



PACIFIC PETROLEUM GEOLOGIST NEWSLETTER

of the Pacific Section
American Association of Petroleum Geologists

February/March 1990 No. 2

THE PRESIDENT'S COLUMN

The Last Oil Expert

The last oil expert died on December 31, 1985! During the first quarter of 1982, he suffered a severe heart attack but after a recuperation period, made an impressive recovery and appeared to be in fairly good health. Not as robust, however, as he was during the late 1970's through early 1980's, when he was confidently predicting \$60 oil by 1990. The rig count was over 4,000 per day and any contractor worth his salt had an airplane, preferably a Lear jet. Company geologists were not only comparing salaries, expense accounts and cars but also club dues (does your club have Nautilus or Universal equipment?). There were about 2,000 oil companies in Denver ranging from the giant Amoco to the one man operation who had incorporated and listed himself as CEO. Meanwhile, the U. S. economy was slowing down, but the prime rate was about 20 percent and major companies such as International Harvester, Braniff, etc. were going belly up. Must be due to poor management, we surmised.

A new day is upon us and new challenges face us. The new geologist not only has to be extremely good at his craft but a part-time engineer, a realistic economist and perhaps most of all, an ace salesman. Do you have enough data or should you run more seismic lines? Should you drill this prospect or is it the dog your engineer insists it is? How about keeping control of the drilling and go day rate instead of the lower cost "turnkey"? None of the logs were that definitive, maybe we should have run a DST along the way as the mudlogger had suggested; should we run casing or P & A and who is going to tell the investors why we're doing it this way? Who should we sell our gas/oil to and should we do it at the old rate or can we do it at the new rate with all the add-on fees that are attached to this new increase in price structure? It's no longer cross sections and contour maps, gang. Everyone has to understand the whole picture to survive. It's forcing all of us to be better managers. In the long run, good prospects will always be drilled!

Meanwhile, companies have merged, downsized, retrenched, repostured and what they meant was that a bunch of people had been zapped from their payroll. It's depressing to see a lot of high quality people working at jobs that utilize just a fraction of their ability in order to remain in the petroleum industry. A big percentage have jumped, never to return. Out of this group that is lost are large numbers who were counted on to take the industry into the 21st century. Somewhere out there a new oil expert is emerging to guide us through these unsure times, but to steal a quote from the comic strip Pogo "I have seen the oil expert and it is US."

Will the San Francisco 49er's "Three-peat"?

NOTICE: Help! The AAPG Awards Committee is asking for the support of the Pacific Section AAPG members to help with the judging of oral papers and poster presentations at the forthcoming National Convention in San Francisco. You may express your willingness to judge on the Convention announcement which you have already received. Participation of the Pacific Section AAPG members is essential in making this years Convention a big success.

Ben Cahill, President

BLM - HOLLISTER RESOURCE AREA LAND USE PLANNING

The Hollister Resource Area, Bureau of Land Management, United States Department of the Interior will be amending the current land use plan (Hollister Resource Management Plan) and preparing an Environmental Impact Statement (EIS) to address oil and gas leasing within the resource area. Decisions will be made regarding what areas should be available for oil and gas leasing, and what special stipulations, if any, should apply for each area. BLM geologists are currently developing "reasonably foreseeable development" scenarios which will project the level of oil and gas exploration and development that is anticipated during the next fifteen years. They are also preparing maps delineating areas of low, moderate or high oil and gas potential. These projections will form the basis for the identification of issues and evaluation of environmental impacts. The Hollister Resource Area includes approximately 310,000 acres of public lands and 385,000 acres of private land with federal ownership of subsurface minerals. These lands are located in the central California counties of Monterey, San Benito, Fresno, Madera and Merced.

Written comments on the planning issues will be accepted until March 30, 1990. Additional comments on the draft plan amendment and EIS will be solicited at a later date. Staff will be available to discuss the project during informal public workshops scheduled for the following times and locations:

March 12, 1990 - 5:00 to 8:00 p.m.

BLM/SCS Building
U.S. Forest Service Compound
426 South Mildred
Kings City, California

March 13, 1990 - 5:00 to 8:00 p.m.

Coalinga Public Library
305 North Fourth Street
Coalinga, California

March 14, 1990 - 1:00 to 8:00 p.m.

BLM Hollister Resource Area
20 Hamilton Court
Hollister, California

San Joaquin

March 13 - Leslie Magoon, U.S.G.S., "Arctic National Wildlife Refuge - Petroleum Potential in One of the Last Alaskan Frontiers".

April 10 - Joint SPE Meeting, Steve Sanford, Chevron, "Influence of Shales on Steam Fluid Response as Interpreted from Gas Saturation History in Kern River Field, California".

May 8 - To be announced.

June 12 - To be announced.

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 Bob Lewy at (805) 321-4163.

Northwest

The annual symposium has been moved from spring to fall to avoid conflicts with other geological symposia in the West.

Membership renewals (\$25.00 per year) now total 120. This will build to about 150 by next summer's renewal.

CHANGES AT SEG

President

John Claussen
Chevron USA

Vice President Western District

Ron Nixon
Chevron USA

Editor

Renee Kierstein
Mobil

Northern

Our November meeting had a very interesting presentation by Paul Carson and Keith Kvenvalden of the U.S.G.S., "Sea Floor Sediments of the Prince William Sound after the Exxon Valdez Oil Spill". Their results indicated no evidence of oil contamination on sea floor sediments.

For information and reservations, please contact Lydia Mendoza at (415) 842-3117.

Coast

March 20 - Kevin Biddle, Exxon, AAPG Distinguished Lecturer, "Basin Evolution Along Active Transform Margins".

April 17 - Rick Hurst, Chempet and California State University - Los Angeles, "Applications of Strontium - Lead Isotopes for Environmental and Sedimentary Geology".

May 15 - To be announced.

June - No meeting.

Meetings are held the third Tuesday of every month. 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.

Los Angeles

NEW MEETING LOCATION

The meetings will be held at noon at UNOCAL Center, California Room, 1201 West Fifth Street, Los Angeles on the **third Thursday of every other month.**

March 15 - Dr. Lucille M. Jones, U. S. G. S., "The Loma Prieta Earthquake of October 1, 1989".

For reservations or information, call Randall Ferguson at (714) 842-6331 or Ken March at (213) 436-9211, Extension #357.

COMING EVENTS

March 14 to 16 - Cordilleran Section GSA Meeting, Tucson, Arizona.

April 4 to 6 - SPE California Regional Meeting, Ventura.

April 29 to May 1 - CIPA's Fourteenth Annual Meeting, Santa Barbara.

May 7 to 10 - Offshore Technology Conference, Houston, Texas.

June 3 to 6 - National AAPG Meeting, San Francisco.

June 17 to 20 - Society of Professional Well Log Analysts (SPWLA), Lafayette, Louisiana.

July 29 to August 3 - Circum - Pacific Energy and Mineral Resources Conference, Honolulu.

September 9 to 12 - Giant Oil and Gas Field of the Decade, Stravenger, Norway.

September 10 to 13 - International Symposium on Oil and Gas Waste Management Practices, New Orleans.

September 23 to 26 - Society of Petroleum Engineers (SPE), New Orleans, Louisiana.

September 23 to 27 - Society of Exploration Geophysicists (SEG), San Francisco.

October 29 to November 1 - National GSA Meeting, Dallas, Texas.

March 6 to 8, 1991 - Pacific Section AAPG Convention, Bakersfield, Dan Schwartz, Chairman (Shell Western Exploration and Production, Inc.).

April 29 to May 1, 1991 - Pacific Section AAPG Convention, Sacramento, Rich Boyd, Chairman (Capitol Oil).

SAN JOAQUIN WELL LOGGING SOCIETY MEETINGS

March 21 - Al Brown, Chevron (retired), "Lithology from Well Logs - A Different Approach".

April 18 - To be announced.

May 16 - To be announced.

All meetings are held from 11:30 a.m. to 1:00 p.m. at Bill Lee's Bamboo Chopsticks, 1203 Eighteenth Street, Bakersfield.

RECENT MOVES

Robert Menzie has joined San Joaquin Energy, formerly with WZI in Bakersfield.

Jack West formerly with OXY USA has joined WZI and is also teaching at California State University, Bakersfield.

Bob Reed has transferred from the OXY Technical Center to OXY International in Tulsa, Oklahoma.

BP Exploration Western Hemisphere has spun off its U. S. Lower 48 onshore exploration/development and gas gathering, transportation and marketing assets into an independent company named **Tex/Con Oil & Gas Company**.

Associated Geophysical Analysts, Inc. (A.G.A.) has been formed in Denver. Their address is Post Office Box 280888, Denver, Colorado 80228 and their telephone number is (303) 933-0211.

Yvan J. Beausoleil has moved to Amoco in Tulsa, Oklahoma from Chevron in Ventura.

D. H. Dailey has moved from Tulsa, Oklahoma to Van Nuys.

Victor Rosato has transferred to Lafayette, Louisiana from Ventura with UNOCAL.

Peter Sudano has moved to ERM Inc. in Princeton, New Jersey from Chevron in Ventura.

Otis H. Walter has moved from Highlands Ranch, Colorado to Mandeville, Louisiana.

Burdette A. Ogle, Ph.D. has moved from Santa Barbara to Grand Junction, Colorado.

Lee C. McFarland has moved from Ventura to Whittier.

Charles V. Booth has moved from New Orleans, Louisiana to Ashland, Oregon.

Recent transfers into Bakersfield with OXY USA include: **Joseph DeDominic, David DeFelice, John Diouhy, Kep Ducote, Marvin Cowan, Wally Gardner, Jim Mefford, Will Satterfield, John Seale, Will Swank, Rene Thibodaux and Anita Walker.**

NEW MEMBERS

SOUTHERN CALIFORNIA

Paul Knox - UNOCAL N.A. Oil & Gas, Santa Fe Springs; **John R. Lung** - Valencia; **Scott Thornton** - UNOCAL, Los Angeles; **Delos R. Tucker** - Glendale City College, Glendale; **Peter A. Jeschke** - Montecito; **Matthew R. Hickie** - Pueblo Oil & Gas, Carpinteria; **C. Richard Willingham** - Explorometrics, Carpinteria; **Forrest M. McGill** - Bakersfield; **Renee Annette Carr** - WZI, Bakersfield; **W. C. Rusty Riese** - ARCO Oil & Gas, Bakersfield; **Barbara D. Houghton** - Bakersfield; **James Beck** - Seneca Resources, Santa Paula; **John T. Williams** - Sky Valley; **Theodore M. Clark** - Emcon Associates, Oxnard; **G. Scott Bates** - UNOCAL, Ventura; **Thomas W. Ladd** - Bakersfield; **Robert J. Menzie** - San Joaquin Energy, Bakersfield; **Carl Lothringer** - UNOCAL, Bakersfield; **Jeff Huckaby** - Bakersfield; **Glen Myska** - Halliburton Logging, Bakersfield.

NORTHERN CALIFORNIA

Robert O. Prindle - Piedmont.

OTHER STATES

Timothy McShane - Terra Sciences, Lakewood, Colorado.

CHANGES AT THE CORE REPOSITORY

The California Well Sample Repository announces the appointment of Russ H. Robinson to the position of Curator, Larry Knauer, who resigned to accept a position with Bechtel, Inc. at Elk Hills. Russ Robinson had had extensive experience in the California oil and gas business since his graduation from California State University, Los Angeles in 1967. Prior to becoming a consultant in 1984, he worked for Gulf Oil Company, Southern California Edison and the Union Pacific Railroad. In 1979 he was President of the Los Angeles Basin Geological Society and was Editor for several years of the Pacific Petroleum Geologist Newsletter. In addition to his oil and gas experience, he has been active in various mineral and gem societies.

Good luck to Russ and Larry in their new positions!

STATE LANDS COMMISSION DECLARES CALIFORNIA LEASING SANCTUARY

No new oil and gas leasing and development will take place in state waters off the Orange, Los Angeles, Santa Barbara and Ventura County coasts, the State Lands Commission declared by a 2-0 vote on December 6, 1989. Reportedly, existing leases would not be affected by the action.

This action has been taken prior to completion of the State Lands Commission California Comprehensive Offshore Resources Study.

The proposal was approved by State Lieutenant Governor Leo McCarthy and Controller Gray Davis (who had requested the special meeting) creating a sanctuary zone over all remaining unleased State tide and submerged lands not under current sanctuary.

The politically sensational nature of the measure was highlighted by McCarthy's press comments released just after the vote, "... many of us have fought a never ending battle to protect our coastline from harmful oil and gas drilling ... today we get to put a big victory in the win column."

SEPM CONTINUING EDUCATION

The "Modern and Ancient Deep-Sea Fan Sedimentation" Short Course

Instructed by C. Hans Nelson, U.S.G.S. - Menlo Park and Tor H. Nilsen, Applied Earth Technology, will be offered on April 9 to 11, 1990 in Houston, Texas and again on October 8 to 10, 1990 in New Orleans, Louisiana. The registration fee, which includes course notes, is \$495 for preregistration and \$510 for on-site registration.

"Integrated Stratigraphic Analysis"

Instructed by John Armentrout, Mobil Oil Corporation, will be offered to professionals twice this year. The first course offering will be held June 2 to 3, 1990 prior to the AAPG/SEPM/EMD Annual Meeting in San Francisco. The second course offering will be held October 27 to 28, 1990 prior to the GSA Annual Meeting in Dallas, Texas.

Because class size is limited, early registration is encouraged. The registration fee is \$245 for preregistration and \$260 for on-site registration. The fee does include course notes.

"Miocene and Oligocene Petroleum Reservoirs of the Santa Maria and Santa Barbara - Ventura Basins in California"

Organized by Margaret Keller, U.S.G.S. - Menlo Park and Mary McGowen, ARCO Oil and Gas - Plano, will be presented on June 3, 1990 prior to the AAPG/SEPM/EMD Annual Meeting in San Francisco. The SEPM core workshop is open to both professionals and students. The registration fees are \$130 for professional preregistration and \$40 for student preregistration. The fee includes course notes. If you enroll on-site, the fees will be \$145 for professionals and \$55 for students.

Please contact Susan Green, Coordinator of Meetings and Educational Programs at (918) 743-9765.

SOCIETY OF INDEPENDENT EARTH SCIENTISTS ANNUAL CONVENTION

TECHNICAL PROGRAM

April 20, 1990

World Oil and Gas Price Outlook
Louis W. Powers, Powers Petroleum Consultants, Houston

Foreign Opportunities for The Independent - Examples from the North Sea
Gene Van Dyke, Van Dyke Energy Company, Houston

High Technology for Seismic Exploration - Can the Independent Afford It?
Normas S. Neidel, N. S. Neidel and Associates, Houston

Geologic Features Viewed from Space - The Astronaut's Perspective
Lt. Colonel Gary Kratochvil,
U.S. Army NASA Geologist, Houston

Horizontal Drilling, A Technology for the Nineties
Philip C. Crouse, Philip C. Crouse and Associates, Dallas

Prospecting with Sequence Stratigraphy
John B. Sangree, Sangree Exploration, Houston

Confidentiality Agreements - Why Not a SIPES Standard Form?
A. T. Green, Independent Geologist, New Orleans

Discovery and Development of Jack Starr Field, Jackson County, Texas, Using AVO Analysis
James L. Allen, Allen Geophysical Consulting, Houston and
Edward S. Meanly, BP Exploration, Houston

For registration information including a special non-member technical program registration, please contact B. K. Starbuck, 1201 Louisiana, Suite 312, Houston, Texas 77002 or call (713) 651-1639.

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Ventura, CA 93001
(805) 653-1579
FAX: (805) 653-0580



5401 Business Park South
Suite 210
Bakersfield, CA 93309
(805) 325-3987
FAX: (805) 322-7193

CORE REPOSITORY

If you have any information regarding the well locations for the following wells, please contact Russ Robinson at the Core Repository at (805) 833-2324.

L. C. Morton

Thomas #1

Western Gulf

Brady Estates #1

Chanslor-Canfield Midway Oil Company

#B-13 (Rincon Field)

Standard Oil Company

L. A. Invest #3-1

V. L. & W.

#41

#36

#20

#40

St. Anthony

La Salle #1

Dabney-Lloyd

#3

RECENT DEATHS

A. ALLEN WEYMOUTH

Mr. Weymouth passed away on December 17, 1989. Allen was probably one of our oldest members - both in age and years of membership. He graduated from the University of Washington and began his work in 1928 with Standard Oil of California. Until his death, he was an active member of a number of geological organizations and subscribed to a great number of publications.

JOHN G. DENNIS

Dr. Dennis, an Emeritus Professor at California State University - Long Beach, passed away on September 9, 1989 in Long Beach. He was a member of the Pacific Section AAPG for many years.

KEY GEOLOGIC
EXPLORATION TERMS

(as defined by the Finance Department)

Tectonic Plate: A high-tech eating utensil.

Source: Supplier of illegal narcotics.

Trap: Something to avoid.

Reservoir: Place to go water skiing.

Deposits: Additions to a bank account.

Joint: Thing you get from a source.

Pinch Out: A way of extracting chewing tobacco.

Unconformity: Another name for a punk rocker.

Faults: Things geologists always look for (in other people).

Bug Picker: A person with serious psychological problems.

Isopach: Thing you put on a sprained ankle.

Subduction Zone: Area along Union Avenue.

Dip Slip: Geologist's name for an idiot (always associated with faults).

Density: Measure of intelligence.

Sweet 'n Sour Crudes: Oil produced from the South China Sea.

Fishing Job: A great way to relax.

Silurian: A person who has difficulty speaking.

Source Unknown



NEW PROPRIETARY STUDIES

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MMS MOVES TO HIKE OCS BOND REQUIREMENT

The U. S. Minerals Management Service has proposed a rule to increase the amount of surety bond coverage it requires for operations on the Outer Continental Shelf.

MMS termed the current coverage, established about twenty years ago at \$50,000 per lease or \$300,000 per area, "clearly insufficient" to cover the costs of removing platforms if companies fail to do so in accordance with terms of their leases.

The agency will accept until March 26, 1990 public comments on its proposal to add two tiers to the OCS bonding provisions for lessees, operators and assignees. The first tier would require a \$200,000 bond for an individual lease of \$1 million for area-wide coverage before MMS review and approval of an exploration plan.

The second tier would require a \$500,000 bond for an individual lease or \$3 million for area-wide coverage before review and approval of a development and production plan or a development operations coordination document.

BUREAU OF LAND MANAGEMENT SUMMARY OF OIL & GAS INDUSTRY MEETING

On September 8 and 9, last year, the Bureau of Land Management held an oil and gas industry meeting on issues pertaining to the agency's authority.

The Bakersfield office, also known as the "Caliente Resource Area," issued September 25, a five-page summary discussing thirteen of the agency's responses.

Among the issues reviewed are:

- o materials for tank berms and spill absorption;
- o industry input to draft regulations;
- o safety concerns during mitigation of issues;
- o the status of an on-going review of the agency's site security and drilling regulations;
- o guidance for surface disposal of produced water;
- o providing for oil and gas operations around a habitat restricted by the threatened and endangered species laws;
- o T & E species mitigation measures.

If you are interested in more information, contact the CRA at (805) 861-4236 or the Bakersfield District office at (805) 861-4191.

OUTER SHELF STILL RICH IN RESERVES

Although production from the federally owned Outer Continental Shelf off California began 21 years ago, there are still two barrels of recoverable oil left in proved reserves for each barrel that has been produced.

That is the conclusion to be drawn from a new publication released by the Minerals Management Service. Titled "Estimated Oil and Gas Reserves Pacific Outer Continental Shelf" the report was prepared by Stephen D. Adams and Steven A. Wolfson.

The 23-page report presents estimates of ultimate production and proved and unproved recoverable reserves for 24 known oil and gas fields in the Outer Continental Shelf off California.

As of December 31, 1988, proved reserves of oil and gas were estimated to be 988 million barrels of oil and 1,572 billion cubic feet of gas, according to the report.

Another MMS report released in November, Titled "Production Record by Platform," said that from start-up through 1988, OCS tracts off California had produced 431 million barrels of oil and 427 billion cubic feet of gas - or less than one-third of the original proved reserves.

The proved reserves are in 13 fields, of which only nine have been brought on stream. The nine producing fields are Point Pedernales, Hondo, Dos Cuadras, Carpinteria Offshore, Pitas Point, Santa Clara, Sockeye, Hueneme and Beta.

Four additional fields have not come on stream. Two are still attempting to clear the permitting process, namely, Point Arguello, a 1981 discovery, and San Miguel, a 1983 discovery.

Two other fields have made their way through the permitting process, and construction has begun to bring them on stream in 1992. The fields are Sacate and Pescado. They were discovered in 1968 to 1969.

QUICK QUIZ ON 1980 OIL HISTORY

1. In 1980, where did OPEC envision oil prices in 1985 to 1987?
2. Who projected in early 1980 that 1 million barrels per day of U. S. demand would be met by synfuels in 1990 and the U. S. crude imports would be 9.3 million barrels per day?
3. In 1980, how much was the U. S. "windfall profits" tax expected to yield the government in the decade?
4. What were Iran's and Iraq's lowest output levels in the decade and when?
5. When did spot prices for Mid-east light crudes hit their highs and lows?
6. When did non-OPEC free-world output first exceed OPEC production?
7. How much was the so-called Aramco advantage price differential worth to the U. S. Aramco partners in mid-1982?
8. What was the Nymex volume on:
 - a) crude futures in early 1984?
 - b) crude futures in early 1989?
 - c) on unleaded gasoline futures at the beginning of 1984?
9. How much was OPEC producing in February of 1983, when spot crude prices were \$29?
10. What was the largest oil industry acquisition and how much did it cost?

Answers

1) \$60 a barrel, 2) Exxon, 3) \$700 billion, assuming \$75 a barrel oil, 4) Iran: 450,000 barrels per day and Iraq: 150,000 barrels per day. Both in October of 1980, 5) High: \$39.76, November of 1980 and Low: \$7.85, July of 1986, 6) February of 1982, 7) Minus \$5 a barrel, 8) a: Less than 5,000, b: More than 60,000, c: Trick question, trading of unleaded began in December of 1984, 9) 14.3 million barrels per day, 10) Chevron's purchase of Gulf Oil for \$13.2 billion.

Scoring: Number Correct

9 to 10: Top notch, you rank with senior OPEC statesmen and top executives of major oil companies.

7 to 8: Very good, you ought to be on the management fast track.

4 to 6: Only fair, but still good enough for most corporate planning departments or PIW's editorial staff.

1 to 3: You lack historical perspective, consider becoming an oil trader.

from P. I. Weekly, December 18, 1989

The MMS report estimates unproved reserves in 11 additional fields at 310 million barrels of oil and 468 cubic feet of gas indicating a possible ultimate production from the OCS fields discovered off California of 1,729 million barrels of oil and 2,467 billion cubic feet of gas.

The 11 additional fields are Point Sal in the offshore portion of the Santa Maria Basin; an unnamed field on OCS-P 0443 and the Benito, Electra, Rocky Point, Jalama, Sword and Government Point fields offshore in the Point Arguello-Point Conception area; the Santa Rosa and Smugglers Cove fields about 15 miles southwest of Santa Barbara in the Santa Barbara Channel; and the Northwest Beta field off Huntington Beach.

The new report, MMS 89-0085, is available without charge from the Public Affairs Office, Minerals Management Service, 1340 West Sixth Street, Los Angeles, California 90017.

Bill Rintoul

RECOMMENDED READING

U. S. GEOLOGICAL SURVEY

The Puu Oo Eruption of Kilauea Volcano, Hawaii, Episodes 1 Through 20, January 3, 1983 Through June 8, 1984, edited by E. W. Wolfe, \$23.00

GQ-1658: Geologic Map of the Burrett Peak Quadrangle, Monterey and San Luis Obispo Counties, California, by W. E. Seiders, \$3.60

I-1828: Geologic Maps of the Pacific Palisades Area, Los Angeles, California, by J. T. McGill (in color, two sheets), \$6.70

MF-1888: Sketches of Yosemite National Park, California, from Glacier Point, Sentinel Dome and Mt. Hoffman, by T. R. Alpha (reprint), \$1.50

MF-2072: Geologic Map of the Milligan Fifteen Minute Quadrangle, San Bernardino County, California, by K. A. Howard, P. Stone and C. F. Miller (polyconic projection), \$1.50

I-1799: Atlas of Oblique Maps: A Collection of Landform Portrayals of Selected Areas of the World, edited by T. R. Alpha, J. S. Dettelman and J. M. Morley, (137 pages, 16 X 20 inches), \$30.00

Bulletin 1875-C: North American Datum of 1983, Map Data Conversion Tables: Alaska. Prepared in cooperation with the Department of Commerce, National Oceanic and Atmospheric Administration, \$13.00

U. S. G. S. Yearbook, Fiscal Year, 1988, \$13.00

Circular 1050: The U. S. G. S., 1879 to 1989, by M. C. Rabbitt, Free

OP 89-29: Reports for California by the U. S. G. S. Survey Water Resources Division, (paper), \$37.25

GEOLOGY

Vol. 17, No. 9, September 1989

Northeast Basin and Range Province Active Tectonics: An Alternative View, by R. Westaway

Sulfur Isotopic Ratios of the Magnetite-Series and Ilmenite-Series Granitoids of the Sierra Nevada Batholith - A Reconnaissance Study, by S. Ishihara and A. Sasaki

Pre-transform Early Miocene Extension in Western California, by M. E. Tenneyson

Calibration of the Geologic Time Scale: Cenozoic and Late Cretaceous Glauconite and Nonglauconite Dates Compared, by L. E. Craig, A. G. Smith and R. L. Armstrong

Cordilleran Slab Windows, by D. J. Thorkelson and R. P. Taylor

Environmental Calibration of the Aluminum-in-hornblende Geobarometer with Application to Long Valley Caldera (California) Volcanic Rocks, by M. C. Johnson and M. J. Rutherford

Paleocene Plutonism and Its Tectonic Implications, North Cascades, Washington, by R. B. Miller, S. A. Bowring and W. J. Hoppe

Quaternary Geochronology and Distribution of *Mammuthus* on the Colorado Plateau, by L. D. Agenbroad and J. I. Mead

AAPG BULLETIN

Vol. 73, No. 9, September 1989

Russel Fault: Early Strike-slip Fault of California Coast Ranges, by R. S. Yeats, J. A. Calhoun, B. B. Nevins, H. F. Schwing and H. M. Spitz

Vol. 73, No. 10, October 1989

Evolution of Pliocene Sandstones, Ventura Basin, California, Discussion by S. N. Ehrenberg and replies

GEOLOGICAL SOCIETY OF AMERICA BULLETIN

Vol. 101, No. 9, September 1989

Holocene and Late Pleistocene Slip Rates on the San Andreas Fault in Yucaipa, California, Using Displaced Alluvial Fan Deposits and Soil Chronology, by J. W. Harden and J. C. Matti

Contemporary Seismicity, Faulting and the State of Stress in the Colorado Plateau, by I. G. Wong and J. R. Humphrey

Glacio-isostatic Response of the Puget Sound Area, Washington, by R. M. Thorson

Chronology of Early Eocene Marine and Terrestrial Strata, Baja California, Mexico, by J. J. Flynn, R. M. Cipollette and M. J. Novacek

BOOKS

Geostatistics and Petroleum Geology, by M. E. Hohn, 1988, Computer Methods in the Geosciences 6, 264 pages, Van Nostrand Reinhold, New York, \$32.95

Lucy Birdsall

BLM FIELD TRIP GUIDE

The BLM recently conducted a public geology field trip to the eastern Sierra Nevada region between the Owens and Mono Basins. The guidebook offers a mile-by-mile description of unique geologic features between Fossil Falls south of Owens Lake to the ghost town of Bodie, north of Mono Lake.

