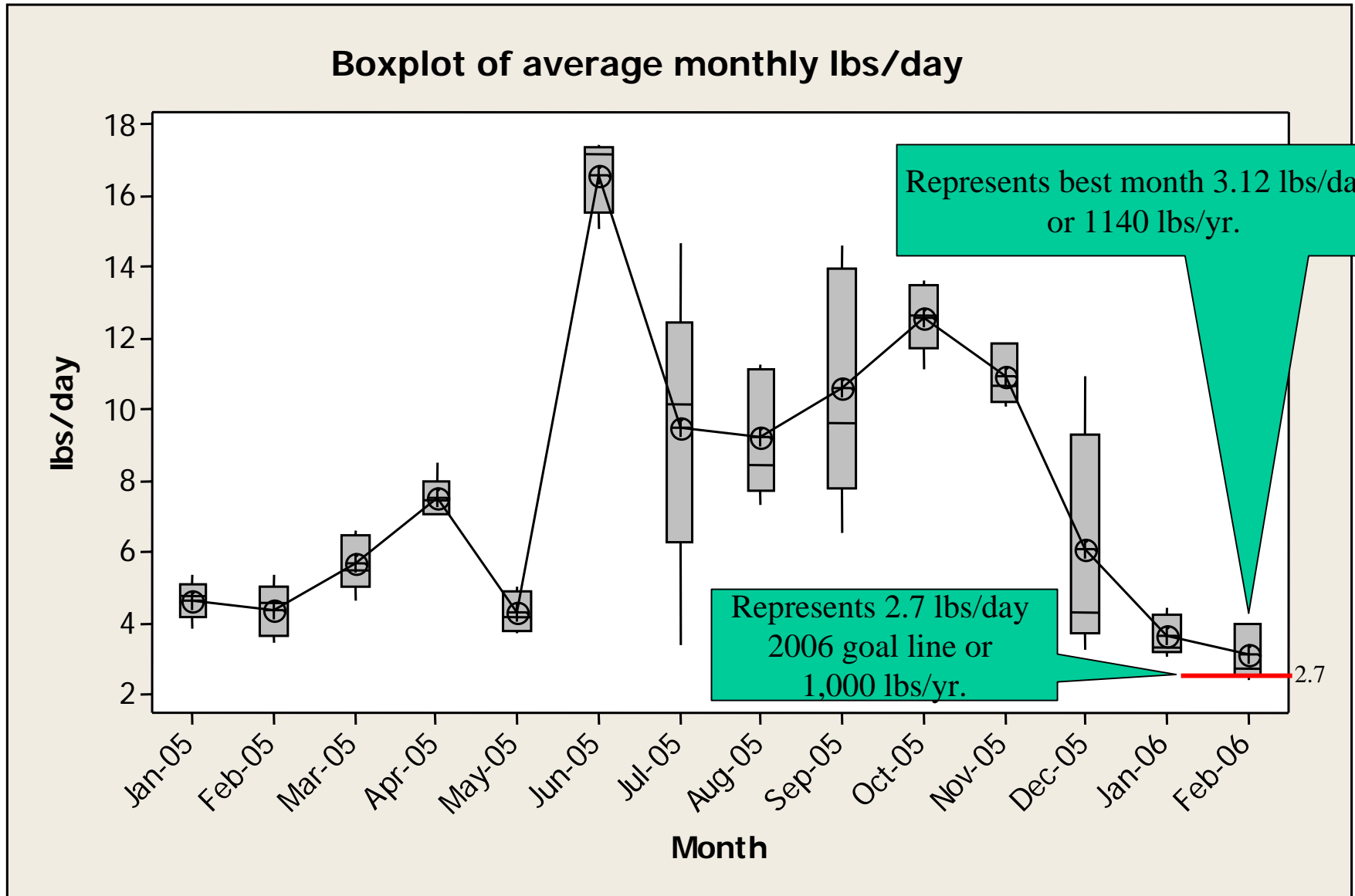
High P-value (>.05) indicates  
no statistical difference  
between 662 & 001 data

**Figure 4. Average Monthly PFOA Concentration (ppb) at Outfall 001**



Note: September 2005 through February 2006 concentrations were calculated based on measurements from samples collected at location DSN662.

**Figure 5. PFOA monthly mass loading estimates from internal outfall 662. Jan. 2005 - Feb. 2006 (lbs/day)**



**APPENDIX A**  
**DATA TABLES**



**Table A-1  
Comparison of PFOA Results at DSN001 and DSN662  
DuPont Chambers Works  
Deepwater, New Jersey**

		<b>Sample ID Date</b>	001-DAY1 1/24/05	001-DAY1-2 1/24/05	001-DAY2 1/25/05	001-DAY3 1/26/05	001-DAY4 1/27/05	001-DAY5 1/28/05	001-DAY2 2/22/05	001-DAY5 2/25/05	001-DAY6 2/28/05	001-DAY7 3/1/05	001-DAY8 3/2/05
<b>Analyte</b>	<b>Units</b>	<b>Duplicate</b>	1	2	1	1	1	1	1	1	1	1	1
PFOA	NG/L		20500	22000	17800	22400	19900	23400	34300	26900	15300	17100	13900

		<b>Sample ID Date</b>	001-DAY1 3/28/05	001-DAY1-2 3/28/05	001-DAY2 3/29/05	001-DAY3 3/30/05	001-DAY3-2 3/30/05	001-DAY4 3/31/05	001-DAY5 4/1/05	001-DAY1 4/25/05	001-DAY1-2 4/25/05	001-DAY2 4/26/05	001-DAY3 4/27/05
<b>Analyte</b>	<b>Units</b>	<b>Duplicate</b>	1	2	1	1	2	1	1	1	2	1	1
PFOA	NG/L		28100	25900	23600	24600	24200	26500	22700	44300	45200	38200	46300

		<b>Sample ID Date</b>	001-DAY4 4/28/05	001-DAY5 4/29/05	001-DAY1 5/23/05	001-DAY2 5/24/05	001-DAY3 5/25/05	001-DAY3-2 5/25/05	001-DAY4 5/26/05	001-DAY5 5/27/05	001-DAY1-2 6/27/05	001-DAY1 6/27/05	001-DAY2 6/28/05
<b>Analyte</b>	<b>Units</b>	<b>Duplicate</b>	1	1	1	1	1	2	1	1	2	1	1
PFOA	NG/L		43500	33800	21600	20100	16300	17900	17300	18200	103000	108000	66200

