

# JOURNAL OF Environmental Management ARIZONA

PRACTICAL AND CURRENT INFORMATION FOR ENVIRONMENTAL, HEALTH AND SAFETY PROFESSIONALS

## FUEL SPILL CLEANUP: APACHE SITGREAVES NATIONAL FOREST

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## ARSENIC

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**DR. NICK HILD:  
MR. PRESIDENT,  
TEAR DOWN  
THOSE MALLS!**  
*READ: SUSTAINABLE  
DEVELOPMENT PG 11*

October / November 2004 Vol 2 No. 5

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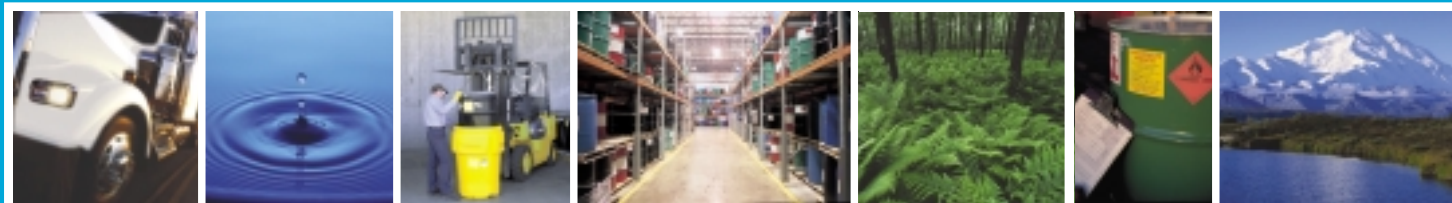
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**COVER PHOTO:** SHOWS FUEL TANKER THAT SPILLED 2000 GALLONS OF FUEL IN THE APACHE-SITGREAVES NATIONAL FOREST. SEE PG 6.

# FROM THE EDITOR



The Journal welcomes two new advertisers in this issue, Levine-Fricke (LFR) of Scottsdale, Arizona, and the Dulin Metals Company, based in Illinois. LFR offers environmental consulting services and Dulin Metals deals with nonferrous scrap materials. Please feel free to call them and welcome them to the Journal!

You might notice this issue is a bit heavier than the Journal has been recently. Continuously improving ad sales have allowed us to add 4 more colored pages. This fortunately gives us more room for more local news, articles & photos.

Also in this issue, Joe Holmes, of Romic Environmental Technologies Corp., launches his new column, "Prospecting: For Environmental Business" (see page 21). Joe will be exploring the business aspects of marketing environmental products and services. This is a column I think will be very interesting and beneficial to our readers that market to Arizona and to our readers that purchase these products and services. Please give Joe some feedback and feel free to suggest topics and column ideas.

Articles - remember we are always looking for good articles to publish, so please give me a call if you have a topic for an article you would like to publish. As always, thank you to our article authors, contributors, advertisers, and readers!

Jim Thrush, M.S.  
Editor

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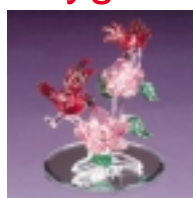
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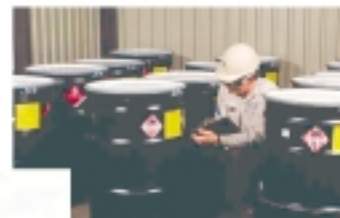
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## **FUEL SPILL CLEAN-UP IN THE APACHE-SITGREAVES NATIONAL FOREST**

Compiled by JEMA Staff

On May 21st, a private fuel carrier contracted by the United States Forest Service (USFS) to support heavy equipment and light vehicles with fuel while fighting the KP Wilderness forest fire in the Apache-Sitgreaves National Forest, rolled down a steep embankment and spilled 2000 gallons of fuel into a storm drain culvert, endangering area groundwater.

The carrier was heading south near the Strayhorse Campground. The area is located directly off US Highway 191, approximately 5 miles south of Blue Vista Lookout Point. The road is a very steep and winding scenic route with 10% downgrades. As the fuel truck was descending the steep hill the driver experienced braking problems, and the truck rolled over a steep embankment, ripping the fuel tank vessel off the truck chassis. The driver sustained broken ribs and a broken left leg.

MP Environmental Services, Inc., (MP), was called in to respond to the incident. According to Mark Fisk, MP Technical Service Manager, MP sent in a Project Manager to assess the accident scene, followed by a Haz-Mat Emergency Response Team and fully equipped Emergency Response (ER) trailer and necessary heavy equipment. The Project Manager drove through active fire areas to reach the scene of the accident, and the MP equipment was staged at Hannigan Meadow Lodge while the scene was assessed by the USFS, MP, and the Department of Public Safety (DPS). MP was advised that the tanker was leaking fuel but the majority was still inside the vessel. This would require MP to establish a grounding field, and drill access holes into the loaded tanker in order to empty it with a vacuum truck.

Fire and darkness prevented an immediate start that

*PHOTO: The area of contamination as excavation begins.*  
PHOTO COURTESY OF MP ENV. SERVICES.





*ABOVE: The damaged tanker truck at the base of the embankment.*  
PHOTO COURTESY OF MP ENV. SERVICES.

night, but MP crews were on scene at first light the following day. The tanker was not full as expected but had actually lost 1400 gallons of diesel fuel and 600 gallons of unleaded gasoline. The fuels flowed through a storm drain culvert into the natural drainage area feeding Strayhorse Campground. Excavation of the contaminated soils began immediately.

After a few days of excavation, MP encountered surface waters from natural springs mixed with the fuels. The incident became a major excavation, said Mark Fisk. MP was instructed by USFS, ADEQ, and the ADOT on the level of cleanup required. MP needed to meet the SRL (soil remediation levels) for TPH (total petroleum hydrocarbons) in residential soil and with the natural springs this was a difficult task. After excavating and stockpiling the impacted soils, MP's involvement in the remediation project was halted due to the announcement by the responsible party's insurance company that the available funds were reaching the maximum liability amounts.

Further information on the remediation of the site was provided to the Journal by Tom Subirge, Watershed, Soils, and Riparian Specialist at the Apache-Sitgreaves National Forest. According to Mr. Subirge, a total of approximately 20,000 cubic yards of material was excavated. The resulting hole was about 70 feet deep, 600 feet wide and 200 feet of highway had been removed. Tests were performed to determine if necessary standards had been met. A complicating factor made removal of contaminated soils much more critical; the spill occurred on the upstream side of the road fill in a dry ephemeral drainage, and a Forest Service drinking water well (Strayhorse) was located

*Continued on page 20*

*BELOW: A view showing the area and excavation activity.*  
PHOTO COURTESY OF MP ENV. SERVICES.



## ARSENIC: FORCED DEMAND FOR TREATMENT PRODUCTS



How to Avoid the  
“Arsenic Abyss”  
An Interview With  
Doug C. Nelson, Ph.D.

by Dianne Frydrych

*Doug C. Nelson, Ph.D.*

*Doug C. Nelson, Ph.D., is a water, environmental and natural resource attorney and resource economist. Dianne Frydrych had an opportunity recently to interview Doug regarding some of the impact the new arsenic standard will have on Arizona.*

DIANNE FRYDRYCH: *Would you please discuss the anticipated financial impact of*

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*the new arsenic standard.*

DOUG NELSON: Water “rate shock” will likely occur when customers are required to pay for arsenic treatment. Private water companies are caught in the middle. They must incur the costly arsenic treatment and attempt to recover those expenditures from their customers.

