



PACIFIC PETROLEUM GEOLOGIST NEWSLETTER

of the Pacific Section
American Association of Petroleum Geologists

February/March/April/May 1988 No. 2 & 3

CONVENTION ELECTION ISSUE

PACIFIC SECTION AAPG ELECTION

The slate of Candidates for office in the Pacific Section AAPG are chosen by the Nominating Committee which is headed up by the past President. Bob Lindblom has completed his responsibility. With the list of candidates below:

President-Elect
Nancy Aston
Ben Cahill
Vice-President
Rick Bowersox
Jack Cunningham
Secretary
Marty Hall-Burr
William Long

Brief resumes of each candidate are presented on pages four and five. The President for next year is Jack West and Paul Hacker has one more year in his term as Treasurer.

Ballots will be mailed during the month of May.

**DEADLINE FOR
JUNE/JULY ISSUE

JUNE 1, 1988**

PACIFIC SECTION CONVENTION

The 1988 Pacific Section Convention is just around the corner and if you haven't registered yet, you can always do so at the door. I know, there have been a lot of distractions - the national meeting in Houston, the CIPA meeting in San Diego one week after ours, 11th hour skiing, and the rites of spring in general - but that's no reason to totally forget the Pacific Section Meeting.

You've all been exposed one way or another to the Convention events, so we won't repeat them here, except to accent the hot items.

One highlight of the technical session will be the Tuesday morning session on Geology of Offshore Oilfields; Santa Barbara and vicinity. Here's a list of new and old fields to be discussed: West Montalvo, Hueneme, Carpinteria, Sword, Point Arguello, Pitas Point, and Sockeye.

It is unlikely that any of these papers will be published, so this is a unique chance to get the run-down on these major offshore fields.

Pre-registration returns are showing a normal pattern for AAPG Conventions. The most popular social event sign-up is for the wine tasting at the old world Music Academy of the West, and with good reason. Your chairman for the party is Steve Hart from Ventura. Steve, with his world-famous cultured palate, has made excellent wine selections for your enjoyment. And for those who really enjoy wine, we'll have jitney service from the music center back to the Red Lion.

For those of you who have entered the golf tournament (and any who have not yet entered) and haven't played Sandpiper, you're in for a treat. The course is sited at the old Ellwood field, but there is little left of the tar and rust usually associated with abandoned fields. The back nine is especially beautiful, with several fairways along the sea cliffs. Sign-ups for gold have been brisk also, with over 100 entries already.

The selection of the central coast as the site of the 1988 meeting raised an emotional and logistical facility selection problem. Virtually everyone wanted the focus to be on Ventura/Oxnard, the venerable center of onshore and offshore oil development in California, eschewing Santa Barbara up the coast, where our industry seldom receives good press. Alas, after months of investigation into hotel, fairground, and civic center sites, (including serious consideration of tent facilities for exhibitors - soundly rejected by them), we swallowed our heritage and opted for the Red Lion Resort in Santa Barbara. Although this was at first distasteful (goo and high prices), we came to realize that the Red Lion facility is probably the finest facility for a convention of this size between San Francisco and Los Angeles. So we apologize for the room rates and the meal costs, but we know you'll thoroughly enjoy yourselves.

P.S. Those friends of J. D. Senteur de Boue will especially want to attend the joint luncheon on Monday.

Jack Cunningham
Convention Chairman

THE PRESIDENT'S COLUMN

Count down begins for the Pacific Section's Annual Convention to be held April 17 through April 19, 1988 at the Red Lion Resort Hotel in Santa Barbara. I hope you have made your plans early because it promises to be well attended. The technical sessions and field trips are superior - and Santa Barbara too! Need I say more?

On December 7, the California Senate Committee on Business and Professions held an interim hearing on Senate Bill 86, which as you will remember, calls for the abolishment of registration for geologists and geophysicists. Several professionals gave testimony at the hearing against Senator Boatwright's bill. Those speaking out on behalf of the petroleum geologists and geophysicists were Jim Weddle representing the San Joaquin Geological Society and Bob Lindbloom representing the Pacific Section AAPG. Due to the efforts of Jim and Bob, and all the letters and phone calls by those opposed, the bill was killed.

According to John Wolfe, Executive Secretary of the State Board of Registration, the response against the bill was overwhelming compared to the response of those supporting it. CONGRATULATIONS to those who gave their time and effort for the cause.

Jack West and Bob Lindblom, who are on a committee updating our Constitution, will have those changes ready and will present them at our next Executive Committee meeting to be held in Los Angeles in May.

See you all at the Convention.

Dan E. Pasquini, President

Northern

NCGS will hold its annual spring field trip on April 30, 1988 to study the geology of the San Ramon Valley and environs. Led by Ron Crane, Chevron Overseas Petroleum Inc. The cost of the field trip which includes lunch, transportation, and guidebook is \$30 for members, \$20 for students, and \$40 for non-members. To register send a check payable to: NCGS Field Trip Registration, J. F. Eppink, B-2224, P. O. Box 5046, San Ramon, CA 94583-0946. Include your name, company or school, daytime phone and amount enclosed. Space is limited. Register by April 22, 1988.

Northwest

The oil and gas potential of southwest Washington and the adjacent Outer Continental Shelf will be examined at the Northwest Petroleum Association's Spring Symposium at Ocean Shores, Washington, May 18 - 20, 1988. Attention has recently been drawn to this area because of the Washington state lease sale, the proposed upcoming OCS sale, the regional DOE seismic project, and the search for another Mist gas field. There will be a full day of talks on May 19, as well as pre- and post-meeting technical field trips. The purpose of the meeting will be to summarize current stratigraphic and structural models, as well as recent drilling, seismic and leasing activity.

For further information on lodging, recreation, car rental, and to obtain the necessary registration form, contact: Gay Preator, Wyerhauser Company PC 2-31, Tacoma, WA 98477 - Telephone (206) 924-2624.

RECENT MOVES

Herman Schymiczek to Dames and Moore, Bakersfield, (805/397-1197) formerly with Texaco (Kern River Office).

Dale and Kelsy Julander were transferred to Bakersfield from San Ramon with Chevron

Dwight Lee to Wilson Zublin Inc., Bakersfield formerly with ARCO, Bakersfield.

David Crane to Wilson Zublin Inc., Bakersfield.

Joe Marquex with Chevron was transferred from Bakersfield to San Ramon to work Alaskan exploration.

Rich E. Herrmann recently joined in Chevron in Bakersfield as a geophysicist after receiving his M.S. from Stanford.

Tom Yost formerly a geologist with Union in Ventura has moved to New York to pursue a career in art.

NEW MEMBERS

ALASKA

Phillip L. Work - GTS Corp., Houston.

COAST

Eugene Borax - Carpenteria;
L. D. Brockett - Santa Barbara;
Richard L. Coffman - Goleta;
Curtis Hopkins - Staal, Gardner,

& Dunne, Ventura; Terry A. Mayer - Ventura; Robert L. Mohle, Jr. - Pacific Geoscience, San Luis Obispo; Gary W. Riley - Schlumberger, Ventura; Phillip J. Rarey - Chevron U.S.A., Ventura; Walter B. Sasser III - Sun E & P, Valencia; Arthur G. Sylvester - University of California, Santa Barbara.

LOS ANGELES

Rbbiteaga I. Abili - CTL Environmental Services, Downey;
Desideria Anderson - Van Nuys;
Donald G. Bickmore - Miller, Bickmore & Associates, Glendale;
Deborah Burdick - U.S. MMS, Los Angeles;
Robert C. Crawford - Schlumberger, Signal Hill;
Jerry B. Dahm - Earth Technology Corp., Mission Viejo;
Carol S. Lopp - Reseda; Richard J. Miller - Pacific Res. Mgmt. Inc., Pasadena; Brian A. Robinson - Brian A. Robinson & Associates, Van Nuys.

NORTHERN CALIFORNIA

William J. Hunter - Citrus Heights.

SACRAMENTO

Robert Fourt - Modesto;
Michael P. Dumont - Chevron U.S.A., San Ramon; Douglas D. Hastings - Lafayette.

SAN JOAQUIN

Jack E. Burke - Bakersfield;
Brian J. Casey - Berry Petroleum, Taft; Patrick T. McCullough - Bakersfield; Daniel J. Olson - ARCO, Bakersfield; Joseph S. Pollard - Burns Geological Expl., Bakersfield; Richard A. Woodall - Jaco Production Co., Bakersfield.

OTHER

Andrew K. Scott - Exxon Co. U.S.A., Houston.

DIRECTORY UPDATE

The Executive Committee of the Pacific Section has voted to issue a new directory at the Palm Springs Convention in 1989. There will be a directory photo spot of the Santa Barbara Convention - April. (Those high school mug shots have got to go!)

To help save the work involved in getting the directory together we ask for your help in filling out the dues statement card which will be mailed to you in May.

Will you please note the following:

1. If there is no change in the directory, please check the appropriate box on your dues card and leave the information card blank.
2. If you are a new member or have been omitted from the 1986-1987 directory, check the correct box and fill in completely the information card.
3. If there have been some slight changes (position, phone, spouse) please list only those changes.
4. We prefer you to list your employee street address rather than a post office box.

If you are interested in advertising or know of others that may be interested, let me know. Also, if you would like to help with the directory, let me know - I'm in the directory.

Ed Karp
Directory Chairman

STATE BOARD ACTIVITIES

The State Board of Registration for Geologists and Geophysicist has asked its Professional Practices Committee to review the current situation regarding continuing education (CE) within the profession, determine whether a problem exists, and make recommendations for improvements. Senate Bill 87, required registered geologists and geophysicist to 15 hours of (CE) as a condition for each (biennial) renewal. The Committee has also been asked to evaluate the pro's and con's of mandatory (CE) for registered professionals.

The Committee is considering several ideas which might encourage and facilitate greater participation in CE by California's earth scientists. A regularly up-dated, comprehensive listing of scheduled CE offerings in the

state could reach interested professionals who do not receive individual notices from the sponsoring organizations. A questionnaire to registered geologists and geophysicists accompanying their biennial registration renewals, could provide -- on a voluntary basis -- useful data on the current level of participation in CE programs. The Board has written Pacific Section AAPG, and other professional societies in the state, asking their opinions on several aspects of this issue.

The registration exam for geologists and geophysicists will be given September 16, 1988 and for engineering geologists on September 17, 1988. The final filing date to qualify for the exam is May 1, 1988. For more information contact the State Board of Registration for Geologists and Geophysicists, 1021 "O" Street, Sacramento, California 90814 (916/445-1920).

GREEN & ASSOCIATES PALEONTOLOGICAL SERVICES

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Whittier, California 90601
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EAST AFRICAN GEOLOGY FIELD TRIP

Cypress College is offering a three week field course (5 units credit) to East Africa, July 6-25, 1988. The course includes trips to portions of the East African Rift Zone, Serengeti Plain, and a coral reef in the Indian Ocean near Mombasa, Kenya.

For information contact Dorothy L. Stout, Geology Instructor, Science-Engineering Mathematics Division, Cypress College, 9200 Valley View Street, Cypress, CA 90630; (714) 826-2220.

PYLES BOYS CAMP

The Wildcat Committee voted unanimously to contribute \$6,500 to the R. M. Pyles Boys Camp out of the net proceeds from the committee's 1987 Hi-Jinks dinner. The Wildcatters have been long time supporters of programs at the boys camp.

YOLO COUNTY INJECTION WELLS

In a serious setback for the petroleum industry, the Yolo County Planning Commission voted March 16 to endorse a new Class II injection well ordinance that would impose tough requirements on natural gas producers in the county. The measure now goes to the Board of Supervisors, for a first reading on April 5, 1988. A second reading and final vote is scheduled the following week, on April 12, 1988. A moratorium on new waste water injection wells is now in effect until May 12, 1988.

NEW PUBLICATIONS PACIFIC SECTION AAPG

CS 8R - Revised South San Joaquin Valley from San Andreas to Sierra Nevada Foothills, \$4.00

CS 14R - Los Angeles Basin Cross Section (two sheets), \$7.00

CS 25 - San Joaquin Valley T16S/R21E to T11N/R18W, \$4.00

CS 26 - Cuyama Valley, \$4.00

MP 37 - Tectonics, Sedimentation and Evolution of the Eel River and Other Coastal Basins of Northern California, \$14.00

GB 58 - Geologic Fieldguide to the Long Beach Area, \$16.00

GB 59 - San Andreas Fault - Cajon Pass to Palmdale, \$18.00

GB 60 - Petroleum Geology of Coastal Southern California, \$13.00

GB 61 - Ventura Basin: Geologic Introduction and Field Trip Guidebook, \$9.00

All orders must be pre-paid. Include \$2.50 for postage and handling. Order from: Publications Committee, Pacific Section AAPG, P. O. Box 631, Ventura, CA 93002.

EVERS
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(916) 972-1030 Sacramento, CA 95860

CANDIDATES FOR OFFICE - PACIFIC SECTION AAPG



NANCY V. ASTON

Candidate for President - Elect

Present Position:

Development Geologist - Texaco, Inc.

Education:

1972, USC, B.A. Geology

Employment:

1973-1974: Richard Terry & Associates, Anaheim, Environmental Consultant
1974-1980: Texaco, Los Angeles, Exploration Geologist
1980-1982: Aramco, England, Exploration Geologist
1982-1984: Aramco, Saudia Arabia, Exploration Geologist
1987-Present: Texaco, Geologist, Development Geologist

Professional Activities:

Los Angeles Basin Geological Society, Treasurer, Secretary
Co-editor of Field Trip Guidebook Pacific Section AAPG, Vice President, Treasurer
Chairman of Alumni Committee
Chairman of Tennis Committee
National AAPG Convention Reception Committee Chairman, 1987



EDWARD C. (BEN) CAHILL

Candidate for President - Elect

Present Position:

President-Owner, EnergyLog Corp.

Education:

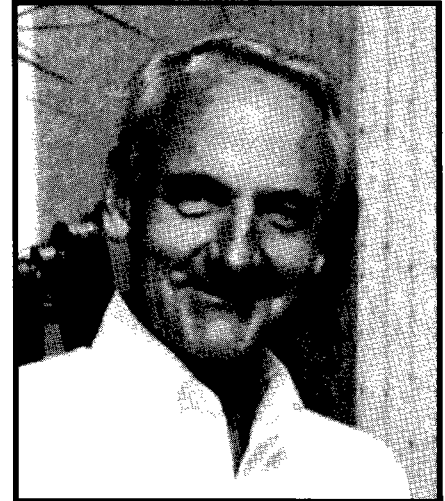
1956: University of the Pacific, B.S.

Employment:

1956-1974: Logging Geologist, Exploration Logging, Sacramento
1975-1977: Supervisor, Western Region USA, Exploration Logging
1978 - Present: President-Owner, EnergyLog Corp., Sacramento

Professional Activities:

Pacific Section AAPG, AAPG, Pacific Section SEPM, Northern California API, CIPA, Sacramento Petroleum Association
Vice President, Sacramento Petroleum Association, 1977
President, Sacramento Petroleum Association, 1978
General Chairman, Pacific Section AAPG-SEPM-SEG Convention, 1983
House of Delegates, National AAPG, 1980-1984
Committee on Membership, National AAPG, 1984-1986
Vice President, Pacific Section AAPG, 1987-1988



JACK CUNNINGHAM

Candidate for Vice President

Present Position:

President, Santa Barbara Exploration Group, Santa Barbara

Education:


1952: UCLA, B.A. Geology

Employment:

1952-1976: Chevron U.S.A., Geologist
1976-1984: Husky Oil Company, Manager of Exploration and Development, California and Oregon, Santa Maria, California
1984-1987: Celeron Oil & Gas Company, Manager of Exploration and Development, West Coast, Santa Barbara, California

Professional Activities:

Active Member, National AAPG
Member, House of Delegates
California Certified Geologist #2776
General Chairman, Pacific Section, AAPG, Annual Convention, Santa Barbara, California, 1988

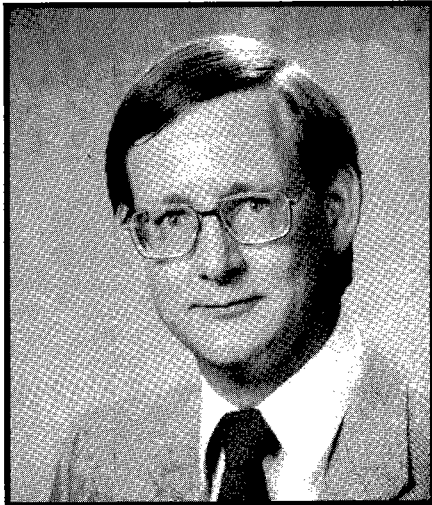


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CANDIDATES FOR OFFICE - PACIFIC SECTION AAPG



RICK BOWERSOX

Candidate for Vice President

Present Position:

Geological Manager, Mission Res.

Education:

1968-1973, San Diego State, B.S. Geology
1973-1974, San Diego State, M.S. Geology

Employment:

1975-1978: Getty Oil Company, Bakersfield, Geologist
1978-1983: Getty Oil Company, Bakersfield, San Joaquin and Taft Districts, Lead Geologist
1983-1984: Getty Oil Company, District Geologist
1984-1985: Texaco, Inc., District Geologist

Professional Activities:

Pacific Section AAPG/SJGS
AAPG, SPWLA, AIPG, California Registered Geologist, API San Joaquin Chapter, Kiwanis Club of East Bakersfield, President, 1986-1987
Field Trip Committee, Pacific Section AAPG Annual Convention, Bakersfield, 1977
General Chairman, Pacific Section AAPG Annual Convention, Bakersfield, 1986
Delegate to AAPG from San Joaquin Geological Society, 1987-1988
Session Chairman, AAPG Annual Convention, Los Angeles, 1987



WILLIAM T. LONG

Candidate for Secretary

Present Position:

Senior Exploration Geologist, Occidental USA Inc., Bakersfield

Education:

1986, California State, Los Angeles, M.S. Geology
1978, California State, Los Angeles, B.S. Geology

Employment:

1979-Present: OXY (Domestic)/ Cities Service Oil and Gas Corp./ OXY USA Inc.
1974-1979: Crestmont Oil and Gas Corporation

Professional Activities:

Pacific Section AAPG, Pacific Section SEPM, San Joaquin Well Logging Society (SJWLS), San Joaquin Geological Society Treasurer, 1982-1983



MARTY HALL-BURR

Candidate for Secretary

Present Position:

Geologist, Basin Studies Group, Unocal International, Los Angeles

Education:

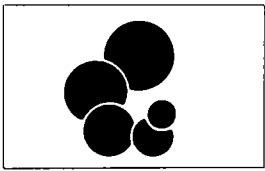
Northern Arizona University, Flagstaff, M.S.
California Lutheran College, Thousand Oaks, B.S.

Employment:

1977-1979: U.S.G.S., Oil and Gas Division, Flagstaff
1979-1980: Phillips Petroleum Company
1980-Present: Unocal International

Professional Activities:

AAPG National Convention Theater Chairperson, 1987
President of Los Angeles Basin Geological Society (LABGS), 1985 & 1986
Vice President of LABGS, 1984



NEW PROPRIETARY STUDIES

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JEAN D. SENTEUR DE BOUE

It is with great pleasure that I announce the return on Jean D. Senteur De Boue (Ingenieur Geologique, Universite' De Lyon 1938). After his economic problem in Mexico with the cat pelt business, De Boue obtained a contract with the Chinese government to study the Pre Cambrian sediments in the Dzungarian Basin. Not having found the promised primal oil De Boue was released from his labors and returned to the United States.

On his return, De Boue suffered certain indignities at Customs when officials took exception to the seeds that a grateful population of Vining had given De Boue for his garden in Trona. Fortunately, a letter from the Chinese government arrived before sentencing and De Boue was released with the admonition to plant only California poppies.

On his return to his home near Trona, De Boue was dismayed to find it had shifted off its foundation 0.18m, S48E. He immediately calculated this was due to movement of the Juan de Fuca Plate against the North America Plate focused by the root of the Sierra Nevada Batholith which caused his house to move in that direction.

De Boue looks forward to visiting with his many old and new friends at the Pacific Section convention in Santa Barbara.

