



Iron King Mine & Humboldt Smelter Superfund Site

U.S. Environmental Protection Agency • Region 9 • San Francisco, CA • April 2010

EPA Completes Remedial Investigation Additional Residential Sampling Offered

The United States Environmental Protection Agency (EPA) and the Arizona Department of Environmental Quality (ADEQ) invite the public to a community meeting to discuss the results of the Remedial Investigation (RI) for the Iron King Mine – Humboldt Smelter Superfund site and answer questions from the community.

The purpose of the RI Report is to: (1) identify potential source areas, (2) define the nature and extent of contamination, and (3) present a summary of human health and ecological risks. The RI Report is now available online and at the Dewey-Humboldt Library.

Interested in free soil sampling for your yard?

EPA would like to sample yards within the area indicated on Figure 1 on page 2. EPA will make every effort to contact residents to request access to sample. Residents may also feel free to leave a message at (800) 231-3075 to request sampling.



Please Join Us

April 27, 2010



Presentation: 6 – 7:30 p.m.
Open House: 7:30 - 8:30 p.m.



American Legion Post #78
Highway 69
Dewey-Humboldt



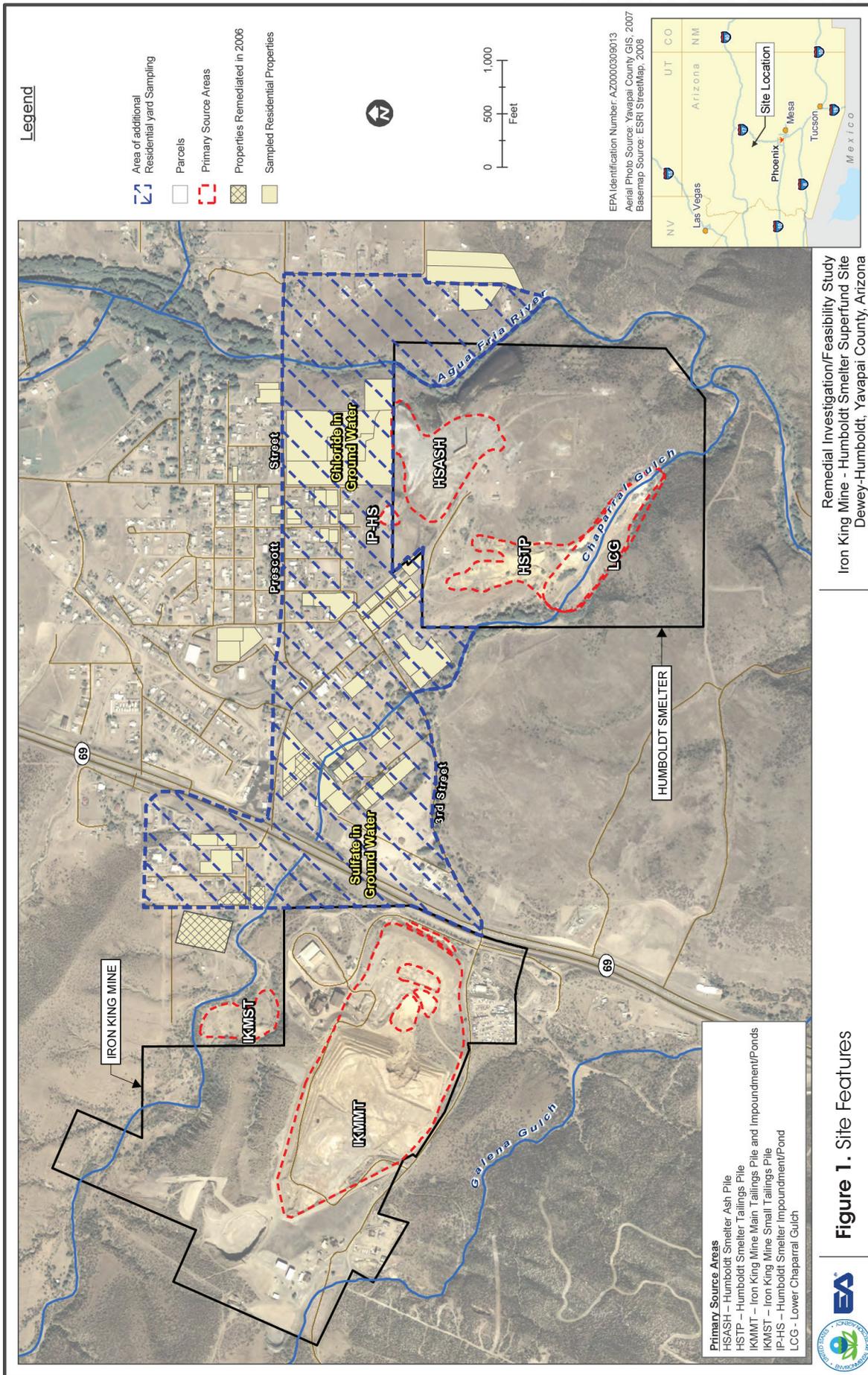
Investigation Results

EPA began the RI in June 2008. EPA collected soil, sediment, surface water, ground water, and air samples from the Iron King Mine, Humboldt Smelter, residential and commercial areas, and waterways (including the Chaparral Gulch, Galena Gulch, and Agua Fria River).

The contaminants of concern at this site are arsenic, lead, and sulfate. The primary sources of contamination are (see Figure 1):

- Iron King Mine Main Tailings Pile and Impoundment/Ponds
- Iron King Mine Small Tailings Pile
- Humboldt Smelter Ash Pile
- Humboldt Smelter Impoundment/Pond
- Humboldt Smelter Tailings Pile
- Lower Chaparral Gulch

These sources contain average arsenic and lead levels from one to two orders of magnitude greater than average background arsenic and lead levels. Exposure to these metals could present a health risk if a person is in contact with them over a long period of time. EPA recommends that residents, especially children and the elderly, limit or avoid contact with soils and any water in these areas, and obey EPA caution signs until these areas can be addressed through cleanup actions. Residents should limit or avoid spending time in Chaparral Gulch as tailings have been deposited along most of its length.



