



# 2023 PERMIAN BASIN WATER IN ENERGY CONFERENCE - FINAL AGENDA

**WEDNESDAY - March 1, 2023**

**7:30 AM: Check-In & Breakfast begin at Midland County Horseshoe Arena**

**8:30 AM: Welcome**

**Sandy Woodley, Ph.D.**, President, The University of Texas Permian Basin  
**Richard Brantley**, Senior Vice President of Operations, University Lands; and 2023 Board Chairman  
**Enrique Garcia**, Production Manager, XTO Energy  
**Shelby Landgraf**, Director of Community Engagement, The University of Texas Permian Basin

**9:00 AM: “Don’t Mess with Texas: Water Edition” (:45 length)**

**Brooke Paup**, Chairwoman, Texas Water Development Board

*The Texas Water Development Board is the state’s water science, water planning, and water project financing agency. Its mission is to lead the state’s efforts in ensuring a secure water future for Texas and its citizens. It accomplishes this by collecting and disseminating water-related data, coordinating regional water supply and flood planning efforts, and administering low-cost financial programs to construct water infrastructure. Chairwoman Paup will provide an overview of the agency, explain how to get involved in the regional planning process, and describe the various financial assistance options the TWDB offers.*

**9:45 AM: “Partnerships in the Permian: The Evolution of Water Technology & Future Pathways to Commercialization” (1:00 length)**

**Moderator: Zacariah Hildenbrand, Ph.D.**, Research Professor, The University of Texas El Paso

**Michael Dyson**, CEO, Infinity Water Solutions

**Mark Phan**, Permian Commercial Manager, ExxonMobil

**Jon Moeller**, Operations Project Manager, Chevron

**Whitney Dobson**, Vice President of Beneficial Reuse, Aris

**Jason G. Herman**, Program Manager for Ground Water Quality Bureau, New Mexico Environment Department

*The energy industry is on the cusp of game-changing innovation and collaboration. What the industry does with produced water and how it manages the resource of water through the entire process is an immense opportunity for improved stewardship. With the current confluence of drivers, the timing is ripe, and partnerships hold the key. This panel will discuss the history of water technology along with its future and possible pathways to commercialization. Multiple types of water technologies will be needed; various commercial models will be utilized to enable a new value chain and meet end-market demands; and the construction of a transparent regulatory framework will be vital to realizing commercial success. No one part of the network can do it alone, partnerships are paramount across water tech, academia, producers, midstream companies, and regulators.*

**10:45 AM: Break**

**11:00 AM: “Academia, Regulators & Industry Working Together to Address Water Injection Challenges in the Permian Basin” (1:00 length)**

**Moderator: Robert Crain**, Executive Vice President, Texas Pacific Water Resources

**Katie Smye, Ph.D.**, Co-Principal Investigator at Center for Injection and Seismicity Research, UT Bureau of Economic Geology

**Paul Dubois**, Assistant Director of Technical Permitting of Oil & Gas Division, Railroad Commission of Texas

**Stefan Husenoeder**, Geoscience Technology Advisor, ExxonMobil

*Development of unconventional targets in the Permian Basin has resulted in tens of billions of barrels of produced water, most of which is permanently disposed of by injection into non-producing strata. Here we show current research findings on injection reservoir dynamics of shallow and deep injection strata in the Midland and Delaware Basins, including increases in pore pressure, surface deformation, and induced seismicity. We also show examples of academia, industry, and regulators working together to address challenges such as induced seismicity in the Permian Basin region.*

**12:00 PM: Lunch**

**“Water Policy Opportunities & Challenges - State Land Initiatives & Insights from Produced Water Research Consortia of Texas & New Mexico”**

**Moderator: Ben Shepperd**, President, Permian Basin Petroleum Association

**Richard Brantley**, Senior Vice President of Operations, University Lands, and 2023 Board Chairman

**Rusty Smith**, Executive Director, Texas Produced Water Consortium

**Mike Hightower**, Director, New Mexico Produced Water Research Consortium

*The Produced Water Research Consortia of both Texas and New Mexico have specialized knowledge, resources and interests which are unique to each state. This panel will discuss the latest research developments with respect to state water policies and legislative perspectives for the management of produced water.*



