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Reserve Overbooking – An Issue of Professional Ethics

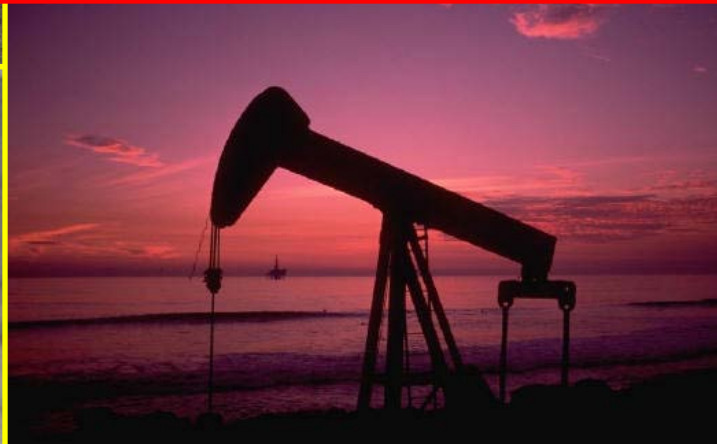
Mark McLane, SPE, Rose & Associates, LLP

Society of Petroleum Engineers
2004 – 2005 Distinguished Lecturer Series



“It takes many good deeds to build a good reputation, and only one bad one to lose it.”

Benjamin Franklin



A Definition of Ethics

“The discipline dealing with what is good and bad and with moral duty and obligation; a set of moral principals or values; a theory or system of moral values; the principles of conduct governing an individual or a group”

Webster's New Collegiate Dictionary

'Ethics' may also be viewed as:

- A framework for discerning Right from Wrong
- A process for choosing between choices equally perceived to be right

Coping with Ethical Conflicts in Organizations

Conflicts? What conflicts?

Organizational “Pressures” – Can be Overt or Subtle

Optimistic Estimates – Reserve & Resource Volumes

- Prospect/Project Approval
- Inflated Corporate Goals – Often Tied to Bonuses
- Market Pressure – Quarterly Earnings Reports

Conservative Estimates – Production & Costs Forecasts

- Incentives to Meet Targets
- Fear of “Being Wrong” – Real or Perceived

Coping with Ethical Conflicts in Organizations

Conflicts? What conflicts?

Personal “Pressures” – Real or Perceived

- Peer Approval and Recognition
- Career Advancement
- Compensation
- Job “Security”

Younger Professionals Often More Susceptible

Living in the “Post-Enron” World

- In spite of increased financial and regulatory scrutiny, reserve overbooking remains a potential problem.
- It is not a technology issue, it is a people issue often with strong ethical components.

How does Reserve Overbooking relate to the issue of Professional Ethics?

