CONFERENCE AGENDA

Day 1 – Tuesday, April 3, 2012

7:30 AM – 5:00 PM **Registration & Name Badge Pickup** (*Colorado Ballroom Foyer – Banquet Level*)

Colorado Ballroom C/D

	Plenary Session **Session Chairs: Douglas Grosse and David Reisman, U.S. EPA/ORD/NRMRL**
8:30 AM – 8:50 AM	**Greetings and Opening Remarks** – Doug Grosse, Conference Co-Chair, Senior Environmental Engineer, National Risk Management Research Laboratory (NRMRL), Office of Research and Development (ORD), U.S. Environmental Protection Agency (EPA)
8:50 AM – 9:10 AM	**EPA Region 8 Legacy Mining Successes – Management Perspectives –** Martin Hestmark, Acting Assistant Regional Administrator, Office of Environmental Protection and Remediation, Region 8, U.S. EPA
9:10 AM – 9:40 AM	**The Mining Legacy and EPA ORD: Past, Present and into the Future** – David Reisman, Director, Engineering Technical Support Center, NRMRL, ORD, U.S. EPA
9:40 AM – 10:00 AM	**Break** (*Colorado Ballroom A/B*)
10:00 AM – 10:30 AM	**The Big Five Tunnel Project: Long-Term Lessons** – Thomas Wildeman, Professor Emeritus, Chemistry and Geochemistry, Colorado School of Mines
10:30 AM – 11:00 AM	**Superfund and Mining Sites: A Review of the Past and Observations Concerning the Future** – Roger Olsen, Ph.D., Sr. Vice President, CDM Smith
11:00 AM – 11:30 AM	**Legacy of Innovative Remediation** – Edward Bates, Remediation Consultant, U.S. EPA (retired)

11:30 AM – 1:00 PM **Lunch** (*on your own*)

	Track A (*Colorado Ballroom C*)	Track B (*Colorado Ballroom D*)
	1 Case Studies **Session Chair: Joy Jenkins, Ph.D., U.S. EPA Region 8**	**2 Innovative Technology and Techniques** **Session Chair: Robert Weber, U.S. EPA/ORD/OSP**
1:00 PM – 1:30 PM	**A Multiple Tracer/Geochemical Approach to Characterizing Water and Contaminant Movement Through Abandoned Mine Workings Near Rico, Colorado** – Mike Wireman, U.S. EPA Region 8	**MiniSipper: A New, High-Capacity, Long-Duration, Automated In-Situ Water Sampler for Acid Mine Drainage Monitoring at the Pennsylvania and Standard Mines, CO** – Thomas Chapin, Ph.D., U.S. Geological Survey
1:30 PM – 2:00 PM	**Acid Mine Drainage Source Control Program Design Investigation Upper Tenmile Creek Mining Area Superfund Site, Rimini, Montana** – Angela Frandsen, CDM Smith	**Identification and Quantification of Arsenic Species in Gold Mine Wastes Using Synchrotron-based X-ray Techniques** – Andrea Foster, Ph.D., U.S. Geological Survey WMESC
2:00 PM – 2:30 PM	**Improving Remediation Planning through Effective Mine Material Delineation, Formosa Mine Superfund Site, Douglas County, Oregon** – Mark Nelson, CDM Smith	**Microanalytical Techniques to Understand Element Leaching from Ore Minerals in Mining Wastes** – Sharon Diehl, Ph.D., U.S. Geological Survey

2:30 PM – 3:00 PM **Break** (*Colorado Ballroom A/B*)