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### 1:30 PM: ***“Advanced Treatment of Produced Water for Beneficial Reuse Outside the Oil & Gas Industry” (:45 length)***

**Moderator: Ryan Hall**, Director of Technical Operations, NGL Energy Partners

**Philip Gleckman, Ph.D.**, CEO, SunVapor

**Mike Hightower**, Director, New Mexico Produced Water Research Consortium

**James Rosenblum, Ph.D.**, Research Assistant Professor, Colorado School of Mines

*The session will discuss pending field trials as well as water data collection developments. Dr. Gleckman, CEO of Sunvapor, will discuss their work towards a DOE Solar prize fit for purpose treatment at NGL’s Striker 1 well in New Mexico. Dr. Rosenblum will talk about an upcoming novel treatment technology pilot at an NGL facility in Orla, Texas. Ryan and Mike will discuss developments made in the NMPWRC on establishing a platform for collecting raw and treated water data.*

### 2:15 PM: ***“Opportunities & Challenges: Lithium & Other Critical Mineral Extraction from Permian Produced Water” (:45 length)***

**Moderator: Jake Hendricks**, Senior Director of Business Development, Renovo Resources

**Brady Murphy**, President & CEO, TETRA Technologies

**Scott Conley**, Senior Vice President of Commercialization, EnergyX

**Chris Harich, Ph.D.**, Chief Operating Officer, XRI

*The forthcoming energy transition to a less carbon-intensive society forecasts a long-term growth demand for critical minerals, including Lithium and other rare earth elements. Water produced from oil and gas wells in the Permian Basin has consistently shown to contain these critical minerals, and extraction via DLE and other technologies would facilitate new industry and job creation. This panel will explore the potential opportunities and challenges associated with extracting Lithium and other critical minerals.*

### 3:00 PM: Break

### 3:15 PM: ***“Project PARETO: A Free & Open-Source Produced Water Optimization Framework for Practitioners, Researchers & Students” (:45 length)***

**Miguel A. Zamarripa-Perez, Ph.D.**, Senior Research Engineer & PARETO Development Lead, National Energy Technology Laboratory

*In 2021, the U.S. Department of Energy launched “Project PARETO” ([www.project-pareto.org](http://www.project-pareto.org)), a multi-lab, multi-year initiative dedicated to developing a novel software program, PARETO, to help organizations with produced water management (e.g., transport, treat, store, inject and/or reuse produced water from onshore oil & gas operations. PARETO, which is being released free and open-source via GitHub (<https://github.com/project-pareto>), can help with decisions around: (1) the buildout of produced water infrastructure (e.g., pipelines, trucking hubs, storage facilities, saltwater disposal wells, etc.), (2) the management of produced water volumes, (3) the selection of effective treatment technologies, (4) the placement and sizing of produced water treatment facilities, (5) the identification of beneficial reuse options, and (6) the distribution of treated produced water and/or concentrated brine for beneficial reuse.*

### 4:00 PM: ***“Continuing Education: Ethics in a Changing World” (1:00 length)***

**Max Wright**, Attorney, Shafer, Davis, O’Leary & Stoker, P.C.

**Michele Harmon, Ed.D.**, Senior HR Compliance Consultant, The Energy People Group; and Business Lecturer, The University of Texas Permian Basin

*There is a need for leadership and succession planning to prepare the workforce of today and tomorrow. This session will review several leadership experts and how to lead in an ever-changing world. It will discuss alcoholism and addiction in the workplace and its impact on ethical behavior. A brief summary of the disease of addiction and how problems start and grow will also be included.*

