

RS Calgary event to feature experts in reserves sector



North American experts in geology/engineering, law and regulations, banking and consulting will share their insights on petroleum reserves at the First Annual Ryder Scott Canada Reserves Conference Thursday, Sept. 5. Organizers anticipate that up to 100 executives, managers and technical professionals will attend the full-day event at the Fairmont Palliser Hotel in Calgary. The conference is underwritten by Ryder Scott Canada.

Phillip Chan, a chief petroleum officer at the Alberta Securi-

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Reserves Conference Speakers and Agenda

7:30 a.m. - 8:30 a.m.—Conference check-in and light breakfast

8:30 to 8:40—**Larry Connor**, managing senior vice president at Ryder Scott Canada
Welcome and Introduction

8:40 to 9:10—**John Lee**, professor at the University of Houston
Booking Unconventional Reserves under U.S. SEC Guidelines

9:10 - 9:40—**Phillip Chan**, chief petroleum officer and manager at the Alberta Securities Commission
Booking Unconventional Reserves under NI51-101 Guidelines

9:40 - 10:10—**David Elliott**, independent consultant
Requirements for Investors to Make Reasoned Judgments, Update on COGEH

10:10 - 10:30—**Break**

10:30 to 11:00—**Scott Wilson**, senior vice president and technical advisor at Ryder Scott Petroleum Consultants
SOS Software

11:00 to 11:45—**John Chen**, professor at the University of Calgary
R&D Projects in Unconventional Shale Development and Production

11:45 to 12:45—**Lunch**

12:45 to 1:15—**Cheryl Sandercock**, director at Scotia Waterous Canadian A&D Trends

1:15 to 1:45—**John MacDonald**, technical specialist at Ryder Scott Canada
Reserves Reconciliation

1:45 to 2:15—**Doug Uffen**, managing partner at Geo-Reservoir Solutions Ltd.
Presentation: **Geology and Geophysics in Reserves Estimates**

2:15 to 2:45—**Miles Palke**, senior vice president at Ryder Scott Petroleum Consultants
Reservoir Simulation in Reserves Analysis

2:45 to 3:15—**Break**

3:15 to 3:45—**Vitaliy Charkovsky**, reserves evaluator at Ryder Scott Canada
Heavy Oil Simulation

3:45 to 4:15—**Ray Dupuis**, reservoir engineering specialist at Niko Resources Ltd.
Apply Maximum Likelihood and Gas Material Balance and Contrast with COGEH

4:15 to 5:00—**Marc Folladori**, partner at Mayer Brown LLP
Review of SEC Comment Letters

5:00 to 7:00—**Cocktail Reception**

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Ninth Annual Ryder Scott Reserves Conference set for Wednesday, September 18 at the Hyatt Regency hotel

The 9th Annual Ryder Scott Reserves Conference will be held on Wednesday, Sept. 18 at the Hyatt Regency hotel in downtown Houston. Last year, more than 280 were in attendance at the one-day conference, making it the single largest gathering of senior reserves evaluators. The event features presentations by industry leaders on the latest developments in technology, innovations and compliance.

At press time, the agenda had not been finalized. For more information on the conference, please email RSCConfHouston@ryderscott.com.

