

## **Talking Points for Dana Stalcup Federal Remediation Technology Roundtable (FRTR)**

- Good Morning. My name is Dana Stalcup and I am the Deputy Office Director in EPA's Office of Superfund Remediation and Technology Innovation. As the Deputy Office Director, I am responsible for overseeing "all things mining" in OSRTI.
- I want to thank the FRTR for giving me an opportunity to talk about abandoned mine sites and highlight the Superfund Programs collaborations/partnership efforts and what we are doing to address mine sites in a safe, efficient and effective manner. My staff and I look forward to learn from the presentations and hear ideas for addressing some of these most complex, large and costly sites in the US.

### Universe of Abandoned Mine Lands Sites

- There is no comprehensive national inventory of Abandoned Mine Lands (AMLs). Estimates on the number of abandoned hardrock mines on private, federal, state and tribal lands across the country range from 100,000-500,000 mines.
- In response to an OMB request last year, EPA along with the Department of Interior and US Department of Agriculture identified more than 270,000 AML mines on federal, state, and tribal lands. More than 70% of these mines were identified from state AML websites, and states were not asked to verify their inventory of AML sites.
- A number of federal and state statutes address environmental contamination issues associated with abandoned mine lands, and federal statutory authority is spread among several agencies with no one agency having overall statutory responsibility. *In other words, there is no overarching statute that addresses all AML sites across the country.*

### Addressing Abandoned Mine Lands Sites

- Five federal agencies—the Department of the Interior's Bureau of Land Management (BLM), Office of Surface Mining Reclamation and Enforcement (OSM), National Park Service (NPS), the Department of Agriculture's Forest Service, and the Environmental Protection Agency (EPA)—fund the cleanup of AML sites.
- Various state environmental agencies or mining divisions oversee or conduct reclamation or response actions at AML sites under their respective statutory authorities.
- At EPA, the Superfund program is primarily responsible for cleaning up the worst hardrock mining and mineral processing sites where states or tribes have asked for our help. There are around 500 hardrock mining and mineral processing sites in the Superfund Enterprise Management System (SEMS) of which 139 hardrock mining or mineral processing sites have been proposed, finalized, or deleted from the National Priorities List (NPL) or are being addressed under the Superfund Alternative Approach.
- EPA Regions have also conducted hundreds of removal actions at mine sites.
- *The 500 or so mining and mineral processing sites in SEMs constitute less than half a percent of the estimated AML universe.* EPA only has a sliver of the overall abandoned mine sites pie and we need to collaborate and leverage resources with other federal, state, tribal and industry partners to address the risks at hardrock mine sites.
- Other federal and state agencies, General Accountability Office (GAO) and the Office of Inspector General (OIG) reports and press articles have also highlighted the magnitude of challenges associated with addressing AMLs sites across the country for over two decades.

- However, the 3 million gallons release of the metal-laden mine influenced waters in August of 2015 at the Gold King Mine site in Colorado brought the concerns associated with abandoned mining sites to a national level.
- International incidents like the failure of active mine tailings impoundments in Canada and Brazil also highlight the complexities and environmental and human health risks associated with mining sites.
- We need to develop a comprehensive strategy to deal with the complexity, challenges and costs associated with addressing the large number of current and future AML sites.
- The challenges associated with inventorying, characterizing, prioritizing and cleaning up abandoned mine sites across the country are enormous and we need to work together on the federal, state, tribal and local level along with industry and Good Samaritans to address these sites.

## **I. Collaboration/Partnerships**

As noted before, the universe of AML sites is very large and we need to work with stakeholders to collaboratively address some of these sites. Some of OSRTI collaboration efforts to date include:

### Abandoned Uranium Mines Federal Working Group

- Our Office has been participating in the abandoned uranium mines (AUM) federal working group consisting of senior staff from EPA, USDA, DOE and DOI to identify ways to address the human health and environmental challenges posed by the nations approximately 4,225 abandoned mines resulting from legacy defense-related uranium mining.
- The working group will utilize existing authorities and an inter-agency MOU to implement a multi-year program to inventory, prioritize, assess, and cleanup abandoned uranium mines that pose a high risk to human health or the environment.

### Federal Mining Dialogue (FMD)

- The FMD includes federal agencies working together to identify, discuss, and clarify key policy, legal, and technical issues surrounding the nation's Abandoned Mine Land features and sites.
- The FMD has been in existence since the early 2000's and consists of senior staff from Department of Interior's—BLM, OSMRE, National Park Service, USGS, BIA; Department of Agriculture—U.S. Forest Service; Mine Safety and Health Administration; Department of Energy; U.S. Army Corps of Engineers; Department of Justice; and EPA
- The FMD has established a senior level steering committee to inform the work of the FMD, and to elevate mining-related issues within the federal agencies.
- The FMD is examining projects that the FMD Steering Committee have identified as a priority including:
  - ✓ Preparing site inventories so information could readily be merged to provide comprehensive information
  - ✓ Sharing Best Practices to address AML Sites
  - ✓ Identifying examples and methods to address mining sites on a watershed basis

There may be additional opportunities to work with States, Tribes and other stakeholders to work collaboratively and leverage resources to address AML sites.

