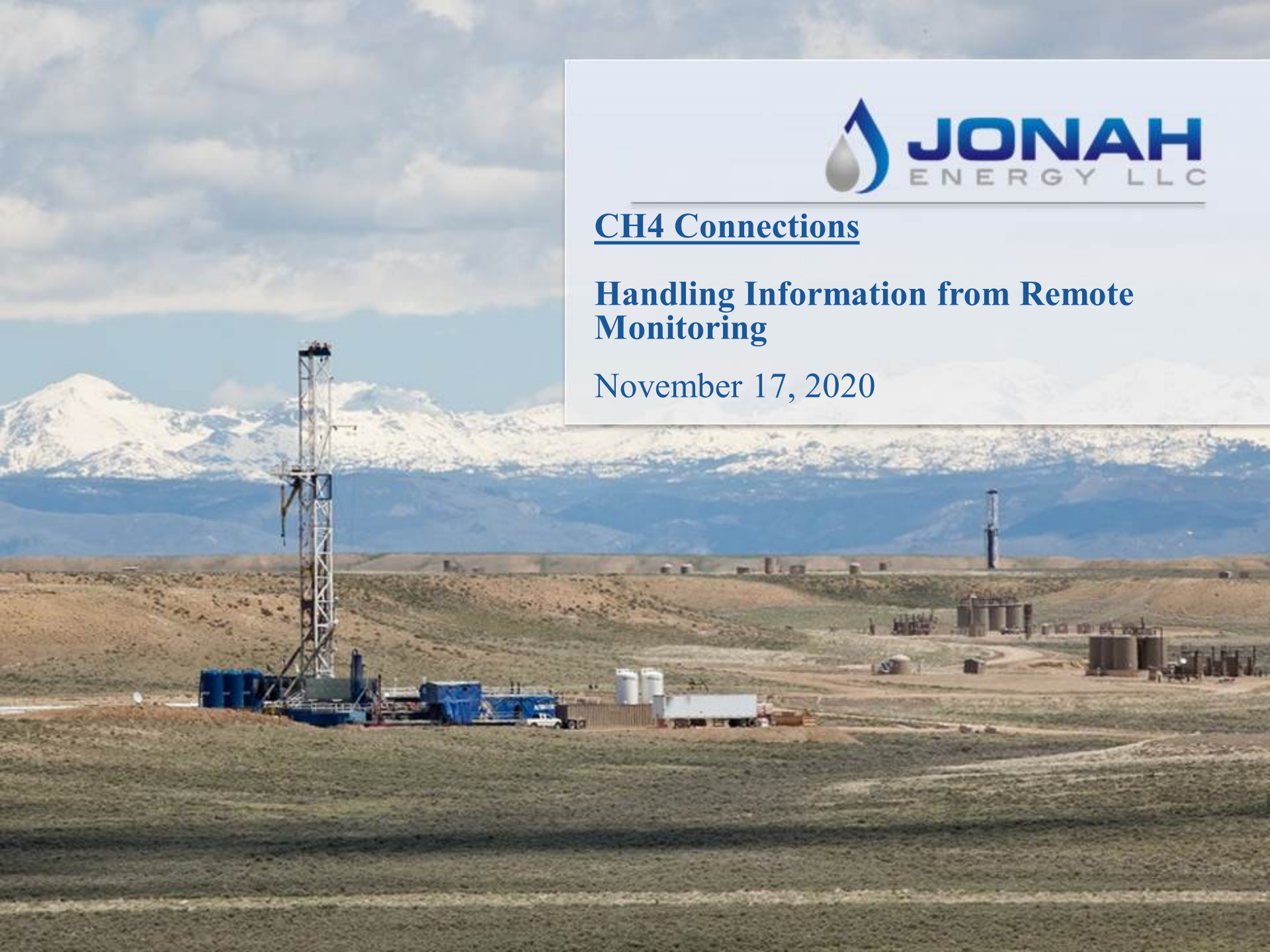




## CH4 Connections

### Handling Information from Remote Monitoring

November 17, 2020

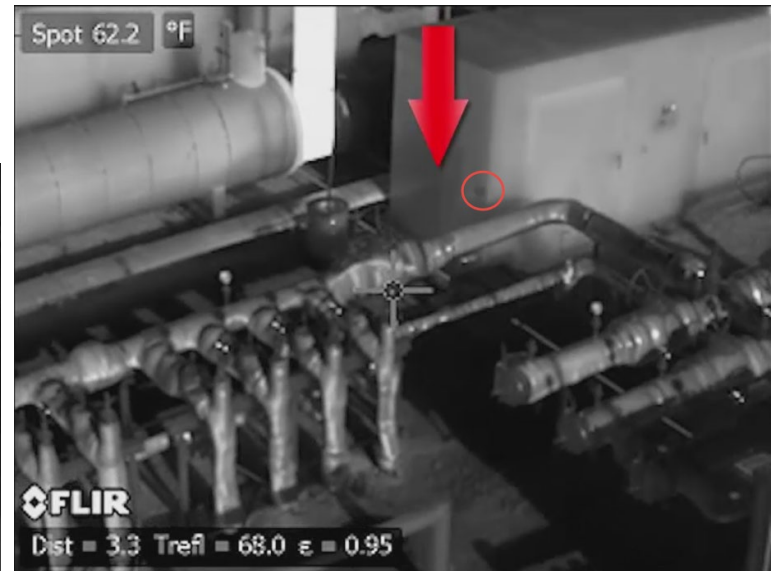
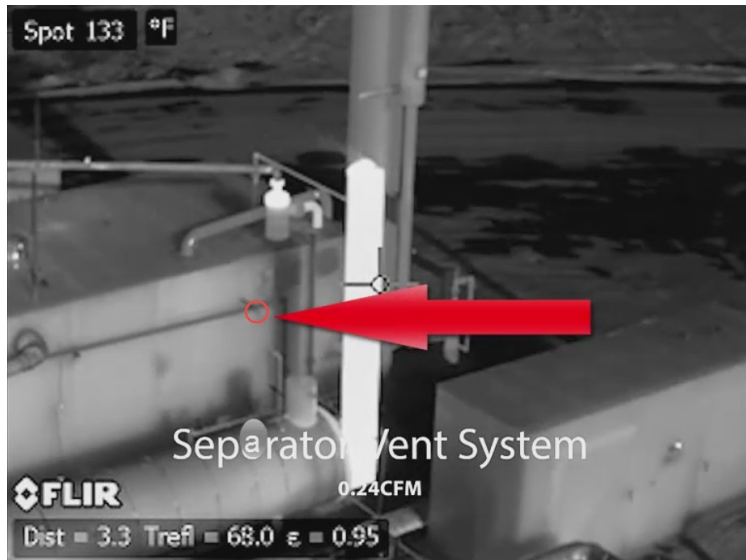


# Outline of Presentation

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1. Sources of data that we use
  - a) LDAR – Handheld OGI survey
  - b) Drone-base OGI survey
  - c) SCADA system
  - d) Fixed monitor pilot project
2. Measurement of emission sources
  - a) Condensate hauling
  - b) Produced water hauling

# Emission Reduction Strategies





# Measurement of emission sources



# LDAR Historic Data – Driving Operations

Enter Inspection Date Range	
Start Date:	1/1/2018
End Date:	12/31/2018

Note: Change the date range or leak rate ranges (highlighted in yellow) to adjust the data set

Inspection Data	
Total Number of Inspections:	1877
Inspections With Actionable Leaks:	424
Percent Inspections with Leaks:	23%

Leaks By Equipment		
Equipment	Leak Count	Leak %
Compressor	58	8%
Dehy	43	6%
Engine	2	0%
Flare	23	3%
Heater	11	1%