Abundant photographs, maps and simple explanations provide fascinating reading for anyone interested in the unique and spectacular geologic and tectonic features of this area.

Copies of "Guidebook: Geology Field Trip to Mono/Owens Valleys are available from the BLM Bakersfield District Office from Mark Milliken. A charge of \$6.00 is required to cover reproduction and shipping costs.

Several geology field trips are conducted each year. Anyone interested in participating either as an observer or field guide can contact Mark Milliken or Anne Falcon at the Bakersfield BLM office at (805) 861-4196.

PACIFIC SECTION - AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

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

**DEADLINE FOR
APRIL/MAY
ISSUE
MAY 1, 1990**

REMINDER - YOUR DUES ARE PAST DUE

DUES STATEMENT - 1989 TO 1990 Preferred Society Affiliation (Circle One)

- L. A. Basin Geological Society
San Joaquin Geological Society
Coast Geological Society
Northern California Geological Society
Northwest Petroleum Association
Sacramento Petroleum Association
Aslaka Geological Society

(This statement is for 12 months, July 1, 1989 through June 30, 1989)
(delinquent after August 31, 1989)

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NEWSLETTER

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PACIFIC PETROLEUM GEOLOGIST NEWSLETTER

of the Pacific Section
American Association of Petroleum Geologists

April/May 1990 No. 3

ELECTION ISSUE

THE PRESIDENT'S COLUMN

Take your time going over the list of candidates for the 1990-1991 officers for the Pacific Section of the AAPG. The good news is you can't go wrong regardless of who you vote for. President-elect Jack Cunningham will take over the President's office on July 1 and see what he can do to salvage the organization from the previous office holder (who was on cruise control all year). The Pacific Section is in good shape due to the quality of people who had run it in the past and there is no reason to expect anything less in the future. The turmoil that has been going on in the industry has had an adverse effect on our membership. From a high of 1,450 members, we are down to 1,050. Hopefully, we have bottomed out and with luck it will turn around. Mail in your ballot and feel confident that the Pacific Section of the AAPG will be in good hands, as usual.

William A. Adent of the Minerals Management Service has been elected as the Pacific Section representative to the Division of Professional Affairs Advisory Board. Bill Adent had been selected by his fellow Pacific Section DPA members. Bill's tenure will run from July 1, 1990 to June 3, 1993 and will succeed Bob Ferguson.

I'm not sure which way the industry is going but occasionally I sense an air of optimism. ARCO has been going like gangbusters in Kern County as well as the Eel River Basin. Phillips has been fairly active in the northern San Joaquin Valley and UNOCAL's Merrill Avenue discovery has caused some interest. In the Sacramento Valley, Capitol Oil, Nahama & Weagant and Amerada-Hess have had impressive successes recently. PG&E's new gas purchasing policy has everyone wondering. Under the terms for new gas, the operating company has to arrange and pay for hook-up to their pipeline (land, right-of-way, meters, gas gathering equipment, etc.). Before spudding, the operator is advised to contact the utility company for a tie-in point, which could be thirty miles down the road! The question is what will be the price for the new gas? By the time you read this article, these questions should have been resolved. Maybe!

Your plans for the National AAPG Convention should be flanged up by now. The 1981 Convention in the City was the high water mark for our National Meeting with 12,000 registrants. We will not reach that number but early returns indicate a good turn-out is expected. It's a waste of time to go to San Francisco and not prepare for a good time. For a good lunch or dinner, try Original Joe's on Taylor about a block from the Hilton. It's at the edge of the Tenderloin district so don't go wandering at night. If you head for Fisherman's Wharf to check out the seals and look for a restaurant, go to Scoma's or the Franciscan. For something elaborate, take a bag of money to the Blue Fox or the Big Four at the Hotel Huntington. Stick it on your expense account and I guarantee you'll get someone's attention! Take the Hyde Street cable car all the way to Aquatic Park and check out one of the City's historical landmarks, the Irish coffee at the Buena Vista Cafe. If all else fails, you can't miss at Chinatown. The best place to people watch is still Union Square, however, don't inhale too deeply. Have a great time in San Francisco!

Ben Cahill, President

PACIFIC SECTION AAPG ELECTION

The slate of candidates for office in the Pacific Section American Association of Petroleum Geologists are chosen by the Nominating Committee which is chaired by the Past President. Jack H. West has completed his responsibility with the list of candidates listed below:

President-elect

John Randall

David Wracher

Vice President

Frank Cressy

Michael Mitchell

Secretary

Robert Countryman

Herman Schymiczek

Brief resumes of each candidate are presented on pages four and five. The President for the next year is Jack Cunningham and Marty Hall-Burr has one more year in her term as Treasurer.

San Joaquin

May 8 - Dr. Hugo Loaiciga, University of California at Santa Barbara, "The Future of Hydrology in the 1990's", to be held at the Rio Bravo Tennis Resort, 11200 Lake Ming Road.

June 12 - To be announced.

Randy Metz of Pacific Geotechnical Associates, Inc., has been selected to fill the position of Vice President vacated by **Bill Long** of OXY USA. Bill was transferred to Houston before his term expired.

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 Bob Lewy at (805) 321-4163.

Coast

May 15 - To be announced.

June - No meeting.

Meetings are held the third Tuesday of every month. 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.

Los Angeles

The meetings will be held alternate months at noon at UNOCAL Center, California Room, 1201 West Fifth Street, Los Angeles.

May 31 - Dr. Lucille M. Jones, U.S.G.S., "The Loma Prieta Earthquake of October 1, 1989".

For reservations or information, call Randall Ferguson at (714) 842-6331 or Ken March at (213) 436-9211, Extension #357.

NEVADA PETROLEUM SOCIETY

The Nevada Petroleum Society meets the first Thursday of each month, except during the summer, at the Holiday Hotel, Reno at 6:30 p.m. Please contact Vicki Ehni at (702) 883-1107 for more information and reservations.

NEW OFFICER ANNOUNCEMENTS

The new officers of the **Sacramento Petroleum Society** for 1990 have been elected by the membership.

Rich Boyd, President
Capitol Oil Corporation

Alan Bartley, Vice President
Evers-Bartley, Ltd.

Don Pinnell, Treasurer
Retired

Marc Hewston, Secretary
Measurement & Control

The new officers of the **Nevada Petroleum Society** for 1990-1991 have been elected by the membership.

Ted Flanigan, President
Flanigan & Flanigan, Inc.

Neal Brecheisen, Vice President
Bureau of Land Management

John D. Greenlee, Secretary
Tejas Group

Betty Briggs, Treasurer
Briggs Information Services

SACRAMENTO PETROLEUM SOCIETY

The Sacramento Petroleum Society meets every Wednesday at noon for a social luncheon at Neptune's Table, 5990 South Land Park Drive, Sacramento. Lecture meetings are held monthly by announcement.

April 18 - Tor Nilsen, Applied Earth Technology, "Depositional Systems of the Forbes Formation, Sacramento Valley, California".

June 15 - Summer Golf Tournament at River Bend Golf Course.

For more information and reservations please contact Rich Boyd at (916) 929-4141.

COMING EVENTS

May 1 - Application deadline for California Geology registration exam. For information contact the State Board of Registration for Geologists and Geophysicists at (916) 445-1920.

May 7 to 10 - Offshore Technology Conference, Houston, Texas.

May 8 - San Joaquin Geological Society seminar, "Groundwater Hydrology". For more information please contact Pat Diaz (805/832-7490) or Bob Lewy (805/321-4153).

June 3 to 6 - National AAPG Meeting, San Francisco.

June 15 - Sacramento Petroleum Society Summer Golf Tournament at the River Bend Golf Course. Please contact Rich Boyd at (916) 929-4141 for more information.

June 15 to 17 - Second Annual Field Trip of the Nevada Petroleum Society: Oil Fields and Geology of the Pine Valley, Eureka County Area, Nevada. Registration deadline is June 1, 1990. Please contact Donna Flanigan at (702) 786-0333 or Bill Ehni at (702) 883-1107 for details.

June 17 to 20 - Society of Professional Well Log Analysts (SPWLA), Lafayette, Louisiana.

July 29 to August 3 - Circum-Pacific Energy and Mineral Resources Conference, Honolulu.

September 9 to 12 - Giant Oil and Gas Field of the Decade, Stravenger, Norway. Preregistration deadline is July 1, 1990. For information please contact AAPG at (918) 584-2555.

September 10 to 13 - International Symposium on Oil and Gas Waste Management Practices, New Orleans.

September 14 - California Geology Registration Exam.

September 23 to 26 - Society of Petroleum Engineers (SPE) Convention, New Orleans, Louisiana.

September 23 to 27 - Society of Exploration Geophysicists (SEG) Convention, San Francisco.

October 29 to November 1 - National GSA Meeting, Dallas, Texas.

March 6 to 8, 1991 - Pacific Section AAPG Convention, Bakersfield, Dan Schwartz, Chairman (Shell Western Exploration and Production, Inc.).

April 29 to May 1, 1992 - Pacific Section AAPG Convention, Sacramento, Rich Boyd, Chairman (Capitol Oil).

RECENT MOVES

Recent transfers into Bakersfield with UNOCAL include: **Jean Paul Chauvel**, **John F. Kowalsky**, **Hans F. Schwing** and **Timothy J. Thompson**. The new address for UNOCAL is 1800 30th Street, Bakersfield, California 93301.

Robert N. Hacker and **Paul D. Hacker** have moved to 1400 Easton Drive, Suite 142, Bakersfield, California 93309. Their new telephone number is (805) 325-1678.

David B. Del Mar has moved from Bakersfield to Santa Fe Springs with Santa Fe Resources.

Carlos A. Diaz is now with Halliburton Logging Services, Bakersfield, formerly with Grant-Norpac.

Claus L. Engelhardt has moved to Bakersfield, formerly with Apache Oil in Colorado.

Randy Metz and **Brian Hirst** have formed Pacific Geotechnical Associates, Inc., a geological consulting firm in Bakersfield. Both were formerly with the Tenneco Oil Company. Their address is 4664 American Avenue, Bakersfield, California 93309 and their telephone number is (805) 832-7490.

Kevin Beacom has joined Pacific Geotechnical Associates, Inc., as a Project Geologist, formerly with ARCO in Bakersfield.

NEW MEMBERS

SOUTHERN CALIFORNIA

James W. Briggs, Jr. - ORYX Energy Company, Valencia; **Dawn H. Garcia** - Engineering Enterprises, Inc., Long Beach; **Kenneth A. March** - THUMS Long Beach, Long Beach; **Ali Tabidian** - California State University, Northridge; **A. Alan Frazer** - EXLOG, Ventura; **Curtis Conway** - GTS Corporation, Bakersfield; **Daniel Fargo** - Core Labs, Bakersfield; **Jerry R. Lohr** - UNOCAL, Bakersfield.

OTHER STATES

Dan L. Wilson - ARCO, Dallas, Texas.

RECENT DEATHS

EDMUND GUENARD

Mr. Guenard passed away on December 12, 1989 at the age of 36. He was the Senior Technical Sales Representative at EXLOG in Ventura for the past six years. He was an officer of the SPWLA Chapter in Ventura.

THOMAS B. WILLIAMS

Mr. Williams passed away on February 25, 1990. He was the owner of Petrolog, Inc., a Ventura mudlogging company. He was a graduate of California Lutheran and the University of Southern California. He was a frequent attendee at Coast Geological Society meetings and AAPG Conventions for decades.

GEOSCIENCE EMPLOYERS

The Northern Coast Geological Society has compiled a list of geoscience employers in the Greater Bay Area and Northern California. The cost for this list is \$1.00 to cover postage and copying costs. For more information contact Stephanie Davis at (415) 842-0853.

GROUNDWATER HYDROLOGY SEMINAR

The San Joaquin Geological Society is offering a one day seminar on groundwater hydrology on May 8, 1990 at the Rio Bravo Resort from 8:00 a.m. to 5:00 p.m. This introductory level course will stress principles, terminology, basic techniques, local and state-wide regulations. It is appropriate for geologists, hydrologists and environmental professionals who wish to learn more about groundwater and the regulations regarding its use and protection. The primary instruction will be by Dr. Hugo Loaiciga, Department of Geography, University of California at Santa Barbara. Registration is \$95 on the day of the seminar. Early registration is \$80 and student registration is \$25 with a valid student ID. For information contact Pat Diaz (805/832-7490) or Bob Lewy (805/321-4153).

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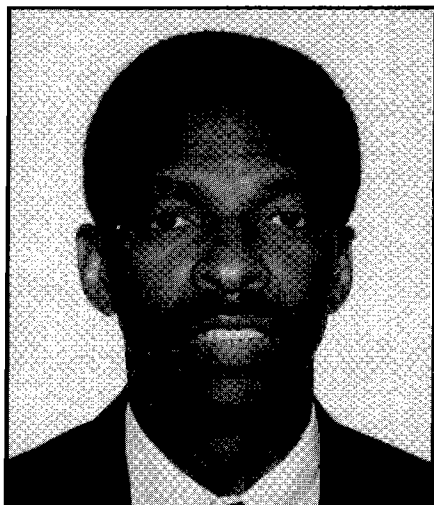
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BUZZ DELANO in Bakersfield at (805) 325-3987 or
HAROLD CRAWFORD in Ventura at (805) 653-1579

2151 Alessandro
Suite 110
Ventura, CA 93001
(805) 653-1579
FAX: (805) 653-0580



5401 Business Park South
Suite 210
Bakersfield, CA 93309
(805) 325-3987
FAX: (805) 322-7193

CANDIDATES FOR OFFICE - PACIFIC SECTION AAPG



JOHN W. RANDALL
Candidate for President - Elect

Present Position:

Division Development Geologist, Chevron
USA, Southern California Division

Education:

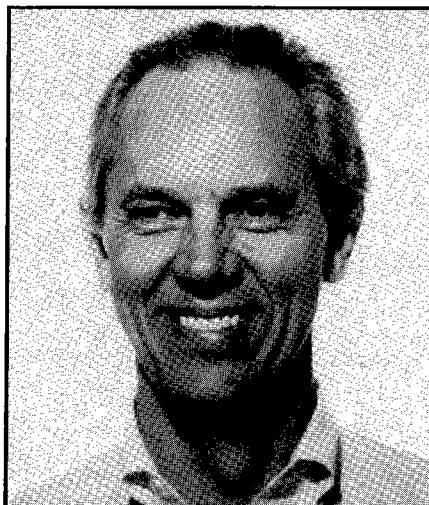
1967: Southern Illinois University, B.S.
Geology
1970: Southern Illinois University, M.S.
Geology

Employment:

1970-1977: Exploration Geologist, Union
Oil Company
1977-1985: Exploration, Regional
Geologist and Area Production
Geology Manager, Gulf Oil Company
1985-Present: Division Development
Geologist, Chevron USA

Professional Activities:

Newsletter Editor, Pacific Section AAPG,
1981-1984
Vice President, San Joaquin Geological
Society, 1985-1986
President-elect, San Joaquin Geological
Society, 1988-1989
Symposium Chairman, San Joaquin
Geological Society, 1988
Vice President, Pacific Section AAPG,
1989-1990



DAVID A. WRACHER
Candidate for President - Elect

Present Position:

Exploration Manager, California/Frontier
District, Santa Fe Energy Resources,
Inc.

Education:

1963: Kent State University, B.S.
Geology
1969: Oregon State University, M. S.
Geology

Employment:

1966-1969: Exploration Geologist,
Chevron USA
1970-1977: Exploration Geologist, Hanna
Mining Company
1978-1983: Exploration Manager & Vice
President, Hanna Petroleum
1984: Independent Exploration Geologist
1984-Present: Exploration Manager,
Santa Fe Energy Resources, Inc.

Professional Activities:

Member: National AAPG, House of
Delegates, 1986-1989, Pacific Section
AAPG, Society of Economic
Geologists, Nevada Petroleum
Society
President, San Joaquin Geological
Society, 1989-1990
Exhibits Coordinator, Pacific Section
Convention, 1987



FRANK B. CRESSY, JR.
Candidate for Vice President

Present Position:

Consulting Geologist

Education:

1971: University of California, Riverside,
B.S. Geology
1974: Oregon State University, M.S.
Geology

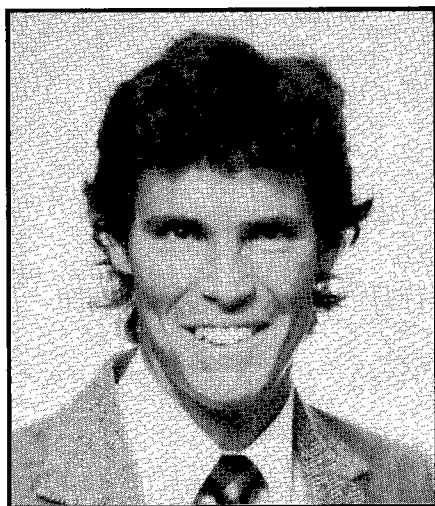
Employment:

1973-1981: Texaco Inc., Various
Positions from Exploration Geology to
District Geologist, Los Angeles
1981-1985: Quintana Petroleum
Corporation, Bakersfield and Denver,
Exploration Manager & Geological
Coordinator
1985-Present: Consulting Geologist

Professional Activities:

California Registered Geologist
Member: National AAPG, Pacific Section
AAPG, Pacific Section SEPM, San
Joaquin Well Logging Society
Information Chairman, Pacific Section
Convention, 1979
Secretary, San Joaquin Geological
Society, 1982-1983
San Joaquin Geological Society Delegate
to National AAPG, 1988-1991

CANDIDATES FOR OFFICE - PACIFIC SECTION AAPG



MICHAEL D. MITCHELL
Candidate for Vice President

Present Position:

Technical Sales Manager, Petroleum Testing Service Inc.

Education:

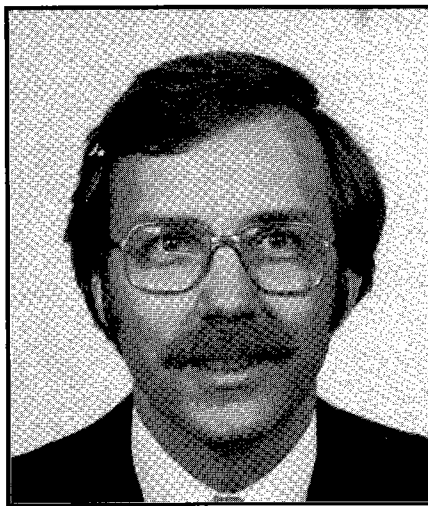
1976: San Diego State University, B.A., Earth Sciences
1977: University of Arizona

Employment:

1979-1984: Sales Management, BJ Hughes
1984-Present: Sales Management, Petroleum Testing Service, Inc.

Professional Activities:

Member: Society of Petroleum Engineers, Society of Core Analysts, National Water Well Association, Pacific Section AAPG, National AAPG
California Regional Meeting Technical Review Committee, 1988-1990
Vice President of Membership, Society of Core Analysts, 1988
Member, Los Angeles Basin Society, Program Chairman, Los Angeles Basin Society, 1985
President, Los Angeles Basin Society, 1987
General Chairman, Palm Springs Technical Conference and Exhibition, Pacific Section AAPG, 1989
Membership Committee, National AAPG, 1985-1990



ROBERT L. COUNTRYMAN
Candidate for Secretary

Present Position:

Development Geologist, Chevron USA

Education:

1973: California State University, Northridge, B.S. Geology
1977: University of California, Los Angeles, M.S. Geology

Employment:

1973-1976: Industrial Minerals Geologist, Tenneco Oil Company, Nevada
1977-1979: Research Geophysicist, UCLA, South Pole, Antarctica
1979-1984: Development Subsurface Geology Supervisor, Exploration and Development Geologist, Gulf Oil Company
1984-1987: Stratigrapher, Venezuela Task Force, Bakersfield, Chevron Overseas
1987-Present: Development/EOR Geology, Chevron USA

Professional Activities:

California Registered Geologist
Member: Pacific Section AAPG, Pacific Section SEPM
President-elect, San Joaquin Geological Society, 1984-1986
President, San Joaquin Geological Society, 1984-1986
Vice President, San Joaquin Geological Society, 1983-1984
Editor, San Joaquin Geological Society Selected Papers, Volume 7
AAPG Technical Session Chair & Advertising Committee and Co-chair for 1991 Pacific Section AAPG Convention, Bakersfield



HERMAN B. SCHYMICZEK
Candidate for Secretary

Present Position:

Branch Manager, EMCON Associates

Education:

1981: California State University, Northridge, B.S. Geology
1983: California State University, Northridge, M. S. Geology
1988: California State University, Bakersfield, B.S. Petroleum Land Studies

Employment:

1981-1984: Exploration Geologist, Getty Oil Company
1984-1988: Production/Environmental Geologist, Getty Oil/Texaco
1988-1989: Bakersfield Branch Manager, Dames & Moore
1989-Present: Branch Manager, EMCON Associates

Professional Activities:

California Registered Geologist and Registered Environmental Assessor
Member: National AAPG, Pacific Section AAPG, National SEPM, Pacific Section SEPM, San Joaquin Geological Society (SJGS), Fresno Geological Society, Association of Ground Water Scientists and Engineers, Air and Waste Management Association - Golden Empire Chapter
Secretary, SJGS, 1988-1989
Vice President, SJGS, 1986-1987
Program Director, Eel River Basin Symposium (SJGS), 1988
President, SJGS, 1988-1989

STARTING ENVIRONMENTALISM AT HOME

Question: Where and when is there an oil spill far larger than the one that occurred in March 1989 from the Exxon Valdez in Prince William Sound?

Answer, according to the Automotive Information Council (AIC), Herndon, Virginia: All over the U.S., regularly.

The Council, an 18 year old, non-profit organization, says do-it-yourselfers who change motor oil in their vehicles improperly dispose of a volume of oil estimated at 20 times that spilled from the Exxon Valdez. And they do it year after year. The estimated volume is about 1,000 times that spilled off the California coast earlier this month.

These shade-tree mechanics generate about 350 million gallons per year of used motor oil in the U.S. About 60% of the do-it-yourselfers pour the used oil on the ground, bury it in the backyard, pour it down a storm drain or combine it with refuse headed for a landfill.

The result is that about 240 million gallons of oil is dumped into the environment. AIC says that's the volume equivalent of five oil tankers spilling their entire cargo.

Harmful Substance

The American Petroleum Institute believes that used motor oil is considerably more harmful than unused oil because it contains carcinogenic and other toxic substances.

Disposed of improperly, used motor oil contaminates groundwater or surface water and can harm human health and the environment in a number of ways:

- o Used oil dumped into storm drains can impair and even shutdown waste water treatment plant processes.
- o Used oil dumped at a landfill or on the ground reduces soil productivity and contaminates surface and groundwater supplies.
- o Used oil in surface waters depletes oxygen for fish, blocks sunlight, which impairs photosynthesis and becomes concentrated on the tissues of plants and animals that may be eventually consumed by people.
- o One quart of used oil can ruin the taste of 250,000 gallons of water.

Dumping also wastes energy because used oil can be recycled or re-refined to produce high quality lubricants or processed to produce a fuel oil substitute. One gallon of used motor oil can be processed to produce 2 1/2 quarts of high quality motor oil, API said.

Finding Solutions

Many states have used oil recycling programs. AIC recommends that do-it-yourselfers put oil in a leakproof container and take it to a designated collection center, often a service station or garage.

Used oil haulers buy the used oil collected and transport it for sale to a processor or re-refiner. The processor then filters and blends the used oil to make a fuel oil substitute or lubricant.

A survey showed that about 75% of do-it-yourselfers would recycle used oil if they could take it to a neighborhood service station or the store where they buy motor oil.

Consumers may find collection centers by inquiring at oil retailers, service stations or the local waste management office or by writing to the Director of Used Oil Programs, Environmental Protection Agency, WH565A, 401 M Street SW, Washington, D.C. 20460.

G. Alan Petzel, Senior Staff Writer
Oil & Gas Journal, February 19, 1990

OREGON DEPARTMENT OF GEOLOGY & MINERAL INDUSTRIES PUBLICATIONS

A comprehensive report entitled **Geology and Oil, Gas and Coal Resources, Southern Tyee Basin, Southern Coast Range, Oregon**, by A. R. and W. A. Niem of Oregon State University and with major contributions by E. M. Baldwin of the University of Oregon, has been released by the Oregon Department of Geology and Mineral Industries (DOGAMI). The price is \$9.00. The new report, DOGAMI Open-File Report O-89-3, consists of (1) a blackline compilation geologic map reflecting all relevant published and unpublished studies; (2) a map showing distribution of oil, gas, and coal geochemical data; (3) a plat containing three cross sections; and (4) a 95-page text containing an explanation of the geologic units shown on the maps; a preliminary assessment of the oil, gas, and coal potential of the southern Tyee Basin; a discussion of the stratigraphic problems that exist in the southern Coast Range; and tables of data on source rock and maturation, porosity and permeability, coal analyses, and oil and gas shows in water wells and natural seeps as well as in exploration wells.

