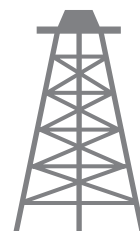




# Pacific Petroleum Geology



NEWSLETTER

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Pacific Section • American Association of Petroleum Geologists

September & October 2018

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**AAPG Annual Convention  
& Exhibition in Salt Lake City, Utah,  
Pipes Wash Study, and Remembering A Member**

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**COVER PHOTO:** View from inside the San Andreas fault zone and fault gouge near the Cochella Valley. Courtesy of Brandi Johnson.



Credit: xkcd

- CONTACT THE EDITOR at editor@PSAAPG.org
- Images (graphics, photos, and scans) must be at least 300 dpi resolution. Text should be at least 600 dpi.
- Scanned photos, illustrations (line art) or logos should preferably be submitted as a .tif, .gif, or .bmp; .jpeg is OK.

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## Dear Pacific Section AAPG Members,

After I finished my PhD, my first supervisor gave me an article to read that was titled something like "Creativity in Science: Inspiration or Perspiration?" (Loehle, 1990). It began with, "There are four requirements for a successful career in science: knowledge, technical skill, communication, and originality or creativity. Many succeed with largely the first three... But in some areas of science ... more creativity is needed because phenomena are complex and multivariate." This could not apply more than to geology, where there is incomplete data to explain fabulously complex and important events.

So what makes for a big breakthrough? An important discovery? An innovation, game-changer, new paradigm? What is it that makes a creative geoscientist? Who makes discoveries? Who are "oil-finders"? What really makes a difference in how creative we are in our work? Is it the work environment or is it how we choose to work? Maybe a bit of both...

Much of our daily technical efforts are forced upon us by our responsibilities. There are specific tasks that we have to do – they may be important or necessary for the company or organization, but there also may be not much creativity involved. We have a series of tasks to do or a work-flow to follow, so we sit down and plow ahead.

But, it is remarkable how often we retreat on our own accord to our intellectual, technical, philosophical comfort zones. Most of us – myself included – have somewhat set ways of looking at things, approaches to problems, prejudices, or preconceptions. These are based on our past mistakes and triumphs, what we have learned, what we screwed up, what our bosses think and what we know (or think) to be wrong. But once we set these frameworks, we generally find it more comfortable to stay within the boundaries. This can be effective and productive and generate new data or insights. It can add incremental knowledge or value to a project or company. It proves to others that we are worth our salt (and our salaries).

The gist of the article that I mentioned was that perspiration (long, hard work) was necessary to collect and organize fundamental data or to test and refine ideas, but the moment of insight (inspiration) required finding a quiet focus that was uninterrupted by the tasks and chores of day-to-day work. The article reviewed how a number of important scientists had developed some sort of regular routine where they separated themselves from the myriad of daily tasks and deadlines in order to make time to just think about a single problem. There are a lot of different ways that the truly successful scientist broke free. For some, this was committing to a regular walk or run or bike

ride. For geologists, there is no better place than to get out in the field, where we can look at the world with fresh eyes, away from distractions. In the office, we all try to multitask, but deep, creative thinking doesn't take place in the seconds to minutes between emails and texts.



So, where are we going as Pacific Section petroleum geologists? Will we continue to perspire and do good, solid work by incrementally expanding reserves and improving the efficiency of petroleum extraction? Or can we also develop new insights into tectonics, structure, diagenesis, rock properties, basin evolution and stratigraphy that will open new potential for energy development? We have seen an explosion of creativity and new opportunities in the unconventional plays of Texas, Oklahoma, New Mexico, North Dakota, Colorado and Pennsylvania – what could be the new opportunities in California? Our tectonically complex history will favor geographically limited play extent, but the isolated basins of California likely underwent multiple episodes of isolation and stagnation favorable to organic matter accumulation. Will it be in the Monterey, Tumey, Kreyenhagen, or Moreno formations? Or in other yet unexplored early deposits of the developing Cenozoic basins? Encouraging and pursuing creativity and new opportunities is the responsibility of both the individual geoscientist and the organization that employs them.

The 2019 Pacific Section Convention in Long Beach in early April will focus on new opportunities, new ideas and new mindsets in exploration and development. We will emphasize how best to work with our colleagues in industry, government and academia and will incorporate a couple of field trips as a fundamental part of the conference to help reinvigorate and reset our thinking and approach. Join us!

Loehle, C., 1990. A Guide to Increased Creativity in Research – Inspiration or Perspiration, *BioScience*, v. 40(2): p.123-129

**Richard Behl**  
PSAAPG President, 2018-2019



## Vern C. Jones

May 1, 1925 - August 26, 2018

Vern C. Jones, born May 1, 1925 in Minneapolis MN passed away August 26, 2018 at his home in Fair Oaks, CA at the age of 93. Son of Cleo V. Jones and Mable Jones (Otteson), Vern grew up in the mid-west and attended high school in Peoria Illinois, where he won the state wrestling championship.

Graduating from high school, Vern enlisted in the Navy where he earned his wings as a naval aviator. Following military service and discharge from the Navy in 1946, Vern enrolled at Stanford University where he graduated with a degree in Petroleum Geology. While attending Stanford, Vern added to his wrestling accomplishments, winning three Pacific Coast Conference Championships and winning all of his dual matches over four years, graduating with a record of 47-0.

After Stanford, Vern worked in the oil and gas industry as a drilling rig roughneck and eventually a well-site geologist before forming his own well-site geological service company with a partner in 1952, known as Exploration Logging or EXLOG. Initially working in the Sacramento Valley, EXLOG soon began to expand internationally becoming the world's largest well-site geological service company with operations in 26 countries and employing more than 800 professional geologists. In 1972, Vern merged EXLOG into Baker Hughes where he remained CEO until his retirement in 1980 and retiring from the Baker Hughes Board of Directors in 1985.

Vern's retirement didn't last long, as in 1980 he and his wife Gloria began pursuing new activities with their son Derek and daughter Sandra, including ventures in the wine business and natural gas exploration including the formation of Vern Jones Oil & Gas. While working exploration projects in multiple states, it was a natural gas field discovery in the Clarksburg area south of Sacramento that lead Vern and his family to their next business venture of developing natural gas pipelines to provide market access or options to exploration companies and natural gas end-use customers in California and later in Nevada.

Apparently, not completely satiated with his 28 years as the CEO of EXLOG and 10 years with his own exploration and pipeline development companies, in 1990 Vern started International Logging, Inc. (ILI), to once again provide well-site geological services to the international oilfield industry. Started in Sacramento and Bakersfield in 1990, ILI grew to include nearly 400 geologists and engineers with headquarters in Houston, Texas and eight overseas offices with operations in Southeast Asia, China, Australia, Central and South American and West Africa. In 2006, ILI was sold to the Carlyle/Riverstone group and today is a part of Weatherford.

Through the foundation established by over six decades of Vern's leadership, his energy team has worked diligently to establish a strong presence in the energy industry both internationally and throughout Northern California, including the development of the company's Gas Control Center located in the Rancho Cordova headquarters, where operators monitor and control several hundred miles of the company's natural gas pipelines on a 24/7 basis to ensure that the highest standards of operational safety and efficiency are maintained.

Vern's love for sports and the outdoors brought him together with Gloria, who he met in the Truckee hospital when both were recovering from broken legs suffered at Squaw Valley. His athletic accomplishments were later recognized by being inducted into both the Stanford University

*(Continued on next page)*



Athletic Hall of Fame in 1998 and the National Wrestling Hall of Fame "Outstanding American" in 2015. He also maintained his passion for aviation after his Navy flying days through the purchase of a twin Cessna 414 in 1972 that was used extensively in his pursuit of enterprises and adventure and is still utilized in the family owned business today.

