RESERVOIR SOLUTIONS

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Rietz elected as new CEO, Roesle steps down

he new chairman and chief executive officer at Ryder Scott is Dean Rietz. Stepping down from those positions after 14 years at the helm, was **Don Roesle**.

Rietz is the seventh top executive in the 82-year history of Ryder Scott. He was elected to the board of directors in 2005, and served as executive vice president in 2012 and president in 2015. He joined Ryder Scott in 1995, and established the reservoir simulation group three years later. The formation of this group underscored Ryder Scott's commitment to advancement of its reservoir modeling capabilities.

Considered an expert, Rietz has been involved with all facets of simulation, including initial model design and conceptualization, model construction, history matching, calibration and final project documentation. In 2001, he and a colleague wrote a seminal SPE paper on reserves evaluations and the application of simulation, "The Adaptation of Reservoir Simulation Models for Use in Reserves Certification under Regulatory Guidelines or Reserves Definitions," (SPE 71430).

The published work broke ground and was the first of four

SPE papers written on that subject by Rietz and Ryder Scott co-authors.

Rietz has more than 35 years of industry experience. Before joining Ryder Scott in 1995, he taught in-house material-balance schools to engineers at Chevron Corp. and the Eclipse user course while at Intera Petroleum Production Division.

Rietz began his career at Chevron USA Inc. in 1984 as a project engineer and started conducting modeling studies at Chevron E&P Services in 1988.

He is a registered professional engineer in Texas. Rietz received a BS degree in petroleum engineering from the University of Oklahoma and MS degrees in petroleum engineering and hospitality management from the University of Houston.

Rietz is an adjunct professor at UH where he teaches an applied reservoir simulation graduate course. He is also a member of SPE, SPEE and an instructor for the SPE short course, "Reservoir Simulation for Practical Decision Making."

Rietz was also a 2016-2017 SPE Distinguished Lecturer and chairman of the UH Petroleum Engineering Advisory Board.

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Roesle guided RS through decades of industry change

Don Roesle, former CEO at Ryder Scott, sees another market trend since he joined the firm 44 years ago. "Who would have ever thought of the possibility that Saudi Aramco would launch an IPO in public financial markets because they were concerned about cashflow from oil production in a low-price environment," he recently said. "Or that some of the other mega producers in the Middle East would be considering transparency in their reserves process in case they have to go to public markets?"

With more than four decades of experience in the international oil and gas industry, Roesle knows that change is the only constant.

Under his leadership in operations in the 1990s, Roesle helped guide Ryder Scott during major changes, including its transition from the premier U.S. and Gulf of Mexico evaluation consultant to its rapid growth in the international arena. He directed multidisciplinary project teams in major reservoir and field-development studies worldwide during that time.

Roesle joined Ryder Scott in 1975 and became vice president in 1979, senior vice president in 1995, executive vice president in 1997, president and chief operating officer in 2000, CEO/ COO in 2005 and CEO/chairman in 2006.

In 1999, he and other board members changed the firm's 62-year-old trade name, Ryder Scott Company Petroleum Engineers, to Ryder Scott Petroleum Consultants. The new moniker reflected Ryder Scott's transformation from an engineering concern to a multidisciplinary reservoir evaluation firm.

Then came the post-Enron era characterized by increased regulatory scrutiny as Sarbanes Oxley became a primary driver for change. Following a major reserves revision by the U.S. Securities and Exchange Commission, Royal Dutch Shell engaged Ryder Scott to conduct a fast-track review of the reserves classifications of selected fields in 2004.

As Roesle would say later, "Company management, investors and regulators are all asking questions about reserves assets, compliance, corporate governance, independence and transparency. They are asking that critical question, is the company SEC and SOX compliant? And they are turning to evaluators for those answers?"

On Roesle's watch, Ryder Scott grew its position as the No. 1 consultant of record as measured by number of clients filing reserves information with the SEC.

However, more SEC clients meant more challenges in dealing with outdated reserves reporting regulations. Always upfront and honest, Roesle told a group of reserves evaluators,

"Who would have ever thought of the possibility that Saudi Aramco would launch an IPO in public financial markets because they were concerned about cashflow from oil production in a low-price environment?"

Don Roesle

"The SEC, your chief regulator, has made our jobs a little more difficult on a daily basis, as we try to interpret exactly the intent of their guidelines."

