

# Vermont Agriculture and Environmental Laboratory



Home to VAEL (the analytical lab), Weights and Measures, Plant Health and Pest Management, Entomology, Animal Health, Watershed Management, Fish Health and Forest Biology



# VAEL Heat Plant History

- ❖ 35,000+ sq. ft. modern laboratory facility, commissioned in 2018
- ❖ Original plan called for an independent wood-fired boiler for steam production
  - This was cut as part of a cost-saving measure at the time
- ❖ As a marriage of convenience, the facility was tied into Vermont Technical College's campus boiler and an MOU was established to bill the State for steam costs.

# VAEL Heat Plant

## Current Challenges

### Unreliable Steam

- During 2022, we experienced steam outages an average of 1 ¼ days a week. Intermittent outages began in 2020.

### Incongruent Needs

- VAEL requires high pressure steam year-round
- VTC requires steam only during the heating season

### Costly

- Current VTC boiler runs on fuel oil, and is oversized (in spring/summer/fall), running inefficiently – not sustainable

# VAEL Heat Plant Current Challenges



# VAEL Heat Plant

Why



Steam at VAEL is used for more than just heat!

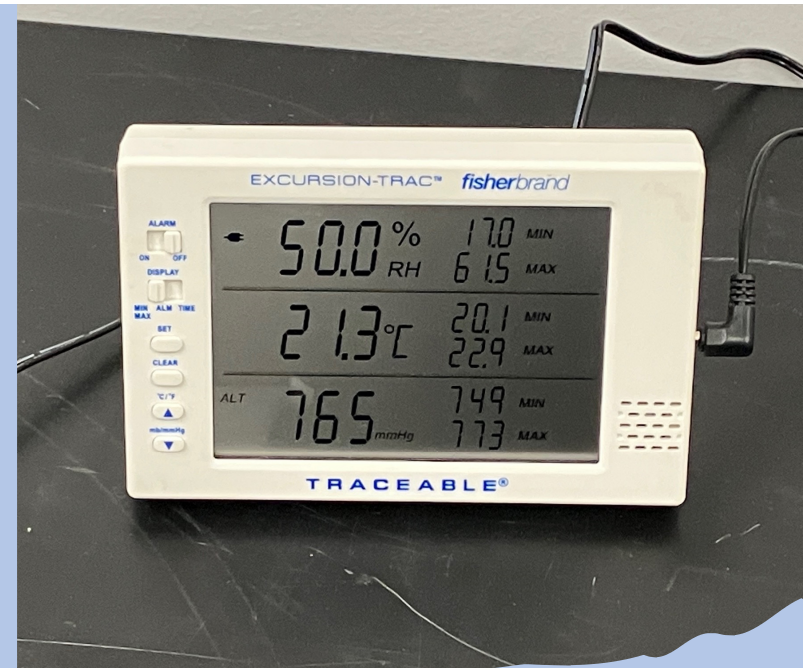
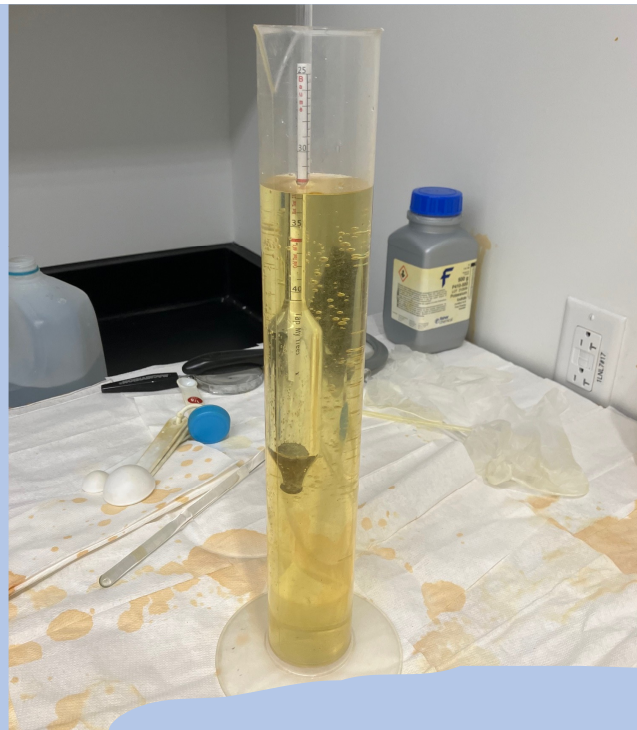


# VAEL Heat Plant

Why



Autoclaves



# Humidity Control

## Maintain Accreditations

**VAEL Heat Plant**

**Why**

- ❖ NH Environmental Laboratory Accreditation Program (NH ELAP)
- ❖ US Department of Agriculture (USDA)
- ❖ US Food and Drug Administration (FDA)
- ❖ National Institute of Standards and Technology (NIST)
- ❖ National Animal Health Laboratory Network (NAHLN) *pending*



