

# THE ENERGY FORUM

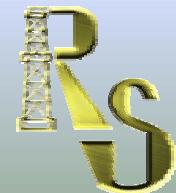
## **SARBANES-OXLEY – SOX IN THE OILPATCH SERIES**

*October 27, 2004 — Session III  
How Auditors Work With The SOX Team*

**“Questions I would ask about reserves if I were a financial auditor”**

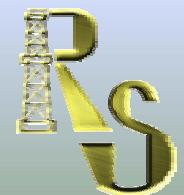
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## Disclaimer:

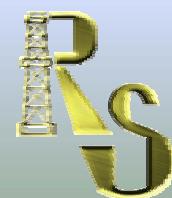
This presentation includes opinions of the author and does not purport to contain advice or counsel about either reserves or financial auditing.



## Introduction:

The questions posed in this presentation will probably NOT be asked by your financial auditor. He or she may be more concerned about whether appropriate controls are in place and effective in assuming that all relevant processes have been established and are in force.

These questions, however, have been prepared to probe beyond where your accountant may believe is appropriate.



## Introduction (cont.):

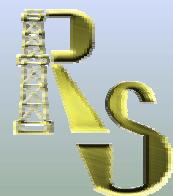
These questions have been created solely to invite discussion about this general topic and to potentially assist a producer in designing a reserves generation and auditing process that can withstand such questions.

Your questions and/or comments are invited at any time.



# Reference materials:

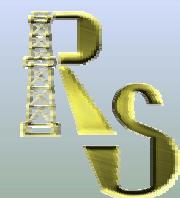
- *“Current Applications of the SPE ‘Standards Pertaining to The Estimating and Auditing of Oil and Gas Reserves Information to Meet The Objectives of the Sarbanes—Oxley Act of 2002,” SPE Paper No. 84143, presented in October 2003 at the fall meeting of the SPE by Ron Harrell.*
- *“Oil and Gas Reserves Estimates: Recurring Mistakes and Errors,” SPE Paper No. 91069, presented in October 2004 at the fall meeting of the SPE — Authors John Hodgin, Thomas Wagehofer and Ron Harrell*



# SPE Estimating and Auditing Fundamentals



- a. Compliance with relevant reserves definitions — SEC in this case
- b. Qualifications of reserves estimators and reserves auditors
- c. Standards of objectivity and independence
- d. Standards of estimating reserves and reserves information
- e. Standards of auditing reserves and reserves information



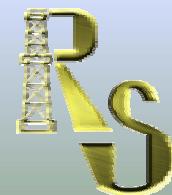
# Let's review some critical terms and definitions

- a. A financial auditor performs certain tests of the transactions and balances underlying the financial statements, and evaluates their overall presentation.
- b. A reserves auditor investigates a reserves report prepared by a company or consultant for the purpose of expressing an opinion about the *reasonableness* of the report conclusions *in the aggregate*.



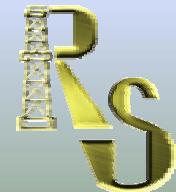
# Let's review some critical terms and definitions (cont.)

- c. A reserves estimator gathers and analyses all available pertinent data in order to provide an estimate, properly classified for uncertainty, of reserves, future production rates and revenues net of all royalties, capital, operating costs, fees and taxes.



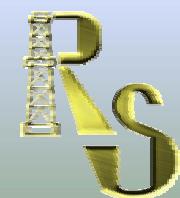
# Let's review some critical terms and definitions (cont.)

- d. Reserves are those quantities of oil and/or gas remaining to be recovered and sold as of a date certain, typically December 31.
- e. Reserves Information is inclusive of estimated production rates and economics



# Questions about compliance with reserves definitions and reporting requirements:

- a. For what purpose(s) is the reserves report to be used?
- b. If SEC report, do all reserves meet SEC proved reserves definitions?
- c. Who is the “last word” in the company in approving reserves classifications?
- d. Does your company have an internal reserves audit process?
- e. When was it established?



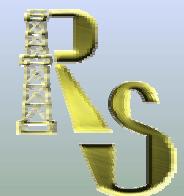
# Questions about compliance with reserves definitions and reporting requirements (cont.):

- f. To whom does the audit team report? How often?
- g. Please describe the make-up and function of this team



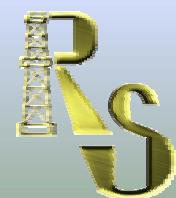
# Questions about compliance with reserves definitions and reporting requirements (cont.):

- h. Please describe the academic and experience background for the individuals assigned to this team
- i. How do these individuals remain “up to date” on SEC reserves definitions as currently being interpreted by the SEC?