Geology and Mineral Resources Map of the Double Mountain Quadrangle, Malheur County, Oregon, by DOGAMI geologists L. Ramp and M. L. Ferns, has been released in DOGAMI's Geological Map Series as map GMS-58. The publication presents results of an ongoing study of southeastern Oregon areas with a potential for mineral resources. It was prepared in cooperation with the U.S.G.S. and partially funded by the COGEOGAP program of the U.S.G.S. Gold has been identified as the major potential mineral resource in this area that has been the target of extensive exploration in the recent past. Other potential resources include freshwater limestone, bentonitic clay, perlite, natural gas and geothermal energy. The price is \$4.00.

DOGAMI geologist M. L. Ferns and L. Ramp produced DOGAMI map GMS-57, **Geology and Mineral Resources Map of the Grassy Mountain Quadrangle, Malheur County, Oregon**, which sells for \$4.00. The two-color map (scale 1:24,000) shows rock units and geologic structure on a topographic base and identifies fossil locations and the locations of samples collected for analysis. It was prepared in cooperation with the U.S.G.S. and partially funded by the COGEOGAP program of the U.S.G.S. Gold has been identified as the major potential mineral resource in this area that has been the target of extensive exploration in the recent past. Other potential resources include feldspathic sands, bentonite clay, and diatomaceous earth.

Geologic Map of the Lake Oswego Quadrangle, Clackamas, Multnomah, and Washington Counties, Oregon, by Marvin H. Beeson and Terry L. Tolan of the Portland State University Geology Department and DOGAMI geologist Ian P. Madin, has been released in DOGAMI's Geological Map Series as map GMS-59. The map was produced and published as part of an earthquake hazard study in the Portland Metropolitan area and funded by the U.S.G.S. and the National Earthquake Hazard Reduction Program. The map is intended to serve as an important basic tool for earthquake hazard mitigation. The price is \$6.00.

Geology and Mineral Resources Map of the Adrian Quadrangle, Malheur County, Oregon, and Canyon and Owyhee Counties, Idaho, by DOGAMI geologist Mark L. Ferns, has been released in DOGAMI's Geological Map Series as map GMS-56. The publication, resulting from an ongoing study of southeastern Oregon areas with a potential for mineral resources, was prepared in cooperation with the U.S.G.S. and the Idaho Geological Survey and partially funded by the COGEOGAP program of the U.S.G.S. Geothermal energy is the only mineral resource known to exist, but potential for natural gas and, to a lesser extent, gold or uranium has also been identified. The price is \$4.00.

The report, entitled **Preliminary Feasibility Study: Oregon Placer Minerals**, presents a preliminary resource and economic evaluation of black sand deposits on beaches, coastal terraces, and the continental shelf offshore along the coast of Oregon. Black sands may contain heavy minerals such as magnetite, chromite, ilmenite, garnet, rutile, gold and platinum-group metals. The price is \$8.00.

The new reports are now available at the Oregon Department of Geology and Mineral Industries, 910 State Office Building, 1400 SW Fifth Avenue, Portland, OR 97201-5528. Orders may be charged to credit cards by mail, FAX or phone (503/229-5580). FAX number is (503) 229-5639. Orders under \$50 require prepayment except for credit-card orders.

SECOND ANNUAL FIELD TRIP OF THE NEVADA PETROLEUM SOCIETY

Oil Fields & Geology of the Pine Valley, Eureka County Area, Nevada
June 15-17, 1990 - Elko, Nevada

An informal field trip into the newest producing area of the Basin and Range Province, this excursion will appeal to geologists, engineers, landmen and investors. The three-day trip includes: oil field engineering and equipment, reservoir geology and geophysics of the producing fields, pertinent hydrology, reservoir and source rocks in adjacent mountain ranges, geophysical acquisition and processing in the area, plus local and regional structural geology and hydrocarbon trapping mechanisms. The following are highlights of the trip.

New Oil Discovery in the Three Bar Unit: Operations and Geology of the Discovery Well, Presented by Gary-Williams Oil Producer Staff

Tomera Ranch and North Willow Creek Fields: Operations and Geology Presented by Foreland Corporation Staff

Blackburn Field: Reservoir Geology and Production History

Cretaceous, Mississippian and Devonian Stratigraphy & Tectonic Implications: Presented on Outcrop

Structural Development of the Pine Valley Basin: Discussion Based on Outcrop of Late Tertiary Sediments

Geological and Geophysical Techniques of Subsurface Mapping in the Pine Valley Basin Explained: Including Both Conventional and Innovative Methods

...and more than Nine Short Papers with Figures and Maps in a Softcover Guidebook

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DEADLINE FOR RESERVATIONS IS JUNE 1, 1990

Call Donna Flanigan (702) 786-0333 or Bill Ehni (702) 883-1107 for details.



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NEW PROPRIETARY STUDIES

CALIFORNIA COASTAL BASINS STUDY

WINTERS FM. & FORBES FM. STUDIES

WESTERN CANADIAN BEAUFORT SEA STUDY

N.E. ALASKA OFFSHORE WELL STUDIES

SEG CONTINUING EDUCATION CLASSES

Basin Analysis and Sedimentary Geology

A Primer for Geophysicists

June 2-3, 1990 - San Francisco (AAPG Meeting)

Reservoir Heterogeneity

Causes, Detection and Remedial Action

June 2, 1990 - San Francisco (AAPG Meeting)

Borehole Gravity Surveys

September 22-23, 1990 - San Francisco (SEG Annual Meeting)

Electrical Methods Applied to Energy Exploration

September 22-23, 1990 - San Francisco (SEG Annual Meeting)

Seismic Tomography

September 23, 1990 - San Francisco (SEG Annual Meeting)

Shear Waves and Anisotropy in Exploration Seismology

September 22-23, 1990 - San Francisco (SEG Annual Meeting)

TUITIONS:

One day course is \$150 (U.S.) SEG Members, \$275 (U.S.) Nonmembers

Two day course is \$290 (U.S.) SEG Members, \$325 (U.S.) Nonmembers

For more information on these classes, please call (918) 493-3516.

LETTER TO THE EDITOR

Dear Editors:

Three cheers for BP America! For the first time in the history of the petroleum industry has an oil company proved itself to be a responsible and environmentally concerned company. BP America responded to the Huntington Beach, California tanker oil spill with great speed and total professionalism.

I have worked in the petroleum industry for 35 years and one of my greatest disappointments is to see how poorly this industry handles public relations. Considering the resources available to this industry, the lack of a united effort and proper response in a crises leaves much to be desired. Now for the first time, we can be proud to see how at least one company responds to an environmentally sensitive accident like an oil spill.

I am a resident of Huntington Beach and live less than a half mile from the ocean. I visited the beach the day of the spill and every other day thereafter. BP America was immediately on location and on local and national television feeding the "critical" press with all the information, good and bad. Not once did BP point the finger of blame or complain on how much it was costing to do the job. Neither did they wait in hopes of maybe getting someone else to help with the costs. Instead, BP took the initiative and got the job done. The areas of Newport Beach, Huntington Beach, Bolsa Chica, and Seal Beach are now cleaner than they have been in the past 20 years.

The spokesman for BP was on television every night with a report of the progress on the cleanup. The most gratifying and clever report was one of the final reports in the local Huntington Beach Pilot newspaper. This report showed a colored picture of the BP America spokesman in a surfing wet suit, floating in the clear blue surf for all to see how clean the water and beaches were left. For the first time in my experience, I heard praise and good things said about one company in the petroleum industry. Hurrah for BP America!

*Louis F. Villanueva, AAPG
Huntington Beach, California*

CALIFORNIA WELL SAMPLE REPOSITORY

The California Well Sample Repository wishes to thank the individuals listed below for their response to its request for information needed to locate certain wells. Through their efforts essential information for several wells was obtained. This made it possible for the CWSR staff to place these well samples in circulating collection. Thank you:

Robert & Paul Hacker

Robert D. Hoffman

Patrick J. Kinnear

Stephen Mulqueen

Robert L. Richardson

Your generous help is greatly appreciated.

Russ H. Robinson, Curator, CWSR

RECOMMENDED READING

U. S. GEOLOGICAL SURVEY

Bulletin 1870: Petroleum Systems of the United States, by L. B. Magoon, Editor, 68 pages, \$3.50

Bulletin 1947: Potential Hazards from Future Volcanic Eruptions in California, by C. D. Miller, \$4.25

Map MF 2088: Vertical Surface Displacements Along a Part of the Newport-Inglewood Zone of Folds and Faults, Los Angeles and Orange Counties, California, by R. O. Castle and J. M. Buchanan-Banks, \$3.00

Circular 1045: Lessons Learned from the Loma Prieta, California, Earthquake of October 17, 1989, by G. Plafker and J. P. Galloway, Editors, free

Booklet: The Loma Prieta Earthquake of October 17, 1989: What Happened . . . What is Expected . . . What Can Be Done?, free

Open File 89-308: Central California Earthquake Animation, January to June 1989, by F. W. Klein, A. G. Lindh and S. G. Walter, \$4.00 for microfiche and \$1.50 for paper. The video for this report may be obtained from the Video Transform, 2450 Embarcadero Way, Palo Alto, California 94303

Open File Report 89-29: Reports for California by the U. S. G. S., Water Resources Division, \$37.95 for paper and \$4.00 for microfiche

Bulletin 1912: The Petroleum System - Status of Research and Methods, 1990, by L. B. Magoon, Editor, \$4.75

GEOLOGY

Vol. 17, No. 11, November 1989

Fluid Flow and Metasomatism in a Subduction Zone Hydrothermal System: Catalina Schist Terrance, California, by G. E. Bebout and M. D. Barton

Interpreting Quarternary Uplift Rates at the Mendocine Triple Junction, Northern California, from Uplifted Marine Terrances, by D. Merritts and W. B. Bull

Implications of U-Pb Zircon Ages for the Tectonic Settings of the Smartville and Slate Creek Complexes, Northern Sierra Nevada, California, by S. H. Edelman, H. W. Day and M. E. Bickford

Research Note: Strike-slip Faulting and Block Rotating in the Lake Mead Fault System, by J. W. Geissman, S. Harlan, T. F. Wawrzyniec. Response: H. Ron, A. Aydin and A. Nur

Forum: Magnitude and Significance of Miocene Crustal Extension in the Central Mojave Desert, California. Coment: R. K. Dokka. Reply: A. F. Glazner, J. M. Bartley and J. D. Walker

Vol. 17, No. 12, December 1989

Redeposition of Late Cretaceous Pelagic Sediments Controlled by Sea Level Fluctuations, by H. Hillbrecht

AAPG BULLETIN

Vol. 74, No. 1, January 1990

Thermal History of Rocks in Southern San Joaquin Valley, California: Evidence from Fission-track Analysis, by N. D. Naeser, C. W. Naeser and T. H. McCulloh

Applications of Fluorescence Microscopy to Study of Pores in Tight Rocks, by D. J. Soeder

Porosity Enhancement for Chert Dissolution Beneath Neocomian Unconformity: Ivishak Formation, North Slope, Alaska. Discussion: S. Block, J. H. McGowen and J. R. Duncan. Reply: G. Shanmugan and J. B. Higgins

Lucy Birdsall

P.S. Yes, it was shakey for 15 seconds. Not much damage in Glendale but plenty out in Pomona and Upland.

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Recommended Reading LUCY E. BRDSALL
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PUBLICATIONS COMMITTEE: Pacific Section - American Association of Petroleum Geologists, P. O. Box 631, Ventura, CA 93002.

**DEADLINE FOR
JUNE/JULY
ISSUE
JUNE 1, 1990**

NEWSLETTER

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PACIFIC PETROLEUM GEOLOGIST NEWSLETTER

*of the Pacific Section
American Association of Petroleum Geologists*

June/July 1990 No. 4

THE PRESIDENT'S COLUMN

Convention 1990 is over and everyone came away happy and satisfied at America's favorite over-priced city. Three full days of seven or eight technical sessions going on simultaneously gave everyone a lot of choices.

General Chairman Jim Baroffio and his Convention Committee did an outstanding job and our special thanks go to the Northern California Geological Society for supplying most of the Committee members. A special note of recognition is owed to Chevron U.S.A. for committing not only some of its high-priced personnel, but also for sending over more than fifty technical assistants to run the projectors during the technical sessions. I would like to extend a special Pacific Section thanks to Tom Wright and Hans Schwing for their efforts. Also, congratulations to Bill Rintoul for the AAPG Journalism Award, Bud Reid for the Pacific Section Lifetime Member Award and Don D. Miller of Mobil-Denver for the A. T. Levorsen Best Paper, presented for last year's Pacific Section Convention.

It looks like the total attendance was approximately 6,750, slightly higher than last year's National Convention in San Antonio. The opening session prior to the Ice Breaker seemed to be a good idea, except for a long-winded glitch (?) that extended the opening session approximately 45 minutes. The Moscone Center provided ample space for the on-going technical sessions, while the main exhibit hall provided more than enough room for the 530 plus exhibitors (third highest convention total) and the various poster sessions.

The highlight had to have been the delegation from the U.S.S.R. The session on the Tengiz Field was mind-boggling. I have trouble trying to envision a 5,000' oil column. During the joint luncheon, Minister of Petroleum Leonid Filimonov urged "Geologists of the world, Unite!" With all of the unexplored real estate and maybe some of the deepest sedimentary basins in the world, it may be worthwhile for a young geologist to learn the Russian language.

If you missed the Convention, you missed a great one!

President-Elect Jack Cunningham takes over the office on July 1, 1990. His new Officers are noted in another section of this newsletter. Marty Hall-Burr will be serving her second year of a two-year term and as usual, it looks like another excellent group.

It was an honor representing the Pacific Section and a pleasure working with the Executive Committee this past year. However, I'm sure glad that I don't have to write this column any more!

Ben Cahill, President

CALL FOR PAPERS

Pacific Section Convention AAPG/SEPM/SEG/SPWLA

March 5 - 10, 1991

Bakersfield Civic Auditorium

"Earth Science: The Continuing Challenge"

Abstract Deadline

September 17, 1990

Symposia

Santa Maria Basin
California Tertiary Basins
Paleozoic Paleogeography
Miocene "Stevens" Sands

General Topics

Geology
Geophysics
Petrophysics
Economics
Environmental

For more information please contact one of the Technical
Program Coordinators:

Robert Horton, CSUB

(805) 664-3059

Reinhard Suchsland, DeKalb Energy

(805) 834-6844

San Joaquin

No SJGS meetings are scheduled for July and August. The Fall Barbecue will be held on September 21, 1990 at the Lake Ming picnic area.

The SJGS has decided to donate \$1,500 to CSUB for the Scanning Electron Microscope, \$500 to the Lori Brock Museum to publish an earthquake pamphlet which is distributed to schools, and \$300 to the Core Repository. Discussions for next year's plans include the possibility of a Fall Field Trip and an environmental class to be held in conjunction with the Pacific Section AAPG Convention in March of 1991.

Suggestions for meeting speakers or topics should be addressed to Larry Knauer at 805/763-6280.

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 Laura Bazeley at 805/326-1112.

SJGS NEW OFFICERS

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President-Elect

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Pacific Geotechnical Consultants

Vice President

Larry Knauer
Bechtel

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Laura Bazeley
WZI Inc.

Treasurer

Dan Olson
ARCO Oil & Gas Company

Los Angeles

The meetings will be held alternate months at noon at UNOCAL Center, California Room, 1201 West Fifth Street, Los Angeles.

For reservations or information, call Randall Ferguson at (714) 842-6331 or Ken March at (213) 436-9211, Extension #357.

Coast

July 17 - To be announced.

August 21 - To be announced.

Meetings are held the third Tuesday of every month. 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.

PACIFIC SECTION AAPG MEMBERSHIP

It's time to renew your Pacific Section AAPG dues! The Pacific Section AAPG consists of seven affiliated local geological societies - Alaska, Northwest, Northern, Sacramento, San Joaquin, Coast, and Los Angeles Basin. When you join the Pacific Section AAPG you are assigned to a particular local geological society. The annual membership dues are \$10.00, \$2.00 of which is returned or rebated to local societies. The total amount of rebate that each local society receives depends upon the number of Pacific Section AAPG members in that society. Three of the local societies charge separate membership dues - Alaska, Northwest, and Northern. At times this causes some confusion because it is possible to join one of these local societies without becoming a member of the Pacific Section AAPG. Membership is also not a prerequisite for meeting attendance.

So what are the advantages of membership you may ask? The obvious advantages are the **Pacific Petroleum Geologist Newsletter**, the membership directory, local meeting notices, all Pacific Section notices, and convention notices. Less obvious is the support to local societies in which you participate.

As of December, 1989, Pacific Section membership in affiliated societies was as follows:

Alaska - 15
Northwest - 22
Northern - 111
Sacramento - 46
San Joaquin - 313
Coast - 195
Los Angeles Basin - 285
Others - 58
Total Membership - 1,045

COMING EVENTS

July 14 to 15 - BLM Field Trip to Morro Bay. Please contact Anne Falcon at (805) 861-4210 for more information or if you are interested in participating.

July 29 to August 3 - Circum - Pacific Energy and Mineral Resources Conference, Honolulu.

September 9 to 12 - Giant Oil and Gas Field of the Decade, Stravenger, Norway. Preregistration deadline is July 1, 1990. For information please contact AAPG at (918) 584-2555.

September 10 to 13 - International Symposium on Oil and Gas Waste Management Practices, New Orleans.

September 14 - California Geology Registration Exam.

September 23 to 26 - Society of Petroleum Engineers (SPE) Convention, New Orleans, Louisiana.

September 23 to 27 - Society of Exploration Geophysicists (SEG) Convention, San Francisco.

October 6 to 7 - BLM Field Trip to Mono-Owens Valleys. Please contact Mark Milliken at (805) 861-4219 for more information or if you are interested in participating.

October 9 to 13 - American Institute of Professional Geologists, Annual Meeting, Long Beach. Please contact Stephen Testa for more information at (213) 594-9485.

October 10 - API San Joaquin Valley Joint Chapter Meeting, Convention Center, Bakersfield. API Community Appreciation Night will be held in the evening at the Red Lion, Bakersfield.

October 29 to November 1 - National GSA Meeting, Dallas, Texas.

March 6 to 8, 1991 - Pacific Section AAPG Convention, Bakersfield, Dan Schwartz, Chairman (Shell Western Exploration and Production, Inc.).

April 7 to 10, 1991 - National AAPG Meeting, Dallas. Abstract deadline is September 17, 1990.

September 29 to October 2, 1991 - International AAPG Conference, London.

April 29 to May 1, 1992 - Pacific Section AAPG Convention, Sacramento, Rich Boyd, Chairman (Capitol Oil).

Northwest

October 1 - 3: Annual Symposium and Field Trip, Roseburg, Oregon, Tyee Basin Area.

RECENT MOVES

WILLIAM C. "BILL" BOOHER, formerly with the GTS Corporation, has recently joined the staff of Richardson Seismic Services, Inc. He will be involved with the sales and marketing of their 50,000 mile seismic database through the United States, and Manager of Special Projects including the digital seismic line location system for the Gulf Coast.

SCOTT T. HECTOR has moved from Baker Oil & Gas in Williams to North Valley Oil & Gas in Woodland, California.

PAUL H. DUDLEY, JR. of PHD Energy Inc. has moved from Portland to Bend, Oregon. His new address is 1230 NE Third Street, Suite A-152, Bend, Oregon, 97701.

RICK BOWERSOX has moved from Mission Resources to the newly formed Bakersfield Energy Resources. The telephone number and address have not changed.

STEPHEN M. TESTA, formerly with Engineering Enterprises, Inc. of Long Beach, and **KEITH E. GREEN** have formed a new company called Applied Environmental Services, 6695 East Pacific Coast Highway, Second Floor, Long Beach, California 90803 - (213) 594-9485.

TIM THOMPSON has moved from Union in Ventura to B.C.I. Geonetics in Santa Barbara.

MARCIAL ACOSTA has moved from Denver to Bakersfield with Mobil.

NANCY B. ASTON has moved from Encino to Rancho Palos Verdes.

ARTHUR O. SPAULDING has moved from Bakersfield to Ojai.

NEW MEMBERS

SOUTHERN CALIFORNIA

MARK P. MOLINARI - Dames & Moore, Goleta; **JAMES E. FISHER** - Zeiser Geotechnical Inc., Woodland Hills; **JACK D. MAYHEW** - UNOCAL, Bakersfield; **JAMES C. EACMEN, JR.** - Bakersfield; **STUART A. GORDON** - ARCO Oil & Gas Company, Bakersfield; **STEVE HARNER** - Exlog U.S.A., Bakersfield; **DANIEL R. MCKEEL** - Bakersfield; **LESLIE F. ENGLISH** - Delano; **RICHARD "RIK" WILLIAMS** - Bakersfield; **RAYMOND F. STEWART** - Bakersfield; **GERALD RAYDON** - Rolling Hills; **COLLEEN A GUPTA** - Bakersfield; **JULIE A. DOANE** - WZI Inc., Bakersfield.

OTHER STATES

HOWARD HARPER - ARCO Oil & Gas Company, Plano, Texas.

NEW SEISMOGRAPH FOR CALIFORNIA STATE UNIVERSITY - BAKERSFIELD

Thanks to a donation of \$7,000 from the **Texaco Philanthropic Foundation**, a new seismograph will be installed at the University.

DOG CALLS LEASE CLEAN-UP A SUCCESS; MIDWAY-SUNSET FIELD IS NEXT TARGET

The California Division of Oil and Gas (DOG) officials recently announced that the first phase of its lease clean-up program was an overwhelming success, and that it would extend the program to other fields in the San Joaquin Valley.

Under the DOG's direction, several major integrated oil companies spent the last year cleaning up the 81 year old Buena Vista Oil Field at a cost of about \$1.5 million. DOG officials estimate that approximately 4,900 tons of abandoned material such as cable, flowline, pipeline and storage tanks were removed from the field. Portions of the restored 50 square mile area are prime habitat for several endangered species including the San Joaquin Kit Fox, the Giant Kangaroo Rat and the Blunt-nosed Leopard Lizard. To protect the species' during the clean-up, the effort was coordinated with the U.S. Fish and Wildlife Service and company biologists.

CIPA Monday Morning Report

PACIFIC SECTION AAPG OFFICERS

1990 - 1991

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Marty Hall-Burr
Union Oil International

AWARDS

The A. I. Levorsen - Best Paper at a local convention was awarded to **DON MILLER** with Mobil in Denver.

EUGENE "BUD" REID, Sunburst Exploration Inc., was selected as an honorary member of the Pacific Section AAPG.

Ten students were selected for the Van Couvering Award from schools in the San Francisco area. Faculty recommendations, grades and committee interviews were the basis for the selection. The Van Couvering Award was set up to enable students to attend the Pacific Section conventions.

MEMORIALS

THOMAS "TOM" B. WILLIAMS

Thomas "Tom" B. Williams, 66, founder and owner of Petrolog Inc., died February 25, 1990 at his Ventura home.

Tom was born on October 24, 1923 in Oxnard, California and was a lifelong Ventura County resident. He was proud of his family heritage, being a third generation family member of the Williams and Scarlett families in Ventura County. Tom's great grandfather, Judge Benjamin Tully Williams settled in Ventura in 1867 and in 1873 became the first elected District Attorney of Ventura County. His great grandfather, John Scarlett, settled on the Oxnard plain in 1875 and farmed the family's 700 acre estate. The farm was subdivided from Rancho Colonia by the famous oilman and statesman, Thomas R. Bard.

Tom's childhood years were enriched on the "Old Scarlett Ranch". He treasured his childhood memories of hiking along the Santa Clara River, in willow groves, duck ponds, dairy pastures and bamboo thickets. Adventurous hikes would take him to the Los Olivos adobe, on the north bank of the Santa Clara River, a distant land to a little boy. Etched in his mind was his second story bedroom of the family's old Victorian home as well as the night sounds of owls, the Hueneme fog horn and the Southern Pacific trains passing in the distance.

The 1930's depression ended an era. Disruptive economic events displaced the family and scared his innocent heart, but strengthened his character and spirit. The great losses and hardship helped forge a charitable man who gained great pleasure by helping others. Tom endured, grew and flourished on his own merit.

Tom's love for geology was first nurtured at Pasadena City College by Dr. Edwin "Van" Van Amringe where he completed an Associate of Arts degree with a geology major. World War II changed Tom's course, in 1943 he was appointed to attend officer's training school at King's Point, the United States Merchant Marine Academy in New York. As a midshipman, he sailed the South Pacific theater. In 1946, Tom graduated from Kings Point with a bachelor of science degree and for about a year worked in the merchant shipping industry. As an officer, Tom was an active member of the U. S. Naval Reserve until 1970. Having had his interest peaked in geology before the war he resumed and completed undergraduate curriculum at the University of Southern California.

Tom married Evelyn L. Shafer on February 15, 1947. They met in a high school algebra class and together formed a life-long partnership in all endeavors. I am their only son.

Tom is remembered as the founder and owner of the Petrolog Geological Well Logging Company. During the 1950's, Tom grew in the profession while working for pioneering well logging companies such as Peter's Well Logging, Lith-O-Log and Cal Pan Am Well Logging. He gained technical experience throughout California, Oregon and Washington. As he learned, he dreamed of starting his own company. Evelyn and Tom worked as a team to organize Petrolog which was established in 1961. Their persistence and determination kept Petrolog working during the low activity levels of the 1960's. When the drilling activity turned favorable in the early 1970's, Petrolog was well positioned to serve its clients. Henceforth, conditions permitted Tom to build a well respected company with a team of quality geologists providing professional well site services. One of Tom's wisest business decisions was to control Petrolog's growth during the oil boom. Even when Petrolog was running at 110% he did not become zealous about growth. Having been raised during the 1930's depression and having operating Petrolog during the 1960's prepared Tom to manage wisely and minimize debt-funded expansion. His vision recognized the cyclic nature of the oil industry and guided him to successfully conclude the greatest oil boom in history.

Tom was an active member of the Coast Geological Society of the Pacific Section AAPG. Other memberships included the California Independent Petroleum Association, 101 Petroleum Club and the Ventura County Historical Society. Over the years he sponsored many

monthly society meetings and activities. He supported and encouraged student groups from UCSB, Santa Barbara City College and the California Lutheran University to attend society meetings and field trips. Tom loved to take young geology students under his wing and show them what he knew best. With the cooperation of operators, he enjoyed having students and new company geologists visit the drilling wells to show them the operations.

