

# Calscan Field Tour:

## Zero Emission Brownfield Retrofit

Location: Central Alberta  
Minimum Sunlight: 2.5 hours/day



www.calscan.net  
780-944-1377

"Keeping the Sky Blue"

### Customer Requirements:

Emissions: Reduce the majority of the methane fuelgas venting

Financial: Optimize retrofit to give the biggest bang for their dollar

Operations: Reduce the long term maintenance cost with wet fuelgas/instrument air

To meet upcoming environmental regulations in Alberta, this site needed to reduce the amount of methane venting from pneumatics. The first step was to measure the actual venting and observe how the well operated.

After looking at the data we found the majority of venting is from the back pressure and dump valves. As a result we focused on changing the actuators to electric to optimize retrofit cost for maximum emission reductions.

In addition since we actually measured the vent gas, and not estimated it, we were able to maximize the carbon credits received after the retrofit.



Two Calscan Hawk 9000 vent gas meters measuring the vent rate of the pneumatic controls and actuators

## Replace Back Pressure Actuator



Fisher 667 Pneumatic Actuator powered with methane gas



Fisher 3 inch E-Body Valve with pneumatic actuator removed



Bear BA-15L Solar Ready Electric Actuator installed

# Replace Separators Oil and Water Dump Actuators



Fisher Pneumatic Actuator powered with methane gas



Fisher 2 inch D Body Control Valve with pneumatic actuator removed



Bear SA Solar Ready Electric Actuators installed on D Body Control Valves

## Upgrade the Power

With the extra load from the actuators additional batteries and solar panels were needed. Since we already measured how often the actuators activated, it was easy to calculate how much larger the power system needed to be to ensure its reliability.

To protect the separator from power and RTU failure, the Bear UPS and Fail Safe Controller were installed. If a failure is detected the Bear Fail Safe System will automatically shut the oil well in, preventing a possible spill



The Bear Failsafe System is Designed and Manufactured in Alberta by Calscan and is Div2/Zone2 Certified from -40°C to 50°C

## Separator was venting over 200 Tons CO<sub>2</sub>e / Year since 1968 Now nearly **Zero Emission**



For Help Reducing Your Wellsite Emissions Contact:



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