

Environmental NEWS

Fall 2012



Eurofins Lancaster Laboratories' 12th building expansion—see back page.

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 **eurofins**

**Lancaster
Laboratories**

It's great to hear from you



by J. Wilson Hershey, Ph.D., Lancaster Laboratories chairman of the board

Continuous improvement is a vital part of our culture at Eurofins Lancaster Laboratories. We would not be successful if we did not continue to evolve to meet the ever-changing needs of our clients, technology and regulatory requirements. In order to determine what changes are necessary, we regularly gather business intelligence, including client feedback, to determine the direction in which we need to focus our change.

This past summer we conducted our annual client feedback survey asking for your feedback on our performance. We sent the brief e-mail survey to 1,400 clients and 322 of you kindly took the time to respond. We also received 170 specific comments, including praise as well as suggestions and areas for improvement. We realize just how much e-mail we all receive on a daily basis, and I want to thank those of you who responded for taking the time to provide your feedback. I cannot stress enough how important these responses are to us. At the end of the day, the opinion of those we serve is the only one that matters.

We asked our clients to rank Eurofins Lancaster Laboratories on 13 criteria, and the responses were very gratifying. The results below show the percentage of respondents who indicated that we are meeting or exceeding expectations

in the following areas:

- **Responsiveness (Timeliness) – 98%**
- **Communication - 99%**
- **Technical Knowledge - 100%**
- **Overall Performance of Customer Service - 99%**
- **Timeliness and Contents of Bottle Orders - 98%**
- **Report Accuracy - 98%**
- **Report Turnaround Time - 93%**
- **EDD Accuracy - 100%**
- **EDD Turnaround Time - 95%**
- **Data Package Accuracy - 98%**
- **Data Package Turnaround Time - 95%**
- **Level of satisfaction with the availability, responsiveness and expertise of the lab's technical staff - 97%**
- **Overall Performance/Level of Satisfaction - 97%**

We listened to what you said

Each year, after compiling the survey results, we reflect on the feedback--both positive and constructive--and use it to guide changes in our laboratories, quality control/assurance procedures and account management processes. Some of the improvements we've made, and are continuing to work on, as a result of your feedback include:

- **Analysis Reports:** We have changed the format of our standard analysis report to combine analysis fractions and reorganize the compound order. We've also added compound detections in bold and can highlight exceedances. All of these changes make it quicker and easier for you to review your data.
- **Online Data Access:** We continue to evolve our online data management platform, LLabWeb.com and made major improvements in 2012, including making Analysis Reports, QC Summaries and COCs online and available to print. We also added the ability to output data to Excel to create tables and enable search functions to access historic data by project name, sampling dates, account number, etc. Starting in early 2013, we will provide access to all Electronic Data Deliverables (EDDs) and Data Packages through LLabWeb.

- **Data Package Turnaround:** We've made significant progress over the last 18 months working to reduce our data package turnaround time by automating procedures within the lab and data generation groups and are continuing to work toward a fully automated data package. Our new electronic process enables auto-creation of data packages in a paperless process to improve our turnaround times. The new system will be fully implemented later in 2013.

- **Reduced Sample Volume (Aqueous):** We continue to develop analysis method enhancements that allow us to reduce the total sample volume required to be collected in the field resulting in lower sampling costs. We recently decreased the overall volume required for Pesticides/PCBs (8081/8082) in water by 75% from 2 x 1000 mL bottles to 2 x 250 mL bottles. We're continuing development with Semivolatiles 8270 and TPH by 8015 and expect to have these changes rolled out later this year.

“At the end of the day, the opinion of those we serve is the only one that matters.”

- **Testing for PCB Congeners:** We received feedback from our clients in the 2011 survey asking us to provide PCB congener testing capabilities. Over the past year, we've worked toward establishing these capabilities and have added a fourth HRGC/HRMS system and now offer this service.