### 5:00 PM: Break / Travel time to Petroleum Club of Midland

### 6:00 PM: Cocktail Hour at Petroleum Club of Midland

### 7:00 PM: Keynote Dinner at Petroleum Club of Midland

***“A Washington Course Correction is Needed for America’s Energy Security”***

**Mike Sommers**, President & CEO, American Petroleum Institute

*The Permian Basin is one of the most strategically critical natural gas and oil producing regions in the world today. The American Petroleum Institute (API) and its allies in the region are focused on legislative and regulatory solutions that will keep Permian oil and natural gas as a pillar of American’s long-range energy strategy while respecting and balancing the impact on other natural resources such as water. In particular, with cooperation from the Biden administration and bipartisan agreement in Congress, passage of meaningful permitting reform legislation will ensure Permian operators can more effectively make, move and improve American energy.*



## 2023 PERMIAN BASIN WATER IN ENERGY CONFERENCE - FINAL AGENDA

**THURSDAY - March 2, 2023**

**7:30 AM: Check-In & Breakfast begin at Midland County Horseshoe Arena**

**8:30 AM: Student Research Poster Competition Awards**

**Becky Spurlock, Ph.D.**, Senior Vice President for Student Affairs and Enrollment Management, The University of Texas Permian Basin

**Steven H. Pruett**, President & CEO, Elevation Resources; and 2023 Board Vice Chair

**Steve Beach, Ph.D.**, Dean, College of Business, The University of Texas Permian Basin

**Richard Brantley**, Senior Vice President of Operations, University Lands; and 2023 Board Chairman

**Shelby Landgraf**, Director of Community Engagement, The University of Texas Permian Basin

**9:00 AM: “Environmental Stewardship & Staying Ahead of the Coming EPA Regulations” (:45 length)**

**Moderator: Steve Beach, Ph.D.**, Dean, College of Business, The University of Texas Permian Basin

**Sam Sledge**, CEO & Director, ProPetro Services

**John Durand**, Vice Chairman, XRI

**Trevor Gleisner**, Supervisor Emissions Control, Diamondback Energy

**Lee Fuller**, Officer of Environment and General Strategy, Independent Petroleum Association of America

*This will be a panel discussion on environmental issues for the energy industry, keeping an eye on how these efforts are being focused through the Environmental, Social, and Governance lens. It will look at encouraging Environmental Stewardship while attending to the bottom line. Challenges and success stories from the panel will be shared related to EPA rules and ESG criteria being used to examine operations in the Energy industry within the Permian Basin.*

**9:45 AM: “Land Application of Produced Water in the Western U.S.” (:45 length)**

**Mike Hightower**, Director, New Mexico Produced Water Research Consortium

*US 40 CFR requires that produced water be treated at a centralized water treatment facility before discharge, except west of the 98th Meridian where it can be used directly for agricultural applications. But there are some nuances in the wording in US 40 CFR that many people overlook. This presentation will discuss some of those legislative nuances, and highlight research studies and land application projects conducted over the past 20 years relative to agricultural and rangeland applications of produced water and the associated water quality and permitting considerations and requirements.*

**10:30 AM: Break**

**10: 45 AM: “Development of Human Health & Environmental Risk Assessment Framework for Beneficial Reuse of Treated Produced Water” (:45 length)**

**Azivy Aziz, Ph.D.**, Environmental Associate, ExxonMobil Biomedical Sciences, Inc.

*Produced water is the largest waste stream by volume from upstream hydrocarbon development. In the United States, an estimated one trillion gallons of produced water is generated annually from onshore oil and gas extraction operations. Beneficial reuse can be a sustainable management strategy for produced water. Beneficial reuse options are currently limited given produced water treatment difficulties, complex compositional mixture of treated produced water, and limited environmental and human health toxicology data of treated produced water. To enable safe and responsible beneficial reuse of treated produced water, we developed a framework to evaluate the hazard and exposure of various produced water beneficial reuse options. It includes a comprehensive analytical testing strategy that can be applied at multiple points along a produced water treatment train. These assessment components are valuable in informing risk management decisions for beneficial reuse of treated produced water moving forward.*