While maintaining a very active business schedule over the years, Vern has also supported and maintained an active role in professional associations and philanthropic endeavors such as the American Association of Petroleum Geologists, Independent Petroleum Association of America, California Independent Petroleum Association, and the formation of a Wrestling Endowment at Stanford University, a member of the Hoover Institute and a fifty-plus year supporter of the Crocker Art Museum.

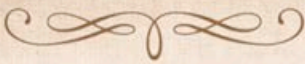
Vern had a keen understanding of world affairs and economics through extensive international business dealings and was very well traveled often circumnavigating the world twice a year to visit the company's overseas offices. Vern loved the businesses he helped to develop, but most importantly the people that he employed in those endeavors. Even at 93, he would drive himself to the office almost every day to stay current on the family business



developments and other industry related activities, while taking the time to make his rounds around the office to talk to employees about the project they were working on and provide advice as needed. Sixty-eight years of business experience is a powerful resource that few have had the benefit of tapping. Family man, outdoorsman, wrestler, entrepreneur, optimist, and an exceptional work ethic are some of the words that help describe Vern and what he exemplified during his life. A life well lived!

Vern is survived by his wife Gloria of 65 years. His daughter Sandra, his son Derek (Erika), and grandchildren Taylor (22), Griffin (16), and Alexys (14).

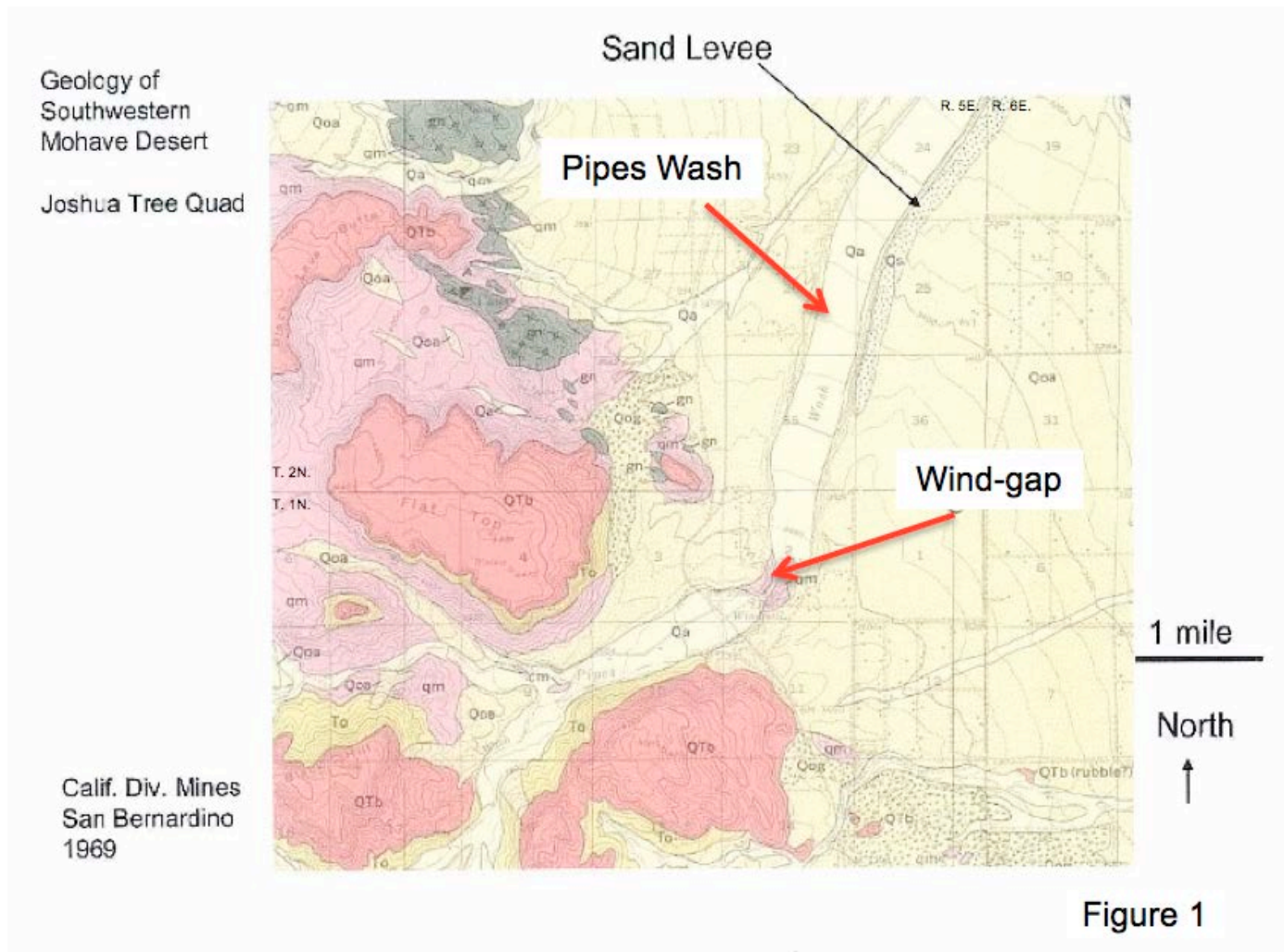
A celebration of Vern's life will be held on Thursday, September 20, 2018. For further information please contact Kim at klopez@gasbiz.com or (916) 859-4700. In lieu of flowers, a contribution to support the youth wrestling program at Capital Christian School, 9470 Micron Avenue, Sacramento CA 95827 can be made payable to "CCS, Wrestling" with "Vern C. Jones" noted in the memo line.

  
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## Estimation of Pipes Wash Drainage Discharge Volume

By  
David J. Crane

A relic of the Pleistocene drainage system that originated off the eastern slopes of the San Bernardino Mountains, the Pipes Wash now appears as a strikingly oversized and sediment-choked channel with only meager ephemeral outflow (Figure 1). The braided stream patterns that currently dominate the floor of this channel are clear indication of ongoing deposition from outwash that will eventually fill and reclaim this drainage system. However, its one-half mile wide floodplain deeply entrenched into the surrounding alluvial apron and the presences of a narrow wind-gap incised through a granitic outcrop imply a substantial river once cut and occupied this wash.



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Pipes Wash Narrows  
(270' wide)