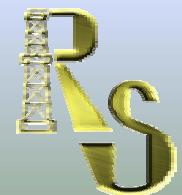
# Questions about compliance with reserves definitions and reporting requirements (cont.):

- j. Provide listing of specific training events these individuals have attended during the past 12 months and/or direct contacts (e-mail, phone, visits) with SEC engineering staff.
- k. Provide a description – purpose and outcome- of all face-to-face meetings between your company and the SEC staff in past 12 months



# Questions about compliance with reserves definitions and reporting requirements (cont.):

- I. Provide copies of all SEC comment letters and responses over past three years.
- m. Has your company ever been asked to “de-book” reserves? Please elaborate.



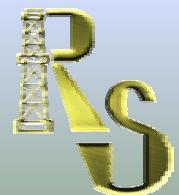
# Qualifications of reserves estimators and reserves auditors

- a. Provide names of all individuals responsible in any way for the preparation of the company reserves estimate as of December 31.



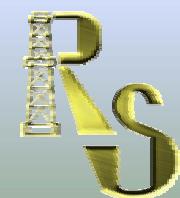
# Qualifications of reserves estimators and reserves auditors (cont.)

- b. Provide a C.V. for each such individual describing, among other things, the following:
  - Educational background
  - Experience background – Dates, responsibilities, etc.
  - Specific training in reserves estimation, reserves auditing and reserves definitions.



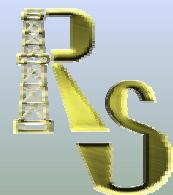
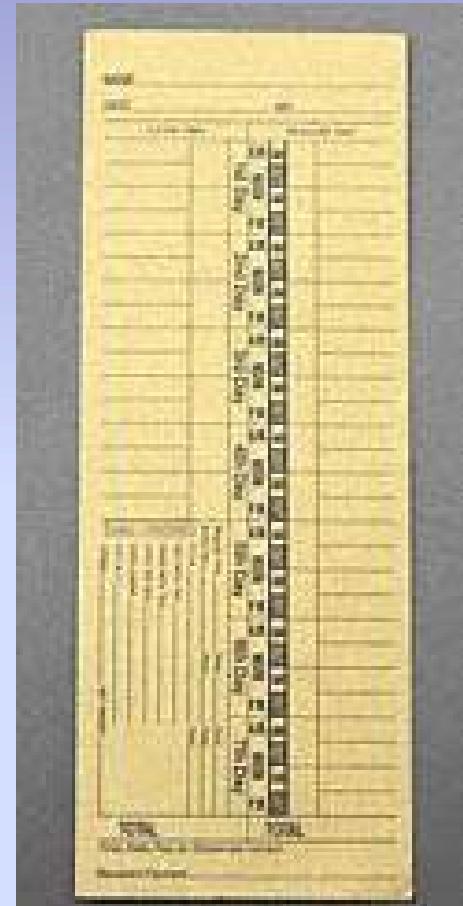
# Qualifications of reserves estimators and reserves auditors (cont.)

- Describe any ethics training received over past three years.
- Indicate any professional certifications or licenses.
- Describe level of activity in professional organizations.