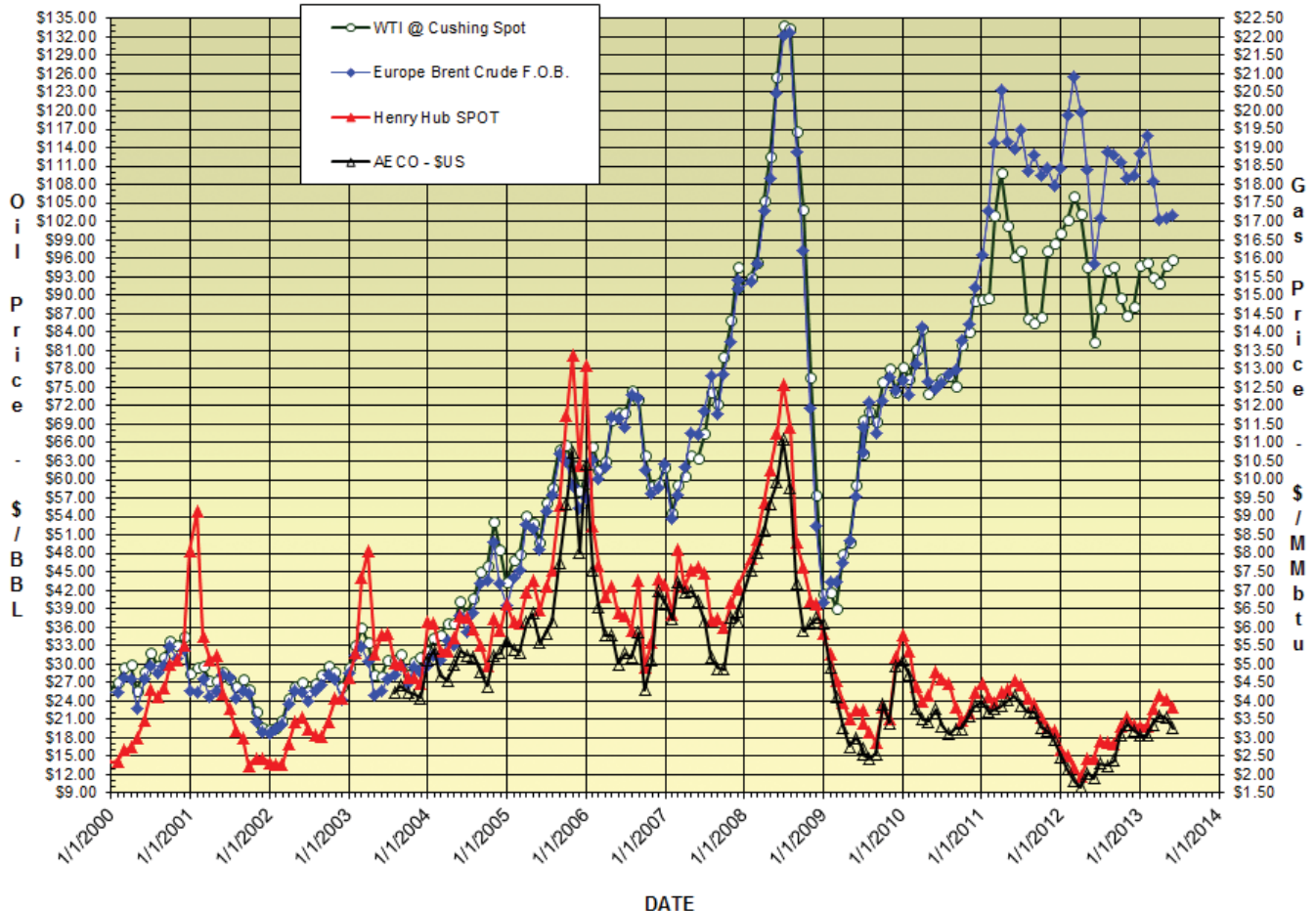


Last year, more than 280 attended the Ryder Scott reserves conference in Houston, making it the single largest gathering of senior reserves evaluators. The one-day event features presentations by industry leaders on the latest developments in technology, innovations and compliance.

Ryder Scott at Booth 419 at SPE-ATCE

Ryder Scott will exhibit at Booth 419 at the Society of Petroleum Engineers Annual Technical Conference, Sept. 30 to Oct. 2, at the Ernest N. Morial Convention Center in New Orleans. The event has attracted more than a half-million attendees from more than 50 countries over 89 years.

Price history of benchmark oil and gas in U.S. dollars



Published, monthly-average, cash market prices for WTI crude at Cushing (NYMEX), Brent crude and Henry Hub and AECO gas.



Dean Rietz, executive vice president, left, and Miles Palke, senior vice president, conducted a training course, "Reservoir Simulation for Practical Decision Making," June 3 to 4 at the SPE Mexican Petroleum Congress in Cancun, Mexico. They plan to present the course at the SPE-ATCE, Sept. 28-29, in New Orleans. Also, Palke is scheduled to present at the First Annual Ryder Scott Canada Reserves Conference. See details on Page 1.