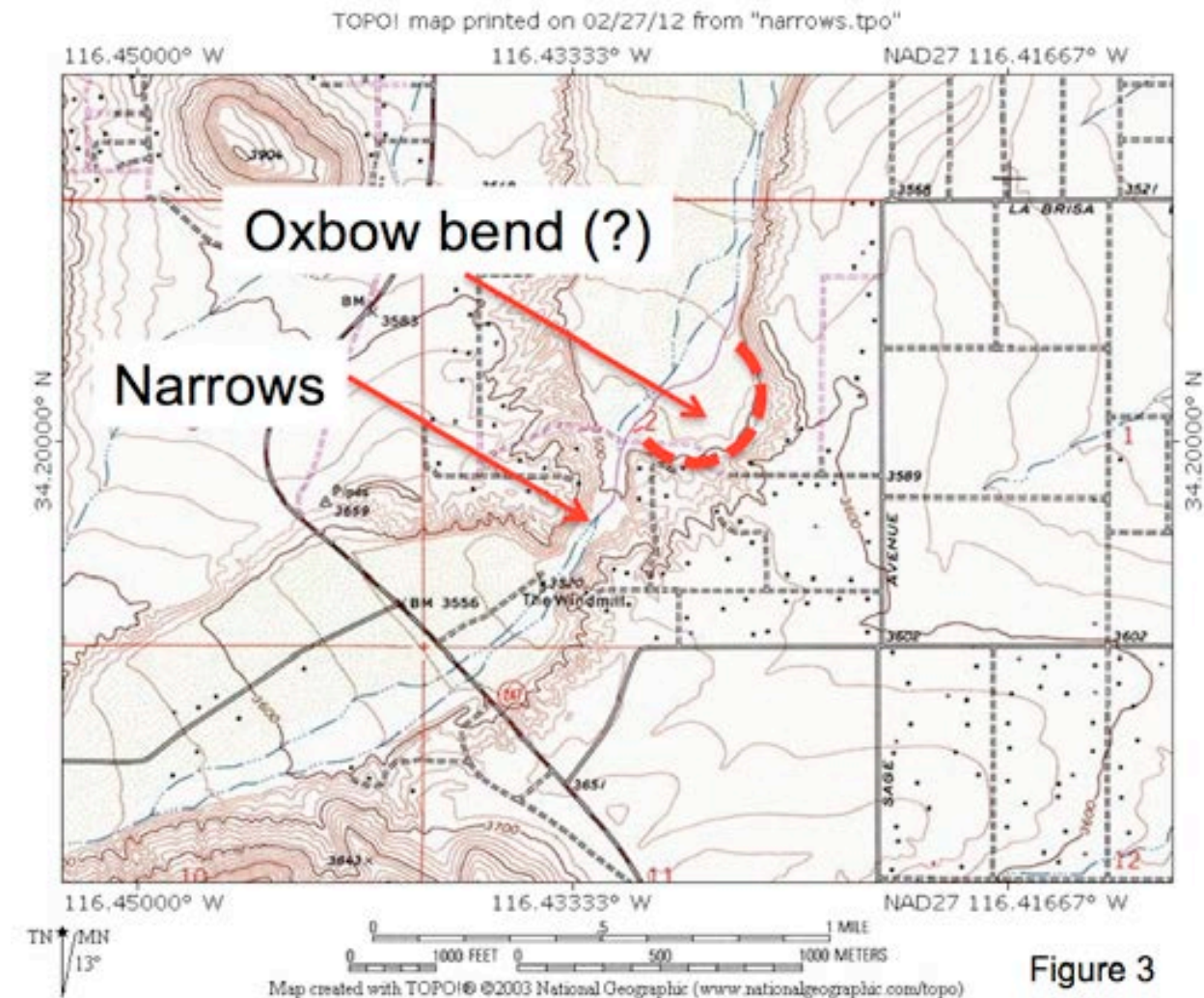


Figure 2

Estimation as to the size of this ancient river begins at the wind-gap located in the SW corner of Section 2, T.1N, R.5E, San Bernardino Base and Meridian (Figure 1). Referred to as the Narrows, this wind-gap resulted from the downward incision by the river, cutting into the surrounding granite outcrop and alluvial plain to a depth of approximately 100 feet. Measuring a width of approximately 270 feet at the stream bed surface (Figure 2), the Narrows may have a projected width that approaches 190 feet at the erosional base level based on the slope of the side walls. The geomorphology of the river system upstream of the Narrows opens to a broad plain that is consistent with the wind-gap having functioned as a choke point in the wash. Banking water upstream, the Narrows may have served as a weir that would ensure a consistent metered discharge downstream.

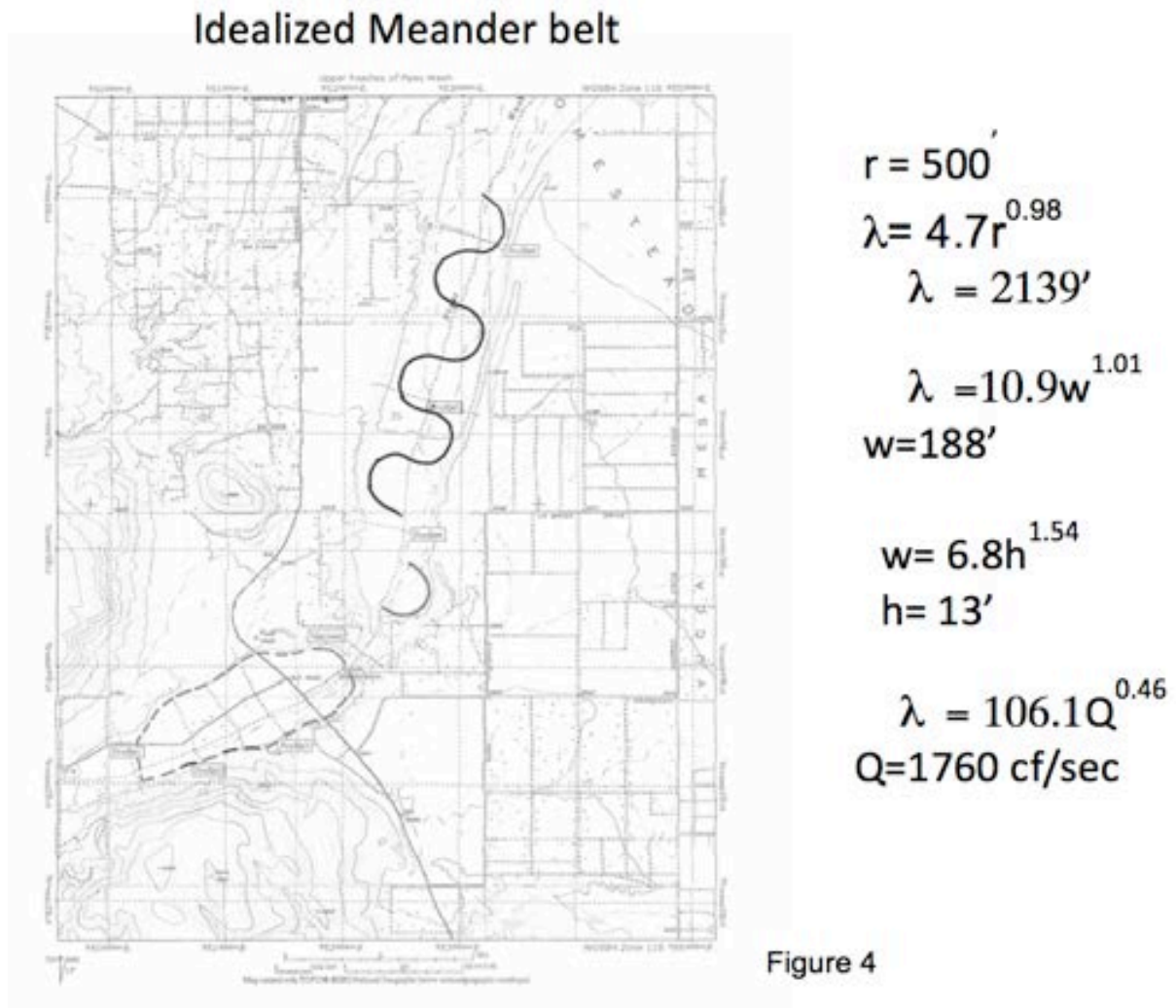
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As a result of the Narrows, some measure of uniformity in the river discharge could be maintained. Evidence of this may be seen in an embayment on the east side of the channel (marked by a red dish line) directly downstream of the Narrows. This is interpreted by this investigation to represent the 500-foot radius ( $r$ ) of a river meander or oxbow bend undercutting the river bank (Figure 3). This suggests the channel was constructed from a meandering river system. The regulated outflow from the Narrows conceivably buffered any seasonal variations in discharge, and thus arguably permitted the river to constantly wander from bank to bank within the confines of the wash as a well-established, large looping water course.

