

Technical Program

Monday, June 27 – Oral: 8-11:45 a.m.

8:00 T. Anderson: Conference Welcome and Opening Remarks

Niobrara Plenary Session I

Chairmen: Gus Gustason & Marshall Deacon

Location: Grand Ballroom BC

- 8:30 **E.R. Gustason:** Introduction to the Niobrara Petroleum System of the Rockies
- 8:55 **S. Sonnenberg:** The Niobrara Petroleum System, a Major Tight Resource Play in the Rocky Mountain Region
- 9:20 **B. Sageman, R. Locklair, S. Meyers, B. Singer:** Improvements in the Regional Chronostratigraphic Framework of the Niobrara Formation
- 9:45 **B. Luneau, M. Longman, P. Kaufman:** Stratigraphy and petrophysical characteristics of the Niobrara Formation in the Denver Basin, Colorado and Wyoming
- 10:10 BREAK
- 10:30 **C. Laughrey:** Lithofacies, Organic Facies and Thermal Maturity Relationships in the Upper Cretaceous Niobrara Formation, Rocky Mountain Region, USA
- 10:55 **E.R. Gustason:** Impact of Foreland Basin Tectonics on Submarine Erosion and Sediment Dispersal Patterns, Turonian to Coniacian Strata, Wyoming, Colorado and New Mexico
- 11:20 **E.A. Erslev:** Predicting Natural Fracture Patterns in Unconventional Resource Plays: New Insights from Rocky Mountain Tectonics

Monday, June 27 – Oral: 1:30-4:45 p.m.

Niobrara Plenary Session II

Chairmen: Gus Gustason & Marshall Deacon

Location: Grand Ballroom BC

- 1:30 **J. Lorenz, S.P. Cooper:** Fractured Reservoirs, Fractured Niobrara
- 1:55 **S. Sturm:** The Role of Expulsion Fracturing on the Redistribution of Reservoir Pressure in Niobrara Shale Gas Reservoirs
- 2:20 **J. Sitchler, S. Higgins-Borchardt, T. Bratton, P. Kaufman:** Meeting the Demand for Geomechanics Insight and Strategy in the DJ Basin
- 2:45 **M. Deacon, P. McKay:** Optimized Approaches to Drilling and Completing Horizontal Wells in the Niobrara Formation, Denver Basin
- 3:10 BREAK
- 3:30 **S. Sonnenberg:** Petroleum Geology of the Niobrara Formation, Silo Field, Wyoming
- 3:55 **S.G. Siguaw, J.E. Estes-Jackson:** Fault Patterns in the Niobrara Formation—Examples from the Eastern and Central DJ Basin
- 4:20 **A. Maldonado, M. Batzle, S. Sonnenberg:** Mechanical Properties of the Niobrara Formation, Rocky Mountain Region, USA

Tuesday, June 28 – Oral: 8:15-11:20 a.m.

CO2 EOR and Sequestration I

Chairmen: Erin Campbell-Stone & Mark Tomasso

Location: Grand Ballroom B

- 8:15 Introduction & Opening Remarks
- 8:20 **M.L. Buursink, J.A. Covault, H. Jahediesfanjani:** Geologic Carbon Dioxide Sequestration Column Height Sensitivity Analysis
- 8:40 **G. Thyne, M. Tomasso, B. Reyes, S. Bywater-Reyes, D. Budd:** Characterization of petrophysical properties for CO2 sequestration models in the Mississippian Madison Group, Moxa Arch-La Barge Platform, southwestern Wyoming.
- 9:00 **J. Braunberger, J.M. Bremer, G. Liu, C. Gorecki, W. Peck, E.N. Steadman, J. Harju:** Characterization and Modeling Using Macrofacies and Microfacies Intervals of the Midale and Rival “Nesson” Beds in the Mississippian Madison Group, Burke County, North Dakota
- 9:20 **L.J. Spaeth, C.D. Frost, E.A. Campbell-Stone, R. Lynds:** Analysis of Permo-Triassic Formations as Potential Confining Systems for CO2 Sequestration in Wyoming



