Message

From: Barnes, Greg [gbarnes@fayobserver.com]
Sent: 2/1/2018 3:38:51 PM
To: Strynar, Mark [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5a9910d5b38e471497bd875fd329a20a-Strynar, Mark]
Subject: Re: Reporter's inquiry -- 2007 research on PFC's

After I sent that email, I found Table 3 and worried that you must think I'm a moron. I appreciate your delicate response. I have a couple more follow-up questions.

*Just want to make absolutely sure that site 5 is below DuPont/Chemours.

* What exactly is C7 and C6, the chemicals that tested higher at site 5 than any other site? Are they PFOAs? and how do they differ from C8, which I understand is a PFOA produced by DuPont.

*Did any of the test results detect the presence of GenX or Nafion? (I understand that originally, GenX was a byproduct of DuPont's manufacture of vinyl ether and that DuPont had discharged GenX into the Cape Fear as early as 1980.)

*Does it seem odd that, in 2006 at least, C6 and C7 would have tested so high at DuPont, yet there were negligible findings near Wilmington? Can any conclusions be drawn from that?

On Thu, Feb 1, 2018 at 10:02 AM, Strynar, Mark <Strynar.Mark@epa.gov> wrote:

Hi Greg. See my responses below.

Mark

From: Barnes, Greg [mailto:gbarnes@fayobserver.com]
Sent: Tuesday, January 30, 2018 3:14 PM
To: Strynar, Mark <Strynar.Mark@epa.gov>
Subject: Re: Reporter's inquiry -- 2007 research on PFC's

Thanks for the reply, Mark

I read the study and was hoping you could help me interpret it.

Here's some of the questions I have:

*.The map shows that the fifth-highest test result came from near (below?) the DuPont plant. Do you have a breakdown of the results for PFOS, PFOA and C7 at that site? The locations in the map refer to the results in Table 3. Thus at that site PFOA was 58.6 ng/L, PFOS was 30 ng/L and C7 was 329 ng/L. Consequently 329 ng/L was the highest value for C7 in the study and it was from the Dupont effluent stream.

* Did that site test higher than any of the others for any of those three contaminants? If so, which contaminated tested higher, and what was the next closest to it? For C7 see above; it was highest at this site. In Table 3 in BOLD we show the highest for ewch analyte at these 10 sites. C6 was also highest at the Dupont effluent site.

*I was surprised to see that in 2006, when the samples were taken, the highest concentrations of PFCs were found way above the DuPont plant, and only one of the top 11 was below it. Did you determine sources for PFCs in the top 11 sites, what were they, and have they stopped putting PFC's in the river basin? (Fayetteville's utility says it has no GenX or PFOA in its water supply.) You are very perceptive. Site 1 is the Haw river just above Pittsboro. What you see is that PFAS are very common contaminants, and not just at the Chemors/Dupont facility. The sources we have thus far looked at in the upper reaches of the Haw river are wastewater treatment plants in Burlington and Graham, as well as bio-solids application from these same WWTPs. This is not a point discharge from a producer like at Chemours, rather a regional contamination from land application of bio-solids and or discharge from WWTP effluent to the Haw river. I am unsure what the sources are to the WWTP. Fayetteville should have no GenX in it water as it is above Chemours, however they do have PFOA in their water, simply below the HA value of 70 ng/L.

* I'm new in the reporting of GenX and other contaminants in the Cape Fear so please bear with me. In layman's terms, what is the major difference between PFOA and PFOS? (Everyone refers to PFOA as C8.) Did DuPont use/create both PFOA and PFOS? PFOA would essentially be the corollary to HFPO-DA in current chemicals. It was used as a polymer processing aid (PPA) to make Teflon. PFOS is a terminal breakdown product of many PFOS based chemicals. PFOA is referred to C8 as it has 8 carbons, 7 of which are fluorinated. Dupont made PFOA, 3M made PFOS and PFOA. 3M used to supply the PFOA to DuPont I am told until they ceased as a source. Then DuPont had to make their own PFOA.

* Can you pass this question on to your PR folks? The study ends with the following statement: **"While no drinking water measurements were**

made in this study, these findings indicate the potential for

exposures above this (New Jersey) threshold if PFOA is not effectively

removed by drinking water treatment plants using the Cape

Fear River and its tributaries as source water. The removal

of all the PFCs by water treatment processes should be

evaluated.....

The study's conclusion casts a dire prediction that has proved true 10 years later. What actions did the EPA take as a result of the study? After the apparent diseases and outrage spawned by DuPont's 30-year release of C8 into the Ohio River at Parkersburg, West Virginia, it seems logical that the EPA would have tested drinking water below the DuPont plant in North Carolina long before last year, especially after its own study sounded the alarm bells. Why wasn't the drinking water tested sooner? I will pass this on.

Mark

On Tue, Jan 30, 2018 at 11:43 AM, Strynar, Mark <Strynar.Mark@epa.gov> wrote:

Hi Greg,

I can only comment on the technical details of our work. Not on the response of the Agency to our work. If you want that info you will need to follow up with our PR group whom I can put you in touch with.

Some background:

Our first paper we published on PFAS in the Cape Fear river was Nakayama, et al., 2007 which reported on the occurrence of PFAS in the Cape fear watershed in surface water. This was NOT in finished drinking water. I am attaching the paper. We had no study before 2007 on PFAS in water. Second I would point out the compounds were not regulated chemicals at that time.

As this work was in surface water and not finished drinking water this was not immediately an issue. You should be aware that 6 of the analytes reported on in the Nakayama et al., 2007 paper were included in the US EPAs Unregulated Contaminant Monitoring Rule 3 study to look at occurrence of PFAS nationally in drinking water. This was done in 2013-2015 but was in the planning stages prior to 2013. https://www.epa.gov/dwucmr/third-unregulated-contaminant-monitoring-rule.

In January of 2009 there was a provisional health advisory for PFOA/PFOS in drinking water in response to some contaminated drinking water in Decatur, AL. Thus I would say there were ongoing regulatory efforts at this time. https://www.epa.gov/sites/production/files/2015-09/documents/pfoa-pfos-provisional.pdf

In addition it should not be assumed chemicals found in the source water are delivered in the finished drinking water. We now know much more on this topic relative to PFAS and the ability/or inability to remove effectively in finished drinking water.

Last in May 2016 the US EPA put out a Health Advisory for PFOS/PFOA at 70 ng/L in drinking water. https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos

Mark

From: Barnes, Greg [mailto:gbarnes@fayobserver.com]
Sent: Monday, January 29, 2018 3:37 PM
To: Strynar, Mark <Strynar.Mark@epa.gov>
Subject: Reporter's inquiry -- 2007 research on PFC's

Hi Mark,

This is Greg Barnes, senior reporter with The Fayetteville Observer. I came across your research -- Perfluorinated Compounds in the Cape Fear Drainage Basin in North Carolina -- and realized that it was dated 2007. There's also an indication that you had done an earlier study on the same topic. My question is what happened after your research was published? Did warning bells go off back then, as they did in June 2017, when the Wilmington paper broke the story about GenX? If not, why not? What did the EPA or DEQ do with your research? It appears that public drinking water was not sampled until around 2015, according to the research by Dr. Knappe and others. Why did it take that long for someone to deduce that if PFC's are in the river, they are likely to also be in drinking water?

Please help me understand why this wasn't a huge issue 10 or more years ago.

Thanks

Greg

(910) 486-3525

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