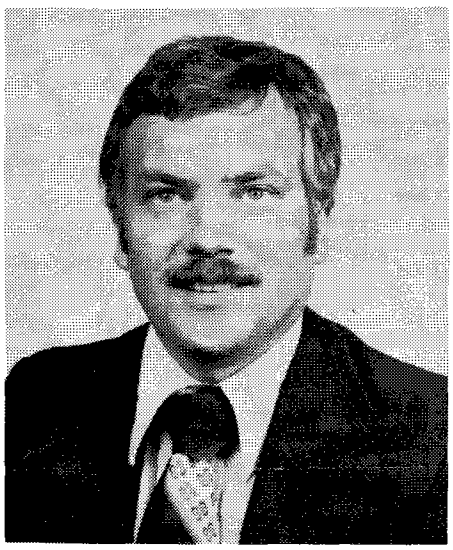
PACIFIC PETROLEUM GEOLOGIST NEWSLETTER

of the Pacific Section
American Association of Petroleum Geologists

FEBRUARY – MARCH – APRIL 1981

NOMINEES FOR PACIFIC SECTION AAPG PRESIDENT-ELECT 1981 – 82



DONALD E. HALLINGER

Manager of Exploration, for Pacific Lighting Gas Development Company located in Los Angeles,CA.

Education:

Virginia Polytechnic Institute, B.S. in Geology; graduated 1960; Indiana University, M.A. in Geology; graduated 1962.

Employment:

1961-1966 Sunray DX Oil Co., Geologist.
1966-Present Pacific Lighting Corp. (S. California Gas Company and Pacific Lighting Gas Development Company), Geologist to Manager of Exploration.

Geological Society Activities:

1968-1972—Publications Chairman, Pacific Section AAPG.
1970—Vice President and President of Los Angeles Basin Geological Society.
1971—Treasurer of Pacific Section AAPG.
1972-73, 76-80—Chairman Finance Committee, Pacific Section AAPG.
1972-73—President, California Section of AIPG.
1975—Treasurer, American Institute of Professional Geologists.
1976-79—Finance Chairman, AIPG
1979—Finance Chairman, 1979 Pacific Section Annual Meeting.
1979-present — Professional Affairs Committee, State Board of Registration for Geologists and Geophysicists.
1980—President of Los Angeles Basin Geological Society.
1980-1981—Vice President, Pacific Section AAPG.

THEODORE (TED) OFF

President, Ojai Oil Company located in Camarillo, CA.

Education:

Stanford University, B.S. in Petroleum Engineering, graduated 1949. M.S. in 1950.
Princeton University, graduate student geology 1953-54.

Employment:

Union Oil Company, geologist, Whittier, 1950.
U.S. Navy, 1951-52.
Shell Oil Company, exploration engineer, Ventura, 1952-53.
Ojai Oil Company, geologist, Ventura, 1954. President, 1968.

Geological Society Activities:

Editor, Coast Geol. Soc. Occ. Papers Vol. 1, 1959.
Member, Legislative Committee, Calif. Sec. AIPG, 1967-68.
Coast Representative, Calif. Sec. AIPG, 1971.
President, Calif. Sec. AIPG, 1972.
Member, AAPG Comm. on Preservation of Cores, 1972-78.
Vice Chairman, AAPG National Convention, Anaheim, 1973.
Member, AAPG Public Information Comm., 1974-76.
Chairman, Legislative Comm., Calif. Sec. AIPG, 1974-76.
Chairman, Public Affairs Comm., Pacific Section, 1976-78.
Vice President, Pacific Section, 1978-79.

Economic Importance of the West Coast Oil Industry As of January 1, 1980

INVESTMENT

The original cost of the physical assets of the oil industry in the six western states of Alaska, Arizona, California, Nevada, Oregon and Washington as of January 1, 1980 amounted to almost $43.2 billion.* By states, this investment totaled: Alaska, $20.9 billion; Arizona, $244.5 million; California, $20.7 billion; Nevada, $96 million; Oregon, $235.5 million; and Washington, $1.1 billion.

