

Harrell to pen SPE handbook chapter, *OGJ* executive report

Ron Harrell, CEO at Ryder Scott, has been asked to serve as an expert author of comprehensive treatises in industry publications of the Society of Petroleum Engineers and *Oil & Gas Journal*. Harrell has agreed to write a chapter on reservoir engineering and petroleum reserves in the SPE "Petroleum Engineering Handbook," a widely used standard reference for petroleum engineers worldwide.



The chapter will replace the one in the current handbook published in 1987. The final draft is due in May 2002 and will be combined with other updates in a total revision of the handbook.



Harrell has also accepted a request from editors of the *Oil & Gas Journal* to write an OGJ Executive Report on petroleum reserves and resources

definitions. The 20,000-to-25,000-word, soft-cover report will contain charts and tables, a historical overview and summaries and analyses of various definitions promulgated worldwide by associations and government agencies.

Harrell plans to submit his final draft in the third quarter. The PennWell Corp. plans to publish the executive report in the early fourth quarter.

Inside Reservoir Solutions newsletter

Promotions at Ryder Scott.....	Pg. 2
China's future outlined at meeting.....	Pg. 2
R.S. experts slated for several events.....	Pg. 3
The role of consultants in A&D.....	Pg. 4
A wave of divestitures?.....	Pg. 5
Freeware use continues to grow.....	Pg. 6
R.S. to conduct freeware training.....	Pg. 7

Our role is to find value, not be conservative



Over the years, we have worked closely with numerous clients in reaching satisfactory agreements on reserves estimates through the establishment of open and frank discussions of the technical data and the regulatory guidelines. This requires that we listen to each other and let the data

guide us to an acceptable answer.

This formula has proven to be the basis for a successful model. Our task, as a consultant and reservoir evaluator, is to ensure that we never overlook value during the course of the evaluation.

Our role is not to be conservative; it is to quantify and classify reserves as reliably as reasonably possible with the expectation of minimizing future revisions while complying with the intent and purpose of the U.S. Securities and Exchange Commission guidelines or other controlling definitions.

This philosophy has earned us an excellent reputation with the investment community and the regulatory agencies in North America and elsewhere around the world.



Cedric C. Oudinot, a graduate student at the University of Houston, raises his hands as he talks with Ryder Scott simulation engineer Miles Palke and Akhil Datta-Gupta, both UH instructors in a fall-semester reservoir characterization class. Ryder Scott engineers Dean Rietz and Grant Robertson currently teach a UH reservoir simulation course.



Hodgin



Warner



Lam



Tink

Promotions—Ryder Scott has promoted **John Hodgkin**, former executive vice president—geoscience, and **John Warner**, former senior vice president, to executive vice president and executive vice president—international, respectively. **Howard Lam** and **Jane Tink**, engineers at Ryder Scott Canada, were named vice presidents.

Publisher's Statement

Reservoir Solutions newsletter is published quarterly by Ryder Scott Company LP Petroleum Consultants. Established in 1937, the reservoir evaluation consulting firm performs more than 1,000 studies a year. Ryder Scott has issued reports on more than 200,000 wells or producing entities in North America. The firm has also evaluated hundreds of international oil and gas properties involving thousands of wells. Ryder Scott multidisciplinary studies incorporate geophysics, petrophysics, geology, petroleum engineering, reservoir simulation and economics. With 117 employees, including 66 engineers and geoscientists, Ryder Scott has the capability to complete the largest, most complex reservoir-evaluation projects in a timely manner.

Board of Directors

Ronald Harrell Chairman and CEO	John R. Warner Exec. V.P.—Intl.
Don P. Roesle President and COO	Fred P. Richoux Sr. Vice President
John E. Hodgkin Exec. V. President	Larry T. Nelms Sr. Vice President

Reservoir Solutions

Editor: Mike Wysatta
Business Development Manager

Ryder Scott Company LP
1100 Louisiana, Suite 3800
Houston, Texas 77002-5218
Phone: 713-651-9191; Fax: 713-651-0849
Denver, Colorado; Phone: 303-623-9147
Calgary, AB, Canada; Phone: 403-262-2799
E-mail: info@ryderscott.com
Web site: www.ryderscott.com

Warner presents analyses of China's future at China O&G Conference

Rapid development seen for offshore China

John Warner, executive vice president—international at Ryder Scott, told more than 100 investment bankers at the China Oil & Gas Conference in Shenzhen, China, on Dec. 5 that three key ingredients are favorable to the future of China's petroleum industry — immense undiscovered resources, immense market for the products and abundant skilled oil and gas professionals.