Tom was a giving man who was willing to take risks on people. He always focused on the best in people and was optimistic about their potential. He treated his associates and employees fairly and was sincerely caring and concerned for their needs. Like a father he took time to listen, was full of assurance and stressed the positive. He cared deeply for his client's needs and strived to provide the best service possible. Many client relationships grew into sincere friendships that transcended business.

Tom prepared and guided me in subtle ways. He showed me to the good launching points of life which he knew would best prepare me for the real world. When I would return to him, sometimes bruised, Dad was life a safe harbor to come home to, full of assurance and love. I reflect upon my father and feel pride that his walk in life was a heart-felt effort of caring and concern for his family an all who were touched by his friendship. By these measurements alone, he was a great success.

John T. Williams, Geologist

FELIPE ARAMBURU

It is with deep regret that I inform you of the death of Felipe Aramburu in the early hours of Thursday, April 26, 1990, after a long, painful and resilient struggle with cancer. His tragic death comes at the age of 39, and he leaves behind his wife Lucy and their three children; Felipe, aged 7, Andrea, aged 5 and Rodrigo, aged 2. The funeral mass was held Friday, April 27, 1990 in Houston.

Felipe joined EXLOG as a geologist in Peru in early 1974 and quickly worked his way up from the field to Region General Manager for Latin America. As a loyal employee, brilliant manager, leader, faithful friend and champion of our services in Latin America, he profoundly influenced all of us that had the good fortune to work with him.

In view of the especially difficult emotional and economic circumstances now facing the Aramburu family, many of his friends at EXLOG have come together and instituted a fund for the education and welfare of the children. We feel that this is a small way of returning to Felipe and Lucy their warm friendship. Should you wish to join us in making a contribution, please send your donations to:

Felipe Aramburu Memorial Fund
Post Office Box 40265
Houston, Texas 77240-0265

Attention: Ms. Joan Krauth

If you wish to express your sympathies directly to Lucy, her address is:

1123 Rustic Knoll
Katy, Texas 77450

There is a great void without Felipe, and we will all miss him. Please join us in our collective expression of sympathy to Felipe's family on this tragic occasion. Thank you.

*Will Honeybourne, Vice President/General Manager
EXLOG Operations*

AAPG JOURNALISM AWARD

WILLIAM T. RINTOUL received the AAPG Journalism Award at the 1990 National AAPG Convention in San Francisco. William Rintoul has been a free-lance writer for the past forty years. He specializes in the coverage of oil and gas exploration and production activities, primarily in California and Alaska, though he has covered developments in Washington, Oregon, Arizona, New Mexico, Utah and Colorado as well as in the Gulf of Mexico, Mexico, Australia and the North Sea.

Through the entire forty years he has written a daily oil news column for the Bakersfield Californian newspaper and at various times covered oil news on a regular basis for the Los Angeles Times, San Francisco Chronicle and Tulsa World, as well as for other newspapers. He is also a long-time contributing editor of Pacific Oil World, a monthly trade magazine published in Brea, California, and through the years has sold articles to numerous other oil magazines, among them Offshore, Drilling Contractor and Well Servicing.

Rintoul authored three books that deal with California oil history, including Spudding In, published in 1976 by the California Historical Society, Oildorado (1978, Valley Publishers), and Drilling Ahead (1981, Western Tanager Press) and two collections of short stories set in the oil fields, including Roustabout (1980, Seven Buffaloes Press), and Rig Nine (1983, Seven Buffaloes Press). Two of the stories from Roustabout were translated into Russian and included in an anthology of American writers published in Moscow in 1987.

The essay that appears in the book One Hundred Years Helping to Create the Future, published by Standard Oil Company of California in 1979 to commemorate the company's 100th anniversary, was another by Rintoul. He is presently writing a book to be published by the Division of Oil and Gas in 1990 to commemorate the Division's 75th anniversary.

In addition to oil articles, he has sold many articles on other subjects to numerous magazines, ranging from Sports Illustrated to Popular Mechanics. His writing includes short stories published in the anthologies California Heartland (1978, Capra Press) and California Childhood (1988, Creative Arts), as well as in numerous literary quarterlies.

Rintoul was born in Taft, California on April 30, 1922 graduating from Taft Union High School in 1939. After attending Taft College for one year, he transferred to U.C. Berkeley, graduating in February 1943 with a BA degree in journalism. He enlisted in the Army and served three years, most of that time being spent as an enlisted man in the 53rd Infantry, 89th Division (part of the Third Army), in France, Luxembourg and Germany, for which he was awarded the Combat Infantry Badge and the Bronze Star. He later attended Stanford University, graduating in 1949 with an MA degree in journalism.

The former Frankie Jo Miller, of Taft, and Rintoul have been married 41 years and are the parents of a daughter, Susan Parker, who is a schoolteacher in the Fresno area; and a son, Jim, who is in the export business in the San Francisco area. They have three grandsons and one granddaughter.



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1991 AAPG INTERNATIONAL CONFERENCE

In September of 1991, as part of the continuing growth of its worldwide activities, AAPG is holding an internal conference in London. The conference sessions and field excursions will focus upon hydrocarbon exploration potential for the coming decade in the U.S.S.R., Eastern Europe, the Middle East and Northern Africa. The Petroleum Exploration Society of Great Britain is acting as the host society and the Geological Society of London is a co-sponsor.

In recognition of the steady growth of the international industry, the AAPG Executive Committee is committed to holding annual conferences in centers outside of North America. The London meeting is an important step in this development. The conference program is designed to look at areas and problems which are seen to be of interest to the industry in the coming decade. It will become especially important that the industry make the most of established oil and gas provinces, particularly those which are logistically and commercially accessible.

We hope that the conference will provide a service to and will attract support from the Association's members working in Europe, Africa and the Middle East. A large potential oil business remains in the areas under consideration and they merit the attention that this conference will bring.

The General Chairman is A. John Martin, Clyde Petroleum plc, Buchanan House, Three St. James's Square, London SW1Y 4JU, England. The telephone number is 71/925-0151 and the FAX number is 71/930-3951.

The Technical Program Chairman is David A. L. Jenkins, BP Exploration Company, Limited, Britannic House, Moor Lane, London EC2Y 9BU, England. The telephone number is 71/920-7765 and the FAX number is 71/920-2481.

A DAY IN THE FIELD WITH TOM DIBBLEE

It was a great day in May to be striding the Santa Monica Mountains (Agoura-Malibu Creek area) with Tom Dibblee during the Second Annual Fund Raising Event for the Dibblee Geological Foundation. The field trip started with an overview of the volcanic rock sequence and the stratigraphy and structure of the Santa Monica Mountains as seen in the Malibu Creek State Park area. Unfortunately, due to potential fire hazards in the area, our trip was cut short. From there we moved onto view the spectacularly folded Monterey Formation. We returned to the Peter Strauss Ranch for a barbecue and more geologic discussions. Tom Dibblee presented his most recently completed maps of the Santa Monica Mountains. Helmut Ehrenspeck discussed the volcanic rock types he had mapped in the area. Tom Blake showed trench logs from the Camarillo area, which had evidence of recent faulting. The trenches were dug to examine possible faulting in areas of new residential development.

The planners of this event, John Powell and Helmut Ehrenspeck, are to be congratulated. The trip was well-organized and the food was great! Hope to see more of you at the Third Annual Day in the Field with Dibblee.

Laura M. Bazeley

The Dibblee Geologic Foundation is a tax-exempt, non-profit California corporation. All proceeds are used for publication of additional geologic quadrangles of the Southern California region.



AWG ANNOUNCES SECOND YEAR'S FUNDING FOR PHILLIPS PETROLEUM - AWG DISTINGUISHED LECTURES

The Association for Women Geoscientists (AWG) is pleased to announce that funding is available for the second year of the Phillips - AWG Distinguished Lectures. Phillips Petroleum has given the AWG Foundation a \$9,000 grant over three years to underwrite travel for women geoscientists participating as speakers.

Grants up to \$300 for direct travel costs will be available on a first-come, first-serve basis to non-profit, non-government institutions or organizations seeking speakers from the AWG Speakers Bureau. The Speakers Bureau provides a list of 120 nationally-recognized women geoscientists with a great choice and range of speakers' topic to those seeking speakers on geoscience topics.

Funds from the first year's program were recently provided to eleven colleges and universities across the United States. Speakers' topics included plate tectonics of the Pacific and North American Plates, the surface chemistry of clays, the geologic aspects of nuclear waste, earthquake prediction experiments and opportunities for women in the geosciences.

For information on obtaining a list of speakers and a grant for speaker's travel, please write to the Speakers Bureau, Association for Women Geoscientists Foundation, c/o Resource Center for Associations, 10200 West 44th Avenue, Suite 304, Wheat Ridge, Colorado 80033, 303/422-8527. The application deadline is August 15, 1990.

1991 AAPG 75TH ANNIVERSARY ANNUAL MEETING

The 1991 Annual Meeting of the AAPG and its divisions, the Division of Professional Affairs (DPA) and the Energy Minerals Division (EMD), along with the Society for Sedimentary Geology (SEPM), will be held in Dallas, Texas, April 7 to 10, 1991. The site of the convention will be the Dallas Convention Center.

Celebrate the 75th anniversary of the Association by attending the special events currently being planned to make this, the Diamond Jubilee, one of the best conventions yet. Our city, our industry, and our Association are reflected in this year's theme, "A Look Back, A Look Forward," by highlighting past successes and future areas of petroleum activity. The major focus of the program is on international studies, development geology and sequence stratigraphy.

We invite authors to submit new and original work for either oral or poster presentations. We intend to review abstracts rigorously and to select those having the greatest geological significance, information and general interest appeal. Abstracts for both oral and poster presentation should be typed in 250 words or less. No figures will be permitted. Indicate your preferred session and whether you desire an oral or poster presentation. Please proof read your abstract carefully; neither the Technical Program Committee nor AAPG will be responsible for making changes or grammatical corrections.

All abstracts are due September 17, 1990, and must be sent to:

1991 Abstracts
AAPG Convention Department
Post Office Box 979
Tulsa, Oklahoma 74101-0979

Presenters will receive a notice of acceptance or rejection after November 5, 1990.

General Chairman

Charles F. Dodge

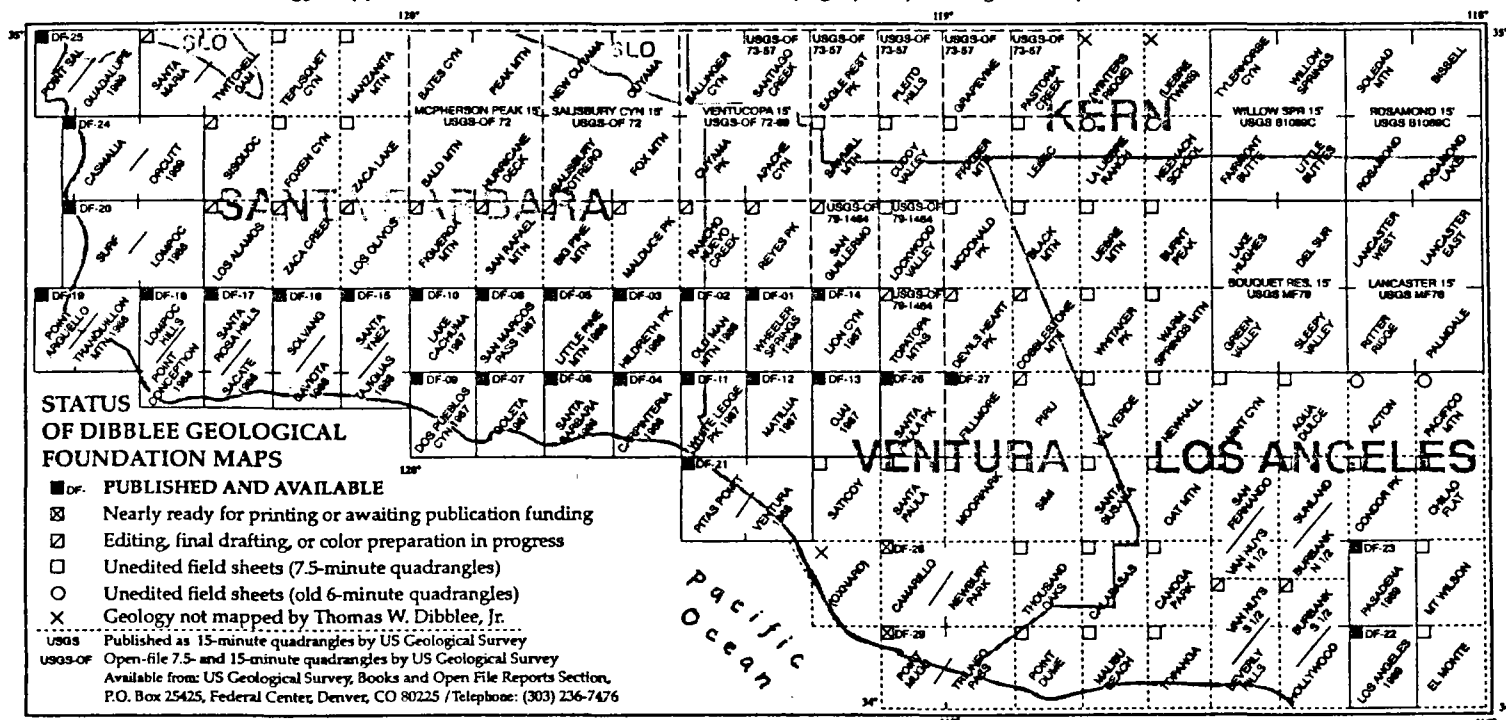
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Dallas, Texas 75206
214/987-3830.

Technical Program Coordinator

James H. Henderson, III
Geosat
601 Elm Street
Norman, Oklahoma 73019
405/325-3329

INDEX OF DIBBLEE GEOLOGICAL FOUNDATION MAPS OF SOUTHERN CALIFORNIA

Geology mapped on 7.5-minute, 1:24,000-scale USGS topographic quadrangles, except as indicated



Spring 1990

ORDERING INFORMATION

All published Dibblee Geologic Maps are available in full-color and black & white (B/W) editions. Full-color maps are available folded or unfolded (rolled); B/W maps are available folded only.

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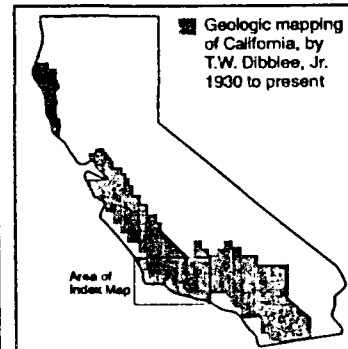
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The Dibblee Geological Foundation is a non-profit, educational organization dedicated to the geological sciences. Funding for map publication is dependent entirely on individual and corporate contributions, and from proceeds of map sales. Your support is encouraged and appreciated.

For updated map listings or other inquiries, please contact Helmut Ehrenspeck, Editor, Dibblee Geological Foundation, P.O. Box 60560, Santa Barbara, CA 93160



SAN JOAQUIN BASIN FIELD TRIP

The San Joaquin Valley was recently the site of one of the 1990 San Francisco convention field trips. The June 1 to 3, 1990 trip was sponsored by the Pacific Sections AAPG and SEPM and included participants throughout Europe, Canada and Australia, as well as from throughout the United States. Some of the classic San Joaquin outcrops were visited, including Kern River, Chico Martinez and Big Tar Canyon sections. Stop leaders included a mix of academic, research and petroleum experts such as Hilary Olson, Roger Bloch, Geoff Nicholson, Russ Robinson, Mark Wilson, Martin Link, Blaine Hall, Jim Eagan, Patrick McCullough, Bob Horton, Jack Carter, Lori Williams, Jim Tucker, Tim Kirt and Lloyd Troutman. Several oil fields, including Kern River, Elk Hills, Midway-Sunset and Belridge were also highlighted. Great food and an unusually cool Spring added to the trip.

Many individuals and organizations helped to make this a successful field trip and we would like to acknowledge their assistance. King Vaughn and Larry Knauer helped with transportation; the California Well Sample Repository and the Department of Energy provided core viewing facilities; Epoch provided a refreshment truck and employees for miscellaneous tasks; and Bill Scanlan, Rob North, Craig Rang and the Schlumberger crews from Bakersfield and Ventura cooked an excellent tri-tip barbecue. We would like to thank the following corporate sponsors for helping to defray costs by providing refreshments and other assistance:

CGG
Core Laboratories
Epoch Well Logging
Goode Core Analysis Service
Petroleum Testing Service
Schlumberger
WZI Inc.

Portions of the field trip may be repeated for the 1991 meeting in Bakersfield. The volume and guidebook (SEPM #64), which includes 31 articles on a wide variety of geologic aspects of the basin, is available from the Pacific Section SEPM at Post Office Box 10359, Bakersfield, California 93389. The cost is \$21.00 for members of the Pacific Sections AAPG or SEPM, \$24.00 for non-member.

Jon Kuespert & Tony Reid

RECOMMENDED READING

U. S. GEOLOGICAL SURVEY

P 1370-E: Studies of Geology and Hydrology in the Basin Range Province, Southwestern United States, for Isolation of High-Level Radioactive Waste; Characterization of the Sonoran Region, California, edited by M. S. Bedinger, K. A. Sargent and W. H. Langer (Supersedes OF 84-742), \$8.00

P 1381: The Metamorphic and Plutonic Rocks of the Southernmost Sierra Nevada, California, and Their Tectonic Framework, by D. C. Ross, 1989, \$12.00

P 1497-A: Distribution, Facies, Ages and Proposed Tectonic Associations of Regionally Metamorphosed Rocks in Northern Alaska, by C. Dusel-Bacon, W. P. Brosge, A. B. Till, E. O. Doyle, C. F. Mayfield, H. N. Reiser and T. P. Miller, 1989, \$5.50

C 1037: Metalliferous Black Shales and Related Ore Deposits - Program and Abstracts, edited by R. I. Grauch and J. S. Leventhal, 20 pages, free

Map MF-2091: Map Showing the Areal Distribution of Oil Shales with Associated Mineral Resources and Metal Anomalies in the Western United States and Alaska, by L. J. Schmitt, \$3.00

Map MF 2092: Geologic Map of the Palen-McCoy Wilderness Study Area and Vicinity, Riverside County, California, by P. Stone and G. J. Pelka, 1989, \$1.50

GEOLOGY

Vol. 18, No. 1, January 1990

Noble Gas and Methane Partitioning from Groundwater: An Aid to Natural Gas Exploration and Reservoir Evaluation, by A. Zaikowski and R. R. Spangler

Paleomagnetic Evidence for Counterclockwise Block Rotation in the North Nevada Rift Region, by Y. Li, J. W. Geissman, A. Nur, H. Ron and Q. Huang

The World Turned Inside Out, by E. G. Nisbet

Nd Isotopic Gradients in Upper Crustal Magman Chambers: Evidence for In-Situ Magma-Wall-Rock Interaction, by K. J. Tetmeyer and G. L. Farmer

Transverse Ranges and Neotectonics of Southern California, by M. L. Hill

Computer Modeling the Internal Architecture of Carbonate Platforms, by D. Bosence and D. Waltham

Use and Abuse of Crustal Accretion Calculations, by J. S. Pallister, J. C. Cole, D. B. Stoesser and J. E. Quick

Paleoclimatic Forcing of Magnetic Susceptibility Variations in Alaskan Loess During the Late Quaternary, by J. E. Beget, D. B. Stone and D. B. Hawkins

Method of Multiple Working Hypotheses: A Chimera, by J. G. Johnson

Upslope Flow of Turbidity Currents: A Comparison Among Field Observations, Theory and Laboratory Models, by M. T. Muck and M. B. Underwood

Vol. 18, No. 2, February 1990

Overlooked Sedimentary Particles from Tropical Weathering Environments, by M. J. Johnson

Visibility of Fault Strands in Exploratory Trenches and Timing of Rupture Events, by M. G. Bonilla and J. J. Lienkaemper

Sediment-Hosted Gold Deposits: Distal Products of Magmatic-Hydrothermal Systems, by R. H. Sillitoe and H. F. Bonham, Jr.

AAPG BULLETIN

Vol. 74, No. 12, December 1989

Model for Salt Deformation on Deep Margin of Central Gulf of Mexico Basin, by D. B. West

Lucy Birdsall

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NEWSLETTER of the Pacific Section - American Association of Petroleum Geologists Newsletter 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 10201, 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.	

DEADLINE FOR
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PACIFIC PETROLEUM GEOLOGIST NEWSLETTER

*of the Pacific Section
American Association of Petroleum Geologists*

August/September 1990 No. 5

THE PRESIDENT'S COLUMN

SAN JOAQUIN GEOLOGICAL SOCIETY

To start off our new Board year, I want to congratulate Ben Cahill for all of the hard work and success that he has brought to the Pacific Section over the last year. Actually, Ben has been in the main stream since 1987 when he became Vice President. The major effort, of course, was the highly successful National Convention in San Francisco.

While the final financial report is still unavailable, it appears that the Section will profit well from registration (total of 6,697), field trips and short courses. I would particularly like to thank Tom Wright for his tireless effort and dedication to making the field trips so successful. Several letters have been received exalting the fine organization and content of the various trips. The runaway winner in the popularity and profit was the Napa/Sonoma Wine Region trip - any wonder?

There were some very interesting statistics on the convention attendance in terms of registration by country, fourteen percent coming from the foreign lands, validating the international concept of AAPG. This percentage consisted of 721 registered professionals representing 55 countries. Canada led with 211, England with 107, followed by France, Venezuela, Norway, Australia and the Netherlands. The United States were completely represented with registration from every state, including Guam and the District of Columbia.

The showing of interest by foreign nations sides with a move to take a fresh look at marketing California geology. The bane of any organization that publishes information for the good of its membership is that in taking advantage of reduced unit printing costs, a significant inventory of unsold items is generated. A new advisory staff consisting of Dick Hester, Hans Schwing and Reinhard Suchsland will review our marketing strategies and find new and creative ways to market our publications, particularly to those nations who go to the expense of attending a national convention.

Along this same line, the Section has decided to reach out beyond the petroleum industry to move publications, particularly, the guidebook "Geology of the Mother Lode Gold Belt". This book will be sold to the California State Mining and Mineral Museum in Mariposa, and any number of other tourist stops along Highway 49 in the gold country. And how?, you ask. Why, out of the back of T. Wright's van! Another outlet will be the Goldtech meeting in Reno in September. Any further ideas for creative marketing among the readership should be conveyed to the advisory staff.

Frank Cressy, our new Vice President, is beating the bushes (and very successfully) to revitalize the geologic reports that have been an integral part of the Pacific Petroleum Geologist Newsletter in the past. Frank says he has a pretty good backlog already, but there are still a few new discovery/developments that he is angling. These have been an important segment of the publication in the past, and will be in the future, thanks to Frank.

Preparation for the 1991 and 1992 Section meetings are well underway. Dan Schwartz is the General Chairman for the March 1991 meeting in Bakersfield and Rich Boyd is the General Chairman for the April 1992 meeting in Sacramento. The 1993 meeting will return to southern California, probably to be sited in the Huntington Beach/Newport Beach area. Although arrangements are not finalized, the Los Angeles Basin Geological Society will host the meeting and the South Coast Geological Society will be the co-host.

Don't forget the September 21st California Oil Scouts and San Joaquin Geological Society Barbecue. There seems to be reason for optimism regarding oil prices. Perhaps we'll have something to celebrate!

Jack Cunningham, President

ANNUAL FALL BARBEQUE & GOLF TOURNAMENT

Friday, September 21, 1990

presented by

**San Joaquin Geological Society
&
California Oil Scouts Association**

Barbeque

Place: Kern River Golf Course Picnic Grounds

Time: Attitude Adjustment at 5:00 p.m. Dinner at 6:00 p.m.

Cost: Prepaid - \$14.00 per person.

At the dinner - \$17.00 per person.

For additional information please contact:

Laura Bazeley at 805/326-1112

Golf Tournament

Place: Kern River Golf Course

Time: 9:00 a.m. (earliest starting time)

Cost: \$25.00 per person

(includes green fees, cart, lunch and prizes)

Information

Carl Glatz, Lanny Jones or Ray Washa of
Halliburton Logging at 805/831-1375

Deadline

September 14, 1990

San Joaquin

September 21 - Annual Fall Barbecue, Lake Ming Picnic Area, sponsored by the California Oil Scouts and the SJGS.

October 9 - Tony Reid, Bechtel, "Application of Horizontal Drilling in the Development of a Complex Turbidite Sandstone Reservoir, Elk Hills Field, Kern County, California".

Suggestions for meeting speakers or topics should be addressed to Larry Knauer at 805/763-6280.

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 Laura Bazeley at 805/326-1112.

Los Angeles

The meetings will be held alternate months at noon at UNOCAL Center, California Room, 1201 West Fifth Street, Los Angeles.

For reservations or information, call Randall Ferguson at 714/842-6331 or Ken March at 213/436-9211, Extension #357.

Northwest

October 1 - 3: Annual Symposium and Field Trip, Roseburg, Oregon, Tyee Basin Area. For information please contact Dennis Olmstead at 503/229-5580.

NEW MEMBERS

SOUTHERN CALIFORNIA

MARK D. HAMILTON - West Hollywood; **ED RALSTON** - UNOCAL, Bakersfield; **JANA MCINTYRE** - B.P.O.I., Tupman; **ROBERT P. ANDERSON** - Petroleum Information, Bakersfield.

Coast

September 18 - Dan Schwartz, Shell, Bakersfield, "Mixing of Biogenic Siliceous and Terrigenous Clastic Sediments: South Belridge and Beta Fields.

October - To be announced.

Meetings are held the third Tuesday of every month. 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.

COAST GEOLOGICAL SOCIETY NEW OFFICERS

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Dalton Lockman
Exxon

Vice President

Bob Michael
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Secretary

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Texaco

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Staal, Gardner & Dunne Inc.

ADVERTISERS

Advertisements are being accepted for the Pacific Section AAPG Convention Program Abstracts and Field Guides. For more information, please contact Bob Countryman (805/395-6437) or Steve Harner (805/324-5979).

COMING EVENTS

September 9 to 12 - Giant Oil and Gas Field of the Decade, Stavanger, Norway. Preregistration deadline is July 1, 1990. For information please contact AAPG at 918/584-2555.

September 10 to 13 - International Symposium on Oil and Gas Waste Management Practices, New Orleans.

September 14 - California Geology Registration Exam.

