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# ASRS 2025 Preliminary Conference Program

## 42 Years of Reclamation – First Time in Butte!

The 42nd Annual Meeting of the American Society of Reclamation Sciences (ASRS) is happening June 1st – 5th in Butte, Montana. Butte is one of the largest Superfund areas in the U.S. and has a storied history of mining and reclamation. The conference will focus on the research, technical, and regulatory issues associated with the land and water implications of anthropogenic land disturbances. It will provide a forum for the dissemination of information through presentation of research findings, field tours, workshops, and open technical discussion of public policy relating to mining, reclamation, restoration, reforestation, and land management issues. This conference will provide an amazing opportunity for your company or organization to interface with reclamation professionals and those who influence decisions about the mining and reclamation industry.

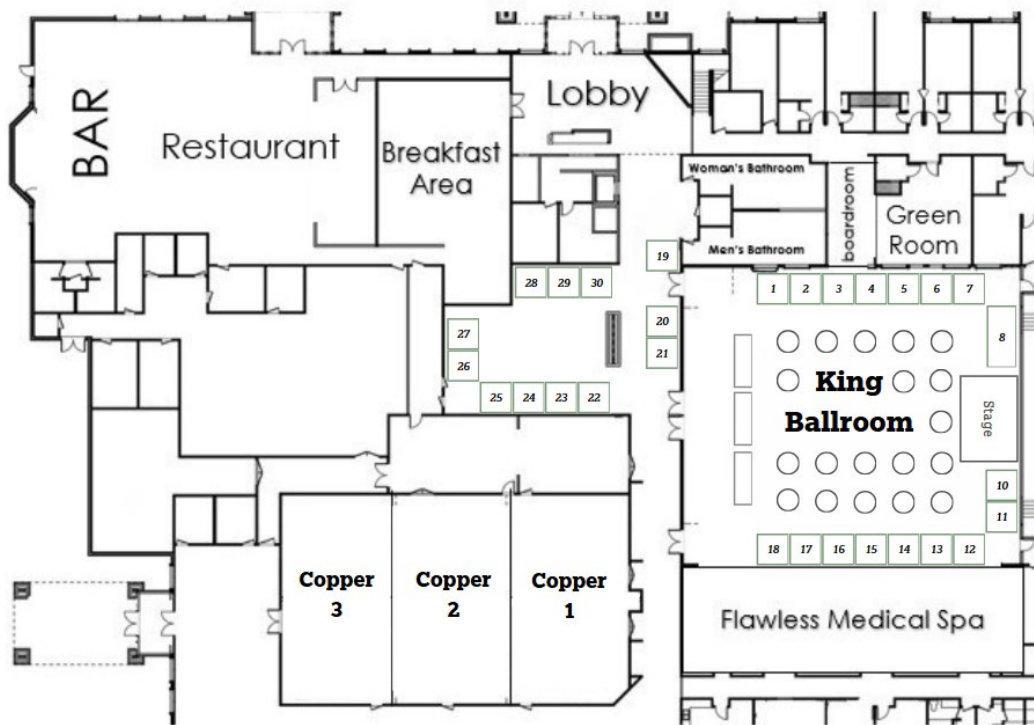
### 2025 Schedule Snapshot

SUNDAY June 1		MONDAY June 2	TUESDAY June 3		WEDNESDAY June 4	THURSDAY June 5
<b>Breakfast on Own Hotel Lobby*</b> 7:00 – 8:00 am		<b>Haulin’ ASRS</b> 6:30 – 7:30 am	<b>Haulin’ ASRS</b> 6:30 – 7:30 am		<b>Haulin’ ASRS</b> 6:30 – 7:30 am	<b>Breakfast on Own Hotel Lobby*</b> 7:00 – 8:00 am
<b>Breakfast on Own Hotel Lobby*</b> 7:00 – 8:00 am		<b>Breakfast on Own Hotel Lobby*</b> 7:00 – 8:00 am	<b>Breakfast on Own Hotel Lobby*</b> 7:00 – 8:00 am		<b>Breakfast on Own Hotel Lobby*</b> 7:00 – 8:00 am	<b>Breakfast on Own Hotel Lobby*</b> 7:00 – 8:00 am
<b>Registration &amp; Exhibitor Setup</b> 10:00 – 5:00 pm Lobby Area	<b>Montana Resources Mine Tour**</b> 10:00 am – 2:30 pm	<b>Opening Plenary Session</b> 9:00 – 11:30 am King Ballroom	<b>Wild Women of Reclamation Breakfast</b> 7:00 – 8:30 am King Ballroom		<b>Technical Sessions</b> 8:00 am – 12:00 pm Copper 1, 2, 3, King Ballroom	<b>Warm Springs Wildlife Management Area Birding Tour**</b> 8:30 – 11:00 am
	<b>Technical Sessions</b> 8:30 am – 12:00 pm Copper 1, 2, 3, King Ballroom					
<b>Headframe Spirits Distillery Tour**</b> 2:30 – 4:30 pm		<b>Annual Awards &amp; Business Meeting Luncheon</b> 12:00 – 1:30 pm King Ballroom	<b>Lunch on Own</b> 12:00 – 1:00 pm		<b>Student Awards Luncheon</b> 12:00 – 1:30 pm King Ballroom	<b>Lunch on Own</b>
<b>Technical Sessions</b> 1:30 – 5:00 pm Copper 1, 2, 3, King Ballroom		<b>WY AML Seeding Certification Class</b> 3:00 – 5:00 pm King Ballroom	<b>Technical Sessions</b> 1:00 – 5:00 pm Copper 1, 2, 3, King Ballroom		<b>Technical Sessions</b> 1:30 – 5:00 pm Copper 1, 2, 3, King Ballroom	<b>Anaconda Smelter Tour**</b> 1:00 – 3:30 pm
<b>NEC Meeting</b> 12:00 – 6:00 pm Boardroom		<b>NEC Wrap Up Meeting</b> 3:00 – 4:00 pm Boardroom				
<b>Welcome Exhibitor &amp; Sponsor Reception</b> 6:00 – 8:00 pm King Ballroom		<b>Monday Social Event**</b> 6:00 – 9:00 pm The Butte Depot		<b>Poster Session Social</b> 5:00 – 6:30 pm King Ballroom		<b>Early Career Professionals Social Event**</b> 6:00 – 9:00 pm Montana Tech Student Success Center