Harold Sugden

Editor's Note: We welcome the return of De Boue after his long absence. For those of you who may not be familiar with De Boue, he is a long time member of the Pacific Section AAPG and is perhaps best known for ingenious geologic solutions.

NEW EDITORS

Laura Bazeley, Wilson Zublin, and Judy Russell, Occidental Petroleum, have been recruited as co-editors of the Pac-Section AAPG, Pacific Petroleum Geologist Newsletter with this issue. Any free assistance will be welcomed. Send material to: Judy Russell, Occidental, P. O. Box 12021, Bakersfield, CA 93309. A reminder, the deadline for the June/July issue is June 1, 1988.

CORE REPOSITORY

In an attempt to speed up the cataloging of well samples, Larry Knauer, curator of the California Well Sample Repository, decided to take a chance at recruiting volunteers. He called on the 60+ Club, a group of retired, but active, civic minded people who volunteer service to the University.

The request for assistants resulted in several people (Ann Goodman, George Hanley, Hazel Pride, Rose Logan, and Neal Ennis) donating time. In the first six weeks the volunteers have put in 120 hours and cataloged cuttings from 180 wells.

In addition, Bea Pizar, through the Bakersfield Volunteer Center, has been putting in three or four hours several afternoons a week.

The volunteers are really making a dent in the backlog of samples.

Now the problem is the need for money to buy more boxes and shelves to keep up with the work being done by the volunteers. The immediate wish list is:

Core Boxes	\$4,000
Shelves	\$5,000
Safety Ladder	\$500 or donation
Sample Bags	\$500 or donation

To honor Jack Tucker for his years of service as curator of the Core Repository, the area in front of the Repository has been landscaped with trellises, flowers, a tree, picnic table, and a plaque bearing Jack's name.

A DAY IN THE FIELD WITH DIBBLEE

The Thomas Wilson Dibblee Geological Foundation and the Coast Geological Society presents "A Day in the Field with Tom Dibblee on the San Julian Ranch" on Saturday, October 1, 1988 - 9 a.m. to 5 p.m. Tentative events include Rancho San Julian Diatomite Mine Tour, Guided Tour through Ranch House and Geologic Features, Santa Maria Style BBQ and games. This will be a fund raising event for the Dibblee Geological Foundation. Donation for the entire day of events will be \$25. The organizers are seeking sponsors for the onsite field trip transportation (vans, etc.), food, refreshments, and BBQ labor. For information contact: John Powell at 805/653-5556, Hans Schwing at 805/656-7600 or Helmueit Ehrenspeck at 805/967-7820.

COMING EVENTS

API Barbecue and Golf Tournament in Bakersfield on May 6, 1988. Reservations accepted between March 28 and May 2, 1988. For information contact Jack Johnstone at 805/832-4010.

Pyles Boys Camp Picnic in Bakersfield on May 7, 1988. Contact Jim Roberts, Chairman at 805/327-4051 and in Ventura on May 21, 1988 contact Jim Grimes, Chairman at 805/656-7600.

SEPM Midyear Meeting to be held in Columbus, Ohio, August 21-24, 1988. For further information contact General Chairman Walt Sweet, Department of Geology and Mineralogy, Ohio State University, 614/292-2326 or 614/292-8746.

IN MEMORY

California's independent oil producing ranks lost a stalwart member with the death Friday of **CHESTER DOLLEY**.

"I know of no one in the oil business, majors or independents, who was more highly respected than Chet Dolley," said Joe Shell a Bakersfield-based independent producer.

Jim Weddle, another Bakersfield independent and consultant, lauded Dolley as "an example of fair play and a credit to the industry. He word was his bond."

Although Dolley, 87, made his home in Southern California and operated out of offices in Glendale, he was widely know in Kern oil fields.

He was president of Atlantic Oil Company, and with his sone, Roy C. Dolley, was a partner in Morton & Dolley. The two compaines have oil production in Kern County's Edison, Mountain View, Lost Hills and Rosedale fields, as well as in the Log Angeles Basin's Long Beach, Santa Fe Springs, Bandini, Montebello, Olive and Rosecrans fields and the Coastal region's Placerita and Newhall fields.

The companies also have gas production in the Sacramento Valley's Butte Slough, Conway Ranch, Grimes, Moon Bend, Oakley, Sutter City, Tisdale, Todhunters Lake, Willows-Beehive Bend and Winchester fields and in the San Joaquin Valley's Moffat Ranch gas field.

Dolley was the quarterback of the first USC football team to play in the Rose Bowl, leading the Trojans to a 14-3 victory over Penn State's Nittany Lions on January 1, 1923.

"My beginnings in the oil industry stem from Chet Dolley," Shell said. "When I went to USC in 1936 as a freshman, I met Chet soon afterward. He had graduated from law school but had practiced only a short time before founding Atlantic Oil Company in 1933."

Shell, also a USC football star, broke into the oil business working on an Atlantic Oil Company drilling rig. He later became associated with Dolley in production ventures.

Along with production, Atlantic Oil, under Dolley's management, built up a large contract drilling operation, offering as many as twelve rigs from a field office and yard at Lamont before stacking the rigs early in 1987 to wait out the industry downturn.

Citing Dolley's contributions to USC's School of Petroleum Engineering and to his alma mater's athletic program, Shell said, "He was always - *always* - doing things for people, and he never advertised it."

"When he said something, people listened to him. He never bear around the bush. He said things calmly and without great anger, even when I knw he felt anger," Shell said. "The great thing about Chet was his absolute integrity with everyone with whom he did business."

The family asked that contributions be sent to Ducks Unlimited in Chicago or to the Long Beach YMCA.

Bill Rintoul

WOMEN GEOSCIENTISTS SPONSOR RAFT TRIP

The Association for Women Geoscientists is sponsoring a four day raft trip down the Green River in northwest Colorado and northeast Utah, July 7 - 10, 1988. The trip will follow Lodore Canyon where the Green River cuts through the Unita Mountains and exposes Precambrian metasediments and Paleozoic and Mesozoic sedimentary rocks. Time has been set aside for day hikes up side canyons to visit waterfalls, examine geologic outcrops and view Indian pictographs. A visit to the dinosaur quarries in Dinosaur National Monument will be included in the trip.

Two Ph.D. candidates from the University of Colorado at Boulder will lead the geological expedition. They are Mary Gillam and Emmett Evanpff. Both Gillam and Evanoff have led previous raft trips along this portion of the Green River and have several years research in the general area.

Cost of the raft trip including meals is \$340 for Association members and #390 for non-members. A deposit of \$170 is required to reserve space by April 25, 1988. After April 25, reservations will be accepted on a space available basis.

Additional information and reservation forms can be obtained by writing AWG-Field Trip, M. Knadle, 20201 SE 216th Street, Maple Valley, Washington 98038 or by calling M. Knadle at (206)442-1641.

PACIFIC SECTION —
AMERICAN ASSOCIATION
PETROLEUM GEOLOGISTS
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<i>Recommended Reading</i>	LUCY E. BIRDSALL (818) 244-5117

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Material for publication, requests for previous copies and communications about advertising costs should be addressed to JUDY RUSSELL, P.O. BOX 12021, BAKERSFIELD, CA 93389-2021.

CHANGE OF ADDRESS, subscription, and membership inquiries should be directed to: MEMBERSHIP SECRETARY, PACIFIC SECTION AAPG, P.O. BOX 1072, BAKERSFIELD, CALIFORNIA 93302.

PUBLICATIONS COMMITTEE: Pacific Section American Association of Petroleum Geologists, P.O. Box 631, Ventura, CA 93002.

RECOMMENDED READING

U.S. GEOLOGICAL SURVEY

Professional Paper 1359: Late Cenozoic Tectonism of the Sacramento Valley, California, by D. S. Harwood and E. J. Helley, (Supersedes Report 82-737), \$4.50

Professional Paper 1397: Chemistry of Ash and Leachates from the May 18, 1980 Eruption of Mount St. Helens, Washington, edited by T. K. Hinkley, \$3.75

Bulletin 1578: Studies in Diagenesis, edited by F. A. Mumpton and covered by M. W. Bodine, Jr., \$17.00

Bulletin 1581-A: Uranium in the Monterey Formation of California, by D. L. Durham, \$2.00

Bulletin 1705-C: Mineral Resources of the Pinnacles Wilderness Contiguous Wilderness Study Area, Monterey and San Benito Counties, California, by Steve Ludington and Karen Gray and Lucia Kuizon, \$1.25

Bulletin 1711-D: Mineral Resources of the J Acumba (In-ko-pah) Wilderness Study Area, Imperial County, California, by V. R. Todd, J. E. Kilburn, D. E. Detra, et al, \$1.50

Bulletin 1712-C: Mineral Resources of the Bristol/Granite Mountain Wilderness Study Area, San Bernardino County, California, by K. A. Howard, J. E. Kilburn, R. W. Simpson, et al, \$1.50

Bulletin 1760: Mount Whitney Quadrangle, Inyo and Tulare Counties, California; Analytical Data, by J. G. Moore, \$1.25

Bulletin 1810: The muPETROL Expert System for Classifying World Sedimentary Basins, by B. M. Miller, \$4.50

Water Supply Paper 2294: Hydrologic Unit Maps, by P. R. Seaber, F. P. Kapos and G. L. Knapp, \$3.25

Circular 956: Geophysics and Petrology of the Deep Crust and Upper Mantle, A Workshop Sponsored by the U. S. Geological Survey and Stanford University, edited by J. S. Noller, S. H. Kirby, and J. E. Nielson-Pike, free

Professional Paper 1339: Recent Reverse Faulting in the Transverse Ranges, California, by Douglas M. Morton and Robert F. Yerkes, editors

GEOLOGY

Vol. 15, No. 12, December 1987

Origin of Cratonic Basins, by George DeV. Klein, and Albert T. Hsui

Effect on the Advent and Diversification of Vascular Land Plants on Mineral Weathering Through Geologic Time, by Martin A. Knoll and W. Calvin James

COCORP Arizona Transect: Strong Crustal Reflections and Offset Moho Beneath the Transition Zone, by E. C. Hauser, J. Gephart, T. Latham, J. Oliver, S. Kaufman, L. Bronw, and I. Lucchitta

Crescentic Dunes on the Inner Continental Shelf Off Northern California, by D. A. Cacchione, M. E. Field, D. E. Drake, and G. B. Tate

Geometry and Subsurface Lithology of Southern Death Valley Basin, California, based on Refraction

Analysis of Multichannel Seismic Data, by Eric L. Geist, and Thomas M. Brocher

Implications for the Initiation of the Garlock Fault, California, by Douglas W. Burbank and David P. Whistler

GEOLOGICAL SOCIETY OF AMERICA BULLETIN

Vol. 99, No. 6, December 1987

Paleogeographic Significance of a Permian Sedimentary Megamictite in the Central Belt of the Northern Sierra Nevada, by Rodney Watkins, Chris E. Reinheimer, James W. Wallace, and Merlynd K. Nestell

The Smartville Intrusive Complex, Sierra Nevada, California: The Core of a Rifted Volcanic Arc, by James S. Beard and Howard W. Day

The Crustal Heritage of Silver and Gold Ratios in Arizona Ores, by S. R. Title

A Detailed Chronology of the Most Recent Major Eruptive Period at Mt. Hood, Oregon, by Kenneth A. Cameron and Patrick T. Pringle

Estimated Thickness of Granitoid Rocks in the Western Sierra Nevada Foothills near Oakhurst, California: A Hydrogeological Approach, by Seymour Mack

Structures, Textures, and Cooling Histories of Columbia River Basalt Flows: Discussion and Reply

Lucy Birdsall

NEWSLETTER

**Pacific Section A.A.P.G.
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PACIFIC PETROLEUM GEOLOGIST NEWSLETTER

of the Pacific Section
American Association of Petroleum Geologists

June & July 1988 No. 4

THE PRESIDENT'S COLUMN

Time sure goes by fast when you are having fun! This will be my final President's Column before I turn over the reins to Jack West, Pacific Section's President Elect. I would like to thank all the Executive Committee for helping make this a very successful year. Thank you Ben Cahill, Vice President; Paul Hacker, Treasurer; Ken Hersh, Secretary; Bob Lindblom, past President; Jack West, President Elect, and all of the committee chairpeople for a job well done.

Those of you who attended the Section's Annual Meeting in Santa Barbara would have to agree that it ranks as one of our most successful. I am very proud to have been associated with the Executive Committee during this convention, however, all of the credit should go to Jack Cunningham and his Convention Committee for all of their hard work. A special thanks to Jack, the Ventura area consultants, and to Union, Chevron, and all of the companies and colleges which allowed the use of their personnel and facilities during the planning and preparation phase of this annual meeting.

The next annual meeting will be held in Palm Springs, May 9 through 12, 1989. Preliminary preparations are suggesting another very successful event. Mike Mitchell of Petroleum Testing Services, Inc. located in Santa Fe Springs, California, is the 1989 Pacific Section Convention's General Chairman. Please let Mike know if you would like to help him and his committee chairmen with this convention.

I'll see you in Palm Springs in May of next year.

Dan E. Pasquini, President

CALL FOR PAPERS

Southern San Joaquin Valley Symposium

November 10 - 11, 1988

Field Trip

November 12 - 13, 1988

co-hosted by
San Joaquin Geological Society
and
Pacific Section SEPM

Technical contributions to the symposium and/or the field trip are requested.

- Regional Geology
- Tectonics and Sedimentation
- Petroleum Geology and Geophysics
- Surface Mapping
- Paleontology and Stratigraphy
- Engineering Studies
- Coring and Logging
- Miscellaneous Topics

John Randall, General Chairman
Chevron U.S.A., Inc.
Post Office Box 1392
Bakersfield, California 93302
(805) 395-6381

Send contributions and inquiries to the General Chairman.
A symposium volume is planned.

Abstract Deadline: August 1, 1988

Los Angeles

The following are upcoming LABGS Meetings with the speakers scheduled to appear and the topics that they will discuss:


July 21 - Dr. Kenneth Bird, U.S.G.S., on the "Petroleum Geology of the Northern Part of the Arctic National Wildlife Refuge, Northeastern Alaska".

August 18 - John Dunham, UNOCAL Research, on the geology and tectonics of the offshore Santa Maria Basin.

September 15 - Dennis Sparks, Consultant, on the geology of the Southern Salinas Basin.

The meetings will continue to be held at noon at Luminaria's Restaurant in Monterey Park. For reservations or information, call Harold Syms at (213) 894-3319.

The new officers for 1988 - 1989 are: President, James W. Tucker, ARCO International Oil & Gas; Vice President, Allan Shareghi, M.M.S.; Secretary, Deborah Durdick, M.M.S.; Treasurer, Harold Syms, M.M.S.



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Northwest

Copies of the field trip guidebooks and abstracts of the talks that were presented at the symposium, Oil and Gas Potential of Southwest Washington and the Adjacent Outer Continental Shelf can be obtained for \$20 each by writing to Dennis Olmstead at DOGAMI, 910 State Office Building, Portland, Oregon, 97201 (503) 229-5580.

The NWPA meets quarterly at different locations. The last quarterly meeting was June 17, 1988. For information on the next meeting, contact Bill Covert at (503) 244-5605.

Northern

The spring field trip - Geology of the San Ramon Valley and Environs - was a great success. Special thanks are given to the Field Trip Committee Members: Ron Crane, Greg Bartow, Bruce Bilodeau, Mary Rose Cassa, Tim Elam, Jeff Eppink, Scott McVittie, Sandy Figueroa, Dave Rogers, and Dave Thomas.

A limited number of Field Trip Guide to the Geology of the San Ramon Valley and Environs are available on a first-come first-serve basis at a cost of \$30. Guidebooks are distributed by Northern California Geological Society, care of Jason H. Donchin, Chevron U.S.A. Inc., P. O. Box 5042, San Ramon, CA 94583.

The new officers of the Northern California Geologic Society for 1988 - 1989 are:

President Elect, Jason Donchin, Chevron; Vice President, Bruce Bilodeau, Chevron; Program Director, Tom MacKinnon, Chevron; Secretary, Bernie Qualheim, Lawrence Livermore National Laboratory; Treasurer, Gerry Flaherty, Chevron; Counselor, Mel Erskine, Consultant, Counselor, Gordon Manings, Chevron; President, Linda Thurn, Chevron; Past President, Tim Mason, Chevron.

San Joaquin

The New Officers of the San Joaquin Geological Society for 1988 - 1989 are: President, Herman Schymiczek, Dames and Moore; President Elect, John Randall, Chevron U.S.A., Inc.; Vice President, Robert Horton, CSUB; Secretary, Larry Knauer, California Well Sample Repository; Treasurer, Robert Sterling, Nahama and Weagent Exploration Company; AAPG House of Delegates, Frank Cressy, Independent, and Reinhard Suchsland, DEPCO.

September 9 - Fall BBQ will be held at the Kern River Picnic Grounds.

October 11 - A. Eugene Fritsche will talk on the origin and paleogeographic development of the Cuyama depositional basin, California.

Suggestions for talks should be addressed to Bob Horton (805/833-3059).

NEW MEMBERS

SOUTHERN CALIFORNIA

Terri Plunkett - Arthur Young Company, San Pedro; **Robert J. Sutcliffe** - Pasadena; **Theresa A. Geijer** - Texaco Inc., Ventura; **Tim Thompson**, UNOCAL, Ventura; **Anna Stafford** - ARCO, Bakersfield; **John Stafford** - ARCO, Bakersfield; **C. R. (Bob) Carlson** - Bakersfield; **Vickey Sare** - ARCO, Bakersfield; **Edmondo Sugar** - CSULA Student, Los Angeles; **James M. Hill** - CalGeo Resources, Ventura; **John Matthews** - UNOCAL, Ventura; **Peter Supko** - Consultant, Ventura; **Pamela Ceccarelli** - Division of Oil & Gas; Ventura; **Joseph Austin** - Consultant, Bakersfield; **Mike Milliken** - U.S. B.L.M., Bakersfield; **Brian Sealy** - Mobil, Bakersfield; **Ali Zadah** California Exploration Company, Santa Barbara; **Timothy R. Carr** - ARCO, Bakersfield; **Tambra Osborne** - Petroleum Technidraft; **Carol McAlice Currie** - C.I.P.A., Fountain Valley; **Dave Salter** - Camarillo.

NORTHERN CALIFORNIA

Robert A. Pinotti - Fountain Oil & Gas Company, Sacramento; **Robert B. Tolson** - Chevron U.S.A. Inc., San Ramon; **Stephanie O. Davis** - Chevron U.S.A. Inc., San Ramon; **Wallace Lucier** - Chevron U.S.A. Inc., San Ramon; **John Stout** - Livermore; **Janice Tomson** - U.S.G.S., Menlo Park; **Kelly C. Brown** - Santa Clara Valley Water District, Santa Cruz.

OTHER STATES

Peter C. Day - Phillips Petroleum Company, Denver; **W. Robin Keasler** - Sun Exploration, Dallas; **Gordon E. Adams** - Mobil, Dallas; **James G. Ferry** - Marathon, Houston; **Sara Foland** - AMOCO, Denver; **Arthur Paul Baclawski** - Union Pacific Resources, Englewood, Colorado.

NEW DIRECTORY

We had a good photo session at the convention. More than 320 brave souls subjected themselves to the inhuman torture of posing for a portrait. There are still a sizeable number of members who prefer to keep their "remember" photos in the directory - "Remember when I had dark hair, remember when I had hair, remember when I didn't wear glasses." The photo session turned out so well that we recommend that the local societies do the same thing at their next meeting.

At a recent meeting, the San Joaquin Geological Society conducted a survey regarding the directory. Here are some of the results:

1. Do you use your membership directory? Yes, 66; No, 2.
2. Do you want an updated directory for the Palm Springs' Meeting? Yes, 59; No, 2; I don't care, 5.
3. Do you favor the new format with separate pictures and information? Yes, 28; No, 46.
Okay, I give in, we'll go back to the old format!
4. Do you care about having pictures in the directory? Yes, 60; No, 9.

Will someone please explain to me why 86% want photos - but only 25% of the members send their pictures in?

Well, I guess its like my daughter once told me, "Dad, you can lead a horse to drink but you can't make him water."

Ed Karp, Director, Chairman

NOTE: The directory will be accepting advertising - perhaps you should consider placing your business card in the new directory! More information will be available in the next issue of PPGN.