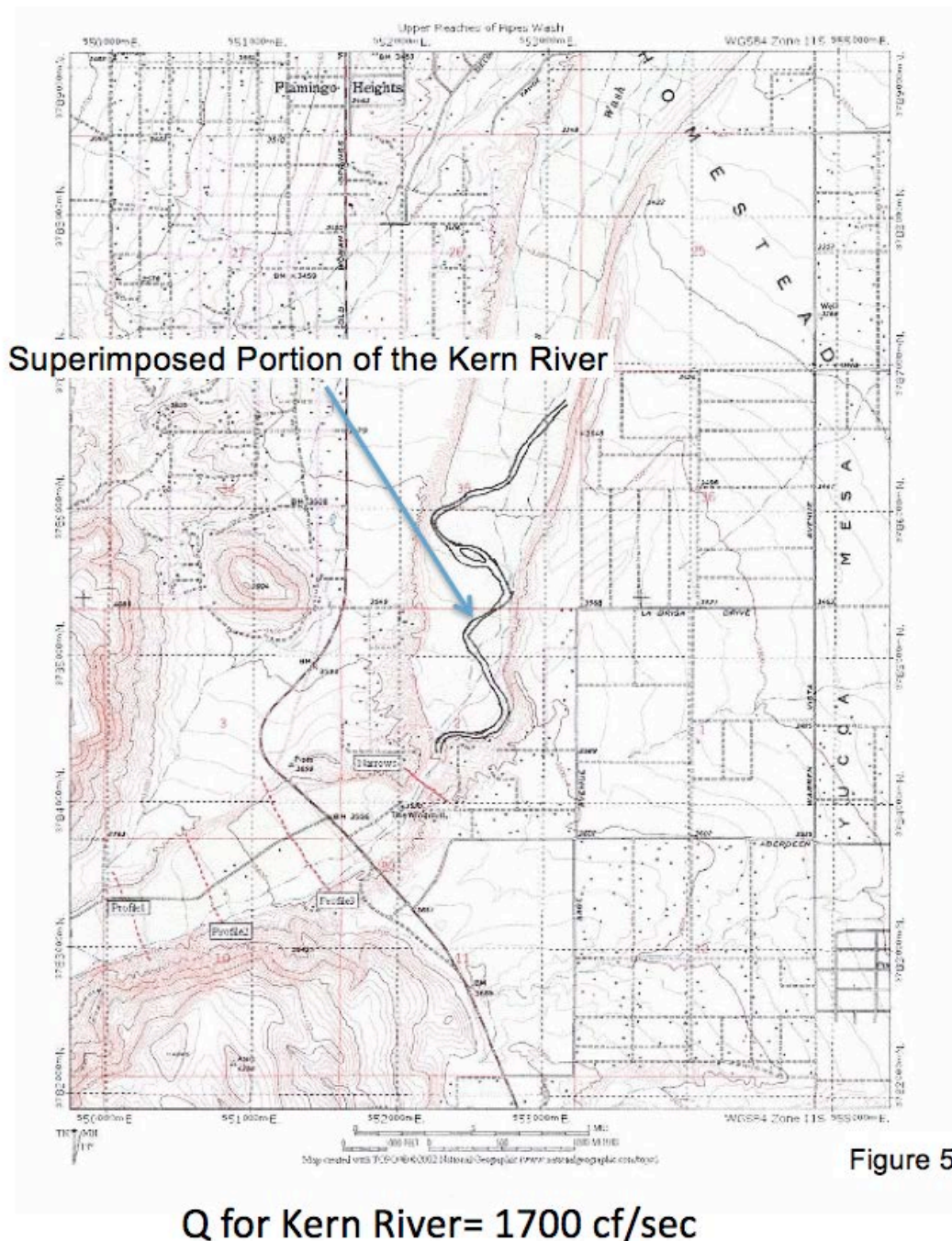
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Based on this assumption, an idealized meandering river system was constructed to model estimated critical river parameters. Using the meander radii as discovered downstream of the Narrows, the idealized meander proved to fit remarkably well within the confines of the wash (Figure 4). Supported by this outcome, the meander belt's wavelength ( $\lambda$ ) (Leopold and Wolman, 1960), and the river's width ( $w$ ) (Langbein and Leopold, 1966), height ( $h$ ) (Leeder, 1973), and discharge ( $Q$ ) (Carlston, 1965) could then be calculated with some assurance using various published algorithms as shown above (Algorithms applicable to Metric system; results converted to U.S. feet). Of particular note is the calculated width of the idealized river (188') that shows consistency with that of the Narrows, again lending support to the model. Further analysis estimates the discharge rate for the Pipes Wash system to be equivalent to about 1760 cubic feet per second, or about the size of the present day Kern River of California.

*(Continued on next page)*





As way of comparison, a superimposed portion of the Kern River downstream of the Kern Canyon mouth (Figure 5) shows remarkable consistency with the lateral limits of the Pipes Wash, again, strongly suggestive of an analog river system conceivably responsible for the carving of the wash and Narrows.

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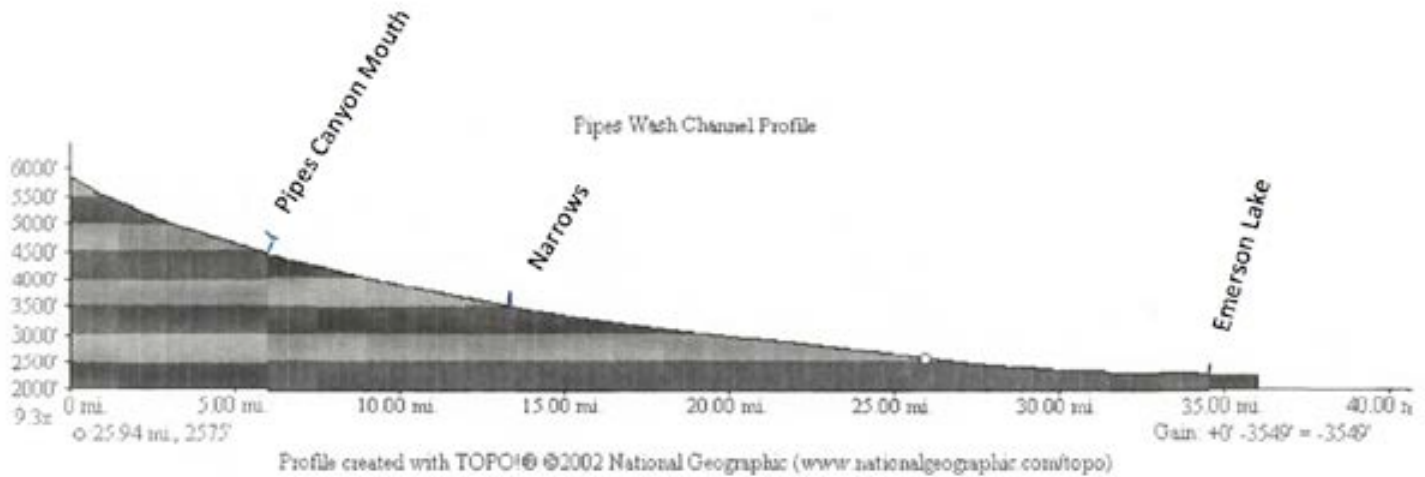


Figure 6

As to the oversized width and size of the wash, a profile of the Pipes Wash thalweg or mid-channel (Figure 6) from its headwaters shows the channel conforms to a mature river system in accordance with its base of erosion, namely the Emerson Lake basin, 22 miles to the north. As a mature system, the stream is rendered incapable of any further downward erosion. Under this condition, the stream's energy can only be directed laterally sideways, resulting in the undercutting of the surrounding sediment, affectively widening the river's flood plain in order to accommodate the consistent volume of outflow. That is to say, the volume of water discharged through the Narrows may have exceeded the rivers ability to transport the outflow. As a result, the river widens its floodplain by creating multiple bents in the course of its thalweg to accomodate the necessary storage volume and capacity to match the discharge.