	Track A (*Colorado Ballroom C*)	Track B (*Colorado Ballroom D*)
	3 Case Studies (cont.) **Session Chair: Joy Jenkins, Ph.D., U.S. EPA Region 8**	**4 Innovative Technology and Techniques (cont.)** **Session Chair: Robert Weber, U.S. EPA/ORD/OSP**
3:00 PM – 3:30 PM	**A Proposed Semi-Passive Treatment System at Remote AML Sites** – Robert Lambeth, Millennium Science & Engineering, Inc.	**Using Acid Mine Drainage Sludge to Remove Phosphorus and Other Metal Oxyanions from Waste Water** – Philip Sibrell, Ph.D., U.S. Geological Survey - Leetown Science Center
3:30 PM – 4:00 PM	**Captain Jack Mine Superfund Site Subsurface Remedy: Pre-Design Investigation Results and Preliminary Design** – Craig Weber, AMEC E&I	**Results from a Bench Scale Passive Treatment System Designed for Removing Sulfate at a Site on Vancouver Island, British Columbia** – Eric Blumenstein, Golder Associates, Inc.
4:00 PM – 4:30 PM	**Case Studies in Mine Closure and Acid Rock Drainage Management at Rio Tinto** – Victoria Peacey, Rio Tinto	**Engineered Pumpable pHoam™: A New Innovative Method for Mitigating ARD** – James Gusek, Golder Associates, Inc.

4:30 PM - 6:00 PM **Poster Session I** (*Colorado Ballroom A/B*)

Day 2 – Wednesday, April 4, 2012

7:30 AM – 5:00 PM **Registration & Name Badge Pickup** (*Colorado Ballroom Foyer – Banquet Level*)

	Track A (*Colorado Ballroom C*)	Track B (*Colorado Ballroom D*)
	5 Remediation and Stabilization Using Natural Materials **Session Chair: Michele Mahoney, U.S. EPA/OSWER/OSRTI**	**6 Monitoring and Treatment** **Session Chair: Erna Waterman, U.S. EPA Region 8**
8:30 AM – 9:00 AM	**Using Organic Amendments and Agronomy in Remediation of Hardrock Mining Sites** – Rufus Chaney, Ph.D., USDA-Agricultural Research Service	**Thallium Removal Strategies through Modification of Conventional Metal Hydroxide Precipitation Plants** – Katherine Vatterrodt, Colorado School of Mines
9:00 AM – 9:30 AM	**The Effect of Tailings Characteristics on Cover System Success** – Monisha Banerjee, Ph.D., GeoSystems Analysis, Inc.	**The Biotic Ligand Model: Unresolved Scientific Issues and Site- and Species-Specific Effects on Predicted Cu Toxicity** – Jeffrey Morris, Ph.D., Stratus Consulting Inc.
9:30 AM – 10:00 AM	**Scaling Phytostabilization from Greenhouse to Field-Scale at the Iron King Mine-Humboldt Smelter Superfund Site** – Juliana Gil-Loaiza, University of Arizona	**Water-Quality and Streamflow Time Trends, Upper Clear Creek Watershed (Colorado) - Systematic Long-Term Monitoring Fulfills a Range of Information Needs** – Timothy Steele, Ph.D., TDS Consulting Inc.

10:00 AM – 10:30 AM **Break** (*Colorado Ballroom A/B*)

	Track A (*Colorado Ballroom C*)	Track B (*Colorado Ballroom D*)
	7 Remediation and Stabilization Using Natural Materials (cont.) **Session Chair: Michele Mahoney, U.S. EPA/OSWER/OSRTI**	**8 Monitoring and Treatment (cont.)** **Session Chair: Erna Waterman, U.S. EPA Region 8**
10:30 AM – 11:00 AM	**The Use of Municipal Biosolids on Hard Rock Mining Restoration Efforts: Results of a Long-term Field Trial** – Rick Black, Environ International Corporation	**Mine Water Treatment Strategies Resolution Copper Mining and the Eagle Project** – Casey McKeon, Ph.D., Resolution Copper Company
11:00 AM – 11:30 AM	**Soil Treatment at the California Gulch NPL Site for Vegetation Reestablishment and Mitigation of Metal Mobility** – Stuart Jennings, Reclamation Research Group, LLC	**Mine Dewatering and Water Management at Barrick Goldstrike Mine in the Carlin Trend, Nevada** – Johnny Zhan, Ph.D., Barrick Gold of North America, Inc.
11:30 AM – 12:00 PM	**Post-Reclamation Soil Phytotoxicity and Land Management at the Anaconda Smelter NPL Site** – Robert Rennick, CDM Smith	**ARD Remediation with Slag: An Application to Berkeley Pitlake Water** – Courtney Young, Ph.D., Montana Tech of the University of Montana