The property representing this investment included:

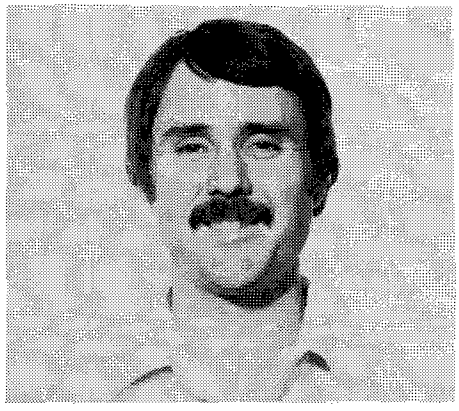
More than 41,000 oil wells and about 1,000 gas wells which during 1979 produced almost 866 million barrels of oil, 400 billion cubic feet of natural gas and 120 million cubic feet of helium. Only 1,600 or 4% of these wells are located offshore.

Some 49 petroleum refineries of all types with a total daily capacity of 2.3 million barrels of crude oil are located in these states.

(Continued on Page 3)

NEXT DEADLINE
PPG NEWSLETTER
MAY 11, 1981

NOMINEES FOR PACIFIC SECTION AAPG VICE-PRESIDENT 1981 – 82



WES FRANKLIN

Division Geologist for Tenneco Oil Exploration and Production Company located in Bakersfield, CA.

Education:

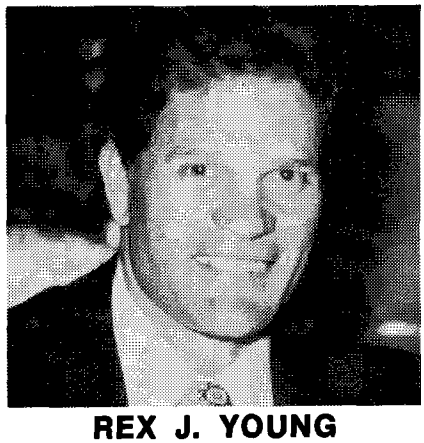
1969 B.S.—Geology, Washington State University.
1975 M.S.—Geology, Oregon State University.

Employment:

1969-1971—Gulf Oil Company, Morgan City, LA, Geologist.
1973-1977—Tenneco Oil Company, Bakersfield, CA, Geologist.
1977-1978—Tenneco Oil Company, Bakersfield, CA, Senior Geologist.
1978-Present — Tenneco Oil Company, Bakersfield, CA, Division Geologist.

Geological Society Activities:

1977—Secretary, San Joaquin Geological Society.
1977—Short Course Chairman, San Joaquin Geological Society.
1978—Vice President, San Joaquin Geological Society.
1980—Program Editor, Pacific Section A.A.P.G. Convention.



REX J. YOUNG

Exploration Manager,West Coast Division, Buttes Resources Co., Bakersfield, CA.

Education:

University of California, Berkeley, B.A. in General Curriculum, 1953.
University of California, Berkeley, B.A. in Geology, 1958.
University of California, Berkeley, M.A. in Geology, 1961.

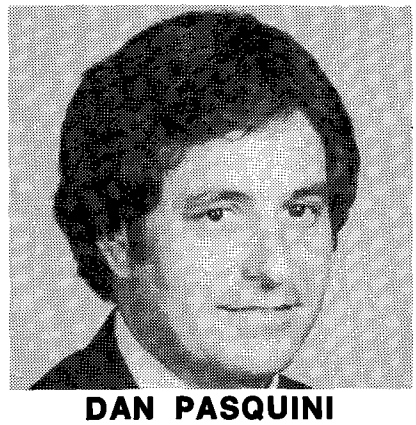
Employment:

Texaco, Inc., Bakersfield, Junior Geologist, 1959-1962.
Richfield Oil Corp. (merged into Atlantic Richfield, 1965), Bakersfield, Geologist, 1962-1969.
Cities Service Co., L.A. Thousand Oaks, Geologist; Denver, Bakersfield, Project Geologist, 1969-1978.
Buttes Resources Company, Bakersfield, Sr. Staff Geologist, Exploration Manager, 1978-present.

