

JOURNAL OF

REQUEST A **FREE** SUBSCRIPTION ONLINE:
WWW.EHSHOMEPAGE.COM Or call us at: 480-422-4430 x42

Environmental Management

PRACTICAL AND CURRENT INFORMATION FOR ENVIRONMENTAL, HEALTH AND SAFETY PROFESSIONALS

ARIZONA



**Special Edition
Author &
Article INDEX:
2003 to 2016**

**JEMA Begins Our 14th Year!
Thank you Arizona!**

DEC / JAN 2015 / 2016 Vol 13 No. 6

Presorted
U.S. Postage
PAID
Permit to
New Richmond
WI 54017



Equipped to Meet All of Your Blasting Needs.

HYDRO BLASTER

Arizona

3045 South 51st Avenue
Phoenix, AZ 85043

T: 800 833 7602 • F: 602 278 2884

Southern California

3400 Manor Street
Bakersfield, CA 93308

T: 800 458 3036 • F: 661 393 0508

Northern California

14312 Cacheville Road
Yolo, CA 95697

T: 800 245 9518 • F: 530 668 9334

Montana

3748 Green Acres Drive
Billings, MT 69101

T: 406 652 5497 • F: 406 656 2509

Oklahoma

5621 Sooner Trend Road
Enid, OK 73701

T: 580 233 2012 • F: 580 233 2065

Washington

3400 34th Avenue NE
Everett, WA 98205

T: 800 442 6334 • F: 425 257 3128

Utah

1043 North Industrial Park Circle
Grantsville, UT 84029

T: 877 800 5111 • F: 435 843 7805

Corporate

3400 Manor Street
Bakersfield, CA 93308

T: 800 458 3036 • F: 661 393 0508

Since 1990, MP Environmental Services has been an independently woman owned and operated transportation, demolition and remediation firm. With a fleet of more than 1,000 pieces of equipment, we are one of the largest independent transporters of hazardous waste in the Western United States.

MP Environmental Services believes that the customer is key, and we are meticulous in serving you.

MPE provides industrial cleaning and environmental services in the Western United States. Our hydroblasting is capable of delivering water at pressures ranging from 1,000 to 40,000 psi.

- Cold Cutting
- Tank Cleaning
- Evaporator Tubes
- HAZ & NON-HAZ
- De-scaling
- Lancing
- Paint Removal
- Boilers



www.mpenviro.com



Consistently Achieving a Top Ranking



2016 ARIZONA HEALTH & SAFETY SUMMIT

PRESENTED BY THE ARIZONA AND SOUTHERN ARIZONA CHAPTERS OF THE ASSE IN PARTNERSHIP WITH ADOSH

APRIL 21-22, 2016

CHAPARRAL SUITES SCOTTSDALE
(SOON TO BE THE EMBASSY SUITES SCOTTSDALE)
5001 N. SCOTTSDALE ROAD
SCOTTSDALE, ARIZONA

Join over 200+ of Arizona's top safety professionals at this annual event!

OPENING CEREMONY SPEAKER:
Tim Page-Bottorff, CSP



Tim Page-Bottorff is an inspirational presenter who couples his 18 years of experience in Occupational Health, Safety and Environmental Management experience with a Humanitarian Service Medal from the United States Marine Corps into his presentations. Tim's presentation will be "Building the Foundation of Safety Excellence" and discussing his new book "Core of Four".



Sponsorship and Exhibitor Opportunities

We are looking for Sponsors, Volunteers, Vendors, and Moderators. Contact Marc Tomeoni, ASP, at Marc.Tomeoni@azdoa.gov for information or visit the Summit web page at asseaz.com.

Register Online at:

www.asseaz.com

Questions?

If you have questions on the Arizona Health & Safety Summit, e-mail us at asse@asseaz.org or call Erika May directly at 661.472.6592.

REGISTRATION: To register or for more information visit asseaz.com

Gatekeeper Regulatory Roundup Planning Committee Members:



2016 MAR 29 & 30
NEW TEMPE VENUE!

**REGISTER
NOW
& SAVE**

**WWW.
EPAZ
.ORG**

12TH ANNUAL

GATEKEEPER REGULATORY ROUNDUP

Keynote Speakers

Tuesday, March 29, 2016 **DAMON CARSON**, President and Founder of repurposedMATERIALS, "Avoid the Landfill & Generate Profits": Learn to look at your company's byproducts and waste through a different lens and turn your waste into another industry's solution.

Wednesday, March 30, 2016 **CDR LISA DELANEY**, MS, CIH, Assoc. Dir. for CDC's Emergency Preparedness and Response, "Preparing for & Executing NIOSH's Response to Domestic Public Health Emergencies".

Program Highlights

Tuesday, March 29, 2016 **Water Quality Panel**. Moderated by Sarah Porter, Director, Kyl Center for Water Policy, Morrison Institute, ASU. **Air Quality Panel**. Moderated by Mannie Carpenter, Stantec. **ADEQ Updates from New Deputy Director Bret Parke and ADEQ Division Directors.**

Wednesday, March 30, 2016 **Semiconductor Industry Focus**. A panel of experts in the fields of air, water, waste, and health & safety issues discuss comprehensive issues & solutions to regulatory and technical hurdles within the Semiconductor Industry. Moderated by Chuck Paulausky, CP Safety & Environmental.

Sponsors Sponsorships are available at all levels: Break: \$250; Breakfast: \$350; Lunch: \$1,500; Corporate: \$2,000; Premiere: \$3,000; Reception: \$800; Keynote: \$600. Visit our website for more details.

EXHIBITORS The Conference is a great way to continue those relationships you've built over the years, and a wonderful way to meet new clients! Exhibitor Spaces available at the Early Bird price of only \$675. Includes 2 Full Conference Registrations.

THIS EARLY BIRD RATE IS GOOD THROUGH FEB. 19, 2016 -- \$725 STARTING FEB. 20, 2016.

REGISTER:

Early Bird Registration Rates
Available Through March 18, 2016.
EPAZ members receive Member Rates.

Full Conference:
One-Day:
Lunch Only:

Member Rates

\$225 (\$205 Early Bird)
\$180 (\$160 Early Bird)
\$65

Non-Member Rates

\$300 (\$270 Early Bird)
\$215 (\$185 Early Bird)
\$75

SCHOLARSHIPS

EPAZ AND THE
ARIZONA LABORATORY ASSOCIATION
WILL AWARD APPROXIMATELY
\$10,000 AT THE CONFERENCE!

**NEW
LOCATION**

**AT THE DOUBLETREE IN TEMPE! CLOSE TO I-10, WITH
EASY ACCESS FROM THE PHOENIX METRO AREA, YUMA,
NORTHERN ARIZONA, AND SOUTHERN ARIZONA!
MORE SPACE FOR ATTENDEES AND EXHIBITORS!**



DOUBLETREE, 2100 SOUTH PRIEST DRIVE, TEMPE, AZ 85282
CONTACT US AT: 602-619-6295 OR BY EMAIL AT: GRRCHAIR@GMAIL.COM

**PREMIERE
SPONSORS:**



LUNCHEON SPONSORS:



FROM THE EDITOR



This issue completes thirteen years of publication of the Journal of Environmental Management Arizona. Many of you have been subscribers from the very beginning, or from our first few years, and many others of you have joined us more recently. I appreciate your support as a reader, a contributor, and an advertiser. I hope you find, and will continue to find, value, interest, and some entertainment in the Journal!

Please be sure to notice the many organizations promoting upcoming environmental and/or safety related events in this issue. The majority of the work on these events is a result of team work by volunteers dedicated to working with and helping others in the environmental community, through mentoring, education, and networking with others in various particular areas of interest. If you have not yet registered for any of these events, please consider doing so today!

Reach thousands of Arizona environmental professionals through the Journal -- by contributing an article, or perhaps by taking out an advertisement. If you would like to support the work of the Journal, but are not prepared to place an ongoing insertion order for advertising, consider placing a business card advertisement or even an one-time, "supporting subscriber", advertisement. Feel free to call me any time for more information.

Sincerely,

Jim Thrush, M.S. Environmental Management

Editor & Publisher 480-422-4430 x42

Email: jimthrush@cox.net

JOURNAL OF ENVIRONMENTAL MANAGEMENT ARIZONA

EDITORIAL Publisher & Editor: James Thrush, M.S. Env. Mgt., jimthrush@cox.net or 480-422-4430. **SUBSCRIBE:** ehshomepage.com or 480-422-4430. **RATES FREE** to qualified EH&S Professionals, others call. **MAILING ADDRESS (NEW):** JEMA, PO Box 51852, Phoenix, AZ 85076. **ADVERTISING** 480-422-4430 x42. **Published 6 times/year. Copyright ©2013 by JEMA. All rights reserved. LEGAL DISCLAIMER** Information presented in JEMA originates from sources presumed to be accurate and complete. 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 JEMA. Readers are encouraged to contact authors, agencies, and advertisers directly for verification/clarification. Content for informational purposes only, and should not be considered legal or professional advice. Consult your legal counsel or environmental consultants for advice. **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.

