



April 6, 2026

Adrian Palomeque, U.S. EPA Community Involvement Coordinator
Palomeque.Adrian@epa.gov
Sent by email only

Re: Comments on EPA's Proposed Interim Cleanup Plan for Federated Metals in Indiana

Dear Mr. Palomeque,

Unleaded Kids appreciates the opportunity to comment on EPA's Proposed Interim Cleanup Plan¹ for lead-contaminated residential soil at the Federated Metals Superfund Site in Hammond and Whiting, Indiana, in the area designated by the agency as Operating Unit 1 (OU1). This area was impacted by lead released from the operation of the secondary lead smelter and associated facilities at the site from 1937 to 1983. OU1 consists of roughly 3,800 single- and multi-family dwellings as well as other areas where young children may be exposed to contaminated soil such as vacant lots in residential areas, schools, daycare centers, community centers, playgrounds, parks, green ways, and other recreational areas.

Unleaded Kids is the only national organization focusing on reducing the cumulative impact of all sources of children's exposure to lead. For more information, see www.unleadedkids.org.

We are pleased to see EPA moving forward with this cleanup on an interim basis for the properties that had their soil sampled from 2016 to 2023 that have not yet been remediated. We encourage the agency to move quickly to address these properties and the remaining residential areas.

We have three significant concerns with the proposed plan, which are described in detail below.

1. Plan substantially underestimates the risk by improperly applying EPA directives for cleanup of residential soil contaminated with lead.
2. Plan does not specify what the maximum concentration of lead will be in the replacement soil.
3. Plan sets a target for children's blood lead level (BLL) that is inconsistent with public health goals.

Concern #1: Plan substantially underestimates the risk by improperly applying EPA's directives for cleanup of residential soil contaminated with lead.

In its proposed interim cleanup plan, EPA established a preliminary remediation goal of 200 parts per million (ppm) for lead in soil at residential properties in accordance with its October 16, 2025, EPA memorandum Residential Lead Directive for CERCLA Sites and RCRA Hazardous Waste Cleanup Program Facilities ("2025 Lead Directive").² This Directive states that EPA's national lead policy

¹ <https://semspub.epa.gov/work/05/706954.pdf>

² See <https://www.epa.gov/superfund/lead-superfund-sites-guidance#25directive>. See also <https://www.epa.gov/superfund/residential-soil-lead-directive-cercla-sites-and-rcra-hazardous-waste-cleanup-facilities>.

specifies the use of a regional screening level of 200 ppm for lead in residential soil and a target for children's blood lead level (BLL) of 5 micrograms per deciliter ($\mu\text{g}/\text{dL}$) to develop preliminary remediation goal.

The 2025 Lead Directive acknowledged that no evidence for a safe level of lead in children's blood has yet been found. Nonetheless, it established the 200 ppm goal for the purpose of managing risks under CERCLA and RCRA, by concluding that "protectiveness to have been achieved at the vast majority of residential soil lead sites when there is no more than a 5% probability of exceeding a BLL of 5 $\mu\text{g}/\text{dL}$ considering all exposures to lead for the child receptor."

EPA's conclusion was based on soil samples that were collected and analyzed consistent with its guidance. Since 2000, the agency's guidance has called for soil samples to be sieved to separate the fine particles from coarse particles and large debris and that cleanup levels should be based on the lead concentration in the fine fraction that passes through the sieve.³

The agency reached this conclusion because the fine fraction

has increased potential for incidental ingestion based on stronger relative dermal adherence, an increased likelihood to accumulate in the indoor environment (through deposition of wind-blown soil and/or transport track-in of soil on clothes, shoes, pets, toys, and other objects), and the likelihood of enrichment of lead in smaller particle size.⁴

In addition, EPA's blood lead models⁵ were based on the concentration of lead in fine fraction and not the levels in the total sample. EPA's 2025 Lead Directive used one of these models to determine that the 200 ppm was correlated to the likelihood of meeting the BLL of 5 $\mu\text{g}/\text{dL}$. The fine fraction was also used to develop the *in vivo* and *in vitro* bioavailability assays for lead in soil.