I would like to thank our clients who took the time to complete our survey. We are proud to share the positive results we received and also feel it is important to share with you how the feedback provided is being put to work. We welcome and appreciate input from our clients any time throughout the year, not just during our annual survey. We will continue to seek your input to identify ways for Eurofins Lancaster Laboratories to evolve to meet the changing needs of the environmental testing industry.

“Greening” of Methods Continues with Cyanide and Organics

With the implementation of new procedures in two of their technical groups, Eurofins Lancaster Laboratories expands on its commitment to employ techniques that reduce waste, decrease its carbon footprint and improve efficiency. The Organic Extraction Laboratory developed procedural improvements that allow smaller sample volumes to be used while retaining existing method detection limits, while the cyanide change employs an entirely new testing technology.

Clients requesting water sample bottles for certain organic extractables recently began receiving much smaller bottles for PCBs by SW-846-8082, pesticides by SW-846-8081, and semivolatiles by SW-846-8270. Reducing the volume used for organic extractions to 250 mL instead of the 1000 mL volume that was previously used softens the environmental impact of the method in several ways. Lower sample volume means less fuel needed to ship the samples to the laboratory, and less waste is generated from the extractions. In addition to the environmental impact, the change in sample size offers other benefits, including less time spent collecting samples in the field, decreased shipping costs and less space needed to store both bottle inventory and collected samples.

Eurofins Lancaster Laboratories performs the organic extractions for all of these tests according to SW-846 3510 for which they hold NELAP accreditation. Their accreditation is not impacted by the volume change because the chemistry of the extraction and the ratio of sample to solvent remain unchanged. As required by the method, the entire bottle of sample submitted continues be

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Reducing the volume used for organic extractions to 250 mL instead of the 1000 mL volume that was previously used softens the environmental impact of the method in several ways.

used for the extraction. To achieve existing detection limits while using smaller sample volumes, analysts optimized the chromatography using more sensitive instruments. Plans are also underway to reduce the sample volume used for additional methods, including total petroleum hydrocarbons.

Cyanide is another test being targeted for changes that will make the test greener. Analysts in the Instrumental Water Quality Group are employing an automated flow analyzer to test water samples for cyanide using ASTM Method D7511-09. The new instrument uses automated in-line UV digestion, which offers multiple benefits over the previously used manual distillation. The new technique generates less waste and is safer for analysts because the distillation using pyridine and sulfuric acid is eliminated. Also, replacing the time-consuming distillation will improve both turnaround time performance and data quality because the flow analyzer is less prone to interferences from sulfide and sulfite. The laboratory is in the process of applying for accreditation to use the new method, and once that approval is granted, they will work with clients to transition from the manual method.

Certification and capacity for PCB Congeners boosted

Demand for PCB congener testing has kept the Specialty Services Group at Eurofins Lancaster Laboratories busy over the last year. To meet client requests, the group is adding a fourth HRGC/HRMS instrument to their inventory and anticipates receiving NELAP approval for the analysis of soils, water and tissue samples using EPA Method 1668C in the near future.

PCB congener testing is useful in eco-risk assessments when lower detection limits and more specific compound identity are needed to determine toxicity or source of contaminants. Sample extractions are performed in an isolated laboratory to minimize background contamination, and the group has gained substantial experience with optimizing extract cleanup techniques to improve analyte recovery. The extraction laboratory can process hundreds of samples per week, and the new instrument provides additional capacity for this testing, which will keep turnaround time for the tests to a minimum. Because it's fitted with dual GC ovens, the HRGC/HRMS can have two columns installed, which minimizes downtime when switching between applications, such as confirmation of positive results. The data system on the instrument allows rapid data processing, review and deliverables preparation to further expedite test results. All of these factors combine to yield a shorter turnaround time of two to three weeks for typical samples.

