



MAPP - A Tool for Detailed Tank Inventory and Driving Emission Reduction Offsets

PTAC Workshop - Reducing Methane Emissions from Tanks

March 31, 2020

MAPP Inventory

– Field Data Collection App

- MAPP Inventory
 - Smart device field app synced to Cloud
 - Works Online/Offline
 - One stop data base of detailed vent source equipment inventory
 - Controllers, Pumps, Air Compressors, Engines, Gas Compressors, Tanks, Heaters, Dehy, Valves/Actuators
- Over 100,000 devices in database
- Tank module added in 2019



Add Pump

Pump Survey Date : 02/18/2017

Cap-Op Pump ID # : PDEMO75300001

Pump Type : Other Unknown

Make : CVS

Model : Other 300-2M-910A-01

Pump Serial # : P24988

Pump Part # :

Year of Manufacturing :

Condition Of Pump : Good

Available Gas Type for Instruments : NG – Fuel Gas

Quality of Gas : N/A

Liquids Content : N/A

Sweet or Sour : N/A

Site Overview: D-37-C/94-A-16

Control Instruments

Capop Controller Instrument ID #	Controller Instrument Make & Model
CMK347000023	Fisher 4150KR
CMK347000023A	Fisher C1

Add Control Instrument

Pumps

Capop Pump ID #	Pump Make & Model
No Records Found	

Add Pump

Air Compressors

Capop Compressor ID #	Compressor Make & Model
No Records Found	

Add Air Compressor

Engines

Capop Engine ID #	Engine Make & Model
No Records Found	

Add Engine

Heaters

Capop Heater ID #	Heater Make & Model
No Records Found	

Add Heater

Tanks

Capop Tank ID #	Tank Manufacturer & Size
No Records Found	

Add Tank

Gas Compressors

Capop Gas Compressor ID #	Gas Compressor Make & Model
No Records Found	

Add Gas Compressors

Dehydrators

Capop Dehydrator ID #	Pump Make & Model
No Records Found	

Add Dehydrator

Valves

Capop Valve ID #	Valve Make & Model
No Records Found	

Add Valve/Actuator

Initial Tank Learnings from MAPP

- ▶ Offsets Highly Effective at Driving Early Action
- ▶ Solution Gas Likely Next Methane Offset Opportunity
- ▶ Need Tank Inventory from Heavy Oil/CHOPS regions

Tanks in MAPP Database	885
Location	West of 5th
Large Tanks (400 bbl or >)	40%
Production Tanks (emulsion, water, condensate,oil)	95%
Vent to Atmosphere	90%
Emission Control (VRU, Flare, VGC)	10%

Improving Tank Data Collection



Identify high emitters



Record Gas Release Measurements

24 hr test not always practical



Record by Type of Gas Releases Observed

Process Venting (volatile liquid flashing)
Tank Top Equipment Leaks
Unintended Gas Carry-Through



Root-Cause Analysis



Post-Mitigation (Project) Data Collection

FEMP-EA LDAR Effectiveness Study

Large scale randomized field study in 2018 of 172 well sites in West Central Alberta

Key insights

- ▶ Tanks only comprised 18% of all emitters, but contributed 56% of total emissions
- ▶ Tank-related emissions contributed between 38 and 62% of total emissions in every LDAR survey.
- ▶ Oil sites are associated with higher tank-related emissions compared to gas sites.
- ▶ Average tank related emission rate 5 times larger than non-tank related.





Thank you!

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