

WATER MANAGEMENT FOR SHALE PLAYS

February 27-29, 2012
Houston Marriott West Loop by the Galleria | Houston, TX

An Infocast Business Intelligence Event

An In-Depth Tutorial by Nationally-Recognized Experts Who Will Deliver Today's State-of-the-Art Strategies & Best Practices in Water Management

Gain Valuable Insights from E&P's, Field Service Organizations and Water Technology Specialists On:

- Developing Your Optimal Water Management System for Hydraulic Fracturing
- Maximizing Efficiencies Through On-Site Water Storage
- Exploring Alternative Sources of Water for Fracking
- Assessing Innovative Technologies for Treating Shale Water for Re-Use
- Using Mobile Water Treatment Systems to Process Frack Water
- Mastering Water Disposal Management



Keynote Speaker:
Amanda Brock
CEO
WATER STANDARD

...and don't miss our Special Briefing on Monday, February 27th:

Assessing Water Management in Specific Shale Plays

An Examination of the Geographical Constraints, Regulatory Landscape and Water Resources & Treatment in Selected Shale Plays, Featuring:

- Marcellus • Utica • Eagle Ford • Barnett • Bakken • Niobrara

Participating Organizations:

Altela, Inc.
Aqua-Pure Ventures, Inc.
Aquatech International Corporation
Baker Botts LLP
Bear Creek Engineering
Black & Veatch
Carter Technologies Company
CDM Smith
Countryside Ventures, LLC
EXCO Resources
Fountain Quail Water Management
GE Water & Process Technologies
Heckmann Corporation
Lewis Environmental Services, Inc.
Locke Lord LLP
Magnum Hunter Resources
Newfield Exploration Co.
Pioneer Natural Resources
Produced Water Solutions, Inc.
Railroad Commission of Texas
Research Triangle Energy Consortium
Warlick International
Water Standard
Williams Production Company
Wood Mackenzie
WorleyParsons
...and many more!

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Set Up Meetings With Other Participants Before the Event Through Our Exclusive Event Contact System

As a confirmed attendee, one week prior to the event you will receive an email with a password that will provide you with exclusive access to other attendees so you can set up meetings before the event.

Infocast Business Intelligence Conferences

Infocast Business Intelligence Conferences provide definitive, up-to-the-minute information on critical business opportunities, challenges and techniques. These conferences deliver information straight from decision-makers and active market participants. There is a lot of data out there; Infocast conferences help turn that data into valuable business intelligence.

About the Event

Hydraulic fracturing, or fracking, for oil and gas from shale consumes massive amounts of water. Experts estimate that a typical drilled shale well oil can take up nearly 4 million gallons. Drilling is booming, especially in Pennsylvania, West Texas and North Dakota – but drilling sites are often remotely located from any quality water source, pipeline or remediation infrastructure. The site may also be located where water is in increasingly short supply, particularly in West Texas, which is suffering from a severe drought.

Since the costs of re-treating, re-using, transporting and disposing of water are so enormous and such an essential part of fracking, managing water cost-effectively in the context of fracking has become a large, expensive secondary industry wherever significant amounts of hydraulic fracturing are occurring.

That's why Infocast developed **Water Management for Shale Plays**. This critical and timely event provides E&Ps, field service organizations, water technology companies, engineers, consultants and midstream infrastructure specialists with a unique forum to meet, network, dig into the issues and brainstorm solutions for effective water management in shale plays.

Our faculty of nationally-recognized experts will answer your most pressing questions while providing a cross-section of perspectives on market needs, new technologies, and new solutions, including:

- Evaluating the economics of new technologies needed to address water management, including treatment for re-use and disposal
- Produced water recovery and recycling technologies: implementation options, effectiveness and economic lessons learned
- Effective flowback treatment and disposal technologies
- Confirming the necessary supporting infrastructure for your business plan

Don't miss the opportunity to profit from the accumulated knowledge of our roster of leading industry thought-leaders!

The Briefing – Monday, February 27th:

Assessing Water Management in Specific Shale Plays

An Examination of the Geographical Constraints, Regulatory Landscape and Water Resources & Treatment in Selected Shale Plays, Featuring:

- Marcellus •Utica •Eagle Ford •Barnett •Bakken •Niobrara

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Monday, February 27, 2012

Assessing Specific Shale Plays

An Examination of the Geographical Constraints, Regulatory Landscape and Water Resources & Treatment in Selected Shale Plays

In this special briefing, attendees will receive a play-by-play walk-through outlining key water management issues specific to each region. Participants receive an assessment of how each region's geography influences water management plans, how treatment, re-use and disposal challenges and solutions vary from play to play, and receive an assessment of pertinent regulations, their framework, enforcement and impact.