To ensure that their data will be acceptable to regulatory agencies, Eurofins Lancaster Laboratories is working with the Pennsylvania Department of Environmental Protection (PADEP) to obtain NELAP accreditation for PCB congener testing. PADEP completed preliminary review of the instrumentation and is expected to grant the accreditation before the end of the year.

For more information on PCB congener testing, contact Environmental Business Development at 717-656-2300.

Eurofins on target for market growth and optimum client

As part of its strategy to exceed EUR 1bn revenue objective in 2012 through 5% organic growth and an impressive acquisition schedule, Eurofins expanded its US presence by adding three best-in-class environmental labs to its global network. With the goal of delivering a broader range of services to customers, US environmental laboratory acquisitions began earlier this year with Air Toxics, Folsom, CA. In August, MWH Labs, Monrovia, CA, was acquired followed by Frontier Global Sciences, Seattle, WA, in September.

In April 2012, Eurofins Lancaster Laboratories, Inc. was around the 8th largest environmental lab in the US as listed in the Environmental Laboratory Washington Report. This has changed quickly. With the acquisitions of Air Toxics, MWH Labs, and Frontier Global Sciences, Eurofins Environmental US is now ranked 5th in size for environmental labs in the US.



Air Toxics

staff around 55 personnel. They are very well equipped with 23 GC/MS, nine GC, and two HPLC instruments, performing a wide variety of analyses, including volatiles, semivolatiles, pesticides and PCBs. EATI maintains one of the largest supplies of media, with of over 4000 canisters and 2000 sorbent tubes for sampling air from vapor intrusion investigations, environmental assessments, monitoring of remediation systems, emission testing, ambient air monitoring, indoor air quality, landfill gas characterization and other special projects. They currently serve over 1000 clients. EATI also developed a home air quality kit for radon, allergens/mold, formaldehyde and VOCs called the Airlab Home Test Kit™.

Because of their technical expertise and high quality data, EATI has been involved with some very high profile projects. One of the most interesting projects was the vapor intrusion project in Hartford, IL. The northern half of the village sat atop 3 million gallons of leaded gasoline and other petroleum products due to 20 underground

ing basements. Since the petroleum sat on top of the water table, during the rainy season, the petroleum plume approached more shallow depths near the ground surface and basements. Vapors migrated through cracks in the basements, and if the credibility of the *National Inquirer* is in doubt, photos were taken by the IL Department of Health Regulator of flames coming from the cracks in the basement walls. "We analyzed thousands of soil gas, sub-slab and indoor air samples for TO-15 VOCs and ASTM D1946 for Methane," says Bob Mitzel, president for both EATI and EFGS (see opposite page). "The data was used to map the extent of the plume under the ground, determine if vapor intrusion into homes was occurring and evaluate the health risk, including flammability risk to the residents. Additionally, the refinery responsible for the plume was identified through evaluation of data collected. During the most intense sampling period, we shipped one of our TO-15 units along with one of our chemists to Hartford and set up a remote lab at the site."



Eurofins Air Toxics, Inc. (EATI) is the largest air testing lab in the world, with over 23 years of experience. They are located in Folsom, CA in a 33,000 square foot facility and have a total

leaky pipes from four refineries located nearby since the 1960s. The town actually made the *National Enquirer* with a photo of a man lighting the ground on fire and stories of explod-



Eaton Analytical

In August, Eurofins Eaton Analytical, Inc. (EEAI) formerly MWH Labs, was acquired. EEAI, established in 1969, is the largest full-service water testing lab in the US with a total staff around 105 personnel. They moved into a 39,000-square-foot facility in 2003 in Monrovia, CA, near Los Angeles and have an efficiently designed lab that is well-equipped. Ed Wilson is president and lab director.