Reserve Overbooking

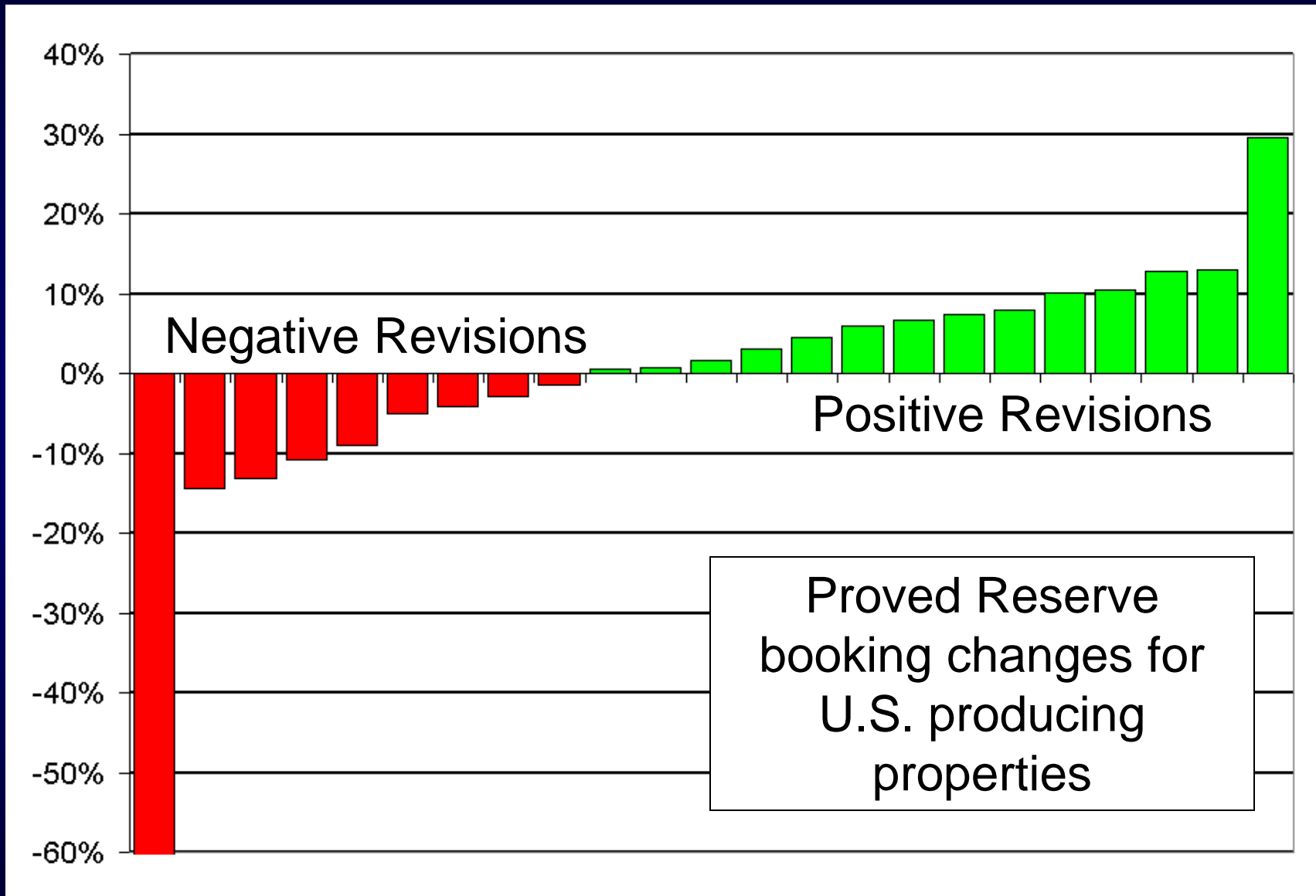
- Widely Acknowledged
- Taboo – Reluctantly Discussed
- Multiple Causes
- Won't Just Go Away

Why are Reserve Estimates So Important?

- Externally
 - An indicator of Asset Value for investors, shareholders and lenders
 - National Energy Policy & Security
- Internally, they are a key component of:
 - Project Valuations
 - Contract & Unitization Agreements
 - Project Evaluation, Approval & Funding
 - Regulatory Reporting
 - Corporate Strategic Planning



