

JOURNAL ^{OF} Environmental Management ARIZONA

Practical and Current information for Environmental, Health and Safety Professionals

The Journal completes your first year
Thank you!
ARIZONA

TEST Law PRACTICE GROUP AIR QUALITY PERMITTING STRATEGIES

pg 10

CLANDESTINE DRUG LABS

NEW CLEANUP RULES pg 6

EPA PROPOSES

CHANGES TO RCRA RECYCLING RULES

See "REG. DEVELOPMENTS" by Michael Ford pg 15

LADDER SAFETY

AZ DIV. OF OCCUPATIONAL SAFETY & HEALTH pg 6

ANATOMY OF A TOXIC TORT CASE pg 26

The Journal is FREE to
Qualified EHS & Professionals!
Have you subscribed?
480-422-4430

December / January 2004 Vol 1 No. 6

ARIZONA ISSUES
ARIZONA ADVERTISERS
ARIZONA READERS



CHEMICAL DISTRIBUTION & WASTE DISPOSAL SERVICES

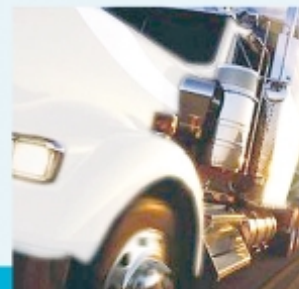
Univar USA (formerly VWR) is the link between the producer, the end-user and the disposal of chemicals.

Phone: 602.272.3272
www.univarusa.com
Toll Free: 800.777.9587

Univar USA's expertise in chemical distribution has enabled us to design an efficient waste disposal network that we call ChemCare™.

Our many years as the industry leader, combined with our fleet of 1,500 vehicles and more than 110 facilities nationwide guarantees expert pickup and handling of your waste.

We put your interests first and foremost, helping you to select from the most economical and environmentally sound waste disposal technologies available anywhere.



Have you signed up for your free Journal subscription?

Examine the line above your name on your mailing label:

If the line says: [SUB?Y] You already are a subscriber.

If the line says: [SUB?N] You are not yet a subscriber.

Sign up now to become a Journal subscriber -- it costs you nothing and will save postage for the Journal.

To subscribe call 480-422-4430 x42 or go to www.ehshomepage.com

The Journal is FREE to Qualified EH&S Professionals.

Part of a bigger picture...

Delivering integrated business solutions that help you protect the environment, manage risk, and add value to your bottom line.

Infrastructure

- Transportation
- Water and wastewater
- Solid waste
- Land resources

Buildings

- Program management
- Architecture and engineering
- Planning and programming
- Interior design

Environment

- Operating facilities management
- Site investigation and remediation
- Risk and associated services
- Real estate and asset solutions

Go beyond your expectations with ARCADIS



Infrastructure, buildings, environment, communications

8222 South 48th Street, Suite 140
Phoenix, Arizona 85044
Tel 602.438.0883
Fax 602.438.0102
www.arcadis-us.com

JOURNAL OF Environmental Management

ARIZONA

December / January 2004

Volume 1 Number 6

Contents

FEATURES AND ARTICLES

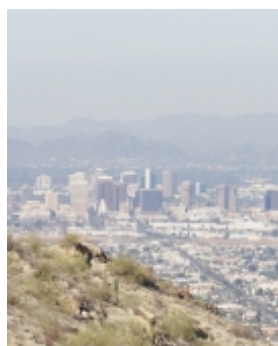
- 6 CLANDESTINE DRUG LABS**
NEW STATE CLEANUP REGULATIONS
- 9 LADDER SAFETY REGULATIONS**
ADOSH ON LADDER SAFETY
- 10 AIR QUALITY PERMITTING STRATEGIES**
TESTLAW PRACTICE GROUP
- 26 ANATOMY OF A TOXIC TORT CASE**
UNIQUE SEMINAR PLAYED OUT AT EPAZ
REGULATORY ROUNDUP



Clandestine Drug Lab Cleanup
page 6

COLUMNS

- 13 SUSTAINABLE DEVELOPMENT**
SUSTAINABILITY INDICATORS AND GLOBAL
WARMING, *NICHOLAS R. HILD, PHD.*
- 15 REGULATORY DEVELOPMENTS**
EPA PROPOSES CHANGES TO RCRA RECYCLING RULES
MICHAEL C. FORD, ATTORNEY
- 19 IT'S ALL ABOUT CHEMISTRY**
MANAGING CHEMICALS IN THE 21ST CENTURY
LARRY OLSON, PHD.



Air Quality Permitting Strategies
page 10

DEPARTMENTS

- | | |
|------------------------------|-------------------------------|
| 4 FROM THE EDITOR | 28 PROFESSIONALS PAGES |
| 5 TO THE JOURNAL | 29 ADVERTISERS INDEX |
| 8 NEWS BRIEFS | 29 FIND IT! |
| 18 ASSOCIATIONS PAGES | 31 CALENDAR |



RECOVERING TODAY'S RESOURCES FOR A CLEANER TOMORROW

We specialize in the treatment of non-hazardous liquid waste through physical separation, chemical treatment, biological treatment and sludge de-watering technologies.

- Waste disposal solution that is both economical and environmentally sound.
- On-site laboratory for profiling waste / sample technicians.
- After treatment, reclaimed water is returned to Arizona.
- Manage liquid waste for thousands of clients including some of Arizona's largest companies.
- Ask us about a cost effective alternative to your current waste disposal method.



Call Us Today

602-278-3442 / 800-756-7084

RESOURCE RECOVERY
TECHNIQUES OF AZ, INC.
www.rrtaz.com

COVER PHOTO: RESIDENTIAL DRUG LAB. PHOTO COURTESY OF DETECTIVE DARIN FREDRICKSON.

Journal Info

Subscriptions

To subscribe, fill out a short form on our website, www.ehshomepage.com, call or FAX to our main office number, 480-422-4430, or email your request, with your name, phone number, email address, address, position, and company name to: Subscribe@ehshomepage.com.

RATES:

FREE to Qualified Environmental Professionals and individuals in closely related fields. Non-qualified individuals may apply but approval is at the discretion of the Circulation mgr.

Business

Mailing Address:
Journal of Environmental
Management Arizona
3145 E. Chandler Blvd, Suite
110-641, Phoenix, AZ
85048 Telephone & Fax:
480-422-4430

Advertising

Advertisers: contact us at
480-422-4430 x42.

Editorial

The JOURNAL welcomes readers letters, articles, suggestions for articles and photographs, and releases of news, products, services, literature, business updates, and meeting dates. EH&S associations may participate in the Association Pages. Contact us at the above address and telephone number, or visit the Journal website.

The JOURNAL is
published 6 times a
year.

Copyright © 2003
by the Journal of
Environmental
Management Arizona.
All rights reserved.

JOURNAL of Environmental Management ARIZONA

Editorial

Publisher & Editor

James Thrush, M.S.
jimthrush@ehshomepage.com
480-422-4430 x42

Contributing Authors; Dec/Jan Issue

Peter F. Allard, P.E., CIH, SA&B Environmental
& Chemical Consultants

Sean Kriloff, Arizona Div. of Occupational Safety & Health

Rolf R. von Oppenfeld, Eric L. Hiser, Mark E.

Freeze, TESTLaw Practice Group, LLC

Jeremy A. Lite, Quarles & Brady Streich
Lang LLP

Photography Assistance

Charles Holland
ChuckHolland@ehshomepage.com

Advisors

Legal

Lown & Hilleman, PLC

Editorial

R. Bruce Scott, Nicholas R. Hild, Larry
Olson, Tom Curry, Julie C. Rogers,
J. Andy Soesilo

Operations & Business

Daniel Nelson, Randy Anderson

Advertising

Advertising Sales Manager

Position not filled

Circulation

Circulation Manager

Position not filled

Columnists

Regulatory Developments

Michael C. Ford Bryan Cave LLP

Sustainability & Sustainable

Development

Nicholas R. Hild, PhD.

Arizona State University

It's All About Chemistry

Larry Olson, PhD. Arizona State University

Programming

Programming/Technical Support

Hiep Van Vo

From the Editor



Last year, on the first-ever cover of the Journal, we printed this invitation: "Make yourself at home. This is *your* state. This is *your* environmental magazine!" Many, many of you have honored us by accepting our invitation and allowing the Journal to become a part of the Arizona environmental community. This issue completes our first year, and your

participation as readers, contributors, advertisers, and advisors has made this a very successful beginning! Circulation for this issue will be over 3000, advertising is at its highest level yet, we continue to get the highest quality article submissions, and reader feed-back has been phenomenally positive! You have my sincere appreciation!

In this issue Peter Allard, of SA&B, brings together some alarming information about the problem of clandestine drug labs in Arizona, particularly as they create an environmental hazard in both workplaces and residential sites (page 6). New state regulations affect residential property owners and remediation firms. Also in this issue, Rolf von Oppenfeld, of TESTLaw Practice Group, and partners co-author a carefully outlined strategy for achieving a desirable air permit (page 10).

We included a special end-of-the-year FIND IT! on page 29 combining indexes from all 6 issues of 2003. You can find people, articles, and facilities or organizations that were in any issue. I thought you might enjoy this as a convenient feature.

Are you certified in your area of expertise? Certification can help demonstrate that you have accomplished a high degree of qualification in your field. If you are not already certified, consider some of the opportunities available — and there are many. For example, the National Environmental, Safety & Health Training Association lists over 119 different EH&S related certification designations on their website (www.ehs-training.org). Check to see if the certification program you are considering is accredited by a recognized agency. You may want to consider taking the CHMM certification offered in April by the Association of Certified Hazardous Materials Managers - Thunderbird Chapter, and Gateway Community College. The CHMM is highly rated, and is accredited by the Council of Engineering and Scientific Specialty Boards (see pg. 18 & 30).

Thank you very much for a great 2003, please have a Merry Christmas & a Very Happy New Year!

Sincerely,
Jim Thrush, M.S.
Publisher & Editor

LEGAL DISCLAIMER

Information presented in the Journal of Environmental Management Arizona originates from a variety of sources presumed to be accurate and complete. However, due to the rapidly changing nature of regulations and the law and our reliance on information provided by various sources, we make no warranty or guarantee concerning the accuracy or reliability of the content of the Journal. Readers are encouraged to contact authors, agencies, advertisers, and companies directly for verification and/or clarification. Material in the Journal is for informational purposes only, and should not be considered as legal or professional advice. Please consult your own legal counsel or environmental consultants with questions regarding your safety or environmental compliance matters.

WARNING

Serious legal, environmental, and/or safety consequences can result from non-compliance with environmental and safety regulations and standard safety, environmental, and professional practices.

To the Journal :

Letter's & emails

EDITOR:

I wanted to say thanks for printing the article from J. Andy Soesilo, "P2 Achievements" in your October/November issue. Being members of the P2 program has its own rewards, of course, but it is also nice to have the kudos of ADEQ.

Being ISO 14001 and OHSAS 18001 certified, and EMAS validated, we have seen great benefits as a company with regards to pollution prevention as a "side effect" of our EMS. It is nice to see that ADEQ is foreseeing the EMS model as the next logical step to the P2 program, and we look forward to seeing other companies share in the success that a well run EMS can bring.

Keep up the good work JEMA!
MICHELLE ELLASHEK
Environmental Engineer
STMicroelectronics, Inc.
Phoenix, AZ

Please mail, email or fax your letter to the editor:

Email: letters@ehshomepage.com Fax: 480-422-4430
JEMA 3145 E. Chandler Blvd, Suite 110-641 Phoenix, AZ 85048



Del Mar Analytical

Providing Quality Environmental Laboratory Services



Featuring:

- Waste Analysis
- Customized Electronic Data Deliverables (EDDs)
- Standard 7 Day Turn Around Time
- Microbiological Analysis
- Web Report Delivery
- 1,4 Dioxane Analysis

9830 S. 51st Street • Phoenix, AZ 85044 • Phone: 480-785-0043 • Fax: 480-785-0851



Philip Transportation and Remediation, Inc.