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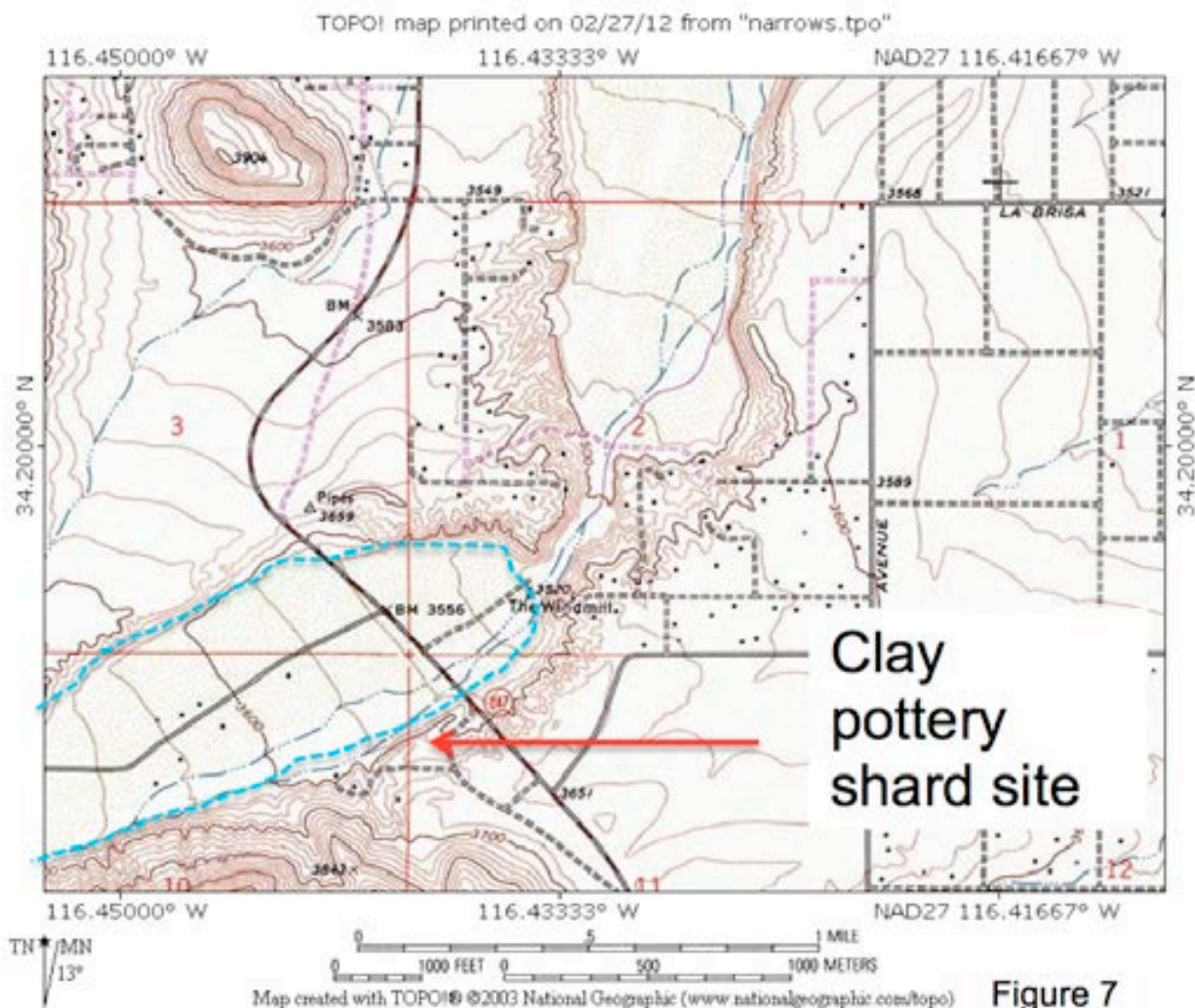


Figure 7

Coming full circle, shards of clay pottery discovered by the author at a location overlooking the region upstream of the Narrows strongly suggest the existence of ancient human habitation on either a permanent or semi-permanent basis. Presumably, this habitation was attracted to this area in order to utilize the food resources associated with a consistent water source. Because of the restrictive nature of the Narrows to water flow, the upstream region conceivably contained a standing reservoir of water as outlined by the dotted blue line (Figure 6). Such would be a magnet for edible aquatic vegetation, wild game, fish, and fowl. Petersen (1976) dates the sediment at the level containing the pottery shards at 5-9000 years before present. This correlates with the latest glacier advancement in the San Bernardino Mountains (between approximately 7900 to 8650 year bp) and may directly or indirectly be the source of the Pipe Wash discharge. However, since glaciation only occurred at the highest elevations of the San Bernardino Mountains and subsequently occupied a limited portion of the highlands. Therefore, meltwaters from the glaciation may conceivably represent but a fraction of the regional annual runoff. The balance may well have been derived from high precipitation rates associated with the cool climatic conditions responsible for the glacial periods. Sheet flooding deposits dated at 8000 year before present found along shores line of neighboring ancient lake beds give witness to this regionally climatic condition (Will et al, 1986).

## Biography of David Crane

David, most recently, constructed earth models and reservoir descriptions on select oil fields within the San Joaquin Valley; the latest in a widely diverse career, beginning as a field geologist for the Soils and Engineering industry, conducting ground stability investigations associated with dams and nuclear power plants. After obtaining a Masters of Science in Geology from San Diego State University, he proceeded to petroleum exploration in the offshore California, Sacramento Valley, and various basins in Oklahoma, culminating with the Bakersfield Arch and geological engineering of thermal properties in Midway-Sunset. Consulting opportunities were later undertaken in the mid 1980's; providing clients with an array of oil field studies, environmental assessments, and ground water investigations throughout central California, as well as petrophysical analyses for select fields in California and Alaska. A return to petroleum geology occurred in the late 1990's, and the working of San Joaquin Valley thermal properties with AERA Energy and Chevron Oil. For enjoyment, David continuously performs extensive independent field mapping focused on the Quaternary geology and tectonics of the Hi-Desert region of the Eastern Transverse Range and the eastern slopes of the San Bernardino Mountains. Portions of this life-time body of work have been presented to the San Joaquin Valley Geological Society on various occasions.

### 2018 PSAAPG Newsletter has now gone DIGITAL!

In a continual effort to reduce overhead and provide meaningful programs to our membership and the community, PSAAPG has decided to go DIGITAL!

For those members still wanting hard copies of the newsletter, please email **greg.thompsn@gmail.com** or write to us at:

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## AAPG Annual Convention & Exhibition Salt Lake City, Utah

*May 18<sup>th</sup> - 23<sup>rd</sup>*

The AAPG convention took place in Salt Lake City this year, and Pacific Section had a great showing!!

The San Diego State University Imperial Barrel Award (IBA) Team placed second in the competition, bringing home the Selley Cup and a check for \$10,000. Congratulations to the team for their outstanding performance, beating out twelve teams from across the world and the US.



Several members of the AAPG from Pacific Section also received recognition for their contributions to the Association. John Armentrout received Distinguished Member of the House of Delegates.



*(Continued on next page)*

Cynthia Huggins received Distinguished Service Award for her contributions to the Association, the Section and the San Joaquin Geological Society, leading the effort to support students via the Imperial Barrel Award, Student Scholarships, and the West Coast Expo. She also has served in every office in the SJGS and PS-AAPG.