"The only missing ingredient is the development of market transportation systems and the capital to develop the resources," he said. The conference was sponsored by Bank of China.

Warner summarized various reserves definitions used worldwide and their applications. He also discussed the risks involved in reserves classifications proved,

probable and possible. Warner stressed that the remaining economically recoverable reserves number is the key figure for basing financial decisions.

He distinguished "potential hydrocarbon resources" or "hydrocarbons in-place," from recoverable reserves, while underscoring their importance for China's future. "China's four state-owned companies have proven to be very efficient explorers and producers. Some of the personnel are currently

using international methods and standards," Warner remarked. "Companies in China are just getting exposed to international methods, but are rapidly absorbing those new techniques."

Please see China on Page 8.

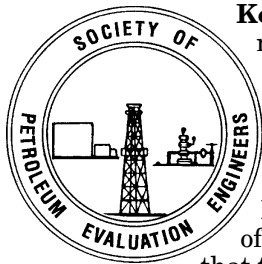


Benchmark oil and U.S. composite gas price history



The West Texas Intermediate Crude (WTI) prices are the posted prices of Exxon Co. USA published in the *Crude Oil Price Bulletin Summary*. Composite spot gas prices are the wellhead prices published in the *Natural Gas Week* newsletter. Brent oil prices are the published, posted prices available to the general public from commodity quotation services over the Internet.

SPEE Calgary chapter helping prepare lending handbook



Keith Brown, vice president and manager of Ryder Scott Canada, reports that the Calgary chapter of the Society of Petroleum Evaluation Engineers is helping to prepare the "Canadian Oil & Gas Lending Handbook."

Brown, the 2000-2001 chairman of the SPEE Calgary chapter, said that the book will contain revised reserves definitions. The Petroleum Society of the Canadian Institute of Mining, Metallurgy & Petroleum also is assisting in the project. The handbook will account for the reserves definition revisions of the Alberta Securities Commission taskforce on financial reporting of oil and gas issuers. SPEE, established in 1961, provides educational and other services to its members and to the oil and gas industry, and promotes the petroleum evaluation engineering profession.

Ryder Scott to host SPE Gulf Coast simulation seminars

Ryder Scott will host two Society of Petroleum Engineers Gulf Coast section seminars on reservoir simulation in April. Three of the four instructors are Ryder Scott engineers.

For information, call 713-779-9595. Reservations can be made online at www.spegcs.org or by fax to (713) 779-4216 using the reservation form included in the Gulf Coast section newsletter. Ryder Scott downtown Houston offices are located at 1100 Louisiana St., Suite 3800.

Fundamentals of Reservoir Simulation: An Equations-Free Overview

Date: Tuesday, April 17

Course description: The instructors introduce the fundamental concepts of reservoir simulation in a fast-paced fashion for those desiring an overview before getting more deeply involved.

Instructors

- Grant E. Robertson, coordinator of Middle East studies at Ryder Scott
- J. Robert Gochnour, a consulting reservoir engineer in the BP Amoco Upstream Technology Group

Reservoir Simulation for Practical Decision Making

Date: Wednesday, April 18, and Thursday, April 19

Course description: This two-day technical introduction is for those planning to conduct, review or oversee a reservoir simulation study as well as for experienced modelers wanting to review details.

Instructors

- Dean C. Rietz, vice president and manager-reservoir simulation at Ryder Scott
- Miles R. Palke, petroleum engineer at Ryder Scott

Harrell to present outsourcing, virtual company topics at PLOC

Ron Harrell, CEO of Ryder Scott, will make a presentation on "Outsourcing and the Virtual Company" at the Petroleum Leadership and Outlook Conference Monday, May 21. The one-day PLOC forum will highlight discussions by business and industry experts on their visions of the petroleum industry in the future with an emphasis on the effects on companies and individuals.

The keynote speaker is **Tom Peters**, who will discuss "Reinventing Work" in the petroleum industry. Harrell will participate in Forum II, "Extracting More Value," which will also feature presentations on mergers and e-business.

