NEW YORK STATE OF OPPORTUNITY. Department of Health

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Governor

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Commissioner

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Executive Deputy Commissioner

August, 2016

NAME
ADDRESS

Dear NAME,

You are receiving this letter because you or a family member participated in the blood testing project for people who lived or worked in the Hoosick Falls area. Enclosed you will find an information packet that provides additional information about the blood testing results.

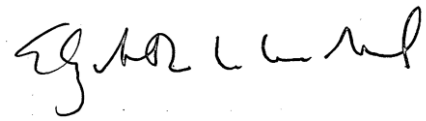
The information packet provides detailed summary information about PFOA blood test results for all 2,081 people who participated in the biomonitoring program between February and April 2016 by gender and age group. There are also separate tables showing results for participants served by the Village of Hoosick Falls water supply only, which are organized by gender, age and number of years served by the Village water supply.

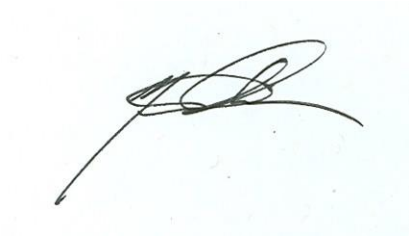
You can find more background about PFOA blood testing at http://www.health.ny.gov/hoosick. If you have any questions about the individual blood test result you have already received, the group results enclosed in this letter, or other questions about PFOA, the following options remain available to you:

- The New York State Department of Health has briefed local health care providers with general information about the PFOA biomonitoring program. Please do not hesitate to reach out to your health care provider to discuss any questions or concerns you have.
- If you wish to meet with NYSDOH in person, we will continue to be available at the HAYC3 Armory on Tuesdays and Thursdays (2 pm to 8 pm) and Saturdays (10 am to 2 pm).
- If you prefer to speak to NYSDOH by phone, you can reach us Monday through Friday from 9 am to 5 pm at 518-402-7950.
- Physicians with environmental exposure expertise from the Mount Sinai Hospital of New York are available by telephone at 1-866-265-6201 to help answer questions you may have.
- You can find more details and links to related studies at www.health.ny.gov/hoosick.

Again, please do not hesitate to reach out to NYSDOH with any questions or concerns.

Sincerely,





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PFOA Biomonitoring Preliminary Group-Level Results: Village of Hoosick Falls and Town of Hoosick Area Participants Information Sheet Update: August 2016

The Department of Health (DOH) is continuing its analysis of the blood testing results for people in the Hoosick Falls area. Below is additional information about groups of people who were tested between February and April 2016. Group results make it possible for individuals to compare their personal levels with those of other participants, while keeping individual results confidential.

This information sheet includes:

- Group results for all participants and for participants served by the Village of Hoosick Falls water supply, organized by gender and age groups. For participants served by the Village water supply, we have also included a table that shows results by number of years served by the Village of Hoosick Falls water supply.
- A table indicating the ranges of levels of PFOA blood test results for all participants and participants served by the Village water supply, along with the number of participants who had particular results within each range.

As studies have shown, when PFOA is present in drinking water, PFOA levels in blood are expected to be higher than levels in the general U.S. population. The biomonitoring results provide important information about exposure to PFOA and allow for comparisons to people living elsewhere. Individual results only provide exposure information and cannot be used to determine whether a person's current illness is due to PFOA or if a future illness is likely to result from PFOA.

Future studies of PFOA exposure by scientists, public health experts, and government agencies may provide more definitive information on health effects. Knowledge of an individual's exposure may be helpful in applying this information in the future.

The tables in this information sheet show two types of "middle" levels, the geometric mean and the 50th percentile.

- Geometric means are a way of calculating the middle level. They are used in science to prevent the highest and lowest values from distorting the average when the rest of the data are close together.
- The 50th percentile is the middle result among all the individual results: half of the people had levels higher and half had levels lower than the 50th percentile.

Five tables are provided in this information sheet update:

- **Table 1** provides information about PFOA results for the first 2,081 participants tested.
- **Table 2** provides information about PFOA levels in adults and children served by the Village water supply at the time of the blood tests.
- **Table 3** provides information for adults by number of years they were served by the Village water supply.
- **Table 4** identifies the ranges of levels of specific blood PFOA levels for all participants and participants served by the Village water supply and tested from February to April 2016.
- **Table 5** provides information about PFOA levels in other communities with PFOA in drinking water, people who worked with PFOA, and the general U.S. population.

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PFOA Group Results for First 2,081 Participants Tested

Table 1 provides information about PFOA results for the first 2,081 participants tested. This group includes people using Village water, people using private wells, people who work in the area, and former residents. PFOA levels ranged from non-detectable to greater than 500 micrograms per liter mcg/L. The table shows that the geometric mean blood PFOA level is 23.5 mcg/L and the 50th percentile blood PFOA level is 28.3 mcg/L for the total of 2,081 participants.