12:00 PM – 1:30 PM **Lunch** (*on your own*)

	Track A (*Colorado Ballroom C*)	Track B (*Colorado Ballroom D*)
	9 **Engineered Covers and Capping** **Session Chair: Douglas Grosse, U.S. EPA/ORD/NRMRL**	**10** **Metals and Metalloids** **Session Chair: Barbara Butler, Ph.D., U.S. EPA/ORD/NRMRL**
1:30 PM – 2:00 PM	**Ten-Year Performance Evaluation of the Evapotranspiration Cover at Barrick Goldstrike Mine's AA Leach Pad** – Mike Milczarek, GeoSystems Analysis, Inc.	**The Increasing Importance of Biomonitoring Data to Interpret Changing Risk Estimates for Legacy Mining Communities** – Rosalind Schoof, Ph.D., ENVIRON International Corporation
2:00 PM – 2:30 PM	**Characterization and Selection of Waste Rock Borrow Material for Use as Rock Armor to Reduce Tailing Impoundment Side-slope Erosion** – Jason Keller, GeoSystems Analysis, Inc.	**Long-Term Monitoring and Metal Bioaccumulation Modeling Provide Important Feedback Related to Remediation in the Clark Fork River, MT** – Michelle Hornberger, Ph.D., U.S. Geological Survey
2:30 PM – 3:00 PM	**Preliminary Design of Water Balance Covers: A Method Based on the ACAP Data Set** – William Albright, Ph.D., Desert Research Institute	**Evaluating the Bioavailability, Bioaccessibility, Mineralogy, and Speciation of Arsenic in Mine Waste and Soils, Empire Mine Low-sulfide Gold-quartz Vein Deposit, Nevada County, California** – Charles Alpers, Ph.D., U.S. Geological Survey

3:00 PM – 3:30 PM **Break** (*Colorado Ballroom A/B*)

	Track A (*Colorado Ballroom C*)	Track B (*Colorado Ballroom D*)
	11 **Rare Earth Elements** **Session Chair: Gwen Campbell, U.S. EPA Region 8**	**12** **Sustainability / Life Cycle** **Session Chair: Carol Russell, U.S. EPA Region 8**
3:30 PM – 4:00 PM	**Rare Earth Elements: A Review of Production, Processing, Recycling, and Associated Environmental Issues** – Robert Weber, U.S. EPA, ORD, OSP located in Region 7	**Hardrock Mining within a Sustainable Development Context** – Terrence Chatwin, Ph.D., INAP
4:00 PM – 4:30 PM	**Geologic and Environmental Characteristics of Rare Earth Element Deposit Types Found in the United States** – Robert Seal, II, Ph.D., U.S. Geological Survey	**Predicting and Managing Waste Impacts through a Holistic and Life-of-Mine Geomet Application** – Karin Olson Hoal, Ph.D., JKTech Pty Ltd.
4:30 PM – 5:00 PM	**Research Initiatives in Recycling and Substitutes of Rare Earth Elements** – Michael McKittrick, Ph.D., U.S. EPA, ORD, NCER, TED	**Life Cycle Assessment Analysis for Active and Passive Acid Mine Drainage Treatment Options for the Stockton Coal Mine, New Zealand** – James Stone, Ph.D., South Dakota School of Mines and Technology

5:00 PM - 6:30 PM **Poster Session II** (*Colorado Ballroom A/B*)

Day 3 – Thursday, April 5, 2012

7:30 AM – 12:00 PM **Registration & Name Badge Pickup** (*Colorado Ballroom Foyer – Banquet Level*)

