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PARTNER,
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EXPERIENCE IN:

KUWAIT PG 6



EXPERIENCE IN KUWAIT

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TOUR AEROTECH ENVIRONMENTAL LABORATOIES

Karen Walters pg 20



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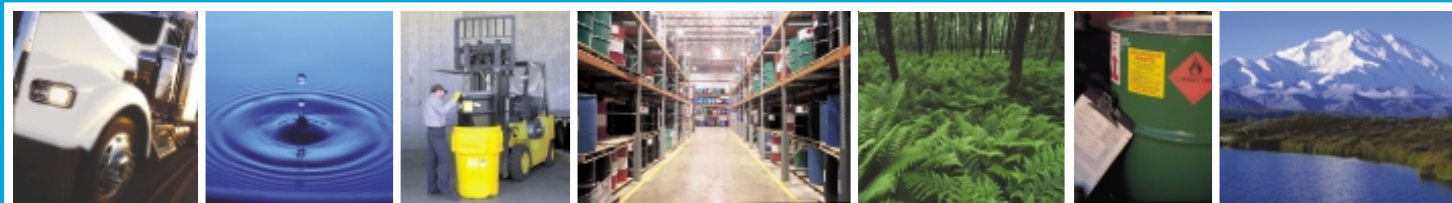
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COVER PHOTO: JERRY GREUEL, LEFT, AND JESSICA REICHERS, RIGHT, ARE CHEMISTS IN THE NEW AEROTECH ENV. LAB. SEE ARTICLE PG 20.

FROM THE EDITOR



The Journal of Environmental Management Arizona is considering adding a section to the Journal devoted to refereed environmental papers. This peer-reviewed section of the Journal would provide a prestigious platform for environmental authors from Arizona as well as from the entire country to publish academic and scientific works in a Journal that reaches the environmental

audience in academia as well as in industry, and in private and governmental organizations. Papers would be limited to a select few, and undergo a rigorous review process. A wide variety of subjects would be considered appropriate. Guidelines regarding format, length, and other requirements will be formulated and made available.

I would like to hear what you have to say about this ambitious step for the Journal. Would you be willing to volunteer to review articles in your area of expertise? Would you be interested in authoring a paper? Would you like reading the additional articles that would add to the content already in the Journal? Please call (480-422-4430 x42) if you have any comments or questions. You can also email me at jimthrush@ehshomepage.com. You will hear more in the Feb/Mar 2005 issue of the Journal.

I may have mentioned this before, but a great way to show your support for the Journal is to call an advertiser and say you saw them in the Journal! If your favorite vendor does not yet advertise, please ask: why? Please support those who support our community! Sincerely,

Jim Thrush, M.S.
Editor

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To THE JOURNAL LETTER'S & EMAILS

(These letters refer to the article "Arsenic: Forced Demand for Treatment Products" found on page 8, in the Oct/Nov 2004 issue of the Journal. Editor.)

DR. NELSON:

I read your interview in the "Journal of Environmental Management Arizona" and thought your characterization of the "arsenic abyss" was right on. I would have liked to have seen non-treatment options mentioned. In the discussions I have heard recently regarding arsenic compliance, both nationally and locally, rarely are non-treatment options mentioned. Even ADEQ's "Arsenic Master Plan," almost as an afterthought, includes non-treatment options only in a short appendix. Non-treatment options include new sources (new wells, purchase of wholesale water, etc.), physically modifying existing wells, and blending. Some or all of these may not work for a specific water provider, but I believe they should at least be considered. Perhaps you could be sure members of your Arsenic Remediation Coalition are made aware of non-treatment options?

Thank you very much for your consideration (and for suffering my latest soapbox),
GARY C. BURCHARD, R.G.

Hydrogeologist
Metropolitan Domestic Water Improvement District
520-575-8100

GARY BURCHARD:

Thank you for your comments. You are correct in pointing out the importance of non-treatment options. Most consider this alternative, however, many small rural water systems have limited locations for installing a new well. In at least one instance, a small system drilled another well and still found non-compliant arsenic levels. It is a difficult call, given the limited financial (and rate-recovery) resources of smaller water systems. Another avenue is to trade out existing water sources. I am aware of at least one instance in which a drinking water well was traded for a golf course well that met the new arsenic standard. Blending is also a consideration, but of course it is a viable alternative if the system has several wells and adequate storage (blending pool) capabilities.

I appreciate your observations and welcome any additional thoughts or suggestions you may have.

DOUG C. NELSON

Manager, Arsenic Remediation Coalition LLC
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BARTON DAY'S PERSONAL *EXPERIENCE IN KUWAIT*

An Interview by Dianne Frydrych

Barton Day is a well-known and highly-respected attorney in the Phoenix office of Bryan Cave LLP. For the last several years, Barton has been representing the State of Kuwait in its environmental claims against Iraq arising from Iraq's invasion and occupation of Kuwait. These claims, brought before the United Nations Compensation Commission, cover extensive environmental damage caused by military operations and by Iraq's systematic destruction of Kuwait's oilfield infrastructure.



Iraq blew up virtually all of Kuwait's operational oil wells, leaving the worst oilfield fires the world has ever seen. Ultimately some 50 billion gallons of crude oil were burned or released, blackening over 1,000 square kilometers of Kuwait. Barton was very candid with me for this article, and I would like to thank him for sharing with us on a very personal level his experiences in Kuwait.

*Barton D. Day, Partner,
Bryan Cave LLP*

Dianne Frydrych: How did you get involved in this assignment?

Barton Day: My Firm has a substantial presence in the mid-east and was asked to represent Kuwait on some of its governmental claims. They liked us, and asked us to take over the environmental claims, so I was added to the team to do the heavy lifting on the terrestrial damage claims. We also had marine, coastal, groundwater, and public health claims to deal with, and ended up having lawyers from four different Bryan Cave offices involved. Carla Consoli, one of my partners here in Phoenix, handled the public health claim. It was a terrific group that had just the right mix of talents.

DF: When you were asked to handle the assignment in Kuwait what was your first reaction?

BD: I had mixed feelings. I had just relocated to Phoenix from Washington D.C., and was trying to get established here. On the other hand, I had vivid memories of the 1991 Gulf War and of the atrocities Iraq had committed. I remembered the Kuwaitis cheering and waving American flags as the Marines rolled into Kuwait City, and the opportunity to help them was pretty appealing. At the end of the day, I couldn't resist the opportunity.

DF: What was your first reaction when you arrived in Kuwait?

BACKGROUND PHOTO on this page: Wreckage of an Iraqi artillery battery in Southwestern Kuwait



Above: Hundreds of square kilometers of Kuwait are still contaminated as a result of fallout from burning oil wells. In most of these areas the contamination consists of a black crust with a fine coating of dust on its surface.