Geological Society Activities:

1968 Field Trip Guidebook to West Side Southern San Joaquin Valley, subsurface map chairman.
Nat'l. Petroleum Council – Pacific Coast Subcommittee member to publish "Potential of Sacramento Valley Gas Province, California," 1971, A.A.P.G. Memoir 15, vol. 1.
San Joaquin Geological Society, Delegate to the Pac. Sect., 1976-77.
Printing Chairman, 55th Pac. Sect. Annual Mtg., Bakersfield, 1980.
San Joaquin Geological Society, President, 1980-81.

PAC. SECT. AAPG 81-82 NOMINEE – SECRETARY



DAN PASQUINI

Senior Exploration Geologist, Argo Petroleum Corporation California Division — Ventura, California.

Employment:

Occidental Exploration & Production Company, 1968-1980; Jr. Geologist — Latin American, Eastern Hemisphere and Domestic Exploration; Exploration Geologist — California Onshore and Offshore.
Argo Petroleum Corporation, 1980-present; Senior Exploration Geologist — California Onshore.

Geological Society Activities:

Treasurer, San Joaquin Society, 1979-1980.
Registration Chairman, Pacific Section 55th Annual Convention, 1980.
Tennis Chairman, San Joaquin Geological Society Spring Picnic, 1978-1979-1980.
Tennis Chairman, Pacific Section Field Trip & Picnic, May 15, 1981.
Active Member AAPG, San Joaquin Geological Society and Coast Geological Society.

PAC. SECT. AAPG NOMINEE – SECRETARY

JACK R. SHEEHAN

Division Development Geologist, Pacific Division,Champlin Petroleum Co., located in Long Beach, CA.

Education:

Oregon State College, B.S. in Geology, 1953.
University of California at Berkeley, M.S. Geology, 1956.

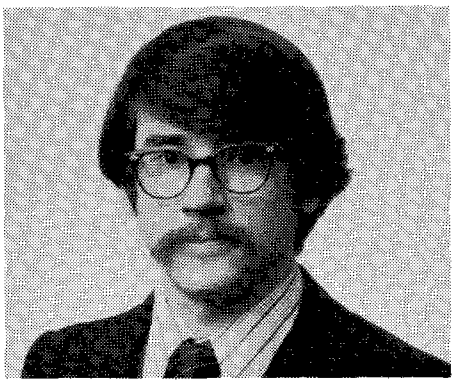
Employment:

Standard Oil Co. of California, Los Angeles Basin, California, 1955-1971.
Tetra Tech, Inc., Pasadena, California and Houston, Texas, 1971-1975.
Champlin Petroleum Co., Wilmington, California and Long Beach, California, 1975-Present.

Geological Society Activities:

Convention Theatre Committee, National AAPG, Annual Meeting, Anaheim, 1972.
Education Committee, Houston Geological Society, 1973-1975.
Technical Program Editor, AAPG, Pac. Section, Annual Meeting, Anaheim, 1979.
Editor, AIPG, 1980.
President, Southern California Well Logging Society, 1980-1981.

NOMINEES FOR PACIFIC SECTION AAPG TREASURER 1981 – 82



MARK R. COLE

Advanced Exploration Geologist for Texaco U.S.A. located in Los Angeles, California.

Education:

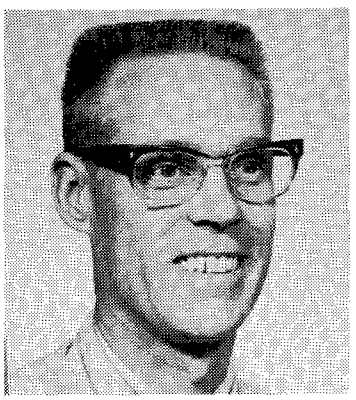
Ohio University, B.S. Geology, 1968; M.S. in 1970.
University of Washington, Ph.D. Geology, 1973.

Employment:

Texaco U.S.A. from 1973 — present.

Geological Society Activities:

Editor, Pacific Section S.E.P.M. Cenozoic Paleogeography of the Western United States 1979, with J. M. Armentrout and Harry TerBest, Jr.



A. EUGENE FRITSCHE

Professor of Geology, California State University, Northridge, CA.

Education:

U.C.L.A., A.B. in Geology, graduated 1958.
U.C.L.A., Ph.D. in Geology, 1969.

Employment:

California State University, Northridge, Assistant Professor, 1963-70; Associate Professor, 1970-77; Professor, 1977-present.

