

SHALE-GAS DEVELOPMENT AND WATER ISSUES

Conference to showcase water use and treatment technologies. Learn about the latest resource development & operational protocols that can reduce costs and avoid environmental risk by minimizing water use and maximizing the effectiveness of on-site treatment

**Austin, Texas – Tuesday March 19 and Wednesday March 20, 2013
Hilton Hotel Austin Airport, 9515 Hotel Drive, Austin, TX 78719**



The shale-gas revolution is changing America's perspective on energy. While the benefits of energy independence are evident from economic and strategic perspectives there are concerns that calculations of benefits of self sufficiency of energy must be carefully weighed against the maintenance of safe and sustainable water resources.

The development of shale-gas is controversial. Much of the opposition is related to water concerns. Public opposition can often be traced to lack of information and in some cases to misinformation. Recent trends in the energy development industry show that many water quality concerns can be addressed by innovations in on-site treatment and disposal technologies. More sophisticated drilling protocols and fluid management techniques are also providing even greater reductions in potential environmental risks.

As with most public policy controversies, ignorance is the worst enemy for the development of acceptable policy solutions and reasonable regulations. The best solutions will come from informed awareness that is based on science and facts.



This conference on shale-gas and water issues is the second one convened in Texas by AIPG and AGWT. It will bring both water and energy professionals as presenters. Their informed knowledge and familiarity with the industry and the issues will provide an information exchange opportunity among citizens, communities and water and energy professionals. The 2012 event was recognized as great source of technical and scientific information presented in an objective and easy-to-understand format.

Program jointly organized by:

American Institute of Professional Geologists and American Ground Water Trust

In cooperation with:

American Geosciences Institute

Energy Institute – University of Texas at Austin

Society of Independent Professional Earth Scientists

International Association of Hydrogeologists Commission on Groundwater for Decision Makers



Society of Independent
Professional Earth Scientists



**The University of Texas
at Austin**



With Special Thanks to the SIPES Houston Chapter

Tuesday March 19th

Morning sessions moderator – Andrew Stone, American Ground Water Trust, Concord, NH

9:45 - 10:00 – WELCOME AND INTRODUCTION

Wendy Davidson, Assistant Director, American Institute of Professional Geologists, Thornton, CO
Kevin McGinnis, Chairman, American Ground Water Trust Board of Directors, Lubbock, TX

10:00 – 10:15 Public opinion and “truth” about groundwater aquifers and shale-gas development

Andrew Stone, Executive Director, American Ground Water Trust, Concord, NH

10:15 – 10:45 CONFERENCE OPENING KEYNOTE



Induced Seismicity Potential in Energy Technologies: National Research Council of the National Academies Report, 2012 (Shale-gas, hydraulic fracturing and injection for the disposal of waste water)

Don Clarke, Member, National Academies Panel, geological consultant, Los Angeles, CA

Don Clarke is a consulting petroleum geologist. He has worked for the California State Lands Commission, City of Long Beach, Department of Oil Properties (Unit Operator for the super giant Wilmington oil field) for 24 years. He taught geology at Compton Community College for 14 years and currently teaches petroleum geology at the University of Southern California. He is a past president of Pacific Section AAPG. Don was a member of the National Academies Panel on Induced Seismicity Potential in Energy Technologies.

HYDRAULIC FRACTURING QUESTIONS

10:45 – 11:15 Hydraulic fracturing and water resources in Texas

J.P. Nicot, Research Scientist, Bureau of Economic Geology, Jackson School of Geosciences

11:15 – 11:45 Overview of litigation regarding hydraulic fracturing and source rock gas plays

Corey F. Wehmeyer, Attorney, Partner, COX SMITH, San Antonio, TX

11:45 – 12:15 An overview of ASTM Committee D18.26, (Hydraulic Fracturing) its scope and how it will operate

Bob Morgan, Director Technical Committee Operations, ASTM International, West Conshohocken, PA

12:15 – 1:30 LUNCH

Afternoon sessions moderator – Jory Pacht, Altair Resources, Sugarland, TX

ASSESSING AQUIFERS AND WATER QUALITY INDICES

1:30 – 2:00 Advanced methods of aquifer characterization and monitoring design: The application of borehole geophysics, hydrophysics and hydrogeologic methods

William H. Pedler, President, RAS, Inc., Denver, CO

2:00 – 2:30 The case for uniform and detailed testing parameters to identify shale-gas origins with more certainty

John Oneacre, President, Ground Water Solutions Ltd. Houston, TX

2:30 – 3:00 Geochemical data, methane and impacts on water wells

Lisa Molofsky, Geologist, GSI Environmental, Houston, TX

3:00 - 3:15 BREAK

SHALE-GAS: WATER AND ENVIRONMENTAL ISSUES

3:15 – 3:45 Current and potential future water issues related to Texas shale-gas development

Robert Mace, Deputy Executive Administrator, Water Science & Conservation, TX Water Development Board, Austin, TX