BD: I was too tired to react. I arrived on a Friday night after more than 26 hours in airports and on airplanes, with maybe two hours of sleep along the way. My biological clock was off by eleven hours, and - to add insult to injury - it was the end of the weekend instead of the beginning; the work week starts on Saturday in the Arab world, so I had meetings to look forward to



Above: The contamination often forms a pavement-like surface that can be broken up in sheets. In some areas, the soil was saturated with oil and is severely discolored; there are still a number of areas where the ground surface is submerged under lakes of crude oil sludge.

first thing the next morning. I got over to our apartment and sacked out. One of my partners blew in at dawn, got about an hour's sleep, and off we went. Driving around Kuwait City, I was struck by some of the similarities to Phoenix; some tall buildings, big modern roads with heavy traffic and loads of concrete walls and overpasses, and the same kinds of vegetation, minus cactus. The road signs are mostly in English as well as Arabic, and they have lots of "roundabouts" the way they do in England, with the same little blue signs. You see everything from western dress - including the occasional teenage girl dressed like Britney Spears - to traditional Indian or Arab dress. You know right away that you aren't in Kansas anymore.

DF: Who did you find yourself going to for collaboration when you were in Kuwait, and why?

BD: Lots of people, but the field guys most of all. An environmental lawyer without a good understanding of the science and - above all

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KUWAIT CONTINUED FROM PAGE 7

- the realities on the ground - isn't much good for anything. I needed to find out who really knew what was out in the field, and I needed to get out in the field with them as much as possible. To be effective, I needed to develop a personal understanding of what the damage is and what the practical considerations for remediation are. I wanted to be able to communicate the nature and extent of the problems with a power and clarity that dry reams of charts and tables can't provide. To do that, I think you have to have a personal feel for it. There were two field scientists - an Egyptian and a New Zealander - who were especially helpful to me. They had both been in the country for years working with the Kuwait Institute for Scientific



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Research, and really knew their way around. They could take me places other people didn't go. I don't know what I would have done without them.

DF: When given your first tour of the field in Kuwait how did you react?

BD: I was completely blown away. I was with a consultant who knew his way around, and the two of us drove out into the desert south - which is down-wind - of the Burgan oil field. There were hundreds of square kilometers in



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that area that had been completely blackened by fallout from the oil well fires. First we started seeing soot in the soil, and then what looked like chunks of black gravel where there had originally been a thin crust of contamination on the surface. If you dug your toe into the sand, big plates of the stuff would come up, dry and brittle. As we got closer to the oilfield, we saw more and more Iraqi bunkers - now just piles of concrete pilings and barbed wire - and continuous sheets of oil contamination on the desert surface, as though the countryside had been paved with asphalt. There was a line of sand pits where Iraqi tanks or artillery pieces had been dug in, and then large areas of thick pavement-like contamination interspersed with areas that flows of crude oil from damaged wellheads had reached. It was summer and brutally hot, and the surface of these areas was like hot, sticky tar. There were lots of patches of liquid sludge, forming little oil marshes, and one large lake of liquid oil. There were quite a few dead animals scattered around, everything from birds, lizards and small mammals to sheep and goats. Even after ten years, it was a screaming, howling ecological disaster.

DF: Is there any one thing from your time in Kuwait that stands out in your mind?

BD: It's hard to pick one. It really gets your attention when you look down and find an unexploded cluster munition between your feet, for example. Or discovering that you are in an anti-personnel minefield; that was also big fun. Maybe the thing that sticks out most, though, is the day I went on a helicopter reconnaissance of the southern half of the country. We were in a Kuwaiti military helicopter - a French Super Puma - and flew out of a base that still had a bunch of those concrete aircraft

Continued on page 18



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NEWS BRIEFS

MARICOPA COUNTY APPROVES PLAN TO CREATE AIR QUALITY DEPARTMENT

❖ The Maricopa County Board of Supervisors approved a plan on Nov. 17, 2004, to create a new Air Quality Department. The new department will focus exclusively on regional air quality issues. County Administrator David Smith said, "By having a department dedicated to just the issue of air quality, the Board hopes to bring about the regional resources and behavioral changes needed in the community to reach attainment of national air quality standards in all respects." The Air Quality Department will work with the EPA, the Arizona Department of Environmental Quality and other stakeholders to actively develop plans to improve the air quality of the region. Maricopa County continues to be one of the fastest growing areas in the country with 3.5 million residents driving nearly 70 million miles a day. In the year 2000, Maricopa County improved its dust control plan by adding new staff and increasing enforcement actions. The plan was expected to bring the area into compliance with the particulate standards by 2004. Four air monitoring stations are continuing to show occasional readings above the standard. Particulates are small microscopic bits of dirt, dust, combustion particles and other matter that are generated by construction, travel,

other activities and even wind in the desert environment. These can compromise human health and create the familiar "brown cloud" during the winter months during an air inversion.

The USEPA has set a deadline of 2006 for the County to meet air particulate standards (PM-10). In addition, a new ozone standard went into effect this year.

Staff from the Maricopa County Environmental Services Air Quality Division will be shifted to the new Air Quality Dept. The county will conduct a national search for a director for the new department. In the meantime, Joy Rich, the Maricopa County Chief Regional Development Services Officer will serve as interim director. Ms. Rich will develop a ninety-day business plan to begin the transition of the new department. The new department will have a staff of about 122 persons and an annual budget of about \$10-million.

LFR LEVINE FRICKE HOSTS OPEN HOUSE AT NEW FACILITY IN SCOTTSDALE

❖ On November 4th, LFR Levine Fricke, a national environmental management and consulting engineering firm, hosted an open house at their new facility at 14201 N. 87th Street, Suite 135, in Scottsdale, Arizona. Guests enjoyed great food and beverages,

and met with LFR staff from across the country. A few of those attending are shown at left. Contact LFR at 480-905-9311, or email Laura Malone at laura.malone@lfr.com.

PHOTO: From left: Michael Jorta, Heidi's Home Catering; Eric Rogoff, LFR, Scottsdale; Jeff Morrell, LFR, Hawaii; Michael Nesky, LFR, Scottsdale; Julie Riemenschneider, ADEQ; Jean Hebert, LFR, Hawaii; Chris Hickman, LFR, Scottsdale; Roberta Bowen, HydroLogic Consultants Inc.; Chad Kaiwikuamoohobou, LFR, Hawaii; Julie Slocum Hoskin, Del Mar Analytical; Melissa Bauer, LFR, Scottsdale.





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IT'S ALL ABOUT CHEMISTRY **EU LEADS THE WAY**

Larry Olson, PhD.

Although it is fashionable now for some in America to disparage Old Europe, leadership in new environmental initiatives unquestionably lies with the European Union (EU). These new regulations affect not only those living in European countries but any company wishing to do business in Europe.

Some important examples of this were identified by my student, JoEllen Landy Rostad, who wrote her thesis on the effect of European product design and “take-back” legislation on the semiconductor industry. Principal among these are the End-of-Life-Vehicle Directive (ELV), the Waste Electrical and Electronic Equipment Directive (WEEE), and the Restriction on Hazardous Substances Directive (RoHS).

The ELV, which went into effect in 2002, covers not only vehicles, but their components and materials. The goal is to prevent the release of hazardous substances into the environment by limiting their use from the initial design stage. The focus is on heavy metals such as lead, hexavalent chromium, mercury and cadmium. Considering that the automotive industry uses some \$15 billion per year in semiconductors, the ripple effects beyond just the major automotive manufacturers are obvious. Any company in the automotive supply chain now has to provide analytical data and certify its product.

The WEEE Directive establishes producer responsibility for the repair, reuse, and recycling of electrical and electronic equipment. Return and collection systems must be set up and disposal markings to consumer products must be added.

