Message

From: Barnes, Greg [gbarnes@fayobserver.com]
Sent: 3/19/2018 1:06:37 PM
To: Strynar, Mark [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5a9910d5b38e471497bd875fd329a20a-Strynar, Mark]
Subject: Re: Please edit my work

So I've been doing this wrong?
Nanogram/liter ↔ Part per trillion Conversion

Top of Form

:ng/L

:ppt

Bottom of Form

On Mon, Mar 19, 2018 at 8:29 AM, Strynar, Mark <Strynar.Mark@epa.gov> wrote:

Greg,

I have some edits however here is the synopsis:

In our 2007 study Nakayama et al., we did not yet have out HRMS. That did not arrive in our lab until 2010.

The PFOA in the DuPont effluent was 58.6 parts per trillion (ng/L) which did not exceed the current EPA health advisory for finished drinking water of 70 ng/L. The unit we always use are parts per trillion which is the same as ng/L.

"Strynar said" I can't give you a quote unless this goes through PR. However the highest concentration found in the study was not C6 but C7 at 329 ng/L. In addition the C6 cannot be GenX it is a different chemical.

In 2007 we found C6 at 23 ng/L and in 2015 pub Strynar et al., it was found to be 434 ng/L though not shown in the paper. The units were wrong however the concentration was 19 times higher.

Let me know if any of this is unclear.

Mark

From: Barnes, Greg [mailto:gbarnes@fayobserver.com]
Sent: Thursday, March 15, 2018 3:29 PM
To: Strynar, Mark <Strynar.Mark@epa.gov>
Subject: Please edit my work

Hi Mark, this is an unedited piece from my series that I hope you could look at to verify its accuracy. I rarely do this, but it's such a complicated issue that I thought it would be in everyone's best interest if you laid eyes on it before publishing. thanks.
Greg

Mark Strynar had never heard of GenX -- it hadn't been named as C8's replacement yet -- when he and other researchers set out in the spring of 2006 to look for perfluorinated compounds in the Cape Fear River Basin. <We did not have our HRMS yet at this time>Equipped with an expensive new piece of technology -- a high resolution mass spectrometer that can detect chemicals at the smallest levels - the researchers took 100 samples at 80 locations in the basin looking to identify 10 of the compounds in surface waters.

Strynar, who works at an EPA lab in Research Triangle Park, and the other scientists published their findings in 2007. The study says they found the compounds at every location of the river sampled, including at DuPont's discharge.

According to the study, C8 was found at DuPont at a concentration of ~~58,600~~ 58.6 parts per trillion(ng/L) -- significantly lower than other areas of the river <this is not true the current EPA Health Advisory is 70 ng/L> but still nearly 419 times higher than the state's current health goal of 70 parts per billion. Of all 100 samples taken, two chemicals registered highest downstream from DuPont. Those chemicals -- identified in the study as C6 and C7 -- have shorter carbon-atom chains than C8.

~~Strynar said it is not known whether the C6 he found was GenX or a related compound that formed as a byproduct. GenX has a six carbon-atom chain.~~ None of the compounds found by the researchers was regulated at the time.

The study concluded that public water treatment systems in the basin should be evaluated to determine whether they were removing perfluorinated compounds from drinking water.

That didn't happen for another eight years.

But GenX and other so-called "emerging contaminants" had been on the EPA's radar long before then, compelling Strynar and other researchers to return to the Cape Fear River. In the summer of 2012, they took samples upstream of the DuPont plant and slightly downstream from it..

This time, Strynar's group found not only GenX but 11 other emerging contaminants, including one labeled as C5 for its five carbon-atom chain. <These are not presented in the paper and likely come from one of my slides. I have edited for accuracy> The C5, taken near a DuPont discharge, measured more than 43 ~~million~~ thousand parts per trillion. A compound labeled C6 -- the carbon-atom chain of GenX -- was found downstream of DuPont at 434~~,000~~ parts per trillion, nearly 19 times higher than the level researchers had found in 2006.

Strynar and others presented their findings at environmental conferences in 2012, 2014 and 2015, the latter being a North Carolina Water Environment Association seminar in Wilmington.

The group also published a report of its findings in 2015, detailing the GenX and other chemicals found in the river, including Nafion byproducts. The Intercept, an investigative online news organization, reported the group's findings in March 2016.

Nine months later, a group of researchers that included Strynar and Knappe published another report, this time detailing the GenX and other compounds they found in drinking water. The levels of some of those other compounds were considerably higher than the GenX.

The research team first found GenX and the other chemicals in drinking water in 2013, but the information wasn't published for another two years.

But even after it was published, the public did not become fully aware of the contamination until the Wilmington newspaper wrote about it on June 7, 2017, causing a public outcry and spurring state regulators into action.

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