EEAI offers a complete array of compliance monitoring for drinking water and bottled water testing as well as unregulated constituents and emerging contaminants for over 500 clients in the US and more than 100 in foreign countries. They also support water reuse and desalination projects for consultants and hold drinking water certification in 44 states.

service with several US environmental lab acquisitions



EEAI is the leader in unregulated contaminant monitoring. Between 2013 and 2015, drinking water suppliers must monitor for a new list of 30 contaminants for a period of 12 months under the third Unregulated Contaminant Monitoring Rule (UCMR3), which was signed by the EPA in April of 2012. EEA was the first commercial lab to receive full UCMR3 approval which required the development for new methods to test for hormones by EPA 539, perfluorinated compounds by EPA 537, VOCs by EPA 524.3 and 1,4-dioxane by EPA 522, among others. This development was led by technical director, Dr. Andrew Eaton, who has been with EEA for 32 years.

the EPA 1600 series metals methods.

EFGS has also been a major contributor to the National Atmospheric Deposition Program's (NADP) Mercury Deposition Network (MDN). Since 1994, EFGS has been the central MDN metals analytical lab, operations center and database management. The MDN is the only national scale network in place to measure the effects of mercury emission reductions in the environment. Samples are received from 110 sites across the US, Canada and Puerto Rico.

Duane Luckenbill, director of Eurofins Lancaster Laboratories Environmental Services says, "Regarding our new colleagues across the US, I think it's

clear that we are now part of a highly regarded, high quality, 'best in class' laboratory network. Just consider all of our top clients. There are very few clients that cross over between labs. Therefore, there is a tremendous amount of potential for delivering a broader scope of services with location options for clients."

Luckenbill offers a case in point in that both EATI and EFGS perform a significant amount of emission testing. However, they need a partner for HRMS testing for D/F and SVOC testing. "This is a very significant market, and we can support their efforts to take market share by adding these capabilities, which we plan on doing in 2013," says Luckenbill.

"It's also clear to me that we are not at all like our competition, which have lab networks with similar capabilities that compete with each other for the same projects," he says. "Our goals and lab selection process have been quite different. Our challenge is to work together as a team, find innovative ways to leverage our expertise, capabilities and client base, and continue to find ways to improve our processes, which will lead to a better client experience and growth for all our businesses. If we accomplish these goals, we will have created something different in the US environmental market."



And, most recently, Eurofins Frontier Global Sciences (EFGS) was acquired in September. EFGS is an advanced research and analytical laboratory specializing in mercury, trace metals and metals speciation analysis. Opening in 1991, EFGS has developed innovative and reliable analytical methods used around the world for environmental, industrial, food/beverage, nutra/pharma and biological matrices. EFGS, with a staff of 35, expanded into a new 18,000-square-foot facility in December 2011. EFGS is highly regarded by their clients and the EPA. In the 1990s, they were chosen as the EPA referee lab for the validation of



Lower detection limits achieved for hexavalent chromium

Recent studies indicate that the potential for human health risks from hexavalent chromium is greater than was previously thought. This information is causing regulatory agencies to reevaluate their testing requirements to include lower detection limits for hexavalent chromium, which is also known as chromium-6. To meet this evolving need, Eurofins Lancaster Laboratories plans to offer a modification of their current method that will provide a limit of quantitation (LOQ) of 0.075 ug/L in water samples. They will continue to use an ion chromatograph to perform EPA method 218.6, but have optimized the instrument configuration to provide detection limits that are more than an order of magnitude lower than previously attained. The laboratory anticipates offering the new method before the end of 2012, and they plan to expand their NELAP accreditation to include it.

Another issue in hexavalent chromium testing relates to the preservation and holding time for samples. The Clean

Water Act Method Update Rule published in the May 18, 2012 *Federal Register* allows a 28-day holding time for hexavalent chromium samples when the sample is pH adjusted between 9.3 and 9.7. Since the holding time was previously listed as 24 hours, this change makes analysis within holding time more feasible. However, the change is published with a footnote that directs the use of ammonium sulfate buffer, "unless this suppression would compromise the measurement, in which case requirements in the method must be followed." Eurofins Lancaster Laboratories will provide the buffer solution to preserve samples as described, but because the caveat in the footnote does not clearly state when the preservation is acceptable, clients are advised to check with their regulatory agencies to ensure that they will accept data generated with the buffer preservation and



Clinton Wilson, instrumental water quality chemist, primes the ion chromatograph for low-level hexavalent chromium analysis.

extended hold time. Clients who elect to continue using no preservative and a 24-hour hold time should notify the laboratory before submitting samples.