MAILING ADDRESS: ALL MAIL TO THE JOURNAL SHOULD BE SENT TO:
JOURNAL OF ENVIRONMENTAL MANAGEMENT ARIZONA
PO BOX 51852, PHOENIX, AZ 85076

JOURNAL OF Environmental Management ARIZONA

CONTENTS

December / January 2015 / 16

Volume 13 Number 6

ARTICLES, DEPARTMENTS, & COLUMNS

5 FROM THE EDITOR

6 AUTHOR & ARTICLE INDEX

2003 - 2016 THIRTEEN YEARS OF ARIZONA EH&S INFORMATION!

9 SUSTAINABILITY AND SUSTAINABLE DEVELOPMENT A HALF CENTURY OF CHANGING PRIORITIES

NICHOLAS R. HILD, PHD.

10 IT'S ALL ABOUT CHEMISTRY PARIS: WAS IT REALLY A TURING POINT?

LARRY OLSON, PHD.

12 ASSOCIATIONS PAGES

ASSOCIATIONS NEWS AND UPCOMING EVENTS

14 NEWS BRIEFS

NEWS BRIEFS WILL RETURN NEXT ISSUE!

JOURNAL OF Environmental Management ARIZONA

SUBSCRIPTIONS are FREE
to Qualified EH&S Professionals! Subscribe
on-line at www.ehshomepage.com
or call **480-422-4430 x42**

If you have not renewed or updated your contact information within the past one year, PLEASE go online and use the Register Form to renew. Thank you!



Want Unique Opportunities? They're Here

Environmental Science
Environmental Policy
Environmental Management

Consider our one-of-a-kind dual master's program. Earn a Master of Science in Environmental Science and a Master of Public Affairs from the highest-ranked public affairs program at a public institution with the highest-ranked environmental policy program of any institution (public or private).

Go here to learn about a career-launching, world-changing opportunity:

spea.indiana.edu (masters programs)



**SCHOOL OF PUBLIC AND
ENVIRONMENTAL AFFAIRS**

INDIANA UNIVERSITY

AUTHOR & ARTICLE INDEX

2003 - 2016

Journal authors have contributed hundreds of articles on Arizona environmental management issues and topics since our launch in 2003. While some regulations and practices may have changed, the majority of the information in these issues is still relevant--and a valuable resource to you! Articles (and full past issues) are immediately available online for download -- just locate an issue by month & year, and find it at: www.ehshomepage.com

ACKEN, ALBERT H.

Recent Inspection Protocol Changes Provide New Tools For Prepared Permittees 2011 A/S
Regulatory Deluge: 2013 2012/13 D/J



ADEQ

ADEQ Presents 2013 Annual Employee Awards 2013/14 D/J

ADEQ--25 Years Protecting Arizona's Environment, 1987-2012 2012/13 D/J

AISTON, JENNIFER L.

Add Value to Your Building During Tough Economic Times, With LEED EF Certification 2009 A/S

ALLARD, PETER F., P.E., CIH

Clandestine Drug Labs, New Regulations & Environmental Issues 2003/4 D/J
Organizing Your SPCC and Stormwater Plans 2005 A/M

ALLARD, PETER F., P.E., CIH AND

KAMINSKI, STEVEN C., R.G.

Update on the Proposed Arizona Soil Remediation Standards Rule 2006 O/N

AVILES, VICKY L., AEP, CIAQM

Asbestos: The Biggest Environmental Misconception 2011 A/S

Get Back to Basics With: Respirators 2012 F/M

BARNETT, ROB, AND CONWAY, MATT

PING, Strengthens Bottom Line While Enhancing Environmental Quality 2009 A/M

BARRETT, ROBERT (BOB)

Colorado River Shortage Will Have No Direct Impact on CAP City Water Supplies 2014 A/S

BEEBE, ANTERRE

The First Step Toward Achieving EHS Compliance 2005/6 D/J



BEILKE, PAMELA

Apache Powder Superfund Site Wetlands 2008/9 D/J

BENSON, WILLIAM R. AND MELVIN, STEPHEN R., PE, CSP

Chemical Facility Vulnerability Assessment 2007 J/J



BERKOWITZ, HAL

Emergency Response Training for Maquiladora Workers 2006/7 D/J
New Hazard Communication Standard 2013 J/J

The Impact of Terrorism on Workplace Training Programs 2004 J/J

BERRY, BOB, CEM

Is it Prudent to Eliminate Emergency Management? 2007 F/M

BLACKWELL, EZRA

Can You Repeat That? Importance of hearing conservation and OSHA compliance 2008 F/M

BLISS, GAIL

Metal Finishing Successes in P2 2004 F/M

BOHANNAN, ROBERT R., CET

Defining Accepted Practices 2003 J/J

BOPP, GREGORY

Creating a Climate of Compliance 2015 A/M

BROWN, AL

Supplemental Environmental Project (SEP) Opportunities 2006 F/M

CARPENTER, MANNIE L., P.E.

Dust: PM-10 Emissions, New Regulations to Impact Maricopa County 2008 J/J



CARTER, RICHARD H.

P2 Fundamentals 2003 O/N

CARTER, RICHARD H. AND COULTER, GLYNIS

The Condensed History of the: Southern Arizona Environmental Management Society 2007 O/N

CLARK, ALYSSA C.

Superfund Site Delisted, ADEQ Completes Rehabilitation of Once-Blighted Property 2013 J/J

CMX

CMX Adding Environmentally Friendly Touch to New AZ Cardinals Stadium 2005 J/J



CONWAY, MATT, CHMM AND BARNETT, ROB, REM

PING's Environmental Mgt, System 2005 A/S

COTTY, SUSANNE AND COMRIE, LEE

Tracking Greater Tucson's Carbon Footprint 2010/11 D/J

COWIE, FREDERICK J., PHD

10 Steps to Great Exercises 2007 A/S



CULBERT, LISA

Perspective on Gatekeeper Regulatory Roundup 2006 O/N



CURRY, TOM

ADEQ Director Benjamin Grumbles, Exclusive Interview 2009 O/N
Focus On: Liquid Environmental Solutions, Inc 2013 A/M
Sustainable Retirement / Dr Nicholas R Hild 2012 F/M

CURRY, TOM AND THRUSH, JIM

An Interview with ADEQ Director Stephen A Owens 2003 A/M



DARWIN, HENRY R. ADEQ DIRECTOR

ADEQ Director Henry R Darwin: ADEQ Coordinates Border Trash Cleanup 2011 A/M

ADEQ Director Henry R Darwin:

Incentive-Based Approach to Clean Energy Tech & Green Jobs 2011 J/J

DICKERSON, DENNIS

Interacting With Maricopa County Air Quality Dept Has Just Become a Little Easier 2009 J/J

EWBANK, SCOTT

Minimize your Hazardous Waste Disposal Costs 2003 F/M

FISHER, GREG

Is Your Company TSCA Compliance? 2006 J/J

FLOWER, CAMERON

Vacant Site Stabilization, What Owners Need to Know 2009 A/M

FORD, MICHAEL C. AND RAKOWSKI, STEPHEN M.

SPCC Plan Final Rule 2003 F/M



FORD, MICHAEL C., ATTORNEY REGULATORY DEVELOPMENTS

"Waters" Guidance Issued; AZPDES Validity Confirmed 2007 A/S

8th Annual Gatekeeper Regulatory Roundup 2012 A/M

ADEQ Releases New Policy for Environmental Permits Near Schools 2005 A/S

ADEQ Unveils Draft Revisions to APP Rules 2004 J/J

ADEQ Unveils Draft Revisions to APP Rules (Part II) 2004 A/S

ADEQ's Report Card 2005 F/M

Brownfields Developers Beware! 2011 F/M

Claiming the Recycling Exemption 2003 A/S

Common Misconceptions About Spill Reporting Requirements 2005 A/M

Compliance Deadline Reprieve for TSCA IUR and SPCC 2007 F/M

EPA Extends Audit Policy to New Owners 2008 O/N

EPA Proposes Changes to RCRA Recycling Rules 2003/4 D/J

EPA Proposes New Due Diligence Standards 2004 O/N

EPA's Proposal to Encourage Recycling of Electronic Waste 2003 O/N

Global Warming: A Reality Check with Dr Robert Balling 2006 J/J

Interview With Biodiesel Expert: Dan Rees 2009 O/N

Legal News You Can Use 2003 A/M

Legal News You Can Use 2003 J/J

Maricopa County Revamps Air Permit Program in Response to EPA Audit 2005 J/J

Ninth Circuit Impairs NPDES Permitting 2008 F/M

Ninth Circuit Vacates AZPDES Program 2005 O/N

Proposed Rule Expands Scope of Waters Covered by Clean Water Act 2014 J/J

RCRA Proposal Regarding Industrial Rags/Wipes 2004 F/M

RIP, Matt Jacobs; BP, EPA, and the NCP 2010 J/J

Solar Energy Climate Heats Up For Arizona Businesses 2008 A/M

Stormwater Guessing Game Continues 2006 A/M

Supreme Court Narrows Cleanup Liability 2009 J/J

The 2011 Gatekeeper Regulatory Roundup Conference 2010/11 D/J

The Long, Hot Summer for Clean Water Law 2006 A/S

The Owl in the Ointment 2004/5 D/J
TRI, TRI Again ... 2010 A/M
Tulloch and Tree Huggers Tread Waters
2007 A/M
Waters Remain Unsettled After Rapanos
2006/7 D/J
What's New in Waste Regulation? 2009 F/M

FRYDRYCH, DIANNE

Arsenic: Forced Demand for Treatment
Products, Interview with Doug C. Nelson,
PhD 2004 O/N
Barton Day's Personal Experience in Kuwait
2004/5 D/J
Environmental Compliance Assurance
Programs, Observations by Roger Ferland
2004 A/S
Don't Let Contamination Invalidate Your
Sampling Results: 6 Common Sources of
Contamination 2007 O/N
Today's Tip: Chain of Custody 2007 A/S

GARDENER, JOHN

What's That Smell? 2005 A/M

GODEC, JOHN D.

