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*The science of today is the technology of tomorrow.*

— Edward Teller

## LECO Corporation—70 Years of Excellence!



Seventy years ago, the Laboratory Equipment Company introduced the first rapid carbon determinator to the American iron and steel industry. Other products quickly followed and soon the company's carbon determinators, resistance furnaces, and sulfur determinators were seen in industrial laboratories across the country, along with the acronym trademark they carried. LECO soon became synonymous with accurate, dependable instrumentation for the determination of carbon, sulfur, oxygen, nitrogen, and hydrogen in both ferrous and nonferrous industries.

As the world's steel industry grew in the 1970's, LECO's business continued to grow as well, providing a complete line of steel-oriented analytical instrumentation utilizing what were the latest revolutionary techniques. Solid-state electronics replaced vacuum tubes, and greater precision and instrument automation became increasingly important to customers as the field became more competitive. The company utilized new technology that had become available to develop instruments that were easier to operate and

required less operator attention, and still delivered precise results. Also in 1970, LECO expanded its analytical products to include the fast growing energy industries of coal, coke, and oil. By 1976 the company expanded into the organic food markets with its first protein determinator, the NP-28. A few years later, the first automated sulfur analyzer, the SC-32 was introduced by LECO, replacing the tedious ESCHA wet chemistry method. LECO also began to venture into the metallographic field and quickly became a major supplier of equipment and supplies—including sample preparation equipment, a complete range of microscopes and metallographs, and both microhardness and macrohardness testers.

In the mid-1980's LECO was busy combining the microprocessor with improved performance through self-calibration, self-diagnostics, automatic sample manipulation, and other advances. In the late 1980's, they took another giant step forward by expanding into the exciting field of spectroscopy. Also at this time, the next generation of analytical instrumentation was introduced, incorporating



a self-contained 16-bit computer using icon-driven, touch-screen software developed by LECO software engineers. These easy-to-operate instruments brought even more versatility and automation into the laboratory. Instruments no longer needed to be operated by top-skilled scientists, as step-by-step software functions allowed less experienced laboratory employees to load samples and operate the instruments. The reports generated from the instruments, combined with the fastest result times and more versatile instrument operation, enabled sample throughput to be increased significantly.

The company began to research and develop products to prepare laboratory scientists with the tools needed to look beyond the limitations of past analytical techniques in the 1990's. It expanded its product lines once again, and the separation science line was created. ChromaTOF<sup>®</sup>, a Windows<sup>®</sup>-based software system, was also developed during this time, creating what has become a platform for all of LECO's Separation Science instrumentation.

LECO's success over the last 70 years has not been by accident. Whether it is a diverse array of analytical instrumentation, a new way to look at gas and liquid chromatography, rugged metallography products, or dedicated service support after the sale, this privately-held, family-owned company stands by a commitment of helping you achieve the right results. ■

## New Product Information: TruSpec® Micro Add-On Kit

A Micro add-on kit for the TruSpec Series is now available from LECO. This new option expands the sample size range from the current TruSpec CHN or CHNS into the microanalysis range (1 mg to 10 mg), providing the operator with expanded capabilities. Difficult sample matrices like pharmaceutical samples, oceanographic specimens, and pure organic compounds are easy to analyze with the convenience and flexibility of the TruSpec and the new Micro kit. Windows®-based software supports compliance to strict regulations mandated by the FDA (21 CFR Part 11). For more information, request specification sheet 209-150-005.



### Coming Soon!

Oxygen capabilities are coming for micro configurations of the TruSpec CHN or CHNS! An oxygen add-on module will enable the TruSpec to determine oxygen content in organic matrices.

*The oxygen add-on module is only compatible with the TruSpec Micro add-on kit.*

## Who's Who in Organics— Meet Product Manager Mason Marsh

For Mason Marsh, LECO's new organic product manager, becoming familiar with the products he is now responsible for was a relatively simple task. Mason, who has a BS in chemistry from the University of Pittsburgh, has worked with a variety of LECO instruments for the past eight years.

"I have been using LECO equipment throughout my entire professional career, from testing wet mill products to optimizing a process using material balances created for nitrogen analysis," he says.

For eight years, Mason worked for Cargill Inc. in their corn milling division. His first position with the

company was as a quality assurance chemist in their Blair, Nebraska facility. He spent the last five years as a research chemist for their process development group in Dayton, Ohio.

