

# SHALE-GAS DEVELOPMENT AND WATER ISSUES

## Information exchange symposium

### Hydraulic fracturing technologies for shale-gas development & operation and their water resources impacts

Thursday March 22 and Friday March 23, 2012  
Austin Marriott South, 4415 S IH 35, Austin, Texas 78744

*This program will provide a balanced information-exchange opportunity among the energy industry, the water industry and citizens and communities with an interest in the economic potential of shale gas development and the long-term environmental sustainability of water sources and water dependent ecosystems.*

American Ground Water Trust

American Institute of Professional Geologists



In cooperation with:



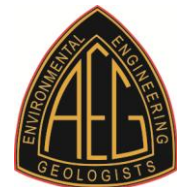
Society of Independent Professional Earth Scientists



With Special Thanks to the SIPES Houston Chapter



Bureau of Economic Geology  
Railroad Commission of Texas  
American Geosciences Institute  
Texas Groundwater Association



Energy Institute – University of Texas at Austin

Society of Independent Professional Earth Scientists

Association of Environmental and Engineering Geologists Texas Section

International Association of Hydrogeologists Commission on Groundwater for Decision Makers

**WESTERLY EXPLORATION, INC.**

3701 Kirby, Suite 514, Houston, Texas 77098

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**PROGRAM – Thursday, March 22**

**9:00 – 10:00 REGISTRATION AND EXHIBITS**

**10:00 – 12:15 Session 1 Moderator – Larry Cerrillo, AIPG Past President**

**10:00 – 10:15 WELCOME AND PROGRAM INTRODUCTION**

Larry Cerrillo, CPG, AIPG Past President  
Andrew Stone, Executive Director, AGWT

**10:15 - 10:45 THE ECONOMIC IMPORTANCE OF THE TEXAS SHALE-GAS INDUSTRY**

Alex Mills, President, Texas Alliance of Energy Producers, Wichita Falls, TX

**10:45 – 11:15 IMPACTS OF SHALE-GAS DEVELOPMENT ON WATER RESOURCES**

Brenner Brown, Management Analyst, Water Science & Conservation at Texas Water Development Board, Austin, TX

**11:15 – 11:45 REGULATIONS AND PERMITS FOR SHALE-GAS DEVELOPMENT AND PRODUCTION**

Doug Johnson, Manager for Injection - Storage, Permits and Support, Technical Permitting Section, Oil & Gas Division, Railroad Commission, Austin, TX

**11:45 – 12:15 SHALE-GAS DEVELOPMENTS AND THE POTENTIAL IMPACT (GOOD & BAD) ON THE ENVIRONMENT**

C.O. "Doc" Stokley, Technical Director, Stokley Petroleum Technology, Inc, Cypress, TX

**12:15 – 1:30 LUNCH AND KEYNOTE PRESENTATION**



**THE ROLE OF UNCONVENTIONALS IN THE GLOBAL ENERGY FUTURE**

Scott Tinker, CPG, Director, Bureau of Economic Geology  
Jackson School of Geosciences, University of Texas at Austin

Dr. Tinker worked in the oil and gas industry for 17 years in research, exploration, and development prior to coming to The University of Texas at Austin in 2000. Scott has been a licensed professional geoscientist in Texas since 2003. He is the past President of the American Association of Petroleum Geologists and the Association of American State Geologists and is currently President of the Gulf Coast Association of Geological Societies. Dr. Tinker also holds appointments to the National Petroleum Council and the Interstate Oil and Gas Compact Commission, and he currently serves on several private, university, and professional boards. Dr. Tinker is the Director of the Bureau of Economic Geology (BEG) and the Director of the Advanced Energy Consortium. He is also the acting Associate Dean for Research and Professor, and he holds the Allday Endowed Chair in the Jackson School of Geosciences at The University of Texas at Austin.