Geological Society Activities:

Secretary, Pac. Section, S.E.P.M ½, 1972-73.
Runner-up for Best Paper Award, Pac. Section, A.A.P.G., 1973.
President, Pac. Section, S.E.P.M., 1975-76.
Short Course Speaker, San Joaquin Geol. Soc., 1977.
Field Trip Co-Leader, Pac. Section, S.E.P.M., 1973 and 1978.
Editor, Pac. Section, S.E.P.M., Guidebooks, 1973, 1976, and 1978; Symposium Volumes, 1976 and 1977.
Vice Chairperson, Pac. Coast Section, Paleontological Society, 1977-78.
Chairperson, Pac. Coast Section, Paleontological Society, 1978-79.
Leadership Award, Pac. Section, S.E.P.M., 1979.
Member, A.A.P.G., Committee on Academic Liaison, 1979-82.
Invited Speaker, L. A. Basin Geol. Soc., San Joaquin Geol. Soc., and Coast Geol. Soc.
Representative, A.A.P.G. Credentials Committee, for L. A. Basin Geol. Soc., 1981.

Economic Importance of the West Coast Oil Industry

(Continued from Page 1)

More than 11,000 miles of crude oil and refined product pipelines which have replacement value in excess of two billion dollars, and which transmit annually crude oil and refined products worth more than $20 billion.

Office buildings, terminals, tank trucks, tank cars, tankships, and thousands of retail and wholesale marketing outlets.

Most of the Alaska and California investment reflected all phases of oil operations. In Washington, a large portion was in refining, while in the other western states, the assets were represented primarily by marketing and transportation facilities. Excluded from this report are other petroleum product industries such as vinyl plastics, synthetic rubber and chemicals.

For each of the 76,800 persons employed directly by the oil companies in these six western states, an average of $563,000 has been invested in physical assets. The amount by states is: Alaska, $4,178,000; Arizona, $244,000; California, $317,000; Nevada, $320,000; Oregon, $157,000; and Washington, $282,000. Alaska leads in this category because of the large investment in exploration and production, pipelines and refining facilities. Nevada's average is high due to the small number of employees.

The oil industry expenditures for purchased services and materials, which includes tanker ships, trucks, and other items, in these states were about $2.9 billion for 1979. Excluded from this figure are expenditures for crude oil, both foreign and domestic.

State by state, the figures are: Alaska, $625 million; Arizona, $40 million; California, $2 billion; Nevada, $18 million; Oregon, $95 million; and Washington, $101 million.

* *Excludes investments in physical assets of independent service station dealers, bulk plant dealers, oil field service contractors, supply companies and foreign operators.*

Number of Employees and Dealers*

As of January 1, 1980, the total number of persons employed in the oil industry in the six western states was 247,065 of which 6,000 were in Alaska, 12,450 in Arizona, 200,000 in California, 1,815 in Nevada, 10,000 in Oregon, and 16,800 in Washington.

These employee figures include persons on the payrolls of oil companies, retail service station dealers and bulk plant dealers. Employees of supply companies and oil field contractors serving the oil industry together with oil company employees engaged in foreign operations are **not** included.

Taking into consideration the families of the oil industry employees, it is estimated that 893,600 persons in this six-state area obtain their livelihood directly from the oil industry. Comparable figures by states are: Alaska, 24,000; Arizona, 43,600; California, 720,000; Nevada, 10,000; Oregon, 36,000; and Washington, 60,000.

Amount of Salaries and Wages*

Direct employees of the oil industry in these six western states earned salaries and wages totaling $1,699,200,000 during the calendar year 1979. Of this amount, the portion attributable to each state is as follows: Alaska, $200,000,000; Arizona, $18,000,000; California, $1,375,000,000; Nevada, $4,200,000; Oregon, $25,000,000; and Washington, $77,000,000.

The average earnings of these oil company employees for the year 1979 amounted to: Six Western States, $22,125; Alaska, $40,000; Arizona, $18,000; California, $21,153; Nevada, $14,000; Oregon, $16,666; and Washington, $19,250.

