

“Implemented Risk Analysis Process Enhancements from Post Drill Audit Lessons Learned”

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Since implementing an Integrated Risk Analysis Evaluation Process, several companies have adopted a continuous process improvement strategy. The result has been many small improvements to both process and tools as well as several major process additions. The two highest impact process additions are the main subject of this presentation, being:

1. Drill Off the Crest (DOC) evaluation
2. P99 (as small as it can be) Exceptions

Some of the companies, which have a similar evaluation process and tools, shared their learning and conclusions to assist in the validation of each other's insight. This attitude presumes the process and tools are not sources of competitive performance but a means to comparatively value the real sources of exploration competitive advantage - the exploration inventory. Everyone wins from such cooperation.

Many of the smaller continuous process improvements were associated with increased integration and process accountability. The major process advances came from the identification of omitted sub-processes or from changes in the exploration inventory environment. Some project types that were formerly an anomaly in the inventory had become standard. Process and tool enhancements were necessary to enable comparable evaluation with other projects in the inventory.

Limited available inventory in the proven play areas and technology changes in drilling, completion and 3D seismic caused companies to consider these opportunities, most of which existed in a higher cost environment. Examples of these were HTHP, deep water, deep TD or harsh condition environment. Projects in these evaluation environments needed to have fewer exploration and appraisal tests and often a multi-purpose strategy for appraisal and development drilling in order to be economically viable. The need to prove up commerciality early in the drilling campaign resulted in companies employing a DOC strategy, given certain imaging and reservoir limitations. Process and tool changes were implemented to maintain a level evaluation playing field with the rest of the exploration inventory ensuring valid portfolio management.

The DOC strategy is one example of a P99 Exception where the choice of location increases the low side of the uncertainty distribution. That is small discoveries are not possible to be detected given the drilling location. Identifying other P99 Exceptions, which will be discussed, has been an important process change.