**1:45 – 3:15 Session 2 Moderator – Tim Parker, Chairman, American Ground Water Trust**

**1:45 – 2:15 GAME CHANGING TECHNOLOGY FOR TREATING AND RECYCLING FRAC WATER**

John Ely, President, Ely & Associates, Houston, TX

**2:15 – 2:45 HYDRAULIC FRACTURING SAFETY FROM A ROCK MECHANICS AND FLUID CHEMISTRY PERSPECTIVE**

Kevin Fisher, Executive VP Global Business Development, Flotek Industries, Houston TX

**2:45 – 3:15 A BETTER UNDERSTANDING OF HYDRAULIC FRACTURING STIMULATION THROUGH MICROSEISMIC MONITORING AND MAPPING**

John A. Ughetta, VP Worldwide Sales MicroSeismic Inc., Houston, TX

**3:15 – 3:30 BREAK**

**3:30 – 5:00 Session 3 Moderator – Mike Waldron, Cardno ENTRIX**

**3:30 – 4:00 GROUNDWATER RESOURCES: WHAT TO EXPECT WHEN YOU ARE EXPECTING SHALE-GAS DEVELOPMENT IN YOUR AREA**

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

**4:00 – 4:30 ABOVE-GROUND ENERGY/WATER ASPECTS OF UNCONVENTIONAL GAS AND HYDROFRACKING**

Michael Young, Associate Director for Environmental Systems, Bureau of Economic Geology, University of Texas, Austin, TX

**4:30 – 5:00 GEOLOGIC CRITERIA FOR DETERMINING PROTECTED GROUNDWATER AND FOR IDENTIFYING GEOLOGICALLY ISOLATED DISPOSAL ZONES**

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

**5:00 – 6:30 Reception (cash bar)**

**7:00 – 9:00 Screening of "SWITCH" a feature-length documentary on global energy**



**PROGRAM – Friday, March 23**

**8:00 – 10:00 Session 4 Moderator – Andrew Stone, American Ground Water Trust**

**8:00 – 8:15 PUBLIC PERCEPTIONS & MIS-PERCEPTIONS OF SHALE-GAS DEVELOPMENT IMPACTS ON THE ENVIRONMENT AND WATER SUPPLY INTEGRITY**

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

**8:15 -8:30 CITIZEN CONCERNS RELATED TO SHALE-GAS DEVELOPMENT AND PRODUCTION IN TEXAS**

David Weinberg, Executive Director of the Texas League of Conservation Voters, Austin, TX

**8:30 – 8:45 RURAL WATER SUPPLY PERSPECTIVE ON THE POSITIVE IMPACTS OF OIL & GAS DEVELOPMENT**

David Wallace, General Manager, El Oso Water Supply Corporation, Karnes City, TX

**8:45 – 9:00 DEBUNKING "GASLAND"**

John Ely, President, Ely & Associates, Houston, TX

**9:00 – 9:30 LESSONS LEARNED FROM THE BARNETT SHALE, RANGE RESOURCES LITIGATION**

Charles Kreitler, Senior Vice President, LBG-Guyton Associates, Austin, TX

**9:30 -10:00 GAS ORIGINS: DIAGNOSTIC ENVIRONMENTAL PARAMETERS USED IN SHALE-GAS/ GROUND WATER STUDIES**

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

**10:00 – 10:30 BREAK**

**10:30 – 12:30 Session 5 Moderator – Charles Kreitler, LBG-Guyton Associates**

**10:30 – 11:00 OIL & GAS INDUSTRY REGULATORY COMPLIANCE: MANY COMPANIES GO ABOVE AND BEYOND**

Anne Weber, CPG, Attorney, Weber Law Firm, Denver, CO

**11:00 – 11:30 SHALE GAS AND LITIGATION: WHO IS SUING WHOM AND FOR WHAT REASON?**

Julia Adams, Attorney, Sedgwick, Houston, TX

11:30 – 12:00 Keynote Presentation



**FACT-BASED REGULATION FOR ENVIRONMENTAL PROTECTION  
IN SHALE GAS RESOURCE DEVELOPMENT: (Report released February 16<sup>th</sup>)  
An Update on Energy Institute Research**