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ties Commission, will share his perspective on booking unconventional reserves under National Instrument 51-101. The latest proposed updates to COGEH will be presented by **David Elliott**, a former chief petroleum officer at the ASC. **Cheryl Sandercock**, a banking director at Scotia Waterous, will analyze new acquisition-and-divestiture trends in Canada. **John Lee**, a former fellow at the U.S. Securities and Exchange Commission who helped guide the historic rules-change process, will delve into the agency's latest interpretations on unconventional reserves bookings.

Twelve presenters, including four from Ryder Scott, will focus on technical, business, legal and regulatory issues in reserves. Networking will occur throughout the day at breaks.

Attendees will receive all presentations in bound volumes and on USB flash drives. APEGA-licensed geologists and engineers will earn up to eight Continuing Professional Development hours.

Meals, accompaniments, hors d'oeuvres, desserts and beverages, including those at the evening cocktail reception, will be catered by the Palliser and are complimentary. Hotel parking will also be provided to attendees.

For further information, please send an email request to ConferencesCalgary@RyderScott.com.



John Lee, left, professor at the University of Houston, meets with Ron Harrell, chairman emeritus at Ryder Scott, at the 2011 Ryder Scott Reserves Conference in Houston. Lee, a former fellow at the U.S. SEC during its rules-change process four years ago, plans to speak at the Calgary reserves conference Sept. 5. Harrell started the Houston event eight years ago.

SEC sharpening focus on timing of PUD conversions



Wilson

The U.S. Securities and Exchange Commission continued to closely track proved undeveloped reserves conversions during the third year of its modernized petroleum reserves disclosure rules, as evidenced by the agency's comment letters addressing year-end 2011 reserves filings. Public issuers in U.S. equity markets will have to drill PUD locations carried on the books for the five-year maximum or reclassify them to probable.

The SEC rule is that with few exceptions, it disallows booking PUDs past five years. Specifically, "undrilled locations can be classified as having undeveloped reserves only if a development plan has been adopted indicating that they are scheduled to be drilled within five years unless the specific circumstances justify a longer time." Adoption requires a final investment decision.

The PUD concern and other reserves reporting issues were revealed in a sur-

vey of SEC comment letters that was presented by **Jeffrey Wilson**, managing senior vice president, at a Society of Petroleum Engineers Gulf Coast Section forum in May. He told attendees at the reservoir technology forum that he used Ryder Scott's SEC Seeker tool to conduct his research on the letters.

Wilson, who serves on the SPE Oil and Gas Reserves Committee, found that development of PUD reserves was the topic of 26 percent of the SEC comments to industry—by far the most numerous reserves issue last year.

Several comments clearly emphasized that the five-year time frame begins at each volume's "initial booking" as opposed to simply checking if undeveloped reserves are scheduled to be developed more than five years from the as-of date of the report. The new rules

went into effect at YE 2009, so the window of time is narrowing on PUDs initially reported at that time.

The SEC is also looking at the percentage of PUD conversions annually to monitor the progress of companies. Wilson showed examples in which the SEC referred to previous PUD filings in 2009 and 2010 to question the rate of PUD conversion.

One comment letter targeted a company with annual PUD conversion rates of 5.7 percent, 8.8 percent and 10.9 percent over the first three years of the new rules. The SEC asked the company to discuss its historical and current conversions in the context of development plans. The comment letter stated that "we (the SEC) would expect PUD conversions in a five-year development time frame to approximate 20 percent of the beginning-of-year volumetric balance..."

Two years ago, Ryder Scott announced the results of its cumulative frequency analysis on 53 companies receiving SEC comment letters. The findings were that 80 percent were drilling at a track record slower than required to meet the five-year rule. Only 16 percent of companies were on track to comply and 50 percent were on a 10-year track.

Reporting natural gas liquids was an issue in 13 percent of comment letters to industry, said Wilson. Many companies received letters regarding combined estimates of oil and NGLs. The SEC requested that oil and NGLs be disclosed separately.