From July 1, 2006, new electrical and electronic equipment sold in the EU may not contain heavy metals or polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE) under the RoHS Directive. Customers will require manufacturers to certify compliance and this may mean changing product composition or manufacturing procedures.

There is no comparable national legislation in the U.S. to these EU Directives. Some states have instituted restrictions on disposal of electronic equipment, but none are as comprehensive as the European legislation. However, in California the Electronic Waste Recycling Act, scheduled to take effect in 2007, prohibits an electronic device from being sold or offered for sale in the state if it would be prohibited from being sold in the European Union due to the presence of heavy metals.

In today's global marketplace, not even smaller American companies can afford to ignore the market share represented by Europe and California. Yet in order to do business, they will have to remain vigilant for changes coming out of Brussels as well as those in Washington DC. Like it or not, Old Europe is still a part of our lives.

Larry Olson, PhD., Associate Professor, Arizona State University Environmental Technology Management Program. Dr. Olson holds a Ph.D. in Chemistry from the University of Pennsylvania, and is an environmental chemist with interests in remediation technologies and international env. mgmt. He can be reached at 480-727-1499, or by email at Larry.Olson@asu.edu

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REGULATORY DEVELOPMENTS

THE OWL IN THE OINTMENT

Michael C. Ford, Attorney



You may recall the controversy surrounding the northern spotted owl that captured national attention in the late 1980s and early 1990s, pitting development and logging interests against endangered species advocates eager to protect the owls and millions of acres of forest habitat in the Pacific Northwest. Well, another little owl, the cactus ferruginous pygmy, is at the center of a similar controversy centered right here in Arizona, involving EPA's delegation of NPDES permitting authority to ADEQ at the end of 2002.¹

The delegation process required ADEQ to demonstrate to EPA that it satisfied certain criteria set out in the CWA for state program authorization. These criteria do not involve provisions for state implementation of certain Endangered Species Act "consultation" requirements, since these ESA requirements are restricted in application to certain federal – not state – agency actions.² ESA concerns were far from ignored in the delegation process, however, as EPA followed ESA procedures arguably voluntarily by consulting with the Fish and Wildlife Service ("FWS") concerning the delegation itself of NPDES permitting authority to ADEQ. FWS field office staff expressed concerns about possible impacts of the delegation on endangered species and their habitats, in disagreement with EPA. The dispute was elevated to the respective agency headquarters for resolution, which culminated in FWS's opinion that the delegation was, in fact, not likely to jeopardize endangered species.



Cactus Ferruginous Pygmy Owl
Photo Credit: US Fish & Wildlife Service and Mike Wrigley.

Environmental groups sued EPA claiming the delegation was unlawful based on ESA requirements, and citing concerns such as the possible loss of pygmy owl habitat that may result from the delegation due to the reduced ESA requirements under the AZPDES program. Now the case is pending before the Ninth Circuit Court of Appeals. The environmental groups have argued that the FWS opinion was deficient and improper under the ESA, and that it should not have been relied on by EPA, and therefore that the delegation should be set aside. EPA counters that it fully complied with the ESA.

Particularly interesting is that EPA's opposition to the environmental groups was augmented by several intervenors, including business representatives (e.g. the National Association of Home Builders, and the Arizona Chamber of Commerce) and the State of Arizona. The intervenors raised additional arguments, including that EPA had no obligation to follow the ESA procedures as it did, because EPA was required to delegate the program to ADEQ based solely on the CWA criteria, which ADEQ indisputably met. The State emphasized the substantial commitment ADEQ has made to implement the AZPDES program; the provisions it set up to assure endangered species protection; and the administrative turmoil and waste of expended resources that could result were AZPDES delegation withdrawn.

The combined ADEQ-industry defense of the AZPDES program reflects the cooperation that went into obtaining the delegation, and the importance perceived by the parties in retaining the delegation. A decision in favor of the environmental groups could have a significant impact on everyone involved in the AZPDES program, as well as nationwide implications. The Ninth Circuit's ruling is expected within 6 months.

1 In December, 2002 ADEQ became the forty-fifth state to receive authority to administer the Clean Water Act NPDES permit program, meaning ADEQ now has primary permit issuance and enforcement duties over the "AZPDES" program.

2 For similar reasons, as applicants for coverage under the general permit for industrial stormwater discharges ("MSGP") may have noticed, the AZPDES Notice of Intent form no longer requires the applicant to certify compliance with ESA requirements.

Michael C. Ford is an Attorney with the Phoenix office of Bryan Cave, LLP, practicing environmental and occupational safety law. His practice is focused primarily on regulatory compliance advice and enforcement defense. He can be reached at 602-364-7417, or by email at mcford@bryancave.com.



SUSTAINABILITY AND SUSTAINABLE DEVELOPMENT: **“BRANDING” SUSTAINABILITY**

A NEW APPROACH FOR CREATING DEMAND

Nicholas R. Hild, PhD.

The recent hype surrounding the opening of IKEA stores in Arizona, reminded me of one of the basic tenants of modern economic theory and how it relates to sustainability. In the mid-1960's, economic theorists showed us that demand for products can be *created*, even where there is no demand, through the subtle process of making the product so desirable (i.e. through mass marketing), that folks can't live without certain “brands” of things that we eat, drink, drive, wear, and live in. Today, we call that “*branding*” and the creation of demand for furniture is a good example of how “*branding*” a store name makes it *the* place to buy, even where competitive products that serve the same utilitarian function are already successful in the same market.

What got me thinking about this whole concept of “*branding*” was a recent Tri-University Sustainability conference I attended at Northern Arizona University where their Center for Sustainability's Gary Nabhan eloquently described ways and means for “marketing” the whole concept of Sustainable living. Gary, himself, is an example of what it means to live a more sustainable lifestyle and you can read all about it in his new book, “Why Some Like It Hot” (2004) published by Island Press.

The workshops started little side discussions, mostly about how we “academics” who teach and conduct research in the general area of Sustainability and Sustainable Development are always finding ourselves “*preaching to the choir*” and how we can generate interest to the masses. Like the IKEA advertising, we need to be making sustainability and sustainable development a BRAND name that young and old consumers alike will want to “own” and show off just like Calvin and Tommy.

You see “*branding*” everywhere: youngsters have to have certain brand names in clothing or else they will be ostracized from the “in” crowd. Others absolutely “must” drive the SUV that the car pool set say is cool. For the race-crazy 20-and-30-something crowd, their favorite NASCAR driver's number, colors, and clothing are a must as they boldly “advertise” their allegiance. Meanwhile, yuppies and boomers alike are dunking their Krispy Kremes in their Starbucks latte as an absolutely essential daily ritual. Even the medications that yuppies, boomers, and geriatrics take to keep them “active” has to be the right “brand” or else they won't be able to enjoy evening sunsets while sitting in bathtubs drinking their “after-glow” wine like all their friends.

So the issue is how can we make sustainability just as important to the masses as all the other hyped products we can't do without? How can we make sustainability *the* BRAND that everyone from the new car and home buyer to the developer and commercial business owner absolutely has to have on their check sheet when they are planning to make future purchases? How do we go about *Branding* sustainability?

If you think about it, making sustainability *the brand of choice*, may be the most important thing we can do for the quality of life for our children's, children's, children.