His remarks were part of a presentation at the 2008 Ryder Scott reserves conference. Roesle pointed to signs that the SEC was preparing for "possible changes," and by the end of the year, the SEC adopted more modern reporting rules.

He managed one of Ryder Scott's largest projects - the Elk Hills field study in 1998. The firm deployed 51 of its engineers and geoscientists, grouped them into reservoir asset teams and assigned each team to a specific Elk Hills reservoir.

"Very few reservoir engineering firms at that time even had that many professionals to do the work," he said. The firm spent more than 40,000 hours analyzing the field data and produced a three-volume report a foot thick.

Under his leadership in the 2010s, Ryder Scott acquired more clients producing from emerging shale plays and, buoyed by high prices, the firm reached record sales revenues.

Roesle began his career at Tenneco Oil Co. as a drilling and reservoir engineer. But it was his tenure at Ryder Scott that will be remembered. His office was always open to anyone at the firm.

Brenda Mayes, vice president of administration, described Roesle as "detail oriented, works with excellence, but works with compassion for Ryder Scott, its employees and families."

At meetings, Roesle made his points but also listened to all

sides without interrupting -- treating adverse viewpoints not as threats, but as valuable feedback -- he would then make a decision as leader or in concert with the board of directors or executive committee.

With an Xs and Os coaching style, Roesle has been a mentor for those who are now senior experts at Ryder Scott.

"In the course of someone's career, you may have the opportunity to work with somebody like Don only about once or twice in a career," said Larry Connor, advising senior vice president. "Don made a difference in my career and the careers of others."

Roesle also mentored Miles Palke, who is head of reservoir simulation. "Nobody else in the company has been a better mentor to me and to other engineers in Ryder Scott's history," said Palke. "Over time, I've learned so much on reserves and reservoir engineering."

Roesle has given numerous presentations and seminars to both the financial community and industry colleagues. He is a registered professional engineer in Texas and a member of SPE and the Society of Petroleum Evaluation Engineers.

Roesle is a past member of the Industry Advisory Committee to the Department of Petroleum and Geosystems Engineering at the University of Texas and currently serves on the UT Engineering Advisory Board of the College of Engineering.

Roesle has BS and MS degrees in petroleum engineering from UT.

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Student interview elicits insights into profession

Last year, **Caleb Hoopes**, an 11th-grader at Blue Valley High School in Overland Park, KS, contacted Ryder Scott to find out more about petroleum engineering as a profession. He never expected that CEO Don Roesle would reply and offer some guidance.

Hoopes said, "I took a tour of the University of Kansas and the petroleum engineering building and I loved it. Ever since then I have been doing research and I think that petroleum engineering is for me."

Roesle agreed to answer several questions from Hoopes, including, "If you had it to do over, related to your career or education, would you do anything differently?"

Roesle responded, "I can say in all honesty that I would not change a thing I have done. I obtained a first-class education that prepared me very well for the energy industry and I have been very fortunate in the opportunities that have been presented to me."

He added, "The one exception to my comments is that I wish I had taken more geology courses while in college. Many engineers come into the industry with an incomplete understanding of the geosciences, which can be a hindrance to their full understanding of the reservoirs under evaluation."

Asked about what an average day looks like, Roesle said, "If you decide on the petroleum engineering field, you are picking a very demanding career, particularly in the consulting business. Every project comes with a deadline that clients expect you to meet. Each project is different but yet with many common requirements."

He added, "Our days are generally filled with almost constant time on a computer manipulating unbelievable amounts of data to determine the best and most reasonable answer to analyzing oil and gas reservoir performance to determine the quantities of recoverable reserves and their economic value."

The CEO continued to share his perspective with Hoopes, who used the feedback in a classroom project.

Roesle said, "Petroleum engineering is not a high-profile career like medicine or the legal field, but it can be a very rewarding career path. It's very technical in nature but can lead to many opportunities in the business world through finance and management. Many heads of energy companies are engineers by training, not business majors, but their career paths take them into management. Petroleum engineering is a worldwide profession that presents the opportunity for travel and involvement with people from all Student Interview on page 12

15th Annual Ryder Scott Reserves Conference

Houston conference, panel discussion feature a return to conventional reservoirs

The Ryder Scott reserves conference in Houston on Sept. 12 will feature presentations that reflect a growing change in sentiment among U.S.-based producers. In the Barnett shale play 30 years ago, producers began climbing the learning curve, increasing efficiencies and improving drilling-and-completions technology. They applied that know-how to other emerging plays, and now the United States is poised to pump a record 13.4 million BOPD by year-end, with the Permian Basin leading the way.