		<b>Sample ID Date</b>	001-DAY3 6/29/05	001-DAY4 6/30/05	001-DAY5 7/1/05	001-DAY1 7/25/05	001-DAY2 7/26/05	001-DAY3 7/27/05	001-DAY4 7/28/05	001-DAY5 7/29/05
<b>Analyte</b>	<b>Units</b>	<b>Duplicate</b>	1	1	1	1	1	1	1	1
PFOA	NG/L		54800	84700	60400	107000	37300	34500	50100	37200

		<b>Sample ID Date</b>	662-DAY1 1/24/05	662-DAY2 1/25/05	662-DAY3 1/26/05	662-DAY4 1/27/05	662-DAY5 1/28/05	662-DAY1 2/21/05	662-DAY2 2/22/05	662-DAY3 2/23/05	662-DAY4 2/24/05	662-DAY5 2/25/05	662-DAY1 3/28/05
<b>Analyte</b>	<b>Units</b>	<b>Duplicate</b>	1	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L		48900	50300	44900	33900	41300	37200	49800	33400	44800	43700	64300

		<b>Sample ID Date</b>	662-DAY2 3/29/05	662-DAY3 3/30/05	662-DAY4 3/31/05	662-DAY5 4/1/05	662-DAY1 4/25/05	662-DAY2 4/26/05	662-DAY3 4/27/05	662-DAY4 4/28/05	662-DAY5 4/29/05	662-DAY2 5/24/05	662-DAY3 5/25/05
<b>Analyte</b>	<b>Units</b>	<b>Duplicate</b>	1	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L		46700	45400	48600	42900	79100	95000	72800	79400	72800	56700	39600

Notes:  
 < and ND = Non detect at stated reporting limit  
 NQ = Not Quantifiable. Through 6/05, NQ indicates a positive result above the MDL but below the PQL (50 ng/L). Beginning in 7/05, reporting limits are lower and vary from lab analytical batch to lab analytical batch.

**Table A-1  
Comparison of PFOA Results at DSN001 and DSN662  
DuPont Chambers Works  
Deepwater, New Jersey**

		<b>Sample ID Date</b>	662-DAY4 5/26/05	662-DAY5 5/27/05	662-DAY1 6/27/05	662-DAY2 6/28/05	662-DAY3 6/29/05	662-DAY4 6/30/05	662-2-DAY4 6/30/05	662-DAY5 7/1/05	662-DAY1 7/25/05	662-2-DAY1 7/25/05	662-DAY2 7/26/05
<b>Analyte</b>	<b>Units</b>	<b>Duplicate</b>	1	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L		42700	46300	159000	177000	188000	152000	128000	176000	118000	110000	38500

		<b>Sample ID Date</b>	662-DAY3 7/27/05	662-DAY4 7/28/05	662-DAY5 7/29/05	662-DAY1 8/29/05	662-DAY2 8/30/05	662-2-DAY2 8/30/05	662-DAY3 8/31/05	662-DAY4 9/1/05	662-DAY5 9/2/05	662-2-DAY5 9/2/05	662-DAY1 9/26/05
<b>Analyte</b>	<b>Units</b>	<b>Duplicate</b>	1	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L		105000	152000	97100	78500	120000	100000	129000	93700	112000	104000	166000

		<b>Sample ID Date</b>	662-DAY2 9/27/05	662-DAY3 9/28/05	662-DAY4 9/29/05	662-DAY-5 9/30/05	662-DAY1 10/24/05	662-DAY2 10/25/05	662-2-DAY2 10/25/05	662-DAY3 10/26/05	662-DAY4 10/27/05	662-DAY5 10/28/05	662-DAY1 11/14/05
<b>Analyte</b>	<b>Units</b>	<b>Duplicate</b>	1	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L		139000	93600	100000	70400	142000	114000	115000	127000	139000	138000	111000

		<b>Sample ID Date</b>	662-DAY2 11/15/05	662-DAY3 11/16/05	662-DAY4 11/17/05	662-2-DAY4 11/17/05	662-DAY5 11/18/05	662-DAY1 12/12/05	662-2-DAY1 12/12/05	662-DAY2 12/13/05	662-DAY3 12/14/05	662-DAY4 12/15/05	662-DAY5 12/16/05
<b>Analyte</b>	<b>Units</b>	<b>Duplicate</b>	1	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L		127000	110000	122000	127000	117000	47000	37800	34700	115000	83400	44100

		<b>Sample ID Date</b>	662-DAY1 1/23/06	662-DAY2 1/24/06	662-DAY3 1/25/06	662-DAY4 1/26/06	662-2-DAY4 1/26/06	662-DAY5 1/27/06	662-DAY1 2/20/06	662DUP-DAY1 2/20/06	662-DAY2 2/21/06	662DUP-DAY2 2/21/06	662-DAY3 2/22/06
<b>Analyte</b>	<b>Units</b>	<b>Duplicate</b>	1	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L		49700	37700	35200	27800	34800	32600	28500	31900	24800	33600	28600

		<b>Sample ID Date</b>	662DUP-DAY3 2/22/06	662-DAY4 2/23/06	662DUP-DAY4 2/23/06	662-DAY5 2/24/06	662DUP-DAY5 2/24/06
<b>Analyte</b>	<b>Units</b>	<b>Duplicate</b>	1	1	1	1	1
PFOA	NG/L		32000	41000	35600	45400	42500

Notes:  
 < and ND = Non detect at stated reporting limit  
 NQ = Not Quantifiable. Through 6/05, NQ indicates a positive result above the MDL but below the PQL (50 ng/L). Beginning in 7/05, reporting limits are lower and vary from lab analytical batch to lab analytical batch.

**Table A-2  
Summary of PFOA Analytical Results  
DuPont Chambers Works  
Deepwater, New Jersey**

		Total (T)/ Diss. (D)	Sample ID Date	529-DAY1 1/24/05	529-DAY2 1/25/05	529-DAY3 1/26/05	529-DAY3 1/26/05	529-DAY4 1/27/05	529-DAY5 1/28/05	529-DAY3 2/23/05	529-DAY3-2 2/23/05	529-DAY4 2/24/05	529-DAY5 2/25/05	529-DAY6 2/28/05
<b>Analyte</b>	<b>Units</b>	T	Duplicate	1	1	1	2	1	1	1	2	1	1	1
PFOA	NG/L	T		103000	45700	47100	47400	56800	23100	28600	28600	19500	12700	20100