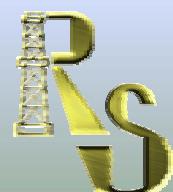
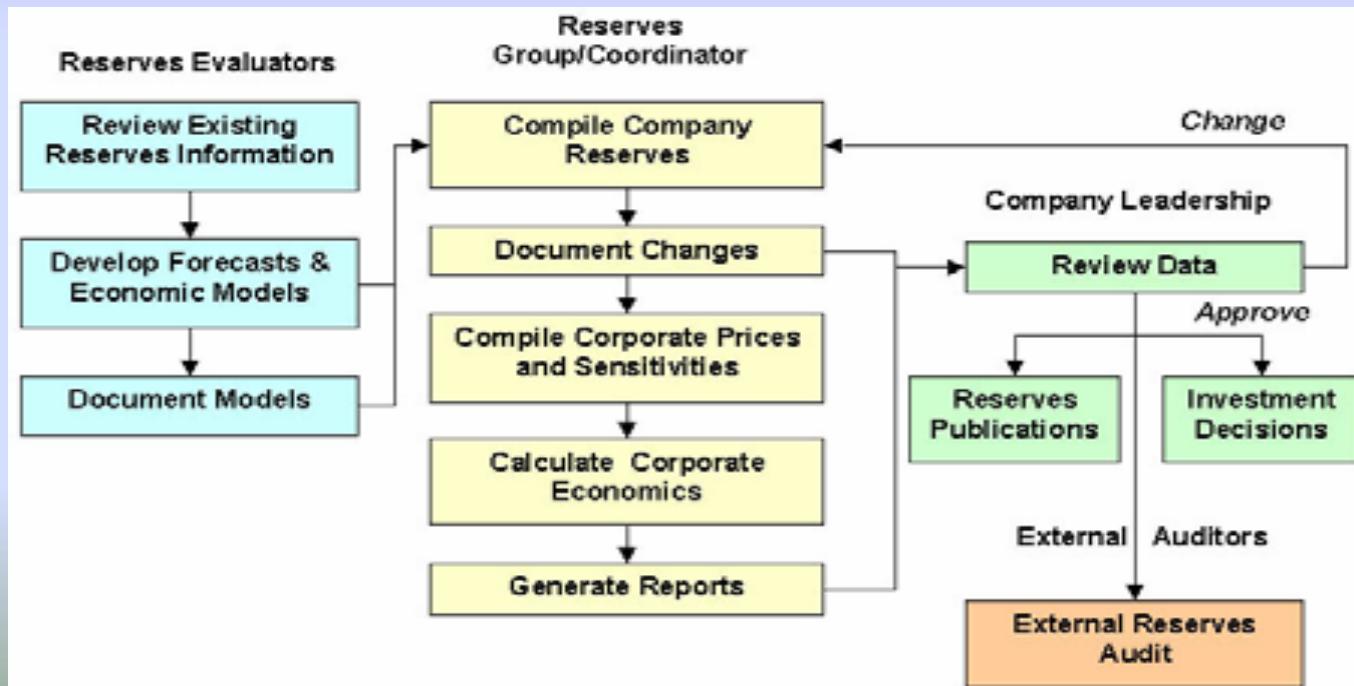
# Qualifications of reserves estimators and reserves auditors (cont.)

- c. Describe specific job function and responsibilities for preparation of the 12/31/\_ reserves estimate.
- d. Provide time records documenting time spent on reserves estimates or reserves audits.
- e. Provide time records documenting time spent on other job duties.



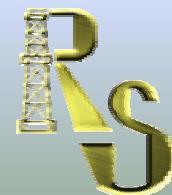
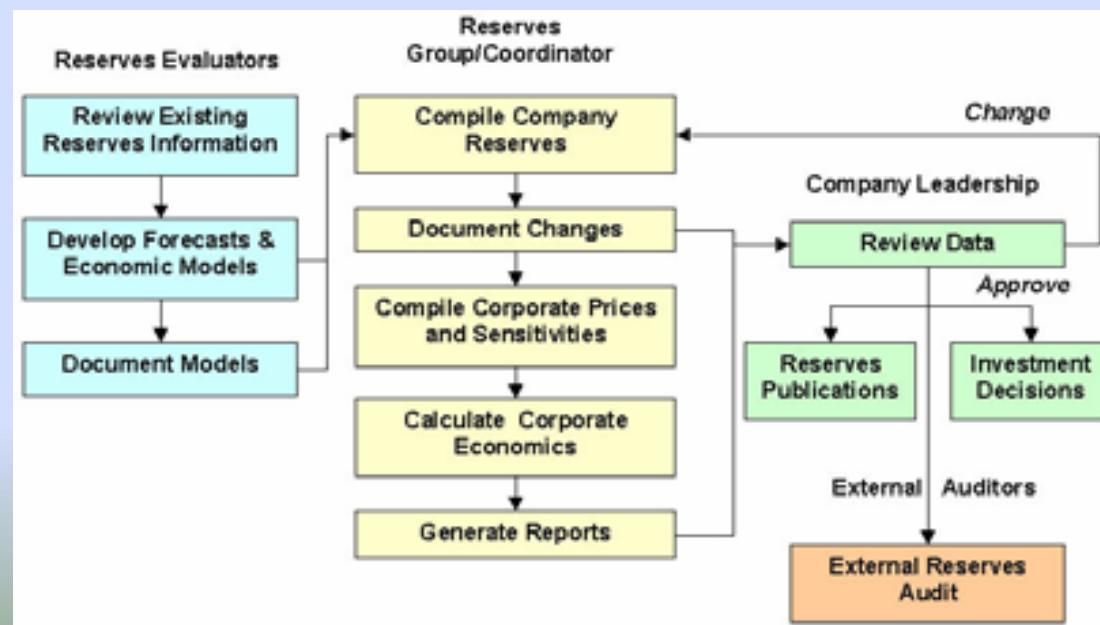
# Qualifications for objectivity, independence

- a. Please describe the corporate organization that relates to reserves estimation and reserves auditing. An organizational flow chart is requested.
- b. When does the year-end reserves process begin?
- c. How is the process begun
- d. When does the year-end reserves process end?



