



Project Summary, Milestones, Payment Schedule and Quarterly Update Reports

Report Date:

Project Summary

Project Title:	Gas-Liquid Cyclone Separator Field Test
Lead Investigator:	Kyla Clarke, Saskatchewan Research Council
AUPRF Managed Funds Award Amount:	\$176,900
PTAC Technical Champion:	To be determined
GL #:	Research Agreement Number 24-ARPC-03
Project Total Cost (all years)	\$206,900
Leveraged Cash Funding (all years)	\$0
Leveraged In-Kind Funding (all years)	\$30,000
Start Date:	June 27, 2024
Completion Date:	December 2024 as per original 16-week schedule in the contract
Final Report Due Date:	January 2025 as per original 16-week schedule in the contract

Provide a brief description of the challenges this project aims to address and how industry and others will benefit, including what the anticipated impact is. (i.e., cost reductions, improved environmental performance, impact on regulation, enhanced access to resources). (Maximum 150 words or less)

Tanks are a source of methane emissions from oil production. Economics and logistics are significant barriers to mitigating this methane via gas capture (for sales or combustion). Directly capturing tank vents can be logistically difficult because design pressures of the tanks are low. Vapour recovery units (VRUs) can be installed but they are expensive and require frequent maintenance. Separators can be installed upstream of the tanks, but conventional gravity separators are large, expensive and require instrumentation/control valves. Instead, the Calscan gas-liquid cyclone separator, is a small unit, packaged with instruments/valves, which could overcome the logistical and economic barriers to gas capture from tanks. SRC aims to evaluate the performance of the gas-liquid cyclone separator in a novel tank methane mitigation application and assess the economics of this solution. A unit will be trialled, preferably in the light oil production region of Kindersley, SK, to capture produced gas from tank vents.

List scope key milestones with invoicing schedule. Include quarterly estimates.

Milestone	Planned Expenditures ¹	Actual Expenditures	Status
Q2 (Jul 1 – Sep 30) 2024			
1 Secure a producer site for a field test, contracts, and plan field test	\$21,200	\$7,906.25	SRC has been unable to find an oil producer willing to provide a test site for this technology.
Q3 (Oct 1 – Dec 31) 2024			
1 Secure a producer site for a field test, contracts, and plan field test	\$	\$	
2 Field-testing: install equipment/ monitoring, collect data/samples	\$148,500		
3 Data analysis	\$18,800	\$	
4 Remove equipment	\$4,900	\$	
Q4 (Jan 1 – Mar 31) 2025			
1. Final Report and Presentation	\$13,500	\$	
Q1 (Apr 1 – Jun 30) 2025			
1.	\$	\$	
2.	\$	\$	
3.	\$	\$	
4.	\$	\$	
Total	\$206,900		

¹ All expenditures in Canadian dollars and must exclude GST and other applicable taxes.

Quarterly Update

Exception Highlight for the Quarter:

(any exceptions to the original project scope, timelines, payment schedule / amount(s) OR early significant findings) – this can be left blank if no changes are needed, and do not include exceptions already reported.

1. Despite initial interest in the project, SRC has been unable to secure a producer partner willing or able to provide a site for the field test. SRC met with PTAC on August 26th to request assistance with finding a host for the field test. Brian Spiegelmann was immediately enlisted to reach out to five or so producer contacts. Four of the producers indicated that they were uninterested in testing the technology. One producer agreed to a late October meeting to discuss a possible field test. This difficulty has delayed the project schedule (Task 1 was originally scheduled to be complete by Sept 30) and puts the project's execution at risk.

2.

3.

Update on scope, key questions, gap analysis and work performed this quarter (include any requests for assistance to PTAC or the committees)

Although a test site has yet to be found, the producers contacted as part of this project provided valuable feedback. A learning so far is that the proposed gas-liquid cyclone separator technology may not have enough benefits to close the logistical and economic gaps to mitigate tank methane emissions. In other words, it is preferable for producers to use existing technologies such as conventional separators and vapour recovery units, to feed enclosed combustors. There remains a need for a technology with a better value proposition, such as significantly lower cost capital and operating costs, or easier to retrofit existing sites. Calscan's cyclone separator may offer that value proposition, but if so, it has not been clearly communicated to producers.

Following the final producer meeting scheduled for late October, SRC requests a meeting with PTAC to discuss next steps.