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DF: *What can rural water systems do to control their costs for arsenic treatment?*

DN: Rural water systems are generally small, meaning they have 10,000 or fewer customers. Spreading the high cost of arsenic treatment across a small customer-base means a disproportionate high water rate increase, relative to large municipal providers. With the drought and water conservation measures, less water is sold and that means higher arsenic costs per water unit.

DF: *Which Treatment option is the most cost effective?*

DN: I refer to this “arsenic abyss” as the three “C” – choice, cost and compliance. Technology is changing daily for arsenic treatment. So it is hard to say which approach is, or will be, the least-costly and most effective. The cost of treating arsenic is enormously expensive. At least 287 small water systems will be required to treat, and 174 of those serve under 500 customers. The new arsenic level creates a forced demand for treatment products, and each individual water system is at the mercy of the treatment industry.

DF: *Are there any treatment options available that will achieve the 10ppb limit?*

DN: There are some treatment systems available that can achieve the compliance level of 10 ppb.

DF: *When is the new arsenic limit effective?*

DN: Since the 1950’s the arsenic level has been set at 50 part per billion (ppb). It drops to 10 ppb on January 23, 2006.

DF: *What is ARC and why was it formed?*

DN: Through the sponsorship of the Water Utilities Association of Arizona, we formed the Arsenic Remediation Coalition LLC or “ARC.” ARC is pursuing bulk purchasing of “standardized” and approved arsenic treatment through a competitive bid process. A generic rate case approval process before the Arizona



Corporation Commission is also being explored. More time and federal appropriations are needed to meet the federal arsenic mandate. Arsenic treatment costs have a pronounced effect on the survivability of rural water systems, particularly private water companies.

DF: *What are the criteria for becoming a member of ARC?*

DN: Any water system confronted with arsenic may become a member of ARC. It is a noncommercial, limited liability company



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Julie C. Rogers, P.C.

designed to assist in selecting the appropriate arsenic treatment. Operators of large water systems are mentoring smaller water systems in tackling this arsenic problem through ARC.

Doug C. Nelson, Ph.D. is a water, environmental and natural resource attorney and resource economist. Besides serving as manager of ARC, he is Executive Vice-President of the Arizona Rural Water Association and chairs the Arizona Water Quality Appeals Board. Doug Nelson can be reached at 602-395-1612 and by email at [DougCNelson@cox.net](mailto:DougCNelson@cox.net).

Dianne Frydrych is Marketing Manager at Legend Technical Services in Phoenix, and environmental laboratory. She may be reached at 602-324-6101, or by email at [dfrydrych@legend-group.com](mailto:dfrydrych@legend-group.com).



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## HILD: TEAR DOWN THOSE MALLS!

CONTINUED FROM PAGE 11

The types of 'sustainable' technologies that should be considered include:

- making the new buildings completely self-sufficient by utilizing off-grid technologies with rooftops made from PV Solar power generating panels (except for high-wattage demand cryogenics and/or critical bio-refrigeration within individual research areas);
- designing buildings to be LEED and/or on-grid power to be *Green-e* Certified;
- buildings constructed with rammed earth and used tires (proven and successfully operating now in the Arizona National Guard building);
- flooring should be left in natural concrete or 'green' coverings like natural linoleum and drywall plastering in natural clays;
- requiring furnishings and materials used inside buildings to be certified green, wherever possible;
- separate retail "pods" built with recycled construction materials and rammed earth using PV-power & low lighting requirements;
- bathroom wastewater systems that don't use water;
- gray-water systems for desert landscaped parking medians;
- utilizing passive solar collectors for hot water systems w/tankless water heaters at point-of-use in bathrooms;
- covered parking lot spaces and bus stop shades made of solar panel roofs;
- roof-mounted wind collectors feeding the PV grid;
- interior air movement systems that operate on temperature-sensitive micro switches to move hot air or cold air where its needed (ala ADEQ's Green Offices).

And, while I am on the subject, the new downtown campus (including the joint medical school campus) and the old (existing) ASU Research Park in Tempe could also benefit from this same forward-thinking by infusing sustainable technologies into their design and operation. Design the downtown campus buildings to be inter-connected with monorail shuttles with pedestrian and bicycle access systems. Integrate sustainable landscaping research schemes that are appropriate for arid climate plant and water management. Ensure that off-site parking is covered with PV solar thereby reducing heat-gain while generating power. And, integrate roof top research "gardens" sharing passive solar hot water systems for the buildings.

Think about it: Academic research conducted on and in academic research facilities while sustainable technologies are simultaneously being employed to facilitate 'green' academic research! What an *entrepreneurial* concept for the New American University to lead the way.

*Mr. President*, I urge you: *tear down those malls!* Engage the experts now in designing new ASU facilities which will provide the ingredients for the best quality of life for our children's, children's, children.





## SUSTAINABILITY AND SUSTAINABLE DEVELOPMENT: “MR. PRESIDENT, TEAR DOWN THOSE MALLS!”

Nicholas R. Hild, PhD.

**D**ear President Crow:

My reason for writing to you is the recent announcements that former mall sites in Tempe and Scottsdale will become new ASU research facilities. Mr. President, those new sites provide a great opportunity to plan, design, and build living and evolving laboratories for *sustainable* technologies.

Your visions have been embraced by political leaders around the state and by big city politicians throughout Arizona and you promised the new faculty in August that ASU was on its way to becoming “one of America’s next great Universities of the 21<sup>st</sup> century.” You said it would be “a high-impact, social-transformation, change-the-world kind of university,” What I am talking about, then, would be a great first step toward getting there by turning those visions into actions.

Mr. President, its time to walk the talk and bring together faculty and community leaders who have the expertise in sustainable development in the earliest planning stages *with* your development contractor(s) and let the *sustainability* planning begin!

Even the *deconstruction* of buildings on those mall sites should include reusing what can be utilized in the new (ASU) structures. But you need to engage all the experts and planners ASAP, *before* the site preparation bids go out or it will be too late and the specs will be “low bidder wins” as usual and landfills will fill up with all that mall debris.

What is really needed is a “*Green Dream Team*” made up of ASU faculty and facilities management experts throughout the “*geographically distributed*” programs on all the ASU campuses. That expertise is essential in helping the private real estate development firms in the critical plans-design stage, before the usual (low) bid packages are drawn up.

And, Mr. President, you can count on faculty expertise in Sustainability and Sustainable Development from such programs as East’s Environmental Technology Management program, Tempe’s Construction Management program, and in the College of Architecture’s Environmental Design programs. I’m sure they are anxious to assume an advisory role in the planning and design phase of the new (mall replacement) projects; all you need to do is ask.

The multiplicity of functions which need to be accommodated in the new research facilities begs for innovation; it’s what the “New American University” you’ve talked about must become if it truly serves the public that pays for it. “*Sustainability*” should be the blueprint for ASU’s future!

