

Appendix D

Supplemental Data Report to:

**DUPONT TELOMER MANUFACTURING SITES:
ENVIRONMENTAL ASSESSMENT OF PFOA LEVELS IN AIR
AND WATER (September, 2003)**

Additional Data

Note all data highlighted in yellow has been reported in the original report – *DuPont Telomer Manufacturing Sites: Environmental Assessment of PFOA Levels in Air and Water (September, 2003)*. All data presented here was collected as part of the original data set collected for the September, 2003 report.

Chambers Works and Washington Works Air Monitoring Data

No air monitoring data was collected.

Chambers Works Groundwater Sampling

Table D-1 is a summary of PFOS analysis from the original set of groundwater samples collected between May 1 and June 19, 2003. All data was ND (<10 ng/l) for PFOS with the exception of two wells located at the perimeter of the plant. Monitoring Well C-10 (see Figure D-1) had an average PFOS result of 74 ppt. This well is located adjacent to the Delaware River. Monitoring Well R-8 had a PFOS result of NQ (between 10-50 ng/l). This well is located on the eastern property line of the Chambers Works facility and is in a location that has hydraulic gradient toward the manufacturing facility.

No PFOS was detected in the interior monitoring wells or interceptor wells and PFOS results did not correlate to PFOA results. There is no history of manufacturing use of PFOS at Chambers Works. This is supported by the data.

Chambers Works River Sampling

Table D-2 is a summary of PFOS analysis from the original set of Delaware River water samples collected between June 9 and 10, 2003. PFOS presence was detected at NQ in 6 of the 30 samples at NQ as shown in figures D-2 through D-5. These results did not correlate with the PFOA results. PFOS was not detected downstream of the Chambers Works outfall during an outgoing tide or upstream of the Chambers Works outfall during an incoming tide (figures D-2 and D-3).

PFOS was detected in two samples collected downstream of the Chambers Works outfall on an incoming tide (figure D-4). PFOS presence was detected in four samples collected upstream of the Chambers Works outfall on an outgoing tide (Figure D-5). Three of the four samples had one duplicate at NQ and the other duplicate at ND.

This data indicates that the PFOS detected in the Delaware River is not associated with the Chambers Works outfall.

Chambers Works Internal Sampling

At the time of the original study samples were collected at internal sample spots within in the plant to identify potential sources of perfluorinated compounds.

Figure D-6 is schematic of the plant showing sample locations. Table D-3 shows sample results. The results highlighted in yellow were presented in the original report.

The data shows trace levels of PFOS in the commercial wastewater (Sample 529 less Sample 803) and little to no detection of PFOS within the Chambers Works manufacturing facility, however, any positive results could be attributable to the commercial waste.

Levels this low are not unexpected in commercial wastewater treatment. During the time of the study, commercial wastewater streams included cleaning residues and firefighting residues.

The samples collected at 662 were analyzed as unfiltered and filtered. The data indicated the PFOS is associated with the solid phase consistent with reported literature.

Note:

Limit of Detection (LOD) for the procedure is approximately 0.010 ug/L

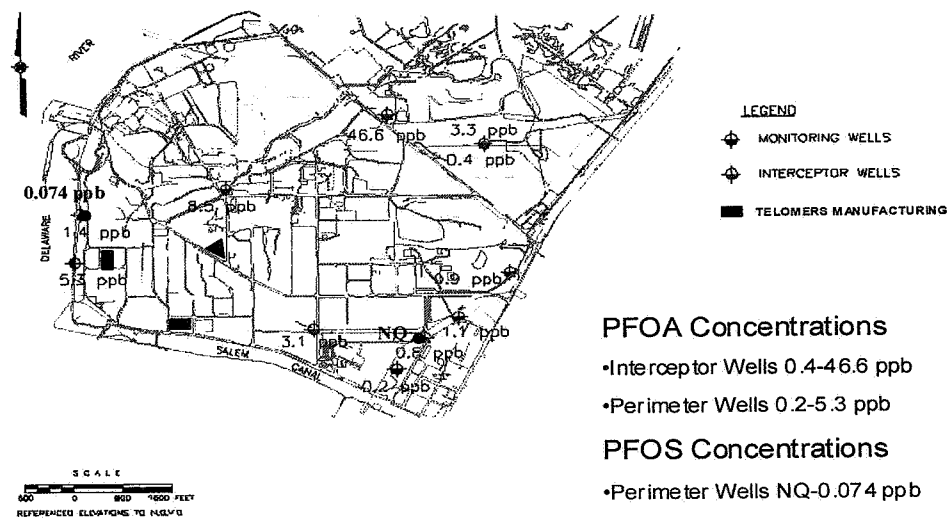
Limit of Quantification (LOQ) for the procedure is 0.050 ug/L

ND - Compound not detected

NQ - Compound detected at a level between LOD and LOQ. Result not quantifiable.