		Total (T)/ Diss. (D)	Sample ID Date	529-DAY7 3/1/05	529-DAY1 3/28/05	529-DAY2 3/29/05	529-DAY3 3/30/05	529-DAY4 3/31/05	529-DAY5 4/1/05	529-DAY1 4/25/05	529-DAY2 4/26/05	529-DAY3 4/27/05	529-DAY4 4/28/05	529-DAY5 4/29/05
<b>Analyte</b>	<b>Units</b>	T	Duplicate	1	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L	T		102000	42800	28000	26000	43900	19500	43000	109000	38900	27600	37200

		Total (T)/ Diss. (D)	Sample ID Date	529-DAY2 5/24/05	529-DAY3 5/25/05	529-DAY4 5/26/05	529-DAY5 5/27/05	529-DAY5 5/27/05	529-DAY2 6/28/05	529-DAY3 6/29/05	529-DAY4 6/30/05	529-DAY5 7/1/05	529-DAY1 7/25/05	529-2-DAY2 7/26/05
<b>Analyte</b>	<b>Units</b>	T	Duplicate	1	1	1	1	2	1	1	1	1	1	1
PFOA	NG/L	T		18400	33800	26700	27500	25600	40500	98300	101000	94300	37200	95700

		Total (T)/ Diss. (D)	Sample ID Date	529-DAY2 7/26/05	529-DAY3 7/27/05	529-DAY4 7/28/05	529-DAY5 7/29/05	529-DAY1 8/29/05	529-DAY2 8/30/05	529-DAY3 8/31/05	529-DAY4 9/1/05	529-DAY5 9/2/05	529-DAY1 9/26/05	529-DAY2 9/27/05
<b>Analyte</b>	<b>Units</b>	T	Duplicate	1	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L	T		91800	167000	49300	56900	55500	34800	55200	142000	99900	70100	23000

		Total (T)/ Diss. (D)	Sample ID Date	529-DAY3 9/28/05	529-DAY4 9/29/05	529-DAY5 9/30/05	529-DAY1 10/24/05	529-DAY2 10/25/05	529-DAY3 10/26/05	529-DAY4 10/27/05	529-2-DAY4 10/27/05	529-DAY5 10/28/05	529-DAY1 11/14/05	529-DAY2 11/15/05
<b>Analyte</b>	<b>Units</b>	T	Duplicate	1	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L	T		47500	260000	85000	26400	51900	299000	82500	97300	190000	92700	34700

		Total (T)/ Diss. (D)	Sample ID Date	529-DAY3 11/16/05	529-DAY4 11/17/05	529-DAY5-2 11/18/05	529-DAY5 11/18/05	529-DAY1 12/12/05	529-DAY2 12/13/05	529-DAY3 12/14/05	529-DAY4 12/15/05	529-DAY5 12/16/05	529-DAY5-2 12/16/05	529-DAY1 1/23/06
<b>Analyte</b>	<b>Units</b>	T	Duplicate	1	1	2	1	1	1	1	1	1	2	1
PFOA	NG/L	T		157000	137000	46900	58200	57100	30200	42700	28500	72500	77300	34200

		Total (T)/ Diss. (D)	Sample ID Date	529-DAY2 1/24/06	529-DAY5 1/27/06	529-DAY5-2 1/27/06	529-DAY1 2/20/06	529-DAY2-2 2/21/06	529-DAY3 2/22/06	529-DAY5 2/24/06	529-DAY6 2/28/05
<b>Analyte</b>	<b>Units</b>	T	Duplicate	1	1	2	1	2	1	1	1
PFOA	NG/L	T		30300	15500	19500	20500	18800	35900	14200	20100

Notes:

< and ND = Non detect at stated reporting limit

NQ = Not Quantifiable. Through 6/05, NQ indicates a positive result above the MDL but below the PQL (50 ng/L). Beginning in 7/05, reporting limits are lower and vary from lab analytical batch to lab analytical batch.

**Table A-2**  
**Summary of PFOA Analytical Results**  
**DuPont Chambers Works**  
**Deepwater, New Jersey**

		<b>Sample ID</b>	662-GRAB	662-GRAB	662-GRAB	662-GRAB	662-GRAB	662-GRAB	662-GRAB	662-GRAB	662-GRAB	
		<b>Date</b>	10/4/05	10/10/05	10/17/05	10/24/05	10/31/05	11/7/05	11/14/05	11/21/05	11/28/05	12/5/05
<b>Analyte</b>	<b>Units</b>	<b>Duplicate</b>	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L		118000	125000	102000	102000	253000	80300	120000	77600	65800	51400

		<b>Sample ID</b>	662-GRAB	662-GRAB	662-GRAB	662-GRAB	662-GRAB	662-GRAB	662-GRAB	662-GRAB	662-GRAB	
		<b>Date</b>	12/12/05	12/19/05	12/27/05	1/3/06	1/9/06	1/16/06	1/23/06	1/30/06	2/6/06	2/13/06
<b>Analyte</b>	<b>Units</b>	<b>Duplicate</b>	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L		40500	61900	21400	33600	66000	33100	24100	26000	36600	22000

Notes:  
 < and ND = Non detect at stated reporting limit  
 NQ = Not Quantifiable. Through 6/05, NQ indicates a positive result above the MDL but below the PQL (50 ng/L). Beginning in 7/05, reporting limits are lower and vary from lab analytical batch to lab analytical batch.

**Table A-2  
Summary of PFOA Analytical Results  
DuPont Chambers Works  
Deepwater, New Jersey**

		Sample ID Date	803-DAY1 1/24/05	803-DAY2 1/25/05	803-DAY3 1/26/05	803-DAY4 1/27/05	803-DAY5 1/28/05	803-DAY2 2/22/05	803-DAY3 2/23/05	803-DAY4 2/24/05	803-DAY5 2/25/05	803-DAY6 2/28/05	803-DAY6 2/28/05
Analyte	Units	Duplicate	1	1	1	1	1	1	1	1	1	1	2
PFOA	NG/L		164000	36900	34300	123000	36200	42000	35300	27300	24900	16600	14400

		Sample ID Date	803-DAY1 3/28/05	803-DAY2 3/29/05	803-DAY3 3/30/05	803-DAY4 3/31/05	803-DAY5 4/1/05	803-DAY1 4/25/05	803-DAY2 4/26/05	803-2-DAY3 4/27/05	803-DAY3 4/27/05	803-DAY4 4/28/05	803-DAY5 4/29/05
Analyte	Units	Duplicate	1	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L		50200	49600	50500	24300	31400	141000	84500	20700	21600	19600	65100