PHILIP TRANSPORTATION
& REMEDIATION
A Division of Philip Services



ENVIRONMENTAL SERVICES

Lab Pack & Hazardous Waste Management

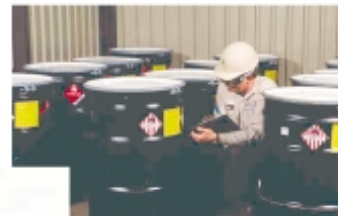
- * Household Hazardous Waste Collection
- * Identification of Unknown Wastes

Remediation


Emergency Response Waste Transportation and Disposal Services

- * Roll-off Bins
- * Vacuum Tankers
- Site Decontamination
- Industrial Cleaning
- * Air-moving
- * Jet Rodding
- * Hydroblasting

www.contractpsc.com
Email: FSanchez@contractpsc.com



PHILIP TRANSPORTATION
& REMEDIATION
1801 West Watkins
Phoenix, AZ 85007
Telephone: (602) 252-1185
Fax (602) 254-8305
Arizona ROC100177



Clandestine Drug Labs

*New Regulations
& Environmental Issues*

Hundreds of AZ residences and workplaces, used to conceal drug-lab operations, now present clean-up challenges.

The Arizona Board of Technical Registration addresses residential site clean-ups with new rules for property owners and remediation firms.

by Peter F. Allard, P. E., CIH

Is part of your workplace being used for illegal production of methamphetamines? Is a drug lab operating in your neighborhood? Has a home you want to buy been a drug lab? Not many years ago this was a non-issue, but today it is a very real possibility. Over 600 clandestine drug labs are discovered in Arizona every year in residences, hotels/motels, campgrounds, commercial buildings, and any other usable location chosen by the operators. Additional drug labs are operated temporarily and closed without intervention by law enforcement. The chemicals used cause environmental contamination of the soil, groundwater, and indoor environment, and deterioration of the structure by corrosion, staining, fire, and explosion. After the bulk chemicals are removed from a drug lab by law enforcement, residual contamination can be a persistent hazard to future occupants and the environment.

New rules affect property owners & remediation firms

New laws in Arizona require property owners to remediate clandestine drug labs contaminated by the manufacturing of methamphetamine, LSD, or ecstasy. Drug laboratory cleanup companies and their employees must be registered or certified by the Arizona Board of Technical Registration (BTR) and comply with BTR cleanup standards. BTR has established rules for drug lab site remediation firms, including best standards and practices (BSP) for site pretesting. AT LEFT: Flasks and heaters for synthesizing on a commercial scale, found at a clandestine drug lab in Arizona and shown staged prior to proper packaging and disposal. *Photo courtesy ADEQ.*

cleanup, and final clearance testing.

Understanding the Problem

A Clandestine Drug Lab (CDL) is a small scale operation by amateurs to produce illegal drugs for personal consumption, profit, or both. A CDL can be in a house, mobile home, RV, motel, or campground, and can fit in a kitchen, garage, or bathroom. While most CDLs in Arizona appear to be in urban locations, many labs are found in rural areas, where seclusion conceals lab activity. Methamphetamine is the most likely drug to be made in a CDL, because it is cheap and easy to make from readily available ingredients and over-the-counter drugs. As a rough estimate, **\$200 worth of raw material can be “cooked” into \$6000 worth of meth.**

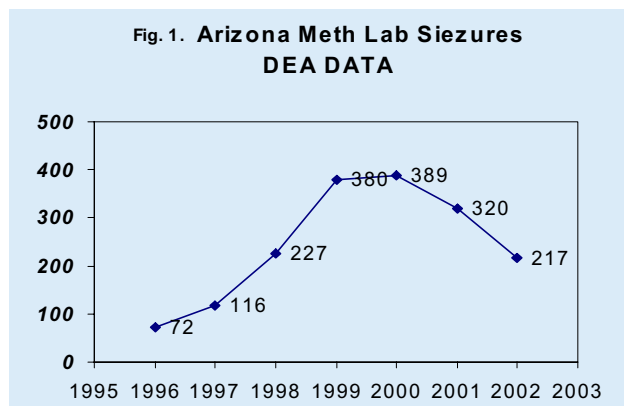
The chemicals used are toxic, corrosive, or flammable, and the process materials and waste products are hazardous. Fires and explosions are common in CDLs, which are now suspected when a fire occurs of mysterious origin. Approximately 6 pounds of waste is generated per pound of product, requiring frequent disposal by discharge to soil or plumbing drains, or illegal dumping.

The CDL operators, also known as “cooks” or “tweakers”, are typically users whose lifestyle and personal habits are influenced by the drugs they make. CDL premises tend to be messy and cluttered with chemicals and equipment. Tweakers tend to be paranoid and defensive, capable of resorting to measures such as guard dogs, elaborate security systems, and booby traps to protect their labs. Their chemical and waste handling practices are usually sloppy, placing health and safety of the occupants and neighbors of the lab site at risk.

How Many Labs Are There?

There does not seem to be a single comprehensive database of drug lab “busts”. The exact number of CDLs that have operated without detection is unknown. The Drug Enforcement Agency (DEA) maintains a database of clandestine laboratory incidents, which can be labs, dumpsites, or chemicals and equipment, at its El Paso Intelligence Center (EPIC). A total of 14,403 incidents was reported in year 2002, up from 12,715 in 2001.

Arizona meth lab seizures reported to EPIC from 1996 to 2002 are plotted in Figure 1 (below, left). The 2002 value is



Products typically found in Meth Labs

| Commercial Products | Chemicals | Hazards |
|------------------------------|---------------------------|---------------------|
| Battery Acid | Sulfuric Acid | Corrosive Acid |
| Drain Cleaner | Sodium Hydroxide | Corrosive Base |
| Camera Batteries | Lithium | Water Reactive |
| Coleman Fuel | Petroleum Distillates | Flammable |
| Kerosene | | Flammable |
| Lacquer Thinner | | Flammable |
| Mineral Spirits | | Flammable |
| Denatured Alcohol | Mixture of Alcohols | Flammable |
| Epsom Salts | Magnesium Sulfate | Nonhazardous |
| Heet | Methyl Alcohol | Flammable |
| Iodine Crystals | Iodine | Irritant |
| 7 percent Tincture of Iodine | | |
| Muriatic Acid | Hydrochloric Acid | Corrosive Acid |
| Nonprescript. Cold Medicine | Ephedrine/Pseudoephedrine | Nonhazardous |
| Red Devil Lye | Sodium Hydroxide | Corrosive Base |
| Road Flares | Red Phosphorous | Flammable |
| Starting Fluid | Ethyl Ether | Explosive/Flammable |

all clandestine labs. The DEA reports Arizona clandestine lab incidents in 2002 by county (shown below, right).

The Phoenix Police Department is closing an estimated 400

CDLs per year; this is more than the number of Arizona lab seizures reported to DEA (obviously, not all of the Phoenix labs get on the DEA database).

The exact number of CDLs operated in Arizona will never be known because all are not identified, but it appears to be several hundred per year.

Cleanup Standards:

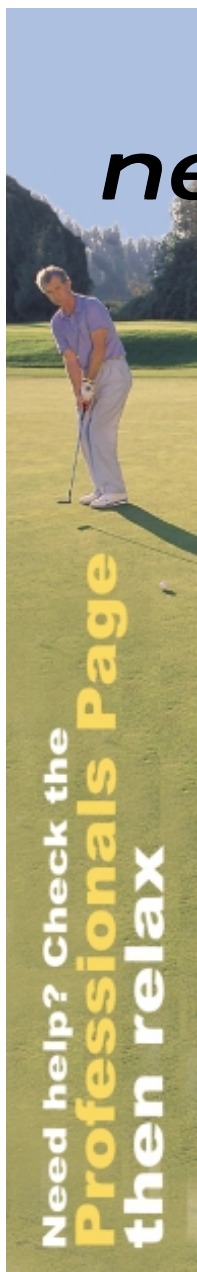
House Bill 2595

HB2595 was adopted by the Arizona Legislature in 2002 to establish standards for cleanup of residual contamination at CDLs. The scope was
(Continued on page 24)

Kitchen microwave, hotplate, chemicals & glassware used in a residential drug lab. Photo courtesy Detective Darin Fredrickson



news briefs



Romic Environmental Technologies

❖ Ms. Tricia Morrissey has recently left Romic Environmental Technologies to move closer to family in Minnesota. Tricia has spent over three years with Romic in national account management and customer service and is lucky enough to put work life aside for awhile to be a “stay-at-home” mom. “Romic clients have come to expect great things from Tricia, and she will be missed a great deal,” said Joe Holmes at Romic.

EPAZ scholarship and mentorship winners presented with awards

❖ Charlotte Payton and Lisa Culbert presented EPAZ scholarship and mentorship awards to recipients at the Regulatory Roundup in Phoenix on October 9th. The scholarships include \$750, a complementary one year EPAZ membership, and free attendance at the annual Regulatory Round-Up Conference and free monthly luncheon meetings.

Below: Larry Mathis, Herco-Quality Plating, and Julie Rogers, Rogers Consulting Services, LLC, with evaporation tank. Photo courtesy of Julie Rogers



Charlotte Payton, center, and Lisa Culbert, right, present an EPAZ Scholarship Award to Karruthers Boison, left,

Mentorships include a complementary one year EPAZ membership, free attendance at the annual Regulatory Round-Up Conference and free monthly luncheon meetings.

One scholarship award went to Karruthers Boison, a Graduate Research Assistant in the Environmental Technology Management program at ASU East. He is pursuing an MS degree with a concentration in Environmental Technology Management. He is a volunteer with the African Conservation Foundation and recently completed a summer with the Town of Gilbert Environmental Programs. The environmental area that Karruthers is most interested in is regulatory compliance, performance monitoring, and environmental planning to ensure sustainability.

A second scholarship award was
Story continued on page 27

News Briefs

Please contact the editor to contribute to News Briefs. Editor@ehshomepage.com

Evaporation of Rinsewaters & Spent Plating Baths at metal finishing facilities

❖ During an EPA hazardous waste compliance inspection in Tucson, Julie Rogers, Rogers Consulting Services, LLC, requested clarification of the EPA position on evaporation of rinsewaters from electroplating operations. PDEQ Compliance Officer Steve Johnson recently provided Ms. Rogers with an EPA information sheet, provided by Region IX, to clarify the regulatory position. The information is summarized below. Ms. Rogers and Larry Mathis, Herco-Quality Plating, are shown (photo at left) in front of a rinsewater passive evaporation tank.

EVAPORATION continued on page 13

Ladder Safety Regulations

precautions protect employees

Major injury or even death can result from improper ladder use. You can protect your employees with proper training and by providing the right ladder for the job. ADOSH reviews ladder safety in the workplace.

by Sean Kriloff

The Arizona Division of Occupational Safety and Health regulates workplace safety and health in Arizona. Workplaces vary from a manufacturing plant to a construction site, to a restaurant, depending on the nature of the work and the tools used in the workplace may constantly change. Ladders are essential tools commonly used in construction projects, maintenance projects, or in other activities that require access to elevated heights. Depending on the task being performed, the worker may be engaged in construction activity and the safety of the task would be regulated according to 29 CFR 1926.1053. If the task being performed is not considered construction activity, the ladders' use would be regulated under 29 CFR 1910.25 – 1910.27.

Ladders are manufactured in varying lengths, shapes, and sizes including A-frame and extension ladders. Ladders are typically constructed of wood, aluminum, or fiberglass and are required to be labeled with a *Duty Rating* applicable to the job that will be performed while using the ladder. Ladders should be selected according to the scope of work performed taking into account environmental factors. Employers are obligated to understand and know how the ladders will be used. Employees engaged in construction activity must be trained on the proper use, including recognition of hazards related to ladders, nature of fall hazards in the work area, correct procedures for erecting and maintaining, proper placement and care in handling ladders, and the maximum intended load-carrying capacities of ladders used. Employees engaged in "general industry" activities, should also be trained on the hazards they anticipate facing.

Use of ladders must conform to the manufacturer's intended use or employee injuries could result. Werner, a leading manufacturer, currently manufactures ladders in five (5) different use categories including: Special Duty, Extra Heavy Duty, Heavy

Duty Medium Duty, and Light Duty. Are the ladders your employee's use rated for the actual manner in which they are used? Misuse of a ladder can be a contributing factor in most ladder accidents. Werner lists a few ladder "Do's & Don'ts" on their website at www.wernerladders.com. Ladder safety tips are also available from many other sources. Here are a selected few:

Do:

- Keep body centered on the ladder
- Move materials with extreme caution
- Climb facing the ladder; always use three (3) points of contact
- Haul materials up on a line rather than carry them up an extension ladder; use caution when carrying anything up a ladder
- Do use A-frame ladders on level and sure footings
- Extend ladder three (3) above roof line and tie off ladder to structure

Do Not:

- Do not stand above the highest safe standing level.
- Do not climb a closed step ladder
- Do not stand or sit on the top or rail shelf
- Do not exceed the Duty Rating
- Do not place the base of an extension ladder too close to a building
- Do not place the base of an extension ladder too far away from the building; Set the ladder at a 75.5-degree angle.
- Do not over-reach, lean to one side, or try to move a ladder while on it

Continued on page 13



Air Quality Permitting Strategies

TESTLaw Practice Group's
advice
can help you achieve a
desirable air permit

by Rolf R. von Oppenfeld
Eric L. Hiser
Mark E. Freeze
The TESTLaw Practice Group

PART I A FRAMEWORK FOR PERMITTING

Permitting a facility under the Clean Air Act can be a complex process involving several different permit paths. Successful navigation of the permitting program requires significant effort by the facility and in some cases outside legal and technical help. This complex process can be simplified, however, if a few simple steps are followed.