User Feedback Drives Data Package Improvements

Data deliverables can range from a basic analytical report with a summary of the quality control results to a comprehensive data package including copies of instrument printouts and other supporting documents that provide details on the quality of the results generated. While the basic report usually consists of just a few pages, a complete data package for a full delivery group being analyzed for multiple parameters can encompass hundreds of pages and include thousands of values. Eurofins Lancaster Laboratories understands the importance of ensuring that every one of those values is generated in compliance with the required methods and that all the deliverables accurately represent the information generated, so they track client requested corrections to data as a means of measuring the quality of their deliverables. A recent snapshot of those requests based on the first six months of 2012 data shows a very low error rate of less than one correction needed for every 65,000 pages of data.

To achieve this level of quality, Eurofins Lancaster Laboratories employed several strategies, including feedback from data

users to drive process improvements and increase automation to add uniformity and accuracy to the data presentation. A single sample may require testing for a variety of analytes resulting in the use of several instruments, each equipped with a different data system. The various data systems generate results in multiple and sometimes inconsistent formats, which can be difficult for users outside of the laboratory to interpret. Eurofins Lancaster Laboratories reengineered their deliverables generation process by employing custom software applications to generate summary forms and case narratives. The forms are populated using the raw data uploaded from the various instruments directly to their laboratory information management system (LIMS). This improves both the accuracy and user friendliness of their data packages and ensures that hard-copy information matches the electronic data deliverables (EDD) exactly. In addition, the opportunity for error created by manually retyping data is eliminated. Before the data are uploaded to the LIMS, analysts review results to ensure that all the quality control requirements in the method refer-

ence are met. Any correctable problems identified at this stage of the analysis are dealt with before the data is uploaded and data qualifiers or report comments may be added to explain testing issues. If clients request a case narrative with their data package, the LIMS system generates a summary of method compliance issues that might impact data usability, such as quality control outliers or holding time issues.

The improvements should allow clients to conserve resources spent validating data. "The changes make packages easier to review across fractions because we standardized the forms. We've also scaled down the forms to match client reporting lists so that extra information is eliminated," says Dorothy Love, a principal specialist with the Quality Assurance Group. She adds that because data is thoroughly reviewed for method compliance prior to reporting, end users can focus their review on usability of the results.

For more information on data deliverable options, contact Environmental Business Development at 717-656-2300.



Jenifer Lewis

With the company since 1985, Jen brings a vast amount of environmental testing experience to her current role in the Business Development Team. She began as a chemist in GC VOAs and later Pesticides. Eventually Jen managed that group and over time brought EPH/Misc., GC VOAs, Nitrosamines, and PSS groups under her management responsibilities. With steady growth in the environmental side of the business came an opportunity for Jen to interface directly with customers. Her sales territory includes VA, MD, DE, NJ, FL and MI. "I like getting out and meeting people and sharing how we can meet their needs--I feel good about that," says Jen.

What does your job entail to ensure clients receive an outstanding service experience from Eurofins Lancaster Laboratories?

I hope I can help our clients find solutions to their analytical problems by listening to their needs, then coordinating with our technical staff to come up with ways to meet those needs. When we can help our client by going the extra mile to meet a demanding schedule or thinking outside the box to find ways to meet reduced reporting limits, handle difficult matrices or add new analytes or methods to our scope, we add value to our services that sets us apart from other laboratories.

You've been here for 27 years and seen countless changes. Is there anything that hasn't changed during your tenure?