Figure D-1
Chambers Works Groundwater PFOA/PFOS Concentrations

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Chambers Works Groundwater PFOA/PFOS Concentrations



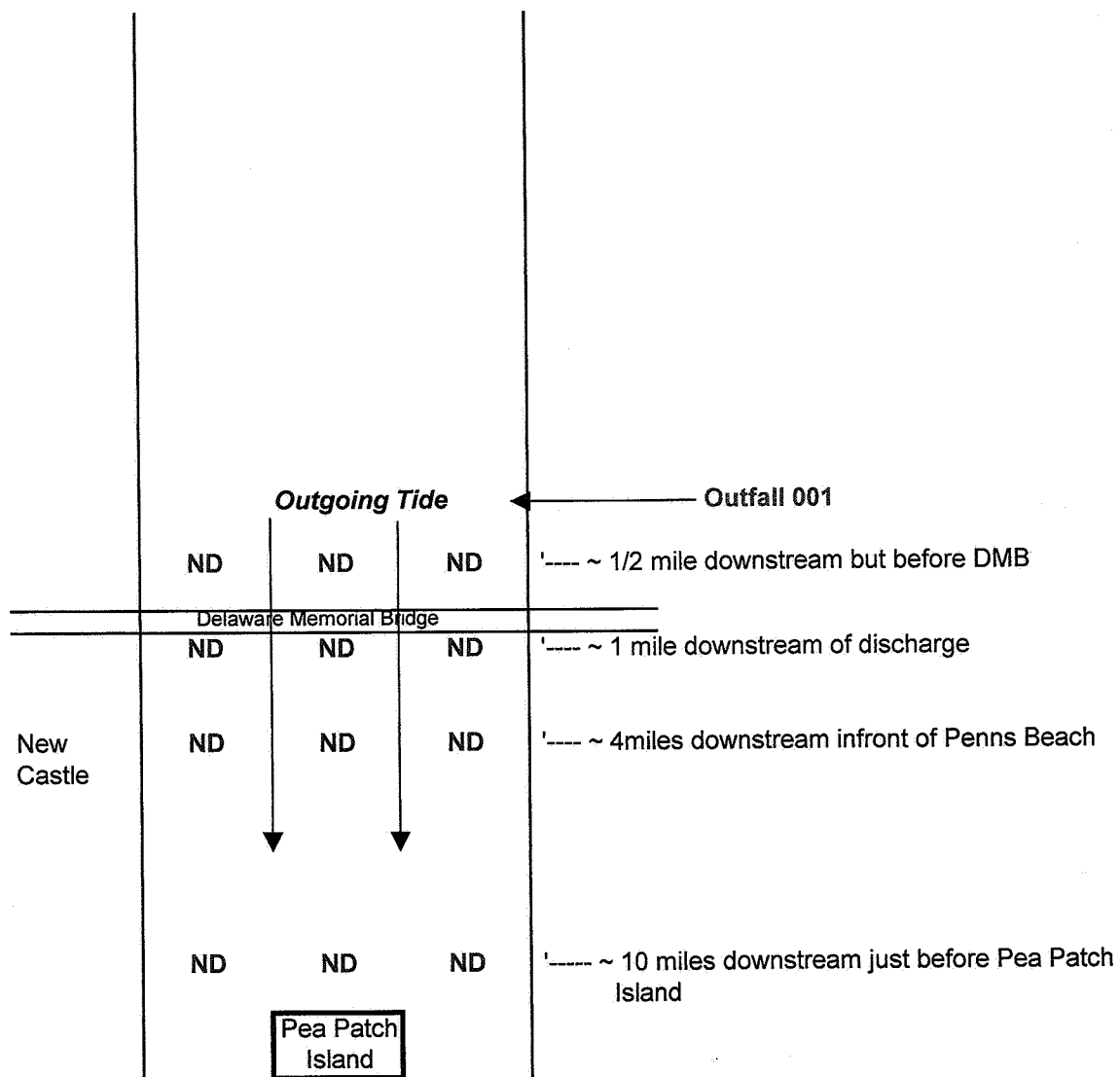


Figure D-2

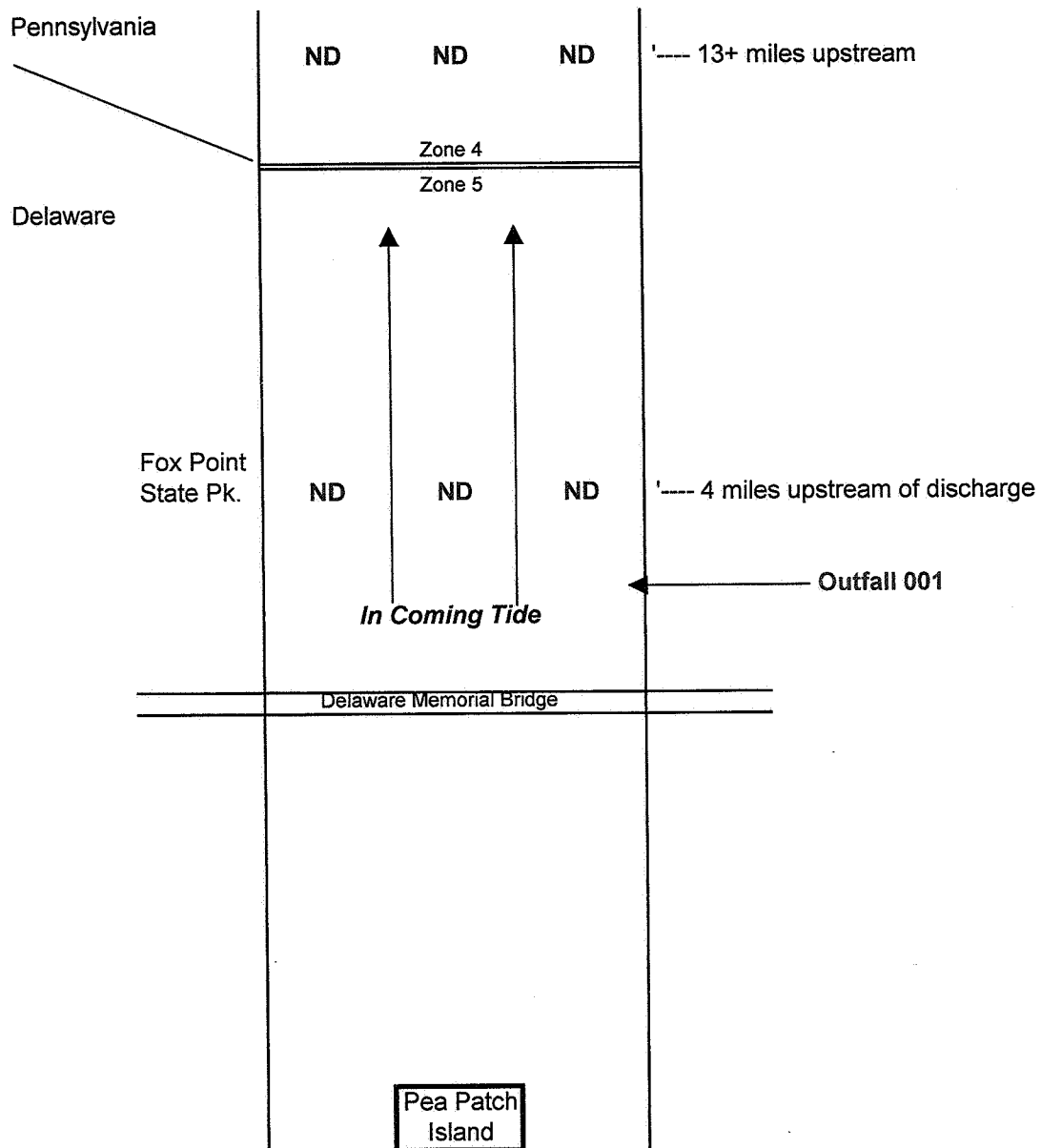


Figure D-3

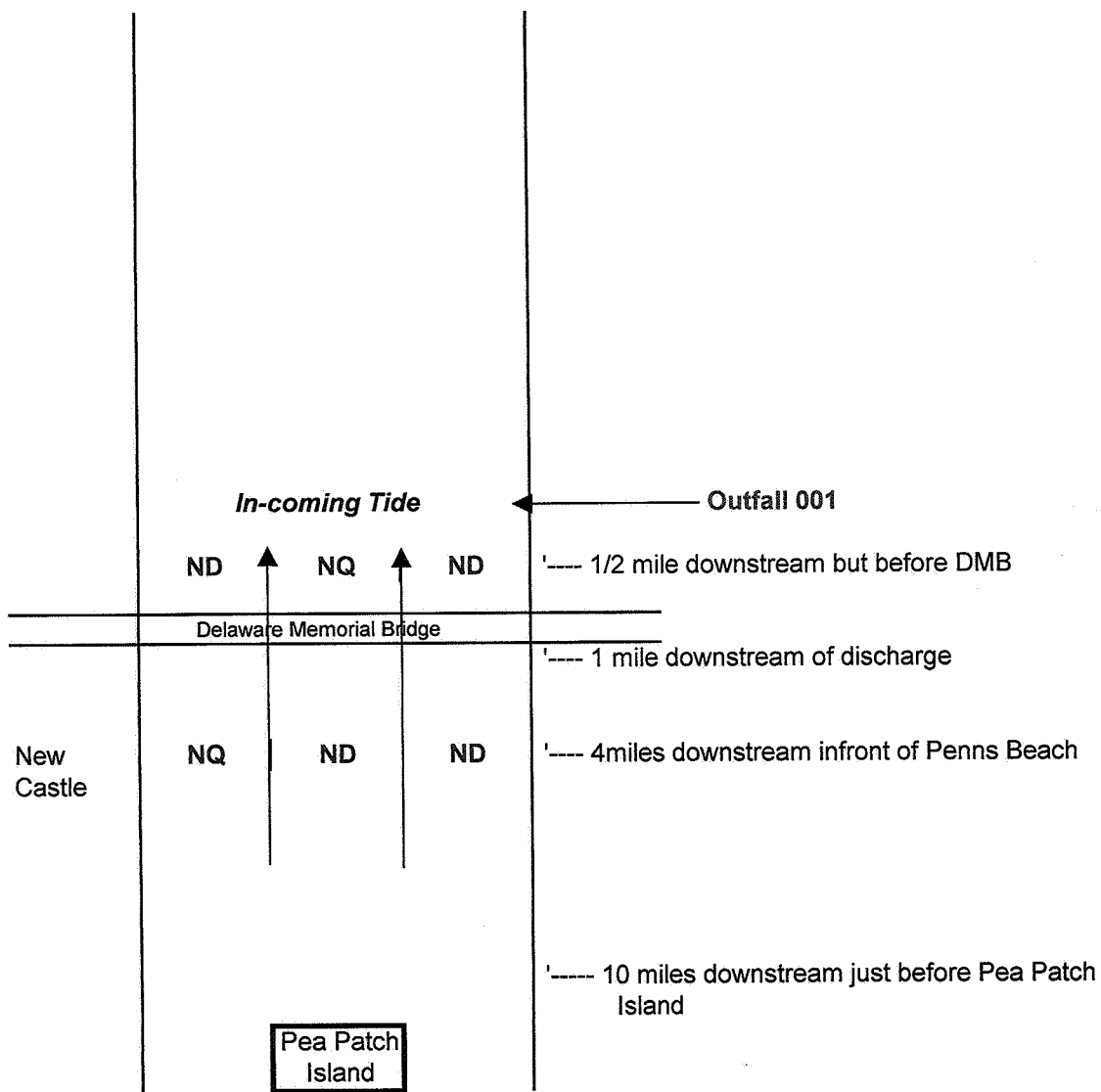


Figure D-4

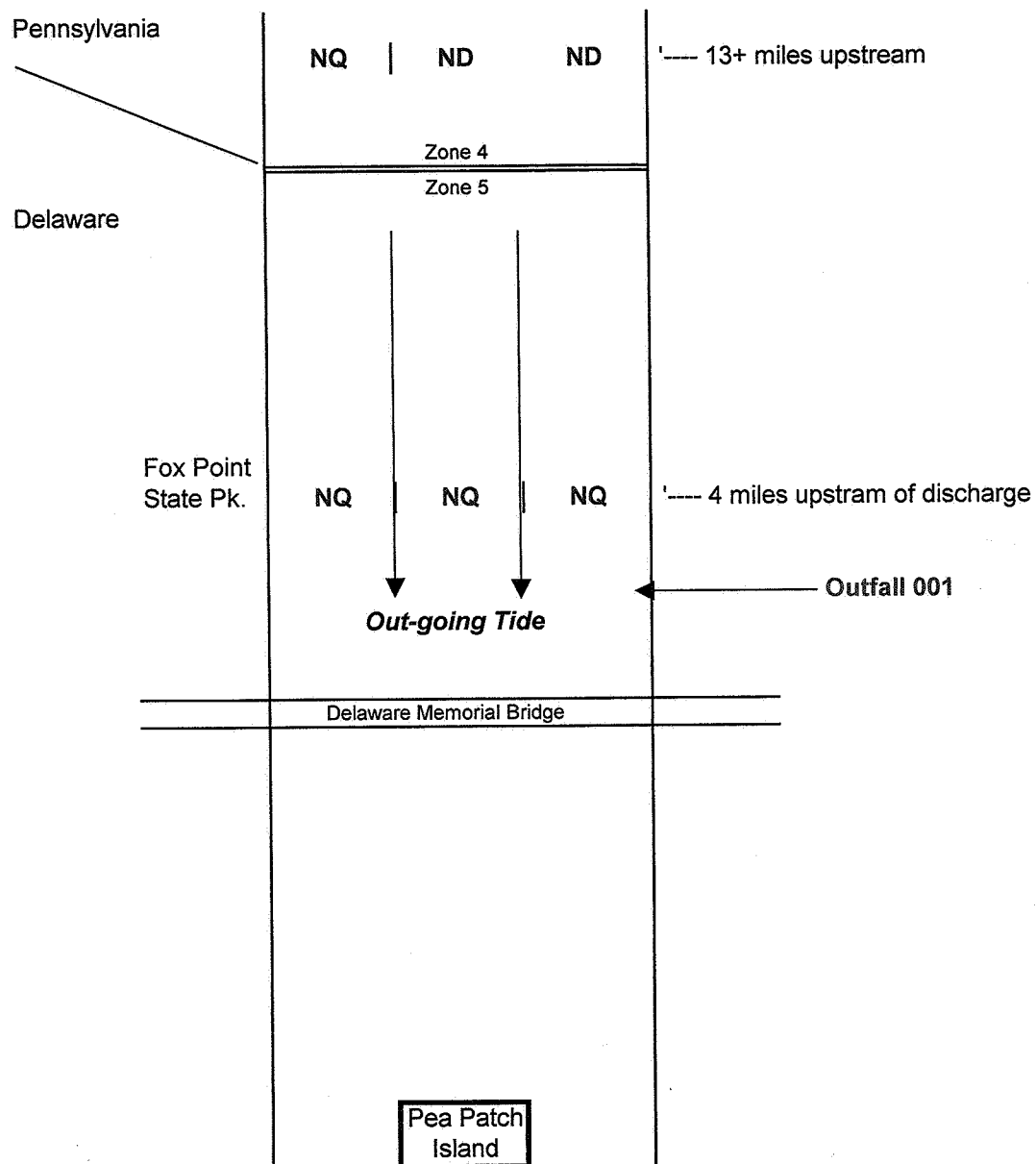


Figure D-5

Figure D-6

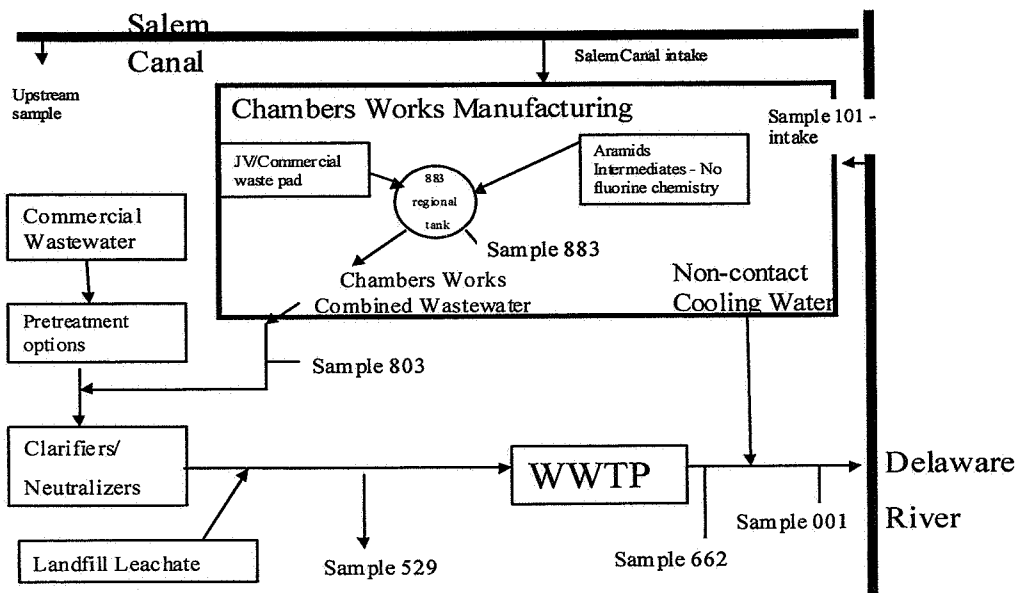


Table D-1

Chambers Works Groundwater Analytical Results

					PFOA	PFOS	PFOS (TRIAL)
