Oil and Gas Proven Reserve Reductions:  
A Geologist’s Perspective  

by Arthur E. Berman

Introduction
In early January 2004 the Royal Dutch/Shell Group announced nearly a 4 billion barrel reduction in proven oil and gas reserves. In February El Paso followed with a 41% reduction in its reserves. In March Shell again reduced its reserve estimates another 250 million barrels in one Norwegian field alone. Now other companies including Husky and Forest are announcing cuts and surely we are only seeing the beginning of a trend that will likely continue at least through the end of 2004.

Newspapers and petroleum industry journals have provided ample commentary on how this situation could have arisen ranging from executive deception and greed to the “artistic” nature of reserve estimation. A headline in the March 21, 2004 San Jose Mercury News proclaims “Estimates of oil reserves based largely on guesswork”.

I have gotten calls from colleagues, family and investment analysts asking, “What does all this mean and how is it possible for proven reserves to disappear?” I have had conversations with a prominent New York City law firm planning a class action suit against Royal Dutch/Shell on behalf of its shareholders asking how they should understand the damage to their clients.

Published explanations by investment and industry pundits emphasize failure of SEC regulations, liberal interpretations of these guidelines by certain companies, the lack of qualified reserve certification analysts and outright deception and corruption on the part of industry executives.

I read a thinly disguised agenda into many of these commentaries. The most noteworthy is an article by Ronald Harrell, CEO of Ryder Scott Company, in which he makes a case for the need to certify reserve analysts to avoid recurrence of this kind of problem (Oil and Gas Journal, March 14, 2004). The implication is clear: don’t use ordinary geologists, geophysicists and engineers for reserve studies because they will make mistakes; it should be a law that only companies like mine, Ryder Scott (and, unfortunately, our competition Netherland Sewell, Dames and Moore, etc.) be allowed to do this important work.

Right. That will give us the same confidence that companies like Arthur Anderson brought to the accounting world recently.

I write this article to present a perspective that, so far at least, I have not seen in the press. There are abundant technical causes for significant changes and re-interpretations of proven reserve estimates particularly in fields in early phases of development. My intent is not to apologize for the petroleum industry or to validate the claims that reserve determination is either an art or a science or that it is based on guesswork. My objective is simply to describe the factors that can and regularly do create revisions in resource assessments in the oil and gas business. I will add that the incorporation of modern seismic and petrophysical techniques into the process and methodology alone may be enlightening even to those who understand the technical aspects of a reserve certification.

Perhaps my discomfort with reports on the current reserve reduction issue (will some journal eventually call this “reserve-gate” so we don’t get confused?) is symptomatic of an era in which journalists repeat press releases and information presented at press conferences as the truth. Apparently investigative reporting is out-of-fashion or is not judged to have a market.

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