September 22 to 23 - Short Course Held in Conjunction with the Society of Exploration Geophysicists (SEG) Meeting in San Francisco: Well Log-Seismic Sequence Stratigraphy; Utilizing High Resolution Bio-Stratigraphy and Recognition of Condensed Section on Well Logs. Instructors are John Sangree and Walter Wornardt. For information please contact the AAPG Education Department at 918/584-2555.

September 23 - Short Course Held in Conjunction with the Society of Exploration Geophysicists (SEG) Meeting in San Francisco: Creative Exploration. Instructors are E. A. Beaumont, Norman Foster and Richard Vincelette. For information please contact the AAPG Education Department at 918/584-2555.

September 23 to 26 - Society of Petroleum Engineers (SPE) Convention, New Orleans, Louisiana.

September 23 to 27 - Society of Exploration Geophysicists (SEG) Convention, San Francisco.

October 6 to 7 - BLM Field Trip to Mono-Owens Valleys. Please contact Mark Milliken at 805/861-4219 for more information or if you are interested in participating.

October 9 to 13 - American Institute of Professional Geologists, Annual Meeting, Long Beach. Please contact Stephen Testa for more information at 213/594-9485.

October 10 - API San Joaquin Valley Joint Chapter Meeting, Convention Center, Bakersfield. API Community Appreciation Night will be held in the evening at the Red Lion, Bakersfield.

October 29 to November 1 - National GSA Meeting, Dallas, Texas.

March 6 to 8, 1991 - Pacific Section AAPG Convention, Bakersfield, Dan Schwartz, Chairman (Shell Western Exploration and Production, Inc.).

April 7 to 10, 1991 - National AAPG Meeting, Dallas. Abstract deadline is September 17, 1990.

September 29 to October 2, 1991 - International AAPG Conference, London.

April 29 to May 1, 1992 - Pacific Section AAPG Convention, Sacramento, Rich Boyd, Chairman (Capitol Oil).

RECENT MOVES

JAMES P. BLANKENSHIP has moved from Houston to Bartlesville, Oklahoma with Phillips Petroleum.

BLASE CYLWIK has moved from Ojai to Port Angeles, Washington.

JACK CUNNINGHAM has moved from Ventura to Agoura Hills.

FRANCES H. GOVEAN has moved from RMW Paleo Associates in Mission Viejo to LSA Associates, Inc. in Irvine.

DONALD L. LAMAR has moved from Santa Monica to Scotts Valley.

WILLIAM J. MULDOON has moved from Houston to Ponca City, Oklahoma with Conoco.

PETER L. MILLER has moved from Chevron in San Ramon to Calnan Services in Lafayette, California.

MARK P. MUIR has moved from Walnut Creek to Encino.

GEORGE B. PICHEL has moved from Dana Point to San Marino.

JIM ROTH has moved from UMC Petroleum Corporation to International Exploration Advisors in Houston.

DUANE R. SMITH has left W. H. Park and Associates to start **DUANE R. SMITH AND ASSOCIATES**.

DON W. SUTTON has moved to Chevron Overseas in San Ramon from the Chevron Corporation in San Francisco.



NEW PROPRIETARY STUDIES

CALIFORNIA COASTAL BASINS STUDY
WINTERS FM. & FORBES FM. STUDIES
WESTERN CANADIAN BEAUFORT SEA STUDY
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POSITIONS AVAILABLE

Exeltech, Inc., an environmental firm, has the following positions available: Sales Engineer, Staff Geologist and Project Geologists/Hydrogeologists. Locations include: Irvine, Fremont and Arizona.

For more information, please contact Mary Beth Towne, Human Resources Generalist, at 415/659-0404 or send a resume to 41674 Christy Street, Fremont, California 94538.

ARCO SELLS SOUTH CUYAMA FIELD, GAS PLANT

On June 6, 1990 in Los Angeles, Atlantic Richfield announced the sale of its 100 percent interest in the South Cuyama oil and gas field in Santa Barbara County, California, to Santa Barbara Partners, Oklahoma City, a general partnership, effective immediately. Sale price wasn't disclosed.

Santa Barbara Partners includes Cuyama Oil & Gas Company, Oklahoma City, controlled by Steam Energy Inc., also of Oklahoma City; Trio Petroleum Inc., Bakersfield; and Hallador Production Company, Denver.

The field, located near the town of New Cuyama, produces 1,000 barrels per day of crude and 2,500 mcf per day of natural gas from 93 wells. The sale also includes a gas treatment plant in New Cuyama.

ARCO said the field, discovered by Richfield Oil Corporation in 1949, is important historically, but no longer central to the company's expanded California efforts focused on the San Joaquin Valley area of Kern County.

The field's peak production was 38,000 barrels per day in 1951, with production remaining in the 30,000 barrel per day range until the early 1960's. Field production to date has been over 200 million barrels of oil and 600,000 mcf of gas.

Platt's Oilgram News
June 7, 1990

CHEVRON, SOVIETS AGREE TO OIL STUDY

The Chevron Corporation appears to be on a fast track toward developing the huge Tengiz oil field in a joint venture with the Soviet government, but it faces a long road before the deal is complete.

Chevron signed an agreement with the Soviet Ministry of Oil and Gas Industry to study the feasibility of developing the field, with reserves estimated at more than 25 billion barrels - about 2 1/2 times those of Alaska's Prudhoe Bay.

The "protocol of intentions" agreement is just the first step toward an eventual joint venture to extract the oil. Long negotiations are expected, and the tangled Soviet bureaucracy complicates the matter. Even in cases in which joint venture agreements are formally reached, only 15 percent actually go into operation.

Nevertheless, the Soviets appear highly motivated to ensure that this and similar projects actually take place. The Soviet Union is the world's biggest oil producer, but production has fallen off in recent years, and U.S. technology and capital are both gravely needed to reverse that trend, said Warren M. Shimmerlik, a senior oil analyst for County NatWest USA.

"It's clear that this is a huge resource," Shimmerlik said. "And this is the kind of asset that if opened up to the West could be very significant."

However, he noted, it's years away, and while Chevron may expect to make a profit, it's unlikely to get a windfall.

Excerpted from the Bakersfield Californian
June 5, 1990

EARTHQUAKE THEORY?

The Newark Star-Ledger (that's in New Jersey), carried a letter to the editor last March 28, 1990 that was forwarded to us by another reader. Here's what it said:

"Dear Editor:

If we continue to disturb the well laid-out plans of Mother Nature, we must expect her to rebel in the form of earthquakes.

We are directly creating earthquakes all over the world by extracting too much crude oil, which is pre-designed to lubricate the rock strata of the Earth.

The underground oil is necessary to prevent friction of the planet's crust. Geologists agree that it is possible to create destruction of the earth's function if man continues to tamper with Mother Nature."

Gad, we hope the writer's revelation doesn't get to the Department of Energy, Congress or the White House. We can just see legislation forbidding drilling across any faults anymore to remove lubricant.

Excerpted from Editorial Comment
R. W. Scott, Editorial Director
World Oil, June 1990

AWARDS

COAST GEOLOGICAL SOCIETY

The Tom Bailey Award

The Tom Bailey Award is awarded to an outstanding Associate of Arts degree student going on to a Bachelors program in Geology. The award consists of a Brunton Compass and was awarded to:

Gordon Shields

of Santa Barbara City College. Gordon will be attending the University of California, Santa Barbara in the fall.

The CGS Scholarship Award

The CGS Scholarship Award is a cash award of \$500, given to a graduating senior with a Bachelors Degree in Geology, who is continuing on to a graduate program in Geology. This years recipient was:

Noel Howe

of the University of California, Santa Barbara. Noel will be attending the Lamont-Doherty Institute in New York this fall.

USSR ACADEMY OF SCIENCES

HONORARY DOCTORATE

The USSR Academy of Sciences presented an honorary degree of Doctor of Geoscience to:

Michel T. Halbouty

on May 22, 1990 in Moscow. Halbouty is an internationally renowned geoscientist and engineer of Houston and the degree was bestowed upon him for his many contributions and achievements in and to the science of geology.

It is the first honor and recognition of its kind awarded to a foreigner by the Academy. Halbouty, Chairman and President of the Circum-Pacific Council for Energy and Mineral Resources, has worked with the Soviets as well as with geoscientists from other countries bordering the Pacific Rim for the past eighteen years. In 1985, Halbouty was named Advisor to the Scientific Research Institute of Petroleum Exploration and Development of the People's Republic of China, which was the first time a scientist outside of the People's Republic of China was selected for this position.

PUBLICATIONS

INDUSTRIAL MINERALS

Papers presented at the 25th Forum on the Geology of Industrial Minerals have been published by the Oregon Department of Geology and Mineral Industries (DOGAMI). The Forum was held in the spring of 1989 in Portland, Oregon, and was attended by about 120 industrial mineral specialists from all parts of the United States, Canada and Great Britain.

The new publication is entitled **INDUSTRIAL ROCKS AND MINERALS OF THE PACIFIC NORTHWEST, PROCEEDINGS OF THE 25TH FORUM ON THE GEOLOGY OF INDUSTRIAL MINERALS, APRIL 30 TO MAY 2, 1989, PORTLAND, OREGON**, and has been released as DOGAMI Special Paper 23.

The 100-page publication contains 16 technical papers presented at the Forum. Supplementary information includes the chronology of the Forums that have been held annually since 1965 in 22 different states of the United States and in Toronto, Ontario, and a list of the participants at the 25th Forum.

Six of the technical papers present surveys of occurrences and production of various industrial minerals in the Pacific Northwest states of Oregon, Washington, Idaho, Montana and in the Province of British Columbia, and in Virginia, where the 26th Forum is scheduled to be held in May of this year. Seven papers describe specific commodities such as bentonite, limestone, pozzolans, rare earths, talc and zeolites. Three papers discuss various methods and problems in laboratory analysis of industrial minerals.

The new publication, DOGAMI Special Paper 23, is now available at the Oregon Department of Geology and Mineral Industries, 910 State Office Building, 1400 SW Fifth Avenue, Portland, Oregon 97201-5528. The price is \$9.00 and orders may be charged to credit cards by mail, FAX or telephone. Their FAX number is 503/229-5639 and their telephone number is 503/229-5580. Orders under \$50.00 require prepayment except for credit card orders.

GEOLOGIC REPORT

The Minerals Management Service (MMS) recently released the **CENTRAL CALIFORNIA PLANNING AREA GEOLOGIC REPORT** by Frank L. Webster, Deborah J. Burdick and Keith A. Yenne. This 79 page report summarizes the regional geologic framework, exploration history and hydrocarbon potential of offshore central California. The Central California Planning Area encompasses all or part of six Neogene depositional basins: Bodega, offshore La Honda, Ano Nuevo, and Sur (northern Santa Maria) basins, and two unnamed basins. The report also describes the potential geologic hazards of the area.

Included in the report are maps on regional physiography, bathymetry, geology and tectonics. Also included are diagrammatic cross sections of the offshore basins, well correlation charts and a stratigraphic correlation chart.

The OCS report, MMS 88-0081, is now available free of charge from the Public Affairs Office, Minerals Management Service, Pacific OCS Region, 1340 West Sixth Street, Los Angeles, California 90017. For further information, contact the Pacific OCS Region Public Affairs Office at 213/894-2062 or Deborah Burdick-Cranswick at 213/894-3407.

GAS POTENTIAL SPURS DEEPER DRILLING IN NEVADA

Are extensive gas reserves about to be discovered in Nevada?

Operators have staked several deep tests that may help answer the questions.

Drilling in the state has turned up mostly oil production, the oil wells have produced relatively little gas, few gas wells have been drilled, and only 38 wells have been drilled below 10,000 feet.

Gas Occurrences

From earliest history, gas seeps have been recorded near Fallon in Churchill County, Nevada.

As many as fifteen shallow wells supplied heat and light to local ranches from 1865 until the late 1940's. Oil and gas seeps have been reported in other areas, including the Bruffey Ranch in Eureka County about sixty miles southwest of Elko.

Through the years at least three exploratory wells might have been completed as small commercial gas producers.

Several widely separated drilling wells have caught fire, presumably from gas, and produced gas was burned during reentry of the 1 Bonanza in Clark County near Las Vegas in 1970.

More Recent Prospects

Lack of market, sparsity of gas transmission lines and low gas prices are generally believed to have prevented completion of commercial gas wells in the state.

Since 1983 coincident with the high flowing oil production history of Grant Canyon Field, larger volumes of gas have been reported.

After thirty years of essentially gas free oil production, Eagle Springs Field oil wells are producing enough gas to supply lease fuel.

Oil wells in recently discovered Kate Spring Field produce a low gravity, high GOR crude. One well, Western General Inc., Naples, Florida, 1-A Kate Spring, produces more gas than can be used on the lease.

The state Department of Minerals has begun recording natural gas production.

Deep Drilling Ahead

Several operators are considering drilling deep tests in Nevada, and a few have been staked. Gary-Williams Oil Producer, Denver, has brought in a 14,000 feet capacity rig to drill Three Bar Field wells in Eureka County.

Western General has applied to deepen the David M. Evans 1 Mark Kay well in Eureka County and sought a permit for a 15,000 feet test just west of Kate Spring Field.

Of the 38 wells drilled below 10,000 feet in Nevada, none has been drilled below 20,000 feet and only two have gone below 15,000 feet.

*Excerpted from Ellis T. Hammett
Consulting Engineer, Reno, Nevada
The Oil and Gas Journal
August 6, 1990*

SENATOR INTRODUCES BILL TO SPUR EXPLORATION

State Senator Don Rogers (Republican-Bakersfield) recently introduced a Bill which could provide a State tax credit of up to \$1 per barrel for all oil produced onshore in California.

The Bill, SB-2425, is known as the California Shoreline Protection and Preservation Act, and Rogers said it was designed to protect the State's shoreline by offering a credit to increase the discovery and production of crude oil onshore.

"BIG GREEN" INITIATIVE

The "Big Green", also known as the proposed Environmental Protection Act of 1990 or NATURAL ENVIRONMENT, PUBLIC HEALTH, BONDS, INITIATIVE STATUTE, launched by California Assemblyman Thomas Hayden and Attorney General John VandeKamp, will be submitted to California voters at the November 6, 1990 General Election. Oil and gas production and petroleum refinery operations, in addition to a number of other industries, will be directly affected by this initiative. If adopted, it would require, among other things, reduction of carbon dioxide emissions by 20 percent by the year 2000 and by 40 percent by the year 2010. It also calls for the present ban on oil and gas leasing and drilling in State water be made permanent. It provides for a \$500 million oil spill contingency fund, funded by a \$0.25 per barrel tax on all oil "delivered to marine terminals by tanker, or through pipeline across, through, or under State waters. No fee shall be imposed on any oil owned by a public entity."



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RECOMMENDED READING

JOURNAL OF GEOPHYSICAL RESEARCH, B: SOLID EARTH AND PLANETS

Vol. 94, No. 8, August 10, 1989

The Morphology of Strike-Slip Faults:
Examples from the San Andreas Fault,
California, by R. Bilham and G. King, p. 10,
204-10, 216

Vol. 94, No. 7, July 10, 1989
Special Section on Whittier
Narrows Earthquake

The 1987 Whittier Narrows Earthquake
Sequence in Los Angeles, Southern
California: Seismological and Tectonic
Analysis, by E. Hauksson and L. M. Jones, p.
9569-9589

The 1987 Whittier Narrows, California
Earthquake: A Metropolitan Shock, Los
Angeles Basin, California, by E. Hauksson
and R. S. Stein, p. 9545-9547

Coseismic Folding, Earthquake
Recurrence and the 1987 Source Mechanism
at Whittier Narrows, Los Angeles Basin,
California, by J. Lin and R. S. Stein, p. 9614-
9632

Source Parameters of the October 1,
1987 Whittier Narrows Earthquake from
Crustal Deformation Data, by A. T. Linde and
M. J. Johnson, p. 9633-9643

GSA PUBLICATION SALES

Post Office Box 9140, Boulder,
Colorado 80301

SPE 238: Paleobiology of the
Dinosaurs, edited by J. O. Farlow, 1989, 106
p., paperback, \$22.00

SPE 235: Proterozoic Geology of the
Southern Rocky Mountains, edited by J. A.
Grambling and B. J. Tewksbury, 1989, 176 p.,
indexed, paperback, \$27.50

SPE 234: Late Cenozoic
Paleohydrogeology of the Western San
Joaquin Valley: Relation to Structural
Movements in the Central Coast Ranges, by
G. H. Davis and T. B. Coplen, 1989, 44 p.,
paperback, \$12.00

MWR 167: Geology of the Henry
Mountains, Utah, as Recorded in the
Notebooks of G. K. Gilbert, 1875-76, edited
by C. B. Hunt, 1988, 234 p., \$22.50

U. S. GEOLOGICAL SURVEY

P 1370-F: Studies of Geology and
Hydrology in the Basin and Range Province,
Southwestern United States, for Isolation
of High-level Radioactive Waste;
Characterizations of the Death Valley
Region, Nevada and California, edited by M.
S. Bedner, K. A. Sargent and W. H. Langer,
(supersedes OF 84-743), \$9.50

B 1871: Geology of Petroleum and
Coal Deposits in the North China Basin,
Eastern China, by K. Y. Lee, (supersedes OF
86-154), \$4.25

C 1034: Geohydrologic Aspects for
Siting and Design of Low-Level Radioactive
Waste Disposal, by M. S. Bedinger, free

C 1039: Magnetic Models for the
United States for 1985, by N. W. Peddie and
A. K. Zunde, free

Map OM-0222: Map Showing the Depth
to the Base of Deepest Ice-bearing
Permafrost as Determined from Well Logs,
North Slope Alaska, by T. S. Collett, K. J.
Bird, K. A. Kvenvolden and L. B. Magoon,
\$2.40

P 1496: Topographic and Structural
Conditions in Areas of Gravitational
Spreading of Ridges in the Western United
States, by D. J. Varnes, D. H. Radbruch-Hall
and W. Z. Savage, 1989, \$2.00

B 1858: Interpretation of Exploration
Geochemical Data from the Ugashik Bristol
Bay and Western Karluk Quadrangles,
Alaska, by S. E. Church, J. G. Frisken and F. H.
Wilson, 1989, \$2.75

Lucy Birdsall

NEWSLETTER

Pacific Section A.A.P.G.
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Bakersfield, CA 93302

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NOVEMBER 1, 1990

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PACIFIC PETROLEUM GEOLOGIST NEWSLETTER

of the Pacific Section
American Association of Petroleum Geologists

October/November 1990 No. 6

THE PRESIDENT'S COLUMN

Last month the Pacific Section received checks totaling \$11,471, which was our share of the San Francisco Convention. Registration and field trip revenues were excellent, and considering the income from the 1987 National Convention in Los Angeles, this was a gusher!

The 1993 Section meeting will be held in Orange County. Steve Testa, President of the Los Angeles Basin Geological Society, and John Foster, President of the South Coast Geologic Society, have agreed to host and co-host the meeting. In line with the changing professional profile of our membership, we look forward to a technical program which will span the appetites of both the petroleum and environmental geologist.

Along the same line, I was very pleased to see that Sue Kiser has been appointed to the National AAPG Committee on Environmental Geology for the period of 1990 through 1993. I am aware that a large body of the Pacific Section membership is hesitant to embrace the environmental geologists into the hitherto sanctuary of the petroleum geologists, but change is in the wind, and the likes of Sue involved in this transition period should allay some of the anxiety.

Three Pacific Section honorees have been selected and notified for outstanding service to the profession by the National AAPG. John Kilkenny has been accorded the Sidney Powers Award, and two members, George Pichel and Bud Reid have been given Honorary Membership awards. John is a Past President and honorary member of AAPG and lives in Alhambra. His involvement in the Pacific Section dates back to 1949 when he was Vice President. George Pichel retired from UNOCAL as Manager of Exploration Affairs, Oil and Gas Division, and currently consults and lives in Dana Point. Bud Reid last held office in the Pacific Section in 1976 as President. He has been called upon many times since to fill important capacities. Bud is currently President of Sunburst Exploration, Inc. in Santa Barbara. Another award dealing with California went to D. A. Medwedeff for his paper "Growth Fault-Bend Folding at Southeast Lost Hills". He was awarded the Cam Sproule Memorial Award. (Best paper by an AAPG member author, no more than 35 years of age.) Do I hear Geologic Notes being scratched out for submittal to the Bulletin?

Here is a great AT LAST! The long awaited southern San Joaquin cross section is in final drafting at SWEPI. This is a longitudinal section running from Turk Anticline SE to the San Emidio outcrop. There have been a great many additions and corrections to get it right. Jack Kappler has spent a long time ramrodding the project and is to be thanked by one and all for his bulldog effort. The section should be ready for printing in November.

The last section published by the Pacific Section was in the northern Los Angeles Basin (geology and preparation by Jack C. West and Tom Redin). The first sales were at the Oil Scouts Barbecue in Bakersfield last month. The section was printed, compliments of ARCO Bakersfield. The medium chosen for this printing was Ozalid blackline. With large unpaid publishing costs still with us from the San Francisco Convention, the offset prints of the past were out of the question. Any serious objections to using the same process for the San Joaquin section?

Jack Cunningham, President

ADVANCED GROUNDWATER HYDROLOGY SHORT COURSE

March 4 & 5, 1991 in Bakersfield

Hosted by the

San Joaquin Geological Society

Topics

Groundwater Movement

Groundwater & Well Hydraulics

**Groundwater Fluctuations
& Environmental Influences**

Salt Water Intrusion

Water Well Demonstration

Instructors

Steve Strait, EMCON

Dr. Hugo Loaigica, UCSB

Brian Hirst, Pacific Geotechnical Associates

Cost

\$175 - Advance Registration

\$210 - Late Registration

\$ 40 - Students

Limit sixty (60) participants

For more information, please contact:
Randy Metz - 805/324-7768

San Joaquin

November 13 - Randy Metz, Pacific Geotechnical Associates, Inc., and Ken Turner, Kern County Water Agency, "Mapping the Corcoran Clay in the Southern San Joaquin Valley".

December 11 - Reinhard Suchsland, DEKALB Energy, "Mudlogging Analysis of the Cretaceous Forbes Gas Sands, Sacramento Valley".

Suggestions for meeting speakers or topics should be addressed to Larry Knauer at 805/763-6280.

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 Laura Bazeley at 805/326-1112.

Northern

The Northern California Geological Society is making an effort to broaden its membership and to encourage more university participation in its meetings. As a portion of this effort, we plan to invite **POSTER PRESENTATIONS** during the cocktail hour preceding our monthly meetings.

If any members have a poster presentation that they would like to try out on a very knowledgeable audience, please contact President-elect, Mel Erskine at 415/234-6214.

October's poster session topics and presenters were as follows:

Unruh, J. R. (*presenter*) and Moores, E. M., 1990, "Quaternary Blind Thrusting in the Southwestern Sacramento Valley, California", University of California - Davis.

Wagner, D. L., Saucedo, G. J. (*presenter*), and Grose, T. L. T., 1989, "The Honey Lake Fault Zone, Northeastern California, its Nature, Age, and Displacement", California Division of Mines and Geology, Sacramento and Pleasant Hill, and Colorado School of Mines, Golden, Colorado.

REMINDER - Please renew your NCGS membership immediately. Interested in joining NCGS? Contact Norm Norton at 415/842-3668.

Coast

November 20 - Buzz Ivanhoe, Consultant, "Global Oil Supply Post Kuwaiti World".

December 18 - Bob Michael, Consultant, "Drifting Through Deep Time in the Grand Canyon", Spouse's Night.

January 15 - Helmut Ehrenspeck, Dibblee Geologic Foundation, and Thomas Dibblee, Jr., Consultant, "New Discovery of the Volcanic Geology of the Western Santa Monica Mountains".

Meetings are held the third Tuesday of every month. 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.

Los Angeles

The meetings will be held alternate months at noon at UNOCAL Center, California Room, 1201 West Fifth Street, Los Angeles.

For reservations or information, call Randall Ferguson at 714/842-6331 or Ken March at 213/436-9211, Extension #357.

COAST GEOLOGICAL SOCIETY SPOUSES'S NIGHT DECEMBER 18, 1990

Bob Michael will present a slide program on a float trip the length of the Grand Canyon. Perhaps nowhere on Earth is raw geology more accessible to the layperson than on the Colorado Plateau, and the Grand Canyon is the supreme locality. Here, in settings of unparalleled scenic beauty, a complete intracratonic Paleozoic sequence may be observed, underlain by well-preserved and almost unmetamorphosed Proterozoic sediments and Archean continental basement. The Colorado River carries the observer through two hundred miles of the spectacular geology.

COMING EVENTS

November 13 to 15 - Pacific Coast Oil Show and Conference, Kern County Fair Grounds, Bakersfield, California. For information please contact Petro-Tech Expos at 312/922-1270.

November 14 - API Fifth Annual Oilman's Bar-B-Que, 5:00 to 9:00 p.m. in the Auction Barn at the Kern County Fair Grounds in conjunction with the Pacific Coast Oil Show. For ticket information, please contact Pat Daniel (303/327-4306), Al Lewis (805/321-3746), Thurston Conger (805/763-6747), Richard Slane (805/399-1163), Bud Cost (805/322-6034), Doug Scheon (805/399-2961), Kwang Park (805/321-4060), or David Petry (805/323-8183).

November 28 & 29 - "Geological Aspects of Horizontal Drilling", AAPG School in Oklahoma City, Oklahoma. Cost is \$370 for AAPG members and \$400 for non-members. For more information, please contact the AAPG Education Department at 918/584-2555.

March 4 & 5, 1991 - Hydrogeology Short Course will be held at the Red Lion Bakersfield. The course is sponsored by the San Joaquin Geological Society in conjunction with the Pacific AAPG Convention. For more information, please contact Randy Metz at 805/324-7768.

March 5, 1991 - California State Geologist Registration Exam Tutorial. Taught in conjunction with the Pacific Section AAPG Convention. For more information, please contact Larry Knauer at 805/763-6280.

March 6 to 8, 1991 - Pacific Section AAPG Convention, Bakersfield, Dan Schwartz, Chairman (Shell Western Exploration and Production, Inc.).

April 7 to 10, 1991 - National AAPG Meeting, Dallas. Abstract deadline is September 17, 1990.

September 29 to October 2, 1991 - International AAPG Conference, London.

April 29 to May 1, 1992 - Pacific Section AAPG Convention, Sacramento, Rich Boyd, Chairman (Capitol Oil).