					NG/L	NG/L	NG/L
					T	T	T
Sample			Sample				
Location	Aquifer	Well Type	Date	Duplicate #			
C08-M01B1	B	Monitoring Well	5/2/03	1	5230	ND	ND
C10-M01B1	B	Monitoring Well	5/2/03	1	1420	71.6	76.7
N04-M01B	B	Monitoring Well	6/19/03	1	191	ND	ND
O05-M01B	B	Monitoring Well	6/19/03	1	799	ND	ND
P06-M01B	B	Monitoring Well	6/19/03	1	1100	ND	ND
R08-M01B	B	Monitoring Well	6/19/03	1	815	NQ	NQ
H11	C and D	Interceptor Well	5/1/03	1	8720	ND	ND
K06	C and D	Interceptor Well	5/1/03	1	3040	ND	ND
M-14	C and D	Interceptor Well	5/1/03	1	46800	ND	ND
Q13-R01C	C	Interceptor Well	5/1/03	1	3200	ND	ND
Q13-R01D	D	Interceptor Well	5/1/03	1	354	ND	ND

Limit of Detection (LOD) for the procedure is approximately 0.010 ug/L

Limit of Quantification (LOQ) for the procedure is 0.050 ug/L

ND - Compound not detected

NQ - Compound detected at a level between LOD and LOQ. Result not quantifiable.

Table D-2

Delaware River Surface Water Results

				PFOA	PFOS	PFOS (TRIAL)
				NG/L	NG/L	NG/L
				T	T	T
Sample ID	Sample location	Date	Duplicate #			
DRO01	1	6/9/03	1	NQ	ND	ND