Forum I, "Wall Street Views of the Petroleum Industry," will feature three financial analysts. Forum III, "Recruiting, Retention and Retraining of Petroleum Talent," will include the discussion of new core competencies.

The conference is sponsored by the Society of Petroleum Engineers Gulf Coast Section and the Houston Energy Council and its member organizations. For further information or to make reservations, go to www.spegcs.org. The SPE GCS phone number for information is 713-779-9595.

HEES presentation on U.S. SEC interpretations rescheduled

Tom Gardner, an engineer, and CEO **Ron Harrell**, both at Ryder Scott, plan to present a technical paper on reserves interpretations at the SPE general meeting this fall. They will cite case studies involving interpretations under expanded U.S. Securities and Exchange Commission guidelines.

Originally, the paper was scheduled for the SPE Hydrocarbon Economics and Evaluation Symposium (HEES) on April 3. However, because the SEC needs more time to review information on which the paper is predicated, it was reslotted.

In other news, **Larry Connor**, vice president at Ryder Scott, is a session chairman at the HEES session on reserves and evaluation approaches.

Palke to present at Geoquest Forum

Miles Palke, an engineer at Ryder Scott, will present "The Adaptation of Reservoir Simulation Models for Use in Reserves Certification under Regulatory Guidelines or Reserves Definitions" at the Geoquest Forum in Austin, TX, April 4 to 6. For more information, go to <http://www.geoquest.com/pub/news/events/forum/index.html>.

Other news and tidbits...

Tom Gardner is the new treasurer of the Houston chapter of the Society of Petroleum Evaluation Engineers. **Harry Gaston**, retired former president at Ryder Scott, said his second hardest decision was to retire from Ryder Scott after 41 years. The hardest? To leave Conoco Inc. to work for Ryder Scott.

The Role of the Consulting Reservoir Engineer in the Evaluation of Acquisitions and Divestitures

— Fred P. Richoux, senior vice president



Richoux

In many cases, both the buyer and seller of properties will benefit from the involvement of independent consultants. Frequently, buyers have questions that are best answered through a third party to maintain objectivity and insure thoroughness in the reply. This helps the seller. Also, the independent reserves estimate provides a benchmark of value for the buyer while satisfying requirements to

obtain financing. For a large sales package, the independent reserves estimate may shorten the evaluation timeline for the buyer.

Seller Side

Second opinion

A second opinion improves the chances of uncovering all upside value. Many sales packages are in noncore areas. These properties get the least attention from the company's staff. In many cases, a consultant can find additional upside not previously identified. Not long ago, Ryder Scott prepared a divestment package for a company's minor properties. The evaluators checked every well for behind-pipe zones and looked at undeveloped primary and secondary opportunities. The study added several million dollars to the package. This made for a great rate of return on the cost of the study.

Comprehensive report

Engineering reports are designed to present maximum data in a usable format. This is what qualified, experienced consultants do every day! Based on experience, they know what people want to see. A qualified consultant more effectively supplements an A&D group than a staff person who has to develop a report while carrying out other, various day-to-day duties. The staff person's time may be better spent defining additional value, such as exploratory potential and production enhancements.

Greatly enhanced credibility

Based upon comparable criteria, Ryder Scott has one answer for a given well regardless of the end use of the estimate and the fee is not contingent on the magnitude of the answer. We call it like we see it. Ryder Scott's fees are based on the time spent doing the evaluation. Most knowledgeable buyers and their financial backers are familiar with the various firms and have come to trust certain ones. A firm's good reputation definitely works to a seller's benefit.

Special knowledge of the area

A minor interest owner may not be aware of unique circumstances in a field. The engineering firm may have evaluated the field before and can provide specific insight. It's also likely that the firm has evaluated other fields in the area and has knowledge of producing characteristics in the area.

Confidentiality

Many times the seller doesn't want his or her staff to be aware that the company is considering a sale. In those instances, use of a consultant to organize a sales package is preferable.

Buyer Side

More confidence

The seller may have a highly skilled staff, but most buyers don't know that. Some buyers enter the data room thinking that a seller's staff has been instructed to inflate the estimates, which very likely may not be the case. A third-party report can alleviate a lot of those fears, unfounded or not.