\* Complimentary breakfast provided to Copper King Hotel guests

\*\* Transportation provided

# Copper King Convention Center



Abnova Ecological Solutions	13	Haley & Aldrich, Inc.	10
ACZ Laboratories Inc.	12	Headframe Spirits	19
Albemarle	20	Montana Dept. of Environmental Quality	23
BKS Environmental Associates, Inc.	4	Montana Resources	5
CDM Smith	11	Pace Analytical Services	6
Costmine Intelligence	14	Pioneer Technical Services, Inc.	16, 17
Energy Laboratories, Inc.	7	RESPEC	24
Environmental Products & Applications	18	Rocky Mountain Bio Products	1
Fluid Photonics Corp.	15	SRS Crisafulli	22
Granite Seed Company	3	Trihydro Corporation	30
Great Bear Native Seeds	2	Water & Environmental Technologies	8
Grouse Mountain Environmental Consultants	21		

# Meeting Financial Sponsors and Exhibitors

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# Meeting Financial Sponsors and Exhibitors

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# Special Thanks to Our Exhibitors



# 2025 Conference Planning Committee

## COMMITTEE CHAIRS

Dustin Wasley, PE | Haley & Aldrich

Dr. Stephen Dent | CDM Smith

## PLANNING COMMITTEE

Susie Anderson | Montana Tech

Marty Bennett | Pioneer Technical Services

Kennet Bertelsen, PE | Haley & Aldrich

Terry Biere | Pioneer Technical Services

Devin Clary | Washington Corporations

Stephen Coe | Water & Environmental Technologies

Jo Combo | Haley & Aldrich

Kelsea Green | Bio Most

John Haney, PE | Haley & Aldrich

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Andrew Hess | Olympus Technical Services

Kevin Houck, PE | Haley & Aldrich

Chris Norman | Pace Analytical

Brenda Schladweiler | BKS Environmental Associates

Rylie Skellenger | Haley & Aldrich

Ed Spotts | KC Harvey

Nick Tucci | Haley & Aldrich

On behalf of the 2025 ASRS National Meeting Local Planning Committee and the ASRS National Executive Committee (NEC), we want to thank our Sponsors and Exhibitors for their support, as well as our meeting attendees in Butte for their continued support of our Society.

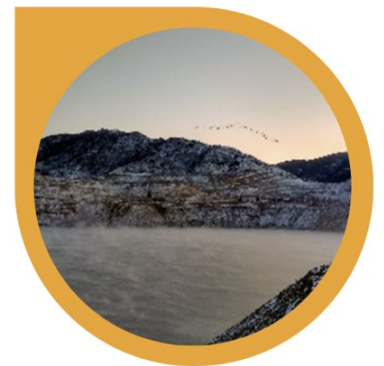
## Professional Field Tour Information

### Sunday, June 1 – Montana Resources Mine Tour

*Hosted by Montana Resources*

**10:00 am – 2:00 pm**

- 9:45 am Assemble in the hotel lobby for a prompt 10:00 am departure.
- 10:00 am Board bus and depart for the Berkeley Pit, roughly 5 miles north of the hotel. 3-hour tour of Montana Resources Mining Operations, Reclamation, and Water Treatment.
- 2:30 pm Arrive at Headframe Distillery