DRO02	2	6/9/03	1	386	ND	ND
DRO03	3	6/9/03	1	577	ND	ND
DRO04	4	6/9/03	1	NQ	ND	ND
DRO05	5	6/9/03	1	134	ND	ND
DRO06	6	6/9/03	1	297	ND	ND
DRO07	7	6/9/03	1	NQ	ND	ND
DRO08	8	6/9/03	1	101	ND	ND
DRO09	9	6/9/03	1	288	ND	ND
DRO10	10	6/9/03	1	50.7	ND	ND
DRO11	11	6/9/03	1	51.5	ND	ND
DRO12	12	6/9/03	1	200	ND	ND
DRI13	13	6/9/03	1	NQ	ND	ND
DRI14	14	6/9/03	1	NQ	ND	ND
DRI15	15	6/9/03	1	ND	ND	ND
DRI16	16	6/9/03	1	ND	ND	ND
DRI17	17	6/9/03	1	NQ	ND	ND
DRI18	18	6/9/03	1	NQ	ND	ND
DRI19	19	6/10/03	1	NQ	ND	ND
DRI20	20	6/10/03	1	NQ	NQ	NQ
DRI21	21	6/10/03	1	154	ND	ND
DRI22	22	6/10/03	1	56.7	NQ	NQ
DRI23	23	6/10/03	1	141	ND	ND
DRI24	24	6/10/03	1	238	ND	ND
DRO25	25	6/10/03	1	ND	NQ	ND
DRO26	26	6/10/03	1	NQ	NQ	NQ
DRO27	27	6/10/03	1	ND	NQ	ND
DRO28	28	6/10/03	1	ND	NQ	ND
DRO29	29	6/10/03	1	ND	ND	ND
DRO30	30	6/10/03	1	NQ	ND	ND

Limit of Detection (LOD) for the procedure is approximately 0.010 ug/L

Limit of Quantification (LOQ) for the procedure is 0.050 ug/L

ND - Compound not detected

NQ - Compound detected at a level between LOD and LOQ. Result not quantifiable.