Bonuses, Rent and Royalties

The oil-producing companies in these six western states made payments of $1,756,940,000 to federal, state and local government agencies and to private interests in the form of bonuses, rents and royalties on oil and gas leases during 1979. These payments by state are as follows: Alaska, $1,115,740,000; Arizona, $4,000,000; California, $630,000,000; Nevada, $3,000,000; Oregon, $2,000,000; and Washington, $2,200,000.

* *Excludes oil field service contractors, supply companies, and foreign operations.*

Prepared by:
Western Oil and Gas Association
Tax and Statistics Department
January 7, 1981

Provided to 'PPG' by Arthur O. Spaulding, Vice President and General Manager.

ECONOMIC IMPORTANCE OF THE WEST COAST OIL INDUSTRY — 1979

TABLE I Original Investments in Physical Assets*
(In Thousands of Dollars — 000's Omitted)

Phase of Operations	Alaska	Arizona	California	Nevada	Oregon	Washington	Six-State Total
Exploration & Production	$ 6,300,000	$ 8,000	$ 13,000,000	$ 21,000	$ 4,000	$ 8,000	$ 19,341,000
Manufacturing	700,000	3,500	4,500,000	1,000	15,000	740,000	5,959,500
Marketing	90,000	130,000	1,650,000	60,000	190,000	280,000	2,400,000
All Other Assets [1]	13,800,000	103,000	1,500,000	14,000	26,500	100,000	15,543,500
Total Investments	$ 20,890,000	$ 244,500	$ 20,650,000	$ 96,000	$ 235,500	$ 1,128,000	$ 43,244,000

TABLE II Employee and Salary Statistics — 1979
(Actual Dollars)

Category	Alaska	Arizona	California	Nevada	Oregon	Washington	Six-State Total
Company Employees **	5,000	1,000	65,000	300	1,500	4,000	76,800
Employees' Salaries	$200,000,000	$ 18,000,000	$1,375,000,000	$ 4,200,000	$ 25,000,000	$ 77,000,000	$1,699,200,000
Average Salary Per Employee	$ 40,000	$ 18,000	$ 21,153	$ 14,000	$ 16,666	$ 19,250	$ 22,125
Investment Per Employee	$ 4,178,000	$ 244,000	$ 317,000	$ 320,000	$ 157,000	$ 282,000	$ 563,000
Total Industry Personnel ***	6,000	12,450	200,000	1,815	10,000	16,800	247,065

* Excludes investments in physical assets and employee data of oil field service contractors, supply companies and foreign operations. Figures are in total dollars.

** Direct oil company employees only.

*** Also includes lessee operations, consignees, commission agents, dealers and their employees. **EXCLUDES** oil field service contractors and other service and supply companies and their employees as well as foreign operations employees. (Figures are average of annual personnel employed during 1979.) (Includes Alyeska Pipeline contractor employees.)

1 Includes Pipeline and Transportation Assets.

ECONOMIC IMPORTANCE OF THE WEST COAST OIL INDUSTRY — 1979

TABLE III Materials and Services Purchased [2]

Alaska	Arizona	California	Nevada	Oregon	Washington	Six-State Total
$ 625,000,000	$ 40,000,000	$2,000,000,000	$ 18,000,000	$ 95,000,000	$ 101,000,000	$2,879,000,000

TABLE IV Bonuses, Rents and Royalties To Federal & State and Local and Private Companies or Individuals

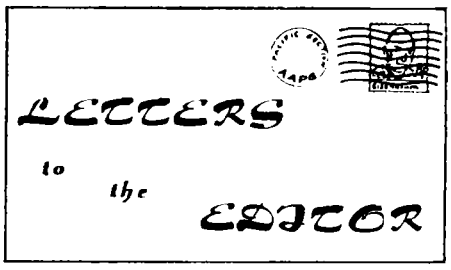
Alaska	Arizona	California	Nevada	Oregon	Washington	Six-State Total
$1,115,740,000	$ 4,000,000	$ 630,000,000	$ 3,000,000	$ 2,000,000	$ 2,200,000	$1,756,940,000

TABLE V Direct Taxes Paid to State and Local Governments

Type of Tax	Alaska	Arizona	California	Nevada	Oregon	Washington	Six-State Total
Property	$170,000,000	$ 12,000,000	$202,000,000	$ 4,000,000	$ 6,200,000	$ 12,500,000	$ 406,700,000
Other	731,746,000	28,777,000	416,177,000	541,000	6,561,000	20,846,000	1,204,648,000
TOTAL	$901,746,000	$ 40,777,000	$618,177,000	$ 4,541,000	$ 12,761,000	$ 33,346,000	$1,611,348,000

1 Figures are in actual dollars.

2 Expenditures are for purchased materials and services for 1979: Includes allocations for tanker ships, trucks and other such movable items. Excludes crude oil and other petroleum product purchases and exchanges.



