



## Industry re-evaluates reserves reporting, accounting

U.S. oil and gas companies are bracing for what promises to be a closely watched first quarter. They are re-examining petroleum reserves accounting and reporting and year-end booking practices in preparation for 10-K reporting. This comes in the wake of accounting scandals unrelated to the upstream industry and during an across-the-board effort by publicly owned U.S. corporations to re-evaluate their financial statements and internal controls.

Paul Horak, a partner at Deloitte & Touche accounting firm in Houston, said, "Many oil and gas executives are finding out how financial information comes together and who is responsible for that information. This includes how the production from proved reserves mixes with the financial data."

In addition to mounting pressures from boards of directors and the investing public to more closely scrutinize the books, public companies are facing a U.S. Securities and Exchange Commission ruling of Aug. 27 that increases accountability at the top. The rule, mirroring the Sarbanes-Oxley Act of 2002, requires CEOs and CFOs to certify that all material information in annual and quarterly reports is truthful and complete. On Aug. 14, top officers at companies with

annual sales of more than \$1.2 billion had filed sworn statements affirming the accuracy of filings under SEC Order No. 4-460.

Some see these measures as a political move by the SEC to improve its public image. "Company executives sign off on the financials in the 10-K anyway," said Phillip Pace, managing director of equity research at Credit Suisse First Boston. "This is something to satisfy the politicians. The only new wrinkle is top executives will be subject to criminal penalties."

Some oil and gas companies see no difficulties in complying with the corporate responsibility law. "The bill isn't much of a concern for most companies that have been

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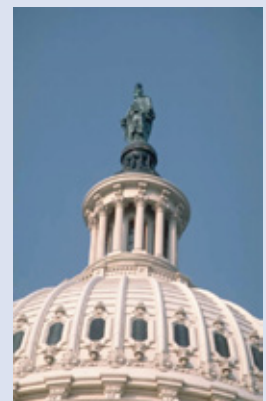
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### Year-end reserves evaluations under tighter deadlines in three years

The U.S. Securities and Exchange Commission decided Aug. 27 to accelerate the filing deadlines for annual reports from 90 to 60 days after fiscal year end. The rule imposes tight time constraints for estimating and booking year-end petroleum reserves. "The time period for us to estimate year-end reserves will be very compressed," said Ryder Scott CEO Ron Harrell. "We and our clients will have to begin the data exchange process sooner. Using year-end pricing and late fourth quarter field data will tighten time frames."

The SEC will accelerate filing deadlines 15 days in the second year and the full 30 days in the third year. The deadline for year-end 2002 was not moved up.



**Due Diligence—Cont. from Page 1**

reporting their finances the way they're supposed to," said Bill Transier, CFO at Ocean Energy, as recently quoted in the *Houston Chronicle* newspaper. "While we hate to see the country resort to more laws, if it's what's needed to restore investor confidence, it's what we need to do."

Others voice concerns. A CFO at an oil and gas company, who asked not to be identified, said he is worried that exposure to criminal action will spur class action law suits naming individuals, not companies, as defendants.

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**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.

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**"Just look at the headlines. There will be more pressure."**

said. "Corporations were originally created to take bigger risks than individuals to achieve greater accomplishments and were protected under a corporate veil. Now, if an officer is found to be criminally negligent, then he has violated company bylaws and loses officers and directors' liability insurance. Outside that corporate veil, he is a target."

Under the corporate reform laws, signing officers of a company are also required to design and maintain internal controls and evaluate the effectiveness of controls at least 90 days before issuing a report.

However, legislation is not driving this due diligence as much as the fallout from accounting scandals, said Pace. "There is so much attention now to fraud and a perceived lack of integrity within the accounting profession."