Table 1
PRELIMINARY FINDINGS:
PFOA blood test results for all Hoosick Falls area blood testing participants, adults and children by gender and age group:
tested from February through April 2016

	Number of participants	PFOA level in mcg/L	
		Geometric mean	50th percentile
All participants	2081	23.5	28.3
Adults			
All adults (age 18 and over)	1728	25.3	31.3
Adults by gender			
Females	963	22.3	28.7
Males	765	29.7	36.0
Adults by gender and age group			
Females 18-39	263	15.5	19.2
Females 40-59	401	22.1	31.1
Females 60 and older	299	31.0	45.1
Males 18-39	195	23.9	28.4
Males 40-59	299	31.4	40.3
Males 60 and older	271	32.4	42.4
Children			
Children (under age 18)	353	16.3	19.8
Children by gender			
Females	183	16.6	20.0
Males	170	16.1	18.8
Children by gender and age group			
Girls younger than 6	26	17.7	20.2
Girls 6 - 10	57	21.6	29.0
Girls 11 - 17	100	14.0	18.4
Boys younger than 6	35	26.0	34.5
Boys 6 - 10	53	13.5	14.2
Boys 11 - 17	82	14.8	18.5

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PFOA Group Results for Adults and Children Served By the Village Water Supply

Table 2 provides information about PFOA levels in adults and children served by the Village water supply at the time of the blood tests. Looking at this group of people separately may help us understand exposures that occurred primarily from drinking Village water. (Many people served by Village water were drinking bottled water at the time of the testing, so this group includes people with the most recent, but generally not current, exposures to Village water.) We expect PFOA blood levels for people using Village water to be higher than the levels for all participants (Table 1). This is because PFOA levels in the Village water supply were higher on average than what had been measured in most private wells in the area. The middle (geometric mean) PFOA level for this group of adult Village water users (55.0 mcg/L) is higher than that for all participants (23.5 mcg/L), shown in Table 1.

Table 2
PRELIMINARY FINDINGS:
PFOA blood test results for adults and children served by Village of Hoosick Falls public water, by gender and age group:
tested from February through April 2016

	Number of participants	PFOA level in mcg/L	
		Geometric mean	50th percentile
Adults			
All adults (age 18 and over)	960	55.0	64.2
Adults by gender			
Females	536	50.4	60.3
Males	424	61.5	72.6
Adults by gender and age group			
Females 18-39	145	26.7	29.6
Females 40-59	218	54.2	65.1
Females 60 and older	173	78.3	91.0
Males 18-39	112	36.1	40.5
Males 40-59	163	72.7	79.1
Males 60 and older	149	76.7	91.6
Children			
Children (under age 18)	212	28.8	33.8
Children by gender			
Females	109	28.6	35.1
Males	103	29.1	32.5
Children by gender and age group			
Girls younger than 6	13	34.7	41.2
Girls 6 - 10	35	33.6	39.5
Girls 11 - 17	61	25.1	27.9
Boys younger than 6	25	39.2	47.0
Boys 6 - 10	29	25.3	29.8
Boys 11 - 17	49	27.1	29.7

(More discussion of Table 2 results is provided on the next page.)

Group results for children served by Village water, shown in Table 2 on the previous page, show that PFOA levels tend to be higher for children in the younger age groups. This finding aligns with other studies of communities with PFOA in drinking water.

PFOA is thought to build up or concentrate more in younger children because of exposures occurring before birth and from breastfeeding or formula feeding if tap water is used. Other possible reasons for the higher levels in younger children are that small children may consume more water compared to their body size and may excrete PFOA more slowly than adults.

According to the national Centers for Disease Control and Prevention (CDC), "breastfeeding is still recommended despite the presence of chemical toxins" [such as PFOA] because "for the vast majority of women the benefits of breastfeeding appear to far outweigh the risks."

Among adults, older people tend to have higher levels because the exposure builds up in the body over time. Men tend to have higher levels than women because females lose blood during menstruation.

PFOA Group Results for Adults by Number of Years They Were Served By Village Water

Table 3 provides information for adults by number of years they were served by the Village water supply. The table below shows that PFOA levels are highest among the people who have lived in the Village for the longest time.

