

Grant Round Application for G-020-B

DIRECTOR'S COMMENTS

G—020-B

“Enhanced Oil Recovery from the Bakken Shale Using Surfactant Imbibition Coupled with Gravity Drainage”

Submitted by: University of North Dakota

Request for \$245,929; Total Project Costs \$819,763

Description of the Project:

This three year research project consisting of laboratory experiments and field applications aim to provide enhanced oil recovery in the Bakken shale. Hess Corporation will participate in this project by reviewing results, providing core samples and direction to the project. If the research results look promising, they will consider applying the new technology in their wells. The principal investigator is Dr. Dongmei Wang.

Technical Reviewers' Comments

Reviewer 20B-01

In light of the project's goals and objectives, which naturally closely parallel those of the O&GRC, the lack of an economic model demonstrating the likely feasibility and value of the technique lessens the guidance and motivation to future workers who will be left with the actual field implementation of the technique should the process model prove promising. Likewise, 3 years is ample time to gain a greater understanding of the practical problems, pitfalls and steps to overcome them that have occurred in existing applications. An inferred implementation plan for field scale testing would be an asset to encourage continuation of work if the process model proves feasible. The staffing of this project seems top-heavy for the deliverables outlined, but that valuable collective experience should be applied to delivering such intellectual products as these.

Recommendation: Funding May Be Considered

Reviewer 20B-02

More detail could be added on how they are structuring the field trials. Do they have some operators that wish to try the technique on an existing well? How do they plan to establish a control to determine if the technique provides incremental production gains?

Recommendation: Funding May Be Considered

Reviewer 20B-03

The overall project framework is defined, but many aspects of the proposal lack detail. How many Bakken samples will be analyzed, what types of samples (whole core, plugs, etc), the samples will be obtained from which Bakken member(s), and where will they come from within the Williston Basin? This proposal is difficult to evaluate without that level of detail and was downgraded because of it.

Recommendation: Funding May Be Considered

Director's Recommendations:

The Technical Reviewers' posed a number of pertinent questions regarding the proposal in its entirety but primarily pointed out a lack of detail regarding the field trials. Dr. Wang provided responses (which can be read in their entirety under the Technical Reviewers' Summary) which answered the majority of the questions regarding the lab testing. However, Dr. Wang noted that the implementation of field testing will have to evolve during the project. It should be noted that the match funding has been requested from the federal government under the Research Partnership for a Secure America. Therefore, it is my recommendation that the Council recommend funding up to \$125,000 for the lab testing contingent upon the receipt of match funding from the federal government or from private industry and receipt of a revised project schedule and milestones.

Should match funding be available and the lab testing shows support for field testing, the Director encourages Dr. Wang to resubmit a proposal for the field testing portion of this proposal with additional detail on how that field testing would be accomplished. Additional industry partners in the field testing would be beneficial to a future application.

Recommendation: Contingent upon the receipt of match funding, fund the lab testing portion of the proposal in the amount of up to \$125,000.