First, determine the applicable *triggers* for permitting. Triggers may include *construction, modification, reconstruction* or *operation* of a source of air contaminants and, in many states, the *construction, modification, reconstruction* or *operation* of air pollution control equipment.

Second, *determine the emissions impact* of the proposed change or operation of the source. Many programs are triggered by changes to potential emissions, while others are

triggered by changes to actual emissions. Remember to consider changes not only at modified units, but also at other units that may be "affected" by the change or which will be debottlenecked by the change.

Third, determine which permit programs are applicable and *review each program independently*. Potentially applicable preconstruction review programs include PSD and nonattainment NSR for major sources and major modifications to major sources; state preconstruction review for most other changes to non-major sources, unless exempted; pre-reconstruction Title V, Notice of MACT Approval or an equivalent state preconstruction approval for changes to major sources of HAPs; Title IV permit changes for "affected sources" subject to the acid rain provisions; the NSPS and NESHAPs programs may require advance notification of changes; and finally, remember that some states and localities may have local criteria or air toxics programs that require preconstruction review, as well. Federal major sources require a Title V or Part 70/71 operating permit and most states and localities require a minor source operating permit for non-major sources exceeding locally set thresholds.

Fourth, *determine applicable requirements*. A critical step is determining which requirements will be applicable to the source you are seeking to permit. This includes both the permit program requirements applicable to the source (e.g., PSD, Title V, etc.), but also emissions control standards such as those set forth in the substantive subsections of NSPS, NESHAPs, and SIPs. The identification of all applicable requirements is a substantive obligation of the source for Title V sources,¹ and is also required now for most other sources by state and local programs.

Fifth, *assess viability* of the proposed facility and permit. If you can already determine that the applicable requirements triggered by the proposed facility cannot be complied with either at all or in the time frame available to the facility, then you must go back and redesign the facility to ensure compliance. Permitting is an iterative process – you work out what the facility wants to do, compare it to what

regulations allow and require, and then determine whether it is achievable. If not, the project must be reconceptualized with the constraints of the regulations worked in. If it is, then the project may proceed. The evaluation phase of permitting is critically important to developing a workable permit for which compliance can be consistently demonstrated.

Sixth, *reverse engineer* the permit. Starting with the applicable requirements, which tell you what compliance steps are required, develop a permit that incorporates those requirements in a way that allows the source the maximum degree of operational flexibility. The process of reverse engineering a permit is discussed in more detail below.

Seventh, *submit the application*. It is generally beneficial to have a pre-application meeting to discuss the source's and the agency's expectations of the permitting process and to seek practical guidance from the agency on the type of information and detail that it is expecting to see in the permit application. This is also a good time to discuss the permit process, time frames, and additional concerns or questions that you may have. After the preapplication meeting, revise the permit application to meet the common expectations and then submit.

Eighth, *submit a draft permit* with the application. A suggested draft permit gives the facility the opportunity to set forth, in the clearest language possible, the optimal way to apply the regulations to the facility's operations. A suggested draft permit can be an invaluable tool for educating the permit writer.

Ninth, *participate in the permit drafting process and document resolutions*. The permit negotiation phase may include discussions with the permit writer on how the permit will be interpreted. These discussions should be included either in the permit text itself, which is the best case, or in the response to comments or technical support documents prepared by most permitting authorities. These documents will be useful in future discussions with inspectors and may be critical to supporting the facility's position in an enforcement action.

While following this framework may not guarantee a favorable permitting outcome, the steps will greatly help a facility in its negotiations for the final permit.

PART II

Pre-Application Preparation and Strategies

A. Identify and Quantify All Emissions of Regulated Air Pollutants

An important step in the permitting process is the applicability determination, which requires identifying and quantifying all regulated pollutants from emission units at the source. Because permitting applicability largely depends on the source's classification and the amount of any emissions increase or decrease associated with a proposed change, the determination of the source's potential to emit is critical. Accordingly, sources should determine usage and emission rates for all regulated pollutants from every potential emission source, including fugitive emissions.

B. Identify Applicable Requirements

Sources applying for a Title V permit application are under an obligation to identify and submit to their permitting authority a list of all applicable requirements.² Sources in many "unitary" permit programs, even if primarily seeking a preconstruction change, may find that they need to identify all applicable requirements because unitary permits typically must meet both preconstruction and Title V requirements. Finally, many permitting programs are moving toward requiring all permit applications to identify applicable requirements, based on their experience with the Title V program.

Determining SIP control standards can present a difficult challenge. In many cases, permitting authorities have adopted new air pollution control standards (or modifications to existing control standards) and have submitted these additions and modifications to EPA for approval into the SIP. There is typically a delay in processing these modifications. Sources thus need to work with their permitting authority and potentially with the EPA Region to ensure that all applicable SIP provisions have been identified. Some permitting authorities and EPA Regions have lists comparing current state regulations to the SIP to assist in this process. These lists should be obtained and carefully scrutinized.

C. Reverse Engineering the Permit

If a permit is required, the source should consider "reverse engineering" the permit to help minimize regulatory burdens. In other words, once applicable requirements are determined, the source should determine what, at a minimum, must be done in order to meet those requirements and to demonstrate compliance in a convincing way.

Sources should also identify significant applicable requirements and how the source will demonstrate compliance. Rather than having the

permitting authority develop "creative" ways it believes the source can demonstrate compliance, a source should develop a compliance demonstration methodology before submitting the application. Furthermore, sources may want to consider possible "alternative operating scenarios." For instance, if a source anticipates process changes within a few years, it may be to the source's advantage to incorporate this possible scenario into the permit at the outset. By designing a permit that maximizes operational flexibility, a source may avoid having to secure a permit revision if such changes occur. Developing compliance demonstration methodologies and alternative operating scenarios first will also help the source determine what emissions must be inventoried before conducting the inventory, potentially saving time and contractor's fees.

PART III Permit Review Strategy

The source cannot presume that even a well-crafted permit application accompanied by a well thought out suggested draft permit will achieve the desired permit. Many obstacles still remain, including understaffed agency permitting bureaus, inadequately trained permit writers, a lack of understanding of the source's operations, and adverse public comment. A well crafted permit strategy is prepared for each of these eventualities and will address three specific items: (1) educating the permit writer; (2) clarifying permit terms and conditions during public comment; and (3) preparing for a permit appeal. Each of these strategically important parts of the permitting process is addressed below.

PART IV. Special Considerations for PreConstruction Review Permits

Preconstruction permits are particularly important. Unlike operating permits, which are typically renewed every three to five years, preconstruction permits are typically

issued for the life of the equipment or facility that they cover. Shortcuts and errors in the preconstruction context may thus have long-term consequences for the facility. Preconstruction permits proceedings are also the time that environmental impacts will be subject to the strictest scrutiny. Facilities should be prepared for these differences.

PART V. Special Considerations for Title V Permits

Congress believed that by bringing all applicable requirements together in one document, the Title V operating permit program would make it easier for sources to understand their obligations under the CAA. However, by consolidating these requirements in one document, Congress also sought to enable EPA, states, and citizens to bring enforcement actions more readily against sources in violation of those requirements. Nonetheless, by strategically approaching the permitting process, a source may avoid common compliance problems and perhaps obtain some significant benefits from the Title V process to at least partially compensate for the potentially greater compliance exposure.

Given the cost of continuous compliance demonstrations, the imposition of additional operational restraints, and increased civil and criminal liability exposure, it is to a source's advantage to ensure that it does not unnecessarily trigger Title V requirements. Second, if a source's potential to emit exceeds Title V applicability thresholds, the source may be able to adopt additional limits to become a "synthetic minor" source not directly subject to Title V.

PART VI. Summary

A properly conceived permitting strategy can greatly facilitate a source's ability to achieve a desirable air permit. Sources should thoroughly assess their needs, both present and likely future, and ensure that permitting does not foreclose future options unnecessarily. Applicable requirements should be thoroughly reviewed and understood prior to submitting the application. Proposed compliance methodologies should be developed, tested, and implemented at least hypothetically prior to proposal to the agency. Extensive use should be made of techniques for increasing flexibility, defining permit scope, and easing the demonstration of compliance while still providing the source with the tools to make an ongoing and convincing demonstration of compliance. If these tools are used properly, the facility air permit should not hinder production, but may actually serve as a source of strength.

NOTES:

- 1 See 40 C.F.R. § 70.5(c).
- 2 40 C.F.R. § 70.5(c)(4).

Rolf R. von Oppenfeld, Eric L. Hiser, and Mark E. Freeze can be reached at 602-955-1416, or by email at VHFAZ@TESTLAW.com. The "Team for Environmental Science and Technology Law" (TESTLaw) Practice Group is a national environmental, science and technology law practice group, concentrating its legal efforts in the area of environmental law.

Continued from page 9

Ladder Safety:

Protecting your employees

Citations Issued

In 2002, ADOSH issued 46 citations under 29 CFR 1926.1053. Between January 2003 and the October 31, 2003, there were 49 citations issued under that same standard. In general industry, only two (2) citations were issued under 1910.25 – 1910.27 in 2002. However, from In January 2003 – October 31, 2003, 22 citations have been issued.

Training

Evaluate your training program. What are your training procedures? Are your employees properly trained? What is the current condition of the ladders your employees use? Do your employees inspect the ladder carefully prior to each use looking for missing, damaged, or loose components?

A ladder is a very simple, yet essential tool needed to conduct a variety of projects. Although a simple tool, if proper care is not taken during use, employees could suffer major injuries or even death. No ladder is safe unless it is the right type and size for the job.

Consultation offices

ADOSH has a consultation office that can answer questions or help employers comply with the ladder and other OSHA standards. The consultation sections can be reached at 602-542-1769 in Phoenix, or 520-628-5478 in Tucson.

Sean Kriloff is an Industrial Hygienist for the Division of Occupational Safety and Health of the Industrial Commission of Arizona. Sean can be reached at 602-542-1664, or by email at kriloff.sean@dol.gov.

Continued from page 8

News Briefs:

Evaporation of Rinsewaters

From the EPA Information Sheet:

Applicability of RCRA Hazardous Waste Regulations to Treatment of Rinsewaters and Spent Plating Baths at Metal Finishing Facilities

Generator Accumulation: 40 CFR 262.34 & 40 CFR 270.1(c)(2)(i)

- Generators may treat hazardous waste on-site, without a permit provided they are **in full compliance** with the applicable provisions in 40 CFR Section 262.34 (e.g. labeling, storage time limits, inspections, etc.) and provided the treatment is not thermal treatment (51 FR 10146, 10168; March 24, 1986).

- Containers must be in compliance with 40 CFR 265 Subpart I (e.g. container must be kept closed).

- Tanks must be in compliance with 40 CFR 265 Subpart J, except for 265.197(c) and 265.200 (e.g. tanks do not need to be covered, *however, they do need to be labeled as per 262.34*).

Rinsewaters

- Rinsewaters may be treated in generator accumulation units (tanks, containers.)

- No thermal treatment allowed (i.e. no added heat), *however this is exempt under CWA as part of the WWTU.*

- Passive evaporation is allowed, in tanks only (containers

must be kept closed.)

- Large Quantity Generators (LQG) must also comply with air emission regulations (40 CFR 265 Subparts AA, BB, and CC).

- The Generator must conduct a waste determination on any sludge residues and dispose appropriately. Residues from treatment of listed hazardous waste remain listed due to the derived-from rule.

Spent plating baths

- (Bullet points are the same as for "Rinsewaters").

Final Note:

Two additional sections to this document are not reprinted here, they are, "Wastewater Treatment Unit (WWTU)" and Elementary Neutralization Unit (ENU)." *If you would like a copy of the entire document (from Cheryl Nelson, Senior Regulatory Advisor, Waste Management Division, EPA Region IX), please contact the editor at Editor@ehshomepage.com.*

Julie Rogers, Rogers Consulting Services, LLC, can be reached at 520-490-8380.

