

Enhancing Economic Evaluations to Maximize Resource Value for Unconventional Field Development

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ABSTRACT

The objective of this paper is to showcase how technology was successfully utilized to enhance the economic evaluation firepower for portfolio ranking, scenario planning, and sensitivity runs of Assets for Unconventional plays. Focus of the paper will be to demonstrate the competency of the tool and data used will be arbitrary. This project was initiated to implement an economic evaluation workflow of a given unconventional project. The process also improved roll-up/reporting functionality for better management visibility. Standardizing the evaluation workflow process across all assets provided further flexibility to determine the activity level within assets, and in turn better portfolio management. Implementation of this engine was carried-out in a three-step staged-approach. As part of Stage-1 Pilot, the software was modified and successfully tested against an in-house excel-based economic model prior to full deployment. In addition to superior capabilities in preserving data integrity, corporate referencing, and archiving, users noted as well a time reduction to conduct the evaluation process, thus giving more time to be spent analyzing the results. In Stage-2, a new custom plug-in was built to integrate an in-house and team-developed tools into a single application. The “NGL Yield Model” which correlates well head volume requirement against sales target. The “Volume Adjustment” takes care of shrinkages and BTU calculations. The “Well Count Model” handles the required number of wells to meet sales volume. The “Cost Model” accommodates the cost, risk and tie-in factors related to the project. All these are seamlessly strung together and loaded automatically into the economic evaluation engine. As part of Stage-3 deployment, governance controls were implemented to maintain confidentiality and data integrity. Furthermore, this tool was utilized to conduct a peer review among different Unconventional assets and portfolio ranking of the fields within the Assets. With an economic engine at its center piece, this paper shows how technology can be successfully used to integrate legacy tools at front end and third-party Business Intelligence tools at the back-end to provide management the much needed visibility on project economics. With a considerable reduction in time and effort in carrying out the evaluation, Engineers can spend quality time in analyzing the cases (Scenarios, Sensitivities and Outcomes) to make informed portfolio management decisions.