

## EPA RECOMMENDS SITE CLEANUP OPTION WITH 2023 PROPOSED PLAN

This fact sheet provides a very brief overview of EPA’s full Proposed Plan for the preferred cleanup option for the Iron King Mine - Humboldt Smelter Superfund site in Dewey-Humboldt, Arizona (known as the IKHS site). Superfund is a cleanup program to address threats to human health and the environment at sites with contamination.

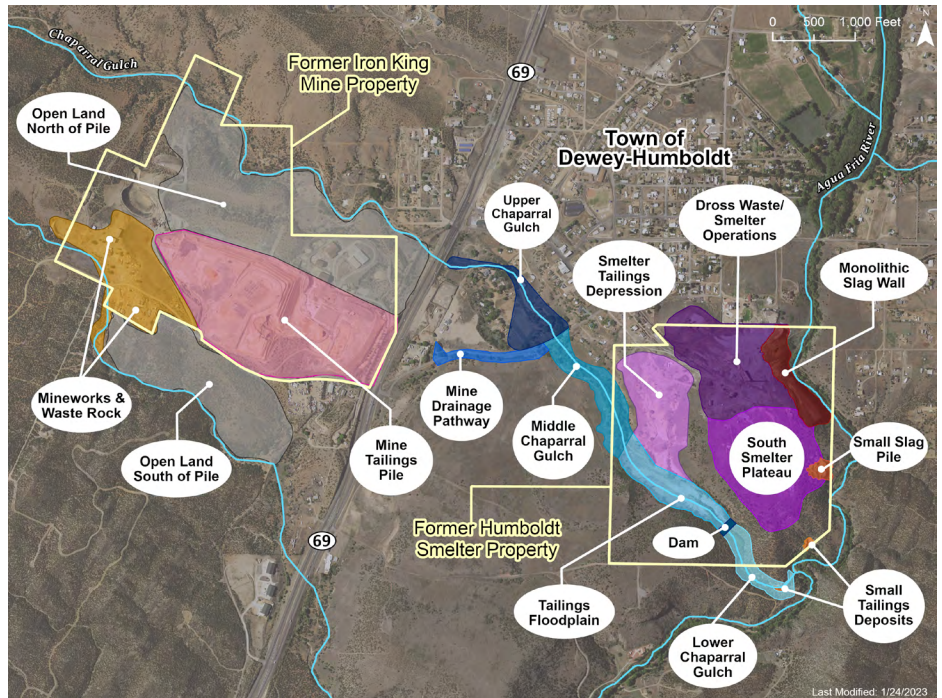
For the next 60 days, EPA invites public comment on the full Proposed Plan and the supporting studies and documents that form the basis for the proposal. The fully detailed Proposed Plan is available on our website at [epa.gov/superfund/ironkingmine](https://epa.gov/superfund/ironkingmine). After considering the information submitted during the public comment period, EPA will select a cleanup option for the IKHS site. The preferred option may change as a result of public comments. The public is encouraged to review and comment on the Proposed Plan.

### The Site Problem

Decades ago, the Iron King Mine and Humboldt Smelter left behind millions of tons of mining wastes, including mine tailings, smelter dross, and other types of wastes and contaminated soils.

- The Iron King Mine operated from the early 1900s to about 1970. It extracted zinc, silver, lead and gold, and left behind a pile of about 4 million cubic yards of orange mine tailings with high levels of arsenic and lead.
- The Humboldt Smelter and two older facilities at the same location operated from the late 1800s until about 1937. They crushed copper and lead ores and melted them in furnaces to make pure metal. Wind carried away lead and other metals from the smelter smokestacks. Wastes called dross and slag, and soils contaminated with lead and other metals, remain near the former furnaces on the smelter property.

Wastes from both operations washed into water drainages that lead to the Agua Fria River, contaminating soils and surface water. Wastes contain arsenic and lead at levels that can pose a health threat to people and wildlife. Soils at some residential properties were also contaminated by the IKHS site.



Major areas of the site where mine and smelter wastes and soil contamination are located.

*Disclaimer: Map image is the intellectual property of Esri and is used herein under license. Copyright © 2020 Esri and its licensors. All rights reserved. Sources: Esri, World Imagery: Maxar, Microsoft, Coconino County, County of Yavapai, © OpenStreetMap, HERE, Garmin, SafeGraph, GeoTechnologies, Inc., METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, Tetra Tech, Inc. and the 2022 Feasibility Study.*

### OPPORTUNITY TO COMMENT

**Public Hearing:**  
March 29, 2023  
6:30 p.m.

**Location:**  
Humboldt Elementary School  
2750 Corral Street  
Humboldt, AZ 86329

**Public Comment Period:**  
March 15 - May 13, 2023

To learn more about commenting on the Proposed Plan, please see the end of this fact sheet.