- 9:40 **J.M. Bremer, C.D. Lindeman, B.W. Huffman, B.A. Mibeck, D.J. Miller, C. Gorecki, S. Smith, E.N. Steadman, J. Harju:** Laboratory Analysis of Newcastle/Muddy Outcrop Samples as Analogs to Bell Creek Field, Powder River County, Montana
- 10:00 BREAK
- 10:20 **E.N. Steadman, J. Harju, L. Botnen, D. Daly, C. Gorecki, M. Jensen, W. Peck, S. Smith, J. Sorensen, K. Anagnost:** The Plains CO₂ Reduction (PCOR) Partnership: Demonstrating Carbon Management Options for the Central Interior of North America
- 10:40 **J.D. Myers, R. Kirkwood, A. Buss:** Reviewing National and Wyoming Efforts to Create CCS Legal and Regulatory Frameworks
- 11:00 **M.D. Merrill, M.S. Blondes, S.T. Brennan, M.L. Buursink, W.H. Craddock, J.A. Covault, C.A. DeVera, P.A. Freeman, M.A. Gosai, C.D. Lohr, J.C. Mars, E.R. Slucher, P.D. Warwick, R.M. Drake II:** USGS Carbon Dioxide Storage Resource Assessment – Application in the Rocky Mountain Basins of Wyoming

EMD Including Geothermal, Uranium and Coal, Completions and Engineering Economics & Fractured Shale Plays

Chairmen: David Hawk & Mark Doelger

Location: Grand Ballroom C

- 8:15 Introduction & Opening Remarks
- 8:20 **D. Hawk:** When They Are Buying, I Shouldn't Be Selling
- 8:40 **R. Koepsell, R. Dodd, T. Bratton:** Understanding Local Differential Stress and the Implication on Horizontal Well Completion Design
- 9:00 **M. Vincent:** Five Things I Wish a Geologist Had Taught Me – Confessions of a Frac Engineer
- 9:20 **F.J. Anderson, C.B. Gudmunsen, B.N. Hall, A.J. Ries, A.R. Christensen, B.J. Bubach:** Exploration for Shallow Natural Gas in North Dakota by FID Field Screening of Ground-Water Wells
- 9:40 **P. Morgan, J. Willingham:** Locating the Source of Heat for Waunita Hot Springs, Colorado
- 10:00 BREAK
- 10:20 **T.J. Rohrbacher:** CoalVal Updated: Mine Cost Models for Surface and Underground Mining
- 10:40 **F. Dirgantara, M. Batzle, M. Prasad, J. Curtis:** Ultrasonic Velocities and Anisotropy of Coal
- 11:00 **S. Sibray:** Sequence Stratigraphy and Paleopedology: New Tools for Exploring for Sandstone Uranium Deposits

Tuesday, June 28 – Oral: 1:30-4:55 p.m.

CO₂ EOR and Sequestration II

Chairmen: Erin Campbell-Stone & Mark Tomasso

Location: Grand Ballroom B

- 1:50 Introduction & Opening Remarks
- 1:55 **A. Buss, J.D. Myers, R. Kirkwood, J. Nelson:** The Wyoming Well Atlas: Visualizing the Wyoming Hydrocarbon Landscape
- 2:15 **R. Kirkwood, J.D. Myers, A. Buss:** Characterization of the Moxa Arch for Geological Carbon Sequestration: Assembling Well Data and Assessing Spatial Locations
- 2:35 **M.S. Blondes, M.A. Gosai:** An expanded Wyoming water quality database
- 2:55 **D.A. Wavrek, P. Pahnke:** Genetic Origins of Naturally-Occurring Carbon Dioxide in the Rocky Mountain Region, USA
- 3:15 BREAK
- 3:35 **H.B. Lynn, D.R. Lageson:** Fluid Migration Through Thrusts of the Stewart Peak Culmination
- 3:55 **W. Treadway, D.R. Lageson, H.B. Lynn:** Fracture Analysis and Geological Characterization of a “Leaky” CO₂ System in the Rocky Mountain Foreland
- 4:15 **B.C. Diem, E.A. Campbell-Stone, E.A. Erslev:** Evaluation of Faulting Mechanisms by Fracture Analysis of Normal Faults Exposed on the Rock Springs uplift, SW Wyoming

Evaluation of Unconventional Plays, Producing Fields & Seismic Imaging of Unconventional Reservoirs

Chairmen: Steve Goolsby & Steve Sonnenberg

Location: Grand Ballroom C

- 1:30 Introduction & Opening Remarks
- 1:35 **P.H. Nelson, S.L. Santus:** Fluid Production Characteristics of Tight-gas Sandstone Reservoirs, Wyoming, Colorado, and Utah
- 1:55 **D. Seneshen, J.V. Fontana:** The Surface Geochemical Expression of the Jonah Gas Field, Sublette County, Wyoming