RECENT MOVES

GARY BRIERLEY has moved to Stockdale Energy, Bakersfield, formerly with Berry Petroleum Corporation, Taft.

MICHAEL DUMONT, a paleontologist with ARCO Oil and Gas has moved from Plano, Texas to Bakersfield.

KATHY PARKER is an environmental coordinator with ARCO Oil and Gas in Bakersfield, formerly with Luft Environmental in Bakersfield.

DAVE GLENN has moved from San Ramon to Bakersfield as California Division Manager, Western Exploration Business Unit, Chevron USA Inc.

PACIFIC GEOTECHNICAL ASSOCIATES, INC. are in a new location at 4200 Easton Drive, Suite Two, Bakersfield, California 93309 - 805/324-7768.

ROBERT MENZIE has moved to Groundwater Technology in Ventura. He was formerly with San Joaquin Energy Consultants in Bakersfield.

HERBERT D. DUEY has moved from Bakersfield to Houston.

DENISE HARVEY HARRISON has joined Fall-Line Exploration in Denver.

DOUGLAS IMPERATO has moved from Moss Beach to Santa Barbara.

PETER MINKEL formerly with Energy Log in Fairfield, has joined Applied Consultants in San Francisco.

MICHAEL PLOESSEL has moved to Ventura with McClelland Consultants from Agoura Hills.

ROBERT MORRISON has moved to Indonesia from Bakersfield with Occidental Petroleum.

DAVID SALTER has moved from Ventura to Camarillo.

WILLIAM TRAVERS has moved from Cornell University, Ithaca, New York, to Anacapa Oil Corporation, Carpinteria.

ROY TURNER has moved from Houston to Foresthill, California.

W. W. WORNARDT has moved from Denver to Houston with Micro-Stratigraphic.

DAYNA SALTER from Chevron USA in Bakersfield to Mobil Exploration and Producing U.S., Inc. in Oklahoma City, Oklahoma.

CHEVRON REORGANIZATION

Here's a partial list of moves in the "Chevron Reorganization" that are underway:

DENVER TO BAKERSFIELD

Gary Smedley.

VENTURA TO BAKERSFIELD

Rob Skillin, John Randall, Linda Weber, J. R. Morgan, Mark Yarlot, Kumbe Sadler, and Andrew Evans.

SAN RAMON TO BAKERSFIELD

Mel Blevens, Mark Moore, Jill VanDyke, Dana Wagner, Mike Morea, Dave Hammond, Tim Elam, Lee Nelson, Paul Mazalan, Dave Bartel, Bill Bartling, Debra Edgerton, John Fricke, Debra Wechalar, Linda Thurn, and Paul Mitchell.

ELK HILLS TO BAKERSFIELD

Boyd Getz.

SAN RAMON TO ELK HILLS

Norm Stone, Fred Bair, James Gallagher, and Jon Kuesport.

VARIOUS

Curt Peck from Chevron USA, Bakersfield, to a hydrogeologist position with Chevron Research and Technology Company in Richmond, California.

NEW MEMBERS**SOUTHERN CALIFORNIA**

STEVE M. BRATT - Los Angeles;
WALTER D. GARDNER - OXY USA Inc., Bakersfield; **ROBERT C. MICHAEL** - Santa Barbara; **PATRICK V. BOALES** - Buena Engineers, Inc., Ventura; **JEFF L. CAMPBELL** - WZI Inc., Bakersfield; **MARC A. SEPPARD** - Irone & Associates, Bakersfield; **DANIEL C. STEWARD** - Taft.

NORTHERN CALIFORNIA

R. LARRY SWARENS - Strata-Graphic Corporation, Loomis.

OTHER STATES

MARK B. MILLER - Murphy Oil USA, El Dorado, Arkansas; **MICHAEL S. CLARK** - Golden, Colorado.

PPGN EDITOR

The PPGN Co-editors, Laura Bazeley and Judy Russell, have decided it is time to share the fun and excitement of the PPGN with new blood. It's a great way to meet new people and to learn about Pacific Section AAPG.

Anyone interested in becoming Editor or helping out in any capacity, please contact Laura at 805/326-1112 or Judy at 805/321-6197.

CALL FOR PAPERS

The Dallas Geological Society requests your assistance in soliciting dipmeter interpretation papers to be published by the Dallas Geological Society in a book tentatively entitled "Dipmeter Casebook".

Questions and papers can be submitted directly to the Dipmeter Casebook Committee at the Dallas Society. We wish to make this publication a significant contribution to petroleum geologic literature with worldwide examples and application.

Telephone inquiries can be made to either Dale O. Reese at 214/991-9117 (office) - 214/387-1482 (home), or Robert W. Richter at 214/670-2883 (office) - 214/760-8288 (fax). Mail papers to: Dallas Geological Society, Inc., Attention: Dipmeter Casebook, One Energy Square, Suite 170, Dallas, Texas 75206.

PACIFIC SECTION AAPG FIELD SUMMARIES

EAST BRENTWOOD GAS FIELD

by R. J. Suchsland

STATISTICS

Discovery Well:

DEPCO McLeod 444-7,
Section 7, T.1N., R.3E., M.D.B. & M.,
Contra Costa County, California,
T. D. 9,122 feet

Discovery Date:

February, 1978

Initial Production:

3,100 MCFG/D and 10 BC/D

Productive Formation:

Upper Cretaceous, Third Massive Sand

Trap:

Stratigraphic/Structural

Average Pay Depth:

8,000 feet

Total Productive Wells:

Ten (10)

Cumulative Production as of 12/89:

46,311 BCFG, 76 MBC

Proved Acreage:

470 acres

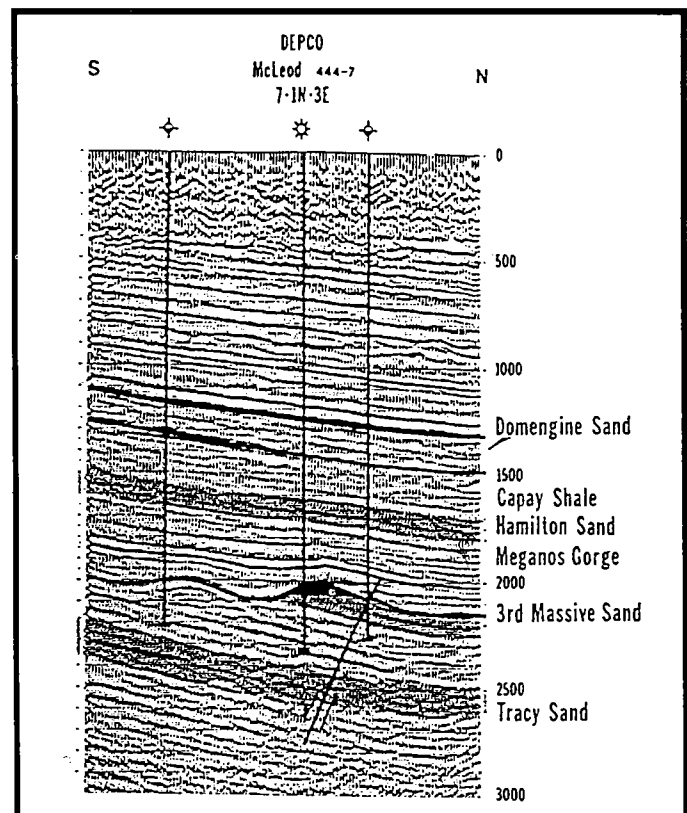
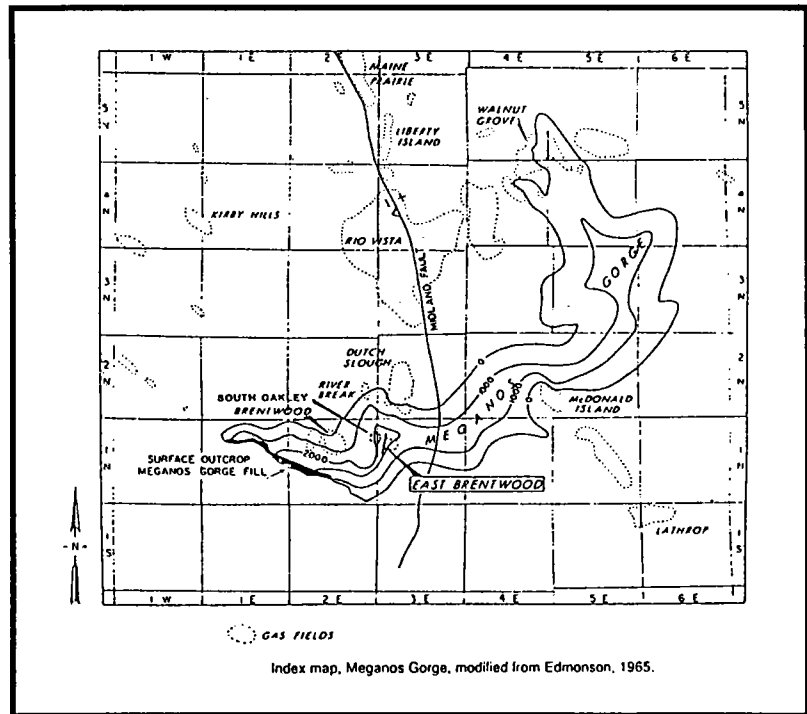
STRUCTURE

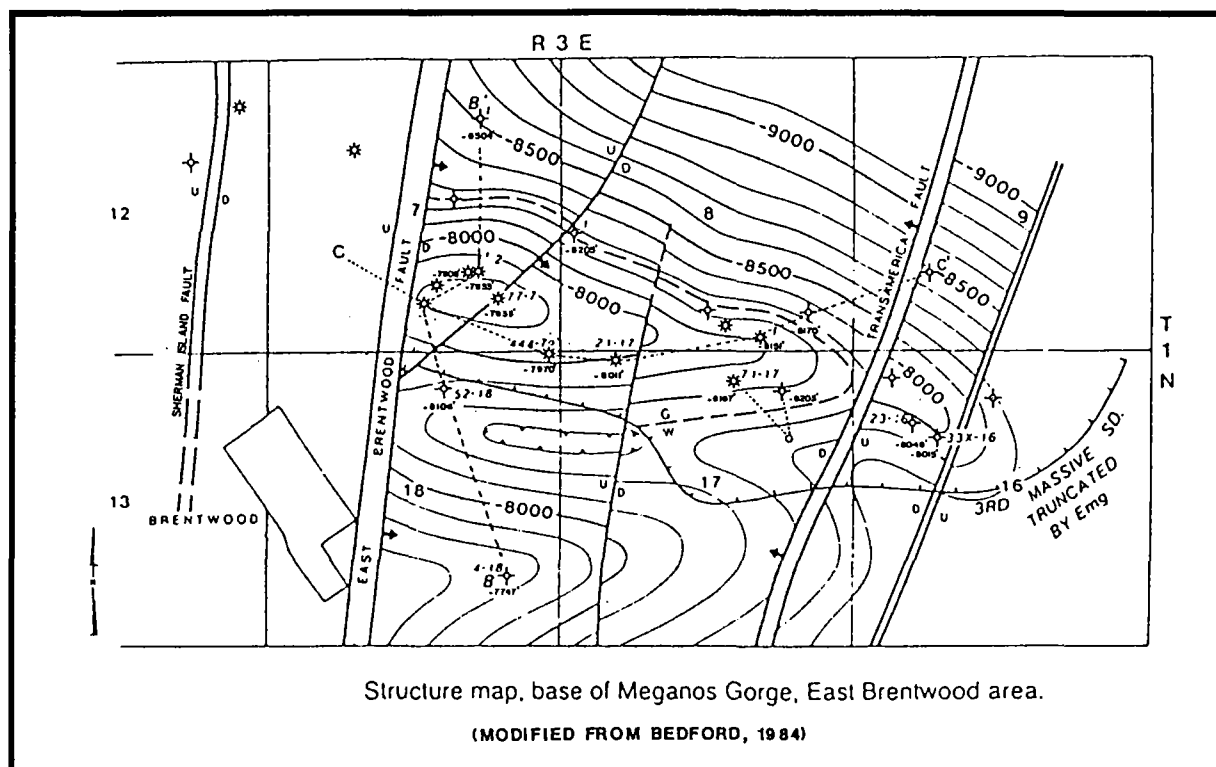
East Brentwood gas field is located on the northeast plunge of the Mt. Diablo uplift. Cretaceous sediments beneath the Meganos gorge unconformity dip 10 to 15° NNE.

A series of north trending faults transect the entire area between Brentwood oil field and East Brentwood gas field. These faults are downthrown to the east so that the vertical displacement at the Third Massive sand horizon is approximately 2,800 feet between Brentwood and East Brentwood fields. The easternmost of these major faults with a throw of about 450 feet and minimal horizontal displacement provides the westerly closure for the East Brentwood gas field. This fault has been designated by some as the East Brentwood fault and separates the field from the South Oakley gas field adjacent in the upthrown block and also productive from the Third Massive sand. Ultimate closure on the western margin of South Oakley gas field is the Sherman Island fault which is the only normal "up to the basin" fault that has pre-gorge motion.

The eastern plunge of East Brentwood gas field is faulted by a down to the west fault associated with the Midland fault system. Consequently, the field is located in the lowest fault block or "graben" in the trend. The easterly limit of the gas field is ultimately defined by the intersection of the plunge of the eroded structure with the approximate gas/water table of (-8,260 feet).

The eroded Third Massive structure resembles a near east/west trending cuesta with its southerly erosional slope having 15° to 20° south or anti-regional dip. At this point the Third Massive sand is completely removed. The top seal of the field is provided by gorge shales which appear to have been deposited immediately after erosion.





STRATIGRAPHY

The deepest well in the area is the Occidental-Shell Enos #1, Section 8, T.1N., R.3E., M.D.B. & M. The well drilled to 12,067 feet and encountered Upper Cretaceous Tracy and Winters sediments, D-2 and E in age. Overlying the Tracy is the Moreno shale which in turn is overlain by the regressive Third Massive Sand. In the field the Third Massive sand reaches a maximum thickness of 550 feet, but when it is uneroded, as in parts of Brentwood oil field, the sand unit has a maximum thickness of 1,300 feet. Unconformably overlying the Third Massive sand, and other units, is the Paleocene Meganos Gorge fill which ranges in thickness from 1,100 feet on the crest of the gas field to 1,600 feet in the eroded gorge low. Resting on the Meganos Gorge fill is the Eocene Margaret Hamilton sand that is approximately 400 feet thick. This sand unit is overlain by the Eocene Capay shale and Domingine sand that average about 2,100 feet in thickness. Finally, the section is overlain by the Nortonville and Markley formations and capped by Mio-Pliocene to Recent sediments.

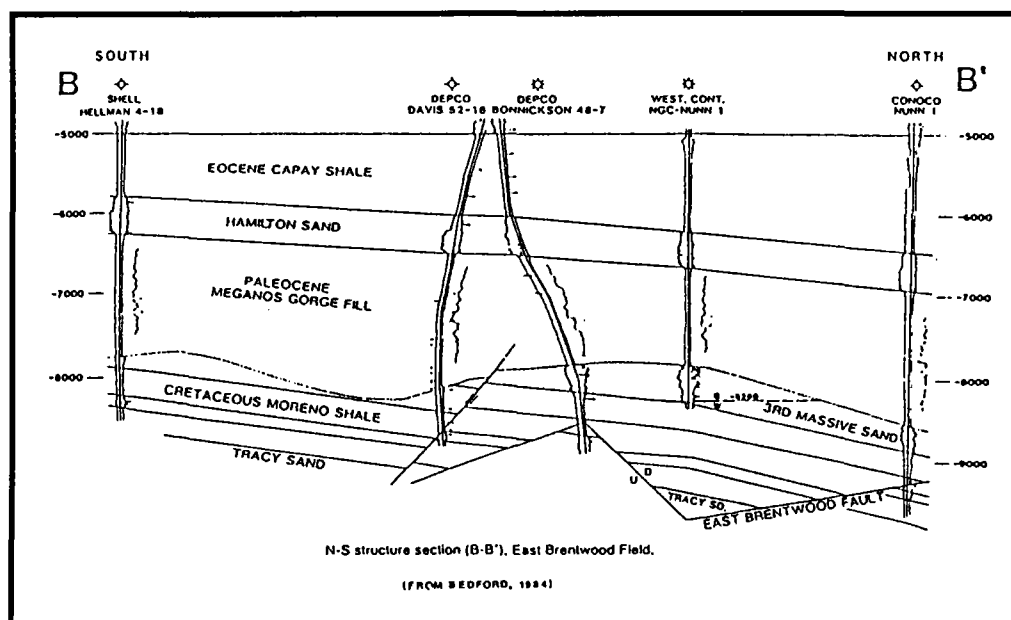
RESERVOIR

East Brentwood field covers 470 acres with a maximum gas column of 460 feet. Net productive sand thickness is 100 feet. Volumetric calculations indicate original in place reserves to be 46 BCFG.

Due to competitor activity and marketing, ten wells were ultimately drilled and completed in the field. As of the end of 1989, the Division of Oil and Gas Summary reported cumulative production of 46,311 BCFG and 76 MBC with remaining reserves of .69 BCFG. As of this writing, DEKALB has abandoned all wells in the East Brentwood gas field.

REFERENCES

- Bedford, J. W., 1984, East Brentwood Gas Field - Contra Costa County, California, A Case History, San Joaquin Geological Society, Selected Papers, v. 6, p. 24 - 31.
Edmondson, William F., 1965, The Meganos Gorge of the Southern Sacramento Valley, San Joaquin Geological Society, Selected Papers, v. 3, p. 36 - 51.



NEW PUBLICATIONS

The following are new publications of the Oregon Department of Geology and Mineral Industries (DOGAMI):

Geology and Mineral Resources Map of the Sheaville Quadrangle, Malheur County, Oregon and Owyhee County, Idaho, by Norman S. McLeod. DOGAMI Geological Map Series GMS-64, two (2) plates (one two-color geologic map, scale 1:24,000 and one sheet containing tables of geochemical data), \$4.00.

Geology and Mineral Resources Map of the Mahogany Gap Quadrangle, Malheur County, Oregon, by Norman S. McLeod. DOGAMI Geological Map Series GMS-65, one (1) two-color geologic map, scale 1:24,000, \$4.00.

Geology and Mineral Resources Map of the Mitchell Butte Quadrangle, Malheur County, Oregon, was prepared by M. L. Ferns, DOGAMI, and K. M. Urbanczyk, Washington State University, and has been released in the DOGAMI Geological Map Series as Map GMS-61, \$4.00.

Onshore-Offshore Geologic Cross Section from the Mist Gas Field, Northern Oregon Coast Range, to the Northwest Oregon Continental Shelf and Slope, by A. R. Niem, P. D. Snively, Jr., and W. A. Niem, has been released as DOGAMI Oil and Gas Investigation 17. It consists of a 36" by 76" ozalid sheet and a 46 page explanatory text. In addition to the geologic cross section and corresponding geologic strip map, the cross section sheet shows several magnetic, gravity and seismic-reflection profiles, \$9.00.

Earthquake-Hazard Geology Maps of the Portland Metropolitan Area, Oregon, DOGAMI Open File Report O-90-2, produced by staff geologist Ian Madin. It consists of eight maps and a 21 page explanatory text. The maps are one-color diazo paper reproductions and measure approximately 25" X 30" in size. Each map covers one (1) seven and one-half minute quadrangle at a scale of 1:24,000 - (1 inch = 2,000 feet), \$9.00.

These new publications are available from the Oregon Department of Geology and Mineral Industries, 910 State Office Building, 1400 SW Fifth Avenue, Portland, Oregon 97201-5528. Orders may be charged to credit cards by mail, FAX or telephone. Their FAX number is 503/229-5639 and their telephone number is 503/229-5580. Orders under \$50.00 require prepayment except for credit card orders.

Mineral Resources and the Destiny's of Nations, a fascinating and important new book by Walter Youngquist, Portland Press, 1990, clearly shows the impasse between the supplies of, and demands for, non-renewable mineral resources, with emphasis on petroleum. Submitted by Mase Hill.

The following are new publications available from the **PACIFIC SECTION AAPG**:

Structure, Stratigraphy and Hydrocarbon Occurrences of the San Joaquin Basin, California (AAPG, SEPM), GB65 - \$21.00.

Geologic Guidebook to the Point Reyes Area, Northern California (NCGS), GB66 - \$15.00.

Coastal Geology - San Francisco to Monterey (AAPG), GB67 - \$25.00.

Guide to Yosemite and the Motherlode Goldbelt (AAPG), GB68 - \$18.00.

The October 17, 1989 Earthquake: Geology and Impact (NCGS), GB69 - \$10.00.

Northern Los Angeles Basin from Santa Monica Bay to Prado Control Basin, CS28 - \$4.00.

To order, mail checks made payable to Publications, Pacific Section AAPG to the Publications Committee, Pacific Section AAPG, Post Office Box 631, Ventura, California 93002. Please use the following postage and handling guidelines and include this amount when ordering: If order is less than \$9.99, add \$1.75; \$10.00 to \$19.99, add \$3.50; \$20.00 to \$39.99, add \$5.25; \$40.00 to \$59.99, add \$7.00; \$60.00 to \$79.99, add \$9.25; \$80.00 to \$99.99, add \$11.50; and \$100.00 or more, add \$13.75.

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AGENCIES PUSH FOR MORE ALASKA DRILLING

Both federal and state governments are proposing sales that will make more of Alaska's wildcat acreage available for exploration.

The federal government's Minerals Management Service has three offshore sales tentatively scheduled for the next year offering tracts in the Beaufort Sea, Navarin Basin and Chukchi Sea.

The Beaufort Sea sales, OCS Sale 124, would be held in April. The proposed sale area consists of about 4,095 tracts encompassing about 22.1 million acres between 3 and 140 miles offshore from the North Slope in water depths between 6 and 3,280 feet.

There have been four previous sales in the area. Twenty-one exploratory wells have been drilled, of which eight were determined to be producible. Fifteen wells have been abandoned permanently, and six have been abandoned temporarily.

The Navarin Basin sale, OCS Sale 107, would be held in July. The proposed sale area covers more than 28 million acres in 5,036 blocks in the Bering Sea about 250 miles offshore from the Alaska mainland. Water depths range from approximately 230 to 7,900 feet, with depths in the majority of the area less than 600 feet.

The sale would be the second for the Navarin Basin. Previous drilling in the planning area includes a deep Stratigraphic test in 1983 and eight exploratory wells that were drilled and abandoned in 1985.

The Chukchi Sea sale, OCS Sale 126, would be held in August. The proposed sale area consists of 4,319 blocks covering more than 23 million acres in water depths of 100 to 300 feet. The sale would be the second for the Chukchi Sea, where Shell Oil Company presently is conducting exploratory drilling operations.

Alaska's Division of Oil and Gas reactivated its oil and gas leasing program in June after a one year suspension occasioned by a lack of funds.

Fourteen sales are in the planning stages with dates set for two of the sales in January, 1991 and tentative dates for the other twelve sales through 1995.

The first two sales will be held in conjunction on January 29, 1991, in Anchorage. Sales 67A, Cook Inlet, includes 140 tracts covering approximately 549,364 acres of state-owned uplands in Anchorage, Wasilla and Houston; lower Susitna Valley; near Redoubt and Trading Bays; on the upper Kenai Peninsula; and tide and submerged lands in Cook Inlet.

Sale 70A, Kuparuk Uplands, includes 135 tracts with an area of approximately 532,153 acres within the North Slope Borough. The proposed sale area consists primarily of state-owned uplands on the Arctic Coastal Plain between the Canning and Colville Rivers.

Other sales on the state's program and tentative sale dates include Sale 64, Kavik, May, 1991; Sale 65, Beaufort Sea, May, 1991; Sale 74, Cook Inlet, September, 1991; Sale 61, White Hills, January, 1992; Sale 68, Beaufort Sea, May, 1992; Sale 75, Kuparuk Uplands, September, 1992; Sale 76, Cook Inlet, January, 1994; Sale 79, Cape Yakataga, May, 1994; Sale 80, Shaviovik, May, 1994; Sale 81, Beaufort Sea, January, 1995; Sale 82, Icy Cape, May, 1995; and Sale 83, Western Beaufort Sea, September, 1995.

Bill Rintoul

ALASKA FIELD'S OUTPUT PER-WELL BURIES COMPETITORS

A remote Alaskan oil field that's locked in ice more than half the year produced its 100-millionth barrel in June less than three years after coming on stream.

Though little known outside Alaska, the Endicott field is the sixth most productive field in the United States, surpassed only by Alaska's Prudhoe Bay and Kuparuk River fields and Kern County's Midway-Sunset, South Belridge and Kern River fields.

Among them, the fields topping the list ahead of Endicott have more than 21,800 producing wells, including 1,120 in the two Alaskan leaders and 20,688 in the Kern County fields.

Endicott has only 41 producing wells. While the number may be small, the field's output is impressive, averaging 105,875 barrels per day in May when cumulative production topped the 100-million-barrel mark.

On a per-well basis, Endicott's wells were far ahead of the other fields, averaging 2,582 barrels per day. The nearest competitor was Prudhoe Bay with an average of 1,677 barrels per day for 799 wells that produced a field-wide 1,339,876 barrels per day.

Kuparuk River's 321 wells averaged 895 barrels per day, while Kern County's wells checked in with a per-well average of 17 barrels per day at Midway-Sunset, 33 barrels per day at South Belridge and 18 barrels per day at Kern River.

Endicott began production in October of 1987 as the first commercial offshore oil field in the Arctic. The field lies on state lands in water depths from 6 to 10 feet about 10 miles northeast of Prudhoe Bay.

Standard Alaska Production Company, now BP Exploration, started up with an initial output of about 40,000 barrels per day.

By the following month, the company had production up to the target level of 100,000 barrels per day, making Endicott the largest offshore oil producer off the United States.

Endicott contains an estimated one billion barrels at an average depth of 10,500 feet. Original estimates put recoverable oil at 350 million barrels. In light of success to date, BP recently upped the figure to 400 million barrels. Gravity of the oil is 23 degrees. The field also holds more than one trillion cubic feet of gas, which is reinjected.

Endicott was discovered in 1978 by Exxon. BP's predecessor took over as project operator after the companies discovered most of the field was on Standard's leases.