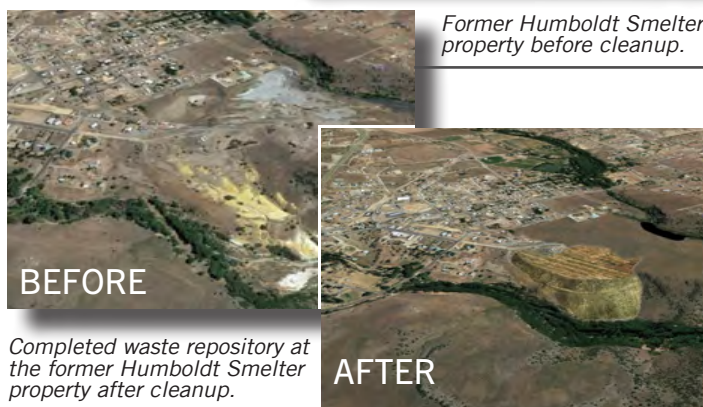
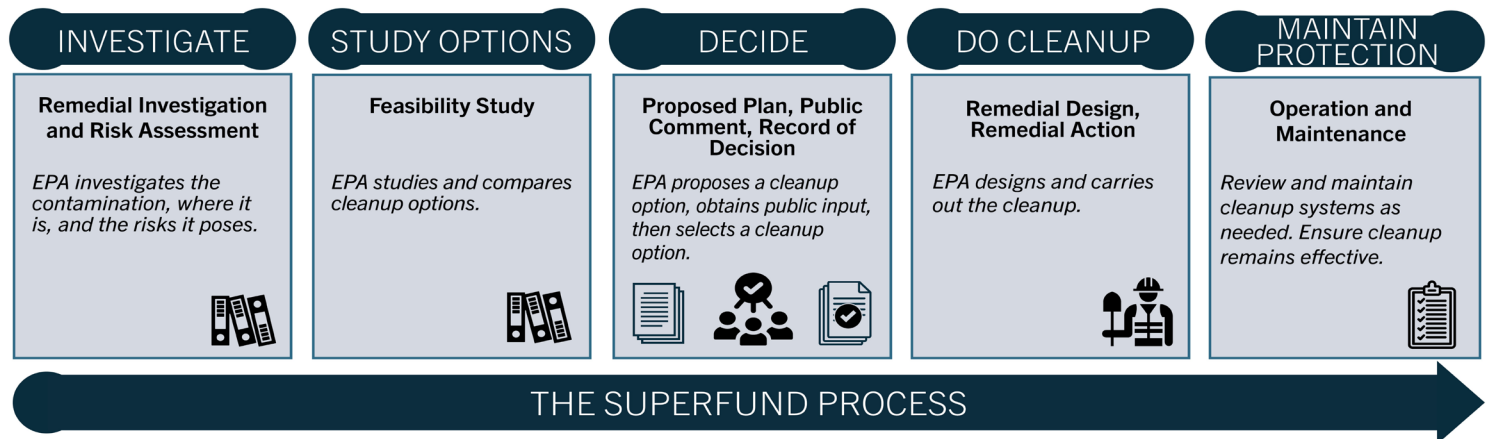


# EPA Studies and Previous Cleanup Actions

The full Proposed Plan highlights key information from EPA’s Remedial Investigation (RI) Report and Feasibility Study (FS) Report for the IKHS site. The 2016 RI Report describes site contaminants and potential risks to human health and the environment. The 2022 FS Report evaluates and compares cleanup alternatives to address the contamination. EPA’s preferred option is based on the findings of these reports.

Over many years, lead emissions from the smelter stack, wind-blown tailings from the mine and the smelter,

mine spills from rail loading areas, and commercial processing of mine tailings all contributed to lead and arsenic contamination in soils in some residential yards in Dewey-Humboldt. EPA investigated about 580 residential yards in the community in 2009, 2013 and 2014. We identified 47 properties where levels of lead and/or arsenic in yard soil were high enough that exposure to the soil for long periods could pose a threat to health. In 2007, 2012 and 2017, EPA did cleanup actions in these yards. We removed contaminated soil and replaced it with clean soil.



## EPA’s Preferred Cleanup Option

**Wastes In Non-Residential Areas:** EPA proposes digging up and removing the mine and smelter wastes and contaminated soils and moving them to two waste repositories. A waste repository is a large, stable, permanently covered holding cell that encapsulates wastes, keeps water out, and prevents wastes from moving further into drainages or the river. This preferred cleanup option would remove threats to human health and environment from the IKHS site and keep people and wildlife from being exposed to wastes.

Mine wastes and contaminated soils from the former mine and surrounding areas *west* of Highway 69 would be moved into a repository on the existing mine tailings pile. Wastes at the former smelter and in the Chaparral Gulch *east* of Highway 69 would be moved into a second waste repository, most likely in a natural depression on the former smelter property.

