

March 17, 2021

Basil Seggos, Commissioner
New York State Dept. of Environmental Conservation
625 Broadway
Albany, New York 12233

Dear Commissioner Seggos:

RE: Norlite Environmental Sampling Report New York State Department of Environmental Conservation
March 2021

We write today to express our appreciation to the New York Department of Environmental Conservation (DEC) for doing additional sampling related to PFAS and heavy metal emissions at the Norlite Hazardous Waste incinerator. Your sampling provides some good data that adds to our knowledge about the impact of the facility.

However, the study is neither comprehensive nor conclusive. And the [March 9, 2021 DEC news release](#) is unfortunately very misleading.

The sampling may have been good but the interpretation is not. Contrary to DEC's assertion, it does not prove there is "no clear link" between detected PFAS levels and Norlite's burning of toxic firefighting foam known as AFFF. We hope that DEC will be willing to continue to work with us to study the impact of emissions for Norlite.

We have several major concerns:

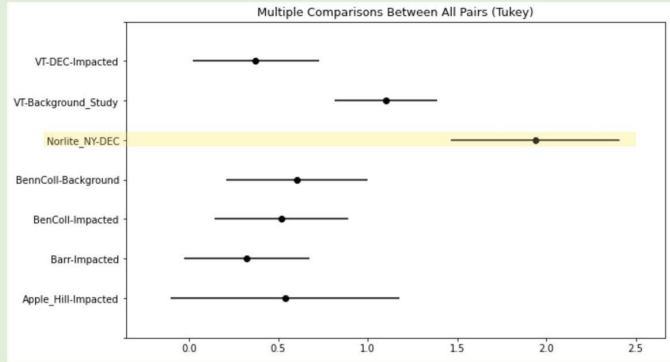
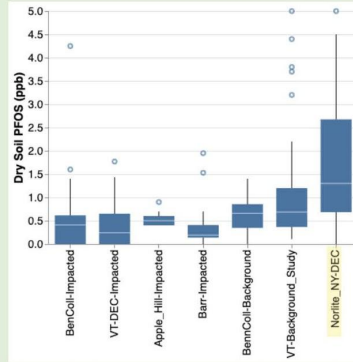
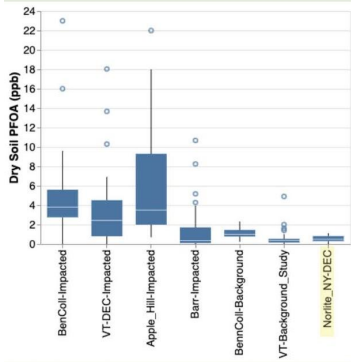
1. DEC's own data identify worrisome levels of contamination downwind of Norlite (including lead, mercury, arsenic, and PFOS);
2. It appears DEC neglected to conduct a Total Organic Carbon (TOC) analysis and adjustment of PFAS levels in soil samples;
3. This use of ranges for background levels masks the fact that PFOS levels appear to be significantly higher around Norlite;
4. The area of testing was too narrow to adequately capture emissions for Norlite's burning of AFFF.

While DEC concluded there was "no clearly discernible pattern of aerial deposition that could be traced back to Norlite's operations," **DEC's own data identifies elevated levels of contamination downwind of Norlite and in the immediate vicinity of Norlite.** DEC's own data measured higher levels of arsenic, mercury, and lead downwind of Norlite. These are all dangerous heavy metals known to be emitted by the incineration of toxic waste (page 4). Moreover, the TOP Assay analysis also identifies elevated levels of PFAS compounds downwind of Norlite (page 11). Both of these data points suggest it is not possible to rule out Norlite emissions as the source of contaminated soils in the neighborhoods around the incinerator.

Moreover, DEC's interpretation of the data is at odds with standard scientific practices for questions of airborne deposition of PFAS. For one, it appears **DEC neglected to conduct a Total Organic Carbon (TOC)** analysis and adjustment of PFAS levels in soil samples, a shortcoming that makes it hard to have full confidence in the DEC data. Organic matter is like a sponge that absorbs PFAS compounds in soil after airborne deposition -- the more organic matter in soil, the more PFAS that soil can retain. (PFAS seems to flush through sandy soils quickly while getting bound-up in rich topsoil). Without checking TOC in the soils, DEC took samples of (and adjusting the final results according to TOC, a standard scientific calculation), it is impossible to determine if DEC's PFAS results in soil are due to the organic composition of the soil or the airborne deposition of PFAS.

