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GOVERNMENT
ACCOUNTABILITY
PROJECT

Jalonne L. White-Newsome
White House Council on Environmental Quality
730 Jackson Place Northwest
Washington, D.C. 20503

Jonathan Black
White House Council on Environmental Quality
730 Jackson Place Northwest
Washington, D.C. 20503

Dear Senior Director White-Newsome and Senior Director Black,

The Government Accountability Project has been investigating concerns by whistleblowers, scientists and residents about gut-wrenching, ongoing public health tragedies from the Norfolk Southern accident in East Palestine. One of the local activists teaming up with us is Jami Wallace, whom you were kind enough to receive two weeks ago. We think it is essential that the President meet with residents who have the most honest insights on the accident's consequences, and what went wrong. To put it mildly, trust in the Environmental Protection Agency has been lost. That creates a real opportunity for presidential leadership, however, by making those in the community who have suffered feel heard.

The attached briefing packet illustrates what the President needs to know and may not hear from conventional sources. While there are many citizen representatives, the packet includes the lessons learned from community members we believe have the most to contribute. Government Accountability Project's Legal Director, Tom Devine, will follow through to see if you have any questions and if it will be possible for the citizen whistleblowers, we worked with, to have an audience with the President.

Thank you for considering,

Lesley Pacey
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Government Accountability Project
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CC: Brenda Mallory, Chair, White House Council on Environmental Quality

Jami Rae Wallace, President, Unity Council for East Palestine

President Joe Biden

1600 Pennsylvania Avenue, N.W.

Washington, DC 20500

Dear President Biden,

In advance of your trip to East Palestine, Ohio, the Government Accountability Project implores you to declare a federal Disaster Declaration for East Palestine and impacted surrounding communities in light of ongoing, persistent health threats since the February 3 derailment and Feb. 6 detonation of vinyl chloride and other toxic chemicals.

In July, Ohio Governor Mike DeWine requested that you issue a Major Presidential Disaster Declaration to ensure state and federal governments use all resources available to provide impacted residents with needed assistance. The people of East Palestine are still waiting.

Since the Government Accountability Project launched its investigation into the East Palestine, Ohio disaster and response, we have interviewed multiple resident witnesses, scientists, chemical industry insiders and whistleblowers whose experiences and expertise – and independent testing - sharply contrasts the narrative of Norfolk Southern and the Environmental Protection Agency.

Unfortunately, the EPA has refused to test residents' homes or lawns and gardens for dioxins and only sampled a fraction of the more than 100 other dangerous compounds that were formed by the burning. The EPA also has refused to acknowledge that more than 10 prestigious universities and prominent toxicologists and medical doctors have raised urgent concerns about the threat of dioxins and other dangerous compounds in East Palestine.

Early on and over the course of the last year, EPA declared the air, water, soil, and garden produce in East Palestine safe from contaminants spilled and ignited during the train derailment February 3 which resulted in the unnecessary detonation February 6 of five vinyl chloride train

cars. The decision, which may have violated the EPA's own open burn statutes¹, created a billowing black chemical plume so massive that it was visible from space.²

The disaster also unleashed a health crisis on the ground that largely has been ignored by the EPA and federal public health agencies.

The tragedy in East Palestine is unlike any chemical disaster this country has experienced in at least a generation. It is one of many such disasters, but it is unprecedented in the scope and the complexity of the chemicals involved. We believe the response to the disaster – although deemed a successful remediation by the EPA - sinks to a new low in terms of federal agency failures to protect the public from health harm.

Our investigation revealed that the EPA³, and other federal agencies including the Centers for Disease Control and the Federal Emergency Management Agency, not only have failed East Palestine and other communities impacted by the toxic fallout from the disaster but have reflected a series of dangerous decisions from the onset. Those mistakes sickened residents and released dioxins, the most toxic compounds known to man, as well as a plethora of new public health threats from a synergy of chemical combinations not fully understood by scientists.^{4 5}

The February 6 burn of the vinyl chloride cars made a toxic event exponentially more life threatening for residents of East Palestine and beyond, said Dr. George Thompson, a toxicologist

¹ Carolyn Hoskinson, " 'Open Burning and Open Detonation (OB/OD) of Waste Explosives Under the Resource Conservation and Recovery Act (ACRA). ' " United States Environmental Protection Agency. June 7, 2022. https://www.epa.gov/system/files/documents/2022-06/OBOD_Policy_Memo_signed_6.7.22_508.pdf. Washington, District of Columbia.

² Rick Schindler, " 'Airplane passenger photo shows size of smoke plume after train derailment in Ohio.' " WorldTimeToday. February 16, 2023. <https://worldtimetodays.com/airplane-passenger-photo-shows-size-of-smoke-plume-after-train-derailment-in-ohio/>. East Palestine, Ohio.

³ Lesley Pacey, " 'East Palestine Investigation: Dangerous decisions and disinformation,' " Government Accountability Project. February 3, 2024. <https://whistleblower.org/wp-content/uploads/2024/02/East-Palestine-GAP-Power-Point-revised.pdf>. East Palestine, Ohio.

⁴ WaterWarriorOne Fighting for Solutions & Truth, "Scott Smith Presentation: East Palestine OH EPA Deception and Updated Testing Results 2-3-23," YouTube, accessed February 13, 2024. <https://www.youtube.com/watch?v=ggzn55UYvKw>; Savage Joy Marie Mann, "Lesley Pacey | East Palestine Investigation: Dangerous Decisions and Disinformation | February 3, 2023," YouTube, accessed February 13, 2024. <https://www.youtube.com/watch?v=6cdDsynwd9M>

⁵ Chris D'Angelo, " 'A Roll of the Dice: The Unknown Threat of Exposure to Chemical Mixtures.' " Huffington Post. November 25, 2023. https://www.huffpost.com/entry/chemical-mixtures-toxicity-unknown-risk_n_655c9232e4b0662eb43b7c71. East Palestine, Ohio.

with 50 years' experience.⁶ He told Government Accountability Project that he came out of retirement to analyze the disaster's potential impact on human health. His findings keep him up at night.

"My independent expert analyses of the chemicals in the railcars, and their subsequent fire, following the train derailment in East Palestine Ohio identified over 100 highly toxic chemicals that have the potential to result in long-term medical injuries and environmental contamination," Thompson said. "Because of the downwind atmospheric dispersion of the smoke-plume hazardous products, the potential for farmland contamination and surface water pollution, the long-term human health effects from this accident may be worse than occurred from 9/11. The fire potentially released 3,000-6,000 tons of highly toxic soot, ash, and hazardous chemicals into a massive smoke and mushroom cloud that slowly dissipated hundreds of miles beyond the derailment area contaminating gardens, farmland, animals, and communities in perhaps 5, or more, different states."

A Series of Dangerous Decisions

Furthermore, a growing number of scientists and dioxin experts agree the disaster and the missteps that ensued will undoubtedly result in a legacy of chemically induced illness and premature death for years to come – a legacy that spans far beyond East Palestine borders.

A few of the most dangerous decisions include:

- lifting the evacuation too early with scant air quality data from mostly upwind monitoring stations that did not measure dioxins.
- testing only two homes for VOCs and SVOCs before the two-day evacuation was lifted.
- relying on the railroad's consultants to present "independent" testing data, in a clear conflict of interest to decide environmental and public health determinations.⁷
- waiting a month to consult with their own EPA dioxin experts.
- refusing to order Norfolk Southern to test for dioxins in East Palestine until March 3 – and then doing so only due to "community concerns."

⁶ George R. Thompson, Ph.D., " 'Independent Toxicology Expert: 'I Predict East Palestine OH Train Derailment Chemical Release Deaths May Become Worse Than 9/11.' " 2024.

⁷Roxana Saberi, " '[East Palestine, Ohio, residents still suffering health issues a year after derailment: 'We are all going to be statistics'](https://www.cbsnews.com/news/east-palestine-ohio-train-derailment-residents-health-issues-norfolk-southern/) " *CBS News*, February 6 2024, <https://www.cbsnews.com/news/east-palestine-ohio-train-derailment-residents-health-issues-norfolk-southern/>

- burying nearly 1,500 pages of documents on its own website that showed the EPA had already ordered Norfolk Southern to test for dioxins as part of its waste characterization plan as early as February 9, at the same time it was publicly contradicting its own data.⁸
- finding dioxin levels as early as February 17 at the derailment site that showed total dioxin levels as high as 19 times above the EPA action levels that trigger more testing – all the while telling the public that dioxin was not a concern in East Palestine⁹
- failing to create an environmental health monitoring program and free health care for impacted communities
- failing to address and study the extent of the dioxin contamination outside of East Palestine in towns and communities impacted by the toxic plume
- delaying a National Disaster Declaration that could provide residents with the financial means to permanently relocate out of harm's way

Government Accountability Project has become convinced that only your leadership can end an environmental and human health coverup by federal agencies who have protected the financial interests of Norfolk Southern, rather than the public.

This is not a legacy you want for the Biden presidency.

The EPA's lackluster response to the disaster has baffled dioxin experts and toxicologists, because it has downplayed the need for dioxin testing and relied almost exclusively on Norfolk Southern contractors with checkered pasts and indefensible testing methodologies to declare the area safe.¹⁰

The testing program also targeted too few chemicals and the wrong chemicals, said East Palestine resident Aaron Bragg who has professional expertise. He recounted that at a public meeting EPA's On-Scene Coordinator Mark Durno, the EPA Region 5 Homeland Security Coordinator, said the testing only checked for eight chemicals. But Bragg has pointed to scientific estimates of 100 toxic chemicals released during the spill that seriously threaten public health, and many new combinations whose levels also needed to be identified. The EPA's small list included irrelevant chemicals that weren't on the railroad cars, he told Government Accountability Project. Perhaps most significant, he said, was the EPA's refusal to do the testing necessary for Superfund status and relief. That requires indoor air monitoring samples, which EPA refused to conduct after the initial samples from his home several other homes, Bragg said.

[2] ["Over 1,500 Pages of East Palestine Dioxin-Related Testing Found Buried on EPA Website - Government Accountability Project, Government Accountability Project, February 1 2024, whistleblower.org/press-release/over-1500-pages-of-east-palestine-dioxin-related-testing-found-buried-on-epa-website/ \(](https://whistleblower.org/press-release/over-1500-pages-of-east-palestine-dioxin-related-testing-found-buried-on-epa-website/)

["EPA Continues Denial of Elevated Dioxin Levels in East Palestine, Ohio" Government Accountability Project, February 9 2024, https://whistleblower.org/press-release/epa-continues-denial-of-elevated-dioxin-levels-in-east-palestine-ohio/](https://whistleblower.org/press-release/epa-continues-denial-of-elevated-dioxin-levels-in-east-palestine-ohio/)

¹⁰ Sharon Lerner, ["Norfolk Southern hired the firm testing air in East Palestine homes. Experts warn the checks are lacking | Ohio train derailment," The Guardian, March 11 2023, https://www.theguardian.com/us-news/2023/mar/11/norfolk-southern-air-testing-cteh-ohio-train-derailment](https://www.theguardian.com/us-news/2023/mar/11/norfolk-southern-air-testing-cteh-ohio-train-derailment)

Despite the inadequacies of the monitoring equipment, which the EPA later said was not sensitive enough to detect relevant amounts of carcinogenic chemicals such as butyl acrylate, people were given the all-clear to return home – and the EPA refused to retest their homes.¹¹ Residents also told our investigators that the Center for Toxicology and Environment Health, (CTEH, the contractor that Norfolk Southern hired and which EPA deferred to on the indoor air quality testing) incorrectly calibrated the instruments in the contaminated air outside their homes. CTEH also focused on volatile organic compounds and semi volatile organic compounds that dissipate quickly in the environment while not sampling for dioxin.

Nevertheless, EPA declared every home tested by CTEH safe for occupancy.

“They should have tested correctly and applied the precautionary principle,” Dr. Andrew Whelton, a professor of civil and environmental engineering at Purdue University recently told NPR, referring to the ecological tenet espoused by the naturalist Rachel Carson, which advocated proof that a product or environment was safe before allowing people to be exposed to it. Whelton¹² is conducting environmental studies in East Palestine. EPA, which relied on CTEH for in-home testing, has refused to order or perform its own in-home testing for dioxin or take into account the synergy of chemicals impacting residents in and around East Palestine. Dr. Stephen Lester, an expert dioxin toxicologist and science director at Center for Health, Environment & Justice (CHEJ), told residents February 3, 2024 at a train derailment commemorative event in nearby Columbiana, Ohio.¹³

“That's what I would want EPA to tell you is that as scientists, we don't understand what is happening to people exposed to the kind of mixtures you've been exposed to,” Dr. Lester said in his presentation. “What does EPA do instead? It uses antiquated risk valuations that are based on exposure to a single chemical, that don't take into account interactions, that don't take into account cumulative effects or combined effects. So, they're making a judgment on it, using an approach that's completely out of touch and irrelevant for what's happened here. And it's really not just disingenuous but borders on fraud for them to say to you that it's okay, that our analysis is sufficient, and... you shouldn't be seeing any health problems in this community. Scientifically, there's no basis for that. That's not just an opinion. It's a narrative that they've been trying to sell to you from day one. And there's no science behind that.”