		Sample ID Date	803-DAY2 5/24/05	803-DAY3 5/25/05	803-DAY4 5/26/05	RT803-DAY1 5/26/05	803-DAY5 5/27/05	803-DAY2 6/28/05	803-DAY3 6/29/05	803-DAY4 6/30/05	803-DAY5 7/1/05	803-DAY1 7/25/05	803-DAY2 7/26/05
Analyte	Units	Duplicate	1	1	1	2	1	1	1	1	1	1	
PFOA	NG/L		20700	17700	25400	42600	21500	136000	123000	130000	87300	69100	103000

		Sample ID Date	803-DAY3 7/27/05	803-DAY4 7/28/05	803-2-DAY4 7/28/05	803-DAY5 7/29/05	803-DAY1 8/29/05	803-DAY2 8/30/05	803-DAY3 8/31/05	803-DAY4 9/1/05	803-DAY5 9/2/05	803-DAY1 9/26/05	803-DAY2 9/27/05
Analyte	Units	Duplicate	1	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L		255000	112000	82300	123000	143000	32300	42500	195000	30600	73700	80900

		Sample ID Date	803-2-DAY2 9/27/05	803-DAY3 9/28/05	803-DAY4 9/29/05	803-DAY5 9/30/05	803-DAY1 10/24/05	803-2-DAY1 10/24/05	803-DAY2 10/25/05	803-DAY3 10/26/05	803-DAY4 10/27/05	803-DAY5 10/28/05	803-DAY1 11/14/05
Analyte	Units	Duplicate	1	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L		80000	79300	101000	94900	58100	60200	171000	407000	273000	199000	30400

		Sample ID Date	803-DAY2 11/15/05	803-DAY3 11/16/05	803-DAY4 11/17/05	803-DAY5 11/18/05	803-DAY1 12/12/05	803-DAY2 12/13/05	803-DAY3 12/14/05	803-2-DAY3 12/14/05	803-DAY4 12/15/05	803-DAY5 12/16/05	803-DAY1 1/23/06
Analyte	Units	Duplicate	1	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L		122000	146000	168000	58000	49600	55300	70900	59100	93300	78800	129000

		Sample ID Date	803-DAY2 1/24/06	803-2-DAY2 1/24/06	803-DAY3 1/25/06	803-DAY4 1/26/06	803-DAY5 1/27/06	803-DAY1 2/20/06	803-DAY2 2/21/06	803-DAY3 2/22/06	803-DAY4 2/23/06	803-DAY5 2/24/06
Analyte	Units	Duplicate	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L		70700	49400	113000	51300	27900	35000	21900	19900	46600	43600

Notes:

< and ND = Non detect at stated reporting limit

NQ = Not Quantifiable. Through 6/05, NQ indicates a positive result above the MDL but below the PQL (50 ng/L). Beginning in 7/05, reporting limits are lower and vary from lab analytical batch to lab analytical batch.

**Table A-2  
Summary of PFOA Analytical Results  
DuPont Chambers Works  
Deepwater, New Jersey**

		<b>Sample ID Date</b>	RT880-DAY5 4/1/05	RT880-2-DAY5 4/1/05	RT880-DAY1 4/25/05	RT880-DAY2 4/26/05	RT880-DAY3 4/27/05	RT880-DAY4 4/28/05	RT880-DAY5 4/29/05	880-2-DAY5 4/29/05	RT880-DAY1 5/23/05	RT880-DAY2 5/24/05
<b>Analyte</b>	<b>Units</b>	<b>Duplicate</b>	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L		3590	3510	2300	1530	3780	2070	6590	4100	11600	5120

		<b>Sample ID Date</b>	RT880-DAY3 5/25/05	RT880-DAY4 5/26/05	RT880-DAY5 5/27/05	RT880-DAY1 6/27/05	RT880-DAY2 6/28/05	RT880-DAY3 6/29/05	RT880-DAY4 6/30/05	RT880-DAY5 7/1/05	RT880C-DAY1 7/25/05	RT880C-DAY2 7/26/05
<b>Analyte</b>	<b>Units</b>	<b>Duplicate</b>	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L		12700	13300	7500	55800	8420	16400	8830	13700	5990	1450

		<b>Sample ID Date</b>	RT880C-DAY3 7/27/05	RT880C-DAY4 7/28/05	RT880C-DAY5 7/29/05	RT880C-DAY1 1/23/06	RT880C-DAY2 1/24/06	RT880C-DAY3 1/25/06	RT880C-DAY4 1/26/06	RT880C-DAY1 2/20/06	RT880C-DAY2 2/21/06	RT880C-DAY3 2/22/06
<b>Analyte</b>	<b>Units</b>	<b>Duplicate</b>	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L		1520	5590	1350	5180	2060	256000	77500	37600	9430	5400

		<b>Sample ID Date</b>	RT880C-DAY4 2/23/06	RT880C-DAY5 1/27/06	RT880C-DAY5 2/24/06
<b>Analyte</b>	<b>Units</b>	<b>Duplicate</b>	1	1	1
PFOA	NG/L		3770	28100	3900

Notes:

< and ND = Non detect at stated reporting limit

NQ = Not Quantifiable. Through 6/05, NQ indicates a positive result above the MDL but below the PQL (50 ng/L). Beginning in 7/05, reporting limits are lower and vary from lab analytical batch to lab analytical batch.

**Table A-2  
Summary of PFOA Analytical Results  
DuPont Chambers Works  
Deepwater, New Jersey**

		<b>Sample ID Date</b>	RT880-2-DAY5 4/1/05	RT880-DAY5 4/1/05	RT880-DAY1 4/25/05	RT880-DAY2 4/26/05	RT880-DAY3 4/27/05	RT880-DAY4 4/28/05	880-2-DAY5 4/29/05	RT880-DAY5 4/29/05	RT880-DAY1 5/23/05	RT880-DAY2 5/24/05
<b>Analyte</b>	<b>Units</b>	<b>Duplicate</b>	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L		3510	3590	2300	1530	3780	2070	4100	6590	11600	5120

		<b>Sample ID Date</b>	RT880-DAY3 5/25/05	RT880-DAY4 5/26/05	RT880-DAY5 5/27/05	RT880-DAY1 6/27/05	RT880-DAY2 6/28/05	RT880-DAY3 6/29/05	RT880-DAY4 6/30/05	RT880-DAY5 7/1/05	RT880C-DAY1 7/25/05	RT880C-DAY2 7/26/05
<b>Analyte</b>	<b>Units</b>	<b>Duplicate</b>	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L		12700	13300	7500	55800	8420	16400	8830	13700	5990	1450

		<b>Sample ID Date</b>	RT880C-DAY3 7/27/05	RT880C-DAY4 7/28/05	RT880C-DAY5 7/29/05	RT880C-DAY1 1/23/06	RT880C-DAY2 1/24/06	RT880C-DAY3 1/25/06	RT880C-DAY4 1/26/06	RT880C-DAY5 1/27/06	RT880C-DAY1 2/20/06	RT880C-DAY2 2/21/06
<b>Analyte</b>	<b>Units</b>	<b>Duplicate</b>	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L		1520	5590	1350	5180	2060	256000	77500	28100	37600	9430

		<b>Sample ID Date</b>	RT880C-DAY3 2/22/06	RT880C-DAY4 2/23/06	RT880C-DAY5 2/24/06
<b>Analyte</b>	<b>Units</b>	<b>Duplicate</b>	1	1	1
PFOA	NG/L		5400	3770	3900

Notes:

< and ND = Non detect at stated reporting limit

NQ = Not Quantifiable. Through 6/05, NQ indicates a positive result above the MDL but below the PQL (50 ng/L). Beginning in 7/05, reporting limits are lower and vary from lab analytical batch to lab analytical batch.