### Headframe Spirits Distillery Tour

**2:30 – 4:30 pm**

- 2:30 pm Arrive at Headframe Distillery
- 4:30 pm Depart Headframe Distillery for Copper King Inn



## Professional Field Tour Information

### Thursday, June 5 – Warm Springs Wildlife Management Area Birding Tour

**8:30 – 11:30 am**

- 8:15 am** Assemble in the hotel lobby for a prompt 8:30 am departure.  
**8:30 am** Board bus and depart for the Warm Springs Wildlife Management Area (WMA), roughly 27 miles northwest of the hotel.  
**9:00 am** Arrive at the WMA.  
**11:30 am** Depart WMA  
\*\* More details to come



### Thursday, June 5 – Anaconda Smelter Tour

**1:00 – 4:00 pm**

- 1:00 pm** Depart from Copper King Hotel  
**1:30 pm** Arrive in Anaconda  
**3:30 pm** Depart for Copper King Inn  
\*\* More details to come





## Agenda for Sunday, June 1, 2025

10:00 am – 2:30 pm	Montana Resources Mine Tour – Meet in Hotel Lobby
2:30 – 4:30 pm	Headframe Spirits Distillery Tour
12:00 – 5:00 pm	Registration and Exhibitor Setup – King Ballroom
12:00 – 6:00 pm	National Executive Committee (NEC) Meeting – Boardroom
6:00 – 8:00 pm	Sponsor & Exhibitor Welcome Reception – King Ballroom

## Agenda for Monday, June 2, 2025

6:30 – 7:30 am	Haulin' ASRS
7:00 – 8:00 am	Breakfast on your own – Hotel Lobby
8:00 am – 5:00 pm	Registration – Hotel Lobby
9:00 – 11:30 am	Opening Plenary Session – King Ballroom
12:00 – 1:30 pm	Annual Awards & Business Meeting Luncheon – King Ballroom
1:30 – 5:00 pm	Technical Sessions – Rooms Copper 1, 2, 3
6:00 – 9:00 pm	Social Event at the Butte Depot



**Join us for catered appetizers and drinks at the Butte Depot at 818 South Arizona Street!**

Set in the heart of Uptown Butte, the Butte Depot once served as a crucial transport hub and now hosts gatherings of all kinds and sizes for the Butte community.



## Agenda for Tuesday, June 3, 2025

6:30 – 7:30 am	Haulin' ASRS
7:00 – 8:00 am	Breakfast on your own – Hotel Lobby
7:00 – 8:30 am	Wild Women of Reclamation Breakfast – King Ballroom
8:00 am – 5:00 pm	Registration – Hotel Lobby
8:00 am – 12:00 pm	Technical Sessions – Rooms Copper 1, 2, 3, King Ballroom
12:00 – 1:30 pm	Lunch on your own
1:30 – 5:00 pm	Technical Sessions – Rooms Copper 1, 2, 3 King Ballroom
3:00 – 5:00 pm	<b>Wyoming AML Seeding Certification Class – King Ballroom</b> The Wyoming Abandoned Mine Land (AML) Division will host a Seeding Specialist Certification Class. In this hour-and-a-half practical training, reclamation professionals will learn to develop diverse seed mixes, the nuances of ordering seeding material, equipment performance standards, proper calibration and operation techniques with seeding equipment. The class will also focus on planning, designing, construction management techniques, and tools aimed at improving vegetation establishment of diverse native plant communities.
5:00 – 6:30 pm	Poster Session Social – King Ballroom

## Agenda for Wednesday, June 4, 2025

6:30 – 7:30 am	Haulin' ASRS
7:00 – 8:00 am	Breakfast on your own – Hotel Lobby
8:00 am – 5:00 pm	Registration – Hotel Lobby
8:00 am – 12:00 pm	Technical Sessions – Rooms Copper 1, 2, 3, King Ballroom
12:00 – 1:30 pm	Student Awards Luncheon – King Ballroom
1:30 – 5:00 pm	Technical Sessions – Rooms Copper 1, 2, 3 King Ballroom
3:00 – 4:00 pm	National Executive Committee (NEC) Wrap Up Meeting – Boardroom
6:00 – 9:00 pm	Early Career Professionals (ECPs)/Student Social Event – Montana Tech Student Success Center



**Join us for catered appetizers and drinks at the Montana Tech Student Success Center!**

**This free event will bring together ECPs, students, and experienced professionals for valuable mentorship. This event will include food, beverages, and fun interaction. It's open to everyone!**