Mr. President, you need to think beyond the normal commitment to build “green” by LEED certification on just a building or two. Those entire sites need to be incubators for sustainability technologies *in operation*. For example, mixed retail shops at those sites should use only off-grid solar power (except for refrigeration systems), and the types of retail businesses sought should be low impact like organic foods/grocery stores and barber shops, bookstores, and gift shops that cater to the surrounding neighborhoods with low (environmental) impact operations. Maybe even an alternative fuels refilling *research* facility would be appropriate; what a concept!

*Continued on facing page*

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*

FOR INFORMATION ON AAI GO TO  
AAI'S WEB PAGE AT  
[HTTP://WWW.AZIND.ORG](http://www.azind.org)

## AAI

AAI's next EHS Committee breakfast meeting will be held on October 13th at the Radisson Hotel on 3333 East University (33rd Street & I-10). This is a new location. This meeting will include

presentations from Motorola and the Maricopa County Department of Environmental Services. Breakfast is served at 7:00 AM. Breakfast meetings are also planned for November 10th and December 8th.

AAI's second annual Energy Summit will be held on Tuesday November 16th. This year's conference will address a number of important energy issues including generation, transmission, capacity, and distribution. Please mark your calendars and plan to attend. Please contact AAI offices at 602-252-9415 for more information.

*Jeff Homer,  
EHS Committee  
Chairman*



## ACHMM THUNDERBIRD



OCTOBER 6, 2004  
MONTHLY MEETING: BARTON DAY  
(BRYAN CAVE) WILL BE RELATING  
HIS EXPERIENCES DEALING WITH  
POST-GULF WAR ENVIRONMENTAL  
ISSUES IN KUWAIT

NOVEMBER 3, 2004  
MONTHLY MEETING: TOPIC TBD

DECEMBER 1, 2004  
ACHMM HOLIDAY MIXER  
8:00 PM TO ? TGI FRIDAYS AT THE  
BOB, 401 E. JEFFERSON, PHX.  
RSVP REQUIRED.

DECEMBER 8, 2004  
COMBINED SAEMS/ACHMM LUNCH  
MEETING, 11:30 - 1:00:  
TOPIC: INDUSTRIAL HYGIENE,

LOCATION: MANNING HOUSE, 450  
W. PASEO REDONDO, TUCSON, AZ  
(DIRECTIONS AVAILABLE ON THE  
THUNDERBIRD WEBSITE)  
\$20 W/RSVP, \$25 WITHOUT.

We want to congratulate Monica Rabb, City of Phoenix Environmental Services. Monica attended the Overview Course and CHMM exam at the National Conference and is our newest Arizona CHMM!

*Chuck Paulausky,  
Chapter Secretary*



The Thunderbird Chapter is very busy with several networking projects. We have teamed with EPAZ and AZSERC to coordinate the **Gatekeeper Regulatory Round-up**. GRR is a combination of the annual Gatekeeper Workshop and EPAZ's Regulatory Round-up, and will offer the best of both events. We are looking for corporate sponsors and have sent out a call for papers. GRR is scheduled for February 16-17, 2005, so mark your calendars- You won't want to miss it! You will be able to get more information at the Thunderbird Chapter, EPAZ, and AZSERC websites.

We are also working with a number of organizations, including NSC, ASSE, AIHA, AGSA, ASEA, OSHA, and SCF of Arizona to coordinate a bigger and better **Southwest Safety Congress**, scheduled for next spring. With the amount of effort and organization being put into this project, it promises to be another great event! Watch the NSC and Thunderbird Chapter websites for more details.

We are combining forces with SAEMS, to put on a special monthly meeting in Tucson on December 8th. We hope to develop an active relationship with SAEMS and offer our Southern Arizona members better access. We encourage anyone in the area to attend this one. Please RSVP to Monette Greer at 884-3695 or [monette75@ziplip.com](mailto:monette75@ziplip.com).

Upcoming events: Regular monthly meetings are held at 6:00 PM, Old Spaghetti Factory, 1418 N. Central Ave., Phoenix. Please note the location for the SPECIAL December meeting! Details: [www.thunderbirdchmm.org](http://www.thunderbirdchmm.org)





*Barry Westerhausen,  
Sergeant at Arms*

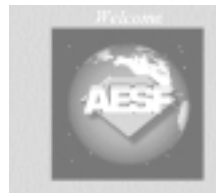
The AESF (American Electroplaters and Surface Finishers Society, Inc.) would like to welcome all who are interested in metal plating, metal finishing, surface cleaning, metal coating or

those interested in environmental issues that affect industry to meet with us the second Thursday of each month, please call to verify as dates and locations for the 2004-2005 meetings will vary.

We are planning site tours at LA Chemical and Chemresearch. Arizona will be hosting the Golden West Regional event this spring; this great event brings suppliers and customers together and is a forum for presentation of technical papers. 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.

If you would like to be notified of upcoming AESF events and receive our news letter or have your business/business card listed on the news letter please call or send an e-mail to Barry Westerhausen at bwesterhausen@lachim.com (480) 206-4107 or Mark Thede at markthede1@cox.net (480) 695-4344.

## AESF



**2004-2005 ARIZONA AESF  
SPEAKER AND EVENTS LINE UP:**

**SEPTEMBER 16TH –  
KICK OFF OF 2004-2005**

**OCTOBER –  
JOINT SWAMF AND AESF AT  
DOUBLETREE**

**NOVEMBER –  
LA CHEMICAL ON-SITE MEETING**

**DECEMBER –  
HOLIDAY PARTY WITH NDT**

**JANUARY – CHEMRESEARCH ON-  
SITE MEETING**

**FEBRUARY - TBD**



*Frank Bonillas,  
President*

We are now well into the fall. But where is the fall weather? This time of year brings some exciting events for SAEMS. Lower temperatures means putting on

sunscreen and long sleeve shirts to volunteer at several organized community clean-up projects. This year four Adopt-a-Highway cleanups, two River/Park/Trail cleanups, and a Wildcat Dump cleanup are being organized. Please visit our newly developed calendar of events on the website for current dates.

The 2004 Bi-National Pollution Prevention (P2) Seminar is also just around the corner being held this year November 3, 2004. SAEMS and ADEQ are joining forces once again to bring you our 4<sup>th</sup> P2 Seminar. Topics to be covered include the basic principles of P2 and waste minimization, how to motivate your employees to participate in P2 programs, and using P2 in purchasing decisions and as a tool in inventory control. Tours of Tucson facilities plus a tour of a maquiladora facility will be offered. Visit our website for further P2 Seminar updates.

## SAEMS



**WWW.SAEMS.ORG**

**LUNCHEON MEETINGS HELD ON  
THE LAST WED. OF THE MONTH  
STARTING AT 11:30 A.M.  
AT THE MANNING HOUSE  
450 W. PASEO REDONDO (N. OF  
CONGRESS ON GRANADA) TUC., AZ**

**OCT.: PAUL BLOWERS, UA PROF. OF  
CHEMICAL & ENV. ENGINEERING;  
THE SEARCH FOR ECONOMICAL  
INDUSTRIAL WATER**

**NOV.: NO MEETING - THANKSGIVING  
DEC.: CO-HOST WITH ACHMM  
THUNDERBIRD CHAPTER**



*Paul Plato, R.G.,  
President*

AHS just completed a successful symposium in Tucson. It was great to spend time with old friends and new ideas.