Whether NGL volumes are bookable remains an issue. Wilson said that the interpretive position of Ryder Scott is that NGL volume bookings are dependent on custody transfer points based on the processing agreement. If the title transfers at the plant outlet (post-processing), then report NGL reserves volumes with residue (dry) gas reserves volumes and corresponding future net income. If the title transfers at the plant inlet (pre-processing), then report wet gas

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UNFC-2009 for fossil energy ready for full-scale application, SPE recommendations aside

An expert group at the United Nations endorsed specifications for the application of a worldwide classification system for petroleum and minerals reserves and resources. The specifications “operationalize” the UN Framework Classification for Fossil Energy and Mineral Reserves and Resources 2009 (UNFC-2009), the group said in April.

The UN plans to publish UNFC-2009 and its specifications document in one package in all languages of UN member countries between August and December. “With the finalization of specifications, UNFC-2009 is now ready for the first rounds of full-scale application,” the group said.

“The specifications document has been negotiated at great length over the last couple of years,” said **Ron Harrell**, chairman emeritus at Ryder Scott. “It’s a negotiated result, but I am generally satisfied with it.” Harrell is a former chairman of the SPE Oil and Gas Reserves Committee.

The SPE OGRC, American Association of Petroleum Geologists Committee on Resource Evaluation, Society of Petroleum Evaluation Engineers and Society of Exploration Geophysics provided input during a comment period before the specifications draft was released.

Last December, SPE recommended the deletion of Annex V of the specification document that

addressed project maturity to subclassify projects using UNFC-2009. The UN expert group took no action on the matter

SPE contended that Annex V duplicated some SPE-PRMS definitions on project maturity classes but objected to “selective revisions” that changed what was intended in the SPE-PRMS. “The UNFC-2009 cannot be used as a standalone classification

system for petroleum, ...but must be linked via the bridging document with an underlying technical specification system such as the SPE-PRMS.” Annex IV is the bridging document. It explains the relationship between the two systems.

SPE also objected to specifications that a resources estimate based on UNFC-2009 guidelines on an aggregate basis by region or country may be considered to be “reasonably comparable to estimates that would have been derived through a detailed, project-by-project evaluation had such information been available.” The UN acknowledged that the word-

ing could cause concern but maintained that the statement is factual.

A draft of the specifications document is available for downloading at http://www.unece.org/fileadmin/DAM/energy/se/pdfs/egrc/egrc4_apr2013/ECE.ENERGY.GE.3.2013_3_e.pdf.



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reserves volumes and corresponding future net income.

Wilson said Targa Resources Corp. submitted a white paper to the SEC on how to treat NGL reserves for percent-of-proceeds contracts between producer and processor with the title transfer at the inlet vs. POP contracts with take-in-kind provisions. The white paper sought to clarify the SEC’s opinion regarding the custody transfer point and NGL reserves bookings.

Wilson said, “Unfortunately, the SEC declined to answer this question and encouraged Targa to pursue the matter with the U.S. Financial Accounting Standards Board. Ryder Scott is monitoring this issue for any additional clarification by the SEC or FASB.”

Wilson also remarked that the SEC is paying close attention to current and future development costs by comparing YE reported costs and volumes to future costs and volume projections. He showed one of several SEC comments asking a company to respond to inconsistencies between prior and future development costs per unit volume of undeveloped reserves.

One example comment letter referenced a

company’s incurred development costs of \$284 million at YE 2011 to convert 228 Bcfe of PUDs to proved developed reserves compared to a much lower incurred cost the prior year of \$183 million to convert roughly the same PUD reserves number at 217 Bcfe. The SEC asked the company to discuss the dissimilarities. The SEC also questioned various inconsistencies between reported estimated future development costs to convert PUDs in the reserves disclosure sections of the filings and different values reported in the standardized measure disclosure sections.

“Your reserves economics and standardized measure calculations involving capital expenditures, abandonment costs and oil and gas prices have to be consistent and correct,” said Wilson.

In closing, he said that he expects that this year, industry will see some changes from the SEC primarily because the agency will not be as staff constrained. The SEC hired **John Hodgin**, former Ryder Scott president, late last year. Wilson’s presentation is posted at <http://www.spegcs.org/media/files/event/973f5722/Wilson-SEC-Comments-2012.pdf>.

SPEE revises statistical approach to resource plays

The Society of Petroleum Evaluation Engineers in June published corrections to errors in its Monograph 3, which presents a practical evaluation method to estimate undeveloped reserves in resource plays. The errata are located at <https://secure.spee.org/sites/default/files/Monograph%203%20Errata.pdf>.