Principles of Risk Communication, Who are
these people, and why do they hate me? 2008 J/J

GONZALEZ, RAUL E.

P2 Resources: Western Regional Pollution
Prevention Network 2003 O/N



GRUMBLES, BENJAMIN, ADEQ DIRECTOR

ADEQ Director Ben Grumbles: Top 10
Wish List, "R and D" 2010 O/N
ADEQ Director Ben Grumbles: "Egads,
E-Waste" 2010 A/S
ADEQ Director Ben Grumbles: "Green
Chips" 2010 J/J
ADEQ Director Ben Grumbles: "Hammer
and Forks in the Road" 2010 A/M
ADEQ Director Ben Grumbles: Blue
Ribbons and Green Emissions 2010/11 D/J
ADEQ Director Ben Grumbles: On the
Road 2009/10 D/J
ADEQ Director Ben Grumbles: Wasted
Energy 2010 F/M

HARRIS, GREGORY Y., AND HAKE, ALANA C.

SB 1598 Helps Businesses Navigate
Regulatory Maze 2011/12 D/J



HILD, NICHOLAS R. PHD. SUSTAINABILITY AND SUSTAINABLE DEVELOPMENT

"...Everyone is Entitled to His Own Opinion,
But Not His Own Facts!" 2007/8 D/J
"...It Takes a Village ... 'Eco-Village,' That
Is ..." 2008 O/N
"...It Takes a Village ... 'Eco-Village,' That
Is ..." Part II of II 2008/9 D/J
"...Methanol is the Best Alternative Fuel..."
2012/13 D/J

"...The News is What I Say It Is ..." 2008 A/S
"...What's Good for GM is Good for the
Country!" 2005 A/S
"Branding" Sustainability, A New Approach
for Creating Demand 2004/5 D/J
"Mr. President, Tear Down Those Malls!"
2004 O/N
"Old McDonald's Had A Brand...E I E I
O" 2005 A/M
"Shades of Green ..." 2005 J/J
"The Death of Environmentalism" is Also
Killing Progress Toward Sustainability 2006 J/J
"Uncertainty Paralysis" As A New Business
Strategy 2010/11 D/J
"What's Good for GM is Good for the
Nation ..." 2008 J/J
"Yes, Virginia ... There is a Santa Claus ..."
2005 F/M
... Water, Water, Everywhere, But ... 2008
A/M
...Talking the Talk, Waling the Walk ...
NOT! 2012 A/S
A GHG Action Plan That Works For All!
2010 J/J
A Sonic Boom in Sustainability 2011 O/N
Advancing Sustainability Using TOMS
Methodology 2013 J/J
An EV in Your Future? 2011 J/J
An Opportunity in the Budget Crisis 2009 J/J
April 22, 1970: A History Lesson 2013 A/M
Back to the Future for EV's? 2010 A/M
Born in the USA: Sam's Impact on a
Sustainable America 2003 O/N
CAP and Trade: Writing Permits to Pollute
2009 A/S
Cellulosics Biorefineries 2010 O/N
CFLs and LEDs: Revisiting Lighting
Sustainability 2014/15 D/J
Dichlorodiphenyl Trichloroethane: Vs A
Million Deaths Per Year 2009 A/M
Disruptive Innovation and Sustainability
2015 A/S
Educating Our Youth: Targeting Their
Future 2009 O/N
Embarking on Retirement 2012 A/M
Emergency Management Sustainability
2013/14 D/J



Energy Skeleton Keys 2003 F/M
Exporting Gas 2013 F/M
Good Science and Bad: Knowing the
Difference 2013 A/S
Green Labeling or Green-Washing: How Do
You Know? 2012 J/J
History Lessons for Today's Action "Plan"
2015 O/N
Lessons From Will Rogers 2003 A/M
LUST in the New Millennium 2015 J/J
Measuring the Immeasurable: Sustainability
Indicators and Global Warming 2003/4 D/J
Mr. President: It Is Time To "Change" to
Cellulosics-Based Ethanol 2009 F/M
Navigating the Greenhouse Gas Discussion
2015 A/M
New Rules! The "S" Word is Off-Limits!
2006 A/S
No Burn Holidays and Fireworks
Particulates 2014 A/S
NOT-Axioms of Environmental
Sustainability 2003 J/J
Opening the Discussion Again: Raising Gas
Taxes 2015 F/M

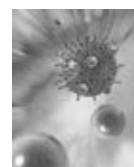
Part I: Mensa and Black Swans 2011 F/M
Part II: Mensa and Black Swans 2011 A/M
Petrolism and Our Addiction to Oil 2006 O/N
Planes, Trains, and Automobiles -- Does
anyone else see this? 2007 A/S
Playing that Funky Music Increases Solar
Cell Efficiency 2014 A/M
Proposed Recycling Legislation Unnecessary,
Unenforceable 2011/12 D/J
Revisiting the Fuel Tax Issue 2011 A/S
Seeing Spots in the Big Picture 2007 O/N
Shock and Awe All Over Again (Part Two
of Three) 2004 J/J
Shock and Awe in the Desert: "De ja" Vu All
Over Again! 2004 A/M
Solar Business Model 2014 F/M
Sustainability Examples 2003 A/S
Sustainable "Growth" with Popcorn &
Soda? 2009/10 D/J
Sustainable Personal Transportation for the
Future (Part Three of Three) 2004 A/S
Sustaining Growth in Alt-Fuel Options 2007 A/M
Sustaining Our Efforts: Many People in
Many Places 2005 O/N
Sustaining Our Focus on the Important
Things 2004 F/M
Sustaining the Money Tree: ... Playing the
Budgeting Game 2006 F/M
Sustaining the Superfund: Re-Fund It! 2010 A/S
Targeting Solar Incentives for Existing
Arizona Businesses ... 2010 F/M
The Conundrum 2012 O/N
The Dilbert School of Management:
Lessons in Sustainability 2007 J/J
This Isn't Lake Wobegon, Toto ... 2007 F/M
Throwing Common Sense Away: A
Sustainable Tactic for Clean-Up? 2005/6 D/J
Ticky-Tacky Fees Drive Me Crazy! 2006/7 D/J
Today's Lesson: Insulation "R" Value ...
What does it Really mean? 2006 A/M
Topsy - Part II (Not by Cozy Cole) 2008 F/M
Upcycling: New Terminology or Same Old?
2014 O/N
US Economy Still Fossil Based After 40 Years
of Energy Politics & Policies 2013 O/N
We Have Come Full Circle 2014 J/J



HOLMES, JOSEPH C. PROSPECTING FOR ENVIRONMENTAL BUSINESS!

"No-Bid" Has Never Been More Tough!
2009 A/S
6 Easy Steps to Break Through "Sales Call
Reluctance" 2006 A/M
A Message From Your Prospect 2008 O/N
A Networking Success Story 2010 O/N
A New Year: How About a New Value
Proposition? 2005/6 D/J
A Salesperson's Job is Never Done ...
Maybe it Should Be! 2005 A/M
A Sales & Marketing Plan: Who Needs It?
2008 F/M
Are We in the Right Place at the Right Time?