I was very interested in "The President's Corner: TELLING THE PUBLIC" in the September-November 1980 Edition of the **PPG**. I think it is very important to create a more favorable public image for our oil industry. The report of the Pacific Section and our local Societies getting involved is most welcome. Also, the late night spot announcements by AAPG on KABC radio (Los Angeles) is also good progress.

I would like to propose that we set up local speakers' bureaus where ever AAPG members reside and then let public groups know we would love to come and tell them what role a geologist plays in finding future energy sources for our great country. We should attempt to play down the image of "big oil" and plant the idea of the role of geologists in finding oil.

Sincerely,
KAYE R. McCOWN
President of
Kaye R. McCown Operator, Inc.
1311 North Brand Boulevard
Glendale, California 91202

AAPG NEWS

TULSA — A "blue-ribbon" committee made up of members of the Tulsa-based American Association of Petroleum Geologists is being formed to list actions and procedures to expedite access to oil and gas located under the Outer Continental Shelf.

The committee, made up of industry, academic and government representatives, is chaired by Dr. William L. Fisher, Bureau of Economic Geology, Austin, Texas, and is being formed at the request of James G. Watt, Secretary of the Department of the Interior.

Watt, in a letter to AAPG president, Robey H. Clark, requested that AAPG develop for his consideration a list of specific actions or procedures that should be undertaken by the federal government regarding the OCS.

"Petroleum experts have emphasized in numerous public statements that the major portion of undiscovered oil and gas is probably located under federally controlled land," wrote Watt. "And, the greatest fractions may be located under the Outer Continental Shelf.

"Assured access to these areas is critical to the determination of the nation's resources base and the formulation of a sound energy policy. In accordance with the OCS Lands Act of 1978, the Department (Interior) has already initiated a review of the OCS program.

"I would appreciate receiving your recommendations as soon as possible as this effort represents one of the high priority items I wish to consider."

Clark, in responding to the request, met with several AAPG members in Dallas Feb. 12 and Fisher was named to chair the committee at that meeting.

"This too, for us, is a matter of the highest priority," said Clark, who pledged that work on the report to Watt would begin immediately.

"The 28,000 geologist-members of AAPG look forward to using their collective expertise to develop and recommend procedures and actions that may assist our government in its task of formulating a sound energy policy," said Clark.

In addition to Fisher, Clark appointed William E. Gipson, chairman of AAPG's Industry Liaison Committee, to the AAPG OCS Committee.

Clark said the other members of the OCS committee would be named within a few days.

NEWS RELEASE —

OFFSHORE TECHNOLOGY CONFERENCE

Gulf Universities Research Consortium (GURC) and Dr. Lyle St. Amant were announced as the recipients of the Distinguished Achievement Awards presented by the Offshore Technology Conference. The awards are presented to one company and one individual in recognition of their outstanding achievements in offshore technology.

St. Amant, chairman of the Louisiana Advisory Commission on Coastal and Marine Resources and former assistant director of the Louisiana Wildlife and Fisheries Commission, and GURC were selected for their research and contributions on the effects of offshore drilling and production on the marine environment. Consortium president James M. Sharpe will accept his organization's award.

The winners will be honored in special ceremonies at the Thirteenth Annual OTC in Houston's Astrodomain complex May 4–7. OTC is a comprehensive technical meeting and exhibition that attracts more than 85,000 scientists, managers, and engineers from 90 nations.

GURC, a Houston-based firm, is cited for its extensive study of offshore ecology from 1971-79. Rice U. published conclusions of the study in *The Offshore Ecology Investigation* (OEI), which provides an understanding of the effects of petroleum operations on the ecology of estuarine and offshore waters.