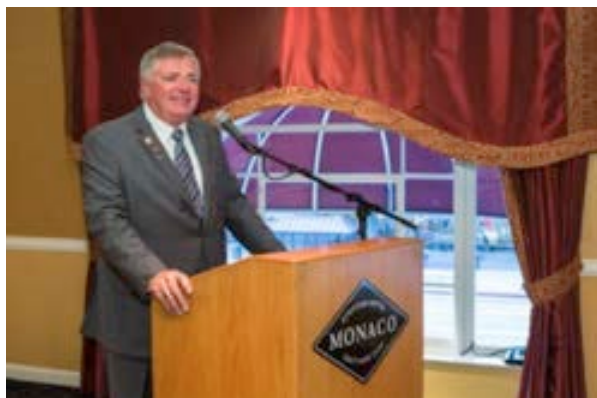
Jon Schwalbach received the Distinguished Service Award for his contributions to the Pacific Section, to teaching and providing core workshop and field trip experiences to Academic and Professional groups.



*(Continued on next page)*



This year Pacific Section members were leaders in AAPG, at the Division level (Jim Hill led the Division of Professional Affairs and Steve Testa led the Division of Environmental Geoscience),



on the Executive Committee, Dan Schwartz was VP Sections,



in the Advisory Council (Tony Reid, Jim Hill, Steve Testa),



*(Continued on next page)*

and in the House of Delegates (Anne Drauker, Cynthia Huggins, John Williams, Bob Lindblom, Don Clark, and John Armentrout).

Pacific Section members including Roy Burlingame, Kay and Brian Pitts, Larry Knauer, and Mark Wilson also participated in the Convention.



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## **Looking to the Future & Building the Bridge**

Congratulations to the new faces of the PS AAPG positions:

*YP Coordinator* - Erica Rubino

*Student Chapter Liaison* - Cole Heap

---

### **PSAAPG Membership Directory**

The PSAAPG website will have a members-only password-protected membership directory available as of March 1, 2018

Please email [greg.thompsn@gmail.com](mailto:greg.thompsn@gmail.com) if you do not want your name listed. There will also be a checkbox for this on the PSAAPG membership renewal form that goes out before the end of this year.

### **MUNGER MAP BOOKS**

The CA Well Sample Repository is seeking donations of MUNGER MAP BOOKS

The collection is incomplete, so any donations would be kindly appreciated! Please contact Larry Knauer at [laknauer@aol.com](mailto:laknauer@aol.com)

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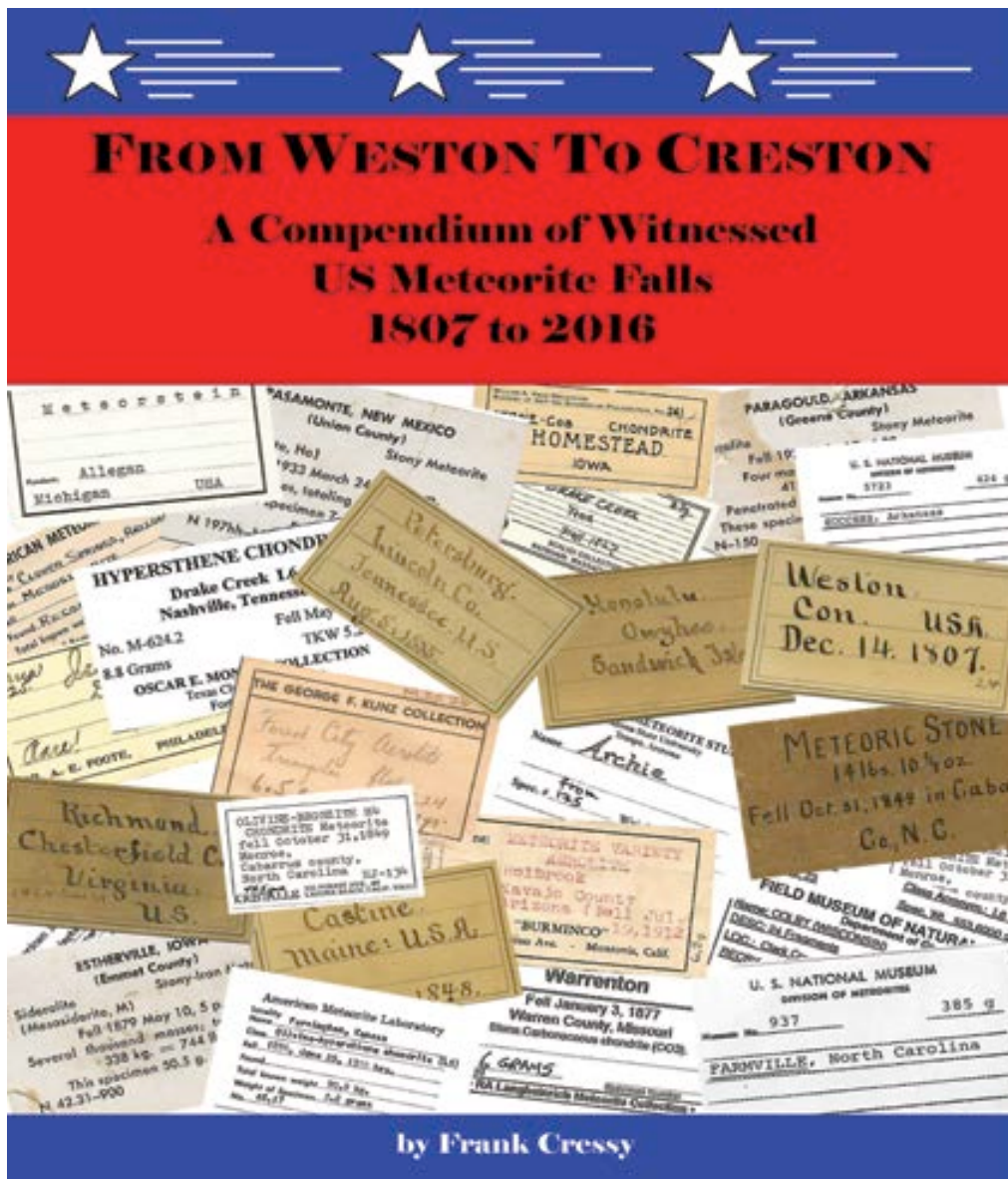
## New Publication

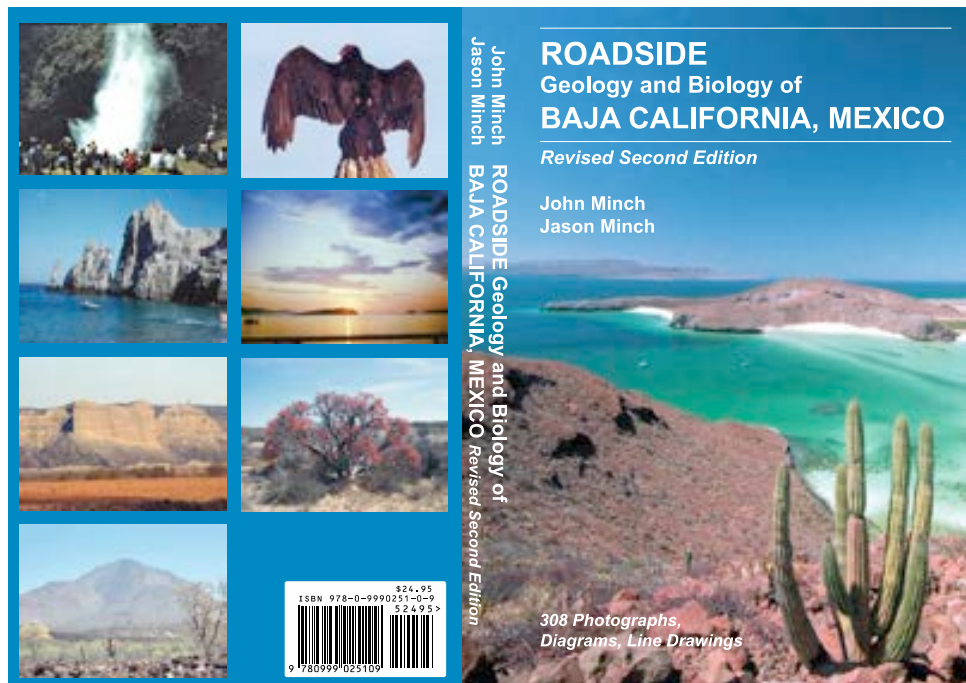
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by Frank Cressy