SPEE posted amplifications, clarifications and corrections for chapters 1 through 4. Seven corrections were made to the monograph.

In the errata, the society stated that “for most limited sample distribution graphs, we recommend midpoint plotting” over the “equal interval method, a frequently used graphing technique.” Also, SPEE clarified that analogous wells are a sample of the entire population but not identical. To be “pragmatic,” the monograph committee “made the simplifying assumption in all of its aggregation work that the sample mean and variance were equal to the population mean and variance.”

Table 2.1 in the monograph shows that in a resource play, when the ratio of P10/P90 is 4, which is common, then the recommended minimum sample size is 60 wells, which represents the population mean at a 90-percent confidence level.

SPEE said that the sample size in Table 2.1 meets the “reliable technology” criteria of the U.S. Securities and Exchange Commission. Monograph 3 was published in 2011. The addenda were based on two years of practical user feedback.

At the SPEE annual convention in June, the society said that it was in an approval process to include corrections for all future monograph sales and to those who previously purchased copies.

Table 2.1 SPEE Recommended Minimum Sample Size

P ₁₀ /P ₉₀ Ratio	Recommended Sample Size	Comments
2	15	Ratio not likely to be seen
3	35	Common Ratio
4	60	Common Ratio
5	75	Common Ratio
6	100	Common Ratio
8	130	Common Ratio
10	170	Possible data quality / analogy issues
15	290	Possible data quality / analogy issues
20	420	Possible data quality / analogy issues
30	670	Possible data quality / analogy issues



Ken Whaley, Martin Cocco and Crystal Cao from Ryder Scott toured Guangzhou, China, with personnel from client China National Offshore Oil Corp. in late May. Those pictured are as follows:

Front Row: Huang Yueyin, Yang Yan, Ma Yanjun, Sun Yingtao, Huang Yan, Wang Feihong, Chen Yunyan, He Juan

Middle Row: Yang Baoquan, Wei Xian, Cheng Jia, Cao, Wang Qingru, Cocco, Whaley, Fu Ying, Zhang Yue

Back Row: Wang Xinguang, Chen Li, Li Jinggong, Wang Shaopeng, Chen Bin, Ge Zunzeng, Li Yuyong, Wang Yunxian

Petroleum engineers join all three Ryder Scott offices



MacDonald

Donald John MacDonald has joined the Calgary office as a petroleum engineer and technical specialist. He has more than 30 years of experience in the Western Canada Sedimentary Basin and internationally. Recently, he has focused on the analysis of water-flooding, enhanced oil recovery and shallow-gas and shale-gas assets.

MacDonald was an engineering specialist for eight years until 2011 at

AJM Petroleum Consultants. He provided exploitation engineering support and reserves evaluations for corporate and acquisition-and-disposition purposes for Canadian and international clients.

MacDonald issued oil and gas reserves reports for corporate disclosures and A&D transactions for more than 25 clients across western Canada and internationally. His focus was on the largest and most technically complex properties. Evaluations were based on NI 51-101, U.S. SEC and SPE-PRMS standards.

MacDonald also modeled a heavy-oil solvent flood and provided economic support. He also provided exploitation services for a British Columbia shale gas development, evaluated reserves in an Edmonton shallow gas play and evaluated heavy oil assets in Trinidad & Tobago.

Before joining Ryder Scott, MacDonald was a reserves consultant at Columbus Oil & Gas LLC and Pengrowth Energy Corp.

He started his career as a reservoir engineer at BP Resources Canada Ltd. in 1981. He worked there for nine years and was a corporate development coordinator in 1990 when he left to join Saskoil, which later became Wascana Energy Inc.

MacDonald worked there for six years. As a senior evaluation engineer, he was responsible for all non-operated properties in Saskatchewan and southern Alberta. Later, as a senior coordinator in corporate planning, MacDonald provided technical, business and strategic support to international activity in the North Sea, Irish Sea, onshore U.K., offshore Spain, Turkey, Algeria, Tunisia, Indonesia, Venezuela and North America. Later, MacDonald became a manager of credit and risk at Wascana.

