SEMS-RM DOCID # 2330054

Iron King Mine – Humboldt Smelter Site

Dewey-Humboldt, Arizona

Community Involvement Plan

October 2009

Introduction

The U.S. Environmental Protection Agency (EPA) recognizes that Americans have the right to be involved in the government decisions that affect their lives. EPA's experience has been that when the public is involved in EPA's work, the cleanup process results in a better outcome and a more robust remedy.

At the Iron King Mine – Humboldt Smelter ***Superfund**** site, EPA's Community Involvement Program helps citizens participate throughout the cleanup process, including the investigation phase and the remedy selection phase. EPA works closely with the Arizona Department of Environmental Quality (ADEQ). ADEQ is an active partner and provides Technical and Community Involvement personnel in support of EPA throughout the Superfund process. This Community Involvement Plan (CIP) organizes EPA's and ADEQ's public participation efforts to actively involve the public in the cleanup decision-making process. It is based on a series of community interviews conducted with the residents of Dewey-Humboldt, elected officials and other stakeholders, combined with EPA's and Arizona's cleanup guidance.

The goals of EPA's Community Involvement Program are to:

1. Provide opportunities for the public to become actively involved
2. Meet the community's information needs
3. Incorporate issues and concerns into cleanup decisions
4. Give feedback to the public on how their issues and concerns were incorporated into the cleanup work

EPA will achieve these goals through various means, including published documents, public meetings, and community interviews. These activities will be based on the community's needs, as informed by information the EPA gathers from local groups and individuals.

CIP Organization

The purpose of the CIP is not to provide technical answers to the community's questions, but to show how, when and where EPA and ADEQ will provide information the public needs to understand EPA's work, and to show how the stakeholders can be actively involved in the cleanup process.

Chapter One of the CIP begins by identifying the issues and concerns raised during the community interviews. Some parts include a brief note in parentheses (Item Number, Page) regarding specific involvement and education activities that might be appropriate for that issue. The notations can skip the reader directly to the item in Chapter Two's Action Plan, if so desired.

Chapter Two formally presents EPA's Action Plan for addressing the issues and concerns through various activities. The Plan relies on the tools and techniques that EPA has developed over the years, but has the flexibility to add site-specific activities as circumstances dictate. EPA's official guidance for Community Involvement is available on the Internet at **http://www.epa.gov/superfund/community/cag/pdfs/ci_handbook.pdf.**

Chapter Three charts EPA's preliminary schedules for the investigation and cleanup activities. Where appropriate, it lists possible or required community involvement activities.

The CIP concludes with a series of appendixes that provide additional information, such as a detailed site history, a community profile, an overview of the federal Superfund cleanup program, information on contamination and prior cleanup activities, a list of earlier community involvement activities, a list of acronyms, information on site reuse/redevelopment, a glossary, prior EPA fact sheets, and key contacts.

The CIP is a "living document," meaning that it will be modified as new information and issues develop over the course of the investigation and cleanup of the Site.

Words in Bold Italics are defined in Appendix 9

Table of Contents

Table of Contents

CHAPTER 1

Community Issues and Concerns

In order to understand the Dewey-Humboldt community, EPA and ADEQ conducted a number of stakeholder interviews. EPA and ADEQ interviewed local residents, potentially responsible parties (or "PRPs"), property owners, activists, representatives from state and federal agencies, and government officials. Each interview consisted of approximately 20 questions and covered many different topics. The interviews revealed a number of common concerns, which are grouped below.

Over the course of over 30 community interviews, residents and other stakeholders expressed a wide range of issues and concerns. Their responses showed a high level of knowledge about the site's history, and about EPA's current and future activities.

The responses are grouped into six categories, although many responses cross category boundaries: 1) Environmental Concerns, 2) Human Health Concerns, 3) Superfund Cleanup Activity Concerns, 4) Cleanup Cost and Financial Impacts Concerns, 5) Communications and Public Education Concerns, and 6) Future Site Use Concerns.

Environmental Concerns

The interviewees have significant concerns about key portions of the site including: the mine area, the Agua Fria River and its tributaries, and conditions at the former smelter. Most environmental concerns are about the large ***tailings*** pile, the smelter ash piles, ***slag*** piles, contaminated soil, mine shafts, and the ***glory hole***. At least one person questioned whether the large tailings pile is contaminated.

Generally speaking, individuals are concerned about the migration of contaminants from all sources that may impact soil, surface water, groundwater, the town, the school, and downstream/downwind landowners. These topics will be covered in detail in the Remedial Investigation Report (RI Report) (discussed in "Technical Documents," which is Item 13, Page 15) and in the fact sheet (Item 1, Page 13) for the RI Report.

Many individuals stressed the importance of protecting the ***groundwater aquifer*** and ensuring that contamination does not leach from the tailings piles into the groundwater. A thorough analysis of a range of cleanup options will be located in the Feasibility Study Report (FS Report) (Item 13, Page 15) and in the Proposed Plan Fact Sheet (Item 8, Page 15)

Many individuals are concerned about blowing dust. Concerns were raised about health impacts on students and children from potential contamination in the dust. The RI (Item 13, Page 15) will include a section on air quality that will describe the air sampling program and will discuss the amount of dust in the air, the chemical components of the dust, and the sources of dust. The health risks associated with exposure to contaminated dust will be a component of the Human Health Risk Assessment (HHRA). A forthcoming fact sheet (Item 1, Page 13) will summarize information about dust issues, including data from the air sampling program, health effects of exposure to contaminated dust, and possible dust suppression measures.

Another concern, which was voiced over a dozen times, is about contamination spreading due to stormwater runoff and other surface water flows. The RI Report will describe surface water flows and how this pathway has transported contamination across the site over time. EPA's Feasibility Study and Proposed Plan (Item 8, Page 15) will describe and evaluate ways to address the surface water pathway so that stormwater and surface water flows do not continue to transport contaminated material.

Contaminants Found at Iron King Mine - Humboldt Smelter Superfund Site

Elevated levels of the following chemicals are present in wastes, soil, sediments, and surface water at the Site. All chemicals are defined in Appendix 9, Glossary.

Metals

- Arsenic
- Lead
- Other metals

Protecting the Aqua Fria River and its tributaries (including Chaparral Gulch and Galena Gulch) is important to many of the interviewees. Concerns are focused on ***riparian*** ecosystem health and changes to ***hydrology*** from historic mining and smelting operations. In addition, people are concerned about impacts to native fish and plants.

Questions were raised about bare areas across the site where plants are unable to grow due to the contamination. Three of EPA's technical documents, the Ecological Risk Assessment, the Biological Evaluation, and the Wetlands Assessment (Item 13, Page 16), will discuss the current state of the riparian ecosystems and what the risks are to these ecosystems from existing contamination. The University of Arizona Superfund Basic Research Program is conducting a pilot study to determine which plants are able to grow best in the onsite soil types in order to provide ground cover.

EPA's cleanup work results in a number of technical documents. Historically, communities where EPA works have asked for assistance in understanding them to provide their issues and concerns, and formal comments to EPA's cleanup proposals. EPA provides a Technical Assistance Grant (Item 15, Page 16) to a nonprofit community group so that they can hire an independent environmental professional to assist them in interpreting these technical documents.

Human Health Concerns

By far, most issues and concerns (nearly 50) are centered on potential short-term and long-term human health impacts from the site. Questions and concerns about arsenic exposure and ***toxicity*** were most frequently noted, including questions about arsenic in drinking water and in dust. Concerns for children were noted numerous times. The Human Health Risk Assessment (HHRA) (Item 13, Page 16) will address those questions.

Questions were raised about what EPA's health standards are for the contaminants at the Site. EPA will develop a handout (Item 1, Page 13) with a table of Chemicals of Concern and EPA's health-protective standards.

A number of interviewees are concerned about dust impacting residents downwind of the site and students at the Humboldt Elementary School. People would like to know about the local air quality and to what extent the tailings may be causing an air quality problem. People would like to know what is in the dust and if they should be concerned about breathing the dust. At least one person is not concerned about dust from the site due to the distance he/she lives from the site. The technical documents in Item 15, such as the RI, will provide this information in great detail, but EPA also plans a specific fact sheet (Item 1, Page X) on dust issues.

The IR program was expanded to include an entire year of air monitoring to evaluate seasonal variability and collect data during high wind events.

Individuals are concerned about ***asbestos*** in buildings, ***heavy metals*** such as lead, and contaminant releases associated with the potential tear down of the smelter. If any building demolition occurs, EPA will produce a hand out (Item 1, Page 13) to explain the procedures to safeguard the workers conducting Superfund cleanup activities and the general community. ADEQ also has an asbestos program that follows up on complaints and performs inspections regarding building demolition and asbestos issues. General worker safety (i.e., working on company business) came up numerous times, including a few comments that workers should wear respirators. One person raised a concern about health risks to current workers before the site is cleaned up.

The Site Management Plan and Health and Safety Plan both address worker safety for EPA's consultants during sampling and during cleanup activities. These items are available in the Information Repository, or IR (Item 5, Page 14) and will be updated throughout each phase of the project. Worker safety for the companies' operations is not directly covered by EPA's cleanup authority. Worker safety is covered under the OSHA and MSHA. Illegal dumping and trespassing are cited as ways people may be exposed to contamination at the site. EPA has posted signs around the smelter property at locations that are likely to be seen by potential trespassers. Copies of these signs are located in Appendix 13, Page 49.

A number of those interviewed have health problems and are curious if the site caused or contributed to their compromised health. The U.S. Agency for Toxic Substances and Disease Registry's (ATSDR) is the federal public health agency whose mission is to prevent adverse human health effects that result from hazardous waste exposure. ATSDR produces toxicological profiles on a wide range of contaminants. The toxicological profiles for the contaminants of concern at this site are available at the Information Repository (Item 5, Page 14). If you think you have been exposed to contamination from this Site, please see Appendix 4, Page 29 for information on how to follow up with ATSDR and your health care provider.

The Information Repository also contains the Arizona Department of Health Services' (ADHS) health consultation, dated March 26, 2009. The health consultation focuses on the off-site migration of the mine tailings and the impacts they may have on the health of residents who live near the mine based on the available water and soil data. The health consultation does not incorporate data collected during EPA's RI but relies on pre-2006 data.

EPA's Baseline HHRA (Item 13, Page 16) is a study of the various ways persons might be in contact with contamination and is a calculation of how likely it is that human health effects might occur in the future because of exposure to site contamination. It will be a part of the RI Report (Item 13, Page 15).

In April 2009, the University of Arizona Superfund Basic Research program offered to partner with community members in the Dewey-Humboldt area to design a study to answer the community's questions, such as determining if human exposure to contamination is occurring, at what level it is occurring, or if the exposure is associated with poor health. At that time, the University did not receive any interest from the community to work on the project. In the future, if community members are interested in working on such a project, EPA can put them in contact with the University of Arizona researchers.

The statement was made that the site needs to be safe for all people (children, workers at the onsite companies, elderly) after EPA's cleanup work is completed. The HHRA (Item 13, Page 16) will address the issue, as will the FS and Record of Decision (ROD).

Many people are concerned about water quality in private wells used for drinking water. Some people asked EPA to sample their drinking water wells. The results of the well sampling and overall water quality will be discussed in the RI (Item 13, Page 16). EPA may also produce a fact sheet or handout(Action Item 1, Page 13) about drinking water (municipal water vs. private wells, water standards in comparison to local water data, etc.).

One individual is concerned about impacts on animals and gardens from heavy metal contamination in soils and water. EPA's Eco Risk Assessment (Item 13, Page 16) will discuss risks to plants and animals. EPA may produce a fact sheet or handout about gardening issues as well (Item 1, Page 13).

National Priorities Listing

EPA proposed adding the Site to the National Priorities List (NPL) in March 2008. On September 3, 2008, after considering public comments on its proposal, EPA added the Site to the NPL. As of August 2009, the Site is one of 1,263 sites on the NPL.

Superfund Cleanup Activity Concerns

The town of Dewey-Humboldt debated long and hard about supporting the Superfund listing. There were many issues and concerns about how EPA will conduct its work, and what impact Superfund will have on the town, throughout the cleanup process. EPA will place fact sheets (Item 1, Page 13) in the IR about Superfund success stories, and information about what to expect before, during, and after cleanup.

A minority of those interviewed questioned the Superfund listing. These people cited incomplete environmental testing, the unavailability of mortality/morbidity rates for the area to prove the site was causing harm, and the belief that contaminants are not present at toxic levels thus rendering cleanup unnecessary. One person questioned the need for Superfund listing and wants to see the evidence EPA used to propose the site to the Superfund List.

EPA will place copies of the Preliminary Assessment/Site Inspection (PA/SI), the Expanded Site Inspection (ESI), information about the Hazard Ranking System (HRS) scoring process, and the NPL documentation package and score on its web site (Item 4, Page 14) and in the Information Repository (Item 5, Page 14).

One person had concerns with EPA's role in the cleanup and would prefer for the cleanup to occur at the local/property owner level versus through the federal government. Appendix 1 (Page 21) of this Community Involvement Plan includes a site history, which describes the property owners' involvement prior to Superfund listing. Information on how EPA works with property owners to clean up Superfund Sites is available in Appendix 16.

A review of the numbers and types of technical documents in Item 13 illustrates the complexity of identifying contaminants and devising appropriate cleanup actions, and they suggest the level of scientific and engineering expertise that a small businesses and/or property owner would need (or need to hire) if they wanted to conduct the work themselves.

At least one person is waiting for the RI Report before deciding what to think about the cleanup. Another person disagrees with EPA's sampling protocol, and is concerned that the current effort would miss buried and deep contamination. This person wants EPA to work more systematically and to sample at multiple depths below the ground. A third person doubts that EPA will be able to gather enough information to clean up the site and develop a protective remedy.

Two of EPA's technical documents (Item 13, Page 15), called the Field Sampling Plan, and the Sampling and Analysis Plan, provide a complete explanation of how EPA will assess site contaminants and arrive at its conclusions for potential future cleanup activities. Both documents are available on the Internet and in the IR (Items 4 and 5, Page 14).

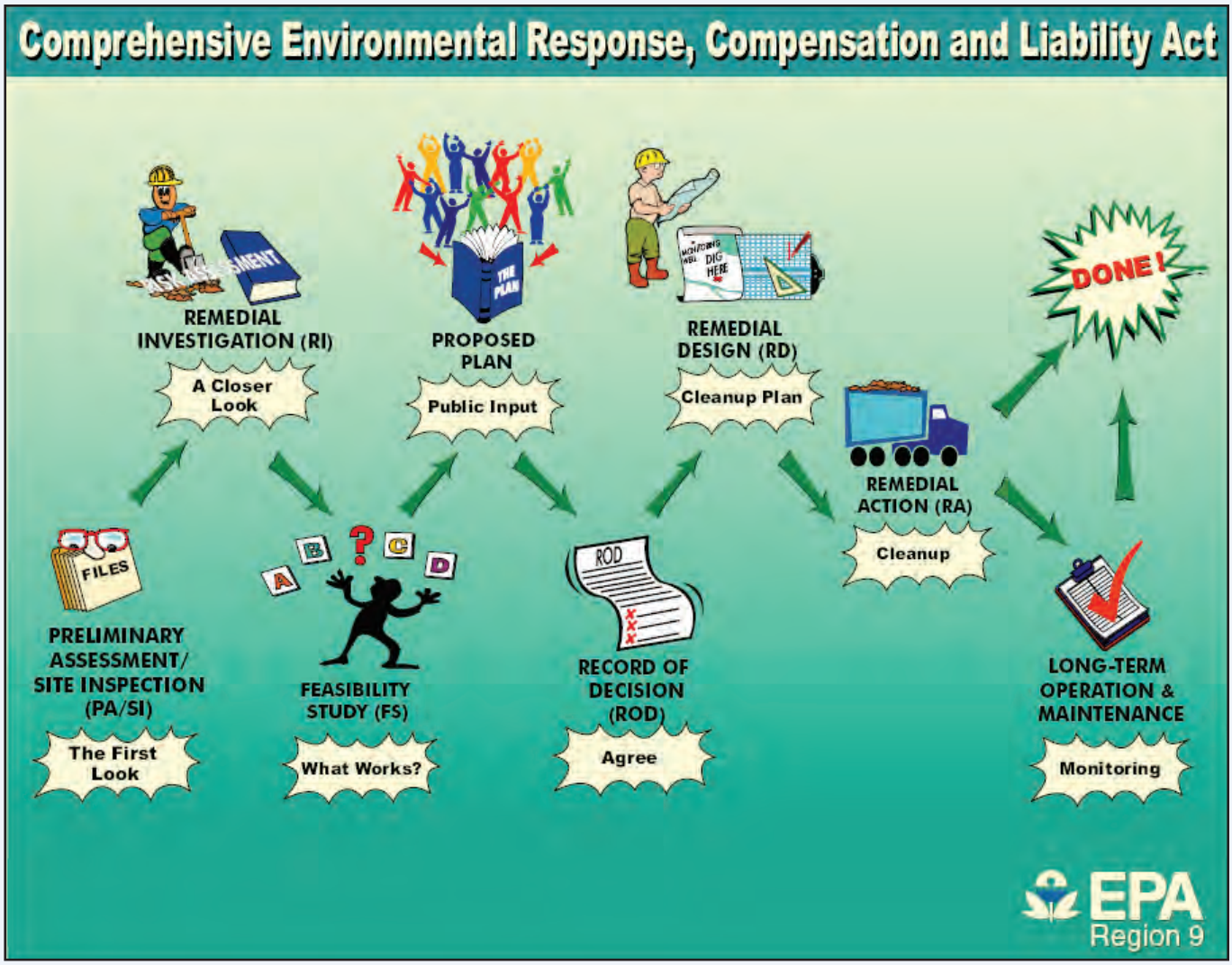
Many people want a thorough investigation that evaluates all environmental media including: water, airborne ***particulates***, and soils. The RI will include these areas and will be available on the Web and in the IR.

The cleanup timeframe is important to many people. A general project schedule is located In Chapter 3, Page 19 of this CIP. Most people want the cleanup to move forward and not be delayed by the actions of others.

Many people want the cleanup to be permanent, cost-effective, efficient in its planning, execution and supervision, and be based on science. EPA uses the following nine criteria when choosing a remedy:

Nine Criteria

- Overall protection of human health and the environment
- Compliance with Applicable and/or Relevant and Appropriate Requirements (ARARs)
- Long-term effectiveness and performance
- Reduction of toxicity, mobility, or volume through treatment
- Short-term effectiveness
- Implementability
- Cost
- State acceptance
- Community acceptance



Steps in the Superfund Cleanup Process

These criteria are emphasized in the Proposed Plan (Item 8, Page 15) and FS (Item 13, Page 16).

Some people are concerned about disturbance to the community due to construction noise, dust, and equipment during cleanup. EPA issues flyers (Item 1, Page 13) when EPA expects there to be major community disturbances, such as during construction.

An individual noted that some roads might need to be cleaned up. The RI Report (Item 13, Page 15), will describe all areas sampled during the RI, including the additional areas sampled during the data gap sampling effort that occurred in Spring 2009. Any areas that may be contaminated that were not sampled during the RI can be sampled during the Remedial Decision/Remedial Action phase.

Some individuals expressed concerns with reported dumping in the glory hole. The Site History section of this CIP (Appendix 1, Page 21) includes a brief summary of what EPA knows about the glory hole. The RI (Item 13, Page 15) will include the results of our investigation of the glory hole.

Others expressed concern about the potential for property owners to hide polluted material. The RI (Item 13, Page 15) details how EPA systematically identifies potential sources of contamination. This is informed, in part, by EPA's case development work to gain information about historic disposal activities.

At least one person expressed concerns about the property owners conducting interim cleanup actions themselves without proper EPA oversight. In the future, if EPA approaches the PRPs to conduct work at the Site, such work would be conducted under a negotiated ***Administrative Order on Consent*** (AOC) or under a ***Unilateral Administrative Order*** (UAO), with EPA oversight.

Many people have asked about how EPA compels polluters to pay for site cleanups. It is EPA's policy that, where possile, polluters pay for investigation and/or conduct site cleanup. Appendix 15 contains four documents that explain the policies in more detail. EPA is conducting a PRP search to identify and locate parties to pay for and/or conduct cleanup work at this Site. The PRP search is currently underway and the publicly releasable PRP search report will be made available in the IR.

Individuals differed on their preference for final remedies. Some people want the tailings and ash piles covered and capped and others want the piles to remain uncovered as they represent the mining history of the town. One person wants all of the contamination to be completely removed from the site. Yet another person wants the smelter cleaned up, but not the tailings pile.

One person is concerned that EPA will not be able to address/remove the large quantities of tailings that exist at the Site. Another person was not concerned with the aesthetics of the exposed tailings pile. Concerns were expressed about the potential use of biosolids as part of the final remedy. Some people had questions about how EPA will clean up the buildings at the Site.

In general, people would like to provide input into EPA's cleanup decisions. A range of cleanup options will be evaluated in the technical document called the Feasibility Study (FS) (Item 13, Page 16). Following the completion of the FS, EPA will initiate the most important community involvement activity: the receipt of public comments on EPA's Proposed Plan (Item 8, Page 15). The Proposed Plan process includes a minimum 30-day comment period (Item 10, Page 15) for the special Proposed Plan fact sheet that compares the potential cleanup alternatives using EPA's nine evaluation criteria and identifies EPA's preferred remedy.

Notification of the Proposed Plan comment period and public meeting, as well as other EPA meetings will be made to those on EPA's postal mailing list and e-mail list (Items 6 and 7, Pages 14,15), and through public notices (Item 11, Page 15) and articles in the paper from press releases (Item 12, Page 15).

Community members will have the chance to formally comment on cleanup options during the Proposed Plan process, and they can learn how EPA has addressed their comments by reading the Responsiveness Summary (Item 9, Page 15). But they also can provide input throughout the whole process via other avenues listed in the Action Plan, such as Town Council meetings (Item 3, Page 14), EPA community meetings (Item 2, Page 13) and informal communication with EPA's points of contact.

Regardless of the final remedy, one person wanted EPA to employ local people in the cleanup process. EPA maintains a running list of local contractors and business that may be able to provide assistance during the investigation and cleanup process (Item 19, Page 17).

Cleanup Cost and Financial Impacts Concerns

A number of people expressed concerns that Superfund listing will negatively affect the town, citing the so-called stigma of Superfund listing. This concern relates chiefly to the devaluing of real estate property (at least five comments), but it also includes concerns that the Superfund site will have a general negative financial impact on Dewey-Humboldt. One person is concerned about impacts on real estate values from now until the site is cleaned up. EPA will post a fact sheet on Superfund success stories on its web site and place a copy in the library.

Some people question the fairness of Superfund's liability structure (joint and severable), stating that it can place an unfair burden to those who did not cause most of the contamination. Others noted that Superfund liability applies to current property owners and that some property owners may not be aware of their potential liability. Some people raised concerns about the cost of cleanup, who will pay for it, and the availability of federal funds to complete the work.