Not many doubt the effect of

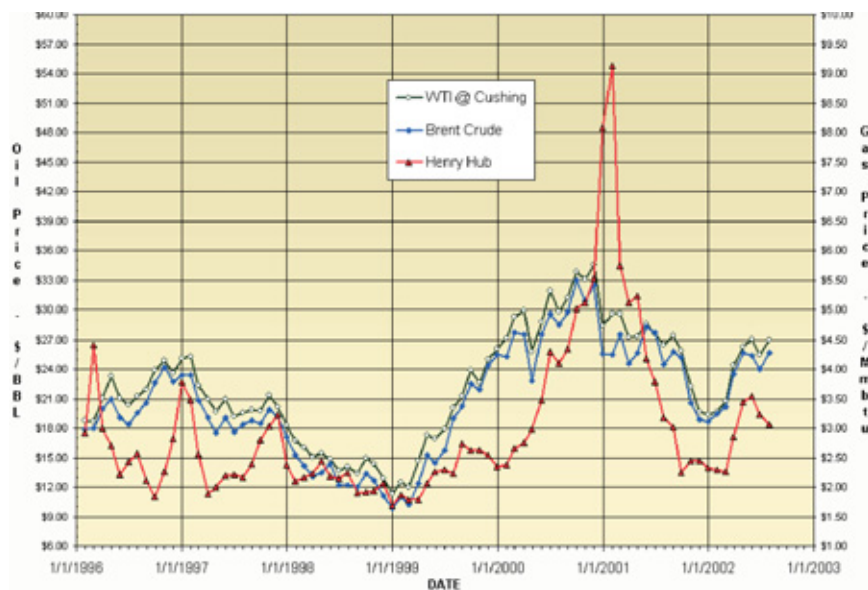
recent events. As one reservoir engineering manager from a large independent said in August, "Just look at the headlines. There will be more pressure. The boards of directors will be asking questions."

Typically, these questions are coming in the form of requests for management representations or "reps." Bill Strange, a partner at Deloitte & Touche, said, "CEOs and CFOs from oil and gas companies are taking this seriously. They are doing their due diligence by asking for reps from operations managers, by holding face-to-face meetings and through a combination of both."

Department managers, including reserves compliance managers, are backing up those representations with control systems, internal and external reviews/evaluations and surveys. The engineering manager from the independent said that his group is currently studying SEC requirements and drafting a white paper.

Tim Levenberg, special counsel at the SEC Division of Corporation Finance, Office of Natural Resources and Food, did not interpret corporate responsibility laws as they apply to oil and gas companies and said that those with questions should consult their legal counsel.

**Price history of benchmark oil and Henry Hub gas**



The historical price chart shows the monthly average cash market prices for the following: WTI crude at Cushing (NYMEX), Brent crude and Henry Hub gas.

## Analyst recommends outside reserves audits



Phillip Pace

In this new, high-accountability environment, reporting reliable reserves estimates has become just as important as sound accounting procedures. Some say this underscores the need to engage independent reserves evaluation consultants to verify booked reserves.

Phillip Pace, managing director of equity research at Credit Suisse First Boston, said, "In the current environment, it is probably prudent for

companies to consider getting outside reserves audits by a third-party engineering firm. As reserves are the primary asset for most E&P companies, it is surprising that reserves accounting is not more uniform."

Recently, Credit Suisse surveyed 22 independent oil and gas companies in its coverage group and only eight had full or partial third-party reserves reports. "With the exception of Devon, these tend to be smaller companies and, in some cases, the reserves report is required for a credit agreement," said Pace.

CSFB also reviewed reserves revisions over time and found that having a third-party reserves audit or evaluation did not make negative revisions less likely. While Pace feels that third-party reports are the preferred approach, he said there are plenty of cases where independent engineering firms provide poor reserves estimates.

"This stresses the need to hire reputable, skilled consultants and provide them with relevant, high-quality field data," he said. "An outside firm should never know more about a company's reserves than the company does, but using a third party provides a measure of objectivity."

In the survey, six companies provided internal reserves estimates with no third-party review. The remaining companies also provided internal estimates that were at least partially audited by independent consultants. "While not as reassuring as full-scale evaluations, audits at least provide some comfort that an independent firm has reviewed the work," said Pace.

## How accountants, investors view reported reserves estimates



Reserves estimation is a complex activity. There is risk that the imprecise nature of reserves estimates may distort financial reports. Because of the strong, inextricable link between reserves estimates and various financial figures, conventional wisdom would expect that those estimates are independently verified. However, in the U.S., government does not require that reserves estimates be reviewed or prepared by an independent engineer or be audited by a

third-party accountant.

In fact, Ted Coe said, "Because the reserves numbers are not audited, I don't believe that they will receive the careful examination as will the financial numbers that deal with derivatives, abandonment cost estimation and many other areas in the primary financial documents."

Coe is the director of the Institute of Petroleum Accounting at the University of North Texas in

Denton. The institute is endowed by several major oil companies and has the mission to serve the various constituencies of the extractive industries through research, education and publications.