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COMING EVENTS

To Be Announced - Pacific Section SEPM Fall Field Trip to Northern Coastal California, Eureka to San Francisco. Space is limited to 46. Jim Ingle is the field trip leader.

August 21 to 24 - SEPM Midyear Meeting, Columbus, Ohio. Contact Walt Sweet at (614) 292-8746.

September 20 to 22 - Balance Cross Section School, Los Angeles. For information contact Jay Namson at (818) 507-6650.

October 1 - A Day in the Field with Dibblee at San Julian Ranch. Contact John Powell at (805) 653-5556, Hans Schwing at (805) 656-7600, or Helmueit Ehrenspeck at (805) 967-7820.

October 17 to 21 - Southern California Coastal Basins Field Seminar. Orientation for OCS Lease Sale 95. For information contact Thom Davis at (818) 507-6650.

October 21 to 23 - South Coast Geological Society Annual Field Trip -- Death Valley Area. The society has requested people who have done research in the area to submit papers for publication. The deadline for submission of camera-ready papers is August 1 and they should be sent to P. O. Box 10244, Santa Ana, CA 92711. Call (714) 546-6602 for more information.

November 10 and 11 - Southern San Joaquin Symposium.

November 12 and 13 - Southern San Joaquin Field Trip.

AMENDMENTS TO THE PACIFIC SECTION AAPG CONSTITUTION

Suggestions for amendments to the Constitution were approved by the Pacific Section AAPG Executive Committee on May 19 in Los Angeles. The amendments are submitted to the Pacific Section AAPG membership at large in this issue of PPGN. The changes are shown in bold face type. It is important that you read the amended constitution and vote on the changes. Please cut out the approval form in this issue and return it to the Pacific Section AAPG by August 15.

PACIFIC SECTION AAPG OFFICERS 1988 - 1989

President

Jack West, OXY USA

President-Elect

Ben Cahill, Energy Log

Vice President

Jack Cunningham, Consultant

Secretary

Bill Long, OXY USA,

Treasurer

Paul Hacker, Consultant

AAPG NATIONAL CONVENTION NEWS

Larry Funkhouser, President of AAPG, in his keynote address at the 73rd annual convention, referred to AAPG members as "survivors of the most abrupt and painful economic down cycle in the history of the oil industry."

He predicted that "petroleum geologists can look forward to a brighter professional future in the early 1990's and beyond." At the opening session, over 2,500 delegates listened to remarks by Funkhouser, Convention General Chairman Richard Bishop, and guest speaker John F. Bookout, Jr. The Sidney Powers Memorial Award was presented to Rufus J. LeBlanc.

The total registration of the convention was 7,680. This total represents the third highest figure since the 1981 meeting in San Francisco which had 12,152 registrants. The exhibit hall was the third largest in the history of AAPG conventions with 480 booths and 199 exhibitors.

The technical program consisted of oral papers, poster sessions, and films on a variety of themes including exploration in mature and frontier basins and development geology. The 17 field trips offered the opportunity to see local geology as well as the carbonates, clastics, and structural geology of adjacent provinces.

CONSTITUTION

PACIFIC SECTION OF THE AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

Adopted: September 1924

Last Amended: May 1988

ARTICLE I

Name

This organization, whose area of interest comprises the Pacific Coastal Region, shall be known as "Pacific Section of the American Association of Petroleum Geologists" and is hereinafter referred to as "this Section."

ARTICLE II

Object

SECTION 1. The object of this Section 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 its Constitution, by-laws and code of ethics.

SECTION 2. The Pacific Section is a non-profit organization, and no portion of the financial assets inures to the benefit of any private individual or member.

ARTICLE III

Membership

SECTION 1. ELIGIBILITY.

A. ACTIVE MEMBER

A member in good standing, in any classification, of the American Association of Petroleum Geologists. **Any person engaged in the practice or teaching of geology who holds a degree in geological science from a college of acceptable academic standards.**

B. ASSOCIATE MEMBER

Any person not qualified for active membership who is interested in furthering the professional application of petroleum geology.

SECTION 2. CLASSIFICATION

Annual payment of the dues of this Section by any person qualified above shall be a declaration of membership in this Section. The Executive Committee may honor the accomplishments and distinguished service of one or more members each year by designating Honorary Life Members. Honorary Life

Members shall be exempt from all future dues. Other persons, not members of the Pacific Section of the American Association of Petroleum Geologists, who are interested in the activities of this Section may subscribe to the Section's publication "Pacific Petroleum Geologist Newsletter". Non-member subscribers shall not have the right to vote or hold office but may otherwise participate in the activities of the Section.

ARTICLE IV

Officers

SECTION 1. The officers of this Section shall be a President, a Vice-President, a President-Elect, the immediate Past-President, a Secretary and a Treasurer. The duties of these officers shall be those customary for their respective offices. They shall assume these duties at the beginning of the membership year next following their election as hereinafter provided. Their term of office shall be for one (1) year, except for the Treasurer, whose term of office shall be for two (2) years, or until their respective successors are elected. During the absence of the President, the Vice-President shall assume the duties. In the event of the death or resignation of the President, the Vice-President shall succeed to the office and title of President. Should the Vice-President be unable to serve in this capacity, the duties and title of President shall be assumed by (First) the Secretary or (Second) the Treasurer. In the event any officer, other than the President and immediate Past President, shall be unable to complete the term, the Executive Committee shall appoint a member to fill the vacancy and assume the title of President-Elect, Vice-President, Secretary or Treasurer. In making such an appointment, the Executive Committee shall give due consideration to appointing a member from the nominees at the last previous election.

SECTION 2. There shall be an Executive Committee consisting of the President, Vice-President, President-Elect, **immediate Past President**, Secretary, Treasurer, Editor of the "Pacific Petroleum Geologist Newsletter" and one Representative each selected by such other associated geological societies approved by

the then existing Executive Committee.

ARTICLE V

Funds

SECTION 1. The Executive Committee shall establish the fiscal year, review the financial position of the Section and have a current financial statement available at each annual business meeting. Annual dues of the Section shall be payable in advance in an amount established by the membership at the annual business meeting. The Executive Committee shall not have authority to levy assessments against the membership and shall not have the authority to increase annual dues.

SECTION 2. The funds of this Section shall be deposited to the credit of Pacific Section of the American Association of Petroleum Geologists in any federally insured depository selected by the Treasurer but not to exceed the limit insured by the Federal Deposit Insurance Corporation. Whenever necessary, the President shall certify to the authority of the Treasurer in administering such account by providing the depository bank with a notice of the Treasurer's election and with true copy of this Constitution. The treasurer shall have authority to issue checks against the bank account so established, on his sole signature, but in the event of his absence or incapacity to act due either to sickness or death, withdrawals or payments by check may be made on the signature of the President during the continuance or the absence or incapacity of the Treasurer, in which event the identity and authority of the President and the circumstances relating to the absence or incapacity of the Treasurer shall be certified to by the Executive Committee if so required by the depository.

ARTICLE VI

Meetings

SECTION 1. Pacific Section meetings shall be held annually or at other times on call of the President. **If the annual meeting of AAPG is held in California, the Pacific Section will not hold their annual meeting that year.**

SECTION 2. The time and place of Pacific Section business meeting shall be

determined by the Executive Committee.

ARTICLE VII Elections

SECTION 1. The President of the Pacific Section of The American Association of Petroleum Geologists, with the approval of the Executive Committee, shall appoint a nominating committee at least three (3) months prior to the beginning of the next membership year of the Pacific Section, consisting of **four (4) members**, two (2) of whom shall be Past-Presidents of the Pacific Section. The nominating committee shall, each year, select two (2) candidates for each of the following offices: President-Elect, Vice-President and Secretary, and every other year shall select two (2) candidates for the office of Treasurer. The slate of the candidates shall be announced in the "Pacific Petroleum Geologist Newsletter" at least **four (4) weeks** prior to the election. Additional nominations may be made by written petition of twenty-five (25) or more members of the Pacific Section in good standing, received by the Secretary within two (2) weeks following the publication of the nominating committee slate of candidates. The Executive Committee shall have the authority to name an additional nominee in case of necessity, to assure two candidates for each office. Voting shall be by mailed ballot. The Secretary shall set a date for counting ballots and shall mail ballots to all members not less than three (3) weeks prior to this date.

SECTION 2. In matters pertaining solely to the business of this Section, all active and associate members of the Section may vote. In matters pertaining to the official business and the selection of business representatives or other officers of The American Association of Petroleum Geologists only members of that Association in the Section shall be qualified to vote.

SECTION 3. This Constitution may be amended by a mail ballot. Ballots concerning constitutional amendments shall be mailed upon the authority of the Executive Committee or upon receipt by the Secretary of a Petition for Amendment signed by fifty (50) or more members in good standing. A two-thirds majority of the ballots

returned and received by the Section within three (3) weeks following mailing to the membership shall be required to pass any amendment.

BY-LAWS ARTICLE 1 Committees

SECTION 1. STANDING COMMITTEES

The Pacific Section of the American Association of Petroleum Geologists shall establish and maintain the following standing committees: (a) Committee on Finance, (b) Committee on Membership, (c) Committee on Planning and Organization, (d) **Committee on Legislation and Public Affairs**, (e) Committee on Publications, (f) Committee on Directories, (g) **Committee on Honors and Awards**, (h) Committee on Conventions. **NOTE: Omit committees on field trips and spring picnic.**

SECTION 2. APPOINTMENTS AND TENURE

The President shall appoint all committee **chairpersons** and **co-chairpersons** and fill vacancies whenever they occur. The committee **chairpersons** or **co-chairpersons** shall appoint all **vice-chairpersons** and members for their respective committees. The Executive Committee may remove any committee **chairperson** or **co-chairperson**. The **chairpersons** and **co-chairpersons** may remove any **vice-chairperson** or member of their committee. The term of office of a member of a standing committee shall be one (1) year. **Chairpersons** may succeed themselves from year to year if re-appointed by each succeeding President.

SECTION 3. COMMITTEE ON FINANCE

The Primary function of the Committee on Finance shall be to prepare a fiscal budget for approval by the Executive Committee. The treasurer shall serve as ex officio member and no other member of the Executive Committee shall serve as member of the Finance Committee.

SECTION 4. COMMITTEE ON MEMBERSHIP

The primary function of the Committee on Membership shall be to encourage applications for membership and to review and act upon such applications on behalf of and with the approval of the Executive Committee.

SECTION 5. COMMITTEE ON PLANNING AND ORGANIZATION.

The Committee on Planning and Organization shall be comprised of past Officers of the Pacific Section. Their primary function shall be to assist the President in the long-range goals and objectives of the Section and any

specific problems that may require their backgrounds.

SECTION 6. COMMITTEE ON LEGISLATION AND PUBLIC AFFAIRS

The primary function of the Committee on Legislation and Public Affairs shall be to advise of Federal, State, and local legislation that affects the profession and to disseminate knowledge, following Executive Committee approval, to the membership and other relevant entities about subjects within the scope of the profession.

SECTION 7. COMMITTEE ON PUBLICATIONS

The primary function of the Committee on Publications shall be to **handle the sale and storage of publications**. It may also assist in securing material for publication. The Editor of the Newsletter shall serve as ex officio member, and no other member of the Executive Committee shall serve as member of the Committee on Publications.

SECTION 8. COMMITTEE ON DIRECTORIES

The primary function of the Committee on Directories shall be to **update** the Pacific Section of The American Association of Petroleum Geologists Membership Directory **as directed by the Executive Committee**. Compilation of the Directory shall be coordinated with the Society of Exploration Geophysicists and the Society of Economic Paleontologists and Mineralogists and shall be formally published as mutually agreed upon.

SECTION 9. COMMITTEE ON HONORS AND AWARDS

The primary function of the Committee on Honors and Awards shall be to **recommend to the Executive Committee recipients for all honors and awards**. Following Executive Committee approval, the awards will be presented at the annual meeting of the Section.

SECTION 10. COMMITTEE ON CONVENTIONS

The primary function of the Committee on Conventions shall be to submit a convention plan, and following Executive Committee approval, program and carry out this activity. **Members of this Committee will include the Past-President and President-Elect.**

THE MYTH OF THE RELIZ-RINCONADA FAULT

Introduction

Something happened to me lately that made me realize that geologic generalizations (yes, and even imprecision) can cause mischief that can haunt us for ever after. Hence this note, I've kept references to a minimum because I know you guys know the ones I'm talking about.

A year ago I did a report on hazards for an addition to a hospital in Salinas. In the CDMG review a Mr. Mualchin said that I should consider the effects of the MCE (Maximum Credible Earthquake) on the "Reliz-Rinconada Fault". Okay, I knew what he was talking about -- the fault line along the east base of the Sierra de Salinas. I responded and the report was accepted and the Steinbeck Treatment Center is now a part of the Community Hospital. End of story. Except I got to thinking, "How did this get started?"

History

Mr. Mualchin apparently derived his concern from a paper by S. G. Wesnousky entitled "Earthquakes, Quaternary Faults, and Seismic Hazards in California" (Journal of Geophysical Research, Vol. 91, No. B12, pp. 12, 587, 1986 - 12,631 -- hey, those geophysicists are busy producing stuff we never see), wherein he refers to a "Rinconada Fault" with a slip rate of 2.4 something a year at 35.8 degrees north. The reference was to a paper by Dave Durham (U.S.G.S. PP 525-D, D106-11, 1965). He found eleven miles of lateral offset of the Santa Margarita on what we know as the San Marcos Fault in the vicinity of Nacimiento Lake. I would like to note here that nearly all of the faults we have mapped in the Central Coast region are covered by tens and hundreds of feet of flat lying alluvium and stuff even as old as Paso Robles. So how do we wind up with a "Reliz-Rinconada Fault" at the back door of Salinas with a known (?) rate of slip and therefore a number in the Maximum Credible Earthquake lottery?

Enter Tom Dibblee. Tom published a paper in 1976 (U.S.G.S. PP 981) on the Rinconada and related faults. I have only seen quotes from this but his opinions are unmistakably clear in his tectonics paper in the 1979 SEPM Guidebook. He pulls the "Reliz-Rinconada Fault" blithely and blatantly across the San Antonio Hills and makes

it a major strike-slip fault exceeded in importance only by the San Andreas. I think he has been misled in part by Durham's 1974 (PP 819) basement map. I don't know where Tom got the data for his basement map in the 1979 paper (Figure 3, page 71) but it ain't right in part. Tying the Reliz and Rinconada Faults into one zone that goes from the Santa Maria River to Monterey Bay is mixing a lot of apples and oranges and maybe some cabbage and raddichio and arugula (that's Rocket). It's time to unlimber our peashooters and water pistols and maybe even our Bruntons and our picks. No computers, please (except as word processors).

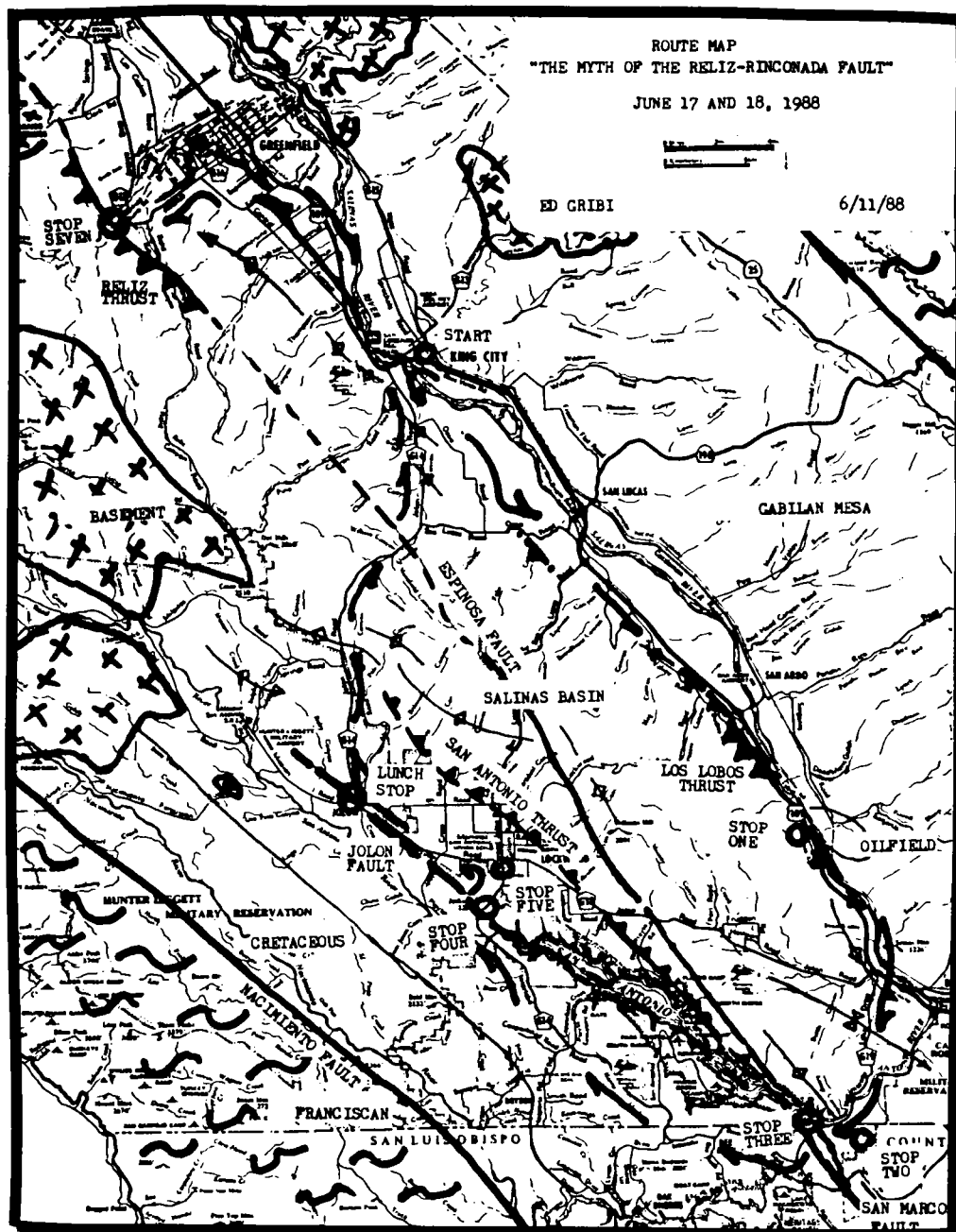
Following is the gospel according to Gribi on faulting in the central coast. I will henceforth assume a low profile, take to ground and become a moving target.

Nacimiento Fault

This may be the granddaddy of Coast Range faults. It seems to differentiate the region of Franciscan basement terrain to the west from the granitic basement Salinian block to the northeast. So far as is known, it is inactive (geologic definition, not Planning Department definition).

Rinconada Fault

This is the fault that bounds the west side of the La Panza granitic uplift (see Hart, CDMG Bull. 199, 1976). To the northwest it buries itself under the



THE MYTH OF THE RELIZ-RINCONADA FAULT (continued)

alluvium about on a line with Templeton. There is absolutely no evidence, surface or subsurface that it does anything other than be cut off by the Jolon-San Marcos Fault. I've just noticed that Jennings on his 1975 fault map colors the Rinconada, San Marcos, Espinosa, and "King City" (ouch!) faults as one continuous orange band. Maybe he's the culprit that started all this mischief, not Dibblee. Mind you anybody can join things together if they wish. But it doesn't even make good geometric sense to tie faults together that have 15 degree different trends.

Jolon-San Marcos Fault

This fault bounds the west side of that little granite outcrop northwest of Paso Robles. It can be traced continuously in outcrop to about San Antonio Lake. Then it is buried beneath Paso Robles and alluvium until it outcrops again north of Jolon. There's pretty good subsurface and geophysical evidence for its continuity in Lockwood Valley. The east side is up and I've mentioned Durham's strike-slip opinion.

San Antonio Thrust

This fault, along with the Espinosa Fault may join the Jolon-San Marcos just south of San Antonio Dam. It is a high angle thrust along the east side of Lockwood Valley, the east side having been thrust over the west. To the northwest it turns into a zone of steep to overturned dips at about Jolon Road (north). I've always considered it to be the mirror image of the Los Lobos thrust -- the result of the compression of that tremendous thickness of Mohnian shales.