Air Quality

EPA collected air data from 10 sampling stations placed throughout the site over an 11 month period. Samples were analyzed for the total amount of dust, the amount of small dust particles that can enter the lungs, and the metals in dust.

Samples shows that dust and metals concentrations are highest during high wind events following extended dry weather, typically from March through May and then again in July and August. It is evident that both the Iron King Mine and Humboldt Smelter are the primary sources of ambient air contamination.

None of the air samples exceeded the levels for short-term health risks.

However, as a precautionary measure, children, the elderly, or people with existing respiratory problems should limit outdoor activity during windy days. EPA will be working with property owners to reduce dust generation from the site until a more permanent cleanup is conducted.

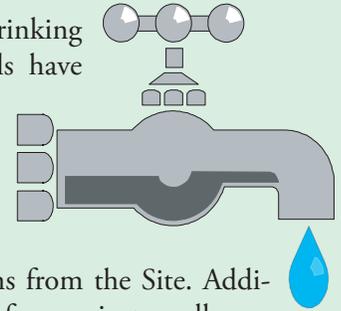
Off-site Soils

EPA sampled 65 residential, commercial, and public properties.

- 24 parcels have average arsenic concentrations greater than the average background concentration of 48 mg/kg.
- 44 parcels have average lead concentrations greater than the average background concentration of 44 mg/kg.

What about drinking water?

The municipal water supply meets federal drinking water standards. However, some private wells have arsenic concentrations above the federal drinking water standard of 10 parts-per-billion or ppb. Arsenic levels in private wells ranged from non-detect to 41 ppb. These arsenic levels are similar to arsenic levels found across Arizona and are not indicative of contributions from the Site. Additional information concerning drinking water from private wells can be found at the following website: http://www.epa.gov/privatewells/pdfs/household_wells.pdf



EPA identified two areas near the mine and smelter with elevated sulfate and chloride levels in groundwater (see Figure 1). EPA will collect additional ground water samples from these areas to define the full extent of the sulfate and chloride impacts.