**Table A-2  
Summary of PFOA Analytical Results  
DuPont Chambers Works  
Deepwater, New Jersey**

		Sample ID	RT883A-DAY1	RT883A-DAY3	RT883A-DAY4	RT883A-DAY5	RT883A-DAY1	RT883A-DAY2	RT883A-DAY3	RT883A-DAY4	RT883A-DAY5
		Date	6/27/05	6/29/05	6/30/05	7/1/05	7/25/05	7/26/05	7/27/05	7/28/05	7/29/05
Analyte	Units	Duplicate	1	1	1	1	1	1	1	1	1
PFOA	NG/L		1660000	13400000	12900000	330000	101000	99400	888000	952000	76500

		Sample ID	RT883A-DAY1	RT883A-DAY2	RT883A-DAY3	RT883A-DAY4	RT883A-2-DAY4	RT883A-DAY5	RT883A-DAY2	RT883A-DAY3	RT883A-2-DAY3
		Date	8/29/05	8/30/05	8/31/05	9/1/05	9/1/05	9/2/05	9/27/05	9/28/05	9/28/05
Analyte	Units	Duplicate	1	1	1	1	1	1	1	1	1
PFOA	NG/L		194000	398000	79000	3030000	3140000	689000	35400	30100	33000

		Sample ID	RT883A-DAY4	RT883A-DAY5	RT883A-DAY1	RT883A-DAY2	RT883A-DAY3	RT883A-2-DAY3	RT883A-DAY4	RT883A-DAY5	RT883A-DAY1
		Date	9/29/05	9/30/05	10/24/05	10/25/05	10/26/05	10/26/05	10/27/05	10/28/05	11/14/05
Analyte	Units	Duplicate	1	1	1	1	1	1	1	1	1
PFOA	NG/L		3590000	638000	185000	49000	1250000	1020000	865000	936000	3810000

		Sample ID	883A-2-DAY1	RT883A-DAY2	RT883A-DAY3	RT883A-2-DAY3	RT883A-DAY4	RT883A-DAY5	RT883A-DAY1	RT883A-DAY2	RT883A-2-DAY2
		Date	11/14/05	11/15/05	11/16/05	11/16/05	11/17/05	11/18/05	12/12/05	12/13/05	12/13/05
Analyte	Units	Duplicate	1	1	1	1	1	1	1	1	1
PFOA	NG/L		4000000	390000	719000	715000	3630000	741000	105000	247000	243000

		Sample ID	RT883A-DAY3	RT883A-DAY5	RT883A-DAY1	RT883A-2-DAY1	RT883A-DAY2	RT883A-DAY3	RT883A-DAY4	RT883A-DAY5	RT883A-DAY5
		Date	12/14/05	12/16/05	1/23/06	1/23/06	1/24/06	1/25/06	1/26/06	1/27/06	2/24/06
Analyte	Units	Duplicate	1	1	1	1	1	1	1	1	1
PFOA	NG/L		284000	722000	369000	368000	723000	934000	66000	137000	4830

		Sample ID	RT883A-DAY1	RT883A-DAY2	RT883A-DAY3	RT883A-DAY4	RT883A-2-DAY5
		Date	2/20/06	2/21/06	2/22/06	2/23/06	2/24/06
Analyte	Units	Duplicate	1	1	1	1	1
PFOA	NG/L		9810	7440	9570	4800	5880

Notes:

< and ND = Non detect at stated reporting limit

NQ = Not Quantifiable. Through 6/05, NQ indicates a positive result above the MDL but below the PQL (50 ng/L). Beginning in 7/05, reporting limits are lower and vary from lab analytical batch to lab analytical batch.



**Table A-2  
Summary of PFOA Analytical Results  
DuPont Chambers Works  
Deepwater, New Jersey**

		Sample ID Date	RT884-DAY5 4/1/05	RT884-DAY3 4/27/05	RT884-DAY4 4/28/05	RT884-DAY5 4/29/05	RT884-DAY1 5/23/05	RT884-DAY2 5/24/05	RT884-DAY2 5/24/05	RT884-DAY3 5/25/05	RT884-DAY4 5/26/05	RT884-DAY5 5/27/05
Analyte	Units	Duplicate	1	1	1	1	1	1	2	1	1	1
PFOA	NG/L		254000	21700	17500	40900	409000	154000	145000	851000	423000	259000

		Sample ID Date	RT884-DAY1 6/27/05	RT884-DAY2 6/28/05	RT884-DAY3 6/29/05	RT884-DAY4 6/30/05	RT884-DAY5 7/1/05	RT884J-DAY2 7/26/05	RT884J-DAY3 7/27/05	RT884-2-DAY3 7/27/05	RT884J-DAY4 7/28/05	RT884J-DAY5 7/29/05
Analyte	Units	Duplicate	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L		356000	252000	135000	43500	454000	125000	24800	8450	135000	400000

		Sample ID Date	RT884J-2-DAY5 7/29/05	RT884J-DAY3 8/31/05	RT884J-DAY4 9/1/05	RT884J-DAY5 9/2/05	RT884J-DAY1 9/26/05	RT884J-DAY2 9/27/05	RT884J-DAY3 9/28/05	RT884J-DAY4 9/29/05	RT884J-DAY5 9/30/05	RT884J-2-DAY5 9/30/05
Analyte	Units	Duplicate	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L		381000	30200000	229000	1180000	138000	849000	266000	705000	751000	716000

