Initial Review of the Lava Cap Mine Superfund Site Investigation

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Overall Assessment of Lava Cap Mine Pollution of the Area

Investigation & Remediation Issues of Concern to Public

Public Participation in Remediation

Lava Cap Mine Site Investigation/Remediation

Locations of Concern

- Mine Property & Tailings Disposal Area
- Little Clipper Creek Downstream of Mine
- Lost Lake Area, Including “Deposition” Area
- Clipper & Little Greenhorn Creeks

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- Rollins Reservoir
- Banner Mine Area
- Areas Impacted by Releases from Banner Mine

Remedial Investigation/Feasibility Study RI/FS

Investigation Phase - Risk Assessment

- Based on Monitoring of Soils, Sediments, Water, and Air in Areas Potentially Impacted by Lava Cap Mine
- US EPA Has Estimated the Risk of Harm to People and Wildlife Based on a Concentration of Arsenic/Duration of Exposure Relationship in the Polluted Areas

  Short-Term Exposure to Elevated Concentrations May Not Cause Harm

  As Duration of Exposure Increases, Allowed Concentration Must Be Decreased to Protect Human Health & Environment

Issues of Concern in Site Investigation

Groundwater

- Fractured Bedrock Geology Will Require Extensive Investigation to Attempt to Define Whether Groundwater Contaminated with Arsenic from Lava Cap Mine Is a Threat to Current and Future Domestic Water Wells in Area
- On-Going, Long-Term Monitoring of Domestic Wells That Are Potentially Impacted by Lava Cap Mine

Air Quality

- Need Better Assessment of Public Health Risk of Airborne (Dust) Arsenic

  Will Need to Conduct Monitoring Designed to Measure Airborne Dust at Various Locations during Worst-Case Conditions

Contaminated Soils & Sediment

- How to Protect Public from Harm until Remediation Is Complete
- How to Protect Public after Remediation for as Long as Soil Contamination Exists

Stormwater Runoff Transport of Tailings/Arsenic from Mine & Other Areas

- Not Yet Evaluated

Clean-Up (Remediation) Options

US EPA November 2001

- Objective of Clean-Up Is to Prevent People & Wildlife from Being Exposed to Hazardous Levels of Arsenic

Options Mentioned by US EPA

- Re-vegetation of Area to Reduce Erosion
- Covering Sediments with Plastic
- Excavation of Contaminated Area & Off-Site Landfilling
- On-Site Landfilling
- Upgrade Lost Lake Dam
- Remove Lost Lake Dam

Public Participation in Selection of Remediation Approaches for Each Area of Concern

US EPA Conducts Preliminary Evaluation of Possible Remediation Approaches for Each Area

- Help Public Understand Pros & Cons of Each Approach

What Is the US EPA's Schedule for Developing Proposed Remediation Approaches?

How Does Public Address US EPA Budget Limitations & Low-Priority Issues for Lava Cap Mine Investigation & Remediation?

What Recourse Does Public Have If It Does Not Agree with US EPA's Selected Remedies?

How Does the Public Ensure That Adequate Monitoring, Maintenance, & Follow-Up Remediation Occur as Needed for as Long as Waste Residues Are a Threat – *i.e.*, Forever?

Role of US EPA Technical Assistance Grant (TAG) Advisor

Through Superfund, Congress Provides $50,000 / 3 yrs to Support a Technical Advisor to Public

- Help Public Understand Superfund Process of Site Investigation/ Remediation
- Review the Adequacy of Site Investigation
- Review Adequacy of Proposed Remediation
- Review Adequacy of Plan for Long-Term Monitoring and Maintenance of “Remediated” Site

G. Fred Lee's Background

From CA Central Valley

Education

- BS San Jose State College
- MSPH University of North Carolina
- Ph.D. Harvard University in Environmental Engineering

30 Years University Graduate-Level Teaching & Research

- Water Quality, Solid & Hazardous Wastes
- $5 million Research & 500 Papers & Reports on Impacts & Control of Chemicals in Water & Wastes

Live in El Macero Next to Davis, CA

Consultant

Part-Time Consulting for 20 yrs
Full-Time 12 yrs

- Water Supply Water Quality
- Water & Wastewater Treatment
- Water Pollution Control
- Solid & Hazardous Waste Site Investigation & Remediation
- Worked on Dozens of Superfund Sites across US