¹¹ Reid Frazier, “[Scientist questions EPA's handling of East Palestine cleanup: ‘They Should Have Tested Correctly,’](https://stateimpact.npr.org/pennsylvania/2024/01/29/scientist-questions-epas-handling-of-east-palestine-cleanup-they-should-have-tested-correctly/) “ *National Public Radio*, January 29 2024, <https://stateimpact.npr.org/pennsylvania/2024/01/29/scientist-questions-epas-handling-of-east-palestine-cleanup-they-should-have-tested-correctly/>

¹²Andrew Whelton, letter to Senator J.D. Vance, Senator Sherrod Brown, and Congressman Bill Johnson, June 17 2023, <https://acrobat.adobe.com/id/urn:aaid:sc:VA6C2:4b2e776d-2186-42a0-a5e2-f6c876aacd79>

¹³Savage Joy Marie Mann, “East Palestine, Ohio – Stephen Lester, UC San Diego, Rick Tsai,” Youtube, last modified February 5 2024, https://www.youtube.com/live/WDQx6xWf2Jo?si=2APkcagOD98f_Nod

Dr. Lester in October criticized the dioxin soil sampling plan and results produced by Norfolk Southern contractor Arcadis.¹⁴ “[Assessing] as an independent scientist, ... EPA[’s] data is not worth the paper it’s written on,” he said.

Federal Agency Malfeasance Harms Residents

EPA Administrator Micheal Regan set the tone for denial of health harm on February 21, 2023 when he toasted a glass of tap water in East Palestine with Ohio Gov. Mike DeWine and Congressman Bill Johnson.¹⁵ EPA Region 5 Administrator Debra Shore and EPA On-Scene Coordinator Mark Durno have continued the “nothing to see here” narrative by gaslighting residents suffering with health symptoms and who have been diagnosed with elevated levels of train derailment chemicals in their blood.

“Although the EPA, state and local governments immediately claimed we were not exposed to hazardous chemicals, that is not true,” said East Palestine resident Eric Cozza in a signed statement. “After the accident residents could not learn the manifest contents listing hazardous materials on the train, and we were told there only had been two chemicals on board. Later we were told that ten chemicals were released after the contents were burned. Later the EPA estimated 20. There has been no reliable information for the public to know the nature and extent of how we’ve been contaminated. From personal experience, though, I know the reassurances are false. For example, eight months after the accident, tests confirmed the presence of formaldehyde in my back yard. But two weeks earlier EPA representative Mark Durno had said the tests did not detect levels, only components. The EPA said it was a mere concern rather than hazard because the levels were too low. He advised me in an email to just spread and rake the soil.”¹⁶

Meanwhile the creeks remain contaminated with chemicals from the derailment, chemicals that were re-volatilized into the air when EPA used aerators in the creeks in a possible violation of the Clean Air Act.¹⁷

The government and Norfolk Southern sustained the hazard through recontamination East Palestine resident Aaron Bragg told Government Accountability Project. For example, they funneled the chemicals through sewer lines that fed right into Sulfur Run Creek, which is part of the Ohio River watershed, he said. Bragg added that Norfolk Southern used aerators to suck contaminants out of the supposedly clean water in the creek and then release it back into the

¹⁴Jami Wallace, “Re: EPA’s Dioxin Testing in East Palestine, OH Conducted March – April, 2023” *People’s Action Institute*, October 17 2023, <https://acrobat.adobe.com/id/urn:aaid:sc:VA6C2:8c989fe7-ea5d-4553-a96b-a22b2d7bca75>

¹⁵ Megan Henry, “U.S. EPA Administrator Michael Regan going back to East Palestine again Tuesday,” *The Columbus Dispatch*, February 27 2023, <https://www.yahoo.com/news/u-epa-administrator-michael-regan-005645179.html>

¹⁶ Eric Cozza, affidavit to Tom Devine, February 4 2024, [Eric Cozza signed affidavit.pdf](#)

¹⁷ Reid Frazier, “The stream flowing under homes in East Palestine is still polluted” *90.5 WESA*, February 4 2024, <https://www.wesa.fm/environment-energy/2024-02-04/east-palestine-derailment-stream-pollution>

air, like a supercharged poison fan. The chemicals were being blown into areas in town around commercial and government buildings. After he and others protested at a public meeting, the aerators were moved away from downtown, but they were relocated by the city's park where families play with their children, Bragg said.

Dr. Lester said the aerators compounded the health threats.

“When I was here that first couple of weeks there, I couldn't believe what was going on here... aerators in the middle of the town and in the neighborhoods taking chemicals and pumping them out of the creeks and putting them into the air and people are breathing this as they are walking around town,” he said. “The workers who are working on it are not wearing any protective gear. I mean, again, this is unheard of. This just doesn't happen, but yet it was happening here because EPA turned their back and let the company (Norfolk Southern) do whatever it wanted.”

Residents Sick, Facing Uncertain Future

Our investigation has uncovered that residents in and near East Palestine continue to suffer horrific health symptoms that are triggered again whenever they return to their homes in East Palestine. These are the citizens the President must meet and listen to, if he is committed to ending the coverup and suffering it sustains.

After President Biden appointed James McPherson from the Federal Emergency Management Agency to assess the unmet needs of the community, only one resident received return correspondence from the man the community describes as a “ghost.” They are still waiting for an overdue report from FEMA that many were hoping would lead to a disaster declaration.

Meanwhile, many remain in East Palestine and nearby affected communities due to financial constraints or they remain temporarily displaced with no way to afford a permanent relocation. Ashley McCollum, who has been living in a hotel since the derailment with her family, is currently facing a housing crisis as Norfolk Southern ended its temporary relocation assistance funding for the vast majority of residents unless they waive all legal rights. McCollum recently told ABC News that she would rather be homeless than return to East Palestine.¹⁸

McCollum told Government Accountability Project that she and her family have experienced several new symptoms since the derailment including rashes, numbness, tingling in the mouth, ear pain, tooth pain, blood in the ears, hair loss and Parkinson's like hand tremors.

Multiple residents have told the Government Accountability Project that they have suffered from and continue to experience nose bleeds, respiratory distress, persistent cough, burning eyes,

¹⁸ [“Southern Illinois Now: East Palestine Residents Still Displaced, Suffering 1 Year After Toxic Train Derailment - Government Accountability Project” *Government Accountability Project*, February 5 2024, <https://www.whistleblower.org/in-the-news/southern-illinois-now-east-palestine-residents-still-displaced-suffering-1-year-after-toxic-train-derailment/>](https://www.whistleblower.org/in-the-news/southern-illinois-now-east-palestine-residents-still-displaced-suffering-1-year-after-toxic-train-derailment/)

rashes, headaches, dizziness, mouth sores, total hair loss, gastrointestinal issues, skin lesions, menstrual irregularities, seizures, strokes, new cardiac conditions, and new tumors. It's not uncommon for residents to report that their teeth are decaying at such a rapid pace that dentists have had to remove all their teeth. One resident told us last week that she is having two new lung masses biopsied. Other residents have reported mysterious deaths following the disaster. Response workers, railroad contractors, and even CDC workers conducting door-to-door health surveys also have fallen ill.¹⁹

Courtney Miller, a 35-year-old mother of two who lived 100 yards from the wreckage, sent her children to stay with family after the derailment. However, she stayed back to help deliver bottled water to neighbors and 10 hours in Sulfur Run, the contaminated creek behind her home, without any PPE, collecting water samples and meeting with media. Dixons, benzene, and other contaminants were found in the creek. Soon afterward, her face broke out with chloracne, a sign of dioxin exposure.

Ms. Miller recounted to Government Accountability Project that her thyroid and liver functioning are off the charts. She has constant fatigue, muscle aches, and aching bones that feel like arthritis. Sometimes her arms atrophy, and her hands curve inward involuntarily, and she must force them to uncurl. Her headaches are awful, like migraines that don't end. She recalls waking up with nose bleeds gushing in the middle of the night. She has had gastrointestinal issues, nausea, and has not been able to sleep properly. Her anxiety attacks and PTSD have seemed endless. She told her doctor that she is a walking medical nightmare.



Miller's chloracne with blisters and cysts across her face after spending 10 hours in the creeks.

Courtesy: Courtney Miller

East Palestine resident Tamara Freeze told Government Accountability Project that in addition to a sore throat, runny eyes, sinus pressure and rashes that broke out when she would shower, her symptoms worsened over time until she started having joint pains throughout her body. It reached the point where the pain was too severe to hold a pen, although her family has no history of arthritis. So much of her hair fell out that she must wear a scarf to cover her head.

¹⁹ Max Filby, "7 CDC workers fell ill investigating train derailment in East Palestine, Ohio," *The Columbus Dispatch*, April 3 2023, <https://usatoday.com/story/news/nation/2023/04/03/cdc-workers-sick-east-palestine-ohio-train-derailment/11593380002/> (u

Dr. Rick Tsai, a local chiropractor, became so frustrated with EPA's response in East Palestine that he started walking the creeks to document the contamination and dead animals. He became known as the "Creek Ranger," and he posted his videos on social media. Dr. Tsai, who is now running for congress due to his disillusionment with federal, state and local leaders, saw many sick patients as well as experienced his own bouts of the same symptoms.

He said common ailments included diarrhea, sore throats, irritation, bloody noses, and rashes. He has many photos of adults and children with chemical rashes that erupted after the derailment. The second time EPA's aerators in the creek sprayed him, his teeth hurt, and he had nerve pain in his mouth that felt like "zingers." Once after walking creeks without personal protective equipment, a teacup size welt formed on his back.

East Palestine resident Laurie Harmon told Government Accountability Project that she has suffered a litany of health symptoms since the derailment, including severe rashes diagnosed as due to "chemical exposure." Over the months, her rashes turned into full-blown second and third-degree burns, and often they became boils. She also developed other medical issues that never existed prior to the train derailment including bronchitis, lesions on her spine, lesions and scars on her lungs, neurological problems, bloody nose, bloody urine, and new rashes/burns every time she goes outdoors with her skin exposed. Additionally, since February, Harmon has gone to three different neurologists who confirmed that her diagnoses after the accident were unrelated to any previous conditions.

She also recounted broken promises about the resulting financial burden. Dating back to February 2023, Norfolk Southern asserted they were going to "make things right" by helping cover victims' medical bills for any medical-related injuries that were related to the train derailment. But Ms. Harmon has accumulated over \$750,000 in medical bills that Norfolk Southern has failed to reimburse.

Independent Testing Shows Dioxin Hot Spots in East Palestine

Lori and Wayne O'Connell, who live three miles from the derailment site in East Palestine, suffered from metallic taste in their mouths, burning watery eyes, tingling lips and intense muscle pain before Wayne was diagnosed with breast cancer 18 weeks after the derailment. The couple tested positive for vinyl chloride in their blood and urine and Lori tested positive for benzene. Their young adult daughter tested positive for vinyl chloride and she has bouts of vomiting almost daily. Independent scientist Scott Smith,²⁰ whom we represent as a citizen whistleblower, tested the O'Connell's furnace filters, and found dioxin levels 1,200 percent higher than baseline.²¹ The independent testing expert and CEO of U.S. BioSolutions, LLC, reports that he has found levels of dioxins and related furans in East Palestine's air, water, soil, and in the

²⁰ Lost Pirate Productions, "[The Guy in the Blue Shirt,](https://www.youtube.com/watch?v=DdLdGuDN1ys)" Youtube, accessed February 13, 2024

²¹ [Alex Presha, Jon Schlosberg, Malka Abramoff, and Ivan Pereira, "East Palestine residents still displaced, suffering 1 year after toxic train derailment," ABC News, February 2, 2024, https://abcnews.go.com/US/east-palestine-residents-displaced-suffering-1-year-after/story?id=106863658](https://abcnews.go.com/US/east-palestine-residents-displaced-suffering-1-year-after/story?id=106863658)

homes of its residents that are notably higher than baseline samples common to unaffected communities. While furnace filter testing in East Palestine may not be perfect and is not standardized like soil, sediment, and water testing, it is preferred over taking lung biopsies. Furnace filter testing can identify mixtures of chemicals, from dioxins to many other contaminants, that people may have directly inhaled due to the Norfolk Southern train derailment and subsequent, intentional burn. Smith's data helped sway The Government Accountability Project to investigate the cleanup and testing efforts in East Palestine.²² Over the last twelve months, Scott Smith has taken a total of 63 soils samples through February 11, 2024, with results that have come back from the independent laboratory, Eurofins Lancaster Laboratories.²³

This testing was done at the request of the community when the EPA and Norfolk Southern refused. Hence, this was targeted testing with people that were reporting health symptoms. Arcadis, a Norfolk Southern and EPA contractor, set the Regional Screening Level ("RSL" and sometimes referred to as Residential Screening Level) at 4.8 ppt (parts per trillion) Dioxin TEQ (Toxic Equivalency). Forty-six percent of the results show a Dioxin TEQ above 4.8 ppt and require follow up testing per the recommendation of Arcadis.

Furthermore, Smith and his scientific team have compared these testing results to commonly referred to background Dioxin TEQ values of 6 ppt for residential non-impacted communities, and Dioxin TEQ values of 8 ppt for urban non-impacted communities. Forty percent of the results exceeded 6 ppt and 33 % exceed 8 ppt.

Smith recently uncovered elevated dioxin in garden produce, which should have triggered the EPA's duty to warn or least conduct additional testing. While his garden crop testing is limited at this point, Smith found garlic from gardens or residents of East Palestine with Dioxin TEQ's as high as 440 ppt, or 54,221% higher than the control group. There again, the precautionary principle should be applied due to the Smith's testing showing extremely elevated dioxin levels in garden produce. It is simply not responsible for the EPA to rely on conjecture or models for the safety and well-being of the community.

