

Maximizing Lateral Well Oil Production from Conventional Carbonate Mission Canyon Reservoirs in North Dakota

Submitted by:

Cobra Oil & Gas Corporation

Principal Investigator: Kyle Gardner

- Total Funding Request - \$1,000,000**
- Total Project Costs - \$2,000,000**
- Project Duration: 2 years**

PROJECT DESCRIPTION

Cobra Oil & Gas Corporation (Cobra) is seeking funding for a research project to maximize recovery of stranded reserves through the implementation of downhole equipment of a horizontal well within the Mission Canyon Formation of the Wayne Field, Bottineau County, North Dakota. The goal of the project is to optimize the production of oil from a conventional reservoir through the design and implementation of downhole technology to better control the production of fluids along the length of lateral wellbores.

The expected results will be a pilot-scale installation and testing of downhole equipment to isolate stages within a horizontal well to produce stranded reserves. Along with the pilot testing, characterization and production analysis of the Mission Canyon Formation within the Wayne Field will be completed to identify production drivers and reservoir conditions to identify other potential horizontal candidates. Learnings from this project will establish baseline operational strategies for oil production from the resource-rich Mission Canyon throughout the Williston Basin.

TECHNICAL REVIEWERS' RATING SUMMARY

Statement	Weighting Factor	<u>TR G-61-02A</u>	<u>TR G-61-02B</u>	<u>Average Weighted Score</u>	
Objectives	9	3	2	18	
Achievability	7	3	3	21	
Methodology	8	4	3	24	
Contribution	8	4	2	24	
Awareness/ Background	5	5	4	20	
Project Management	3	4	3	9	
Equipment / Facilities	2	3	3	6	
Value/Industry- Budget	4	4	3	12	
Financial Match – Budget	4	3	4	12	
<i>Average Weighted Score</i>		183	142	162	
<i>Maximum Weighted Score</i>				250 possible points	

TECHNICAL REVIEWER TOTALS

- G-61-02A

Average Weighted Score: **183 out of 250**

FUND

- G-61-02B

Average Weighted Score: **142 out of 250**

FUNDING TO BE CONSIDERED

TECHNICAL REVIEWER COMMENTS

Reviewer G-61-02A

Overall, I like the idea that some operator is making an effort to extend the life of a non-core reservoir property ignored by the majority of operators pursuing the Bakken and Three Forks. Often, the operators have no idea they even exist because they have only become involved in the Williston Basin in the last 15 years or so and only hear about the Bakken and Three Forks. Further complicating that issue is the fact few engineers or geologists exist in the area who have ever worked the other 20 or so oil and gas producing formations in the basin, let alone heard of them. With very few well penetrations being drilled past the Three Forks, very few geologists, log analysts, mud loggers, mud engineers, drilling engineers, etc., are still working, who helped solve the reservoir or formation issues that exist below the Bakken or Three Forks. We need a reason for the money people to take a look at these again, and if successful, this might be a catalyst to get that ball rolling.

Recommendation: FUND

Reviewer G-61-02B

As a field-wide test, this project is likely to benefit Cobra in their increased production in the Wayne field itself. The likelihood of knowledge transfer to other Mississippian fields is probably somewhat low given the range of reservoir mechanisms present.

Recommendation: FUNDING TO BE CONSIDERED

Director's Recommendation:

- ☐ Fund in the amount of \$1,000,000**