

Senator Jeff Kessler, Senate President

Delegate Tim Miley, House Speaker

Senator John Unger, Chair, Joint Legislative Oversight Commission on State Water Resources – Interim

Delegate Mike Manypenny, Chair, Joint Legislative Oversight Commission on State Water Resources – Interim

Delegate Tim Manchin, Chair, House Judiciary Committee

Delegate Don Perdue, Chair, House Health and Human Resources Committee

February 7, 2014

Re: Initial results of in-home water testing

Dear Senators Kessler and Unger and Delegates Miley, Manypenny, Manchin, and Perdue:

Since January 18, Downstream Strategies has been conducting monitoring of taps in residences and businesses in West Virginia American Water's (WVAW's) service area. In this letter, we share our initial results. To the best of our knowledge, monitoring by WVAW and the State has not yet been conducted at people's taps, with the exception of schools. Taps represent the point of use for the vast majority of WVAW customers.

Here we present summary information using all results that we have received as of today, for clients that have specifically consented for us to release their results. We are reporting today on 10 samples taken between January 18 and January 27. These samples were collected between nine and 18 days after the spill was reported on January 9.

All 10 samples were taken from clients' cold water taps. All clients reported that they followed the recommended flushing procedures at least once, but most reported repeated flushing cycles in attempts to mitigate persistent odors. Downstream Strategies personnel collected these samples in accordance with our standard operating protocols while using appropriate quality assurance/quality control procedures. Samples were transferred using chains of custody to ALS, an analytical laboratory that is certified in West Virginia.

At each site, Downstream Strategies personnel purged the system via a cold water tap. Water was run for several minutes until the temperature stabilized, which signified that fresh water from WVAW's distribution system was running through the tap. Samples were then collected.

Because we used this protocol, we have limited potential bias from intentional or unintentional storage within private plumbing system components (including, for example, hot water tanks). ***Our results report water quality as delivered to homes from the WVAW distribution system. Additional samples would need to be collected to measure water quality from hot water tanks or other private plumbing system components.***

4-MCHM (the major ingredient in crude MCHM) was detected in four of 10 samples at levels ranging from 0.011 to 0.13 mg/L. These values are equivalent to 0.011 to 0.13 parts per million (ppm) or 11 to 130 parts per billion (ppb). In other words 4-MCHM was found in 40% of these samples. For the other six samples, 4-MCHM was not detected. The laboratory reporting limits for these non-detects ranged from 0.01 to 0.11 mg/L, but most were at or about 0.01 mg/L.

4-MCHM is only one ingredient of crude MCHM. Components of crude MCHM can also break down into other compounds. Clients opted to test, at their own extra expense, for methylcyclohexane (an anticipated break-down product of crude MCHM components) and methanol (an ingredient in crude MCHM) in eight of the 10 samples. Neither of these analytes were detected in any of these samples. The reporting limits for methylcyclohexane were 0.001 mg/L, except for one sample at 0.005 mg/L. The reporting limits for methanol were 1 mg/L, except for one sample at 5 mg/L.

Clients opted to test for formaldehyde and formic acid (two additional break-down products of crude MCHM components) in four of the 10 samples. Neither of these analytes were detected in any of these samples. The reporting limits for formaldehyde were 1 mg/L, except for one sample at 0.025 mg/L. The reporting limits for formic acid were all 25 mg/L.

Clients opted to test five of the 10 samples for tentatively identified compounds (TICs). TICs show estimated detections of chemicals that are not specifically tested for, but that may be qualitatively (not quantitatively) identified. The same compound was tentatively identified in three of the five samples tested for TICs: 3-chloro-cyclohexene. Follow-up testing would be required to confirm whether this compound can be directly linked to the Freedom Industries spill, if it occurs as a by-product of the chlorine disinfection process for supplied drinking water, or if it occurs due to some other source.

In summary:

- 4-MCHM, the major ingredient in crude MCHM, was detected in 40% of samples (four of 10) of WVAW water distributed to homes and businesses after flushing according to recommended procedures and after purging by Downstream Strategies personnel. These detections are not indicative of any potential pollution that may remain in plumbing systems (including, for example, hot water tanks).
- Methanol, an ingredient in crude MCHM, was not detected in any samples.
- No anticipated break-down products of crude MCHM were detected in any samples.
- 3-chloro-cyclohexene, a TIC, was identified in 60% of samples (three of five).

These results do not represent a random sample of WVAWC's customers. They simply show results for individuals and businesses that contracted with Downstream Strategies to perform independent, third-party sampling and that consented to the public release of their data. We continue to receive requests to sample tap water in the affected area, and we plan to update the information summarized in this letter as additional results become available.

I hope this information is helpful as you consider next steps in addressing this crisis. Please do not hesitate to contact us if we can be of assistance with further testing or advice—especially as you consider whether, and how, to test people's taps.

Sincerely,



Evan Hansen
President and Principal, Water Program



Marc Glass
Principal, Monitoring and Remediation Program