Continued from page 23

Olson: Chemicals in the 21st Century

substances. The Convention also requires that exporting countries must provide technical assistance for developing countries to improve their capacity to manage chemicals through their lifecycle. The Stockholm Convention on Persistent Organic Pollutants (POPs), adopted in May 2001, included an initial list of 12 POPs, ranging from chlorinated pesticides, to industrial chemicals and unintentional by-products of combustion or production. POPs are semi-volatiles, with low water solubilities and high lipid solubilities, that are resistant to photolytic, chemical or biological degradation. Thus, they have long environmental lifetimes and have been detected on every part of the globe, even the Antarctic where they have never been used.

These conventions and organizations don't encompass all of the efforts at developing Best Management Strategies for chemicals, but they do represent a new spirit of cooperation between environmental groups, governments, intergovernmental organizations, and industry. One can only hope it continues.

continued from pg 15

HILD: SI's & Global Warming

to implement the greenhouse gas trading requirements. Because there are numerical reductions of greenhouse emissions in the bill, EPA will be required to develop '*measures*' for what progress is made toward the bill's 2016 goal-year of reducing those emissions to the 1990 level. EPA says this bill represents a 15% reduction from today's emission levels. Clearly, the politicians are good at 'spinning' numbers so it sounds really impressive; 15% sounds like a *lot* more than the Kyoto 1990-level reductions of 7%, until you realize its *today's* levels the new bill deals with.

At this point, you are asking... "OK, but aren't those '*measures*' the same as SI's?"

You would think so, but it is here, where the political brown cloud gets murky. Let's look a little closer, especially the part about how this bill's Global Warming impact (reduction) will be "*measured*" before we decide that the "costs" to U.S. taxpayers will be worth the "benefit" derived in emissions reduction.

The Kyoto Protocol (which the U.S. chose *not* to ratify), required a reduction in those emissions to 7% *below* 1990 levels by the year 2010 whereas, the Lieberman-McCain legislation chooses 2016 as the target year presumably allowing the U.S. to regain some global status for the efforts. But when we examine the actual results of such forced reduction in those U.S. industries on *global* emissions, the "benefits" are so small, they are almost impossible to justify in a cost-benefit analysis.

Let's you think I am the only one that smells something akin to bad sausage being made, other non-politicians smelled something, too. Kyoto Protocol proponent Tom Wigley of the National Center for Atmospheric Research has written that the results of implementing the Protocol reductions in all the signatory nations, would not be effective beyond reducing global warming by several percent and the temperature reduction would be, at most, measured in only a few hundredths of a degree. So, it's not likely that the U.S. joining the effort with this "better-late-than-never" attempt to save face will make a contribution in the long term, other than to *negatively* effect our own economy (and the taxpayer's pocketbooks).

Speaking about the bill, ASU Climatologist and Associate Professor Robert Balling in *My Turn* (AZRepublic, 03/Nov/03), noted that:

"Americans should demand two key numbers in any evaluation of the Lieberman/McCain bill: How much will it cost and what climate benefit will we realize for the cost? Given that the denominator of this cost/benefit ratio is surely near zero, the bill seems indefensible...and should make the bill dead on arrival."

Environmental Sustainability measurements (SI's) are, at best, difficult to prescribe for the critical global issues we face. In the case of Global Warming, while it *appears* that our Senators have our children's, children's, children's best interest at heart, their costly proposal will most certainly negatively impact the economy and those are the only real numbers politicians are likely to listen to.

So let us not be mistaken when we try to "measure" the impact we, in the U.S., have on global warming. We should all be realistic about expectations that the results of actions taken on behalf of the environment will only be measured in dollars spent versus dollars gained. Choosing the SI's we need as

yardsticks for Global Warming, therefore, need careful consideration and input by knowledgeable scientists before the politicians make sausage into legislation that truly impacts our children's, children's, children.

LOWN & HILLEMANN, PLC ATTORNEYS AT LAW

Free initial consultation and discount rates for small business clients

- ◆ Small Business Organization ◆ Business & Personal Litigation
- ◆ Estate Planning (Wills & Trusts) ◆ Employment & Labor
- ◆ Aviation Enforcement Actions

OFFICE LOCATIONS:

2659 West Guadalupe Road, Suite C118
Mesa, Arizona 85202
(602) 228-3098

9425 South Main Street
Jonesboro, Georgia 30235
(404) 520-0171



Sustainability and Sustainable Development:

Measuring the Immeasurable:

Sustainability Indicators (SI's) and Global Warming

Nicholas R. Hild, PhD.

With the front page news focused on the war on terrorism, you might not have noticed that our politicians have been quietly making political hay on the home front by opposing whatever the latest environmental gaff the reigning administration puts forth. First, the democrats jumped all over President Bush's announcement that arsenic in drinking water needs more study before putting new standards in place. And, not too long after that, when the President announced that he would not support the Kyoto Protocol, the democrats announced that they would not endorse his nominee for EPA director. So it came as no surprise when, recently, Democratic Senator Joe Lieberman got together with Arizona Republican Senator John McCain to float a 'bipartisan' bill that would address Global Warming concerns by committing the U.S. to reduce emissions of greenhouse gases over the next decade.

Unfortunately, when politics enters the environmental arena, what oftentimes looks like bipartisan efforts to do a *good* thing is frequently constructed using poor science and even worse statistical underpinnings. For those of us in the environmental professions, that should not be a surprise. Lawyers generally don't have science backgrounds so they can be excused for their naiveté, if not for their deliberate disregard and dismissive hand waving at questions about costs versus benefits that require quantifying results.

They can be forgiven, also, because a lot of the published works on Global Warming (and in the general field of "Environment") seems to come from social scientists that set policy without benefit of 'hard' science or mathematics to support their views. Of course, not having good science to support environmental legislation never stopped our political leaders before in promoting their pet projects. But, what the Lieberman/McCain bill begs for, are some kind of feedback mechanism, such as requiring results to be measured in some way (other than how much it costs us taxpayers).

In the sustainable development area, we have seen that Sustainability Indicators (SI's) are essential for tracking progress toward a more sustainable future. We have also seen that most SI research seems to be from Europe that is heavy on *ecological* indices. Thus, SI pontificators struggle with the application of quantifiable measurement indices to fairly broad and mostly *non*mathematical environmental concepts. Yet, we know that sage business advice has always been, "... *what gets measured, gets performed.*" Or, similarly, "... *if you can't measure it, you can't manage it!*"

So, the measurement and SI selection is a definite requirement for charting our progress toward a sustainable future. And, our impact on Global Warming should be no different: It's the "*how-to-do-it*" that seems to be a problem in the Global Warming debate.

What got me thinking about this whole "measurement" dilemma was that our esteemed (Arizona) Republican Senator John McCain's legislation that he and co-sponsor, Democratic Senator Joe Lieberman (the same perennial Presidential candidate that criticized '*Dubya*' for his recent stand on the Kyoto Protocol) introduced to *require* the U.S. to reduce greenhouse emissions without any provision for *really* measuring results (emphasis intended). What *is* certain to be measured, however, is that adding that absolute *requirement* into the law, will definitely take a big bite out of taxpayers pocketbooks, whether

Continued on page 14

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.

continued from pg 17

FORD: RCRA recycling proposal

generator seeking the exclusion, and an industry different from the generating facility seeking the exclusion, the exclusion would be lost. For example, if a chemical manufacturer who reclaims spent materials from the chemical manufacturing industry were to also reclaim materials from another industry (e.g., the pulp and paper industry), the spent materials from the other industry would be ineligible for the exclusion.

EPA also proposes that a "continuous process" cannot involve a broker or middleman. The recyclable materials must be sent directly to another intra-industry facility, although a private, third-party transporter may be used for this purpose. Regarding the timing of the continuous reclamation process, EPA is proposing to use its speculative accumulation provisions⁴ to determine if a process qualifies as continuous. Although current speculative accumulation requirements do not list recordkeeping standards, EPA points to the generic recordkeeping requirement of 40 CFR 261.2(f) and suggests methods of satisfying that provision, such as industrial through-put data or bills of lading. The proposal also includes a one-time notification for currently regulated facilities that seek to take advantage of the exclusion.

When determining if reclamation occurs within the same generating industry, EPA is proposing to use the North American Industry Classification System (NAICS). Facilities will be considered the "same industry" if they share the first four (out of six) digits in their NAICS code. To maintain consistency with regulatory provisions located elsewhere, EPA is specifically defining the mineral processing and petroleum refining in lieu of using the NAICS system. Furthermore, waste management industries are ineligible for the exclusion and are thus not on EPA's list of NAICS codes.

Although EPA did not include the prospect in its proposed regulatory language, EPA is considering an exclusion for vertically-integrated, multi-establishment facilities. These large facilities encompass multiple NAICS codes and thus cannot take advantage of the proposed exclusion. EPA notes several benefits of an exclusion for materials recycled on-site in a continuous process, even if the materials move across different industries (i.e., NAICS codes). However, EPA points out that this supplemental exclusion is beyond the direction of the D.C. Circuit Court opinions.

Legitimate Recycling

The second objective of the proposal represents the Agency's first attempt to codify the principles of legitimate recycling. The proposal includes four criteria for legitimate recycling: (1) the secondary material is managed as a valuable commodity and if an analogous raw material exists, the secondary material is handled in a consistent fashion; (2) the material provides a useful contribution to the recycling process, with a special consideration of its economic role; (3) the material should generate a valuable product, which is either sold to a third party or is intrinsically useful to the producer; (4) the product of the recycling process cannot contain "significant" amounts of hazardous constituents that are not found in analogous products, or significantly elevated levels of constituents that are found in analogous products.

The four criteria are based on the former federal register preamble and EPA guidance materials. However, there are a few deviations that are worth mentioning. For instance, when EPA discusses the first criterion in the preamble, the Agency implies that land storage may be permissible, which is a departure from former guidance indicating that land application suggests sham recycling. EPA maintains that when the land application creates a release to the environment, the exclusion is negated. Similarly, the fourth criterion, known as "toxics along for the ride," is different from the concept identified in previous guidance, in that the proposed rule shifts the focus from the components of the secondary material to the makeup of the finished product. EPA recognizes that this shift is less restrictive, but contends that the presence of toxic constituents in recyclable secondary materials is less relevant to assessing the legitimacy of recycling, because most of the toxic components are removed through the recycling process.

Alternative Proposal

The EPA is also seeking comment on the idea of a broader recycling exclusion that would not be limited to intra-industry relationships, but instead governed by the legitimate recycling principles. Though this was not officially proposed, it was discussed as a possible alternative in the preamble text. The American Chemistry Council (ACC), American Petroleum Institute (API), and other industry groups have suggested that EPA remove the word "recycle" from the definition of "discard" all together. The proposal should generate numerous comments and significant controversy.

Note: *Thanks to my colleague Barton Day for his RCRA guidance and insight.*

FOOTNOTES:

- ¹ See 68 *Fed Reg.* 61562 (October 28, 2003).
- ² *American Mining Congress v. EPA*, 824 F.2d at 1190 (D.C. Cir. 1987)
- ³ *Association of Battery Recyclers v. EPA*, 208 F.2d at 1051 (D.C. Cir. 2000).
- ⁴ See 40 CFR 261.1(c)(8).

Does Your Marketing Plan Include
Advertising in the Journal?

Advertise directly to thousands
of Arizona EH&S professionals
who buy your products and your
services.

Call 480-422-4430 to contact an
advertising sales representative.



Legal news you can use

Regulatory Developments

EPA Proposes Changes to RCRA Recycling Rules

Michael C. Ford, Attorney

In the October 28, 2003 Federal Register (68 FR 61558) EPA proposed a revision to the Resource Conservation Recovery Act (RCRA) regulatory definition of solid waste. EPA stated that the intent of the proposed rule was twofold: (1) define those circumstances under which materials would be excluded from the RCRA regulations because they are generated and reclaimed in a continuous process within the same industry; and (2) clarify the concept of "legitimate recycling." While EPA claims that the proposed rule is intended to have a deregulatory effect, it should be noted that the proposal reflects an extremely narrow interpretation of court decisions indicating that EPA lacks the authority to regulate materials that are recycled in such a manner that they cannot fairly be said to be "discarded." It should also be noted that EPA's "legitimate recycling" discussion appears to expand the range of recycling activities that might be characterized as waste management. EPA's new exclusion has an important flip side that should be recognized by the regulated community: what qualifies for the exclusion is not waste (a legitimate conclusion) but what does not, absent some other exclusion, is waste.