The cleanup would require moving large volumes of mine wastes, contaminated soil and clean cover soil in trucks for at least a year. However, under EPA’s plan, no wastes would need to cross the highway. Both repositories would be inspected periodically and maintained in the future to ensure they remained intact and effective. After cleanup, parts of the high, flat plateau at the smelter property



## Other Cleanup Alternatives Considered by EPA for Non-Residential Areas with Wastes

<b>Alternative 1</b>	Take no action. Required for comparison purposes.
<b>Alternative 2</b>	One Repository: Take all wastes from the site over to a single repository on the mine tailings pile. Large quantities of waste would have to cross the highway.
<b>Alternative 3A</b>	Take all wastes on the west side of the highway and wastes in Chaparral Gulch on the east side of the highway to a repository at the mine tailings pile; everything else on the east side of the highway stays in a second repository at the smelter. Moderate amounts of waste would have to cross the highway.
<b>Alternative 3B [Preferred Option]</b>	Two Repositories: Wastes do not cross the highway but stay in repositories on the side of the highway where they are now.
<b>Alternative 4</b>	Haul all waste at the IKHS site away to a permitted facility (perhaps 85 miles away).

could potentially be usable for beneficial purposes such as a park, interpretive history trail or other reuse.

Residential Yards: To be additionally protective of health, EPA proposes cleaning up more yards in addition to the yards cleaned up in the three previous residential cleanup actions discussed above. The earlier cleanup actions removed the health risk from exposure of people to soils in yards with metals such as arsenic and lead. However, recent studies of the toxicity of these metals now support the use of lower cleanup levels. EPA plans to clean up more residential yards to these levels as part of the proposed work.

EPA considers Alternative 1 and Alternative 4 to be unacceptable. Alternative 1 would not reduce the risks to human health and the environment at the IKHS site because it would do nothing. Alternative 4 would cost \$570 million (almost half a billion dollars more than the other alternatives) and require trucks on Highway 69 traveling to a distant disposal facility for about 10 years, causing extreme and long-term disruption to the community and transportation routes. Other alternatives can protect human health and the environment equally well for far less cost and disruption to the community and traveling public.

Alternatives 2, 3A and 3B would all protect human health and the environment. They could be implemented safely and would cost roughly the same (\$70 million to \$73 million). They require between one to two years of excavation and hauling. An important difference is that Alternatives 2 and 3A would require moving wastes across Highway 69 to the mine tailings pile. Alternative 3B would not. EPA has found moving waste across the highway poses greater community disruption, traffic congestion and safety considerations. Alternative 3B is EPA's preferred option. A more complete discussion of EPA's evaluation and comparison of alternatives are available in the full Proposed Plan and the FS Report.

**How much would the proposed cleanup option cost?  
About \$72 million.**



# We want to hear from YOU

## Want More Information?

- Watch one or more of our seven presentations on our website [semspub.epa.gov/src/document/09/100024175](https://semspub.epa.gov/src/document/09/100024175). Click on a presentation of interest to watch the video.
- Review the full Proposed Plan and studies and investigations at: [epa.gov/superfund/ironkingmine](https://epa.gov/superfund/ironkingmine).
- Visit our information repository at Dewey-Humboldt Public Library.
- Attend the public hearing about the Proposed Plan.



## How Can You Provide Comments on the Proposed Plan?



- Share oral comments in person at the public hearing.
- Submit written comments via mail (postmarked by May 13), or by email, to EPA project manager, Jeff Dhont (see box right).

EPA is accepting comments for 60 days, March 15 through May 13, 2023.

## Proposed Plan Public Hearing

Wednesday, March 29, 2023, 6:30 p.m.  
Humboldt Elementary School  
2750 Corral St.  
Humboldt, AZ 86329




## EPA SITE TEAM CONTACTS

Georgia Thompson  
Community Involvement Coordinator  
415-972-3048 | [thompson.georgia@epa.gov](mailto:thompson.georgia@epa.gov)

Jeff Dhont  
EPA Project Manager  
415-972-3020 | [dhont.jeff@epa.gov](mailto:dhont.jeff@epa.gov)

Mail Stop SFD-8-1  
75 Hawthorne Street  
San Francisco, CA 94105

 Printed on 30% Postconsumer Recycled/Recyclable Paper

United States Environmental Protection Agency, Region 9  
75 Hawthorne Street (SFD-8-1)  
San Francisco, CA 94105  
Attn: Jeffrey Dhont (IKHS 3/23)

Official Business  
Penalty for Private Use, \$300

Address Service Requested

FIRST-CLASS MAIL  
POSTAGE & FEES  
PAID  
U.S. EPA  
Permit No. G-35