The EPA dismissed Smith's results as well as Smith's soil samples in August 2023 on Taggart Street near ground zero of the derailment that showed soil TEQ dioxin and furan levels in excess of 600,000 ppt,²⁴ which is six times higher than the dioxin levels in Times Beach, Missouri, that

²² " [Government Accountability Project launches investigation into East Palestine disaster response, files FOIA lawsuit against EPA, provides citizen whistleblower protection for independent scientist Scott Smith,"](https://whistleblower.org/press-release/government-accountability-project-launches-investigation-into-east-palestine-disaster-response-files-foia-lawsuit-against-epa-provides-citizen-whistleblower-protection-for-independent-scientist-scott-smith/) Government Accountability Project, September 21 2023, <https://whistleblower.org/press-release/government-accountability-project-launches-investigation-into-east-palestine-disaster-response-files-foia-lawsuit-against-epa-provides-citizen-whistleblower-protection-for-independent-scientist-scot/>

²³ Lesley Pacey, private document, February 12 2024, <https://acrobat.adobe.com/id/urn:aaid:sc:va6c2:1c2de75b-3edc-46ab-9e4a-a928200a8722>

²⁴ [1] Lesley Pacey, private document, [Screenshot of Smith soil dioxin sampling results without locations .png](#)

triggered the evacuation of the entire town in 1982. Dixon levels in Times Beach were recorded at 100,000 ppt, or 100 ppb.²⁵

East Palestine residents' health symptoms mirror those of Times Beach residents, many who developed cancers and other chronic health issues, the former mayor of Times Beach, Marilyn Leistner told East Palestine residents in September.²⁶

Still, by October, the EPA had given residents the green light to garden in East Palestine.²⁷

Smith also tested resident Krissy Hylton's property's soil several times for Dioxins and SVOCs.

Ms. Hylton's soil showed a significant increase in Dioxins from May to September and the most lethal Dioxin TCDD (Times Beach) was found at 1.2 ppt in September but was not present in May. Furthermore, Semi-Volatile Organic Compounds ("SVOCs") increased from 4,360 ppb to 18,450 ppb.

"This data suggests that the excavation and cleanup may have created more contamination in East Palestine, which is why comprehensive testing should have been done and needs to continue," Smith said.^{28, 29}

Due to contamination, Hylton is uncomfortable selling her home, but also cannot take her five family members including two elderly disabled parents back to the home when her temporary relocation funding ends. Recently, she appeared on Cuomo on News Nation saying "We need to be heard" by President Biden."³⁰

²⁵ Liz Wills, "[Times Beach, Missouri, Evacuated Due to Contamination with Dioxin,](https://www.environmentandsociety.org/tools/keywords/times-beach-missouri-evacuated-due-contamination-dioxin#:~:text=In%201982%2C%20after%20numerous%20illnesses%2C%20miscarriages%2C%20and%20animal,1%20part%20per%20billion%20which%20EPA%20considers%20toxic.)" *Environment and Society Portal*, | <https://www.environmentandsociety.org/tools/keywords/times-beach-missouri-evacuated-due-contamination-dioxin#:~:text=In%201982%2C%20after%20numerous%20illnesses%2C%20miscarriages%2C%20and%20animal,1%20part%20per%20billion%20which%20EPA%20considers%20toxic.>

²⁶Stephanie Elverd, "[Last mayor of Times Beach shares her story with EP and surrounding communities](https://www.morningjournalnews.com/news/local-news/2023/09/last-mayor-of-times-beach-shares-her-story-with-ep-and-surrounding-communities/)" | *Morning Journal*, September 30 2023, <https://www.morningjournalnews.com/news/local-news/2023/09/last-mayor-of-times-beach-shares-her-story-with-ep-and-surrounding-communities/>

²⁷ Kelly Kennedy, "[East Palestine residents given green light to garden, EPA releases soil results on heels of lawsuit,](https://www.cleveland19.com/2023/10/04/east-palestine-residents-given-green-light-garden-epa-releases-soil-results-heels-lawsuit-filed-against-them/)" *Cleveland 19 News*, October 3 2023, <https://www.cleveland19.com/2023/10/04/east-palestine-residents-given-green-light-garden-epa-releases-soil-results-heels-lawsuit-filed-against-them/>

²⁸ Scott Smith, private communication to Mark Durno, Mar Figley, William Burgess, Bob Figley, July 27 2023, <https://acrobat.adobe.com/id/urn:aaid:sc:VA6C2:c8123cfc-1aec-4525-a412-264424d957e9>

²⁹ Scott Smith, private communication to Norfolk Southern, February 3 2024, [Final Scott Smith-Norfolk Southern-EPA 2-3-24 for e-mail.pdf](#)

³⁰ News Nation, "[East Palestine resident: We 'need to be heard' by Biden,](https://youtube.com/watch?v=wMbUWtQX8Ao)" Youtube, accessed February 13 2024, | <https://youtube.com/watch?v=wMbUWtQX8Ao>

“The citizens who are having issues need to talk to him. It needs to be done fairly and we need to be heard,” she told News Nation.

Government Accountability Project Recommendations

For these reasons, we along with community members and scientists highly recommend that the federal government immediately take the following actions:

- 1) Provide the resources that make it possible for residents who want to leave the area to do so. A National Disaster declaration must be made to safeguard the health of East Palestine residents who cannot relocate without financial assistance. All funding should be provided by Norfolk Southern.
- 2) Designate Superfund status to the East Palestine disaster which would provide additional benefits for impacted residents.
- 3) Immediately apply the precautionary principle and warn residents not to eat from their gardens until further testing is conducted by independent scientists or EPA contractors.
- 4) Fully reimburse residents for expenses related to all medical testing and treatment related to the train derailment. The federal government must provide oversight of this process and ensure accountability by Norfolk Southern. The administration should use Section 1881A of the Affordable Care Act to provide Medicare to all residents in East Palestine and surrounding impacted communities where residents are experiencing health impacts.
- 5) Establish a long-term medical monitoring program to follow the residents over time. Norfolk Southern and the chemical companies should pay for independent life-long health monitoring for all affected residents. Data generated from this case study should inform decision-making in future disasters and provide insights into the health of other front-line communities.
- 6) Sample residents' property and home interiors for dioxins using independent scientists.
- 7) Fully reimburse residents for expenses related to independent testing conducted on their properties. EPA and other federal agencies should work with independent scientists to identify gaps in their own methodologies and improve access to quality data.
- 8) Invite community members to publicly testify. There have been multiple congressional hearings on the East Palestine disaster, but all have failed to invite members of the community to testify about their experiences. The public deserves to hear their stories and Congress has a duty to listen.
- 9) Conduct a qualitative risk assessment of the disasters that occurred February 3, February 6 and during the ongoing remedial activities that produce dust and vapor.
- 10) Provide the FEMA report on the Unmet Needs of the Community with the understanding that residents' input was not considered.
- 11) Complete the CDC/ATSDR Registry of residents who are known to have chemical burdens
- 12) Hold EPA accountable for their missteps described in the document, but also for:
 - a. flooding the creeks at least twice with train derailment wastewater
 - b. allowing groundwater plumes to migrate under East Palestine homes and businesses,
 - c. allowing Norfolk Southern to air knife the toxic volatile compounds into the air,

- d. allowing Norfolk Southern to detonate five vinyl chloride tankers that put residents and first responders at risk of lethal concentrations of deadly phosgene,
- e. not sampling homes for vapor intrusions from contaminated ground waters that already are impacting area businesses,
- f. discontinuing the vast majority of air monitoring/sampling before peak remediation work such as sediment excavation and washing,
- g. not testing the soil in the city parks AFTER they were chemically flooded twice.

A local citizens' group, The Unity Council for the East Palestine Train Derailment provided this **additional list of demands**.³¹

Additionally, **recommendations for an improved disaster response** were made recently at the Society of Environmental Toxicology and Chemistry based on observations about the East Palestine disaster.³²

"This has happened before to other communities and other situations where people were exposed to multiple low-level chemicals," Dr. Stephen Lester pointed out in his presentation on February 3. "It happened at 9/11 to the first responders that were volunteers who went into those burning buildings. They breathed smoke, they breathed the fumes, the particulates to everything that was going on there. It also happened to the burn pit soldiers in Iraq and Afghanistan overseas and there are other situations where these kind of exposures existed and government said in those situations, 'Well, here's what we can do: We know that it's impossible to assess the health risks and determine whether people's health problems were caused by that exposure, so we're going to presume that they were exposed and we're going to take care of these people.' So they're giving them healthcare. They're setting up medical monitoring and they're getting other compensation. They did this in for Agent Orange veterans. They did it for Camp Lejeune in North Carolina... So, there are there are precedents for the government to step in and say for these kinds of broad exposures where people have been exposed to multiple chemicals and we don't have any scientific understanding of what it means, they've already done it. Why shouldn't they do that here in East Palestine? And they should."

On March 13, 2023, the community along with 100 environmental groups including national and local organizations signed a letter providing the EPA detailing their concerns about the dioxin testing, offering recommendations and seeking transparency and community involvement in the testing design and sampling plan.

"Unfortunately, EPA did not address these concerns and recommendations in the development of the sampling plan which was prepared by Arcadis, a contractor for Norfolk Southern," Dr. Lester said in CHEJ's critique of the railroad's dioxin sampling plan released in October.

³¹ "The Unity Council Presents: Community Demands," The Unity Council, accessed February 13 2024, <https://acrobat.adobe.com/id/urn:aaid:sc:VA6C2:f5b7d024-946c-4963-919c-b249cd6fb63a>

³² Bruce Vigon and others, " 6.04 P-We-155 Planning for Disaster: A Case Study Based on the East Palestine, Ohio Train Derailment,"

Tsai told Government Accountability Project that the best way to help East Palestine is to move residents away from the toxic threats, so they are not “sitting ducks.” “What good does it do to leave people like rats in a cage with poison?”

Toxicologist Dr. George Thompson agrees.

“This train derailment and chemical release by the fire is the most complex and hazardous chemical release accident I have seen in my 50 years of experience as a toxicologist. My greatest fear is that cumulative long-term human health effects across a broad cross section of the Atlantic States will progressively result in thousands of deaths from cancer, heart, kidney, and lung diseases over the next 10-20 years that could potentially exceed those from 9/11. My concerns for the residents of East Palestine, and beyond, are in obvious contrast to the conclusions stated by the Environmental Protection Agency Administrator Michael Regan when he told them 10 days after the derailment and fire that ‘their municipal water and air was safe.’”

“Massive chemical contamination of towns has previously occurred in Love Canal NY, Times Beach MO, and even Chernobyl Ukraine. These three towns have one thing in common - their inhabitants and businesses were all removed/evacuated due to massive contamination of the towns with highly hazardous chemicals. The specific contaminant in Times Beach was one chemical, dioxin. The independently derived data of dioxin contamination in East Palestine also warrants the relocation of families and businesses. Although one year has now passed since this disaster occurred in East Palestine OH, the incident must be re-considered an emergency by local, state, and federal agencies. Residents and their animals can only be protected by evacuating East Palestine and the surrounding area, buying the businesses, and re-locating the citizens to safer areas of their choosing.”

Exhibits

*Transcript of East Palestine Train Derailment Anniversary Event by Dr. Stephen Lester
February 3, 2024, Columbiana, Ohio*

I'm going to share some of my experiences being here and some of what I've learned over the years about chemicals and how that's how that's playing out here in East Palestine... I work for an organization called the Center for Health, Environment and Justice. We were founded in 1981 by a woman named Lois Gibbs, who was the community leader at Love Canal in Niagara Falls, NY. What we do as an organization is we work with communities very much like East Palestine here that have had chemical contamination problems. We are here to help people do two things. One is to help people understand the science and that means reading reports, engineering and health studies and environmental test results, telling them what it means and what it doesn't say, and helping them address the questions they need to ask to figure it out. That's one half - an important half. But the other half of my work is to help people figure out how to use that science in their organizing work, in their campaign work, to help them understand what the science can say and what, just as importantly, what it does not say. And I want to speak to that some more because that's what's happening here in East Palestine.

So, I got involved in all of this when I was hired by the state of New York to be a science adviser to the residents of Love Canal. That's where I met Lois. That's where I got involved in toxic work. And so, I spent two years at Love Canal, and when I came here almost a year ago, it was last February and I attended a town hall meeting. And what struck me, really struck me, was here I am in a community - there were over 200 people in that room last year - and there was raw emotion. There was just tension everywhere and it took me immediately back. I had flashbacks to the meetings at Love Canal because it was Deja vu all over again. I mean, here I am, sitting in a community asking almost the same questions, you know, like, "What can I do with my kids? Can I go in my yard? Can I cut my grass?" You know, "What's going to happen to me?" And those are the questions people were asking at Love Canal. And I realized that at the time. You know, the first thing that when I learned about all that has happened here, the first thing that occurred to me is like, "God... you know, these people have been exposed to dioxin. They're burning vinyl chloride. God knows why they made that decision at the time. But they did. The government did. Or this actually looks like it's Norfolk Southern that did. But nonetheless...

So, we ended up (here) and I thought of that because of all of our experiences, thoughts and we've done so much work over the years on dioxin. We had a campaign to stop dioxin exposure that lasted almost 20 years. We've written books on dioxin, we've... sponsored conferences, community conferences that brought in communities that... have been exposed to dioxin. We brought them together to share information and learn from each other.

And dioxin, you've probably learned more about dioxin than you ever thought you ever wanted to in the last year or so. But dioxin is not a single chemical. I think you've recognized this at this point. There are 75 dioxin-like compounds, several of which are very toxic, one of them called 2,3,7,8 Tetrachlorodibenzo-p-Dioxin, or TCDD 2,3,7,8 for short. It is one of the most toxic chemicals ever tested in this country. It's a highly potent carcinogen. But it doesn't just cause cancer. It causes reproductive problems, neurodevelopmental problems, immune system problems, infertility. It causes hormone... and impacts

the hormone systems, causes diabetes, causes heart problems. I mean, there's a very long list of all the things that it causes and leads to and it does these at extraordinarily low levels, extraordinarily low levels. You hear people talk about, you know the drop of vermouth in a swimming pool? Well, that kind of drop - if it is dioxin - can lead to adverse health problems. Dioxin is a very nasty chemical. Skin rashes are another thing it causes. One of the classic examples of being exposed to dioxin is a skin disease called chloracne. So, it's a nasty chemical dioxin.