Arsenic and lead concentrations in surface soil are higher on properties adjacent to the Chaparral Gulch or downwind of the Iron King Mine and Humboldt Smelter areas. Yards farther away from the mine and smelter sites have lower concentrations of arsenic and lead and are much less likely to be impacted. The full extent of residential impacts has not been determined as many yards have not yet been sampled.

The levels of arsenic and lead at the Humboldt Elementary School playground are below the average background concentrations. EPA does not consider the playground to be impacted by the site.

Human Health and Ecological Risk Assessments

EPA conducted a human health risk assessment to evaluate the potential harm to residents posed by site contaminants. The risk assessment indicates that contamination at the site could pose health risks (cancer risks and noncancer hazards) if no cleanup action is taken.

EPA conducted an ecological risk assessment to evaluate whether potential exposure to contaminants could harm plants or animals. The assessment found that contamination poses risks to many plant and animal groups (for example: mammals, birds, reptiles, and aquatic organisms).

The results of the RI indicate a need to take cleanup actions to protect human health and the environment. The feasibility study will focus on cleanup options that will reduce the health risks posed by the site to people, animals, and plants.

Next Steps

As shown on Figure 2, the next step in the Superfund cleanup process is the development of cleanup options. EPA will compare techniques, costs, and challenges for various cleanup options upon which the community may comment.

In the meantime, additional sampling of residential parcels near the mine and smelter is warranted. EPA is offering to sample residential yards in the area outlined in Figure 2. If you live within this area and would like to have your yard sampled, please contact EPA. While allowing EPA to sample your yard is completely voluntary, EPA and ADEQ highly recommend it. This information will be used to plan any residential yard cleanup actions.

Sampling is conducted at no cost to residents.
 Sampling takes approximately 1.5 hours per yard.
 Sampling will occur in May 2010.
 Sample results will be mailed to residents.

Please do not hesitate to call EPA if you have questions about having your yard sampled. EPA representatives will also be available at the community meeting to answer questions.

Email List

EPA sends periodic updates to the site email list. If you would like to be added to the email list, please contact Leah Butler.