At the same time, the U.S. shale industry is starting to show some cracks, as critics in the industry and news media point to less than stellar returns, rising debt and production forecasts that do not meet expectations. Last year, the Wall Street Journal stated, "Two-thirds of projections made by the fracking companies between 2014 and 2017 in America's four hottest drilling regions appear to have been overly optimistic," based on 16,000 wells operated by 29 of the biggest producers in oil basins in Texas and North Dakota.

Industry critics of the Permian say that higher-than-expected GORs and lower oil production rates develop as reservoir pressures drop below bubble point, signifying "bubble point death." Others have published that after five years of production, horizontal wells in the Wolfcamp deep basin have declined annually at about 14 percent rather than the expected 5-to-7-percent terminal declines seen in older vertical wells there.

Tighter spacing and well-to-well interference have steepened the declines. Formations have not been as liquid rich as once expected.

While the issue is not yet settled, some oil and gas companies have shifted their focus. Ali Porbandarwala, senior vice president at Ryder Scott, has noticed clients cultivating a growing "balance of property portfolios with a good mix of conventional and unconventional opportunities, generating varied time horizons and cash flows."

He added that costs to acquire unconventional acreage in core areas have run too high for many producers to make healthy returns. Porbandarwala said, "Capital markets are now more reluctant to finance unconventional oil and gas projects when a company's operating free cash flow is limited. The honeymoon period may be over. There is a growing number of conventional opportunities in the world with more attractive returns."

Counter to that, some within the financial community are unwilling to shift their attention from unconventionals. Generally, experienced, successful producers in "statistical" plays are focused, specialized enterprises with lower risks than more diverse E&P companies, some investors say.

Porbandarwala is organizing the Ryder Scott conference. On tap are presentations and discussions on those issues. Perennial speaker John Lee, a professor at Texas A&M University, will present, "Are Our Estimates of Recovery from Unconventional Resources as Bad as Critics Say?" A panel discussion led by Ron Harrell, chairman emeritus at Ryder

Scott, will focus on the potential shift of capital back to conventional assets. Please see the following agenda and schedule.

Details at a Glance

Date: Thursday, Sept. 12, 2019

Time: Check-in starting at 7 a.m.; conclusion of ethics presentation at 5:10 p.m. Where: Hyatt Regency Hotel, Imperial Ballroom, 1200 Louisiana St., Houston, Texas 77002 Ethics Hour: Starts at 4:10 p.m.

Cocktail Reception: 5:10 p.m. to 7 p.m.

Email requests, questions or comments to RSCConfHouston@ryderscott.com.

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Time	Speaker	Affilia
7:00 a.m. – 8:00 a.m.		
8:00 a.m. – 8:20 a.m.	Dean Rietz & Guale Ramirez CEO & President, respectively	Ryder Sco
8:20 a.m. – 9:05 a.m.	Vicki Hollub Chief Executive Officer	Occident
9:05 a.m. – 9:50 a.m.	John Lee Professor	Texas A&
9:50 a.m. – 10:20 a.m.		
10:20 a.m. – 10:55 a.m.	Miles Palke Managing Senior VP - Simulation	Ryder Sc
10:55 a.m. – 11:30 a.m.	Adam Cagle Senior PE - Data Science Coordinator	Ryder Sco
11:30 a.m. – 12:30 p.m.		
12:30 p.m. – 1:15 p.m.	Michael E. Clark Reserves Consultant, Global Reserves	Chevron
1:15 p.m. – 2:00 p.m.	Ron Gajdica Managing Director and Global Head of Engineering	EIG Globa
2:00 p.m. – 2:15 p.m.		
2:15 p.m. – 3:00 p.m.	Steve Phillips Managing Senior VP - Geoscience	Ryder Sco
3:00 p.m. – 4:00 p.m.	Panel Discussion - led by Ron Harrell Ryder Scott Chairman Emeritus	Ryder Sco
4:00 p.m. – 4:10 p.m.		
4:10 p.m. – 5:10 p.m.	Dee Raibourn Senior Enforcement Attorney	U.S. SEC

5:10 p.m. - 7:00 p.m.