Nicholas R. Hild, PhD., Professor, Environmental Technology Management, Arizona State University College of Technology and Applied Sciences, has extensive experience in Environmental Management in the southwestern U.S. Dr. Hild can be reached at 480-727-1309 and by email at DrNick@asu.edu.

ASSOCIATIONS PAGES

Editors note:

Arizona's many environmental associations provide a path for communication and education in the EH&S community. Among other benefits, they provide networking opportunities, educational resources, and keep members informed on professional news and technical advancements. Many of these resources are available to both members and nonmembers, so always look to these associations when you need assistance.

If your organization is not represented here, and you would like it to be, please call us. Being a part of the Associations Pages benefits both the organizations and the readers, most of whom belong at most to a only a few of the organizations, but still would like to keep current on all environmental activities.

Editor

AAI

AAI's first EHS Committee breakfast meeting of 2005 will be held on Wednesday January 12th at the Sheraton Phoenix Airport Hotel located at 1600 South 52nd Street, Tempe, Arizona 85281 (Broadway and I-10). Pete Reich from EPA Region IX's Oil Program Office will be presenting on new SPCC requirements for government and industry.

Jeff Homer,
EHS Committee
Chairman



The EHS Committee also maintains a number of subcommittees that meet regularly to discuss issues associated with manufacturing and industry. These subcommittees include Air, Water and Waste and Remediation. These subcommittees are chaired by Roger Ferland, Katy Brantingham and Barton Day respectively. A 2005 EHS Summit subcommittee has also been formed and is chaired by Luke Narducci. Please contact the subcommittee chair or Jeff Homer at 480-441-6672 for further information. Webpage: www.azind.org.

ACHMM THUNDERBIRD



JAN. 19, 2005 THUNDERBIRD
CHAPTER MEETING, 6:00 - 7:30,
FEB. 16, 2005 THUNDERBIRD
CHAPTER MEETING, 6:00 - 7:30
FEB. 16 - 17, 2005 GATEKEEPER
REGULATORY ROUNDUP
MARCH 16, 2005 THUNDERBIRD
CHAPTER MEETING, 6:00 - 7:30,
PROGRAM: PAT RYAN, ADOSH
DEPUTY DIRECTOR
APRIL 12 - 14, 15, 2005 CHMM
OVERVIEW COURSE & EXAM.
WWW.THUNDERBIRDCHEMM.ORG

We want to congratulate Rachel Weiskind, Goodrich Aircraft Interior Products. Rachel is our newest CHMM and Thunderbird Chapter member! **BIG CHANGES:** The Chapter Board met Nov. 3rd for the annual planning meeting. One decision made was to change the dates and format for our monthly meetings. **Starting in Jan., dinner meetings will be the 3rd Wed. of each month. Meetings will be devoted to presentations and social/networking opportunities. Board meetings to be held separately.**

Chuck Paulausky,
Chapter Secretary



We have teamed with EPAZ and AZSERC to coordinate the **Gatekeeper Regulatory Round-up**. We are encouraging companies to consider this great marketing opportunity by becoming corporate sponsors. **GRR** is scheduled for February 16-17, 2005, so mark your calendars- You won't want to miss it! For more details: <http://www.epaz.org/regulatory-roundup2005.htm>

We are also working with a number of organizations to offer a bigger and better **Southwest Safety Congress**, scheduled for May 17-19, 2005. There will be a golf tournament on May 16th! **SSC** corporate exhibitors are encouraged for this as well. For more details: www.southwestsafetycongress.org. Monthly dinner meetings held at 6 PM on third Wednesdays, Old Spaghetti Factory, 1418 N. Central Ave. Phoenix. Details: www.thunderbirdchmm.org

US GREEN BUILDING COUNCIL ARIZONA CHAPTER



The USGBC has officially released two new programs this month that will substantially affect the built environment. LEED for Existing Buildings (LEED-EB) is a performance-based program designed for facility management professionals. The program guides users thru a sustainability audit of their facility in order to improve energy, water, and overall environmental performance.

Charlie Popeck,
Vice President



LEED for Commercial Interiors (LEED-CI) is a green building program specifically designed for tenant improvement or interior fit-out projects. This program promotes healthy indoor environments by offering

credits for using low-emitting products, implementing green cleaning practices and several other low-impact interior design strategies.

The combination of these two programs will greatly increase sustainability options for existing building owners and real estate development firms throughout the country. To find out more about implementing either program please contact me at Charlie@egreenideas.com.



*Barry Westerhausen,
Sergeant at Arms*

The October Joint meeting with the SWAMF (Southwestern Association of Metal Finishers) went off very well with about 30 vendors presenting. The AESF would like to thank the SWAMF for hosting this event in Arizona. We would also like to thank LA Chemical for hosting the November meeting at their Chandler facility, which included a tour of the facility, dinner and raffle prizes. The next meeting is a Holiday dinner party with the NDT please makes your reservations early. The January meeting will be held at and hosted by Chemresearch. Meetings begin with social hour at 5:28 PM and Dinner at 6:28 PM, discussion following. Topics planned for the 2004 – 2005 are environmental regulations, hazardous waste, new processes, EPA regulations, and plating trends. You are not required to be a member to attend advance reservations are appreciated.

In April, Arizona will host the Golden West Regional that includes AESF branches, Arizona, Santa Clara, Los Angeles, Orange County, and Denver. This great event brings suppliers and customers together and is a forum for presentation of technical papers. The event will be held at the Arizona Golf Resort, April 1, 2nd, with a golf tournament hosted by the Greater Arizona Chapter April 3rd.

For information contact Barry Westerhausen at bwesterhausen@lachim.com (480) 206-4107 or Mark Thede at markthede1@cox.net (480) 695-4344.



*Frank Bonillas,
President*

The Legs & Regs Committee had their official kick-off meeting in early November. The committee is gearing up to start moving their activities forward. The vision is that the SAEMS Legs & Regs web page be recognized as the primary resource for information on new and proposed regulations and legislation for environmental professionals practicing in Southern Arizona. Hot topics being tackled first include UST Policy (ADEQ), All Appropriate Inquiry (CERCLA), SPCC, New Source Review, AZPDES, Permit Fees (PDEQ), Conformance Changes (PDEQ), Federal Register Notices, and the 2005 State Legislative session. The committee will also be looking for valuable resources, such as web links, key contacts, and newsletter articles. Anyone interested in participating on this committee can contact Jeff Yockey, Legs & Regs Chair, at 520/884-3692 or jyockey@TEP.com.

The Executive Committee (Board) is currently working on preparing a membership-wide survey that will be distributed electronically in the coming months. Valuable input received from the membership will help the Board evaluate current services and activities. The ultimate goal is to continue to provide quality services and activities and continue to increase the overall value of SAEMS.

AESF



2004-2005 ARIZONA AESF SPEAKER AND EVENTS LINE UP:

DECEMBER – HOLIDAY PARTY
WITH NDT

JANUARY – CHEMRESEARCH – ON-
SITE MEETING

FEBRUARY – TBD

MARCH- TBD

APRIL – GOLDEN WEST REGIONAL

SAEMS



WWW.SAEMS.ORG

LUNCHEON MEETINGS HELD ON
THE LAST WED. OF THE MONTH
STARTING AT 11:30 A.M.
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CONGRESS ON GRANADA) TUC., AZ

LUNCHEON TOPICS:

DEC: CO-HOST MEETING WITH
ACHMM THUNDERBIRD CHAPTER;
JOHN BUTLER, GEC-SA&B; INDOOR
AIR QUALITY

JAN: MICHAEL WALSH, OFFICE OF
EMERGENCY MANAGEMENT &
HOMELAND SECURITY; EMERGENCY
MANAGEMENT/HOMELAND SECURITY
UPDATE – WHAT COLOR ARE WE
NOW?