Others say that reserves and other unaudited data will most certainly receive careful attention in the "post-Enron era."

A new survey published by PriceWaterhouse Coopers, "Drilling deeper: Managing value and reporting in the petroleum industry," stated, "For companies reporting under U.S. standards, SFAS 69 data, which is unaudited, is surprisingly considered more valuable to investors than companies may have thought. As SFAS 69 is a standardised analysis which requires, for example, disclosure of movements on oil and gas reserves, companies may want to consider giving more attention to the preparation of this data."

Coe concedes that the pervasive use of unaudited



Please see Reserves on Page 5

Accountants, bankers and regulators look at proved undeveloped (PUD) reserves differently but all agree that this category bears special attention. This may never be truer than now, as large independents report fewer proved developed reserves and more PUDs.

Recent research from John S. Herold indicates that proved developed reserves are becoming a smaller category within the total proved reserves mix. (See chart on this page.) Conversely, PUDs are becoming a larger component for 11 of 12 large U.S. independents from 1996 to 2000.

Some believe that this trend makes market evaluations less certain than in the past and reliable third-party opinions more valuable. That uncertainty stems from a perception that PUD numbers are not as reliable as other categories of proved reserves.

The most comprehensive review of studies of reserves disclosures ever undertaken by the accounting profession was published by the Institute of Petroleum Accounting at the University of North Texas in 1999 to assist the International Accounting Standards Committee in deciding whether reserves values should be formally disclosed or recognized in balance sheets. The review by Charlotte J. Wright, professor of accounting at Oklahoma State University, and Horace R. Brock, emeritus professor at the University of North Texas, summarized two decades of research.

They found that “the proved developed component of total proved reserves conveys value-relevant information while the proved undeveloped component does not.” Lenders also see a lack of “value relevancy” in PUDs and typically discount them by approximately 50 percent when valuing collateral. However, the SEC allows companies to fully report the PUD category.

If done within SEC guidelines, PUDs should be a reliable, valuable reserves-report figure. However, companies that report reserves from PUD properties are expected by the SEC to move forward in developing them and to commit capital.

“If PUD projects are deferred year after year, then those companies may be questioned by investors, lenders and the SEC,” said Tom Gardner, vice president at Ryder Scott.

PUDs are an area of special interest to the SEC. An SEC representative who investigates reserves reporting said, “Booking PUDs is a hot button item. If a company claims PUD reserves comprising 30 percent of total proved reserves and they don’t meet SEC requirements, then that company may be violating the 10 percent materiality hurdle.”

PUDs and other proved reserves categories are tied to audited financial figures. Generally, the more proved reserves carried on the books, the lower the DD&A (depreciation, depletion and amortization).\*

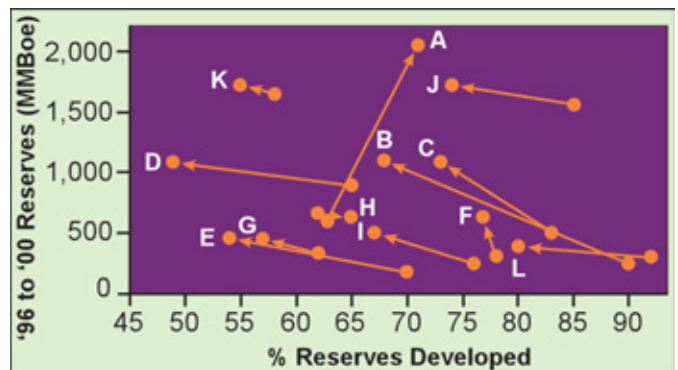


The DD&A rate is computed through a unit of production method in which the unamortized costs are divided by proved reserves.

To resolve PUD issues for clients, Ryder Scott analyzes the relevant data, using technical expertise and judgement. In some cases, SEC rules on offset locations and lowest known hydrocarbons clearly dictate how to categorize reserves.

\* Whether a company uses full-cost or successful-efforts accounting, DD&A is the single, largest expense reported by oil and gas producers. DD&A totaled \$24 billion in 2000 for the 33 producing companies reporting to the U.S. Energy Information Agency. Among large U.S. independents, the highest DD&A expense reported by a company using full cost accounting was \$971 million in 2001 while an SE company reported \$1.2 billion that year, according to the latest figures from the John S. Herold research firm.