# Qualifications for objectivity, independence (cont.)

- e. Please describe how reserves-related documents—geoscience, engineering, production, etc.—are assembled, managed, QC'd and made available to qualified users.
- f. Please describe how this data base has been made secure.
- g. Please describe any differences related to the management of information from company-operated or outside-operated properties.



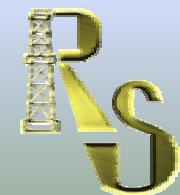
# Qualifications for objectivity and independence (cont.)

- h. Are reserves estimators allowed to participate in a corporate bonus program and if so, what are the reserves-related criteria considered in a bonus amount and how is this amount distributed?
- i. Do various segments of the company, e.g., business units, “compete” for budget allocations? Are reserves replacement costs considered in budget allocations?
- j. Does the corporation use definitions other than the SEC definitions for internal reserves estimation purposes? If so, please explain.



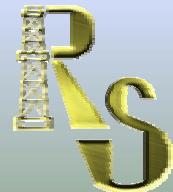
# Standards of Estimating Reserves and Reserves Information

- a. Are all SEC reserves “recalculated” after December 31 each year using year-end prices for all purposes? Revenues? Economic limits? PSC reserves? If not, why not?
- b. How are pricing “differentials” calculated and documented?



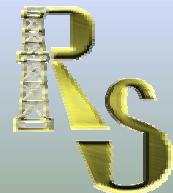
# Standards of Estimating Reserves and Reserves Information (cont.)

- c. What economic software (Aries, OGRE, PhdWIN, proprietary, etc.) is used by the company
- d. How are employees trained in the use of this software?
- e. Is a formal, bound reserves report prepared each year end?



# Standards of Estimating Reserves and Reserves Information (cont.)

- f. If so, to whom is distribution made?
- g. How are operating costs determined? Are overhead charges included?



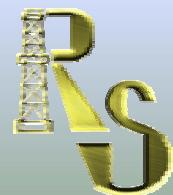
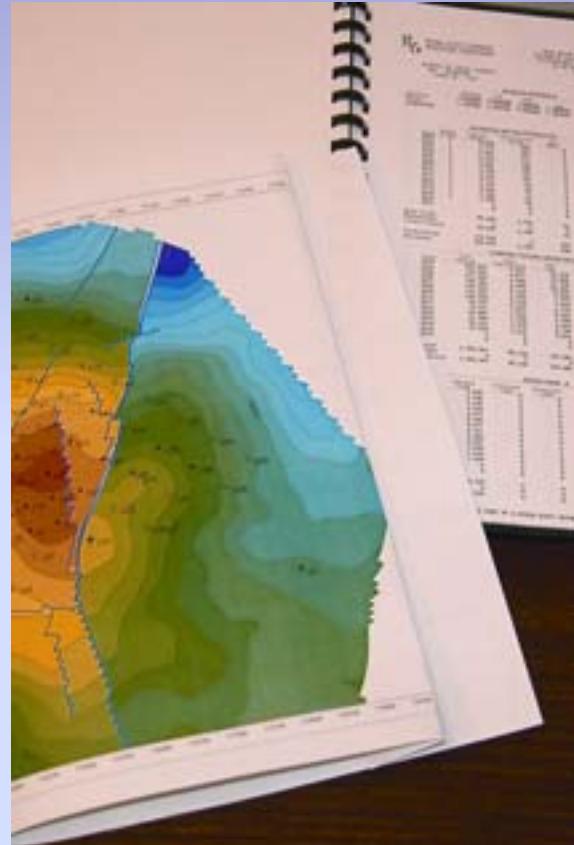
# Standards of Estimating Reserves and Reserves Information (cont.)

- h. How are P&A costs determined? Onshore, Offshore?
- i. Are reserves estimators encouraged to seek additional data, when needed, from field operators?