**Charles G. Groat, CPG, Associate Director, Energy Institute  
Jackson School of Geosciences, The University of Texas at Austin**

Dr. Chip Groat is the Director of the Center for International Energy and Environmental Policy and Director and Graduate Advisor of the Energy and Earth Resources Graduate Program. He holds the John A. and Katherine G. Jackson Chair in Energy and Mineral Resources in the Department of Geological Sciences, Jackson School of Geosciences, and is Professor, LBJ School of Public Affairs. He assumed these positions after serving 6 ½ years as Director of the U.S. Geological Survey. He served as interim dean of the Jackson School of Geosciences at UT from July 2008 to August 2009. His previous experience at UT was as Associate Director and Acting Director of the Bureau of Economic Geology and Associate Professor of Geological Sciences. He was appointed an Associate Director of the Energy Institute in the spring of 2010. He has been a member of the National Research Council Board on Earth Sciences and Resources and the Outer Continental Shelf Policy Board. He is a past President of the Association of American State Geologists and of the Energy Minerals Division and Division of Environmental Geosciences of the American Association of Petroleum Geologists.

**12:00 – 12:15 WRAP-UP AND ADJOURN**

## **SHALE-GAS DEVELOPMENT AND WATER ISSUES**

***Presenter Information  
In presentation order***

**THE ECONOMIC IMPORTANCE OF THE TEXAS SHALE-GAS INDUSTRY  
Alex Mills, President, Texas Alliance of Energy Producers, Wichita Falls, TX**



Alex Mills became President of the Texas Alliance of Energy Producers in 2000, following the merger of the North Texas Oil & Gas Association (NTOGA) and the West Central Texas Oil & Gas Association (WeCTOGA). The Alliance is the largest state oil and gas associations in the nation with more than 3,000 members in 305 cities and 28 states. Mills moved to Wichita Falls in 1994 as Executive Vice President of NTOGA, after living 8 years in Washington, D.C., where he served as Vice President of Marketing for the Independent Petroleum Association of America, the national organization for the independent oil and gas industry. He also served as Executive Vice President of the West Central Texas Oil & Gas Association in Abilene from 1981 to 1986. He earned a Bachelor of Arts degree from the University of North Texas after serving in the U.S. Army Security Agency. He serves on the Board of the National Stripper Well Association and IPAA's Wildcatters' Political Action Committee. He is a member of the American Society of Association Executives, the Texas Society of Association Executives, the Independent Petroleum Association of America, the Society of Petroleum Engineers and the Desk & Derrick Club.

#### IMPACTS OF SHALE-GAS DEVELOPMENT ON WATER RESOURCES

**Brenner Brown, Management Analyst, Water Science & Conservation at Texas Water Devt Board, Austin, TX**



Brenner Brown serves as a management analyst working directly under the Deputy Executive Administrator for Water Science and Conservation at the Texas Water Development Board. Brenner specialized in environment and natural resources while earning his master at the LBJ School of Public Policy, at the University of Texas, with a focus on groundwater management and policy. Brenner's work is currently focused on water availability issues associated with the drought in Texas and increased hydraulic fracturing. Brenner currently serves as the TWDB representative to the Drought Preparedness Council and the Emergency Drinking Water Task Force

#### REGULATIONS AND PERMITS FOR SHALE-GAS DEVELOPMENT AND PRODUCTION

**Doug Johnson, Manager for Injection - Storage, Permits and Support, Technical Permitting Section, Oil & Gas Division, Railroad Commission, Austin, TX**



Doug Johnson has been with the Oil and Gas Division of the Railroad Commission of Texas since 1982. He is currently the Manager for the Injection – Storage Permits and Support within the Technical Permitting Section, and charged with administering all Commission regulations applicable to fluid injection wells, oil and gas waste disposal wells, hydrocarbon storage wells, and brine mining wells. Previously he has held positions as a hearings examiner; engineer primarily charged with administering regulations applicable to hydrocarbon storage and brine mining facilities; and as an engineer in training in the Wichita Falls District Office. Doug received a Bachelor of Science in Civil Engineering from the University of Texas at Austin. He is a registered professional engineer in Texas and has authored several papers related to hydrocarbon storage operations in Texas.