Espinosa Fault

I think this is the baby that may be the root of all the mischief and confusion. It is best described as a linear topographic depression that can be observed discontinuously crossing the San Antonio Hills slaunchwise from the San Antonio Lake to maybe Reliz Canyon. We've all (well, not everybody) mapped and pondered about it. Tom has chosen to impart magical powers to it. Maybe if we all go and sit on a trace where we can find it we'll be immunized against cancer and cirrhosis of the liver. Then we won't have to go to the Steinbeck Treatment Center to be dried out in a facility that is exposed to the threat of the Maximum Credible Earthquake on the

Reliz-Salinas-King City-Espinosa-Jolon-San Marcos-Rinconada Fault. Anyway, I can't come up with a sense of offset on the Espinosa except that intuitively it has always felt like strike-slip to me.

"King City Fault"

It was nice of Bruce Clark to honor our little community by naming a fault that extends from Monterey Bay to San Miguel (and beyond?) after it moved in 1929. I thought I demolished that myth ten or twelve years ago but it won't stay down. Anyway I'll have to go back and read his "Tectonics of Valle Grande" again some day to see whether he included the front of the Sierra de Salinas in his fault that accounted for the linearity of the edge of the hills along the west side of the Salinas Valley. As you all know, we found after drilling that there was no fault from Monroe Swell south to Paris Valley. Dick Thorup found faulting west of San Lucas in a trench he had dug that may have been on that trend. Son Jim mapped the Los Lobos overthrust from just south of Paris Valley Field to just south of San Ardo Oil Field. Texaco gave a paper at the Pacific Section meeting at Santa Barbara that showed small thrusts beneath the overthrust (i.e., they predate the overthrust). The overthrust must have been fairly recent because it is only overlain by a minimum amount of Salinas River alluvium.

Reliz Fault

Schombel named this fault in his paper on the Soledad Quadrangle published in Bulletin 118. It is best seen at the north end of the iron bridge over Arroyo Seco. At that point the fault dips 70 degrees to the west with the west side up. It is obviously overlain by quite a few feet of flat lying (and uninterrupted) alluvial sediments. I wish we had some dating on that so we could say how many thousands (or millions) of years it has been since it's last movement. In any event it is still conjectural whether this becomes the same fault to the northwest that has uplifted the Sierra de Salinas at least 10,000 feet. This is a humongous fault, similar to the basin and range faults. Dr. Blackwelder in his geomorphic precision would call it a "fault line scarp": a scarp that is the result of differential erosion along a fault line (AGI Dictionary, 1962). If we accept the iron bridge road cut as the one from which it continues to the north, then we have to give it a similar mode of offset. By the time (or distance) that it gets to the Spreckels-Pine Canyon area the fault is

out along River Road. There is excellent surface and geophysical evidence for this location. I hope I have persuaded John Kingsley that what we see in that Pine Canyon area is the result of erosion of the old Salinas River course.

Apparently I have persuaded Kathy Stein-West that this is the case because Mr. Riggins has built his house over what others have said might be the course of the Reliz (or whatever) fault.

So long as we are talking about linear alignment faults, how about a fault along the east side of the Salinas Valley? I am not about to promote it and there is no evidence other than geomorphic to support it, but it is an appealing idea.

The End

So what are these ramblings all about? Well, they are about nomenclature and terminology that seem to have a direct effect on the reporting that is now being required in Monterey County, for one thing. A series of seemingly innocent geologic utterances have come together to create a myth - that the fault at the base of the Sierra de Salinas (which hasn't moved for perhaps half a million years) is really a strike-slip kin of the San Andreas.

I remember Bob Kleinpell with his foot on a boulder in the headwaters of Reliz Canyon, beer in hand, cardboard tropical helmet on his head discoursing philosophically in his wonderfully entertaining fashion. His thesis was that all things in life could be explained symbolically by the need for a ham sandwich. This week the myth of the Reliz-Rinconada fault is my ham sandwich.

Dick Murphy sent me a telex last week, part of which is worth sharing with those of us who consider ourselves horse and buggy geologists: "Keep your lens open, your hammer up, and your Brunton covered."

Ed Gribi
May 3, 1988

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LETTER TO THE EDITOR

TSD Systems Corporation, a company created specifically to design, site, construct, and operate a Class I aqueous waste treatment and deepwell injection disposal facility in California, has applied for permits to construct a facility near Lost Hills in Kern County.

However, detractors of the project have characterized it as a "hazardous waste dump", and they recently passed, by 70%, a county initiative that puts a moratorium on accepting, processing or granting permits for hazardous waste facilities and that BANS DEEPWELL INJECTION OF HAZARDOUS WASTE.

Deepwell injection is a technology that has been vitally important to the Kern County oil and gas industry since the 1930's. The Lost Hills location offers a unique and ideally suited geologic setting for deepwell disposal. The formation into which TSD intends to inject treated liquid waste is geologically secure with impermeable shale barriers on all sides. Every possible means of research has been employed, on a preliminary basis, to assure that the formation is secure, and pre-operational testing will be performed on site, in the disposal and confining formations. After operations begin, a continually updated technical record will be provided through well monitoring and formation testing.

Pre-disposal treatment will effectively remove or destroy hazardous constituents of the waste to the extent that the resulting aqueous portion will be, at a minimum, non-restricted, and in most instances, non-hazardous. The solids portion will be trucked off site by TSD operated trucks to a permitted hazardous waste repository.

This is not a "hazardous waste dump", but rather a carefully planned, scientific and safe solution to a pressing problem. State legislation, the Tanner bill, meticulously details the process by which hazardous waste facilities are to be permitted. TSD filed its application under this legislation and will continue to adhere to its tenets.

However, there are numerous groups and individuals fighting the issue on an emotional basis rather than through thoughtful and informed discussion.

It is unknown at this point what the full impact of the initiative may be. It is likely the courts could become

involved.

The important subject to your members is that Kern County's actions can set precedence for the entire state, and could have tremendous impact on deepwell injection of oilfield waste in the future, particularly if classifications change.

If you would like more detailed information, please contact TSD at (805) 326-8737.

Sincerely,
Wiley E. Irby
President/CEO
TSD Systems Corporation

NOTE: Letters to the Editor do not necessarily reflect the opinions of the Editors or the Pacific Section AAPG.


UPDATES FROM CORE REPOSITORY

Thanks to the San Joaquin Geological Society, the Coast Geological Society, Tenneco, and ARCO the CWSR was able to attend the AAPG Convention in Santa Barbara.

Donations from Chevron, Tenneco, and Core Laboratories have provided the CWSR with an additional student assistant, core boxes, and sample bags. All greatly appreciated.

The San Joaquin Geological Society had a CWSR Night at their May meeting, and raised \$381 for the CWSR. The display from the Santa Barbara Convention was shown during the meeting.

The CWSR volunteers built a row of core shelves and they are still cataloging well samples as well as an index of samples on file.



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TECHNICAL REPORT AVAILABLE

The Minerals Management Service has released a report dated October 1987, entitled Northern and Central California Pacific OCS Lease Sale/May 14, 1963 by F. L. Webster and K. A. Yenne. The 48 page report summarizes the leasing and drilling histories and the petroleum geology of the basins involved in the first OCS oil and gas lease sale in the Pacific region. It includes correlation charts of all the wells drilled on leases from the sale.

Copies of OCS Report MMS 87-0108 are available free of charge from Ms. Frieda Star, Public Information Office, Minerals Management Service, 1340 West Sixth Street, Los Angeles, CA 90017, or telephone (213) 894-2062.

For further information contact Frank Webster at the above address or telephone (213) 894-3005.

DEADLINE FOR

AUGUST/SEPTEMBER

ISSUE

AUGUST 1, 1988

AWG PRESENTS AWARDS

The Association for Women Geoscientists (AWG) recently presented Distinguished Service Awards to three outstanding members: Elizabeth A. E. Johnson, Los Angeles; Kathleen M. Johnson, Denver; and Laura L. Langer, Pittsburgh.

RECENT MOVES

Wesley G. Bruer, Consultant from St. Helens, Oregon to Bakersfield, California.

C. E. Kirschner from Walnut, California to Union, Washington.

Akbar Sheriff transferred to Ventura from Bakersfield with Union.

Keith Whaley transferred to Los Angeles from Singapore with Unocal.

Jack Cunningham, formerly associated with Crouch and Bachman, to Consultant.

Jane and Jerry McNaboe to Saudia Arabia from Bakersfield with Texaco.

Vicki Sare to Lafayette, Louisiana from Bakersfield with ARCO.

Joe Laing to Saudia Arabia from Bakersfield with Texaco.

Robert E. Rogers to Honolulu, Hawaii from Glendale, California.

B. Brick Robinson to Oklahoma City, Oklahoma from Laguna Niguel.

Santa Fe Energy Coast District has moved to 12070 Telegraph Road, Santa Fe Springs, California 90670.

Benton Petroleum has moved to 2151 Alessandro Drive, Suite 120, Ventura, California 93001.

Welex has a new mailing address: 12440 East Firestone Boulevard, Suite 307, Norwalk, California 90650.

Name Change

Cities Service has changed its name to OXY USA.

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**PACIFIC SECTION
CONVENTION
SANTA BARBARA**

The A. I. Levorsen - Best Paper at a local convention was awarded to Dr. James Ingle, Stanford University, for his paper "Paleo-oceanographic Controls on Lithofacies and Biofacies Patterns in Neogene Basins of California." The award will be presented next year at the convention in Palm Springs. The award is based on creative thinking, organization, delivery, and visual presentation.

Dr. John Crowell, UCSB, was selected as an honorary member of the Pacific Section AAPG. The award was presented during the convention.

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San Joaquin Basin BOB HORTON
(803) 833-3059

Recommended Reading LUCY E. BIRDSALL
(818) 244-5117

NEWSLETTER of the Pacific Section - American Association of Petroleum Geologists is published bimonthly by the Pacific Section. Material for publication, requests for previous copies, and communications about advertising costs should be addressed to JUDY RUSSELL, P. O. BOX 12021, BAKERSFIELD, CA 93389-2021. CHANGE OF ADDRESS, subscription, and membership inquiries should be directed to: MEMBERSHIP SECRETARY, PACIFIC SECTION AAPG, P. O. BOX 1072, BAKERSFIELD, CA 93302. PUBLICATIONS COMMITTEE: Pacific Section - American Association of Petroleum Geologists, P. O. Box 631, Ventura, CA 93002.

(cut here)

ACCEPT AMENDMENTS TO THE PACIFIC SECTION AAPG CONSTITUTION

REJECT AMENDMENTS TO THE PACIFIC SECTION AAPG CONSTITUTION

ENCLOSE IN ENVELOPE AND MAIL TO:

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RECOMMENDED READING

U.S. GEOLOGICAL SURVEY

Professional Paper 0497-F: Land Subsidence in the Santa Clara Valley, California, as of 1982, by J. F. Poland and R. L. Ireland, \$3.25

Professional Paper 1477: The Upper Cretaceous Ammonite Rhaeboceras Meek in the Western Interior of the United States, by W. A. Cobban, \$2.75

Bulletin 1705-D: Mineral Resources of the Sacatar Meadows Wilderness Study Area, Tulare and Inyo Counties, California, by M. F. Diggles, J. G. Frisken, Andrew Griscom, and Lucia Kuizon, \$1.50

Bulletin 1783: Cowtract Mountain and Glass Mountain Quadrangles, California and Nevada; Analytical Data, by P. C. Bateman, K. B. Krauskopf, and M. F. Sheridan, \$1.50

Water Supply Paper 1849: Roughness Characteristics of Natural Channels, by H. H. Barnes (reprint), \$15.00

Circular 1025: U.S.G.S. Research on Energy Resources -- 1988 Program and Abstracts, V. E. McKelvey Forum on Mineral and Energy Resources, edited by L. M. H. Carter, free

Open File Report 88-373: National Assessment of Undiscovered Conventional Oil and Gas Resources, U.S.G.S. - M.M.S., working paper, 600 pages, price not known

U.S.G.S. Yearbook, Fiscal Year 1986, \$12.00

Maps for America, Third Edition, \$25.00

GEOLOGY

Vol. 16, No. 4, April 1988

Pennsylvania and Early Permian Paleogeography of East-Central California: Implications for the Shape of the Continental Margin and the Timing of Continental Truncation, by Paul Stone and Calvin H. Stevens

Eruptive Style and Location of Volcanic Centers in the Miocene Washington Cascade Range: Reconstruction from the Sedimentary Record, by Gary A. Smith, Newell P. Campbell, Marshall W. Deacon, and Muhammad Shafiqullah

Allochthonous Archean Basement in the Northern East Humboldt Range, Nevada, by Andrew P. Lush, Allen J. McGrew, Arthur W. Snoke, and James E. Wright

Low-Pressure Facies Series Metamorphism in an Accretionary Sedimentary Prism, Southern Alaska, by Virginia B. Sisson, and Luncoln S. Hollister

SMITHSONIAN

Vol. 19, No. 2, May 1988

A New Science Can Diagnose Sick Buildings -- Before They Collapse, by Erik Larson

GEOLOGICAL SOCIETY OF AMERICA BULLETIN

Centennial Vol. 100, No.4, April 1988

Holocene Alluvial Geology and Geoarchaeology of the San Xavier Reach of the Santa Cruz River, Arizona, by Michael R. Waters

Neotectonics of the San Cayetano Fault, Transverse Ranges, California, by Thomas Rockwell

An Angular Unconformity in the Permian Section of East-Central California, by Paul Stone and Calvin H. Stevens

Early Permian Thrust Faults in East-Central California, by Calvin H. Stevens and Paul Stone

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

Vol. 72, No. 5, May 1988

Porosity Enhancement from Chert Dissolution Beneath Neocomian Unconformity: Ivishak Formation, North Slope, Alaska, by G. Shanmugan and J. B. Higgins

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

Vol. 72, No. 5, April 1988

Principles of Geochemical Prospect Appraisal, by Andrew S. Mackenzie, and Tom M. Quigley

Lucy Birdsall

NEWSLETTER

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PACIFIC PETROLEUM GEOLOGIST NEWSLETTER

of the Pacific Section
American Association of Petroleum Geologists

August & September 1988 No. 5

THE PRESIDENT'S COLUMN

I would like to thank and congratulate Dan Pasquini for a great year at the helm of the Pacific Section. Although it is a generally thankless task, we have all benefited from Dan's efforts. Certainly the two past years during which Dan, and Bob Lindblom before him, served as President, were some of the worst economic times for our profession. Still, during this period we managed to help some of our "displaced persons" with an alternate employment seminar, hosted the national AAPG meeting in Los Angeles and broke new ground with a very successful section convention in Santa Barbara. I think that Bob and Dan have helped us make the best of bad times.

Onward and Upward!

Many of you may not be aware that Wes Bruer has moved back to Bakersfield after suffering a stroke last year in St. Helens, Oregon. Wes is a Past President of the Pacific Section and also served as State Geologist in Sacramento for a while. Wes is recuperating, and hopes to be able to join us at San Joaquin Geological Society meeting this fall. In the meantime, I have asked Wes to serve as a special advisor to the President during the coming year. A "green pea" President such as myself can use some experienced counseling, and I know that the Section will benefit.

As of this day (July 29th), we have had on 34 ballots returned on the constitutional amendments. Because there has been only one "no" vote, it looks as though our revision will pass. The final count will take place on August 15th. Hang on to your June-July 1988 PPG for future reference.

I wish to thank Bob Lindblom for all of his work in getting the constitutional revision to the voting stage.

Jack West, President

A DAY IN THE FIELD WITH TOM DIBBLEE ON THE SAN JULIAN RANCH

Saturday, October 1, 1988

9 a.m. to 5 p.m.

presented by

**THE THOMAS WILSON DIBBLEE, JR., GEOLOGICAL
FOUNDATION**

and

COAST GEOLOGICAL SOCIETY

EVENTS WILL INCLUDE

**Ranch San Julian
Diatomite Mine Tour**

**Geologic Features Near Rancho San Julian
Where it all began by Thomas W. Dibblee, Jr.**

**Guided Tours Through the Historic Rancho San Julian
Ranch House**

Santa Maria Style BBQ

Volley Ball / Horse Shoes / Guided Geologic Tours

This will be a fund raising event for the Dibblee Geological Foundation. Donation for the entire day of events will be \$25.00. The organizers are seeking sponsors for the onsite field trip transportation (vans, etc.), food, refreshments, and BBQ labor.

For more information, please contact:

John Powell	(805) 653-5556
Hans Schwing	(805) 656-7600
Helmut Ehrenspeck	(805) 967-7820

Los Angeles

The following are upcoming LABGS Meetings with the speakers scheduled to appear and the topics that they will discuss:

September 15 - Dennis Sparks, Geo-Logic, Inc., on the geology of the Southern Salinas Basin.

October 20 - Dr. J. Lisle Reed, Regional Director, Pacific OCS Region, M. M. S., on the next Administration and offshore oil and gas policy.

November 17 - Dr. Jay Namson, Davis & Namson, "A Structural Transect Through the Ventura Basin and Western Transverse Ranges".

The meetings will continue to be held at noon at Luminaria's Restaurant in Monterey Park. For reservations or information, call Harold Syms at (213) 894-3319.

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Northwest

The NWPA meets quarterly at different locations. The last quarterly meeting was June 17, 1988. For information on the next meeting, contact Bill Covert at (503) 244-5605.

Coast

The New CGS officers for the upcoming year were elected during the last meeting held in May. Here are the lucky winners: President, Akbar Sheriff, UNOCAL; Vice President, Spencer Quam, Chevron; Treasurer, Mike Gring, UNOCAL; Secretary, Muriel Norton, Geoquip.

The new mailing address for the Coast Geological Society is Post Office Box 3055, Ventura, California 93006.

Alaska

The new officers of the Alaska Geological Society for 1988 - 1989 are: President, Bill Pyle, Woodward Clyde; Vice-President, John Whitney, NOAA; Secretary, Becky Watson, ARCO Alaska; Treasurer, Doug Dickey, Standard Alaska; President-Elect, Roger Stickney, UNOCAL; and Past President, Naresh Kumar, ARCO Alaska.

The Directors are Ann Pasch, University of Alaska, Anchorage; Chick Underwood, Marathon; Katie Nitzberg, Standard Alaska; Michael Werner, ARCO Alaska; and Marcia Matthieu, ARCO Alaska.

San Joaquin

September 9 - Fall BBQ will be held at the Kern River Picnic Grounds.

October 11 - A. Eugene Fritsche will talk on the origin and paleogeographic development of the Cuyama depositional basin, California.

Suggestions for talks should be addressed to Bob Horton (805/833-3059).

ALASKAN NORTH SLOPE GEOLOGY

SEPM Volumes I and II, edited by Irv Tailleir and Paul Weimer is now available. Volume I includes the history of exploration, reservoirs, geochemistry, resources other than petroleum, and stratigraphy. Volume II covers geophysics, structure/tectonics, and a synthesis. For copies of this publication write to: Treasurer, Pacific Section SEPM, P. O. Box 10359, Bakersfield, CA 93309.

NEW DIRECTORY

Advertising is now being accepted for the new directory. It is a great way to get your name or your company's name to the people who will use it the most. All sizes are being accepted, business card to full page ads.

The deadline is November 1, 1988. For more information contact Bill Long at Oxy USA, P. O. Box 12011, Bakersfield, CA 93389-2011, or call (805) 321-6041. The Directory will be available at the 1989 Pacific Section Convention in Palm Springs.

NEW MEMBERS

SOUTHERN CALIFORNIA

Neil Stefanides - Union Oil, Los Angeles; **Dale R. Julander** - Chevron U.S.A., Inc., Bakersfield; **Kelsey Julander** - Chevron U.S.A., Inc., Bakersfield; **Stephen Lovell** - Tenneco, Bakersfield; **Robert M. Negrini** - Bakersfield; **Melissa Kolb** - ARCO, Bakersfield; **James R. Grant** - West Covina; **Peter F. Cowell** - Chevron U.S.A., Bakersfield; **Creties D. Jenkins, Jr.** - Tenneco Oil, Bakersfield.

NORTHERN CALIFORNIA

Marc A. Brennen - Sacramento; **Karen B. Loomis** - Stanford University.