Information about Superfund's liability structure can be found on the web at: **http://www.epa.gov/oecaerth/cleanup/superfund/liability.html.** General information about the Superfund enforcement process, enforcement authorities, and enforcement tools is available in the "Superfund Enforcement Process: How It Works" factsheet. EPA is committed to ensuring that those who are responsible for hazardous waste sites take the lead in cleanup, when appropriate, throughout the Superfund cleanup process. These documents will be available on the web site (Item 4, Page 14) and in the IR (Item 5, Page 14).

A number of people stressed the importance of a cost-effective cleanup, which is addressed in a number of documents, but particularly in the cost comparison between alternatives, which is a critical component of the Proposed Plan (Item 8, Page 15).

Communications and Public Education Concerns

EPA understands that transparency in its cleanup process builds public confidence and encourages public participation. Many people requested that EPA provide frequent and informative communication and public education throughout the cleanup process. They said that this communication should involve elected officials and community groups.

To increase the frequency and intensity of public participation, EPA supports the creation of a Community Advisory Group (Item 16, Page 16). Public education can be enhanced by the use of an independent technical advisor through the Technical Assistance Grant program (Item 15, Page 16). Elected Offices currently receive periodic briefings at Town Hall meetings (Item 3, Page 14).

Appendix 6 (Page 35) in this CIP lists past community involvement activities. Chapter 3 (Page 19) indicates site work/milestones and corresponding public participation activities for the community.

Stakeholder groups EPA has worked with at the site thus far include:

Stakeholder Groups

- Local government
- State government
- Property owners
- Property Users
- Residents
- Potentially Responsible Parties
- Federal Agencies
- Community Groups
- Universities

One individual is concerned about the way EPA will communicate the risks to residents. EPA will quantify and explain risk in its fact sheets, public meetings, its web site, and in its direct conversations with the public.

Some people are concerned that most people do not understand the Superfund process and that EPA's presence at the site gives the impression that the entire town is contaminated. EPA will write documents and give presentations being mindful of the need to distinguish what parts of Dewey-Humboldt are impacted by site contaminants and what parts are not. Maps in the Remedial Investigation (Item 13, Page X) will be of particular importance in identifying those areas. Interim technical documents may demonstrate how EPA "chases" site contaminants wherever they lead.

Some people are concerned that absentee property owners will not receive important site-related information from EPA mailings. EPA's Action Plan makes site information available in as many different places as possible (note the Chapter Two Action Plan elements).

Although the function is not commonly considered to be a Community Involvement activity, EPA's Case Development Team sent out extensive site mailings to cover all residents as part of their effort to collect information from all property owners who may be affected by the site.

Others want EPA to place easy-to-understand and visible signs and notices around the site. Appendix 13, Page 49, shows examples of EPA signs and their locations around the site.

Future Site Use Concerns

By far, most comments about future site use/reuse involved the smelter area. Many people discussed the smelter's historic value and role in the heritage of the mining community. At least one person is interested in converting the smelter into a museum with a picnic area. Some people feel the main tailings pile has historic importance as well.

Other ideas from the interviewees for possible components of future use include the following: picnic areas, public access areas, industrial parks, a commuter hub, a solar energy site, a recreational park, and a community center. Some would like to see energy conservation, green buildings, and small houses incorporated into site reuse plans. Some people favored open space and others focused on new development. Many see the cleanup as on opportunity for community revitalization and redevelopment. Some interviewees stressed that EPA should develop a viable reuse/future use plan for the site. Some people would like more information on how land use decisions are will be made during the site reuse process.

CHAPTER 2

Community Involvement Action Plan

This section describes the specific activities and resources that EPA and ADEQ will use to help the community be actively involved in the cleanup process. Whenever EPA begins work on a site, it identifies at least one point of contact for community questions, issues or concerns. The two principal points of contact for the Iron King Mine – Humboldt Smelter Superfund Site are listed below.

Leah Butler
Project Manager
(SFD-6-2)
75 Hawthorne St.
San Francisco, CA 94105
415-972-3199 (office)
415-947-3528 (fax)
butler.leah@epa.gov

David Cooper
Community Involvement Coordinator
(SFD-6-3)
75 Hawthorne St
San Francisco, CA 94105
415-972-3245 (office)
415-947-3528 (fax)
cooper.david@epa.gov

Ms. Butler and Mr. Cooper can also be reached through EPA's toll-free message line at 800-231-3075. EPA routes all 800-line messages to the appropriate EPA staff person, typically the Project Manager or Community Involvement Coordinator.

In addition to providing an EPA representative to answer questions, EPA employees many tools and techniques to support the community's involvement in EPA's work.

1. Fact Sheets, hand-outs and flyers

Fact Sheets are EPA's principal method of providing site-related information to the community. They are short (2-4 page) documents, written in non-technical language, that are mailed directly to the site's mailing list. They often summarize larger, technical documents or announce community meetings. They include EPA contact information and refer people to the internet and library for more technical information. EPA will create fact sheets as events dictate or in response to community requests for specific kinds of information. Appendix 14 lists EPA's Iron King Mine fact sheets.

Flyers are 1-2 page notices that are sometimes distributed during door-to-door notifications or posted on community bulletin boards. EPA has posted flyers or fact sheets at the Town Hall and the Post Office.

Handouts provide supplemental information, for example at community meetings. Some are also posted to EPA's web site.

2. Community Meetings

EPA holds public meetings at various milestones and at the request of the community. The public meetings are organized to convey Site information via presentations and discussions, and to answer questions from community members. Each meeting will be structured to fit its purpose by using different formats (e.g. town hall meetings, open houses, informal roundtables, powerpoint presentations, etc.). The Iron King Mine Superfund Kick-off Meeting was held on August 20, 2008. Public meeting locations are listed in appendix 7.

Information Repository

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

3. Dewey-Humboldt Town Council Updates

EPA staff have met with members of the Dewey-Humboldt Town Council and its staff to update them on site activities (updates shown in appendix 6). EPA has also made presentations during Town Council meetings. These updates will continue as requested by the Town Council.

EPA has made periodic contributions to the Dewey-Humboldt Town Newsletter about site updates and recent or upcoming activities, and will continue to do so as needed.

4. Web Site

EPA has created a website specifically for this Site. The website includes electronic copies of EPA's investigation documents and will be one location for viewing the proposed cleanup plans as they are developed. EPA will update the webpage on a regular basis. Please visit the website at: **http://www.epa.gov/region09/ironkingmine.**

ADEQ maintains a website narrative, site map and contact information on their website at: **http://www.azdeq.gov/environ/waste/sps/state.html**. ADEQ also maintains a public records administrative file available for review at their Main Office Records Management Center in Phoenix.

5. Information Repository and Administrative Record

EPA maintains a local public site file, which is called the "Information Repository." The Information Repository contains hardcopies of major site documents, fact sheets and other relevant items. Electronic copies on compact disk are available for some documents as well. To browse or check-out site documents, please visit the Information Repository at: Dewey-Humboldt Town Library 2735 S. Corral Street Dewey-Humboldt, AZ

When EPA is ready to formally propose a cleanup action, it must collect every document that was used to develop and analyze the proposed action. This collection of technical documents is called the Administrative Record, and it will be located in the Information Repository. There is a specific Administrative Record for every proposed cleanup action.

6. Mailing List

EPA maintains a mailing list for distribution of fact sheets and meeting notices. To be added or deleted from the mailing list, contact David Cooper (see contact information above).

7. E-mail Group

EPA maintains an e-mail list for electronic distribution of fact sheets, meeting notes, and periodic site updates. To be added or deleted from the mailing list, contact Leah Butler (see above).

8. Proposed Plan

When EPA is ready to formally propose a cleanup plan, it creates a special document called a Proposed Plan. The Proposed Plan summarizes the contamination that has been found, compares the various ways that the contamination can be cleaned up, and identifies one preferred alternative that EPA thinks balances all considerations. This is the most important time for community input.

EPA distributes the Proposed Plan to its mailing list, holds a minimum 30-day public comment period and conducts a public meeting where the Proposed Plan is discussed and public comments are taken.

Sometimes EPA performs temporary, short-term or interiem cleanup actions, and the public is notified of these actions through a similar document.

9. Responsiveness Summary for the Proposed Plan Comment Period

When EPA makes a final decision about which cleanup methods it will use, it creates a document that explains how it has addressed the public comments that were received (see above #8 Proposed Plan). This document is called a Responsiveness Summary, and it is a part of EPA's decision document called a Record of Decision.

10. Formal and Informal Comment Periods

As discussed above (#8 Proposed Plan), EPA holds public comment period for certain documents. Sometimes the comment periods are less formal and not required, but nonetheless EPA wants to get the community's thoughts. These comments periods may be announced in several ways, including a notice in a fact sheet, an announcement at a public meeting or through the email list.

11. Public Notices

For those who are not on the site's mailing list, EPA will announce community meetings and formal comment periods in a display advertisement in the main section of the Prescott Valley Tribune and the Daily Courier.

12. Press Releases/Media contacts

EPA will provide press releases and develop media contacts with the following newspapers: Prescott Valley Tribune, the Daily Courier, the Republic, Big Bug News, Prescott News, Verde Independent, High Country News, Spring Valley, and Camp Verde Bugle.

13. Technical Documents

Most of the people EPA interviewed had environmental and health concerns. They wanted to know if the air, soil, surface water and/or groundwater were contaminated, and how EPA planned to address those areas through some cleanup effort. The answers to those many of those questions will be in the technical documents that EPA will produce as part of its investigation and cleanup process. The major documents will include a summary suitable for a general audience. EPA will also mail out a summary of some documents as a fact sheet. Below is a listing and short description of those documents that will be developed over the course of the Superfund cleanup process.

- Sampling and Analysis Plan (SAP): The SAP details the field sampling schedule, sample collection procedures, and analytical methods required to collect sufficient data to perform an RI/FS for the Site.
- Site Management Plan: The Site Management Plan provides details pertaining to site security, site access, health and safety, contingency procedures, waste disposal, management responsibilities, document management, project meetings, and audits during the RI.
- Remedial Investigation Report (RI): The overall purpose of the RI is to identify the nature and extent of contaminants, migration pathways of the contaminants, and potential threats to human and ecological receptors in the study area. The remedial investigation is usually done with the feasibility study. Together they are often referred to as the "RI/FS."

- Cultural Resources and Historic Building Survey: A report that includes archival research, an historic building survey, and an intensive pedestrian cultural resources survey of the Superfund Site. The purpose of this report is to provide an inventory and assessment of cultural resources that might be affected by the Superfund cleanup.
- Biological Evaluation: This report contains an ecological habitat survey of the Site and a benthic invertebrate survey of the Agua Fria River.
- Human Health Risk Assessment (HHRA): This document provides a qualitative and quantitative evaluation of the current and potential risks posed to human health by the presence of Site contaminants. Risk assessments evaluate both the carcinogenic risks and noncarcinogenic risks to human health from Site contaminants.
- Ecological Risk Assessment (ERA): This document provides a qualitative and quantitative evaluation of the current and potential risks posed to ecological receptors from exposure to Site contaminants.
- Feasibility Study (FS): A report that identifies cleanup objectives and alternatives to meet those objectives, and evaluates each alternative using the first seven of EPA's nine criteria which are: protection of human health and environment; compliance with applicable or relevant and appropriate requirements (ARARs); long-term effectiveness and permanence; reduction of toxicity, mobility or volume through treatment; short-term effectiveness; implementability; cost; state acceptance; and community acceptance. The evaluation of State and community acceptance criteria is completed after the receipt of public comments during the 30-day comment period for the Proposed Plan.

  Sometimes the Feasibility Study is supplemented by field experiments called Treatability Studies, where certain techniques or technologies are tested at a reduced scale in the field or in laboratories.
- Record of Decision: A public document that explains which cleanup methods, actions, tools and/or techniques will be used at the Site, including the residual contamination levels (if any) and any restrictions on future land use (where waste is left in place).
- Remedial Design: The development of engineering drawings and specifications for a site cleanup. This phase follows the remedial investigation/feasibility study. A fact sheet is distributed when the design work is at 70% complete.

14. Door-to-door Notifications

When EPA is working in the field, it may provide notices to directly-effected residents and businesses through door-to-door notifications. It may also use this method to make some residents aware of specific hazards that might be identified once environmental samples have been analyzed.

15. Technical Assistance Grant (TAG)

A TAG is a federal grant awarded to an incorporated nonprofit organization of community members affected by the site. It is used to fund an environmental professional to provide an independent technical review of cleanup documents. An initial grant up to $50,000 is available to help the community understand technical information about their site. A TAG has not yet been awarded at this site. Interested community members may contact David Cooper (see above) for more information.

16. Community Advisory Group (CAG)

A CAG is a self-forming, self-governing stakeholder group that meets periodically, but regularly, to learn about EPA's cleanup process, discuss their issues and concerns, and provide feedback to EPA. EPA is able to provide support to the CAG by attending the meetings, making presentations, procuring a meeting room, advertising the meetings and providing copies of cleanup documents. A CAG has not yet been formed at this site. Interested community members may contact David Cooper (see above) for more information.

17. Presentations to Groups

EPA staff will be available to make presentations at meetings for local community groups and institutions, such as the Agua Fria Open Space Alliance, Citizen Water Advisory Group, Rotary Club, League of Women Voters, the Senior Center, Dewey-Humboldt Community Organization, and the Environmental Issues Advisory Committee.

18. Language Translation

When a need arises, EPA provides an interpreter at its community meetings and translates its fact sheets. Currently, no populations of monolingual non-English speakers have been identified.

19. Local Contractor Resources

The investigation and cleanup work requires a range of skill, expertise, and man-power. EPA utilizes many different types of businesses to accomplish this work. EPA receives a fair amount of interest from local business that may be able to provide assistance with the project. EPA keeps a running list of these businesses and we try to utilize these local businesses to the extent practicable. If you would like to add a business to this list, please contact the Project Manager.

Chapter 2

CHAPTER 3

In order to manage the multi-year investigation and cleanup project, EPA creates a schedule which includes the sampling effort, delivery of technical documents, cleanup decision-making, design of the remedy, construction, and eventually review and evaluation of the results. Throughout this process there are opportunities for community involvement.

The Cleanup Schedule

Year	Activity	Community Involvement
2008	Field Investigation	Kick-off Community Meeting and Fact Sheet Town Council Updates Community Interviews
2009/2010	Field Investigation	Community Involvement Plan
	Data Validation Reports	
	Air Sampling Results	Available in IR and on website
	Human Heath Risk Assessment	Available in IR and on website
	Ecological Risk Assessment	Available in IR and on website
	Remedial Investigation Report	Community Meeting and Fact Sheet Available in IR and on website
2010	Treatability Study/Pilot Testing	Available in IR and on website
	Remedial Alternatives Screening and Evaluation	
	Feasibility Study Report	Available in IR and on website
	Proposed Plan Fact Sheet	Public Comment Period Public Meeting
	Record of Decision	Responsiveness Summary Fact Sheet Announcing Remedy Decision
2010/2011	Remedial Design	70% Remedial Design Fact Sheet
2012-2014	Remedial Action	Periodic Fact Sheets

Note: All documents will be available for review by any interested person. Please contact the RPM to request copies of specific documents.

Chapter 3

APPENDIX 1

Site History

The EPA has gathered information about the Site history from numerous sources. Due to the long and complex history of the Site, there are multiple accounts of this history and some discrepancies exist. EPA has made its best effort to compile and accurately describe the Site history in a concise manner here. However, EPA acknowledges that other accounts of the site history vary slightly from what is presented here. A more detailed Site history can be found in the "Cultural Resource and Historic Building Survey," dated November 2008.

There are multiple Iron King Mines in Arizona. The Iron King Mine Superfund Site is located in the Big Bug Mining District, in Dewey-Humboldt, Arizona, roughly 18 miles southeast of Prescott, directly west of Highway 69 (Sections 15 and 21, Township 13 North, R. 1 East). The former smelter is situated roughly a mile southeast of the mine, across Highway 69, south of the main area of the town.

Iron King Mine was significantly involved in the development of the Big Bug Mining District, beginning with the discovery of an ore outcropping in 1880. A variety of mining operations took place at this site through time and by 1906 there was a miner's camp of about 300, including 140 employees of the mine. Ownership of the mine passed to several different people and by its final years in the late 1960s, the mine produced almost all the lead and zinc mined in Arizona. Most of the historic buildings related to the Iron King Mine operations no longer exist. A few remain, but none from its earliest days.

The Humboldt Smelter also played a significant role in the historical development of the Big Bug Mining District from 1870 to 1937. In addition to a variety of buildings and structures directly related to the smelting operations, the property also once contained Nob Hill, a residential neighborhood where the managers and executives lived. Worker housing on the property consisted of several bunkhouses and small dwellings below Nob Hill. Although none of the residences and few of the smelter buildings and structures remain at the Humboldt Smelter property today, one of the smelter stacks still stands and can be seen from the nearby highway.

Iron King Mine History

The history of the Iron King Mine begins with the discovery of an ore outcropping in 1880. The American Gold and Copper Consolidated Mining Company started the first large scale production at Iron King in 1906. The company concentrated oxide ores taken near the surface and was using cyanide treatment to recover small amounts of gold and silver. There was considerable activity at the Site until about 1910 when little mining occurred and the mine was shut down in 1915. Activity at Iron King Mine was sporadic throughout the 1920s.

Iron King Mine began producing again in the 1930s, as the demand for lead and zinc rose. In 1939, the Iron King Mine employed 65 men and was the largest producer of lead and zinc in Arizona. A cyanide plant was added to treat zinc tailings for additional recovery of gold, and by 1941 the mine was producing 1.5 million pounds of zinc and 400,000 pounds of lead, with small amounts of gold and silver as secondary products. After numerous plant expansions, by 1950, the Iron King Mine produced 200,000 tons of ore for the year, yielding 20,000 ounces of gold, 800,000 ounces of silver, 10 million pounds of lead, and 20 million pounds of zinc.

Appendix

By the late 1950s, most mining activity in the surrounding area had ended, but Iron King Mine continued to operate at full production levels with 225 employees. By the end of the decade the Iron King Mine shipped most of the zinc and lead produced in Arizona, and was the state's largest silver producer and third largest gold producer.

The principal mining methods were traditional vein-mining techniques of horizontal cut-and-fill, with square-set timbers for support, and block caving. In 1962, a large glory hole formed from undermining the ground above the open area mine workings up to the surface which allowed the earth to fall into the empty block caving area. The caved in dirt and rock was then used as fill for shoring up vacated stopes.

By 1968, all mining work at the Iron King Mine ended. Over time, the orebody was mined to a depth of 3,250 feet, with 40 miles of shafts, drifts, crosscuts, raises, and winzes. In its last years, the mine had a steady output of 1,050 tons per day, producing almost all lead and zinc mined in Arizona.

From the 1960s, the tailings were used to produce an iron-based soil supplement extracted from the tailings. This product was used as both commercial and residential fertilizer. A fertilizer plant was constructed in 1988, and operated from 1989 to 2006. This plant produced Ironite fertilizer from tailings. The tailings were mixed with sulfuric acid, urea, and water. The tailings were dried, sized, and packaged. Wastewater was sent to a settling tank, then pumped to wastewater tanks and allowed to evaporate. Sludge was fed back into the process.

The EPA inspected the Ironite facility in 1995 and noted discharge of runoff into the Chaparral Gulch. Such discharge was not permitted. EPA also reported that Ironite was covered by a National Pollutant Discharge Elimination System (NPDES) stormwater permit that was to expire in 1997. Under this permit, Ironite was authorized to discharge stormwater from the Ironite plant site only. Runoff from the tailings was not authorized under the stormwater permit. ADEQ issued a Notice of Violation (NOV) to Ironite for unpermitted storm water discharges from its facility. In response to this NOV, Ironite obtained the required storm water permit and has made modifications to the facility to achieve compliance. Ironite has constructed berms to hold in stormwater discharges in all appropriate places on their property. Ironite has fulfilled obligations to ADEQ on stormwater discharge issues. Today, Ironite is operating under the Multi-Sector General Permit for stormwater.

On September 15, 2003, the Ironite property was accepted into ADEQ's Voluntary Remediation Program (VRP). Ironite Products Company's ownership transferred to North American Industries (NAI) in April 2006.

Under the VRP, NAI collected samples to determine impacts of stormwater runoff and dust from the Ironite property to adjacent properties; determine whether or not controls are necessary to protect groundwater; ensure planned and existing dust and stormwater controls are adequate to protect adjacent properties; and, obtain a finding of no further action from ADEQ. Under this program, NAI implemented stormwater controls to prevent unpermitted discharges from the facility. NAI is still participating in the VRP.

Ironite has an Air Quality Permit with the ADEQ Air Quality Division. ADEQ issued a notice of violation (NOV) in 1995, and, apparently, Ironite satisfactorily addressed the problem. Ironite was in compliance with the permit during inspections in 1992, 1994, 1997, and 1999. On March 16, 2006, ADEQ conducted an air quality permit inspection at the facility in response to a permit violation and to investigate complaints about excessive dust from the facility. Violations were noted during this investigation. ADEQ issued a Notice of Violation (NOV) dated April 25, 2006. The NOV is currently open.

According to ADEQ records, Ironite provided a Notification of Underground Storage Tanks to ADEQ. However, all underground storage tanks (USTs) have been removed. The USTs were located at the Former Fertilizer Plant.

In 2003, ADEQ signed an Aquifer Protection Permit for Aqua Tec Septage Treatment, a septage treatment facility that operated where the original fertilizer plant was located. Waste solids from the septage treatment facility were shipped off site to a landfill. Clarified liquids were piped off site for non-potable uses. ADEQ received a complaint regarding the facility in 2005, which prompted an ADEQ inspection. ADEQ noted that sludge, raw sewage, and stormwater were overflowing the tanks and entering the wash that runs along the west side of the facility. ADEQ issued a NOV to the company. In response, Aqua Tec ceased operation of the facility, drained the tanks, and constructed a berm. ADEQ then closed the NOV.

In May 2001, Kuhles Capital, LLC submitted an application for an aquifer protection permit (APP) to the ADEQ Solid Waste Section. The requested APP was for a proposed construction debris landfill. In the application, Kuhles proposed to open a waste processing facility that would send recyclable materials to recyclers and place construction debris into the glory hole. Other wastes were not allowed. ADEQ approved this APP in January 2002.

Although the landfill was limited by permit to the acceptance of only construction and demolition debris, it may have accepted unpermitted municipal and other wastes. In Sept 2005, ADEQ issued a compliance order to the operator after inspections revealed that the waste handling practices were not consistent with the aquifer protection permit and operations plan requirements. After an administrative appeal, the order was upheld and became effective in Jan 2006. ADEQ filed a complaint against Kuhles Capital on April 3, 2009 for demolition of an asbestos-containing building without performing a thorough asbestos survey, failure to submit an Asbestos National Emissions Standards for Hazardous Air Pollutants (NESHAP) Notification Form, and failure to comply with Abatement Order No. A-19-08. As of October 2009, two businesses operate in this area. Minex, LLC is engaged in minerals processing. Thompson Machine and Welding does custom machining and metal fabrication.