#### SHALE-GAS DEVELOPMENTS AND THE POTENTIAL IMPACT (GOOD & BAD) ON THE ENVIRONMENT

**C.O. "Doc" Stokley, Technical Director, Stokley Petroleum Technology, Inc, Cypress, TX**



Doc Stokley graduated from Tennessee Tech University in 1965 with BS in Electrical Engineering and minors in Nuclear Engineering and Mathematics. He has spent 46 years in the oil & gas industry, both domestic and international, mostly focused on downhole drilling and completions. He retired as vice president of TAM International in 2007 previously serving as VP of R&D in inflatable and swellable packer technology. His expertise includes managing control water in wells and multilaterals. Stokley is the author of more than 20 patents and has written numerous technical articles for various oil and gas trade journals and professional societies. He is a past President of the Pioneer Oil Producers Society. He provides consulting services through his company, Stokley Petroleum Technology.

#### THE ROLE OF UNCONVENTIONALS IN THE GLOBAL ENERGY FUTURE

**Scott Tinker, CPG, Director, Bureau of Economic Geology, Jackson School of Geosciences, University of Texas at Austin**



Dr. Tinker worked in the oil and gas industry for 17 years in research, exploration, and development, prior to coming to The University of Texas at Austin in 2000. Scott has been a licensed professional geoscientist in Texas since 2003. He is the past President of the American Association of Petroleum Geologists and the Association of American State Geologists and is currently President of the Gulf Coast Association of Geological Societies. Dr. Tinker also holds appointments to the National Petroleum Council and the Interstate Oil and Gas Compact Commission, and he currently serves on several private, university, and professional boards. Dr. Tinker is the Director of the Bureau of Economic Geology (BEG) and the Director of the Advanced Energy Consortium. He is also the acting Associate Dean for Research and Professor, and he holds the Allday Endowed Chair in the Jackson School of Geosciences at The University of Texas at Austin.



**GAME CHANGING TECHNOLOGY FOR TREATING AND RECYCLING FRAC WATER**

**John Ely, President, Ely & Associates, Houston, TX**



Mr. Ely started his career with Halliburton Co., in 1965, working as a technician for the Analytical group. He graduated from Oklahoma State University in 1968 with a B.S. in chemistry. On returning to Halliburton, Mr. Ely served as chemist and senior chemist in fracturing research before transferring to International Operations in 1973. While in fracturing research, he was instrumental in the development of several fracturing fluids, including high-temperature systems and nonaqueous energized systems. Ely joined Newsco Services in 1980 as Engineering Manager. His responsibilities included overseeing chemical and mechanical research and coordinating training for field engineers.

In 1985, John joined S.A. Holditch and Associates as Vice-President of Stimulation Technology. In addition to designing and supervising hundreds of stimulation treatments, he was involved in research on fracturing fluids. In May 1991, John with three partners founded Ely & Associates, Inc. This company is dedicated to providing a blend of practical and technical expertise on well completion, stimulation fluids and equipment, and reservoir analysis. John holds several patents and has numerous publications, including a book titled "Stimulation Treatment Handbook/ An Engineer's Guide to Quality Control".

**HYDRAULIC FRACTURING SAFETY FROM A ROCK MECHANICS AND FLUID CHEMISTRY PERSPECTIVE**

**Kevin Fisher, Executive VP Global Business Development, Flotek Industries, Houston, TX**



Marc K. "Kevin" Fisher is executive vice president, global business development for Flotek, a global developer and distributor of a portfolio of innovative oilfield technologies, including specialty chemicals and down-hole drilling and production equipment. Most recently, Fisher served as the general manager of Halliburton's Pinnacle division, an oilfield completion and consulting business. Prior to Halliburton's purchase of Pinnacle from Carbo Ceramics, Fisher served as president and CEO of Pinnacle Technologies and executive vice president of Carbo Ceramics. His involvement with Pinnacle dates back to 2000 when, prior to Carbo's purchase of Pinnacle, he served in a number of roles from vice president of business development to president.