		Sample ID Date	RT884J-DAY1 10/24/05	RT884J-DAY2 10/25/05	RT884J-DAY3 10/26/05	RT884J-DAY4 10/27/05	RT884J-DAY5 10/28/05	RT884J-2-DAY5 10/28/05	RT884J-DAY1 11/14/05	RT884J-DAY2 11/15/05	884J-2-DAY2 11/15/05	RT884J-DAY4 11/17/05
Analyte	Units	Duplicate	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L		320000	312000	424000	403000	477000	477000	1490000	184000	193000	186000

		Sample ID Date	RT884J-DAY5 11/18/05	RT884J-DAY1 12/12/05	RT884J-DAY2 12/13/05	RT884J-DAY4 12/15/05	RT884J-DAY5 12/16/05	RT884J-DAY1 1/23/06	RT884J-DAY2 1/24/06	RT884J-DAY3 1/25/06	RT884J-2-DAY3 1/25/06	RT884J-DAY4 1/26/06
Analyte	Units	Duplicate	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L		173000	536000	1190000	175000	93500	157000	291000	423000	433000	76700

		Sample ID Date	RT884J-DAY5 1/27/06	RT884J-2-DAY1 2/20/06	RT884J-DAY2 2/21/06	RT884J-DAY3 2/22/06	RT884J-DAY4 2/23/06	RT884J-DAY5 2/24/06
Analyte	Units	Duplicate	1	1	1	1	1	1
PFOA	NG/L		73600	72000	75200	94300	2290000	317000

Notes:  
 < and ND = Non detect at stated reporting limit  
 NQ = Not Quantifiable. Through 6/05, NQ indicates a positive result above the MDL but below the PQL (50 ng/L). Beginning in 7/05, reporting limits are lower and vary from lab analytical batch to lab analytical batch.

**Table A-2  
Summary of PFOA Analytical Results  
DuPont Chambers Works  
Deepwater, New Jersey**

		<b>Sample ID Date</b>	RT885-DAY5 4/1/05	RT885-DAY1 4/25/05	RT885-DAY3 4/27/05	RT885-DAY4 4/28/05	RT885-DAY5 4/29/05	RT885-DAY2 5/24/05	RT885-DAY4 5/26/05	RT885-DAY5 5/27/05	RT885-DAY1 6/27/05	RT885F-DAY1 7/25/05
<b>Analyte</b>	<b>Units</b>	<b>Duplicate</b>	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L		24500	45200	67600	27200	11000	111000	72500	152000	1100000	26300

		<b>Sample ID Date</b>	RT885F-DAY2 7/26/05	RT885F-DAY3 7/27/05	RT885F-DAY4 7/28/05	RT885F-DAY5 7/29/05	RT885F-DAY3 8/31/05	RT885F-DAY4 9/1/05	RT885F-DAY5 9/2/05	RT885F-DAY1 9/26/05	RT885F-DAY2 9/27/05	RT885F-DAY3 9/28/05
<b>Analyte</b>	<b>Units</b>	<b>Duplicate</b>	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L		21100	40000	41500	88700	12500	64700	60300	10800	42800	18000

		<b>Sample ID Date</b>	RT885F-2-DAY4 9/29/05	RT885F-DAY4 9/29/05	RT885F-DAY5 9/30/05	RT885F-DAY1 10/24/05	RT885F-DAY2 10/25/05	RT885F-DAY3 10/26/05	RT885F-DAY4 10/27/05	RT885F-DAY5 10/28/05	RT885F-DAY1 11/14/05	RT885F-DAY2 11/15/05
<b>Analyte</b>	<b>Units</b>	<b>Duplicate</b>	2	1	1	1	1	1	1	1	1	1
PFOA	NG/L		5600	5180	13100	8280	15300	4990	34000	63000	22600	15300

		<b>Sample ID Date</b>	RT885F-DAY3 11/16/05	RT885F-DAY4 11/17/05	RT885F-DAY5 11/18/05	RT885F-DAY1 12/12/05	RT885F-DAY2 12/13/05	RT885F-DAY3 12/14/05	RT885F-DAY4 12/15/05	RT885F-DAY5 12/16/05	RT885F-DAY1 1/23/06	RT885F-DAY2 1/24/06
<b>Analyte</b>	<b>Units</b>	<b>Duplicate</b>	1	1	1	1	1	1	1	1	1	1
PFOA	NG/L		13900	6270	14600	3490	6770	9420	52900	9690	6510	4640

		<b>Sample ID Date</b>	RT885F-DAY3 1/25/06	RT885F-DAY4 1/26/06	RT885F-DAY5 1/27/06	RT885F-DAY1 2/20/06	RT885F-DAY2 2/21/06	RT885F-DAY3 2/22/06	RT885F-DAY4 2/23/06	RT885F-DAY5 2/24/06
<b>Analyte</b>	<b>Units</b>	<b>Duplicate</b>	1	1	1	1	1	1	1	1
PFOA	NG/L		39500	8690	3870	26800	3280	25600	19400	8280

Notes:

< and ND = Non detect at stated reporting limit

NQ = Not Quantifiable. Through 6/05, NQ indicates a positive result above the MDL but below the PQL (50 ng/L). Beginning in 7/05, reporting limits are lower and vary from lab analytical batch to lab analytical batch.

**Table A-3  
Summary of Salem Canal PFOA Analytical Results  
DuPont Chambers Works  
Deepwater, New Jersey**

Analyte	Units	Sample ID Date	CANAL-DAY1 4/25/05	BEFORE CARBON-DAY1 4/25/05	BETW CARBON-DAY1 4/25/05	CANAL-DAY2 4/26/05	BEFORE CARBON-DAY2 4/26/05	BEFORE CARBON-DAY2-2 4/26/05
PFOA	NG/L		151	77.3	<10	112	52.2	NQ

Analyte	Units	Sample ID Date	BETW CARBON-DAY2 4/26/05	AFTER CARBON-DAY2 4/26/05	CANAL-DAY3 4/27/05	BEFORE CARBON-DAY3 4/27/05	BETW CARBON-DAY3 4/27/05	AFTER CARBON-DAY3 4/27/05
PFOA	NG/L		NQ	<10	122	59.4	NQ	<10

Analyte	Units	Sample ID Date	CANAL-DAY4 4/28/05	BEFORE CARBON-DAY4 4/28/05	BEFORE CARBON-DAY4-2 4/28/05	BETW CARBON-DAY4 4/28/05	AFTER CARBON-DAY4 4/28/05	CANAL-DAY5 4/29/05
PFOA	NG/L		111	53.5	60.6	NQ	<10	104

Analyte	Units	Sample ID Date	BEFORE CARBON-DAY5 4/29/05	BETW CARBON-DAY5 4/29/05	AFTER CARBON-DAY5 4/29/05	CANAL-DAY2 5/24/05	BEFORE CARBON-DAY2 5/24/05	BETW CARBON-DAY2 5/24/05
PFOA	NG/L		51.4	<10	NQ	309	52.4	73.7