1996-2000 Revisions / YE 2000 Reserves



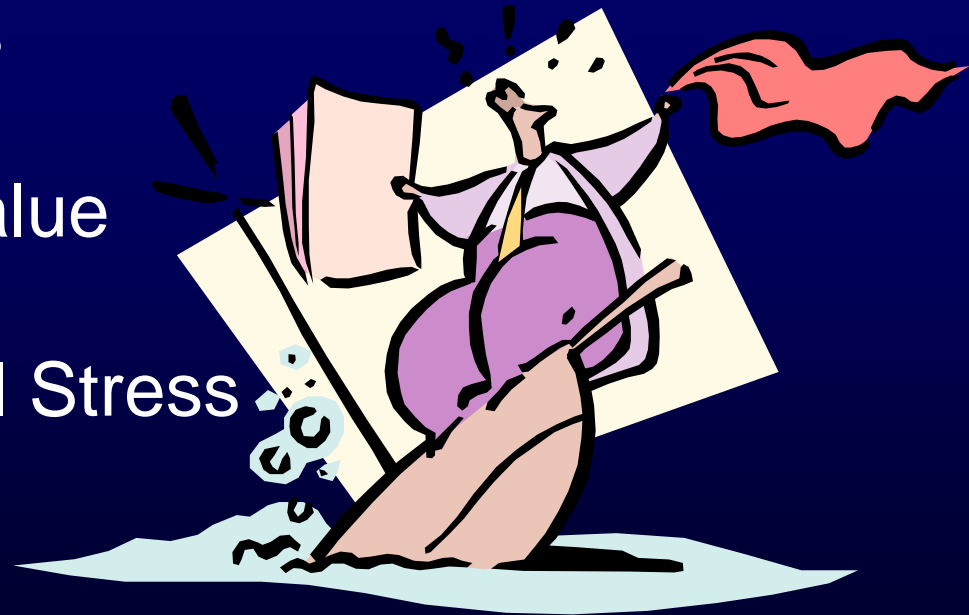
Reserve Overbooking

What's Wrong with It?

Creates 'Ethical Tension' because it conflicts with objectivity, and thus professionalism

It also...

- Misleads Shareholders
- Potentially Destroys Value
- Creates Organizational Stress



Reserve Overbooking – Causes

Errors of Omission

Errors of Commission

Reserve Overbooking – Causes

Errors of Omission

- Ignorance & Poor Estimating Practices
- Solved through Education, Training, Mentoring (Feedback) and Portfolio Monitoring



Good Estimating Practices are Vital!

Though the SEC rules have changed, one thing has not changed: uncertainty. Because of this, oil and gas volumes, and thus reserves will always be estimates.

“It is unfortunate that the term ‘proved’ has been attached to reserves. They are never *proved* – they are always *estimated*! In fact, the only thing which can be said about reserve estimates with any certainty is: No matter what answer you come up with – it is wrong.”

Oil Property Evaluation by Robert Thompson and John Wright

Reserve Overbooking – Causes

Errors of Commission

- Intentional Overbooking – Misguided Incentives
 - Who Benefits?
 - Personal Rewards versus Shareholder Value
- Ignoring Unambiguous Reserve Overbooking
 - What would you do?

Misguided Incentives

“What is honored in a country is cultivated there.”

Plato

Or...



What gets
rewarded,
gets done!

Misguided Incentives

Example Company – Big Rock Oil



- **Bonuses awarded for drilling wells**
- **Staff not meeting minimum target laid off!**

What results should management expect?

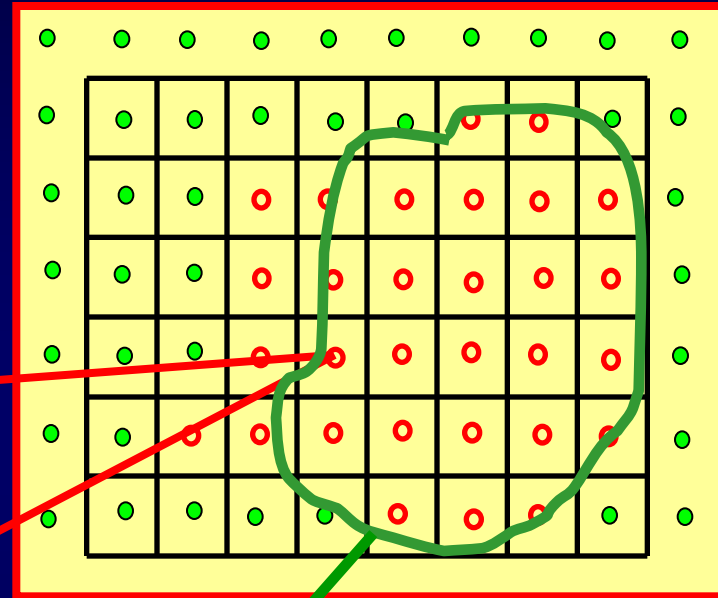
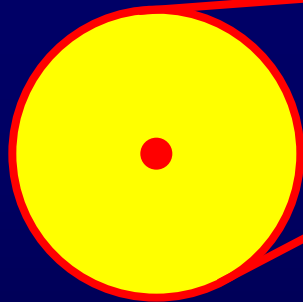
Lots of wells! But will they add value?