Prior to joining Pinnacle, Fisher spent seven years as the director of sales at ProTechnics, where he first worked with Flotek President John Chisholm. Alongside Chisholm, Fisher was instrumental in building the sales force and client base for ProTechnics' radioactive well tracing technologies which was ultimately purchased by Core Laboratories. He began his oilfield career in 1979 as a field engineer at Halliburton, holding several positions at the company through 1993, including global marketing manager.

Fisher is a member of the Society of Petroleum Engineers, the American Petroleum Institute and the Society of Petrophysicists and Well Log Analysts. He holds three US patents and is the author of numerous professional monographs. He holds a bachelor's degree from Cameron University and is a graduate of the Harvard Business School Executive Managers Program

**A BETTER UNDERSTANDING OF HYDRAULIC FRACTURING STIMULATION THROUGH MICROSEISMIC MONITORING AND MAPPING**

**John A. Ughetta, VP Worldwide Sales MicroSeismic Inc., Houston, TX**



John Ughetta has 30 years sales experience including 23+ years in the energy industry and 15 years in management. He began his career at Otis Engineering and was one of the initial members of Halliburton Reservoir Services. He joined Landmark Graphics in the late '80s and enjoyed significant sales success. Subsequently he served as Vice President and General Manager of Petroleum Geo-Services Data Management with North American P&L responsibilities. Most recently he served as Vice President Sales and Marketing for Epoch Well Services, a supplier of Drilling and Well-site monitoring and management systems. Ughetta has a BS degree in Geology from Denison University in 1980. He joined MSI in September 2008



**GROUNDWATER RESOURCES: WHAT TO EXPECT WHEN YOU ARE EXPECTING SHALE-GAS DEVELOPMENT IN YOUR AREA**

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



Dr. Collier is a hydrogeologist and the Vice President of Collier Consulting, a geosciences, environmental, and engineering firm. Collier Consulting is headquartered in Stephenville, with satellite offices in Fort Worth and Denton.

Hughbert has over twenty-five years experience in consulting, research, technical support for litigation, and lecturing throughout the country. He has taught short courses for the National Ground Water Association and undergraduate and graduate hydrogeology courses at Tarleton State University. He has geology degrees from Mississippi State University and a Ph.D. in Geosciences from the University of Texas at Dallas. Hughbert is licensed as a Professional Geologist in Florida and Texas.

Hughbert, along with his staff at Collier Consulting, has conducted hydrogeological investigations throughout the United States. Recent projects have included evaluation of Class I and Class II injection well permit applications, groundwater contamination investigations, hydrogeologic and engineering services for groundwater development, characterization of subsurface contaminant migration pathways, analysis of point and non-point sources of surface water impairment, and EPA and TCEQ permitting for air, water, and wastewater.

**ABOVE-GROUND ENERGY/WATER ASPECTS OF UNCONVENTIONAL GAS AND HYDROFRACKING**

**Michael Young, Associate Director for Environmental Systems, Bureau of Economic Geology, University of Texas, Austin, TX**



Dr. Young is Associate Director for Environmental Systems and Senior Research Scientist, Bureau of Economic Geology, The University of Texas at Austin. His research involves groundwater recharge and quality, the water/energy nexus, and implementing monitoring systems for above-ground and near-surface below-ground environments. He is co-Editor of the Vadose Zone Journal and a member of the Soil Systems and Critical Zone Processes Technical Committee, American Geophysical Union. He has a Ph.D. in Soil and Water Science (Soil Physics/Hydrology) from the University of Arizona, Tucson. Prior to joining the Bureau of Economic Geology he was Acting Executive Director, Division of Hydrologic Sciences, Desert Research Institute, and a Senior Scientist at the Georgia Institute of Technology.