An example of an opportunity is the work done in Region 8 where a Good Samaritan Agreement was reached with Trout Unlimited to address some mine tailings wastes at the American Fork Canyon site in

Utah. There has been Congressional interest in the past for drafting Good Samaritan Legislation for hardrock mine sites.

## **II. Improving Ways to Address AML Sites under Superfund**

Generally, the most complex and costly AML sites end up being addressed by the Superfund program. For the sites that do end up being addressed under Superfund, we need to develop a multi-prong strategy which continues to look for improved ways in which we address AML sites. We are in the process of developing a strategy because:

- Mining sites are **costly** and represent a large share of our expenditure on site cleanup. To date, more than \$4 Billion has been spent addressing AML sites.
- Mining sites are exceedingly complex covering large, often remote areas and are often part of a much larger watershed with numerous programs, Agencies, States and Tribes, localities, and organizations involved in the watershed as a whole. More than half the mining and mineral processing sites on the NPL are more than 500 acres with some spanning 100s of square miles.
- The problems presented by mining sites do not fit easily into the Superfund cleanup approach. Often these sites are in areas with high background metal and pH levels, and compliance with cleanup levels is often difficult to achieve. We need to look at programmatic options such as addressing these sites on a watershed basis and consider alternate success metrics such as stream miles restored at AML sites.

OSRTI's overarching goals for developing a strategy for improving ways to address Superfund AML sites include:

1. **Prevent or reduce the likelihood and risk of failures and releases** and ensure our efforts are sustainable and do not negatively impact surrounding populations, ecosystems, and land and water resources.
2. **Improve characterizing and monitoring of sites** and impacts to human health and the environment while supporting optimal and defensible life cycle decision and cleanup processes at sites.
3. **Provide more efficient, effective, and manageable cleanup approaches** which can dynamically respond to evolving understanding of site conditions and impacts. We need to explore whether our activities should seek to address source loading in order to reduce water treatment in perpetuity and to achieve reasonable cleanup levels.
4. **Reuse mine sites to reduce long-term costs at AML sites.** Some mining sites may present opportunities for recovering metals from mine influenced waters, reprocessing mine waste (e.g., tailings, heap leach piles) to recover metals or other minerals (e.g., rare earths), beneficially reusing mine waste for non-residential purposes, and remaining sites for extracting ores. The opportunities may be limited and legal and policy documents would need to be crafted to get projects going.

Key efforts being led by OSRTI include:

1. Developed Draft Final "Best Practices and Approaches Report: Preventing Sudden, Uncontrolled Fluid Mining Waste Releases Prior to Conducting Response Actions at Mine Sites".

- Based on recommendations outlined in both EPA’s internal review and BOR’s October 2015 report, on Gold King, EPA has developed a draft “Best Practices and Approaches Report: Preventing Sudden, Uncontrolled Fluid Mining Waste Releases Prior to Conducting Response Actions at Mine Sites” that compiles best practices and approaches for preventing fluid mine waste releases.
  - The document was initially reviewed by BLM, Office of Surface Mining Reclamation and Enforcement within the Department of Interior, The US Department of Agriculture’s Forest Service, US Army Corps of Engineers and the State of Alaska.
  - Subsequent Peer Review comments have been received from Industry, Academia, State Agencies, Environmental Group, Tribal Representative, and Federal Agency.
  - The document has been finalized and will be distributed soon.
2. The Office Directors of OSRTI and Office of Emergency Management issued an EPA-wide memorandum on April 2017, requiring headquarters consultation of regional site activities at hardrock mine sites which may pose hydraulic release hazards.
  3. Provide Site-Specific Optimization support at mining remedies to improve investigation and remedy efficiency:
    - In 2014, OSRTI initiated the Mining Sites Optimization Initiative to pay special attention to mine sites characterization and cleanup approaches.
    - This work has helped to improve efficiency and reduce remedy cost for some mine sites.
  4. Other Mining Technical Support Efforts include:
    - Supporting EPA Region 9 in developing a GIS-based algorithm to derive a relative priority ranking of 42,000 known AML sites in California.
    - Developing Handbook of Case Study Treatment Technologies for Mining Wastes and Mining-Influenced Water
    - Providing technology transfer and training resources on [cluin.org/mining](http://cluin.org/mining).

My staff is going to talk about some of OSRTI efforts during the afternoon session on EPA Best Practices and Resources and they will answer any questions you may have at that time. Again, I thank you very much for inviting me to the FRTR meeting and hope you have a great meeting.