

CASE STUDY

Idaho, Site Confidential

August 2010

**Prepared by
The Interstate Technology & Regulatory Council
Mining Waste Team**

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IDAHO, SITE CONFIDENTIAL

1. SITE INFORMATION

1.1 Contacts

Ionic Waters Technologies
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1.2 Name, Location, and Description

The site name and exact location have not been disclosed at this time; therefore, the case will be herein referred to as “the Site.” The Site was a gold and silver mine located in Idaho with acid mine drainage emanating from waste rock piles. Affected media include soil, sediment, surface water (e.g., stream, rivers, runoff, and drainage), surface pool water (e.g., lakes, ponds, and pools) and groundwater.

2. REMEDIAL ACTION AND TECHNOLOGIES

At the Site, the primary impacts are from acidity, sulfate, and metals (aluminum, cadmium, copper, iron, lead, selenium, and zinc). Reclamation of the site falls under the provisions of the Clean Water Act and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The primary treatment technology in place at the Site is chemical precipitation.

The quantity of affected water being remediated is up to 70–205 gallons per minute.

Chemical precipitation at the Site includes lime neutralization and aeration and oxidation of reducing metals with the rotating-cylinder treatment system (RCTS) system. Chemical precipitation has been operating as a pilot scale.

Site cleanup goals are based on the mitigation of human health risk and mitigation of ecological risk.

3. PERFORMANCE

Performance and applicable standards must meet Clean Water Act and CERCLA. Performance criteria include measuring the contaminant concentrations in water. At the Site, the RCTS was quickly mobilized, set up, and operated. The system treated impacted water and resulted in lower concentrations of contaminants than the current treatment system on site. Settling times were

significantly less than for the current treatment system on site and generated up to 30% less sludge. The RCTS system operated at nearly 100% lime efficiency with limited operation and maintenance.

4. COSTS

- Capital: Unable to report since project is in pilot-scale testing phase.
- Operation and maintenance: Cost figures not provided.

5. REGULATORY CHALLENGES

None encountered; this was only a pilot study.

6. STAKEHOLDER CHALLENGES

No information available.

7. OTHER CHALLENGES AND LESSONS LEARNED

None reported.

8. REFERENCES

No information available.