- 2:15 **R. Harris, J. Tinnin:** North American case study demonstrates the ability of 3-D/3-C seismic data in predicting the petro physical properties of shale
- 2:35 **C.D. Morgan, S. Carney, R. Ressetar, G. Waanders:** Palynomorph Age and Thermal Alteration of the Mississippian Manning Canyon Shale and Doughnut Formation – Implications for Paleozoic Shale-Gas Potential of Western and Central Utah
- 2:55 **S. Schamel:** Manning Canyon Shale: Depositional Setting of an Emerging Gas Resource Play in Utah
- 3:15 BREAK
- 3:35 **S. Sonnenberg:** The Unconventional Three Forks Formation of Williston Basin, USA
- 3:55 **J.B. Jennings:** Economics of the Bakken/Three Forks Play and a Comparison to Older More Traditional Plays in North Dakota
- 4:15 **R. Brinkerhoff:** Finding New Reserves in Old Fields by Recognizing Bypassed Pay; Mesaverde Production in the Trail Field of the Green River Basin, Sweetwater Co, WY
- 4:35 **M.P. Carlson, W. Sydow:** Production History and Exploration Potential in Western Nebraska

Wednesday, June 29 – Oral: 8:15-11:40 a.m.

Legal and Surface Issues Affecting Current Oil and Gas Operations

Chairmen: Tyler Vanderhoff & Shay Westbrook

Location: Grand Ballroom C

- 8:15 Introduction & Opening Remarks
- 8:20 **S. Westbrook:** Current Regulatory Issues Affecting Oil and Gas Development in Wyoming
- 8:40 **R.C. Taylor:** Wildlife Management Issues Currently Affecting Oil and Gas Operations in Wyoming
- 9:00 **J. Zapert:** Air Quality Issues Influencing Oil and Gas Projects in the Intermountain West
- 9:20 **J.R. Barnes:** Water Availability In Southeast Wyoming
- 9:40 **K. Frederick** (for J. Wagner): Current Water Quality Issues Affecting Oil and Gas Operations in Wyoming
- 10:00 BREAK
- 10:20 **A. Weber:** Hydraulic Fracturing - the Legal Framework
- 10:40 **M. Watson** (for T. Doll): Well Stimulation: Wyoming Oil & Gas Conservation Commission Rules & Regulations
- 11:00 **K. Sgamma:** Wilderness and Public Lands Policies: The Promise of Multiple Use in the West
- 11:20 **J.V. Fontana, D. Seneshen:** Preparing for and Handling Common Complaints by Private Water Well Owners Related to Coal Bed Methane, Shale Gas and Other Unconventional Development Programs

Structure of Rocky Mountain Basins and Arches

Chairmen: Scott Cooper & Eric Erslev

Location: Wyoming Ballroom

- 8:15 Introduction & Opening Remarks
- 8:20 **S. Gay:** Basement Control of Some Large Structural Fields in the Rockies: Salt Creek, Madden, Rangeley, Oregon Basin and Pinedale
- 8:40 **M.L. Pinnell, G. Wood, F.C. Moulton, N. Holden:** Giant Oil and Gas Fields Of The Central Utah Hingeline-Overthrust: Reservoired In Mississippian Carbonate Rocks?
- 9:00 **J. Cole, J. Workman, M. Pantea, M. Dechesne, P. Cashman:** Multi-stage Laramide Deformation in the Colorado Headwaters Basin (North Park-Middle Park), Colorado
- 9:20 **J.C. Lorenz, S.P. Cooper:** Fracture Patterns within the Tensleep Formation over a Spectrum of Laramide-age Thrust Structures, Wyoming
- 9:40 **P. Hennings, L.E. Kennedy, E.A. Erslev:** Determining the origin of structural variability in the easternmost Wind River Basin using fracture analysis and 3D restoration
- 10:00 BREAK
- 10:20 **A.L. Lisenbee, A. Garraffa, F. Sawyer, A. Clift, I. Stevanovic-Walls, L. Chasten, C. Jenkins:** Structural Characteristics of the Powder River Basin-Big Horn Uplift Margin
- 10:40 **K. Aydinian, E.A. Erslev:** Distributed strike-slip faulting in the northern Bighorn Arch—a zone of distributed tear at the northern edge of the Laramide Orogen?
- 11:20 **E.A. Erslev, D.U. Wise, S.M. Smaltz:** Dual-Stage Deformation in Laramide Basement-Involved Foreland Arches



Wednesday, June 29 – Oral: 1:30-4:55 p.m.