Marcellus & Utica Shale

- » What are the most critical issues when it comes to sourcing and treating water in this region?
- » What aspects of the geography influence water sourcing and disposal most?
- » What kind of infrastructure is in place regarding water use and what's being planned/built?
- » What is the future availability of injection disposal sites in Pennsylvania, Ohio and West Virginia?
- » Disposal well permits: What's actually being issued?
- » What disposal regulations are in play that affect how and where water can be disposed of?
- » What current waste regulations affect how wastewater is being treated/released/recycled?
- » What proposed regulatory changes are in the works that could affect water treatment and disposal plans going forward?



Morning Break

Eagle Ford & Barnett Shale

- » What are the most critical issues when it comes to sourcing and treating water in this region?
- » What impact is the West Texas drought having on water sourcing and treatment options, both short-term and long-term?
- » Local districts targeting water use by companies that are fracking: How widespread is this and what is the impact on drilling?
- » What kind of infrastructure is in place regarding water use and what's being planned/built?
- » What disposal regulations are in play that affect how and where water can be disposed of?



Group Luncheon

Bakken Shale

- » What are the most critical issues when it comes to sourcing and treating water in this region?
- » What kind of infrastructure is in place regarding water use and what's being planned/built?
- » How does the lack of infrastructure in this newly booming region create challenges, and what are the strategies for overcoming those challenges?
- » What current regulations affect how wastewater is being treated/released/recycled?
- » What disposal regulations are in play that affect how and where water can be disposed of?



Afternoon Break

Niobrara Shale

- » What are the most critical issues when it comes to sourcing and treating water in this region?
- » What impact does the fact that Niobrara is a very early play have on what's available in terms of water treatment in the region?
- » What disposal regulations are in play that affect how and where water can be disposed of?
- » What current regulations affect how wastewater is being treated/released/recycled?

Featuring Our Esteemed Faculty of Presenters:

James L. Gooding, Ph.D., CMQ/OE, Specialist, B&V Management Consulting, BLACK & VEATCH

Tom Lewis III, President, LEWIS ENVIRONMENTAL SERVICES, INC.

Jeanie Oudin, Analyst, WOOD MACKENZIE

Scott Perry, Director, Oil & Gas Bureau, PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION (INVITED)

David Porter, Commissioner, THE RAILROAD COMMISSION OF TEXAS

Daniel M. Steinway, Partner, BAKER BOTTS, LLP

Don Warlick, President, WARLICK INTERNATIONAL

with more speakers to be announced

What Participants Said About Previous Infocast Events on Oil, Gas & Water:

“Very impressive program! I got torn between meeting so many customers and trying to attend the program!”

— Tom Rolfstad, WILLISTON ECONOMIC DEVELOPMENT

“An outstanding collection of talent and knowledge!”

— Christopher Dorrington, MONTANA DEPARTMENT OF TRANSPORTATION

Tuesday, February 28, 2012



Registration & Breakfast

Keynote Presentation: **Assessing the Evolution of Water Management of Shale Plays: What's Next?**

Amanda Brock, *CEO*, WATER STANDARD

Keynote Panel: **Strategies for Minimizing the Amount of Water Needed On-Site for Fracking**

A variety of strategic perspectives on the rapidly-accelerating evolution of the water management for shale plays community, including the following:

- » What are the challenges associated with water sourcing and how are they most cost-effectively overcome?
- » How to evaluate whether the water needs any treatment before use – and if so, how much treatment is needed
- » Regulatory limits on access to fresh water and what's required to get the volumes needed for fracking; a look at the landscape in Pennsylvania, West Virginia and Texas

Panelists:

Edward M. Campana, *Principal & CFO*, COUNTRYSIDE VENTURES, LLC

M. Benjamin Cowan, *Partner*, LOCKE LORD LLP

John T. Lucey, Jr., PE, *Executive Vice President, Business Development and Engineering*, HECKMANN CORPORATION

Bob McGinnis, *President*, BEAR CREEK ENGINEERING

Daniel M. Steinway, *Partner*, BAKER BOTTS, LLP



Morning Break

Presentations: **How to Assess, Select and Develop Your Optimal Water Management System**

- » What are the critical factors that must be considered at the outset?
- » Factoring corporate objectives and constraints on resources into a successful management system
- » How can you access and use local water recycling technologies and systems?
- » Which technology works best with which water management system?