We invite you to check out our fall meeting schedule. The

Flagstaff Chapter will begin its fall season with October talks by the Jeff Keaton and Allen Shapiro. Mr. Keaton is the 2004 Jahns Distinguished Lecturer in Engineering Geology of the GSA and the

*Continued next page*

## ARIZONA HYDROLOGICAL SOCIETY



**PLEASE VISIT THE AHS WEB SITE:  
[HTTP://WWW.AZHYDROSOC.ORG/  
SYMPOSIUM.HTML](http://www.azhydrosoc.org/symposium.html)**

AEG, and Dr. Shapiro, will be presenting the 2004 Distinguished Darcy Lecture of the NGWA. Dr. Shapiro will also be the featured speaker at the October dinner meeting of the Tucson Chapter.

Our friends in Phoenix will host Joost deJong of the Institute for Inland Water Management and Waste Water Treatment, the Netherlands. November meetings will feature, among others, Kerry Schwartz of the University of Arizona discussing outreach efforts between the hydro community and science teachers. Please visit our website at [www.AzHydroSoc.org](http://www.AzHydroSoc.org) to see what is happening in your part of the state.

## US GREEN BUILDING COUNCIL ARIZONA CHAPTER



The USGBC educational programs presented at the Green Building Expo held at Phoenix City Hall in October were a huge success! We presented two introductory programs on Green Building and LEED, as well as advanced programs like "The Cost and Financial Benefits of Green Building", "LEED for Existing Buildings" and "LEED for Commercial Interiors".

*Charlie Popeck,  
Vice President*



Now that the weather is cooling down, Green Building is really heating up! GreenBuild, the USGBC's annual conference will be held in Portland, Oregon November 8<sup>th</sup> through 12<sup>th</sup>. If you're interested, please go to the website at [www.usgbc.org](http://www.usgbc.org) to register.

The International Facility Management Association (IFMA) and the USGBC will be sponsoring a seminar about the environmental management of buildings on December 9<sup>th</sup> at the ASU Downtown Center. The seminar, "LEED for Existing Buildings" will focus on the management of high-performance buildings and how to upgrade your facility to LEED-EB standards. Patrick Okamura, the President of IFMA and Facility Manager of the General Dynamics facility in Scottsdale will present a detailed case study about how his company implemented LEED-EB at their Scottsdale facility. Please call 480-807-0062 or email me at [Charlie@egreenideas.com](mailto:Charlie@egreenideas.com) for details on registration.

## VALLEY FORWARD



VALLEY FORWARD PRESENTS  
TOP ENVIRONMENTAL AWARD  
TO FARMER STUDIOS

[WWW.VALLEYFORWARD.ORG](http://WWW.VALLEYFORWARD.ORG)

It's not a well-known project. It's not high budget. And it won't draw large volumes of people to its doorstep. But judges in Valley Forward's 24<sup>th</sup> Annual Environmental Excellence Awards program felt Farmer Studios, a mixed-use office complex in downtown Tempe, is significant nonetheless and presented it top honors – the President's Award – in Arizona's oldest and most prestigious environmental competition.

*Diane Brossart,  
President*



Architekton, the Tempe-based architectural firm that designed the urban infill project to house its own offices, accepted the President's Award for their submission, deemed by judges "a superb example of quality development that fosters livability, flexibility and an environmental spirit worth emulating."

The award was announced Sept. 17 at Valley Forward's EEA banquet, held in partnership with SRP for the third consecutive year. More than 600 community leaders from throughout the state attended the event at the Hyatt Regency Scottsdale at Gainey Ranch.

Valley Forward, now celebrating its 35<sup>th</sup> anniversary, and SRP recognized 34 projects submitted by Valley businesses, government agencies and non-profit organizations for their significant contributions to the environment.

*Continued on page 17*





Larry Olson, PhD.

IT'S ALL ABOUT CHEMISTRY

## PARTICULATES AND YOUR HEALTH

In the last issue we discussed the sources, size range, and regulatory status of particulate matter (PM). Only recently have the effects of particulates on human health begun to receive the same attention as other air pollutants, but both toxicological and epidemiological studies have now demonstrated significant harm from exposure to even low concentrations. High-risk individuals include the elderly, children, and those with respiratory or cardiovascular problems. Among other effects, inhalation of particulates has been linked to pulmonary hypertension and injury, cardiovascular impairment, chronic obstructive pulmonary disease (COPD), and increased risk of death.

What happens when particulate matter is inhaled depends upon its size. Deposition increases with size for particles larger than  $1\text{ }\mu\text{m}$ , because gravitational sedimentation is the predominant mechanism. For particles smaller than  $1\text{ }\mu\text{m}$ , sedimentation is not as important, but rather bombardment by air molecules causing collisions with the surfaces of the respiratory tract. Hence, deposition actually increases with decreasing size. Thus, both large particles ( $\text{PM} > 10\text{ }\mu\text{m}$ ) and ultrafines are deposited in the extrathoracic (or upper respiratory) region. The highest deposition in the tracheobronchial region occurs for particulate matter from  $5 - 10\text{ }\mu\text{m}$ . Deposition in the deepest reaches of the lungs, the alveolar region, is greatest for the  $2.5 - 5\text{ }\mu\text{m}$  fraction, where it can take months or years to clear. Particles in the  $0.2 - 1.0\text{ }\mu\text{m}$  range have the lowest respiratory tract deposition rate (as low as 10-20%).

Airway structure and function, and therefore deposition rates, can vary with age and health. One study has shown a 73% deposition rate for a 7 month old breathing  $2\text{ }\mu\text{m}$  particles vs 38% for an adult. Airway obstructions, occurring for example in individuals with cystic fibrosis, increase deposition rates.

What effects are caused by deposited particulate matter? Particles such as coal dust, silica, or asbestos have inherent toxicity but there may also be adsorbed metals, organics, or sulfates on the surface that are brought into the lungs with the deposited PM. Diesel particulate matter (DPM) is a particularly complicated mix of soot, hydrocarbons, and sulfur compounds that is poorly characterized. It is not yet known whether PM from other combustion sources has effects similar to DPM.

It is difficult to conduct dose-response studies because it is impossible to exactly reproduce the exact chemical nature of particulate matter found in ambient air. Animals may also have different inhalation mechanisms than humans which limits their effectiveness as models. Most animal studies have involved significantly higher concentrations of PM than found in ambient air. Nevertheless, both epidemiological and laboratory animal studies have linked inhalation of particulate matter to both cardiac related deaths as well as respiratory related deaths. The mechanism by which particulates exert their toxic effects is not well understood.

It's not surprising, therefore, that the regulatory status of controlling particulate matter is evolving. The latest  $\text{PM}_{2.5}$  standard is a direct result of recent studies documenting health effects of exposure to fine particulates, including pre-mature mortality.

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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](mailto:Larry.Olson@asu.edu)

# ARIZONA'S TOP 15 SAFETY CITATIONS

by Sean Kriloff

Safety and Health personnel should be involved in conducting regular inspections of the worksite, plant or the processes performed at your facility with one goal in mind: minimizing the hazards and risks your employees are reasonably anticipated to face. These walk-around inspections should be focused and conducted while no other distractions are present. Admittedly, "no distractions" might not be reality, but your safety and health personnel should be conducting these inspections with safety as the primary goal in mind.

