Selection and Treatment of Stripper Gas Wells for Production Enhancement in the Mid-Continent

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Quarterly Technical Report

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Abstract

Stripper gas wells are an important source of domestic energy supply and under constant threat of permanent loss (shut-in) due to marginal economics. In 1998, 192 thousand stripper gas wells produced over a Tcf of gas, at an average rate of less than 16 Mcfd. This represents about 57% of all producing gas wells in the onshore lower-48 states, yet only 8% of production. Reserves of stripper gas wells are estimated to be only 1.6 Tcf, or slightly over 1% of the onshore lower-48 total (end of year 1996 data). Obviously, stripper gas wells are at the very margin of economic sustenance. As the demand for natural gas in the U.S. grows to the forecasted estimate of over 30 Tcf annually by the year 2010, supply from current conventional sources is expected to decline. Therefore, an important need exists to fully exploit known domestic resources of natural gas, including those represented by stripper gas wells.

The overall objectives of this project are to develop an efficient and low-cost methodology to broadly categorize the well performance characteristics for a stripper gas field, identify the high-potential candidate wells for remediation, and diagnose the specific causes for well underperformance. With this capability, stripper gas well operators can more efficiently and economically produce these resources and maximize these gas reserves. A further objective is to identify/develop, evaluate and test "new and novel," economically viable remediation options. Finally, it is the objective of this project that all the methods and technologies developed in this project, while being tested in the Mid-Continent, be widely applicable to stripper gas wells of all types across the country.

The project activities during the reporting period were:

- Type curve matching continued during the reporting period.

- A second data collection trip to Tulsa was performed to gather information on the additional reservoirs to be included in the analysis. Created updated database. Delivered information for both type-curve and artificial neural network analysis to analytic team.

- Made presentations on the project at the Stripper Well Consortium Meetings in Oklahoma City (October 24) and Dallas (October 25).

- Made presentations on the project at the PTTC Marginal Well workshop in Jackson (October 30) and Wichita (November 29).

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Experimental

For the subject period, the following activities were performed:

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Results and Discussion

Technical progress is now being made on the project, with the additional data from the Mocane-Laverne field collected and type-curve matching nearly complete.

Conclusions

There are no technical conclusions for the reporting period.

References

None.