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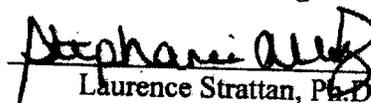
NEICVP0843E02

TECHNICAL REPORT

Dalton, Georgia, Water Supply Analyses
NEIC Project No.: VP0843

October 2010

Project Manager:

 for Laurence Strattan
Laurence Strattan, Ph.D.

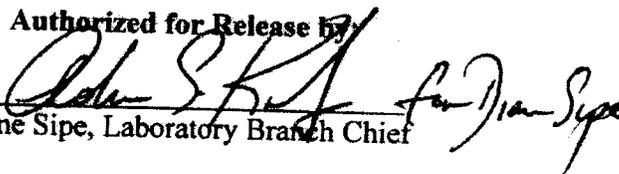
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EXECUTIVE SUMMARY

INTRODUCTION

The U.S. Environmental Protection Agency's (EPA) Region 4 Water Protection Division requested that EPA's National Enforcement Investigations Center (NEIC) analyze samples from water supply systems in northern Georgia for selected perfluorochemicals (PFCs). This report presents results of those analyses. Most of the sample locations are in the vicinity of Dalton, Georgia. Carpet manufacturers in the Dalton area use PFCs in fabric treatment, and discharge wastewater to the wastewater treatment plant.

All laboratory work presented in this report was conducted by NEIC personnel in accordance with the NEIC quality system. The analyses were performed by NEIC chemists Laurence Strattan, Daniel Hurlbut, and Stephanie Volz from February to July 2010. Chemists Jim Hoban, Linda Johnson, and Jon Beihoffer performed preliminary testing for this work.

SUMMARY OF ANALYTICAL RESULTS

NEIC personnel analyzed three containers per sample location of finished water and of raw water from the water supply systems. The analytical results for all samples analyzed are summarized in Table 1.

- Five PFC compounds, perfluoropentancarboxylate (PFPeA), perfluorobutanesulfonate (PFBS), perfluorooctancarboxylate (PFOA), perfluorooctanesulfonate (PFOS), and perfluorodecanocarboxylate (PFDA) were detected at concentrations above the compound's reporting limits.
- PFBS was the most frequently detected analyte in the samples analyzed.

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**Table 1. DALTON WATER SUPPLY ANALYTICAL RESULTS
Dalton, Georgia, Water Supply Analyses**

Location Name	Matrix	Sample Comments	Container Numbers	PFPeA (ng/L)	PFBS (ng/L)	PFOA (ng/L)	PFOS (ng/L)	PFDA (ng/L)
A1R	Surface Water	Athens-Clarke County Public Utilities JG Beacham Water Plant, North Oconee River	1 to 3					
A2R	Surface Water	Athens-Clarke County Public Utilities JG Beacham Water Plant, Middle Oconee River	5 to 7					
PB1	Preservative Blank		9 to 11			>RL in #9	>RL in #9	
TB1	Trip Blank Water		13 to 15					
C1R	Surface Water	Calhoun Utilities Mauldin Rd. Water Treatment Plant, Coosawatee River	17 to 19		135.0 SD = 8.89 n = 3			
C1F	Potable Water	Calhoun Utilities Mauldin Rd. Water Treatment Plant, Coosawatee River	21 to 23		64.5 SD = 2.87 n = 3			
C2R	Groundwater	Calhoun Utilities Brittney Dr. Water Treatment Plant, Groundwater	25 to 27					
C2F	Potable Water	Calhoun Utilities Brittney Dr. Water Treatment Plant, Groundwater	29 to 31					
D1R	Surface Water	Dalton Utilities Dalton water Works, VD Parrott Jr. Water Treatment Plant, Conasauga River	33 to 35					
D1F	Potable Water	Dalton Utilities Dalton water Works, VD Parrott Jr. Water Treatment Plant, Conasauga River	37 to 39					
D2R	Groundwater	Dalton Utilities Freeman Springs Rd. Water Treatment Plant, Groundwater	41 to 43					
D2F	Potable Water	Dalton Utilities Freeman Springs Rd. Water Treatment Plant, Groundwater	45 to 47					
D3R	Surface Water	Dalton Utilities Mill Creek Water Treatment Plant Membrane Filtration	49 to 51		24.5 SD = 1.54 n = 3			

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Dalton, Georgia, Water Supply Analyses**

Location Name	Matrix	Sample Comments	Container Numbers	PFPeA (ng/L)	PFBS (ng/L)	PFOA (ng/L)	PFOS (ng/L)	PFDA (ng/L)
D3F	Potable Water	Dalton Utilities Mill Creek Water Treatment Plant Membrane Filtration	53 to 55		21.8 SD = 0.52 n = 2			
R1R1	Surface Water	Rome Utilities Bruce Hammler-Blossom Hill Water Treatment Plant Oostanaula River	57 to 59	33.3 SD = 6.41 n = 3	52.8 SD = 5.27 n = 3			16.9 SD = 2.67 n = 2
R1F	Potable Water	Rome Utilities Bruce Hammler-Blossom Hill Water Treatment Plant Oostanaula River	61 to 63	38.1 SD = 4.63 n = 3	86.6 SD = 8.17 n = 3	78.4 SD = 29.6 n = 3	161 SD = 59.9 n = 3	17.9 SD = 1.69 n = 2
R1R2	Surface Water	Rome Utilities Etowah River	65 to 67					
Reporting Limit (RL, ng/L)				24	20	61	131	16
<p>Notes: An empty box indicates no analytes were detected above the reporting limit. Uncertainty is indicated by the standard deviation (SD) and number of results (n) averaged to reach the reported result. ng/L = nanograms per liter)</p>								