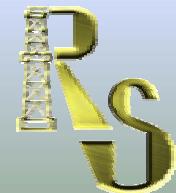
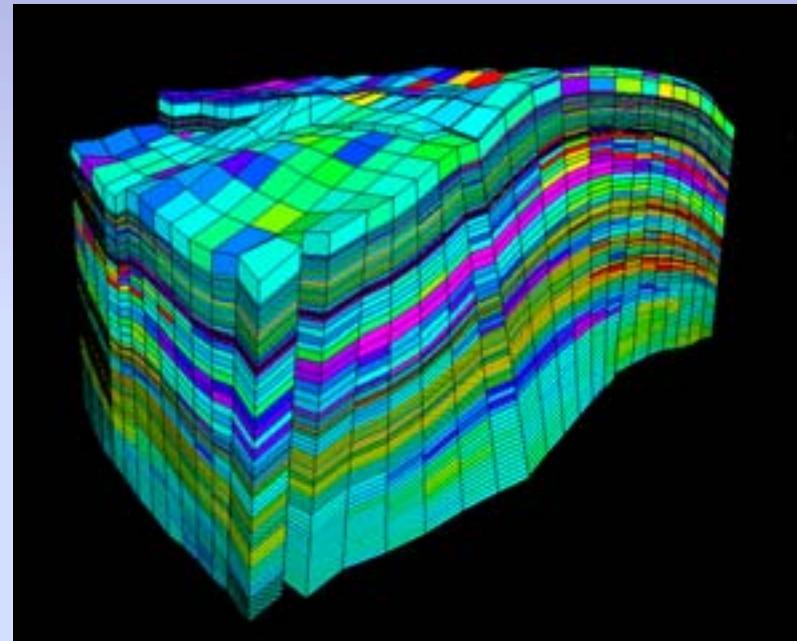
# Standards of Estimating Reserves and Reserves Information (cont.)

- j. Please provide a summary of your most recent SEC reserves report categorized (by volumes and percentage) as follows:
- Developed producing
  - Developed behind-pipe
  - Developed shut-in
  - Undeveloped



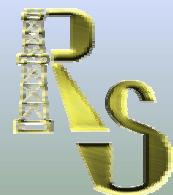
# Standards of Estimating Reserves and Reserves Information (cont.)

- k. Please provide a summary of your most recent SEC reserves report categorized (by volumes and percentage) as follows:
- Volumetrically determined
  - Derived from simulation model
  - Performance based
  - Combination of above



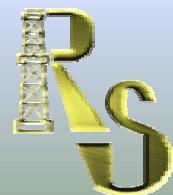
# Standards of Estimating Reserves and Reserves Information (cont.)

- I. For any given field or reservoir, at what point are volumetric estimates subject to being revised through performance data?
- m. Are production decline curves (rate vs. time, P/Z) maintained for all wells and reservoirs? What use is made of these curves?
- n. Is there a “reserves review team” that can be assembled quickly to discuss complex technical issues and reserves definitional matters?



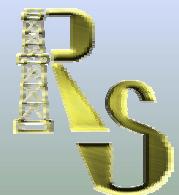
# Standards of Estimating Reserves and Reserves Information (cont.)

- o. Are major reserves revisions subject to review and rejection by any level of management?
- p. Is every member of the reserves staff free to report irregularities or suspicions to management?



# Standards of Auditing Reserves and Reserves Information

- a. Describe how your company employs reserves consultants?
- b. Who has the authority to engage consultants?
- c. How are consultants selected?



# Standards of Auditing Reserves and Reserves Information (cont.)

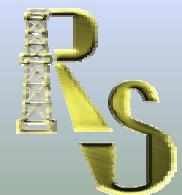
d. In selecting a consultant, how important are the following factors?

- Reputation
- Availability
- Charge rates — \$/hour, \$/day
- Estimated project costs
- Familiarity with producing region
- Recommendations
- Past experience



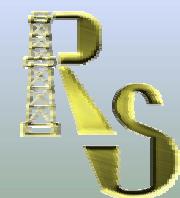
# Standards of Auditing Reserves and Reserves Information (cont.)

- e. For what purposes are consultants engaged?
  - Training of company employees
  - Assistance in creating internal audit process
  - Evaluation of internal audit process
  - Contributing member to internal audit team
  - Estimating/auditing of reserves in select fields



# Standards of Auditing Reserves and Reserves Information (cont.)

- Three-year “rolling” audit – one-third of properties each year
- Audit of top 70-90% of company reserves
- Audit of “selected” 70-90% of company reserves
- Reserves determination of 70-90% of company reserves
- Determination/audit of 100% of company reserves



Thank you for listening –  
your comments/questions are invited