FEB: MICHELLE FREEARK, APACHE
NITROGEN PRODUCTS, INC.;
ARSENIC GROUNDWATER
CONTAMINATION

VALLEY FORWARD



ERIN BROCKOVICH TO
SPEAK AT
VALLEY FORWARD'S 35TH
ANNUAL LUNCHEON

WWW.VALLEYFORWARD.ORG

Valley Forward is pleased to welcome Erin Brockovich to its 35th Annual Luncheon as an inspiring example of the difference one person can make. The luncheon will be held from 11:30 a.m.-1:30 p.m., December 10, at The Arizona Biltmore Resort. Tickets are \$75, and tables of 10 are available for \$700.

*Diane Brossart,
President*



Currently director of environmental research at the California law firm of Masry and Vittoe, Brockovich has received numerous awards and honors for her environmental work. She is best known for her solo investigation establishing that countless people who lived in and around Hinkley, CA, from the 1960s through the '80s had been affected by exposure to toxic Chromium 6.

In her keynote address for Valley Forward, Brockovich will share her personal trials, tribulations and triumphs, as well as her concern for the environment. The luncheon will also spotlight Valley Forward's 35th anniversary year and include the election of its 2005 Board of Directors. To reserve seats for the annual luncheon, visit www.valleyforward.org or call (602) 240-2408.

AZ ELM



Arizona Environmental Leadership through Mentoring (ELM) is currently finalizing plans for SEED 2005. This year, the Symposium for Environmental and Economic Dynamics (SEED) will focus on advantages to environmental management and leadership. We will also be presenting the inaugural Bill Kicksey Env. Leadership Award.

Richard Polito



The event will be held at the Orange Tree Resort in Scottsdale on Feb. 24th. There will be several speakers (TBD) and a luncheon as well as panel discussions and opportunities for vendors to set up booths. In addition, a 9-hole shotgun tournament is being planned beginning at 3:00 PM followed by a happy hour for all attendees. Visit www.azelm.org for continued updates. If you are interested in attending or sponsoring a booth, contact Aaron Corey at acorey@mail.maricopa.gov or (602) 506-5149.

A&WMA

GRAND CANYON SECTION

The Air and Waste Management Association (A&WMA) is a nonprofit, nonpartisan professional organization that provides training, information, and networking opportunities to thousands of environmental professionals in 65 countries. The Grand Canyon Section allows environmental professionals throughout Arizona to come together and discuss local and national issues in a neutral forum. Anyone interested in environmental management is welcome and encouraged to attend our monthly meetings. Speakers generally focus on local issues surrounding air quality, transportation planning, or waste management. Meetings are scheduled for the third Thursday of each month, please call to verify dates and locations for upcoming meetings.

*Kale Walch,
Board Member*



The Grand Canyon Section of A&WMA is also pleased to announce the availability of both undergraduate and graduate student scholarships for the 2005-2006 academic year. An undergraduate scholarship of \$600 and a graduate scholarship of \$800 will be

awarded based on a technical paper competition. Students who are enrolled in an environmentally related field in 2004-2005 and plan to be enrolled in 2005-2006 are eligible. All eligible students are encouraged to apply. The technical paper must be an original work, although literature reviews, reports on research projects, or proposed research plans that were formulated as part of an assignment are all acceptable. Contact Kale Walch at 520-866-6960 or kale.walch@co.pinal.az.us for applications and additional information. If you or your business are interested in donating monies to this non-profit scholarship fund the Grand Canyon Section of A&WMA would be happy to work with you.



*Paul Plato, R.G.,
President*

We are in the holiday season and the Flagstaff Chapter will have its annual Christmas dinner meeting on December 9. In

Phoenix, the dinner meeting will be held on December 14 and will feature Mark Raming of SWCA presenting, "Do we need to learn to live with drought?" The Tucson Chapter will also meet on the 14th to hear Dr. Tom Maddock speak on current water issues and policy in the San Pedro Watershed. Looking ahead to January, Phoenix members will participate in the annual kick-off meeting to chart the course for 2005. Dr. Frank D'Agnese of Earth Knowledge, LLC, will be in Tucson to discuss their current efforts to build stronger and more-informed multi-stakeholder involvement in water sustainability projects in the southwest. The Flagstaff Chapter will continue with symposium planning tasks. Please check the AHS website at www.AzHydroSoc.org for meeting details.

AHS would also like to extend our heartfelt congratulations to Dr. Herman Bouwer for winning the International Prize for Water, established through the patronage of Prince Sultan bin Abdulaziz and the Kingdom of Saudi Arabia. Hurray Herman!

ARIZONA HYDROLOGICAL SOCIETY



PLEASE VISIT THE AHS WEB SITE:
[HTTP://WWW.AZHYDROSOC.ORG](http://www.AZHYDROSOC.ORG)



*Ed Collette,
Secretary*

We hold a lunch-meeting every second Tuesday of the month from 11:30 AM to 1:00 PM at the Kino Community Center, 2805 East Ajo Way,

Tucson. For more information and directions go to Southern Arizona Chapter <http://southaz.asse.org>. All members must update their file by going to (www.asse.org) "Members Only" section. December 14th – Joe Kane - Undergraduate Degree Program in Safety Management through Prescott College. January 11, 2005: Speaker – Arizona Industrial Commission February 15, 2005 has been schedule to be a joint meeting with the Southern Arizona Safety Council (SASC) to be held at Granite Construction, 4115 East Illinois Street, from 8:30AM to 12 Noon and then lunch will be provided. Subject: Root Cause Analysis Program presented by Charles Doane and then DOT Pipeline Safety.

AMERICAN SOCIETY OF SAFETY ENGINEERS

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EPAZ

EPAZ HOLDS LUNCHEON MEETINGS THE 2ND THURSDAY OF THE MONTH AT THE PRIME HOTEL, 44TH STREET & VAN BUREN 11:30 AM TO 1:00 PM. \$20 MEMBERS/\$30 NON-MEMBERS.

EPAZ ALSO GATHERS THE LAST WED. OF THE MONTH FOR A CASUAL COCKTAIL MIXER. VISIT WWW.EPAZ.ORG FOR DETAILS REGARDING UPCOMING MEETINGS AND OUR MONTHLY MIXER LOCATION OR CONTACT ME AT (480) 961-1300 X181.

November's EPAZ luncheon meeting featured Joe Holmes. Joe is the Technical Sales Manager for Romic Environmental Technologies based in Chandler, Arizona. Romic provides services to the waste generating community which includes: hazardous and non-hazardous waste characterization support, transportation and recycling or disposal. His presentation included a "nuts and bolts" look at what physically happens to waste once it is transported from a generators' site. He focused on why some wastes are recyclable and why some are not, plus some of the physical restrictions associated with specific disposal options.