OTHER STATES

Colynn Blubaugh - Anchorage; **Mark G. Lehrer** - Texaco, Denver; **Leslie Black Trow** - Texaco, Denver; **Krista D. Miller** - Texaco Inc., Denver; **Terry Sarniak** - Texaco Inc., Denver; **Donald D. Miller** - Mobil Oil Corporation, Denver.

RECENT MOVES

Dale Kunitomi is a Geologic Consultant in Camarillo previously Senior Geologist with Celeron Oil & Gas Company in Bakersfield and Santa Barbara.

King Vaughn and Bryan Bell have purchased Goode Core Analysis located at 1400 Easton Drive, Suite 111, Bakersfield.

Bruce and JoAnn Welton left Chevron, Bakersfield, for Mobil Oil in Dallas.

Ken Gesten recently joined Chevron as a new hire from San Diego State (MS).

Karl Wozniak from Bakersfield transferred to San Ramon with Chevron.

Rob Farrman and Mike Gaona with Chevron transferred to Bakersfield from San Ramon.

Rob Young transferred to Chevron Research Lab in LaHabra from Ventura.

Digital Petrophysics has moved to 2201 Mt. Vernon, Suite 215, Bakersfield.

Howard G. Kinsey has moved to White Salmon, Washington from White Salmon, Oregon.

John T. O'Rourke to Hydro-Geo Consultants, formerly with O'Rourke Associates, Palo Alto, California.

RECENT MOVES (Continued)

Dr. James E. Slosson has formed Slosson & Associates in Van Nuys.

Eric W. Tambini to URS Consulting, Santa Barbara.

William Tracy to Stool, Gardner, Dunne Inc. Ventura.

Gerald E. Weber to Weber & Associates, Watsonville, California.

James R. Ashby to Zeiser Geotechnical, Costa Mesa.

Linda P. Bratlie-Butler with Exxon USA to Houston from New Orleans.

Harvey W. Lee has moved from Arcadia to Torrance.

William J. Muldoon to Houston from Ventura.

Joseph S. Polovina from Bakersfield to Reno, Nevada as a geologic consultant.

Robert H. Sydnor with the California Division of Mines & Geology from Pleasant Hill, California to Sacramento.

Recent changes at Occidental International include the transfers from Oxy USA, Oklahoma City of Jack Grippi, Marc Traut, and Dale Schreck. Both Jack and Marc worked in Bakersfield previously. Carlos del Solar is being transferred to Malaysia as Exploration Manager. Recent transfers from overseas offices include Carl Crouch, Byron Ayme, and Rodolfo Anzoleaga. Recent new hire for Latin America Exploration in Bakersfield is Kim Butler formerly with Tenneco, Bakersfield. Many friends of George and Beth Kendall might not be aware of their recent transfer from Bogota, Colombia to Aberdeen, Scotland.

PACIFIC SECTION CONVENTION SANTA BARBARA

In addition to the other awards mentioned in the last newsletter, other honorary memberships were awarded to Wes Bruer, Consultant, and Don Ziegler with Chevron.

The Martin Van Couvering Award was presented to three California State Northridge Students: Jim Molesworth, Zunsheng Jiao, and Fen Yan.

COMING EVENTS

September 20 to 22 - Balance Cross Section School, Los Angeles. For information contact Jay Namson at (818) 507-6650.

October 1 - A Day in the Field with Dibblee at San Julian Ranch. Contact John Powell at (805) 653-5556, Hans Schwing at (805) 656-7600, or Helmueit Ehrenspeck at (805) 967-7820.

October 17 to 21 - Southern California Coastal Basins Field Seminar. Orientation for OCS Lease Sale 95. For information contact Thom Davis at (818) 507-6650.

October 21 to 23 - South Coast Geological Society Annual Field Trip -- Death Valley Area. Call (714) 546-6602 for more information or write P. O. Box 10244, Santa Ana, CA 92711.

October 22 to 23 - Los Angeles Basin Geological Society Annual Field Trip -- Monterey Formation, Vandenberg Air Force Base. This is an opportunity to visit seldom seen outcrops in the Point Conception/Point Arguello area. The leaders are Dr. John Dunham and Dr. Gregg Blake, UNOCAL. For more information contact Mike Mulhern, Field Trip Coordinator, at (213) 946-7783 or (805) 653-1579.


October 22 to 24 - SEPM Fall Field Trip to Eel River, Point Arena, and Bodega Basins lead by Jim Ingle of Stanford University. Reservations must be in by September 15. For more information contact Alan Crawford at (714) 528-7201.

October 29 to November 5 - SEG Meeting in Los Angeles.

November 4 to 5 - AAPG Short Course at SEG "Sequence Stratigraphic Interpretation of Seismic, Well, and Outcrop Data." The instructors will be John Sangree and Peter Vail. For more information call (918) 493-3516.

November 10 and 11 - Southern San Joaquin Symposium. For information contact John Randall at (805) 395-6381.

November 12 and 13 - Southern San Joaquin Field Trip. For information contact John Randall at (805) 395-6381.



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BLM LEASE AUCTION

The first sale of oil and gas leases on federal lands in California under the Federal Onshore Oil and Gas Reform Act of 1987 will be held September 20 in Sacramento.

The Bureau of Land Management announced that parcels totaling 226,776.34 acres will be offered for oil and gas leasing by competitive oral bidding.

The sale will be held in the Redwood Room of the Sierra Inn, 2600 Auburn Boulevard. The sale room will be open to the public at 8 a.m. to allow each interested bidder time to register and obtain a bidding number.

Parcels are identified by numbers. Details can be obtained from the BLM's office at 2800 Cottage Way, Sacramento, CA 95825.

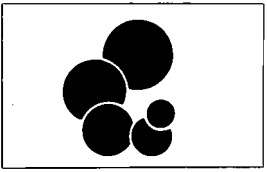
Under the new rules governing the sale of leases on federal onshore lands, all parcels must first be offered at competitive oral auctions.

The minimum bid will be \$2 per acre. Royalties are set at a flat rate of 12.5 percent, with rental rates of \$1.50 per acre for the first five years and \$2 per acre thereafter.

Non-competitive leasing will be permitted only after parcels have been offered competitively and failed to receive a bid. Such parcels will be available for non-competitive leasing for a period of two years without further competition.

Parcels not sold at oral auctions will be available non-competitively beginning the first business day following the last day of the oral auction.

Bill Rintoul



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**MEMORIAL
STANLEY S. SIEGFUS
1901 - 1986**

Stan went to school in Salt Lake City and spent his first two college years at the University of Utah where he studied mining geology. He received his B. S. degree from the University of Idaho in mining geology in 1923 and was also the recipient of the Charles Peter Fellowship which enabled him to return to Salt Lake City and get his Master's degree from the University of Utah.

Stan's first job was working in a copper mine in Cuba. Illness forced him to return to the United States and after he regained his health he obtained a job at a magnesite quarry in eastern Washington.

In 1927 Stan entered the petroleum geology field accepting an offer from Shell Oil Company to do micropaleontological work in Bakersfield, California. There were few people available who were trained in this new scientific field and Stan was selected because, in addition to his other qualifications, he had worked with a microscope at the University of Idaho.

In Bakersfield he was given the duties of assistant geologist under the direction of Art May, the District Geologist. He spent much time examining the foraminifera from cores. In those days there was much more coring than there is today as the use of electric logging was still in an experimental stage. Stan also engaged in sub-surface work on the west side on the San Joaquin Valley from Lost Hills to Wheeler Ridge.

In 1931 Shell loaned Stan to the Kettleman North Dome Association to work as an engineer and geologist to watch the drilling of a deep test, known as the "McAdams" well, at the northwest end of the field beyond the limits of the shallower Miocene Temblor production. His duties also involved the study of the Eocene formations in the nearest outcrop ten miles to the southwest, mainly the Kreyenhagen Shale and the Avenal Sand. In this work he collaborated with Dr. J. A. Cushman of the U.S.G.S., the foremost authority on micropaleontology at that time. A detailed study was made of a section up the west fork of Garza Creek and, in part, on Canoas Creek. This work was later published in the San Diego Society of Natural History, Volume X, No. 34, in 1942.

Later Stan returned to Shell and supervised the drilling of a wildcat in the Belridge area. He left Shell in 1934 and went to work for Western States Gasoline Company in Bakersfield. He sold this company a play on Reef Ridge near where he did his work with Cushman. The well was drilled by the Taft Well Drilling Company to the depth of 5000 feet and tested the Avenal Sand, the Eocene objective. Although no production was found Stan acquired more information on the nature of the Kreyenhagen Shale and the Avenal. Under the agreement with Western States Gasoline Company Stan was permitted to consult for other companies. One play involved the Slaughter Field in West Texas for Honolulu Oil Corporation and was successful.

In 1938 Petroleum Securities Company with Seaboard Oil Company and Honolulu Oil Corporation as partners started drilling an exploratory well on the Coalinga Nose between the East Coalinga Field and the Kettleman North Dome Field. The objective was the Eocene Sand in the "McAdams" wells that Stan had sat on and which was absent in the outcrop and the East Coalinga Field to the northwest. This sand was also equivalent to the Avenal Sand in the outcrop to the southwest. The Petroleum Securities well, Gatchell No. 2, was drilled to 6750 feet and logged an Eocene section of tight silty sand similar to the northwest outcrop with very little or no permeability and less than 40 feet thick. The stratigraphic expert retained by the operator recommended abandoning the hole in the belief that the objective had been reached and was unproductive. L. S. "Snooky" Chambers, representing Seaboard and Elmo Adams, representing Honolulu, the minority partners, thought that a second opinion was necessary and recommended hiring Stan Siegfus to study the cores and samples, because of his experience in the area. Stan's conclusion was that the objective sand had not been reached and that the well should be deepened. The decision was made to go ahead and after drilling 75 feet deeper a rich body of Eocene Oil Sand was encountered and penetrated 90 feet. The well was completed flowing 60,000 barrels per day rate of high gravity oil and was the discovery well of the giant 500 million barrel East Coalinga Eocene Gatchell Sand Pool. This was undoubtedly the highlight of Stan's career. Many including myself believe

that he never received the credit that he was due for this great discovery.

In April 1939 Stan accepted an assignment to work in Venezuela for the Socony-Vacuum Oil Company. He was appointed head of sub-surface geology and supervisor of petroleum engineering. While in this capacity the company drilled the discovery well of a new field.

In 1941 Stan returned to Bakersfield and opened a consulting office. He filed on and acquired government leases on a southerly extension of the Round Mountain Fault. He sub-leased these properties to Amerada Petroleum Corporation who drilled the discovery well of the Anthill Field and subsequently drilled a number of producers on Stan's leases. He also acquired a royalty interest in the Veon lease in the Begian Anticline Field.

In February 1943 Stan accepted a job with Pacific Western Oil Company, one of J. Paul Getty's companies. He continued to work with this company after it was merged with Tidewater Oil Company and later Getty Oil Company until his retirement in 1966.

While working for Pacific Western, Stan's work came to the attention of J. Paul himself, who was impressed to such an extent that after Pacific Western and all the Getty companies were bought under one banner as Getty Oil Company, J. Paul Getty retained Stan to be his personal geologist to look after his holdings that were not part of the Getty Oil Company.

Stan continued to work for the Getty organization in various capacities until his retirement in 1966. J. Paul continued to have Stan look after his personal projects, working two days a week for several years after his retirement.

Stan was popular with his fellow associates and his many friends both in and outside his profession. He was an ardent golfer and a member of the San Clemente Country Club. He was the first president of the Los Amigos Dance Club that met once a month and whose membership was a cross section of the exploration and producing people in the Los Angeles Area.

Stan passed away in September, 1986. He is survived by his wife, Alice, two daughters, Gloria Siegfus and Shirley Yalman and three grandchildren, Inci, Kerim, and Suzan Yalman.

He will be sorely missed by his family and his many friends. It was certainly a great privilege to know him.

John E. Kilkeny

**MEMORIAL
KEITH AUSTIN YENNE
June 13, 1914 - July 3, 1988**

Keith was born in Lawrence, Kansas. He obtained his B.S. degree from Nebraska University in 1937, and an M.S. degree from Washington University, St. Louis, Missouri in 1939. His first professional employment was as a sub-surface geologist with Shell Oil Company in Centralia District, Illinois.

His geological career was interrupted by World War II during which he served in the Navy as a signal officer aboard a seaplane tender. Following his discharge from the Navy in 1946, he enrolled at Harvard University, graduating in 1947 with a M.A. degree in paleontology.

Upon graduating from Harvard Keith began his career as a paleontologist with the Tropical Oil Company in Bogota, Colombia, where he studied ammonites of the Jurassic and Cretaceous of Colombia. In 1949 he accepted a position with the U. S. G. S., Fuels Branch; first working under the supervision of Dave Love measuring Tertiary and Mesozoic sections in the Wind River Basin of Wyoming; and later, for Hoyle Eargle, studying the fusulinids of the Pennsylvanian and Permian reefs of West Texas.

In 1952 he left the Survey and went to work for DeGolyer and McNaughton Inc., as a petroleum geologist, and spent the next ten years supervising oil exploration programs for clients in Texas, Brazil, Uruguay, and Spain. Returning to the U. S. G. S. in 1962, he spent the next 17 years with the Conservation Division, where he became the Los Angeles District Geologist with responsibilities for carrying out the Division's oil and gas evaluation program in the Pacific Region.

Keith initially retired from the Conservation Division in December 1979, but continued working as a consultant for the U. S. G. S.'s Office of International Geology until 1983. During this time he travelled extensively, evaluating petroleum resources in Argentina, Peru, and Korea.

In 1983 Keith returned to part-time employment with the Minerals Management Service in Los Angeles, the successor of the Conservation Division, where he continued to write and edit geologic reports on the offshore areas of California, Washington, and Oregon until his second retirement in September, 1987.

In addition to being a thoroughly competent geologist, Keith was also an excellent supervisor who encouraged each member of his staff to fulfill their potential.

Keith, while a consummate gentleman, was basically a private person. To those of us who were fortunate enough to be his friend, he was a ready listener and one who gave unstintingly but asked for little in return. Keith is survived by his son Peter, a stepdaughter Mrs. Pam Moore, and a grandson, Brad Moore.

Keith was a member of the American Association of Petroleum Geologists since January 1941, and the Los Angeles Basin Geological Society. In the latter he served as President in 1982. He was also a registered geologist in the State of California since 1970.

Harold L. Cousminer
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SACRAMENTO BASIN — (Studies completed and in progress)

- Winters Formation
- Paleogene "Gorges" (Martinez and Meganos Fm)
- Stratigraphic Framework
- Structural Framework/Midland Fault
- Field Studies

NORTH SAN JOAQUIN BASIN —

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RECOMMENDED READING

U.S. GEOLOGICAL SURVEY

Professional Paper 1458: Element Concentrations in Soils and Other Surficial Materials of Alaska, by L. P. Gough, R. C. Severson, and H. T. Shacklette, \$3.25

Bulletin 1799: Potassium-argon Ages for Plutons in the Eastern and Southern Sierra Nevada Batholith, California, by E. A. duBray and D. A. Delinger, \$1.00

U.S.G. S. Yearbook, Fiscal Year 1986, \$12.00

Map I-1945: Geometry of the Benioff Zone and Mode of Subduction Beneath Southwestern Alaska and the Aleutian Islands, by A. F. Espinosa and K. S. Rukstales, \$3.10

Map GP-0973: Residual Bouguer Anomaly Map of the Cascade Range, California, Oregon, Washington, and British Columbia, by D. L. Williams, Carol Finn, R. W. Couch, Z. F. Danes, G. S. Pitts, W. M. Phillips, and R. P. Riddihough, \$6.20

OPEN FILE REPORTS (Order from OF Report Section, Federal Center, Post Office Box 25425, Denver, CO 80225

OF 86-0480: Two Hundred Years of Hydrogeology in the United States, edited by J. S. Rosenshein, J. E. Moore, S. W. Lohman, and E. B. Chase, 110 pages, \$4.00 (microfiche), \$17.50 (paper)

OF 87-0291: Temperatures and Natural Gamma Ray Logs Obtained in 1986 Shady Rest Drill Hole RD08, Mammoth Lakes, Mono County, California, by T. C. Urban, W. H. Diment, and M. L. Sorey, 100 pages, \$4.00 (microfiche), \$15.50 (paper)

OF 87-0297: Volcanic Hazards with Regard to Siting Nuclear Power Plants in the Pacific Northwest, by R. P. Hoblitt, C. D. Miller, and W. E. Scott, 196 pages, 5 over-size sheets, \$7.75 (microfiche), \$39.25 (paper)

OF 87-0487: In-situ Stress Project, Technical Report #8: Calibration and Accuracy of Electronic Gauges Used in the Hydrofracturing Experiment, Cajon Pass, California, by W. S. Updegrave and J. E. Springer, \$4.00 (microfiche), \$2.50 (paper)

OF 87-581: The Cenozoic Evolution of the San Joaquin Valley, California, by J. A. Bartow, 74 pages including 3 over-size sheets and 1 map, \$6.25 (microfiche), \$11.75 (paper)

OF 87-0600: Sediment Properties Related to Prediction of Embedment and Penetration Depth of Objects into the Seafloor off the Farallon Islands, California, by W. J. Winters and J. S. Booth, 101 pages, \$4.00 (microfiche), \$15.50 (paper)

OF 88-0044: GEONAMES Database of Geologic Names of the United States through 1986, compiled by G. W. Luttrell, M. L. Hubert, and C. R. Murdock, 11 pages (updated version of B1535), \$85.75

OF 88-0044-N: GEONAMES Database of Geologic Names of the United States through 1986: CA, HI, CI, MR, SA, GU, \$7.75

GEOLOGY

Vol. 16, No. 6, June 1988

Superscoops: Their Significance as Elements of Eolian Architecture, by R. C. Blakely

Two Phase Stratigraphic Model of Foreland-Basin Sequences, by P. L. Heller, C. L. Angevine, N. S. Winslow, and C. Paola

Development of Tectonic Cyclothem in Rift, Pull Apart, and Foreland Basins: Sedimentary Response to Episodic Tectonism, by T. C. Blair and W. L. Bilodeau

High-Angle Reverse Faults, Fluid-Pressure Cycling, and Mesothermal Gold-Quartz Deposits, by R. H. Sibson, F. Robert and H. Poulsen

Asymmetric Deep Crustal Structure Across the Juan de Fuca Ridge, by K. M. M. Rohr, B. Milkereit, C. J. Yorath

Fe-oxide Microcrystals in Welded Tuff from Southern Nevada; Origin of Remanence Carriers by Precipitation in Volcanic Glass, by C. M. Schlinger, J. G. Rosenbaum, and David R. Veblen

GEOLOGICAL SOCIETY OF AMERICA BULLETIN

Centennial Vol. 100, No. 6, June 1988

100 Years of Economic Geology and GSA, by J. M. Guilbert

An Expanded View of Jurassic Orogenesis in the Western United States Cordillera: Middle Jurassic (pre-Nevada) Regional Metamorphism and Thrust Faulting within an Active Arc Environment, Klamath Mountains, California, by J. E. Wright and M. R. Fahan

Regional Variations in Bulk Chemistry, Mineralogy, and the Compositions of Mafic and Accessory Minerals in the Batholiths of California, by J. J. Ague and G. H. Brimhall

Magmatic Arc Asymmetry and Distribution of Anomalous Plutonic Belts in the Batholiths of California: Effects of Assimilation, Crustal Thickness, and Depth of Crystallization, by J. J. Ague, and G. H. Brimhall

Lucy Birdsall

**DEADLINE FOR
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NEWSLETTER

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PACIFIC PETROLEUM GEOLOGIST NEWSLETTER

of the Pacific Section
American Association of Petroleum Geologists

October & November 1988 No. 6

THE PRESIDENT'S COLUMN

A total of 43 ballots were cast for our recent constitutional revision. The respondents were overwhelmingly in favor of the revisions (41 yeas), but there was one "No" vote - and one blank ballot (7). We will distribute copies of the revised constitution to the local societies, in case you lose your July-July 1988 PPGN.

