



Ruckelshaus Institute
of Environment and
Natural Resources

Energy Resources and Produced Water Conference - Agenda

Hosted by the University of Wyoming's Ruckelshaus Institute and School
of Energy Resources

Tuesday, May 25, 2010

8:00 - 8:15 a.m.

- Welcome: Introductions, and Conference Overview - Mark Northam, Director, School of Energy Resources and Indy Burke, Director, Environment and Natural Resources Program
- Produced Water - Nuisance Byproduct or Valuable Resource? - John Veil, Water Policy Program Manager, Argonne National Laboratory, Washington D.C.

9:30-10:00 a.m.

- Produced Water: Waste or Resource? - Laurie Heath, Trihydro Corporation, Laramie, WY
- Assessment of Coalbed Natural Gas Active Well Migration in Wyoming's Powder River Basin: Implications for Adaptive Management - Scott Miller, University of Wyoming, Laramie, WY
- Effects of Coalbed Methane Product Water on Winter Flow in the Powder River - Edward Kempema, University of Wyoming, Laramie, WY

10:00-10:30 a.m.

- Beneficial Use of Produced Water - More Energy and More Water - David Stewart, Produced Water Development, LLC, Fort Collins, CO
- Discharge Permitting of Produced Water in Wyoming - Bill DiRienzo, Wyoming Department of Environmental Quality, Cheyenne, WY
- Trends in Storm Discharge Chemistry in Ephemeral Drainages of the Powder River Basin Coalbed Natural Gas Development Region, WY during 2001 through 2009 Water Years - Frank Sanders, InterTech Environmental and Engineering, LLC, Laramie, WY

10:30-11:00 a.m.

- Utilization Potential of Coalbed Methane Produced Water: Assessment of Water Quality - Katherine Dahm, Colorado School of Mines, Golden, CO
- Development of a Coalbed Methane Permitting Strategy: A Collaborative Decision Process for a Protracted Dispute - Steven Smutko, University of Wyoming, Laramie, WY
- Analysis of Runoff from Plains Streams in the Powder River Basin, Wyoming - Hugh W. Lowham, Lowham-Walsh E&E, Lander, WY

11:00-11:30 a.m.

- Coalbed Natural Gas Produced Water: Geochemistry, Water Quality, and Beneficial Use - KJ Reddy, University of Wyoming, Laramie, WY
- Agricultural Use Protection Policy in Wyoming: The Path Forward - Steve Jones, Wyoming Outdoor Council, Lander, WY
- Effect of Coalbed Methane Produced Water Discharge on Native and Reclaimed Stream Channels and Aquifers at Coal Mines in the Powder River Basin - Philip A. Murphree, Peabody Powder River Services, LLC, Gillette, WY

11:30-12:00 noon

- Acidifying Oil and Gas Production Water: The Difference between Using Soil Sulfur, SO₂-Sulfurous Acid and Sulfuric Acid - Terry Gong, Harmon Systems International, LLC, Moraga, CA
- Tradable Permits for Coalbed Methane Produced Water: A Potential Tool for Managing Quantity and Quality Issues in the Powder River Basin - Kristiana Hansen, University of Wyoming, Laramie, WY
- Preliminary Analyses of Produced Water Discharges Below Oil and Gas National Pollutant Discharge Elimination System (NPDES) Permits on the Wind River Indian Reservation - Dean Goggles, Wind River Environmental Quality Commission, Fort Washakie, WY

1:00-1:30 p.m.

- Coalbed Methane Produced Water Management in the Powder River Basin of Wyoming and Montana - Douglas Beagle, EMIT Water Discharge Technology; Exterran Water Solutions, Sheridan, WY
- Regulation of CBM Water in Queensland, Australia - Dave Campin, Dept. of Environment and Natural Resource Management, Queensland, Australia
- Trends in Water Quality in the Middle Powder River during Coalbed Natural Gas Development, 2004-2009 - Karl Taboga, InterTech Environmental & Engineering, LLC, Laramie, WY

1:30-2:00 p.m.

- Electrical Power from an Oil Production Water Waste Stream - Lyle Johnson, US Department of Energy, Rocky Mountain Oilfield Testing Center, Casper, WY
- Legal and Regulatory Water Issues Associated with Carbon Sequestration - Jessica Frint, University of Wyoming, Laramie, WY

- Water Quality Standards for the Powder River: Identification of Appropriate Technical and Scientific Data - Carol D. Frost, University of Wyoming, Laramie, WY

2:00-2:30 p.m.

- Coalbed Natural Gas Produced Water Treatment by Reverse Osmosis, Nanofiltration, and Ultrafiltration: Pilot Study Summary from the San Juan Basin - Malynda Cappelle, University of Texas, El Paso, TX
- Regional Carbon Sequestration Partnership: Water Working Group Travis McLing, Idaho National Laboratory, Idaho Falls, ID
- Using a Bayesian Statistical Model to Determine the Amount of Coalbed Natural Gas Co-produced Water in the Powder River, WY and MT - Jason M. Mailloux, University of Wyoming, Laramie, WY

3:00-3:30 p.m.

- Produced Water Treatment on the Pinedale Anticline - Lisa Dawn Cox, University of Wyoming, Laramie, WY
- Development of Methods for Determining the Suitability of Ephemeral Streams for Produced Water Discharges - Garret A. Veloski, US Department of Energy, National Energy Technology Laboratory, Pittsburgh, PA.

3:30-4:00 p.m.

- Integrated Treatment for Removing Oil and Oil Sheen in Produced and Flowback Water - Chia-Jung Cheng, University of Utah, Salt Lake City, UT
- Development of Assessment Methods in Support of US Geological Survey Integrated Science - Wyoming Landscape Conservation Initiative - Robert McDougal, US Geological Survey, Denver, CO

4:00-4:30 p.m.