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# California Well Sample Repository

## Our 60+ Volunteers



**Our Volunteers curate material from Superior Oil Company's collection from the early 1930's.**



**Step 1**



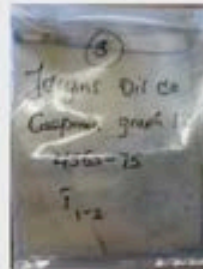
**Wooden Crates with Samples**

**Step 2**



**Samples in Paper Bags from 1920's**

**Step 3**



**Samples Transferred into Plastic Bags**

**Step 4**



**Plastic Bags Placed into Boxes**

**Step 5**



**Boxes Placed on Shelf**



**Dr. Victor Church Memorial**

**The only facility in California providing permanent storage and public use of cores, sidewall samples, drill cuttings, outcrop samples, microfaunal slides, foundation borings, and mineral suites.**



**The Repository is open on  
Mondays 7am-2pm  
Tuesdays 7am-9am  
Wednesdays 7am-2pm  
Thursdays 7am-9am.**

**Visit us on the web at [www.wellsample.com](http://www.wellsample.com) or call (661) 654-2324 for more information.**



## Alaska Geological Society

Talks have resumed this September, 2018.

## Coast Geological Society

September 18th, 2018

*Speaker:* Roger Putman, Moorpark CC.

*Talk:* Title to be provided. Talk will be about El Capitan.

October 16th

*Speaker:* Richard Slade

*Talk:* ULARA San Fernando Valley Watermaster

November 20th

*Speaker:* Jim O'Tousa

*Talk:* Mudslides

## L.A. Basin Geological Society

Talks have resumed this September, 2018.

## Northern California Geological Society

September 26th, 2018

*Speaker:* Dr. Artie Rodgers, Lawrence Livermore National Laboratory.

*Talk:* "High-performance computing ground motion simulations of large, damaging Hayward Fault scenario and moderate earthquakes in the USGS 3D model of the San Francisco Bay Area".

## Northwest Energy Association

September 20th, 2018 - Luncheon

*Speaker:* Dr. Seth Moran, Cascade Volcano Observatory

*Talk:* What is Happening on the Big Island?

October

*Tentative Talk:* Oregon state geological group DOGAMI: Landslide potential mapping & LIDAR work for the state

November

*Tentative Talk:* Representative of the City of Portland emergency preparedness group to give an update on Portland's preparation for a Cascadia mega-earthquake event

## Sacramento Petroleum Association

Talks have resumed this September, 2018.

## San Joaquin Geological Society

Talks to resume in October, 2018.

September 20th, 2018 (Thursday)

*Student Scholarships Fund-raising Event:* The Fall Fiesta at Brighton Estates

Please Register on the event page: <http://sanjoaquingeologicalsociety.org/2018-bbq-information/>

## SJGS & SPE (SJV)

### JOINT GOLF TOURNAMENT

Taking place on Friday, September 28th at the Sundale Country Club  
Keep an eye on your email for further information!

**Alaska Geological Society**  
www.alaskageology.org

P. O. Box 101288  
Anchorage, AK 99510

Contact: Dave Buthman  
dbuthman@hilcorp.com



Geology meetings/talks are held monthly September through May, usually on the third Thursday of the month, at the BP Energy Center (1014 Energy Court ) from 11:30 am to 1:00 pm. Open To The Public. No Charge to Attend.

President:	Larry Smith	ljsmith@gci.net
President-Elect:	Greg DuBois	
Vice-President:	Keith Torrance	keith.torrance@uicurniaq.com
Secretary:	David Buthman	dbuthman@hilcorp.com
Treasurer:	Carla Sanchez Phelps	carlasphelps@gmail.com
Past-President:	Chad Hults	chadcp@gmail.com

**Coast Geological Society**  
www.coastgeologicalsociety.org

P. O. Box 3055  
Ventura, CA 93006

Contact: Eric White  
805-628-2312



Dinner meetings are held monthly September through May, on the third Tuesday of the month, at Poinsettia Pavilion, 3451 Foothill Road in Ventura. Social hour starts at 6:00 p.m., dinner is served at 7:00 p.m., and the talk starts at 8:00 p.m. The cost of dinner with reservations is \$20 (members), \$25 (non-members), or \$10 (students and K-12 teachers). For reservations, please email Shelby Fredrickson (secretary@coastgeologicalsociety.org), and should be made by 4:00 p.m. on the Friday before the meeting.

President:	Eric White	president@coastgeologicalsociety.org
Past President:	Theresa Heirshberg	pastpresident@coastgeologicalsociety.org
Vice President:	Shelby Fredrickson	vicepresident@coastgeologicalsociety.org
Secretary:	Renee Richards	secretary@coastgeologicalsociety.org
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Membership chair:	Bonnie Walters	membership@coastgeologicalsociety.org
Webmaster/Tech Support:	John Rice	webmaster@coastgeologicalsociety.org

**Los Angeles Basin Geological Society**  
www.labgs.org

Contact: Bert Vogler  
949-585-3103



Luncheon meetings are held monthly September and October; and January through June, usually on the fourth Thursday of the month, at The Grand at Willow Street Conference Centre (4101 E. Willow Street) in Long Beach. Lunch is served at 11:30 a.m., and the talk starts at 12:15 p.m. The cost is \$25 (with reservations), \$30 (without reservations), \$20 for retired members, and \$5 for students. "Reservations can be made online at www.labgs.org or by contacting Maia Davis at 530-559-1404 or maiac.davis@gmail.com. Reservations are best made prior to Tuesday before the meeting.

President:	Bert Vogler	hvogler@kleinfelder.com
Vice President:	Nate Busch	nbusch@eecenvironmental.com
Treasurer:	Nicky White	nwhite@geomechanicstech.com
Secretary:	Maia Davis	maiac.davis@gmail.com
Scholarships:	Karla Tucker	ktkr2@aol.com
Webmaster:	Ivan Aburto	ivan.aburto@crc.com

**Northern California Geological Society**  
www.ncgeolsoc.org

803 Orion #2  
Hercules, CA 94547-1938  
Contact: Barbara Matz  
barbara.matz@cbifederaleservices.com



Evening meetings are held monthly September through May, usually on the last Wednesday of the month, at the Masonic Center (9 Altarinda Road) in Orinda. Social hour starts at 6:30 p.m., and the talk starts at 7:00 p.m. (no dinner). For reservations, contact Dan Day at danday94@pacbell.net before the meeting. Cost is \$5 per regular member; \$1 per student member; and \$1 per K-12 teachers.

(Continued on next page)

## NCGS Officers:

President:	Greg Bartow	gregbartow@yahoo.com
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Past President:	Will Schweller	willschweller@yahoo.com
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Field Trip Coordinator:	Will Schweller	willschweller@yahoo.com
K - 12 & Geoscience Program Coordinator:	open	open
Scholarships:	Phil Garbutt	plgarbutt@comcast.net
Program chair:	John Karachewski	cageo@sbcglobal.net
Website Manager:	Mark Detterman	mdetter1@gmail.com

## Northwest Energy Association

www.nwenergy.us

P. O. Box 6679  
Portland, OR 97228

Contact:  
*Jim Jackson or John Armentrout*



Luncheon meetings are held monthly September through May, on the third Thursday of the month, at the Multnomah Athletic Club (1849 SW. Salmon Street) in Portland, Oregon. Meeting time is at 11:45 AM to 1:00 PM (speaker about 12:15 PM). The cost is \$25 for members and \$30 for non-members. For information or reservations email NWEnergyAssociation@gmail.com, or our Postal Box: Northwest Energy Association, P.O. Box 6679, Portland, Oregon 97228-6679.