*Eddie Martinez,
President*



DECEMBER - On December 9, 2004 the luncheon meeting featured Tim Page, from Workplace Safety Specialists. His presentation was "How to Conduct an Effective EHS Training." There will not be a Networking Mixer in December. Enjoy Your Holidays!

JANUARY - January's luncheon meeting will be held on the 13th. At the time of submittal a topic and speaker were not confirmed. Our Networking Mixer will be held on January 26 in Mesa (location suggestions appreciated).

FEBRUARY - In February EPAZ will partner with ACHMM and AZSERC to host the Gatekeeper Regulatory Roundup. This conference will be held on February 16-17, 2005 at Chaparral Suites in Scottsdale. Visit our website for more information. Our Networking Mixer will be held on February 23 at Rock Bottom in North Scottsdale.

KUWAIT

CONTINUED FROM PAGE 8

shelters we saw the smart bombs taking out on CNN. It was mid summer, and maybe a hundred and twenty degrees. In fact, we had to put down for a couple of hours in the middle of the day, because it was too hot for the helicopter to stay up. On top of that, the engine exhausts were right over the waist doors - which we had open - so we got treated to some really hot air every time we hovered at the wrong angle. It was like flying in a pizza oven. I was at the door most of the time so I could get a good view, with a lanyard tied around me just in case. We flew over the Burgan oil field, and it just didn't look like planet Earth. There were miles and miles of blackened ground, with rivers and lakes of oil - one of which still had an Iraqi tank stranded in the middle of it. It was just shocking. Late in the day, we flew up the coast from the Saudi border, banked left at the Kuwait towers, and lit out across Kuwait Bay low and fast. That was a day I won't forget.

DF: What motivated you to continue to go back to Kuwait even after increased terrorism concerns?

BD: I had a job to do, and that is what I focused on. After my first trip, I knew what I was getting into and that helps a lot. It was much harder for my family, especially when I left at particularly bad times. One of the worst was when I left on the 4th of July when a shooting occurred at the Los Angeles airport. There had been warnings for a week or two about possible terrorist attacks on that date, and then my wife heard about the LAX shooting shortly after she dropped me off at Sky Harbor.

DF: What is your professional goal for the outcome of your assignment in Kuwait?

BD: I knew going in that there were a lot of things I couldn't control, so my aim was to focus on what I could control: making sure I did everything I could do. Whatever the outcome, I never wanted to look back and think I wasn't the right guy for the job or that I coulda, shoulda tried harder.

The hearing on the last of Kuwait's environmental claims was held in September at the United Nations in Geneva, Switzerland. It was the third UN hearing Barton Day had been involved in. Although Kuwait has already been awarded hundreds of millions of dollars for remediation of environmental damage caused by Iraq, billions of dollars in environmental claims remain pending. It may be some time before all of the final compensation decisions are announced.

Barton Day is a partner in the Phoenix office of Bryan Cave LLP. he has over 20 years experience in environmental law, representing clients on a broad range of matters involving environmental policy, compliance, remediation, and enforcement, principally under the Hazardous Waste (RCRA) and Underground Injection Control (UIC) programs. Barton can be reached at 602-364-7403, or by email at bdday@bryancave.com.

Dianne Frydrych is Marketing Manager at Legend Technical Services of Arizona, in Phoenix, an environmental laboratory. She may be reached at 602-324-6121, or by email at dfrydrych@legend-group.com

PROSPECTING:

FOR ENVIRONMENTAL BUSINESS

**TO BID OR NOT TO BID?
IT'S A TOUGH QUESTION
SOMETIMES**

To my surprise, response to the first rendition of "Prospecting" was good enough to be asked back for more. Who'da thought! I appreciate all the input and keep the emails coming as it is inspiration for future columns and it is great to hear how sales and marketing programs effect your day to day lives. In this issue, we explore the bid-no bid decision and provide some insight into the importance of a good decision plan and some ideas on how to develop one.

On the surface, deciding whether to bid or propose on an opportunity is easy. Many times we say, "lets throw a bid together and see if we win." Bids and proposals are often prepared with little prior information about the true needs of the client or the real chances of success. This approach may be ok involving small bids for routine services or product delivery, but as the projects grow in size and complexity, the costs associated with preparing a bid or proposal can be tremendous and the importance of success more critical.

In a perfect world, **your proposal should be the justification for a decision already made by the client.** Detailed and accurate information about the opportunity gained through good relationships and market knowledge can be worth a great deal. The idea is to know enough to create a submittal that proves to the client you can deliver what was formally requested, and that you understand his/her underlying needs. You might be thinking, "that's all fine in a perfect world, but gaining that kind of intelligence is next to impossible for all opportunities that arise." Agreed, but it is a good goal for those responsible for sales and what a solid bid-no bid program should explore: "what information do we have about this opportunity that can assure success."

A thorough bid-no bid decision should be made by committee using tools reflecting the strategic direction of the firm. (I have an environmental bid-no bid flow chart available, contact me if you would like a copy.) With small bids, decisions may be made over a quick meeting between operations and sales to determine the chances of success. In the case of large opportunities requiring costly proposal efforts, formal procedures may be put in place involving operations, sales, management, finance and administrators. Some firms use a checklist that those involved complete prior to the bid-no bid meeting. The checklist acts as the agenda where the different points are evaluated to determine if the opportunity is winnable. One program I was involved with detailed very specific procedures that



Joe C. Holmes

Continued on page 23



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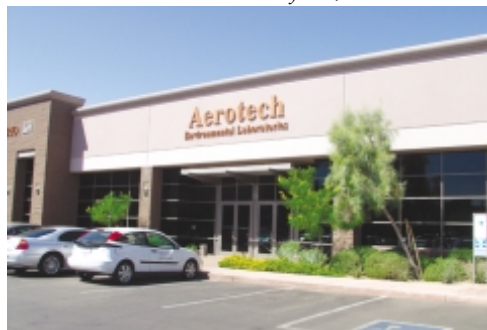
AEROTECH ENVIRONMENTAL LABORATORIES STATE-OF-THE-ART FACILITY

by Karen Walters

Aerotech Environmental recently invited the Journal to tour their new state-of-the-art laboratory facility in Phoenix. Here are a few photos of the new facility. Karen Walters, Account Executive, provides a description of the facility and some of the major innovations that went into the facility design.

July 2003 marked a milestone for Aerotech Environmental Laboratory, as the construction was completed and

Entry view, Aerotech Env. Labs.



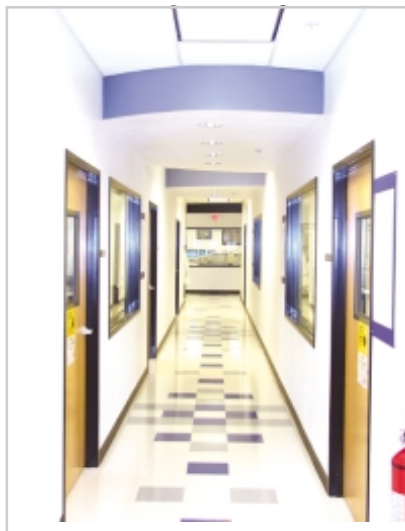
AEL moved to its new state-of-the-art laboratory facility. This laboratory supports environmental, industrial hygiene, and special testing

Laboratories were planned with lots of working space for chemists.

samples and projects. Since recently becoming the environmental laboratory affiliate of Severn Trent Laboratories, Inc., AEL has greatly expanded the scope of its services, added instrumentation, and personnel. The new building has more than twice the square footage than the previous building, and has helped AEL to continue to offer new services to its clients.