At our executive committee meeting in Bakersfield in September, it was decided that we will resume the practice of rebating \$2.00 of the Pacific Section dues directly to the local society of the individual member. This will take place in January, 1989, based upon the paid Pacific Section membership as of December 31, 1988. This will give the local societies some operating capital, and also an incentive to get people to join Pacific Section. There is still time to round up some more members before December 31. Membership applications can be obtained from your local society, or from Betty Bean, care of UNOCAL, 2700 F Street, Bakersfield, California 93301, (805) 861-5459.

Speaking of membership, ours has decreased from a high of 1,500 in 1985 to 1,202 in 1988, a decrease of 19.8%. This is a little worse than the 13% decrease that occurred at the national level.

The 1989 Pacific Section convention in Palm Springs is shaping up very well. Convention general chairman Mike Mitchell has all of his committees formed, and planning is well underway. The technical program, under the direction of Carol Chmura Meyer, will have been finalized about the time you are reading this column. I think that it is very appropriate that we as geologists are exploring new frontiers in convention locations! Maybe we can meet in the Pacific Northwest sometime, after we make that big discovery.

Since this is our last issue before the holidays, I will take this opportunity to wish all of you and your families a very happy holiday season.

Jack West, President

ARCO ACQUIRES TENNECO OIL COMPANY'S PACIFIC COAST DIVISION

Pending approval by federal regulatory agencies, ARCO has agreed to pay approximately \$700 million for the Tenneco Pacific Coast Division.

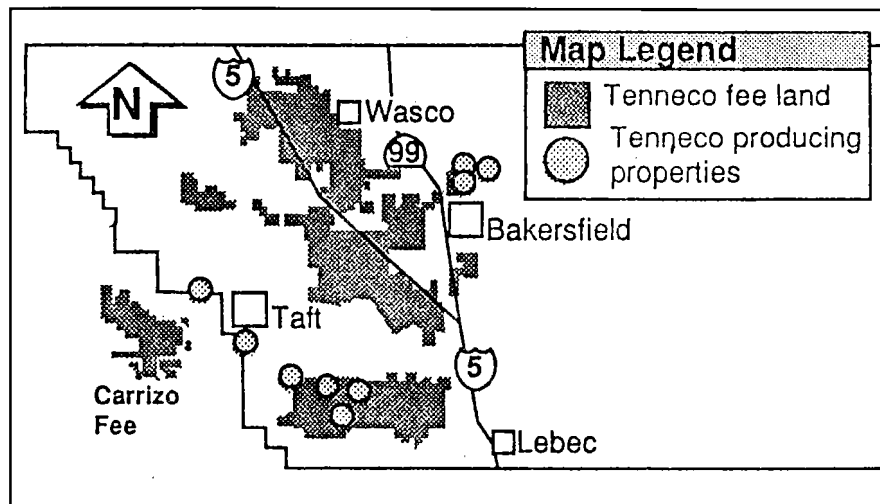
The sale includes net production of 32,000 barrels of crude oil per day and 24 million cubic feet of natural gas per day, as well as almost 500,000 undeveloped acres, most of which are mineral fee.

Proven reserves on the Tenneco properties currently are estimated at about 100 million barrels of crude oil equivalent. Tenneco's producing properties and fee land are located primarily in Kern County, the result of Tenneco's acquisition of the Kern County Land company in the 1960's.

The approval may take several months and until that time the operations will remain separate.

Editor's Note:

Article excerpted from the **Bakersfield Californian**
October 11, 1988.



Los Angeles

The following are upcoming LABGS Meetings with the speakers scheduled to appear and the topics that they will discuss:

October 20 - Dr J. Isle Reed, Regional Director, Pacific OCS Region, Minerals, Management Service, Department of the Interior, "The Challenge for Conducting Offshore Oil Leasing on the West Coast."


November 17 - Dr. Jay Namson, Davis & Namson, "A Structural Transect Through the Ventura Basin and Western Transverse Ranges".

December 15 - Mr. Jack R. Sheehan, Consultant, "Tectonics of the Eastern San Gabriel Mountains - Has the San Gabriel Fault Been Offset?"

January 19 - Dr James Crouch, Crouch, Bachman & Associates, Inc., on the geology of the southern part of the California continental borderland.

The meetings will continue to be held at noon at Luminaria's Restaurant in Monterey Park. For reservations or information, call Harold Syms at (213) 894-3319.

LABGS is soliciting advertisements for our revised newsletter. We will be accepting both professional cards and advertising copy. Please call Jim Tucker at (213) 486-2735 for more information.



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San Joaquin

The following speakers will make presentations to the San Joaquin Geological Society at our monthly dinner meetings:

November 8 - Christine Turner-Peterson, AAPG Distinguished Lecturer, "Pore Throats to Plate Margins: An Integrated Approach to Basin Analysis."

December 13 - Dana Coffield, ARCO International, "Structural Development Associated with Neogene Rifting, Gulf of Suez, Egypt."

The meetings are held at the American Legion Hall in Bakersfield. Attitude adjustment starts at 6:00 p.m., dinner is served at 7:00 p.m. For more information and reservations contact Larry Knauer at (805) 664-2324.

Suggestions for talks should be addressed to Bob Horton (805/833-3059).

AAPG BEST PAPER AWARD

The paper "The Denverton Creek Gas Field, Solano County, California - An Example of Multiple Gas Entrapping Mechanisms" co-authored by Robert Lindblom and John Jacobson, Western Regional Exploration, Chevron U.S.A. Inc., San Ramon, California, has been picked as one of the best papers given at the annual AAPG meeting in Houston, Texas, on March 23, 1988.

The paper will be presented at the "Best of AAPG" session at the SEG annual meeting in Anaheim, California, on October 31, 1988.

NEW MEMBERS

SOUTHERN CALIFORNIA

D. Stephen Townsend - MAA Engineering Consultants, Lakewood;
Timothy J. Thompson - UNOCAL, Ventura; **Dennis Brenneman** - Burns Geological Exploration, Taft; **Marvin C. Kivlehen** - Burns Geological Exploration, Bakersfield; **Elizabeth Lafferty** - California Department of Health Services, Los Angeles; **Randall Ferguson** - Petroleum Industry Consultants, Huntington Beach; **Gerald B. Church** - Seismograph Service Corporation, Sherman Oaks; **Scott C. Webberley** - Frazier Park.

OTHER STATES

Diane L. Schwetz - Exxon Company, USA, Houston.

RECENT MOVES

Debra Olson formerly with Texaco has moved to Mobil in Bakersfield.

Peter R. Supko formerly a consultant in Ventura is now with C-E Environmental, Inc. in Camarillo.

Kenneth P. Henderson has moved from Santa Maria to Sacramento with the California Division of Oil and Gas.

Jack D. Nair, Consultant, has moved from Boulder, Colorado to Santa Barbara.

Candace Salway has moved to International Mining Company, Los Angeles.

Carol V. Anderson has been transferred to Bakersfield from San Ramon with Chevron.

Kristi VanKopp (formerly Kristi Morrison) recently resigned from Chevron U.S.A. in Bakersfield to pursue private interests.

Depco has changed its name to DeKalb.

Wilson Zublin Inc. has changed its name to WZI Inc.

John Randall has been transferred to Ventura from Bakersfield with Chevron.

Gary Briely has moved to Berry Petroleum, formerly with Santa Fe Energy.

Brian Casey formerly with Berry Petroleum is now with Oxy.

Nomeco will close its office in Bakersfield in January.

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Northwest

The NWPA meets quarterly at different locations. The last quarterly meeting was September 15, 1988. For information on the next meeting, contact Bill Covert at (503) 644-3316.

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AAPG PUBLICATIONS

NEW PUBLICATIONS

CS-8R: Revised South San Joaquin Valley from San Andreas Fault to Sierra Nevada Foothills, \$4.00

CS-14R: Los Angeles Basin Cross Section (two sheets), \$7.00

CS-25: San Joaquin Valley T16S/R21E to T11N/R18W, \$4.00

CS-26: Cuyama Valley, \$4.00

MP-37: Tectonics, Sedimentation and Evolution of the Eel River and Other Coastal Basins of Northern California, \$14.00

GB-58: Geological Field Guide to the Long Beach Area, \$16.00

GB-59: San Andreas Fault - Cajon Pass to Palmdale, \$18.00

GB-60: Petroleum Geology of Coastal Southern California, \$13.00

GB-61: Ventura Basin: Geological Introduction and Field Trip Guidebook, \$9.00

FIRE SALE

GB-17: Guidebook to the Southeastern Rim of the Los Angeles Basin - 1969, \$2.00

GB-31: Santa Barbara Channel Revisted - 1973, \$1.50

GB-37: Geology of Peninsular California - 1974, \$5.00

GB-54: Miocene and Cretaceous Depositional Environments, Northwest Baja, California, Mexico - 1984, \$5.00

MP-8: Symposium of Papers Presented at the Fortieth Pacific Section AAPG convention - 1965, \$1.50

MP-11: Proceedings of North Slope Seminar - 1970, \$5.00

MP-14: Selected Papers Presented to the San Joaquin Geological Society, Volume 4 - 1972, \$1.00

MP-29: Criteria in Correlation: Relevant Principles of Science - 1979, \$2.50

MP-33: Preprints, 1980 Annual Meeting AAPG-SEPM-SEG, Pacific Section, \$4.00

MP-34: Forty Years, The Education of a Geologist, Thomas A. Baldwin - 1982, \$5.00

CS-24: Correlation Section of Northwest Oregon, \$2.00

All orders must be pre-paid. Include \$2.50 for postage and handling. Order from: Publication Committee, Pacific Section AAPG, P. O. Box 631, Ventura, California 93002.

CORE REPOSITORY

The summer weather has thinned our ranks of volunteers, however work is progressing at a good pace with student workers. In fact, so much is being done that we are running out of supplies. Anyone who can donate \$4,000 to allow us to purchase another order of core boxes, please contact us at (805) 664-2324 (NOTE: This is a new telephone number).

We need locations for the following well samples: Shell "Posuncula" #33 - #31, Standard "O.C.S.P. - 0296" #2ST, Tenneco "Fee" #77X-5, H. M. Borchard #3-2, and Gulf "Edwards" #1, McCormack "Williamson" #1. Your assistance will be greatly appreciated.

Advertising is being accepted for the 1988 edition of the California Well Sample Repository Catalog. For more information contact Larry Knauer at (805) 664-2324.

COMING EVENTS

November 4 to 5 - AAPG Short Course at SEG "Sequence Stratigraphic Interpretation of Seismic, Well, and Outcrop Data." The instructors will be John Sangree and Peter Vail. For more information call (918) 493-3516.

November 6 to 9 - 1989 GSA Annual Meeting in St. Louis. Exhibitors interested in attending the meeting should contact Kathy Ohmie, GSA Exhibits Manager at (303) 447-2020.

November 7 to 9 - Structure and Stratigraphy of the Monterey Formation and Adjacent Rocks, Central California Field Seminar. For information contact Jim Crouch or Steve Bachman at (805) 963-4421.

November 10 and 11 - Southern San Joaquin Symposium. For information contact John Randall at (805) 395-6381.

November 12 and 13 - Southern San Joaquin Field Trip. For information contact John Randall at (805) 395-6381.

November 15 to 18 - AAPG Short Course, "Exploration Techniques" - Creative Exploration, Defining a Prospect, and Oil and Gas Property Evaluation. For more information call (918) 584-2555.



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AAPG CANDIDATES
ANNOUNCED

The candidates for AAPG's 1989-90 officers have been announced by the AAPG Executive Committee. The nominees are:

PRESIDENT-ELECT

Robert D. Cowdery - consulting geologist, Wichita, Kansas.

James A. Gibbs - consulting geologist, Dallas, Texas.

VICE PRESIDENT

H. Victor Church - consulting geologist, Bakersfield, California.

John W. Harbaugh - professor of applied earth sciences, Stanford University, Stanford, California.

SECRETARY

Robert R. Jordan - state geologist and director of the Delaware Geological Survey, professor of geology, University of Delaware, Newark, Delaware.

Arthur M. VanTyne - consulting geologist, Wellsville, New York.

Ballots will be mailed to the membership in the spring of 1989.

PACIFIC SECTION AAPG
ARCHIVES

The Pacific Section gave a complete set of Pacific Section AAPG publications to the Beale Memorial Library located in Bakersfield. The library which already has an extensive geology section, will serve as an archive for Pacific Section publications.

PPGN ADVERTISEMENTS

Interested in advertising in the PPGN? Ads are accepted for annual distribution or per issue. Flyers announcing schools or upcoming events are also welcome. Advertising should be camera-ready but can be sized to fit by the printer. For more information contact Laura Bazeley at (805) 326-1112 or Judy Russell at (805) 321-6197.

DIRECTORY UPDATE

WANTED: Pictures of members for the 1989 Membership Directory. As of now, it will be an odd looking directory with two-thirds of the membership photographs missing. It is recommended that photo sessions be setup up at the next local societies meetings. The deadline for inclusion into the directory will soon pass, so get with it!

WANTED: Change of address cards to reflect your current address and employment. Please send any changes to: Membership Secretary, Pacific Section AAPG, P. O. Box 1072, Bakersfield, California 93302.

ADVERTISERS: Don't miss your deadline to place your advertisement. Contact Bill Long at Oxy at (805) 321-6041 for details.

Ed Karp, Directory Chairman

DIVISION OF OIL AND GAS APPOINTS NEW CHIEF DEPUTY

Marty Mefferd, State Oil and Gas Supervisor for the California Department of Conservation; Division of Oil and Gas, announced recently the appointment of **Kenneth Henderson** as the division's new chief deputy in charge of policy and administrative matters.

A registered geologist, Henderson has worked for the Division of Oil and Gas since 1975, most recently in the Santa Maria Office. He will help oversee the State's laws regulating oil, gas, and geothermal well operations in the State. You may contact him at (916) 445-9686.

<p>SACRAMENTO BASIN — (Studies completed and in progress)</p> <ul style="list-style-type: none"> • Winters Formation • Paleogene "Gorges" (Martinez and Meganos Fm) • Stratigraphic Framework • Structural Framework/Midland Fault • Field Studies 	MESA VERDE
<p>NORTH SAN JOAQUIN BASIN —</p> <ul style="list-style-type: none"> • Tracy Sd. • Blewett Sd. <p>LIVERMORE —</p> <ul style="list-style-type: none"> • Domengine <p>EXPLORATION AND PRODUCTION SERVICES</p>	

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SOUTHERN SAN JOAQUIN VALLEY SYMPOSIUM

The symposium, co-sponsored by the San Joaquin Geological Society and the Pacific Section SEPM, will be held at Cal State Bakersfield Dore Theatre, November 10 - 11. Presentations will be given on basic tectonics and structure, stratigraphic packaging, general petrology, and petroleum accumulation characterization.

A two-day field trip will be conducted November 12 - 13. The itinerary for the field trip is about finalized, although minor modifications will continue up to the day we leave. Many people have called and volunteered to present, comment, and assist at many of the stops. The field trip committee is making the effort to include as many of these people as possible.

Day 1

Wheeler Ridge, San Emidio Canyon, Crocker Canyon, McKittrick, Cymric

Day 2

Kettleman Hills, Coalinga/Oil City, Big Tar Creek, Chico-Martinez Creek

The objectives of the field trip are to:

Visit geological localities which will complement the presentations in the symposium

Visit some of the "classic" localities which have been not included in field trips in recent years.

Pre-registration for the symposium and field trip is \$200 (\$140 student rate) or \$125 for either the symposium or the field trip. On-site registration for the symposium is \$150. The cost includes a symposium volume, field guidebook, and lunch.

Burns Geological Exploration and the California Oil Scouts will sponsor an "Ice Breaker" at 5 p.m. on November 10 at the California Well Sample Depository at Cal State Bakersfield. Displays at the "Ice Breaker" will include poster sessions by Kim Butler (Oxy) and Bob Menzie; Dibblee Foundation's work with Tom Dibblee's map; a Welox open hole logging unit; and well samples from various fields in the Southern San Joaquin Valley.

Checks for registration should be sent to San Joaquin Geological Society, P. O. Box 1056, Bakersfield, California 93302. For more information call John Randall, Chevron, (805) 895-6381. John Randall is General Chairman, Stephan Graham (Stanford University) is Session Chairman, and Sue Kiser (WZI Inc.) is Field Trip Chairman.

 <p>MICROPALEO CONSULTANTS, INC.</p>	<p>NEW PROPRIETARY STUDIES</p> <p>CALIFORNIA COASTAL BASINS STUDY</p> <p>WINTERS FM. & FORBES FM. STUDIES</p> <p>WESTERN CANADIAN BEAUFORT SEA STUDY</p> <p>N.E. ALASKA OFFSHORE WELL STUDIES</p>
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SOUTHERN SAN JOAQUIN SYMPOSIUM PRESENTERS

NOVEMBER 10 (THURSDAY MORNING)

- IAN MOXON (Stanford University):**
Sequence Stratigraphy of the Great Valley Basin in the Context of Convergent Margin Tectonics
- RAYMOND V. INGERSOLL (UCLA):**
Development of the Cretaceous Forearc Basin of Central California
- STEPHEN A. REID (Bechtel Petroleum Operations, Inc.):**
Late Cretaceous and Paleogene Sedimentation Along the East Side of the San Joaquin Basin
- MARK S. RENTSCHLER & ROBER B. BLOCH (Stanford University):**
Flexural Subsidence Modeling of the Tertiary San Joaquin Basin, California

NOVEMBER 10 (THURSDAY AFTERNOON)

- THOMAS W. DIBBLEE, JR. (University of California Santa Barbara) & ARCHER H. WARNE (Consultant):**
Inferred Relation of the Oligocene to Miocene Bealville Fanlomerate to the Edison Fault, Caliente Canyon Area, Kern County, California
- EMERY D. GOODMAN & PETER E. MALIN (Institute for Crustal Studies - UCSB):**
Comments on the Geology of the Tejon Embayment from Seismic Reflection, Borehole, and Surface Data
- MICHAEL J. HAYES (Tenneco Oil E & P):**
Petrographic Reconnaissance of Oligocene Sandstones, Southern San Joaquin Basin, California
- BRIAN HIRST (Tenneco E & P):**
Early Miocene Tectonism and Associated Turbidite Deposystems of the Tejon Area, Kern County, California
- JAN SCHULTZ (University of California Santa Barbara):**
Tracking Calcium in the San Joaquin Basin, California - Strontium Isotopic Study of Carbonate Cement at North Coles Levee

NOVEMBER 11 (FRIDAY MORNING)

- LORETTA A. WILLIAMS (Consultant):**
Origins of Reservoir Complexity in the Miocene Monterey Formation of California
- GREGG WILKERSON (Bureau of Land Management):**
Cyclic Production of Marginal Quality Monterey Fractured Shale Reservoirs
- DAN E. SCHWARTZ (Shell Western E & P Inc.):**
Characterizing the Lithology, Petrophysical Properties and Depositional Setting of the Belridge Diatomite, South Belridge Field
- KARIN J. FISCHER, H. P. HEASLER & RONALD C. SURDAM (University of Wyoming):**
Hydrocarbon Maturation Modeling of the Southern San Joaquin Basin, California
- ROBERT H. STERLING (Nahama & Weagent) & EUGENE C. TRIPP (Texas Crude Exploration):**
Relationship of Turbidite Deposition to Oil Production, West Bellevue, Bakersfield, California

NOVEMBER 11 (FRIDAY AFTERNOON)

- JAMES S. STOLLE & KEN NADOLNY (Transco) and KEN A. MARCH, BARLEY P. COLLINS & DONALD GREENFIELD (Tenneco):**
Landslide Oil Field, San Joaquin Valley, California: A Case Study in Exploration
- DONALD L. GAUTIER & CHRISTOPHER J. SCHENK (U. S. Geological Survey):**
Sedimentology and Heterogeneity of the Main B Sandstone (Stevens) Reservoir, Elk Hills Field, Southern San Joaquin Basin, California
- JOHN R. GILBERT, JR. (Chevron U.S.A. Inc.):**
Upper Miocene Williams Turbidite Sandstone, West Side Southern San Joaquin Basin, California
- TOM FARLEY (Chevron U.S.A. Inc.):**
Shallow Detachment Faults and Associated Folds in the Tulare Formation, Cymric Field, Kern County, California
- SUSAN C. KISER, E. J. GREENWOOD & LAURA M. BAZELEY (WZI Inc.):**
Lithofacies of the Pleistocene to Recent Sediments in Western Kern County, California

**RECOMMENDED READING
U.S. GEOLOGICAL SURVEY**

B-1788: The Upper Cretaceous Ammonite WATINOCERAS Warren in the Western Interior of the United States, by W. A. Cobban, \$1.75

B-1594: Natural Aggregates of the Conterminous United States, by W. H. Langer, \$4.25

Map MF-1941: Surficial Geologic Map of the Resting Spring and Nopah Ranges, Inyo County, California, and Nye County, Nevada, by M. A. McKittrick, \$1.50

Map MF-0881: Map Showing Faults with Quaternary Displacement, Northeastern San Francisco Bay Region, California, by E. J. Helley and D. G. Herd (reprint), \$1.50

Map MF-0910: Preliminary Map Showing Recent Faulting in Coastal South-Central California, by J. M. Buchanan-Banks, E. H. Pampeyan, H. C. Wagner, and D. S. McCulloch (1978, reprint), \$4.50

GEOLOGICAL SOCIETY OF AMERICA

(Centennial Volume) Vol. 100, No. 6, June 1988

Fragments of the Mantle and Crust from Beneath the Sierra Nevada Batholith: Xenoliths in a Volcanic Pipe Near Big Creek, California, by F. C. W. Dodge, J. P. Lockwood, and L. C. Calk

The Fox Permafrost Tunnel: A Late Quaternary Geologic Record in Central Alaska, by T. D. Hamilton, J. L. Craig, and P. Sellmann

(Centennial Volume) Vol. 100, No. 7, July 1988

Depositional History of an Upper Triassic Draonwed Carbonate Platform Sequence: Wallowa Terrain, Oregon and Idaho, by M. T. Whalen

Geochemical Study of an Early Paleozoic Island-Arc-Back-Arc Basin System. Part 2: Eastern Klamath, Early to Middle Paleozoic Island-Arc Volcanic Rocks (North California), by M. Brouxel, H. Lapierre, A. Michard, and F. Albarede.

