

Insights and Barriers to Effective Assessment

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Effective assessment on the nature and scope of shale resource plays can be impeded by several factors. These factors tend to be related to the low permeability of the reservoir, and the attendant challenges of monetizing the resource base. From our interactions via industry training and consulting, we will report on issues associated with:

1. Uncertainty with the ultimate recovery from the resource base, given success, as the % recovery varies with the number of wells and the amount of interference interpreted from those wells as development proceeds. Yet, wells drilled per section may not be a large value driver if you do not drill with enough rigs.
2. Confusion related to staged probability assessments, as chance factors may not be directly related to volumetric components. Furthermore, the nature of probability assessment varies in the early stages and tends to be associated with the likelihood of achieving certain production levels. In later stages the probability assessments shift to address concerns about bringing that production to market across the play;
3. Per well volumetric assessments using type production curves considering the geologic heterogeneity across a play; and
4. Characterization of single well investments versus staged, multiple well drilling programs. By their very nature, the extensive number of wells needed to develop a play permit adaptation to play and portfolio aggregation techniques.

Inevitably, the resource characterization (volumes and rates given success) and subsequent valuation (investments, timing and revenue) have many inputs assessed under different conditions of uncertainty, where different biases can be lurking. Assessed business value (and subsequent negotiations) may also hinge on the various trade-offs between the sequencing of acreage and seismic investments relative to the probability of geological success. Actual business performance in the resource play is inevitably linked with the various levels of reported reserves and resources. The reporting system governed by the U.S. Securities and Exchange Commission is evolving, with surprising implications for medium and smaller capitalization companies.