Sedimentology and Stratigraphy of Rocky Mountain Basins

Chairmen: Mike Borah & Ralph Specht

Location: Wyoming Ballroom

- 1:30 Introduction & Opening Remarks
- 1:35 **P.W. Reiners, C.A. Riihimaki, E.L. Heffern:** Dating Cenozoic Erosional Events in the Powder River Basin Using Evidence from Natural Coal Fires
- 1:55 **R.M. Carter, J. Hauer, J. Staub, M.H. Hofmann, M.S. Hendrix:** Architectural analyses of laterally-accreting paleoforms in the Cretaceous Eagle Formation, south-central Montana
- 2:15 **M.P. Deshowitz:** An Earthquake-Induced Flash Flood Event within the Early Jurassic Navajo Sandstone, White Pocket, Vermillion Cliffs National Monument, Arizona
- 2:35 **K.J. Miskell-Gerhardt:** Outcrop Gamma Ray Response to Depositional Facies in the Honaker Trail Formation, Durango, Colorado
- 2:55 BREAK
- 3:35 **R. Cole, M.J. Pranter:** Coastal- and Alluvial-Plain Architectural Elements of the Upper Cretaceous Williams Fork Formation, Southeast Piceance Basin, Colorado: Outcrop Analogs for Subsurface Reservoir Characterization
- 3:55 **J.A. Thompson, D.S. Anderson:** Fluvial-Tidal Sandbody Relationships in the “Nonmarine” Iles Formation near Rangely, CO
- 4:15 **M. Dechesne, J. Cole, M. Pantea:** Preliminary Structure Maps and Cross Sections of North and Middle Park, Colorado
- 4:35 **R.W. Tillman:** The Shannon Sandstone

Monday & Tuesday, June 27-28 – 8 a.m.-5p.m.

Poster Session

Location: Teton Room

- **P.S. Kaufman, S. Alatrach:** Reservoir Characterization of the Niobrara Using High-Tier Wireline Logs
- **E.L. Heffern, P.W. Reiners, C.A. Riihimaki:** Clinker Distribution and Age in the Powder River Basin
- **P.H. Cuba, J.L. Miskimins, M.M. Carr, D.S. Anderson:** Impacts of Diverse Fluvial Depositional Environments on Hydraulic Fracture Growth in Tight Gas Reservoirs
- **P. Yin, S. Wo, G. Murrell, D. Mohrbacher, L. Whitman:** ROZ Potential of Tensleep Reservoirs, Bighorn Basin
- **B. Herber, P. Weimer, R. Bouroullec, R. Barton, W. Hammon, G. Dorn, C. Huang, S. Jiang:** 3D Interpretation of a Meteorite Impact Field, Red Wing Creek Field, Williston Basin, western North Dakota
- **M. Vanden Berg, S. Carney, C.D. Morgan, D. Lehle:** Stratigraphic Characterization of the Birds Nest Aquifer in the Uinta Basin, Utah: Updated Research Regarding the Aquifer’s Potential as a Significant Saline Water Disposal Zone
- **L. Anna:** West-East Transect of Cretaceous Rocks, central Rocky Mountains to east-central Great Plains, Utah, Colorado, and Kansas
- **P.K. Mescher, D.J. Schultz:** Evidence for a Widespread Tsunami Deposit Within the Upper Devonian Three Forks Formation of North Dakota and Montana - A Possible Impact-Related Event
- **C.S. Alexandre, S. Sonnenberg, J. Sarg:** Reservoir Characterization of the Bakken Formation in Elm Coulee Field, Richland County, MT
- **E. Spangler, J. Hauer, J. Staub, M. Hofmann, M. Hendrix:** Deltaic Sandstones in the Upper Cretaceous Eagle Formation: South Central Montana
- **M. Billingsley, S. Sonnenberg, T. Davis:** Mechanical Stratigraphy of the Bakken Formation: Influence on Fracture-Controlled Production, Williston Basin, Mountrail County, North Dakota
- **Y. Holubnyak, S. Smith, J. Sorensen, E.N. Steadman, J. Harju:** Geochemical Modeling of Acid Gas (H₂S and CO₂) EOR/Storage at Zama, Alberta, Canada
- **D.J. Knudsen, S. Smith, J. Sorensen, C. Gorecki, E.N. Steadman, J. Harju:** Characterization and Modeling of an EOR, H₂S Disposal, and CO₂ Storage Project in the Zama Sub-basin, Northern Alberta, Canada
- **Y. Holubnyak, B.A. Mibeck, J.M. Bremer, S. Smith, J. Sorensen, E.N. Steadman, J. Harju:** 3-D Geochemical Modeling of CO₂-Based Huff ‘N’ Puff Oil Recovery at the Northwest McGregor Oil Field