And so when I first came in and I realized they had done this burn of vinyl chloride, well, my first question was, "Have they tested for dioxins?" And they didn't. At that time, the EPA had actually no interest in testing for dioxins. I mean what Scott (Smith) showed us earlier today (evidence of EPA dioxin as early as Feb. 9 found buried on the EPA website) is that they knew before, you know, actually I was there the 23rd is when I was here and they knew already at that time that they had found dioxin. And... where they found it is where they burned it and that's the place where it's been. They've never released that data. I don't know if it's in that 1500 (buried) pages, but the testing at the site where the burn occurred, I have not seen any data on (the) dioxin or any of these other chemicals. So, it would be great to be able to see some of that – and that will be really helpful.

So, without testing for dioxin, and this is one of the things I said a year ago, is that without that information we won't know what the risks are to the people in this community. People will be asking these questions and some of you are still asking these questions because despite the fact that EPA has spent I don't know how many millions on doing testing. But the testing they've done, and Scott has already pointed to it earlier, the testing that they have done - and we did an analysis of... that EPA data that they released in March and April - the first round of testing of some 130 samples or so, we've looked at that very carefully and what we realized is the way they made decisions about where to test and how they collected their samples enormously influenced the results. And one of the things I've learned over all these years looking at all this data, is that the data is only as good as how the samples are collected. If it's garbage in, you get garbage out.

And what EPA did, the first thing they did was they said to the contractor, "You can do whatever you want." And the contractor said, "Well, we're going to decide where to take our samples by walking the site and looking for evidence of contamination. If we see it, we'll take a sample there." Well, in all my years of doing this work, I've never seen EPA give anybody carte blanche like that. It's so subjective. And this is the guy, the company, that is responsible for this. They're going to go out and decide where to take the tests and that's going to be a legitimate and honest test? Maybe, but more likely not. So that was a huge error. Just giving them that... In every other situation I've reviewed, EPA always says, "Well, you have to have an objective grid pattern of some kind to select where to sample." They never test contaminated sites by walking the site. They would be laughed out of the room if some company went to EPA other than Norfolk Southern and said, "This is what we're going to do." So, EPA did a 180 for them for this site for whatever reason.

And then, they went and took these samples at two levels. At the surface the zero is six (inches) and then below. Why would they go 15 inches below the surface? There's nothing. Again, Scott pointed this out in his slide, Dioxin is very insoluble in water. It's not going to trickle down. It's going to be at the surface. So, those are a complete waste – the samples everything below the surface.

But if you still take all of their results and look at it, there's still a lot of results there that indicate there's a risk. Of the 132 samples, 42 of them exceeded that EPA risk screening level for dioxin of 4.8 – 42,

which is you know, like 30%. And there was another group of another chemical that also exceeded these values, but we don't know (because) the results that EPA put on its website is homogenized. They didn't give any identifiers so that you can know whether these three samples are all from the same location. So you can't say, "Well, these are the results. These three results were from one location," or you can't say that these, you know, like those areas, all those 42 samples, if that's your home or my home or somebody else's home, you wanna know that. But we don't know that.

So as an independent scientist, I could not look at any of that thousands of pages of data and we look through a lot of that... But I couldn't judge the quality of the data because beyond looking at how they collected it and realizing even if I could, I wouldn't trust it. So EPA data is not worth the paper it's written on. One of the things I wanted to say also is that it's not just dioxin that's a problem here. There are a lot of other chemicals that were on that train that were burned, that got into the creeks. And it's not just dioxin. While dioxin is a highly toxic chemical that we really want to pay attention to and we care about, there's also other chemicals, and what one of the lessons I'm taking away from being here and looking at this and evaluating this as a toxicologist is that people here have been exposed to a broad mixture of contaminants of chemicals and maybe low concentrations and numbers. We don't know. We don't know what people were exposed to because EPA did not do any testing. We don't know what the concentrations were and we don't know how many chemicals. And we don't know what the combined effects of all these exposures are or how long these exposures have been occurring. I mean, yes, yes, it's not just the original spill. It's not just the burning, it's the clean up, the constant digging up of that soil and moving it and disturbing it.

When I was here that first couple of weeks there, I couldn't believe what was going on here... aerators in the middle of the town and in the neighborhoods taking chemicals and pumping them out of the creeks and putting them into the air and people are breathing this as they are walking around town. The workers who are working on it are not wearing any protective gear. I mean, again, this is unheard of. This just doesn't happen, but yet it was happening here because EPA turned their back and let the company do whatever it wanted.

But going back, so with all of these uncertainties, and all of these chemicals that people have been exposed to and the lack of good data that tells people what they've been exposed to, what do you do? What do you do? And that's the question you're all asking now. What's happening? What's happening to my kids? What's my future? What's going to happen to me? And I think that there's not a lot, there's not much that we as scientists can say in all honesty. I mean, that's what I would want EPA to tell you is that as scientists, we don't understand what is happening to people exposed to the kind of mixtures you've been exposed to?

What does EPA do instead? It uses antiquated risk valuations that are based on exposure to a single chemical, that don't take into account interactions, that don't take into account cumulative effects or combined effects. So, they're making a judgment on it, using an approach that's completely out of touch and irrelevant for what's happened here. And it's really not just disingenuous but borders on fraud for them to say to you that it's okay, that our analysis is sufficient, and... you shouldn't be seeing any health problems in this community. Scientifically, there's no basis for that. That's not just an opinion. It's a narrative that they've been trying to sell to you from day one. And there's no science behind that.

There's nothing they can do except this, this, this antiquated approach that, that it's totally irrelevant for what's happened here. You have not been exposed to a single chemical. It's a mixture you've been

exposed to for, in some cases almost a year during the entire cleanup, not just the burn, not just spill. So, it's a combination of things.

...There's this has happened before to other communities and other situations where people were exposed to multiple low-level chemicals. It happened at 9/11 to the first responders that were volunteers who went into those burning buildings. They breathed smoke, they breathed the fumes, the particulates to everything that was going on there. It also happened to the burn pit soldiers in Iraq and Afghanistan overseas and there are other situations where these kind of exposures existed and government said in those situations, "Well, here's what we can do: We know that it's impossible to assess the health risks and determine whether people's health problems were caused by that exposure, so we're going to presume that they were exposed and we're going to take care of these people." So they're giving them healthcare. They're setting up medical monitoring and they're getting other compensation. They did this in for Agent Orange veterans. They did it for Camp Lejeune in North Carolina. You're probably seeing the ads all the time. I don't know. So, there are there are precedent for the government to step in and say in for these kind of broad exposures where people have been exposed to multiple chemicals and we don't have any scientific understanding of what it means, they've already done it. Why shouldn't they do that here in East Palestine? And they should.

Independent Toxicology Expert: "I Predict East Palestine OH Train Derailment Chemical Release Death May Become Worse Than 9/11" by George R. Thompson, Ph. D.¹

My independent expert analyses of the chemicals in the railcars, and their subsequent fire, following the train derailment in East Palestine Ohio identified over 100 highly toxic chemicals that have the potential to result in long-term medical injuries and environmental contamination.² Because of the downwind atmospheric dispersion of the smoke-plume hazardous products, the potential for farmland contamination and surface water pollution, the long-term human health effects from this accident may be worse than occurred from 9/11. The fire potentially released 3,000-6,000 tons of highly toxic soot, ash, and hazardous chemicals³ into a massive smoke and mushroom cloud that slowly dissipated hundreds of miles beyond the derailment area contaminating gardens, farmland, animals, and communities in perhaps 5, or more, different states.⁴

Recent reports have stated that the delayed deaths for firefighters from 9/11 will shortly surpass accumulated deaths over the past 22 years.⁵ In addition, the World Trade Center Health Program reported in 2023 that 71,000 individuals have been diagnosed with health conditions related to exposure to the dust, smoke, debris, and trauma of the 9/11 attacks. One 9/11 survivor has since survived cancer four times.⁶ I fear that similar delayed deaths from the East Palestine massive chemical "stew" release will accrue in eastern Ohio, Pennsylvania, West Virginia, and perhaps beyond. One of the railcar chemicals has been detected at low levels in the Ohio River bordering West Virginia within about one week.⁷ The impact from tons of soot/ash chemical contaminants on farmland across these states remains unknown. However, if some of these highly hazardous and long-lived chemicals enter the food chain, health effects will continue to accrue for years to come and in communities far from East Palestine OH.

Of the 52 railcars identified in the Norfolk Southern manifest, 31 were identified with various affected-by-the-fire descriptors (i.e., burned or impinged). In addition, 27 cars contained 12 different chemicals, 8 cars contained 4 petroleum products, and 13 cars contained food products.⁸ Of the original 31 railcars with chemicals, I have verified that 8 cause cancer, allergies, and aquatic toxicity. However, my fire research has determined that the number of additional, highly toxic chemicals, or chemical classes, released by the fire included 115 that cause cancer, 65 that produce brain/central nervous system effects, 45 that cause heart disease, 42 that cause lung toxicity, 22 that cause asthma, and 11 that cause reproductive effects. Fire-generated carcinogenic chemicals, or chemical classes, included dioxins, polycyclic aromatic hydrocarbons (PAHs), aldehydes, soot, persistent free radicals, and the lung-corrosive gas phosgene. Dioxin levels in residential East Palestine soil tested by independent scientists were 4-10 times background levels.⁹ Dioxins would have been produced by the incomplete combustion of chemical products contained in at least 10 railcars ($\geq 200,000$ lbs. each). The potential human health and environmental hazards from the chemicals produced by the fire far exceeded hazards from the railcar contents themselves. A question remains regarding the geographic area of concern, since the massive mushroom cloud created from the fire, and observed from space, would have impacted an area far greater than the community of East Palestine Ohio. At least one railcar chemical was detected reportedly at levels below those of concern in the West Virginia Ohio River, approximately 165 miles south of East Palestine.⁷

Shortly after the fire began, local citizens experienced health effects that persist today, one year after the initial incident. One woman and her husband, for example, experienced nose, eye, throat, larynx, and lung irritation within hours after the fire started. They have continued to suffer severe coughing and wheezing, and still do not see an end to their injuries. Another East Palestine resident recently removed and folded his outdoor U.S. flag. Within hours, he developed a severe rash from the dust that had been on his flag. Residents must continue to be diligent about NOT vacuuming any dust in or around their homes or vehicles, since the vacuum exhaust will again spread the contaminated dust leading to at least another round of skin, eye, nose, throat and lung irritation, and body absorption.

Within hours after the fire ignition, animals and pets in the greater area of East Palestine died. Five chickens raised 10 miles northwest of East Palestine died within hours. Multiple foxes near East Palestine died, and several others became sick. The Ohio Department of Natural Resources estimated that more than 43,000 animals died as a result of the derailment and fire.¹⁰ Cows in Pennsylvania reportedly developed diarrhea, and a local farmer that raises pigs was unable to sell his pigs at market - they did not want any livestock from the area of potential exposure.¹¹

This train derailment and chemical release by the fire is the most complex and hazardous chemical release accident I have seen in my 50 years of experience as a toxicologist. My greatest fear is that cumulative long-term human health effects across a broad cross section of the Atlantic States will progressively result in thousands of deaths from cancer, heart, kidney, and lung diseases over the next 10-20 years that could potentially exceed those from 9/11. My concerns for the residents of East Palestine, and beyond, are in obvious contrast to the conclusions stated by the Environmental Protection Agency Administrator Michael Regan when he told them 10 days after the derailment and fire that 'their municipal water and air was safe.'¹²

Massive chemical contamination of towns has previously occurred in Love Canal NY, Times Beach MO, and even Chernobyl Ukraine. These three towns have one thing in common - their inhabitants and businesses were all removed/evacuated due to massive contamination of the towns with highly hazardous chemicals. The specific contaminant in Times Beach was one chemical, dioxin.¹³ The independently derived data of dioxin contamination in East Palestine also warrants the relocation of families and businesses.⁹

Although one year has now passed since this disaster occurred in East Palestine OH, the incident must be re-considered an emergency by local, state, and federal agencies. Residents and their animals can only be protected by evacuating East Palestine and the surrounding area, buying the businesses, and re-locating the citizens to safer areas of their choosing.

Notes and References

1. I have performed independent toxicology hazardous chemical analyses for government agencies, corporations, and academic institutions for over 50 years. I have published 21 books on hazardous chemicals, been an expert witness for more than 50 lawsuits, and spent hundreds of hours researching the hazards of chemicals contained in railcars on the East Palestine derailed train, as well as the highly hazardous chemicals created by the fire and released into the air, water, and soil. My personal concerns about the hazards of the millions of pounds of highly hazardous chemicals released by the fire in East Palestine OH have brought me out of retirement with the intent to encourage other independent scientists to become involved in accurately assessing the risks resulting from this health and environmental catastrophe.
2. The 52 railcar contents and outcomes identified in the Norfolk Southern manifest posted on the Internet at the time of the derailment identified 52 cars with 23 different chemicals and chemical products. Incomplete combustion produced up to 14 highly hazardous chemicals, or chemical classes, for each of these identified railcar materials.
3. Each railcar carried potentially 200,000 to 225,000 pounds of materials. The N/S manifest indicated that 17 cars “burned” and 15 cars were “impinged” with fire/flames. Contents in 17 cars totaled >3.4 M pounds (= 1700 tons), and in 32 cars totaled >6.4 M pounds (= 3200 tons).
4. Potentially depositing highly hazardous chemicals bound to particulates perhaps in Ohio, Pennsylvania, West Virginia, Virginia, Maryland, Delaware, and maybe even Washington, D.C.
5. See: mountsinai.org/about/newsroom/2018deaths-from-911. See also: www.cnn.com/2023/09/11/us/neyork-firefighters-911-illness-death/index.html.
6. See: USA Today, 8 Sept 2023 @ 70780975007/.
7. See: <https://www.wowktv.com/news/west-virginia/is-the-ohio-train-derailment-chemical-spill-impacting-west-virginias-water/>
8. Numbers compiled from the Norfolk Southern manifest previously available on their website.
9. B.W. Vigon et als., Society of Environmental Toxicology and Chemistry (SETAC), Poster Presentation, 15 Nov 2023. (breveja2180@att.net).
10. <https://www.axios.com/2023/02/24/ohio-train-derailment-animals-killed-water>
11. East Palestine resident personal communication
12. <https://www.washingtonpost.com/climate-environment/2023/02/16/ohio-train-derailment-response-toxic-contamination/>
13. [https://www.newsnationnow.com/us-news/midwest/ohio-train-derailment/east-palestine-crisis-mirrors-missouri-times-beach/#:~:text=East%20Palestine%20crisis%20mirrors%20what%20turned%20a%20Missouri%20city%20into%20a%20ghost%20town&text=EAST%20PALESTINE%2C%20Ohio%20\(NewsNation\),abandonment%20of%20an%20entire%20town.](https://www.newsnationnow.com/us-news/midwest/ohio-train-derailment/east-palestine-crisis-mirrors-missouri-times-beach/#:~:text=East%20Palestine%20crisis%20mirrors%20what%20turned%20a%20Missouri%20city%20into%20a%20ghost%20town&text=EAST%20PALESTINE%2C%20Ohio%20(NewsNation),abandonment%20of%20an%20entire%20town.)