## Technical Sessions – Monday, June 2, 2025 (Afternoon)

Time	SESSION 1A GOOD SAM & RECLAMATION Room Copper 1	SESSION 1B WHERE ARE THE FISH? Room Copper 2	SESSION 1C CLIMATE & RESILIENCY Room Copper 3
1:30 - 2:00 pm	Proof of Concept: The Good Samaritan Pilot Program <b>Jacob Dillon, Crowley Fleck</b>	Where are the Fish? Evolving Metal-Related Risks in an Ecosystem Impacted by a Century of Mining <b>Madison Foster, USGS</b>	Practical Approaches to Climate resilience in Reclamation Projects <b>Theresa Hughes, KC Harvey</b>
2:00 - 2:30 pm	Novel Hydrologic and Geochemical Baseline Assessments for Closure Planning at Golden Sunlight Mine, Montana <b>Tracie Jackson, Barrick Gold Corp</b>	A 10-Year Review of Chinook and Sockeye Salmon Conservation Initiatives within the Skykomish Watershed in Washington State <b>Jenise Bauman, Tacoma Power</b>	Using Statistical Models to Identify Drivers of Change <b>Simone Durney, RESPEC</b>
2:30 - 3:00 pm	Grizzly Gulch Placer Mine Reclamation <b>Joel Pemble, RESPEC</b>	Where are the Fish: A Paradox of declining Fish Populations and Improving Insect Communities in a Mine-Impacted Ecosystem <b>Michelle Fillion, USGS</b>	Importance of Biodiversity and Restoration of Landscapes Devastated by Major Tropical Cyclones in the Partial Reserve of Lake Niassa, Mozambique <b>Gelito Inacio Franco Sululu, Commonwealth Youth Climate Change Network</b>

**3:00 – 3:30 pm – BREAK – KING BALLROOM AND EXHIBIT AREA**

*Sponsored by Abnova Ecological Solutions*

Time	SESSION 2A NORTH IDAHO'S NINEMILE BASIN Room Copper 1	SESSION 2B GOVERNMENT & TRIBAL Room Copper 2	SESSION 2C BIOCHAR Room Copper 3
3:30 – 4:00 pm	15 Years of Ninemile Basin Remediation Bunker Hill Superfund Site <b>Calen Busch, Maul Foster &amp; Alongi</b> <b>Tony Wesche, Pioneer Technical Services</b> <b>Tausha Miller, CDM Smith</b>	Abandoned Mines and the Bipartisan Infrastructure Law (BIL): How the BIL Helped Reclaim Tribal Trust Lands <b>Heather Brighton, NewFields</b>	Bioavailability-Based remediation of Pb-Contaminated Mine Land and Urban Soils using Various Biochar <b>Adriana Dacres*, Ohio State University</b>
4:00 – 4:30 pm		From Remediation to Restoration: A Tar Creek Story <b>Paige Ford, Quapaw Nation</b>	Using Wastewood Biochar as a Potential Soil Amendment: An Underground Greenhouse Study <b>Gavin Rahl*, Montana Tech</b>
4:30 – 5:00 pm		Introduction to Camp Guernsey (WY) ITAM - Rehabilitation vs. True Reclamation <b>Dustin J. Kafka, Wyoming Camp Guernsey Training Center</b>	Use of Biochar as Soil Amendment to Improve Reclamation Success and Soil Resiliency <b>Amir Hass, West Virginia State University</b>