The 24,000 sq. ft. facility was constructed ground up and designed for efficient workflow, with flexibility built in for maximum utility and continued expansion of services. With over \$2 million worth of state-of-the-art analytical equipment to be showcased, management teamed their previous experience in laboratory design to create the new facility. Laboratory design considerations included:

- Location, location, location! The lab is just minutes away from the major freeway systems, 5 miles from the Sky Harbor Airport and close to downtown Phoenix and Tempe.
- Architecture and landscaping of the Cotton Center Business Park had to match the degree of professionalism and standards that AEL maintains for the company.
- The laboratory was designed to enhance the sample process, focusing on wide, open laboratory spaces, uncluttered areas for the instrumentation, plenty of space for chemists to move around.
- Separate and isolated laboratory areas for ultra-trace (ppt level) analyses for organics, with carefully designed ventilation controls and mechanical systems to maintain a contamination free environment.
- Floor-to-ceiling sealed demising walls were installed around three (3) of the specialty laboratories housed within the facility, and separate, isolated airconditioning systems were used for each laboratory, decreasing the odds of chemical cross-contamination amongst the laboratories.
- The lunchroom was placed in a location that had the best view to the outside garden area.
- Color was introduced in the tile, soffets, and walls in order to



Carefull attention was paid to color selections each internal laboratory. Each of the windows allows the outside observer to view the analysts' activities and participate in the analytical process.

The new laboratory facility has been designed with one goal in mind: to provide the highest level of customer service and technical support to clients. Please do not hesitate to call to schedule a tour by calling 602-437-3340.

improve the aesthetic appearance of the lab. Color was also used to draw the eye of the visitor to the large picture windows that open to the individual laboratories.

● Special considerations were given to the inward appearance of the lab, as can be illustrated by the many viewing windows constructed around each internal



Attractive stainless steel dividers mask the view of utility lines

Karen Walters is an Account Executive for Aerotech Environmental, Phoenix, Arizona. Aerotech Environmental provides environmental and industrial hygiene laboratory testing services. Karen can be reached at 602-437-3321, or by email at kwalters@aerotechlabs.com. Aerotech maintains a website at www.aerovirolabs.com.



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NEWS BRIEFS

CONTINUED FROM PAGE 10

SOUTHWESTERN ASSOCIATION OF METAL FINISHERS PRESENTS AESF SUPPLIER SHOWCASE

❖ The SWAMF presented their inaugural show of suppliers to the metal finishing industry in Arizona on October 21, 2004. Held at the Doubletree at 44th and Van Buren, Phoenix, Arizona, exhibitors and attendees from the metal finishing industry had an opportunity to meet, have dinner, and network. Raffle prizes given away after dinner added to the fun of the evening. For information on SWAMF, contact Ray Lucas at 800-354-0976, or email Ray at ray@valleychrome.com. (See photos from the event at right.)

BI-NATIONAL P2 SEMINAR IN TUCSON

❖ The "I Can Make a Difference Bi-National Pollution Prevention Seminar" was held November 3rd

at the Pima County Community College's

Downtown Campus in Tucson, Arizona. With the theme, *Learning to make a difference*, participants learned the basics of Pollution Prevention and how to implement specific measures into their businesses. Speakers from both sides of the Mexican/American border provided new ideas for Arizona industries and



Above: Suppliers and attendees meeting in the exhibit room. Below: John Benz, (center) President of ETC, Tucson, at the ETC booth with show attendee.



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Sonora maquiladoras. Attendees learned ways to motivate employees, reduce the volume of chemicals used, and heard about how one facility reduced waste, and participated in a panel discussion on EMS systems. In the afternoon, attendees were able to tour Tucson Electric Power to see pollution prevention in practice. For more information contact Edna Mendoza at 520-628-6710, or Dante Talavera at 631-311-0050 Ext 5350.

PHOTOS: ABOVE: some of the attendees at the "I Can Make a Difference Bi-National Pollution Prevention Seminar".

RIGHT: An afternoon tour of the Tucson Electric Power facility completed the day's events.



PROSPECTING

CONTINUED FROM PAGE 19

were to be carried out at all bid-no bid meetings. Strengths and weaknesses of our firm, as well as the competition were weighted, scored and painfully investigated to arrive at an "opportunity score" that would dictate whether we would pursue the opportunity. Other firms may hold a simple brain storming session to evaluate the opportunity and get "buy-in" on a more informal basis. In any case, it is important that an agreed upon plan is in place that helps your firm keep to it's strategic plan and pursue projects that can be won.

In the end, the goal is to increase the percentage of bids or proposals that are awarded to your firm and to minimize the costs associated with preparing them. A solid bid-no bid plan reflecting the direction of your company can go along way in making sure you are rewarded for your efforts.

Joe Holmes is a Technical Sales Manager with Romic Environmental Technologies Corp. Joe can be reached at 800-952-5760, and by email at joeh@romic.com.



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ALUMNI KICKOFF DINNER FOR ASU EAST ETM GRADS

Alumni and faculty of the Arizona State University East Environmental Technology Management program attended the Alumni Kickoff Dinner at the University Club on September 30, 2004. According to Dr. Nicholas Hild, ASU Professor, a working group was formed to set goals and objectives for the organization, and encourage everyone to get involved in making the group/association a viable network of professionals engaged in helping further the ETM program while providing members with opportunities to get involved as environmental professionals who are having an impact now on a global scale. Graduates are employed in environmental, health, and safety programs across a wide

spectrum of industrial and municipal activities.

The dinner was also a great "reunion" of many of the program graduates and faculty. All alumni of the program are encouraged to be involved. Both BS and MS graduates of the program are eligible for membership. For more information contact Dr. Nick Hild at 480-727-1309, or by email at DrNick@asu.edu. Or visit the website: etmonline.asu.edu.

PHOTO above, from left: 1st Row, front: Dr. Danny Peterson, Jim Thrush; 2nd Row: Steve Hunter, Graham Twaddell, Dr. Ernest Hirata, Ceresa Stewart, Shelly Jones, Anjila Lebsock, Kathy Knoop, Sheryl Gelbard, Dr. Nicholas Hild. 3rd Row: Hugh Larkin, II, Chris Rounseville, Jennifer Herbert, Mike Authement. 4th Row in back: Jim Shawver, Craig Chavet, Charles Spell, Kiril Hristovski, Tom Hillmer, Dan Blackson, David Grisa, Bruce Mundy, Jim Yurkovitch, Marty Minter. Missing from the photo: Dr. Larry Olson.



LFR Levine Fricke (LFR) recognizes that EH&S issues have a direct impact on the efficiency and profitability of a company. Achieving and maintaining regulatory compliance can be complicated and time consuming. Lack of compliance can result in fines, employee injury, and increased Workers' Compensation costs.

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LFR is a national environmental management and consulting engineering firm.