Schedule of Events

ges in a Changing World"			
ation	Topic		
	Conference Check In and Light Breakfast		
Scott Co. LP	Welcome and Introduction		
ntal Corp.	ТВА		
&M University	Are Our Estimates of Recovery from Unconventional Resources as Bad as Critics Say?		
	Break		
Scott Co. LP	Latest Themes in SEC Comment Letters		
cott Co. LP	Talking Shop: Data Science at Ryder Scott		
	Buffet Luncheon		
n Services Co.	Buffet Luncheon Booking Proved Reserves Beyond Original Facility Design Life - Gulf of Mexico		
n Services Co. Dal Energy Partners	Booking Proved Reserves Beyond Original		
	Booking Proved Reserves Beyond Original Facility Design Life - Gulf of Mexico Practical Use of Reserves Reports: Compliance,		
	Booking Proved Reserves Beyond Original Facility Design Life - Gulf of Mexico Practical Use of Reserves Reports: Compliance, Lending and Transactions		
oal Energy Partners	Booking Proved Reserves Beyond Original Facility Design Life - Gulf of Mexico Practical Use of Reserves Reports: Compliance, Lending and Transactions Break Mind the Gap - Leaping from Prospective to		
oal Energy Partners cott Co. LP	Booking Proved Reserves Beyond Original Facility Design Life - Gulf of Mexico Practical Use of Reserves Reports: Compliance, Lending and Transactions Break Mind the Gap - Leaping from Prospective to Contingent Resources - A Case Study Ron Gajdica w/ EIG,, Eric Hambly w/ Murphy Oil Corp., Tom Harris w/ Blackrock Inc., John Howie w/		

Reception including Wine and Beer

From left, Ryder Scott petroleum engineers Mark Nieberding, senior petroleum engineer; Guale Ramirez, president; Herman Acuna, executive vice president; and Miles Palke, managing senior vice president, at the 2018 reserves conference in Houston.

New board members, other promotions at Ryder Scott

Besides the board election of Dean Rietz to CEO, Ryder Scott made other major management changes and promotions. Former executive vice president Guale Ramirez, a petroleum engineer since 1976, is the new president. He joined Ryder Scott as a petroleum engineer in 1981. Before that, Ramirez worked as a petroleum engineer at Natomas North America and Sun Production Co., where he began his career. He has

a BS degree in mechanical engineering from Texas A&M University.

Ramirez is a registered professional engineer in Texas and member of SPE, SPEE and the Society of Petrophysicists and Well Log Analysts.

New board members

Newly elected board members are managing senior vice presidents, Miles Palke and Tosin Famurewa.

Palke, leader of the reservoir simulation group, has more than 20 years of reservoir engineering experience with a heavy emphasis on simulation. Areas of expertise include sector and full-field modeling, fluid characterization, compositional simulation, coalbedmethane recovery, gas storage operations, nodal analysis, well test analysis and material

Miles Palke balance analysis.

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



Tosin Famurewa

engineering from the University of Southern

California and BS degrees in chemical engineering and material science, respectively, from the University of California at Berkeley

present values.

projects worldwide.

Famurewa began his career at Texaco Inc.

and Chevron Corp. For more than 20 years,

analyzed waterflood and steamflood EOR

manages evaluation projects. He estimates

reserves, forecasts production and analyzes

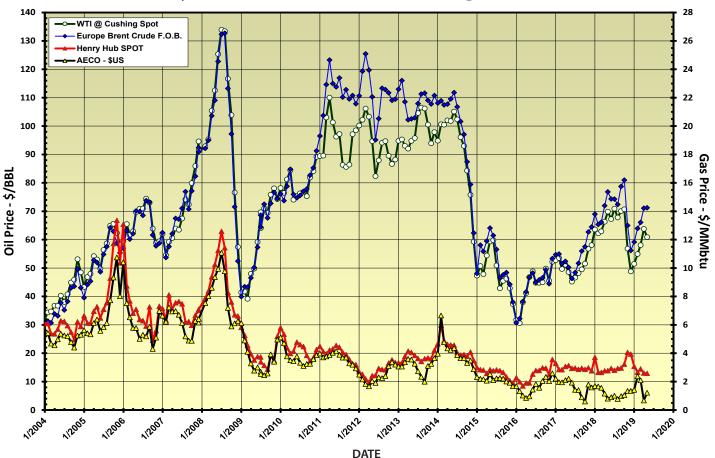
field economics to generate discounted net

He has an MS degree in petroleum

he has conducted reserves evaluations and

At Ryder Scott, Famurewa, group leader,

Famurewa is a member of SPE.