3:45 – 4:15 Environmental issues related to shale-gas development in Texas

Sharon Wilson, Earthworks Action, Allen, TX

4:15 – 4:45 Environment Texas: Our perspective on the state’s shale-gas operations and water issues

Luke Metzger, Director, Environment Texas, Austin, TX

4:45 – 5:15 DAY ONE CLOSING KEYNOTE



Replacing perception with reality: Actual data on ground water risk levels from well construction and fracturing. What industry, regulators, environmental organizations and neighbors need to know

George E. King, Apache Corporation Distinguished Engineering Advisor, Houston, TX

George E. King is a registered professional engineer with over 40 years of experience since joining Amoco Research Center in 1971. His technical work has provided advances in foam fracturing, production from unstable chalk, underbalanced perforating, sand control reliability, gas shale completions and fracturing. Currently, he is working with new technologies for Apache Corporation. He holds degrees in Chemistry from Oklahoma State University, as well as Chemical Engineering and Petroleum Engineering from the University of Tulsa where he also taught completions and workovers for 11 years as an adjunct professor. He has written 65 technical papers and was awarded the 2004 SPE Production Operations Award and the 2012 Engineer of the Year award from the Houston Region of the Texas Society of Professional Engineers.

5:15 – 6:45 RECEPTION (Cash bar)



Wednesday March 20th

Morning sessions moderator – Nick Cramer, Consultant, Denton, TX

AQUIFER INTEGRITY

8:30 – 9:00 Hydraulic fracturing and groundwater protection

Robert Traylor, CPG, Geologist, Texas Rail Road Commission, Austin, TX

9:00 – 9:30 Halliburton Chemistry Scoring Index – What it can tell about frac additives

Denise Tuck, Global Manager, Chemical Compliance, Halliburton, Houston, TX

9:30 – 10:00 Hydraulic fracturing: Separating myth from reality

Steve Leifer, Attorney, Baker Botts LLP, Washington, DC

10:00 – 10:15 BREAK

WATER MANAGEMENT FOR SHALE-GAS OPERATIONS

10:15 – 10:45 Water, water everywhere...finding what's not fit to drink

Hughbert Collier, CPG, Hydrogeologist, Collier Consulting, Inc., Stephenville, TX

10:45 – 11:15 Comprehensive water balance for shale gas operations

Richard Bowers, Environmental Engineer, GSI Environmental, Houston, TX

11:15 – 11:45 Total water management solutions

John Williams, Director of Engineering and Research & Development, TERRA Services LLC, Irving, TX

11:45 – 12:15 CONFERENCE CLOSING KEYNOTE



Shale operators must follow best practices

Stephen Holditch, S. A. Holditch & Associates, Bryan, TX

Stephen A. Holditch is the Head of the Petroleum Engineering Department at Texas A&M University. From 1999-2003, Dr. Holditch was a Schlumberger Fellow where he was a Production and Reservoir Engineering advisor to the top managers within Schlumberger. Holditch was President of S. A. Holditch & Associates, Inc. from 1977 to 1999. Dr. Holditch was SPE President 2002, and he was SPE Vice President of Finance from 1998-2000. As an SPE Officer, Holditch served on the SPE Board of Directors from 1998-2003. In addition, Dr. Holditch served as an AIME Trustee from 1997-1998. In 1995, Dr. Holditch was elected to the U.S. National Academy of Engineering (NAE). In 2006, he was elected as an SPE Honorary Member. He has published over 150 technical papers.



CONTINUING EDUCATION

Geologists: AIPG will award 1 CEU or 10 PDH's to conference attendees

Other participants: Certificates of attendance from the AGWT will be available for all attendees who complete sign-in and sign-out forms



Technical information-exchange conference for professionals involved with water issues, energy development and hydraulic fracture technology

American Ground Water Trust - American Institute of Professional Geologists

The American Institute of Professional Geologists (AIPG), was founded in 1963, and is the largest association dedicated to promoting geology as a profession. It presently has more than 5,500 members in the U.S. The purposes of the Institute:

- Advance the geological sciences and the profession of geology
- Establish qualifications for professional geologists
- Certify the qualifications of specific individual Member geologists to the public
- Promote high standards of ethical conduct among its Members and Adjuncts, and within the profession of geology
- Represent, and advocate for, the geological profession before government and the general public.

The American Ground Water Trust AGWT was formed in 1986 as a non-profit education organization with the mission of promoting interest and awareness in ground water issues and to achieve the objective of science-based water resources policies at local, state and federal level. Specifically, the AGWT's conference and workshop programs and educational materials seek to:

- Communicate the environmental and economic value of ground water
- Showcase ground water science and technology solutions
- Increase citizen, community and decision-maker awareness
- Facilitate stakeholder participation in water resource decisions



"WATER RESOURCES AND FOSSIL FUELS HAVE ECONOMIC VALUE"