He was also the founder of Grizzly Energy Inc., a junior oil and gas company, with interests in southern Alberta. MacDonald directed Grizzly from 1996 to 2009. He has BS degrees in chemistry and chemical engineering, respectively, from the University of Calgary. He is a Registered Professional Engineer in Alberta (APEGA) and a member of the Society of Petroleum Engineers.

Clark D. Parrott recently joined the Denver office where he performs economic evaluations and prepares reserves reports for use in annual U.S. SEC filings.

He also prepares reports for banks and investor groups and to support A&D transactions. Parrott has estimated oil and gas reserves in several U.S. shale plays.



Parrott

He has more than 25 years reservoir engineering experience in Rocky Mountain and midcontinent regions with emphasis on exploration and development, operations and acquisitions. Parrott is skilled in use of traditional reservoir engineering principles, including decline-curve analysis, log evaluations, pressure-transient analysis, volumetrics and material-balance calculations. He has extensive experience in waterflood and simulation engineering.

Before joining Ryder Scott, Parrott was a petroleum engineer at Norstar Petroleum Inc. for ten years. He developed projects from lead status to drillable locations and provided engineering expertise for risked economics and potential reserve targets. He also assessed E&D prospects, scheduled drilling and executed drilling contracts, designed completion/stimulation procedures and generated reserves projections. He completed several waterflood studies.

Before that, Parrott was an engineering analyst at Terra Resources/Pacific Enterprises Oil Co. from 1987 to 1991. He is a Registered Professional Engineer in Colorado and has a BS degree in petroleum engineering from the Colorado School of Mines.

Pablo A. Castellon

joined Ryder Scott as a petroleum engineer. Previously, he worked at Ryder Scott as a contractor for three years. He performs independent evaluations of oil and gas reserves estimates and forecasts future reserves volumes and economics.

Castellon evaluates in-place hydrocarbon volumes and recovery factors to estimate reserves. He also conducts decline-curve analysis to estimate remaining

reserves. Castellon uses statistical analysis to estimate resources and volumetric and analogy methods. He also performs material balance and conducts well-test analysis.

Castellon has a BS degree in civil engineering from Michigan State University and is a member of SPE.

Laurymar Perez-Mejias joined Ryder Scott as a petroleum engineer after working as a contract engineer for three years. She estimates reserves in

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Perez-Mejias

accordance with U.S. SEC rules and SPE-PRMS guidelines. Perez-Mejias conducts reserves recovery evaluations, production scheduling and economic evaluations using DCA and volumetric calculations.

She uses various economic evaluation programs to analyze future estimated reserves volumes and cash flows. She has evaluated the reserves and resources of Pemex, Ecopetrol SA, PDVSA SA and Trinidad and Tobago. Perez-Mejias has a BS degree in petroleum engineering from Oriente University in Venezuela.

Syed Rizvi joined Ryder Scott as a petroleum engineer. Before that, he was a senior systems analyst at Enterprise Product Partners for five years. Rizvi designed, developed and implemented enterprise-level architecture. He tracked and managed the flow of petroleum products across wells, pipelines and other assets.

Rizvi started his career at Schlumberger Information Solu-



Rizvi

tions in 2002 as a petroleum engineer where he developed production engineering software systems to improve engineering logic, accuracy and usability of processes based on feedback.

After that, he worked for Verizon Comm. Inc., Value Options Inc., American International Group and Harris County in system applications development

Rizvi has BS and MS degrees in petroleum engineering and computer science, respectively, from Texas A&M University and is a member of SPE.

Publisher's Statement

Reservoir Solutions newsletter is published quarterly by Ryder Scott Co. LP. Established in 1937, the reservoir evaluation consulting firm performs hundreds of studies a year. Ryder Scott multidisciplinary studies incorporate geophysics, petrophysics, geology, petroleum engineering, reservoir simulation and economics. With 130 employees, including 90 engineers and geoscientists, Ryder Scott has the capability to complete the largest, most complex reservoir-evaluation projects in a timely manner.



Cagle

Adam L. Cagle joined Ryder Scott as an associate petroleum engineer in the reservoir simulation group in Houston. He has a BS degree in petroleum engineering from the University of Houston and is a member of the Tau Beta Pi Engineering Honor Society. See all resumes at www.ryderscott.com/Experience/Employees.php.

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