A007

Many Ways to Play a Review of Alternative Approaches to Play Assessment

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SUMMARY

This paper reviews alternative approaches to play assessment. The review covers both discrete (conventional) and continuous (unconventional) plays. There is a significant literature on the former topic (and also a range of more or less well established methods/approaches). For continuous resources we are looking at an emerging field that can benefit from a systematic review -- in order to be able to both adopt and adapt from assessment of discrete resources. The main body of the paper provides a review of alternative play assessment methods. The review concludes with a summary overview of key differences and similarities between the approaches used for assessing respectively discrete and continuous resources. Some of the key dimensions considered are interpretation of shared play risks and conditional risks, how to model recovery, the key inputs from analogs and the role of the assessment unit.

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An initial review of key definitions and terms is instructive. The conventional definition of play assessment is the quantitative estimation of the Yet-to-Find potential. The term needs to be adjusted to cover assessment of continuous resources where the resources most often have been found. A more appropriate term might be Yet-to-Produce potential. It might also be termed Yet-To-Find-in-Sweet-Spots potential. The latter point also raises the issue of what is the analytical definition of a continuous play (as opposed to continuous resources). The paper will argue that the popular term “resource play” is potentially confusing and needs to be used carefully.

The main body of the paper provides a review of alternative play assessment methods. The review will consider the following main alternative methods for assessing discrete (conventional) resources: area or rock volume based, feature-based and discovery process models. The different methods are more or less suited to different levels of maturity of the plays and also different levels of data concerning the target play (the two are often correlated as there is limited data in frontier areas). The uses reflect in part different objectives for the assessments: as a basis for identifying sweet spots in the play, as part of doing a complete inventory of resource potential and as basis for assessing potential value.

The paper then considers the analog methods for assessing continuous (unconventional) resources. There are direct analogs to the area and rock volume based methods used for discrete resources. However, there are clear differences in terms of the analog to the feature based method. The differences reflect both that the continuous resources are not defined by discrete features and the importance of recovery and well performance. As is clear from approaches that have been published, assessment of continuous resources ends up at some stage of the assessment workflow with a breaking down the continuous asset into discrete entities.

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The summary also raises some issues for further discussion such as what is the continuous analytical equivalent of the discovery process model used for assessing mature discrete conventional plays. Is it a well performance learning curve?