## Shifting Portfolios



This chart, based on information from John S. Herold research firm, shows that the total booked reserves for 12 large U.S. independents increased from 1996 to 2000. However, only one of the 12 increased the proved developed reserves category. The other 11 increased their booked reserves by adding more PUDs, a category traditionally discounted by financial institutions.

## Reserves—Cont. from Page 3



Ted Coe

Assuming that prayer is not an option, the user of statements needs to recognize the link between the accountants audited cost numbers and the unaudited reserves numbers.”

Coe cautions about going overboard on the notion that accountants do not audit reserves. He said, “Accountants must assure themselves the numbers are reasonable and can be relied upon in the determination of DD&A and for inclusion in the FAS 69 footnote and for FAS 121 estimates.” He added that oil and gas auditors in the large accounting firms undergo training for making this judgment. The training is based on the AICPA Audit and Accounting Guide, Audits of Entities with Oil and Gas Producing Activities.

“In general, auditors are required to assure themselves about the underlying reasonableness of the

estimates is baffling to those who analyze upstream companies’ financial statements. “There is probably no absolutely correct number in the statements with the possible exception of the number called cash and some of the short-term payable items,” he said. “The accounting process is an estimation process. We need more reliable techniques for making estimates and for communicating how this is done.

estimation process and that any of the underlying data that was not audited by the engineering firm be tested for accuracy and completeness by the audit firm,” he remarked.

Paul Horak, a partner at Deloitte & Touche accounting firm in Houston, said that audit firms do not take ownership of reserves estimates but rely on the expertise of engineering staffs.

Auditors routinely ask for consent letters submitted by external or internal engineers that state that the reserves estimates have been prepared in accordance with SEC standards. He also said that auditors conduct detailed internal control tests to validate recorded items.

This involves reviewing run tickets, production and pricing data and other information and then tying that back to the operator’s statements to verify that the cash receipts side is bonafide. Also, Horak said that auditors conduct analytical reviews to verify field- and company-level data from one period to the next.

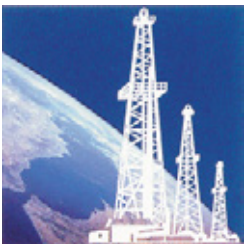
“We would rather see reserves estimated by third-party engineers because that process provides an independent review of the data and promotes the integrity of the data,” said Horak.



“We would rather see reserves estimated by third-party engineers.”

## Gas market, reserves focus of Harrell

## Panel discussion kicks off in late September



Ryder Scott CEO Ron Harrell will participate in a panel study on the North American gas market and deliver a presentation on petroleum reserves in September and October, respectively.

The panel discussion, “Leading Reservoir Engineers Focus on Gas in North America: Flaws in the Bull Case,” will be held at John S. Herold’s Pacesetters Energy Conference, Sept. 27, in Greenwich, CT. Three other reservoir engineers will also participate.

The panel will address supply-side problems created by rising gas demand in North America. Demand in the United States is expected to be 35 Tcf per year by 2020 — 5 Tcf more than the estimated supply. To meet demand in 2020, imports will have to be increased from their current 19 percent of gas consumption to 22 percent.

For further information, contact Terry Frangione at pec@herold.com or at 203-847-3344.

Harrell will update the Society of Petroleum Engineers on international petroleum reserves definitions and applications at the Gulf Coast Section Reservoir Study Group’s October 24 lunch meeting at the Courtyard on St. James in Houston. He will review current activities of the SPE Reserves Committee, including planned advanced technology workshops on probabilistic reserves assessments.

The 1997 SPE/WPC definitions recognized for the first time the probabilistic methodology for estimating reserves quantities. Despite inclusion of this method, debate on the definitions has continued.

Additionally, Harrell will review the summary results of a Society of Petroleum Evaluation Engineers forum scheduled for October 22 in Houston featuring U.S. Securities and Exchange staff engineers and their comments on interpretative issues arising from six or seven case studies involving reserves questions.

For more information, contact Jack Steen at jwsteen@adv-res-hou.com. To register, go to www.spegecs.com.

# Acquisition and divestiture in Canada facilitated by Canadian reports of the highest standards, says Brown

*Potential buyers from the U.S. find different risk-reward ratios, strategic fits and opportunities to use specialized technological expertise*

## Ryder Scott Canada Types of A&D Services

- Data Room Support
- Audits
- Divestiture Packages
- Acquisition Evaluations
- Report Commentaries
- Full Cash Flow Analysis
- Upside Potential

Keith Brown, vice president and manager of Ryder Scott – Canada, recently assured U.S. companies in the market for Canadian properties that Canadian reserves evaluators essentially use the same technology and approach as U.S. evaluators.