GEOLOGY

Vol. 16, No. 6, June 1988

Fe-oxide Microcrystals in Welded Tuff from Southern Nevada; Origin of Remanence Carriers by Precipitation in Volcanic Glass, by C. W. Schlinger, J. G. Rosenbaum, and D. R. Veblen

Vol. 16, No. 8, August 1988

Structural Transect of the Western Transverse Ranges, California: Implications for Lithospheric Kinematics and Seismic Risk Evaluation, by J. Namson and T. Davis

Geology of Pre-Late Wisconsin Giant Floods in the Channeled Scabland Interpreted from Loess Deposits, by E. V. McDonald and A. J. Busacca

TECTONICS

Vol. 7, No. 3, June 1988

Out-of-Sequence Thrusts (Paper 8T0025), by C. K. Morley

Permian and Triassic Rocks of the Mojave Desert and Their Implications for Timing and Mechanisms of Continental Truncation (Paper 8T0199), by J. D. Walker

Vol. 7, No. 4, August 1988

Episodic North America and Pacific Plate Motions (Paper 8T0329), by F. F. Pollitz

Lucy Birdsall

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NEWSLETTER of the Pacific Section - American Association of Petroleum Geologists is published bimonthly by the Pacific Section. Material for publication, requests for previous copies, and communications about advertising costs should be addressed to JUDY RUSSELL, P. O. BOX 12021, BAKERSFIELD, CA 93399-2021. CHANGE OF ADDRESS, subscription, and membership inquiries should be directed to: MEMBERSHIP SECRETARY, PACIFIC SECTION AAPG, P. O. BOX 1072, BAKERSFIELD, CA 93302. PUBLICATIONS COMMITTEE: Pacific Section - American Association of Petroleum Geologists, P. O. Box 631, Ventura, CA 93302.

**DEADLINE FOR
DECEMBER/JANUARY
ISSUE
DECEMBER 1, 1988**

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PACIFIC PETROLEUM GEOLOGIST NEWSLETTER

of the Pacific Section
American Association of Petroleum Geologists

December 1988 & January 1989 No. 1

THE PRESIDENT'S COLUMN

More than 200 geologists, historians and otherwise interested parties turned out for "A Day with Tom Dibblee" at Rancho San Julian near Lompoc on Saturday, October 1, 1988. The occasion was a fund-raiser for the Dibblee Foundation, which is working away at getting Tom's many geologic maps published. This is where Tom's geologic career began, and he shared his "roots" with those of us who elected to join him on a walk up into the Santa Ynez Mountains between the ranch and the Pacific Ocean. Tom, who is certainly one of California's pre-eminent geologists and field mappers, has mapped more of the California landscape than any ten others (one-fourth of the state - 40,000 square miles). Tom and his ranch are part of California's history, this being one of the last "ranchos" that is still operated by descendants of the original grantee. There is talk of making this event an annual affair - plan to attend next year if they do.

Last fall I discovered that "Andy Cline" is alive and well and living in Oregon. You may remember Andy as portrayed in these very pages over the years. The cartoon character is the creation of the fertile mind of Harold Sullwold, who, by the way, is alive and well and living in Carpinteria.

Anyway, we were introducing ourselves around a banquet table in Portland when this gentleman holds out his hand and says, "Hello, I'm Andy Cline." I was taken aback since this was not a gathering of earth scientists. I suspect he was up there doing field work which will probably lead to the big discovery in the Pacific Northwest that many of us know is just one or two wildcats away. Then, maybe, we can hold our Pacific Section convention in Portland, and all bring back smoked salmon and premium wines that will confound our friends in California.

One further note - Wes Bruer has agreed to act as my consultant this year, which makes me feel a lot better! Wes attended the San Joaquin Geological Society meetings in October and November and was re-acquainted with many good friends.

Jack West, President

PACIFIC SECTION AAPG-SEG-SEPM ANNUAL CONVENTION

Plans for the 1989 annual convention to be held in the Palm Springs Convention Center are in full swing. The first announcement will be mailed in January giving the information on papers, field trips and short courses being presented and registration forms. Dates for the meeting are May 9 to 14, 1989. The convention chairman this year is Mike Mitchell (213) 698-0081.

Five field trips and four short courses have already been lined up. Costs and detailed descriptions will be provided in the announcement being mailed in January. The titles, dates and instructors (leaders) for the field trips and short courses are:

Field Trip 1 - The Algodones Dune Field, May 10. Trip leaders are Gary Kocurek, Mike Sweet, Karen Havholm, and Ross Clark.

Field Trip 2 - Heber Geothermal Field, May 10. Trip leaders are Stuart Johnson and Steve McDonald.

Field Trip 3 - Palm Tree Structure in San Andreas Fault Zone, Mecca Hills, May 13. The trip leader is Arthur Sylvester.

Field Trip 4 - Application of Conglomerate Analysis to Interpreting the Origin of the Continental Late Eocene-Oligocene Sespe Formation Bordering the Los Angeles Basin, May 13. Trip leaders are Jeff Howard and Ric Belyea.

Field Trip 5 - Selected Carbonate Rock Suites in the Southern Great Basin, May 12 to 14. Trip leaders are John Cooper, Greg Albright, David Jones, Kirk McCutcheon and Bill Zimpolich.

Short Course 1 - Characterization of Heterogeneous Reservoirs: An Overview, May 9 to 10. Instructors are R. Gene Collins, Rob Finley, and Noel Tyler.

Short Course 2 - Remote Sensing for Petroleum Exploration, May 9 to 10. The instructor is Floyd Sabins.

Short Course 3 - Paleomagnetism, May 9 to 10. The instructor is Mike Fuller.

Short Course 4 - Practical Petrophysics for Exploration and Development: Use of Rocks/Logs to Evaluate Reservoirs, Seals and Source Rocks, May 9 to 10. The instructor is Robert Sneider.

In addition, Jeanne L. Burns, Chairperson of Spouses Activities, needs hostesses in the Hospitality Room, in the Wyndham Hotel. The room will be open from noon to 4:00 p.m. on May 10 and 8:30 to 4:30 p.m. on May 11 and 12. Four hour shifts will be greatly appreciated, or longer if possible. Please write to: Jeanne L. Burns at Post Office Box 1268, Temecula, California 93290 or call (714) 676-4477 or 676-5699. Indicate your preference of the time and day. Please volunteer if you can. It will be a chance to meet a lot of people.

Mark your calendars to attend the convention on May 9 through 14. Hope to see you there!

Los Angeles

The following are upcoming LABGS meetings with the speakers scheduled to appear and the topics that they will discuss:

January 19 - Dr James Crouch, Crouch, Bachman & Associates, Inc., on the geology of the southern part of the California continental borderland.

The meetings will continue to be held at noon at Luminaria's Restaurant in Monterey Park. For reservations or information, call Harold Syms at (213) 894-3319.

Coast

The following are the upcoming meetings:

January 17 - To be announced.

February 21 - Thom Davis, Consultant; "Whittier Narrows Earthquake - Implications for Seismic Risk Evaluation".

March 21 - Cathy Busby-Spera, University of California, Santa Barbara Professor; "Late Cretaceous Tectonism and Sedimentation in Baja California.

Meeting time is at 6:00 p.m., dinner at 7:00 p.m. at the American Legion Hall in Ventura. The address is 83 South Palm. For reservations please contact Susan Lewis at 805/656-7600 - Extension #192 or Lauren Irvine at 805/654-7032.

The Santa Barbara and Ventura Basin 1988 Field Guidebook, Coast Society Field Guide #64, is on sale for \$10.00. This field guide is from the 1988 AAPG Pacific Section Field Trip. For information contact Akbar Sheriff at 805/656-7600.

NEW MEMBERS

SOUTHERN CALIFORNIA

G. Allan Crawford - UNOCAL, Brea; **Mark R. Legg** - Huntington Beach; **Dalton Lochman** - Exxon Company, USA, Thousand Oaks; **Spencer S. Quam** - Chevron USA, Ventura; **Terry C. Gosney** - Bakersfield; **James E. Melland** - Shell Western E & P, Bakersfield; **Richard A. Reynolds** - Vital Computer Solutions, Bakersfield; **Frances H. Govean** - Mission Viejo; **David B. Finnell** - EXLOG, Ventura; **Carolayne E. Holley** - Shell Western E & P, Bakersfield.

NORTHERN CALIFORNIA

Rick Chamberlain - Chevron USA, Inc., San Ramon.

OTHER STATES

Richard J. Robinson - OXY USA, Oklahoma City, Oklahoma; **Lynn D. Gray** - UNOCAL, Anchorage, Alaska; **David W. Cromwell** - Meridian Oil, Midland, Texas.

RECENT MOVES

Randy Metz to Digital Petrophysics, formerly with Tenneco, Bakersfield.

Stephen A. Hamn to ARCO International, Plano, formerly a geophysical consultant and with Challenger Minerals and Quitana Petroleum.

Mark J. DeLisle to the State of California, Division of Mines and Geology, Sacramento, formerly District Exploration Supervisor for CSX Oil and Gas Corporation.

Donald R. Lindsay has retired from Occidental International and is now a consultant.

Bill H. DeRosett with Chevron has transferred to Bakersfield from Denver as a formation evaluation geologist.

Gerry M. Flaherty with Chevron has transferred to Bakersfield from San Ramon as the Taft District geologist.

ARCO International will be relocating to Plano, Texas from Los Angeles.

Gene Tripp is announcing the opening of an office as a consulting geologist. The address is 4400 La Mirada Drive, Bakersfield, California 93305 - (805) 324-5197.

Paul V. Anderson with Chevron USA has been transferred to Bakersfield from San Ramon.

Paul R. Dudley, Jr. has moved from Sewickie, Pennsylvania to Portland, Oregon.

W. W. Steiner has moved from Woodland Hills to Santa Barbara.

Gary E. Nulty has moved to NGC Energy Company in Concord, formerly with Cal Energy in Carmichael.

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Alaska

The following is the tentative AGS program schedule for the remainder of the year:

January 19 - James R. Boles, University of California, Santa Barbara, AAPG Distinguished Lecturer, "Diagenetic Mineral Reactions Reveal Rates of Fluid Movement and Timing of Oil Emplacement".

February 23 - Naresh Kumar, ARCO Alaska, Inc., AAPG Distinguished Lecturer, "Development of Geology of the Giant Fields on the Alaskan North Slope: Key to Successful Reservoir Management".

March 23 - No speaker yet scheduled.

April 20 - James R. Steidtmann, University of Wyoming, AAPG Distinguished Lecturer, "Laramide Basin Subsidence and Basement Uplift in the Rocky Mountain Foreland".

May 25 - Dave Doherty, ARCO Alaska, Inc., "Everything You Wanted to Know about the Cook Inlet Petroleum Province".

All of the above are luncheon meetings scheduled at the Anchorage Westward Hilton Hotel in Anchorage.

San Joaquin

The following are upcoming SJGS meetings:

January 10 - Dan Melchoir, Ebasco Services, "Contaminant Transport, Geochemical Controls on Mobility in Groundwater".

February 14 - Steve Mitchell, CSUB, "The Search for Columbus' Landfall" (spouses night).

March 14 - To be announced.

April 11 - Bob Lindblom, Chevron, "The Denverton Creek Field".

The meetings are held at the American Legion Hall at 2020 "H" Street in Bakersfield. Attitude adjustment starts at 6:00 p.m. and dinner is served at 7:00 p.m. For more information and reservations contact Larry Knauer at (805) 664-2324.

Suggestions for talks should be addressed to Bob Horton at (805) 833-3059.

David Wracher, Santa Fe Energy, is the new President-Elect. He replaces John Randall who resigned after his transfer to Ventura.

SAN DIEGO STATE UNIVERSITY REUNION

The San Diego State University Department of Geology Alumni Association will be holding their third annual field trip on February 24, 25, and 26, 1989, at the Red Rock Canyon State Recreation Area Campground, located on the west side of Highway 14 in eastern Kern County, about 25 miles northeast of Mojave. The \$6.00 per night fee includes pit toilets, running water, tables and fire rings. Bring the family, your own camping (or trailering) gear, food and drink. Hope to see y'all there! Spaces are numbered 40 through 50. Bill Elliott will field questions at (619) 586-0870.

MISSION RESOURCES SOUTH BELTRIDGE FIELD ACQUISITION

Mission Resources Partners has agreed to pay Texaco between \$4 and \$6 million to acquire the mineral, royalty and fee interests it did not already own in the 160-acre South Belridge Field property. Mission produces about 900 barrels daily from the Diatomite zone and Texaco produces about 200 barrels daily from the Tulare zone. The deal also includes Texaco's interests in an adjacent 160 acres, and some producing leases in the Tejon Field.

YOLO COUNTY SUPERVISORS ADOPT NEW INJECTION WELL REGULATIONS

On October 25, 1988, the Yolo County Supervisors voted 4-0 to adopt the new injection well regulations. Requirements include special monitoring wells surrounding an injection well, an environmental impact assessment approval for existing wells, and insurance or bond for potential subsurface pollution.

There are five injection wells in the county that are used for disposing produced-waters from gas wells, and condensation from compression and pipeline operations. While the wells have operated safely over the years, their operation has come under attack by a few environmentalists.

CORE REPOSITORY

The new catalog of well samples will be available January 1, 1989. This catalog has about 60% more entries than the last one. The cost will still be \$3.00 a copy.

Volunteers put in 890 hours cataloging well samples in 1988.

We need locations for the following well samples:

- Seaboard, Thornberry #4
- Gulf, #10A
- Texaco, Devil's Den CH #1
- OXY-Tenneco, Friant Prospect #21-36

Thanks for the help!

Larry Knauer, Curator

COMING EVENTS

January 17 to 19 - SEG local monthly luncheon meetings will feature Bruce Marion with Western/Atlas Tomex, "Checkshot Measurement While Drilling".

May 1 - Application filing deadline for the geology registration exam. The test date for the exam is September 15, 1989. For more information contact The Geologists and Geophysicists Board of Registration at (916) 445-1920.

May 9 to 14 - Pacific Section AAPG-SEG-SEPM Annual Convention, Short Courses and Field Trips, Palm Springs, California.

STATE BEGINS IMPLEMENTING SECOND PHASE OF PROP 65

The State had begun to implement the second phase of Prop 65, the Safe Drinking Water and Toxics Enforcement Act of 1986. The second phase of Prop 65, known as the discharge requirement, mandates that any company discharging toxic (as identified by the State) chemicals into known drinking water sources may be fined up to \$2,500 per day. The discharge requirement went into effect October 27, 1988.

Initially, the discharge requirement identified 29 chemicals as causing cancer, birth defects or other reproductive harm. Included on the preliminary list is the oil by-product, benzene. It is estimated that the list could be expanded, perhaps to as many as 200 toxic substances, within the next year.

As with the first phase of the law, any individual or organization may report a violation, and if penalties are assessed, the reporting party can collect 25 percent of the fine.

CASMALIA TO CONTINUE OPERATIONS

The EPA agreed last week that the Casmalia Resources waste disposal landfill south of Santa Maria can remain open until after a special impartial three-person EPA regional panel holds another hearing on a preliminary EPA decision made last summer to deny Casmalia a permit to continue operating the four landfills that are part of the site. A hearing date has not been set although the EPA says that it will occur in Santa Maria.

The 250-acre disposal site is one of the few in the state where petroleum industry solid wastes can be shipped. Casmalia closed its liquid waste ponds system three years ago in anticipation of major facility reconstruction.

<p>SACRAMENTO BASIN — (Studies completed and in progress)</p> <ul style="list-style-type: none"> • Winters Formation • Paleogene "Gorges" (Martinez and Meganos Fm) • Stratigraphic Framework • Structural Framework/Midland Fault • Field Studies 		<p>MESA VERDE</p>
<p>NORTH SAN JOAQUIN BASIN —</p> <ul style="list-style-type: none"> • Tracy Sd. • Blewett Sd. <p>LIVERMORE —</p> <ul style="list-style-type: none"> • Domengine <p>EXPLORATION AND PRODUCTION SERVICES</p>		
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SUBMARINE-FAN LOBES IN THE WINTERS FORMATION

by

Victor B. Cherven, Mesa Verde Exploration and Production Services

Introduction

Detailed studies of modern and ancient submarine fans in the San Joaquin, North Sea, and other sedimentary basins have shown that many fans consist of a series of coalesced, partially overlapping lobes of "channel-levee complexes" that were deposited during successive intervals of fan growth (McPherson, 1978; Heritier and other, 1979; Droz and Bellaiche, 1985). Lobe geometry and stratigraphy are dependent on a number of factors, such as basin slope, sediment supply, sea level fluctuations, and tectonic activity. One aspect that appears to be common to most fans, however, is that successive lobes are laterally offset from underlying lobes, like delta lobes in deltaic complexes. In most cases, older lobes formed large, elongate topographic highs on the basin floor that diverted later turbidity currents into low areas, where new lobes developed.

Several authors have recognized the submarine-fan origin of the Upper Cretaceous Winters Formation in the Sacramento Basin, (Drummond and other, 1976; Edmonson, 1980; Garcia, 1981), but lobes within the Winters fan were not discussed prior to 1983, when I described four lobes (Cherven, 1983). Further detailed mapping and correlation since 1985 (Mesa Verde, 1988) make it possible to differentiate at least 15 lobes and to rank them in terms of gas productivity. The discussion and exhibits presented here are highly generalized from that study.

Recognition of Fan Lobes

The Winters Formation consists of interbedded gray, fine- to medium-grained arkosic sandstone and dark-gray to black, massive, bioturbated, or laminated mudstone. Rapid lateral changes in thickness and electric-log motif of sandstone beds make correlation very difficult, so that recognition of widespread stratigraphic intervals or fan lobes cannot be reliably based on sandstone correlations. However, there are many shale intervals within the formation that have distinctive electric-log signatures and are regionally extensive, making them excellent marker horizons. Edmonson (1980) used several of these to subdivide the formation into a vertical sequence of six stratigraphic units (members), but

these and others can also be used to recognize laterally adjacent but slightly diachronous sandstone lobes within these members. The distinctive shale intervals form mudstone blankets that drape over older sandstone lobes and are depressed beneath younger lobes.