	Track A (*Colorado Ballroom C*)	Track B (*Colorado Ballroom D*)
	13 Case Studies **Session Chair: Joy Jenkins, Ph.D., U.S. EPA Region 8**	**14 Opportunities for Re-Use and Site Management** **Session Chair: Shahid Mahmud, U.S. EPA/OSWER/OSRTI**
8:00 AM – 8:30 AM	**Blue Ledge Mine Superfund Site Removal Action, Rogue River-Siskiyou National Forest** – Pete Jones, U.S. Forest Service, Pacific Northwest Region	**What Is Environmental Stewardship and How Can It Be Profitable in the Mining Industry?** – Randy Brandt, Geosyntec Consultants
8:30 AM – 9:00 AM	**Managing Mine Slimes - Jack Waite Mine Remedial Action** – Todd Bragdon, CDM Smith	**Abandoned Mine Reclamation Planning at French Gulch, Breckenridge, CO and the Launching of a New Booklet Series and Legacy Site Web-Portal** – Alan Berger, Massachusetts Institute of Technology and Victor Ketellapper, U.S. EPA Region 8
9:00 AM – 9:30 AM	**Screening and Cleanup Procedures for Libby Amphibole Contaminated Property in Libby, MT** – Mike Cirian, U.S. EPA	**Recycling and Utilization of Mine Tailings as Construction Material through Geopolymerization** – Lianyang Zhang, Ph.D., University of Arizona

9:30 AM – 10:00 AM **Break** (*Colorado Ballroom A/B*)

	Colorado Ballroom C/D
	15 Opportunities for Re-Use and Site Management (cont.) **Session Chair: Shahid Mahmud, U.S. EPA/OSWER/OSRTI**
10:00 AM – 10:10 AM	**Session Introduction** – Shahid Mahmud, U.S. EPA/OSWER/OSRTI
10:10 AM – 10:40 AM	**Economic Recovery of Zinc from Mining Influenced Water** – Kathleen Whysner, Colorado School of Mines
10:40 AM – 11:10 AM	**Using Mine Scarred Lands for Future Renewable Energy Projects** – Timothy Rehder, U.S. EPA Region 8
11:10 AM – 11:40 AM	**Brazil Millsite: Brownfield to Brightfield Renewable Energy Engineering Design Project** – Ed Rapp and Diane Kielty, Clear Creek Watershed Foundation
11:40 PM – 12:00 PM	**Closing Remarks**

POSTER PRESENTATIONS

Poster Session I: Tuesday, April 3, 2012

Legacy Mining Issues

1 **PCBs Mining and Water Pollution** – Dan Bench, U.S. EPA Region 8
2 **Losing Our Nation's Mining Heritage – A New Perspective** – J. Harrison Daniel, Ph.D., Retired
3 **LiDAR and Multispectral Studies of Legacy Mining-Disturbed Lake Superior Coastal Environments** – W. Charles Kerfoot, Ph.D., Michigan Technological University
4 **Arsenic Distribution in Sediment and Pore Waters of the Historical Mining-Impacted Belle Fourche and Cheyenne River Floodplains, South Dakota** – James Stone, Ph.D., South Dakota School of Mines and Technology
5 **Dietary Bioavailability of Cu Bound to Synthetic Hydrous Ferric Oxides** – Daniel Cain, U.S. Geological Survey
6 **Ecological Risk Assessment at the Libby Asbestos Superfund Site, Operable Unit 3** – Dan Wall, Ph.D., U.S. EPA Region 8
7 **Burlington Mine Voluntary Clean-Up: An Ecological Approach to Historic Mine Site Remediation** – Maureen O'Shea-Stone, Walsh Environmental Scientists and Engineers, LLC
8 **CERCLA Removal Action at the Rainy Mine, Washington** – Robert Lambeth, Millennium Science & Engineering, Inc.
9 **Remedial Investigation Challenges at the Former Zonolite Vermiculite Mine in Libby, Montana** – Christina Progess, U.S. EPA Region 8
10 **Assessing the Effectivenes of Hardrock Mine Regulation, Reclamation and Financial Assurances: What is the "bottom line"?** – Joseph Baird, Baird Hanson Williams LLP

Innovative Technology and Techniques

11 **Integrated Resource Assessments: A Framework to Consider the Potential Consequences of Mineral Resource Development** – Katherine Walton-Day, Ph.D., U.S. Geological Survey
12 **Mining Waste Treatment Technology Selection: A Web Based Approach for Remediating Mine Sites** – Paul Eger, Golder Associates Inc.
13 **A Multi-Phased Approach for Deep Tunnel Detection at a Gold Mine Remediation Site** – Nicole Pendrigh, Zonge International, Inc.