Showing value on the books

Engineering firms are familiar with U.S. Securities and Exchange Commission and Canadian Policy 2-B requirements and work within those and other government agency's guidelines. Third-party firms abide by accepted definitions, so if an engineering firm categorizes reserves as proved in a sales package, the firm should be willing to call them proved in a securities filing. This is very important for a publicly traded company that has to show value on the books for the expenditure.



Richoux and Clifford Williams, engineer at W&T Offshore Inc.

Please see A&D on Page 8.



A wave of divestitures?

GAAP moratoria soon will pass, allowing new supermajors to sell properties.

“A fully developed property with no expected growth is a predictable annuity. Regardless of the value of the field or product price, it may be preferable to monetize the asset and redeploy the funds into growth opportunities.”

If the planned merger of Chevron Corp. and Texaco Inc. is consummated, it will be the fourth relatively recent union between majors. Other business combinations have given rise to supermajor energy companies Exxon/Mobil, BP Amoco and TotalFinaElf. At oil and gas companies worldwide, acquisition managers are asking the same question: Will the new supermajors soon sell large parcels of noncore upstream acreage?

Under U.S. Generally Accepted Accounting Principles (GAAP), corporations cannot dispose of significant parts of their assets within two years after their interests are pooled. However, those moratoria soon will pass, allowing the supermajors, each of which hold oil and gas reserves of more than 10 billion BOE, to sell properties not strategically advantageous to keep in their portfolios.

At the same time, merger mania over the past three years has produced a new breed of super independents well heeled enough to make a run at any properties. Kerr-McGee Corp., Burlington Resources, Devon Energy Corp., Anadarko Petroleum Corp., Bellwether Exploration Co., Nuevo Energy Co. and other qualified buyers will be looking for upside potential. Those nimbler independents hope to extract more immediate value through accelerated operations.

To divest or not—that is the question

Spawned by several recent mega-mergers and acreage consolidations, E&P property packages may be destined for the auction block soon, but till now, advance notice has been scarce.

“I haven’t heard of any significant planned divestitures by the majors. But I sure hope they do,” said an acquisition manager at a large independent, a top 25 U.S. company in worldwide liquid reserves, who hopes to be in the hunt.

However, with oil and gas prices at recent historical highs, supermajors may be reluctant to part with significant revenue-generating proper-

ties. “In a sustained high price market, there are few sellers of any size,” said a senior evaluations coordinator in charge of divestitures at a major undergoing a planned merger.

Evidence suggests that would-be buyers are not calculating potential rates of return using higher price decks, said the coordinator. “Based on the recent doubling to tripling of profit margins per BOE, logic suggests that the price paid per BOE should be far more than historical multiples. However, data during this last year does not indicate that prices in property sales transactions have ratcheted up to keep pace with profit margins,” he remarked.

Furthermore, the futures market shows a price decline in the near term. “Bidders have not made offers based on price decks that exceed the futures market in the out years,” said the evaluation coordinator. “And why be the first to pay for the full profit margin and accept the associated low rate of return?”

He remarked that the supermajors may divest properties for reasons unrelated to price. “Even in a high-price environment, the decision to withdraw from an operating area usually is made with little regard to price,” he said. “Furthermore, a fully developed property with no expected growth is a predictable annuity. Regardless of the value of the field or product price, it may be preferable to monetize the asset and redeploy the funds into growth opportunities.”

A bottom-line incentive to sell, according to the evaluations coordinator: If a company needs cash, it may sell property without regard to any other factors.

Editor’s Note: The interviewees in this article requested that their remarks not be attributed to them or to their employers, because their views do not necessarily reflect the opinions of their respective companies, they said.

Freeware use continues to increase worldwide

1,200 users from 50 countries have downloaded the Reservoir Solutions software

More than 1,200 users from more than 50 countries have downloaded the six Ryder Scott *Reservoir Solution* freeware releases over the past two-and-a-half years as the Excel-based software continues to win endorsements. Longtime user **Glenn C. Strobl**, a reservoir engineer at TotalFinaElf E&P USA, utilizes the material balance program to evaluate a subsea well that produces dry gas to a host platform about four miles away. The only pressure-measurement point is at the inlet at the host.

“Its (material balance) ease of use and quick calculating capability allowed multiple sensitivities to abandonment pressure within a very short period of time.”