OEI results suggest that the study area, located 50 miles southwest of New Orleans, has not undergone significant ecological change as a result of petroleum production since before 1952.

The study further demonstrates that natural phenomena such as floods have much greater impact on the ecosystem than do petroleum production activities.

St. Amant, a noted scientist, conservationist, and world-recognized authority on coastal and estuarine environments, is recognized for contributons on methods to improve the compatibility of industrial and natural activities. He has written numerous articles dealing with the effects of petroleum production on the marine environment.

AAPG New Publication

"Sedimentary Basins of the World and Giant Hydrocarbon Accumulations," is the only map of its kind and is now available from the American Association of Petroleum Geologists.

The map took five years to complete and was developed by Dr. Bill St. John, president of AgriPetro, a Tulsa-based international oil and gas exploration and production company. St. John is also the author of the accompanying text.

A wealth of information has been compiled in the map and text, including definitions and interesting facts. For example, of the world's 575 known sedimentary basins, 215 are oil and/or gas productive and 360 are nonproductive — either through lack of previous exploration or by having noneconomic oil and gas accumulations.

Other points of interest are what comprises giant and supergiant oil and gas fields: A giant oil field has recoverable oil reserves of at least 500 million barrels; a giant gas field contains at least 3 trillion cubic feet (Tcf) of recoverable gas. A combination giant oil and gas field with recoverable reserves of 1 billion barrels of oil and 3 Tcf of gas will have 1.5 billion barrels of oil equivalent (BOE). A supergiant field has recoverable oil reserves of at least 4 billion barrels. A supergiant gas field will have at least 24 Tcf of gas, or 4 billion BOE.

The map gives a geographical location for each of the world's basins, and identifies those that are productive from giant and subgiant fields, those that produce from subgiant fields only, and those that are unproductive to date. The text also identifies "estimated ultimate recovery" of the basins in terms of barrels of oil or their natural gas equivalent in terms of energy.

Copies of the color map and accompanying text are availble from the AAPG Bookstore, catalog #645, P.O. Box 979, Tulsa, Okla., 74101. The price to AAPG and SEPM members is $12; to nonmembers $15.

Available from AAPG Bookstore

Miocene Stratigraphy of California, Revisited (AAPG Studies in Geology No. 11) by Robert M. Kleinpell and others, with a special section entitled, *"Pliocene Biostratigraphy of California,"* by Charles R. Haller.

This volume updates micropaleontological Studies in California over the past 40 years. The book includes location tables, systematics, and fossil plates of California Miocene and Pliocene foraminifera. The Haller text cites a new Pliocene-Pleistocene boundary in California.

Price of the book is only $28 ($24 with AAPG-SEPM discount).

New Publication

"Geology and Mineral Wealth of the California Desert" edited by D. L. Fife and A. R. Brown is now available from the South Coast Geological Society at $33.00 per copy.

The California Desert is a vast region that includes all of southeastern California from Owens Valley on the north, to Imperial Valley on the south; from Antelope Valley on the west to Death Valley on the east. The boundaries of the Desert, drawn arbitrarily in places, encompass 25 to 30 percent of California — an area equal in size to the State of Ohio or Pennsylvania.

This area was selected by the South Coast Geological Society for its 1980 project to focus on the diverse geology and to document some of the California Desert's tremendous mineral wealth. A study released September 30, 1980, by the Bureau of Land Management listing the "known in-place value" of 25 selected energy and mineral commodities valued them at greater than $600 BILLION in 1978 dollars for a portion of the desert. It is obvious that the total mineral wealth of the California Desert far exceeds one TRILLION 1980 DOLLARS.

This 560 page volume is intended to bring to the reader a perspective on this diverse and complex geologic region, and in particular, to emphasize the geology of the numerous and varied economic mineral deposits in the desert. The greatest land use decision in the history of the State of California is being considered with little understanding by the general public of the importance of the California Desert to the economic well-being of the nation.

