

# Southwest Salt Lake Valley Groundwater Plumes - Kennecott South Zone, OU2

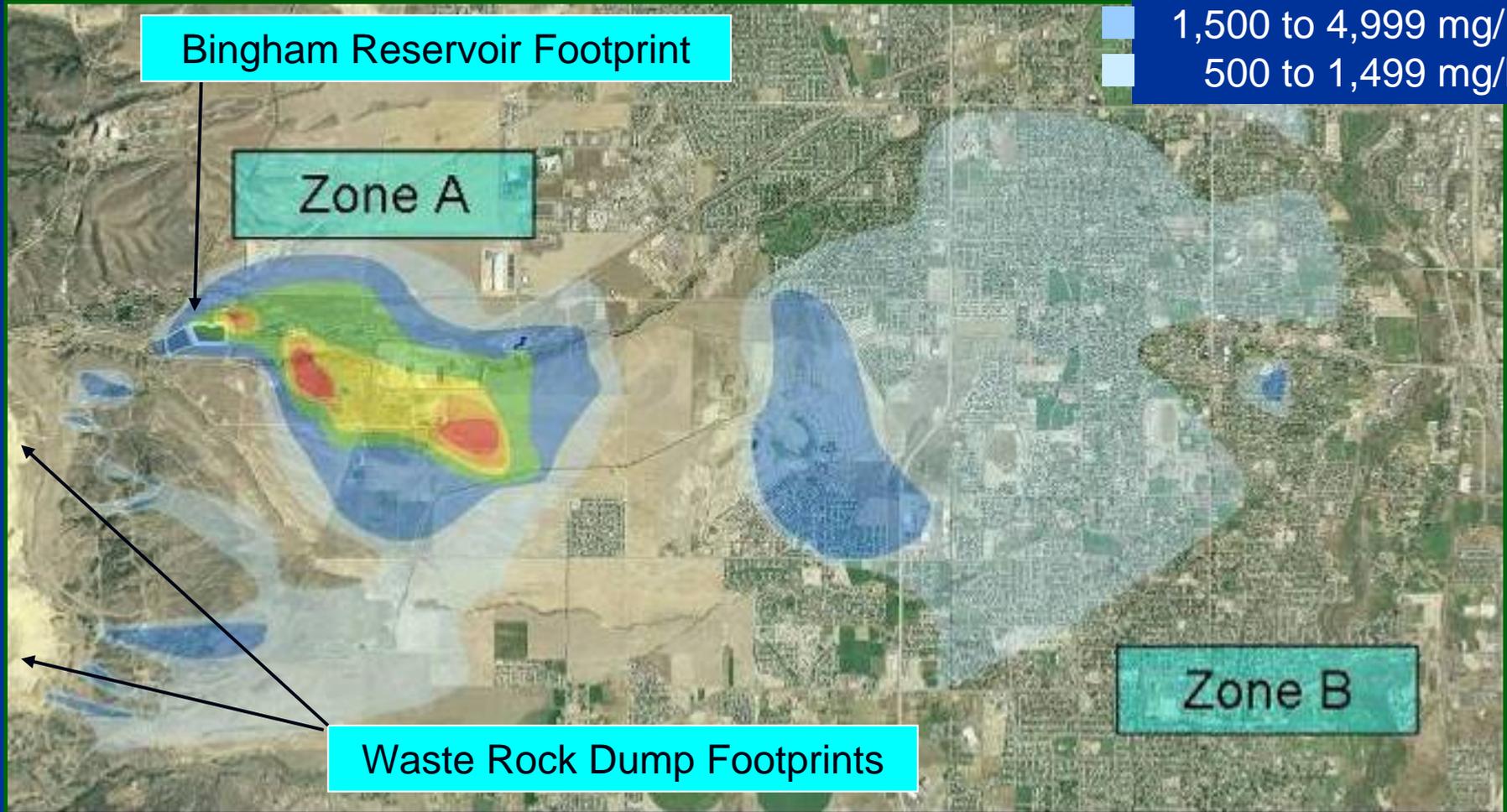
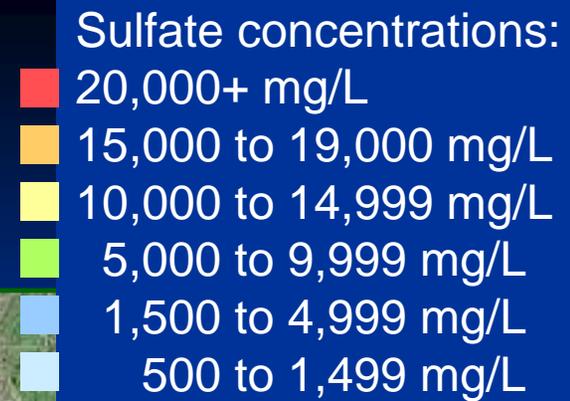
Natural Resource Damage Project  
History, Requirements & Considerations

