Advanced Resources International is a professional services firm that provides geological, reservoir engineering, business and policy analysis and advice on a global basis related to unconventional gas resources, enhanced oil recovery and geologic carbon sequestration. Our quarterly update highlights current industry trends, ongoing and completed projects, recent publications, upcoming workshops and events, and company news. We encourage you to visit our website at www.adv-res.com to learn more about our company history, research and technology activities, industry news and much more. You may also contact our offices listed at the bottom of this page for additional information.

“USTDA Concludes Participation in U.S. – India Strategic Dialogue”

A special press release was made on June 24, 2013 by the U.S. Trade and Development Agency (USTDA) which awarded a $588,685 grant to fund a feasibility study for the development of shale gas and shale oil in Deep Industry Limited’s (DIL) conventional oil and gas production concession areas in India. The assistance will help DIL, a private Indian oil and gas exploration and development company, identify the most technically and economically promising areas in which to explore for shale gas and oil within their current concessions. The study will position U.S. companies to work with DIL on its shale gas and oil activities, thus opening the door to potential US exports. DIL has selected Advanced Resources International, Inc. of Arlington, VA to perform the work.

For more information:

“Types of Storage (Mechanisms) and Lessons Learned from SECARB’s Citronelle Storage Site”

George Koperna, a Vice President of Advanced Resources International made a presentation entitled, “Types of Storage (Mechanisms) and Lessons Learned from SECARB’s Citronelle Storage Site”, at the RECS 2013 which was hosted by Southern Company in Birmingham, Alabama this June 17-26. His presentation discussed types of storage reservoirs and the manners in which CO2 would be trapped or utilized within them. The underlying theme centered about the types of data that would need to be collected to estimate the storativity of a given reservoir type. The presentation then closed with an update of the SECARB Anthropogenic Test to set the stage for the subsequent RECS field site tour.

For more information:
http://www.recsco2.org/program
http://www.recsco2.org/impact/view/1640

“Geologic Storage Standards, Legislation and Regulation: Developments and Implications for Commercial Deployment”

Steven M. Carpenter, a Vice President of Advanced Resources International, Inc. made a presentation entitled, “Geologic Storage Standards, Legislation and Regulation: Developments and Implications for Commercial Deployment”, at the RECS 2013 which was hosted by Southern Company in Birmingham, Alabama this June 17-26. This presentation described an overview of standards development relative to CCS and how those standards inter-relate to regulation and permitting. The SECARB Citronelle Anthropogenic Test site was used as an example of how the permits and regulations are applied in practice. The presentation concluded with a discussion of the U.S. participation in the ISO Technical Committee TC-265 which is developing an international standard for CCS. Mr. Carpenter is the Chair of the United States Technical Advisory Group (TAG) to ISO TC-265.

For more information:
http://www.recsco2.org/impact/view/1644

“Opportunities for Utilizing Anthropogenic CO2 for Enhanced Oil Recovery and CO2 Storage”
On June 11th – 12th, Michael L. Godec, a Vice President of Advanced Resources International, Inc., attended a workshop entitled, “Introduction to Carbon Dioxide Enhanced Oil Recovery (CO2-EOR)”, in Houston and Port Arthur, Texas. The workshop was organized by the Center for Climate and Energy Solutions (C2ES), Permian CCUS Center, Railroad Commission of Texas, and North America 2050 (NA2050). The title of Mr. Godec’s presentation was, “Opportunities for Utilizing Anthropogenic CO2 for Enhanced Oil Recovery and CO2 Storage.” The main topics covered in this presentation were: (1) What is the potential for CO2-EOR in Texas, the U.S., and globally? (2) How much CO2 storage could result from CO2-EOR? (3) Is CO2 effectively stored during CO2-EOR operations? and (4) Who will most benefit from pursuing CCUS with CO2-EOR?

The objectives of the workshop were to: (1) introduce U.S. state and Canadian provincial officials to CO2-EOR and its potential; (2) educate workshop attendees on the technical, economic, environmental and regulatory aspects of CO2-EOR; (3) allow representatives from industry, non-government organizations (NGOs), federal agencies, and U.S. state governments to provide their perspectives of CO2-EOR; and (4) examine U.S. federal and state-level policies that incentivize the development of CO2-EOR or provide a regulatory background for CO2-EOR activities.

For more information:

“World Shale Gas and Shale Oil Resource Assessment”

The study, “World Shale Gas and Shale Oil Resource Assessment”, performed by Advanced Resources International, Inc. with sponsorship of the U.S. Energy Information Administration (EIA), targeted 95 shale basins and 137 shale formations in 41 countries (excluding the U.S.). For purposes of completeness, we have also provided information from Advanced Resources International’s proprietary data base of U.S. shale gas and shale oil resources.