**6:00 - 9:00 pm – SOCIAL EVENT – BUTTE DEPOT**

\* Denotes Student

## Technical Sessions – Tuesday, June 3, 2025 (Morning)

Time	SESSION 3A ACID ROCK DRAINAGE Room Copper 1	SESSION 3B ALL THINGS PFAS Room Copper 2	SESSION 3C SILVER BOW CREEK Room Copper 3	SESSION 3D STREAM RESTORATION/PUBLIC ENGAGEMENT King Ballroom
8:30 - 9:00 am	Natural Acid Rock Drainage: Examples from Montana <b>Chris Gammons, Montana Tech</b>	PFAS Regulations and Methods Update for Environmental Professionals <b>Isaac Schmidt, Pace Analytical</b>	Restoring and Revegetating a Floodplain Contaminated with Mine Waste near Butte, MT <b>Richard Prodders, Bighorn Environmental Sciences</b>	TDS Mitigation in Mining Affected Streams Using In-Stream Reservoirs <b>German Banda, West Virginia State University</b>
9:00 - 9:30 am	Automatic Quantification of Dissolved Copper in Remote Acid Mine Drainage Sites <b>Dean Gouramanis, Fluid Photonics Corp</b>	Navigating PFAS Challenges in NPDES Permit Renewals <b>Rune Lassen, KC Harvey</b>	Silver Bow Creek Greenway <b>Michael Browne, Pioneer Technical Services</b>	Evaluating Urban Stream Restoration Success: Water Quality, Macroinvertebrate Surveys, and eDNA <b>Kenton L. Sena, University of Kentucky</b>
9:30 - 10:00 am	Recent Changes in the Berkeley Pit Water Quality <b>Gary Icopini, Montana Bureau of Mines &amp; Geology</b>	How to Test PFAS in Complex Matrices <b>Sarah Choyke, Eurofins Environmental Testing</b>	Ecosystem Service Monitoring at Silver Bow Creek Conservation Area <b>Molly McDermott, Ramboll Americas Engineering Solutions</b>	River and floodplain restoration on formerly mined lands <b>Gardner Johnston Inter-Fluve</b>
<b>10:00 – 10:30 am – BREAK – KING BALLROOM AND EXHIBIT AREA</b>				
Time	SESSION 4C VEGETATION Room Copper 3	SESSION 4B MINE CLOSURE & COVER DESIGN Room Copper 2	SESSION 4C BUTTE AREA RECLAMATION Room Copper 3	
10:30 - 11:00 am	Micronutrient Enabled Establishment of Native Grasses and Reduced Invasive Plant Prevalence Through Novel Fertilization Strategies Emphasizing Soil Health <b>Stuart Jennings, Edaphix</b>	Chemical Compatibility of Lake Dredge for Abandoned Mine Land Reclamation Borrow Material <b>Natalie Kruse Daniels, Ohio University</b>	Characterization of a Mining District Superfund Site Butte West Side Soils Operable Unit Remedial Investigation <b>Nicholas Anton, CDM Smith</b>	
11:00 - 11:30 am	Establishment of a Native Vegetation Cover at Sweetwater Mine Site: Evaluation of Waste Byproducts and Mycorrhizal-Assisted Ecorestoration <b>Mariam Al-Lami, Missouri University of Science and Technology</b>	Assessing Impacts of Engineered Soil Amendment and Erosion Control Materials on Mine Cover System Design and Implementation <b>Marc S. Theisen, Profile Products, LLC</b>	Transforming Butte: from the Parrott Tailings to a Resilience Hub <b>Stephen Coe, Water &amp; Environmental Technologies</b>	
11:30 am - 12:00 pm	Repurposing Woody Debris via Fuel Reduction Practices to Enhance Hillside Stability and Soil Seedbank Recovery <b>Daniel Kelly*, Montana Tech</b>	Integrating Closure Planning into the Mining Lifecycle: A Strategic Roadmap for Sustainable and Responsible Mine Closure <b>Andre van Coller, Digby Wells Environmental</b>	Coversoil Attributes and Influence on Vegetation Cover on Reclaimed Areas of the Continental Mine <b>John Beaver, WESTECH</b>	
<b>12:00 - 1:30 pm - LUNCH ON OWN</b>				

\* Denotes Student

## Technical Sessions – Tuesday, June 3, 2025 (Afternoon)

Time	SESSION 5A TECHNOLOGY ROUNDUP 2 Room Copper 1	SESSION 5B MERCURY GEOCHEMISTRY Room Copper 2	SESSION 5C RESOURCE RECOVERY Room Copper 3	SESSION 5D INNOVATIONS IN MINE RECLAMATION King Ballroom
1:30 – 2:00 pm	Understanding Seismic Imaging for Mine Reclamation: Insights and Innovations from Geophysical Investigations of Abandoned Mines <b>Lincoln Steele, Tetra Tech</b>	Evaluation of Multiple Sediment Amendments at a Mercury-Contaminated Reservoir using Bench Top Microcosm Treatability Testing <b>Paul Ho, CDM Smith</b>	Coal Mine Drainage and the Interagency Coal Mine Drainage Geochemical Database: Legacy Pollution as a Future Energy Resource <b>Bonnie McDevitt, USGS</b>	Biogeochemical Evaluation of a Coal Field Natural ARD Treatment System in Central Montana <b>Scott Hensel, Haley &amp; Aldrich</b>
2:00 – 2:30 pm	Using Geospatial and Geostatistical Models Created with Leapfrog Works to Inform Remediation Design at a Historical Smelter Site in Butte, Montana <b>Maria Pomeroy, Pioneer Technical Services</b>	Assessing Methylmercury in Sediments at Varying Depths: A Case Study in Methylation Dynamics <b>Steve Dent, CDM Smith</b>	Residuals from Passive Treatment System Process Units Close the Loop on Resource Recovery <b>Robert W. Nairn, University of Oklahoma</b>	A National Geospatial Decision Tool for Science-Based Management and Restoration of Mined Lands <b>Daniel Jones, USGS</b>
2:30 – 3:00 pm	Remote Sensing Methods to Identify Culverts Impairing Fish Passage <b>Natalie Kruse Daniels, Ohio University</b>	Evaluation of Sorbent Application Methods for Mercury Control in a Contaminated Reservoir in San Jose, California <b>Marc Beutel, University of California Merced</b>	Geotechnical and Geophysics—Is there a Connection? <b>David J. Barrick*, Montana Tech</b>	Development of a Robust Thiocyanate (SCN-) Measurement Principle for Subsequent Implementation on Industrial Scale Gold Processing Plants <b>Vikash Arjun, Mintek</b>
<b>3:00 – 3:30 pm – BREAK – KING BALLROOM AND EXHIBIT AREA</b> <i>Sponsored by Granite Seed and Erosion Control</i>				
Time	SESSION 6A FOREST RECLAMATION Room Copper 1	SESSION 6B GEOCHEMISTRY Room Copper 2	SESSION 6C TREATMENT TECHNOLOGY Room Copper 3	SESSION 6D SEEDING CERTIFICATION King Ballroom
3:30 – 4:00 pm	Recovery of Vegetation After Relieving Soil Compaction on a Reclaimed Surface <b>Jennifer Franklin, University of Tennessee</b>	Field Calibration of PHREEQ-N-AMDTreat Input Parameters <b>D. Clayton, BioMost</b>	On-Site Stabilization of Elemental Mercury <b>Caleb Fontenot, Albemarle</b>	Wyoming AML Seeding Certification Class 3:00 – 5:00 pm <b>Josh Oakleaf, WY AML</b> <b>Seth Cude, Rockwell Science</b> <b>Randy Walsh, Tetra Tech</b>
4:00 – 4:30 pm	Importing the Forestry Reclamation Approach to Northern Minnesota: an ASRS Technology Transfer Success Story <b>Meghan Blair, Barr Engineering</b>	Watershed and Reservoir Geochemistry: A Case Study in the San Juan River Watershed with Applications to the Kootenai River and Clark River Watersheds <b>Johanna Blake, USGS</b>	The Use of Hydrochar as an Amendment in Bioreactors for Acid Mine Drainage <b>Natalie Kruse Daniels, Ohio University</b>	
4:30 – 5:00 pm	Possible Ecological Indicators of Ecosystem Function Around Mining Areas Using Soil, Water, and Biological Characteristics: A Case Study <b>Y.P. Chugh, Southern Illinois University</b>	Geochemical Considerations for Sulfate Seepage in Mine Closure <b>Jenna Adams &amp; Donovan Gross   Haley &amp; Aldrich and First Majestic Silver</b>	The EBR: Biological Selenium Removal without Production of Troublesome Se Species and Complex Post-Treatment <b>Ola Opara, WesTech Engineering</b>	
<b>5:00 – 6:30 pm – POSTER SESSION SOCIAL – KING BALLROOM</b>				