October 17, 2023



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October 17, 2023

Ms. Jami Wallace
President
Unity Council for the East Palestine Train Derailment
East Palestine, OH

Re: EPA's Dioxin Testing in East Palestine, OH Conducted March – April, 2023

Overview and Key Findings

The dioxin testing conducted by Norfolk Southern in response to the train derailment and subsequent intentional burning of vinyl chloride and other toxic chemicals in East Palestine, OH fails to address many questions raised by local residents about their potential exposure to dioxins. People continue to ask EPA for more testing which the agency continues to deny. Based on this analysis of the EPA's testing approach and results, additional testing is clearly needed. This additional testing should be designed to address the public health risks posed by the contamination caused by the derailment and subsequent burning of vinyl chloride and other toxic chemicals.

Based on the data provided by EPA and the information provided to support that data and how it was collected, it is not possible to tell 1) where dioxin contamination is or isn't, or 2) what the concentrations of dioxins are at a given location. Furthermore, EPA did not disclose the actual location of any of the samples that were collected. This is an important because it is needed to evaluate and to understand the public health risks posed by the results.

Key Findings

- The initial sampling plan developed by Arcadis for Norfolk Southern and approved by EPA was never intended to identify the public health risks posed by the contamination in the community caused by the derailment and subsequent intentional burning of vinyl chloride and other toxic chemicals.
- The approach for determining where to collect samples used by Arcadis for Norfolk Southern and approved by EPA was highly unusual and very subjective, and did not follow standard procedures for investigating contaminated sites. Norfolk Southern's sampling plan involved walking the area and "inspecting" the surface soil for evidence of ash or other debris from the derailment and subsequent intentional burn.

- Despite the many limitations in EPA's testing approach, some sample measurements did detect significant levels of dioxins. A significant number of samples that were collected as part of EPA's dioxin sampling effort in East Palestine did exceed EPA and other benchmarks and guidelines for evaluating the public health risks of dioxins and warrant additional action. Yet, EPA has refused to conduct additional testing or take any action to address these findings.
- No information is provided on the actual location of where samples were taken. Subsequently, it's unclear how close collected samples were to the immediate site of the derailment and intentional burn and how many samples were taken from downwind of the immediate site of the derailment and intentional burn. It's also unclear if the samples with significant concentrations of dioxins reflect hot spots or other evidence of contamination from the emissions fallout from the derailment and intentional burn.
- EPA has not shared comprehensive sampling details that would allow the community and its scientific advisors to independently evaluate this sampling effort. The agency has also failed to provide transparency in its sampling and analytical procedures. Once sampling has been conducted, results have not been released in a transparent, accessible, or easy to understand manner. This unconventional approach has made it difficult to independently evaluate and understand the public health risks posed by the dioxin concentrations reported in the results.
- The community has given EPA ample opportunities to build trust, engage with the public, and provide information. EPA has responded with a complicated presentation of its results in which nothing is clear and little makes sense, rather than being forthcoming about its plans, processes and results.
- EPA provided no analysis of their dioxin sampling results.

EPA needs to conduct additional testing in the areas where significant concentrations of dioxins were found in order to evaluate if these areas represent hotspots or whether there are other reasons why the concentrations of dioxins were high in these areas. A scientist appointed by the community needs to be included in this follow-up testing and investigation. It is also evident that EPA needs to take action to communicate to residents living near these sample locations.

Analysis of EPA's Dioxin Testing in East Palestine, OH

On February 3, 2023 a Norfolk Southern Railway Company freight train derailed in East Palestine, Ohio. Twenty of the derailed cars contained hazardous chemicals including vinyl chloride, butyl acrylate, ethylene glycol, monobutyl ether, ethylhexyl acrylate and isobutylene. Some cars released these chemicals into the surrounding air, soil, and water when the train derailed. Then, on February 6, Norfolk Southern made the decision to conduct an intentional burn of five tanker cars containing vinyl chloride, a highly toxic and hazardous substance. This intentional burn resulted in the formation and release of a

by-product of burning the vinyl chloride – a group of chemically-related substances, generally described as “dioxins,” one of the most toxic chemicals ever created. Nearby residents were evacuated because of the health hazards posed by breathing the fumes and smoke from the derailment and then the intentional burn. In addition to the fumes and smoke, chemicals released into the surrounding environment posed additional public health risks. The Ohio Department of Natural Resources found that over seven miles of streams were affected by the chemical spill and thousands of fish died, raising concerns about dangers to residents in a large radius surrounding the spill.

The U.S. Environmental Protection Agency (EPA) ordered Norfolk Southern to identify and clean up contaminated soil and water. However, secrecy surrounding the scale of the accident and a reluctance to test thoroughly for all chemicals of concern has frustrated residents. Despite initial reluctance to test for dioxins, EPA announced on March 2, 2023 that it would test for dioxins in the areas impacted by the train derailment. The community had been urging the agency to do this testing for weeks. On March 13, 2023, the community along with dozens of national organizations and community-based organizations signed a letter to EPA detailing their concerns about the testing, and seeking transparency and community involvement in the testing design and sampling plan. Recommendations for how this testing could be conducted to address these concerns were included in this letter report. Unfortunately, EPA did not address these concerns and recommendations in the development of the sampling plan which was prepared by Arcadis a contractor for Norfolk Southern.

EPA’s testing for dioxins was conducted from March 9th to April 7th. Samples were collected from surface and subsurface soil, and the results were made publicly available on EPA’s website on April 21, 2023. This report summarizes these results and provides our analysis of this effort.

Overview of Samples Collected for Dioxins

130 surface soil samples and 133 subsurface soil samples were collected over 23 days for analysis. Surface samples were collected from a depth of 0 to 0.1 feet (zero to just over 1 inch) below the top surface of the soil. Subsurface samples were collected from a depth of 0.1 to 0.5 feet (from just over 1” to 6”) below the top surface of the soil. Figure 1 shows the number and type of samples collected on each day. During the first 6 days of sampling, ten or more samples were collected each day. On the subsequent 17 days, 1 to 7 samples were collected on each day. EPA did not provide information about how the number of samples collected each day or the sampling locations were determined.

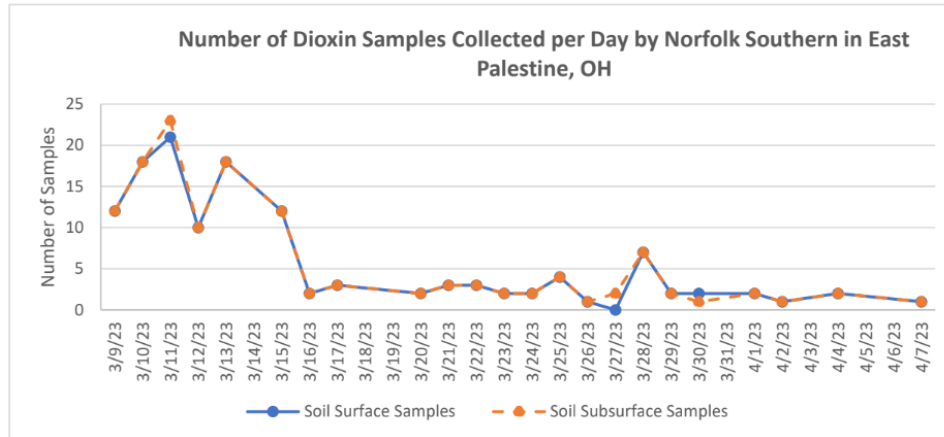


Figure 1 – Number of Dioxin Samples Collected from Surface and Subsurface Soil Each Day by the Norfolk Southern in East Palestine, OH.

The most striking aspect of the dioxin soil sampling effort was the approach used for determining where to collect samples. The sampling plan was developed by Arcadis, a contractor for Norfolk Southern, and approved by EPA. This plan was highly unusual and did not follow standard procedures for investigating contaminated sites or areas. Norfolk Southern’s approach involved walking the area and “inspecting” the surface soil for evidence of ash or other debris from the derailment and subsequent intentional burn as the primary way of identifying where samples will be taken (Arcadis Report, p. 1). This approach is unscientific and unprofessional primarily because it is highly subjective and subject to bias that can influence the results. This is not what one would expect in a situation like the one in East Palestine. In fact, in over 40 years of evaluating contaminated sites, I’ve never seen EPA approve a soil sampling plan that was this vague and subjective.

It is not clear why EPA chose to collect subsurface as well as surface samples. In the March 6, 2023, soil sampling plan prepared by Arcadis, no reason is given for why subsurface samples were included in the sampling plan. It is surprising that they collected samples from subsurface soil as part of the sampling plan. The primary route of exposure of the pollutants resulting from the train derailment and subsequent intentional burn was transport of chemicals through the air as particulates and as volatile and semi-volatile substances. The anticipated impact area would have been primarily surface soil downwind from the site of the rail accident and intentional burn. In addition, dioxins are generally not water soluble, so transport of dioxins through the surface soil to the subsurface soil would not be expected.

Perhaps the reason that subsurface soil samples were collected was to gain general background information on the soil in the area impacted by the derailment and subsequent intentional burn. The contractor for Norfolk Southern described the goal of this sampling effort as follows:

“The purpose of this Plan is to guide soil inspection and sampling efforts on residential, commercial, and agricultural properties within the area identified for surface soil assessment in the UAO. The inspection and soil sampling described below will be conducted as a

preliminary step to evaluate whether shallow soil within that area has been impacted by constituents released during the vent and burn, specifically, by ash transported by aerial deposition and landing on soil” (Arcadis Report, p. 1).

The main concern raised when this plan was released was that the sampling and testing was not intended to identify the public health risks posed by the contamination throughout the community. It is a mystery why this would not have been the purpose of the dioxin sampling effort in East Palestine. This matters because the purpose of the plan determines the sampling that will be done and where the samples will be taken from. A more public health approach would include testing in areas where people live and where people directly experienced the smoke cloud from the derailment and intentional burn. Surprisingly, there is no mention in the sampling plan report about addressing the public health risks posed by the contamination caused by the burning of vinyl chloride and other toxic chemicals.

In this analysis, we did look at the subsurface soil data but decided not to include it in this report as it we did not deem this data to be relevant to the concerns about the presence of dioxins in surface soil in the areas impacted by the train derailment and subsequent intentional burn.

In the March 13, 2023 letter to EPA, the community asked that the agency lead the dioxin sampling “to provide transparency, rebuild public trust and comprehensively address the possible releases of dioxins from the disaster.” Included in this letter were requests for the following information:

- Goals and objective of the sampling plan;
- What environmental media – soil, dust, water, sediment, air – will be sampled;
- Sample locations for each medium type. It must include communities that were in the path of the plume;
- The number of samples that will be collected for each medium type;
- Sample collection procedures for each medium type;
- Detection limits for each medium type;
- Analytical procedures for each medium type;
- Which suite of dioxins will be analyzed. Total polychlorinated dioxins and furans should be measured as well as PCBs, especially the dioxin-like PCBs; and
- Details on quality control/quality assurance procedures.

Unfortunately, Norfolk Southern began collecting samples before EPA responded to this letter and most of these requests were ignored. The laboratory that conducted the sample analyses for Norfolk Southern did include the standard analytic test for dioxins which includes 17 different forms (congeners) of dioxin and other dioxin-like substances including dibenzofurans. The data EPA posted on its website did include testing results for these 17 dioxin congeners. However, neither EPA nor Norfolk Southern requested that the analyses include measurements for polychlorinated chlorinated biphenyls (PCBs) which also would have formed as a result of the intentional burning of vinyl chloride. PCBs are

considered dioxin-like substances because they behave like dioxins in the body and cause dioxin-like toxicity.

Another limitation in the lab analyses is that the lab did not generate a total dioxin equivalent or TEQ value for the sum of all the dioxins present in a particular sample. Generating a TEQ value for dioxin samples is normally standard operating procedure because it's the gold standard for analyzing the potential health risks posed by dioxin found in soil, air or water. It was up to EPA or Norfolk Southern to request that the lab generate TEQ values for each sample.

Without a TEQ value for each sample, we are left with a complicated set of results that are more difficult to understand and interpret, especially in the context of public health risks. It is not clear whether the directive not to generate a TEQ value came from EPA or Norfolk Southern.