President	Laird Thompson	lbtfracs@gmail.com
Vice-President	Chris May	c.law.may@gmail.com
Treasurer	Barb Portwood	bbportwood@gmail.com
Co-Treasurer	Jim Jackson	jackson.js@comcast.net
Secretary	Clark Niewendorp	clark.niewendorp@state.or.us

## Sacramento Petroleum Association

P. O. Box 1844  
Folsom, CA 95630

Contact: Pam Ceccarelli  
916-439-0400



Luncheon meetings held monthly January through November, on the third Wednesday of the month. Location: Club Pheasant Restaurant in West Sacramento. The meetings starts at noon. The cost is \$16 - \$20. For information or reservations, contact Pam Ceccarelli.

President:	Jerry Reedy	JWR5532@aol.com
Vice-President:	Scott Hector	Scott.Hector@gmail.com
Secretary	Derek Jones	djones@gasbiz.com
Editor/Treasurer	Pam Ceccarelli	pc626@comcast.net

## San Joaquin Geological Society

www.sanjoaquingeologicalsociety.org

P. O. Box 1056  
Bakersfield, CA 93302 Contact: Lindsey Thompson  
*lthompson@envirotechteam.com*



We have dinner meetings on the second Tuesday of the month, October through June, at the Eagle's Lodge at 1718 17th Street, Bakersfield, CA 93302. There is an icebreaker at 6:00 p.m., dinner at 7:00 p.m., and a talk at 8:00 p.m. Dinner is \$25 for members with reservations and \$30.00 for nonmembers and members without reservations. Students may attend for free.

President:	Cameron Campbell	cameron.campbell@conservation.ca.gov
Past President:	Greg Gordon	gsgordon@aeraenergy.com
President-Elect:	Jonathan Goodell	Jonathan.Goodell@crc.com
Vice-President:	Matt Andersen	MAndresen@aeraenergy.com
Secretary:	Lindsey Thompson	lthompson@envirotechteam.com
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An astounding network of women professionals, formed by need, strengthened by time, constituting an amazing support system. Robbie has done an amazing, multi-year research effort in uncovering hundreds of early petroleum geologists, active in many countries, whose early efforts are now recorded for our belated appreciation.

A delightful, hopeful, sense of progress is conveyed by the book, as the intense survival stories of early women geologists, give way to a prideful modern acknowledgement of the importance of women petroleum geoscientists in our modern petroleum industry.

The book should be read by every petroleum geologist, geophysicist, and petroleum engineer; partly for the pleasure of the sprightly told adventures, partly for a sense of history, and, significantly, because it engenders a proper respect towards all women professionals, forging their unique way in a “man’s world”.

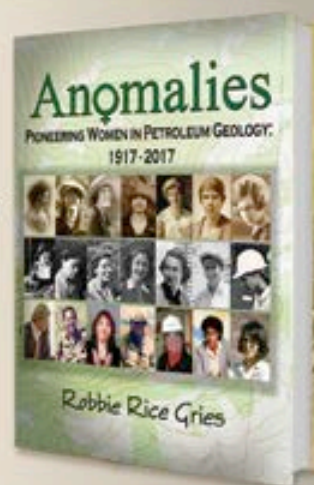
Buy this book! It will renew your pride in being a petroleum geologist, and it will enlighten you on the struggles of our wonderful women associates as they followed their professional dreams.”

— Marian Downey, Past President of AAPG, CEO Roxanna Petroleum

“*Anomalies* celebrates the inspiring achievements of an intrepid group of pioneering women that have laid the groundwork for female geoscientists today. Robbie Gries provides an entertaining and informative narrative of 100 years of trailblazers that is enriched by excerpts from diaries, letters and interviews. The women in these pages were true scientific contributors and innovators at a time when women were just emerging into the growing field of petroleum geology. This is a must read for any historian of the oil patch, as it provides the only comprehensive record of the hidden history of these ground-breaking women.”

— Allyson Anderson Book,  
Executive Director - American Geosciences Institute

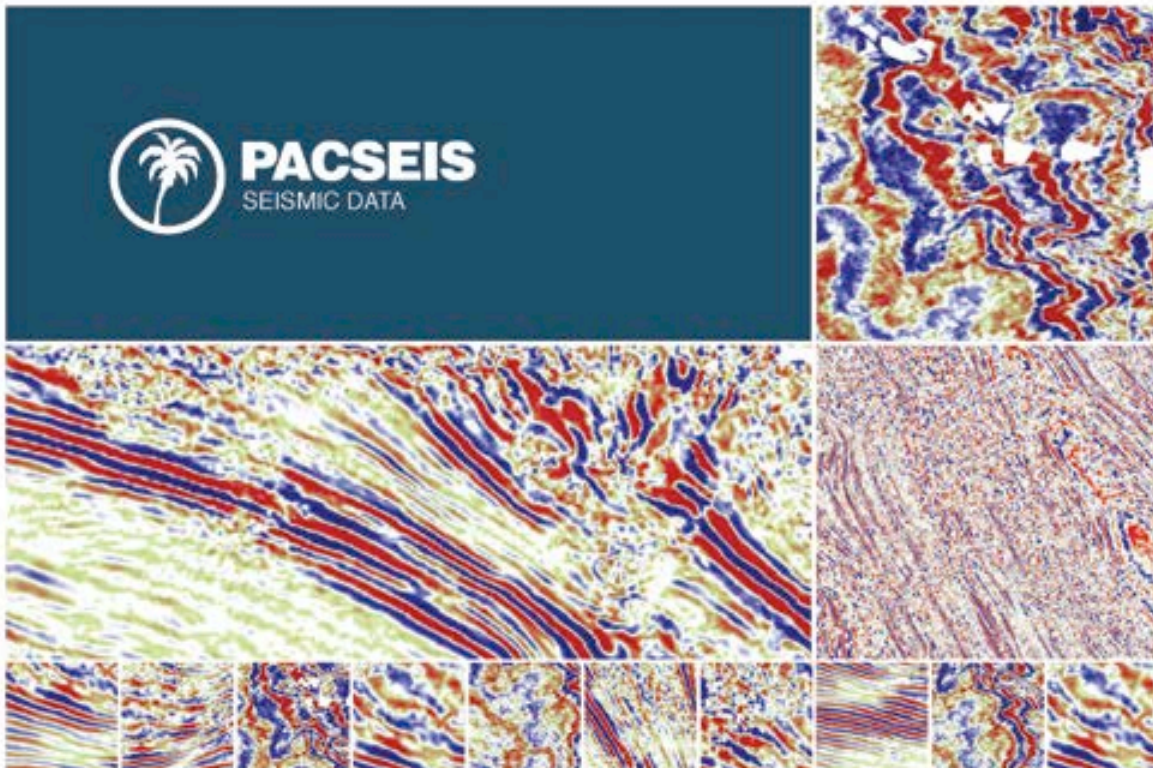
Once released, the book can be ordered from the AAPG Store for \$50 plus shipping and handling. Please e-mail [publications@AAPG.org](mailto:publications@AAPG.org) expressing your interest and we will contact you as soon as the book is available. Don't want to wait? Visit the AAPG Center at the 2017 ACE meeting to purchase your copy.





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