**11:30 AM: “Use of Treated Produced Water for Agriculture Production” (:30 length)**

**Katie Lewis, Ph.D.**, Associate Professor, Texas A&M Agrilife Research

*This presentation will provide an overview of a recent study at Texas A&M AgriLife in which desalinated produced water was evaluated for irrigation of cotton and rye grass. Crop growth and soil dynamics were monitored after irrigating with varying ratios of groundwater (sourced from the Ogallala Aquifer) to treated produced water. No negative effects on crop growth and productivity and soil dynamics were observed.*



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### 12:00 PM: Lunch

***"TCEQ's 2023 Outlook on the EPA, the 88<sup>th</sup> Legislative Session, the Texas Energy Sector & Everything in Between"***

**Emily Lindley**, Commissioner, Texas Commission on Environmental Quality

*Texas Commission on Environmental Quality (TCEQ) Commissioner Emily Lindley has collectively worked at the TCEQ for over 15 years. During her time, Commissioner Lindley has had the privilege of serving in a wide variety of roles ranging from being an agency representative at public meetings to being appointed Commissioner in 2018 and having the honor of representing Texas during international negotiations. However, over the last few years, TCEQ's role within the state and as a national leader in environmental regulation has accelerated. With the beginning of a new year, TCEQ continues to face some familiar dilemmas but also a host of new challenges. During Commissioner Lindley's keynote, she will discuss and describe some of the agency's current hurdles and those on the horizon, most notably the 88th Legislative Session and forthcoming EPA actions. Commissioner Lindley also intends to discuss TCEQ's role with the oil and gas sector. While the Railroad Commission of Texas is the primary state agency tasked with governing oil and gas activities, state and federal law also require TCEQ to have an active role in regulating certain activities associated with the oil and gas sector.*

### 1:30 PM: ***"Looking Over the Horizon: Exploring Potential Outcomes of Non-Oilfield Beneficial Reuse & its Role in Today's Decision Making"*** (:45 length)

**Moderator: Kelly Bennett**, CEO, B3 Insight

**Rick McCurdy**, Vice President of Innovation and Sustainability, Select Energy Services

**Ben Warden**, Water Management Supervisor, Diamondback Energy

**Alan Van Reet**, Senior Operations Manager for Water Management, Pioneer Natural Resources

*Let's assume the hurdles to scale, non-oilfield beneficial reuse are surmounted tomorrow, then what? The industry will have a number of resulting potentialities to consider. What are the economic, ecological, and social implications of the various potential beneficial reuse approaches, what risks may they entail, and how should they fit into today's decision making? Are there analytical frameworks from other industries that could help inform this conversation and be plugged into planning processes today? This panel will discuss those big-picture questions and more.*

### 2:15 PM: ***"Water Management R&D at the Department of Energy Office of Fossil Energy & Carbon Management"*** (:45 length)

**Hichem Hadjeres**, Produced Water Program Manager, U.S. Dept. of Energy Office of Fossil Energy and Carbon Management

*This presentation will provide an overview of the Water Management R&D Program at the Department of Energy Office of Fossil Energy and Carbon Management, including a brief history of the program, as well the research direction and overall mission and vision. It will discuss current projects in the R&D portfolio, key capability areas, R&D infrastructure, as well as tools and resources the program developed that are available to the public. It will also highlight the program's recent work in artificial intelligence and digital platforms.*

### 3:00 PM: Break

### 3:15 PM: ***"Federal Water Case Law Update"*** (:30 length)

**Natasha Martin**, Shareholder, Graves, Dougherty, Hearon & Moody

*This session will take a look at regulatory developments in the wake of court precedents, including developments in federal law on water rights and under the Clean Water Act, water quality challenges and the competing definitions of "Waters of the U.S." (WOTUS).*

### 3:45 PM: ***"Seismicity and Water Liability Update"*** (:45 length)

**Paul Tough**, Partner, McElroy, Sullivan, Miller & Weber, LLP.

**Adam Friedman**, Partner, McElroy, Sullivan, Miller & Weber, LLP.

*This presentation will provide an update on the potential liability associated with seismicity and underground injection, including regulatory action and litigation. This presentation will look at recent action at the Railroad Commission of Texas related to seismicity hearings and discuss potential causes of action related to induced seismicity and underground injection.*

### 4:30 PM: Closing