The bases for the \$1.1 billion Endicott development are a pair of man-made gravel islands linked to shore by a 5 mile causeway. The 45 acre main production island offers space for as many as 70 wells along with production facilities, a construction camp and a permanent base operations center that provides housing for 150 persons. The three-story operations center complex includes a gymnasium with running track, an auditorium, a medical facility and a fire station.

The 10 acre satellite drilling island offers space for as many as 50 wells. Original plans called for drilling 120 wells from the two islands. Present plans are for only 83 wells, including production wells and injectors for an active waterflood.

The Endicott oil moves ashore through 27 miles of pipeline that tie in the field with the Trans Alaska pipeline system at Pump Station No. 1 at Prudhoe Bay.

With 56.8 percent interest, BP is field operator. Other partners are UNOCAL, Amoco, ARCO and three Alaska native corporations.

Bill Rintoul



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RECOMMENDED READING

U. S. GEOLOGICAL SURVEY

B 1892: Preliminary Evaluation of the Petroleum Potential of the Tertiary Accretionary Terrane, West Side of the Olympic Peninsula, Washington (supersedes OF 88-75), 1989, \$4.75

B 1899: Malic Inclusions, Aggregates and Dikes in the Granitoid Rocks, Central Sierra Nevada Batholith, California: Analytical Data by B. Barbarin (Universite de Paris-Sud), F. C. W. Dodge, R. W. Kistler, and P. C. Bateman, U.S.G.S., 1989, \$1.75

B 1903: Geologic Studies in Alaska by the U. S. Geological Survey, 1988, edited by J. H. Dover and J. P. Galloway, 1989, \$7.50

B 1905: Arizona's Industrial Rock and Mineral Resources: Workshop Proceedings, compiled and edited by E. W. Tooker, U.S.G.S., prepared in cooperation with the Arizona Geological Survey, 1989, \$5.00

B 1912: The Petroleum System: Status of Research and Methods, 1990, edited by L. B. Magoon, \$4.75

C 1045: Lessons Learned from the Loma Prieta, California, Earthquake of October 17, 1989, edited by G. Plafker and J. P. Galloway, with contribution by M. J. Bennett, et al, free

C 1038: Geohazards 1988: A Symposium Highlighting Research on the Causes, Effects and Prediction of Geologic and Hydrologic Hazards, Program Abstracts, edited by C. A. Hodges, free

Map I-1905: Geologic Map of Santa Cruz County, California, by E. E. Brabb, 1989, Scale 1:62,500, \$3.10

Map I-1198-F: Surficial Geologic Map of the Port Townsend 30 by 60 Minute Quadrangle, Puget Sound Region, Washington, by F. Pessl, Jr., D. P. Dethier, D. B. Booth, and J. P. Minard, 1989, \$3.10

P 1487: The Coalinga, California Earthquake of May 2, 1983, edited by M. J. Rymer and W. L. Ellsworth, \$29.00

B 1857-G: Gold in Placer Deposits, by W. Yeend, D. R. Shawe, and K. L. Wier, \$1.50

B 1931: Depositional Controls, Distribution and Effectiveness of World's Petroleum Source Rocks, by G. F. Ulmishek and H. D. Klemme, \$13.00

W 2350: National Water Summary 1987: Hydrologic Events and Water Supply and Use, by U.S.G.S., (J. E. Carr, E. B. Chase, R. W. Paulson and D. W. Moody, Compilers), \$31.00

GEOLOGICAL SOCIETY OF AMERICA BULLETIN

Vol. 102, No. 1, January, 1990

Tectonic Evolution of a Coherent Late Triassic Subduction Complex, Stuart Ford Terrane, Klamath Mountains, Northern California, by J. W. Goodge

The Late Cenozoic Evolution of the Tuolumne River, Central Sierra Nevada, California, by N. K. Huber

Vol. 102, No. 2, February, 1990

The Denali Fault System and Alaska Range of Alaska: Evidence for Underplated Mesozoic Flysch from Magnetotelluric Surveys, by W. D. Stanley, V. F. Labson, W. J. Nokleberg, B. Csejley, Jr., and M. A. Fisher

Controlling Factors in the Distribution and Development of Incised Meanders in the Central Colorado Plateau, by D. R. Harden

Seismic Imaging of Extended Crust with Emphasis on the Western United States: Discussion and Reply, by E. C. Hauser, J. McCarthy and G. A. Thompson

Depositional Setting and Regional Relationships of Basinal Assemblages: Pershing Ridge Group and Fencemaker Canyon Sequence in Northwestern Nevada, by J. S. Oldow, R. L. Bartel, and A. W. Gelber

Lucy Birdsall

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PACIFIC PETROLEUM GEOLOGIST NEWSLETTER

of the Pacific Section
American Association of Petroleum Geologists

December/January 1991 No. 1

THE PRESIDENT'S COLUMN

It's hard to believe our Pacific Section fiscal year is half over. Holidays are here and we have not accomplished the goals set before us. 1991 will be busy with the Bakersfield convention, renovating the way we market our publications, preparing for the remodeling of the Pacific Section to be an umbrella society to encompass an expanding array of disciplines, and striving to maintain fiscal health. I find comfort in the knowledge that John Randall is aboard for next year to pickup the pieces.

I have just received a copy of the sessions programmed for the Bakersfield convention. Dan Schwartz's article summarizes the Convention events. The major session will be the Paleozoic, starting with Great Basin Cambrian on Wednesday to the late Paleozoic of Nevada and the Eastern Klamaths on Friday.

The joint luncheon will be on Thursday and will feature Michael Halbouty. A keynote speaker for the opening session Wednesday is to be announced. Rumor has it that our Governor Elect is being solicited. Since elections are all over, maybe he had heard the lion and will give us his perspective on oil issues in California.

Elsewhere in this issue is an "in memoriam" to Lucy Birdsall. Lucy was such an efficient and hard worker that a lot of us took her for granted. Even her passing went unnoticed by many of us not in the Los Angeles, Orange County area. Lucy died October 21, 1990 and many colleagues as myself did not find out until much later.

Those of you who have enjoyed Lucy's Recommended Reading column will be glad to know that Russ Robinson of the Core Repository has asked to assume that function. Russ has access to the California State Bakersfield library and I am sure will give us worthwhile review.

Speaking of new faces, Hans Schwing has asked to be relieved of the Publications Manager post. Hans has held this position for about six years and we have wrung him dry. The good news is that in order for him to leave he had to find a replacement. Dan Olson has stepped forward to relieve Hans and will transition into the job after the holidays. Dan has been helping Hans for the last several months so he knows what he is in for. With ARCO's acquisition of the Oryx production in Midway-Sunset, it looks like Dan may be secure in Bakersfield for some time.

More on the sage of the "Geology of the Mother Lode Goldbelt" - Orders are in from the Mariposa Museum, and California Geology will review the publication in an upcoming issue. I don't know how sales have been out of Tom Wright's van, but I do know he's heading for New Zealand for a month with a satchel of books. Now that's innovative marketing.

I hope you all found something in the Pear Tree to your liking. For instance, for landmen: 1/8 royalties and unlimited pooling; for geologists: gushers and \$30.00 oil; for paleontologists: a near subspecies and sexy bugpickers; for seismologists: 20 million reversals and more megabytes; and for geologic engineers: buried tanks and open sumps!

Jack Cunningham, President

AAPG - SEPM - SEG - SPWLA - ENVIRONMENTAL

PACIFIC SECTION 65th ANNUAL MEETING

EARTH SCIENCES: THE CONTINUING CHALLENGE

The Earth Sciences are coming to Bakersfield in March, 1991. We hope that you will join us!

It has been five years since Bakersfield, an All-American City, last hosted the Pacific Section meetings, and much has changed. The City has grown in population to 180,000 - charged by petroleum industry transfers. Explorationists are active and existing redevelopment has blossomed. Environmental concerns have resulted in new opportunities and a shifting job market. To address these factors, the 1991 Convention Committee has assembled an outstanding program of technical, business and social events.

SHORT COURSES

Hydrology
Engineering Geophysics
Professional Registration

SYMPOSIUMS

Paleozoic Paleogeography
West Coast Tertiary Basins
Santa Maria Basin
Stevens Sand

FIELD TRIPS

Westside San Joaquin Valley
Eastside San Joaquin Valley
Monterey Formation
Environmental
San Andreas Fault

SPECIALTY SEMINARS

Log Analysis
Environmental Geology
Geophysics
Best of SPE

An outstanding exhibits and advertising effort has guaranteed wide ranging involvement from the business community and the latest in technology and services.

The Entertainment Committee has planned a series of events to sample the old flavor of Bakersfield and the emerging style of the 90's. A barbeque at Pioneer Village will let you "Rediscover the Wildcat Spirit", while the beautiful setting of the Petroleum Club will be the backdrop for the "Toast of the Town" wine tasting and buffet. Spouses can tour fascinating Hearst Castle at San Simeon, shop for Danish specialties in Solvang, learn the latest in cooking techniques at a Junior League Luncheon, or shop for antiques in old Bakersfield.

Perhaps the highlight of the social and technical program will be our featured speaker at the Joint Society Luncheon. **Michael T. Halbouty** will present his views on recent issues from both a domestic and international vantage point.

This Convention promises to be excellent. The Convention Committee has focused their talents to make it a special event. We hope you will join us in Bakersfield!

Daniel E. Schwartz, General Chairman

San Joaquin

January 8 - Sue Kiser, WZI Inc., "Sump Closures in Kern County".

February 12 - Spouse's Night. Speaker to be announced.

March - No meeting, Pacific Section AAPG Convention.

Suggestions for meeting speakers or topics should be addressed to Larry Knauer at 805/763-6280.

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 Laura Bazeley at 805/326-1112.

Coast

January 15 - Thomas Dibblee, Jr., Consultant, and Helmut Ehrenspeck, Dibblee Geologic Foundation, "Geology and Volcanism of the Western Santa Monica Mountains, Demystified".

February - To be announced.

March - To be announced.

Meetings are held the third Tuesday of every month. 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 Candi Pruett at 805/494-2210.

Los Angeles

The meetings will be held alternate months at noon at UNOCAL Center, California Room, 1201 West Fifth Street, Los Angeles.

For reservations or information, call Randall Ferguson at 714/842-6331 or Ken March at 213/436-9211 - #357.

SACRAMENTO PETROLEUM ASSOCIATION

January 23 - Scott Hector, North Valley Oil and Gas, "Geology of the La Honda Oil Field, San Mateo County, California".

Meetings are held at noon at Neptune's Table Restaurant. For reservations please contact Rich Boyd at 916/929-4141.

NEW MEMBERS

SOUTHERN CALIFORNIA

BERNARD J. PERRY - Fullerton.
KURT R. HADEN - Carpinteria.
LAVERN C. HOFFMAN - Ventura.
DONALD L. MARCUS - EMCON Associates, Camarillo.
CRAIG D. PRENTICE - Staal, Gardiner & Dunne, Ventura.
MARK C. BOEHM - UNOCAL Corporation, Bakersfield.
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WAYLAND E. GRAY - Mobil Oil Corporation, Bakersfield.
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TIMOTHY L. KIRST - Mobil Oil Corporation, Bakersfield.
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FRANK MARTORANA, JR. - ARCO Oil & Gas Company, Bakersfield.
LINDA D. RINCHIUSO - Texaco, Bakersfield.
DAVID C. BARTEL - Chevron U.S.A. Inc., Bakersfield.
STOWE KILLINGSWORTH - Gary Drilling Company, Bakersfield.

NORTHERN CALIFORNIA

TANYA PSHEVLOZKY - Chevron U.S.A., Inc., San Ramon.

OTHER STATES

WENDY KLEIN - Rocky Hill, New Jersey.

USC BAKERSFIELD SPRING 1991 REGISTRATION

Registration for the Bakersfield offering of "Enhanced Oil Recovery" and "Introduction to Reservoir Engineering" will be on January 2 from 5:30 to 6:00 p.m. at the Halliburton Offices on Ming Avenue. The course will be held on the Bakersfield campus.

For more information, please contact Mark Starcher at 805/763-6278.

COMING EVENTS

March 4 & 5 - Hydrogeology Short Course will be held at the Red Lion Bakersfield. The course is sponsored by the San Joaquin Geological Society in conjunction with the Pacific AAPG Convention. For more information, please contact Randy Metz at 805/324-7768.

March 5 - California State Geologist Registration Exam Tutorial. Taught in conjunction with the Pacific Section AAPG Convention. For more information, please contact Larry Knauer at 805/763-6280.

March 6 to 8 - Pacific Section AAPG Convention, Bakersfield, Dan Schwartz, Chairman (Shell Western Exploration and Production, Inc.).

March 20 to 22 - SPE 1991 Western Regional Meeting, Long Beach, "Technology - The Balance for Oil & Environment". For more information or to register, call the SPE Meetings Department at 800/527-6863.

April 7 to 10 - National AAPG Meeting, Dallas. Abstract deadline is September 17, 1990.

September 29 to October 2 - International AAPG Conference, London.

April 29 to May 1, 1992 - Pacific Section AAPG Convention, Sacramento, Rich Boyd, Chairman (Capitol Oil).

RECENT MOVES

JOHN N. EKE has moved from Houston to Valencia.

PAUL KNOX has moved to Bakersfield from Santa Fe Springs with UNOCAL.

PAUL K. AUE has moved from San Francisco to Novato.

PATRICK J. FAZIO of the Black Mountain Oil Company has moved from Ventura to Ojai.

E. DEAN B. LAUDEMAN has moved from Los Angeles to Rancho Palos Verdes.

NEWS FROM THE STATE BOARD OF REGISTRATION FOR GEOLOGISTS & GEOPHYSICISTS

John Wolfe, Executive Officer of the Geologist and Geophysicist Board, retired on November 25, 1990. He was appointed by the Board when it was organized in 1969.

Frank Dellechiaie has been selected by the Board as Mr. Wolfe's successor. The effective date of his appointment was November 26, 1990. Mr. Dellechiaie holds both Bachelor of Science and Master of Science degrees in Geology and has over fifteen years of experience in mineral and geothermal exploration and hazardous waste clean-up. For the past three years he has been an Engineering Geologist for the California Department of Health Services.

The Executive Officer is a constitutionally exempt employee appointed by the Board. As the Board's confidential employee, the Executive Officer has the responsibility to plan, organize and direct the administration of programs, specifically licensing and enforcement, as specified in Chapter 12.5 of the California Business and Professions Code.

At the July 30, 1990 meeting the Board unanimously elected as **President**, **James R. Weddle**, and as **Vice President**, **Karen L. Melikian**.

Mr. Weddle is a petroleum geologist and President of San Joaquin Energy Consultants, Inc. in Bakersfield, a position he has held since 1980. He is a member of the AAPG and was President of the Pacific Section in 1983.

Ms. Melikian has been an educator for the Fresno Unified School District since 1981. She received her Bachelor's Degree in Education from the University of Southern California. She is a member of the California Teacher's Association, the National Education Society and the University of California Alumni Association.

Governor George Deukmejian reappointed **William B. Snyder** of Whittier to a second full term on the Board. Terms of office are for four years.

Mr. Snyder is a part-time Business Development Manager for the Hood Corporation, a position he has held since 1984. He received his Bachelor's Degree from the University of California in 1939. He is a member of the University of Southern California Alumni Association, the American Petroleum Institute and the Elks Club.

In November of 1970, the Board held its first examination for three candidates. In September of 1990, the Board had a total of 1,104 candidates who took all three examinations; 772 for geology, 25 for geophysics and 307 for engineering geology. The Board's first budget was \$56,000 and the budget for the 1990/91 fiscal year is \$400,000.

For additional information about the Board, please contact the California Geologist and Geophysicist Board, 1021 "O" Street, Room A-190, Sacramento, California 95814 - 916/445-1920.

NEWS FROM THE CALIFORNIA WELL SAMPLE REPOSITORY

Editing of edition number six of the California Well Sample Repository catalog is proceeding.

Any corrections or additions from the PPG Newsletter readership are most welcome. The greatest need is for the identification of the sample interval (i.e., the formation or age from which the samples came). An easy way to make a correction/addition is to copy the catalog page, make the change and mail the sheet to:

California Well Sample Repository
9001 Stockdale Highway
Bakersfield, California 93311-1099

As the Catalog publication date is fast approaching, it is time to raise money for printing! As in the past, we will do this by exchanging advertising space in the Catalog for a donation, as follows:

Full Page

(11" horizontal by 8" vertical), \$200

Half Page

(11" horizontal by 4" vertical), \$100

Quarter Page

(4" horizontal by 4" vertical), \$50

Business Card

Standard Size, \$20

Your Support is essential, so please send your donation and camera-ready copy to the Repository as soon as possible. If you have any questions, please contact me at 805/664-2324.

Russ Robinson, Curator



For more information,
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NEWSLETTER CHANGES

Jack West has agreed to take over as Co-editor for Judy Russell.

A big thank you to Judy who has made great contributions to the newsletters over the years. This was her second term as Editor! Jack, as Past President of the Pacific Section AAPG, will be a great asset.

Russ Robinson has volunteered to take over the Recommended Reading.

Frank Cressy has been doing a great job of gathering field summaries. If you would like to contribute a geologic article, please give him a call at 805/323-6828. Anyone else who is interested in participating in the newsletter, please call Laura Bazeley or Jack West at 805/326-1112.

PACIFIC SECTION AAPG FIELD SUMMARIES

RIO VIEJO OIL FIELD OF KERN COUNTY, CALIFORNIA

by R. M. Lewy

FIELD STATISTICS

Discovery Well

Tenneco Oil Company
"Tenneco-Chevron-San Emidio North" No. 22X
Section 34, T.12N., R.21W., S.B.B. & M.
Kern County, California
Total Depth = 16,520 feet

Discovery Date

October, 1975

Initial Production

690 BOPD 31° and 140 MCF/D

Productive Formation

Upper Miocene, Stevens Sands

Trap

Structural/Stratigraphic

Average Pay Depth

14,500 feet

Total Productive Wells

Twelve (12) - all pools

Cumulative Production as of December, 1989

6.6 MMBO, 1.8 BCFG

Proven Acreage

515 acres

GEOLOGY AND STRUCTURE

The Rio Viejo oil field is located in the southern San Joaquin Valley on the northeast flank of the eastward plunging San Emidio Nose structure (fig. 1 and 2). Hydrocarbon entrapment occurs within individual northwest trending Stevens' reservoir sands. The sands shingle to the north or northeast, becoming progressively younger away from the San Emidio structure. Shale breaks as thin as three to five feet separate these sands into discrete reservoirs. Expansion of the Upper Miocene section by the sand packages has created residual structures about the sand in the form of compaction anticlines. Stratigraphic correlations within Rio Viejo and San Emidio Nose

fields suggests that this Upper Miocene depositional package consists of older lobate sand bodies formed from an aggregation of individual unconfined turbidite flows (Riordan sands) and the younger Main Sand, the deposition of which was indirectly influenced by the rising San Emidio Nose structure in late Miocene time (fig. 3).

STRATIGRAPHY

The deepest well in the field is the Tenneco-Chevron-San Emidio North #27X-26 located on Section 26, T.12N., R.21W., S.B.B. & M. The 27X-26 well was drilled to a depth of 16,548 feet bottoming in the "P" chert interval of the Upper Miocene Antelope formation. The Antelope formation is composed of deep water Stevens sand bodies separated by correlative siliceous shales and cherts.

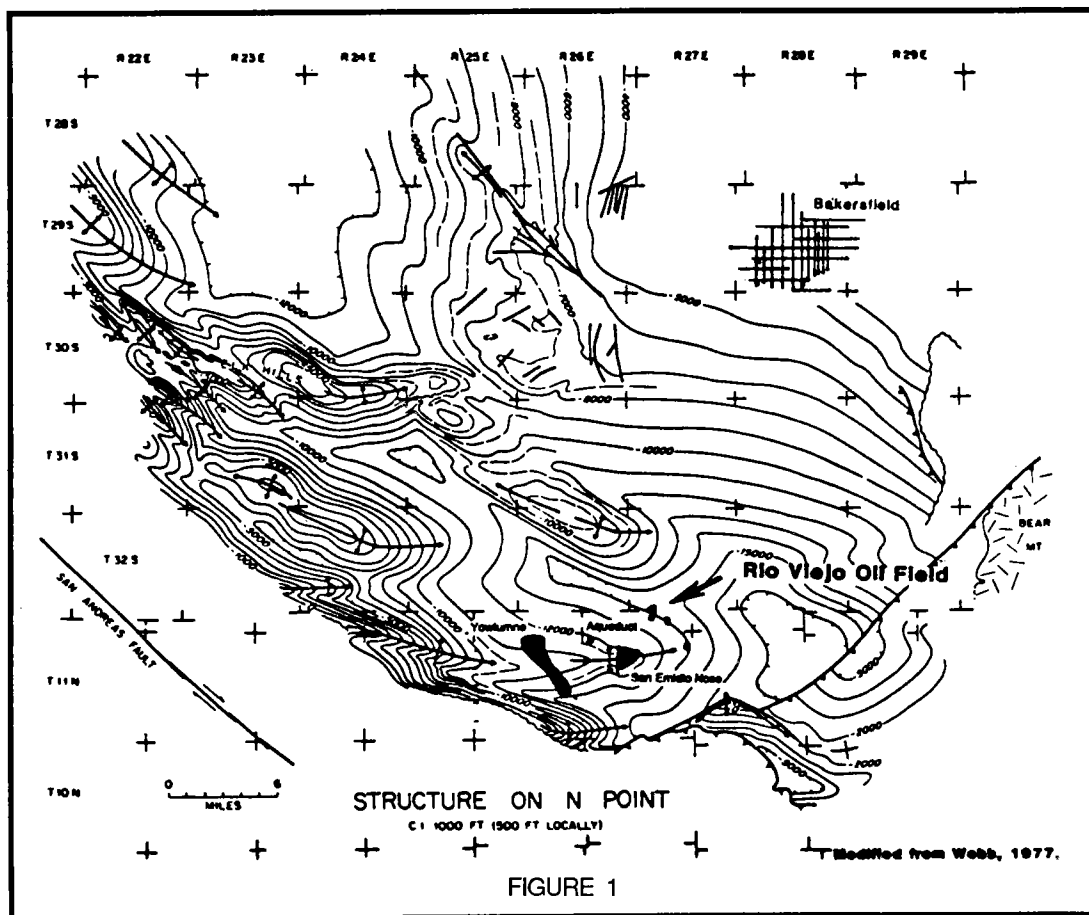
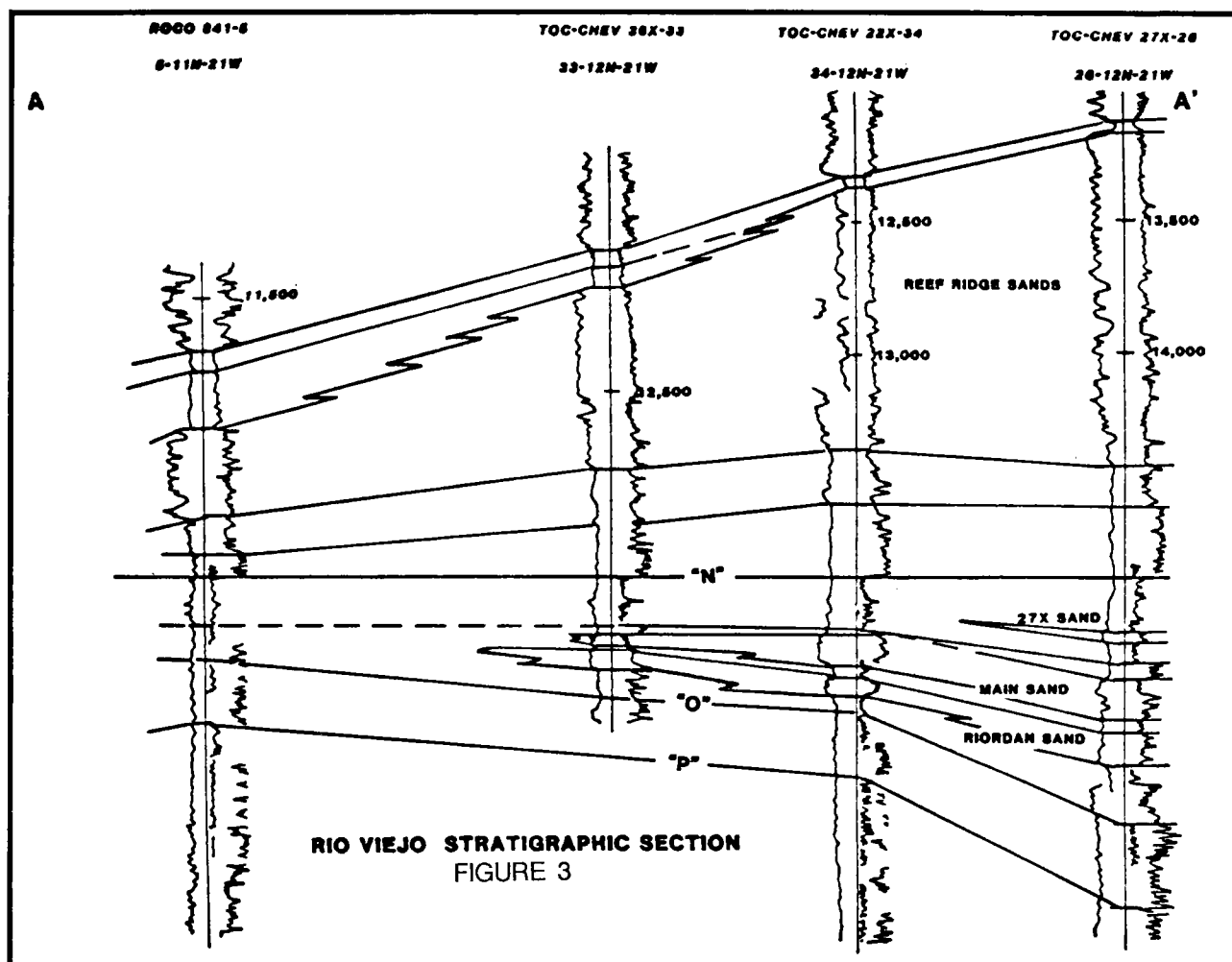
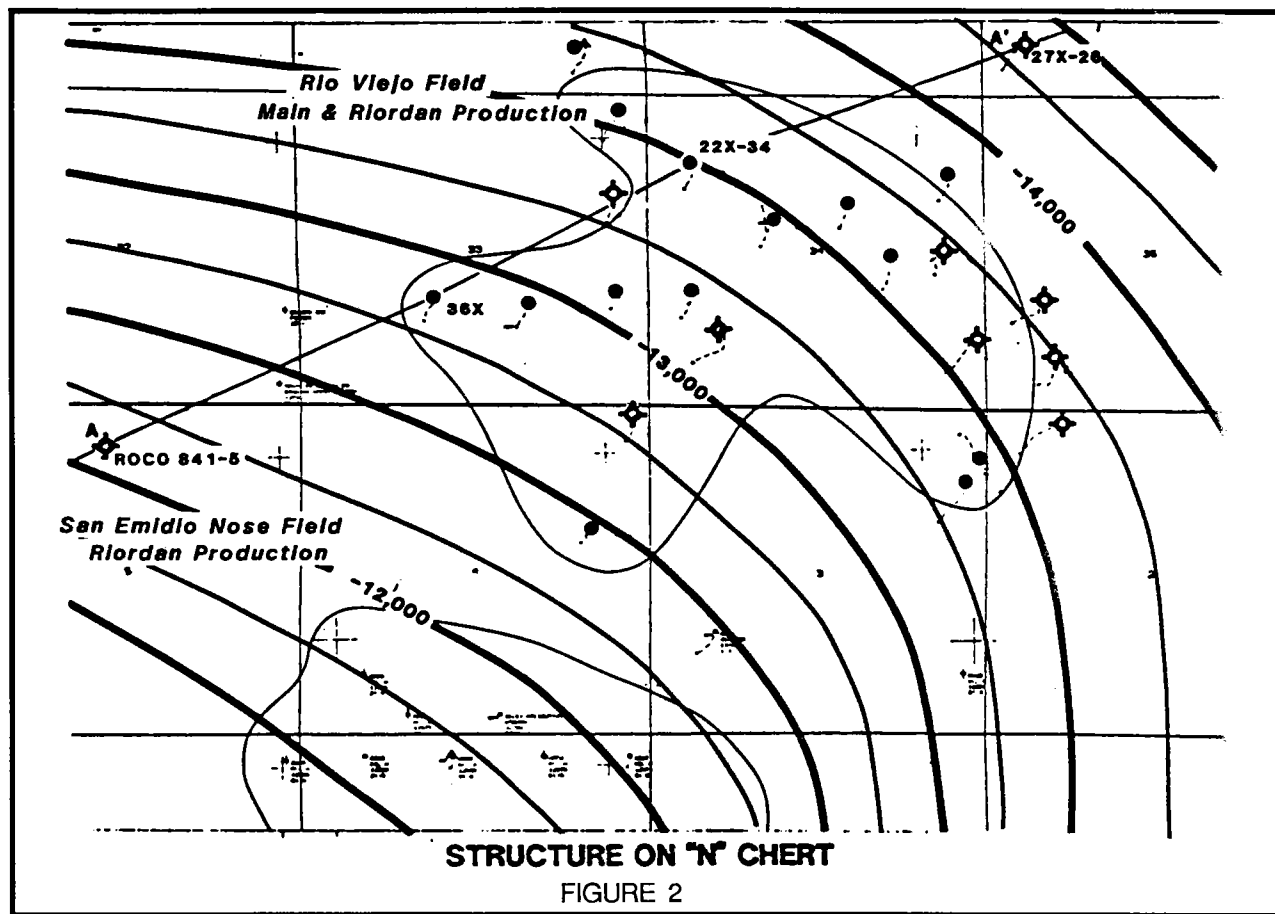


FIGURE 1



THE RIO VIEJO OIL FIELD OF KERN COUNTY, CALIFORNIA (continued)

poorly sorted, fine grained and frequently cemented by calcite. The average porosity and permeability of all zones is fifteen percent and 28 millidarcies respectively. As of December of 1989, the California Division of Oil and Gas Summary reported cumulative production of 6.6 MMBO and 1.8 BCFG.