DEC also presents the crucial question of background soil PFOS levels by comparing the ranges within analytical results between their data and the Vermont DEC Background Study. This is not a statistically valid comparison, as the highest levels in both datasets are statistical outliers. A more comprehensive analysis would analyze the body of the datasets. The median value of soil PFOS found by NY-DEC near Norlite is 1.3 ppb, which is above both the median (0.685 ppb) and upper quartile (1.2 ppb) soil PFOS values from the VT-Background study. A Tukey HSD pairwise analysis of the datasets indicates **statistically significantly higher soil PFOS near Norlite than in all other datasets available from the region**, including the Vermont Background Study and samples collected from the Catskills and Adirondacks). PFOS is a major ingredient in AFFF, which Norlite burned despite EPA and DEC's voiced concern that incineration may not fully destroy the toxic PFAS compounds in AFFF.

DEC Data: Elevated Levels of PFOS Around Norlite



PFOA is not a major ingredient in AFFF. PFOA levels in soil around Norlite appear similar to regional background levels.

PFOS is a major ingredient in AFFF. PFOS levels in soil around Norlite appear much higher than regional background levels.

Additional statistical analysis (Tukey HSD pairwise) of DEC data demonstrate PFOS levels in soil around Norlite are anomalous to levels elsewhere in our region.

Data analysis by "Understanding PFOA" project at Bennington College

In addition, the DEC study sometimes **conflates "residential use guidance values" with evidence of emissions**. In the report, DEC seems largely concerned with PFAS levels that rise above what they deem acceptable for various uses (residential, farming, industrial, etc.)

If PFAS levels don't rise above those thresholds, they are taken as acceptable. This misses the point. The urgent question for residents is not what is an appropriate use of their contaminated soils but what exactly came out of the Norlite stacks when the facility burned millions of pounds of toxic fire-fighting foam? That question remains acutely unanswered, and DEC's defensive summary of this study may place DEC in worrisome company and pit the agency against the scientifically sound concerns of local residents.

We also note that **there are no testing methods to detect many of the idiosyncratic perfluorinated emissions** thought to occur when you attempt to burn AFFF. This is critical to acknowledge, as EPA and others have done. On this front, the results of the downwind TOP Assay are particularly interesting (page 11). DEC notes that PFAS levels around Norlite do not resemble other sites of known AFFF contamination in New York, like in Newburgh. But it's not clear this is the best comparison. AFFF spilled at Newburgh was never subjected to an aggregate kiln.

As is now well known, PFAS aerosols can travel a tremendous distance from emitting facilities. DEC's study approaches the wide-angle question of PFAS emissions from Norlite with a microscope. Almost all of the soil samples in DEC's study appear to be taken within about 1/2 a mile from Norlite. It's hard to discern comprehensive emission patterns when you are that zoomed in. (For example, in the Bennington College prior studies, distinct patterns of airborne deposition of PFAS emissions from the plastics plant in Bennington and

Hoosick Falls could not be discerned until it started sampling at the scale of about 250 square miles). [See: Schroeder, Bond, and Foley 2021]

Even with the flawed analysis of the DEC study, PFOS, PFNA, PFDS, and a number of toxic heavy metals appear to be much higher on the grounds of the Saratoga Sites Public Housing Complex than elsewhere in the region. Home to 70 families, the Saratoga Sites Public Housing Complex sits a mere 400 feet from the Norlite smokestacks.

These questionable interpretations, odd extrapolations, and limited analysis all caution against concluding too much. DEC's summary that this study finds "no clear link" between Norlite emissions and soil and water contamination in surrounding neighborhoods is premature at best. This study does not contain definitive nor comprehensive evidence that Norlite did not emit dangerous chemicals into the Capital District.

While we appreciate DEC contributing to the data we have about Norlite, the results are not conclusive. We ask that you work with us to map out a more scientifically rigorous approach to evaluating the emissions from the plant, including dust and mercury, and to evaluate how the health of local residents may have been impacted.

Sincerely,

Joe Ritchie
Executive Director
Saratoga Sites Against Norlite Emissions

Judith Enck
Former Region 2 EPA Administrator

David Bond
Associate Director of Center for the Advancement of Public Action, Bennington College

Christine Primomo and Barbara Heinzen
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NY Public Interest Research Group

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Green Education and Legal Fund

Francis Magai
People of Albany United for Safe Energy