Analyte	Units	Sample ID Date	AFTER CARBON-DAY2 5/24/05	CANAL-DAY3 5/25/05	BEFORE CARBON-DAY3 5/25/05	AFTER CARBON-DAY3 5/25/05	CANAL-DAY4 5/26/05	BEFORE CARBON-DAY4 5/26/05
PFOA	NG/L		<10	94.5	56.1	<10	83.1	64.1

Analyte	Units	Sample ID Date	BETW CARBON-DAY4 5/26/05	AFTER CARBON-DAY4 5/26/05	CANAL-DAY5 5/27/05	BETW CARBON-DAY5 5/27/05	AFTER CARBON-DAY5 5/27/05	CANAL-DAY1 6/27/05
PFOA	NG/L		NQ	NQ	81.8	NQ	<10	533

Analyte	Units	Sample ID Date	BEFORE CARBON-DAY1 6/27/05	BETW CARBON-DAY1 6/27/05	AFTER CARBON-DAY1 6/27/05	CANAL-DAY2 6/28/05	BEFORE CARBON-DAY2 6/28/05	BETW CARBON-DAY2 6/28/05
PFOA	NG/L		NQ	61.2	102	166	61.8	NQ

NQ = not quantifiable. Through 6/05, NQ indicates a positive result above the MDL but below the PQL (50 ng/L). Beginning in 7/05, reporting limits are lower and vary from lab analytical batch to lab analytical batch.

**Table A-3**  
**Summary of Salem Canal PFOA Analytical Results**  
**DuPont Chambers Works**  
**Deepwater, New Jersey**

Analyte	Units	Sample ID Date	AFTER CARBON-DAY2 6/28/05	AFTER CARBON-DAY2-2 6/28/05	CANAL-DAY3 6/29/05	BEFORE CARBON-DAY3 6/29/05	BETW CARBON-DAY3 6/29/05	AFTER CARBON-DAY3 6/29/05
PFOA	NG/L		60.9	56.7	118	53.2	NQ	NQ

Analyte	Units	Sample ID Date	CANAL-DAY4 6/30/05	BEFORE CARBON-DAY4 6/30/05	BETW CARBON-DAY4 6/30/05	AFTER CARBON-DAY4 6/30/05	CANAL-DAY5 7/1/05	BEFORE CARBON-DAY5 7/1/05
PFOA	NG/L		101	NQ	NQ	NQ	101	NQ

Analyte	Units	Sample ID Date	BETW CARBON-DAY5 7/1/05	AFTER CARBON-DAY5 7/1/05	BETW CARBON-DAY1 7/25/05	AFTER CARBON-DAY1 7/25/05	BETW CARBON-DAY2 7/26/05	AFTER CARBON-DAY2 7/26/05
PFOA	NG/L		NQ	NQ	49	135	55.4	96.4

Analyte	Units	Sample ID Date	BETW CARBON-DAY3 7/27/05	AFTER CARBON-DAY3 7/27/05	BETW CARBON-DAY4 7/28/05	AFTER CARBON-DAY4 7/28/05	BETW CARBON-DAY5 7/29/05	AFTER CARBON-DAY5 7/29/05
PFOA	NG/L		9.63	132	<1.5	92.6	<1.5	414

Analyte	Units	Sample ID Date	BETW CARBON-DAY1 8/29/05	AFTER CARBON-DAY1 8/29/05	BETW CARBON-DAY2 8/30/05	AFTER CARBON-DAY2 8/30/05	BETW CARBON-DAY3 8/31/05	AFTER CARBON-DAY3 8/31/05
PFOA	NG/L		19.1	60.2	11.7	59.4	8.51	277

Analyte	Units	Sample ID Date	AFTER CARBON-DAY3-2 8/31/05	BETW CARBON-DAY4 9/1/05	AFTER CARBON-DAY4 9/1/05	BETW CARBON-DAY5 9/2/05	AFTER CARBON-DAY5 9/2/05	BETW CARBON-DAY1 9/26/05
PFOA	NG/L		281	16.2	50.4	12.9	41.4	22.6

Analyte	Units	Sample ID Date	AFTER CARBON-DAY1 9/26/05	AFTER CARBON-DAY1 9/26/05	BETW CARBON-DAY2 9/27/05	AFTER CARBON-DAY2 9/27/05	BETW CARBON-DAY3 9/28/05	AFTER CARBON-DAY3 9/28/05
PFOA	NG/L		74.8	22.7	37.2	21.7	19.6	24.3

NQ = not quantifiable. Through 6/05, NQ indicates a positive result above the MDL but below the PQL (50 ng/L). Beginning in 7/05, reporting limits are lower and vary from lab analytical batch to lab analytical batch.

**Table A-3  
Summary of Salem Canal PFOA Analytical Results  
DuPont Chambers Works  
Deepwater, New Jersey**

Analyte	Units	Sample ID Date	BETW CARBON-DAY4 9/29/05	AFTER CARBON-DAY4 9/29/05	BETW CARBON-DAY5 9/30/05	AFTER CARBON-DAY5 9/30/05	BETW CARBON-DAY1 10/24/05	AFTER CARBON-DAY1 10/24/05
PFOA	NG/L		NQ	24.8	NQ	13	89.8	<3.4

Analyte	Units	Sample ID Date	BETW CARBON-DAY2 10/25/05	AFTER CARBON-DAY2 10/25/05	BETW CARBON-DAY3 10/26/05	AFTER CARBON-DAY3 10/26/05	BETW CARBON-DAY4 10/27/05	AFTER CARBON-DAY4 10/27/05
PFOA	NG/L		18	<3.4	39.7	NQ	25.1	NQ

Analyte	Units	Sample ID Date	BETW CARBON-DAY5 10/28/05	AFTER CARBON-DAY5 10/28/05	BETW CARBON-DAY1 11/14/05	AFTER CARBON-DAY1 11/14/05	BETW CARBON-DAY2 11/15/05	AFTER CARBON-DAY2 11/15/05
PFOA	NG/L		21.4	NQ	34	NQ	31.9	NQ

Analyte	Units	Sample ID Date	BETW CARBON-DAY3 11/16/05	AFTER CARBON-DAY3 11/16/05	BETW CARBON-DAY4 11/17/05	AFTER CARBON-DAY4 11/17/05	BETW CARBON-DAY5 11/18/05	AFTER CARBON-DAY5 11/18/05
PFOA	NG/L		31.4	NQ	41.8	20.8	42.8	NQ