In August 2005, EPA conducted a Removal Assessment in the vicinity of the Iron King area and recommended a removal action at four residential yards. The residential yards were contaminated with elevated levels of arsenic in surface soil. EPA ordered Ironite to undertake the removal action under an Administrative Order on Consent (AOC). Ironite began the removal action in July 2006. Residents of the affected properties were relocated and provided monetary compensation during the removal.

Humboldt Smelter History

The first ore processing activity occurred at the Humboldt Smelter Site in the 1870s with a water-powered stamp mill and a smelter furnace located on the Agua Fria River. In 1901, the Val Verde Smelter was put into operation and handled custom milling and smelting from many small mines in the Big Bug District and the Bradshaw Mountains. Copper was primarily processed. Fires destroyed the smelter and surrounding buildings in 1904.

In 1906, two new furnaces for processing copper and lead were built. This operation ended in 1907 due to sudden decline in copper process. Operations were resumed in 1910. The Smelter increased production throughout the 1910s due to copper demands from World War I. In its peak years, the smelter produced 30-35 tons of blister copper per day. By 1918, the smelter was doing work for the Blue Bell and De Soto mines plus custom work for 67 other mines in the area. The smelter was equipped with an array of different types of mills, roasters, and furnaces to allow for the most effective treatment of each type of ore.

The formerly existing Prescott & Eastern railroad spur leading into the smelter used to run right through town. This same railroad serviced the Iron King Mine. Mill concentrate were hauled by truck roughly one mile to a railroad siding where they were loaded onto railcar bins and transported to various smelters for processing. With the exception of a brief period of time during the early 1920s, when ore from the Iron King Mine was utilized at the Humboldt Smelter as fluxing ore, ore and concentrates from this mine were not processed at the Humboldt Smelter since it was not capable of handling the complex types of ores produced from the Iron King Mine.

Appendix

After World War II, the demand for copper dropped and the smelter ceased operations in 1920. From 1920 to 1937, the smelter operated sporadically. In 1955, one of the stacks was condemned and demolished.

In later decades, the smelter site was used for aluminum recycling, metal processing, and other industrial activities.

In July 2003, Greenfields purchased the property from the Bagby Revocable Trust. In August 2004, ADEQ issued an NOV to Greenfields for unpermitted stormwater discharges and another NOV for point source pollution without a permit. In May 2007, ADEQ issued another NOV to Greenfields for dust violations.

No businesses are currently operating on the property.

National Priorities Listing

In 2001, EPA tasked the Arizona Department of Environmental Quality (ADEQ) to gather data from the soil, groundwater, sediment, and surface water as part of a Preliminary Assessment/Site Inspection (PA/SI) and Expanded Site Inspection (ESI). The information gathered in the PA/SI is evaluated using EPA's Hazardous Ranking System (HRS). The HRS is the primary method of determining a site's eligibility for placement on the EPA's National Priorities List (or Superfund List).

After the PA/SI was conducted, EPA determined that the site was eligible for the Superfund List. From 2003 - 2007, ADEQ worked with current property owners to independently address contamination on their properties. Despite these efforts, property owners did not make sufficient cleanup progress and EPA felt that the Site should be fully characterized, including residential areas and other properties which may have been historically impacted by mining and/or smelting operations. EPA felt that Superfund listing was the only viable option for addressing the Site in a comprehensive manner.

In June 2007, EPA requested Gov. Napolitano's concurrence to place the site on the Superfund List. In March 2008, EPA proposed the site the Superfund list and received public comments on this action. In September 2008, the Site was formally placed on the Superfund list.

Remedial Investigation

In June 2008, EPA began the first step of the Superfund clean up process, the Remedial Investigation/Feasibility Study (RI/FS). The primary objectives of the RI/FS are to determine the nature and extent of contamination and to gather sufficient information so that EPA can select a remedy that eliminates, reduces, or controls risks to human health and the environment. EPA is currently conducting the RI and will start the FS in 2010.

APPENDIX 2

Community Profile

The Iron King Mine – Humboldt Smelter Superfund site is located in Dewey-Humboldt, Arizona. The town of Dewey-Humboldt was incorporated on December 20, 2004. The area was unincorporated at the time of the 2000 Census and was listed as a Census-Designated Place (CDP). According to the 2000 Census, the total population of the Dewey-Humboldt CDP is 6,295. The total population in 2007 was 4,434 according to the Arizona Department of Commerce statistics. The 2000 Census reports approximately 31 percent of the population is over the age of 65, which is above the Arizona state average of 13 percent. Approximately 18 percent of the population is under the age of 19. Among the population over age 25, 84 percent are high school graduates and 14 percent have a Bachelor's degree or higher.

Minorities account for a small percentage of the total population. Among the minority population, a total of 14 people identified themselves as Black or African-American; 37 as American Indian and Alaska Native; 21 as Asian; 328 as Hispanic or Latino; and 57 as two or more races. Five percent of the population indicated that they speak a language other than English at home (US Census 2000).

According to the 2000 Census data, the median family income in Dewey-Humboldt was $41,232 in 1999, which is below the U.S. median family income of $50,046. Based on the reported 1999 income data, the Census Bureau estimates 100 families in Dewey-Humboldt were living below the poverty level. According to the Arizona Department of Commerce, the unemployment rate was 2.7 percent in 2000 and 2.6 percent in 2007.

Appendix

APPENDIX 3

Superfund Cleanup Program Overview

During community interviews, many people had questions about how EPA cleans up sites. The following provides a general listing of the many steps in the cleanup process, from the initial investigations through the removal of the site from the National Priorities List (Superfund List). As of October 2009, the site is currently at Step 4.

1. Site Discovery

The first step in the Superfund process is called Site Discovery. This term applies to all of the different ways that EPA becomes aware of the need to consider a site for cleanup. Sometimes the notification comes from the general public, sometimes from a State that has been working on the site for some times, and some times other reports, such as the media, bring the site to EPA's attention.

2. Preliminary Assessment/Site Investigation (PA/SI)

Following Site Discovery, EPA reviews any existing information, including prior sampling results, in a step called the Preliminary Assessment. This is followed by various activities such as a site visit or additional sampling, which are called the Site Investigation. Together these are called the Preliminary Assessment/Site Investigation or PA/SI.

3. National Priorities List (NPL) Process

If the information warrants it, EPA then goes through the National Priorities Listing (NPL) process, which requires an analysis of the types of known or suspected contaminants and their location next to people or the environment, to determine the potential for harm. The analysis document, the NPL Scoring Package, becomes the basis for approaching a State's Governor to request the State's agreement for proposing that the site be added to the National Superfund List.

If EPA receives State concurrence, EPA publishes the name of the site in the Federal Register and begins a 30-day public comment period. It is at this stage that EPA may begin its Community Involvement process. EPA might provide notification to the public through newspaper advertisements, and if the site has an existing mailing list, a flyer or fact sheet announcing the comment period and explaining the Superfund program.

EPA considers public comments for and against adding the site to the NPL and makes a decision. If the site is added to the NPL, EPA will notify the public through appropriate means and formally begin to develop its Community Involvement process.

4. Remedial Investigation (RI)

Following NPL listing, EPA designs a thorough investigation of the site, characterizing both the lateral extent of contamination (the area affected and to what depth), and the types and concentrations of contaminants. This usually involves a significant air, soil, surface water and/or groundwater sampling process and often times multiple sampling events that can take many years.

During this time, the site's Community Involvement Coordinator conducts stakeholder interviews to help understand the unique issues and concerns. This information rolls into a Community Involvement Plan (CIP) which organizes EPA's public participation effort. The CIP includes a general cleanup timetable, a list of activities to involve the public, and contact information. Some times at the conclusion of the RI, EPA issues a fact sheet that summarizes the findings. The RI is placed in the Information Repository (usually at a library) and some portions are placed on the internet.

5. Feasibility Study (FS)

Once the contamination has been identified, EPA develops a list of possible ways to address it. The tools, techniques and process are organized into alternatives, often with multiple elements, that are evaluated using a number of criteria, including protectiveness of human health and the environment, ease of implementation, cost, and time to reach cleanup goals.

Some times certain elements are tested at a reduced scale in the laboratory or in the field. These are called treatability studies. Their results help EPA decide which alternatives should be considered and offered to the public for their comments. The Feasibility Study is available in the Information Repository and on the Internet. The RI and FS are often spoken of in combination because they are often part of the same scope of work, so they are often noted as the RI/FS process.

6. Proposed Plan

A Proposed Plan is a 10-20 page document written for the public and distributed principally through EPA's mailing list. It announces a formal 30-day comment period (minimum), summarizes the findings of RI/FS, compares various ways to address site contaminants, identifies EPA's preferred alternative, and explains how to provide public comments.

7. Remedial Design (RD)

Remedial Design is the development of engineering drawings and specifications for a site cleanup. This phase follows the remedial investigation/feasibility study. A fact sheet is distributed when the design work is at 70% complete.

8. Remedial Action (RA)

Remedial Action is the actual building of treatment facilities, removal of waste piles, entombment of contamination, implementation of institutional controls or any other aspect that completes the cleanup decision. This phase includes the testing and certifying of any facilities that are put into operation.

9. Five Year Review

This is an analysis prepared every five years to determine if site remedies remain protective of human health and the environment. Prior to the Five Year Review process beginning, the community is notified and asked to provide any information is has about the operations of the as-built remedy, or any issues and concerns that have arisen regarding the remedy. When the Five Year Review report is complete, the community is notified of the results.

10. Delisting

When a site has met its cleanup objectives, it can be removed from the National Priorities List (NPL or the Superfund List). When removal from the NPL, the public is notified and a comment period is held.

Other Cleanup Steps

Two other potential steps in the site's cleanup process might occur.

1. Interim Actions

An interim action is any short-term, temporary or preliminary construction or activity that addresses contamination before a final cleanup decision is made. The choosing of an interim action often results in a public participation process similar to the Proposed Plan process that leads to a Record of Decision.

2. ROD Amendment/Explanation of Significant Differences

If a final remedy needs to be changed after a Record of Decision has been made, the public is notified and a process similar to the Proposed Plan process leading up to a Record of Decision might ensue. This depends on the nature and extent of the proposed changes.

APPENDIX 4

Site Contaminants

Due to past mining and smelting operations, arsenic, lead, and other metals have contaminated soil, sediments, surface water and potentially groundwater at the Site. Water sampling results from some private drinking water wells and municipal wells show arsenic above drinking water standards (Maximum Contaminant Levels or MCLs).

Arsenic can enter the body through direct skin contact, breathing and ingestion. Children are also at risk of ingesting arsenic through eating dirt (also known as soil pica) that contains arsenic levels above those naturally found in the soil.

The health effects of arsenic when inhaled include respiratory irritation, nausea, skin effects and increased risk of lung cancer. Oral ingestion of arsenic may cause nausea, vomiting, and diarrhea following acute high dose exposure. Long-term oral exposure to low levels of arsenic may cause effects to skin such as hyperpigmentation (darkening of the skins or nails) and hyperkeratosis (thickening of the skin); corns and warts; periphenal neuopathy characterized by numbness in the hands and feet that may progress to a painful "pins and needles" sensation. Chronic oral exposure to may cause increased risk of skin cancer, bladder cancer and lung cancer.

Because lead is a natural element, it normally does occur in small quantities in soil, water, and food. In some locations where ore bodies containing lead are found, unusually high natural levels may result. In addition to these natural sources of lead, its presence in manufactured products can result in additional exposure. Lead paint, and lead solder, which were both commonly used in households are examples of this. Lead can enter the body through direct skin contact, breathing and ingestion.

Young children under the age of six are especially vulnerable to lead's harmful health effects, because their brains and central nervous system are still being formed. For them, even very low levels of exposure can result in reduced IQ, learning disabilities, attention deficit disorders, behavioral problems, stunted growth, impaired hearing, and kidney damage. In adults, lead can increase blood pressure and cause fertility problems, nerve disorders, muscle and joint pain, irritability, and memory or concentration problems.

Exposure to Site Contaminants

Exposure

1. What is ATSDR?
2. What is environmental exposure?
3. Where do the contaminants come from?
4. How can I be exposed?
5. Will I get sick from environmental exposure?
6. How can I tell if I have been exposed?
7. What can I do if I think I have been exposed to contaminants from a site?
8. Reference Section

Appendix

What is ATSDR?

The Agency for Toxic Substances and Disease Registry is the federal public health agency whose mission is to prevent adverse human health effects that result from hazardous waste exposure. The agency conducts assessments or evaluations to determine whether communities have been exposed to hazardous waste and then provides health information to prevent harmful exposures and related diseases.

What is environmental exposure?

Environmental exposure occurs when you contact a chemical substance or radioactive material in your environment. This could be where you work, live, and/or play.

For chemical exposure to occur you must come in contact with the substance or material and it must enter or touch your body. Exposure to radioactive material can occur these ways too, or it can enter your body if you are close to it.

Where do the contaminants come from?

Chemical substances and radioactive materials enter the environment from a source. There are many different types of sources.

Some examples of outdoor sources include:

- Industrial facilities, such as factories and chemical plants
- Landfills
- Hazardous waste sites
- Illegal dumping onto land or into water

Some examples of household sources include:

- Paints and paint strippers
- Household cleaners
- Cigarette smoke
- Air fresheners

How can I be exposed?

You can be exposed to a contaminant at its source or where it has moved to in air, water, soil/sediment, or food.

Depending on the contaminants, you can be exposed by:

- Eating or drinking the contaminants in water, soil, or food.
- Breathing them in air.
- Touching them in water, soil, sediment, air, or food.
- Direct irradiation from airborne or deposited radioactive material.

Will I get sick from environmental exposure?

Being exposed does not mean you will get sick.

Whether you get sick depends on:

- The type of contaminant.
- How it entered your body.
- How much entered your body.
- The developmental stage when exposure occurred.
- How long you were exposed.
- How many times you were exposed.
- Your individual health and how your body reacts to exposure.

How can I tell if I have been exposed?

First, ask your health care provider to take an exposure history. A document on how to take an exposure history is available at http://www.atsdr.cdc.gov/HEC/CSEM/exphistory/docs/exposure_history.pdf [PDF, 420 KB].

For some chemicals or radioactive materials, blood or urine sampling can tell if you have been exposed. Ask your health care provider if he or she can do these tests or recommend where you could go to have them done.

Your health care provider will need some specific information about the possible environmental exposure. Without that information your health care provider may not be able to tell you what your testing results mean.

What can I do if I think I have been exposed to contaminants from a site?

Contact your community or state health or environmental quality department.

To request that ATSDR evaluate potential exposure in your community or neighborhood, call 1-800-CDC-INFO or visit http://www.atsdr.cdc.gov/HAC/petition.html.

Reference Section

ATSDR. 2005. Public health assessment guidance manual (update).

Atlanta, GA: US Department of Health and Human Services.

ATSDR. 2003. Chemical exposure fact sheet. Atlanta, GA: US Department of Health and Human Services.

ATSDR. Environmental chemical exposure: The basics. Atlanta, GA: US Department of Health and Human Services.

Appendix

APPENDIX 5

2006 Residential Soil Removal

In 2006, EPA ordered Ironite to undertake removal actions at four residences under an Administrative Order on Consent (AOC). Ironite hired a contractor to conduct resident relocation, soil sampling, engineering and oversight of the excavation, and disposal. The residential parcels were contaminated with elevated levels of arsenic in surface soil. A soil cleanup goal of 23 ppm arsenic was established by EPA. The AOC required that a cleanup level of 23 ppm or a depth of 4 feet must be achieved.

Excavated soils were transported to the Ironite property for disposal. Disposed soil was graded flat at the disposal site. EPA collected confirmation samples of soils at the base of the excavated area to determine the effectiveness of the removal action. Samples were collected in a systematic random grid fashion and analyzed for arsenic. The remediated properties were backfilled with clean soil, graded, and restored to original landscaped conditions.

Appendix

APPENDIX 6

Site Meetings

Year	Date	Activity
2006	July 27	Dewey-Humboldt Work Session Meeting
	November 7	Dewey-Humboldt Work Session Meeting
2007	February 15	Dewey-Humboldt Work Session Meeting
	September 4	Dewey-Humboldt Work Session Meeting
	December 18	Dewey-Humboldt Work Session Meeting
2008	March 19 – May 19	Public Comment Period for NPL proposal
	August 19	Dewey-Humboldt Council Meeting
	August 20	Kick-Off Meeting
	September – October	Community Involvement Plan Interviews
2009	February 11	Dewey-Humboldt Historical Society Presentation
	May 5	Dewey-Humboldt Council Meeting
	July 21	Dewey-Humboldt Council Meeting
	October 10	EPA/ADEQ booth at Agua Fria Festival

Appendix

APPENDIX 7

Meeting Locations

Humboldt Elementary School
2750 S. Coral St
Dewey-Humboldt, AZ

Dewey-Humboldt Town Hall
2735 South Highway 69, Suite 12
Humboldt Station, Humboldt, AZ 86329

Appendix

APPENDIX 8

Acronyms and Abbreviations

ADEQ	Arizona Department of Environmental Quality
ADHS	Arizona Department of Health Services
AOC	Administrative Order on Consent
ARAR	Applicable or Relevant and Appropriate Requirements
ATSDR	Agency for Toxic Substances and Disease Registry
CAG	Community Advisory Group
CIP	Community Involvement Plan
EPA	Environmental Protection Agency
IR	Information Repository
MCL	Maximum Contaminant Level
ug/L	micrograms per liter
ug/m^3	micrograms per cubic meter
MSHA	Mine Safety and Health Administration
NPL	National Priorities List
OSHA	Occupational Safety and Health Administration
PRP	Potentially Responsible Parties
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RPM	Remedial Project Manager
SAP	Sampling and Analysis Plan
TAG	Technical Assistance Grant
UAO	Unilateral Administrative Order
USEPA	United States Environmental Protection Agency

Appendix

APPENDIX 9

Glossary

Administrative Order on Consent – A legal agreement signed by EPA and an individual, business, or other entity through which the violator agrees to pay for correction of violations, take the required corrective or cleanup actions, or refrain from an activity. It describes the actions to be taken, may be subject to a comment period, applies to civil actions, and can be enforced in court.

Alluvial – Relating sand deposited by flowing water.

Ambient Air – Any unconfined portion of the atmosphere: open air, surrounding air.

Aquifer – An underground geological formation, or group of formations, containing water. Are sources of groundwater for wells and springs.

Arsenic – A heavy metal that is hazardous to health if breathed or swallowed. It is used in insecticides, weed killers, doping agents, and various alloys.

Asbestos – A mineral fiber that can pollute air or water and cause cancer or asbestosis when inhaled. EPA has banned or severely restricted its use in manufacturing and construction.

Background – The concentration of a substance in air, water, or soil that occurs naturally or is not the result of human activities.

Consent Decree – A legal document, approved by a judge, that formalizes an agreement reached between EPA and potentially responsible parties through which the parties will conduct all or part of a cleanup action at a Superfund site; cease or correct actions or processes that are polluting the environment; or otherwise comply with EPA initiated regulatory enforcement actions to resolve the contamination at the Superfund site involved. The consent decree describes the actions the parties will take and may be subject to a public comment period.

Contamination – Introduction into water, air, and soil of microorganisms, chemicals, toxic substances, wastes, or wastewater in a concentration that makes the medium unfit for its next intended use.

Feasibility Study – Analysis of the practicability of various proposed cleanup methods.

Field Sampling Plan – A project planning document that describes the number, type, and location of samples to be collected. It also describes the type of analysis needed for each sample.

Geotechnical – Below-ground investigation by boring, sampling, and testing the soil strata to establish its compressibility, strength, and other characteristics likely to influence an earth-moving project.

Glory hole – A depression or hole in the earth that was created by undermining the ground above an open area of underground block caving of mine workings up to the surface, allowing the earth to fall into the empty area. The caved in dirt and rock were then used as fill for shoring up vacated stopes within the mine. The Iron King glory hole was utilized as a landfill when mining activities ended at that location.

Groundwater – The supply of fresh water found beneath the Earth's surface, usually in aquifers, which supply wells and springs. Because groundwater is a major source of drinking and irrigation water, there is growing concern over contamination from leaching agricultural or industrial pollutants.

Appendix

Heavy metals – Metallic elements with high atomic weights; (e.g. mercury, chromium, cadmium, arsenic, and lead); can damage living things at low concentrations and tend to accumulate in the food chain.

Hydrology – The science dealing with the properties, distribution, and circulation of water.

Impoundment – A body of water or sludge confined by a dam, dike, floodgate, or other barrier.

Inorganics – Chemical substances of mineral origin, not of basically carbon structure.

Lead – A heavy metal that is hazardous to health if breathed or swallowed. Its use in gasoline, paints, and plumbing compounds has been sharply restricted or eliminated by federal laws and regulations.

National Historic Preservation Act, Section 106 – Federal legislation that requires the protection of historical, archeological, and cultural resources.

Evaluation criteria – The nine evaluation criteria are as follows: 1) Overall protection of human health and the environment, 2) Compliance with ARARs (applicable or relevant and appropriate standards), 3) Long-term effectiveness and permanence, 4) Reduction of toxicity, mobility or volume, 5) Short-term effectiveness, 6) Implementability, 7) Cost, 8) State acceptance, and 9) Community acceptance

Particulates – Fine liquid or solid particles such as dust, smoke, mist, fumes, or smog, found in air.

Record of Decision – A public document that explains which cleanup alternative(s) will be used at National Priority List Sites.

Remedial Investigation – An in-depth study designed to gather data needed to determine the nature and extent of contamination at a Superfund site.

Remedy – Long-term action that stops or substantially reduces a release or threat of a release of hazardous substances.

Riparian – Areas near rivers and streams with a differing density, diversity, and productivity of plant and animal species relative to nearby uplands.

Risk Assessment – Qualitative and quantitative evaluation of the risk posed to human health and/or the environment by the actual or potential presence and/or release of specific pollutants.

Sediment – Topsoil, sand, and minerals washed from the land into water, usually after rain or snow melt.

Slag – The material created as residue after the smelting of metallic ore.

Superfund – The program operated under the legislative authority of CERCLA and SARA that funds and carries out EPA solid waste emergency and long-term removal and remedial activities. These activities include establishing the National Priorities List, investigating sites for inclusion on the list, determining their priority, and conducting and/or supervising cleanup and other remedial actions.

Tailings – Residue of raw material or waste separated out during the processing of crops or mineral ores.

Toxicity – The degree to which a substance or mixture of substances can harm humans or animals.