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

Other promotions

Herman Acuna and Larry Connor are new executive vice presidents. The board promoted Ryan Wilson to managing senior vice president and group leader. Philip Jankowski is a new senior vice president.

SPE TIG debates industry practices for production forecasting in N. America

An SPEE survey of evaluation engineers, mostly in North America, sparked a lively discussion on the integration of forecasting methods to estimate reserves. At press time, survey results were posted at the Society of Petroleum **Evaluation Engineers**

What methods for production forecasting do you generally use?

> Arps with terminal decline Analogy/type curves Other historical performance plots **Other decline-curve relations Reservoir simulation** Rate-transient analysis **Material balance Fractional flow**

Source: SPEE 2018 Petroleum Evaluation Software Symposium

https://secure.spee.org/sites/spee.org/files/spee_software_symmultivariate regression analysis, machine learning and other posium_user_survey_results_for_distr_20181017-002_1.pdf statistical approaches.

Although most of the questions focused on the use of economic software, the question and results (above) are what set online discussions abuzz in a reservoir engineering technical interest group (TIG) of the Society of Petroleum Engineers (SPE).

TIG participants questioned why almost half of the 312 respondents indicated they generally use decline-curve analysis (DCA), an empirical method for production forecasting, instead of analytical tools. Only 5 percent or less of survey takers used either reservoir simulation, rate-transient analyses or fractional-flow methods.

To varying degrees, those reservoir engineering tools address the physics of fluid storage and flow.

Survey respondents comprised a balanced "sounding board," with 47 percent working at E&P companies while 39 percent were consultants. Results were regionally biased in that, all but 11 respondents were based in North America.

TIG participants pointed to "departmentalization" of staffs



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

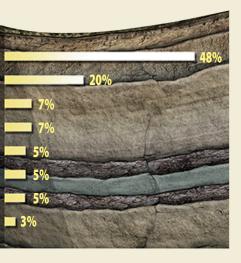
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Victor Abu, Deji Adeyeye, Vitaliy Charkovskyy, Amara Okafor, Lehi Woodrome and He Zhang became vice presidents. The board promoted **Cindy Ton** to senior engineering technician and Jacqueline Nemry, Nathan Spann and Mark Stell to engineering technicians.

website at

in large companies as an obstacle to integration of various evaluation techniques. Basically, those dedicated to field development and building business cases use processes and tools sometimes distinct from those used by corporate reserves evaluators.

The latter traditionally have relied mostly on modified Arps DCA and type curves to forecast production from unconventional reservoirs. In projects with some level of



maturity, those methods enable corporate reserves evaluators to guickly handle large numbers of wells, especially with the rising use of autoforecasting routines.

The survey did not elicit comments on more recent DCA methods by name or on probabilistic modeling. Stochastic methods, used since the 1960s when it got its start primarily in exploration and drilling, have ascended in the world of reserves evaluations, ushered in by

One commenter advocated for a more holistic, integrated approach to estimate reserves, suggesting that results from simulation and other methods be shared regularly with the reserves-evaluation side.

Another TIG member said the use of DCA in corporate reserves reporting satisfies U.S. and Canada regulators who want public issuers to use consistent, repeatable computational methods. In that way, investors are able to use a common yardstick to compare public issuers and their estimated reserves and net present values under standardized measures.

Reservoir simulation that meets the criteria of a "reliable technology" under SEC definitions can be used, in most cases, with other methods, to estimate and file reserves.

For information on SPE TIGs, contact the society. The website is www.spe.org.

RESERVOIR SOLUTIONS

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Student Interview – Cont. from page 3

corners of the world."

Hoopes said he was grateful to have the opportunity to learn more about the industry from Roesle. "The interview piqued my interest even more and I am very excited for what the future holds," he remarked.

Roesle concluded his remarks, saying, "I hope my

comments have been somewhat helpful to you, Caleb, in understanding what my profession is like. Keep in mind that everyone's experience is different. If you have any thoughts, comments or other questions, don't hesitate to contact me either by email or phone. Whatever path you decide on I wish you the very best."

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 oil and gas reserves studies a year. Ryder Scott multidisciplinary studies incorporate geophysics, petrophysics, geology, petroleum engineering, reservoir simulation and economics. With 115 employees, including 80 engineers and geoscientists, Ryder Scott has the capability to complete the largest, most complex reservoirevaluation projects in a timely manner.

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