You may have already developed a specific time in which you conduct your regular inspections. For example, you may want to conduct the inspections at the same time each day on the same day of the month e.g., first Monday of each month. Develop a checklist that can be used. This checklist should be detailed enough to include the hazards experienced by your employees. You might also consider using the information gathered for your OSHA 300 log recording responsibilities. Study the cases before you to better determine if the installation of engineering or administrative controls might be better suited instead of issuing and requiring personal protective equipment. You also might want to form a safety and health committee to assist in developing safer procedures for your plant.

## **The top fifteen (15) citations categories issued by the Arizona Division of Occupational Safety and Health (ADOSH) between October 2002 and September 2003:**

- Hazard Communication (1910.1200)
- Electrical, Wiring Methods, Components, and Equipment (1910.305)
- Respiratory Protection (1910.134)
- Personal Protective Equipment, General Requirements (1910.132)
- Powered Industrial Trucks (1910.178)
- Electrical Systems Design, General Requirements (1910.303)
- Scaffolding (1926.451)
- Bloodborne Pathogens (1910.1030)
- Machines, General Requirements (1910.212)
- Portable Fire Extinguishers (1910.157)
- General Duty Clause (ARS 23-403)
- Guarding Floor and Wall Openings and Holes (1910.23)
- Fall Protection Scope/Applications/Definitions (1926.051)
- Overhead and Gantry Cranes (1910.179)
- Spray Finishing with Flammable/Combustible Materials (1910.107)
- Medical Services and First Aid (1910.151)

*ADOSH offers a consultation service that can assist employers in complying with our standards. The consultation sections can be reached at 602-542-1769 in Phoenix, or 520-628-5472 in Tucson.*

Sean Kriloff is an Industrial Hygienist for ADOSH. Sean can be reached at 602-542-1664, or by email at [kriloff.sean@dol.gov](mailto:kriloff.sean@dol.gov).

Take note of these citations. The majority of the classifications of the chemicals cover a very wide selection of companies. Do your employees use chemicals? Are they adequately trained? Do you maintain material safety data sheets?

These types of questions can be formulated based on these fifteen (15) different classes of citations. Evaluate your formal training programs to ensure they adequately address the hazards your employees face. Plan today to improve your safety and health focus.



## ASSOCIATION PAGES CONTINUED FROM PAGE 15

Maricopa County won the first-place Crescordia award for Environmental Stewardship (SRP Award) in recognition of William P. Kicksey, who passed away in June of this year. For 15 years, Kicksey served as Maricopa County Manager of Community Services and enjoyed a career notable for many achievements, but marked throughout by a profound personal commitment to environmental stewardship.

The county was also recognized in opening remarks for the program, when Valley Forward announced that it would create a new awards category in 2005 for trails and open space. A historic focus of the organization, the category was also inspired by Maricopa County's leadership in developing a regional trails system for the Valley.



*Eddie Martinez,  
President*

September's meeting featured Doug Kobrick who is an Associate and Senior Project Manager with Camp Dresser & McKee (CDM) in its Phoenix office. He has over 20 years of experience on programs to help businesses, industry, and government use water more efficiently. Doug worked as a consultant to the City of Phoenix for nearly 15 years in developing and carrying out the pioneering Industry-Business-Government Water Conservation Program, which served as a model for other water utilities throughout the U.S. His presentation included tips on conducting a water audit at your facility. **October's 14, 2004** meeting will feature Phil McNeely, ADEQ "UST Update" (NEW Location - Prime Hotel, 44th Street & Van Buren). **November's 11, 2004** meeting will feature Joe Homes from Romic Env. Technologies Corp. Joe will present on hazardous waste. **October 28, 2004** Monthly Mixer Wet Willy's Baja Cantina, 16041 N. Arrowhead Fountain Center Dr.



*Ed Collette,  
Secretary*

The American Society of Safety Engineers is a national organization established in 1911 and currently based in Des Plaines, Illinois. The mission of ASSE is to provide professional development and representation for those engaged in the practice of safety, health and environment. It is also dedicated to the practice of protecting people, property and the environment.

The Southern Arizona Chapter of ASSE holds a lunch-meeting every 2nd Tues. of the month from 11:30 AM to 1:00 PM at the Kino Community Center, 2805 East Ajo Way, Tucson. Lunch for members is \$10 and we allow members to bring guests. Featured speakers cover safety topics relevant to the needs of our members.

We will be hosting the "OSHA 500" course that will be held in Tucson November 15<sup>th</sup> through the 18<sup>th</sup> at the Kino Community Center. You can also go to ASSE Web Page: ([www.asse.org](http://www.asse.org)) and locate our local chapter for future information.

Our new officers were elected and became effective July 2004. The new officers for this year are: President, David Baker, CSP; President Elect, Chuck Gessner, Secretary, Edward Collette; Treasurer, Gerard Coley, Delegate to HOD; Mark Grushka, Member-At-Large; and Brandy Kadous.

## EPAZ



EPAZ HOLDS LUNCHEON MEETINGS THE 2<sup>ND</sup> 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](http://WWW.EPAZ.ORG) FOR DETAILS REGARDING UPCOMING MEETINGS AND OUR MONTHLY MIXER LOCATION OR CONTACT ME AT (480) 961-1300 X181.

## AMERICAN SOCIETY OF SAFETY ENGINEERS

### MEETINGS AND SPEAKERS:

**NOVEMBER 16TH** - MARK NORTON FROM THE OSHA OFFICE IN TUCSON. HE WILL TALK ABOUT SAFETY 101, AND SUSAN JONES WILL TALK ABOUT THE DRUG & ALCOHOL PROGRAM.

**DECEMBER 14TH** - JOE KANE WILL TALK ABOUT UNDERGRADUATE DEGREE PROGRAM IN SAFETY MANAGEMENT NOW AVAILABLE THROUGH PRESCOTT COLLEGE.

### FOR INFORMATION

VISIT [WWW.ASSE.ORG](http://WWW.ASSE.ORG) AND LOCATE OUR LOCAL CHAPTER OR CALL ME AT 520-730-8927, OR [EDWARD.COLLETTE@RISK.PIMA.GOV](mailto:EDWARD.COLLETTE@RISK.PIMA.GOV).

LEGAL NEWS YOU CAN USE

# REGULATORY DEVELOPMENTS

## EPA PROPOSES NEW DUE DILIGENCE STANDARDS

Michael C. Ford, Attorney



Environmental professionals interested in commercial property transactions should be aware of the new “due diligence” rule proposed by EPA.<sup>1</sup> The federal “standards and practices for conducting all appropriate inquiries” rule is critical for prospective property owners hoping to qualify for certain defenses to potential cleanup liability. While the proposal is similar in many respects to the commonly used ASTM<sup>2</sup> standard, there are important differences that will take effect if the rule is finalized as proposed.

EPA was directed to develop the due diligence rule under the Small Business Liability Relief and Brownfields Revitalization Act (“Act”) signed by President Bush in 2002.<sup>3</sup> The Act amended CERCLA<sup>4</sup> to provide defenses to cleanup liability for certain types of “innocent landowners,” provided the landowner conducted “all appropriate inquiries” into the previous ownership and use of the property (among other requirements). Until EPA finalizes its rule, the Act endorses the use of ASTM’s “Phase I” standard, which the industry has been using for the last decade.