Best Management Practices to Achieve Remediation Objectives

14 **Laboratory and Greenhouse Evaluation of the Effects of Enhanced Oxidation and Various Amendments on Sediment Chemical Properties, Plant Growth, and Plant Tissue Metals Concentrations** – Frank Hons, Ph.D., Texas A&M University
15 **How OSM/VISTA Volunteers Facilitate Stakeholder Input and Collaboration** – Rachel Folk, Western Hardrock Watershed Team
16 **Development of Aquatic-Mining Ecosystem Models Using Computational Intelligence** – Michael Friedel, Ph.D., U.S. Geological Survey
17 **Connectivity Mapping Among Variables in a Mining-Aquatic Ecosystem** – Michael Friedel, Ph.D., U.S. Geological Survey

Poster Session II: Wednesday, April 4, 2012

Water Quality, Water Management and Water Treatment

1 **Water-Quality and Streamflow Time Trends, Upper Clear Creek Watershed (Colorado) - Systematic Long-Term Monitoring Fulfills a Range of Information Needs** – Timothy Steele, Ph.D., TDS Consulting Inc.

2 **A Remote High-Altitude Pilot Treatment System for Mining-Impacted Waters** – Ram Ramaswami, Ph.D., Pacific Western Technologies, Ltd.

3 **Electro-Catalytic Flux Technology for Treatment of Mining Waste Water** – William Roper, Ph.D., George Mason University

4 **Use of Hyper-spectral Remote Sensing Systems for Monitoring Mining Operations** – William Roper, Ph.D., George Mason University

5 **Metal and Arsenic Levels in Drinking Water at Two Montana Superfund Sites** – Dennis Neuman, Reclamation Research Group, LLC

6 **Constructed Wetland Treatment Systems for Mine Drainage–Can They Really Provide Green and Sustainable Solutions?** – Paul Eger, Golder Associates Inc.

7 **Assessing Bioremediation of Acid Mine Drainage in Coal Mining Sites Using a Predictive Neural Network-Based Decision Support System (NNDSS)** – Victor Ibeanusi, Ph.D., Spelman College

Abandoned Mine Land Issues

8 **Synoptic Sampling with Replication: Assessing Uncertainty in Estimates of Instream Constituent Loads, Peru Creek, Colorado** – Robert Runkel, U.S. Geological Survey

9 **Do Jarosite Minerals Generate Acid in Legacy Mining Wastes?** – Kathleen Smith, Ph.D., U.S. Geological Survey

10 **Remediation Case Study for Fluvial Deposits and Mountain Meadows at the California Gulch NPL Site** – Jan Christner, URS Operating Services, Inc.

11 **Solute-Transport Modeling to Assist Understanding of the Potential Effects of Remediation, Implementation of Total Maximum Daily Loads, and Pre-Mining Conditions** – Katherine Walton-Day, Ph.D., U.S. Geological Survey

12 **Establishing Site-Specific Background for Abandoned Mined Lands on a Watershed Scale** – Michelle Havey, Hart Crowser, Inc.

13 **Controlling Adit Discharge at the Upper Tenmile Creek Superfund Site, Rimini, Montana** – David Shanight, CDM Smith

14 **Using Time-Series Tripod LiDAR to Quantify the Eroded Volume of Mercury-Contaminated Sediment from Historical Gold Mining in California** – J. F. Howle, U.S. Geological Survey

15 **Characterization of Mercury and Methylmercury Contamination in Stream and Pond Environments and Provenance of Mine Waste from Historical Gold Mining in the Sierra Nevada, California** – Charles Alpers, Ph.D., U.S. Geological Survey

Modern Mining Applications

16 **Biomining Metal Optimization and the Role of Thermoacidophiles** – Tyler Johnson, University of Nebraska-Lincoln

17 **Mercury Bioaccessibility Associated with Calcine Waste in McDermitt, Nevada** – Mark Marvin-DiPasquale, Ph.D., U.S. Geological Survey

Restoration