Table D-3

Chambers Works Internal Samples and QA samples

				PFOA	PFOS	PFOS (TRIAL)
				NG/L	NG/L	NG/L
				T	T	T
Sample ID	Sample location	Date	Duplicate #			
AD1	Sample 001	4/18/03	1	193000	382	410
AD2	Sample 001	5/16/03	1	102000	252	254
AD3-JUNE10	Sample 001	6/11/03	1	76600	161	159
AD3-JUNE2-8	Sample 001	6/11/03	1	144000	121	114
AD3-JUNE9	Sample 001	6/10/03	1	97700	147	155
BD1FILTERED	Sample 662-filtered	4/18/03	1	475000	96.7	95.8
BD1UNFILTERED	Sample 662-unfiltered	4/18/03	1	474000	664	648
BD2FILTERED	Sample 662-filtered	5/16/03	1	191000	NQ	NQ
BD2UNFILTERED	Sample 662-unfiltered	5/16/03	1	279000	546	581
CKBX1	Sample 529	4/21/03	1	194000	2070	2090
CKBX2	Sample 529	5/15/03	1	26000	91.8	93.3
CLL2	C-landfill leachate	6/19/03	1	584000	117	108
SUMP 1,2,3,5-COMP	Landfill Leachate	6/3/04	1	128000		
DUOE1	Sample 803	4/21/03	1	331000	53.6	NQ
DUOE2	Sample 803	5/15/03	1	3390	ND	ND
EAEA1	Sample 101	4/16/03	1	3150	NQ	NQ
EAEA2	Sample 101	5/14/03	1	869	ND	ND
JTTE1	Sample 883	4/17/03	1	5330000	410	385
FSCF1	Salem Canal finished water	4/16/03	1	63	NQ	NQ
FSCF2	Salem Canal finished water	5/14/03	1	82.9	ND	ND
FSCR1	Salem Canal intake	4/16/03	1	59.4	ND	ND
FSCR2	Salem Canal intake	5/14/03	1	89.4	ND	ND
FSCU2	Salem Canal upstream	5/15/03	1	ND	ND	ND
GRE1	Del River background	4/18/03	1	NQ	NQ	NQ
GRE2	Del River background	5/14/03	1	NQ	ND	ND
GWEQBLNK1	Equipment blank	5/2/03	1	ND	ND	ND
EQBLNK1	Equipment blank	6/19/03	1	ND	ND	ND
FBLK1	field blank	6/3/04	1	<10		
FBLNK1	field blank	6/19/03	1	ND	ND	ND
HF1-2	field blank	4/21/03	1	ND	ND	ND
HF1	field blank	4/21/03	1	ND	ND	ND
HF2-803	field blank	5/15/03	1	ND	ND	ND
HF2-SALEM	field blank	5/15/03	1	NQ	ND	ND
HF3-AD3-JUNE10	field blank	6/11/03	1	ND	ND	ND
HF3-AD3-JUNE2-8	field blank	6/11/03	1	ND	ND	ND
HF3-BOAT-DAY1	field blank	6/9/03	1	ND	ND	ND
HF3-BOAT-DAY2	field blank	6/10/03	1	ND	ND	ND
HR1-2	equipment rinse	4/16/03	1	NQ	ND	ND
HR1	equipment rinse	4/16/03	1	NQ	ND	ND
HR2-803	equipment rinse	5/15/03	1	ND	ND	ND
HR2-SALEM	equipment rinse	5/14/03	1	NQ	ND	ND
HR3-AD3-JUNE10	equipment rinse	6/11/03	1	ND	ND	ND
HR3-AD3-JUNE2-8	equipment rinse	6/11/03	1	ND	ND	ND
HR3-BOAT-DAY1	equipment rinse	6/9/03	1	NQ	ND	ND
HR3-BOAT-DAY2	equipment rinse	6/10/03	1	ND	ND	ND
INTBLNK1	blank	5/1/03	1	ND	ND	ND

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Del River background sample collected 14 miles upstream of Chambers Works.