2007 F/M
Building Better Conferences 2007 A/M
Client Relation Management Systems
2008/9 D/J
E-Bids and Reverse Auctions: Industry
Opinions Here! 2005 A/S
Economic Survey Results 2009 O/N
Get Connected! 2007 O/N
Greenbuild 2009/10 D/J
I Want YOUR Success Story 2011 O/N
Ideas for Your Next Hole Sponsorship 2011 F/M
It's Not the Economy, Blame the Sales Guy!
2009 J/J
More on Our Changing Market 2007 J/J
More on the Sales/Operations Relationship
2005 J/J
Prospecting for Environmental Business
2004 O/N
Sales in Today's Modern Business World
2006 A/S
Sales Person to Sales Manager 2010 J/J
Selling During Mergers/Acquisitions
2008 A/M
Selling in the Down-Turn 2008 J/J
Selling Sustainability 2008 A/S
Social Media in Our Market 2007 A/S
Survey Says! The Outlook for '05 is Good!
2005 F/M
Sustainability in the Downturn 2009 A/M
The "Seller-Doer" 2007/8 D/J
The Environmental Industry's "Long Tail"
Part I 2006 O/N
The Environmental Industry's "Long Tail"
Part II 2006/7 D/J
The Internal Marketplace 2010 F/M
The Strategic Hire 2011 A/S
The Value of Association Memberships
2005 O/N
To Bid or Not to Bid? 2004/5 D/J
Training Resources for Business
Development Personnel 2006 J/J
When Does Vision Become Opportunity?
2010 A/S
HOSKIN, JULIE SLOCUM
Testing for Total Petroleum Hydrocarbons
2004 A/S



HRISTOVSKI, KIRIL, PHD

Much Ado About Small Materials,
Nanotechnology and its Environmental
Applications and Implications 2008/9 D/J
Regulatory Implications for Commercial
Fabrics Containing Nanosilver: Haz Waste
or Not? 2012 O/N
HUHN, BOB
Leadership Change at MCAQD 2014 J/J
**HUTZEL, ROBERT L., CIH,
CSP**
Dispelling a Myth: Managing Asbestos in
Buildings 2009/10 D/J
JACOBS, MATT, CHMM
"CHMMunity" Volunteers Remove Tons of
Debris From Rio Salado 2007 O/N

Continued on page 8



KIRCHNER, DAVID L.

How About an Acre-Foot of Water - Enough for a Family of Four For a Year? 2003 O/N

How Environmental Consultants Could Avoid Making Silly Mistakes 2003 F/M
It's All About Survival, Hey, Can I Bum a Camel Off of You? 2008 F/M
Lessons Learned After 30 Years of Environmental Consulting ... 2006/7 D/J
Water From Our Oceans 2004 A/S

KLEIN, MITCH

How to Respond to an Environmental Enforcement Action 2009 F/M

KRAMKOWSKI, PAUL, CHMM
Internet 101 for the Environmental, Health & Safety Professional 2004 F/M

KRILOFF, SEAN

ADOSH Inspections: Respiratory Protection in Emergency Response 2003 A/S
Arizona's Top 15 Safety Citations 2004 O/N
Hazard Analysis 2004 F/M
Ladder Safety Regulations: Precautions Protect Employees 2003/4 D/J
What to Expect from an ADOSH Inspection 2004 A/M
What to Expect from an ADOSH Inspection, Part II 2004 J/J



**LAME, MARC AND
GOUGE, DAWN**

Educating Our Environmental Management Professionals 2014 A/S
Integrated Pest Management: A Healthy Alternative for Arizona's Schoolchildren 2005/6 D/J

LANEY, DAVID, CHMM

Arizona Law to Assure Sufficient Funding for UST Cleanup 2013 A/S

**LATIMER, ED, PHD, PE,
CPSWQ**

EPA Pesticide Exemption Rule Overturned 2009 A/S

Permitting of Stormwater Discharges 2005 A/S
AZPDES MSGP 2009, Highlights of ADEQ's Proposed AZPDES Stormwater Permit 2009 J/J

LIMA, DAVID, MS, CHMM

Chemical Facility Anti-Terrorism Standard 2007/8 D/J

How Will the Proposed New HAP Rules Affect You? 2006 F/M

LITE, JEREMY A.

Anatomy of a Toxic Tort Case 2003/4 D/J

**LOCKWOOD, BARBARA D.,
P.E.**

Management Options: Reuse, Recycle, Disposal Cathode Ray Tubes 2003 J/J

MARTIN, TODD AND

SUMNER, RICHARD, P.E.

"How Can I Get My Air Permit Faster?"

2013 O/N

MAYE, JACQUELINE

Five Components of a Hazardous Waste Contingency Plan 2003 A/S

**MARCANTONIO, RICHARD
"DREW"**

Military and Environmental Management 2015 F/M

MCCONAGHY, P.E., ADEQ

UST: Financial Responsibility 2014 O/N



MCCURRY, CRAIG, P.E.

How to Re-Energize Your P2 Program, The Boeing Company 2006 A/M
VOC Reduction at The Boeing Company 2004 A/M

MEMORIUM

Cynthia Ann Synde" Wundrock 2010 A/M

Matt Jacobs 2010 J/J

Norwood B. Melcher, Jr. (Nick) 2009 J/J

J. Andy Soesilo 2015 J/J

Janet Tjan A Memorium and

Article Authored by Vicky L. Aviles

Mesothelioma...A Big Word for a Menacing Disease! 2011/12 D/J

**MOHAMED, ABDELLATIF A.,
PHD**

Beyond Soil, Water, and Air: A New Definition of the Environment 2013 F/M



**OLSON, LARRY PHD.
IT'S ALL ABOUT
CHEMISTRY**

"Water, Water, Everywhere Nor Any Drop To Drink" 2010 A/M

A Pandemic of Neurotoxicity? 2014 F/M

A Pebble Mine Update 2014 A/S

A Sustainable Source of Chemicals? 2009 J/J

A Turning Point 2015 O/N

Air Pollution From Biodiesel 2006 O/N

Algae - Is it the Answer? 2008/9 D/J

Biodiesel From Waste Oil 2008 O/N

Biofuels 2006 F/M

Black Carbon 2011 J/J

BP May Be Only the Beginning 2010 A/S

Carbon Capture and Storage 2009 A/S

Carbon Sequestration 2009/10 D/J

Chemistry Changing the World 2014/15 D/J

Chemistry and Sustainability 2007 A/S

Clean Coal? 2005/6 D/J

Climate Change - the Verdict 2007 A/M

Climate Change Choices 2007/8 D/J

Desertification 2006/7 D/J

Do You Know What's In Your Swimming Pool? 2011 A/S

Environment and Health 2012/13 D/J

Ethanol Revisited 2006 J/J

EU Leads The Way 2004/5 D/J

Final Impressions of Africa 2013 A/M

Fracking Scorecard 2012 O/N

Fracking--The Solution to Our Energy Problems? 2011 A/M

Good vs Bad Ozone 2003 A/S

Green Chemistry 2003 O/N

Green Plastics 2015 F/M

How Does a Fire Retardant Help Fight a Wildfire? 2014 J/J

How Much of a Threat is Bisphenol A? 2008 J/J

Human Guinea Pigs 2008 A/S

Is That Arsenic in My Drinking Water? 2003 A/M

Is That Teflon Frying Pan Killing You? 2005 A/S

Managing Chemicals In the 21st Century 2003/4 D/J

Mercury: Death by Quicksilver 2004 F/M

MTBE A Classic Case Study of the Law of Unintended Consequences 2004 J/J

Nitric Oxide: A Most Remarkable Molecule 2006 A/S

Nitrogen for Your Tires? Is it Just Hot Air? 2009 A/M

No MSDS is Better than a Wrong MSDS 2005 A/M

Paper or Plastic (or Neither?) 2014 O/N

Particulate Matter 2004 A/S

Particulates and Your Health 2004 O/N

Perchlorate - An Emerging Contaminant 2009 F/M

Pharmaceuticals in Your Drinking Water 2008 A/M

Rare Earths - The Next National Security Threat? 2013/14 D/J

Removing Arsenic From Drinking Water 2003 J/J

Response to Desertification 2007 F/M

Second Generation Biofuels 2008 F/M

Spotty Dishes? 2011 F/M

Storage of Incompatible Chemicals 2003 F/M

Sustainable Water Use 2010 J/J

Thank Goodness for Orphan Drugs 2011 O/N

The Cost of Environmental Negligence? 2014 A/M



The Black Stink (Yang Su Pu River) 2006 A/M

The Dirty Dozen 2010 F/M

The End of Cheap Coal 2005 O/N

The Keystone XL Pipeline 2013 A/S

The Pebble Mine in Bristol Bay, Alaska 2012 A/S

The Precautionary Principle 2005 J/J

The Scientific Method 2012 F/M

The Vasa's Greatest Battle 2010/11 D/J

Tilting at Windmills 2012 J/J

Toxicology of Mercury Part II 2004 A/M

Unintended Consequences 2013 O/N

Waste Not, Want Not 2007 J/J

Waste to Energy 2012 A/M

Water in the American West Part I 2015 A/M

Water in the American West Part II 2015 J/J

Water in the American West Part III 2015 A/S

What's New at Your Dry Cleaners? 2007 O/N

Zimbabwe: First Impressions 2013 F/M

OSTERMAN, DANIEL J.

How Can We Validate Green Product Attributes? 2012 A/M



**OWENS, STEPHEN A.,
ADEQ DIRECTOR**

Arizona Performance Track, Broadening the Base and Improving Incentives

2007 F/M

Performance Track: Promoting Sound

Environmental Management 2003 O/N

Putting Environmental Quality on the

Performance Track 2005 J/J

PALASZ, CATHY

Misconceptions of an EMS Audit 2010 F/M

PAUL, PATRICK J.