Unilateral Administrative Order – EPA can order parties to perform cleanup work if the parties do not agree to perform the cleanup work through a consent decree or an administrative order on consent, or refuse to perform work they previously agreed to perform under a settlement agreement. These orders, known as Unilateral Administrative Orders, require parties to undertake a response action, either a short or long-term cleanup. EPA can issue a unilateral administrative order when it finds there may be an imminent and substantial endangerment to the public health or the environment.

Wetland Delineation – A Wetland determination (sometimes called identification) is simply the determination of whether an area is a wetland. Wetland delineation is the actual establishment of wetland boundaries. This informaiton can have significant implications on property values, wildlife management activities, restoration and enhancement potential, and regulatory review.

APPENDIX 10

Key Contacts

EPA Contacts

Leah Butler
Project Manager (SFD-6-2)
(415) 972-3199
butler.leah@epa.gov

David Cooper
Community Involvement
Coordinator (SFD-3)
(415) 972-3245
toll free (800) 231-3075
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ADEQ Contacts

Brian Stonebrink
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(602) 771-4197
stonebrink.brian@azdeq.gov

Felicia Calderon
Community Involvement
Coordinator
(602) 771-4167
calderon.felicia@azdeq.gov

Town of Dewey-Humboldt

William Emerson
Town Manager
P.O. Box 69
2735 South Highway 69, Suite 12
Humboldt Station, Humboldt, AZ 86329
928-632-7362

Yavapai County

Carol Springer
County Supervisor, District 1
1015 Fair Street
Prescott, AZ 86305-1852
928-771-3200

State Senator

District 4

State Representatives, District 4

Tom Boone
1700 W. Washington, Room 313
Phoenix, AZ 85007
602-926-3297

Judy Burges
1700 W. Washington
Room 342
Phoenix, AZ 85007
Phone Number: (602) 926-5861

U.S. Senators

John McCain
5353 North 16th Street
Suite 105
Phoenix, AZ 85016
602-952-2410

Jon Kyle
2200 East Camelback, Suite 120
Phoenix, AZ 85016-3455
602-840-1891

Appendix

U.S. Congress

Ann Kirkpatrick, 1st District
Yavapai County Office
240 S. Montezuma St, #101
Prescott, AZ 86303
928-445-3434

APPENDIX 11

Media Contacts

Prescott Daily Courier
1958 Commerce Center Circle
Prescott, Arizona 86301
Mailing Address: P.O. Box 312, Prescott, AZ 86302
928-445-3333

Prescott Valley Tribune
8303 State Route 69
Prescott Valley, Arizona 86314
Mailing Address: P.O. Box 26564
Prescott Valley, AZ 86312
928-445-3333 Ext. 1020

Big Bug News
Mailing Address: P.O. Box 26564
Prescott Valley, AZ 86312
928-775-4440

Prescott News (online)
www.prescottenews.com

The Arizona Republic
6760 Skurja Drive
Prescott, AZ 86301
928-445-4181

Appendix

APPENDIX 12

Information Repositories and Web Sites

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

http://www.epa.gov/region09/ironkingmine.

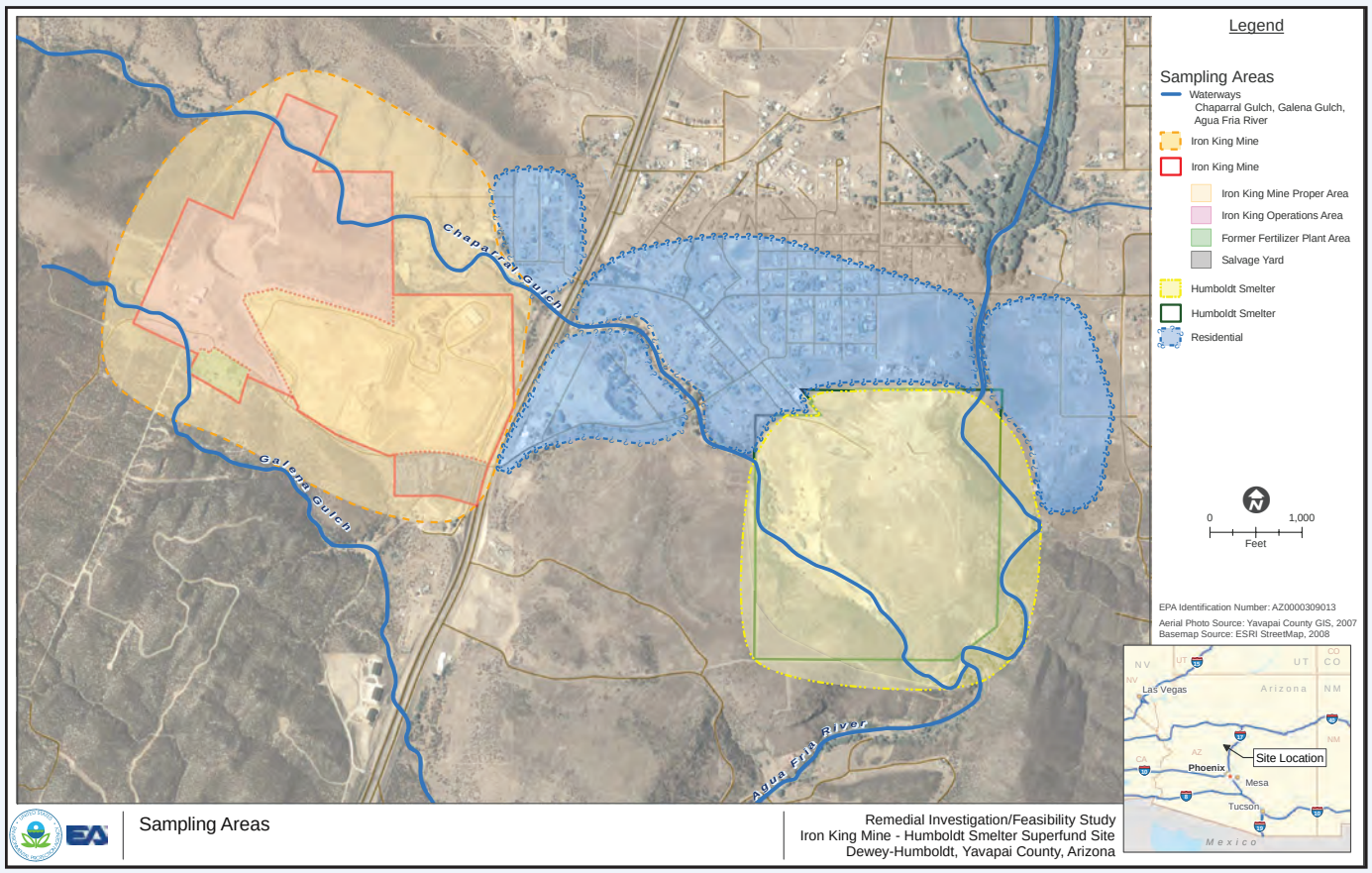
Arizona Department of Environmental Quality
1110 W. Washington Street
Phoenix, AZ 85007

www.azdeq.gov

Appendix

APPENDIX 13

Site Map(s) and Signs



Appendix

United States
Environmental Protection Agency

ADEQ
Arizona Department
of Environmental Quality

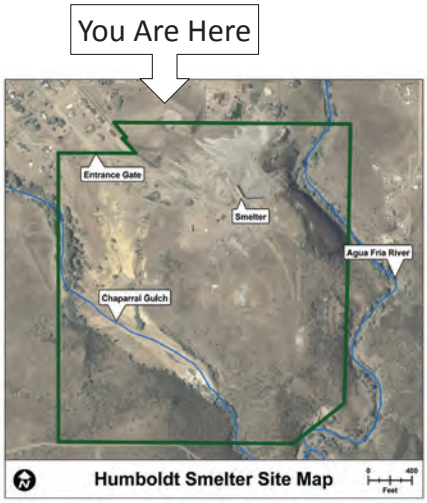
IRON KING MINE – HUMBOLDT SMELTER SUPERFUND SITE

CAUTION!

Areas beyond this sign may contain harmful levels of lead, arsenic, and other contaminants. These contaminants are present in soil and water on the property. The United States Environmental Protection Agency (EPA) advises avoiding contact with these materials. EPA is currently studying this property under the federal Superfund program.

Individuals who would like more information or who would like to report suspicious activity may call EPA's toll free number:

(800) 231-3075



United States
Environmental Protection Agency

ADEQ Arizona Department of Environmental Quality

IRON KING MINE – HUMBOLDT SMELTER SUPERFUND SITE

CAUTION!

Areas beyond this sign have been identified as containing harmful levels of lead, arsenic, and other contaminants. These contaminants are present in soil and water on the property. The United States Environmental Protection Agency (EPA) advises avoiding contact with these materials. EPA is currently studying this property under the federal Superfund program.

Individuals who cause the spread of contamination on or from the property may be subject to enforcement action.

Individuals who would like more information or who would like to report suspicious activity may call EPA's toll free number:

(800) 231-3075.

Appendix

United States
Environmental Protection Agency

ADEQ Arizona Department of Environmental Quality

IRON KING MINE – HUMBOLDT SMELTER SUPERFUND SITE

The United States Environmental Protection Agency (EPA) is currently studying this area under the federal Superfund program. Individuals who would like more information should contact Leah Butler by calling (415) 972-3199 or EPA's toll free number (800) 231-3075. More information is also available on the web at: http://www.epa.gov/region09/ironkingmine.

APPENDIX 14

EPA fact sheets

- August 2005 "U.S. EPA Plans Removal Assessment"
- April 2008 "Iron King-Humboldt Smelter Proposed for Superfund List"
- August 2008 "EPA Begins Site Investigation"
- January 2009 "EPA Conducts Ambient Air Sampling"
- May 2009 Chaparral Gulch flyer
- October 2009 "Investigation Update"

Appendix

EPA

IRON KING MINE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY • REGION 9 • AUGUST 2005

U.S. EPA Plans Removal Assessment

The U.S. Environmental Protection Agency (EPA) plans to investigate the Iron King Mine site in August 2005. The investigation will be limited to privately owned, residential parcels located along the stream corridor known as the Chaparral Gulch in Humboldt, Yavapai County, AZ. The site is divided by Highway 69, and the Chaparral Gulch passes beneath the highway and flows to the east-southeast (see map on back). It is believed that these adjacent parcels may be affected by erosion and tailings from the nearby Iron King Mine during rain and floods.

Why is EPA Doing This Assessment and How Long Will it Take?

Past soil sampling at the Iron King Mine site has found metals, including arsenic and lead, at levels significantly above what occurs naturally in the background and above state and federal health-based levels. In prior inspections, EPA has observed several non-permitted runoff channels and canals from the Iron King Mine discharging into the Chaparral Gulch. EPA has also found significant concentrations of arsenic in soils in and near the Gulch.

EPA believes that more data is required to determine the severity and extent of lead and arsenic soil contamination on nearby properties. The Removal Assessment (a "removal" is a quick response to lessen potential impacts of a hazardous environmental situation), will consist of soil and air sampling. This will determine if arsenic and/or other metals are present at concentrations that may pose adverse health effects. The Removal Assessment will begin on August 15 and should take no more than five days.

What Will EPA Do if There is a Potential Health Problem?

Soil sampling results will allow EPA to quickly identify whether or not residential soils should be removed and replaced with clean fill. Following sample collection and any other action, properties will be restored to their present condition. If a human health threat is observed based on sampling results, response action will be swift. Beginning within three months of the assessment, construction work to mitigate any such threat will take approximately six weeks for the entire Gulch area.

Potential health risks posed by soil contamination at the site are currently unknown. This assessment will determine whether or not there is a risk of adverse health effects from metals in soils at each residence within the area of concern. If no risk is identified, no further action will be necessary. EPA, in collaboration with the Arizona Department of Environmental Quality, will also collect eight additional samples in town to determine if contamination as a result of air transport has occurred in Humboldt.

Community Meeting to Discuss the Removal Assessment

EPA will hold a public meeting to discuss the upcoming Removal Assessment activities with the community. Your participation is encouraged.

Thursday, August 11, 2005 • 6:30 pm – 8:30 pm
City Hall, 2735 S. Highway 69
Humboldt, Arizona

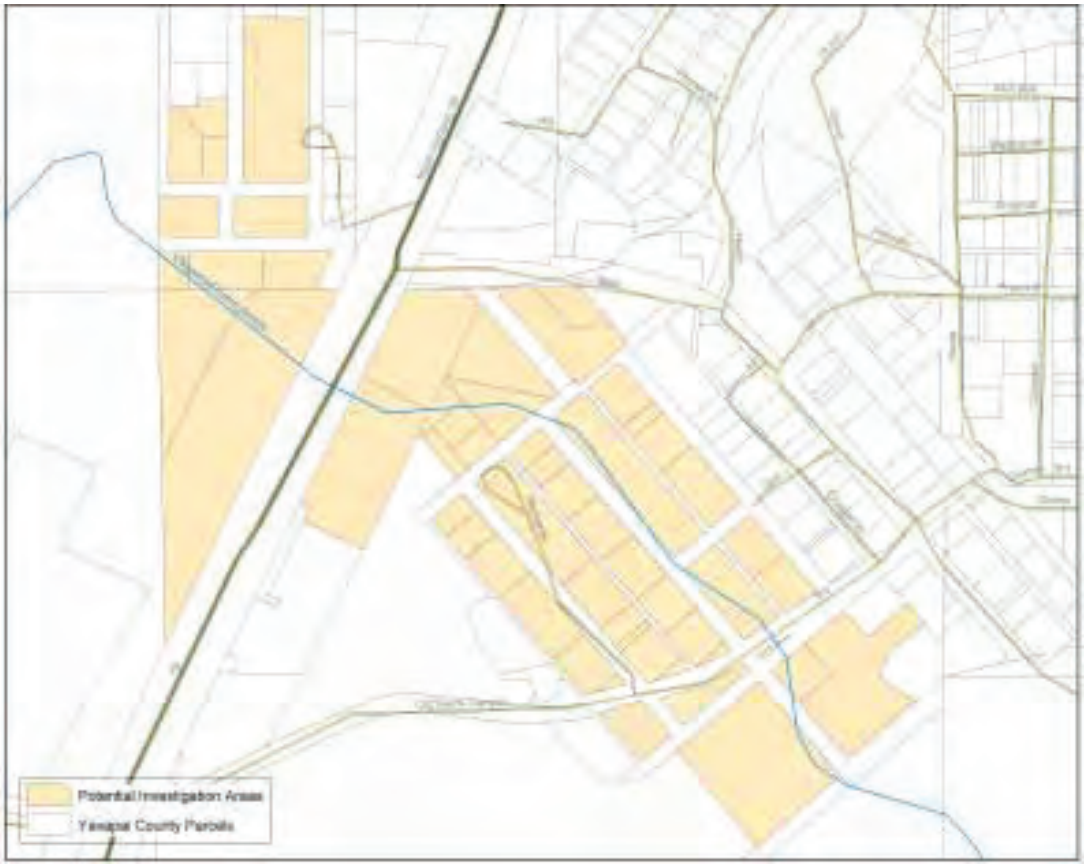
U.S. EPA Contacts • 75 Hawthorne St. • San Francisco, CA 94105

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

Harry Allen
On-Scene Coordinator (SFD-9-2)
415-972-3063
allen.harryL@epa.gov

André Villaseñor
Community Involvement Coordinator (SFD-3)
(415) 972-3238
villasenor.andre@epa.gov

You may also call Harry or Andre toll-free at **(800) 231-3075**. Please leave a message and your call will be returned.



Parcel map, Iron King Mine site

United States Environmental Protection Agency, Region 9
75 Hawthorne Street (SFD-3)
San Francisco, CA 94105
Attn: André Villaseñor (Iron King 8/05)

Official Business
Penalty for Private Use, $300

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Appendix

EPA

IRON KING MINE

United States Environmental Protection Agency • Region 9 • January 2006

U.S. EPA COMPLETES REMOVAL ASSESSMENT

The U.S. Environmental Protection Agency (EPA) Emergency Response Section completed a Removal Assessment in August 2005 in Humboldt, Yavapai County, Arizona. The assessment consisted of soil sampling and analyses at privately owned, residential parcels located along the stream corridor known as the Chaparral Gulch. The Chaparral Gulch passes beneath the highway and flows to the east southeast. The Site is divided by Highway 69.

The parcels are believed to be impacted by erosion of mine tailings from the nearby Iron King Mine during rain and flood events and potentially air dispersion. Historical soil sampling results from the Chaparral Gulch collected by the Arizona Department of Environmental Quality (ADEQ) demonstrated that Arsenic and Lead levels could be a cause for concern at the Site.

Sampling Activities

In August 2005, EPA assessed 17 properties along the Chaparral Gulch. The EPA collected nine soil samples from 0-6 inches below ground surface, and one sample at 1.5 feet below ground surface. The samples were analyzed for Arsenic and Lead in a laboratory. Statistical analyses were performed on the sampling results to determine representative concentrations of Arsenic and Lead on the surface of each property.

Sampling Results

Soil sampling results allowed EPA to quickly identify whether or not the levels of Arsenic and Lead pose a potential human health risk. EPA has observed elevated arsenic levels on some of the properties. EPA will contact those property owners individually to discuss possible next steps.

The EPA provided the results specific for each property to the property owners and authorized personnel, including town, State and Federal officials. In order to protect the privacy of each property owner, the results are not available to the general public.

EPA, in collaboration with the ADEQ, collected 8 soil samples in the Town of Dewey-Humboldt to search for potential contamination resulting from air deposition. Results from these samples may not be representative of risk but may justify additional assessment activities in the vicinity of the Humboldt smelter.

More information pertaining to all of the soil sampling is available in the October 2005 Removal Assessment Final Report at the site repositories listed below. The Final Report contains all of the sampling data.

Please feel free to contact your EPA representatives with any concerns or questions you may have.

U.S. EPA Contacts

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

Harry Allen
On-Scene Coordinator (SFD-9-2)
415-972-3063 or toll-free (800) 231-3075
allen.harryL@epa.gov

André Villaseñor
Community Involvement Coordinator (SFD-3)
(415) 972-3238 or toll-free (800) 231-3075
villasenor.andre@epa.gov

75 Hawthorne St.
San Francisco, CA 94105

Site Repositories

EPA Superfund Records Center
95 Hawthorne St.
San Francisco, CA 94105
415-536-2000
Hours: M-F, 8AM-5PM

Town of Dewey-Humboldt
Town Hall
2735 S. Highway 69, Suite 11
Humboldt, AZ
928-632-7362

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United States Environmental Protection Agency, Region 9
75 Hawthorne Street (SFD-3)
San Francisco, CA 94105
Attn: André Villaseñor (Iron King 1/06)

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Appendix

Iron King Mine-Humboldt Smelter

U.S. Environmental Protection Agency • Region 9 • San Francisco, CA • April 2008

Iron King Mine-Humboldt Smelter Proposed for Superfund List

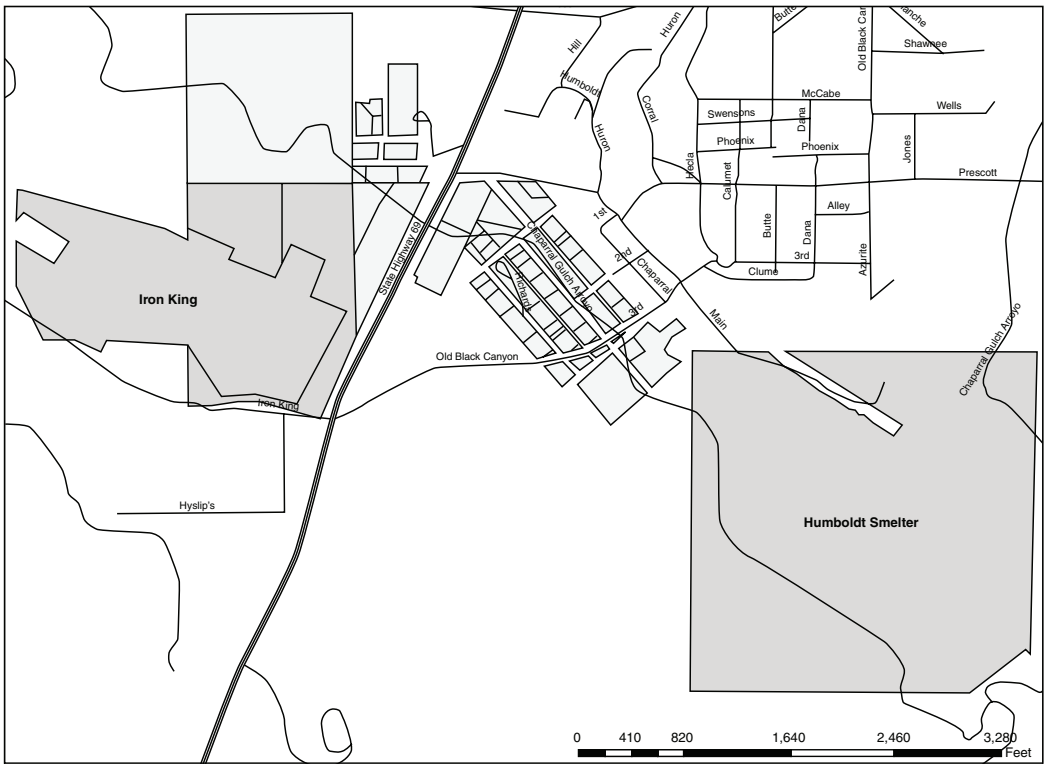
On March 19, 2008, the U.S. Environmental Protection Agency (EPA) proposed adding the Iron King Mine-Humboldt Smelter Site in Dewey-Humboldt, Yavapai County, Arizona, to EPA's National Priorities List (NPL), commonly called the Superfund List (see map below).

EPA identifies and ranks sites according to threats to nearby populations through actual or potential contamination of soils, groundwater, surface water or air. Placing the site on the NPL allows EPA to use federal resources to conduct cleanup activities at the site, including investigating the sources of contamination and determining what measures may be necessary to protect human health and the environment.

Included in this fact sheet is a short history of the site, information about future activities, and how you can become involved in the Superfund process.

What is the problem?

Due to past mining and smelting operations, arsenic, lead and other metals have contaminated soil, sediments, surface water and groundwater on-site at levels above background (meaning levels commonly found in the surrounding area).



Iron King Mine-Humboldt Smelter Site

What is Superfund?

Superfund is the commonly-used name for the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), a federal law enacted in 1980 and amended in 1986. CERCLA enables EPA to respond to hazardous waste sites that threaten public health and the environment.

EPA responds to a hazardous waste site by identifying those that are responsible for contaminating it, then requiring them to perform cleanup activities, with EPA oversight. If EPA is unsuccessful in identifying responsible parties willing to perform cleanup activities, EPA may use Superfund monies to perform the cleanup itself.

The Superfund cleanup process begins with the identification of a potential site. After a preliminary screening of contamination information and potentially impacted populations, the site is proposed for the NPL.