Proposed Exclusion from the Definition of Solid Waste

Since 1980, the year that the first substantive RCRA regulations emerged (45 FR 33066; May 19, 1980), EPA has interpreted "solid waste" (an operative term in the RCRA statute) to encompass, among other things, materials destined for recycling. EPA bases this interpretation on three arguments. First, EPA asserts that the statute and legislative history suggest that Congress intended for certain materials awaiting recycling to be considered solid wastes. Second, EPA maintains that materials destined for recycling offer the same human health and ecological risk as do materials destined for disposal. In fact, EPA describes recycling activities as accounting for numerous threatening incidents during the early RCRA years. Third, EPA reasons that excluding materials destined for recycling is inconsistent with the "cradle to grave" principle, because the same materials could enter, exit, and then re-enter the RCRA universe with each regulatory stage depending on a materials' intended end use.¹

Several D.C. Circuit Court decisions have addressed challenges to EPA's interpretation of the definition of solid waste and the meaning of the term "discarded materials" in particular. In 1987, the Court found that "discarded materials could not include materials *destined for beneficial reuse or recycling in a continuous process by the generating industry itself* (because they) are not yet part of the waste disposal problem" (italics in the original).² More recently, in 2000, the Court stated that ". . . Congress unambiguously expressed its intent that 'solid waste' (and therefore EPA's regulatory authority) be limited to materials that are being 'discarded' by virtue of being disposed of, abandoned, or thrown away."³ Based on these decisions, EPA is proposing a new definition of "discard," thereby creating a new regulatory approach for materials that are generated and reclaimed on a continuous basis within the same industry.

EPA is seeking comment on two proposed options concerning the concept of "continuous process within the same industry." The main difference between the options is whether the exclusion will apply at facilities that accept both intra-industry materials for reclamation and reclamation materials from other industries. In EPA's second option, if a reclamation facility recycles wastes from both an intra-industry

Continued on previous page (16)

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.

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 is pleased to announce that Jim Norton has been appointed as AAI's new Director. Jim has worked with AAI in the past as a lobbyist and association member and is a principle

in the lobbying firm Norton and Associates. Jim will focus on increasing membership and improving AAI's lobbying efforts and will preside over all association operations and activities.

AAI held its first Energy Conference on Nov. 13th at the Scottsdale Radisson Hotel. The conference focused on gasoline, electricity and natural gas supply and infrastructure issues. Presenters included Tom Bannigan from Kidner Morgan, Ed Fox from APS, Don Zinko from El Paso Gas and many others. AAI would like to express appreciation and thanks for all of those who attended, participated and sponsored this event.

AAI's Environmental, Health and Safety Committee's Nov. 12th Breakfast Meeting featured Sam Diggins from ST Microelectronics and Dave Stangis from Intel. Sam spoke on the Occupational Health and Safety Assessment Series 18001 standard and ST Microelectronics experience in obtaining this certification. Dave Stangis spoke about Intel's vision of corporate responsibility and the company's strategy in this area. The Dec. 10th Breakfast Meeting included a presentation by Jim Norton on his vision and plans as AAI's new director and a presentation by Marilyn Hill from the Arizona Department of Commerce on Arizona industries of the future. The next EHS Committee Breakfast Meeting will be held on Jan. 14th at 7:30 AM at the Sheraton Phoenix Airport Hotel located at 1600 S. 52nd Street in Tempe.

For more information go to AAI's web page at <http://www.azind.org> and click on events or contact Brent Frazier (602-252-9415) or Jeff Homer (480-441-6672).



*Jeff Homer,
EHS Committee
Chairman*

ACHMM Thunderbird



CHMM Certification: What does it take to be Certified?

The CHMM certification is gaining recognition throughout the country by state and federal agencies and private industry alike.

All candidates for CHMM certification must have a baccalaureate degree (or higher) from an accredited college or university, and pass a professional multiple-choice examination developed and administered by the Institute of Hazardous Materials Management. Eligibility to sit for the exam, and the level of certification, are determined by the candidate's education and experience.

Master Level: Attainment of a degree (as described above) in a field related to hazardous materials management/ engineering **plus 7 years** of experience in the field of hazardous materials management/ engineering, including



*Chuck Paulausky,
Chapter Secretary*

responsibility for developing, implementing, directing and/or evaluating one or more related program activities.

Senior Level: Attainment of a degree (as described above) **plus 3 years** of appropriate experience in the field of haz. materials management/ engineering.

For more information on **CHMM Certification**, go to: <http://www.ihmm.org/>

The ACHMM Thunderbird Chapter and Gateway Community College are co-sponsoring the **National CHMM Overview Course** in April 2004. Look for the full-page ad in this issue of the Journal!

The **ACHMM Thunderbird Chapter** meets on the first Wed. of each month at 6:00 PM at Garcia's, 2212 N. 35th Ave. in Phoenix. All are invited to attend. For program and Overview Course information, go to: <http://www.thunderbirdchmm.org/>.



Barry Westerhausen,
Sergeant at Arms

The Arizona AESF would like to welcome all who are interested in metal plating, metal finishing, surface cleaning, metal

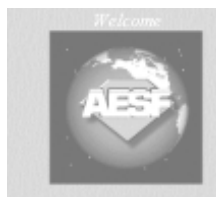
coating or those interested in environmental issues that affect industry to meet with us the second Thursday of each month. Meeting begin with social hour at 5:28 PM and Dinner at 6:28 PM, discussion following. Topics planned for the second half of 2003 are environmental regulations, hazardous waste, new processes, and plating trends.

It is very important to be aware of what is happening in the industry and AESF is a great way to meet people which have many of the same interests and may have encountered some of the same problems you may be trying to solve. All are welcome to attend; you do not need to be a member to attend.

If you would like to be notified of upcoming AESF events and receive our newsletter or have your business/business card listed on the newsletter 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.

We look forward to seeing everyone Dec. 11th and Jan 8th at the Doubletree Resort in Phoenix, Van Buren and 44th St.

AESF



Mike Block,
President

At our annual membership meeting this fall, AHS members adopted the following mission statement:

The mission of the Arizona Hydrological Society is to advance the science, practice, and public understanding of hydrology and water resources in Arizona and the arid southwest.

To that end, all interested individuals are welcome to attend monthly meetings in Flagstaff, Phoenix, and Tucson. Upcoming events include the Phoenix Chapter's annual holiday dinner meeting on Tues., Dec. 9 at Macayo's Depot Cantina in Tempe. ADEQ Superfund Programs Section Manager Philip

Arizona Hydrological Society



AHS Adopts a New
Mission Statement

McNeely will present *WQARF Early Response Actions*. In Jan., the Phoenix Chapter will conduct its annual kick-off meeting to plan activities for 2004. On Dec. 9 in Tucson, the topic will be *Anasazi, Droughts, and Forest Fires: Cautionary Tales that Tree Rings Tell* presented by Dr. Thomas Swetnam from the UA Laboratory of Tree-Ring Research. The meeting will take place at the office of Errol L. Montgomery & Associates, Inc. On Jan. 13, Anne Huth will discuss her dissertation research on the hydrology of the San Pedro River. Check our website at www.azhydro.soc for details.

Mark your calendars for the upcoming Second Biennial Symposium on Scientific Issues Related to the Management of Landfills in Arid and Semi-Arid Regions being held in Tucson on March 17-20, 2004. For more information, check our website or contact Michael Geddis, Symposium Chair, at Hydro Geo Chem: (520) 293-1500, X-114 (mikeg@hgcinc.com).

SAEMS



Though the Southern Arizona Environmental Management Society (SAEMS) was created to promote understanding of environmental issues and to provide a forum for the exchange of ideas and information, members find that SAEMS also provides opportunities to help improve the quality of the environment directly.

On Saturday, October 25 several members participated in an Adopt-A-Highway cleanup. In just 3 hours, they filled over 50 bags along I-10 between mileposts 282 and 283 just beyond the Sonoita exit. Afterwards the volunteers enjoyed hearty food and huge desserts at the well-known Triple T Truckstop.

Next, SAEMS volunteers will pitch in to cleanup trails at the Colossal Caves on November 15. In the near future SAEMS will conduct another one of the famous Wildcat Dump Cleanups. We are still searching for the perfect site - one with several cars, refrigerators and other large obstacles.

SAEMS luncheon meetings are routinely held the last Wednesday of the month at the Viscount Suites, starting at 11:30. Future luncheon topics include ADOSH Consulting Services, ADEQ's UST Program, and Vulnerability Assessments for Industrial Facilities. (Visit the SAEMS website at www.saems.org.)

*Pamela Beilke,
President*



Arizona Environmental Strategic Alliance



The Alliance held its Annual Board of Directors Meeting on Nov. 6th at SRP and elected the following officers: Chairman of the Board, Jim Larsen (Intel); Sr. Vice Chairman, Rob Barnett

(PING); Vice Chairman, Bill Wiley (APS); Treasurer, Dan Casiraro (SRP); and President, David Young. In addition Terry Hudgins and Beverly Westgaard were elected as Co-Chairpersons of the Alliance's Advisory Council. The Advisory Council is the conscience of the organization that works with Alliance members to ensure adherence to the goal of encouraging and recognizing environmental leadership in the State of Arizona. The Alliance

*David G. Young,
President*



congratulates all of its elected officers and looks forward to another year of hard work.

The Alliance is also currently reviewing applications for new members. The Alliance is a unique public-private partnership comprised of various-sized companies, municipalities, and regulators. Alliance members must be environmental leaders who view compliance as a starting point for their environmental programs. Potential members submit an application for membership that describes tangible examples of the applicant's adherence to the Alliance Principles, a ten-point environmental code of conduct. Examples of Alliance Principles are Management Support, Sustainable Use of Natural Resources, and Environmental Education and Mentoring.

Any companies or organizations that are interested in pursuing membership with the Alliance should contact David Young, President, at 480-460-5751 (davidgyoung@msn.com).



Lisa Culbert,
Chairman of the Board

In October EPAZ hosted their 4th Annual Regulatory Roundup. The conference was a great success and everyone seemed to enjoy the

addition of the 2nd day featuring "Anatomy of a Toxic Tort Case" presented by Roger K. Ferland and Quarles & Brady Streich Lang.

EPAZ's Nov. meeting featured "ADOSH Volunteer Protection Program and Inspections", *Presented by Patrick Ryan, Assistant Director, Arizona Division of Occupational Safety and Health*. EPAZ also installed new officers during the meeting. Many thanks to Lisa Culbert, Charlotte Payton and George Armstrong for their many years of service are greatly appreciated. The new officers are Eddie Martinez, President; Martin Minter, Vice-President; Melissa Holmes, Treasurer; Greg Fisher, Secretary; Lisa Culbert, Chairman of the Board. Special thanks to Mannie Carpenter for volunteering as our new Program Chairperson.

December's meeting will be held on the 11th and will feature "How to Deal with RCRA Inspections and Allegations of Noncompliance", *Presented by Barton Day, Partner, Bryan Cave*. As a follow-up to September's presentation on hazardous waste inspections, Barton Day will discuss how to prepare for a RCRA inspection, how to deal with inspectors during an inspection, how to respond effectively to allegations of non-compliance, and how to minimize civil and criminal liability for RCRA violations.

January's meeting will feature a presentation by Nancy Wrona, ADEQ Air Quality Division Manager discussing the status of PM-10 Ozone Standard.

EPAZ holds monthly luncheon meetings on the 2nd Thurs. of the month at the Sheraton Airport Hotel (52nd St. & Broadway) from 11:30 AM to 1:00 PM. Cost is \$20 members / \$30 non-members. EPAZ also gathers on the last Wed. of the month for a casual cocktail mixer. Please visit us at our web-site www.epaz.org for upcoming meetings and our new monthly mixer schedule.

EPAZ



Valley Forward

VALLEY FORWARD



VALLEY FORWARD 34TH
ANNUAL LUNCHEON
TO FEATURE ANIMAL
SHOW HOST JEFF CORWIN

Animal show host Jeff Corwin, of cable television's Animal Planet Network, will deliver the keynote address at Valley Forward Association's 34th annual luncheon on Thurs., Dec.

*Diane Brossart,
President*



11, 2003 at The Ritz Carlton Hotel and Resort in Phoenix.

One of the nation's foremost conservationists, Corwin is executive producer and host of *The Jeff Corwin Experience*. He is also the founder of an interactive museum and environmental education center called the EcoZone, and the author of a series of books on the natural history of endangered species and the destruction of their habitat.

