

Maximizing Production from Residual Oil Zones in Western ND

Submitted by:

Cobra Oil & Gas

Principal Investigator: Kyle Gardner

☐ Total Funding Request - \$2,000,000

Total Project Costs - \$4,000,000

Project Duration: 2 years

PROJECT DESCRIPTION

Cobra Oil & Gas Corporation (Cobra) is seeking funding for a research project to further investigate methods and strategies to maximize oil recovery within Madison oil fields in western North Dakota. The objective of the project is to use new and existing reservoir characterization and laboratory analytical data coupled with state-of-the-art static and dynamic computer modeling to design and implement pilot-scale field injection tests for developing and optimizing production strategies within residual oil zones (ROZs) of the Madison Group's Mission Canyon Formation. The development and implementation of production strategies for North Dakota's ROZ formations would create jobs, increase oil and gas investments, revitalize North Dakota's legacy fields, and increase state tax revenue. Expected results include a series of field-tested operational and completion parameters for increasing production in the Mission Canyon ROZs. These parameters can be implemented to increase oil production in depleted or existing plays, enabling production of previously uneconomical oil resources in North Dakota.

TECHNICAL REVIEWERS' RATING SUMMARY

Statement	Weighting Factor	<u>TR G-58-02A</u>	<u>TR G-58-02B</u>	<u>TR G-58-02C</u>	<u>Average Weighted Score</u>
Objectives	9	3	3	3	27
Achievability	7	5	3	4	28
Methodology	8	3	3	4	24
Contribution	8	3	4	3	24
Awareness/ Background	5	3	4	5	20
Project Management	3	4	3	3	9
Equipment / Facilities	2	4	3	2	6
Value/Industry- Budget	4	5	4	4	16
Financial Match – Budget	4	4	4	3	12
<i>Average Weighted Score</i>		181	171	177	176
<i>Maximum Weighted Score</i>				250 possible points	

TECHNICAL REVIEWER TOTALS

- G-58-02A

Average Weighted Score: **181 out of 250**

FUND

- G-58-02B

Average Weighted Score: **171 out of 250**

FUND

- G-58-02C

Average Weighted Score: **177 out of 250**

FUND

TECHNICAL REVIEWER COMMENTS

Reviewer G-58-02A

The proposed project aims to enhance oil production from a field located in the Mississippian Mission Canyon Formation in Renville County. The primary focus is on tapping into the oil stranded in residual oil zone (ROZ) accumulations. These ROZ accumulations represent a significant untapped resource that can contribute to increased oil production. By implementing advanced techniques and technologies specifically designed for targeting ROZs, the project seeks to unlock the trapped oil and maximize production from this formation. The successful implementation of this proposal has the potential to significantly enhance oil recovery and contribute to the overall energy production in the region.

Recommendation: FUND

Reviewer G-58-02B

Although CO2 EOR has been implemented in many oilfields in nearby Canada and other areas of the USA, it has yet to see large scale application in the ND portion of the Williston Basin. Expansion of CO2 EOR into the ND portion of the Williston Basin will potentially expand on research and result in Canada, while also helping to develop uses for the extensive CO2 sources in the surrounding region.

Recommendation: FUND

Reviewer G-58-02C

Overall, I believe this project is very likely to result in increased production from the project field. As stated, the increases in tax revenue, royalties and job creation will create local and statewide value for North Dakota. However, given the high potential of the projects findings to be applicable only at a local field level and that Cobra Oil & Gas will most likely benefit the most from that result, it would have been better if a higher contribution of 66% or greater of funding was borne by Cobra Oil & Gas.

Recommendation: FUND

Director's Recommendation:

Fund in the amount of:
\$2,000,000