In the absence of a TEQ value for each sample, we decided to focus on the three forms (congeners) of dioxin with the highest toxicity to human health. These are:

- 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)
- 1,2,3,7,8-pentachlorodibenzo-p-dioxin (1,2,3,7,8-PeCDD)
- 2,3,4,7,8-pentachlorodibenzofuran (2,3,4,7,8-PeCDF)

These substances have the highest dioxin toxicity factors, and therefore have the highest concern for public health. In general, these congeners make up a significant portion of the summed TEQ value for a particular sample.

This analysis is significantly further limited because EPA did not disclose the actual location of any of the samples that were collected. This is an important piece of information that is needed to evaluate and to understand the public health risks posed by the results. Without this information, it is not possible to independently evaluate and understand the public health risks posed by dioxin contamination in East Palestine.

Measurement of Dioxin Concentrations in Soil Samples

The concentration of dioxins in the soil samples was reported by EPA in milligrams of a specific form (congener) of dioxin found per kilogram of soil (mg/kg). This concentration is equivalent to 1 part per million (ppm). It's not clear why EPA chose to use this unit of measure since the concentrations of the dioxins found in the samples were generally at much lower levels. Reporting the results this way makes it harder for people to follow and to understand. To compensate for this added complexity, we have converted the results to parts per trillion (ppt) to make it easier to follow. One mg/kg is equal to 1×10^6 parts per trillion (ppt).

Concentration of Dioxins in Surface Soil

The concentration of all three congeners of dioxin for all samples collected from surface soil ranged from 0.22 to 510 parts per trillion (ppt). For 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD), the most

potent form of dioxin, the concentration in surface soil ranged from 0.22 to 510 parts per trillion (ppt). For 1,2,3,7,8-pentachlorodibenzo-p-dioxin (PeCDD), an equally potent form of dioxin, the concentration in surface soil ranged from 0.86 to 190 parts per trillion (ppt). For 2,3,4,7,8-pentachlorodibenzofuran (TCDF), the concentration in surface soil ranged from 1.5 to 100 parts per trillion (ppt). These results are summarized in Table 1.

It is clear from these sample results that there are a number of significant concentrations of 2,3,7,8-TCDD and 2,3,4,7,8-PeCDD in these samples. It would be important to identify where these samples were collected from and to evaluate why these samples had such high concentrations. Is it a hot spot of some kind? Was there unique fallout from the smoke cloud that settled there? It is important to conduct additional testing in this area in order to evaluate why these samples reported such high concentrations of dioxins.

We also looked at the average concentration of these same three congeners of dioxin in surface soil. The average concentration of each of the three congeners of dioxin for all samples in surface soil ranged from 5.16 to 6.49 parts per trillion (ppt). For 2,3,7,8-TCDD, the average concentration in surface soil was 6.39 ppt. For 1,2,3,7,8-PeCDD, the average concentration in surface soil was 5.16 ppt and for 2,3,4,7,8-PeCDF, the average concentration in surface soil was 6.49 ppt. These results are summarized in Table 1 below. As stated above, without knowing the actual sample locations, it is difficult to draw conclusions about what this large range of measurements could mean.

Table 1 – Minimum, Average, and Maximum Concentrations of Select Dioxin Congeners in Surface Soil.

Concentration (ppt)	2,3,7,8-TCDD	1,2,3,7,8-PeCDD	2,3,4,7,8-PeCDF
Minimum	0.22	0.86	1.5
Average	6.39	5.16	6.49
Maximum	510	190	100

Average Daily Concentration of Dioxins in Surface Soil

The overall average concentration of each congener is useful, but it is also useful to understand how the concentration of each congener changed over time. To do this, we calculated the average concentration of each dioxin congener on each day. For example, 12 surface soil samples of each congener were collected on March 9, so we can average together the 12 measured concentrations of 2,3,7,8-TCDD. Doing this for every day samples were collected provides a calculation of the average daily 2,3,7,8-TCDD surface soil concentration. When we did this for TCDD, we found that the average daily surface soil concentration for TCDD ranged from 0.29 ppt to 30 ppt. These results are shown in Figure 2.

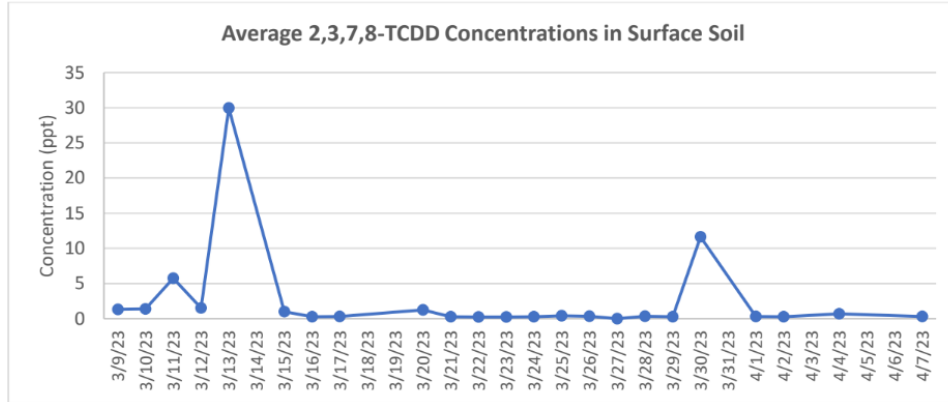


Figure 2 – Average Daily Concentration of 2,3,7,8-TCDD in Surface Soil.

We also did this PeCDD and PeCDF. The average daily surface soil concentration of 1,2,3,7,8- PeCDD ranged from 2.53 ppt to 17 ppt and the average daily surface soil concentration of 2,3,4,7,8-PeCDF ranged from 2.53 ppt to 40 ppt.

What’s clear when you do this is that on March 13, 2023 (3/13), the average concentration of all three dioxin congeners in surface soil was an order of magnitude (ten times) higher than the average across all days. Figure 2 shows this for the 2,3,7,8-TCDD results. The highest surface soil concentration measured on 3/13 was 510 ppt. This is a high concentration so it is important to identify the location of this sample and if it is a residential property, to share this result with the people who live there. It’s also important to evaluate why this sample had such a high concentration. Is it a hot spot? Was there unique fallout from the smoke cloud that settled there? It is important to conduct additional testing in this area in order to evaluate why this sample reported such a high concentration of dioxins.

EPA did not provide any explanation for the high concentration found on 3/13, especially compared to the results from sampling locations on other days.

Maximum Daily Concentration of Dioxins Found in Surface Soil

With the large range of concentrations measured for each dioxin congener, and the fact that there is potential danger to human health, it is also useful to understand the maximum daily concentration of each dioxin congener. This is particularly important for the two congeners with the highest toxicity, 2,3,7,8-TCDD and 1,2,3,7,8-PeCDD. Maximum surface soil concentrations for each day of sample collection are shown in Figure 3 for 2,3,7,8-TCDD and in Figure 4 for 1,2,3,7,8-PeCDD. In each case, surface soil measurements on 3/13 were two orders of magnitude (one hundred times) higher than on other days.

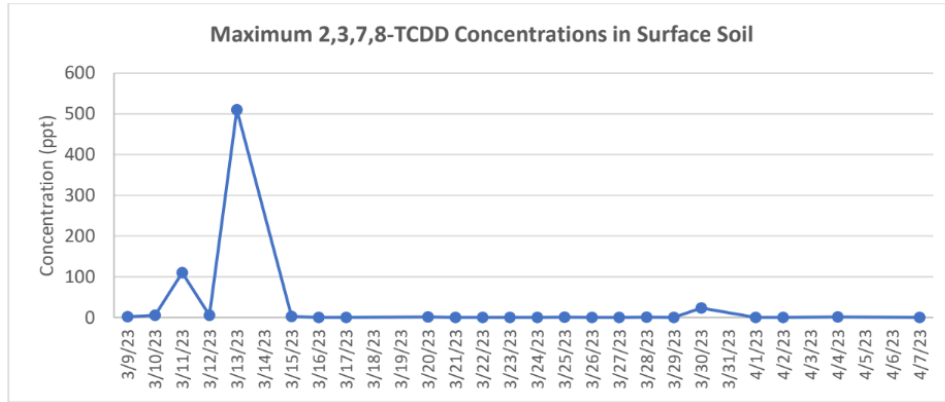


Figure 3 – Maximum Daily Concentration of 2,3,7,8-TCDD in Surface Soil.

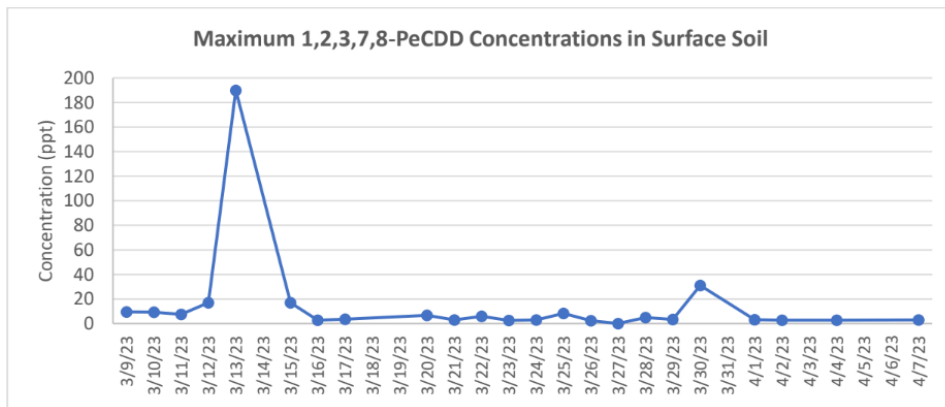


Figure 4 – Maximum Daily Concentration of 1,2,3,7,8-PeCDD in Surface Soil.

Dioxin Concentrations Below the Limit of Detection

In a substantial number of surface samples, the concentration of dioxin was found to be below the limit of detection used by the laboratory. The limit of detection is the lowest concentration of a substance that can be detected in a sample. It is determined by the sensitivity of the procedure used by the laboratory doing the analyses. Because EPA only made a summary of the lab results available to the public, it is not clear what the specific limit of detection was for each congener that was measured. Instead, the EPA summary results indicate a range of values identified as being “below the limit of detection.” The results for each dioxin congener are reported this way by EPA without identifying a specific limit of detection.

This unconventional approach makes it difficult to evaluate and to understand the public health risks posed by the results. Without this information, it is not possible to independently evaluate and understand the public health risks posed by the dioxin contamination in East Palestine.

Perhaps not surprisingly given the unusual and unconventional methods and procedures used by Norfolk Southern to collect these samples, a significant number of samples were described by EPA as being below the limit of detection. Of 130 surface soil samples that were collected, more than 69 percent of all samples were reported by EPA to have congener specific dioxin concentrations that were less than the limit of detection. For example, for 2,3,7,8-TCDD 89 of 130 samples (68%) were reported to have concentrations that were less than the limit of detection. For 2,3,4,7,8-PeCDD, 97 of 130 samples (75%) were reported to have concentrations that were less than the limit of detection. And for 2,3,4,7,8-PeCDF, 85 of 130 samples (65%) were reported to have concentrations that were less than the limit of detection. These results are summarized in Figure 5.

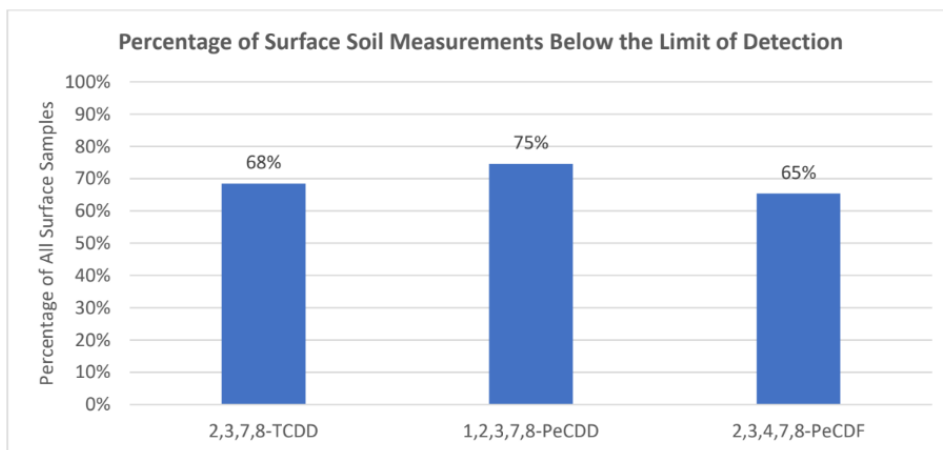


Figure 5 – Percentage of Surface Soil Sample Measurements Below the Limit of Detection for Select Dioxin Congeners.

Considering the many pollutants released into the air as particulates and as volatile and semi volatile substances from the train derailment and subsequent intentional burn of vinyl chloride and other toxic chemicals, this finding is highly unexpected. The question these results raise is not why so many samples were below the limit of detection, but rather are the results believable at face value? These findings may be a reflection of the unusual and unconventional methods and procedures used by Norfolk Southern to collect these samples, and not a true reflection of the dioxin concentrations in the areas impacted by the train derailment and subsequent intentional burn of vinyl chloride and other toxic chemicals. Additional testing is needed using standard testing procedures to verify these results and provide public confidence that the results accurately reflect the concentration of dioxins in the areas impacted by the derailment and intentional burn.

Dioxin Concentrations Compared to EPA Guidelines

Despite the many limitations and uncertainties in how these samples were collected, one can still consider the results at face value. One way to do this is compare the results to existing guideline or benchmark values. The US EPA has developed Regional Screening Levels (RSLs) to evaluate the potential for adverse effects to human health based on exposure to soil. In this case, we used the EPA's regional screening levels for residential property.

EPA's risk screening level table on their website includes two dioxins: 2,3,7,8-TCDD and a mixture of hexachlorodibenzo-p-dioxins. EPA's risk screening value for 2,3,7,8-TCDD is 4.8 parts per trillion (ppt) for a target cancer risk of one-in-a-million. This is a common health protective acceptable target risk value. The analysis for dioxin in East Palestine did not include a mixture of hexachlorodibenzo-p-dioxin, so that guideline value was put aside.