Rather than follow its typical rulemaking process, EPA decided to engage in “negotiated rulemaking,” whereby a proposed rule is developed by a committee representing interested parties who must reach consensus on the proposal. The consensus proposal is then used by the agency as the basis of its proposed rule. The intent is to address early on and defuse during the negotiation process the major contentious issues, thereby paving the way for the proposed rule to be finalized more quickly and less controversially. A “Negotiated Rulemaking Committee” (“NRC”), consisting of representatives of 25 interested groups, parties and trade associations, began meeting in early 2003, and reached consensus in December 2003 on its proposed language. The consensus document was sent to EPA for use as the basis of the proposed rule.

Those familiar with the ASTM Phase I standard will find the proposal eerily familiar. In fact, EPA considered adopting the existing Phase I standard, but decided against doing so due to certain deficiencies it felt needed to be addressed. Perhaps the most controversial issue to arise during the negotiation process involved the proposed qualifications for an “environmental professional” (“EP”). The NRC decided to establish minimum qualifications for persons conducting the required due diligence effort. The proposed requirements include three alternative criteria involving a combination of education and experience: (1) a P.E. or P.G. with three years of full-time relevant experience; (2) a license or certification to perform environmental inquiries plus three years of full-time relevant experience; or (3) a least a BA in a relevant discipline of engineering, environmental science, or earth science, plus five years of full-time relevant experience. The proposal also includes a “grandfather” provision allowing anyone who has, on the date of promulgation of the final rule, a BA degree and ten years of full-time relevant experience.<sup>5</sup> The NRC considered requiring that all elements of the due diligence effort be performed by a qualifying EP, but ultimately decided to allow non-qualifiers to assist with the required tasks, as long as the EP reviews the results and conclusions and signs the final report.

The substantive research and investigation requirements in the proposal are familiar from the ASTM standard, with a few modifications. For example, the proposal requires interviews with past owners and operators of the property, in addition to current owners and operators. The proposal also mandates a potentially more expansive review of historical documents and records, as records must be reviewed “as far back in the history of the subject property as it can be shown that the property contained structures or from

*Continued on page 25*

### EDITORS NOTE:

IN OUR LAST ISSUE, AUG/SEPT 2004, WE INADVERTANTLY RAN THE REGULATORY DEVELOPMENT COLUMN WITH THE WRONG SUBTITLE. THE SUBTITLE SHOULD HAVE BEEN: NEW INDUSTRIAL STORMWATER PERMIT IN THE MAKING. WE APOLOGIZE FOR ANY INCONVENIENCE THIS CAUSED. EDITOR

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](mailto:mcford@bryancave.com).



**Save  
The Date!**



**Gatekeeper Regulatory  
Roundup 2005**

**February 16-17, 2005**

**Chaparral Suites Resort  
5001 N. Scottsdale Road  
Scottsdale, Arizona**

**For more information  
please visit:  
[www.epaz.org](http://www.epaz.org)  
[www.thunderbirdchmm.org](http://www.thunderbirdchmm.org)**

**Gatekeeper & Regulatory Roundup  
have joined forces  
for a 2-Day Conference  
for all Environmental,  
Health and Safety Professionals!**

**Featuring:  
Prominent Presenters,  
Keynote Speakers,  
Local & National Regulatory  
Agencies, Great Networking  
with Hundreds of your  
Environmental Colleagues.**



**Sponsored By:**





ABOVE: Frank Prag, of MP Environmental Services, Inc., removes fuel from the damaged tanker, while (TOP, RIGHT) firefighters work nearby. PHOTOS COURTESY OF MP ENV. SERVICES.



## FUEL SPILL CLEANUP:

CONTINUED FROM PAGE 7

immediately on the downstream side. The Strayhorse well serves an administrative site housing a fire crew, as well as a public campground, and the ADOT Rattlesnake Work Camp immediately upstream. The well was quickly disconnected from the water supply to avoid contamination of tanks and piping and it remains disconnected until further testing and repairs can be completed.

ADOT has rebuilt the road through a \$1.1 million contract, and the highway has been re-opened. However, the excavated material, as of the end of September, 2004, still needs to be hauled off site. Contaminated material must be hauled to an ADEQ certified landfill, while the non-contaminated material can be stockpiled in a nearby materials pit for future use. Because the RP (responsible party) is approaching their insurance liability limit, they have halted further restoration of damages.

The Forest Service, as the landowner, will ensure applicable environmental regulations are being followed and the site will be restored. Remediation of the physical damage to the site's vegetation will be relatively easy to restore, according to Mr. Subrige, as the area is at high elevation (8600 feet) where higher rainfall helps vegetation grow and re-establish. Remediation of remaining fuel will take longer. Before the road was rebuilt, the area was saturated with a product commonly used to remediate petroleum spills. There are a number of such products on the market, and they basically contain fertilizer and a source of organics, which feed native bacteria in the soil. No inoculation with foreign bacteria is needed. Once microbe populations have increased and "eaten" all of the readily available organics, they

switch to the petrochemicals, which are also organic in composition. The process of bioremediation is temperature dependent; warm climates allow microbes to reproduce faster. Given the relatively cold climate near Strayhorse, it is estimated that microbial decomposition may neutralize remaining contamination in 3 to 5 years. Although there has been some contamination of shallow ground water, this is expected to dilute and become bioremediated on its way downstream. The nearest private well at a ranch at the head of Eagle Creek is over 11 miles downstream, and although it is being tested for contamination, it is considered unlikely to become affected.

The Journal thanks Mark Fisk, MP Technical Service Manager, and Chrissy Calderwood, Office Manager, for providing photographs and information for this article. Mark can be reached at 602-717-7154, and Chrissy can be reached at 602-278-6233.

MP Environmental Services, Inc., provides environmental remediation services, hazardous/non-hazardous transportation, and waste management services throughout the Western U.S. MP Environmental can be reached at 602-278-6233, and maintains a website at [www.mpenviro.com](http://www.mpenviro.com).

The Journal also thanks Tom Subrige for providing information for this article. Tom is a Watershed, Soils, and Riparian Specialist with the Apache-Sitgreaves National Forest. Tom can be reached at 928-333-4301, or by email at [tsubrige@fs.fed.us](mailto:tsubrige@fs.fed.us).



## PROSPECTING: FOR ENVIRONMENTAL BUSINESS



Welcome to the inaugural installment of Prospecting. A regular feature (hopefully) of the Journal and proof, once again, that reality can be stranger than fiction. Reality, in this case, being a sales and marketing professional having been asked to provide a column in a respected and primarily technically oriented trade periodical. I'm not yet sure if our esteemed editor has lost his marbles or sees the value sales and marketing plays in this crazy business of ours. Of course from my perspective, I am hoping the latter.

Many ideas and suggestions were considered in determining the focus of the new column, some good, some goofy. None of which seemed to sit well until at an EPAZ mixer Jim Thrush asked me "What would you *enjoy* writing about?" I answered that I would like to write about the challenges associated with developing new business in this industry. He replied, "Great! Let's do it!" Jim's simplicity bewildered me a bit, but got me to thinking about whether the dynamics of selling the environmental business would be of interest and if others might benefit from the perspective of someone in the trenches. I hope you can. In an industry that is based heavily in the technical disciplines, sales and marketing plays a unique part and who is responsible can vary dramatically depending on company philosophy. My goal is for this column to bring some perspective to your role in the sales and marketing program within your firm whether you are directly or indirectly responsible. Because one thing is for sure, if our products and services aren't sold, none of us will be employed and each of us has a certain level of responsibility to support the effort.