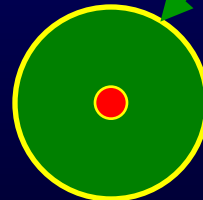
May not matter to staff...but it does to shareholders!

Case Study – “You Are There”

EUR estimated based on 40-acre analogs within the same field



3 Years Later...



Production data indicate drainage areas between 20 and 35 acres

Case Study – “You Are There”

What would you do?

- Write-down reserves now?
- Evaluate recompletion or re-stimulation?
- Wait and hope?

Reserve Overbooking - Solutions

- Leadership

- Education

- Professionalism



Reserve Overbooking - Solutions

Leadership



- Lead by Example
- Clearly Stated Expectations and Standards
 - Willing to be Accountable
- Critically Evaluate Incentive and Reward System
 - “If the Company prospers, we all prosper”
 - Puts Shareholder Value above Personal Gain
- Not Limited to Managers!

Reserve Overbooking - Solutions

Education

- Learning how to deal with Uncertainty through better estimating
 - Systematic and probabilistic
- Understanding the effect of Bias on estimating and Decision Making
- Critically evaluating Patterns of Past Performance
 - The Key to real improvement!



Reserve Overbooking - Solutions

Professionalism

- Guided by Values and Principles – Not Circumstances
- Accepts Personal Responsibility and Accountability
- Places Long-Term Shareholder Value above Personal Gain
- Fair and Objective



Existing Controls, Procedures and Policies

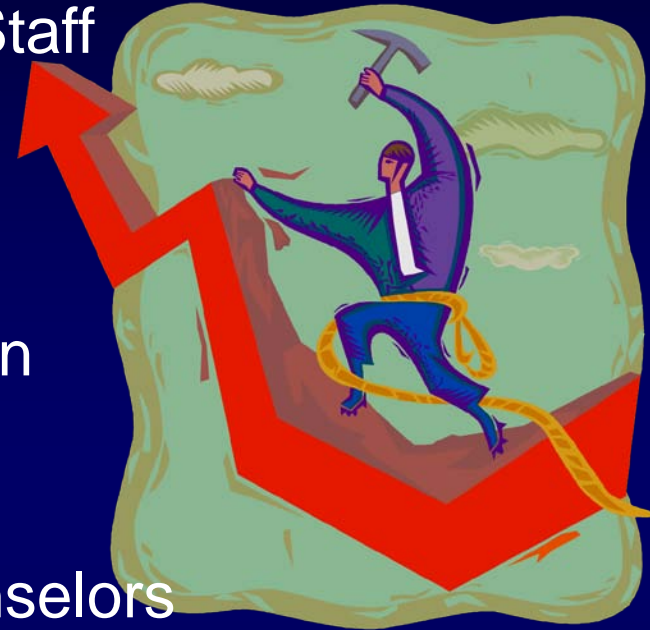
- Governmental Regulations
 - SEC, et. al.
 - State/National Engineering Boards
- Professional Society Guidelines
 - PRMS (SPE, et al, 2007)
 - FASB
 - IASB
- Company Policies

How Are They Working?

Ultimately, compliance...is an issue of personal and corporate values

Our Challenges

1. Education of Executives, Managers & Staff
 - Technology
 - Uncertainty
 - Ethics
2. Clear Reserve/Resource Documentation
 - Rationale & Assumptions
 - Maps & Data
3. Senior Professionals – Mentors & Counselors
4. Provide a process to resolve Ethical issues
 - Independent Reserve Group
 - Senior Ombudsman – Conflict Mediator
5. Proper Incentives
6. Acting on Principles – Honorably Resign Rather Than Compromise Integrity



Coping with Ethical Conflicts in Organizations

Remember...

“It takes many good deeds to build a good reputation, and only one bad one to lose it.”

Benjamin Franklin

Human nature looks for rules and formulas to replace thinking. Principles-based systems (e.g. PRMS) require thinking, analysis, judgment and a good ethical foundation.



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