What's New In Waste Management 2003 F/M



PAULAUSKY, CHUCK, CHMM

Accident Investigation: Solving the Mystery 2007 J/J

Cows or Crows? Employee Awareness? 2008 O/N

Emergency Response and Evacuation

Planning 2010 A/M

Ergonomics: It's Personal! 2012 J/J

Job Safety Analysis, A Safety Management Tool 2005 F/M

Laser Safety: The Eyes Have It! 2013/14 D/J

Managing Your Workers' Compensation Costs 2009 A/S

OSHA Documentation: CYAWP 2007 F/M

Powered Industrial Trucks, Critical Safety

Training Requirements 2008 A/M

Protecting Your Workers, OSHA PPE

Requirements 2007 A/S

Emergency Egress 2006 A/S

Fire Extinguisher Basics 2006 J/J

OSHA Requirements for Safety Training 2006 O/N

Safety Teams: An Important Key to Culture Change 2014/15 D/J

Slip, Trip, Fall: Preventing "STF" Injuries and Deaths 2011 A/M

SOP's: Safety Operating Procedures 2007 O/N

Staying Safe for the Holidays! 2015 O/N

PETERS, JOAN

Does Your Business Need a City of Phoenix Wastewater Discharge Permit? 2004 A/M

Continued on page 11

SUSTAINABILITY AND SUSTAINABLE DEVELOPMENT



Nicholas R. Hild, PhD.

A HALF CENTURY OF CHANGING PRIORITIES

In the early 1970's, the EPA estimated that almost 90% of the nation's surface waters were polluted, a result of years of untreated municipal and industrial wastewater being discharged into lakes and rivers. Unfortunately, we did not have the 'technologies' to even begin to meet that challenge until the Water Quality Act Amendments of 1972 (WQAA) were promulgated with monies dedicated for research and development to find better technologies to meet that challenge.

With the passing of the *technology-forcing* WQAA in 1972, our nation found both the will to succeed and the technologies to implement advanced wastewater treatment systems that have returned most of our surface waters to fishable and swimmable sources of pride. Lake Erie is no longer "dead" as it was proclaimed to be at the first Earth Day, although there are still events which occur that show how much we need to maintain vigilance: witness last year's huge toxic algae bloom in Lake Erie that shut down drinking water supplies to more than half a million people in southwest Michigan---untreated wastewater flowed into the Rouge and Detroit River after a storm that overwhelmed treatment facilities---so, yes, there's still work to be done to assure drinking waters are protected nationwide. But by and large, our nations surface waters are doing well and we now must move on to other environmental problems.

Fast forward half a century and our environmental priorities have dramatically changed. Yesterday's priority on surface water clean-up has been replaced by today's priority on global warming and global climate change. At least, that *should* be our highest environmental priority. But, back in the '70's, our energy concerns were about finding *more* fossil fuel sources to sustain our carbon-based power industry and our gas-guzzling mobile incinerators (cars and trucks) that we all drove. No one had heard of greenhouse gas or the ozone hole; environmental "science" at that time was truly in its infancy.

Today, it is, in fact, *not* about *running out* of fossil reserves anymore as we worried about in the early '70's; it's all about *geopolitical* economics and the factors that allow first world countries to continue to justify using fossil fuels while our influential members of Congress deny that global climate change is the elephant in the room. And, despite what you hear our politicians saying, little is actually being done to thwart the continuing march toward a fossil-fueled economy. Just the opposite is true---the "fracking" boom has reinvigorated our politicians to push legislation that ensures we ween ourselves from middle eastern oil. That, in turn, drives ever cheaper gas prices at the pump thereby destroying incentives for building charging stations and purchasing hybrid vehicles. The incentive to replace our fossil-fueled transportation 'system' is diminished with every cheap gallon of gas even if it means Big Oil is losing money.

All of this dates to early 2012, a time when gasoline prices at the pump were pushing \$4 a gallon. We were so dependent on importing our fossil fuels that Big Oil was quietly embarking on finding new ways to extract oil and gas from once unextractable and hidden, underground 'sources' in shale formations, where they never could before---a big effort to ween ourselves from the grip of middle eastern suppliers---what they discovered changed the way extraction could be accomplished.

In the early 2000's, drilling companies like Baker Hughes which had a large stake in the fossils game, was using new computer sensor technologies, and had successfully redesigned their drilling rigs so that the bits could change direction underground without having to be pulled out of the hole. That reduced drilling time by as much as 40% and allowed the bit to penetrate rich veins of oil and natural gas deep within shale formations.

What resulted was a huge rush to extract the Balkan fields in the upper Midwest which, in turn, drove oil and gas prices down to pre-2000 prices. That allowed politicians to carry the flag for oil and gas independence from middle eastern oil suppliers, all the way to the bank. In a study titled "*The Quest: Energy, Security and the Remaking of the Modern World*," (2013), energy historian Daniel Yergin found that the innovations that have allowed extraction of oil and gas in places never before possible is good news for consumers where prices at the pump dropped precipitously. But, it is especially bad news for climate scientists and our global environment that desperately needs a reduction in carbon pollution. But, in 2015, two dollars a gallon for gas at the pump has had a dramatic effect on people losing interest in buying more expensive hybrid cars and trucks, just as the study predicted.

Yergin's study also concluded that the future for wind, batteries, and biofuels is as cloudy as it has been since Clinton's administration made climate change a priority. The study shows that, since 2010, major global greenhouse gas agreements have been voided and funding for alt fuels research is declining rapidly when many were just on the cusp of showing promise in real world applications.

In 2010, solar, wind, and geothermal sources together accounted for 4.8% of U.S. power generated. Ten percent of U.S. gasoline demand was satisfied with corn ethanol (as required by federal law), but ethanol cracked from non-food (cellulosics) sources still have not been successful in the marketplace. By 2015, with the advent of Balkan oil and gas and declining political support for alternative energy, the percentage of U.S. power generated with alternatives is even less than it was in 2010, clearly a result of (geo)political economics and Big Oil 'innovation' (i.e. political lobbying/ intervention).

When it comes to electric cars in the marketplace, although almost every car manufacturer has a hybrid or 'totally' electric in their offerings, the car-shopping public is still trying to justify purchasing a car whose batteries alone cost as much as a small compact fossil-fueled automobile. And speaking of batteries, even Tesla who is completing a lithium ion battery manufacturing facility in Nevada, admits that the ability to drive an electric car more than 200 miles will still be dependent on constructing a network of battery charging stations across the country that will cost millions to implement and take years to accomplish. And that is assuming they can find the *political* support to subsidize it, something highly unlikely as long as the push to produce more fossil fuels continues as our nation's highest priority.

Unless we somehow are able to convince our congressional leaders---they are the one's holding the purse strings---to prioritize the elimination of greenhouse gas emissions and alternative energy research with the kind of effort we used to clean up our surface waters a half century ago, it's going to be really difficult to pass the straight-face test half a century from now, when we try to explain all of this to our children's, children's, children.



Larry Olson, PhD.

IT'S ALL ABOUT CHEMISTRY

PARIS: WAS IT REALLY A TURNING POINT?

In the last column we looked at the possibility that the 21st Conference of the Parties (COP) for the Framework Convention on Climate Change, held in Paris in December 2015, would be a turning point in how the world would deal with climate change. How did things turn out?

It depends upon whom you listen to. Was it a “monumental success for the planet and its people” as UN Secretary General Ban Ki-moon proclaimed, “a major leap forward for mankind” as stated by French President Francois Hollande, or “a turning point for the world” as President Barak Obama called it? There were, of course, other opinions. Senate Republican Majority Leader Mitch McConnell reacted by saying Obama is “making promises he can’t keep” and that the Paris agreement “is subject to being shredded in 13 months” after the Presidential elections. Vermont Senator Bernie Sanders felt that “while this is a step forward it goes nowhere near far enough.” Even environmental NGOs had different opinions. Friends of the Earth claimed “the Paris Climate Agreement is not a fair, just, or science-based deal” but the Executive Director of the Sierra Club said “For the first time in history, the global community agreed to action that sets the foundation to help prevent the worst consequences of the climate crisis while embracing the opportunity to exponentially grow our clean energy economy.”

What is actually in the agreement? Most importantly, it encompasses virtually every nation on earth with 195 signatories. Francois Hollande called it “the first universal climate agreement in history.” This is a significant step forward from the Kyoto Protocol which left out most developing countries. Even though no one would argue that the Paris

accord by itself will solve the problem, it marks the first time that essentially every country in the world has committed to do something about global warming.

Secondly, the Paris approach was “bottom up.” Instead of allocations being parceled out to each country by some negotiating body, 187 countries came up with their own plans to either cut greenhouse gas emissions or limit their growth. No significant contributor to global emissions was left out of this agreement.