- Conserving CBM Produced Water for Future Generations (While Lowering Water Management Costs) - Tim Barritt, Big Cat Energy Corporation, Upton, WY
- Computer Simulation of Soil Processes in Subsurface Drip Irrigation Fields Receiving Coalbed Natural Gas Produced Waters - Carleton R. Bern, US Geological Survey, Denver, CO.

Wednesday, May 26, 2010**8:00 - 8:30 a.m.**

- Development of a System Model of Methods, Processes, and Cost Analysis for Treatment of Water Produced During Geologic Sequestration - Enid "Jeri" Sullivan, Los Alamos National Laboratory, Los Alamos, NM
- A Water Well Industry Perspective on Issues Related to Oil and Gas Extraction - Andrew Stone, American Ground Water Trust, Concord, NH

8:30 - 9:00 a.m.

- Characterization and Treatment of Produced Water Generated from Oil and Gas Production Wells - Ismail Koyuncu, Istanbul Technical University, Maslak Istanbul
- Groundwater Impacts after 10 years of Coalbed Natural Gas Development in the Powder River Basin, MT: How Monitoring Data Compares to Numerical Modeling Efforts - Elizabeth Meredith, MT Bureau of Mines and Geology, Billings, MT

9:00 - 9:30 a.m.

- Coalbed Methane Produced Water Use: Application of Coalbed Methane Water to Oil Recovery by Low-Salinity Waterflooding - Xina Xie and Hui Pu, University of Wyoming, Laramie, WY
- A Geologic and Hydrochemical Investigation of the Suitability of Central Utah's Navajo Sandstone for the Disposal of Saline Process Water - Thomas E. Lachmar, Utah State University, Logan, UT

9:30 - 10:00 a.m.

- High Density Polyethylene Lined Produced Water Evaporation Ponds - Neil Nowak, Weaver Boos Consultants, Greenwood Village, CO
- Five Year Data Review of Groundwater Monitoring Requirements Associated with CBNG Produced Water Impoundments - Carrie Steinhorst, WY Department of Environmental Quality, Sheridan, WY

10:30 - 11:00 a.m.

- Salons C and D: Produced Water Treatment/Use (Session Moderator: Travis McLing)
 - Overview of National Energy Technology Laboratory Environmental Oil and Gas Research in the Powder River Basin, WY Richard W. Hammack, US Department of Energy, National Energy Technology Laboratory, Pittsburgh, PA
 - Groundwater Monitoring in the Vicinity of Skewed Reservoir, an Impoundment for Coalbed Natural Gas Produced Water,

Powder River Basin, WY - Richard W. Healy, US Geological Survey, Lakewood, CO.

11:00 - 11:30 a.m.

- Salons C and D: Produced Water Treatment/Use (Session Moderator: Travis McLing)
 - Subsurface Drip Irrigation Using Coalbed Methane Produced Waters: Soil Water and Groundwater Responses During the First Year of Operation - Mark Engle, US Geological Survey, Reston, VA.
 - Electrical Geophysical Studies of the Skewed Reservoir Site, Johnson County, WY - Bruce D. Smith, US Geological Survey, Lakewood, CO

11:30 - 12:00 noon

- Application of Geophysical Surveys for Characterizing Near Surface Electromagnetic Properties for the Design and Operation of a Subsurface Drip Irrigation System - Bruce Smith and James Sams, US Department of Energy, National Energy Technology Laboratory, Pittsburgh, PA
- Isotopic Analysis of Atlantic Rim Waters, Carbon County, WY: A New Tool for Characterizing Coalbed Natural Gas Systems - Fred McLaughlin, WY State Geological Survey, Laramie, WY.

1:00 - 1:30 p.m.

- Hydrogen Injection for Restoring Groundwater at a Uranium In-situ Recovery Mining Site - Lee Clapp, Texas A&M University, Kingsville, TX

- Management of Oil Field Wastewater Disposal Facilities to Minimize Threats to Migratory Birds - Pedro "Pete" Ramirez, US Fish and Wildlife Service, Cheyenne, WY

1:30 - 2:00 p.m.

- The Riverton Uranium Mill Tailings Remedial Action (UMTRA) Site on the Wind River Reservation, Wyoming - Travis Shakespeare and Dean Goggles, Wind River Environmental Quality Commission, Fort Washakie, WY
- The Potential Effects of Sodium Bicarbonate, a Major Constituent of Produced Waters from Coalbed Natural Gas Production on Aquatic Life - Aida Farag, US Geological Survey, Jackson, WY.

2:30 - 3:00 p.m.

- Mapping Small Water Bodies in the Powder River Basin Using Satellite Images Scott Miller, University of Wyoming, Laramie, WY
- Toxicity Identification Evaluation Studies to Determine the Cause of Laboratory Whole Effluent Toxicity to *Ceriodaphnia dubia* from Produced Water - David Pillard, AECOM Technical Services, Inc., Fort Collins, CO

3:00 - 3:30 p.m.

- GIS: Ground Water Data Management and Analysis - Jim Vanderweide, Trihydro Corporation, Laramie, WY
- Do Discharges of Coalbed Natural Gas Water Cause Impacts to Benthic Life in the Tongue River, MT? - Benjamin Parkhurst, HAF, Inc., Centennial, WY

3:45 - 4:45 p.m.

- Grand Ballroom (Salons A-E): Plenary Session - Media Panel
 - Is Energy Produced Water on the Public Agenda? Moderated by journalist Daniel Glick. Panelists include Bob Beck, Wyoming Public Radio; Dustin Bleizeffer, Casper Star Tribune; Mead Gruver, Associated Press; and Allen Best, freelance writer.