An in-depth cleanup investigation is then performed, followed by an analysis of ways to address the contamination. EPA then identifies the preferred cleanup remedy and shares this in a public meeting which is accompanied by a comment period. After all public comments are reviewed, EPA documents the selected remedy in a legal document called a Record of Decision (ROD).

Following the ROD, EPA designs, constructs, tests, operates and/or performs the necessary cleanup activities. The public is encouraged to share its issues and concerns throughout the Superfund process (see figure below).

Site Description

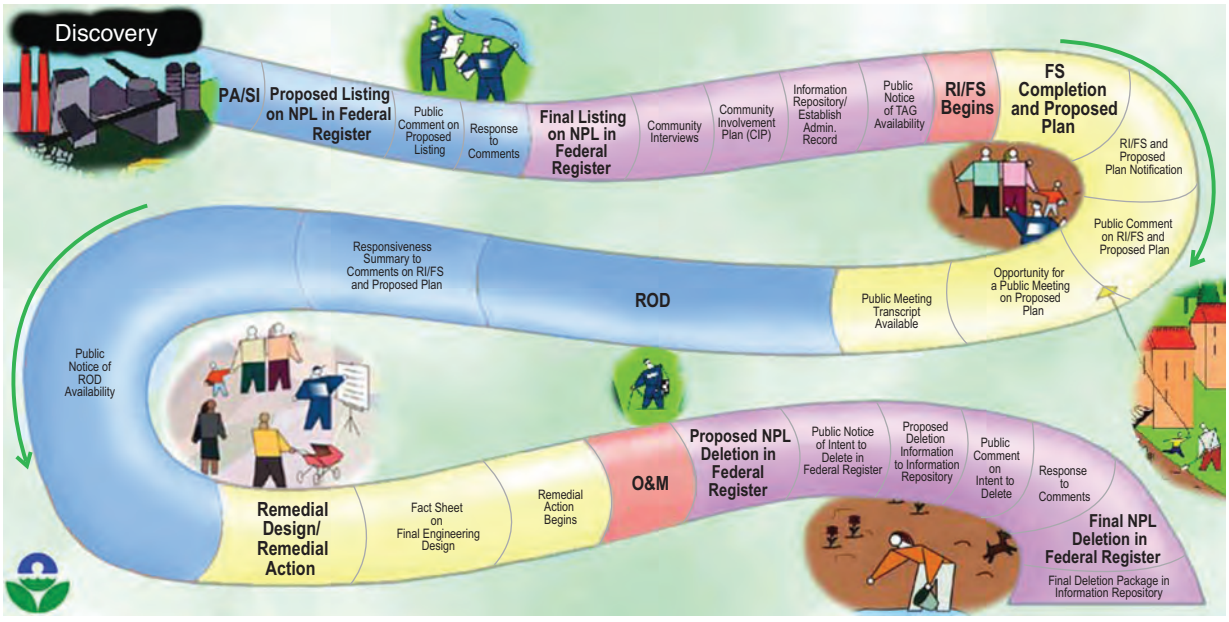
The Iron King area includes property along Iron King Road, west of Highway 69, and the Humboldt Smelter area includes property at the east end of Main Street. The two areas are approximately ½ mile apart and are owned by separate property owners.

Iron King Area

The Iron King area covers approximately 153 acres. The majority of this area is covered by tailings and waste rock piles. There are five retention ponds, at least five mine shafts, a glory hole, and areas of stained soil.

The Iron King Mine was an active mine from 1904 until 1969. The mine was expanded in 1936 to remove lead, gold, silver, zinc, and copper from under ground. A 140-ton mill was erected to crush ore and was expanded to 225-ton capacity in 1938. A cyanide processing plant was added to the site in 1940 to treat the mill tailings to enhance precious metal recovery. Waste rock and tailings were deposited in large piles adjacent to actual mine property boundaries. Recently, the mine tailings from the site have been used to create fertilizer.

Superfund Process



Humboldt Smelter Area

The Humboldt Smelter occupies approximately 182 acres. This area is covered in approximately 763,800 square feet of yellow-orange tailings, 1,041,200 square feet of grey smelter ash, and 456,000 square feet of slag.

The Humboldt Smelter operated from the late 1800s until the early 1960s. The original smelter burned down in 1904 and a smelter that processed 1,000-tons of ore per day was rebuilt in 1906.

Past Activity

In 2006, a removal of contaminated soil from four residential properties was conducted by a contractor on behalf of the Ironite Products Company under EPA oversight.

Current Activity

A 60-day public comment period is underway to receive community input on EPA's proposal to add the site to the National Priorities List. Public comments must be postmarked by May 19, 2008. Please send comments, identified by FDMS Docket Number EPA-HQ-SFUND-2008-0086 by one of the following methods:

- Go to hhtp://www.regulations.gov
- e-mail comments to superfund.docket@epa.gov
- mail comments (no faxes or tapes) to:

Docket Coordinator, Headquarters
U.S. Environmental Protection Agency
CERCLA Docket Office
(Mail Code 5305T)
1200 Pennsylvania Ave, NW
Washington, DC 20460

Future Activity

EPA plans two important activities in the coming months.

A Remedial Investigation (RI) will be conducted to further assess the nature and extent of arsenic, lead and other potential contaminants in soil, water and air at the site. This investigation will help EPA determine possible cleanup actions for the site.

EPA will hold a community meeting to discuss the Superfund program, upcoming site activities, and opportunities for community involvement. Community interviews will also be held at a future date to develop a Community Involvement Plan (CIP). Further community activities will be scheduled as events unfold at the site.

Community Involvement Process

EPA policy and Superfund law establish a strong program of public participation in the site cleanup process. The purpose of the Community Involvement program is to help community members become involved in the decision-making process by developing two-way communication between the affected community and EPA. It focuses on answering the community's questions about the cleanup effort, providing information to the community about site activities, and incorporating community issues and concerns into Agency decisions.

A CIP will be developed to organize the way EPA provides cleanup information and access to the decision-making process to the community. During community interviews with local residents, elected officials and other interested parties, EPA gathers a list of issues and questions the community is concerned about so that they may be considered during the cleanup process, and particularly when a cleanup remedy is proposed.

Throughout the process, there will be a number of public meetings and a formal comment period when EPA's preferred cleanup method is identified. These meetings and comment period will be announced through fact sheets and through public notices advertised in the Prescott Valley Tribune and the Daily Courier.

An EPA CIC is assigned to work with the Iron King Mine/ Humboldt Smelter community on this site. The CIC is available to answer questions, maintain the mailing list and coordinate community involvement activities. Contact information can be found on the back page.

Technical Assistance Grant Available

EPA offers a Technical Assistance Grant (TAG) to a community affected by a Superfund site which funds activities to help the community participate in decision making. An initial grant up to $50,000 is available to a qualified nonprofit community group so they can contract with an independent technical advisor to interpret site documents and help the community understand technical information about their site. Contact the CIC for more information.

Iron King Mine-Humboldt Smelter Proposed for Superfund List

Contact Information

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

Leah Butler
Project Manager (SFD-8-2)
(415) 972-3199
butler.leah@epa.gov

David Cooper
Community Involvement Coordinator (SFD-3)
(415) 972-3245
cooper.david@epa.gov

You may also call these individuals toll-free at (800) 231-3075.
Please leave a message and your call will be returned.

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United States Environmental Protection Agency
Region 9
75 Hawthorne Street (SFD-3)
San Francisco, CA 94105
Attn: David Cooper (IK/HS 4/08)

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Iron King Mine & Humboldt Smelter Site

U.S. Environmental Protection Agency • Region 9 • San Francisco, CA • August 2008

EPA Begins Site Investigation

The U.S. Environmental Protection Agency (EPA) invites the public to a community meeting to discuss its plans to conduct a comprehensive investigation of the historic contamination associated with the Iron King Mine and the Humboldt Smelter Site (the "Site").

The meeting will be held on August 20, from 6:30-8:30 p.m., at the Humboldt Elementary School, 2750 S. Corral St., Humboldt, AZ.

During the meeting EPA will make a presentation that will include information about the steps in the Superfund cleanup process, the scope of the investigation, the community involvement process, and the availability of a federal grant to hire an independent environmental professional to help the community understand cleanup documents.

To organize the community involvement process, EPA will conduct interviews with interested parties. If you have information about the site that you would like to share or are interested in learning more about the site cleanup process, please contact the Community Involvement Coordinator (CIC) listed at the back of this fact sheet.

What is Superfund?

Superfund is the commonly-used name for the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), a federal law enacted in 1980 and amended in 1986. CERCLA enables EPA to respond to hazardous waste sites that threaten public health and the environment. EPA identifies and ranks sites according to threats to nearby populations from actual or potential contamination of soils, groundwater, surface water or air.

Under CERCLA, EPA identifies those parties that are responsible for the contamination, and then may require them to perform cleanup activities with EPA oversight. EPA may use Superfund monies to perform the cleanup itself and then seek to recover the cleanup costs from the responsible parties.

Community Meeting

August 20, 2008
6:30-8:30 p.m.

Humboldt Elementary School
2750 S. Corral St.
Humboldt, AZ

What is the problem?

Due to past mining and smelting operations, arsenic, lead and other metals have contaminated soil, *sediments**, surface water and *groundwater* on-site at levels above *background*.

**Words in italics are defined in the glossary on Page 5*

Status of Superfund Listing

On March 19, 2008, EPA proposed adding the Site to EPA's National Priorities List (NPL), commonly called the Superfund List.

Placing the site on the NPL allows EPA to use federal resources to conduct cleanup activities at the site, including investigating the sources of contamination and determining what measures may be necessary to protect human health and the environment.

EPA received comments from the community on EPA's NPL proposal for this Site. Public comments can be viewed at http://www.regulations.gov. Keyword search: **EPA–HQ–SFUND–2008–0086.**

EPA will review and consider each comment received and announce its decision in the Federal Register.

Site Boundaries

Presently, the full extent of soil *contamination* and possible groundwater contamination has not been assessed. The EPA has identified five Areas of Interest at the Site (see Figure 1):

- Iron King Mine – The Iron King Mine Proper Area, Iron King Operations Area, Former Fertilizer Plant Area, and ancillary associated properties
- Humboldt Smelter and ancillary associated properties
- Off-site Soil in the vicinity of the Site
- Waterways - Including the Chaparral Gulch, Galena Gulch, Aqua Fria River, and adjoining drainage channels and outfalls
- Groundwater, both shallow *alluvial* and deep bedrock groundwater

History of Iron King Mine and Humboldt Smelter

The Site encompasses areas of contamination from two separate facilities: the Iron King Mine property and the Humboldt Smelter property. The smelter is situated less than one mile east of the Iron King Mine property. The Humboldt Smelter property is bordered by the Town of Humboldt to the west and north, the Agua Fria River to the east, and the Chaparral Gulch to the south.

The Iron King Mine area covers approximately 153 acres. The majority of this area is covered by tailings and waste rock piles. There are five retention ponds, at least five mine shafts, a collapsed mine shaft (glory hole), and areas of stained soil.

The Iron King Mine was an active mine from 1904 until 1969. The mine was expanded in 1936 to remove lead, gold, silver, zinc, and copper from under ground. A 140-ton mill was erected to crush ore and was expanded to 225-ton capacity in 1938. A cyanide processing plant was added to the site in 1940 to treat the mill tailings to enhance precious metal recovery. Waste rock and tailings were deposited in large piles adjacent to actual mine property boundaries. More recently, the mine tailings from the site have been used to create fertilizer.

The Humboldt Smelter occupies approximately 182 acres. This area is covered in approximately 763,800 square feet of yellow-orange tailings, over 1 million square feet of grey smelter ash, and 456,000 square feet of slag.

The Humboldt Smelter operated from the late 1800s until the early 1960s. The original smelter burned down in 1904 and a smelter that processed 1,000-tons of ore per day was rebuilt in 1906. This smelter operated until 1918 and then intermittently between 1922 and 1927. The smelter reopened in 1930.

EPA to Conduct Investigation

In the upcoming months, EPA will initiate the field investigation portion of the Remedial Investigation and Feasibility Study ("RI/FS"). The primary objectives of the RI/FS are to determine the nature and extent of contamination and to gather sufficient information so that EPA can select a *remedy* that eliminates, reduces, or controls risks to human health. The investigation will include the collection of airborne *particulates*, groundwater, surface water, surface soils, subsurface soils, and sediment data. Specifically, the field investigation will involve the following tasks:

- Collection of meteorological data for *ambient air* sampling
- Ambient air sampling for *inorganic* constituents to evaluate potential off-site migration of airborne contamination
- Surface and subsurface soil sampling to characterize the nature and extent of contamination

Appendix

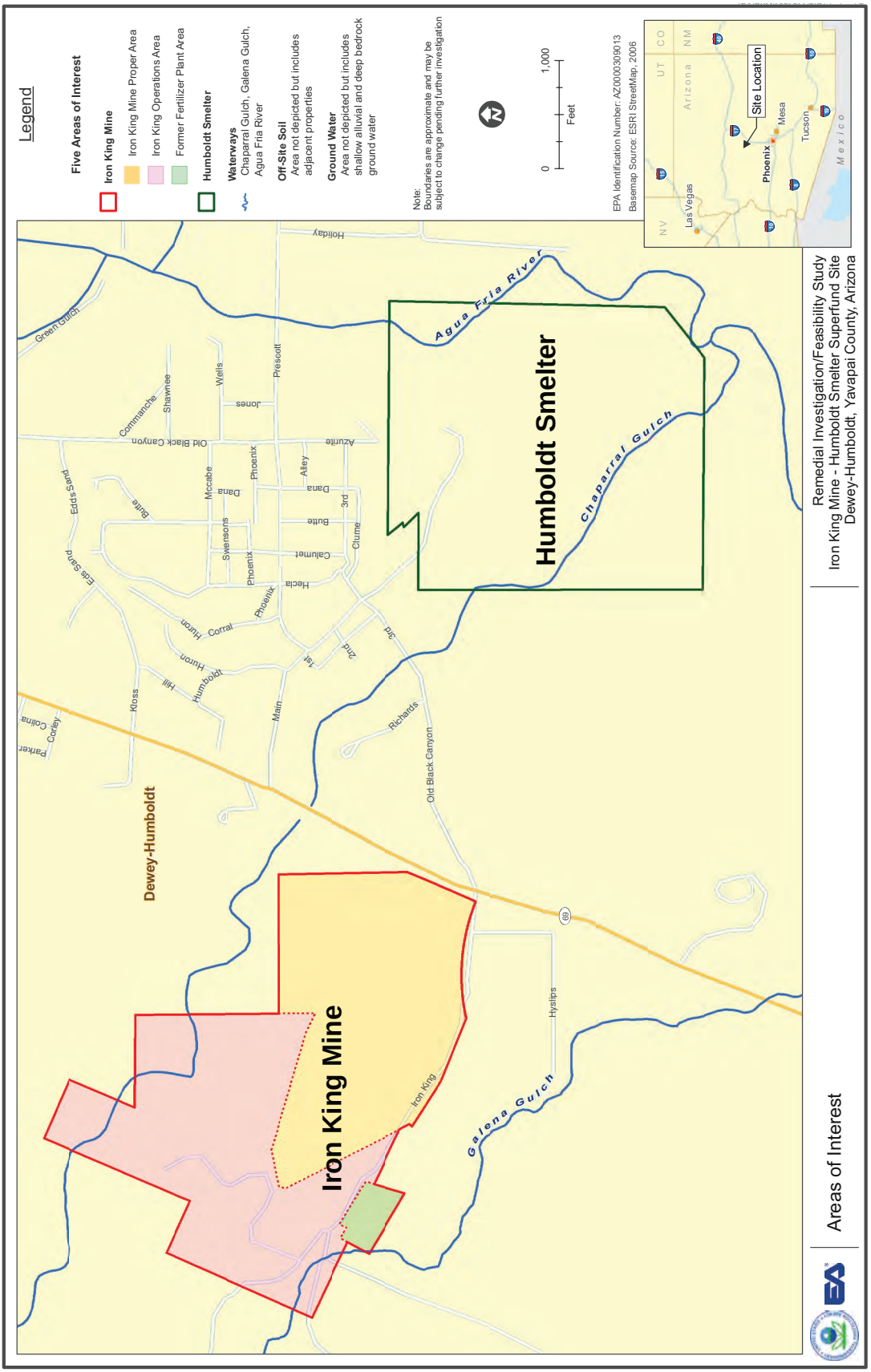

Figure 1: Iron King Mine & Humboldt Smelter Site Areas of Interest

- Groundwater sampling from 1 deep (bedrock) and 5 shallow (alluvial) newly-installed monitoring wells
- Preliminary radiological screen of contaminated areas
- Tap water sampling from private and municipal wells
- Sediment and surface water sampling from the Site waterways, washes, and the dam,
- Sediment and surface water sampling from five on-site *impoundments* at Iron King Mine and the retention pond at Humboldt Smelter
- Volumetric estimates of the mine tailings
- Storm water evaluation of Iron King Mine drainage pathways
- Collection of *geotechnical* testing data from soil borings
- *National Historic Preservation Act, Section 106* review to determine if any historical or cultural resources will be affected by this project
- Ecological habitat survey

After the field investigation is complete, EPA will conduct a human health *risk assessment* and ecological risk assessment. The human health risk assessment will evaluate commercial/industrial, residential, construction worker, recreational, and trespasser exposure scenarios for the areas identified during the investigation, as appropriate. The ecological risk assessment will characterize and quantify, where appropriate, the current and potential ecological risks that would prevail if no further cleanup action is taken.

All of this information will be compiled and presented in a *Remedial Investigation* Report (RI Report). The RI Report is an in-depth document that compiles the data needed to determine the nature and extent of contamination at a Superfund site and establishes site cleanup criteria. The RI Report will be followed by an analysis of ways to address the contamination.

What Follows the Investigation?

The *Feasibility Study* will describe and analyze the potential cleanup alternatives for the Site. Individual alternatives will be assessed against EPA's *evaluation criteria* and a comparative analysis of options will be performed.

EPA will identify the preferred cleanup remedy in a Proposed Plan and will share this in a public meeting which is accompanied by a public comment period. After all public comments are reviewed, EPA will document the selected remedy in a legal document called a *Record of Decision* (ROD).

Following the ROD, EPA will design, construct, test, operate and/or perform the necessary cleanup activities. The public is encouraged to share its issues and concerns throughout the Superfund process.

Community Involvement Process

EPA policy and Superfund law establish a strong program of public participation in the site cleanup process. The purpose of the Community Involvement program is to help community members become involved in the decision-making process by developing two-way communication between the affected community and EPA. It focuses on answering the community's questions about the cleanup effort, providing information to the community about site activities, and incorporating community issues and concerns into Agency decisions.

A Community Involvement Plan (CIP) will be developed to organize the way EPA provides cleanup information and access to the decision-making process to the community. During community interviews with local residents, elected officials and other interested parties, EPA gathers a list of issues and questions the community is concerned about so that they may be considered during the cleanup process, and particularly when a cleanup remedy is proposed. EPA also identifies the best means to share cleanup information and receive public feedback.

Throughout the process, there will be a number of public meetings. Typically, these events occur when the remedial investigation report is released and when EPA's preferred cleanup method is identified. There will also be a formal public comment period when the EPA proposes a cleanup plan. These meetings and the comment period will be announced through fact sheets and through public notices advertised in the ***Prescott Valley Tribune*** and the ***Daily Courier***.

An EPA CIC is assigned to work with the community on this site. The CIC is available to answer questions, maintain the mailing list and coordinate community involvement activities. Contact information can be found on page 5.

Technical Assistance Grant Available

EPA offers a Technical Assistance Grant (TAG) to a community affected by a Superfund site by providing money for activities to help the community participate in decision making. An initial grant up to $50,000 is available to a qualified community group so they can contract with an independent technical advisor to interpret and help the community understand technical information about their site.

Appendix

Glossary

Alluvial – Relating sand deposited by flowing water.

Ambient Air – Any unconfined portion of the atmosphere: open air, surrounding air.

Background - The concentration of a substance in air, water, or soil that occurs naturally or is not the result of human activities.

Contamination - Introduction into water, air, and soil of microorganisms, chemicals, toxic substances, wastes, or wastewater in a concentration that makes the medium unfit for its next intended use.

Feasibility Study - Analysis of the practicability of various proposed cleanup methods.

Geotechnical – Below-ground investigation by boring, sampling, and testing the soil strata to establish its compressibility, strength, and other characteristics likely to influence an earth-moving project.

Groundwater - The supply of fresh water found beneath the Earth's surface, usually in aquifers, which supply wells and springs. Because groundwater is a major source of drinking and irrigation water, there is growing concern over contamination from leaching agricultural or industrial pollutants.

Impoundment - A body of water or sludge confined by a dam, dike, floodgate, or other barrier.

Inorganics – Chemical substances of mineral origin, not of basically carbon structure.

National Historic Preservation Act, Section 106 – Federal legislation that requires the protection of historical, archeological, and cultural resources.

Evaluation criteria – The nine evaluation criteria are as follows: 1) Overall protection of human health and the environment, 2) Compliance with ARARs (applicable or relevant and appropriate standards), 3) Long-term effectiveness and permanence, 4) Reduction of toxicity, mobility or volume, 5) Short-term effectiveness, 6) Implementability, 7) Cost, 8) State acceptance, and 9) Community acceptance

Particulates – Fine liquid or solid particles such as dust, smoke, mist, fumes, or smog, found in air.

Record of Decision – A public document that explains which cleanup alternative(s) will be used at National Priority List Sites.

Remedial Investigation – An in-depth study designed to gather data needed to determine the nature and extent of contamination at a Superfund site.

Remedy – Long-term action that stops or substantially reduces a release or threat of a release of hazardous substances.

Risk Assessment - Qualitative and quantitative evaluation of the risk posed to human health and/or the environment by the actual or potential presence and/or release of specific pollutants.

Sediment - Topsoil, sand, and minerals washed from the land into water, usually after rain or snow melt.

Contact Information

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

U.S. EPA Contacts

Leah Butler
Project Manager (SFD-8-2)
(415) 972-3199
toll-free (800) 231-3075
butler.leah@epa.gov

David Cooper
Community Involvement Coordinator (SFD-3)
(415) 972-3245
toll-free (800) 231-3075
cooper.david@epa.gov

Arizona Department of Environmental Quality

Brian Stonebrink
Project Manager
(602) 771-4197
Stonebrink.Brian@azdeq.gov

Felecia Calderon
Community Involvement Coordinator
Calderon.Felicia@azdeq.gov

Iron King Mine & Humboldt Smelter Site

EPA Begins Site Investigation

Mailing List Coupon

You may have received this factsheet as part of a bulk mailing list. If you would like to be added to EPA's mailing list for this Site, please fill out the coupon below and return it to: David Cooper, Community Involvement Coordinator, U.S. EPA, 75 Hawthorne St. (SFD-3), San Francisco, CA 94105 or e-mail the information to: cooper.david@epa.gov

Name _____

Mailing Address _____

City, State _____ Zip _____

United States Environmental Protection Agency
Region 9
75 Hawthorne Street (SFD-3)
San Francisco, CA 94105
Attn: David Cooper (IK/HS 8/08)

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Iron King Mine & Humboldt Smelter Site

U.S. Environmental Protection Agency • Region 9 • San Francisco, CA • February 2009

EPA Conducts Ambient Air Sampling

Introduction

The U.S. Environmental Protection Agency (EPA) Region 9 has started an ambient air sampling program at the Iron King Mine – Humboldt Smelter Superfund Site (Site) in the town of Dewey-Humboldt, Yavapai County, Arizona. The air sampling program is being conducted to evaluate the potential migration of particulates (or airborne contaminants) from the Site. The air sampling program is scheduled to extend into Summer 2009 in order to capture the high-wind events that are typical during the spring.

