Project Profile

Project Name:	Fixed Sensor Monitoring of Controlled Tanks
Project Number:	ER-Meth-2025-03
Proponent:	Modern West Advisory, Inc.
Funding Envelope:	Environmental Research--Methane
Timeframe:	December 5, 2024, to June 30, 2026

Project objectives

The objectives of this project are to:

- Investigate the potential application of methane monitoring equipment and measurement schemes for fugitive emissions from controlled tanks.
- Support the implementations and guidance development for the B.C. regulatory requirement to install fixed monitors and mitigate fugitive methane emissions from controlled tanks.

The project is recommended and overseen by the BC Oil and Gas Methane Emissions Research Collaborative (BC MERC).

Project description

This project will be a two phased approach with phase 1 centering on information gathering and defining a field trial while phase 2 will focus on executing the field trial and the analysis of results.

Phase 1—design a scientifically credible field trial with up to eight methane detection and quantification technologies and schemes deployed simultaneously:

- Conduct a site review to identify the range of tank configurations, size, site complexity and terrain.
- Design and recommend detection technologies and process measurement and alternative schemes for the field trial along with the plan for deployment at sites, season and controlled release frequency, duration, and range of rates.

Phase 2—execute the field trial at up to nine operating facilities through four seasons (2025):

- Deploy methane technologies to three sites prior to June 2025, relocate to the next three sites in July, and relocate to the next three sites in September. Technology evaluation will be in June, August, and October through December 2025.
- Deploy three imaging technologies and three point sensor networks at each site simultaneously.
- Temporarily install a controlled release apparatus on one tank at each site.

- Deploy two alternative schemes, including smart thief hatches and process monitoring, simultaneously.

Project Team

- Modern West Advisory, Inc.—project lead and engineering team to design and execute the field trial.
- Vertex Resource Group—local field services for leak detection and technology deployment and support.
- University of Waterloo—uncertainty analysis on methane emissions detection and quantification; methane plume modelling; and academic insight into field trial design.

Project deliverables

The deliverables from this project include the following:

1. Final report summarizing the field study methods and results.
2. Presentation on findings and implications to the BC MERC.