“At Ryder Scott, we have had engineers from our Houston office working in Calgary. And we have had engineers from our Calgary office working in Houston. We have not had to reprogram them moving in either direction,” he told attendees of the Strategic Options for Growth in Oil and Gas Companies Conference on May 28. The conference was sponsored by The Conference Board of Canada.

Brown said that the exploration potential in Canada, including in the relatively immature Western Canadian basin, is still high. He also said that U.S. companies may find that Canadian properties offer diversification to portfolios and different risk-reward ratios.

Brown cited other reasons that U.S. companies acquire Canadian properties, including transferring technological expertise, such as know-how in tight reservoirs or coalbed methane, a growing area. Strategic reasons for acquisitions include electrical generating companies seeking gas supplies and refiners looking for long-life oil supplies.

Brown said that Canada has revised its standards for evaluating reserves, citing the introduction of the Canadian Oil and Gas Evaluation Handbook (COGEH) published by the Society of Petroleum Evaluation Engineers. APEGGA is also considering adopting the handbook as a reference for standard practice for reserves evaluators. “If that occurs, then that means that the handbook will not only be the reference

document for Canadian evaluators, it will also become a standard endorsed by the professional association APEGGA,” said Brown.

He also said that introduction of National Instrument 51-101, which is replacing National Policy 2-B issued by securities regulators in Canada, will increase accountability. “With that as background, the U.S. investor should be assured that, when dealing with Canadian consultants, they are dealing with a group that is applying the highest standards to evaluation work,” Brown concluded.

For further information on Ryder Scott acquisition services or on evaluation standards in Canada, contact Brown at 403-262-2799 or at his e-mail address at

[keith\\_brown@calgary.ryderscott.com](mailto:keith_brown@calgary.ryderscott.com).



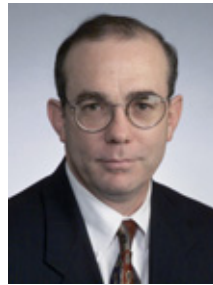
## Engineer joins Ryder Scott, 14 employees promoted



Blankenship



Gardner



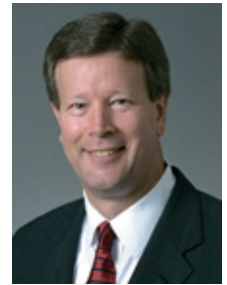
Hamlin



Ichara



Magoto



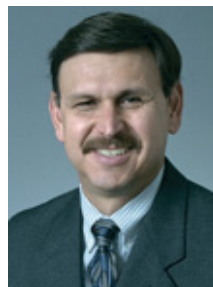
McInturff



Nelms



Presley



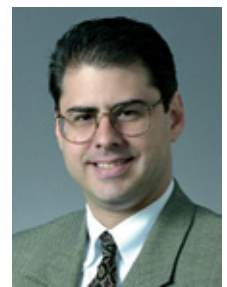
Ramirez



Rhodes



Richoux



Rietz

Mark J. Ichara, petroleum engineer, recently joined Ryder Scott. He primarily conducts reservoir simulation modeling but also performs other reservoir engineering activities, including pressure transient test analysis. Ichara has more than 25 years of experience in reservoir simulation, well test analysis, formation evaluation and reserves estimation. Besides experience in North America, he has evaluated oil and gas properties in Africa, the North Sea, southeast Asia and South America.

Before joining Ryder Scott, Ichara worked as a senior petroleum engineer for four years at PGS Reservoir Consultants Inc. where he conducted full field simulation and prepared production data. He also worked at Shell Petroleum Development Co. and Schlumberger.

Ichara was a teacher and department head at the University of Port Harcourt in Nigeria for eight years beginning in 1987. He taught courses in advanced reservoir engineering, numerical reservoir simulation and other areas.

Ichara received a BS degree in mechanical engineering in 1972 from Ahmadu Bello University in Nigeria and MS and PhD degrees in petroleum engineering from the University of Tulsa and University of Texas in 1977 and 1980, respectively.