Part I: **Brent Halldorson**, *Chief Operating Officer*, FOUNTAIN QUAIL WATER MANAGEMENT

Part II: **George Kast**, *Chief Executive Officer*, PRODUCED WATER SOLUTIONS, INC.

Presentation: **Developing Alternative Sources of Water for Use in Fracking**

Many companies are increasingly looking beyond freshwater supplies for use in fracking. Aside from their own recycled water, they are exploring the use of water from abandoned mines, water from storm water control basins, and other unconventional sources. In this session, get insights into what leading companies are doing to reduce freshwater withdrawals.

Vikram Rao, Ph.D., *Executive Director*, RESEARCH TRIANGLE ENERGY CONSORTIUM

Presentation: **Storing Water On-Site to Reduce Transportation Costs and Maximize Efficiencies**

- » Integrating storage considerations into your water logistics
- » What storage option fits best? Tanks? Impoundments?
- » What are the different considerations that must be taken into account depending on whether the storage is for fresh water or flowback water?
- » What are the risks of storage and how can they be addressed?

D. Stephen Tipton, P.E., *Operations Engineer*, NEWFIELD EXPLORATION CO.



Group Luncheon

Presentation Series: **Innovative Technologies for Treating Shale Water for Re-Use**

This series of technical presentations will focus on the new technologies, including fracking formulations, that are being advanced in the treatment of shale water for re-use.

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

Gary Evans, *Chairman & CEO*, MAGNUM HUNTER RESOURCES

Andrew Schultz, *Field Engineer*, AQUA-PURE VENTURES, INC.

Presentation: **Managing Water Treatment for Re-Use: Critical Considerations**

- » What are the optimal, most cost-effective methods of treating and utilizing produced and flowback water?
- » What are the pros and cons of the most widely used treatment methods (filtration, osmosis, chemical treatment, etc.)?
- » What chemicals and contaminants must be removed before re-use to ensure they don't cause problems when the water is used for fracking?
- » Where are the limits on how much water re-use is possible? What are the limitations of current recycling techniques?
- » Just how much does the water need to be cleaned before it can be re-used? How many times can it be re-used and still be effective?
- » What are the risks to equipment? What are the risks of the release of gas from the shale becoming blocked?

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



Afternoon Break

Panel: **Using Mobile Water Treatment Systems to Process Frack Water**

- » What are the pros and cons of using mobile water treatment systems?
- » What to consider when co-locating advanced treatment technologies with gas production infrastructure
- » When do the economics of using such systems make sense?

Panelists:

Ernest Carter, P.E., *President*, CARTER TECHNOLOGIES COMPANY

Charles Kozora, *Regional Business Development Manager*, AQUATECH INTERNATIONAL CORPORATION

Tom Lewis III, *President*, LEWIS ENVIRONMENTAL SERVICES, INC.

Kyle Wendel, *Product Manager*, GE WATER & PROCESS TECHNOLOGIES

The Tutorial continued

Wednesday, February 29, 2012



Registration & Breakfast

Case Study #1: Treatment of Brine Wastewater from Live Field Operations – Mobile Industrial Distillation System at the Well Pad

Charles Kozora, Regional Business Development Manager, AQUATECH INTERNATIONAL CORPORATION

Case Study #2: Australian Experience with Coal Seam Gas Water/Wastewater Management and Centralized Treatment Approach

Ken Burris, Senior Principal Consultant – Water/Wastewater, Director – USAC Water, Global Hydrocarbons Water Lead, WORLEYPARSONS



Morning Break

Presentation: Maximizing Efficiencies and Safety When Moving Water

- » What strategies are most effective in terms of minimizing the amount of water that must be moved?

- » What alternatives should be considered as alternatives to reduce transportation costs?
- » What are the overall safety risks and how are they best addressed?
- » What is key onsite to minimize risks to safety and spill hazards?

Tyler Bittner, Water Management, WILLIAMS PRODUCTION COMPANY

Presentation: Disposal Wells: An Assessment of Available Wells and Facilities

- » An assessment of existing disposal wells and their limitations
- » What's the potential for developing new disposal wells?
- » What are some of the common hurdles to acquiring a disposal well permit – and how are they being overcome?
- » Comparison of use of disposal wells vs. alternative methods of disposal: What's working and what's not?

