

**The Society of Petroleum Evaluation Engineers**  
**SPEE Denver Chapter announces a bonus September Luncheon Meeting.**

(Members and Guests are cordially invited to attend.)

**Tuesday, September 20, 2011**

**Mr. Michael Dolan**

President, Dolan Integration Group



Will be speaking on:

**“Stable Carbon Isotopes as Natural Tracers: Using Established Technologies in Unconventional Ways”**

**LUNCHEON STARTS AT 11:30 A.M.**

(A plate lunch will be served.)

**PRESENTATION BEGINS AT NOON**

**The Denver Athletic Club**

**3<sup>rd</sup> Floor, The New Petroleum Club Room**  
**1325 Glenarm Place (14<sup>th</sup> and Glenarm) Denver CO 80204**  
**Parking flat rate \$7.00 on space available basis**

**Cost: \$35.00 per Person**

(Credit Card, Cash or Check made out to ‘SPEE Denver Chapter’)

**Please RSVP by Noon Monday, September 19<sup>th</sup>, 2011**

## **RSVP and Registration Options:**

**1.) To sign up and then pay by cash or check at the Door, RSVP to John Benton, SPEE Treasurer at [denspee@yahoo.com](mailto:denspee@yahoo.com). Please provide a name and company for each reservation. Checks should be made out to 'SPEE Denver Chapter'.**

**OR**

**2.) To RSVP online and pay by credit card, go to <http://www.spee.org/LocalChapters/Denver.html> Then select "Register For Events" and Select "September". Fill out the indicated registration form.**

### **Speaker Bio.:**

**Mr. Michael Dolan** is founder and president of Dolan Integration Group (DIG) based in Boulder. He is an AAPG Certified Petroleum Geologist specializing in organic geochemistry. He has 15 years of oil and gas industry experience as a successful oil and gas exploration geochemist at companies including Mobil, ExxonMobil and DIG. He holds a BSc in Geology from the University of Illinois at Chicago and an MSc in Geochemistry from the Colorado School of Mines. He is also a member of RMAG and SPE.

Mr. Dolan applies his expertise in geology, geochemistry and the source rock maturation process to evaluate unconventional, fractured shale oil and gas plays. Mr. Dolan primarily focuses on regional resource assessments with emphasis toward developing domestic sources of oil and gas.

DIG is currently expanding with the inclusion of a state of the art geochemical evaluation laboratory. It will further assist Mr. Dolan in applying innovative ideas for exploration and development with emphasis toward the development of reliable technologies to support evaluation techniques in shale plays. Mr. Dolan has proven that established geochemical techniques can be improved and directly applied toward the evaluation of game-changing unconventional resources.

### **Abstract**

The carbon cycle is a system that we are introduced to in our early years. Our ability to track the atomic concentrations of stable carbon isotopes in many of nature's systems helps to describe everything from our diet to our atmosphere. The application of tracking stable isotopes in the petroleum system can be traced all the way back to the early part of the last century. Measuring stable isotopes in hydrocarbon gases has greatly focused the efforts of this technical application toward the evaluation of the petroleum system. Interpretation advancements have been further facilitated by continued refinements to gas collection technologies and to the continuous flow gas chromatography-isotope ratio mass spectrometer (GC/IRMS).

In this presentation, the basics of stable isotope science are reviewed demonstrating how atomic concentrations can help us understand the accumulation of oil and gas in the subsurface. More specifically, the isotope science of carbon-13 found in hydrocarbon gases is discussed. Geochemistry can be a complex topic and can seem rather cryptic at times. This presentation is tailored to engineers and geologists with little to no prior isotope exposure. Mr. Dolan takes a complex geochemical evaluation technique and quickly drills down to the important applications that are currently being developed to evaluate both conventional and unconventional hydrocarbon accumulations. He further demonstrates how stable isotopes can act as natural tracers or "tags" in the subsurface and how they are quickly becoming accepted reliable technology in support of reserves estimation. Examples of stable carbon isotope distributions are provided which demonstrate reservoir compartmentalization, competency of seal, migration of hydrocarbons, and differentiated production of stacked pay.



**About SPEE:** <http://www.spee.org> SPEE was formed in 1962 as a professional, non-profit organization bringing together specialists in the evaluation of petroleum and natural gas properties. SPEE continues today to be strongly committed to providing educational and other services to its members and to the oil and gas industry, and to promoting the profession of petroleum evaluation engineering.

For additional questions, please contact:

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