This information will help EPA determine if there is migration of airborne contaminants from the Site that poses an unacceptable risk to human health. Based on the results of this study, additional sampling may be required to evaluate possible solutions for air quality issues.

Sampling

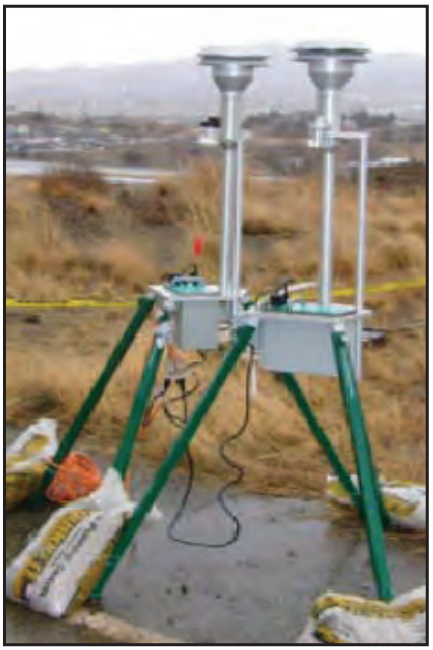
EPA has established four sampling stations at the following locations: Humboldt Smelter, Iron King Mine, Humboldt Elementary School, and one upwind location. The samplers may be moved or augmented based on field conditions. EPA contractors are currently collecting air samples on a 6-day rotating schedule. In addition, samples will be collected at a higher frequency during high-wind events so that these conditions are observed and can be evaluated.

Data collected during this sampling program will include:

- Meteorological data (wind direction and speed)
- Total suspended particulates data (the total amount of matter in the air)
- Particulate matter less than 10 microns (PM10), (this particulate size or smaller can enter the lungs)
- Inorganics data (metal content)

Results

Results from the air sampling program will be available at the Humboldt Library. These records will be updated as data comes in over the course of the sampling program. This data will also be incorporated into the Remedial Investigation Report.



Air Sampling Equipment

Iron King Mine & Humboldt Smelter Site

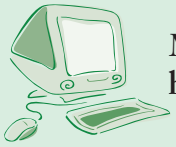
EPA Conducts Ambient Air Sampling

For More Information

Individuals who would like more information should contact Leah Butler by calling (415) 972-3199 or EPA's toll free message number (800) 231-3075 or by emailing *butler.leah@epa.gov*.

For site documents, please visit the information repository at:

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



More information is available on the web at:
http://www.epa.gov/region09/ironkingmine

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Iron King Mine & Humboldt Smelter Site

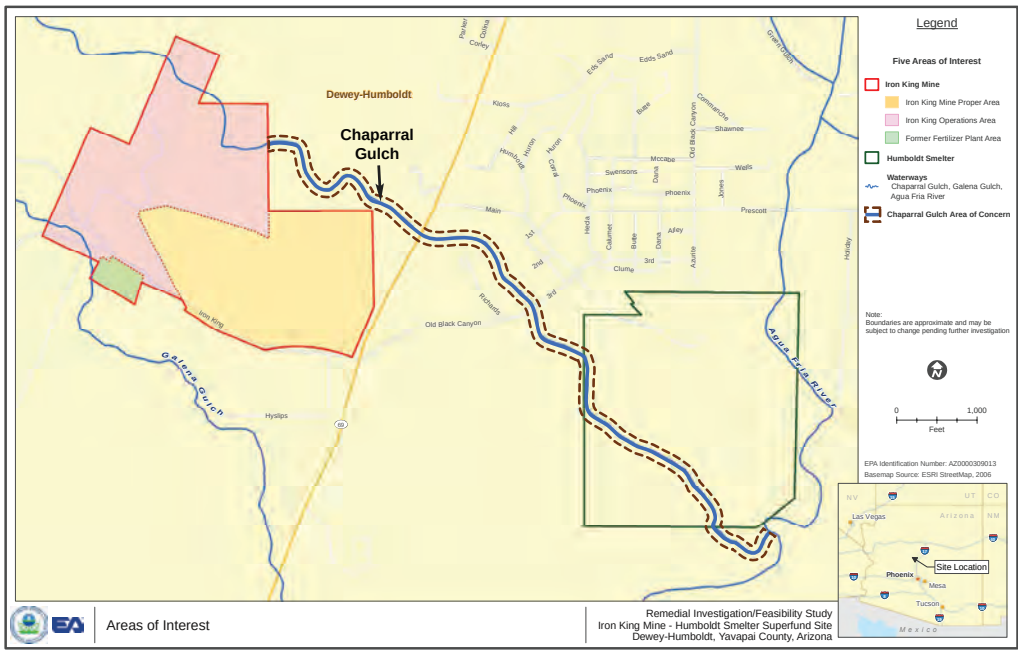
U.S. Environmental Protection Agency • Region 9 • San Francisco, CA • May 2009

Chaparral Gulch Shows Elevated Arsenic

EPA is conducting an investigation at the Iron King Mine – Humboldt Smelter Superfund Site in Dewey-Humboldt, Arizona. EPA completed most of the sample collection during summer and fall 2008. We are currently compiling the results which will be included and described in the forthcoming Remedial Investigation Report.

The Remedial Investigation Report will include a risk evaluation that estimates the current and future potential health risks from the Site. Preliminary sampling results indicate the presence of elevated levels of arsenic in the Chaparral Gulch that could present a health risk if a person is exposed to the arsenic over a long period of time. Arsenic is naturally occurring in soils in Arizona; however, the amount of arsenic in the soil in Chaparral Gulch has increased through mining and smelting activities in the area.

Arsenic can enter the body through breathing and/or ingesting contaminated soil. EPA recommends that residents limit or avoid contact with soils and any water in the Chaparral Gulch. Chaparral Gulch is easily accessible to the public as no fences or gates prohibit access. However, EPA advises residents, especially young children, to stay out of this area.



Chaparral Gulch Sampling

EPA collected surface and subsurface soil samples in the Chaparral Gulch. These samples were analyzed for metals, nitrates, nitrites, and sulfates, and perchlorate.

Surface water and sediment samples were collected approximately every 400 to 500 feet along the Chaparral Gulch when water was present (during or shortly after a rain event). Surface water was analyzed for metals, nitrates, nitrites, sulfates, perchlorate, and total dissolved solids.

Sampling Results

Results indicated elevated levels of arsenic in soil, sediment, and surface water in the Chaparral Gulch. The Chaparral Gulch contains tailings from both the Iron King Mine and the Humboldt Smelter. Additionally, a dam located on the smelter property within the Chaparral Gulch has collected tailings from the Humboldt Smelter that were deposited when an uphill settling pond was breached. EPA is still evaluating the nature and extent of this contamination. The results will be part of the Remedial Investigation Report.

Questions and Answers

How does arsenic affect my health?

The levels of arsenic found in the soil samples are low enough not to pose an immediate health problem. EPA is concerned about extended exposure to arsenic since it can cause long-term health effects.

The health effects of arsenic are determined by how much dust and soil is routinely ingested or inhaled. Swallowing or inhaling soil or dust laced with arsenic is the primary path for entering the body. Touching soil does not pose a threat.

Arsenic exposure may be linked to cardiovascular and vascular disease, diabetes, nausea or upset stomach, diarrhea, headaches and a variety of cancers: skin (non-melanoma type), kidney, prostate, lung, bladder and liver.

Why are young children more at risk?

EPA is concerned about young children as they can inhale and eat dirt while playing. This behavior is a concern for children who live in areas with elevated arsenic levels in the soil.

If I am in contact with the soils in Chaparral Gulch, does the contamination pose an immediate health risk?

In general, short-term exposure to contamination in the Chaparral Gulch will not cause an immediate health risk. EPA is most concerned about long-term exposure which could potentially cause health effects.

Iron King Mine & Humboldt Smelter Site

Chaparral Gulch Shows Elevated Arsenic

Advisory

EPA recommends that people, especially small children, stay out of the Chaparral Gulch. This precautionary advice is meant to reduce human exposure to arsenic contamination in the Chaparral Gulch.

Contact Information

Individuals who would like more information should contact:

Leah Butler
(415) 972-3199
butler.leah@epa.gov

EPA's toll free message number is **(800) 231-3075**

For site documents, please visit the information repository at:

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

Please visit the Iron King Mine and Humboldt Smelter Site website at:
http://www.epa.gov/region09/ironkingmine

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Iron King Mine & Humboldt Smelter Superfund Site

U.S. Environmental Protection Agency • Region 9 • San Francisco, CA • October 2009

Investigation Report Due This Winter

EPA and ADEQ Booth at Agua Fria Festival

The U.S. Environmental Protection Agency (EPA), working in conjunction with the Arizona Department of Environmental Quality (ADEQ), conducted an investigation of the Iron King Mine – Humboldt Smelter Superfund Site. EPA will release the results of the investigation in a document called the Remedial Investigation (RI) Report.

On October 10, 2009, EPA and ADEQ will staff a booth at the Dewey-Humboldt Agua Fria Festival. At the booth, EPA will have information about the sampling effort, the Superfund cleanup process, and environmental education items. EPA and ADEQ staff will be there to answer questions.

EPA and ADEQ Booth at Agua Fria Festival

October 10, 2009
9:00 AM – 5:00 PM

Main Street, Historic Humboldt

Cleanup Investigation Update

Over the past year, EPA, working in conjunction with ADEQ, conducted the following investigation activities:

- Collected over a thousand soil samples in the mine and smelter areas, residential yards, and the Humboldt Elementary School
- Collected background data for site contaminants
- Conducted water quality monitoring at six new groundwater monitoring wells and over 50 private well and tap water locations
- Conducted a storm water evaluation
- Developed volume estimates for waste and tailings piles
- Collected surface water samples along the Agua Fria River, the Galena Gulch, and the Chaparral Gulch
- Conducted air monitoring at four stations across the site for approximately one year
- Conducted an Ecological Habitat Survey
- Conducted a Cultural Resource and Historic Building Survey
- Conducted a Wetlands Assessment
- Collaborated with the University of Arizona on three site research projects (ongoing)
- Initiated a Reuse Assessment (ongoing)

A schematic of the major components of the Remedial Investigation (RI) is presented in Figure 1. EPA and ADEQ are currently developing the RI Report, which will be available for the public this winter. This report summarizes the results of the field activities to characterize the nature and extent of contamination, the fate and transport of contaminants, and the results of the human health and ecological risk assessments.

Copies of the RI Report will be available at the Information Repository at the Dewey-Humboldt Town Library and online. EPA and ADEQ will send out a RI Factsheet to the email and mailing lists that summarizes the findings of the investigation and announces the RI public meeting. During this meeting, EPA will present the contents and main conclusions of the RI.

What Happens After the Remedial Investigation?

Data collected during the RI influences the development of cleanup options for the Site. The detailed analysis of potential cleanup options is called the Feasibility Study (FS). During the FS, the advantages and disadvantages of each cleanup method are explored. EPA, working in conjunction with ADEQ, will propose a recommended cleanup option for the Site in the Proposed Plan, which is accompanied with a minimum 30-day public comment period.

Chaparral Gulch Advisory

EPA recommends that residents limit or avoid contact with soils and any water in the Chaparral Gulch. This precautionary advice is meant to reduce human exposure to arsenic contamination in this area.

Environmental Exposure Resources

The Agency for Toxic Substances and Disease Registry is the federal public health agency whose mission is to prevent adverse human health effects that result from hazardous waste exposure.

How can you tell if you've been exposed?

- First, ask your health care provider to take an exposure history. A document on how to take an exposure history is available at **http://www.atsdr.cdc.gov/HEC/CSEM/exphistory/docs/exposure_history.pdf.**
- For some chemicals, blood or urine sampling can tell if you have been exposed. Ask your health care provider if he or she can do these tests or recommend where you could go to have them done.
- Your health care provider will need some specific information about the possible environmental exposure. Without that information, your health care provider may not be able to tell you what your testing results mean.
- Contact the EPA Project Manager (see back page) who will put you in contact with Dr. Sophia Serda, EPA toxicologist, for site-specific information about the site contaminants, potential routes of exposure, and potential adverse health effects.

Elevated levels of the following metals are present at the Site

» Arsenic

» Lead

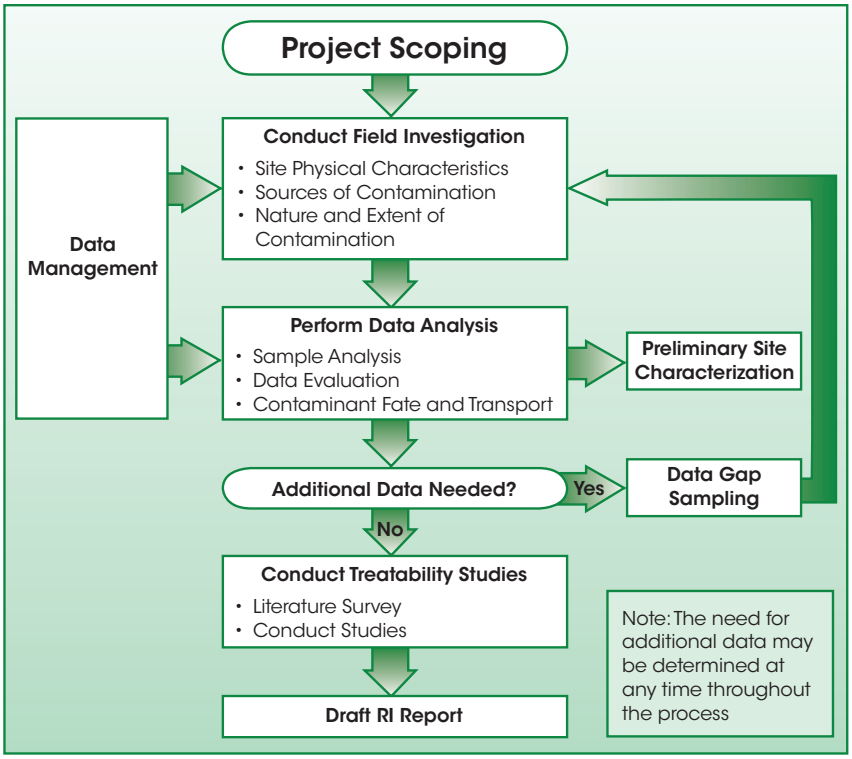

Figure 1: Schematic of the major components of the Remedial Investigation

Community Information Resources Available

EPA and ADEQ has a number of ways for the community to become more knowledgeable about and involved with the Iron King Mine – Humboldt Smelter Superfund Site.

Community Involvement Plan

The Iron King Mine – Humboldt Smelter Superfund Site Community Involvement Plan provides a detailed explanation of how EPA and ADEQ will encourage public participation in the cleanup decision-making process. It is a flexible plan that organizes both EPA's and ADEQ's efforts but can change based on new community needs. A copy will be located at the Dewey-Humboldt Town Library. Below are a few of the resources that are discussed in the plan.

Information Repository

An Information Repository is a place where EPA provides copies of many of its current cleanup documents. EPA uses the Dewey-Humboldt Town Library for this task. Some documents are available as hard copies and others are available on CD. You can ask the librarian for assistance. EPA will update the repository as documents are produced.

Appendix

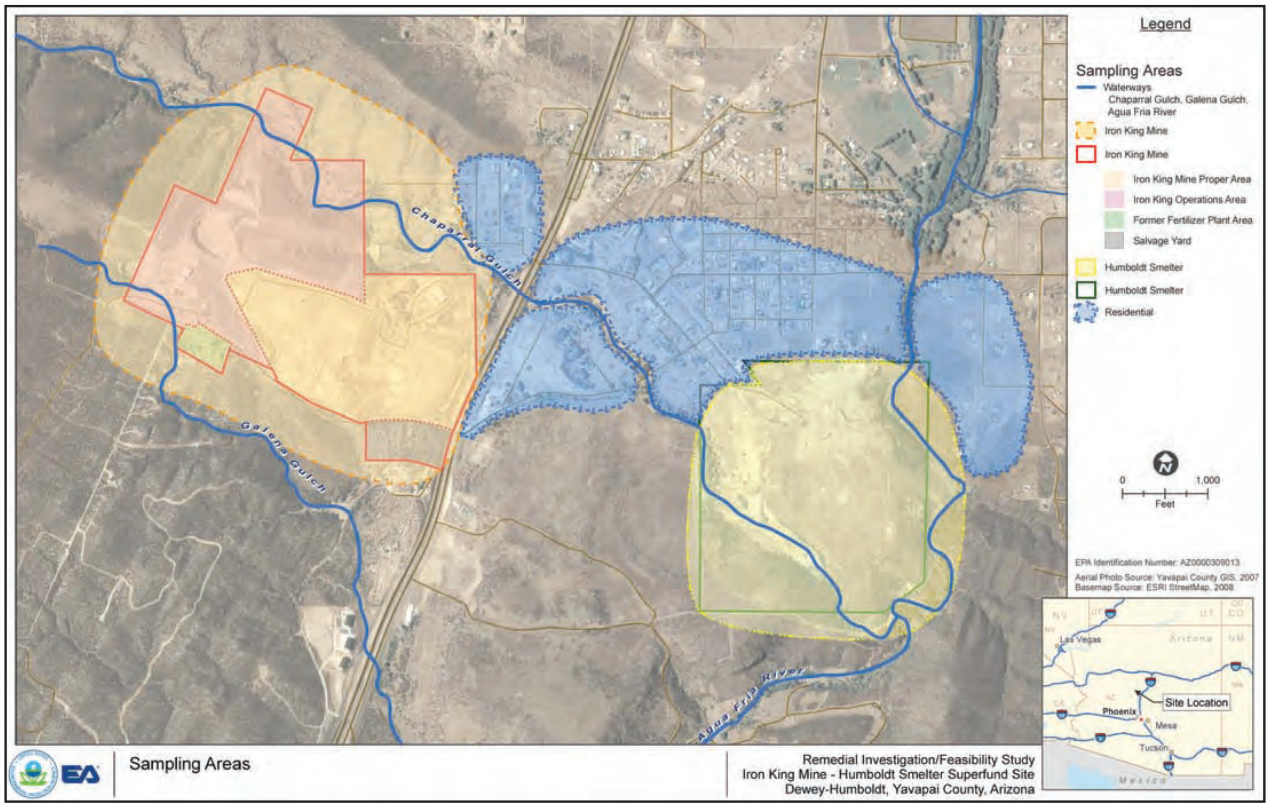

Figure 2: Iron King Mine - Humboldt Smelter Site Sampling Areas

Web Sites

EPA has placed a number of technical and general public documents on its website: **http://www.epa.gov/region09/ironkingmine.** These include: air monitoring reports, the "Cultural Resource and Historic Building Survey," the overview "Reusing Superfund Sites," maps, and other fact sheets.

Additional information is available on ADEQ's website: **http://www.azdeq.gov/environ/waste/sps/state.html.**

Technical Assistance Grant Available

EPA offers a Technical Assistance Grant (TAG) to a community affected by a Superfund site by providing money for activities to help the community participate in decision making. An initial grant up to $50,000 is available to a qualified community group so they can contract with an independent technical advisor to interpret and help the community understand technical information about their site.

After the independent technical advisor reviews the site-related documents, the advisor can help the community form its issues and concerns, and communicate them effectively to EPA.

To qualify, the TAG recipient must be or become an incorporated non-profit organization. EPA can pay for the costs of incorporation. The group must establish a bank account to receive the funds and create a record of how they spent the funds. EPA staff are available to help a group through the application process. Interested community members may contact David Cooper (see back page) for more information.

Community Advisory Group

A Community Advisory Group is an on-going stakeholder forum where individuals or those representing groups meet together to learn more about the Superfund cleanup process and the status of work, and to provide information, issues and concerns to EPA and ADEQ. Membership in the group does not require a technical background.

The CAG is a self-forming and voluntary group. Although EPA and ADEQ do not manage the group, EPA can provide limited support, such as making copies, providing documents, rental meeting rooms, paying for meeting notices, etc. The biggest advantage of a CAG is that it meets regularly and at intervals that are usually far more frequent than EPA's event-driven meetings. In this way, attendees can get the latest information and can talk directly to EPA and ADEQ representatives.

Iron King Mine & Humboldt Smelter Site

Investigation Report Due Winter 2009

EPA Booth at Agua Fria Festival

Contact Information

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

EPA Contacts

Leah Butler
Project Manager (SFD-6-2)
(415) 972-3199
butler.leah@epa.gov

David Cooper
Community Involvement Coordinator (SFD-3)
(415) 972-3245
toll free (800) 231-3075
cooper.david@epa.gov

ADEQ Contacts

Brian Stonebrink
Project Manager
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stonebrink.brian@azdeq.gov

Felicia Calderon
Community Involvement Coordinator
(602) 771-4167
calderon.felicia@azdeq.gov

Information Repository

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APPENDIX 15

How Superfund Pays for Cleanup

United States Environmental Protection Agency
Office of Solid Waste and Emergency Response
Washington, D.C. 20460

Office of Waste Programs Enforcement Summer 1988

Environmental Fact Sheet

The Superfund Enforcement Process: How It Works

INTRODUCTION

In 1980, Congress passed the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), commonly called Superfund. This law provides the U.S. Environmental Protection Agency (EPA) with the authority and necessary tools to respond directly or to compel potentially responsible parties (PRPs) to respond to releases or threatened releases of hazardous substances, pollutants or contaminants. CERCLA created two parallel and complementary programs aimed at achieving this goal.

The first program involves the creation of a trust fund financed through a special tax on the chemical and petroleum industries. This trust fund, known as the Superfund, may be available for site remediation when no viable PRPs are found or when PRPs fail to take necessary response actions. PRPs are defined as parties identified as having owned or operated hazardous substance sites, or who have transported or arranged for disposal or treatment of hazardous substances, pollutants or contaminants at such sites. The second program provides EPA with the authority to negotiate settlements, to issue orders to PRPs directing them to take necessary response actions, or to sue PRPs to repay the costs of such actions when the Trust Fund has been used for these purposes. The actions EPA takes to reach settlement or to compel responsible parties to pay for or undertake the remediation of sites are referred to as the Superfund enforcement process. CERCLA was reauthorized and amended on October 17, 1986, by the Superfund Amendments and Reauthorization Act (SARA). SARA provides EPA with new authorities and tools that strengthen the enforcement program.

LIST OF ACRONYMS

CERCLA:	Comprehensive Environmental Response, Compensation and Liability Act of 1980
IAG:	Interagency Agreement
NBAR:	Non-binding Allocation of Responsibility
NPL:	National Priorities List
PRP:	Potentially Responsible Party
RCRA:	Resource Conservation and Recovery Act, as Amended
RD/RA:	Remedial Design/Remedial Action
RI/FS:	Remedial Investigation/Feasibility Study
ROD:	Record of Decision
SARA:	Superfund Amendments and Reauthorization Act of 1986

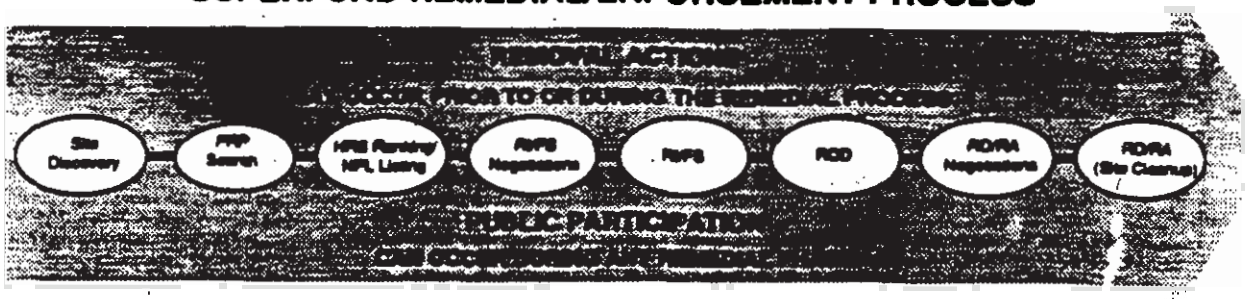
This fact sheet describes the enforcement authorities and the process that is followed under the Superfund program. It describes the options available to EPA for remediating hazardous waste sites; the tools and mechanisms that EPA may use in negotiating settlements with PRPs, and describes the decision-making process at enforcement sites.

OVERVIEW OF THE ENFORCEMENT PROGRAM

A major goal of the Superfund program is to encourage PRPs to remediate hazardous waste sites. The enforcement process normally used by EPA to enlist PRP involvement may include five major efforts.

Appendix

SUPERFUND REMEDIAL/ENFORCEMENT PROCESS



To understand the enforcement process, it is necessary to understand the Superfund remedial process. Under the remedial program, EPA takes long-term actions to stop or substantially reduce releases or threats of releases of hazardous substances that are serious but not immediately life-threatening. Removal actions, which are short-term, immediate actions intended to stabilize a hazardous incident or remove contaminants from a site that pose a threat to human health or welfare or the environment, may be taken at any point in the remedial process.

The Superfund process begins with a preliminary assessment/site inspection (PA/SI). This usually is conducted by the State, to determine whether the site poses a significant enough potential hazard to warrant further study and investigation.

The site is then ranked using the Hazard Ranking System (HRS), a numerical ranking system used to identify the site's potential hazard to the environment and public health. Sites assigned an HRS score of 28.5 or above are added to the National Priorities List (NPL).

Next, a remedial investigation (RI) is conducted to assess the extent and nature of the contamination and the potential risks. A feasibility study (FS) is then prepared to examine and evaluate various remedial alternatives.

Following a public comment period on EPA's preferred alternative and the draft FS report, EPA chooses a specific remedial plan and outlines its selection in the Record of Decision (ROD).

Once the remedial design (RD) (which includes engineering plans and specifications) is completed, the actual site work, or remedial action (RA) can begin. After RD/RA activities have been completed, the site is monitored to ensure the effectiveness of the response. Certain measures require ongoing operation or periodic maintenance.

First, EPA attempts to identify PRPs as early in the Superfund process as possible. Once identified, EPA will notify these parties of their potential liability for response work when the site is scheduled for some action. Second, in the course of identifying response work to be done, EPA will encourage PRPs to do the work at a site.

Third, if EPA believes the PRP is willing and capable of doing the work, EPA will attempt to negotiate an enforcement agreement with the PRP(s). The enforcement agreement may be an agreement entered in court (such as a judicial consent decree) or it may be an administrative order (where EPA and the PRP(s) sign an agreement outside of court). Both of these agreements are enforceable in a court of law. Under both agreements EPA oversees the PRP.

Fourth, if a settlement is not reached, EPA can use its authority to issue a unilateral administrative order or directly file suit against the PRP(s). Under either course of action, PRPs are directed to perform removal or remedial actions at a site. If the PRPs do not respond to an administrative order, EPA has the option of filing a law suit to compel performance.

Fifth, if PRPs do not perform the response action and EPA undertakes the work, EPA will file suit against PRPs, when practicable, to recover money spent by EPA and deposit it in the Superfund Trust Fund. This is called cost recovery, and it is a major priority under the Superfund program.

THE ENFORCEMENT PROCESS FOR REMEDIAL ACTIONS

PRP Search and Notice

EPA is committed to strengthening efforts to reach settlements with PRPs. EPA believes that settlements are most likely to occur when EPA interacts frequently with PRPs.

ENFORCEMENT AUTHORITIES

The original Superfund program was reauthorized and expanded on October 17, 1986, when President Reagan signed into law the Superfund Amendments and Reauthorization Act of 1986 (SARA). These amendments increased the Superfund Trust Fund to $8.5 billion and clarified and expanded enforcement authorities:

- Access and Information Gathering - SARA strengthens EPA's ability to obtain access to investigate sites and to obtain information from parties with knowledge of the site.
- Settlement Authorities - CERCLA authorizes EPA to compel a PRP to undertake necessary actions to control the threat of imminent and substantial endangerment to human health or the environment. To accomplish this, EPA may either issue an administrative order or bring a civil action against the PRP in court. SARA outlines specific procedures for negotiating settlements with PRPs to conduct voluntary response actions at hazardous waste sites.
- Cost Recovery - Once a Fund-financed response has been undertaken, EPA can recover costs from the responsible parties. Past and present facility owners and operators, as well as hazardous substance generators and transporters, can all be liable under Superfund for response costs and for damage to natural resources. EPA may recover Federal response costs from any or all of the responsible parties involved in a remedial action. The monies recovered go back into the Fund for use in future response actions.
- Criminal Authorities - SARA increases criminal penalties for failure to provide notice of a release and makes submitting false information a criminal offense.
- Citizen Suits - SARA authorizes a citizen to sue any person, the United States, or an individual State for any violation of standards and requirements of the law, under certain conditions.

Federal Facilities

SARA also adds a section dealing with releases of hazardous substances at Federal facilities. This provision clarifies that Superfund applies to Federal agencies and that they must comply with its requirements. SARA clearly defines the process Federal agencies must follow in undertaking remedial responses. At NPL sites, EPA makes the final selection of the remedy if the Federal agency and EPA disagree. A Federal agency must remediate a Federal facility through an interagency agreement (IAG), except in emergency situations. IAGs are enforceable agreements between Federal agencies that are subject to the citizen suit provisions in SARA and to section 109 penalties, if the responding agency does not comply with the terms of the agreement.

SARA also provides a schedule for response actions at Federal facilities, including a schedule for preliminary assessments, listing on the National Priorities List, remedial investigations/feasibility studies, and remedial actions. State and local officials also must be given the opportunity to participate in the planning and selection of any remedy, including the review of all data. States are given a formal opportunity to review remedies to ensure that they incorporate State standards. Public participation in addressing releases at Federal facilities is enhanced by SARA, which establishes a Federal Agency Hazardous Waste Compliance Docket. This docket functions as a repository of information for the public and is available for public inspection. Every six months after establishment of the docket, EPA will publish in the Federal Register a list of the Federal facilities that have been included in the docket during the preceding six-month period.

This interaction is important because it provides the opportunity to share information about the site and may reduce delays in conducting response actions.

The enforcement process begins with the search for PRPs, concurrent with NPL listing.

Once identified, PRPs are typically issued a general notice letter. The general notice informs PRPs of their potential liability. The general notice also may include a request for and a release of information on PRPs and the substances at the site. The overall purposes of the general notice are to provide PRPs and the public with advance notice of possible future negotiations with EPA, to open the lines of communication between EPA and PRPs, and to advise PRPs of potential liability.

In addition to the general notices, EPA may issue a "special notice," which invokes a temporary moratorium on certain EPA remedial and enforcement activities. An RI/FS special notice initiates a 90-day moratorium and an RD/RA special notice initiates a 120-day moratorium. The moratorium provides a period of time during which EPA and PRPs negotiate. The goal of negotiations is for EPA and PRPs to reach a settlement where the PRPs agree to conduct and/or finance response activities. Negotiations may be terminated after 60 days for either the RI/FS or RD/RA if PRPs do not provide EPA with a "good faith" settlement offer.

Negotiations for the RI/FS

The PRP may conduct the RI/FS if EPA determines the PRP is qualified to conduct the RI/FS and if the PRP agrees to reimburse EPA for the cost of oversight. The terms of this agreement to conduct the RI/FS are outlined in either an Administrative Order on Consent or a Consent Decree, both of which are enforceable in court. If negotiations do not result in an order or a decree, EPA may use Trust Fund monies to perform the RI/FS and seek reimbursement for its costs.

Negotiations for the RD/RA

Where a special notice is used, the moratorium for RD/RA may be extended to a total of 120 days. The terms of the agreement to conduct the RD/RA are outlined in a Consent Decree, which all parties sign and is entered in court. If negotiations do not result in a settlement, EPA may conduct the remedial activity using Trust Fund monies, and sue for reimbursement of its costs with the assistance of the Department of Justice (DOJ). Or EPA may issue a unilateral administrative order or directly file suit to force the PRPs to conduct the remedial activity.

Administrative Record

The information used by EPA to select a remedy at a site must be made available to the public. This information, including public comments, is compiled and maintained in the administrative record files. The administrative record serves two main purposes. First, it ensures an opportunity for public involvement in the selection of a remedy at a site. Second, it provides a basis for judicial review of the selection.

TOOLS FOR ENFORCEMENT

In addition to outlining the procedures for the enforcement process, CERCLA provides tools that are designed to help EPA achieve settlements. The CERCLA settlement authorities may be used by EPA to foster negotiations with PRPs instead of taking them to court. EPA believes that PRPs should be involved early in the Superfund process at a site. It is in the best interest of PRPs to negotiate with EPA and to conduct the RI/FS, as this can keep the process smooth and costs can be controlled. EPA actively promotes settlements with PRPs using tools in SARA and is continuing to work towards improvements in the settlement process itself. These new SARA tools include, but are not limited to:

Mixed Funding

CERCLA authorizes the use of "mixed funding." In mixed funding, settling PRPs and EPA share the costs of the response action and EPA pursues viable non-settlers for the costs EPA incurred. Through guidance, EPA discusses the use of three types of mixed funding arrangements. These are "preauthorization," where the PRPs conduct the remedial action and EPA agrees to reimburse the PRPs for a portion of their response costs; "cash-outs," where PRPs pay for a portion of the remedial costs and EPA conducts the work; and "mixed work," where EPA and PRPs both agree to conduct and finance discrete portions of a remedial action. EPA prefers a "preauthorized" mixed-funding agreement, where PRPs conduct the work.

EPA encourages the use of mixed funding to promote settlement and site remediation, but will continue to seek 100 percent of response costs from PRPs where possible. Use of mixed funding does not change EPA's approach to determining liability. PRPs may be held jointly and severally liable and EPA will seek to recover EPA's mixed funding share from non-settling PRPs whenever possible.

De Minimis Settlements

De minimis settlements are smaller agreements separate from the larger settlement for the chosen remedy. Under de minimis settlements, relatively small contributors of waste to a site, or certain "innocent" landowners, may resolve their liability. Innocent landowners are parties who bought property without knowing that it was used for hazardous waste handling. Or EPA may enter into de minimis settlement agreements with a party where the settlement includes only a minor portion of the response costs and when the amount of waste represents a relatively minor amount and is not highly toxic, compared to other hazardous substances at the facility. De minimis settlements also may be used where the PRP is a site owner who did not conduct or permit waste management or contribute to the release of hazardous substances. De minimis settlements are typically used in conjunction with covenant not to sue agreements. These agreements generally will be in the form of administrative orders on consent and are available for public comment.

Covenants Not To Sue

A covenant not to sue may be used to limit the present and future liability of PRPs, thus encouraging them to reach a settlement early. However, agreements generally include "reopeners" that would allow EPA to hold parties liable for

conditions unknown at the time of settlement or for new information indicating that the remedial action is not protective of human health and the environment. In some cases, such as de minimis settlements, releases may be granted without reopeners. Covenants not to sue are likely to be used only in instances where the negotiating PRP is responsible for only a very small portion of a site, and, therefore, EPA is assured that any future problems with the site are not likely to be the result of that PRP's contribution

Non-binding Allocations of Responsibility (NBAR)

NBAR is a process for EPA to propose a way for PRPs to allocate costs among themselves. EPA may decide to prepare an NBAR when the Agency determines this allocation is likely to promote settlement. An NBAR does not bind the government or PRPs and cannot be admitted as evidence or reviewed in any judicial proceeding, including citizen suits. Since each PRP may be held liable for the entire cost of response, regardless of the size of its contribution to a site, knowing EPA's proposed allocation scheme may encourage the PRPs to settle out of court rather than run the risk of being held fully responsible.

STATE PARTICIPATION

The Superfund program allows for and encourages State participation in enforcement activities. First, EPA is required to notify the State of negotiations with PRPs and provide the opportunity for the State to participate. States may be a party to any settlement in which they participate. In addition, EPA is authorized to provide funds to States to allow State participation in enforcement activities and to finance certain State-lead enforcement actions.

PUBLIC PARTICIPATION/COMMUNITY RELATIONS

EPA policy and the Superfund law establish a strong program of public participation in the decision-making process at both Fund-lead and enforcement sites. The procedures and policy for public participation at enforcement sites are basically the same as for non-enforcement sites. This fact sheet is limited to those special differences in community relations when the Agency is negotiating with or pursuing litigation against PRPs. The contact listed below has numerous fact sheets on the Superfund program, including a fact sheet on Public Involvement.

Community relations at enforcement-lead sites may differ from community relations activities at Fund-lead sites because negotiations between EPA, DOJ and PRPs generally focus on the issue of liability. The negotiation process, thus, requires that some information be kept confidential and is not usually open to the public.

When these discussions deal with new technical information that changes or modifies remedial decisions, this information will be documented and placed in the administrative record files. This process provides the public with critical information and enables the Agency to move quickly towards settlement. Information on enforcement strategy; details of the negotiations, such as the behavior, attitudes, or legal positions of responsible parties; and evidence or attorney work product material developed during negotiations, must remain confidential.

FOR MORE INFORMATION:

Appendix

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

August 9, 2005

OSWER 9355.2-21

MEMORANDUM

SUBJECT: Enforcement First at Superfund Sites: Negotiation and Enforcement Strategies for Remedial Investigation / Feasibility Studies (RI/FS)

FROM: Susan E. Bromm, Director /s/
Office of Site Remediation Enforcement (OSRE)

Michael B. Cook, Director /s/
Office of Superfund Remediation and Technology Innovation (OSRTI)

TO: Superfund National Policy Managers, Regions I - X
Office of Regional Counsel Superfund Branch Chiefs, Regions I - X
Superfund Remedial Branch Chiefs, Regions I - X

This memorandum confirms EPA's commitment to have potentially responsible parties (PRPs) conduct the Remedial Investigation / Feasibility Study (RI/FS) wherever appropriate. To achieve this goal, EPA encourages Regions to conduct early and thorough PRP searches and to consider carefully whether it is appropriate for the identified PRPs to conduct the RI/FS. When the Region decides to pursue a PRP-lead RI/FS, it should conduct settlement negotiations with PRPs and, if negotiations fail, consider issuing a Unilateral Administrative Order (UAO) to all appropriate parties.

This memorandum contains guidance for EPA personnel. This memorandum is not a rule and does not create any legal requirements. EPA personnel should apply it in any situation only to the extent appropriate to the facts.

Background

EPA is committed to ensuring that those who are responsible for hazardous waste sites take the lead in cleanup, when appropriate, throughout the Superfund cleanup process. This "Enforcement First" approach has proven to be effective at increasing the number of PRP-lead Remedial Action starts at non-Federal facility sites.[1] With this memorandum, Regions are encouraged to increase the number of PRP-lead RI/FSs. As a general rule, EPA prefers to achieve Enforcement First through settlement agreements (Administrative Orders on Consent (AOCs) or Consent Decrees (CDs)) rather than through UAOs. In instances where a settlement cannot be obtained, the Region should consider issuance of a UAO.[2]

To date, EPA's experience has shown that, with adequate oversight, PRPs can perform acceptable RI/FSs.[3] A detailed and thorough Statement of Work (SOW) helps ensure an adequate RI/FS by setting forth work and deliverable requirements, specifying procedures and relevant guidance documents,[4] and establishing oversight expectations. EPA's ability to seek penalties under a settlement agreement or UAO provides incentives for PRPs to meet the requirements of the SOW and to submit timely and appropriate deliverables. Moreover, EPA retains its right to conduct all or a portion of the RI/FS work if the PRPs' work may cause an endangerment to human health or the environment or does not meet the terms and conditions of the agreement or UAO.

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[1] *See, e.g.,* "Superfund: Building on the Past, Looking to the Future" EPA (April 22, 2004) (hereinafter "120 Day Study"). This document is available at http://www.epa.gov/oerrpage/superfund/action/120day/index.htm.

[2] *See* "Enforcement First for Remedial Action at Superfund Sites," OSWER and OECA (September 20, 2002). This document, and other Superfund enforcement documents cited in the footnotes, are available at http://www.epa.gov/compliance/resources/policies/cleanup/index.html.

[3] *See generally* "Revised Policy on Performance of Risk Assessments During Remedial Investigation / Feasibility Studies (RI/FS) Conducted by Potentially Responsible Parties," OSWER Directive 9340.1-02 (January 26, 1996) (hereinafter "1996 RI/FS Directive").

[4] EPA guidance documents that provide standard guidelines for an RI/FS are available at http://www.epa.gov/superfund/action/guidance/remedy/rifs/overview.htm. *See, e.g.,* "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA, Interim Final," OSWER Directive 9355.3-01 (October 1988).

General Strategies to Achieve PRP-Lead RI/FS

The discussion below provides a framework to encourage Regions to achieve Enforcement First at the RI/FS phase. First, the Region should begin a thorough PRP search as early as possible at sites listed or expected to be listed on the National Priorities List (NPL) or designated or expected to be designated as Superfund Alternative (SA).[5] Second, when PRPs are identified, the Region should analyze whether a PRP-lead RI/FS is appropriate. Third, if the Region determines a PRP-lead RI/FS is appropriate, settlement negotiations should begin. Fourth, if negotiations fail, the Region should consider issuing a UAO.

A. Identify PRPs as Early as Possible

With a PRP search, the Region investigates parties who are potentially liable for the costs of responding to the release or threat of release of a hazardous substance at a particular Superfund site. As noted in the recent 120 Day Study, effective PRP searches are critical to the Agency's goals of having PRPs conduct response activities when appropriate and recovering EPA's costs.[6] Identification of PRPs prior to the RI/FS: (1) enables the Agency to issue prompt General Notice Letters; (2) provides necessary evidence to support future settlement agreements and UAOs; and (3) facilitates the formation of PRP steering committees.

Particularly at sites listed or expected to be listed on the NPL or designated or expected to be designated as SA, the Region should begin a thorough PRP search as early as possible.[7] Before or during the site investigation, the Region should develop a PRP search plan that includes some or all of the anticipated baseline search tasks. Baseline search tasks generally include: (1) collecting available records pertinent to the site and relevant to the PRP search; (2) issuing information requests under CERCLA section 104(e) and/or administrative subpoenas under CERCLA section 122(e)(3) to appropriate parties; (3) performing a land title search; and (4) collecting other business status and corporate information.

Regions should strive to conduct PRP searches that will establish the identity of PRPs as

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[5] EPA has issued guidance on criteria for designating a site as SA. *See* "Revised Response Selection and Settlement Approach for Superfund Alternative Sites," OSWER 9208.0-18 (June 18, 2004) (hereinafter "Revised SAS Guidance").

[6] *See* 120 Day Study, at 71.

[7] EPA has issued several documents that provide an overview of a productive PRP search. *See, e.g.*, "PRP Search Manual," OECA / OSRE (September 2003); "Integrated Timeline for Superfund Site Management," OSWER Directive 9851.3 (June 11, 1990); "PRP Search Supplemental Guidance for Sites in the Superfund Remedial Program," OSWER Directive 9834.3-2a (June 16, 1989).

quickly as possible. If appropriate, EPA may involve any PRPs identified early in the process with the continuing search. A constructive working relationship between EPA and PRPs is likely to lead to enhanced settlement opportunities and prevent delays during negotiations.

B. Determine Appropriateness of a PRP-Lead RI/FS

After identifying PRPs, but prior to issuing Special Notice Letters, the Region should determine whether a PRP-lead RI/FS is appropriate at the site. The Region should base its determination on an assessment of the identified PRPs and the site's characteristics.[8] First, to assess whether the identified PRPs are the appropriate parties to conduct the RI/FS, the Region should consider the:

1. Adequacy of the documentation of the PRPs' liability;
2. Demonstrated financial viability of the PRPs and/or PRPs' contractor;
3. Demonstrated technical capability of the PRPs and/or PRPs' contractor, including:
   a. Experience in conducting acceptable RI/FS-type investigations and human health and ecological risk assessments at Superfund sites;
   b. Ability to understand and follow current Superfund RI/FS and risk assessment processes and guidance documents;
   c. Demonstrated ability to submit data to EPA in the proper format; and
4. Agency's prior experience with the PRPs and/or PRPs' contractor at this or other sites.

The Region should pursue a PRP-lead RI/FS when the Region has found it is appropriate under the criteria listed above.[9] If EPA has inadequate documentation of the PRPs' liability, or has found the PRPs to be uncooperative or unreliable at this or other Superfund sites, a PRP-lead RI/FS may be inappropriate. Also, in unique circumstances, the Region may decide that a PRP-lead RI/FS is inappropriate because of other site-specific reasons. For example, a PRP-lead

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[8] Certain criteria set forth in this guidance have been adopted from previous EPA directives. *See*, *e.g.*, 1996 RI/FS Directive; "Evaluation of, and Additional Guidance on, Issuance of Unilateral Administrative Orders (UAOs) for RD/RA," OSWER Directive No. 9833.2c (June 20, 1991) (hereinafter "1991 UAO Memo"); "Guidance on CERCLA Section 106(a) Unilateral Administrative Orders for Remedial Designs and Remedial Actions," OSWER Directive No. 9833.0-1a (March 7, 1990).