In closing, it was suggested by our editor (quite a tyrant sometimes) to leave you with a few ideas for future columns. I suppose to entice readers, increase circulation and sell lots of advertising. Some such topics may include; the structure of sales & marketing programs, the difference between sales and marketing, the value of trade associations and trade shows, bid-no-bid decisions, managing the sales-operations relationship, commission/bonus plans, the seller-doer, selling to your internal customers and what ever you might send to me as a suggestion.



*Joe Holmes is a Technical Sales Manager with Romic Environmental Technologies Corp. Joe can be reached at 800-952-5760, and by email at [joe@romic.com](mailto:joe@romic.com).*

Joe C. Holmes

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# NEWS BRIEFS

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## DR. PETER KROOPNIK JOINS ARCADIS G&M

❖ Dr. Peter Kroopnick joins ARCADIS G&M. He will work at the South Phoenix location, adjacent to the Hilton at South Point. This move follows 3 years with Brown & Caldwell which



Dr. Peter Kroopnick

was preceded by 20 years with GTI and its successor, IT Corp. He is also president of the AZ Hydrological Society's Phoenix Chapter and an Adjunct Prof. of Hydrogeology

at Ariz. State University.

Pete will be part of the regional Site Evaluation and Remediation Practice in which he will develop remedial strategies for contaminated sites and contribute to the **Guaranteed Remediation Program (GRiP®)**. The GRiP® program commits ARCADIS to perform any remediation necessary to achieve regulatory closure for a site, at a fixed price.

Pete will continue his practice of geochemistry and hydrogeology; specializing in the application of fate and transport models to the design of soil and

groundwater remediation systems. His recent experience includes conducting Assured Water Supply studies and extensive work on behalf of potentially responsible parties at Fed. and State designated Hazardous Waste Sites. He is known throughout the country for providing advice and strategic consultation on changes in records of decision, supporting natural attenuation, technical impracticability approaches and has served as a technical expert and witness for counsel. Pete can be reached at 602-659-3235 or by email at [pkroopnick@arcadis-us.com](mailto:pkroopnick@arcadis-us.com)

## CLEAR CREEK ASSOCIATES CELEBRATES: 5TH ANNIVERSARY AND A NEW LOCATION

❖ Doug Bartlett, R. G. and Co-Founder/Principal Hydrogeologist of Clear Creek Associates, announced recently that the company is celebrating their fifth year anniversary, and that it is moving its Phoenix area office to a new location. The new address will be 6155 East Indian School Road, Suite 200, Scottsdale, AZ 85251. Clear Creek Associates can be reached at 480-659-7131.

## TWO ENVIRONMENTAL CONSULTING SERVICES MERGE INTO GEC-SA&B

❖ Geotechnical and Environmental Consultants, Inc., and SA&B Environmental and Chemical Consultants announced recently the two companies have merged into the new GEC-SA&B. The new location for the business is 2801 South 35th Street, Phoenix, Arizona 85034. GEC-SA&B can be reached at 602-393-4800, or by email at [info@gecsab.com](mailto:info@gecsab.com).

## ESS ANNOUNCES NEW CORPORATE BRAND AND WEBSITE

❖ Robert Johnson, CEO of ESS recently announced that after 10 years establishing market leadership in the Environmental, Health and Safety and Crisis



*Continued on page 25*



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
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
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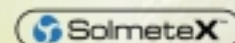
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For registration and a complete list of courses, fees, and course descriptions including site specific training, see our web site: [www.east.asu.edu/seminars/](http://www.east.asu.edu/seminars/).

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## 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](http://www.thunderbirdchmm.org) or call Dwight Clark (928) 328-3946  
[dwightclark@adelphia.net](mailto:dwightclark@adelphia.net), [dwight.clark@yuma.army.mil](mailto:dwight.clark@yuma.army.mil)



## 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](http://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.

## NEWSBRIEFS

CONTINUED FROM PG 22

Management software sectors, ESS has combined all of its resources and offerings under one corporate brand and brought them together on an all-new website. The unification brings the various holdings of ESS under the same brand. During 2001 and 2002, the firm acquired “best of breed” compliance software providers Wixel, RMS Systems, Jordan Systems, and Essential Technologies. Ess incorporated the best elements from each holding to create one cohesive organization with two world-class solution sets -- available as stand-alone products or fully integrated suites.

The new website is at [www.ess-home.com](http://www.ess-home.com). Three prior websites will remain active for 90 days to provide clients and visitors a chance to transition to the new site. “We have taken a careful and strategic approach to growing our



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company and offerings. Today, we have the largest customer base and most complete development resources, backed by a full complement of support and services,” Mr. Johnson said. “We wanted to make it clear that our entire ESS team is united in its commitment to our customers, partners, and future clients.” ESS can be reached at 480-346-5500, or by email at [info@environ.com](mailto:info@environ.com).

## FORD: EPA DUE DILIGENCE STANDARDS

CONTINUED FROM PAGE 18

the time the property was first used for residential, agricultural, commercial, industrial, or governmental purposes.” The ASTM standard contains a 1940 cutoff for historical record reviews, if earlier than the first developed use. The proposal also requires that the EP conduct a visual inspection of adjoining properties, from the subject property boundary, public rights-of-way or other vantage points — a more rigorous requirement than that contained in the ASTM standard. In addition, the EP is also required to identify “data gaps” where the EP has been unable to obtain information required by the standard despite good faith efforts. The EP must identify the data gap, the source of information conducted to address the data gap, and opine as to the significance of such data gap with regard to the ability to identify conditions indicative of a release or a threatened release of hazardous substances. Also notable is that the proposal states that “sampling and analysis may be conducted to develop information to address data gaps.”<sup>6</sup> It is not clear when such sampling and analysis would be appropriate, but this reference appears to contemplate what has become known as “Phase II” type activities under the ASTM framework, which traditionally have not been part of Phase I due diligence efforts.

The proposal also designates certain information the province of both the EP and the person acquiring the property. The purchaser must provide to the EP information regarding cleanup liens; any “specialized knowledge or experience” they may have; the relationship of the purchase price to the fair market value of the property; and “commonly known or reasonably ascertainable information.”<sup>7</sup> The responsibility of the prospective purchaser to provide this information for the EP’s consideration is noteworthy, as this type of joint duty is less explicit and often overlooked in the ASTM standard.

EPA has requested comments on the proposed rule by October 25, 2004. Unfortunately, once the rule is finalized, parties involved in commercial transactions should anticipate some degree of increased cost, delay, and uncertainty involved in due diligence efforts as a result of the changed standard.

### FOOTNOTES:

1 69 Fed.Reg. 52542 (August 26, 2004).

2 American Society for Testing and Materials.

3 Pub. L. No. 107-118.

4 Comprehensive Environmental Response, Compensation and Liability Act.

5 69 Fed.Reg. 52576, proposed § 312.10.

