2004 PFAS TESTING RESULTS..

These are the PFAS compounds found in the same gear samples that Professor Peaslee of Notre Dame, IN gave us in August 2017. Those samples were to confirm or deny there was 'fluorine' in the PPE. If there were no fluorine, there wold be no PFOA.

Please read careful Professor Peaslee's explanation on the testing and the amounts revealed.

January 29, 2018, Professor Graham Peaslee:

Hi Diane,

I have some LC-MS/MS results from an academic lab that I trust...they took the four pieces of clothing you sent me and took a small piece of each and rinsed it three times in heated methanol, and analyzed the rinse for the presence of 78 different PFAS. We know from previous textile work that this only will get some small fraction of what is adhered to the fabrics, but it will identify what is there. The results look something like this:

	Concentration (ng/g)							
Item	PFBA	PFHxA	PFHpA	PFOA	PFNA	PFDA	PFTeDA	FHUEA
Right Sleeve	<LOQ	14	<LOQ	<LOD	121	66	<LOD	<LOD
Left Under Arm	<LOQ	<LOD	13	116	74	57	<LOD	<LOD
Moisture barrier	<LOQ	<LOD	<LOD	41	<LOD	25	<LOD	<LOD
Tail	<LOQ	<LOD	14	<LOD	84	28	30	<LOD
Envelope	46	109	<LOD	<LOD	<LOD	<LOD	<LOD	40

A quick explanation...these are the 7 diffferent PFAS that showed up above level of detection (LOD), or above level of quantification (LOQ). The PFBA are C4 acids, the PFHxA are C6 acids, the PFHpA are C7 acids, the PFOA are C8 acids, the PFNA are C9 acids, and the PFDA are C10 acids, and the last one is a C11 acid.

The first four rows are your four fabric samples with concentrations in ppb, and the last sample is the brown envelope in which the samples were shipped, so it is possible it contained some short-chained PFAS that might have contaminated the right sleeve sample. If you want to send these to a commercial lab at some point, you will want to put them in individual ziploc bags.

In summary, there are C8, C9 and C10 PFAS found on each garment, but less on the moisture barrier. These are "long-chain" PFAS, and the majority seems to be heavier than PFOA, although there is certainly PFOA present. Combined with the PIGE results which showed high levels of F present, and a methanol rinse that only removes a small fraction for analysis I would guess there is plenty of these long-chain PFAS applied to these garment samples.

The lab also did a GC/MS test for volatile PFAS, and found only volatile PFAS on the Tail sample, but with fairly high concentrations: 6:2 FTOH (120 ng/g), 8:2 FTOH (3600 ng/g), and 10:2 FTOH (1300 ng/g) (with all other analytes below detection.)

The fact that both the GC and LC/MS data are indicating C8 and C10 in the samples helps confirm the long-chain observation. To my knowledge, this type of long-chain PFAS chemistry is not typically used in textiles these days...so it is unusual to see them in samples.

I trust these data, and you are can share these results with your colleagues - but if you want to go further with the data in a court of law or elsewhere, you would have to have a commercial lab confirm these results...and that is

pricey I know, but now you know what to look for at least. Armed with this information I bet you can start asking who used these long-chain PFAS commercially in fire-resistant clothing.

I wish you luck in your investigation. Sorry this took so long, but all the labs are very busy these days.

GRAHAM