“The decision to perform well intervention was aided by results of the Ryder Scott program. Its ease of use and quick calculating capability allowed multiple sensitivities to abandonment pressure within a very short period of time,” he said. “I have used various P/Z-cum plots in the past, including other Excel-based applications but found the format of the Ryder Scott program to be much better from a utilization and presentation standpoint.”

Newer users have had favorable first impressions. **Mike Thorson**, a reservoir engineering manager at Apache Egypt, said, “Everything installed smoothly. The programs look slick and the price is right.” **Scott Amos**, geological specialist and team leader—Shaybah field at Saudi Aramco Northern Fields Characterization Division, said, “The software looks like it will really give me a leg up on some of the issues I am facing at work.”



The downloads are also benefiting independent consultants as well as operators. “I am doing some consulting work for a local E&P company that is looking at an acquisition and the QuickLook package greatly eases my financial review of the reserves,” said

Dudley Anderson at Draco Ltd.

After developer James Latham, vice president and an engineer at Ryder Scott, cleared up a technical issue regarding the freeware for **Don Cates** of Cates



Freeware developer James Latham inspects a label for the CD-ROM containing the Reservoir Solutions programs.

Petroleum Consulting Inc. in Dallas, he responded, “Thank you for your prompt response. Cates Petroleum is a one man shop, and as such, I sincerely appreciate Ryder Scott sharing these tools with the industry.”

Larger consultants, such as Sproule Associates Ltd. and Miller and Lents, have downloaded the software. “Ryder Scott distributes these utilities to benefit the entire industry,” said Latham.

Major university petroleum engineering departments have also discovered the applications. **Dandina N. Rao**, a faculty member at Louisiana State University, requested CD-ROMs of the freeware programs from Ryder Scott for use in student projects in undergraduate and graduate classes. “Thanks for offering this service,” he said. Ryder Scott has offered to conduct some classes at LSU in how to use the programs.

Charles Bowman, a professor at Texas A&M, has done a preliminary review of the QuickLook economics screening tool to find out if it is suitable to distribute to students in a petroleum finance and economics class. “My first impression is positive. It does indeed look straightforward enough to serve our purposes,” he

Please see Freeware on Next Page.

RSC to conduct freeware training sessions

To help downloaders use the *Reservoir Solutions* programs more effectively, James Latham, developer of the Ryder Scott freeware, plans to conduct training sessions during the spring/summer season. Ryder Scott will send invitations to registered users through their e-mails and reservations will be accepted on a first-come, first-served basis.

"We will discuss the strengths and limitations of the programs as well as the manual operations—from data input to finished calculations. Questions from the class will be encouraged," said Latham.

Last summer, Latham conducted sessions on the QuickLook economics screening program and the ResGas gas analysis program. Attendees received free lunches and CD-ROMs with the six freeware programs.

The limited-seating sessions were held in the downtown Houston offices of Ryder Scott. After attending the session, **Mike Taylor**, vice president of corporate development at Comstock Resources Inc., said, "Ryder Scott has a great product and I am sure to use it



a lot. Thanks for the training."

Ryder Scott will also consider presenting no-cost sessions at company sites, if 10 or more attendees can participate. This will make it convenient for busy staff members to attend.

"Ryder Scott will also consider presenting no-cost sessions at company sites."

Ron Harrell, CEO at Ryder Scott said, "Ryder Scott has enjoyed outstanding success in our industry. Offering these programs and training free of charge is one way of giving back to an industry that has given so much to us. In addition, Ryder Scott also benefits, as we are publicly recognized for our contribution."

Freeware—Cont. from Page 6

said. Bowman said QuickLook would allow students studying investment economics and decision management to solve optimization problems without having to do hand calculations.

"First, they have to do hand calculations to understand the formulas. Then when they understand what's inside the program, they'll use QuickLook," he said. **Larry Lake**, a professor in the department of petroleum and geosystems engineering at the University of Texas, is also considering using the program in the same way.

Boyko Nitzov, associate director at the Institute for Energy Economics and Policy at the Sarkeys Energy Center of the University of Oklahoma, has demonstrated the software to trainees and students as examples of "handy, pretty robust, take-anywhere tools."