The "P" interval is overlain by the "O" interval at Rio Viejo where both are comprised of a siliceous shale and a condensed zone of chert. The "O" to "P" interval of the Antelope shale is expanded to accommodate the depositional sequence of Main and Riordan sands (fig. 3).

The expansion of Upper Miocene intervals, mapped by well or seismic data, such as the "N" to "O" at Rio Viejo and the "O" to "P" at Yowlumne, as well as the thinning of the entire shale section is important because such isopach thickening may indicate the presence of reservoir sands (fig. 4). A "no sand" section within the "N" to "P" interval occurs in the ROCO #841-5 well located on the west end of stratigraphic section A-A' updip from the Rio Viejo field (fig. 2). The #841-5 well exhibits a normal "N" to "P" interval thickness which expands northeast to accommodate Riordan and Main sands.

Unconformably overlying the Upper Miocene "N" chert is the siltstone and shale of the Reef Ridge Formation of Upper Miocene age. The Pliocene Etchegoin Formation in turn unconformably overlies the Reef Ridge.

RESERVOIR

Rio Viejo field covers approximately 515 acres and represents the deepest hydrocarbon production in California at this time. The deepest known oil in the field is present in the 82X-34 well at -14,000 feet. Reservoir sands are generally

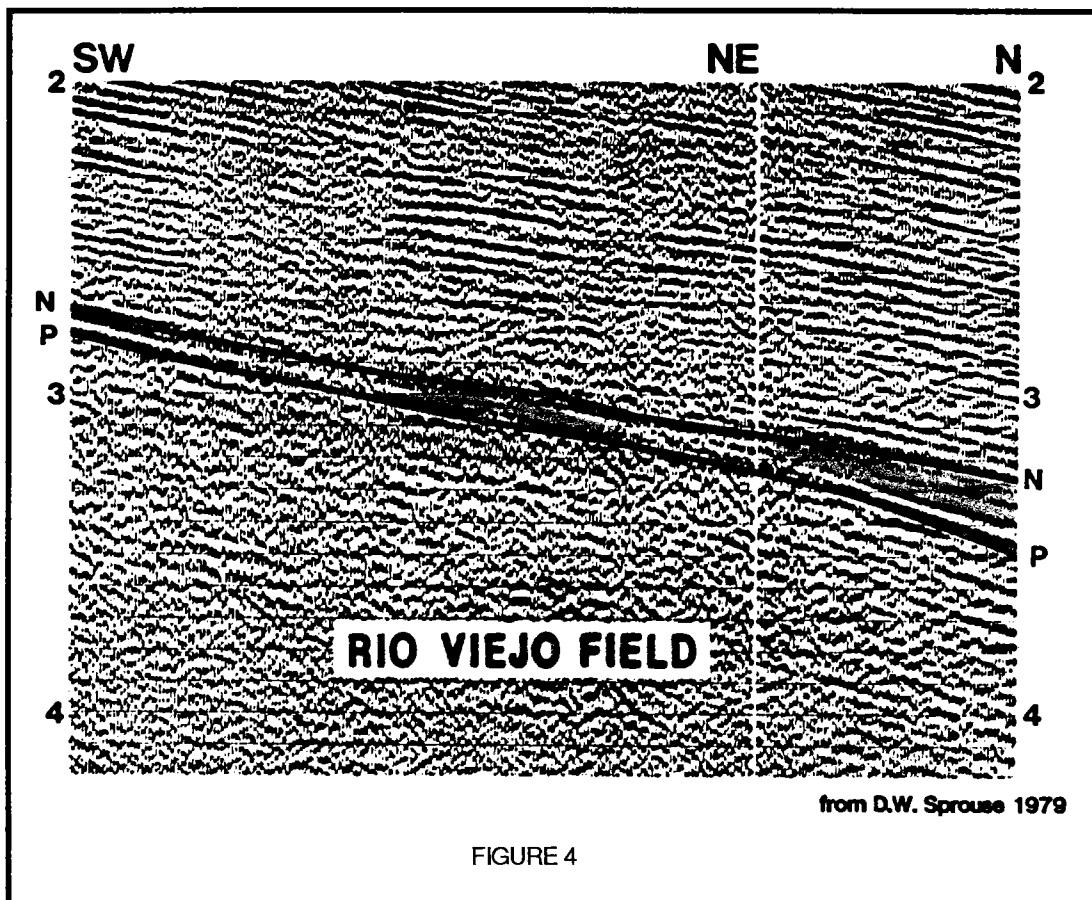


FIGURE 4

REFERENCES

- Dorman, J. H., 1980, Oil and Gas in Submarine Channels in the Great Valley, California; in San Joaquin Geological Society, Selected Papers, V. 5, p. 38-53.
- Webb, G. W., 1977, Stevens and Earlier Miocene Turbidite Sands, San Joaquin Valley, California; in Late Miocene Geology and New Oil Fields of the Southern San Joaquin Valley, Guidebook, Pacific Section, American Association of Petroleum Geologists, Society of Exploration Geophysicists and the Society of Economic Paleontologists and Mineralogists.



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LUCY E. BIRDSALL

October 20, 1914 - October 21, 1990

Lucy E. Birdsall, 76, noted geologist and earth-science information expert with the United States Geological Survey (USGS) for 37 years, died in Los Angeles on October 21, 1990 of cancer.

During her career, Birdsall worked for the USGS in Washington, D.C. and Los Angeles.

In 1953, she became Chief of the USGS's Earth Science Information Center (ESIC) in Los Angeles, where she quickly became known as a main source for earth-science information in the Los Angeles area for city officials, new media, school children and the general public.

Born in Connecticut in 1914, she enlisted in the U. S. Army in 1943 and served during World War II in Alabama and overseas in the Philippines and New Guinea. After her discharge as a Sergeant, she completed a Bachelor of Science degree in Geology at the University of Connecticut (1950), and was hired by the USGS immediately after graduation.

Birdsall's enthusiasm for her work helped to increase public awareness of the USGS and support its motto of providing "Earth Science in the Public Service". She was an expert on the geology of the Los Angeles area and was honored many times by local civic and community groups.

"For many years, Lucy was the steadfast leader of the team in the Los Angeles office," said Wendy Hassibe, at the headquarters of the Earth Science Information Office at the USGS National Center in Reston, Virginia. "She was dedicated to providing the best and most complete earth science information. She always gave her best, no matter how difficult the task."

Birdsall was an honorary member of the Pacific Section of the AAPG, the Branner Geologic Club, the Los Angeles Minerals Society and was a member of other scientific associations.

For many years she wrote a monthly column in the "Pacific Petroleum Geologist", a publication of the Pacific Section of the AAPG.

In 1984, Birdsall was presented the Meritorious Service Award from the Department of the Interior and the outstanding alumni award from the University of Connecticut.

Survivors include three sisters and one brother. A memorial service was held on November 8, 1990 at the First United Methodist Church, Glendale, California.

United States Geological Survey

Lucy was one of many bright gems of my professional career. I am certain there are others who feel the same.

For all of her animation and feelings of goodwill toward others, Lucy was surprisingly shy in some ways. She never touted her own accomplishments to her many friends. More often than not, you had to find out these things from other people. And so, probably very few, if any of us, really know the total extent of Lucy's impact upon her world.

Lucy acquired friends as easily as picking grapes. All one needed was to meet her to like her. She had this "aura of trust" about her manner that disarmed everyone.

Because Lucy had such a variety of interests, I'm quite certain those of you who only shared certain facets of these were not always aware of her many other connections.

My own thoughts will surely intercept those of many others here today, though mine are primarily focused on her prolific professional exposure - of which I was a part.

I will list a few of these, knowing the list is probably by no means complete, but should suffice to portray a bit of Lucy's life long search for new people - new information.

In 1950, Lucy graduated from the University of Connecticut with a B.S. in Geology. This event obviously post-dated her adventures in the service in which I later found I was also a part.

She worked for a while for the USGS Geophysical Branch in Washington, D.C., then headed for Los Angeles where she practically invented the Public Inquiries Office for the many geological publications of the USGS. She immediately joined the Pacific Section of the AAPG. She knew she needed to communicate.

By December of 1957, Lucy was so well known among the other geologists of the State, she was asked to take over the task of producing a monthly list of selected geologic reading for the PPG Newsletter. She followed another of our only too few lady geologists, Joan Baldwin.

Lucy retired from the USGS Public Inquiries Office a few years ago, but only after she felt secure in knowing it would be capable of functioning properly.

Those of us who knew her in those years were always met with a smile as we approached the counter. She usually had at her fingertips more information than we could ever imagine existed. If you had a special problem, she would find a publication which would help. She did this graciously and with a lot of zest. Her mind was a publication computer.

More often than not, she would invite you to sit at an inside desk where you could work, then bombard you with publications until you found the key one you badly needed. Her very competent partner, Kike, always assisted with smiles.

During these years, Lucy became the Secretary-Treasurer of the prestigious Branner Club, long ago organized by many of the past great giants in California geology and perpetuated by regular meetings at the Atheneum of Cal-Tech. By 1978, she had received an honorary membership for her dedicated service to that organization. Later in 1982, she became their President and then the Official Historian.

In the meantime, in 1979 she had also been recognized by the Pacific Section AAPG with an honorary membership and then in 1984 became their first ever lady President. She had already been President of the Los Angeles

Basin Geological Society in 1981.

It is simple to see that Lucy was a happy giver. She sincerely wanted to help wherever she went. By this time, though I never knew what her middle initial stood for. I had to assume her middle name was "Energy".

Among her many other professional accomplishments, Lucy had also been licensed in California as a Registered Geologist. Her number was 2146. We are all proud of this.

She had held most of their official positions while a member of the Los Angeles Minerals Society, belonged to the Geological Society of America, the South Coast Geological Society - from which she also received an honorary membership award - and served on the Board of Directors of the Dibblee Foundation, a gigantic publication effort for geologic information.

To attend all of her meetings she traveled extensively, often with her dear friend and geological associate, Betty Oliver. Lucy attended meetings all over our world.

In 1984, she received an award from the Secretary of the Department of the Interior for Meritorious Service. They must have known Lucy was a World War II veteran - her award was presented on December 7th.

In 1985, Lucy was summoned to her old alma mater in Connecticut to receive a distinguished alumni award.

Later, in one of our many conversations, we found we had both been on the island of New Guinea at the same time, at Hollandia. Lucy and I and Fred Green, another well-known California geologist, had served in New Guinea in the South Pacific during the war, crossing paths about the same time, but not meeting each other until much later.

In the recent past, I had tried to get Lucy to write about her adventures in the Army and her profession. With her wit and humor and knowledge of facts, her efforts would have been so worthwhile.

She actually considered the idea and soon called me to say that her Army book was going to be entitled "Birdsall, Where Did You Get All This Information!"

One cannot choose, but to wonder what books Lucy Birdsall has taken with her.

Lucy was never alone! She was a very humble person, but an extremely talented and cherished professional.

In reality, it's a very small world, where real friends eventually meet.

Richard L. Hester

IN MEMORIAM

JOE ERNST

Joe Ernst was a friend of many of us. We will remember Joe for his tireless efforts and enthusiastic support of the Pacific Section AAPG. Those of us who had the privilege of working with Joe will remember him for his hard work, ethics, integrity and managerial abilities - besides being an all around great guy.

Born In San Diego, California, in 1922, Joe served as a B-17 pilot in Europe during World War II. Following graduation with his degree in Geology from Pomona College in 1949, Joe went to work for the Texas Company. During the early 1950's, Joe worked as a field geologist mapping the California Coast ranges from Cuyama to Hollister and the Imperial Valley. If you drove with Joe anywhere along the coast, he would tell stories of mapping the area, which road lead to which outcrops, where the overlooked exploratory leads were, and where the mechanically marginal field cars broke down.

Joe left Texaco in 1968 to become Vice-President-Exploration Manager of Pacific Oil and Gas. In 1971, Joe rejoined Texaco as Geological Supervisor for Texaco-Eastern Hemisphere's exploration program for Africa. In 1976, Joe again left Texaco and became District Geologist for Aminoil USA, Inc. In 1977 he joined Calplans (now Mission Resources) as Exploration Manager. Joe retired from Mission Resources in May, 1987, and pursued an active career as a consulting geologist.

Joe died as a result of an automobile accident near Petrolia, California, on September 8, 1990, where he had been visiting his cabin on the Mattole River. Joe is survived by his wife Nancy, son David, daughter Susan, and grandson Ryan. He will be missed by all of us. Private services were held at St. Mary's Episcopal Church in Ferndale, California. Memorial gifts may be made to:

Pomona College Geology Department
"In Memoriam of Joseph Ernst"
609 North College Avenue
Claremont, California 91717

A. Louis Canut & J. Richard Biowersox

DID YOU KNOW . . . ?

- The U.S. Strategic Petroleum Reserve was put on level two alert in October of 1990, for the first time ever.
- A gas pipeline in Siberia explodes; this was the sixth such accident of 1990.
- Chevron and BP postpone safety improvements.
- Exxon challenges the United States Internal Revenue Service claim that the company owes \$5.6 billion in additional federal income taxes, arising from a dispute over oil prices a decade ago.
- Crude oil prices exceed \$30 per barrel for the first time in five years.

MEMORIAL MAP

LUCY BIRDSALL

The Thomas W. Dibblee, Jr. Geological Foundation is planning to publish its next geological map, the Hollywood/Burbank Map, in memoriam of Lucy Birdsall who passed away on October 21, 1990. Lucy was very well known and well liked in the Southern California geological community. She was a director of the Dibblee Foundation, and we think that this map will be a fitting way to honor her and keep her in our memory.

A special fund has been set up to receive the funds for this publication. Please indicate on your check that it is for the Lucy Birdsall Map. Your contribution may be tax deductible, since the Dibblee Foundation is a non-profit California corporation.

Our goal is to raise \$10,000 to cover the cost of editing and printing this map dedicated to the memory of Lucy Birdsall. Contributions should be made as soon as possible for our planning purposes, but no later than February 15, 1991, when the map will go to press.

This special edition map will be enclosed in a special envelope with a list of contributors, and Lucy's biography, which is being prepared by Dorothy Stout, will be included.

If you have any information which would be useful in preparation of Lucy's biography, please call Dorothy Stout at 714/826-2220 or 213/695-7743, or Dick Brown at 213/598-0595.

Please make checks payable to the Dibblee Foundation and send to the Dibblee Geological Foundation, Post Office Box 60560, Santa Barbara, California 93160.

NEW GEOLOGIC MAPS FROM THE DIBBLEE GEOLOGICAL FOUNDATION

The Dibblee Geological Foundation has just published a set of two (2) full color geologic maps, comprising four (4) contiguous seven 7 1/2-minute quadrangles in the western Santa Monica Mountains of Ventura and Los Angeles Counties. The geology is based mostly on recent field mapping by Thomas W. Dibblee, Jr., assisted by Helmut Ehrenspect. The four quadrangles were combined into two "doublewide" maps to preserve the continuity of important geologic, geographic and cultural features in the area. The upper map (Map DF28) contains the Camarillo-Newbury Park quadrangles, and the lower map (Map DF29) combines the coastal Point Mugu-Triunfo Pass quadrangles. A north-south structural cross section which straddles both maps is included on the Point Mugu-Triunfo Pass Map.

The map area is bounded structurally on the north by the Simi Hill-Santa Rosa fault zone, and on the south by the Malibu Coast fault. The area in between contains a thick and complex succession of middle Miocene volcanic rocks and associated intrusive bodies which have never before been differentiated into distinct lithologic units on a regional, consistent basis.

The maps are available from the Dibblee Geological Foundation (Post Office Box 60560, Santa Barbara, California 93160 for \$10.00 each (folded) or \$12 (rolled). Uncolored maps are also available at \$10 each.

*Helmut Ehrenspect
Editor, Dibblee Geological Foundation*

**SAN JOAQUIN GEOLOGICAL SOCIETY
&
THE SOCIETY EXPLORATION GEOPHYSICISTS**

SHORT COURSES

SJGS COURSE #1

ADVANCED GROUNDWATER HYDROLOGY

Monday, March 4 through Tuesday, March 5

8:00 a.m. - 6:00 p.m.

Bakersfield Convention Center & Field Locations

Lecturers

Steve Strait, EMCON Associates, Fresno
Dr. Hugo Loaiciga, University of California at Santa Barbara
Brian Hirst, Pacific Geotechnical Associates, Bakersfield

Fee

\$175 for Pre-registration
\$210 for On-site Registration
\$40 Students (Limit 6)
(includes course notes, transportation
to field locations, lunch and refreshments)

Limit - 60 Persons

This course will cover material useful to consulting hydrogeologists and environmental engineers as well as to persons in the oil industry working with water source and water disposal problems. In the classroom we will cover groundwater movement; flow rates/directions, dispersion/tracers and anisotropic aquifers. We will also look at steady state and unsteady state flow in various types of aquifers, well hydraulics, well losses and well flow near aquifer boundaries. Groundwater fluctuations and environmental influences will be discussed. There will also be a half-day session on computer modeling of groundwater problems. In the field we will cover well boring, well completion, slug testing and sampling techniques.

SEG COURSE #1

ENGINEERING GEOPHYSICS

Monday, March 4 through Tuesday, March 5

8:00 a.m. - 5:00 p.m.

Bakersfield Convention Center

Lecturer

J. K. Applegate

Fee

\$290 for SEG or AAPG Members
\$325 for Non-Members
(includes course notes)

Limit - 100 Persons

The theory and application of geophysical methods (seismic refraction, electrical and potential field methods, ground penetrating radar, and others) two engineering problems are discussed; the variability of engineering projects and differences in project orientation from exploration are stressed. Emphasis is placed on the appropriate application of methodologies in solving engineering problems. Exploration geophysicists, petroleum and engineering geologists and others interested in non-petroleum exploration career areas, as well as those interested in traditional petroleum exploration will benefit from this course.

SJGS COURSE #2

REVIEW COURSE FOR THE CALIFORNIA REGISTRATION EXAM FOR GEOLOGISTS

Tuesday, March 5 from 8:00 a.m. - 5:00 p.m. at the Red Lion Inn - Bakersfield

Lecturers

Patti Osiecki, R. G. and Lisa Dirth, C.E.G., REG REVIEW, Inc., Oakland

Fee

\$325 - Includes Study Manual, lunch and refreshments

Limit - 100 Persons

Provided with the course registration is the 1991 edition of the Study Manual. The 1991 Study Manual is a copyrighted publication that presents technical information important to know for the California Geology Registration (R.G.) and Certified Engineering Geology (C.E.G.) Exams. Technical text, figures, sample problems and answers, and a reading list are highlights of the books.

RECOMMENDED READING

GEOLOGICAL SOCIETY OF AMERICA BULLETIN

Vol. 102, No. 8, August, 1990

Transport and Deposition of a Pyroclastic Surge Across an Area of High Relief: The May 18, 1980 Eruption of Mount St. Helens, Washington, by R. B. Fisher

Geologic and Isotopic Constraints on the Crustal Structure of the Great Basin, by M. W. Elison, R. C. Speed and R. W. Kistler

Evolution of a Multi-Vent Volcanic Complex Within a Subsiding Arc Graben Depression: Mount Wrightson Formation, Arizona, by N. E. Riggs and C. J. Busby-Spera

GEOLOGY

Vol. 18, No. 7, July, 1990

Timing of Late Quaternary Faulting in the 1954 Dixie Valley Earthquake Area, Central Nevada, by J. W. Bell and T. Katzer

Implications of New Jurassic Stratigraphic, Geochronometric and Paleolatitudinal Data from the Western Klamath Terrane (Smith River and Rogue Valley Subterranean), by E. A. Pessagno, Jr., and C. D. Blome

Vol. 18, No. 8, August, 1990

Late Paleozoic Extension in the Great Basin, Western United States, by D. L. Smith and E. L. Miller

Evidence for Episodic Basin Dewatering in Salt-Dome Cap Rocks, by W. S. Hallager, M. R. Ulrich, J. R. Kyle, P. E. Price and W. A. Gose

Actualistic Sandstone Petrofacies: Discriminating Modern and Ancient Source Rocks, by R. V. Ingersoll

Seismic Anisotropy Due to Preferred Mineral Orientation Observed in Shallow Crustal Rocks in Southern Alaska, by T. M. Brocher and N. I. Christensen

Causes of Variation in Fault-Facing Direction on the Ocean Floor, by S. M. Carbotte and K. C. MacDonald

Colloidal Transport of Gold and Silica in Epithermal Precious Metal Systems: Evidence from the Sleeper Deposit, Nevada, by J. A. Saunders

A.A.P.G. BULLETIN

Vol. 74, No. 2, February, 1990

Use of Dipmeter Data in Clastic Sedimentological Studies, by C. Hocker, K. M. Eastwood, J. C. Herweijer and J. T. Adams

Description of Natural Fracture Systems for Quantitative Use in Petroleum Geology, by J. H. Howard and R. C. Nolen-Hoeksema

Vol. 74, No. 7, July, 1990

Structural Provinces of the Northeast Brooks Range, Arctic National Wildlife Refuge, Alaska, by W. K. Wallace and C. L. Hanks

U. S. GEOLOGICAL SURVEY

Order from: Open File Reports Section
Federal Center, Post Office Box 25425
Denver, Colorado 80225

OF 89-0543: Checklist of Mesozoic Macrofossil Localities in the Santa Cruz Mountains and Vicinity, by W. P. Elder and J. W. Miller, Microfiche - \$5.50, Paper - \$4.50

OF 89-0596: Benthic Macrofauna and Ancillary Data for San Francisco Bay, California, January to November, 1988, by L. E. Schemel, A. Y. Ota, et al, Microfiche - \$4.00, Paper - \$10.50

OF 90-0012A: Loma Prieta, California, Earthquake: A Collection of Video Images, by D. V. Prose, Microfiche - \$5.00, Paper - \$1.50

OF 89-0676: Geologic Map and Structure Sections of the Laurel 7 1/2" Quadrangle, Santa Clara and Santa Cruz Counties, California, by J. C. Clark, E. E. Brabb and R. J. McLaughlin, Microfiche - \$5.50, Paper - \$9.00

OF 90-0065: Pollen Data for a 3 M.Y. Core Record from Tule Lake, Siskiyou County, California, by D. P. Adam and G. L. Vagenas, Microfiche - \$4.00, Paper - \$2.75

Professional Paper 1401-D: Groundwater Flow in the Central Valley, California, by A. K. Williamson, D. E. Prudic and L. A. Swain, \$28.00

Map MF-2096: Maps Showing Geology and Liquefaction Susceptibility of Quaternary Deposits in the Monterey, Seaside, Spreckels and Carmel Valley Quadrangles, Monterey, California, by W. R. Dupre

Lucy Birdsall
(Deceased)

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