James L. Gooding, Ph.D., P.G., CMQ/OE, Specialist, B&V Management Consulting, BLACK & VEATCH

Presentation: Developing the Infrastructure to Transport and Store Water for Fracking

- » Pipeline vs. trucking: factors to consider when doing the cost/benefit analysis
- » What are the considerations when assessing whether to install permanent or temporary pipeline for transporting water?

Shane Horner, Project Manager/Facilities Engineer, EXCO RESOURCES

FIVE EASY WAYS TO REGISTER

One: CALL
(201) 871-0474

Two: FAX
(253) 663-7224

THREE: E-MAIL
register@pmaconference.com

FOUR: MAIL
PMA
P.O. Box 2303
Falls Church, VA 22042

Five: WEB SITE
www.pmaconference.com

Risk Free Early Bird Rate!

Register by Friday, January 27, 2012 to receive the Early Bird Rate risk free! If an Early Bird registration is later canceled, an administrative charge will not be charged and the full tuition amount will be refunded. All Early Bird Rates will be adjusted downward if Information Forecast Inc. publicizes a discounted tuition special offer that would result in tuition rates lower than the published Early Bird Rate amounts to the right.

Discounts:

Government discount available. Team Discount for teams of three or more from the same organization, the third and subsequent registrations qualify for a 50% discount. Discounts are subject to verification and approval. Discounts cannot be combined.

Venue:

Infocast has secured a limited number of rooms at the Marriott West Loop by the Galleria at the special room rate of \$159.00 per night. Reservations must be made on or before Sunday, February 5, 2012 by calling 1-800-228-9290. Be sure to mention that you are a participant of Water Management for Shale Plays to secure the special rate. The Houston Marriott West Loop by the Galleria is located at 1750 West Loop South, Houston, TX, 77027.

Continuing Education Credits:

Infocast certifies that this activity has been approved for Continuing Education credit by the State of California in the amount of 5.5 hours for the Briefing, and 8 hours for the Tutorial. Continuing Education credit hours are subject to change.

Cancellation, Refunds & Credits:

Should you be unable to attend, a refund will be made for cancellations received via letter or fax at least 10 business days before the start of the meeting. We will be pleased to transfer your registration to another member of your organization, or credit the registration fee to another Infocast conference if you register within 6 months from the date of this conference.

A \$195 administrative charge will be applied to refunds of registrations received after the expiration of the Early Bird Rate.

In the event an event is cancelled, Information Forecast, Inc.'s liability is limited to a refund or transfer of the registration fee only.

On-Site Materials:

Flashdrives with materials to be provided on-site. Please bring your laptop if you'd like to follow along.

Infocast is a division of Information Forecast, Inc., a California Corporation.

Registration Form

Please make checks payable to: "PMA"

Water Management for Shale Plays

February 27-29, 2012 | Houston Marriott West Loop by The Galleria | Houston, TX

Please check one or more of the following:

- I would like to take advantage of the team discount (see left)
- I can't attend, but put me on your mailing list for future programs

| Tuition | Standard | | Government* | | |
|----------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--|
| | Early Bird (by 1/27/12) | Regular (after 1/27/12) | Early Bird (by 1/27/12) | Regular (after 1/27/12) | |
| Briefing: February 27, 2012 | \$595.00 | \$795.00 | \$395.00 | \$595.00 | |
| Tutorial: February 28 & 29, 2012 | \$895.00 | \$1,295.00 | \$595.00 | \$895.00 | |
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Venue

Water Management for Shale Plays will be held at:

Houston Marriott West Loop by the Galleria

**1750 West Loop South
Houston, TX, 77027**

Phone: 1-800-228-9290

Courtesy Room Block:

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WATER MANAGEMENT FOR SHALE PLAYS

What Participants Said About Previous Infocast Events on Oil, Gas & Water:

“First rate! Based on my experience, I would recommend Infocast to anyone!”

— Jeff Close, ITW-FILTERTEK

“A great experience! Bringing the technical and financial pieces together was brilliant and created great synergy!”

— Sandy Sutton, WATER INFRASTRUCTURE FINANCE AUTHORITY OF ARIZONA

“Conference was great! Great networking! You folks, unlike your competitors, consistently delivery on your program and venue. You have become my 1st choice of conferences to attend.”

— Linda D'Angelo, ATCO PIPELINES