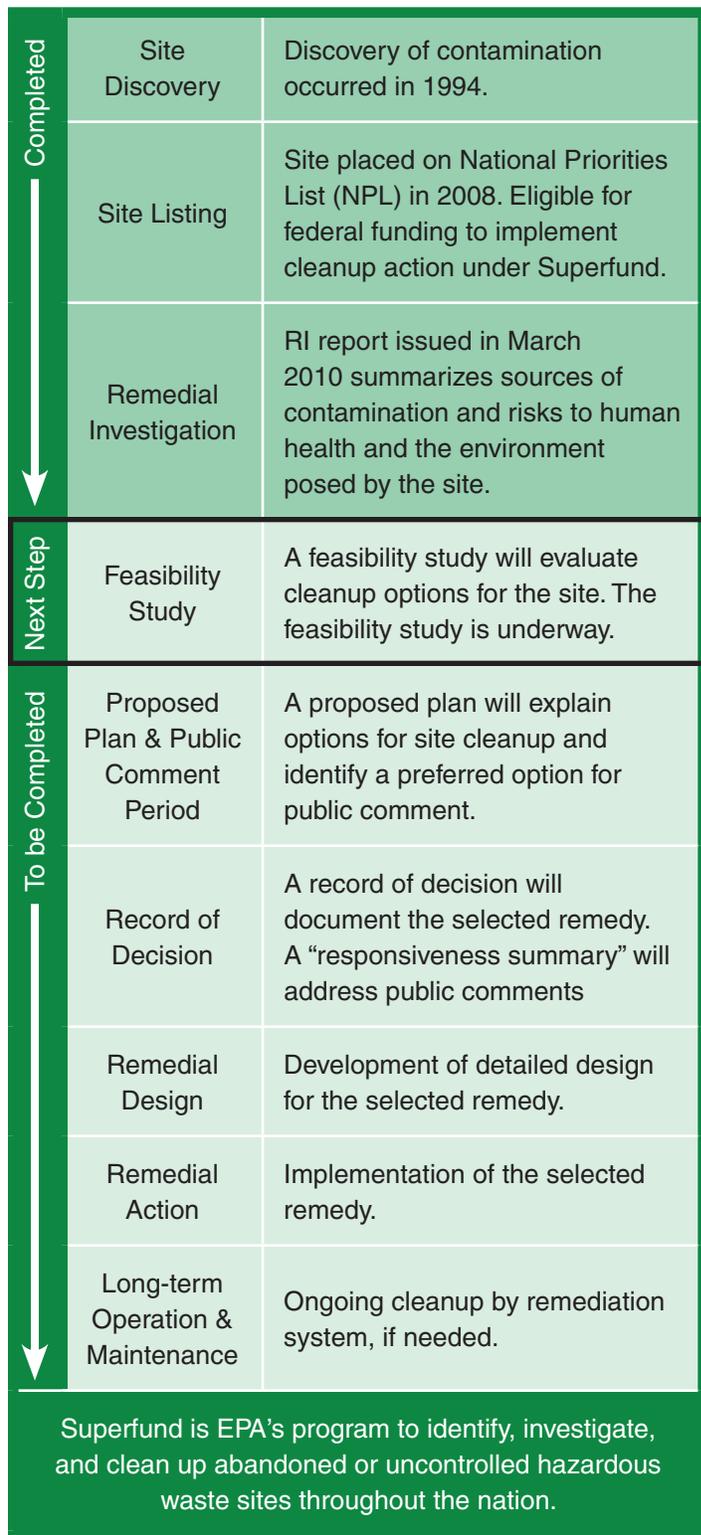
Community Advisory Group

EPA has offered to support a Community Advisory Group (CAG), an open forum that meets periodically to learn more about EPA's work and provide comments to the site team. If you are interested in participating in a CAG, please send an email with your contact information to dhs-melter@gmail.com (Note: This e-mail address is managed independently by a Dewey-Humboldt resident and is not associated with EPA).

Technical Assistance Grant Available

EPA offers a Technical Assistance Grant (TAG) to help the community participate in the cleanup process. An initial grant (up to \$50,000) is available to contract with an independent technical advisor to help the community understand technical information.

Figure 2. The Superfund Process for the Iron King Mine - Humboldt Smelter Superfund Site



To qualify, the TAG recipient must be or become an incorporated non-profit organization. EPA can pay for the costs of incorporation. Interested community members may contact David Cooper (see Page 5) for more information.

Please send any questions or comments on the RI Report to Leah Butler (contact information below).

Contact Information

If you have questions or concerns, please contact any of the following individuals:

EPA Contacts

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Information Repository

For site documents, please visit the information repository at:

Dewey-Humboldt Town Library
2735 S. Corral Street
Dewey-Humboldt, AZ

Please visit EPA's and ADEQ's
Iron King Mine and Humboldt
Smelter site websites at:



[http://www.epa.gov/
region09/ironkingmine](http://www.epa.gov/region09/ironkingmine)

[http://www.azdeq.gov/environ/waste/sps/
statesites.html#ironking](http://www.azdeq.gov/environ/waste/sps/statesites.html#ironking)



Mailing List Coupon

If you are not already on EPA's mailing list for the Iron King Mine – Humboldt Smelter Superfund Site, please send an e-mail or return the coupon below to David Cooper.

Name _____

Mailing Address _____

City, State _____ Zip _____

Telephone (optional) _____

E-mail (optional) _____

Affiliation (optional) _____

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EPA Completes Remedial Investigation

Additional Residential Sampling Offered

Printed on 30% Postconsumer  Recycled/Recyclable Paper

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San Francisco, CA 94105
Attn: David Cooper (IKHS 4/10)

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