**GEOLOGIC CRITERIA FOR DETERMINING PROTECTED GROUNDWATER AND FOR IDENTIFYING GEOLOGICALLY ISOLATED DISPOSAL ZONES**

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



Robert J. Traylor, PG, BCPG, CPG, has over 40 years of experience in the oil & gas industry as a petroleum geologist and as a geological advisor on groundwater protection for the Railroad Commission on oil & gas operations. He currently provides groundwater protection recommendations for the Eagle Ford counties

**PUBLIC PERCEPTIONS & MIS-PERCEPTIONS OF SHALE-GAS DEVELOPMENT IMPACTS ON THE ENVIRONMENT AND WATER SUPPLY INTEGRITY**

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



Andrew Stone is the Executive Director of the American Ground Water Trust. He has over thirty five years of ground water experience in Africa and the United States as a university professor, ground water consultant and ground water advocate & educator. He has first-hand experience of ground water exploration, well design and source protection in a wide variety of geologic environments. As the director of the AGWT's education programs he has convened and coordinated over one hundred and fifty conference programs related to ground source heating and cooling technology, well design, ground water management, aquifer storage recovery, conjunctive use, water banking, and asset management.

From 1990 to 2002, as adjunct professor, he taught an annual course on Ground Water Protection Policy in the Masters Degree Program at Antioch New England Graduate School. He is the Director of *the International Association of Hydrogeologists' Commission on Groundwater for Decision Makers*.

#### CITIZEN CONCERNS RELATED TO SHALE-GAS DEVELOPMENT AND PRODUCTION IN TEXAS

**David Weinberg, Executive Director of the Texas League of Conservation Voters, Austin, TX**



David Weinberg is Executive Director of the Texas League of Conservation Voters, a statewide organization whose broad-based membership believes firmly that conservation in policy and practice can enhance Texans' quality of life, improve our health and preserve some of our state's most precious natural resources and landmarks. Prior to his appointment at TLCV he was Chief of Staff for New York Assembly member Linda B. Rosenthal. He has a Bachelors degree in Political Science from Earlham College and Masters in Public Administration, Nonprofit Administration, Social Policy from Syracuse University - Maxwell School of Citizenship and Public Affairs.

#### RURAL WATER SUPPLY PERSPECTIVE ON THE POSITIVE IMPACTS OF OIL & GAS DEVELOPMENT

**David Wallace, General Manager, El Oso Water Supply Corporation, Karnes City, TX**



David Wallace is general manager of the nonprofit water utility located south of San Antonio. He was previously FMT Specialist at Texas Rural Water Association. Demand for El Oso water is skyrocketing because of development of the Eagle Ford gas play and the associated influx of oil field related companies and commercial developers. David Wallace has been in the water business for 30 years + and owner of private water for 20 years.

#### DEBUNKING "GASLAND"

**John Ely, President, Ely & Associates, Houston, TX**

(previously listed)

#### LESSONS LEARNED FROM THE BARNETT SHALE, RANGE RESOURCES LITIGATION

**Charles Kreitler, Senior Vice President, LBG-Guyton Associates, Austin, TX**



Dr. Charles Kreitler is Senior Consultant with LBG-Guyton Associates in Austin, Texas. He joined the firm in 1993. Previously he was Professor of Hydrogeology, Department of Hydrology and Water Resources, The University of Arizona, Tucson, Arizona, and prior to that was a Research Scientist for the Bureau of Economic Geology, The University of Texas at Austin. He has conducted ground-water investigations in Texas and the southwestern United States for more than 35 years. His experience includes groundwater resources investigations of sandstones and limestones, fault activation in the Texas Coastal Zone, and site characterization for both high-level and low-level nuclear waste-disposal sites in salt domes, evaporites and thick unsaturated sections in arid settings. He has worked on problems associated with the injection of brines from the petroleum industry and hazardous wastes from the chemical industry. He has conducted detailed characterization of contaminant sites in both porous media and fractured bedrock. He has had extensive experience in regards to groundwater contamination associated with oil-field operations. Dr. Kreitler has been involved with ground-water issues associated with the endangered species at Comal and San Marcos Springs in the Edwards aquifer of central Texas. He has authored more than 100 technical articles and contract reports, including books and monographs on the geochemistry of brine contamination, wellhead protection and ground-water flow and the occurrence of uranium deposits.