Analyte	Units	Sample ID Date	CANAL INTAKE 12/2/05	CANAL UPSTREAM 12/2/05	GT-12 GRAB 12/2/05	GT-18-GRAB 12/2/05	MC-4 GRAB-2 12/2/05	MC-4 GRAB 12/2/05
PFOA	NG/L		82.3	145	6880	3670	8580	7970

Analyte	Units	Sample ID Date	BETW CARBON-DAY1 12/12/05	AFTER CARBON-DAY1 12/12/05	BETW CARBON-DAY2 12/13/05	AFTER CARBON-DAY2 12/13/05	BETW CARBON-DAY3 12/14/05	AFTER CARBON-DAY3 12/14/05
PFOA	NG/L		29.8	21.8	26.4	18.1	25.7	18.4

Analyte	Units	Sample ID Date	BETW CARBON-DAY4 12/15/05	AFTER CARBON-DAY4 12/15/05	BETW CARBON-DAY5 12/16/05	AFTER CARBON-DAY5 12/16/05
PFOA	NG/L		26.1	18.2	34.6	25.5

NQ = not quantifiable. Through 6/05, NQ indicates a positive result above the MDL but below the PQL (50 ng/L). Beginning in 7/05, reporting limits are lower and vary from lab analytical batch to lab analytical batch.

Canal Upstream = Railroad bridge

GT-12 = Piezometer in vicinity OS seep

GT-18 = Piezometer on eastern edge of Admin Bldg. along canal

MC-4 = Piezometer on eastern edge of Bldg. 788 along canal

**Table A-4  
Summary of PFOA Analytical Results  
C-Landfill Leachate  
DuPont Chambers Works  
Deepwater, New Jersey**

			<b>Sample ID Date Wet/Dry Duplicate #</b>	PORT100-SOLUBLE	PORT100-DRY	SUMP 200	SUMP 274	SUMP 276	Q20-M01B	R20-M01B
<b>Analyte</b>	<b>units</b>	<b>Total (T)/ Diss. (D)</b>		8/16/05 Dry 1	8/18/05 Dry 1	8/24/05 Dry 1	8/24/05 Dry 1	8/24/05 Dry 1	8/24/05 Dry 1	8/24/05 Dry 1
PFOA	NG/L	D		248000	116000	86900	199000	251000	5170	10900
PFOA	NG/L	T		NS	151000	136000	205000	284000	13600	27400

			<b>Sample ID Date Wet/Dry Duplicate #</b>	SUMP 5A-DRY	SUMP 5B-DRY	DEWATERPAD-DRY	SUMP5A-WET	SUMP5B-WET	DEWATER PAD-WET	LEACHATE #3178
<b>Analyte</b>	<b>units</b>	<b>Total (T)/ Diss. (D)</b>		8/24/05 Dry 1	8/24/05 Dry 1	8/24/05 Dry 1	9/15/05 Wet 1	9/15/05 Wet 1	9/15/05 Wet 1	9/19/05 Dry 1
PFOA	NG/L	D		154000	63100	1050000	211000	439000	2240000	93900
PFOA	NG/L	T		195000	182000	1490000	264000	360000	2950000	91500

NS = Not Sampled  
< and ND = Non detect at stated reporting limit

**Table A-5  
Summary of PFOA Analytical Results at DDE Location  
Dupont Chambers Works  
Deepwater, New Jersey**

		Sample ID Date	DDE-GRAB-DAY1 3/28/05	DDE-GRAB-DAY2 3/29/05	DDE-GRAB-DAY1 4/25/05	DDE-GRAB-DAY2 4/26/05	DDE-GRAB-DAY3 4/27/05	DDE-GRAB-DAY5 4/29/05	DDE-GRAB-DAY5 5/27/05
Analyte	Units	Duplicate	1	1	1	1	1	1	1
PFOA	NG/L		119	NQ	5330	4120	4020	3870	1420

		Sample ID Date	DDE-GRAB-DAY1 6/27/05	DDE-GRAB-DAY2 6/28/05	DDE-GRAB-DAY3 6/29/05	DDE-GRAB-DAY4 6/30/05	DDE-GRAB-DAY5 7/1/05	DDE-GRAB-DAY2 7/26/05	DDE-GRAB-DAY4 7/28/05
Analyte	Units	Duplicate	1	1	1	1	1	1	1
PFOA	NG/L		1820	1320	1280	1690	1720	2720	3570

		Sample ID Date	DDE-GRAB-DAY5 7/29/05	DDE-2-DAY1 8/29/05	DDE-GRAB-DAY1 8/29/05	DDE-GRAB-DAY2 8/30/05	DDE-GRAB-DAY3 8/31/05	DDEGRAB-DAY5 9/30/05	DDE-GRAB-DAY5 9/2/05
Analyte	Units	Duplicate	1	2	1	1	1	1	1
PFOA	NG/L		67300	13400	14200	19500	18100	13600	30000

		Sample ID Date	DDE-GRAB-DAY1 10/24/05	DDE-GRAB-DAY2 10/25/05	DDE-GRAB-DAY4 10/27/05	DDE-GRAB-DAY4 11/17/05	DDE-GRAB-DAY5 11/18/05	DDE-GRAB-DAY1 12/12/05	DDE-GRAB-DAY2 12/13/05
Analyte	Units	Duplicate	1	1	1	1	1	1	1
PFOA	NG/L		28300	3480	76200	13500	7550	7580	5450

		Sample ID Date	DDE-GRAB-DAY3 12/14/05	DDE-GRAB-DAY4 12/15/05	DDE-GRAB-2-DAY4 12/15/05	DDE-GRAB-DAY5 12/16/05	DDE-GRAB-DAY1 1/23/06	DDE-GRAB-DAY2 1/24/06	DDE-GRAB-DAY1 2/20/06
Analyte	Units	Duplicate	1	1	2	1	1	1	1
PFOA	NG/L		5490	3900	5260	8950	4750	4840	56900

		Sample ID Date	DDE-GRAB-DAY2 2/21/06	DDE-GRAB-DAY3 2/22/06	DDE-GRAB-DAY4 2/23/06	DDE-GRAB-DAY5 2/24/06
Analyte	Units	Duplicate	1	1	1	1
PFOA	NG/L		59400	10000	54700	45200

Notes:

< and ND = Non detect at stated reporting limit

NQ = Not Quantifiable. Through 6/05, NQ indicates a positive result above the MDL but below the PQL (50 ng/L). Beginning in 7/05, reporting limits are lower and vary from lab analytical batch to lab analytical batch.