



**ERIE COUNTY WATER
AUTHORITY
INTEROFFICE
MEMORANDUM**

December 18, 2019

To: Jerome D. Schad, Chair
Mark S. Carney, Vice Chair
E. Thomas Jones, Treasurer

Cc: Terrence D. McCracken, Secretary of the Authority
Russell J. Stoll, Executive Director
Karen A. Prendergast, Chief Financial Officer
Leonard Kowalski, Executive Engineer
Margaret A. Murphy, Attorney

From: Sabrina Figler, Director of Water Quality

Subject: Outside Laboratory Third and Fourth Quarter, and Monthly Water Quality Testing

The following is an update to my last Staff Agenda dated July 11, 2019 regarding the use of outside laboratories to perform EPA and NYSDOH required monitoring. As stated previously, the Erie County Water Authority as an operator of a public water system, is required under the Safe Water Drinking Act to monitor and test its public water supply on a quarterly basis for the following: Trihalomethanes (“THM’s”) and Haloacetic Acids (“HAA’s”), collectively known as Disinfection By-Products (“DBP’s”). During each quarter, the Authority collects water samples from Erie County Dept. of Health (ECDOH) approved locations within the Authority service area, and then submits these samples to an independent laboratory certified to perform tests in conformity with EPA standards. In New York State, the Environmental Laboratory Approval Program, (“ELAP”), a unit within the State Department of Health, is responsible for certifying such laboratories. Once the Authority receives from the ELAP-approved laboratory an analysis for each sample, the Authority then submits the laboratory results to the Erie County Department of Health.

In addition, the Authority, on a monthly basis is required by the NYSDOH, to test for Specific Ultra Violet Absorbance (“SUVA”), which includes Total Organic Carbon (“TOC”), Dissolved Organic Carbon (“DOC”) and UV₂₅₄ data. SUVA samples are collected from each water treatment plants’ raw and delivered waters. These analyses are also performed by an ELAP certified laboratory. Once the test results are received, they are reported to the ECDOH.

Disinfection By-Products:

On August 28, 2019, my department submitted a set of 42 water samples from 21 sites to each Niagara Falls Water Board (NFWB) and Eurofins - Test America (Test America), both local ELAP-approved laboratories. Each set of samples were delivered directly to each of the laboratories by Water Quality personnel.

On September 10, 2019, NFWB submitted the THM and HAA report. The report and all results were found to be acceptable.

On September 12, 2019, Test America submitted the THM and HAA report. Upon review, I found 20 of 21 THM samples to be “out-of-hold”, meaning the samples were not analyzed within the time frame set forth by the EPA method.

This led to discrepancy in the interpretation of the method. The EPA method 524.2 for THM samples states the following for storage (taken directly from the method):

8.2 SAMPLE STORAGE

8.2.1 Store samples at # 4oC until analysis. The sample storage area must be free of organic solvent vapors and direct or intense light.

8.2.2 Analyze all samples within 14 days of collection. Samples not analyzed within this period must be discarded and replaced.

It has always been of my understanding, and of my chemist’s understanding, of 30 years of experience, the hold (storage) time expires on the 14th day at the time of sample collection. For an example, if a sample was collected August 27, 2019 @ 8:15 am, the sample must be analyzed no later than September 10, 2019 @ 8:15 am.

The ECDOH agreed with this interpretation and did not accept the sample results.

September 27, 2019, I stated to Test America in an email, that 20 of 21 samples were analyzed past their hold time and the ECDOH was not accepting the test results. Test America defended its position and stated its interpretation is the hold time ends at 23:59:59 of the 14th day.

On September 30, 2019, I contacted ELAP to ask for clarification on EPA method 524.2 hold time. Their response was ambiguous:

For EPA 524 methods, one is to analyze the sample within 14 days of collection.

If the sample is collected on October 1, 2019, then it is to be analyzed within 14 days of that date. The analysis is to be done no later than on the 15th.

In your example, a sample collected on August 27th in late morning is to be analyzed within 14 days of collection. It cannot be any later than late morning of September 10th.

On October 2, 2019 I attached ELAP's response in an email to Test America. In turn, they defended their position, did not agree with the DOH, and stated ELAP's description of "late morning" was "nebulous."

On November 14, 2019, I spoke with Test America's project manager over the telephone with regards to the upcoming 4th quarter sampling. She said she wanted to do whatever she could do to maintain a good professional relationship. She told me she'd make sure our samples were completed before the 14 day hold time. I agreed and we planned to have sample bottles shipped to us.

On November 20, Water Quality delivered 21 sets of DBP samples to each the NFWB and Test America. The DBP samples were packed in coolers and the contents of the coolers were checked by two water quality employees.

On November 22, Test America emailed to say we never packed one of the 21 samples sets. We resampled and delivered that day.

On December 4, 2019, NFWB submitted a complete set of acceptable sample results.

On December 9, 2019, Test America emailed to notify me two samples were not completed during the hold time.

On December 10, I was notified 4 more samples fell out of hold time due to "instrument issues and a back-log of samples."

As of December 17, 2019, I do not have a full report from Test America.

SUVA:

On a monthly basis, David Patton, Senior Production Engineer, sees the Senior Water Treatment Plant Operators (Sr. WTPO) of each water treatment plant collect and ship a raw and delivered water for TOC, DOC, and UV₂₅₄ analysis to Pace Analytical Laboratories.

November 4, 2019, the Sr. WTPO's collected and sent raw and delivered water SUVA samples to Pace Labs. Results were received November 27, 2019. As stated in Mr. Patton's letter to the ECDOH, the values reported for TOC and DOC were significantly higher and out of range as compared to historical values. And, Sturgeon Points delivered water values were higher than the incoming raw water. At VDW the results for both values were the same, all of which is atypical. These results were also inconsistent with ECWA's online instrumentation measurements.

On November 29, 2019, Mr. Patton spoke with the Pace Analytical project manager to find out the November 4th sample was not analyzed until November 26 due to the "equipment being broken." Also, the Quality Control had failed, and Pace submitted results despite the failure. In response, new sets of SUVA samples were collected and shipped November 29, to be reanalyzed. The same data was reported as the samples submitted November 4th. It is assumed Pace Labs were still having issues with their equipment. The ECDOH was given the results with a memo from Mr. Patton noting that the results are inaccurate and the reasons for the inaccuracies.

For the month of December, two sets of samples are being taken and being sent to two other local laboratories for analysis – as we do with DBP's.

Water Quality is working with Mr. Patton to obtain the instrumentation needed to perform this work in-house. In addition to the SUVA requirements, 25 TOC/DOC samples are being requested by the ECDOH to be performed quarterly starting in 2020. Approximate cost to bring this in-house is \$35,000.00. Please refer to PO #SB19-00039 also submitted for approval in the December 26, 2019 Board Meeting.

I am considering a complaint to ELAP regarding Pace Analytical and the failure of Quality Control and the release of results and, past incidences in the preceding 3 quarters of erroneous data, data not reported on time, and lost samples.

The analytical equipment to perform DBP and SUVA analysis plus PFOS, PFAS, Cyanotoxins, metals, including lead and copper, and volatile compounds will be arriving to the Water Quality Laboratory between the months of December 2019 to January 2020. I intend to be up and running and have ELAP approvals for all EPA methods by the end of second quarter, 2020. In doing so, we will have reliable, dependable, trustworthy data, results and reports that will be generated on time, and full sample control.

If you have any questions, please do not hesitate to contact me prior to the meeting. Otherwise, I will be present at the December 26th meeting to answer any questions. Thank you for your time.