# VAEL Heat Plant

## Why

126  
CLEAN



Safety Equipment

STATION 126

SHUTOFF CEILING

Short Turn Around Times

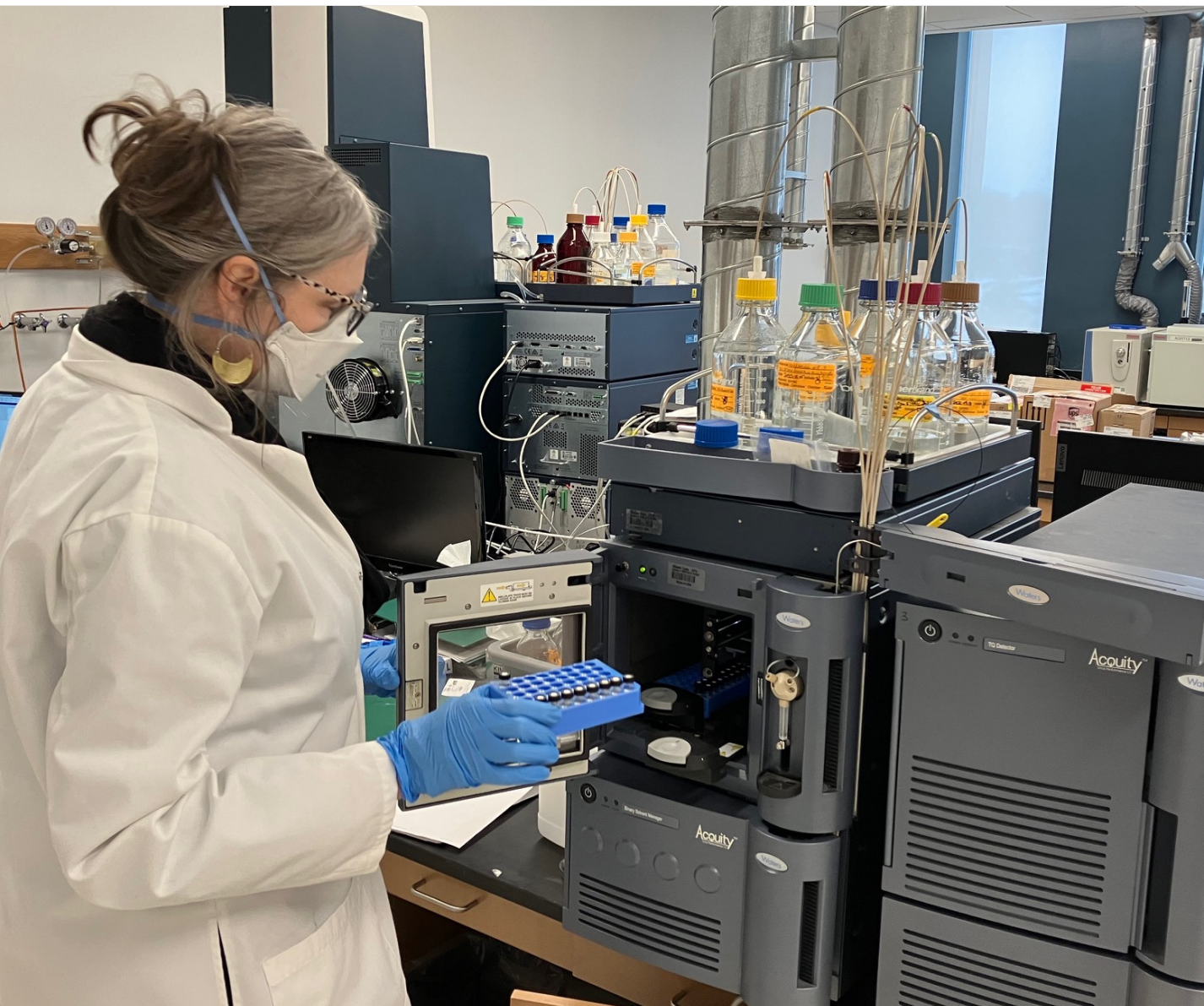


## Programmatic Downtime

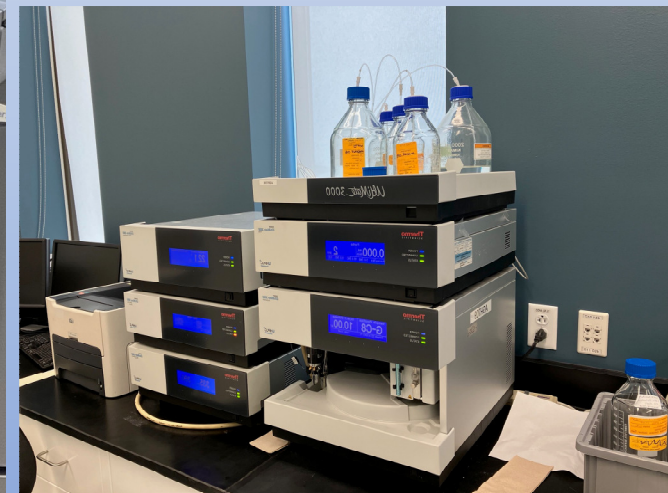
**VAEL Heat Plant**

**Why**

- ❖ 1.5 - 3K/incident → 78 -156K/year
- ❖ Rerunning analytical batches
- ❖ Turning away Vermonters seeking services
- ❖ BGS staffing and response costs



# Functional Instruments



## Project Scope

- ❖ Review the existing plans and specifications for code changes
- ❖ Evaluate boiler sizes to utilize wood boiler more
  - ❖ 90 BHP woodchip boiler
  - ❖ 3 – 30 BHP propane boilers
- ❖ Permit review: Act 250, local and Fire Safety
- ❖ Develop bid package

# Project Schedule and Cost

## ❖ Schedule

- ❖ Design and permitting August 2023
- ❖ Construction January 2024

## ❖ Cost

- ❖ \$300,000 – Design
- ❖ \$3,800,000 – Construction