

ENVIRONMENTAL  
RESOURCE ANALYSTS,  
INC.

SPECIAL  
POINTS OF  
INTEREST:

- Read about Engineering Services from Kelly Engineering!
- ERA introduces new employees!
- ERA passes their NELAC audit!
- Read about the contaminant of the month - cyanide.
- ERA is offering course for both Alabama and Georgia continuing education credits!

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# ERA Newsletter

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## ERA Offers New Engineering Services

ERA will be working with Steve Kelly, P.E. of Kelly Engineering who will provide basic wastewater engineering services which include:

1. NPDES permit applications
2. NPDES permit renewals
3. Annual groundwater monitoring reports for NPDES spray fields
4. Best Management Practices plan (BMP)
5. Storm-water permits
6. Landfill engineering services
7. Design and permitting, storm-water retention ponds
8. Spill Prevention Control and Countermeasures (SPCC) plans
9. Title V air emissions calculations and permitting.

Steve Kelly has over 25 years of practical experience working in the field of environmental engineering. He has worked for both ADEM and Waste Management and has been running his own engineering firm, Kelly Engineering, for the past 12 years.

If you are interested in these services please contact Joe Freda at ERA, Inc. You can reach him by phone at (334) 502-3444 or email at [jfreda@eralab.com](mailto:jfreda@eralab.com).



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## Contaminant of the Quarter: Cyanide

Whether reading about a poisoning in the news or learning about gas chambers in History class, cyanide is a compound that carries an eerie connotation. In the environmental field, cyanide is regulated as either total cyanide or available cyanide. The difference in these two types of regulation is based on the destruction of cyanide by treatment with chlorine. Total cyanide is the measurement of all cyanide complexes in the sample, whereas available cyanide is the measurement of only the cyanide amenable to chlorine. Cyanide produces varying

aquatic toxicity due in part to the interactions between the cyanide ion and other components of the water. These interactions are affected by a variety of factors including pH, concentration, and light exposure. Due to the complex chemistries involved, laboratory analysis of cyanide can be a difficult process. As regulatory limits are getting lower, laboratory techniques are changing to ensure accurate results at these lower levels. In the laboratory, cyanide is measured indirectly in much the same way as chlorine or nitrites are. (see back page for continuation)

## ERA Introduces our New Employees!

We have hired several new members to our team. First, we would like to introduce Mimi Jones. Mimi is our Marketing Executive. She studied broadcast journalism at Troy University and currently lives in Eufaula. After being a stay-at-home mom for 9 years to her 3 children, she is excited to be joining our team here at ERA. She states, "I enjoy meeting people and am looking forward to having the opportunity to acquire and maintain positive client relations for ERA Lab. I'm excited about building strong relationships between each of our

clients that will be positive and trustworthy for years to come."

We have also hired three new lab analysts. Brittini Bryant (possibly related to Coach Bear Bryant....) is a recent Auburn graduate in Biomedical Science. As an undergrad she conducted research on molecular biological identification techniques. Brian Simpson is a current Auburn student studying environmental science. Julian Diaz is a current Auburn student pursuing a degree in civil engineering.



The staff of ERA, Inc at the 2011 Holiday Party

## ERA Continues to Pass NELAP Audits!

The Nelac Institute (TNI) is an organization that monitors environmental laboratory processes to ensure the quality of work and data produced. They issue accreditation under their accreditation program (NELAP) to laboratories that meet comprehensive standards set by the organization. NELAP standards cover all areas of lab work from human resource records to daily calibration records for all equip-

ment. Once the lab is accredited, it is subjected to on-site comprehensive inspections by a NELAP auditor.

ERA has been a NELAP accredited lab since the program started over 5 years ago, and has gone through several audits. This summer we underwent a lab-wide audit covering every method we are NELAC certified for. We successfully maintained our accreditation.

Although being NELAP accredited is not required in the state of Alabama, we feel that it is an important step for us to maintain in order to assure our clients that we are producing quality work. We are one of only a few labs in the state of Alabama that take this extra step. If you have any questions about the benefits of using a NELAP accredited lab, please contact Staci Hickman.

*"This summer we underwent a lab-wide audit covering every method we are NELAC certified for. We successfully maintained our accreditation."*

## ERA's Continuing Education Course

ERA will again be offering our course for continuing education credits. This year we will feature new material and guest speakers. The course will be offered in the summer (June or July) but the exact date, time and location has not yet been determined. This year we will offer credits for both the states of Alabama and Georgia! Registration will be based on a first come first

serve priority and will be free of charge. If you have any suggestions for topics you would like to have covered please contact Erin Consuegra at [carroej@gmail.com](mailto:carroej@gmail.com). Please check our [website](#) for updates. We hope to see you there!



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Environmental Resource Analysts (ERA) was founded in 1991 by Dr. Joseph Freda. The company's initial focus was ecological field studies, but expanded into the areas of aquatic toxicology and analytical chemistry. Our primary motivation for expansion has always been, and will continue to be, meeting the needs of our valued clients. This commitment to service has allowed us to obtain many diverse capabilities such as toxicology studies, bacteriological analysis, inorganic and organic testing, and hazardous waste identification.

For more information about ERA please contact the Lab Manager Staci Hickman at [shickman@eralab.com](mailto:shickman@eralab.com).

[www.eralab.com](http://www.eralab.com)



# Contaminant of the Quarter: Cyanide

*"The cyanide method is an involved method including complex chemistries."*

By using a colorimetric method, the cyanide analysis is vulnerable to false positives. In a colorimetric method, the distilled sample is combined with specific reagents that react with cyanide. If cyanide is present, a reaction occurs resulting in a color change. If cyanide is not present, there is no reaction and no color change occurs. Samples are then read by a spectrophotometer which can detect even slight color changes (the colorimetric method is even suitable for concentrations as low as 1 µg/L). By comparing the results of the unknown sample to that of known standards on a calibration curve, we can determine the amount of cyanide in a sample. The problem with these types of methods is that compounds other than cyanide could also cause a color change in the sample and lead to a false positive result. With cyanides, this is a particularly well documented occurrence. Several measures are taken both at collection and during the analytical run to prevent false positives. The first step, which not only helps in eliminating false positives, but also serves to ensure accurate measurement of cyanide present, is to properly preserve the sample. When ERA sends you the sample bottle, we ensure that proper preservation chemicals are already in the bottle. It is important that you do not rinse out these preservation chemicals during collection. The second step in preventing false positives is by treating the samples just prior to distillation. In the lab, our analysts take measures described by the standard method being used to ensure that the sample is treated properly before distillation. The final step in preventing false positives is to prevent

contamination. Since the cyanide method is sensitive to false positives, it is important to prevent contamination of not only cyanide, but also any other compound that may produce a false positive such as sulfides or nitrites. In conclusion, the cyanide method is an involved method including complex chemistries and a series of important precautions which are necessary to obtain accurate results.



Environmental Resource Analysts,

Sources:

Environmental Express Newsletter, August 2010, December 2010, June 2011  
Standard Methods 20th Edition 4500-CN-