Meter	1	0%
Oil Dump Controller	58	8%
Pneumatic	39	5%
Sales Gas Line	3	0%
Separator	259	34%
Supply Gas Line	9	1%
Tank	100	13%
VOC Pot	84	11%
Water Dump Controller	65	9%
Wellhead	0	0%
Unspecified	2	0%

Leaks By Leak Rate				mcf/day
Range Start	Range End	Leak Count	Leak %	
0	0.099	321	43%	0.14
0.1	0.199	134	18%	0.29
0.2	0.299	78	10%	0.43
0.3	0.399	57	8%	0.57
0.4	0.499	26	3%	0.72
0.5	0.999	68	9%	1.44
1	1.999	64	8%	2.88
2	9.999	6	1%	14.40

Leaks By Type		
Type	Leak Count	Leak %
4" Plug on VOC Pot	80	11%
HP Connector	10	1%
HP Flange	0	0%
HP Other	9	1%
HP PRV	1	0%
HP Pump	0	0%
HP Valve	4	1%
LP Connector	199	26%
LP Flange	3	0%
LP Fuel Gas	14	2%
LP Other	20	3%
LP PRV	33	4%
LP Pump	3	0%
LP Regulator	18	2%
LP Seal	15	2%
LP Valve	125	17%
Mizer Nut	80	11%
Mizer Pin	22	3%
Open End	24	3%
Other	29	4%
Thief Hatch	65	9%
Unspecified	3	0%

Leaks Visible From Sky		
Visible?	Leak Count	Leak %
Yes	232	31%
No	523	69%
Unknown	2	0%

# Fixed Monitor Pilot Project



This is an automated alert from Project Canary to inform you that the below alert was triggered.