QuickLook has found its way into seminars conducted by **Jim Wilson** of EDI Investments in Oklahoma City. He tells his audience about the availability of QuickLook because "a lot of people don't want to pay \$10,000 for an economics program."

Wilson added, "It doesn't do project economics for investment decisions like the commercial programs, but it is very sophisticated for something that is given away. QuickLook is a tremendous bargain. It solves for the missing variable and surprisingly has a lot of bells and whistles."

Wilson conducts several seminars each year for nontechnical audiences of mainly financial professionals as well as land men, royalty owners and others. "It works great for appraising single wells," he said.

Scott Stinson, a petroleum engineer at Fall Line Energy Inc., told Latham in a recent e-mail, "Thank you very much for the opportunity to use your software. I was responsible for the SPE (Society of Petroleum Engineers) Public Domain Library in Denver for a number of years. I applaud your company for making available these handy programs."

The freeware is posted at www.ryderscott.com.

Latham, Robertson to present SPE workshops on visual basic and modeling

Freeware developer **James Latham** will present a Society of Petroleum Engineers Gulf Coast section workshop on visual basic applications with MS Excel on April 19. His is among six SPE Petro-Tech study group workshops presented that day from 8 a.m. to 4:30 p.m. at various locations. Latham's workshop will be held at Anadarko Petroleum Corp. headquarters at 17001 N. Chase Blvd. in the Woodlands.

Grant Robertson, coordinator of Middle East studies at Ryder Scott, will also present a Petro-Tech workshop on reservoir simulation at Anadarko that same day. For further information or to register, call 713-779-9595 or go to www.spegcs.org.

China—Cont. from Page 2

He also said that even though the onshore areas are mature, China is still replacing annual production from those areas through development drilling. Warner stated that based on the number of newly discovered fields offshore China, development drilling during the next five years will increase dramatically, if sufficient capital is available.

“Very large oil and gas fields are being discovered every year,” he remarked. “Exploration wells and seismic data have shown that China will require a large number of wells just to develop known reserves.”

Capital-intensive oil and gas fields offshore China are characterized by high production rates and a high

rate of return, said Warner. “Getting the reserves out quickly is an important, positive economic aspect of these high-cost fields,” he remarked.

Although not presented by Warner, China National Offshore Oil Co. has stated that large discoveries offshore China include Penglai 19-3, Fanyu 5-1, Caofeidian 11-1, Bozhong 29-4 and Bozhong 25-1, which are located in Bohai Bay, the South China Sea and elsewhere in the region.

CNOOC has said that it plans to invest \$556 million to develop these oil fields with significant capital coming from its planned initial public offering. Ryder Scott performed the independent reserves estimate for the IPO launch.

A&D—Cont. from Page 4

Report in place for financing

Lenders normally require a third-party report. The buyer can move much faster if an acceptable engineering report is already in place. Otherwise, the buyer has to scramble to get a report done in a very short time. This could be a deal killer.

Comprehensive report

A comprehensive report allows the buyer to quickly size up the package and focus on the major value. Qualified consultants design formats refined over time that enable the user to quickly close in on the properties that need to be reviewed. With the seller’s permission, the buyer can ask the consultant to run quick sensitivity cash flows. Also, input from the consultant may accelerate the due diligence process.

Confidentiality

There are times when a buyer may not want it known that the company is looking at a particular package. Use of a consultant facilitates this confidentiality. In fact, consultants are often asked to work in confidence. This is nothing unusual.



An entourage from Sinopec visited Ryder Scott Houston offices in February. From left are Wang Jiue, director of Development Dept.; Cai Xiyuan, chief engineer professor; Wang Jiming, director president; Lei Dianwu, deputy director; Xu Haihong, business mgr. of Liaison Div.; and Liu Xiaoshi, senior associate at China Intl. Capital Corp. Ltd. Sinopec is a client of Ryder Scott.

Ryder Scott Co. LP
1100 Louisiana, Suite 3800
Houston, Texas 77002-5218
Phone: 713-651-9191; Fax: 713-651-0849
Denver, Colorado; Phone: 303-623-9147
Calgary, AB, Canada; Phone: 403-262-2799
E-mail: info@ryderscott.com
Web site: www.ryderscott.com

Bulk Rate
U.S. Postage
Paid
Permit #11296
Houston, TX