

# Reliable, fast and versatile

Discover the Enthalpy approach to on-site air testing.



## EXECUTIVE SUMMARY

As facilities demand immediate results for complex test programs, source testing firms have a growing need for a certified analytical lab that delivers more than just data. They need a partner who understands air testing and has a reputation for providing fast, accurate results.

Enthalpy Analytical, Inc. supports the testing industry with a variety of on-site analytical services. Enthalpy's field services include gas chromatography (GC), Fourier transform infrared (FTIR) spectroscopy, spectrophotometry and wet chemistry techniques for both engineering and compliance testing. Advantages of Enthalpy's on-site services include faster results, QA that is confirmed on-site and increased project success rates. Enthalpy provides experienced personnel who ensure a successful project the first time through.



## HIGHLIGHTS

Enthalpy's on-site analysis delivers:

- » Real-time results
- » Pre-test QA confirmation
- » Large dynamic range—from ppb to percent levels
- » Speciated HAPs and TRS
- » 24-hour data collection



## SERVICES

Enthalpy fields on-site testing teams throughout the United States to test a wide variety of industrial sources using EPA air testing methods. Our experience with on-site analysis by GC, FTIR and wet chemistry is extensive; recent projects include GC compliance testing at a chemical plant in Louisiana, total reduced sulfur testing (TRS) by GC/FPD in New Jersey, HCl testing at a cement kiln using FTIR in Texas, PCWP MACT engineering testing by FTIR in South Carolina and NCASI 98.01 formaldehyde testing in North Carolina. If your project requires on-site analysis it's likely we have applicable experience.

Following are some of the most frequently requested on-site testing methods:

GC:

- » EPA Methods 15, 16, 18
- » SW-846 Method 0040

FTIR:

- » EPA Methods 318, 320, 321

Wet Chemistry:

- » EPA Methods 11, 13B, 316, 323, and NCASI

From 24-hour engineering testing to complex compliance testing, we can deliver the appropriate skills, experience and resources to complete your project as promised—on time and within budget.

## WHY ENTHALPY?

**We provide experienced personnel.**

Our field analysts are highly-trained and supported by industry-leading systems. Our average analyst has a four-year bachelor's degree in a scientific or engineering field and more than five years of on-site source testing experience.

**Enthalpy was founded by stack testers.**

The Enthalpy team is intimately familiar with the challenges and risks associated with stack testing. We've completed hundreds of successful tests and guarantee we will perform your test correctly.

**We have the right equipment.**

Our GCs and FTIRs are specifically designed and configured for extractive gas-phase testing. Our equipment vendors are selected for their experience designing and supporting rugged hardware capable of withstanding the demands of field testing. All of our equipment is rigorously maintained for optimal performance.

### We use laboratory-grade analyzers.

Field-portable analyzers sacrifice capability and performance for the convenience of weight or size savings. We use laboratory-quality analyzers designed to deliver maximum performance. We also come equipped with the right accessories, including Environics® gas dividers and Thermo Scientific dilution probes to adjust to unexpected source conditions.

### We meet or exceed EPA requirements for data collection.

Enthalpy uses state-of-the-art software to quickly and accurately process your data, providing preliminary results on-site as testing progresses. Our QA department will review all of the data once the analyst has returned to the lab. We deliver a fully NELAP-compliant report using our secure web server ten business days after returning to our lab. Reports include all spectra, chromatograms and other information needed to support the results.



## HOW IT WORKS

We're not stack testers and don't own a mobile laboratory. Instead, we set up our equipment in your mobile lab and work as part of your test team.



The Enthalpy approach to on-site direct interface analysis is as follows:

- » **We provide an experienced analyst.**
  - The analyst will have a thorough understanding of emissions testing as well as your project objectives.
  - All field analysts are safety-trained and participate in reciprocal safety training.
  
- » **We provide instrumentation and calibration materials needed for the project.**
  - We order third-party certified calibration gases from a qualified vendor.
  - We use Environics® gas divider systems for generating multiple calibration levels from one high concentration gas cylinder.
  - We use Thermo Scientific dilution probes capable of dilution ratios from 12:1 to 350:1 on high concentration sources.
  - We use VICI Dynacalibrators and permeation tubes for TRS testing.

- » **You provide all equipment required to deliver the source gas to our analyzers.**
  - This includes probes, heated three-way valve, filter box and heated sample line.
  - We rely on you to provide instrument supply gases (H<sub>2</sub>, N<sub>2</sub> and air).
  
- » **We deliver a comprehensive report in Adobe Acrobat format.**
  - Reports are delivered within 10 business days.
  - Reports are provided in stand alone format, or are designed to combine with your report.

## **COST BENEFIT**

On-site analytical projects often have more upfront costs than traditional test programs, including travel expenses, equipment costs, and preparation. However, for the appropriate project, the benefits of an on-site analytical approach cannot be underestimated, including:

- » Real-time data.
- » Process adjustment and optimization.
- » QA confirmed on-site avoiding expensive retesting.
- » Flexibility to adjust to unexpected source conditions.
- » 24-hour data collection with reduced staffing.

Enthalpy understands emissions testing is a competitive business and decisions are often made based on dollars and cents. Factoring in all associated costs, on-site testing frequently proves a more cost-effective choice. No matter which testing procedure you choose, Enthalpy will support your project with excellent customer service, professionalism and solid science.



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