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MTS INSTALLS BONDTECH AUTOCLAVE

Edward Petrullo, General Manager & Director, MTS Medical Waste Management, a division of Milum Textile Services, is shown above with the facility's newly installed vacuum assisted autoclave. According to MTS, the EPA's 1997 emission standards for regulated medical waste (RMW) have resulted in closure of about 80% of the nation's RMW incinerators. Clean, safer, environmentally friendly treatment alternatives have replaced incinerators in Arizona. MTS Medical Waste Management has the only ADEQ approved treatment facility for RMW in Maricopa County. The commercial facility began processing on December 1, 2004, utilizing state-of-the-art Bondtech vacuum assisted autoclaves. Ed Petrullo can be reached at 602-253-5173, or by email at healthcare@MilumTextileServices.com.

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National CHMM Overview Course

(Tuesday – Thursday, April 12 – 14, 2005)

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Why CHMM Certification? Environmental programs are vital to public health and safety. The management of hazardous materials requires proven and unquestionable skill and competence. Quality control over professionals involved in programs of national importance and public safety is best accomplished through certification.

This 3-day course offers an intensive review of environmental laws, regulations and health and safety principles for Hazardous Materials Managers in preparation for CHMM certification. Many EH&S professionals take the **CHMM Overview Course** to satisfy training requirements, enhance competence, and obtain information regarding rules and regulations. Course instructors typically include practicing EH&S professionals who have been selected from business, industry, academia, and government agencies.

National CHMM Overview Course Topics include:

- Chemical and Physical Properties of Hazardous Materials
- Sampling and Laboratory Analysis of Hazardous Materials
- Environmental Assessments
- Waste Minimization and Pollution Prevention
- Environmental Laws and Regulations
- Resource Recovery and Conservation Act (RCRA)
- RCRA Corrective Action and Treatment Technology Selection Guidelines
- Underground Storage Tank (UST) Management
- National Environmental Policy Act (NEPA)
- Hazardous Materials/Hazardous Waste Transportation
- Toxic Substances Control Act (TSCA)
- Clean Water Act (CWA)
- Safe Drinking Water Act (SDWA)
- Clean Air Act (CAA)
- Groundwater Contamination and Hydrology
- Storm Water Discharge Regulations and Oil Pollution Prevention Act
- Toxicological Principles
- Industrial Hygiene
- OSHA Requirements for Hazardous Materials Managers
- Radiation Principles and Mixed Waste Management
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- HAZWOPER and Emergency Response
- Emergency Planning and Community Right-to-Know Act (EPCRA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)
- Management Systems and Tools

Registration for the **CHMM Overview Course** is separate from the IHMM exam application process.

The registration deadline for the **Overview Course** only is **April 1, 2005**.

For details: www.thunderbirdchmm.org or call Dwight Clark (602) 243-1600

Email: dclark@ninyoandmoore.com



CHMM Certification Exam

(Friday, April 15, 2005)

The **CHMM EXAM** application must be received by IHMM at least six (6) weeks before the date of the examination. The application deadline for this exam is **February 25, 2005**. For details: www.ihmm.org or call IHMM at (301) 984-8969 to obtain an exam application and for additional information.

The Application Fee (\$90) and the Exam Fee (\$150) are payable to IHMM and are separate from the Overview Course fee.

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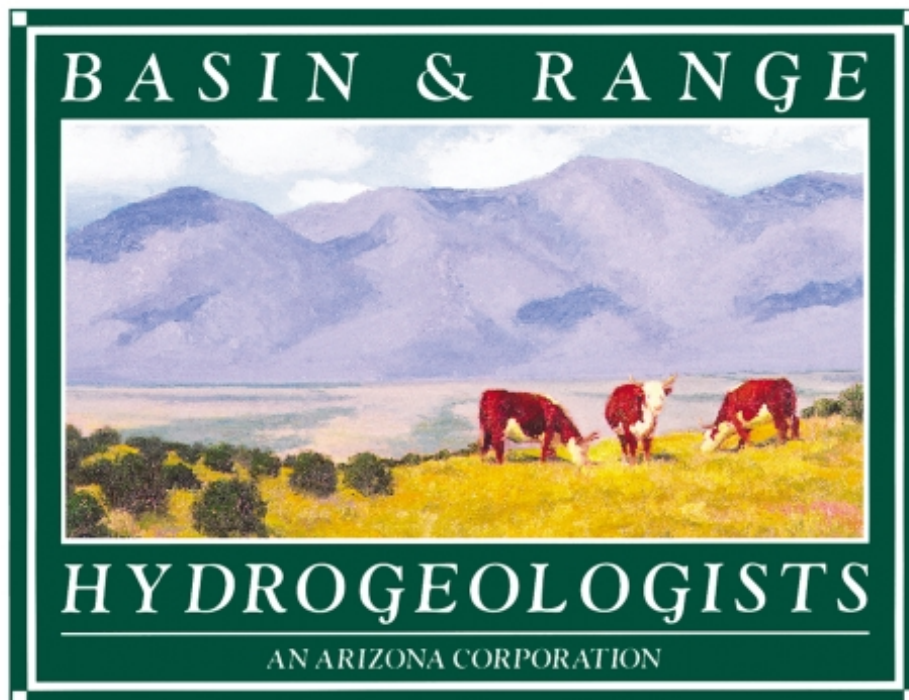
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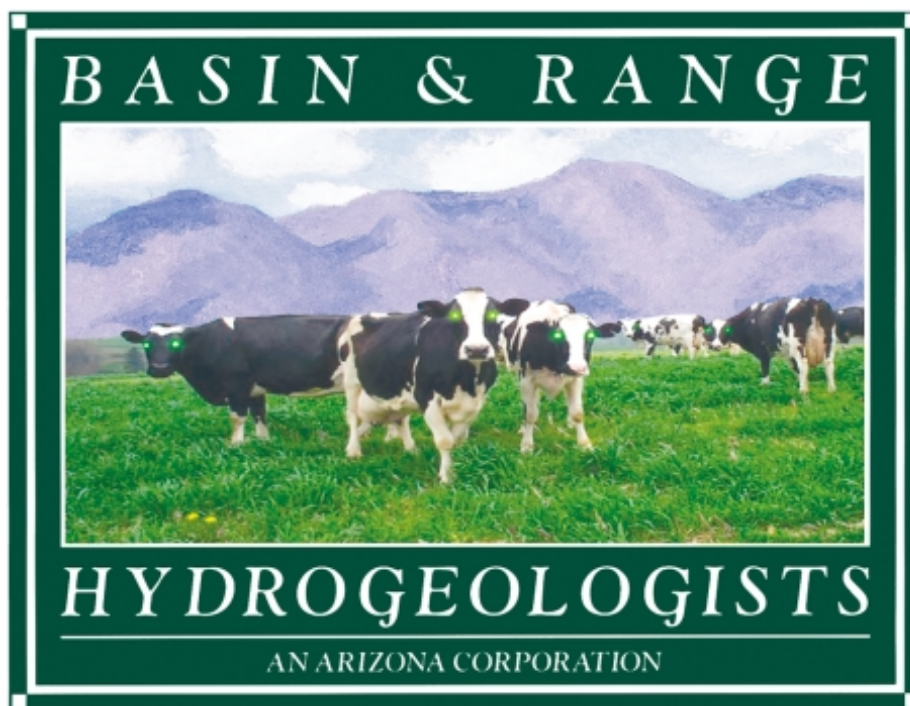
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