

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!

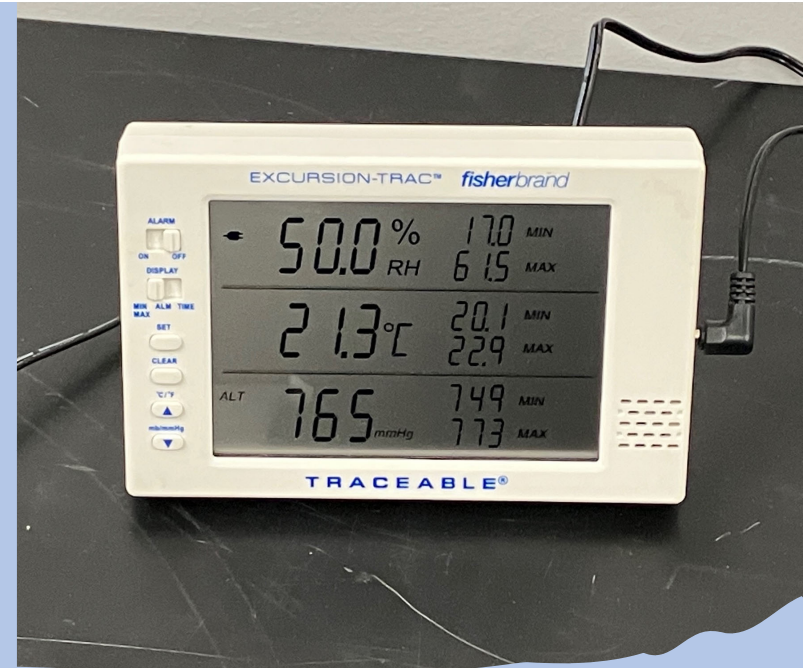
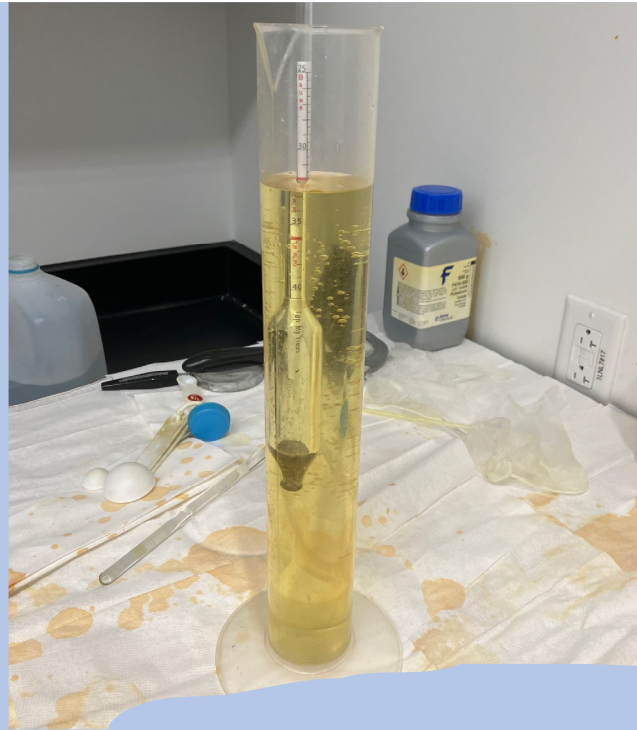


VAEL Heat Plant

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



Emergency Shower/Eyewash

Keep Area Clear
Test All Emergency Equipment Weekly

Guardian
Guardian Equipment
1400 North Branch St
Chicago, IL 60642
773.441.8000
773.441.8000
guardian.com



Safety Equipment

Short Turn Around Times



Programmatic Downtime

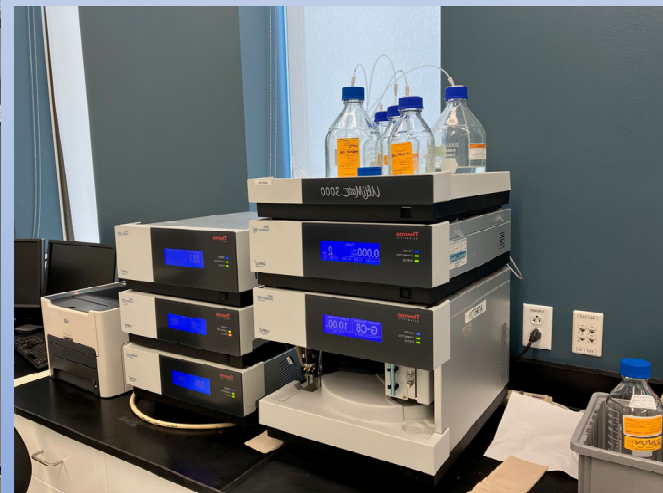
VAEL Heat Plant

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