Most published cross sections and those prepared for Winters prospects are oriented generally perpendicular to regional strike. This orientation reveals updip sand-body pinchouts and gas migration paths, but not lateral pinchouts or the mounded profile of sandstone lobes. On strike-oriented profiles, lobes are more clearly evident, and are encased in mudstone blankets (Figure 1). This profile illustrates at least seven distinct lobes, which together comprise less than 50% of the Winters section. Lobe 3 was deposited on the flank of lobe 2, and lobe 4 was deposited in the topographic low between lobes 1 and 4, and lobe 7 was deposited in the low between lobes 3 and 4. The end result is a complex of seven offset-stacked lobes, all of which are part of the composite Winters fan.

Gas pools have been developed in at least six of the lobes. Pressures and gas-water contacts differ between many of the sandstone beds, and dry holes are present between productive wells. These anomalies could be misinterpreted as being due to faulting or folding, but instead are caused by gas accumulation in separate reservoirs that are sealed by mudstone blankets. Gas sandstones in some lobes are structurally higher but stratigraphically lower than water-wet sandstones in other lobes in adjacent wells. Because of unsuccessful attempts to correlate Winters sandstone beds, many invalid structure contour maps and net-sandstone isopach maps have been made. In addition, the lateral pinchouts of sandstone lobes and the associated development of older and/or younger lobes on their flanks have probably been misinterpreted many times as fault offsets on seismic profiles.

Mapping of Sandstone Lobes

After sandstone lobes have been identified on regional stratigraphic cross sections, they can be mapped over large areas, even where well control is not abundant. Net-sand

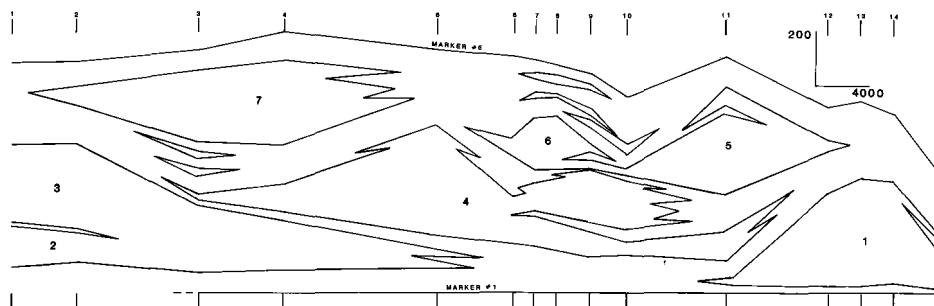


Figure 1

Strike-oriented stratigraphic cross section of part of the Winters Formation, showing sandstone lobes encased in mudstone. Based on 15 wells. Scale in feet.

isopach maps for all sandstone bodies between two mudstone blankets depict the overall geometry of lobes within that interval, and structure-contour maps of mudstone marker beds reveal subtle topographic-structural features that provide clues to stratigraphic traps in underlying lobes (Figure 2). Representative log motifs can be shown directly on isopach maps and used in conjunction with core descriptions to recognize sedimentary facies, map lateral facies changes, and delineate fan subenvironments. These techniques are useful for recognizing favorable reservoir facies, and in interpreting non-reservoir facies and predicting the location of nearby reservoir facies.

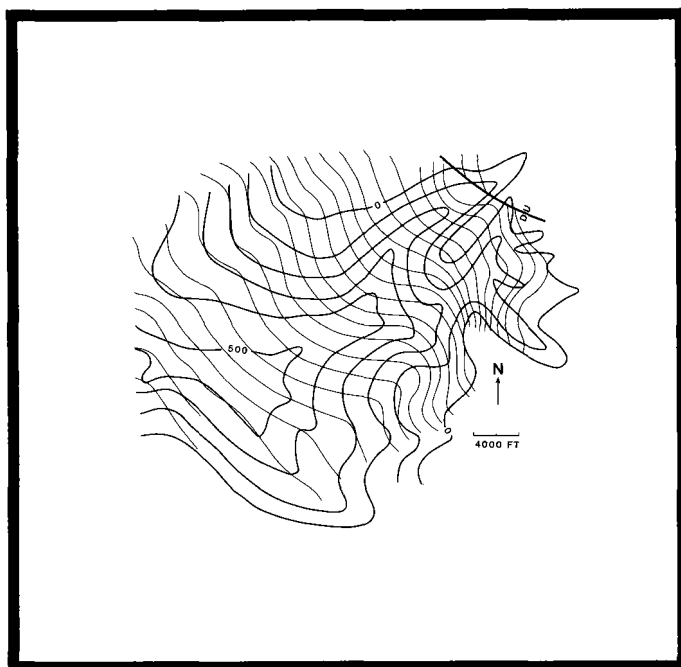


Figure 2

Net-sandstone isopach map of one lobe of Winters fan, superimposed on structure contour map of overlying mudstone marker bed. Structure contours shown as form lines only, with 100-foot contour interval; isopachs in feet.

Lobes are also mappable from seismic data, as has recently been done on several modern fans (Figure 3). Obviously, seismic resolution depends on depth and thickness of the lobe of interest and on the acquisition and processing of the data. Due to the large size of most lobes relative to the size of most gas prospects, it is probable that few companies have a sufficiently extensive seismic data base to map even a single lobe using seismic data alone. Hence, for most exploration programs, well lobes are the main source of the regional data necessary to identify and map lobes within the formation and to evaluate them as gas reservoirs.

References

Cherven, V. B., 1983, A Delta-Slope-Submarine Fan Model for the Maestrichtian part of the great Valley Sequence, Southern Sacramento and Northern San Joaquin Basins, California; AAPG Bulletin, Volume 67, pages 772 - 816.

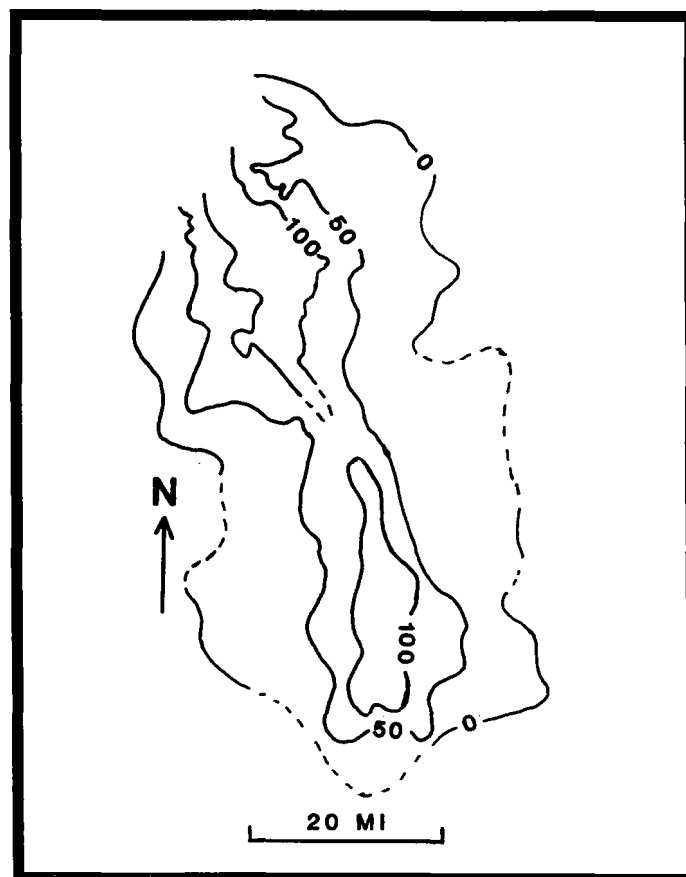


Figure 3

Isochron map for one lobe of Rhone fan, Mediterranean Sea; Isochrons in milliseconds (modified from Droz and Bellaiche, 1985).

- Droz, L. and Bellaiche, G., 1985, Rhone Deep-Sea Fan; Morphostructure and Growth Pattern; AAPG Bulletin, Volume 69, pages 460 - 479.
- Drummond, K. F., Christensen, E. W., and Berry, K. D., 1976, Upper Cretaceous Lithofacies Model, Sacramento Valley, California; AAPG Pacific Section Miscellaneous Publication 24, pages 76 - 88.
- Edmonson, W. F., 1980, Member Sands of the Winters Formation; San Joaquin Geological Society Special Publication 5, pages 1 - 22.
- Garcia, R., 1981, Depositional Systems and Their Relationship to Gas Accumulation in the Sacramento Valley, California; AAPG Bulletin, Volume 65, pages 653 - 673.
- Heritier, F. E., Lossel, P., and Wathne, E., 1979, Frigg Field -- Large Submarine-Fan Trap in Lower Eocene Rocks of North Sea Viking Graben; AAPG Bulletin, Volume 63, pages 1999 - 2020.
- MacPherson, Bruce A., 1978, Sedimentation and Trapping Mechanism in Upper Miocene Stevens and Older Turbidite Fans of Southeastern San Joaquin Valley, California; AAPG Bulletin, Volume 62, pages 2243 - 2274.
- Mesa Verde Exploration and Production Services, 1988, A Study of the Winters Formation, Southern Sacramento Basin; unpublished report, 200 pages.

HIGHER CEILINGS PROPOSED FOR REGISTRATION FEES

In early 1989, California's Legislature will be asked to raise the current ceilings on renewal and application fees for registered geologists and geophysicists. The Legislature must raise these statutory limits before the State Board of Registration for Geologists and Geophysicists can propose fee changes to cover normal cost-of-living increases or emergencies. There are no plans to raise renewal fees prior to 1992, although application fees may be increased to \$60 sometime in 1989.

The biennial renewal fee of \$100 (\$50 per year) is now at its statutory limit. The Board recently asked its Professional Practices Committee to study the need for higher limits and to make appropriate recommendations. The committee noted that:

- The Board's annual budget is now approximately equal to its income.
- The Board's current surplus should be reserved for legal or other unforeseen circumstances and should not be relied upon for long-term operating costs.
- Budget increases have been proposed to:
 - a) Return to two examinations per year,
 - b) Add one clerical position to expedite the continuing large number of applications and related correspondence,
 - c) Expand the Board's investigative and enforcement functions.
- The Board may wish to consider an increase in application fees (now \$40) to cover a greater portion of the examination costs and to minimize the number of applicants who take the examination without serious preparation. Subsequent increases may be required to make the application and examination process fully self-supporting.

The Professional Practices Committee concluded that statutory ceilings need to be raised to allow for future increases in costs. Past, present and projected fees are tabulated in the next column. The Board has accepted the Committee's recommendations that fee limits be raised to: application fee ceiling - \$100; biennial renewal fee ceiling - \$200; biennial specialty (Certified Engineering Geologist) renewal fee ceiling - \$50.

Past, Present and Projected Fees

	<u>Application</u>	<u>Registration</u> (2 years)	<u>Engineering Geologist</u> (2 years)
1969	40	30	5
1976	40	35	10
1980	40	45	10
1982	40	80	10
1988	40	100	20
1989	60 (est.)	100	20
1992	?	120*	25*

* probable maximum

Licensees may be interested in answers to a number of questions related to the proposed increases in fee limits.

How Are These Fees Spent?

The Board's total budget for fiscal 1988/89 is \$240,000. The estimated allocation by function is: administration - 39%, licensing - 34%, enforcement - 27%. Expenditures by major

category are:

Staff salaries and benefits (3.5 positions)	\$123,700
Office Expenses	42,400
Other agency pro-rata	
Department of Consumer Affairs	18,900
Enforcement (Attorney General, etc.)	17,400
Other State (administrative services, etc.)	21,400
Board and committee hearings (includes Board per-diem)	
Board (5 meetings/year plus application review, etc.)	7,800
Professional Practices Committee (4 meetings/year)	3,700
Examination Committee (2 meetings/year)	1,300
Newsletter, other publications	3,200

What Are the Licensing Fees for Comparable Professions?

	<u>Application</u>	<u>Annual</u> <u>Registration</u>	<u>Annual</u> <u>Number of</u> <u>Licensees</u>
Geologists/Geophysicists			
Current fee	40	50	3,500
Current ceiling	60	50	
Proposed new ceiling	100	100	
Certified Engineering Geologists			
Current fee	40	10	1,200
Current ceiling	40	10	
Proposed new ceiling	40	25	
Professional Engineers	115	29	120,000
Geotechnical Engineers	115	29	1,000
Structural Engineers	160	29	2,400
Architects	350	50	17,000
Landscape Architects	325	75	2,000
Accountants	100	100	47,000

What Statutory Restrictions Control the Board's Power to Increase?

Within the statutory limits, fees are established by regulation, and fee increases (as with any proposed new regulations) require both public hearings and approval of the Office of Administrative Law (OAL). Furthermore, fees cannot be raised to the point where large surpluses are accumulated, because Section 128 of the Business and Professions Code restricts a board's surplus to equal two years' budget. If the surplus exceeds the two-year statutory limit, the fees must be reduced. In addition, OAL will not approve a fee increase if it would result in a surplus higher than the limits set by Section 128.

What Additional Expenditures or Programs is the Board Considering?

The Board has submitted Budget Change Proposals to fund one additional clerical position, expand the investigative and enforcement function, and hold a second examination each year. In addition, publication of a new directory of licensees would be timely, and is not in the present budget.

Tom Wright, Chairman, Legislation & Public Affairs

A DAY IN THE FIELD WITH TOM DIBBLEE

The Day in the Field with Tom Dibblee on October 1, 1988 was a resounding success. The combination of a very congenial crowd of nearly 250, two excellent field trips, and the atmosphere of the historic and picturesque Rancho San Julian near Lompoc, made it a very special day. The afternoon barbeque under an ancient grape arbor was a fitting climax to the morning field trips.

Two field trips were held. The first, led by Tom Dibblee was a 3-mile round-trip hike starting south of the ranch headquarters and up along a jeep trail overlooking the beautiful western Santa Ynez Mountains. The hike took the group through Eocene and upper Cretaceous marine rocks, and through complex and spectacular structures associated with the western Santa Ynez fault system. Not only was this area Tom Dibblee's training grounds as a young geologist, but also where he grew up and helped with cattle roundups and other ranch work, and Tom shared some of these experiences with the group.

A second group explored the geologic setting of one of the largest diatomaceous earth quarry operations in North America, at the north end of the San Julian Ranch. This trip was led by David Jenkins and others, from Grefco, Inc. of Lompoc. The diatomite beds occur in the uppermost part of the late Miocene Monterey and overlying Sisquoc Formations and represent the world's largest known deposits of marine diatomite, a most useful and versatile industrial mineral resource.

For those who preferred to explore near the Ranch, there were self-guided walks, as well as tours through the historic ranch house given by Tom Dibblee's family and relatives. A remarkable set of geologic maps of the huge ranch (originally 48,000 acres), prepared by young Tom Dibblee before his formal geologic training at Stanford was on display, as were the recently published maps of the area, published by the Dibblee Geological Foundation.

This was a fundraising event in the Foundation's effort to publish, in full color, at least 100 of Dibblee's many geologic quadrangles of California geology. The event raised well over \$8,000 in contributions, enough to pay for the printing of several maps. In fact, Lompoc/Surf, Pt. Arguello/Tranquillon Mountain and Ventura/Pitas Point are expected to be available by January 1989, followed closely by Los Angeles and Pasadena, the first of the 16-quadrangle Santa Monica Mountains series.

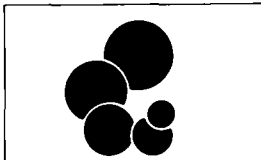
The Foundation is most grateful to the many individuals, companies and organizations that contributed time and funds to this event, too numerous to acknowledge here. However, a special thanks go to Tom and Loretta Dibblee, and their family and relatives, for their hospitality at the Rancho San Julian, the Unocal (Ventura) Paleo Barbecue crew who donated a lot of time and effort to make a memorable barbeque, and the several members of Staal, Gardner & Dunne (Ventura) for organizing and guiding the event.

Helmut E. Ehrenspeck & John Powell

CALIFORNIA LIVING MUSEUM (CALM)

Shell has sponsored an earth science room at the new CALM facility. Individuals or companies who are interested in providing exhibits for this room please contact Jack West at (805) 321-6040.

Thousands of school children visit this facility each year. This is a great opportunity to further interest in the earth sciences.



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GEOLOGIC MAPS

The Dibblee Geological Foundation proudly offers for sale 22 geologic maps of Santa Barbara and Ventura counties, California. Mapping is by Thomas W. Dibblee, Jr. on USGS 7½' quadrangles, in full color. Cost \$10.00 each postpaid.

For further information, phone (805) 967-7820 or write P.O. Box 60560, Santa Barbara, CA 93160.

SOUTHERN SAN JOAQUIN VALLEY SYMPOSIUM

The Southern San Joaquin Valley Symposium, held November 10 - 12 at California State University Bakersfield, was a tremendous success. Dr. Stephan Graham is to be commended for the outstanding job he performed as session chairman, and Dr. Bob Horton for arranging a superb meeting facility. Sue Kiser, with the assistance of some friends, organized an informative and fun field trip to the West Side.

Eighteen authoritative geological workers from the university community, oil industry and government agencies presented two days of significant, informative, and thought-provoking talks. About 125 participants unanimously expressed a high level of satisfaction with the Symposium and were very grateful to the speakers for sharing their work.

Due to its financial success, donations are planned to the California Well Sample Repository, California Living Museum (CALM), and California State Bakersfield Geology Department for the purchase of a SEM.

Symposium related publications: "Selected Papers, Volume 7, SJGS", \$11 and "Studies of the Geology of the San Joaquin Basin", SEPM, \$24, may be obtained from Hans Schwing, UNOCAL, 2323 Knoll Drive, Ventura, California 93003.

John W. Randall
Symposium General Chairman

RECOMMENDED READING

GEOLOGICAL SOCIETY OF AMERICA

Vol. 100, No. 9, Sept. 1988

Seismic Imaging of Extended Crust with Emphasis on the Western United States, by J. McCarthy and G. A. Thompson

A New Structural and Tectonic Interpretation of the Western Part of the Shuksan Blueschist Terrance, Northwestern Washington, by M. P. Gallagher, E. H. Brown, and N. W. Walker

Structure of the Central Death Valley Pull-Apart Basin and Vicinity from COCORP Profiles in the Southern Great Basin, by L. Serpa, B. deVoogd, L. Wright, J. Willemin, J. Oliver, E. Hauser, and B. Troxel

Development of Simple Strike-Slip Fault Zones, Mount Abbot Quadrangle, Sierra Nevada, California, by S. J. Martel, D. D. Pollard, and P. Segall

Vol. 100, No. 10, Oct. 1988

Plate Tectonics and Island Arcs, by W. B. Hamilton

Paleontology and The Geological Society of America: The First 100 Years, by J. T. Dutro, Jr.

Crustal Extension and Magmatic Processes: COCORP Profiles from Death Valley and the Rio Grande Rift, by B. deVoogd, L. Serpa, and L. Brown

Development of Large Submarine Canyons in the Bering Sea, Indicated by Morphologic, Seismic and Sedimentologic Characteristics, by P. R. Carlson and H. A. Karl

The Seismically Reflective Crust Beneath Highly Extended Terranes: Evidence for its Origin in Extension, by E. B. Goodwin and G. A. Thompson

GEOLOGY

Vol. 16, No. 9, Sept. 1988

Origin of Conglomerate Stratigraphy in the Franciscan Assemblage and Great Valley Sequence, Northern California, by V. M. Seiders

Geometry of Upper Cretaceous Bentonite Beds: Implications about Volcanic Source Areas and Paleowind Patterns, Western Interior, United States, by W. P. Elder

Finite-Strain Patterns of Nevadan Deformation, Western Klamath Mountains, California, by S. M. Cashman

Vol. 16, No. 10, Oct. 1988

Deep Fluid Circulation in Fault Zones, by A. M. McCaig

Thrust Involvement of Metamorphic Rocks, Southwestern Brooks Range, Alaska, by A. B. Till, J. M. Schmidt, and S. W. Nelson

Fragment of the Coast Range Ophiolite and the Great Valley Sequence in the San Juan Islands, Washington, by J. I. Garver

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

Vol. 72, No. 10, Oct. 1988

Let's Get it Right the First Time, and the Second, and the Third, by J. A. Helwig

Vol. 72, No. 11, Nov. 1988

Middle Cenozoic Depositional, Tectonic, and Sea Level History of Southern San Joaquin Basin, California, by P. G. DeCelles

Lucy Birdsall

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