[9] If necessary, the Region may choose to carve out the risk assessment or reuse assessment from an otherwise PRP-lead RI/FS. *See* 1996 RI/FS Directive; "Reuse Assessments: A Tool to Implement the Superfund Land Use Directive," OSWER Directive 9355.7-06P (June 4, 2001).

RI/FS may not be achievable when a large number of PRPs have been identified, but the PRPs have not yet coalesced into a group to negotiate with EPA.

C. Proceed With the RI/FS

1. Document Decision to Proceed with Fund-Lead RI/FS

If the Region decides to proceed with a Fund-lead RI/FS at a site listed or expected to be listed on the NPL or designated or expected to be designated as SA, the Region should create a document record of its decision. Specifically, the Region should create a record with both general information about the site (e.g., site name, identifier number, location, response activities to date) and answers to the following questions:

- What PRPs have been identified at this site?
- If no PRPs have been identified, what steps have been taken to identify PRPs at this site?
- If PRPs have been identified, provide a list of the PRPs and indicate how the Region has evaluated the PRP using the criteria listed [in this guidance], including but not limited to:
  - Documented liability.
  - Financial viability.
  - Technical capability.
  - EPA's prior experience.
  - Other site-specific considerations.
  - Why the Region has decided not to pursue a PRP-lead RI/FS.

OSRE will periodically review the Region's decision documents during regional visits or meetings (e.g., Office Director visits, regional work planning meetings, or docket reviews) and share the information with OSRTI. OSRE and OSRTI initially will evaluate this information on an annual basis to better understand the circumstances that lead to a Fund-lead RI/FS but may revise this documentation process or issue further guidance as necessary in the future.

2. Alternately, Proceed With Settlement Negotiations

If it has been determined that a PRP-lead RI/FS is appropriate, the Region should prepare for and proceed with settlement negotiations. Generally, settlements for an RI/FS will be set forth in an AOC, accompanied by an SOW. To meet the requirements of CERCLA section 104(a)(1), EPA must: (1) determine that the PRPs will "properly and promptly" conduct the RI/FS; (2) determine that the PRPs are qualified to conduct the RI/FS; (3) contract with or arrange for someone to oversee the RI/FS; and (4) ensure that the PRPs will agree to pay for

oversight costs.[10] In addition to the evaluation criteria identified above, the AOC negotiation process may provide useful insight into the PRPs' ability to conduct this phase of the Superfund process properly and promptly.

EPA generally prefers to achieve Enforcement First through AOCs rather than UAOs even though negotiations may be resource intensive. AOCs also may offer benefits to PRPs and EPA that are not available under a UAO. The Region should ensure that PRPs are aware of these potential benefits, including:

Contribution. It is EPA's view that, pursuant to CERCLA section 113(f)(2), an AOC provides PRPs with protection from contribution claims made by non-settling PRPs for matters addressed in the settlement. PRPs that sign an AOC also should have a right to contribution under CERCLA section 113(f)(3)(B) for the response costs incurred pursuant to the AOC.[11]

Beneficial Terms. The model AOC for RI/FS[12] offers certain provisions that may be more beneficial to PRPs than the requirements typically included in a UAO for RI/FS. Most significantly, the model AOC for RI/FS includes a covenant by EPA not to sue and dispute resolution provisions that establish procedures for narrowing and resolving disputes. Moreover, once an AOC is entered, the Region should meet with the PRPs to discuss EPA's planned oversight activities.[13]

Under consensual agreements, EPA may compensate parties for a limited portion of known shares of responsibility attributable to insolvent or defunct parties (commonly referred to as orphan parties). While the orphan share policy generally is intended to encourage PRPs to perform response cleanup work, the Region may decide, based on site-specific considerations, to offer orphan share compensation to PRPs willing to perform an RI/FS under an AOC. The offer

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[10] EPA can negotiate with PRPs to pre-pay oversight costs, placing the payments into a Special Account. *See* "Consolidated Guidance on the Establishment, Management and Use of CERCLA Special Accounts," OSRE / OERR /OCFO (October 4, 2002).

[11] The Supreme Court in Cooper Indus., Inc. v. Aviall Servs., Inc., 543 U.S. __, 128 S.Ct. 577 (December 13, 2004), expressly declined to decide whether a UAO is a "civil action" that would confer contribution rights under Section 113(f). Aviall, 543 U.S. at __, 128 S.Ct. at 584, fn.5.

[12] The current model AOC for RI/FS was issued on January 21, 2004 and is available at http://cfpub.epa.gov/compliance/resources/policies/cleanup/superfund/index.cfm.

[13] *See* "Interim Guidance on Implementing the Superfund Administrative Reform on PRP Oversight," OSWER Directive 9200.0-32P (May 17, 2000).

of compensation in these cases would likely take the form of forgiveness of past costs, rather than a waiver of future oversight costs.[14]

Participate and Cooperate Orders. In circumstances where some, but not all, identified PRPs agree to perform the RI/FS under an AOC, the Region may consider issuing a UAO to non-consenting PRPs to "participate and cooperate" in the performance or funding of the RI/FS.[15]

Other Benefits. The Region generally may revisit any preliminary allocation decisions reached during the RI/FS when negotiating a CD for RD/RA. PRPs also may have more control over which entities join a PRP group under an AOC, rather than under a UAO. Further, certain PRPs may find a public relations benefit to agreeing to perform an RI/FS, rather than being ordered by EPA to perform the work.

3. If Negotiations Fail, Consider Issuing a UAO for RI/FS

In the event settlement negotiations fail, the Region should consider issuing a UAO to the PRPs before beginning a Fund-lead RI/FS. Depending on the nature of the failed negotiations, the Region may need to reevaluate the appropriateness of a PRP-lead RI/FS using the criteria in Section B above. In some circumstances, the PRPs' lack of cooperation during AOC negotiations may make a Fund-lead RI/FS appropriate. If the Region chooses to issue a UAO for RI/FS at an SA site, the Region generally should also proceed to list the site on the NPL.[16]

A UAO for RI/FS must meet all statutory requirements of CERCLA section 106(a) and other applicable requirements.[17] For example, before issuing a UAO, the Region must ensure that EPA can demonstrate, based on the Administrative Record, that: (1) a release or threat of release (2) of a hazardous substance (3) from a facility (4) may present an imminent and substantial endangerment to public health, welfare, or the environment. In addition, in

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[14] *See* "Interim Guidance on Orphan Share Compensation for Settlors of Remedial Design/Remedial Action and Non-Time Critical Removals," OECA (June 3, 1996); "Orphan Share Superfund Reform Questions and Answers," OSRE (January 2001).

[15] *See* "Documentation of Reason(s) for Not Issuing CERCLA 106 UAOs to All Identified PRPs," OECA (August 2, 1996) (hereinafter "1996 UAO Memo").

[16] *See* Revised SAS Guidance.

[17] *See, e.g.,* 1996 UAO Memo. The Department of Justice must consult and concur on a UAO to a federal agency PRP. *See* Executive Order 12580, 52 Fed. Reg. 2923 (January 29, 1987).

accordance with EPA guidance, the Region should:

1. Ensure that the parties to whom the UAO will be issued are properly named;
2. Identify and carefully evaluate anticipated defenses; and
3. Notify the affected State.

A UAO for RI/FS is not a negotiated document, and the Region generally should communicate to the PRPs that the UAO will not include any concessions offered to them during the AOC negotiations. Similarly, the Region should not negotiate the scope and oversight of the RI/FS and generally should not offer orphan share compensation.

In accordance with EPA policy, the Region should issue UAOs to all appropriate and identified parties even while gathering evidence about potential additional PRPs. If relevant, the Region should document its reasons for excluding certain parties from the UAO.[18] For example, if the Region has not compiled sufficient evidence of liability against a certain party, that party may be excluded from a UAO. In this situation and other appropriate cases, the Region may decide later in the process to issue Participate and Cooperate orders to additional PRPs.

Conclusion

In support of EPA's Enforcement First efforts, Regions are encouraged to pursue a PRP-lead RI/FS when appropriate. A thorough and prompt PRP search is essential to increasing the number of PRP-lead RI/FSs. EPA generally prefers to achieve Enforcement First through settlement agreements, and the Region should educate PRPs about potential benefits of settlement agreements over UAOs. If negotiations fail, however, EPA is committed to using all its enforcement tools, including UAOs for RI/FS.

This document is available on EPA's Web site at http://www.epa.gov/compliance/resources/policies/cleanup/superfund/enf-first-rifs.pdf. At the time of publication, the OSRE contact for questions about this document is Anne Berube, who can be reached at 202-564-6065.

cc: Scott A. Sherman, Office of General Counsel
Earl Salo, Office of General Counsel
Alan Carpien, Office of General Counsel
Bruce S. Gelber, U.S. Department of Justice
Debbie Deitrich, Office of Emergency Management
Jim Woolford, Federal Facilities Restoration and Reuse Office
Dave Kling, Federal Facilities Enforcement Office
Eric Steinhaus, Superfund Lead Region Coordinator, US EPA Region 8

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[18] *See* 1996 UAO Memo, at 5-6.

Appendix

OSRTI Managers
Joanna Gibson, OSRTI Documents Coordinator
NARPM Co-Chairs

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

SEP 20 2002

MEMORANDUM

SUBJECT: Enforcement First for Remedial Action at Superfund Sites

FROM: John Peter Suarez, Assistant Administrator
Office of Enforcement and Compliance Assurance

Marianne Lamont Horinko, Assistant Administrator
Office of Solid Waste and Emergency Response

TO: Regional Administrators

EPA has a longstanding policy to pursue "enforcement first" throughout the Superfund cleanup process. We write to request your re-doubled attention to ensure the continued implementation of this policy at Superfund sites in your Region. This policy promotes the "polluter pays" principle and helps to conserve the resources of the Hazardous Substance Trust Fund (Fund) for the cleanup of those sites where viable responsible parties do not exist.

Existing EPA guidance emphasizes that a major component of the "enforcement first" policy is that potentially responsible parties (PRPs) should conduct remedial actions (RA) whenever possible.[1] *See* "Negotiation and Enforcement Strategies to Achieve Timely Settlement and Implementation of Remedial Design/Remedial Action at Superfund Sites," OSRE (June 17, 1999)("Strategies Memo"); "Guidance on CERCLA Section 106(a) Unilateral Administrative Orders for Remedial Designs and Remedial Actions," OSWER Dir. #9833.0-1a (Mar. 7, 1990). EPA prefers to achieve PRP-lead cleanups through settlements rather than unilateral administrative orders (UAOs).

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[1]PRPs should conduct removal actions whenever possible, as well. While this memorandum addresses RAs, your re-doubled attention to pursuing enforcement opportunities throughout the Superfund process would be appropriate.

If, however, a Region cannot negotiate a timely settlement with PRPs to perform the RA at the site, then the Region should issue UAOs to all appropriate parties to compel cleanup expeditiously before a Region proceeds with a Fund-financed RA.[2] Any decision to exclude certain PRPs from issuance of a UAO should be documented, as called for in existing guidance.

After careful consideration of the statutory criteria and case-specific issues, on some occasions there may not be a liable, viable party at a site, and on rare occasions it may be appropriate to provide Superfund funding for RA without first issuing a UAO. The Region should complete its PRP search early in the process and should consult with the Office of Site Remediation Enforcement (OSRE) as soon as it appears that no PRPs are available or that it may otherwise not be appropriate to issue a UAO at a site. Ordinarily, the National Prioritization Panel will not rank a site unless the required consultation with OSRE has finished, or OSRE has determined that the consultation has progressed sufficiently to make ranking worthwhile while the consultation is finished.

Our continuing commitment to "enforcement first" and, in particular, issuance of UAOs at all appropriate sites will greatly assist in our effort to use Fund monies most efficiently. If you or your staff would like assistance in evaluating the appropriate enforcement strategy at a particular site, please do not hesitate to contact Mike Northridge in OSRE at (202) 564-4263, or John Smith in OERR at (703) 603-8802.

Use of this Memorandum

This memorandum is intended solely for the guidance of employees of EPA and it creates no substantive rights for any persons. It is not a regulation and does not impose legal obligations. EPA will apply the guidance only to the extent appropriate based on the facts.

cc: Director, Office of Site Remediation and Restoration, Region I
Director, Emergency and Remedial Response Division, Region II
Director, Hazardous Site Cleanup Division, Region III
Director, Waste Management Division, Region IV
Directors, Superfund Division, Regions V, VI, VII and IX
Assistant Regional Administrator, Office of Ecosystems Protection and Remediation, Region VIII
Director, Office of Environmental Cleanup, Region X
Director, Office of Environmental Stewardship, Region I
Director, Environmental Accountability Division, Region IV
Regional Counsel, Regions II, III, V, VI, VII, IX, and X

[2]As the Strategies Memo reiterates, the Region should be prepared to issue a UAO at the conclusion of the 120-day negotiation moratorium provided by CERCLA section 122(e) unless an extension of the negotiation process has been approved.

Assistant Regional Administrator, Office of Enforcement, Compliance, and Environmental Justice, Region VIII
Mike Cook, OERR
Barry Breen, OSRE
Earl Salo, OGC

Appendix

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAR 17 2006

OSWER Directive No. 9208.2

MEMORANDUM

SUBJECT: "Enforcement First" to Ensure Effective Institutional Controls at Superfund Sites

FROM: Susan E. Bromm, Director Elliott J. Gilley for
Office of Site Remediation Enforcement
Office of Enforcement and Compliance Assurance (OECA)

for Michael B. Cook, Director
Office of Superfund Remediation and Technology Innovation
Office of Solid Waste and Emergency Response (OSWER)

TO: Superfund National Policy Managers, Regions I-X
Director, Office of Environmental Stewardship, Region I
Director, Environmental Accountability Division, Region IV
Regional Counsel, Regions II, III, V, VI, VII, IX, and X
Assistant Regional Administrator, Office of Enforcement, Compliance, and Environmental Justice, Region VIII

Purpose

On September 20, 2002, OSWER and OECA jointly issued a memorandum requesting Regions to redouble their attention to EPA's "enforcement first" policy.[1] While that memorandum focused largely on Remedial Action construction activities, it also noted that the "enforcement first" policy applies throughout the Superfund cleanup process. The purpose of today's memorandum is to state explicitly that the "enforcement first" policy also applies to any actions needed to ensure the implementation and effectiveness of institutional controls.

1 Available on the EPA Web site at http://www.epa.gov/compliance/resources/policies/superfund/enffirst-mem.pdf

The Agency is committed to pursuing "enforcement first" for all phases of response actions at Superfund sites. This policy promotes the "polluter pays" principle and helps conserve the resources of the Hazardous Substance Response Trust Fund (Fund) for sites where no viable responsible parties exist. By applying this policy to institutional controls, EPA can further advance its program goals.[2]

Background

In September 2004, EPA launched the implementation of its national five-year *Strategy to Ensure Institutional Control Implementation at Superfund Sites* (Strategy).[3] Institutional controls are administrative and legal instruments that help minimize the potential for human exposure to contamination and protect the integrity of the remedy. Institutional controls work by limiting land or resource use and by providing information that helps modify or guide behavior at properties where hazardous substances at a site prevent unlimited use and unrestricted exposure. Institutional controls are a critical component of the cleanup process, used to ensure both short- and long-term protection of human health and the environment, and as such they should be identified and analyzed early in the cleanup process as part of the Remedial Investigation/Feasibility Study.

The Agency has made significant progress in its efforts to address the complexities and challenges associated with institutional controls. For example, EPA is actively implementing the Strategy to identify, review and resolve any problems with institutional controls at Superfund sites, with an emphasis on evaluating institutional controls at sites where the construction of all remedies is complete (construction complete sites). EPA recognizes that the implementation of this Strategy will require significant coordination and communication with stakeholders, in particular, potentially responsible parties (PRPs) and current owners of these sites. PRPs play a significant role in supporting a robust analysis of the effectiveness of institutional controls and in implementing necessary controls at Superfund sites. Institutional control activities at sites may include, for example:

- conducting studies and evaluations to evaluate the design, monitoring, implementation and enforcement of institutional controls at sites, including evaluations of current and potential future land uses, and whether different, additional or layered institutional controls are needed;
- analyzing real property title information to ensure that proprietary controls are properly implemented, and resolving any issues that may impact the effectiveness of the institutional control, including acquisition of subordination agreements as necessary;

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2 The enforcement principles and processes outlined in this memorandum may also apply to EPA's implementation of the *National Strategy to Manage Post Construction Completion Activities at Superfund Sites*, OSWER 9355.0-10, October 2005, http://www.epa.gov/superfund/action/postconstruction/pcc_strategy_final.pdf.

3 Available on the EPA Web site at http://www.epa.gov/compliance/resources/policies/cleanup/superfund/ic-strategy-04-mem.pdf.

- utilizing current state-of-the-art institutional control tools such as "One-Call" systems, new monitoring and mapping technologies, or environmental covenants under state adopted versions of the Uniform Environmental Covenants Act; and
- improving site-specific plans and procedures by addressing the long-term stewardship of institutional controls. This may include updating site Operation and Maintenance Plans, developing Institutional Control Implementation and Assurance Plans, and ensuring the adequacy of periodic status reporting and financial assurance mechanisms.

EPA Headquarters continues to conduct outreach to the PRP community to talk about their expected role as partners in implementing this Strategy and supports the efforts of EPA Regions to encourage PRP cooperation at these sites. We believe we share a common goal with the PRP community in maintaining the effective long-term stewardship of cleaned up sites to ensure the continued protection of human health and the environment.

Implementation

EPA maximizes PRP participation in the design and implementation of Superfund site cleanups by using a variety of negotiation and enforcement tools including, as appropriate, issuing unilateral administrative orders. See *Negotiation and Enforcement Strategies to Achieve Timely Settlement and Implementation of Remedial Design and Remedial Action at Superfund Sites*, OSRE, June 17, 1999 (Negotiation and Enforcement Strategies Memorandum).[4] For remedies that rely in whole or in part on institutional controls, EPA strives to ensure that the PRPs remain responsible for the implementation of the institutional controls, including the identification and resolution of any issues impacting the continued effectiveness of the institutional controls.

As noted earlier in this memorandum EPA recognizes that PRPs play a significant role in supporting a robust analysis of the effectiveness of institutional controls and in implementing necessary controls at Superfund sites. Ensuring that institutional controls are properly implemented and remain protective is important to both EPA and the PRPs. Therefore case teams should first pursue a cooperative approach when working with PRPs, and use the agreements already entered into by the PRPs at the site. But as appropriate, case teams may use the approach outlined in the Negotiation and Enforcement Strategies Memorandum. For example, in the institutional controls context, a case team might first determine whether the PRPs at a site have already entered into a consent decree for Remedial Design/Remedial Action that requires them to conduct studies and investigations requested by EPA to assist in periodic reviews. Based on this obligation, the PRPs could be required to investigate the status or effectiveness of the institutional controls at a site. If the case team determines that additional

4 Available on the EPA Web site at http://www.epa.gov/compliance/resources/policies/cleanup/superfund/neg-enfst-mem.pdf.

institutional control work is needed beyond further study or investigation, the case team should consider whether the agreements already entered into by the PRPs require them to implement the additional institutional control work or whether a modification to the Statement of Work (SOW) or related work plans is needed. Modifications to the SOW and/or work plans may be appropriate when the additional work is (1) necessary to achieve and maintain performance standards or to carry out and maintain the effectiveness of the remedy set forth in the Record of Decision (ROD) and (2) consistent with the scope of the remedy selected in the ROD.[5]

If the PRPs cannot be required to implement the additional institutional controls pursuant to the consent decree provisions discussed above, the case team should consider whether the decree has a reopener provision for new information or unknown conditions or a separate reservation of rights that will allow EPA to bring an action seeking to require the implementation of institutional controls. If the decree has a reopener provision and the need for the additional institutional controls is based on new information or unknown conditions, the case team will likely be able to require the PRPs to implement the additional institutional controls under the decree itself if the PRPs have agreed, in the decree, to implement any additional work needed to protect human health or the environment that falls within the scope of the reopener.[6] Alternatively, if the PRPs have not so agreed, the decree usually will exclude any such matters from the covenant not to sue[7] thereby allowing EPA to bring an enforcement action against the PRPs. The case team should also review the agreements entered into by PRPs at the site for any separate reservation of rights[8] that will allow EPA to seek institutional controls. If present, the case team may be able to bring an enforcement action against the PRPs seeking the implementation of the additional institutional control work without having to establish the criteria necessary for the reopener for new information or unknown conditions.

Appropriate enforcement actions may include the issuance of a unilateral administrative order (UAO) seeking to have the PRPs implement the additional institutional controls. In recent years, EPA has issued a number of orders for Remedial Action that explicitly include institutional controls as well as several orders for institutional controls alone. A UAO for institutional controls must meet all statutory requirements of CERCLA §106(a) and other applicable requirements.

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[5] *See*, Paragraph 14, "Modification of the SOW or Related Work Plans," of the Model RD/RA Consent Decree.

[6] *See*, Paragraph 20, "Settling Defendants' Obligation to Perform Further Response Actions," of the Model RD/RA Consent Decree.

[7] *See*, Paragraph 91, "United States' Pre-certification Reservations," and Paragraph 92, "United States' Post-certification Reservations," of the Model RD/RA Consent Decree.

[8] *See*, *e.g.*, Subparagraphs 94(g) and (i), "General Reservations of Rights," and Paragraph 30 of the Model RD/RA Consent Decree.

Case teams should consider using Fund monies in those cases where the enforcement approach outlined above is not feasible, such as where the PRPs are incapable of conducting or paying for the work necessary to ensure that institutional controls are effectively implemented. Regions will generally use monies from the allocation for ongoing projects. In limited situations, however, the Agency's national risk-based priority panel may need to review the funding for institutional controls (e.g., if the panel had not previously reviewed this project, or if the panel's prior review of the remedial action was narrow in scope). In these situations, the usual procedures for enforcement screening and consultation with the Office of Site Remediation Enforcement's Regional Support Division would apply.

Conclusion

If you have any questions about this document, please contact Gregory Sullivan at (202) 564-1298, sullivan.greg@epa.gov. If you have any questions about EPA's "enforcement first" policy or would like assistance in evaluating the appropriate enforcement strategy at a particular site, please contact Mike Northridge at (202) 564-4263, northridge.michael@epa.gov. Questions about institutional controls should be directed to the regional or Headquarters institutional control coordinators.

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cc: OSRE Managers, OECA
OSRTI Managers, OSWER
Ed Chu, Land Revitalization Staff, OSWER
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Superfund Regional Counsel Branch Chiefs, Regions I-X
Management Advisory Group on Institutional Controls (MAGIC)
Regional Legal and Program Coordinators for Institutional Controls
Bruce Gelber, Department of Justice
Don Frankel, Department of Justice
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Appendix