Registration and a preview of animal exhibits will begin at 11 a.m., followed by lunch and the formal program, which will conclude by 1:30 p.m. The event is open to the public for \$65 per person or \$600 for a table of 10. Reservations are available by contacting the Valley Forward office at (602) 240-2408 or online at www.valleyforward.org.

Valley Forward brings Corwin to Arizona for a celebration of collaborative partnerships. For more than three decades, the organization has brought business and civic leaders together to convene thoughtful public dialogue on regional issues and to promote cooperative efforts in Valley communities.

Jeff Corwin has been working for the conservation of endangered species and ecosystems around the world since early adolescence. He will be a significant draw for our members and guests, who share similar concerns about environmental preservation locally and globally.

Valley Forward will celebrate its 2003 accomplishments at the luncheon and elect members to its 2004 Board of Directors.

Air & Waste Management

Grand Canyon
Section



The A&WMA Grand Canyon Chapter started off its 2003-2004 year with two well-attended informative meetings. In Sept., ADEQ Unit Mgr. Ms. Theresa Pella discussed

*Randy Cooper,
Education Committee
Section Chair*



the revised ozone and particulate standards and their impact on the regulated community. In Oct., MAG Trans. Dir. Eric Anderson discussed the \$17.5 billion Regional Trans. Plan. The plan is especially significant because it will serve as the foundation for a half-cent sales tax extension expected to go before voters May 18, 2004. It calls for \$15.8 billion in trans. projects that span a variety of trans. modes, including new and improved freeways with better access and more capacity, 27.5 miles in new light rail extensions, a tripling of bus service with added routes and less waiting, and improved streets and intersections to help relieve congestion.

A&WMA is a nonprofit, nonpartisan prof. org. that provides training, info., and networking opportunities to more than 9000 env. professionals in 65 countries. Our goals are to strengthen the env. profession, expand scientific and technological responses to env. concerns, and assist professionals in critical env. decision making to benefit society.

For information visit www.awma.org or contact Randy Cooper at (602) 272-6848 or Steve Ochs at (602) 452-5042.



It's All About Chemistry

Managing Chemicals in the 21st Century

Larry Olson, PhD.

Chemicals are a two edged sword. In the public mind, the chemical industry ranks up there with politicians and journalists in terms of admiration. Yet, like these other two professions, a productive and responsible chemical industry is necessary for the world in which we live. Indeed, Chapter 19 of Agenda 21, a product of the Rio Conference in 1992, recognizes that the use of chemicals has a central role to play in reducing poverty and improving standards of living. All of our strategies for more efficient and sustainable use of resources involve chemical solutions. Yet we must find a way to use and produce chemicals that minimize their significant adverse effects on human health and the environment. Fortunately, we have most of the tools and knowledge needed to accomplish this. What remains is more a question of the will. Both Agenda 21 and Article 23 of the Plan of Implementation of the World Summit on Sustainable Development (WSSD) in Johannesburg in 2002 call for specific actions that will increase access to information about chemicals, improve safety and accountability in their transport and use, remove certain recognized persistent pollutants from the marketplace, and encourage strategic global approaches to managing chemicals. In today's global marketplace, relying upon hundreds of individual countries to independently develop such regulations and practices is not only inefficient but ineffective.

Estimates are that 10 million different chemicals have been identified at least once in the literature, with maybe 75,000 found in commercial products. Recent years have seen not only a tremendous increase in international trade in chemicals, but a shift in production strategy. Increasingly, developing countries are becoming producers of basic chemical feedstocks, and therefore the need for scientific and technical expertise to help manage their chemicals and hazardous wastes is vital. The WSSD made a specific commitment to provide financial and technical assistance to developing countries to improve their capacity for properly managing chemicals so that they would not become a dumping ground or chemical wasteland for the rest of the world.

Better information about the risks associated with occupational and public exposure to chemicals is now available through a number of avenues. The International Register of Potentially Toxic Chemicals (IRPTC), for example, was established in 1976. Now known as UNEP – Chemicals, the goal is to link government institutions from around the world to provide the most up to date sources. The Intergovernmental Forum on Chemical Safety (IFCS), created in 1994, is a partnership of governmental representatives, intergovernmental organizations, and NGOs who seek to harmonize risk assessment procedures and chemical management schemes to avoid duplication of effort. The Inter-Organization Programme for the Sound Management of Chemicals (IOMC), established in 1995, has been responsible for the Globally Harmonized System (GHS) for the classification and labeling of chemicals which was adopted at the UN in December 2002.

Two important international conventions on chemicals are close to being ratified by a sufficient number of countries to enter into force within the next year or so. The Rotterdam Convention requires exporters to obtain Prior Informed Consent (PIC) of importers before shipping certain hazardous

Continued on page 22

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

Continued from page 7

Clandestine Drug Labs

limited to residential or recreational property; to three drugs, methamphetamine, ecstasy, and LSD; and to the residual contamination remaining after bulk chemicals and equipment have been removed. Key definitions are needed to understand the bill.

“Real Property” The area in and around a structure within the property lines of property used primarily for residential purposes, a mobile home, or recreational vehicle.

“Clandestine Drug Laboratory” Real property where methamphetamine, ecstasy, or LSD is manufactured, or person is arrested for having chemicals or equipment used to manufacture them.

“Gross Contamination” Chemicals, equipment and other items found in a CDL and removed by a law enforcement or other agency.

“Residually Contaminated Portion of the Real Property” The structure or unit where gross contamination was removed and the area of any adjacent structure, unit or land where visible evidence of residual contamination is observed by a peace officer.

The bill established a joint legislative oversight committee (JLOC) on residual contamination of drug properties.

Developing the BTR Rules

The BTR formed the environmental remediation rules and standards committee (ERRSC) to develop new rules for CDL remediation. The ERRSC tasks were to convert the BPS draft approved by JLOC into BTR rules for remediation of residual contamination from drug lab manufacturing, recommend BPS rules to the BTR for adoption, and investigate drug lab remediation complaints. A number of constraints

applied. HB2595 required BTR rules be adopted by July 31, 2003. Existing BTR rules had to be rewritten to include the new program. The fee structure had to sustain the costs of administering the rule. Finally, the JLOC approved draft rule could not be materially changed by BTR. The rule is outlined below and the complete text is available at www.btr.stste.az.us.

Article 1. General Provisions

R4-30-103 Drug Laboratory Site Remediation Definitions

R4-30-106 Fees

R4-30-107 Registration and Certification Expiration Dates

Article 2. Registration Provisions

R4-30-270 Drug Lab Site Remediation Firm Registration

R4-30-271 On-Site Remediation Supervisor Certification

R4-30-272 On-Site Worker Registration

Article 3. Regulatory Provisions

R4-30-305 Drug Lab Site Remediation Best Standards and Practices

Side Effects of Clandestine Drug Lab Operations

CDLs cause risks of significant environmental and property damage, and human exposure to hazardous chemicals, fire, explosion, structural failure, and unpredictable consequences of criminal behavior. Risks extend beyond the cooks to other site occupants, neighbors, and law enforcement personnel. Children are often found living at CDL sites near the chemicals and equipment.

Workplaces are used to conceal drug lab operations and procurement of the chemicals to make drugs. CDLs have been found in research laboratories at Arizona universities. A CDL was discovered in a Phoenix dental office after a fire caused by an employee cooking meth after hours. Employees of a Phoenix waste disposal firm for bulk chemicals seized from CDLs by law enforcement agencies were caught selling the chemicals to meth lab operators and using some to cook their own batches. ADEQ, not amused by the creative recycling, shut down the facility and revoked its permit. Would you know if your workplace was used to process or obtain raw materials for illegal drugs? If your facility could be used for these purposes, someone should know how to recognize signs of CDL activities.

In residential real estate transactions, buyers expect sellers to disclose if a CDL has been operated in a home. What happens when the seller truly does not know the CDL history, and the buyer finds evidence of CDL operation after moving into the home? Home Inspectors may want to add observation for indications of CDL activity to the standards for home inspection reports.

What is next?

Arizona has undertaken a serious program to deal with the residual contamination from clandestine drug labs, which are being seized by law enforcement in our state at a rate of several hundred per year. The Legislature passed a new statute for Drug Laboratory Site Remediation, which has been put into new rules and Best Practices and Standards by the



SA&B
Environmental & Chemical Consultants
Providing Practical Environmental Solutions

Indoor Air Quality
Mold Assessments
Industrial Hygiene Services
Environmental, Health & Safety Training
Environmental Site Assessments and Remediation
Regulatory Compliance & Permitting Services
Asbestos & Lead-Based Paint Surveys
Stack Emissions Testing
Air Pollution Consulting

www.sab-env.com 602.263.0045

Arizona Board of Technical Registration. A Joint Legislative Oversight Committee has been charged to monitor the effectiveness of the program, and submit an annual report to the Governor, Senate President, and House Speaker. The statute is limited to clandestine laboratories that manufacture methamphetamine, ecstasy, and LSD on residential or recreational property or vehicles. The rules became effective July 1, 2003. As of November 2003, three Firms, 3 Supervisors, and 20 Workers have been registered with BTR.

The rules and remediation practices need to be worked out based on experience with actual site conditions. Early indications are that additional funding will be needed to support BTR administrative costs, and that the post remediation clearance test criteria for pH on concrete, VOCs in air, and surface concentration of drugs are difficult to achieve. More site remediations are needed to establish typical cleanup costs. Expect



Chemicals from an Arizona clandestine drug lab staged prior to proper packaging and disposal. *Photo courtesy ADEQ.*

adjustments by JLOC and BTR as more site remediation experience is developed.

Peter F. Allard, P. E., CIH, is Vice President of SA&B Environmental & Chemical Consultants in Phoenix, and can be reached at 602-263-0045, or by email at pallard@SAB-ENV.com. SA&B maintains a website at www.SAB-ENV.com.

SUBSCRIBE
TO THE JOURNAL: IT'S FREE
to qualified EH&S professionals.
480-422-4430 or www.ehshomepage.com

| | | |
|---|--|--|
| <p>SUPERIOR cleaning equipment inc. <i>Quality cleaning and environmental systems for industry</i></p> | <p>LANDA WATER CLEANING SYSTEMS</p> | <p>800-635-4903 2455 S 7th Street, Ste 120 • Phoenix, AZ 85034 Ph: 602-257-1357 Fax: 602-254-9048 www.scecorp.com • info@scecorp.com</p> |
|  | <ul style="list-style-type: none"> • Wash Water Recycling & Pre-Treatment Systems • Wastewater Evaporators • Biological Systems • High Pressure Hot & Cold Washers • Aqueous Parts Washers • Custom Trailer Units • Local Factory Trained 24 Hour Service • CAD Design & Layout • Showroom |  |
| <p>"Helping Arizona businesses solve environmental & cleaning equipment needs for the past 12 years."</p> | | |



Above: EPAZ Regulatory Roundup attendees participated in a unique seminar October 10th, 2003 at the Phoenix Airport Marriott.

Anatomy of a Toxic Tort Case

A unique seminar, an anatomy of a toxic tort case, was played out recently at the EPAZ Regulatory Round-Up

by Jeremy A. Lite
Quarles & Brady Streich Lang LLP

When the American Patriot Metal Recycling Company was faced with allegations that it had contributed to PCB and PCB-congener contamination of a surrounding neighborhood and nearby waterway, it knew it needed an up-front strategy to handle the coming civil litigation. Claiming increased risks of cancer, local groups, with support from an out-of-state, toxic tort plaintiffs' law firm, were gathering evidence of damaging emissions in preparation for mounting a case against the company.

Although the facts presented in this scenario at the 4th Annual EPAZ Regulatory Round-Up are fictitious, they are real enough.

In a series of role-playing

episodes, attorneys Roger Ferland, Joe Drazek, David Paige, and David Bartel from Quarles & Brady Streich Lang LLP and technical experts Joyce Tsuji from Exponent and Craig Caggiano from Legend Technical Services of Arizona offered a look at preparing a corporation's defense to a toxic tort case. The dialogue included a "strategy discussion" by the defense's litigation team, focusing on discovery strategy, the use of experts, and other preliminary but important matters. The participants also presented dialogue on toxicology and risk assessment approaches,

DIVERSIFIED TRANSPORTATION, INC.
Excellence in Waste Management

Partial - Full Loads
HAZ • Non-HAZ • Specialized Commodities • Vans
Roll-Off Bins • L G Vans-E Tracks

602-455-0350
6208 South 75th Avenue. #1

MasterCard VISA



Above: Roger Ferland from Quarles & Brady Streich Lang LLP speaking; panelists Joyce Tsuji, left, and Craig Caggiano, right.

insurance coverage, and public relations. This presentation was followed by an examination of the plaintiff's perspective by Anthony Lucia of Treon, Stick, Lucia & Aquirre.