For more information:
http://www.adv-res.com
http://www.eia.gov/analysis/studies/worldshalegas/


Two papers by Advanced Resources International personnel will be published in a forthcoming journal addressing enhanced gas recovery and CO2 storage in the Marcellus Shale. One paper, to be in a forthcoming edition of the journal Energy Proscenia is entitled, “Assessment of Factors Influencing CO2 Storage Capacity and Injectivity in Eastern U.S. Gas Shales”, was co-authored by Michael Godec, George Koperna, Robin Petrusak, and Anne Oudinot, all of Advanced Resources International, Inc. A second paper entitled, “Potential for Enhanced Gas Recovery and CO2 Storage in the Marcellus Shale in the Eastern United States”, by the same coauthors, was published in the International Journal of Coal Geology, and is available online as of May 28, 2013. Both papers report on geological characterization conducted that estimated total gas in-place and theoretical maximum CO2 storage capacity within the Marcellus. Detailed reservoir simulation was performed to develop a better understanding of the shale characteristics influencing potential enhanced gas recovery, storage capacity, and injectivity. The study estimates that for the entire Marcellus shale study area, approximately 12 trillion cubic meters (Tm$^3$) of methane are technically recoverable, and would result in 55 billion tonnes (Gt) of CO2 storage capacity.

For more information:

“Potential Global Implications of Gas Production from Shales and Coal for Geological CO2 Storage”

Another paper by Advanced Resources International personnel will be published in a forthcoming edition of the journal Energy Proscenia, entitled, “Potential Global Implications of Gas Production from Shales and Coal for Geological CO2 Storage,” which was co-authored by Michael Godec and Hunter Jonsson of Advanced Resources International, Inc, along with Lyudmila Basava-Reddi of the IEA Greenhouse Gas Programme. This paper builds upon previous work to assess the global potential for geological storage of CO2 in shale and coal formations, as well as the impact of gas production from shales on CO2 storage capacity in underlying deep saline formations. This includes assessment and characterization of: (1) the global status of hydrocarbon production from shales and coal seams; (2) the potential theoretical capacities for CO2 storage in shales and...
CO2 storage capacity and injectivity in the Marcellus Shale in the Eastern United States and “Potential Global Implications of Gas Production from Shales and Coal for CO2 Geological Storage”, which summarized recent work to assess the global potential for geological storage of CO2 in shale and coal formations, including assessment and characterization of: (1) the global status of hydrocarbon production from shales and coal seams; (2) the potential theoretical capacities for CO2 storage in shales and coals; and (3) containment issues arising from shale fracturing, both for shales as a storage medium, and in terms of cap rock integrity for underlying storage units, particularly deep saline formations.

For more information:
http://carbonsq.com/

COMET3 RESERVOIR SIMULATOR

Advanced Resources’ COMET3 reservoir simulator for coalbed methane (CBM) and gas shale reservoirs was the first of its’ kind in the marketplace, the initial version having been developed in the early 1980’s when both resources combined contributed less than 1% to U.S. gas supply. Since then it has remained the industry-standard reservoir simulator for these reservoir types. Advanced technical features include:

- A triple-porosity/dual-permeability option for certain gas shale and coalbed methane (CBM) reservoirs
- Multi-component sorption for enhanced coalbed methane (ECBM) recovery and carbon sequestration (CO2 sequestration) applications
- A robust permeability model A COMET3 brochure, as well as technical papers describing the model theories, and model testing and benchmarking studies, can be downloaded via the links below.

COMET3 Brochure:

UPCOMING EVENTS

2013 Carbon Storage R&D Project Review Meeting
Sheraton Station Square
Pittsburgh, PA
August 20-22, 2013
http://netldev.netl.doe.gov/events/carbon-storage-review

2013 SPE Eastern Regional Meeting
David L. Lawrence Convention Center
Pittsburgh, PA
August 20-22, 2013
http://www.erm-2013.org/

The 30th Annual Pittsburgh Coal Conference
David L. Lawrence Convention Center
September 15-18, 2013
Beijing, CHINA
http://www.engineering.pitt.edu/ppo/

ISO TC-265 Carbon Dioxide Capture, Transportation, and Geologic Storage
China University of Petroleum-Beijing (CUPB) and the China National Institute of Standardization (CNIS)
Beijing, China
September 23-25, 2013
http://www.iso.org/iso/iso_technical_committee?commid=648607

SPE Annual Technical Conference and Exhibition
Ernest N. Morial Convention Center
New Orleans, Louisiana
September 30-October 2, 2013
http://www.spe.org/atce/2013/

Carbon Management Technology Conference
Hilton Alexandria Old Town
Alexandria, VA
October 21 – 23, 2013
http://fscarbonmanagement.org/content/cmtc-2013

AAPG – 2013 Eastern Section Annual Meeting
November 3-4, 2013
Morgantown, West Virginia
http://www.aapg.org/sections/eastern.cfm

CO2 Flooding Conference Week
December 9 - 13, 2013
Midland Center
Midland, TX 79701
http://www.co2conference.net/

For a complete list of industry news, recent white papers and case studies please visit our website www.adv-res.com or contact one or our offices: