

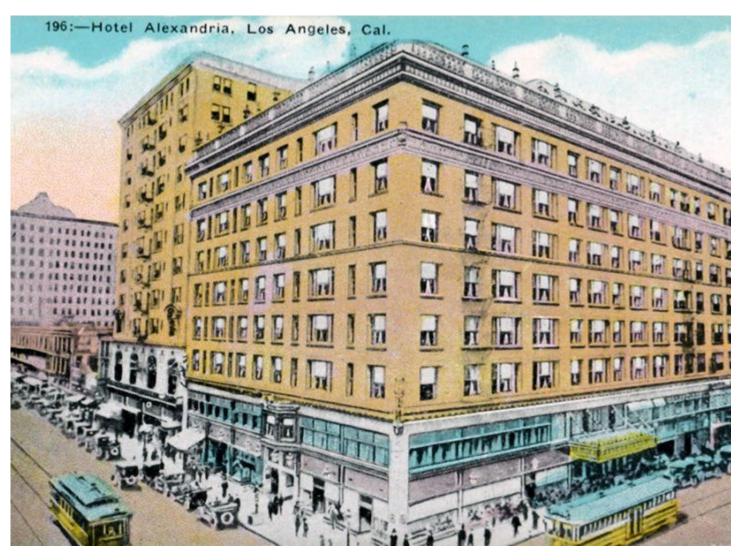
Pacific Petroleum Geology



Pacific Section • American Association of Petroleum Geologists

January and February 2024

Pacific Section AAPG's 100th Anniversary



Hotel Alexandria in Los Angeles, site of the first meeting of the Pacific Society of Petroleum Geologists

September 26 and 27, 1924.

PAYZONE INC.

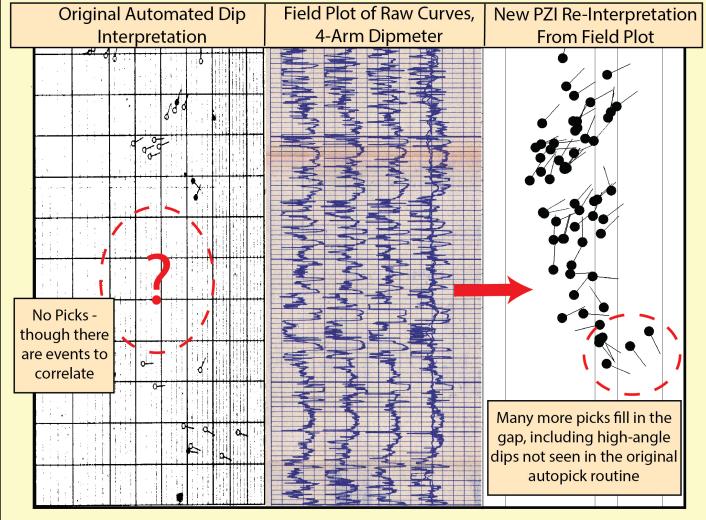
Geological and Petrophysical Consulting Services

www.payzoneinc.com 661-387-1715

- Reservoir characterization, geology, and petrophysics, logs of all ages
- Specializing in problem-solving and difficult reservoir questions
- 40+ years of experience in California oilfields
- Training in log analysis and field studies customized private courses and mentoring available
- Image log and dipmeter interpretation and analysis

Featured Service: Dipmeter Log Resurrection

In geologically complex areas, it isn't always possible to obtain new image logs for structural information where you want them, but often there are dipmeters available which we can, in many cases, re-interpret to extract better dips than were provided by the original automated interpretation routines.



dmolson@payzoneinc.com 661-747-0375

Deborah M. Olson, President

Geologist/Log Analyst

Find out how we can help you with your reservoir!

See us at www.payzoneinc.com or call us anytime

Tom Howard, Image Analyst tomh@payzoneinc.com 832-407-2862

				Table of Contents
2023-2024 Officers		Contents		
President	Kristy Whitaker president@psaapg.org	4	President's Message	Kristy Whitaker
President-Elect	Amy Spaziani president-elect@psaapg.org	5	100-Year Anniversary Activities	
Vice President	Vacant	6	PSAAPG Officer Candidate Invitation	PSAAPG Executive Committee
Secretary	Kenton Crabtree secretary@psaapg.org	9	Early History of the Pacific Section AAPG	Charles Green
Treasurer	Simmie Chehal 661-665-5738 SKChehal2@aeraenergy.com	19	2024 AGS Technical Conference	Alaska Geological Society
Treasurer-Elect	treasurer@psaapg.org Lisa Alpert 310-351-6977	20	In Momorium: Arthur Ogilvy Spaulding	
	LAAlpert@aeraenergy.com	23	Member Society News	
Past President Editor-in-Chief Staff	Plamen Ganev 310-562-8654 Tony Reid 661-303-7817 tonyr0209@gmail.com editor@psaapg.org	Editor's Comments: The image on this newsletter edition's cover (from Google) is of the Hotel Alexandria, the PSAAPG's Independence Hall, where our first meeting was held, and where our constitution was adopted. The hotel opened in 1906, and the image may very well depict how it looked at the time of our first meeting in 1924. The luxury hotel, located in the heart of LA, prospered for decades, but a period of decline followed. Rebirth occurred in the 2000s and the hotel once again prospers.		
		Read	d more about our early history	y starting on page 9.
Web Master	Mike Clark 661-378-8134 rocksniffer@aol.com	Submit an Article to the Pacific Petroleum Newsletter! 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 Advertising Rates New, Lowered Rates for Full, Half and Quarter Page Ads		
Membership Chair	Simmie Chehal 661-665-5738 SKChehal2@aeraenergy.com			
Publications Chair	Larry Knauer 661-205-4463 laknauer@aol.com			

Members	Single Issue	Year (6 issues)
Full Page	\$200.00	\$600.00
Half Page	\$125.00	\$400.00
Quarter Page	\$75.00	\$200.00
Business Card		\$100.00

Societies Free Advertising:

Convention: Unlimited Space in PSAAPG Newsletter

Advisory Council Rep

2021-2024

Dan Schwartz

661-432-5407

dan.schwartz@driltek.com

Dear fellow PS-AAPG members,

As we work our way through the first part of 2024, I want to remind you this is a big birthday year for PS-AAPG. In September, PS-AAPG, originally Pacific Society of Petroleum Geologists, turns ONE HUNDRED!! To mark this achievement, we are beginning the preparation of 'ONE HUNDRED YEARS of PS-AAPG' celebration.

The kickoff of the celebration will be in the LA Basin where the first Pacific Society of Petroleum Geologists meeting was held on September 26 and 27 in 1924. The society was adopted into AAPG as the Pacific Section in 1925. Dan Steward and Rick Behl are leading the charge and currently picking the venue and designing a field trip. More details to come.



We are reaching out to all societies because we want this to be relavent and accessible to all PS-AAPG members. The celebration is planned to be held in different locations within the Pacific Section throughout September and October. We want all PS-AAPG members to be to be engaged, participate and be involved as either as a volunteer and/or attendee. The key message is we need help to do this and I am asking for volunteers to commit some time (no matter how small) to help plan, organize, and run events.

Currently, we are searching through historical PS-AAPG guidebooks of trips that have been led in the past which could be updated and led in your area. If you would like to share ideas for field trips, lead a field trip or help plan an event, please reach out to me at president@psaapg. org.

All the Best.

Kristy Whitaker President



Pacific Section AAPG Founded in 1924



This year marks the 100-year anniversary of the Pacific Section of AAPG

We want everyone to be involved in this momentous event!

Museum and Trail

The goal is to have each society affiliated with PSAAPG host a small event in the months of September and October.

- 1-day symposium
- Field trip
- Core workshop
- Special talk
- Other ideas welcome

The celebration will kick off in September with the LA Basin Geological Society including talks, field trip, and networking event at the Olinda Oil Museum.



For more information on the history of the Pacific Section, check out the PSAAPG website.

https://www.psaapg.org/history/

Watch for upcoming contest to design the event logo!!

We need your help with planning each of these events, please contact Kristy Whitaker (president@psaapg.org) and Amy Spaziani (president Elect@psaapg.org).

Invitation to become a PSAAPG Officer Candidate for the Spring 2024 Election





field trips

- Be part of the team that determines our path forward
- Work with others who share a desire to bring together geologists for educational and professional events

Pacific Section Offices:

President-Elect: A three-year term, becoming President after one year, and Past President after two years; must have Member status with AAPG

Treasurer-Elect: a two-year term, becoming Treasurer after one year

Secretary: a one-year term

Editor-in-Chief: a two-year term



conferences

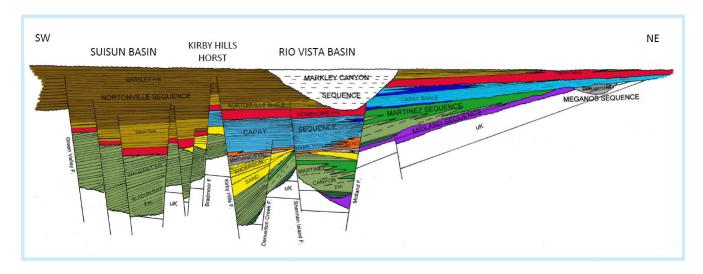
For more information:

Please contact President Kristy Whitaker or any of the current PS officers for more information (contact info: Newsletter p.3)



peer recognition

Pacific Section AAPG Digital Publication CD 7 Advances in the Geology of the Sacramento and Northern San Joaquin Basins since PSAAPG Miscellaneous Publications 41 and 43



This volume is an important contribution to the geology of the Great Valley and captures much of Vic Cherven's work during his 50 years of research in the valley. His paper on the Northern Diablo Range incorporates a great variety of surface and subsurface data, some of which were supplied by Al Almgren, to identify and map a dozen submarine fans that were deposited during the last 35 million years of the Cretaceous Period. The paper on the early Tertiary sequence stratigraphy of the southern Sacramento Basin also makes extensive use of data supplied by Al and others, and is an exceptionally detailed and comprehensive analysis of the interplay between tectonics, sedimentation, and eustacy. A companion paper summarizes and clarifies the nomenclature used for these lower Tertiary strata and describes previously unrecognized members of several formations. A third paper on these lower Tertiary rocks illustrates them in a highly detailed structural cross section that extends more than 30 miles across the basin and includes 50 closely-spaced gas wells.

At the other end of the scale are two papers that look in detail at individual formations in local areas. One paper describes the stratigraphy and alluvial-fan facies of the Valley Springs Formation in its type area, and a second paper, co-authored with Pete Fischer and Scott Hector, is a detailed study of the facies, geometry, and gas production from two lobes of the Winters submarine fan in the Walnut Grove gas field.

Included in the 2023 version of the CD is a dedication to Al Almgren, the renowned California micropaleontologist and stratigrapher who died in 2020 at the age of 100. Al and Vic Cherven were friends for almost 40 years, and Al provided paleo data for Vic's dissertation. Over the years Vic and Al had dozens of discussions about the geology of the Central Valley, and Al's influence on Vic is demonstrated throughout the articles in this volume. Scott and Vic intended to dedicate a volume as early as 2011, and with this second printing of Volume CD 7 we are able to include Mark Filewicz's eloquent dedication to Al.

Advances in the Geology of the Sacramento and Northern San Joaquin Basins since PSAAPG Miscellaneous Publications 41 and 43

Table of Contents

Prefaceiv
DEDICATION: ALVIN ARNOLD ALMGREN Mark Filewicz
GENETIC STRATIGRAPHY OF UPPER CRETACEOUS STRATA IN THE NORTHERN DIABLO RANGE AND NORTHERN SAN JOAQUIN VALLEY, CALIFORNIA Victor B. Cherven
STRATIGRAPHIC NOMENCLATURE OF LOWER TERTIARY ROCKS IN THE SACRAMENTO BASIN Victor B. Cherven
HIGH-RESOLUTION STRATIGRAPHY AND ELECTROFACIES OF A WINTERS FORMATION RESERVOIR: THE WALNUT GROVE AND TYLER ISLAND FAN LOBES Victor B. Cherven, Peter J. Fischer, and Scott T. Hector
ALLUVIAL-FAN DEPOSITION OF THE RHYOLITIC VALLEY SPRINGS FORMATION AND POST-MIOCENE TOPOGRAPHIC INVERSION, CALAVERAS COUNTY, CALIFORNIA Victor B. Cherven
PALEOGENE SEQUENCE STRATIGRAPHY OF THE SOUTHERN SACRAMENTO BASIN: A RECORD OF GLOBAL SEA LEVEL CHANGES, LOCAL EXTENSIONAL TECTONICS, AND EVOLVING DEPOSITIONAL SYSTEMS Victor B. Cherven
STRUCTURAL CROSS SECTION OF LOWER TERTIARY STRATA IN THE SOUTHERN SACRAMENTO BASIN Victor B. Cherven

Available only in CD form Price: \$45.

To purchase, contact:
Pacific Section AAPG
Publications Chair
P.O. Box 1072
Bakersfield, CA, 93302

or contact Larry Knauer at laknauer@aol.com.

Reprinted from 62 Years History of the Pacific Section American Association of Petroleum Geologists 1924-1985, PS AAPG Book MP 36

HISTORY OF THE PACIFIC SECTION OF THE AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

THE EARLY YEARS 1924 – 1941

Charles F. (Fred) Green, Editor

Organization

The years immediately following World War I were good years for the California Oil industry. 1919 saw the discovery of Santa Fe Springs near Whittier. Huntington Beach came along in 1920. Signal Hill (now Long Beach) in 1921, Torrance in 1922, and Dominguez in 1923. These fields, characterized by thick sections of highly productive sands, greatly contributed to the continuation of California as a principal oil producing province of the United States, and fostered the growing employment of technical personnel, chiefly geologists.

The American Association of Petroleum Geologists had been formed in 1917, with headquarters in Tulsa. Its members were scattered throughout the oil producing areas of the United States. The geographic separation from the headquarters in Tulsa suggested, it seems apparent, the need for regional sections to provide an easily accessible exchange of technical information and personal communication. California geologists were the first to organize such a Section, which came into being in 1924 and was originally known as the Pacific Society of Petroleum Geologists. The first account of the Society's activities appeared in the AAPG Bulletin¹, and was provided to the Bulletin by Frank S. Hudson, along with others, was active in the formation of the Society, and on the occasion of the Society's 25th anniversary provided the following account²:

THE FOUNDING OF THE PACIFIC SECTION
The many activities of AAPG are now furthered
by three chartered sections, twenty-eight affiliated
societies, and a chartered division, the SEPM. The
founding of the Pacific Section is interesting, not
only because it is our section, but also because
that was the first step in the wise plan of the

Association to provide means of keeping in touch with the widespreading roots of the profession.

The idea of a local society of AAPG members had its origin in the San Francisco Bay area. Early in 1924, Earl Gaylord brought word to Los Angeles that he had discussed the subject with Roy Collom, who was then our regional director, J. A. Taff, and the Gester brothers. Earl enlisted the services of Frank Hudson to promote the idea in southern California. Meetings of local members at Los Angeles and San Francisco, in June, resulted in the appointment of Roy Collom, Howell Gester, Bob Moran, Dan Nolan and J. A. Taff to a committee to prepare by-laws for a California association of AAPG members, designed to become a local section of the national society, and to make arrangements for a technical and business meeting at Los Angeles in the fall.

During this meeting, held September 26 and 27, 1924, the members in business session, with Frank Hudson temporary chairman, formed the Pacific Society of Petroleum Geologists and elected Howell Gester chairman and Roy Morse secretary-treasurer. The technical papers covered a great variety of subjects, from California through Alaska to China, and from well spacing through geology to oilfield waters. The maximum attendance at the technical sessions was 130, and 101 were at the dinner. The registration list shows 49 AAPG members and 60 guests. The names of the latter make particularly interesting reading, as the majority have since become members and many proved to be very active members.

Early in 1925 a petition that the Pacific Society be constituted a regional section of AAPG was directed to the national organization. This petition was accepted at the national convention at Wichita, March 26, 1925, and the Pacific Section became the first chartered section of AAPG.

During the year 1924-25 a total of 97 members paid dues to the Pacific Section. To date this year the Pacific Section has a total paid up membership of 525. From the Hudson account it is apparent that dedicated ground work had been done both in San Francisco and Los Angeles by the original founders prior to the first meeting in Los Angeles.

There is some discrepancy between the 1948 account written by Frank Hudson, and the account that previously appeared in the AAPG Bulletin (also provided by Hudson in 1924) inasmuch as the Bulletin account listed R. E. Collom, J. B. Case, G. C. Gester, Robert Moran and H. L. Taliaferro as the Committee on organization. In all probability all early members mentioned in both accounts were active in the organization of the Section.

The Hotel Alexandria in Los Angeles was chosen to host the 1924 meeting.

At the Technical Session 16 papers were presented. At the business meeting a committee on organization (which had obviously already been hard at work on a constitution) was appointed, and offered a draft of a constitution which was adopted. Also, preparation of a petition to the American Association of Petroleum Geologists for admission as a regional section was authorized.



As a matter of historical interest, the adopted Constitution, technical program, and list of those attending are printed below.

CONSTITUTION PACIFIC SOCIETY OF PETROLEUM GEOLOGISTS

Article I . Name

The name of this society shall be The Pacific Society of Petroleum Geologists.

Article II. Membership

Section 1. Any active or associate member of the American Association of Petroleum Geologists, in good standing, and now resident in California, Oregon or Washington, shall be eligible to membership in this society comparably as active or associate member.

Sec. 2. Payment of annual dues of this society by any person, qualified as in Section 1 above, shall be deemed to be a declaration of membership, in this society.

Article III. Object

The object of this society shall be to provide for discussion of subjects and problems coming within the scope of the profession and, by such intercourse, to promote the advancement and aims of The American Association of Petroleum Geologists as set forth in Article II of its constitution.

Article IV. Officers

Section 1. The officers of this society shall be a chairman and a secretarytreasurer, who shall assume the duties of their respective offices at the first of the calendar year following their election as hereinafter provided. Their terms of office shall be for one year.

Sec. 2. The officers of this society shall be elected by the membership present at the annual meeting.

Sec. 3. There shall be an executive committee consisting of the chairman, secretary-treasurer, retiring chairman and two active members appointed by the chairman.

Article V. Dues

The dues of this society shall be \$1.00 per year, due and payable in advance at the beginning of each calendar year.

Article VI. Meetings

Section 1. Meetings shall be held annually.

Sec. 2. The time and place of the annual meeting shall be determined by the executive committee.

Sec. 3. The membership shall be notified of the time and place of the annual meeting at least three months prior to the date determined by the executive committee.

Article VII. Amendments

This constitution may be amended by a two-thirds vote of all active members present at an annual meeting or by a mail ballot sent to the active membership.

PROGRAM OF PAPERS PRESENTED
AT THE TECHNICAL SESSION 1924 MEETING,
PACIFIC SOCIETY OF PETROLEUM GEOLOGISTS

Age and Correlation of the Kreyenhagen Shale in California G. D. Hanna

Thrust Faulting in the Region of Mount Diablo Bruce L. Clark

The Unconformity between the Santa Margarita and Monterey Formations in the Salinas Valley. R. D. Reed

Structural Problems in Southern California W. S. W. Kew

Notes on Geology of Baldwin Hills Region A. J. Tieji

The Wheeler Ridge Oil Field George Cunningham

Geology and Well Products of the Tzeliutsing District, Szechuan, China G. D. Louderback

The Study of Sub-surface Formations in California Oil-Field Development C. D. Hanna, H. L. Driver

Interpretation of Core Samples Curtice and Henderson

Geochemical Relations of California Oil Field Waters Chase Palmer

Chloride Oil Field Waters – Ventura County N. L. Taliaferro, F. S. Hudson

The Elements of the Oil-Well Spacing Problem L. C. Uren

Emulsion Breaking-Celite Process J. L. Chase

Chinese Methods of Well-Drilling and of Handling Brines and Gas G. D. Louderback

Automatic Feed for Rotary Drilling F. W. Hild

"Oil Well" Hild Differential Drive Lester H. Keim

MEMBERS AND GUESTS ATTENDING THE 1st
MEETING OF THE PACIFIC SOCIETY OF PETROLEUM
GEOLOGISTS

Members: Elmer R. Ames, Irving v. Augur, Roy M. Barnes, Reed D. Bush, W. R. Calvert, J. B. Case, James L. Chase, Roy E. Collom, William W. Copp, Willard W. Cutler, Jr., Walter A. English, R. N. Ferguson, Douglas Fyfe, E. G. Gaylord, G. C. Gester, S. H. Gester, G. D. Hanna, Frank S. Hudson, Emile Hugenin, Joseph Jenson, Harry R. Johnson, W. S. W. Kew, B. L. Laird, Edward D. Lyn ton, A. S. McCullough, F. C. Merritt, Robert B. Moran, Frank Morgan, Roy R. Morse, E. D. Nolan, C. B. Osborne, R. M. Overbeck, J. R. Pemberton, Ralph D. Reed, J. M. Sands, Walter Stadler, Ben Stroud, George O. Suman, Jr., Joseph A. Taff, N. I. Taliaferro, H. B. Thomson, C. G. Thomas.

Associate members: Glenn H. Bowes, Thomas W. Buzzo, Harold V. Dodd, Harold W. Hoots, Earl B. Noble, Rudolf R. Pollak, Earl M. Price, Thomas F. Stipp.

Guests: Z. H. Bissel, Lot Bowen, T. K. Bowels, C. H. Bowling, R. R. Brandenthaler, H. A. Brett, Chester Cassel, J. A. Collins, William Comstock, Grant

W. Corby, R. D. Copley, Bruce Clark, George M. Cunningham, Roy S. Curl, A. A. Curtice, G. H. Doane, J. J. Doolittle, H. L. Driver, M. G. Edwards, E. C. Edwards, H. H. Fentous, C. S. Franklin, H. A. Goode, Paul P. Goudkoff, M. A. Grizzle, W. W. Heathman, Ben F. Hake, H. G. Henderson, Paul L. Henderson, A. L. Holston, R. L. Keyes, W. D. Kleinpell, Emil Kluth, Thomas L. Koch, V. N. Jurin, M. E. Lake, George W. LaPeine, Harvey W. Lee, George D. Louderback, S. H. Marshall, R. E. McCabe, D. S. McPhee, Chase Palmer, H. K. Pieper, L. E. Porter, N. A. Rousselot, Theodore K. Sawyer, C. R. Swarts, T. E. Swigart, A. J. Tieje, C. F. Tolman, Lester C. Uren, K. L. Vanderahe, T. Vandergrautz, M. Van Couvering, H. P. Vickery, V. H. Wilhelm, C. G. Willis.

The constitution provided for two officers only, and the Executive Committee had five members.

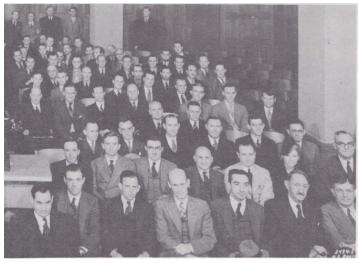
The original technical program reflected, it can reasonably be assumed, that geologists' work in 1924 carried a broad spectrum of activities, inasmuch as only about half the papers in this program were devoted to geological activities. The other half covering subjects that now are classified in various categories of Petroleum Engineering.

Present day members will recognize many well known names in the list of those attending; some present members have known many on this list. Bill Comstock, active until recently but now retired, is on the list, as is Harvey Lee, who has contributed a chronicle of his year as President of the Pacific Section (1957) to this history.

Meetings and Conventions

The yearly meetings most often held in Los Angeles served the dual purpose of bringing together members of The Pacific Section to meet and become personally acquainted and provided a forum for the exchange of ideas among members.

Developing techniques were exposed to the membership as in a paper in the 1925 session entitled The Value of Bore Hole Surveying in the Discovery and Development of Oilfields, or in the 1932 session entitled Correlation of Reflection Records in California. The former paper was given by Alexander Anderson, and the latter by Henry Salvatori. Both men were pioneers in their respective fields.



Fourteenth Annual Meeting AAPG (1939) Edison Bldg. Auditorium, 5th Street & Grand Ave., Los Angeles. (1/2 of complete convention picture).

Papers on specific areas, both in California and elsewhere were given, as well as papers on specific oilfields. Much emphasis was placed on paleontology and biostratigraphy. Often a report on progress in the Geology Branch of The Division of Mines, State of California, was given by Olaf P. Jenkins, Chief Geologist, who became the first honorary member of the Pacific Section in 1961.

Occasionally revues would be given of pages or books, unpublished in English, such as a review by R. D. Reed in 1930 of the book Petrography in Oil Shale or a review by E. K. Soper of "Origin of Roumanian Oil", which appeared the same year. We are to conclude that some geologists were excellent linguists although the language from which this book and paper were translated was not disclosed.

A list of the programs for each Pacific Section meeting was usually published in the Association Round Table part of the National Bulletin, a complete set of which is available in the Kern County Library in Bakersfield. The Bulletin also started publishing abstracts of papers beginning in the early 1930's.

Two National Conventions were hosted by the Pacific Section during the years 1924-1940. The first was in 1928, General Chairman E. G. Gaylord. The second was held in Los Angeles in 1937, General Chairman, Frank A. Morgan. Also, an AAPG regional meeting in Los Angeles in 1923 predated the organization of The Pacific Section. This meeting was a great success, and may have been a factor in bringing about the

formation of The Pacific Section. An account of this meeting appeared in A *History of the American Association of Petroleum Geologists First Fifty Years*³.

Gordon Oakeshott, an early member of the Pacific Section, and an honorary member in 1974 contributed the following account of the 1929 meeting, and life as a geologist at that time.

"The first Pacific Section meeting I attended was on Nov. 21-22, 1929 in the Palace Hotel (Rose Room), San Francisco. At the time, I was in my first job, at Santa Maria, CA. I worked in the field with Les (L. M.) Clark and Arne Junger. We recommended that our company drill what later (1934) became the Santa Maria oil field, but were turned down. No reservoir rock and no source rock!

At the Pacific Section meeting at the Palace, Earl Noble presided. Ralph Reed was present. (Who has not read his "Geology of California" AAPG 1933?). Olaf Jenkins gave a paper on "Sandstone dikes as conduits for oil migration through shales". (Remember Olaf's Division of Mines Bulletin 118?). There were papers by N. L. (Tucky) Taliaferro, Hugh Schenck, G. D. Hanna, Louis Waterfall, R. M. Kleinpell, Frank Hudson, and Reed. All became noted in California geology later. Those were the days when individual geologists discovered oil fields!"

Social affairs were an important part of each yearly meeting. First organized social events occurred in 1926 in Los Angeles and consisted of a luncheon and theatre party for the ladies, followed by a dinner dance at the Oakmont Country Club. Some additions to this program have been made down through the years, not the least of which is the "Icebreaker" where old friends are reunited (Thank goodness for those badges!) and new ones made.

There were many who contributed technical papers in the early years. Some whose names often appeared were: F. M. Anderson, E. R. Atwill, W. F. Barbat, B. L. Clark, H. L. Driver, J. E. Eaton, Wayne Galliher, Paul Goudkoff, G. D. Hanna, H. W. Hoots, Olaf P. Jenkins, Robert Kleinpell, R. D. Reed, Hubert G. Schenck and N. L. Taliaferro.

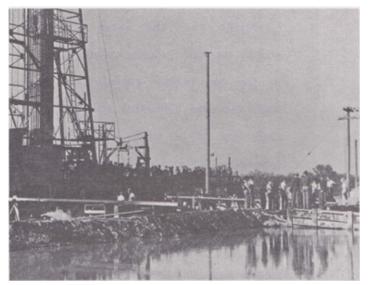
Formation of the SEPM

An important event of 1927 was the Chartering of the Pacific Section of the SEPM as a division of the National SEPM. This latter in turn was a division of National AAPG. An historical account of the Pacific Section SEPM appears elsewhere in this history, written by Robert E. Garrison, the present President of the Pacific Section SEPM.

Discoveries

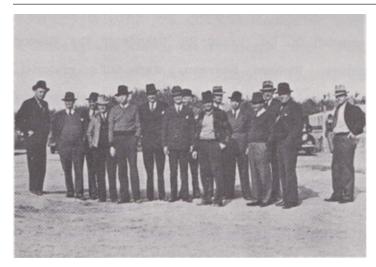
There were a number of important discoveries in the period 1924-1940. These include by year 1926-Mt. Poso, 1927- Rincon and Round Mountain, 1928- Kettleman Hills and Elwood, 1931- Edison, 1932- Wilmington, 1933- Mt. View, 1934- Santa Maria, 1934-1938, San Joaquin Valley fields resulting from seismic work, 1936- Rio Vista and 1938- East Coalinga.

All of these discoveries had a profound impact on the California oil business and of course in the geological profession itself. Kettleman Hills helped Superior Oil start on its way and was a massive boost to Standard Oil, who owned every other section in fee. Mountain View, whose discovery well was spudded during the bank holiday in 1933 certainly proved that a good oil prospect can always be financed, and the seismograph demonstrated there was oil on Kern County Land Co. lands after all. Rincon initiated the trend that



Company executives turn out in force to watch the drillers bring in Tupman-Western No. 1, the discovery well at North Coles Levee, in November, 1938.

History of the Pacific Section AAPG - The Early Years



Members of Richfield's management on hand on November 27, 1938, to watch Tupman-Western No. 1 brought in. Shown left to right: W.T. Dinkins, M.R. Gross, M.E. Norris, C.R. McKay, W.T. Autrey, H.H. Kelly, R.W. Ragland, H.M. Gallagher, A.L. Donnelley, H.T. Boggs, N.F. Simmonds, A.M. Kelley, F.A. Morgan, R.D. Montgomery and R.W. Carver.

eventually led offshore, and Wilmington reaffirmed the importance of the Los Angeles basin.

Undoubtedly many of the discoveries during the early years resulted from the creative thinking of geologists in the Pacific Section. Two of the fields that are well known as coming about by virtue of concepts conceived by individual geologists are Elwood and East Coalinga.

The following is a quotation from the *History of the American Association of Petroleum Geologists: First Fifty Years*⁴.

"An early geological success resulting from the use of the airplane was the discovery in 1928 of the Elwood oil field on the Santa Barbara coast by Frank Morgan. To quote from his citation for honorary membership by E. Fred Davis (Bulletin, v. 46, 1962, p. 1335):

"... Flying over the water offshore, he saw definite evidence in the sea bottom growth that made the area attractive and the discovery of a major oil field followed. This may have been the first oil field successfully picked from the air. ""

Frank Morgan was, at the time of the Elwood discovery Chief Geologist for Rio Grande Oil Co. Subsequent surface observations confirming a structure

at Elwood brought forth from Morgan a recommendation to acquire and test the prospect. Barnsdall Oil Co. joined Rio Grande in the Ellwood venture, Richard Sherman, Barnsdall's geologist, being about the only other geologist that shared any enthusiasm for the idea of drilling at Ellwood. Barnsdall, the operator, decided however to abandon the hole at about 3100 due to difficult drilling conditions. Morgan, having observed oil shows on the fracture planes of the cores convinced Rio Grande to go ahead. Before Rio Grande could confirm Barnsdall's official withdrawal the weekend intervened. Coring nevertheless continued at the wellsite, and on Saturday night Sherman telephoned Morgan that the bit had encountered oil sand. Thus, the discovery was inadvertently shared. Elwood has produced in excess of 100,000,000 barrels.



Morgan served as President of the Pacific Section in 1933 and as National AAPG President 1951- 1952.

East Coalinga made exploration history and stimulated the search for Stratigraphic Traps. The discovery well Petroleum Securities Company Gatchell #2 was completed in June of 1938. The East Coalinga Field itself has produced in excess of 450,000,000 barrels of oil and 280,000,000 MCF of gas.

The geological reasoning behind this prospect was that the Eocene Sand underlying Kettleman Hills did not outcrop to the Northwest along the extended axis of the Kettleman-Coalinga anticline; therefore a wedge-edge capable of trapping hydrocarbons on this axis, was present NW of Kettleman. This reasoning, credited to L.S. (Snooky) Chambers, proved correct. Chambers, Chief Geologist for Seaboard Oil Co., had convinced his management to test his idea with a well. Arrangements had been made to drill the test well in Sec. 18 - T20S R16E on the Gatchell Federal Lease owned by the Petroleum Securities Co. In the meantime, Seaboard had been encountering financial

problems in operations outside California and decided to take on a partner. This proved difficult. However, Honolulu Oil Co. under the direction of Chief Geologist, Elmo Adams, had made stratigraphic studies in the area. These studies (in consultation with Dr. Hugh Schenck of Stanford University) suggested that Chambers' idea was correct. Honolulu agreed to join with Seaboard and Petroleum Securities in drilling the Gatchell #2 well.

The sand thickness and productivity surpassed all expectations, and stimulated enormously the search for oil trapped stratigraphically.

The Great Depression

During the early 1930's, as reported in the AAPG Bulletin⁵, conditions in the oil industry throughout the United States forced the curtailment of exploration and development. From 1931 until 1935 membership at the National level decreased from 2562 members to 1973 members. Presumably a commensurate decrease took place in the Pacific Section. Recent graduates often took jobs working in the oilfields in order to stay close to the industry, or changed careers completely. W. E. (Jimmy) James had started his career as a geologist, and had contributed papers in the early technical sessions of the Pacific Section. James turned to Law and became a well-known Bakersfield attorney.

Geologists who took jobs working in the oilfields, gained experiences that often proved beneficial in later years, especially those whose later work required a thorough knowledge of drilling practices, risks and costs.

Nevertheless, important discoveries were made as noted above. The early 1930's ushered in the age of the seismograph, and the beginning of gas development in the Sacramento Valley, stimulated, of course, by Amerada's discovery of Rio Vista, in 1936.

Publications 1924 – 1940

In 1933 the American Association of Petroleum Geologists published Geology of California by Ralph D. Reed. Reed, as previously noted, was one of the original members of the Pacific Section, and contributed a paper at the first meeting in 1924.

Additionally, Reed was certainly one of the tall figures in the early history of the Pacific Section, both as a worker in the affairs of the Section, and as a scientist who shared his knowledge, both formally in technical papers, and informally in personal contributions to his fellow geologists. A fitting tribute to Reed, written by A. 0. Woodford and Harold Hoots, appears in the foreword of the reprinting of *Geology of California* and the subsequent book *Structural Evolution of Southern California*⁶. This latter book was written by Reed in collaboration with J. S. Hollister.

Another publication of these early years, authored by a Pacific Section Member, appeared in 1938. This publication, *Miocene Stratigraphy of California* established a standard chronologic-biostratigraphic section for the Miocene of California. Since its publication this book, written and researched by Robert Kleinpell, has been of inestimable value to California Geologists. *Miocene Stratigraphy of California* was published by the National AAPG.

Both Ralph Reed and Robert Kleinpell were also prolific in their contribution of scientific papers at the technical sessions in 1920's and the 1930's.

In October of 1940 Part I of Bulletin 118 was issued by the California State Divison of Mines. This work was undertaken under the direction of Pacific Section member Olaf P. Jenkins. Jenkins at that time was supervising geologist of the California Division of Mines. The complete title of Bulletin 118 is Geologic Formations and Economic Development of The Oil and Gas Fields of California.

Bulletin 118 turned out to be a monumental work and remains to this day an excellent starting point for research into the general geology of California as well as specific data pertaining to the then discovered fields.

126 geologists were contributing authors to this important work. Most, if not all were members of the Pacific Section.

Other important publications during this period were Bulletins of the California Division of Oil and Gas. These Bulletins usually contained maps, cross sections and pertinent engineering data of the developed oilfields and were authored by Division of Oil and Gas Engineers. More than often these individuals were also geologists and members of the Pacific Section, such as Sam Dolman, who was active in Pacific Section's affairs and was a frequent contributor in these early years.

Technical Developments

Great strides in technical developments took place in the 1920's and 1930's. Some members of the Section were actually involved in the development of new tools or techniques. All geologists had the opportunity to update their skills by working with these new tools of the trade.

Rotary drilling, which had come into general use by the 1920's in California, advanced the pace at which wells could be drilled, yet left much to be desired (if compared with cable tool drilling) in the way of being able to recognize the various formations that were penetrated. A solution to this problem was conceived by a geologist and member of the Pacific Section. J. E. (Brick) Elliot devised a core barrel, engineered with an inner barrel, that had the capability of taking cores in the relatively soft California formations. Elliot was Vice President of National AAPG in 1928-1929 and became an honorary member in 1970.

A sophisticated variation of the core barrel was developed by yet another Pacific Section member, George A. Macready. This was the "oriented core" which revealed the true dip of the bedding planes of the section cut by the core and was of obvious importance in interpretation of geologic structure.

Coring with its ability to precisely locate a given sample in the geologic section had a profound influence on both geology and petroleum engineering. In geology, micropaleontology became an applied science and important correlating tool. Early pioneers in this work were G. D. Hanna and Herschel L. Driver. Both men were active in the Pacific Section and gave papers at the first meeting in 1924.

Coring also became an "oil finder" by enabling petroleum engineers to segregate oil and water sands and thus make "clean completions".

Coring was the parent of "core parties" attended by a phalanx of geologists representing their respective companies. The purpose was to describe and sample the cores from an important wildcat or development well and preserve the date for posterity. Some geologists were experts on both describing and sampling, and some, it often seemed, experts on the use of the term "as above".

After an unsuccessful try in the late 1920's the elog was reintroduced into California in the early 1930's, by Schlumberger, a French Company, and developers of this tool. The first elogs were created by operators (usually French) turning by hand a recording device which zeroed an electrically activated recording needle. The operation of centering the needle moved a stylus which scribed the log. These devices were sometimes placed on the rig floor, with no little confusion resulting from the language barrier between the excitable French operators and American roughnecks.

The first elogs had the resistivity side of the log on the left and the porosity (SP) side on right. In order to resemble present day logs, these earlier logs must be redrafted and the SP side "turned over".

One of the early Schlumberger engineers was Jacques Gallois. Jacques, or Jack as he was called, a member of the Pacific Section, became the district manager for Schlumberger in the early 1930's. He was a skilled log analyst and in the post-war years the final and absolute authority on this subject. Rather than return to his native France, Jack chose to spend the remainder of his life in Bakersfield. He was a friend to many geologists and engineers, and highly regarded because of his winning personality and professional ability.

The success of geophysics in the 1930's provided a welcome breakthrough as fields became harder and harder to find or, as some wise geologist is credited with saying, "more and more of the slow rabbits were shot."

Not many papers on geophysics were given at the technical sessions despite the importance of this new development. They first appeared at the 1928 convention, authored by R. H. Miller, and was entitled "The Torsion Balance in California." A second paper

appeared in 1932 authored by Henry Salvatori entitled "Correlation of Reflection Seismograph Records in California."

By the year 1939 as many as 23 new fields had been discovered by applied geophysics as was pointed out by W. H. (Bill) Pemberton in California Division of Mines Bulletin 1187. These included Rio Vista in the Sacramento Valley, discovered by very active Amerada, (Present day oilfinders might be rewarded by searching in areas of "Amerada's old dry holes"), and, some of the flat land fields of the San Joaquin Valley located near Bakersfield such as Paloma (1934), Ten section (1936), Rio Bravo (1937), North and South Coles Levee (1938). These discoveries made substantial additions to California oil and gas reserves.

The Rio Bravo discovery was made by an exploration team headed by Earl Noble of Union Oil Co. This prospect was based on seismic data and resulted in the first well in California to be completed below 11,000'. Earl Noble was Pacific Section President in 1929 and National AAPG President in 1946-1947.

The technique of directional drilling became yet another oil finding tool. The beginnings came about in the 1920's with the development of well surveying. A unique compass plumb-bob device, imaginatively created by Alexander Anderson, permitted to be measured both the angular deviation from vertical, and the direction of this deviation. The 2nd convention in 1925 had on the program, as noted above, a paper by Anderson, which surely must have been prophetic, since so much production has resulted from deviated holes.

References Cited

- 1. Hudson, Frank S., 1924, Pacific Coast Meeting of Petroleum Geologists: Bull. Amer. Assoc. Petrol. Geol., Vol. 8, page 838.
- 2. Hudson, Frank, S., 1948, The Founding of the Pacific Section: Pac. Petrol. Geol., Vol. 2, No. 6, page 2.
- 3. Morley, Harold T., 1966, A History of the American Association of Petroleum Geologists: The First 50 Years: Bull. Amer. Assoc. Petrol. Geol., Vol. 50, No. 4, page 694.
- 4. Morley, Harold T., 1966, A History of the American Association of Petroleum Geologists: The First 50 Years: Bull. Amer. Assoc. Petrol. Geol., Vol. 50, No. 4, page 716.
- 5. Morley, Harold T., 1966, A History of the American Association of Petroleum Geologists: The First 50 Years: Bull. Amer. Assoc. Petrol. Geol., Vol. 50, No. 4, page 702.
- 6. Reed, Ralph D., 1933, Geology of California, and Reed, Ralph D. and Hollister, J. J., 1936, Structural Evolution of Southern California: Reprint, Amer. Assoc. Petrol. Geol., 1951.
- 7. Pemberton, J. R., 1943, Economies of the Oil and Gas Industry of California: Div. Mines. Bull. 118, Part I, Chapter 1, page 6.



San Joaquin Geological Society's Annual Valentine's Day Celebration

The SJGS held their annual Valentine's Day on February 13, with one of the largest crowds since the Pandemic in attendance. Dr. Matt Herman, the new geophysics professor at CSUB, was the guest speaker, presenting his talk "Where Faults Get Stuck: The Nature of Plate Boundary Coupling and Implications for Earthquakes."



Dr. Matt Herman (center, holding plaque) with his students at the American Legion Hall in Bakersfield. Photo by Lisa Alpert.



2024 AGS Technical Conference.

Saturday, April 6, 2024 - University of Alaska, Fairbanks

Welcome!

Join us in Fairbanks, Alaska for our 2024 Technical Conference. This year, AGS is joining with the UAF Geoscience Student Colloquium for a joint conference. This unique conference showcases the enduring relationship between AGS and UAF, a partnership that bridges the gap between practical geological exploration and cutting-edge academic research. Whether you're a seasoned professional seeking to expand your network or a student eager to explore the vast possibilities within geosciences, this conference is the perfect platform to connect, learn, and grow.

Submit Abstracts

Submit an abstract now! We are seeking abstracts for oral and poster presentations. Awards will be given for 1st, 2nd, and 3rd place posters. Student awards will also be given out for oral presentations.

Abstract Deadline is March 8, 2024.

Notification of acceptance or rejection will be made by March 10, 2024.

Oral presentations should be around 25 minutes in length with an anticipated 5 minutes for Q&A.

Schedule

SATURDAY, APRIL 6, 2024 - TBD

Sponsorship

We are looking for Conference Sponsors.

Our programs are managed by volunteers and your donations are 100% effective. We ask that you consider a donation to the 2024 AGS Technical Conference.

If interested, please contact treas@alaskageology.org



Event Sponsored by Alaska Geological Society

Registration

Register online at the AGS website

Registration Fee

Students - Free

Non-Students - \$25

Location

In Person or Remotely

In Person: University of Alaska, Fairbanks, Reichardt

Building, Room 201

Remotely: After registering, you will receive a Zoom link the week of the conference via email on how to join.

For More Information

Marisa D. Acosta (UAF) at mdacosta@alaska.edu Nina T. Harun (DNR) at mina.harun@alaska.gov

Please thank our early sponsors:

Duncan Petroleum

Advisors LLC









Arthur Ogilvy Spaulding

Arthur Ogilvy Spaulding, California native, World War II Veteran, geologist, and musician, died Friday, November 3, in Santa Barbara, California. He was 98.

He was predeceased in 2005 by his first wife of 59 years, Elizabeth Womble Spaulding (Mimi); brother Albert Tenny Spaulding, Jr.; and brother-in-law John Philip Womble. He is survived by his wife of 15 years, Joyce Canton Spaulding; daughter Lauren Spaulding Starke (Barry) of Warrenton VA; son Arthur O. Spaulding Jr. (Kit) of Denver CO; grandchildren Shayne Lauren Spaulding (Joshua Shepherd) of Swampscott MA; Cameron Blair Spaulding of Ojai CA; and great-grandchildren Wiley Spaulding Shepherd and Kieran Spaulding Shepherd of Swampscott MA.

The second son of Albert Tenny Spaulding and Margaret Gladys Ogilvy Spaulding of Goleta, near Santa Barbara, Arthur—known by family and friends as "Bam"—was born in Oxnard, California on August 17, 1925. He attended the Laguna Blanca School and matriculated at Santa Barbra High School. At the outset of World War II, Arthur enlisted in the U.S. Army, serving in Europe in the 91st Chemical Mortar Battalion. He was awarded both the Bronze Star and the Purple Heart. After the war, he returned to California where, in 1946, he married Mimi and entered the California Institute of Technology, from which he received a BS in Geology in 1949 and an MS in Geology in 1958.

Arthur was employed as a petroleum geologist by the Shell Oil Company from 1949 to 1957, followed by work for the City of Los Angeles as an administrative geologist, and as a senior petroleum and mining appraisal engineer for the California State Board of Equalization from 1959 to 1962. From 1962 to 1973, Art served as the petroleum administrator for the City of LA, then became a consultant to the Western Oil and Gas Association (1973-74), and general manager for the Rocky Mountain Oil and Gas Association in Denver CO, 1975-1976. He was named vice president and general manager of the Western Oil and Gas Association in 1976 from which he retired in 1986, thereafter serving as a consulting petroleum geologist.

Professional affiliations include the Society of Petroleum Engineers; American Association of Petroleum Geologists; American Institute of Professional Geologists (president); Caltech Alumni Association (president); he also served on the boards of directors of The Dibblee Foundation (Santa Barbara); Tulare Wetlands Basin Association (Sacramento); and Westec Taft College (Taft).

In retirement, Arthur returned to his love of music, playing saxophone in two swing bands, The Unforgettables and The Swing Shift, with whom he played gigs throughout Ventura and Santa Barbara counties. A lifelong outdoorsman and athlete, he loved bird hunting, fishing, and High Sierra camping, as well as golf, tennis, and baseball.

Dates of family celebration of Arthur's life will be determined later. He will be buried at the Spaulding family shrine at Forest Lawn in Buffalo, NY.

Posted online on November 22, 2023 Published in Ventura County Star



BEST CORE SERVICES

where BETTER became BEST

We Supply Quality Data with Quality Serivce

111 LAKE STREET BAKERSFIELD CA 93305

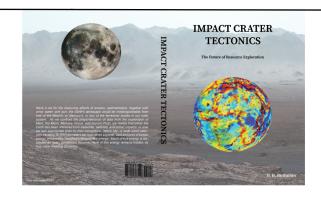
Bryan Bell: (661) 496-2654 Office: (661) 835-6001



GEOLOGICAL LOGGING INC. 9229 Beatty Drive, Suite B Sacramento, CA 95826 (916) 452-9570 Tel (408) 307-4653 Cell (916) 452-9573 Fax david@geologinc.net

DAVID BURROUGHS President

www.geologinc.net



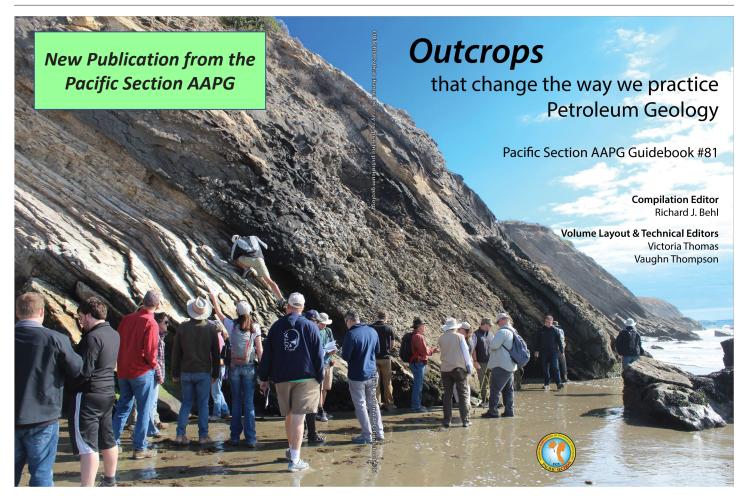
Impact Crater Tectonics

consists of field studies of impact craters, integrating potential fields with seismic, subsurface, and surface geology. The overwhelming correlation between impact craters and mineral resources shifts our paradigms away from plate tectonics, and towards the now more universally-accepted impact crater tectonics.

Full-color, 297-page, 8.5" x 11" perfect-bound book, with over 200 photos, graphs, and illustrations. The book can be ordered from either Amazon for \$50.00 plus shipping and handling, or from the author at:

ImpactCraterStudies.org.

by David B. Buthman



PS-AAPG Guidebook #81

Outcrops that change the way we practice petroleum geology:

2020 Pacific Section AAPG/SEPM/SEG Conference



Guidebook #81 is available for purchase NOW Cost: \$36.00

PUBLICATIONS
PACIFIC SECTION AAPG
P. O. BOX 1072
BAKERSFIELD, CA 93302

Please include an additional \$8.00 for S&H. All orders must be prepaid.

PAYZONE INC.

Geological, Geophysical, and Petrophysical Consulting Services for the Petroleum Industry 661-387

- Accurate, consistent fieldwide reservoir properties for modeling, OIP, and improved heat management in thermal projects
- Old E-Log interpretation

- Image log interpretation and integration with petrophysical analysis
- 2D/3D seismic interpretation, expertise in old 2D data
- "Mystery logs" and other difficult log problems

Our petrophysical models for siliceous shales and California sands are based on over 30 years of experience with these rocks, including core, log, and lithology data from every basin in the state

Deborah Olson, President dmolson@payzoneinc.com 661-747-0375

Have a log question? Give us a call!

www.payzoneinc.com

Tom Howard, Image Analyst tomh@payzoneinc.com 832-407-2862

Member Society News

Alaska Geological Society www.alaskageology.org

P. O . Box 101288 Anchorage, AK 99510

Monthly meetings are usually held on the last Thursday of the month. Most meetings are hybrids, using Google Meet, and in person at the BP Energy Center. Doors open 11:00 am.

Next Meeting: Thursday March 21, 2024

Speaker: Peter Illig

Topic: Mineral Exploration/Mining

AGS Technical Conference

April 6, 2024, University of Alaska, Fairbanks See this newsletter (page 19) for more information

President: Monte Mabry mmabry@blm.gov
President-Elect: Ken Helmold helmold@alaskan.com

Vice-President:Patrick Boyleboyle.patrick.ryan@gmail.comSecretary:Chris Clinkscaleschristopher.clinkscales@hilcorp.comTreasurer:Brad Kingbrad.d.king@conocophillips.com

Coast Geological Society
http://www.psaapg.info/cgs/index.html

P. O. Box 3055 Ventura, CA 93006

In-person meetings are the third Tuesday of the month at the Poinsettia Pavilion, 3451 Foothill Rd, Ventura, CA 93003

Next Meeting: Tuesday March 19th

Speaker: Eric Snelling

Topic: Carbon Capture and Sequestration – California's Role in a New Industry for Energy Professionals

President: John Williams CoastGeologicalPresident@gmail.com

Past-President: Renee Richards
Vice President: Bill Dinklage
Secretary: Nina Minga
Treasurer: David Arellano

Secretary:Nina MingaCoastGeologicalSecretary@gmail.comTreasurer:David ArellanoCoastGeologicalTreasurer@gmail.comMembership chair:Phil KinneyCoastGeologicalMembership@gmail.comWebmaster/Tech Support:Eric HeatonCoastGeologicalWebmaster@gmail.com

Los Angeles Basin Geological Society

www.labgs.org

Luncheon meetings have a new venue: Signal Hill Petroleum located at 2633 Cherry Ave, Signal Hill, CA (562-595-6440, Brady Barto, ext. 5233). Meetings are on the fourth Thursday of the month, from 11:30 am to 1 pm.

Check the website for information on the next talk.

President: Dan Steward daniel@ironhorsenergy.com
Vice President & Programs Rick Behl richard.behl@csulb.edu
Treasurer: Francine Cason fcason5@gmail.com
Secretary: Joseph Landeros landerosjd@gmail.com

Scholarships: Karla Tucker ktkr2@aol.com

Webmaster Joseph Landeros landerosjd@gmail.com

(Continued on next page)

CoastGeologicalVicePresident@gmail.com

Northern California Geological Society

803 Orion #2

www.ncgeolsoc.org

Hercules, CA 94547-1938

Meetings are at the Orinda Masonic Hall and online using Zoom on the fourth Wednesday of the month. Talks are 7 pm to 8:30 pm (social half-hour at 6:30 pm)

Next meeting: April 24, 2024

Speaker: Nicholas Swanson-Hysell, UC Berkeley

Topic: Climate Change: Chronostratigraphy of Miocene strata in the Berkeley Hills and the arrival of the San

Andreas transform boundary

May 29, 2024

Speaker: Libby Ives, Jet Propulsion Laboratory (NASA/Caltech)

Topic: Sedimentary geology of the Jezero crater western fan asseen by NASA's Mars Perseverance rover

President:Jim O'Brientj.obrient @ comcast.netPresident-elect:Phil Reedphilecreed@comcast.netPast President:Noelle SchoellkopfNoellePrince @ sbcglobal.netTreasurer:Don Medwedeffdonmedwedeff@gmail.com

Recording Secretary: OPEN

Membership Chair: Tom Barry tomasbarry@aol.com
Newsletter Editor: Mark Sorensen msorensen@gilbaneco.com
Field Trip Coordinator: Will Schweller willschweller@yahoo.com

K-12 Program Co-Chairs: OPEN

Scholarships: Phil Garbutt plgarbutt@comcast.net

Northwest Energy Association

P. O. Box 6679 Portland, OR 97228 Contact: Jim Jackson or John Armentrout

No activities are planned at this time. There is no active website.

Sacramento Petroleum Association

The Sacramento Petrtoleum Association has shut down. The last meeting was on April 19, 2023.

San Joaquin Geological Society P. O. Box 1056

www.sanjoaquingeologicalsociety.org Bakersfield, CA 93302

DINNER MEETINGS:

SJGS meetings are on the second Tuesday of the month at the American Legion Hall, 2020 H St Bakersfield, CA.

Check the web site for information about the next meeting.

President: Lisa Alpert LAAlpert@aeraenergy.com
Past President: Jennifer Prosser jprosser@envirotechteam.com

President-Elect: Ron Foster rlf@cornerstoneeng.com

Vice-President: Martin Jimenez martin.jimenez@conservation.ca.gov

Secretary: Kari Hochstatter khochstatter@gmail.com

Treasurer: John Porter John.porter@blackknightllc.com

Webmaster:Ivan AburtoIvan.Aburto@crc.comHOD DelegateCynthia HugginsCahuggins747@gmail.com