For more information about the Anatomy of a Toxic Tort Case, contact QBSL attorneys Roger K. Ferland at (602) 229-5607 in Phoenix or Jeremy A. Lite at (520) 770-8739 in Tucson.

Continued from page 8

News Briefs: EPAZ Scholarships

presented to Claudia A. Navarro. Claudia is pursuing a Master of Environmental Planning degree at ASU. She is also a Research Assistant with the ASU Office of Pan-American Initiatives, a project which integrates ASU with a network of Pan-American academic institutions and businesses. One of her main areas of research involves environmental issues and quality of life along the US-Mexico border region. Last summer she interned with Arcadis. Claudia's interest in environmental planning has a focus on community and local development as well as interacting with organizations and individuals to further a national and international exchange of ideas for natural resource management.

A mentorship was presented to Elizabeth Orr Titus. Beth



Above: Charlotte Payton, center, and Lisa Culbert, right, present an EPAZ Scholarship Award to Claudia A. Navarro, left.

is pursuing a Master's degree in the Environmental Management and Technology program at ASU East. Beth earned an undergraduate degree in Agricultural Chemistry from the Univ. of Maryland, and worked with the US Bureau of Mines on an acid rain project. She has also worked as a consultant doing underground storage tank remediation and hazardous site characterization and remediation. Beth is interested in applying her teaching and science background skills to environmental training and safety education.

Below: Charlotte Payton, center, and Lisa Culbert, right, present an EPAZ Mentorship Award to Elizabeth Orr, left.



Knowledge
Innovation
Technology
amec

From offices in Phoenix, Tucson and 90 other locations in North America, the earth and environmental engineers at AMEC have the knowledge, innovation and technology necessary to provide breakthrough solutions on time and on budget. Trust in AMEC's capabilities has resulted in projects of the most critical nature, including recovery and cleanup at both the World Trade Center and the Pentagon.

AMEC's environmental services include permitting, site assessment and cleanup; water-quality and water-supply engineering; asbestos and mold surveys; emergency response planning; hazardous waste management, and much more.

Give us a call at (602) 272-6848 in Phoenix and (520) 573-2045 in Tucson or e-mail us at environment@amec.com to find out how we can help you.

Visit our website at www.amec.com

Professional s Page

Aegis Environmental Strategies

"Outsource your environmental responsibilities in order to focus on your core business needs"

Over 20 years experience with regulatory programs mandated by:
EPA ♦ ADEQ ♦ Maricopa County
including
Hazardous Waste Management



Greg Fisher
3305 E. Rock Wren Road
Phoenix, AZ 85044
gfisher@aegis-ehs.com
602-770-6961

PSM / RMP Seminar

Phoenix, Feb. 9-11

International Instructor:
P. David Simpson, CSP
30 Years Experience



ETC Compliance Solutions
www.e-t-c.com
602-923-9673

R. Bruce Scott, L.L.C.

Chemical and Environmental
Engineering Consultant

- * Phase I Environmental Site Assessments
- * Spill Prevention Plans (SPCC)
- * Storm Water Plans (SWPPP)
- * Hazardous Waste Investigations

R. Bruce Scott, P.E., Q.E.P.
5744 West Columbine Drive
Glendale, Arizona 85304-1835
rbrucescott38@cs.com
PHONE (623) 979-3445 FAX (623) 878-6884

Call the Journal
Today

And reach thousands
of environmental,
health & safety
professionals
across Arizona with
your message in a
Professional Page
advertisement

480-422-4430



www.cartercare.com/care

- * Hazardous Waste Management
- * Pollution Prevention Programs
- * Environmental Consulting / Regulatory Support
- * Waste Reduction / Recycling Equipment
- * Compliance Audits / Training

(520) 323-1100
715 N. Belvedere Ave., Tucson, AZ 85711

Rogers

Consulting Services L.L.C.
4205 E. Camino de Palmas
Tucson, AZ 85711
(520) - 490-8380

Environmental Assistance

RCRA / Hazardous Waste
Air Quality
MACT Standard Compliance
SARA Title III (EPCRA)
Stormwater
Employee Training
Permitting

Member of
EPAZ AESF
NAMF

Julie C. Rogers, P.C.

Environmental Compliance Solutions, Inc.

Create your entire Emergency Response Plan on-line, in a user-friendly, secure SSL, web-based, environment. Be in compliance with local, state & federal emergency plan reporting requirements, while providing your EMERGENCY RESPONDERS with the most up-to-date, vital information about your facility. This modest investment could save your entire business. Visit our website at:



www.encompsol.com

Or, call us toll-free at
877.655.6952
for more information

"PROVIDING VITAL EMERGENCY RESPONSE INFORMATION IN THE 21st CENTURY"

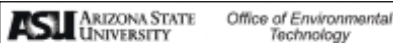
ASU ARIZONA STATE UNIVERSITY

B.S. and M.S. in Technology
Environmental Technology
Management

- Environmental Management
- Emergency Management
- Int'l Environmental Management

On-Line Option 480-727-1100

DrP@asu.edu www.east.asu.edu/ctas/imt/etm



Environmental, Health & Safety Seminars

Register directly from our website or call
Denise Kolisar at 480-727-1825

40-Hr. HazWOPER; 8-Hr. HazWOPER Refresher;
8-Hr. HazWOPER Manager/Supervisor; 16-Hr. RCRA
Regulation & Compliance; 8-Hr. RCRA Refresher; 8-Hr.
Clean Air Act - Regulatory Compliance; 8-Hr. Water
Quality Laws & Requirements; 16-Hr. Haz. Materials
Transportation (49CFR) Certif.; 8-Hr. Haz. Materials
Trans. Refresher Certif.; 16-Hr. Int'l Air Trans. of
Dangerous Goods (IATA) Certif.

Registration &
Information: www.east.asu.edu/seminars/

Contact
the Journal
for detailed
information about
our subscribers and
reader
demographics.

Precision Image

Technical Writing &
Graphic Design

Let the expertise behind the "Journal"
help you create better reports,
brochures, and training materials.

Call today.
602-319-0314



Graphics Outpost
The GO TO People

Phoenix
4344 East Maldonado
Phoenix, Arizona 85042
602-426-1702

Photos to Art
Graphics
3D Modelling
Corporate Art

Advertiser Index

| Advertiser | Page | Advertiser | Page |
|--|------|---|------|
| Aegis Environmental Strategies | 28 | Graphics Outpost | 29 |
| AMEC Earth and Environmental | 27 | Lown & Hilleman, PLC | 14 |
| Arcadis | 2 | Philip Transportation & Remediation | 5 |
| Arizona State University | 28 | Precision Image Technical Writing | 28 |
| ASU East Office of Env. Technology | 28 | R. Bruce Scott, LLC | 28 |
| Basin and Range Hydrogeologists, Inc. | 32 | Resource Recovery Techniques of AZ, Inc. | 3 |
| Carter Affiliates, Inc. | 28 | Rogers Consulting Services, LLC | 28 |
| Del Mar Analytical | 5 | Romic Environmental Technologies Corp. | 31 |
| Diversified Transportation, Inc. | 26 | SA&B Environmental & Chemical Consultants | 25 |
| Environmental Compliance Solutions, Inc. | 28 | Superior Cleaning Equipment Inc. | 25 |
| ETC Compliance Solutions | 28 | Univar USA Inc. | 2 |

NOTE: Page number is preceded by the issue number

Special annual edition: **Find It!**

Covers All of 2003!

Find people, subjects, & facilities in All 6 2003 issues

AAI 1-16, 2-16, 3-20, 4-20, 5-20, 6-18
 ACHMM - Thunderbird 1-9, 2-16, 3-20, 4-20, 5-20, 6-18, 6-30
 ADEQ, 2-6, new director 1-11, RCRA comp. assist. 1-10
 ADEQ Facility Assistance Unit 1-10
 ADOSH 4-24
 AESF 1-17, 2-17, 3-21, 3-23, 4-20, 5-21, 6-19
 Anderson, Dale 1-10
 ANSI Z490.1-2001 3-10
 Air & Waste Mgmt 6-22
 Air Quality Permitting Strategies 6-10
 Allard, Peter F. 6-6
 AMEC 4-8
 Anatomy of a Toxic Tort Case 6-26
 APS 3-9
 Aerotech Labs 4-9
 Arsenic 2-23, 3-18, 3-19
 AZ Board of Technical Reg. 6-6
 AZ Clean & Beautiful 3-9
 AZ Div. of Occ. Safety and Health 6-9
 AZ Env. Strat. Alliance 1-18, 2-17, 3-21, 4-21, 6-20
 AZ Em. Resp. Commission 4-11
 AZ Hydro. Society 1-19, 2-19, 3-11, 3-23, 4-21, 5-21, 6-19
 AZ Sonora Reg. Workgroup 3-9
 Armstrong, George 1-21
 ASTM standard Phase I ESA 1-24
 Aquifer test workshop 2-19
 AZ-ELM, 1-20, 2-18, 3-22, 4-22, 5-24
 AZPDES 2-7, 2-15, 3-15
 AZSERC 2-12
 Balling, Robert 6-14
 Bauman, Shari 5-8
 Beilke, Pamela 5-22, 4-22, 6-20
 Bew, Leilani 1-20
 Bliss, Gail 1-10, 4-9
 Black, David 3-23
 Block, Mike 2-19, 3-23, 4-21, 5-21, 6-19
 Bohannon, Robert R. 3-10, 5-8
 Boison, Karruthers 6-8
 Brossart, Diane 1-22, 2-22, 3-22, 4-23, 5-23, 6-22
 Brownfields 3-23, 3-29
 CAFO's, conc. animal feeding op. 1-11
 Canada trade relation 2-13
 Carl, Janet R. 2-9
 Carter Affiliates (CARE) 5-10
 Carter, Richard H. 5-10
 Cathode ray tubes 3-16, 5-15
 CBRNE 4-7
 Central Arizona Project 5-5
 CERCLA 4-13, 4-15
 Chandler fire dept. 2-11
 Chang, Tai-Ming 2-18
 Chemicals, arsenic 2-23
 Chemicals, managing 6-23
 Chemicals, storage of incompatible 1-23
 CHNM cert. 1-9, 1-17, 5-20, 6-18, 6-30
 Clandestine drug labs 6-6
 Clean Water Act 2-24, 2-15
 Clean Water Act effluent rule 1-11
 Closure Innovative Waste Mgmt 2-8
 Com. Right to Know Plus 4-10
 Comp. Em. Mgr (CEM) 4-6
 Consultants avoid mistakes 1-24
 Contingency plans 4-16
 Conway, Matt 2-16, 3-20, 4-20
 Cooper, Randy 6-22
 Cradle-to-grave 2-9
 Culbert, Lisa 1-21, 3-25, 5-23, 6-8, 6-21
 Cunningham, Pat 1-11
 Curry, Tom 1-5, 2-10, 5-5
 Davis, Shannon 2-9
 Day, Burton 2-16
 Denney, Sheila 3-5
 Dome Rock Industries 5-9
 DOT training 3-12
 Drug Enforcement Agency 6-7
 Drug enforcement task force 2-8
 Dust registration program 1-9
 Earthfest 2-22
 Earthday 3-24, 3-29
 Ellashak, Michelle 6-5
 Electronic reporting 2-11
 Electronics waste, recycling 5-15
 Emergency management 4-6
 Emergency preparedness, ADEQ 1-10
 Emergency planning 4-10
 EMS 2-26
 Energy skeleton keys 1-13
 Enforcement, ADEQ 2-10
 Environmental assessments 1-24
 Env. Comp. Solutions Inc. 2-11
 Env. Data Mgmt Systems 2-26
 EPAZ 1-21, 2-21, 3-25, 4-23, 5-8, 5-23, 6-21
 EPAZ scholarship 6-8
 Evap. Haz. Waste Rinsewater 4-18
 Ewbank, Scott 1-6
 Facility annual reports 1-9
 Facility Assist. Unit, ADEQ 1-10, 2-10
 FEMA 4-6
 Fill material definition 2-24
 Fields, Jerry 1-9
 Financial assurance 2-9
 Ford, Michael C. 1-27, 2-15, 3-15, 4-15, 5-15, 6-17
 Form R 4-11
 Fowler, James 1-5
 Frazier, Brent 1-16
 Freeze, Mark E. 6-10
 Gard, Juki 3-9
 Gatekeeper wkshop 2-12, newsletter 2-12
 Gateway Comm. College 1-9, 3-20
 Generator responsibilities 2-9
 Global Warming 6-15
 Gonzalez, Ed 4-9
 Gonzalez, Raul E. 5-18
 Governor's Pride in AZ 3-9
 Gray Wolf Landfill 3-9
 Green Business Program 1-10
 Green Chemistry 5-19
 Hamilton, Julianne 4-8
 Handbook, Managing Haz Waste 1-9
 Harper, Scott 3-9
 Haz waste disposal 1-6
 Haz Waste Society 2-21
 Henco-Quality Plating 6-8
 Hild, Nicholas R., PhD. 1-13, 2-13, 3-13, 4-13, 5-13, 6-15
 Hiser, Eric L. 6-10
 Holmes, Melissa 4-23, 5-8
 Holtzclaw, Virginia 2-11
 Homer, Jeff 1-16, 2-16, 3-20, 4-20, 5-20, 6-18
 Incompatible chemical storage 1-23
 Innovative Waste Utilization LLC 2-8
 Inter-Tribal Council of AZ 4-8
 Inter-Tribal illegal dumping 4-8
 Jallo, Dave 2-17
 Johnson, Steve 6-8

