

4th

WATER MANAGEMENT FOR SHALE PLAYS

HOUSTON

February 25-27, 2013 | Houston Marriott West Loop by the Galleria | Houston, TX

4th Water Management for Shale Plays

Summit Agenda

February 25-27, 2013 | Houston, TX

Tuesday, February 26, 2013

- 8:00-9:00 *Registration & Breakfast*
- 9:00-9:15 *Opening Remarks by Summit Chair*
- 9:15-9:45 *Keynote Address:*
Evolution of Water Management in 2013: A Producer's Perspective
Keynote:
Michael Dunkel, *Director, Sustainable Development, PIONEER RESOURCES*
- 9:45-10:15 *Keynote Address:*
Key Drivers in the Advancement of Water Management for Shale Plays
- What are the key opportunities and challenges with regards to the “life cycle of water” (water sourcing, fluid containment, well pad operations, transportation, and water disposal)?
 - What are the key demand drivers – commodity prices, transportation costs, social license to operate and regulatory changes?
 - Data and analysis benchmarking costs to help plan future budgets and make treatment and disposal decisions
- Presenter:
Marcus Oliver Gay, *Senior Principal Researcher, Research and Analysis – Water, IHS*
- 10:15-10:45 *Networking Break*
- 10:45-11:15 *Presentation:*
Strategies for Managing Water: DIY vs. Outsourcing
- What are the key considerations when comparing an in-house versus outsourcing water management strategy?
 - How should the industry allocate the services to the best suited players during the full oil field water life cycle?
 - What are some of the current strategies employed and current challenges?
- Presenter:
Johan Themaat, *Vice President, Investor Relations and Business Development, HIGH SIERRA ENERGY*

- 11:15-11:45 *Presentation:*
Integrating Sustainable Development Technologies into Your Operation
- Strategies for minimizing your water footprint
 - How can greener technologies combined with the correct frac fluid formulation help reduce the impact on the environment and costs for producers?
- Presenter:
Walter Dale, *Global Business Development Manager- Water Solutions*, HALLIBURTON

Water Sourcing

- 11:45-12:15 *Presentation:*
Maximizing Recovery Rates & Minimizing Demand for Water Needed in Fracturing Operations
- What are the determining factors in choosing the most feasible source of freshwater for fracturing? How do you develop a systematic approach for sourcing water to increase efficiencies and reduce costs?
 - What are the challenges associated with water sourcing and the techniques for minimizing the cost of freshwater supply? How have water sourcing challenges been overcome to enhance operations?
 - Various means of recycling and how they can reduce the need for freshwater
- Co-Presenters:
Gene Ameduri, *Senior Vice President*, AESIR ENERGY
John Lucey, *Executive Vice President of Business Development and Engineering*, HECKMANN CORPORATION

12:15-1:30 *Group Luncheon*

- 1:30-2:00 *Presentation:*
Water Sourcing Alternatives Beyond Freshwater: Using Impaired Waters, Brines etc.
- Overview of frac water quality requirements
 - Exploring the alternatives – municipal wastewater, surface and groundwater, power plant cooling water, water from abandoned mines and other unconventional sources. What are the pros and cons of each?
- Presenter:
James Lee Murphy, *Executive Manager, Water Resources and Utility Operations*, GUADALUPE-BLANCO RIVER AUTHORITY

Water Storage

- 2:00-2:30 *Presentation:*
Storing Water On-Site to Reduce Transportation Costs and Maximize Efficiencies
- Which storage option is most efficient in relation to your operation: tanks, above ground temporary basin, ponds etc?
 - What are the advantages, disadvantages and liabilities associated with these storage options?
 - What are the differences between storing fresh water, brine, flowback, produced water, treated produced water, treated flow back etc.?
 - Factors to consider when constructing storage facilities for flowback vs. fresh water

- Understanding how to store water safely and which technologies can be used to minimize risk

Presenter:

Jonathan Hoopes, *President & Chief Operating Officer*, GREEN HUNTER WATER LLC

Water Treatment

2:30-3:00

Presentation:

Mobile Water Treatment Systems for Processing Frac Water

- What are the pros and cons of using centralized mobile water treatment systems?
- What to consider when co-locating advanced treatment technologies with gas production infrastructure
- Is a mobile solution right for your operation?