In addition to the 2,3,7,8-TCDD benchmark value, Arcadis, Norfolk Southern's contractor, proposed risk screening levels (RSLs) for all 17 congener specific dioxins (see page 118 of the Phase 1 Soil Sampling Plan). Table 2 below shows the number of surface soil samples with concentrations that exceeded the EPA's RSL for 2,3,7,8-TCDD as well as Arcadis's proposed RSL values for 1,2,3,7,8-PeCDD and 2,3,4,7,8-PeCDF. In 6 samples (5% of the samples), the concentration of 2,3,7,8-TCDD exceeded the EPA RSL for 2,3,7,8-TCDD. In the case of 1,2,3,7,8-PeCDD, 42 of 130 samples (32%) exceeded the Arcadis proposed RSL for 1,2,3,7,8-PeCDD. None of the samples had concentrations of 2,3,4,7,8-PeCDF that exceeded the Arcadis proposed RSL for 2,3,4,7,8-PeCDF. These results are shown in Table 2.

While this is a minority of samples, it does make clear that there are levels of dioxins in the area worth investigating further. Because EPA has not disclosed the sampling locations, it is unclear how many locations had dioxin concentrations above RSLs. Further still, because it's even unclear if the results occurred at the same location. It's important to identify where these samples were collected from and to evaluate why these samples had such these high concentrations. Is it a hot spot of some kind? Was there unique fallout from the smoke cloud that settled there? It is important to conduct additional testing in the East Palestine area in order to evaluate why these samples reported high concentrations of dioxins.

Table 2 – Number and Percent of Surface Soil Samples of Select Dioxin Congeners Found to be Above EPA's Regional Screening Levels (RSLs).

	2,3,7,8-TCDD	1,2,3,7,8-PeCDD	2,3,4,7,8-PeCDF
EPA's intermediate and chronic Regional Screening Level (RSL) (ppt)	4.8	4.8	16
Number of surface soil samples above RSL	6	42	0

Percent of surface soil samples above RSL	5%	32%	0%
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EPA did not provide any analysis of what risks these results may pose to residents, especially if residents live on or near property with high dioxin concentrations. It's not even clear that residents who might live on or near property with high concentrations of dioxins have been informed of these findings.

Another way to assess if concentrations of dioxins are significant and warrant action is to use EPA's guidelines to calculate the total toxic equivalent (TEQ) value for the combination of the dioxins with the highest toxicity, 2,3,7,8-TCDD and 1,2,3,7,8-PeCDD. These calculations can be compared to EPA's proposed (in 2010) Preliminary Remediation Goal (PRG) for dioxin of 3.7 parts per trillion (ppt) TEQ for residential soil. Doing this would provide a conservative estimate of the total TEQ value since only two congeners would be included in the TEQ calculation. This would underestimate the total TEQ value.

EPA itself did not calculate TEQ values for the East Palestine dioxin data, which is concerning because this is the gold standard for analyzing the potential health risks of dioxin concentrations. EPA has done these calculations in other instances of suspected dioxin contamination and provided no explanation for why they were not calculated here. According to EPA, "if an exposure area has an average concentration above the PRG, some level of remediation is needed." The PRG is shown as a black line in Figure 6 below. It's clear from this figure that there are ten days in which the calculated average TEQ value was above EPA's PRG. This suggests that dioxin levels at the locations sampled on these days were significantly high. Because EPA did not provide information about sampling locations, it is unclear how many locations these high TEQs represent or what human activity near those locations may be at risk of exposure. EPA did not indicate that remediation efforts would take place in or around these or any sample locations.

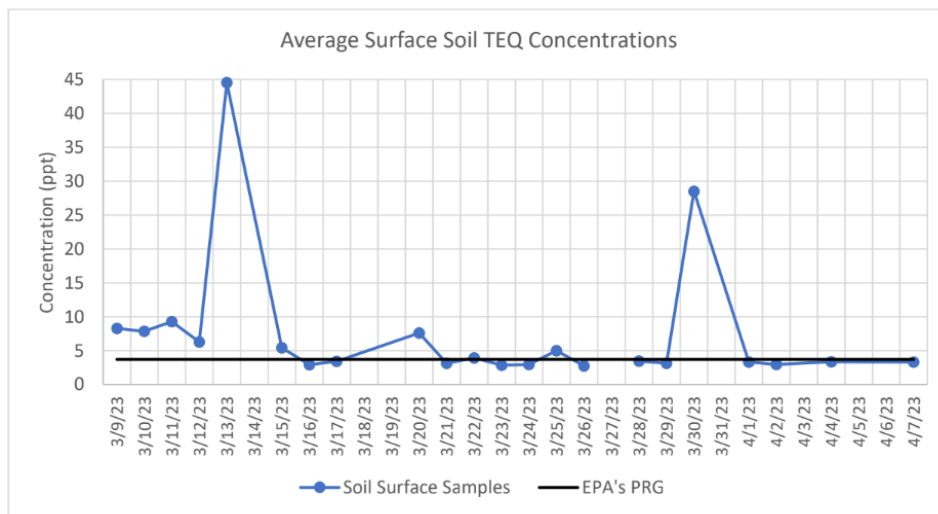


Figure 6 – Average Daily TEQ for the Combination of 2,3,7,8-TCDD and 1,2,3,7,8-PeCDD. The black line reflects the Proposed PRG for Dioxin of 3.7 ppt TEQ for residential soil.

Based on this analysis, it is clear that a significant number of samples that were collected as part of EPA's dioxin sampling effort in East Palestine exceed EPA and other benchmarks and guidelines for evaluating the public health risks of dioxins and warrant additional action. Specifically, EPA needs to conduct additional testing in the areas where high levels were found in order to evaluate if these areas represent hotspots or whether there are other reasons why the concentration of dioxins were high in these areas. A scientist appointed by the community needs to be included in this follow-up testing and investigation. It is also evident that EPA needs to take action to communicate to residents living near these sample locations if this has not already been done.

Limitations of EPA's Testing and Sampling Plan

There are many limitations in EPA's dioxin testing approach that made the likelihood of finding positive results very small. These limitations include the following:

- The initial sampling plan developed by Arcadis for Norfolk Southern and approved by EPA was never intended to identify the public health risks posed by the contamination in the community caused by the derailment and subsequent intentional burning of vinyl chloride and other toxic chemicals. Arcadis defined the purpose of the proposed sampling plan as "a guide to soil inspection" (Arcadis Report, p. 1). This general description defines what sampling will be done and where the samples will be taken from and is consistent with the vague sampling approach taken by Norfolk Southern.
- The approach for determining where to collect samples developed by Arcadis for Norfolk Southern and approved by EPA was highly unusual and did not follow standard procedures for investigating contaminated sites or areas. Norfolk Southern's "soil inspection" approach involved walking the area and "inspecting" the surface soil for evidence of ash or other debris from the derailment and subsequent intentional burn as the primary way of identifying where samples will be taken (Arcadis Report, p. 1). In over 40 years of evaluating contaminated sites, I've never seen EPA approve a soil sampling plan that was this vague and subjective.
- The samples were collected more than one month after the train derailment, so weather conditions and human activity would likely have interfered with surface soil conditions and influenced the results of the sampling, especially given the "visual" inspection approach used by Norfolk Southern. It's unclear how accurately the surface soil sampling results reflect the emissions fallout from the derailment and intentional burn.
- No information is provided on the actual location of where samples were taken. Subsequently, it's unclear how close collected samples were to the immediate site of the derailment and intentional burn and how many samples were taken from downwind of the immediate site of the derailment and intentional burn. It's also unclear if the samples with significant concentrations of dioxins

reflect hot spots or other evidence of contamination from the emissions fallout from the derailment and intentional burn.

- EPA failed to require Norfolk Southern to report its dioxin results in TEQ values. TEQ is the Gold Standard for analyzing and evaluating the potential health risks of dioxin concentrations in soil, air or water. This makes interpreting the results unnecessarily complicated and difficult.
- The EPA and Norfolk Southern failed to request that the lab analyze the soil samples for polychlorinated chlorinated biphenyls (PCBs) which also would have formed as a result of the intentional burning of vinyl chloride. This limits what we know about the public health risks posed by the intentional burning of vinyl chloride and other toxic chemicals by Norfolk Southern.
- No samples collected as part of this effort were taken from the areas directly and immediately impacted by the derailment and subsequent intentional burning of vinyl chloride and other toxic chemicals. As a result, it's unclear what the concentration of dioxins was in the surface soil at the immediate site of the derailment and intentional burn. These areas may have been included as part of other sampling conducted by Norfolk Southern, but if that is the case, those results have not been released to the public and they should be. Without this information, it's not possible to gain a complete and comprehensive understanding of the public health risks posed by the derailment and subsequent intentional burning of vinyl chloride and other toxic chemicals.

Outstanding Questions about EPA's Testing Methodology

Since the initial letter submitted to EPA on March 13, 2023, the community has continued to raise questions about sampling locations, collection, measurement and analysis that have yet to be answered including in the agency's most recent correspondence to Jami Wallace of the Unity Council for East Palestine Train Derailment and Daniel Winston of River Valley Organizing dated September 14, 2023. The following questions remain unanswered or unaddressed by EPA and the residents of East Palestine still want the agency to answer these questions. Full analysis of the data and the potential risks to residents cannot be conducted without this information. Without this information, it's also not possible to determine if the areas impacted by emissions fallout from the derailment and intentional burn have been appropriately and adequately tested for dioxins and other toxic chemicals released during this event.

1. Where are the sampling locations for each measurement?
2. How was the number of samples to be collected on each day chosen?
3. EPA used a nonstandard approach for selecting sample locations that was uncharacteristic, unscientific, and unprofessional. Why was an objective sampling approach (such as a grid plan or concentric circle plan) to get unbiased sampling not used in this situation.
4. Concentrations of congener specific dioxins were significantly high on March 13th and March 30th (and to a lesser extent on March 10th). What were the sample locations on these days and why were the results orders of magnitude higher than most other measurements? If you cannot answer this question, then additional testing needs to be done at these same locations

to verify the results and investigate why the concentrations of dioxins were so high at these locations on these days.

5. What were the weather conditions and human activity on each day of sample collection at each sampling location? Weather conditions such as wind or rain and human activity could affect sample collection, measurement, and interpretation.
6. The community's ability to analyze and interpret the data is significantly limited by the fact that the number and locations of samples have not been provided by EPA. How does EPA intend for the community to use this data without that information?
7. Why did EPA not release any data analysis along with its summary measurements of dioxins?
8. In the past EPA has calculated TEQs for dioxins – why was that not done for each measurement here?
9. Can EPA provide the actual laboratory results for all the surface soil sampling results for dioxins?
10. Does EPA intend to investigate the high dioxin concentrations that were found as part of this initial soil sampling effort? If not, why not.

Summary and Conclusions

The many outstanding questions and limitations of EPA's dioxin testing make it difficult to trust, believe, and accept the results as providing an accurate understanding of the concentration of dioxins in the surface soil in the areas of East Palestine that were impacted by the train derailment and subsequent intentional burn of vinyl chloride and other toxic chemicals. Instead, the results of the EPA testing for dioxins may reflect the unusual and unconventional methods and procedures used by Norfolk Southern to define where and how to collect samples.

Based on the data provided by EPA and the information provided to support that data and how it was collected, it is not possible to tell 1) where dioxin contamination is or isn't, or 2) what the concentrations of dioxins are at a given location. Furthermore, EPA did not disclose the actual location of any of the samples that were collected. This is an important because it is needed to evaluate and to understand the public health risks posed by the results. Without this information, it is not possible to independently evaluate and understand the public health risks posed by the dioxin contamination in East Palestine.

Surprisingly, there is no mention in the sampling plan report about addressing the public health risks posed by the contamination caused by the burning of vinyl chloride and other toxic chemicals.

Despite the many limitations in the testing approach, some sample measurements did detect significant levels of dioxins. A significant number of samples that were collected as part of EPA's dioxin sampling effort in East Palestine exceed EPA and other benchmarks and guidelines for evaluating the public health risks of dioxins and warrant additional action.

Yet, EPA has refused to conduct additional testing or take any action to address these findings. It is clear, for example, that significant concentrations of 2,3,7,8-TCDD and 2,3,4,7,8-PeCDD were found in the surface soil. Concentrations of 2,3,7,8-TCDD were found as high as 510 ppt, more than 100 times higher than the EPA's Regional Screening Levels (RSL) for TCDD. This is a significant finding that needs to

be addressed. A total of 6 samples had concentrations of 2,3,7,8-TCDD that exceeded the EPA RSL for 2,3,7,8-TCDD. In addition, 42 samples had concentrations of 1,2,3,7,8-PeCDD that exceeded the Arcadis proposed RSL for 1, 2,3,7,8- PeCDD. However, it is unclear where these samples were taken from, or even if any of the results occurred at the same location. It's important identify where these samples were collected from and to evaluate why these samples had such high concentrations. Is it a hot spot of some kind? Was there unique fallout from the smoke cloud that settled there?

Furthermore, EPA did not provide any analysis of what risks these results may pose to residents, especially if residents live on or near property with high dioxin concentrations. It's not even clear that residents who might live on or near property with high concentrations of dioxins have been informed of these findings.

Specifically, EPA needs to conduct additional testing in the areas where high levels were found in order to evaluate if these areas represent hotspots or whether there are other reasons why the concentrations of dioxins were high in these areas. A scientist appointed by the community needs to be included in this follow-up testing and investigation. It is also evident that EPA needs to take action to communicate to residents living near these sample locations.