Ken Reilly seminars 2-24
 Kirchner, David L. 1-24, 2-18, 3-22, 4-22, 5-16, 5-24
 Kramkowski, Paul 2-5
 Kriloff, Sean 4-24, 6-9
 Kyoto Protocol 6-15
 Ladder Safety 6-9
 Lawrence Berkeley Natl Labs 1-14
 LEED 3-8
 Letters of Regulatory Interpret. 4-18
 Lieberman/McCain bill 6-14
 Lima, David 1-16
 Lite, Jeremy A. 6-26
 Livestock farmers 1-11
 Lockwood, Barbara D., P.E. 3-18
 Lovins, Amory and Hunter 1-14
 Maquiladora industry 5-9
 Martin, Suzette 4-9
 Martinez, Eddie 1-21
 Mathis, Larry 6-8
 Maye, Jacqueline 1-10, 4-16
 Max. contaminant level goals 2-23
 Mendoza, Edna 4-9
 Meyerson, Harold 5-13
 Metal finishing, rinsewaters 6-13
 Meth lab seizures 6-7
 Migratory bird rule 2-15
 Mills and Knoepfel 1-14
 Mining waste 2-24
 Morrissey, Tricia 6-8
 Murphy, Vince 3-9
 Napolitano, Gov. 1-11
 Narducci, Luke 1-16
 Nastro, Wayne 3-8
 NAU Center for Sustainable Env. 3-23
 Navarro, Claudia A. 6-27
 NPDES 2-10
 Olson, Larry, PhD. 1-23, 2-23, 3-19, 4-19, 5-19, 6-23
 OSHA 4-24
 Outreach, comp. assistance 2-6
 Owens, Stephen 1-11, 2-6, 5-6
 Ozone 4-19
 P2 2-27, 2-26, 4-6, 4-9, 5-12
 P2 Fundamentals 5-10
 P2 Achievements 5-26
 P2 Resources 5-18
 Page, Tim 3-6
 Passive evaporation tank 6-8
 Paul, Patrick J. 1-11
 Paulausky, Chuck 2-17, 5-20, 6-18
 Payton, Charlotte 2-21, 6-8
 Penalty (given)/Haz Waste Violat. 5-9
 Performance Triact 5-6
 Peterson, Danny, PhD 4-6
 Phalen, Robert 3-5
 Phoenix, City 3-29
 Phoenix Police Department 6-7
 Pima Comm. College award 3-8
 Polito, Richard 1-20
 Quarles & Brady Streich Lang LLP 6-26
 Quinn, Bill 5-26
 Rakowski, Steve 1-27
 RCRA 6-17
 RCRA comp. assistance 1-10
 RCRA orientation manual 1-11
 RCRA Recycling Proposal 6-17
 recycling 4-15, 5-10, 6-17
 Reich, Peter 2-16
 Reilly, Ken 2-24
 Regional Trans. Plan. 6-22
 Regulatory Developments 6-17

Regulatory Roundup 4-23, 4-25, 6-8, 6-21, 6-26
 Respiratory Protection 4-24
 Risk Mgt Planning 4-11
 Robertson, Michele 2-21
 Roe, Dan 4-10
 Rogers, Julie 1-10, 4-18, 6-8
 Romic Env. Technologies 1-6
 Rosenthal, Bill 3-12
 Ryan, Patrick 5-23
 SA&B 5-8
 S. Arizona Env. Mgmt Society 1-20, 2-12, 2-20, 3-24, 4-22, 5-22, 6-20
 S. Phx metal fin. waste P2 Proj 1-10
 Safe Drinking Water Act 2-23
 Sanchez, Rosanne 3-29
 Scott, Bruce R. 1-5
 Security, Univar USA 4-26
 SEED 1-20
 Sholl, Diane 2-5
 Soesilo, J. Andy, PhD., 2-26, 5-26
 SPCC Plan Final Rule 1-16
 SRP 5-23
 Stone, Loretta 4-8
 Stormwater permits 2-15
 Sustainability Indicators (SI's) 6-15
 Sustainable Develop. 1-13, 2-13, 6-15
 Swaback, Vern 2-22
 SWANCC Fallout 2-15
 Terrorism defense 4-6
 TESTLaw Practice Group 6-10
 Tier Two 4-11
 Title V permit 6-11
 Titus, Elizabeth Orr 6-27
 Toxic data reports 2-11
 Trainer of the Year 5-8
 Training directory 3-26
 Training, DOT 3-12
 Training Standard 3-10
 TSDF 2-8
 Tucson Earth Day Festival 2-20
 Turner Labs 5-8
 Underground piping 1-27
 Univar USA 4-26
 US/Mexico Integ. Border Env Plan 5-11
 UST program reform 2-7
 Valley Forward 1-22, 2-22, 3-22, 4-23, 5-23, 6-22
 von Oppenfeld, Rolf R. 6-10
 Walch, Kale 1-5
 Wal-Mart 5-13
 Wallman, Greg 2-17
 Waste management 3-9
 Waste minimization 5-10, 5-11
 Water Quality Appeals Board 3-15
 Water for People 4-21
 Water 2025 5-16
 Water Works 5-23
 Westerhausen, Barry 2-17, 3-21, 4-20, 5-21, 6-19
 Yockey, Jeff 1-20, 2-20, 3-24
 Young, Barbara 4-26
 Young, David G. 1-18, 2-17, 3-21, 4-21, 6-20
 Youth Poster Contest 4-5



National CHMM Overview Course

(Tuesday – Thursday, April 13 – 15, 2004)

Presented by
ACHMM - Thunderbird Chapter
and **Gateway Community College**



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 2, 2004**.

For details: www.thunderbirdchmm.org or call Jerry Fields (602) 567-3827



CHMM Certification Exam

(Friday, April 16, 2004)

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 27, 2004**. 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.

Calendar

AZ Environmental Dates, December 15, 2003, through March 15, 2004

December

Merry Christmas!

January

Happy New Year!

- | | | |
|-----|------------------------|---|
| TBD | FAR forms mailed | Statewide. ADEQ mails Facility Annual Reports forms to generators. Contact Gail Bliss, ADEQ, 602-771-4212. |
| 8 | AESF Dinner meeting | Phoenix. Dinner meeting at Doubletree Resort, Van Buren and 44th St. Contact Barry Westerhausen, bwesterhausen@lachim.com, 480-206-4107. |
| 8 | EPAZ luncheon | Phoenix. 11:30 am to 1:00 pm, Sheriton Airport Hotel. Speaker: Nancy Wrona, ADEQ Air Quality Director, topic: PM10-Ozone Standard. Website www.epaz.org . |
| 14 | AAI EHS Comm. | Tempe. EHS Committee breakfast meeting at 7:30 am at Sheraton Phoenix Airport Hotel. www.azind.org (click on events) or call Brent Frazier 602-252-9415, or Jeff Homer 480-441-6672. |
| 15 | Biodiesel Fuels for AZ | Maricopa County. "Biodiesel Fuels for AZ." Contact Richard Polito at 602-506-5102 or RPolito@mail.maricopa.gov . |
| 28 | EPAZ Cocktail Mixer | Phoenix. Location to be announced. See website www.epaz.org . |
| 29 | SAEMS luncheon | Tucson. 11:30 am at Viscount Suites. Check with website www.saems.org . |

February

- | | | |
|------|---------------------|---|
| 9-11 | Process Safety Mgt | ETC Compliance Solutions will host a Process Safety Management Seminar in compliance with OSHA's PSM and EPA's RMP regulations. See www.e-t-c.com/schedule.htm#Specialty or call 602-923-9673 for info. |
| 12 | EPAZ luncheon | Phoenix. 11:30 am to 1:00 pm, Sheriton Airport Hotel. Speaker: TBA. Website www.epaz.org . |
| 25 | EPAZ Cocktail Mixer | Phoenix. Location to be announced. See website www.epaz.org . |
| 26 | SAEMS luncheon | Tucson. 11:30 am at Viscount Suites. Check with website www.saems.org . |
| 27 | CHMM applications | Statewide. Application deadline for exam to be held April 16, Phoenix. See www.ihmm.org or ad page 30 for info. Remember deadline for the CHMM certification overview course is April 2. Contact Jerry Fields 602-567-3827. |

March

- | | | |
|----|-----------------|--|
| 1 | FAR Reports Due | Statewide. Facility Annual Reports and Registration Fees due. Contact Gail Bliss, ADEQ, at 602-771-4212. |
| 11 | EPAZ luncheon | Phoenix. 11:30 am to 1:00 pm, Sheriton Airport Hotel. Speaker: TBA. Website www.epaz.org . |

*Environmental associations, regulatory agencies, non-profits, and others may suggest items for the Calendar.
Deadline for submission is 5 weeks prior to publication date. Acceptance for publication is at the discretion of the editor.
Please contact the Editor at 480-422-4430 x42, or send items to Calendar@ehshomepage.com.*

RECYCLING FOR A BETTER ENVIRONMENT



Industrial & specialty solvent
& antifreeze recycling
Recycling for alternative fuels
Waste water treatment & recycling
Industrial services
Lab packing
On-site services/project management
Specialized recycling programs
Acid/base treatment
Transportation
Reclaim solvent and other commodity sales
Comprehensive waste management services

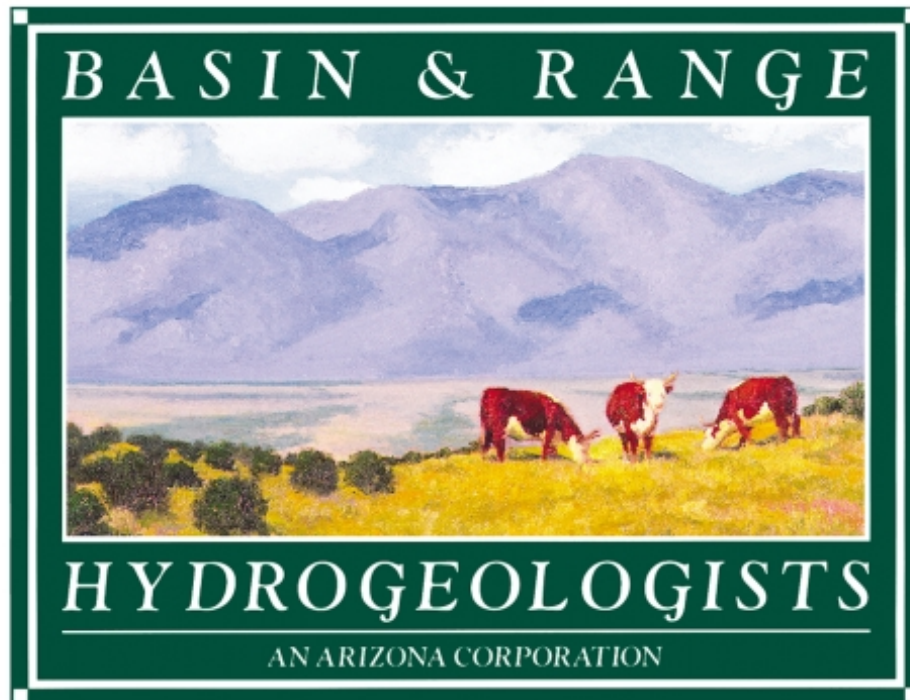
ROMIC - SOUTHWEST

6760 West Allison Road, Chandler, AZ 85226-5130
(520) 796-1040 FAX (520) 796-6214 (800) 952-5760



The full service leader in
waste management through
recycling and reutilization.





got contamination?