Presenter:

Nathan Zaugg, *Principal Engineer*, MWH GLOBAL

3:00-3:30

Networking Break

3:30-5:00

Series of Presentations:

Innovative Treatment Technologies for Treating Shale Water for Re-Use

This series of presentations will highlight the latest treatment technologies, including fracing formulations that are being advanced in the treatment of shale for re-use. These presentations will also highlight ways to reduce water disposal and acquisition costs through recycling and reuse.

Presentation I:

Evaluating Characteristics of Flowback and Produced Water for Effective Water Treatment

Presenter:

Thom Voll, *Global Laboratory Business Unit Director*, HACH

Presentation II:

Innovative Waste Heat Utilization & Co-Gen for Shale Gas Wastewater Treatment, Recycling and Disposal

Presenter:

Matthew Bruff, *Chief Development Officer*, ALTELA, INC

Presentation III:

Recycling & Resource Recovery from Shale Gas Flowback & Produced Waters

Presenter:

Joseph Tinto, *Commercial Developer*, GE POWER & WATER

5:00-5:30

Presentation:

Critical Considerations for Managing Water Treatment for Re-Use

- What are the pros and cons of most widely used treatment methods?
- What are optimal, most cost effective methods of treating and utilizing produced and flowback water?
- What chemical and contaminants must be removed before re-use?
- What are the limitations on how much water re-use is possible? How many times can it be re-used?

- What are the risks to equipment? What are the risks of the release of gas from the shale becoming blocked?
- Strategies for limiting risk and maintaining production when re-using water

Presenter:

Anthony Smith, *Field Projects Supervisor, Sustainable Development*, PIONEER NATURAL RESOURCES

5:30

Day One –Summit Adjourns

Wednesday, February 27, 2013

8:00-9:00 *Registration & Breakfast*

9:00-9:15 *Opening Remarks by Chair*

9:15-9:45 **Understanding and Optimizing the Water Management Value Chain**

- Identifying the total cost of water – sourcing, transport, storage, treatment, collection (flowback) transportation and disposal
- Myths about the cost of treatment vs. the status quo
- Fixed vs. mobile treatment – technical and economic factors in determining where to treat
- Building a better water – alternatives to fresh water in hydraulic fracturing
- HSE – Reducing risk with water management

Presenter:

Shawn Shipman, *Northeast Area Manager, Water Management*, BAKER HUGHES

9:45-10:15 *Case Study:*

Maximizing Oil Field Re-Use Water: The Application of Chemical Treatments

This discussion will focus on the chemistry and application of chemical treatments in oil field re-use water.

Presenter:

Sam Eltomi, *Vice President of Technology*, SABRE ENERGY

10:15-10:45 *Networking Break*

10:45-11:15 *Case Study:*

Estimating Hazardous Air Pollutant (HAP) and VOC Emissions for a Flowback/Produced Water Treatment Plant

Presenter:

Dean Ritts, PE, CEM, *Principal Engineer - Water/Wastewater*, WORLEYPARSONS

Water Transport

11:15-11:45 *Presentation:*

Evaluating Water Transport Methods: Piping, Trucking and Mobile Options

- An assessment of current trends in how operators transport their water for frac operations and what types of systems have been used to increase efficiency
- What are the considerations when assessing the right solutions and what is working?
- Measure viability of each method of transportation: What are their impacts on infrastructure? Costs associated with each? Regulatory restrictions?

Presenter:

Ryan Mastowski, EIT, *Site Manager*, RETTEW FLOWBACK INC.

11:45-12:15 *Presentation:*

Disposal Wells: An Assessment of Available Wells and Facilities

- An assessment of existing disposal wells and their limitations, disposal fees, locations and capacities in different regions
- What's the potential for developing new disposal wells?
- What are some of the obstacles in acquiring a disposal well permit – and how are they being overcome?
- Disposal wells vs. alternative methods of disposal: what's working and what's not?

Presenter:

Dale E. Skoff, PG, CHMM, *Manager Oil and Gas Hydrogeologic Services, Appalachian Shale Plays, TETRA TECH*

12:15

Day Two – Summit Adjourns