Unfortunately, EPA's proposed interim cleanup plan for the Federated Metals site improperly applies its 200 ppm preliminary remediation goal to the total soil sample⁶ and not the fine fraction. This error is important because, in addition to better representing the risk of exposure, the fine fraction is consistently higher than the coarse or total soil sample. The fine fraction can be between 1.5 and 13 times, depending on the source of the lead in the soil.

In 2016, EPA tightened its recommendation for sieving soil samples from the 250 μm to 150 μm "based on a growing body of evidence showing that dermally-adhered soil and dust, representative of soil and dust exposure to young children via incidental ingestion, is dominated by particles $<150 \mu\text{m}$."⁷ For context, a 250 μm screen⁸ results in a fine fraction similar to all-purpose flour. A 150 μm screen results in a fine fraction that is similar to powdered sugar.

³ OLEM Dir #9200.1-128, Recommendations for Sieving Soil and Dust Samples at Lead Sites for Assessment of Incidental Ingestion, July 2016, <https://semspub.epa.gov/src/document/HQ/100000133>. See also <https://www.epa.gov/superfund/lead-superfund-sites-guidance#sampling>.

⁴ OLEM Dir #9200.1-128, at page 3.

⁵ Using the Integrated Exposure Uptake Biokinetic (IEUBK) model for lead in children.

⁶ The total soil sample was sieved through a No. 4 (4.75 mm) or a No. 10 (2.0 mm) sieve (ASTM, 1999) to remove any large debris (e.g., sticks, stones).

⁷ OLEM Dir #9200.1-128 at page 1

⁸ Sieves are commonly referred to by a number. A No. 60 sieve is for 250 μm and a No. 100 sieve is for 150 μm

We do not understand why EPA's 2018 sampling plan⁹ for the Federated Metals cut corners when it failed to ensure that soil samples be sieved to separate the fine and coarse fractions. The challenge now is how to redress the failure.

One option would be to redo the sampling, but that would intolerably delay providing long-overdue cleanup to residents.

Another option would be for EPA to use a conversion factor to estimate the lead levels in the finer fraction based on the total soil sample. We reviewed the references in EPA's 2016 soil sieving recommendation and found two that addressed smelters that may be similar to those operated at the Federated Metals site.

They are:

- Tawinteung et al., 2005¹⁰ evaluated soil samples from an abandoned battery recycling and secondary lead-smelting factory. The lead concentration was **two times higher** in the <150 µm than in the 250 µm-2mm fraction.
- Juhasz et al., 2011¹¹ smelter evaluated soil samples that included mining and smelting activities. The lead levels in the <50 µm particle size fraction was **up to five times higher** the concentration observed in the bulk soil.

We recommend that EPA use the two-times conversion factor in Tawinteung et al., 2005 for two reasons:

- Both Tawinteung et al., 2005 and Federated Metals involved secondary lead smelters so they would expected to have similar contamination patterns.
- It uses the 150 µm fine fraction as EPA recommended while Juhasz et al., 2011 used a much finer 50 µm.

With the two-times conversion factor, EPA should use 100 ppm to evaluate the samples.

