

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:

- Continued to solicit industry research partners to provide test sites, including Patina Oil and Gas and EOG Resources, each of whom have previously worked with ARI on a similar projects funded by the Gas Technology Institute. Both declined to participate due to other priorities at the present time, which is becoming a common theme. We are continuing to solicit other operators for a second site.
- Traveled to Tulsa, Oklahoma and collected data from Oneok for the Mocane-Laverne field test site. Well files on approximately 80 wells were reviewed copied. Currently, we are in the process of inputting the information into a production database.
- During the next quarter, we hope to complete the Oneok field study and acquire an industry partner for the second test site.

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Experimental

For the subject period, the following activities were performed:

- Continued to solicit industry research partners to provide test sites, including Patina Oil and Gas and EOG Resources, each of whom have previously worked with ARI on a similar projects funded by the Gas Technology Institute. Both declined to participate due to other priorities at the present time, which is becoming a common theme. We are continuing to solicit other operators for a second site.
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Results and Discussion

Securing a second test site remains a project difficulty. Another issue being discovered at the Mocane-Laverne field is that almost all data is in hardcopy format in the well files. Data acquisition, organization and digitization is therefore a tedious and labor-intensive task.

Conclusions

There are no technical conclusions for the reporting period.

References

None.