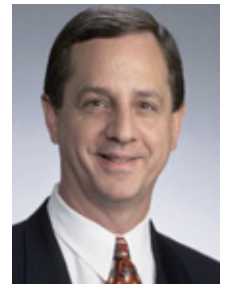
In other news, Ryder Scott recently promoted the following employees from senior vice president to managing senior vice president: Joe Magoto, Larry Nelms, Gualo Ramirez, Fred Richoux, Tom Rhodes and Fred Ziehe. Also promoted to manag-



Torres



Wagner



Ziehe

ing senior vice president was Dean Rietz, formerly a vice president.

"The title of managing senior vice president is a newly created position," said CEO Ron Harrell. "Those holding that title continue to take an increasing leadership role in the day-to-day management of the firm and in establishing and maintaining quality standards for our work product," said Harrell.

Joe Blankenship, John Hamlin, Gene Presley and Bob Wagner were promoted from vice president to senior vice president. "We recognized the new senior vice presidents for their long-term contribution to the company and for their demonstrated project management and leadership skills within the company and with their continuing clients.

Tom Gardner, Pat McInturff and Tim Torres were promoted to vice president. "The three new VPs met all board-established qualifications and have been enthusiastically recommended by their group leaders," said Harrell.

## Advanced nodal analysis courses offered in Calgary, Denver

Reservoir, production and operations engineers, who want advanced training in nodal analysis to optimize production, will be offered classes in October. The course, Production Optimization Using Nodal Analysis, is offered by OGC Training Inc. and will be taught by Ryder Scott engineer Scott Wilson. The course in Calgary will be held Monday, Oct. 7 to Friday, Oct. 11. The course in Denver will be held Monday, Oct. 28 to Friday, Nov. 1.

Participants will learn the following:

- How to predict well rates from well tests, raw reservoir parameters and physical descriptions.
- How to predict the effect of stimulation, tubing changes, artificial lift/modifications and continued

depletion.

- How to quickly evaluate well problems and opportunities through screening and targeting detailed analysis.
- How to understand the effects of well operations before they are implemented.

Advanced topics include hydraulics and PVT correlation selection, multi-well optimization, gas network modeling and sizing/locating compression.

Wilson designed the Ryder Scott SOS programs, including the Snap nodal analysis application, now offered to clients and potential clients at no charge. For further information on the OGC course, go to [www.ogci.com](http://www.ogci.com) or call 800-821-5933.

## Freeware GasCon released, ResGas updated

The new Ryder Scott Reservoir Solutions freeware release GasCon will be posted for downloading at [www.ryderscott.com/downloads.htm](http://www.ryderscott.com/downloads.htm) in September. GasCon provides the petroleum professional with an effective tool for performing material balance calculations for gas-condensate reservoirs.

The GasCon user enters commonly available production data and pressure information to generate estimates of original wet gas in place and recoverable separator gas and liquids. The program extrapolates condensate yields to depletion, if sufficient data is supplied.

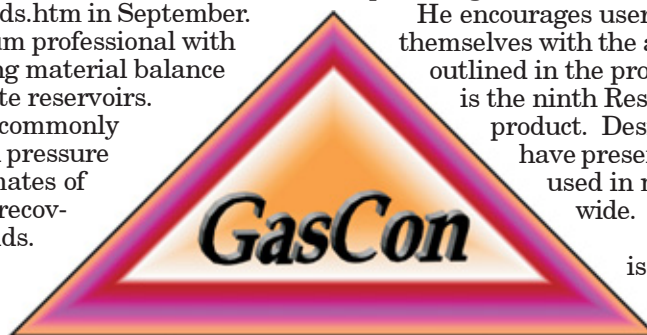
"Problems associated with the analyses of gas condensate reservoirs traditionally have involved tedious calculations of actual reservoir voidage and constant redetermination of fluid and gas properties," said developer James Latham, vice president at

Ryder Scott. "GasCon simplifies these tasks while providing reliable, meaningful results."

He encourages users to carefully familiarize themselves with the assumptions and limitations outlined in the program user's manual. GasCon is the ninth Reservoir Solutions software product. Designed and tested by Latham, all have presentation-quality graphics and are used in more than 60 countries worldwide.

Also in September, Ryder Scott is releasing an updated version of the ResGas freeware program.

Latham enhanced the heating-value calculations and put in more diverse options for hydrocarbon and non-hydrocarbon recovery/extraction factors. ResGas users simply need to download the new executable file from the Ryder Scott Web site and install. The new ResGas program will overwrite the previous version.



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