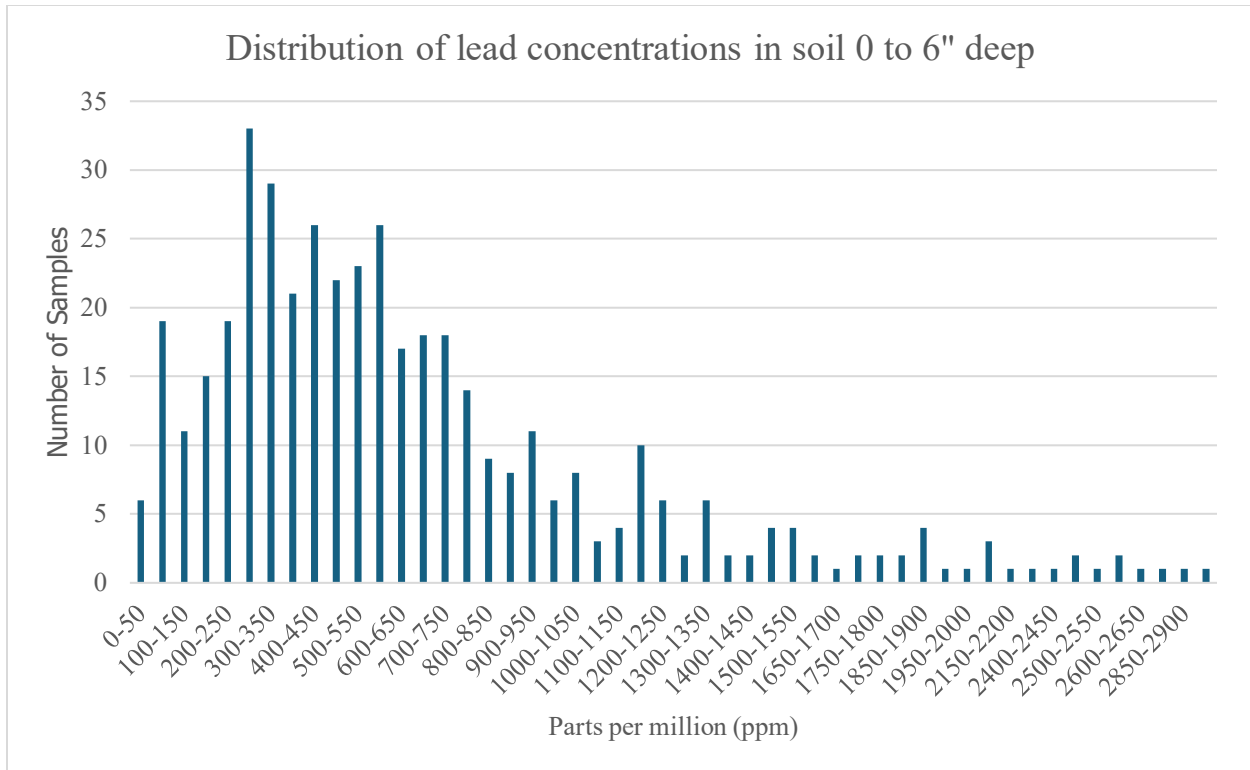
To understand the implications, we converted the sampling results for 240 properties from PDF to Excel¹² and grouped them into 50 ppm increments. See figure below. It appears that lowering the cleanup level to 100 ppm should result in as many as 26 more properties beyond the 160 in the current plan being cleaned up, further reducing potential future exposures. We think that is reasonable and appropriate.

⁹ TETRA TECH - ABBREVIATED SAMPLING PLAN AND ANALYSIS PLAN FOR THE FEDERATED METALS-WHITING SITE, REMOVAL ASSESSMENT ACTIVITIES (RESIDENTIAL SAMPLING) - REFERENCE 43, <https://semspub.epa.gov/src/document/05/980543>.

¹⁰ Tawinteung, N., Parkpian, P., DeLaune, R.D., Jugsujinda, A. 2005. Evaluation of Extraction Procedures for Removing Lead from Contaminated Soil. Journal of Environmental Science and Health, PartA 40(2), 385-407. See <https://www.tandfonline.com/doi/abs/10.1081/ESE-200045631>.

¹¹ Juhasz, A.L., Weber, J., Smith, E. 2011. Impact of soil particle size and bioaccessibility on children and adult lead exposure in peri-urban contaminated soils. J Hazard Mater, 186(2-3), 1870-1879. See <https://www.sciencedirect.com/science/article/abs/pii/S0304389410016754?via%3Dihub>.

¹² U.S. EPA MEMO RE: EVALUATION OF SOIL LEAD DATA COLLECTED IN THE REMOVAL SITE ASSESSMENT FEDERATED METALS CORP. WHITING SUPERFUND SITE, <https://semspub.epa.gov/src/document/05/2007209>.



Concern #2: Plan does not specify what the maximum concentration of lead will be in the replacement soil.

The purpose of the proposed interim cleanup plan is to significantly reduce the risk of lead exposure to residents. Identifying what lead level will trigger the cleanup is only half the equation. The other half is ensuring the replacement soil is clean.

