• EPA Region 8
• Consortium (CSU, CSM, MT)
• Focus: Mine Waste Remediation
• Administration:
  Shackelford (CSU)-Director
  Macalady (CSM)-Assoc. Director
  Woods (CSU)-Assoc. Director
First-Year Research Projects

- **Redox Transformations, Complexation and Soil/Sediment Interactions of Inorganic Forms of As and Se in Aquatic Environments: Effects of Natural Organic Matter (NOM) (Project 1):** D. L. Macalady and D. Ahmann (CSM); J. Westall (Oregon State U.); and J. Garbarino (USGS).

- **Fate and Transport of Metals and Sediment in Surface Water (Project 2):** P. Julien, C. Watson, and B. Bledsoe (CSU); O. Stein (Montana State U.)


- **Evaluating Recovery of Stream Ecosystems from Mining Pollution: Integrating Biochemical, Population, Community and Ecosystem Indicators (Project 4):** W. Clements (CSU); and J. Ranville (CSM).
Funded Students & Others

- 5 Ph. D. students
- 5 M. S. students
- 4 B. S. students
- 1 post-doc
- 1 visiting scholar
New Research Projects

• Evaluation of Hydrologic Models for Alternative Covers at Mine Waste Sites (Project 5): C. Shackelford (CSU) and C. Benson (U. Wis.).
• Microbial Reduction of Uranium in Mine Leachate by Fermentative and Iron-Reducing Bacteria (Project 6): B. Honeyman (CSM) and J. Spear (CSM).
Management and Operational Objectives

- Engage the industry through personal contacts & professional interactions.
- Involve local, state, regional, national, and international stakeholders.
- Serve as an independent focal point for all stakeholders (industry, consultants, regulators, states, communities, etc.).
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<tr>
<th>Person</th>
<th>Affiliation</th>
<th>Component</th>
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<tbody>
<tr>
<td>Michael Burnside</td>
<td>U. S. Forest Service, Northern Region</td>
<td>Agency - Federal</td>
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<tr>
<td>Calvin Chien</td>
<td>Dupont</td>
<td>Industry</td>
</tr>
<tr>
<td>Stan Christensen</td>
<td>U. S. EPA Region 8 (Superfund)</td>
<td>EPA - Region</td>
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<tr>
<td>James Drever</td>
<td>U. of Wyoming</td>
<td>Academic</td>
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<tr>
<td>Jim Dunn</td>
<td>U. S. EPA Region 8 (ORD Liaison)</td>
<td>EPA-Regional/National</td>
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<tr>
<td>Tom Durkin</td>
<td>SD School of Mines &amp; Technology</td>
<td>Academic</td>
</tr>
<tr>
<td>Barb Filas</td>
<td>Knight Piesold</td>
<td>Consulting</td>
</tr>
<tr>
<td>Karl Ford</td>
<td>Bureau of Land Management</td>
<td>Agency - Federal</td>
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<tr>
<td>Warren McCullough</td>
<td>Montana DEQ</td>
<td>Agency - State</td>
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<tr>
<td>Don Runnells</td>
<td>U. of Colorado/Shepherd Miller</td>
<td>Acad./Consulting</td>
</tr>
<tr>
<td>Curt Sealy</td>
<td>UMETCO Minerals (Dow Chemical)</td>
<td>Industry</td>
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<tr>
<td>Dirk van Zyl</td>
<td>U. of Nevada-Reno</td>
<td>Academic</td>
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<tr>
<td>Roger Wilmoth</td>
<td>US EPA (Cincinnati)</td>
<td>EPA - National</td>
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## Technical Transfer Advisory Committee (TTAC)

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<thead>
<tr>
<th>Person</th>
<th>Affiliation</th>
<th>Component</th>
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<tbody>
<tr>
<td>Mary Ann Harrington-Baker</td>
<td>MSE Technology Applications</td>
<td>Consulting</td>
</tr>
<tr>
<td>Joe Galetovic</td>
<td>U. S. Department of the Interior, Office of Surface Mining</td>
<td>Agency-Federal</td>
</tr>
<tr>
<td>Kevin Hood</td>
<td>Center for Hazardous Substances in Urban Environments</td>
<td>NNE HSRC</td>
</tr>
<tr>
<td>David Ordway</td>
<td>U. S. EPA Region 8 (Brownfields)</td>
<td>EPA-Regional</td>
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<tr>
<td>Sonya Pennock</td>
<td>U. S. EPA Region 8 (TOSC)</td>
<td>EPA-Regional</td>
</tr>
<tr>
<td>Carol Russell</td>
<td>U. S. EPA Region 8 (Mining Coordinator, EPR)</td>
<td>EPA-Regional</td>
</tr>
<tr>
<td>David Yarlott, Jr.</td>
<td>Little Big Horn College, MT</td>
<td>Academic</td>
</tr>
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Activities in Support of Objectives

- **Tailings and Mine Waste Conference** at CSU and associated short courses/workshops: TMW ’94, ’95, ’96, ‘97, ‘98, ’99,’00,’01, ’02 (9 consecutive years); will co-sponsor ’03.
- Participated in EPA’s **Hardrock Mining 2002 Conference**, May 7-9, 2002, Westminster, CO.
- Participated in information exchange on related research with EPA’s National Exposure Research Laboratory (NERL) and National Risk Management Research Laboratory (NRMRL) via conference call.
Other Activities-Continued

- Participating as members in the *Leadville Institute of Science & Technology* (LIST) & the *Acid Drainage Technology Initiative* (ADTI).
- Attending and participating in the *Society for Mining, Metallurgy, and Exploration* (SME) annual meetings in 2003 (Cincinnati) and 2004 (Denver).
- Organize ~ 3 internal Center meetings per year rotated among 3 locations: CSU, CSM, and EPA Region 8.
Other Activities-Continued

- Special session at the Joint Conference of the *Billings Land Reclamation Symposium* and the *Annual Meeting of the American Society of Mining and Reclamation*, June 2-6, 2003, Billings, MT.
- Co-sponsoring conference on *Mining Impacts on Tribal Lands*, September 7-9, 2003, Reno, NV.
Outreach Activities

• Technical Outreach Services for Communities (TOSC), and Technical Assistance for Brownfields (TAB)

• Conducted through Montana Tech of the University of Montana (Karl Burgher, Kevin Mellot)
Example Activities

• Coordinating and/or conducting Superfund Job Training and brownfields training activities for community action groups

• Providing technical short courses on relevant topics (e.g., brownfields, mining impacts, ARD, GIS, etc.)
TOSC Sites

- **Pueblo, CO (since August 2002)**: contacted all stakeholders and preparing fact sheets related to community’s concern over air quality and site clean-up associated with RCRA Corrective Action at Rocky Mountain Steel Mill.
- **Rocky Boy Indian Reservation, MT**: education on ground water, UST, and GW monitoring related to landfill/groundwater issues.
- **Black Hills Army Depot, SD**: procuring background information related to chromium contamination of soil and GW resulting from manufacturing, storing, and destroying of weaponry.
TAB Sites

- **Crow Nation, MT**: Phase I evaluation of Big Horn Carpet Mill.
- **Fort Belknap Indian Reservation, MT**: assist with process related to Brownfields Assessment Demonstration Pilot at a tribal landfill and the Snake Butte Quarry.
More Information

• Center’s web site: www.engr.colostate.edu/hsrc/
• All HSRCs’ web site: www.hsrc.com/
• Linda Hinshaw, Administrative Assistant:
  Phone: 970-491-3381
  E-mail: hsrc@engr.colostate.edu