Table 3
PRELIMINARY FINDINGS:
PFOA blood test for adults
by number of years served by Village of Hoosick Falls public water:
tested from February through April 2016

	Number of participants	PFOA level in mcg/L	
		Geometric mean	50th percentile
Adults (age 18 and over)	960	55.0	64.2
Adults by length of residence in Village			
less than 10 years	264	29.7	35.6
10 to 24 years	325	60.5	66.6
25 to 40 years	198	72.2	84.4
more than 40 years	173	86.6	98.3

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Ranges of Specific Blood PFOA Levels for First 2,081 Participants Tested

Table 4 PRELIMINARY FINDINGS: Blood PFOA level ranges in micrograms per liter (mcg/L) for participants tested from February through April 2016										
ADULTS										
	Up to 25 mcg/L PFOA	Greater than 25 up to 50 mcg/L PFOA	Greater than 50 up to 75 mcg/L PFOA	Greater than 75 up to 100 mcg/L PFOA	Greater than 100 up to 200 mcg/L PFOA	Greater than 200 up to 300 mcg/L PFOA	Greater than 300 up to 400 mcg/L PFOA	Greater than 400 up to 500 mcg/L PFOA	Greater than 500 up to 1700* mcg/L PFOA	Greater than 1700 mcg/L PFOA
All adults (1728)	771	296	192	151	232	56	19	5	6	0
All adults served by Village water (960)	184	198	157	131	215	52	15	**	**	0

CHILDREN						
	Up to 25 mcg/L PFOA	Greater than 25 up to 50 mcg/L PFOA	Greater than 50 up to 75 mcg/L PFOA	Greater than 75 up to 100 mcg/L PFOA	Greater than 100 up to 300 mcg/L PFOA*	Greater than 300 mcg/L PFOA
All children (353)	205	97	32	8	11	0
All children served by Village water (212)	75	88	32	8	9	0

Table 4 identifies the ranges of levels of specific blood PFOA levels for all participants and participants served by the Village water supply and tested from February to April 2016.

The single asterisk [*] **in Table 4** means that most people's results fall in the lower part of the range; this is only used when the range presented is bigger than 100. When a double asterisk [**] is shown it means that the number of participants whose results fall in a given range is smaller than five. Numbers smaller than five are not provided to protect participants' confidentiality. It is the policy of the Department not to publicly release personal health information for individuals. This includes not releasing partial information that would enable an interested person to figure out the identity of another individual. Personal health information is protected from disclosure under the New York Personal Privacy Protection Act (Article 6 and 6-A of the Public Officers Law) and the Federal Health Insurance Portability and Accountability Act (HIPAA).

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PFOA Levels from Other Studies

Table 5 provides information that can be used to compare individual PFOA levels or group PFOA levels to levels in other communities with PFOA in drinking water, people who worked with PFOA, and the general U.S. population.

- Comparing PFOA levels for this project's participants (Table 1-4) with Table 5 shows that the middle PFOA level for Hoosick Falls area participants are within the range of levels shown for communities where there was contamination of drinking water with PFOA.
- The middle levels shown for all Hoosick Falls area participants (Table 1-3) are higher than the middle and 95th percentile levels in the general U.S. population.

Table 5
PFOA Levels in Blood from Other Studies:
Other communities with PFOA contamination in drinking water, people who worked with PFOA, and general U.S. population

PFOA RESULTS FOR COMPARISON	Results in mcg/L	
Other communities with PFOA in drinking water:	**Average level**	
Little Hocking, Ohio	228	N.A.
Lubeck, West Virginia	92	N.A.
Tuppers Plains, Ohio	42	N.A.
Mason County, West Virginia	16	N.A.
People who worked with PFOA:	**Average level**	
3M workers, Decatur, Alabama	1125	N.A.
DuPont workers, Parkersburg, West Virginia	410	N.A.
General U.S. population:	**Middle level (50th percentile)**	**High level (95th percentile)**
U.S. population age 12 and up	2.08	5.68
Males only	2.38	5.62
Females only	1.78	5.68
Young people age 12-19	1.74	3.59

NOTES:
mcg/L = micrograms per liter: A microgram per liter equals one part per billion, about one drop of liquid in an Olympic-size swimming pool.
Middle level (50th percentile): Half the people had a result below and half had a result above this level.
High level (95th percentile): 95 of every 100 people had results below this level.
Average level: The average is usually very similar to the middle level. In the published community studies, the average level is used.
N.A.: These levels are not available in the published studies about these communities.
References:

1. General U.S. population: National Health and Nutrition Examination Survey (NHANES), National Report on Human Exposure to Environmental Chemicals, U.S. Centers for Disease Control and Prevention (CDC), 2011-12.218.
2. Ohio/West Virginia communities: Paustenbach DJ, Panko JM, Scott PK et al (2007). A methodology for estimating human exposure to perfluorooctanoic acid (PFOA): a retrospective exposure assessment of a community (1951-2003). J Toxicol Environ Health 70:28-57.
3. Workers: Olsen GW (2015) "PFAS biomonitoring in higher exposed populations," in DeWitt JC (ed.) Toxicological effects of perfluoroalkyl and polyfluoroalkyl substances. Humana Press, Springer.

FOR MORE INFORMATION:

Email us: BEOE@health.ny.gov or visit our website at: http://www.health.ny.gov/hoosick.
Telephone: 518-402-7950; Address: NYS DOH, Center for Environmental Health, Bureau of Environmental and Occupational Epidemiology, Center for Environmental Health, Bureau of Environmental and Occupational Epidemiology, Corning Tower Rm 1203, Albany NY 12237