His experience in industrial optimization of wet milling and starch refining systems, as well as familiarity with LECO products, gave him a unique perspective when he took over management of LECO's organic product line in January 2006. Mason knows first-hand how challenging it can be to meet the needs of customers and during his years at Cargill, he spent many occasions working with LECO from a customer standpoint to improve their

instrumentation. In fact, he was involved with the evaluation of one of the first TruSpec N units in 2003.

As he settles into his new role, Mason plans to continue working with customers in an effort to define new products based on market needs and demands. He expects to meet this goal by interacting with customers and acting upon their feedback.

"Interacting with a diverse range of customers and having the ability to implement changes or develop new products based on this interaction is something I am really looking forward to," he says. ■



Mason Marsh, Organic Product Manager

## From the Minds of Young Scientists

### A selection of quotes from 5th and 6th grade science students

- You can listen to thunder after lightning and tell how close you came to getting hit. If you don't hear it you got hit, so never mind.
- Water freezes at 32 degrees and boils at 212 degrees. There are 180 degrees between freezing and boiling because there are 180 degrees between north and south.
- Rainbows are just to look at, not to really understand.
- H<sub>2</sub>O is hot water, and CO<sub>2</sub> is cold water.
- When they broke open molecules, they found they were only stuffed with atoms. But when they broke open atoms, they found them stuffed with explosions.
- Isotherms and isobars are even more important than their names sound.
- One horsepower is the amount of energy it takes to drag a horse 500 feet in one second.
- When people run around and around in circles we say they are crazy. When planets do it we say they are orbiting.

## News and Updates

### SC632-Series—The Next Generation in Sulfur/Carbon Determination

The SC632 Sulfur/Carbon quickly and easily performs a variety of sulfur, carbon, or sulfur/carbon analyses. Ideal for coal, coke, cement, and fuel oil applications, its state-of-the-art design uses an ASTM-approved technique to determine sulfur and carbon simultaneously or individually, using direct combustion/infrared detection. With an external PC, small footprint, and increased instrument robustness with re-engineered furnace, the SC632-Series is a cost-effective, reliable, and durable instrument for any laboratory.



"Throughout all of our research, we found that customers were looking for a cost-effective sulfur/carbon determinator requiring very little maintenance," says Mason Marsh, Organic Product Line Manager. "We responded to the concerns and requests of our customers, and are pleased to introduce the SC632-Series as the end result."

Customers also told LECO researchers that instrument automation was just as important as the end result. Realizing that the trend towards automation was a deciding factor in purchasing a new instrument, LECO engineers developed an optional autoloader. This 50-position autoloader offers robust automation, low maintenance, minimal downtime, and is also compatible with the Sulfur module for LECO's popular TruSpec® Series. Versatility among its components is another way LECO continues to stay competitive in the analytical instrument market.



There are three configurations available within the SC632-Series—the SC632 Sulfur/Carbon, the S632 Sulfur, and the C632 Carbon. The autoloader is available with all SC632-Series units, and all TruSpec S Add-On Modules with SN 4502 and higher.

### LECO Laboratories—On the Move

With the only fleet of mobile laboratories in North America featuring hands-on experience with LECO products and specialists, we go the extra mile to help you achieve the right results! Our unique mobile laboratories offer you the opportunity to analyze your materials with the latest technology and instrumentation.



Traveling throughout North America, these 45-foot mobile laboratories bring the latest analytical instrumentation right to your area. Visitors to the mobile laboratory have the opportunity to see the latest instrumentation in action. In addition, representatives are on-site to discuss everything from methods to maintenance. An "auditorium" in the back of the bus provides LECO sales engineers the opportunity to present information on the company and its products. There are currently three mobile laboratories available, each featuring either analytical analysis, mass spectrometry, or metallography/materials characterization products.

If you have ever wanted to see the benefits of LECO instrumentation and technology in action, our mobile laboratories are a great opportunity! Contact us for more information on when our mobile laboratories will be in your area.

## LECO Launches New Website!

LECO recently developed a new website, featuring user-friendly pull-down menus and navigation buttons for easier access to the information you are looking for. A variety of additional value-added resources and support can also be viewed and downloaded from the site, including application and reference information, customer support, and more. This new site is just one more way LECO continues its commitment of delivering the right results.



To check out the new website visit [www.leco.com](http://www.leco.com)

## Interested in learning more?

More information on articles or information featured in this issue of *The Analyzer* can be obtained by selecting one or more of the following categories.

**Please fax this entire page to 269-982-8977.**

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