\* Denotes Student

# Poster Session Social – Tuesday, June 3, 2025

5:00 – 6:30 pm – King Ballroom

1	Rodents and Cheatgrass Limit Bitterbrush Establishment in Colorado Mountain Shrublands <b>By: N. Nelson*, D.B. Johnston, and M. Paschke</b>
2	Metagenomic and Geochemical Insights into Silver Bow Creek Microbial Ecology <b>By: P.G. Helfrich*, J. Feldman, I. Robertson, C. Shiek, and A. Cox</b>
3	Recovery Rates of Native Plants around Butte, MT: Phytomining Feasibility <b>By: H. Cogley*</b>
4	Edge Effects in a Mining-Fragmented Grassland Impact Plant Survival and Growth, but not Seed Production or Seeding Rates <b>By: T. Adrian* and R.W. Pal</b>
5	Restoration Technique Impacts Vegetative Cover, Species Richness, and Native Plant Growth Whereas Slope Impacts Cryptogammic Crust Cover <b>By: P.G. Helfrich*, T. Adrian, C. Leitert, and R.W. Pal</b>
6	Selenium Removal by Fast-Pyrolysis Waste Timber Biochar and Iron Modified Biochar for Phosphate Mine Reclamation <b>By: M. Gavin*, D. Strawn, and D. Page-Dumroese</b>
7	Quantifying Long-Term Persistence of Biochar on Reclaimed Placer Tailings in the Umatilla National Forest, Oregon <b>By: P. Tietz*, Z. Kayler, D. Page-Dumroese, R. Heinse, and M. Coleman</b>
8	Characterizing Underground Coal Mine and Fire Surface hazards via Geomorphic Analysis using Remote and Ground-Based Techniques <b>By: J. Hiatt*, W. Zhou, and L. Wood</b>
9	Microbial Community Succession in Recovering Riparian Zones <b>By: C. Leitert* and P.G. Helfrich</b>
10	Microbial Zinc Metabolism in a Recovering Stream <b>By: M. Naim*, P.G. Helfrich, J. Feldman, I. Robertson, and A. Cox</b>
11	Food Web Selenium Accumulation Could Impact Fish in a Recovering Aquatic Ecosystem <b>By: E. Heneba*, J. Timmer, P.G. Helfrich, E. Andrade Barahona, and A. Cox</b>
12	Manganese Speciation in Anaerobic, Organic-Matter-Rich Wetland <b>By: A. Hardgrave* and J. LaBar</b>
13	Experimental Assessment of Three Activated-Carbon-Based Sorbents in Remediating Hg-Contaminated Reservoir Sediments in the Historic New Almaden Mining District, California <b>By: D. Phan* and M. Beutel</b>
14	Investigation of a Newly Observed Autumn Olive Pathogen on a Southwestern Virginia Coal Mine <b>By: J. Kanouff*, S.K. Klopff, D. Putnam, J. Barney, and P. Donovan</b>
15	Experimental Approaches to Assessing Methylmercury Production Potential of Mildly Hg-Contaminated Soils in a Planned Storm-Water Treatment Wetland, California <b>By: F.O. Onipede* and M.W. Beutel</b>
16	Development and Optimization of a Novel Reactor for Remediating Acid Mine Drainage Using Natural Substrates <b>By: D.T. Maiga, A. Tshikovhi, T.T. Phadi, L.L. Sibali, and T.A.M. Msagati</b>
17	Effect of Fermentation Conditions on the Performance of Microbial Cellulose Membranes for Filtration Applications <b>By: A. Raychaudhuri* and K. Ganesan</b>
18	Rare Earth Element Occurrences in Acidic Mine Drainage in Montana <b>By: M. Vitale* and J. Quarels</b>

