

“Reduction of Flares and Capture of Natural Gas Liquids with Vortex Tools”

Submitted by:

Bakken Frontier, LLC

☐ Request for \$390,000; Total Project Costs \$790,000

PROJECT DESCRIPTION

- The project will seek to build upon past successes achieved in Texas with the use of the Vortex tool to capture NGL's and reduce the amount of flaring in the Bakken. Vortex Tools use the flow velocities on the surface in flow lines/pipelines to consolidate vapors to liquids through centrifugal force. The Vortex tools create a spinning, organized flow for solids and liquids in the outer bands and organized flow for gases in a center core. This allows for more efficient carrying of fluids through pipe, both vertically and horizontally. The centrifugal force created by the spinning of the fluids causes density separation as those fluids travel through the pipe. Gas – entrained in the oil, condensate or water – is liberated by the centrifugal force. Additionally, natural gas vapors are consolidated into liquids and blend with the hydrocarbon liquids and can be recovered. Whiting Petroleum Corporation has provided a commitment letter indicating they will provide a site for a pilot test.

TECHNICAL REVIEWERS' RATING SUMMARY

		Technical Reviewer			
Statement	Weighting Factor	<u>G-34-01A</u>	<u>G-34-01B</u>	<u>G-34-01C</u>	<u>Average Weighted Score</u>
Objectives	9	3	4	3	27
Achievability	7	3	5	3	21
Methodology	8	1	3	3	16
Contribution	8	2	3	2	16
Awareness / Background	5	2	4	2	10
Project Management	3	3	3	3	9
Equipment / Facilities	2	2	4	3	6
Value / Industry-Budget	4	3	5	3	12
Financial Match – Budget	4	2	3	3	8
Average Weighted Score		115	188	137	146
Maximum Weighted Score				250 possible points	

TECHNICAL REVIEWER TOTALS

- G-34-01A

Average Weighted Score: 115 out of 250

DO NOT FUND

- G-34-01B

Average Weighted Score: 188 out of 250

FUND

- G-34-01C

Average Weighted Score: 137 out of 250

FUNDING TO BE CONSIDERED

DIRECTOR'S RECOMMENDATIONS

To fund in the amount of \$350,000 with the following contingencies:

- **Written agreement with an oil producer to install at least 1 unit at one of their sites;**
- **Written agreement with natural gas liquids purchasing company;**
- **Applicant identifies and demonstrates to the Department of Mineral Resources staff that they will meet the conditions of the State's Gas Capture Order (Order #24665)**