The problem is that even if every country met its goals, global emissions would be about 55 gigatons of CO₂ equivalents by 2030 which is almost 50% above the level of 40 gigatons that would be necessary to keep average global temperatures from rising more than 2 °C above pre-industrial levels. So the Paris agreement is not the final answer, but it is a significant start. The Parties agreed to meet on a regular basis to continually revise their targets with the expectations that new technologies will allow for even lower levels in the future. The difference in tone coming out of Paris was very different than the bitter divide between rich and poor countries from previous climate talks.

Other issues that Paris addressed were transparency and financial support for countries most threatened by climate change. The agreement establishes guidelines for regular reporting of every country’s carbon emissions, including China which has previously been reluctant to disclose much detail about what was going on within its borders to the rest of the world. Public disclosure is critical because there is no worldwide enforcement agency to make sure that countries are abiding by their commitments. As far as financial support is concerned, there was a renewed commitment to provide \$100 billion per year from 2020 to 2025 to help developing nations adapt to a climate change problem they did not create and a promise to reconvene in 2025 to consider even more aid. The U.S. promised to double its commitment to \$861 million per year for poor countries most threatened by climate change. This was “the best outcome we could have hoped for” said the Chair of the 48 Least Developed Countries (LDCs) in the negotiations, but since it was in the non-binding portion of the text there remains substantial skepticism.

In the months leading up to the convening of the Paris conference, the stated goal was to hold the average rise in global temperatures to 2 °C above pre-industrial times. But most climate scientists think that is not enough to prevent catastrophic changes in some parts of the world. So the final agreement included a commitment to hold “the increase in global average temperature to well below 2 °C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 °C.” Estimates are that man-made emissions of carbon dioxide would have to be reduced to zero by 2050 to achieve this goal. That means there is a lot of work left to do.



PETERSON, DANNY, PHD
Are We Prepared? 2015 F/M
Ribbon Cutting Ceremony: Alternate State
Emergency Operations Center 2012 A/M
A New Challenge for Emergency
Management: Terrorism Defense 2003 A/S
The Changing Landscape 2006 A/S
**PETERSON, DANNY, PHD.,
AND BROWN, RYAN, BS**
Alternate State EOC Goes On-Line at ASU
Polytechnic 2008 A/S
POLITO, RICHARD
South Phoenix Toxics Reduction Project
2005 F/M
RATYNSKI, ANGELA
Alternative Fuels 2005 O/N
RAVEGA, KATEA
Marketing Claims: "Green" or "Greenwash"?
2009 A/M



REHMAN, SHAZIA, M.S.
Don't Move a Mussel 2014 A/M
**REILLY, HON. KENNETH F.,
J.D.**
EHS: 2006, An Enforcement Prediction
2006 F/M
Environmental Compliance, Awareness, &
Responsibility 2007 F/M
RCRA Generator Training Requirements
2008 F/M
US DOT Compliance Requirements
2005 F/M
**REEVE, AMANDA A. AND
CANDLAND, JAMES**
A First-Hand Look at Fire Mitigation
2015 J/J
RODRIGUEZ, MIGUEL A.
Bloodborne Pathogens 2007 A/M
ROE, DANIEL
Emergency Planning and Community Right
to Know - Plus! 2003 A/S



ROGERS, JULIE C.
MCAQD Seminar for Metal Finishers
2011 A/M
NESHAP Plating and Polishing Rule
2010 A/S
ROMIC
Romic Enhances their "Excellence Through
Commitment" in the Env Industry
2005 O/N
ROSENTHAL, BILL
A Review of Mandatory DOT Training
2003 J/J
SANCHEZ, ROSANNE
Phoenix Brownfields University 2003 J/J
SEXTON, MICHAEL S.
Palo Verde Nuclear Generating Station
2005 O/N
**SOESILO, J. ANDY, PHD,
REM**
Building a P2 Based EMS 2007 O/N
Competitive Advantage: A good reason to
adopt EMS? 2007 F/M
EMS: The "D" Word of the PDCA-Cycle
2008 F/M
Not in Compliance? Consider an
Environmental Management System
2006 A/M
Sustainability, Environmental Management,
and Paradigm Shift 2013 F/M
Developing an EMS Through P2 Planning
2003 A/M
**SOESILO, J. ANDY, PHD.,
AND BILL QUINN, RES**
P2 Achievements: The 2003 NPPR
Report, a Decade of P2 Results 1990-
2000 2003 O/N
STAFF
"Partnering for Cleaner Air" Annual Air
Quality Conference 2009/10 D/J
2008 Gatekeeper / Regulatory Roundup
2008 A/M
2011 Gatekeeper Regulatory Roundup
2011 A/M
2011 SAEMS 1st Annual Regulatory
Roundup 2011 A/M
2012 Gatekeeper Regulatory Roundup
2012 A/M
2012 SAEMS RCRA 2012 J/J
2014 SAEMS RCRA Photopage 2014 J/J
2015 Gatekeeper Regulatory Roundup
Photo Review 2015 F/M
2015 SAEMS RCRA 2015 A/M

9th Annual: Gatekeeper RR 2013 A/M
ADEQ Orders Hazardous Waste Facility
Closure 2003 A/M
Alliance Hosts Business Leadership and
Sustainability Leg Forum Luncheon
2011/12 D/J
Alliance Hosts: Air Quality Luncheon
2011 F/M
Arizona's New Voluntary Environmental
Stewardship Program 2015 A/S
Arizona Resource Exchange, From Trash to
Treasure 2005 J/J
ASU College of Tech Cohort Dinner
2011 F/M
Cardno Completes Acquisition of ATC
Associates 2012 A/M
Committee Volunteers "Give Back
to the Community", "Value Sense of
Accomplishment" 2009 A/M
Company Focus: LFR, Inc 2006 O/N
Company Focus: Liquid Environmental
Solutions 2006/7 D/J
Company Focus: ARCADIS 2010 A/M
Environmental Technicians: Ready for Hire
2006 A/M
COMPANY FOCUS: Workplace Safety
Specialists 2014 A/S
ESS Expo 05: Users Conference 2005 J/J
Exciting Developments at Turner
Laboratories, Inc 2011 O/N
Focus On: CARE; Carter, Affiliates, Inc.,
Resources for the Environment 2008 A/S
Fuel Spill Clean-up in the Apache-Sitgreaves
National Forest 2004 O/N
Gatekeeper Regulatory Roundup, 2009
2009 A/M
Gatekeeper RR, A Rounding Success!
2007 A/M
Green Arizona, Arizona Environmental
Strategic Alliance Sponsors Youtube Contest
2010 J/J



Hal Berkowitz, Director, Office of Env
Technology, ASU, Program and Retirement
Plans 2009/10 D/J
How to Determine Your Employee's EH&S
Training Requirements 2003 J/J
MCAQD Announces New AQ Director
2014 O/N
Maricopa County Hires New Air Quality
Director 2008 O/N
Performance Track / EMS Seminar 2007 J/J
Phoenix Receives Recycling Leadership
Award 2006 A/M
Pillars of Sustainability, Sustainable P2
Seminar 2008 O/N
Recent Videos on Environmental
Management TV 2011 J/J
SAEMS 2010 RCRA 2010 J/J
SAEMS 2011 Annual RCRA Seminar
2011 J/J
SAEMS 2012 P2 Seminar 2012 O/N
SAEMS 20th Anniversary Kick-Off,
Governor Proclaims SAEMS DAY" 2007 A/S
SAEMS and RCRA: Next Generation 2013 J/J

SAEMS P2 Sustainable Growth to Reduce
Our Carbon Footprint 2010 O/N
SAEMS RCRA 2008, RCRA: The Keys to
Compliance 2008 J/J
SAEMS RCRA 2009 2009 J/J
SEED Event 2005, Symposium for
Environmental and Economic Dynamics
2005 A/M
Selecting an Environmental Consulting Firm
2015 O/N
SESHA 31st Annual International High
Technology EHS Symposium & Expo
2009 J/J
Shanghai V Director of Policy Research
Speaks at Polytechnic Campus 2006 F/M
Top Ten Hazardous Waste Violations in
Arizona 2014 A/M
Treasurer 4 Teachers, Non-Profit Finds
Innovative Uses for Manufacturers' Discards
2009 A/S



US EPA and ADEQ Sign MOA on
Performance Track 2009 F/M
www.ReUseAZ.org, Assistance with your
reuse and recycling needs 2007 O/N
ADEQ Letters of Regulatory Interpretation:
Evaporation of Hazardous Waste Rinse
Waters 2003 A/S



TURNER, NANCY D.
Turner Labs Celebrates 22 Years 2005 O/N
**VON OPPENFELD, ROLF R. &
HISER, ERIC L. &
FREEZE, MARK E.**
Air Quality Permitting Strategies 2003/4 D/J
WALTERS, KAREN
Aerotech Environmental Laboratories State-
of-the-Art Facility 2004/5 D/J



WEBB, DARIN
A Contrasting View: Global Warming
2006 A/S
Company Focus: ARCADIS 2006 A/S
McPhee Stays Above the Competition
2006 J/J
Where Are They Now? Yesterday's
Environmental Managers, Today 2006 A/S
WILEY, WILLIAM (BILL), P.E.
Air Quality in Maricopa County: What's
Really Going On 2012 A/S
Caution: A few Mistakes Can Undermine
Your: Sustainability Program 2010 A/S
Lessons from the Sustainability Trenches, 14
Tips to Achieve Sustainability 2010 J/J
YOUNG, BARBARA
Univar USA: Improve Emergency
Preparedness and Increase Security 2003
A/S
ZIEGLER, GWENN
ADEQ's Voluntary Remediation
Program 2015 J/J

N. Weiss Associates, Inc.

Environmental Compliance Services

Experience Counts

Contact: Norm Weiss @ (602) 870-5504

Web Site: www.nweissassoc.com

ASSOCIATIONS PAGES

The Journal of Environmental Management Arizona invites environmental, health and/or safety organizations in Arizona to contribute news articles about their associations. Contact the editor at 480-422-4430 x42.