\* Denotes Student



## Join us for the Annual Poster Session Social!

Students will present their research posters and network with other academic and business professionals! There will be food, beverages, and a full bar.

## Technical Sessions – Wednesday, June 4, 2025 (Morning)

Time	SESSION 7A PASSIVE WATER TREATMENT Room Copper 1	SESSION 7B GEOMORPHIC RECLAMATION Room Copper 2	SESSION 7C WETLANDS & WILLOWS Room Copper 3	
8:30 - 9:00 am	Case Study: Design and Implementation of the Dream Mountain Passive Treatment System - Northern WV <b>Cody Neely, BioMost</b>	Geomorphic Reclamation of the Abandoned McIntosh Uranium Open Pit Mine <b>Harold Hutson, BRS</b>	Using Hydrology, Water Quality, Soils, and Vegetation to Evaluate Wetland Condition and Effects on Trace Metals in Natural and Treatment Wetlands in the Tar Creek Watershed <b>Sam Taylor*, University of Oklahoma</b>	
9:00 - 9:30 am	Performance of a Passive Treatment System over 30 Years in Tennessee <b>Terry Schmidt, EARTHRES</b>	Sustainable Soil Erosion and Sediment Control in Surface Coal Mines, USA Semi-Arid Environment <b>Anna Krzyszowska, Environmental Consulting</b>	Hydrologic Controls on Nutrient Retention in a Restored Wetland <b>Emily Fox* and Dupe Oluwesesan*, Ohio University</b>	
9:30 - 10:00 am	Comparison of Pollutant Removal Rates for Three Limestone-Only Autoflushing Vertical Flow Ponds <b>Kelsea Green, BioMost</b>	North Culbertson Mine Reclamation: Historic Coal Mine Subsidence and Erosion Mitigation through Geomorphic Design, GPS Machine-Controlled Equipment, and Native Species Revegetation <b>Kyle L. Johnson, P.E., Herrera Environmental Consultants</b>	Investigating the Phytoextraction Potential and Metals Uptake for Willow Species in the Rocky Mountains <b>Johannes Chandler*, Montana Tech</b>	
<b>10:00 - 10:30 am – BREAK – KING BALLROOM AND EXHIBIT AREA</b>				
Time	SESSION 8A AMENDMENTS & BIOSOLIDS Room Copper 1	SESSION 8B WYOMING RECLAMATION Room Copper 2	SESSION 8C WATERFOWL, ETC. Room Copper 3	SESSION 8D SITE CHARACTERIZATION King Ballroom
10:30 - 11:00 am	Effect of Organic and Inorganic Soil Amendments on Zinc and Lead Availability in Soils Affected by Historic Mining Activities <b>Chris Baxter, University of Wisconsin-Platteville</b>	Mitigation of the UPCC Rock Springs Nos. 3, 4, 7, and 8 Mines Below Interstate 80 <b>Ryan Reed, BRS</b>	Waterfowl Protection at the Berkeley Pit <b>Stella Capoccia, Montana Tech</b>	Transport, Fate, and Exposure to Selenium from the Elk Valley British Columbia, Canada Coal Mines into Ecosystems of the Upper Columbia River Basin, United States <b>Travis Schmidt, USGS</b>
11:00 - 11:30 am	Testing Soil Amendments to Reduce Lead Bioaccessibility at Bench- and Field-Scale <b>Molly McDermott, Ramboll Americas Engineering Solutions</b>	Lessons Learned from over 400 Years of Practitioner Experience in Wyoming <b>Michael F. Curran, Abnova Ecological Solutions</b>	The Use of Waterfowl Nesting Structures in Remediated Areas as an Educational and Research Tool <b>Mark Mariano, Montana Wetlands and Waterfowl</b>	Post-Wildfire Site Restoration in Steep Slope Terrain <b>Dale Evans, IDR</b>
11:30 am - 12:00 pm	Mine Soil Reconstruction Protocols to Improve Internal Drainage and Plant Growth in Reclaimed Coastal Plain Mine Soils in Virginia <b>W. Lee Daniels, Virginia Tech</b>	Final Pit Backfill and Spoil Regrade using a Dragline and Dozer <b>Allen Wellborn, Navajo Transitional Energy Company</b>	Arbuscular mycorrhizal fungi combined with biosolid/biochar sustained phytostabilization and enhanced soil properties of mine tailings <b>Mariam Al-Lami, Missouri University of Science and Technology</b>	High Resolution Stormwater Monitoring: Study Design, Outcomes, and Lessons Learned from Contrasting Three Hydrologic Studies in the Western United States <b>Joseph Gilbert, CDM Smith</b>
<b>12:00 – 1:30 pm – STUDENT AWARDS LUNCHEON – KING BALLROOM</b>				