We encourage EPA to amend the plan to specify that the replacement soil have less than 43 ppm of lead. This level is the 95th percentile based on the U.S. Geological Survey data.¹³

Concern #3: Plan sets a target for children’s blood lead level (BLL) that is inconsistent with public health goals.

We are concerned that EPA set a target children’s blood lead level (BLL) of 5 µg/dL to develop its preliminary remediation goals. That target level is inconsistent with 3.5 µg/dL blood lead reference value (BLRV) established by the U.S. Centers for Disease Control and Prevention (CDC) in 2021. The BLRV is used by the Department of Housing and Urban Development (HUD), Food and Drug Administration (FDA), Center for Medicaid and Medicare Services (CMS) as well as other programs at EPA.

¹³ USGS Background Soil-Lead Survey: State Data, accessed on April 2, 2026 at <https://www.epa.gov/superfund/usgs-background-soil-lead-survey-state-data#IN>.

The National Safe and Healthy Housing Coalition raised this disconnect in a March 18, 2026, letter¹⁴ to Steven D. Cook, OLEM's Principal Deputy Assistant Administrator. The Coalition said:

First, the target level for children's blood lead should be 3.5 micrograms per deciliter (µg/dL), not 5. This target level is important to setting preliminary remediation goals (PRGs) for the cleanup of lead-contaminated residential properties.

The January 2024 guidance used 3.5 µg/dL as the target blood lead level (BLL) where multiple sources of lead contamination are present and 5 µg/dL if the only source was contaminated soil from the cleanup site. Your directive justified the change to a target BLL of 5 µg/dL for all sites because it "reduces inconsistent implementation and provides clarity to decision-makers and the public, allowing the Agency to address sites more quickly while remaining within its RCRA and CERCLA response authorities."

While consistency is an important goal, adopting a higher BLL creates significant inconsistencies in public health practice nationwide. CDC has set their blood lead reference value (BLRV) at 3.5 µg/dL since 2021. Many state health departments use the BLRV to set priorities, track progress, educate the public, and provide case management and environmental investigation services as resources allow. HUD also uses the BLRV in its Lead Safe Housing Rule at 24 C.F.R. Part 35¹⁵ as a trigger for action to protect children in federally subsidized housing.

Having EPA's target BLL higher than what is used by other health and housing agencies risks creating confusion for federal, state, and local practitioners and communities and sends a troubling message that a higher lead exposure is acceptable for children living on Superfund sites compared to the rest of the country. We recommend that EPA align its target blood lead level with CDC's BLRV of 3.5 µg/dL, as HUD has done.

We agree with the National Safe and Healthy Housing Coalition and its call for EPA for preliminary remediation goals to be based on a target BLL of 3.5 µg/dL instead of 5.0 µg/dL. Even if EPA is unwilling to change the national goal, it should make an exception for states like Indiana that are already using CDC's BLRV.

The Indiana Department of Health's Rainbow Chart recommendations¹⁶ for case management makes clear that it considers 3.5 µg/dL to be an elevated blood lead level and calls for these families to receive "lead information and prevention education re. possible sources of lead exposure, nutrition counseling, medical/developmental/behavioral impacts."

Again, we appreciate the opportunity to provide comments to EPA on its proposed interim cleanup plan for Federated Metals site in Hammond and Whiting, Indiana, and encourage it to carefully consider our concerns and recommendations to ensure the healthiest possible outcomes for Indiana families.

If you have additional questions, please contact Tom Neltner at tneltner@unleadedkids.org.

¹⁴ See https://unleadedkids.org/wp-content/uploads/2026/03/EPA_lead-in-soil_superfund_final_NSHHC_3-18-26.pdf.

¹⁵ 24 CFR 35.110 "Elevated blood lead level."

¹⁶ Indiana Department of Health, Childhood Blood Lead Level Care and Action Case Management Guidelines For children ages 6 months to 84 months, February 2026. See https://www.in.gov/health/leadsafe/files/IN-Rainbow-Chart-Feb-2026-Version3.1_Final.pdf.

Sincerely,

A handwritten signature in black ink that reads "Tom Neltner". The signature is written in a cursive, slightly slanted style.

Tom Neltner, National Director
Unleaded Kids