To order make inquiries to:
South Coast Gelogical Society
P.O. Box 10244
Santa Ana, Calif. 92711

OIL PRICE HISTORY

When the U.S. Government imposed price controls on domestic oil in 1974, several pricing categories were established: lower tier, upper tier and stripper oil. In June, 1979, new pricing categories were adopted: incremental tertiary, newly discovered and marginal property. The categories were further expanded in September 1979 to include heavy crude, decontrolled oil and tertiary incentive. In general, prices were allowed to rise above "upper tier" levels in these categories because production was more difficult or less profitable. See table below. In February 1981 all domestic oil was decontrolled.

Drilling Operations Equipment and Costs

Land Drilling Rig Purchase Costs, 1980

Depth Capability	Cost Range
3,000- 7,000 ft.	$1.9 - 2.3 mil.
6,000-10,000 ft.	$3.0 - 3.5 mil.
8,000-12,000 ft.	$3.9 - 4.3 mil.
11,000-16,000 ft.	$4.9 - 5.3 mil.
13,000-20,000 ft.	$5.4 - 6.0 mil.
16,000-25,000 ft.	$6.5 - 7.0 mil.
Winterizing	Add $0.3 - 1.0 mil.

Source: National Supply Company, Houston

Offshore Drilling Rig Purchase Costs, 1980

Type of Unit	Cost Range
Jack-up	$22 - 50 mil.
Ship shapes	$40 - 75 mil.
Semi-submersible	$60 - 80 mil.

Source: Based on reported and estimated costs of rigs under construction, July 1980.

Typical Daily Rent For Land Drilling Rigs, 1980

Depth Capability	Contract Range
Up to 6,000 ft.	$3,000- 4,800/day
6 to 10,000 ft.	$3,300- 5,000/day
10 to 12,000 ft.	$4,300- 6,300/day
11 to 14,00 ft.	$4,500- 8,300/day
Over 15,000 ft.	$5,200-11,000/day

Note: Rates vary with drilling location, age of equipment, availability and length of contract. Rates can fall outside ranges listed above. Alaskan rates, for example, can run triple the rates shown here.

Source: Spot survey of industry executives.

Typical Daily Rent For Offshore Drilling Rigs, 1980

Type of Unit	Water Depth	Contract Range
Marsh drilling rig	0- 15 ft.	$ 6,500-14,000/day
Submersible barge	15-150 ft.	$15,000-26,000/day
Jack-up rig	150-300 ft.	$20,000-40,000/day
Drill ship or semi-submersible	300-600+ ft.	$23,000-55,000/day

Note: Rates vary with drilling location, age of equipment, availability and length of contract. Rates can fall outside ranges listed above. Semi-submersible rigs in the North Sea, for example, are costing as much as $100,000/day.

Source: Spot survey of industry executives.

Oil Price History, U.S. and World, Price per Barrel

	U. S. Domestic Oil										Imported
Year	Incremental Tertiary	Newly Discovered	Marginal Property	Heavy Crude	Decontrolled Oil	Tertiary Incentive	Lower Tier	Upper Tier	Stripper	Average (1)	Average
1959	—	—	—	—	—	—	—	—	—	$ 2.90	$ 1.80
1964	—	—	—	—	—	—	—	—	—	$ 2.88	$ 1.80
1969	—	—	—	—	—	—	—	—	—	$ 2.94	$ 1.80
1974	—	—	—	—	—	—	$5.03	$10.13	—	$ 6.87	$12.52
1975	—	—	—	—	—	—	$5.03	$12.03	—	$ 7.67	$13.93
1976	—	—	—	—	—	—	$5.13	$11.71	$12.16	$ 8.19	$13.48
1977	—	—	—	—	—	—	$5.19	$11.22	$13.59	$ 8.57	$14.53
1978	—	—	—	—	—	—	$5.46	$12.15	$13.95	$ 9.00	$14.57
1979	*	*	*	*	*	*	$5.95	$13.20	$22.93	$12.64	$21.67
1980 (2)	$29.32	$38.90	$13.99	$25.89	$33.04	$37.82	$6.32	$13.96	$36.16	$18.68	$32.14

(1) The average price at which all domestic crude oil, except that from Naval Petroleum Reserves, is purchased.

(2) Data covers first quarter of 1980 only.

* Data for full year is not available. In December, 1979, the percentage of domestic production included in these six categories was about 4 percent.

Source: DOE Monthly Energy Review

Field Trip Announcement

From August 1-21, