



# Newsletter

## Inland Empire Chapter News

Southern California Section, Association of Environmental and Engineering Geologists

May 8, 2006 FINAL EDITION

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# History of Petroleum in California

Wednesday 17-May-2006

5:30 - 6:30	Geologist Orientation	Lobby or Bar (no ties)
6:30 - 7:15	Dinner	Back Room
7:15 - 8:30	Meeting	Back Room

### **Pinnacle Peak Steakhouse, Colton**

(Meeting Cost \$18 with Gratuity)

(Order from Menu)

(Fund-raising donation suggested is \$5.00, or more)

*(RSVP/Directions below)*

**Dear AEG Members:**

**The call for Nominations of Officers for the Inland Empire Chapter is coming soon. Please take a few moments to think about whom you would like to nominate for the upcoming year. The current Chapter Officer terms expire 30-Sep-06. Most positions do not require a lot of time, except to attend monthly meetings. Why not consider yourself.**

Meeting location details and directions are found inside this Newsletter, as well as other news potentially of interest to you.

RSVP Please by Thursday, COB 11-May-06:  
Send e-Mail to [Rick.Gundry@verizon.net](mailto:Rick.Gundry@verizon.net) or  
call RSVP message at (951) 924-6756.

### ***This Month's Speaker:***

**Stephen Testa, Executive Officer,  
California State Mining and Geology  
Board, Sacramento, CA**

### **Abstract**

California has a rich heritage in oil. Oil seeps have been noted by Native Americans and Spanish explorers in the vicinity of Los Angeles since about 1543. The post gold rush era of the mid-to-late 19<sup>th</sup> Century represented the first major phase of oil

exploration and production in California. It was a period when the State legislature was concerned about a declining economic climate and explored means to spur the economy, and encourage growth and development.

Some individuals, such as Benjamin Silliman, Jr. and William P. Blake, expressed optimism. Josiah D. Whitney, State Geologist and Director of the first California Geological Survey (1860-1874) presented a pessimistic view of petroleum as a true commodity, and this pessimism eventually sealed the fate of the Survey. By the turn of the Century, things would however turn around. The Los Angeles City Oil Field was discovered in 1892 by Edward L. Doheny, Sr., and would be the most historically significant field in California, and its discovery would have profound impact for the industry worldwide. The discovery, situated in what is now Echo Park, would set off California's first oil boom during the revitalization period (1875-1900). Being in close proximity to downtown Los Angeles, its discovery sparked one of the first major land booms in the city.

By 1898, the Los Angeles field made up 65 percent of the total quantity of oil produced in California for that year. Within a few years there were over 200 oil companies and 2500 wells within the city limits. The Los Angeles City Field would become one of the major oil producers in the world. Of most importance is the effect this field had on the industry, attracting many due to its peculiar location to downtown Los Angeles.

The discovery of the Los Angeles City Oil Field would soon lead to other fields being discovered throughout the Los Angeles Basin during the early 20<sup>th</sup> Century, including the proving of seven giant fields (Brea-Olinda, Beverly Hills, West Coyote, East Coyote, Montebello, Richmond and Santa Fe), with the Los Angeles Basin area becoming one of the major oil-producing areas in the world. It was also during this time that Doheny would be instrumental in the conversion of coal-to oil-burning locomotive engines, which serve as the harbinger of a new era of petroleum-fuel transportation.

During the early 1920s, California became the most oil productive state in the country, and by 1923, one of every five barrels of oil was produced from the Los Angeles Basin. Notably, thirteen fields would be discovered along what is referred to as the Newport-Inglewood Structural Zone (NISZ). The northwest-southeast oriented Newport-Inglewood Structural

Zone is an active fault characterized by major right-lateral movement in the southeastern portion of the Los Angeles Basin. Over 3.4 billion barrels of oil have been produced from these fields since the first field, Beverly Hills, was discovered in 1900

Most of the subsequent production was derived from discovery of the super giant Huntington Beach and Long Beach oil fields in 1920 and 1921, respectively. Dramatic production and decline trends during the 1920s and 1930s directly reflected the closely spaced town lot drilling campaigns and unrestricted wasting of reservoir pressure. Nearly 40 percent of the total oil production for Southern California has come from fields situated along this structural zone.

By the 1950s, California in total cumulative output produced 21 of the country's 81 top oil fields, with three fields in the top ten, and by the early 1980s, potential offshore production was in the forefront of California's oil industry.

In 1957, the city of Los Angeles celebrated the rich oil heritage of Signal Hill with the symbol of oil derricks on the Seal of the County. Political correctness concerning the county's faith-based heritage resulted in removal of this symbol, along with the religious symbolism, in 2004 BIO-BRIEF

### **Biographical Sketch**

Stephen Testa is the Executive Officer of the California State Mining and Geology Board. For over 25 years, Testa has worked as a consultant for a variety of firms. He worked as an engineering geologist for Frankian and Associates, and upon graduation in the summer of 1978, he moved to the International firm Bechtel, and performed geologic studies in the North Cascades, Washington, and throughout the states of Georgia, Arizona and California, and Spain. Most of this work was associated with the suitability of such areas for the construction of nuclear power plants. He would later work for several leading consulting firms such as Converse Consultants, Ecology and Environment, Dames and Moore, and Engineering Enterprises, as an engineering geologist working on hydroelectric power plants in southeast Alaska, fault studies in California, and the underground metro rail system for the City of Los Angeles.

By 1985, Stephen became involved in geologic studies and investigations with an environmental focus, being involved in the early phases of the Superfund program, and on the leading edge in aquifer restoration, LNAPL and DNAPL recovery, and soil recycling and reuse technologies. Testa's clients have included many of the major petroleum, mining, large industry, municipalities, irrigation districts, and waste management companies and interests.

By 1990, Stephen was President and Chief Executive Officer for an international consulting firm, which he would take public in 1993. Applied Environmental Services, became internationally recognized, providing strong and innovative expertise in soil and groundwater restoration, and recycling and reuse technologies.

Internationally, Testa successfully pursued and became involved in lahar mitigation efforts associated with the Mt. Pinatubo eruption, mitigation of metals-contaminated soil in Eastern Europe and groundwater resource development in Yemen. During this period he would write three leading-edge books focusing on the application of geological principles to environmentally stressed land: *Restoration of Contaminated Aquifers: Petroleum Hydrocarbons and Organic Compounds*, *Geological Aspects of Hazardous Waste Management* and *The Reuse and Recycling of Contaminated Soils*.

Testa is the Past-President of the American Geological Institute (AGI) and the American Institute of Professional Geologists (AIPG). The author of 11 books and over 125 publications, he has served as an instructor at USC and CSU Fullerton, and is past Editor-in-Chief of AAPG-DEG's peer review journal "*Environmental Geosciences*", and the recipient of the AIPG's Martin Van Couvering Award, and AAPG-DEG's Research Award. He received his BS and MS degree in Geology at California State University at Northridge.

### **Nominations for, and the Election of, AEG Inland Empire Chapters Officers 2006-2007 (1-Oct-05 to 30-Sep-07)**

The current term of Chapter Officer expires 30-Sep-06. Therefore, nominations of 2006-2007 Chapter Officers is upon us. Candidates for Offices should be AEG Members or become

AEG Members; but, Candidates for President are required to be a Member of AEG by 1-Oct-06..

Please submit your Nomination of specific candidates for all Officer positions to our current President Gary Wallace (see Officer contact information below) with a copy to Past President Frank Jordan at GEO.Jordan@gmail.com..

A slate of candidates will be submitted in a forthcoming Notice based on a final call for nominations at the June meeting. An Election Ballot will be distributed prior to the July meeting Notice. An Election will occur at the August Meeting, and new Officer installation will occur at the September meeting. Write-ins will be allowed, including floor nominations at the August meeting.

New Officers will be in charge effective 1-Oct-06.

### **Message from the President**

Greetings fellow environmental and engineering geologists of the Inland Empire.

These are exciting times for environmental and engineering geologists in the Inland Empire. AEG Inland Empire activities continue to abound. At the April meeting in Temecula, **Dr. John Izbicki** of the U.S. Geological Survey showed how a variety of geologic techniques ranging from geomorphology to geochemistry were used to evaluate artificial recharge in and along the Oro Grande wash in the western Mojave desert. Thank you **Dr. Izbicki**.

The Chapter's first field trip was held in the Coachella Valley on April 6. The trip was planned by **Mark Spykerman** and **Rick Gundry**. Mark led the trip. Thanks to **Mark** and **Rick**.

The history of petroleum in California will be discussed by **Stephen Testa** on May 17 in Colton. On May 20, AEG Inland Empire and the **Inland Geological Society** will co-sponsor a short regulatory course in affiliation with **Department of Earth Sciences, University of California**,

**Riverside.** Planning is also underway for a short course on rock slope stability.

Many thanks to the Petras sponsors who have provided financial support to the Chapter. Those individuals and organizations are acknowledged below. Inaugural year donations can be made through the end of June.

Cordially,  
Gary Wallace  
AEG Inland Empire Chapter  
2006 President

### **Secretary's report**

The first of our Inland Empire Chapter one-day field trips to local geologic features was a great success. Thanks to **Mark Spykerman** and **Rick Gundry** for their volunteer efforts. A group of 10 followed Mark up Pushawalla Canyon in Indio to observe classic geomorphic features of stream capture due to right lateral off set along the Mission Creek branch of the San Andreas Fault. All enjoyed a lunchtime presentation of fault study work being conducted by **Dr. Miles Kenney** with Petra Geotechnical as we ate lunch in the shade of the Palm Tree Oasis.

If you have a geologic topic or place of interest that you would like to see or share, lets make it the next field trip. Forward your ideas to anyone on the board.

Thanks, Michael Cook

### **Treasurers's report**

As of the April 06 meeting, we have a new Petras Sponsor, **David Peery** of MACTEC. Our current balance (pending statement) is about \$2,150.00

### **Report: State Agencies/Legislative**

**Rick Gundry** participated with three other AEG Members in the California Consortium of Geological Organizations' (CCGO) Annual

Capital "Drive-in" (although half of us had to fly there). Those participating were **Bruce Hilton**, Chairman, AEG Sacramento Section, **James Jacobs**, Chairman, AEG San Francisco Section, **Charles Nestle**, AEG Southern California Section, and **Rick Gundry**, Treasurer, AEG Inland Empire Chapter of the Southern California Section.

Participants met with **Steve Testa**, Executive Officer, California Board of Mining and Geology; **John Parish**, State Geologist, California Geological Survey; and then **Paul Sweeney**, Executive Officer, California Board for Geologists and Geophysicists, except that Mr. Sweeney was a no show. So we met with two two staff members of the Board of registration of Geologists and Geophysicists (who were both geologists, when we also met with **Judy Wolen**, AEG Southern California Section Lobbyist, and an associate for lunch at the Governor's State Capital cafeteria.

Judy provided then active copies of proposed legislation pending the demise of the California Specific Exam and that of changing the title of Geophysicists with the descriptor Professional instead of Registered, and a bill regarding a change in language regarding report signature of what status I am still not knowing but seemed to say nothing new.

Later we (now about 6-7 of us, split up into two groups (and later three groups) and together we met with about 21 State Legislators (mostly State Assembly persons and several State Senators). We posed who we represent, what we do, and some of our issues regarding current legislative issues and the Governor's desire to reduce Boards, and also inquired how we might together assist the Legislators in dealing with legislation dealing with geological hazards, for the most part.

### **Thanks**

Thanks to the 16 Professionals that attended the April 19, 2006 Meeting in Temecula, California, as follows:

**John Izbicki**, US Geological Survey, Water Resources Division, **Gary Wallace**, RMA Group, **Rick Gundry**, US Bureau of Indian Affairs, **Jeff Keaton**, MACTEC, **Mark Spykerman**, Earth Systems Southwest, **Scott Richtmyer**, Leighton Geo, **Kerry Cato**, Cato Geosciences, **Warham Stejer**, Leighton Geo, **Mike Cook**, Kleinfelder and Associates, **Jeff Deland**, **Bill O’Baits**, URS Corporation, **Pat McNamarra**, Leighton and Associates, **Phuong Chau**, Leighton Geo, **Chad Welke**, Leighton Geo, **Frank Jordan**, Petra Geotechnical Consulting, **Dave Perry**, MACTEC.

### Field Trip Report (Indio Hills)

Ten persons attended the Saturday 21-April-06 field trip to Pushawalla Valley and Thousand Palms, Indio Hills, California, as follows:

**Mike Cook, Mark Spykerman, Debbie Spykerman, Alexander Schreiner, Richard Escandon, Eric Escandon, Mark Doerschlag, Katie O’Malley, Matt O’Malley, and Dr. Miles Kenney.**

The field trip included a presentation by **Mark Spykerman**, on recent fault trench work conducted by him, followed by a short 4-wheel drive accessed drive up to the mouth of Pushawalla canyon. The group then hiked through the canyon and discussed the local geologic features as well as the Mission Creek fault crossing. Site was in close proximity of the location where free water was flowing at the surface in the middle of the desert. It was nice to see lessons from our Geology 101 classes in action.

The group also enjoyed a detailed presentation of current work being performed by **Dr. Miles Kenney** in the eastern Coachella Valley area. (Miles is our speaker for the June meeting – you will not want to miss that one. Very interesting findings ! )

Following the exodus from Pushawalla Canyon,

the group drove to 100 Palms to see the continuation of the Mission Creek fault where again abundant water at the surface and you guessed it, 1000 Palm Trees.

Mark Spykerman,  
Field Trip Co-Chairman

### Regulatory Issues Short Course (Geologists) 20–May-2006 (Saturday)

See announcement sent out, but contact University of California, Extension Services for registration and enrollment or for copy of announcement flyer.

<http://www.extension.ucr.edu/register.html>

Registration/enrollment is fast by calling (951) 827-4105 or 1-(800) 442-4990, MasterCard/VISA

### Future Short Course - 2 Days

*“Rock Slope Stability Investigation and Analysis”*

This course is yet to be announced, perhaps to convene as early as Friday and Saturday 23/24-June-2006 . . . .

### Aquifer Test Analysis [Important: READ]

**Two similarly-titled talks sophisticatedly differing in technical detail and complexity will be offered in June and August 2006, by Dr. Tom Perina, CH2MHill, Riverside, California. For your edification and/or advice, the first (introductory preliminary) one will be presented during a meeting of the Inland Geological Society in Riverside on June 7, and the second one will be presented at our August 16 meeting in Temecula, as follows:**

*“Aquifer test analysis with the general well function”* (June @ IGS Meeting, Riverside, NOT at an AEG meeting in June) will cover

basics of aquifer test analysis with classical methods, and introduction to the CH2MHill well function solution.

***“Advanced aquifer test analysis with the general well function”*** (August @ AEG Meeting, Temecula) will provide extensive detail with the CH2MHill well function solution and specialized interpretation techniques, with detailed comparisons to classical techniques and interpretations.

**The purpose of pointing out these distinctions is that if you wanted to learn a lot about pump tests/aquifer tests, you should consider attending both meetings no matter what level of expertise you may have, unless knowledgeable enough to teach what Dr. Tom will speak to us about.**

(Advanced course listed in Future Meetings below; and, the June Inland Geological Society Newsletter with meeting announcement for the former course. Details will be sent at end of May to the AEG Inland Empire e-Mail database addresses you are receiving this message with.

## **Future Meetings**

**JUNE** Wednesday JUN 21, 2006 Temecula  
-- Hungry Hunter, Temecula

*“Late Quaternary deformation and sedimentation history, Coachella fan area located between the Mecca Hills and Indio Hills, and northeast of the San Andreas fault, eastern Coachella Valley, California.”*

\_\_ Dr. Miles D. Kenney, Senior Project Geologist, Petra Geotechnical, Inc., San Diego, California.

**JULY** Wednesday JULY 19, 06 Corona  
- Claim Jumper, Corona

**Richard H. Jahns AEG/GSA  
Distinguished Lecturer in  
Engineering Geology**

*“Rockfall Analysis and Mitigation”*

\_\_ Jerry D. Higgins, Ph.D., P.G., Associate Professor of Engineering Geology, Colorado School of Mines, Golden, Colorado

**AUG** Wednesday AUGUST 16, 2006, Temecula  
- Hungry Hunter, Temecula

***“Advanced Aquifer test analysis with the general well function”***

\_\_ Dr. Tom Perina, PG, CHG, Senior Hydrogeologist, CH2MHill, Riverside, California

**SEP** Wednesday 20, 2006, Riverside  
- Location (tba)

***“The Physics of Interacting Faults”***

\_\_ Dr. David Oglesby, Assistant Professor of Geophysics, Department of Earth Sciences, University of California, Riverside, Riverside, California.

=> Speaker is Needed and Topics !!

## **Meeting Location**

The meeting site is located in the City of Colton but is between Riverside and Colton off I-215 south of the I-10, and a ways north of the 91/60/215 interchange.

Pinnacle Peak Steak House  
2533 So. La Cadena Drive  
Colton, CA 92324  
(909) 783-2543

## **Directions to Meeting**

From Riverside proceed north on I-215 approximately 4-miles north of the US Hwy 91/60/I-215 interchange, and exit at La Cadena Dr. (Colton). Turn Right on So. Iowa and cross over the I-215 fwy, So, Iowa immediately becomes So. La Cadena Drive. Continue north on So. La Cadena Drive and turn left at Pinnacle Peak Steak House.

From San Bernardino proceed south from the I-10/I-215 interchange on I-215 .about 4-miles, Exit at Iowa Avenue, turn sharp left becomes So. La Cadena Drive. Prepare to turn immediately into Pinnacle Peak Steak House.  
(TB Riverside Co Pg 646 C5)

**Please RSVP:** By Thursday 11-May-06, Send eMail RSVP to [rick.gundry@verizon.net](mailto:rick.gundry@verizon.net) , or

call RSVP (951) 924-6756 to leave message. **IMPORTANT !** Thanks.

### **Officer Contact Information, AEG Inland Empire Chapter (SoCal Section):**

Gary Wallace	President	<a href="mailto:Gary@map.com">Gary@map.com</a>	(909) 989-1751
Scott Mathis	Vice President, So. Sector	<a href="mailto:SMathis@leightongeo.com">SMathis@leightongeo.com</a>	(951) 296-0530
Doug Cook	Vice President, No. Sector	<a href="mailto:DougCookCEG@sladdenengineering.com">DougCookCEG@sladdenengineering.com</a>	(760) 962-1868
Rick Gundry	Treasurer	<a href="mailto:rick.gundry@verizon.net">rick.gundry@verizon.net</a>	(951) 276-6624,x257
Mike Cook	Secretary	<a href="mailto:MCook@kleinfelder.com">MCook@kleinfelder.com</a>	(909) 862-7776

Mailing address and other telephone e-Mail address information (see Newsletterhead)

### **2005-2006 Corporate and Individual Petras Sponsor**

#### PETRAS Sponsors for Inaugural Year

"Petras" is a Latin term for a large rock edifice, monolith or massif of strength (eg., Rock of Gibraltar), as different to "petros", a term for a rock or stone, something one can pick up. It can mean something like a cornerstone, such as one set for the foundation of a building – something strong and set first from which a foundation is built for a larger structure needing the strength.

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