Well after 27 years, six owners, multiple building expansions and many new faces, Lancaster Labs has definitely changed in some ways! What hasn't changed is our people continue to be dedicated to doing the best job they can for our clients and for our company. I appreciate the team work I have experienced with my colleagues over the years as we've worked hard together to build our business. We have to survive through lean times and celebrate good times together. The people here work hard to make our business great, constantly coming up with new ideas or working overtime to meet schedules, and I am proud to be part of that.

How does our Environmental Group's work impact/benefit society?

Ultimately the data we generate is used for the protection of human health to ensure we are not exposed to hazardous and toxic chemicals through our environmental surroundings, including air, soil and water. Our work also helps with the identification and cleanup of pollution, keeping our world green.

People are the chemistry

At Eurofins Lancaster Laboratories, we believe that our people provide our strength. Their dedication to quality, professional competence and hard work is the key element in our success and yours. In this feature, we introduce you to our new environmental business development people who everyday find ways to unlock the key to all of our success.



Paul Konnik

A senior environmental account manager in the Midwestern and Southern US, Paul Konnik is responsible for bringing testing solutions to clients' environmental project challenges. From environmental consultants to the Department of Defense, Paul shows new and existing clients how Lancaster Labs can support their cleanup and exit plans in a timely, legally defensible and cost-effective manner. "I've been in the environmental industry for 15 years, and Lancaster Labs is well-known for producing the highest quality," says Paul. "It is highly regarded for its data and quality reports, and that is why I chose to work with the best."

What does your current job entail?

My entire scope revolves around ensuring our clients receive the best possible service from us, including:

- Scheduling face-to-face meetings with clients to discuss the benefits of Lancaster Labs
- Acting as a liaison between the lab and the clients
- Travelling 40-50% of the time throughout my designated territory (Midwest & Southeast)
- Resolving any issues that clients may have
- Maintaining relationships with key contacts at each client office
- Provide client feedback to the lab to help enhance our performance/product
- Follow-up with clients to ensure satisfaction

What is the scope of your group work as it relates to clients?

Sales is the face of the company. It is usually the first step to a process to making a client happy. It's the beginning of the chain of events from the start of the project all the way through the end. The whole process takes a lot of teamwork by several departments/employees to get to the finished product. But it usually has to start with that face-to-face interaction with a potential client.

How does your group's work impact/benefit society?

Environmental analytical testing is typically driven by society. There is a need for it, but the impact that we can have is to approach this need with a quality product performed with integrity, loyalty, fairness and honesty. To be one of the most well-respected laboratories in this industry is crucial to our longevity and success.

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Lab expansion to create 200 jobs

Eurofins Lancaster Laboratories is expanding its operations in Lancaster, Pennsylvania, by constructing a new laboratory facility and creating 200 new jobs.

Eurofins Lancaster Laboratories will construct a four-story, 78,000-square-foot laboratory building on its existing campus that will be used primarily for growing biopharmaceutical and pharmaceutical testing. This will free up existing lab space for expanding environmental testing. The company will invest more than \$17 million to build the new facility and purchase new

lab equipment. Eurofins Lancaster Laboratories will retain its existing 844 Pennsylvania employees and create at least 200 new jobs within four years.

“Eurofins Lancaster Laboratories is a true Pennsylvania success that continues to grow and create jobs in the region,” said PA Governor Tom Corbett. “The impact on the community is significant and one the commonwealth is proud to support.”

The company received a \$700,000 funding offer from the Department of Community and Economic Develop-

ment, including a \$300,000 Pennsylvania First grant and \$400,000 in Job Creation Tax Credits.

“We are pleased to announce this significant expansion of our operations in Lancaster County and are very appreciative of the support from the Commonwealth of Pennsylvania. This project is another example of the commitment of Eurofins Scientific to continued growth and investment in its laboratory operations in North America,” said Dr. Timothy S. Oostdyk, president, Eurofins Lancaster Laboratories.

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