6 69 Fed.Reg. 52578, Proposed § 312.20(f).

7 69 Fed.Reg. 32578, Proposed § 312.22.



# PROFESSIONALS PAGE

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## CALENDAR

**AZ ENVIRONMENTAL DATES, OCTOBER 15, 2004, THROUGH JANUARY 15, 2005**

### OCTOBER

- 27 SAEMS Luncheon Tucson. 11:30 AM at the Manning House, 450 W. Paseo Redondo. For info. see www.saems.org.  
28 EPAZ Mixer Phoenix. Monthly Mixer Wet Wily's Baja Catina. Www.epaz.org or call Eddie Martinez 480-961-1300 x 181.

### NOVEMBER

- 3 ACHMM T-Bird Phoenix. Dinner meeting 6 PM at Old Spaghetti Factory. For info: www.thunderbirdchmm.org.  
3 Bi-Nat'l P2 Seminar Tucson. Co-sponsors: SAEMS, ADEQ, AEPS, U of A Risk Mgmt and Safety. See ad on pg 21 or visit www.saems.org.  
10 AAI Breakfast Phoenix. New location - Radisson Hotel on 3333 E. University. Contact AAI office at 602-252-9415.  
11 EPAZ Luncheon Phoenix. 11:30 to 1 pm. Speaker: Joe Holmes, Romic, "Where does your waste go?". See www.epaz.org.  
13 Adopt-A-Highway Tucson. Adopt-A-Highway cleanup sponsored by SAEMS. For info www.saems.org.  
15-18 OSHA 500 Course Tucson. Sponsored by Southern AZ ASSE Chapter. Call Ed Collette 520-730-8927 or edward.collette@risk.pima.gov.  
18 EPAZ Mixer Phoenix. Networking mixer at the Monestary, 28th St. and Ind. School. See www.epaz.org.  
16 ASSE Lunch Tucson. Speakers: Mark Norton from OSHA, and Susan Jones. Call Ed Collette 520-730-8927 or edward.collette@risk.pima.gov.

### DECEMBER

- 1 ACHMM Mixer Phoenix. Holiday Mixer from 5 pm to ? At TGIFridays-Front Row at the BOB. www.thunderbirdchmm.org.  
8 SAEMS/ACHMM Tucson. Combined group luncheon. At Manning House. RSVP to Monette Greer 520-884-3696 or monette75@ziplip.com.  
9 LEED for Existing Bldgs Phoenix. USGBC and IFMA cosponsoring seminar on env. mgmt of buildings. Call 480-807-0062 for info.  
9 EPAZ Luncheon Phoenix. Speaker: Tim Page of Workplace Safety Specialists. See www.epaz.org.  
14 ASSE Lunch Tucson. Spkr: Joe Kane, on Undergrad. Degree Prog at Prescott College. Call Ed Collette 520-730-8927 or edward.collette@risk.pima.gov.  
28 EPAZ Luncheon Phoenix. 11:30 to 1 pm. Details at www.epaz.org.

### JANUARY

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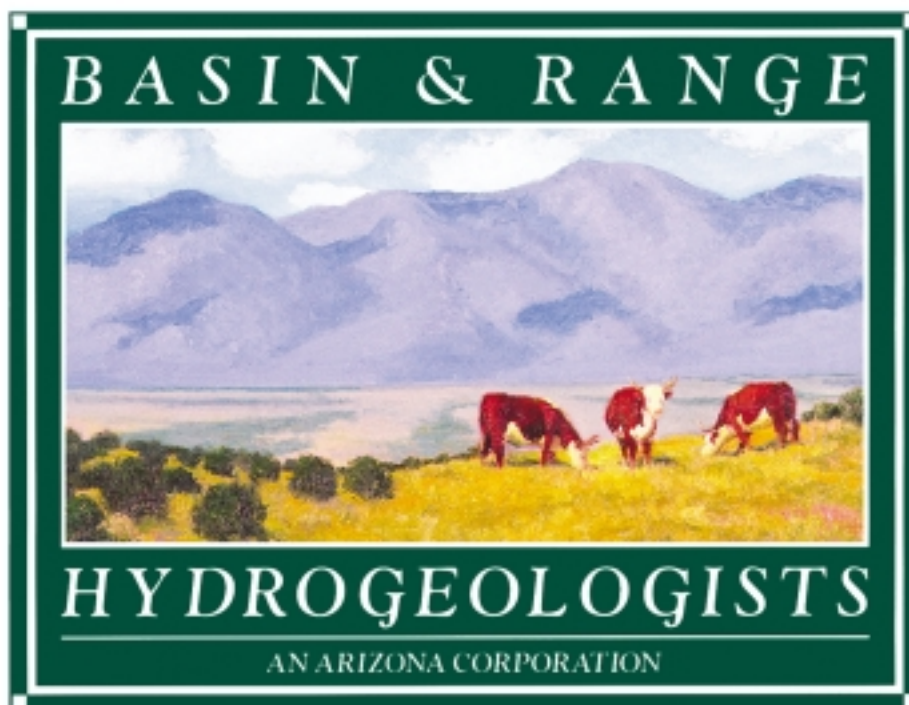
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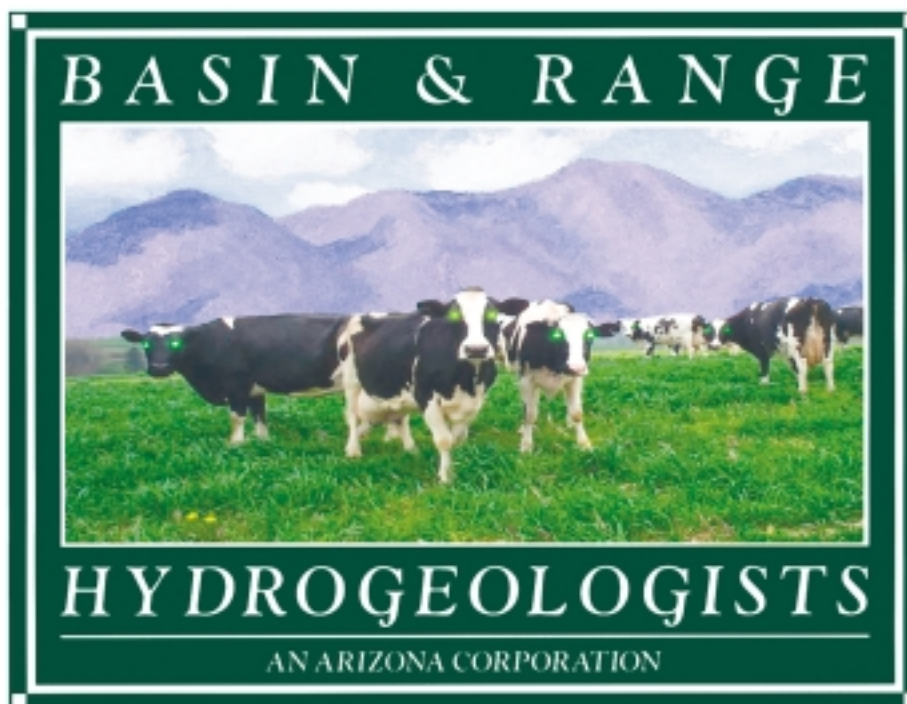
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