**GAS ORIGINS: DIAGNOSTIC ENVIRONMENTAL PARAMETERS USED IN SHALE-GAS/GROUNDWATER STUDIES**

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



Mr. Oneacre is President of Ground Water Solutions, Ltd. (GWS) and provides hydrogeological consulting services to private industry with emphasis on environmental studies and litigation support work. Clients from a broad spectrum include the solid waste industry, petrochemical industry, chemical industry, insurance industry, waste-to-energy industry, and oil and gas industry. Mr. Oneacre has worked on several major environmental litigation cases for clients providing both technical litigation support and expert witness testimony. Mr. Oneacre has 33 years of professional experience in hydrogeology, engineering geology, and environmental geology. This experience includes work on 200 landfills including several National Priority List (NPL) Superfund sites. Mr. Oneacre has provided technical expertise to several law firms engaged in litigation cases involving ground water. This work covered a variety of tasks including drilling, installing, and sampling ground water monitor wells; conducting geochemical analyses of ground water; offering its professional judgment regarding source of contamination; and testifying as an expert witness.

**OIL & GAS INDUSTRY REGULATORY COMPLIANCE: MANY COMPANIES GO ABOVE AND BEYOND**

**Anne Weber, CPG, Attorney, Weber Law Firm, Denver, CO**



Anne Weber was admitted to the Colorado Bar in 1990, U.S. District Court, District of Colorado and U.S. Court of Appeals, Tenth Circuit. She Attended Vanderbilt University (J.D.) after obtaining a B.S. in Geology with honors from the University of Wyoming. She is a member of Colorado Bar Association, Natural Resources and Energy Law Section (Chair, 2008-2009 and Council Member, 2006-2008). She was Vice-Chair, Ethics Committee, Natural Resources, Energy, and Environmental Law Section of the American Bar Association, 1993-1996. Her law practice focuses on the oil & gas industry

**SHALE GAS AND LITIGATION: WHO IS SUING WHOM AND FOR WHAT REASON?**

**Julia Adams, Attorney, Sedgwick LLP, Houston, TX**



Julia Adams leads Sedgwick's Hydraulic Fracturing Task Force. Sedgwick formed the interdisciplinary, cross-practice Task Force to support clients in the insurance, energy and real estate industries respond to issues arising from hydraulic fracking. The fracking process has become much scrutinized in the press and is a target of plaintiffs' attorneys nationwide. Julia's expertise and twenty seven years of experience includes litigation and coverage review of claims arising from onshore and offshore drilling, down hole losses, environmental losses, property claims, business interruption, vessel and dock operations, marine construction and offshore wind facilities



**FACT-BASED REGULATION FOR ENVIRONMENTAL PROTECTION IN SHALE GAS RESOURCE DEVELOPMENT:  
AN UPDATE ON THE ENERGY INSTITUTE**

**Charles G. Groat, CPG, Associate Director, Energy Institute, Jackson School of Geosciences, The University of Texas at Austin**



Dr. Chip Groat is the Director of the Center for International Energy and Environmental Policy and Director and Graduate Advisor of the Energy and Earth Resources Graduate Program. He holds the John A. and Katherine G. Jackson Chair in Energy and Mineral Resources in the Department of Geological Sciences, Jackson School of Geosciences, and is Professor, LBJ School of Public Affairs. He assumed these positions after serving 6 ½ years as Director of the U.S. Geological Survey. He served as interim dean of the Jackson School of Geosciences at UT from July 2008 to August 2009. His previous experience at UT was as Associate Director and Acting Director of the Bureau of Economic Geology and Associate Professor of Geological Sciences. He was appointed an Associate Director of the Energy Institute in the spring of 2010. He has been a member of the National Research Council Board on Earth Sciences and Resources and the Outer Continental

Shelf Policy Board. He is a past President of the Association of American State Geologists and of the Energy Minerals Division and Division of Environmental Geosciences of the American Association of Petroleum Geologists.

**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"**