Thus far EPA has not shared comprehensive sampling details that would allow the community and its scientific advisors to independently evaluate this sampling effort. The agency has also failed to provide transparency in its sampling and analytical procedures. Once sampling has been conducted, results have not been released in a transparent, accessible, or easy to understand manner. This unconventional approach has made it difficult to evaluate and to understand the public health risks posed by the results. Without the information, it is not possible to independently evaluate and understand the public health risks posed by the results. This has further eroded public trust in EPA's goals, data, and commitment to public health. In order to properly communicate this information to the community and instill confidence in the information, EPA must provide its sampling plans, procedures and results in a transparent and accessible manner. This has not been the case thus far.

In spite of the Norfolk Southern collecting more than 260 surface and subsurface soil samples, the people of East Palestine still have many questions about their potential exposure to dioxins. People continue to ask EPA for more testing which the agency continues to deny. Based on this analysis of the EPA's testing approach and results, additional testing is clearly needed. This additional testing should be designed to address the public health risks posed by the contamination caused by the derailment and subsequent burning of vinyl chloride and other toxic chemicals. Conducting this additional testing will go a long way towards addressing the many questions people have.

We continue to recommend that EPA conducted the following sampling for dioxins and dioxin like substances:

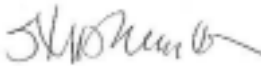
- In soils at homes, parks, schools, farms, and other locations downwind of the derailment;
- In indoor dust and surfaces inside homes and other buildings downwind of the derailment;
- In farm animals, milk, and chicken eggs in farms that may be impacted by the derailment;

- In sediments, fish, salamanders (e.g., endangered Hellbender salamanders in OH), and other aquatic life including vegetation; and
- In wildlife in the area, including birds and deer, which may be hunted.

The community has given EPA ample opportunities to build trust, engage with the public, and provide information. EPA has responded with a complicated presentation of its results in which nothing is clear and little makes sense, rather than being forthcoming about its plans, processes and results. Furthermore, EPA has provided no analysis of their results.

We hope these comments are helpful. Please do not hesitate to contact us if you have any questions or require additional information.

Sincerely,



Stephen U. Lester
Science Director



Mihir Vohra
Science Fellow

100 Environmental Groups Sign On to Letter to EPA on Dioxin Testing

March 13, 2023

Michael Regan, EPA Administrator
Janet McCabe, Deputy Administrator
Debra Shore, EPA Region 5 Administrator
Adam Ortiz, EPA Region 3 Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., N.W.
Washington, DC 20460

March 13, 2023

RE: Dioxins and the East Palestine Train Derailment

Dear Administrator Regan, Deputy Administrator McCabe, Regional Administrator Shore, and Regional Administrator Ortiz:

Although delayed, we welcome the U.S. Environmental Protection Agency (EPA)'s announcement on March 2, 2023 that it will now require Norfolk Southern to test for dioxins in the areas impacted by the East Palestine train derailment. We are writing to share our recommendations on how this testing should be conducted to improve transparency, rebuild public trust, and comprehensively address possible releases of dioxins from the disaster. We join Senators Sherrod Brown (D-OH) and J. D. Vance (R-OH) in urging EPA to require thorough testing for dioxins.

As you know, dioxins are extremely persistent bioaccumulative toxic (PBT) chemicals that break down very slowly, build up in the food chain and in our bodies, and can cause cancer and other serious health problems. In the EPA's own words, "Dioxins are highly toxic and can cause cancer, reproductive and developmental problems, damage to the immune system, and can interfere with hormones." Indeed, dioxins are one of the most toxic chemicals known to humankind and have been targeted for global phase-out under the POPs Treaty. It was the primary contaminant in Agent Orange, the defoliant used in Vietnam, and a key contaminant at both Love Canal and Times Beach.

EPA must lead the dioxin sampling, not Norfolk Southern.

To date, Norfolk Southern has done an extremely poor job of building trust with the community of East Palestine and other communities impacted by the disaster. To ensure this testing is adequately conducted, and to rebuild public trust, we strongly recommend the U.S. EPA itself conduct the dioxin sampling or hire its own consultants to conduct the testing. Norfolk Southern should not be in charge of the dioxin sampling. This testing must be paid for by the responsible parties, not taxpayers.

The dioxin sampling plan must be transparent and released for public input.

Without comprehensive testing, the people in East Palestine and other communities in Ohio and Pennsylvania will not know the extent to which dioxins are an issue. To build trust and confidence in the

results, a transparent process for developing a sampling plan needs to be the next step. The sampling plan must identify and state:

- Goals and objective of the sampling plan;
- What environmental media – soil, dust, animals, water, sediment, air – will be sampled;
- Sample locations for each medium type; It must include communities that were in the path of the plume.
- The number of samples that will be collected for each medium type;
- Sample collection procedures for each medium type;
- Detection limits for each medium type;
- Analytical procedures for each medium type;
- Which suite of dioxins will be analyzed. Total polychlorinated dioxins and furans should be measured as well as PCBs, especially the dioxin-like PCBs;
- Details on quality control/quality assurance procedures; and
- What analytical laboratory will analyze the samples.

The proposed sampling plan should be made public and given to area residents to review and comment on before the testing begins.

All sampling data and test results should be made available to the public for review in a transparent and easily accessible format. This information must be accessible for review, given the need for results to be meaningful to impacted communities as well as to build trust through transparent action.

The dioxin sampling plan must be comprehensive.

Responders reportedly punctured and burned more than 115,000 gallons of vinyl chloride in uncontrolled conditions for numerous days, making it likely that dioxins and related chlorinated substances were formed and released into the communities surrounding the disaster site. Four train cars of polyvinyl chloride plastic also burned, also likely forming dioxins. There have been elevated levels of dioxins released in other major accidents involving chlorinated chemicals—from the 2004 explosion at the PVC plant in Illiopolis, Illinois, to the 1997 Plastimet PVC recycling fire in Ontario, to the 2001 World Trade Center attacks. A study of a European train carrying vinyl chloride that derailed and burned found background dioxin values measured in soils and plants generally in the range of 20 ng TEQ/kg in the surrounding area but increased to 8300 ng at the very seat of the fire. Producers of PVC and vinyl chloride monomer report releasing dioxins. Oxy Vinyls' vinyl chloride monomer (VCM) plant in Texas reported the greatest releases of dioxins compared to any other facility in the country, according to the EPA 2021 TRI dioxin factsheet.

The EPA must work to evaluate whether elevated levels of dioxins may have been released and contaminated various environmental media, not just soil. **The EPA must develop a comprehensive multimedia testing program into the possible release of dioxins, other chlorinated ring compounds, and other toxic byproducts from the disaster.** We recommend sampling for dioxin and other chlorinated ring compounds (such as chlorinated PAHs) is conducted:

- In soils at homes, parks, schools, farms, and other locations downwind of the derailment;
- In indoor dust and surfaces inside homes and other buildings downwind of the derailment;

- In farm animals, milk, and chicken eggs in farms that may be impacted by the derailment; and
- In sediments, fish, salamanders (e.g. endangered Hellbender salamanders in OH), and other aquatic life including vegetation.
- In wildlife in the area, including birds and deer, which may be hunted

We are concerned that EPA may be overly reliant on samples for “indicator chemicals” such as chlorobenzenes and chlorophenols. In its March 2nd press release, EPA stated that: “monitoring for indicator chemicals has suggested a low probability for release of dioxin from this incident.” This is concerning for a few reasons. According to the EPA’s website, Soil and Sediment Sampling Data: East Palestine, Ohio Train Derailment | US EPA, the reporting limit for chlorophenols (and dibenzofurans, a close relative of dioxins) is 53-65 mg/kg of soil or sediment. For chlorobenzenes, the reporting limit is much lower at 0.05-0.06 mg/kg. As EPA scientists are undoubtedly aware, chlorobenzenes are much more volatile than chlorophenols or dioxins. So, we would expect that any chlorobenzenes that formed would have evaporated from the soil. Dioxins, however, are persistent in soil and sediments and are toxic at extremely low levels. EPA’s soil screening level for dioxin is 1 ppb and the EPA has previously proposed stringent preliminary remediation goals (PRGs) for dioxins at contaminated sites at 72 PPT TEQ for residential soil (for non-cancer effects) and were also considering 3.7 PPT TEQ for residential soil (for cancer effects). We need soil/sediment testing in E Palestine at much lower levels of detection than 50-60 mg/kg.

Finally, we recommend the EPA work with other agencies to provide medical monitoring for impacted communities, especially East Palestine and those in the combustion plume, that desire it.

Communities surrounding and downwind of the derailment have a right to know whether the fire resulted in elevated concentrations of dioxins. The testing must be transparent and comprehensive. This would help demonstrate EPA’s commitment to comprehensively responding to this disaster, rebuilding trust with East Palestine and other impacted communities, and advancing environmental justice.

We request an opportunity to meet with you. Please contact Mike Schade at mschade@toxicfreefuture.org / 646.783.3477 to arrange a mutually convenient time.

Sincerely,

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Mardy Townsend, President
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Ohio

Heather Cantino, Steering Committee Chair
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*Summary of Soil Testing for Dioxins East Palestine
February 11, 2024*

Summary of Soil Testing for Dioxins East Palestine

Over the last twelve months, Scott Smith has taken a total of 63 soil samples through February 11, 2024 with results that have come back from the independent laboratory, Eurofins Lancaster Laboratories. This testing was done at the request of the community that could not get testing done elsewhere. Hence, this was targeted testing with people that were reporting health symptoms. Arcadis, a Norfolk Southern and EPA contractor, clearly set the Regional Screening Level ("RSL" and sometimes referred to as Residential Screening Level) at 4.8 ppt (parts per trillion) Dioxin TEQ (Toxic Equivalency).

Utilizing the RSL of 4.8 ppt, the good news is that a majority of 54% of the Dioxin TEQ results are less than the RSL of 4.8 ppt. Approximately 46% of the results show a Dioxin TEQ above 4.8 ppt and require follow up testing per the recommendation of Arcadis.

Furthermore, we have also compared these testing results to commonly referred to background Dioxin TEQ values of 6 ppt for residential non-impacted communities, and Dioxin TEQ values of 8 ppt for urban non-impacted communities. Approximately 40% of the results exceeded 6 ppt and 33% exceed 8 ppt.

Again, this is good news for the community of East Palestine in that the majority of Dioxin TEQ soil testing shows testing results are within background and/or below the RSL. This allows us to focus on follow up testing for the minority of results that showed elevated Dioxin levels.

East Palestine Number of Dioxin Soil Samples as of February 1, 2024	63	
Samples >3 ppt TEQ (Rural Background for Non-Impacted Communities)	44	70%
Samples >4.8 ppt TEQ (Arcadis Proposed RSL Sep 7, 2023)	29	46%
Samples >6 ppt TEQ (Residential Background for Non-Impacted Communities)	25	40%
Samples >8 ppt TEQ (Urban/Industrial for Non-Impacted Communities)	21	33%

The following table represents that testing results as described above:

Summary of Garden Crop Testing for Dioxins East Palestine

While garden crop testing is limited at this point, relying on conjecture and models is wholly inadequate. We have found garlic from gardens or residents of East Palestine with Dioxin TEQ's as high as 440 ppt. While there are not enough data to draw any conclusions at this time, what can be stated is the urgent necessity of immediate additional testing and not relying on conjecture or models for the safety and well-being of the community.

The follow table represents the preliminary garden crop/garlic testing to date:

Garlic Dioxin TEQ Comparisons	Parts per Trillion (ppt)	% Increase
Control Garlic	0.81	-
Tamara Lynn Freeze Garlic	4.5	456%
Marilyn Figley Garlic	440	54221%

Note 1: Control garlic is from a sealed container from Tamara Lynn Freeze Prior to Derailment.

Note 2: This is preliminary data and more testing needs to be done before definitive conclusions are made.

Summary of Krissy Hylton Test Results for East Palestine

Krissy Hylton, an East Palestine resident whose home sits above Sulphur Run Creek, is well known from the visit with EPA Administrator Michael Regan and Ohio Governor Dewine. Ms. Hylton’s home has been testing several times for Dioxins and SVOC’s in her soil.

Recent coverage of Ms. Hylton’s latest test results is here: [East Palestine resident: We ‘need to be heard’ by Biden | Cuomo](#)

The following is a summary of Ms. Hylton’s preliminary results to date and why they are important:

Bottom Line: This data suggests that the excavation and cleanup may have created more/increased contamination from the derailment in East Palestine which is why comprehensive tested should have been done and needs to continue.

Something that is very significant for Krissy’s furnace filter and soil testing and for the entire East Palestine community is the following:

1. Ms. Hylton and her family moved out on February 5, 2023 and still have not been back living in the house. **This is a key fact to counter what appears to be the false narrative from the EPA/Norfolk Southern that “everything is ok, within background, and the residents exposed themselves to everyday chemicals from cleaning and their lifestyle.”**
2. Ms. Hylton’s soil showed a significant increase in Dioxins from May to September. The most toxic dioxin congener 2,3,7,8-TCDD was found at 1.2 ppt in September but was not present in May. Furthermore, Semi-Volatile Organic Compounds (“SVOC’s”) increased from 4,360 ppb to 18,450 ppb. **The data suggest that the excavation and cleanup may have created more contamination in East Palestine which is why comprehensive tested should have been done and needs to continue.**

Dioxin TEQ Soil	Parts per Trillion (ppt)	% Increase vs Control				
Background Residential Soil	6	-				
Krissy Hylton Soil May-16	27	350%				
Krissy Hylton Soil Sep-25	34	467%	note: 26% increase since May-2023			
Note: TCDD was found in Krissy's Soil on Sep-25 at 1.2 ppt						
Total SVOC's Soil	Parts per Billion (ppb)	% Increase from May-16				
Krissy Hylton Soil May-16	4,360	-				
Krissy Hylton Soil Sep-25	18,540	325%				