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# Map of the Two Plumes



💧 With population growth, the impacted aquifer represents approximately  $\frac{1}{4}$  of the potential drinking water for the Salt Lake Valley

# Legal History

- 1986 – State of Utah filed a Natural Resource Damage Claim against Kennecott Utah Copper Corporation for damages to the groundwater in the Southwest Salt Lake Valley
- 1995 – State of Utah, Kennecott and Salt Lake Water Conservancy District (now Jordan Valley Water Conservancy District, “JVWCD”) entered into a Natural Resource Damage Settlement
- 2004 – NRD Trustee accepted a proposed project to address the impacted groundwater through treatment (once extracted) via reverse osmosis (“RO”) and provision of treated product water to the affected municipalities

# 2004 Agreement – Production Terms

- Kennecott agreed to construct and complete the Zone A RO plant (Bingham Canyon Water Treatment Plant, “BCWTP”) to treat and produce 3500 acre-feet (on a five year rolling average) of municipal quality water from the Zone A sulfate plume
- JWCD agreed to construct and complete the Zone B facilities (a RO system) and to offer for sale from this facilities (or from other sources) 3500 acre-feet of municipal quality water annually
- JWCD agreed to offer for sale 1,235 acre-feet of water annually from either the planned Lost Use facilities (a RO system) or from other sources, to the affected municipalities

# Trust Fund - Purpose

- In 1995 Kennecott provided \$9M in cash expendable to “restore, replace or acquire” the damaged resource & \$28M in a Letter of Credit (“LOC”) to construct a facility that would provide 7000 acre-feet of municipal quality water.
- In 2004 the original LOC was split into 2 new LOCs, each made available for the provision of municipal quality water from the 2 treatment plants.
- In 2004 the cash was split into separate sub-accounts for funding the provision of municipal quality water from the Lost Use facility (or other sources).
- JWWCD efforts to construct & operate treatment facilities is funded by the Trust Fund.

# BCWTP (Zone A) - Stats



- **Operating since May 2006**
- **On track with target of 3500 acre-feet per year on a five year rolling average (first measurement period 2010-2011, in May 2011)**
- **Operating in compliance with DDW Permit**
- **RO concentrate sent to tailings impoundment, which continues to operate in compliance with UPDES and GWPP permit limitations**

# Southwest Groundwater Treatment Plant (Zone B & Lost Use) - Stats



- **Combined Zone B & Lost Use Facilities treatment plant under construction since Nov. 2009; completion - April 2012**
- **Combined facility will house both the Zone B deep groundwater & Lost Use shallow groundwater RO systems**
- **Discharges of RO concentrate (or byproduct water) and other waters subject of current UPDES permit application**

# Other Considerations

- Both plants have to operate in compliance with applicable federal & state regulations
- Kennecott agreed to take RO concentrate from the treatment of the Zone B deep groundwater plume since the contaminants are related to past mining practices
- The Lost Use component is derived from the treatment of shallow groundwater which is not mining impacted

# Lost Use Specific Considerations

- **The Lost Use product water is produced to make-up for the water lost during the RO treatment of deep groundwater extracted from Zone A & B.**
- **Reasons why Lost Use RO Concentrate cannot go to the Kennecott North Tailings Impoundment:**
  - **Extracted shallow groundwater is not mining impacted**
  - **Kennecott is not responsible for the contaminants in shallow groundwater**
  - **The nutrient concentrations in shallow groundwater RO concentrate would cause algal blooms in tailings impoundment, thus causing Kennecott to possibly exceed its TSS limit for the impoundment.**