WWW.SAEMS.ORG

We would again like to thank our sponsors and membership for their attendance and support of the SAEMS Reception for the new Arizona Department of Environmental Quality (ADEQ) Director, Misael Cabrera, P.E. The event was held on November 5, 2015 at the Arizona History Museum in Tucson, Arizona. Attendees enjoyed exclusive access to the exhibits, cocktails, appetizers and most importantly, good company. Over 60 people attended the event, which raised over \$1,500 that will be added to our scholarship fund. In December, SAEMS hosted a Holiday Mixer Luncheon and canned food drive.

SAEMS would also like to thank the Terracon Foundation for awarding us with a \$2,000 grant this fall. Some of the funds from the grant will be used to update our A/V Equipment; however, the majority of the funds will go towards providing students with scholarships to our luncheons and seminars. Speaking of which, please save the date for our 2016 Annual RCRA Seminar, which will be held on May 5, 2016 at the Tucson Hilton East.

Also note that instead of our January Luncheon, SAEMS will be sponsoring the Annual Pima County LEPC Hazardous Materials Safety Workshop, which will be held at the Desert Diamond Casino in Tucson, Arizona on January 27, 2016. Registration is free and you may go to the Pima County LEPC website for more information on attending and/or sponsoring.

Please consider attending SAEMS Luncheons and Events for informative presentations and networking opportunities. Also please note that SAEMS is now offering free memberships to students so they may begin networking with environmental professionals while still pursuing their educational goals. For more information regarding SAEMS and upcoming events please visit our website.



Derek Koller
President



AZ.ASSE.ORG

Happy New Year from AZASSE, May your new year be filled with laughter, joy, and friends! Come find some new friends at one of our exciting events coming up in the next few months.

Our first chapter meeting of the year was January 8th, with a half day workshop regarding the new Confined Space Standard for construction. On January 25-26 there will be a 3M Construction Safety Fair at Marina Heights in Tempe. The February 5th meeting will be a joint meeting with EPAZ and the topic will be Solar Energy. And as always, save the date for the Arizona Health and Safety Summit, April 21st and 22nd at Chaparral Suites in Scottsdale. Starting in February

our chapter meetings will be the first Friday of the month, and our construction section meetings will be the second Friday of the month. Visit our website: az.asse.org for more information.

Stay safe out there, and I look forward to meeting new friends soon!



Melissa Schmalz
President



ARIZONA
FORWARD

ARIZONAFORWARD.ORG

ARIZONA IS A TRAILBLAZER

There's a lot right about Arizona! But unfortunately, all too often we focus on what we think is broken, like our politics, policies and laws. It's time to change that mindset. After all, perception is reality.

Arizona is a leader in environmental sustainability and ranks high in many quality of life indicators. Our cities and towns are demonstrating unique and innovative ways to promote green design, conserve natural resources and preserve our precious desert environment.

We're setting the bar on several fronts.

We surpass California and much of the world, when it comes to managing our water supply. The drought has been devastating to California. Water providers and planners in Arizona have worked hard to avoid the same fate. SRP has been a steward of what's right for Arizona for 112 years, serving power and water needs with a vision of helping the Valley grow into a vibrant and sustainable metropolitan area.

The Arizona Water Banking Authority with its operating partner Central Arizona Project has stored nearly 3.4 million acre-feet of Colorado River water underground to protect against the impacts of shortage. These and other cooperative efforts have greatly increased the resiliency of Arizona's water supplies.

We are without water challenges but bright minds are working daily on innovative ways to respond to potential shortages. Everyone should be part of the solution and engage in this important dialogue.

Our state is further breaking new ground in an unprecedented effort to manage the largest forest health project ever undertaken in the U.S. – the Four Forest Restoration Initiative. It envisions restored forest ecosystems on portions of four National Forests along the Mogollon Rim, supporting natural fire regimes, functioning populations of native plants and animals, and thriving forest communities that pose little threat of destructive wildfire. There are a multitude of issues and a fair amount of controversy involved in this massive undertaking but 4FRI is a remarkable program of national significance.

Arizona is further excelling in green building strategies. Our state is tied with New York in 10th place nationally for LEED certified buildings, which set the competitive price scale for commercial and institutional real estate in major metropolitan areas. That's just some of what's trending. If you want to be inspired by good work that balances economic prosperity and sustainability in individual

communities across our state, look to projects recognized in Arizona Forward's 35th annual Environmental Excellence Awards program. Open to entries statewide for the first time ever, more than 125 nominations were received representing 30 municipalities, 18 of which were from outside of Maricopa County where the program has historically concentrated.

Top honors overall went to the City of Tucson for its Sun Link Streetcar that connects more than 100,000 people with affordable, clean and comfortable travel, linking five districts along a four-mile line with 23 stops along the way. It is the largest, most complex construction project the city of Tucson has ever undertaken and is also the nation's first Made in America streetcar system in almost 60 years.

Arizona Forward has a long, rich history of supporting sustainability initiatives since 1969 when it operated as Valley Forward and focused on metropolitan Phoenix. The mission was expanded statewide in 2013 with impressive results. Large companies and small businesses joined forces with municipalities and government agencies, educational institutions, related non-profits and a host of concerned citizens throughout the Grand Canyon State.

They share a vision for environmental quality and economic prosperity throughout Arizona, which is expressed in a robust agenda that includes: a balanced statewide multimodal transportation system; smart growth strategies and open space planning; healthy forest ecosystems; improved air quality; energy alternatives; and a resilient water supply – all under the umbrella of healthy communities.

First and foremost, Arizona Forward is a business-based organization. Members recognize that promoting sustainability, conserving natural resources and preserving our unique desert environment is imperative to maintaining and improving the quality of life here for future generations.

Arizona Forward is helping to ensure that decisions about how residents will live tomorrow are made with foresight and imagination today.



Diane Brossart
President



WWW.AZAEPP.ORG

The AZAEP Chapter officers for 2016 are:

Mike Dawson	President
Beth Defend	Vice-President
Dorothy Hallock	Treasurer
Eileen Baden	Secretary
Pat Mariella, Ph.D.	Past President

The At-Large Board Members are:

Jennie Cure, Arizona Department of Environmental Quality
Kristin Gade, Ph.D., Arizona Department of Transportation
Karl Rains, Environmental Planner

At the January 26, 2016 meeting our speaker was Dr. Nancy Selover, Arizona State University – State Climatologist.

Topic: Climate Change Impact in Arizona.

Visit our website for more information!



Mike Dawson
President

ASSOCIATION PAGES

CONTINUED FROM PREVIOUS PG



**ARIZONA
ENVIRONMENTAL
STRATEGIC
ALLIANCE**

AZALLIANCE.ORG

The Alliance and the Pinal County Air Quality Department co-hosted our annual Pinal County Air Quality Permit Compliance Assistance Seminar on January 27th, 2016, at the Historic 1891 Florence Courthouse, in Florence, Arizona. Attendees participated in presentations by Pinal County AQ regulators and industry experts on topics including: "Design of a Permit", "Permitting Process", "Compliance Inspections", "Enforcement Procedures", "Making \$\$\$ Being Green, Risk vs Rewards, & How to Make Life Miserable", "Non-Attainment Dust Rules", "Proposed Exception Events Rule Modifications", and "Particulate Matter and Ozone Update". If you have an Air Quality Permit and you missed this seminar, or if your permitted facility is in Maricopa County, stay tuned -- we will be announcing the date and location of the 2016 Maricopa County Air Quality Permit Compliance Assistance Seminar in the upcoming months.

If you have any questions about the Alliance, or any of our upcoming events, contact me at Gregory.Bopp@Honeywell.com or call our office at 480-422-7392.

Greg Bopp
Chair



WWW.EPAZ.ORG

EPAZ will be hosting the 12th Annual Gatekeeper Regulatory Roundup conference March 29-30, 2016 at the Doubletree Hotel located on Priest & Broadway. (See our full page advertisement on page 4). We are very pleased with how the agenda is pulling together and invite you to visit our website to view the latest information.

Upcoming Events:

February 5, 2016 our luncheon will feature "Solar Energy in Arizona", presented by Andrew Diaz, SUN Edison. This is a joint luncheon with ASSE and will be held at Gateway Community College.

March 10, 2016 our luncheon topic and speaker are being determined.

April 14, 2016 our luncheon topic will be Toxic Release Inventory Reporting. Speaker is being determined.

April 22, 2016 we will be hosting our annual Golf Tournament at the Legacy Golf Resort.

EPAZ hosts monthly luncheon meetings on the second Thursday of the month from 11:30 AM to 1:00 PM at the SRP PERA Club. For the most up to date information, event details and reservations please visit our website at www.epaz.org.

Lisa Culbert
Association
Manager



WWW.AWMA-GCS.COM

The New Year is here and we are ready for it! Our first meeting of 2016 was on January 21, at the Maricopa County Air Quality Department where we watched AWMA International's "Ozone 101: Understand the sources, formation, and health and ecosystem effects" webinar. The webinar was very informative and we are looking into having more ozone focused meetings as the new level of 0.070 ppm becomes the standard.

TURNER LABORATORIES, INC.
A FULL SERVICE ENVIRONMENTAL LABORATORY

Mike McGovern PRESIDENT

Terri Garcia LABORATORY DIRECTOR

- Drinking Water, Wastewater, Hazardous Waste, Compliance Testing
- Inorganic, Organic, Microbiological Analysis
- Wastewater Sampling Services

Celebrating Over 31 Years in Tucson

2445 N. Coyote Dr., #104, Tucson, Arizona 85745

Phone: 520 882-5880 sales@turnerlabs.com www.turnerlabs.com

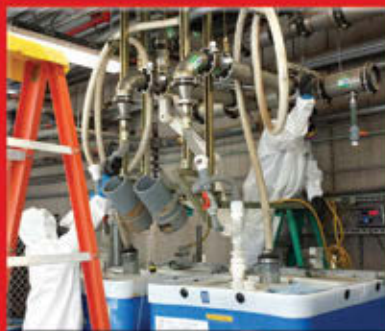
Upcoming meetings: January 28 will be our first Happy Hour of 2016 at Switch (south of Central and Thomas). On February 15 (President's Day), Tucson Electric Power will be hosting us for a tour of the AREVA Solar Boost Project. We are looking forward to this opportunity and getting to know our neighbors to the south. We are planning a presentation on Maricopa County's new minor NSR rules for March, which will be the counterpart to Steve Burr's presentation on ADEQ's reforms late last year.

For more information about us, or upcoming meetings, please visit our website at www.awma-gcs.org.

Mike Sonenberg, PE
Chair



**TRANSPORTATION & BIN SERVICES | REMEDIATION
INDUSTRIAL SERVICES | WASTE MANAGEMENT**



**Filter Media Changeout
Drywells, Sumps,
Oil/Water Separators
Decontamination**

CT Inc.
Chemical Transportation, Inc.
An Environmental Services Company

Phone: 888-444-7077
www.cti-az.com

SAVE
THE DATE

www.saems.org

2016 ANNUAL SAEMS RCRA SEMINAR

MAY 5, 2016

Registration begins at 7:30 AM

Tucson Hilton East, 7600 E. Broadway Blvd. Tucson, AZ

For more information please contact

Lisa Cuestas at Lisa.Cuestas@tucsonaz.gov or
Heather Shoemaker at HShoemaker@Ninyoandmoore.com

For sponsorship information please contact

Frank Bonillas at Frank.Bonillas@tucsonaz.gov



2016 Region IX VPPPA Safety Summit Future So Bright

April 26-28, 2016
Phoenix, Arizona



Mark W. Tillman
Colonel (Ret)
Pilot and Commander of
Air Force One
2001-2009
OPENING KEYNOTE SPEAKER



The OSHA Voluntary Protection Program (VPP) recognizes employers and workers who have implemented effective safety and health management systems and maintain injury and illness rates below national averages. Join us and others involved and interested in VPP including ADOSH, CalOSHA, HIOSH, NVOSHA and Region IX OSHA to learn more and to grow your company's VPP!

Over 40 Breakout Sessions

Check out the preliminary agenda and great summit offerings on our website now!

7th Annual Region IX Golf Tournament

Mark your calendar for April 25th, 11 AM at Ocotillo Golf Resort!

VPP Application and Re-certification Workshops

VPP Application Workshop: April 25. Recertification Workshop: April 29. Registration required.



Register NOW!

CONTACT US AT: VPPPA@REGIONIXVPPPA.ORG
www.regionixvpppa.org



The Auditing Roundtable

Call for Papers

The Auditing Roundtable ("Roundtable") has been promoting the professional practice of Environmental, Health & Safety, Sustainability, and related auditing for over 30 years. The "crown jewel" of our group has been our national meetings. In an effort to draw upon the talent, insights, and creativity of all of our Members, the Roundtable is actively seeking ideas, assistance, and participation in the planning for the national meeting. The Auditing Roundtable Spring meeting will take place on April 11-13, 2016 at the Mission Palms Hotel in Tempe, AZ.

Spring Meeting Needs and Opportunities

We're looking for speakers to present on any of the following topics:

- Career Proofing
- Challenges faced by young auditors
- Risk Based Audit Management
- Auditing the Adequacy of Training Programs
- Expansion of audits to non manufacturing
- Next generation workplace — organizational issues important to millennials
- How to make sure your audit is adding value for sites overwhelmed with audits

TO REGISTER OR FOR MORE INFORMATION: Please visit our website at www.auditing-roundtable.org

If you have any questions, please contact our Managing Director, Kathy Rieth at 480-659-3738.

The Auditing Roundtable

Spring 2016 National Meeting

Phoenix, AZ

April 11 - 13, 2016

CALL FOR FACILITATORS: Industry Sector Break-Outs

We are seeking facilitators for
industry sector break-outs on:

- Energy (Includes Oil & Gas) and Mining
- Utilities
- Biotech, Pharmaceuticals & Health
- Chemicals, Paper & other General Industry (Includes Transportation)


SUBMISSIONS

Request a "Proposal for Presentation" form
by contacting our Managing Director,
Kathy Rieth, by email at
Kathy@auditing-roundtable.org or
call 480-659-3738.

DEADLINE TO SUBMIT PROPOSAL: FEB. 8, 2016

■ 2016 February 5 —  Environmental Response, Inc.

Joint Luncheon with ASSE Featuring: Andrew Diaz, SUN Edison
Topic: State of Solar Energy in Arizona
Sponsor: Environmental Response, Inc.
Location: Gateway Community College

■ 2016 March 10 —  Environmental Response, Inc.

Luncheon Featuring: Speaker TBA
Topic: TBA
Sponsor: Environmental Response, Inc.
Location: SRP Pera Club, 1 E. Continental Drive, Tempe, AZ

■ 2016 March 29 & 30

12th Annual Gatekeeper Regulator Roundup
See our full-page advertisement on Page 4!
Location: The DoubleTree Inn in Tempe

visit our new website at:

www.epaz.org

JOIN YOUR ENVIRONMENTAL COLLEAGUES IN 2016



OUR MISSION:

To promote leadership in environmental management through education, advancement and application of science & technology and building a strong, connected and engaged membership of environmental professionals

Environmental, Health & Safety Seminars

OSHA, DOT & EPA Courses

<http://poly.engineering.asu.edu/professional-development>

courses offered:

- HazWOPER (40 hour & 8 hour Refresher)
 - First Responder Operations Level
 - Incident Commander
- Hazardous Materials Transportation (49 CFR & IATA, Initial & Refresher)
- RCRA Regulation & Compliance (Initial & Advanced)
- Clean Air Act Regulatory Compliance
- Water Quality Laws & Requirements
- Emergency Response Technician Level
- Greenhouse Gas, Renewable Energy & Sustainability
- Chemical Management Under Federal Regulations
- GHS and the Hazard Communication Standard

Providing regulatory compliance training courses for more than 20 years

ASU ARIZONA STATE UNIVERSITY
POLYTECHNIC CAMPUS



contact:

Registration, schedule, descriptions & fees:

Denise Kolisar
480.727.1825

Site specific courses:
Chad Geelhood
480.727.1869


**HAZARD PREVENTION
INSTITUTE**



DOT & ICAO
RCRA

HAZWOPER
OSHA

**Safety, Environmental &
Emergency Management Solutions**

Training, Planning & Consultation

hazardprevention.com

800.915.2492



**VACUUM
TRUCK SERVICES**
NOW HIRING
Experienced Technicians

1982 - 2016

34
YEARS OF
EXCELLENCE



- Emergency Response
- Lab Packing
- Confined Space Rescue Certified
- Training, Including: HAZWOPER, RCRA, and Confined Space
- UST Removal
- Hazardous Materials Management
- Clandestine Drug Lab Remediation
- Temporary Technical Personnel
- Asbestos, Lead, and Mold Abatement
- Soil Remediation
- Tank Cleaning
- Tanker Service

24 Hour
Emergency Spill Response
www.KaryEnvironmental.com

Phone
(480) 945-0009

Fax
(480) 945-8599