\* Denotes Student

## Technical Session – Wednesday, June 4, 2025 (Afternoon)

Time	SESSION 9A APPALACHIAN RECLAMATION & RESTORATION Room Copper 1	SESSION 9B REMOTE SENSING/GIS Room Copper 2	SESSION 9C MODELING Room Copper 3
1:30 - 2:00 pm	Tetra Tech Abandoned Mine Land Reclamation Projects in the Appalachian and Mid-Centent Regions <b>Eric Cavazza, Tetra Tech</b>	Using Remotely Sensed Imagery to Characterize the Historic Bentonite Mining Area Near Belle Fourche, South Dakota, to Develop an Ecological Restoration <b>Patrick Kozak, South Dakota School of Mines</b>	Optimizing Water Management at North Mara Gold Mine: Strategic Response to Excess Water Accumulation on the Tailings Storage Facility <b>Andre van Coller, Digby Wells Environmental</b>
2:00 - 2:30 pm	A Landscape-Scale Assessment of Mining and Restoration Activities in the Appalachian Region <b>Michael O'Donnell, USGS</b>	CDM Smith Sky Wave Remote Sensing and Machine Learning Technologies for Site Investigations and Monitoring <b>Devin Wilson, CDM Smith</b>	Predicting Settling Pond Hydrology and Chemistry from Extreme Weather and Operations using GoldSim <b>Kevin Wright, Trihydro</b>
2:30 - 3:00 pm	Long-Term (10-Year) Effects of Mine Spoil Weathering on Leachate Quality <b>Sara Klopff, Virginia Tech</b>	Use of Digital Technologies and GIS to Improve Reclamation Monitoring and Reporting <b>Zach Farmer, Abnova Ecological Solutions</b>	Reducing Design Uncertainty with Comparative Numerical Groundwater Modeling at a Former Smelter Site <b>Ross Monasmith, Pioneer Technical Services</b>
3:00 – 3:30 pm – BREAK – KING BALLROOM AND EXHIBIT AREA <i>Sponsored by O'Keefe Drilling</i>			
Time	SESSION 10A INTERNATIONAL PERSPECTIVES Room Copper 1	SESSION 10B WATER AML ISSUES Room Copper 2	SESSION 4A TECHNOLOGY ROUNDUP 1 Room Copper 1
3:30 - 4:00 pm	Turning Polluting Mine Wastes into Earth Materials - A Nature-Based Approach to Achieve Sustainable Ecological Rehabilitation <b>Longbin Huang, University of Queensland</b>	Insights and Lessons Learned from Launching New Mine Land Reforestation Program <b>Kaela Walton-Sather, Cumberland River Compact</b>	Quantifying the Number of Abandoned Mine Gestures in the United States: Progress and Complications <b>Jeff Mauk, USGS</b>
4:00 - 4:30 pm	Assessment of Mining Activities Impacts on Ecosystem Services: A Case Study <b>Mao Zhen, School of Environment and Spatial Informatics, China University of Mining and Technology</b>	Status of Abandoned Mine Lands Managed by the BLM Butte Field Office, Southwest Montana <b>Amanda Rossi, Bureau of Land Management</b>	Developing a Mine-Focused Risk Layer for the Conterminous U.S. <b>Brennon Peterson, USGS</b>
4:30 - 5:00 pm	The Potential for Peatland Reclamation in the Smelter-Impacted Landscape of Sudbury, Ontario <b>Dr. Peter Beckett, Laurentian University</b>	Evaluation of Legacy Gold Mining in South Carolina <b>Dr. Gwen Geidel, School of the Earth, Ocean and Environment, University of South Carolina</b>	Artificial Intelligence - A Primer and Potential Applications to Land Reclamation <b>Y.M. Kanouff, JC2 Ventures Michael F. Curran, Abnova Ecological Solutions</b>
6:00 – 9:00 pm – EARLY CAREER PROFESSIONALS SOCIAL – MONTANA TECH STUDENT SUCCESS CENTER			





# ASRS