**Timestamp (MDT):** Saturday, September 26th 2020, 12:45 pm MDT

**Site:** Stud Horse Butte 10-14

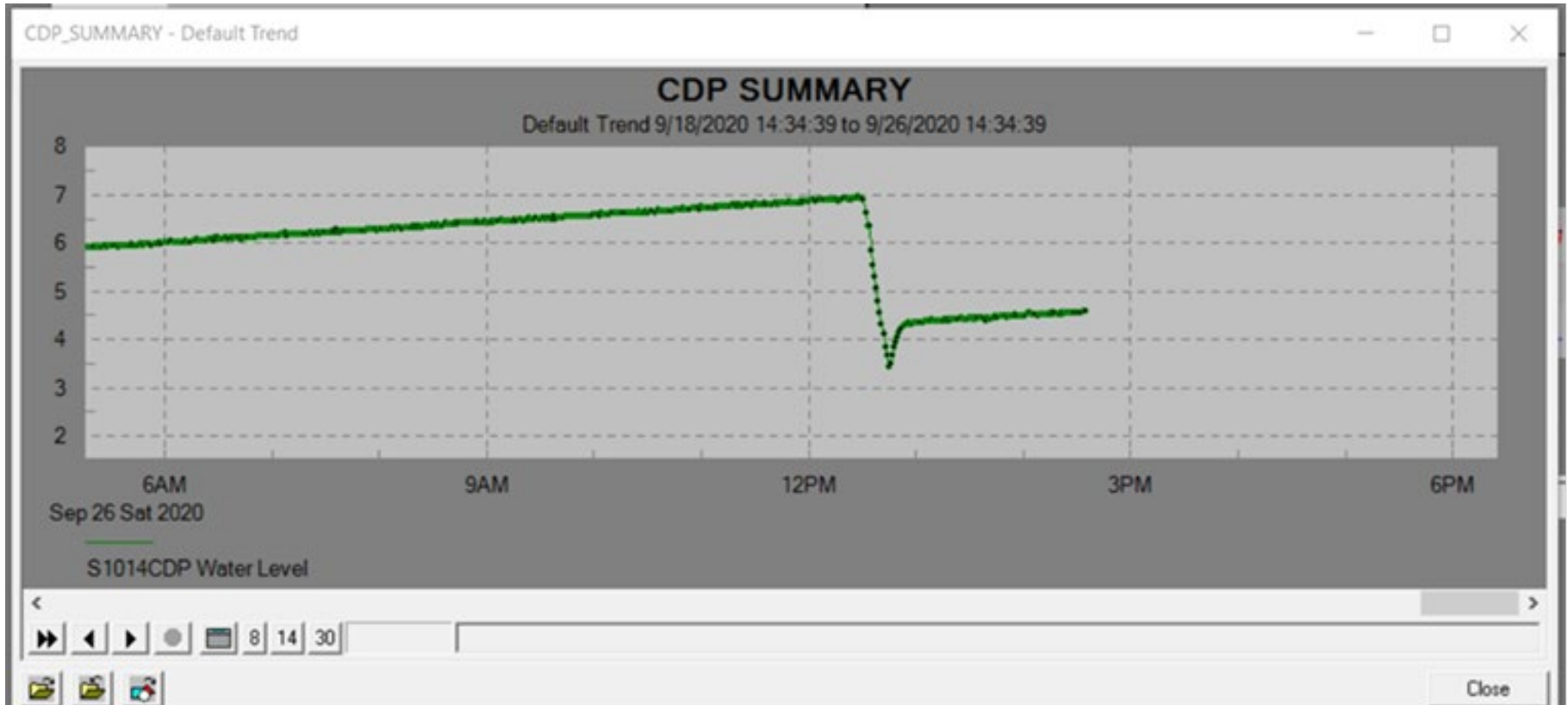
**Alert Triggered:** TVOC\_PID Reading crossed 3 ppm threshold over a 5 minute average

**Value:** Average TVOC\_PID of 3.0783 ppm at alert time

*Project Canary Team*



# Fixed Monitor Pilot Project





# Data drives measurement of emission sources

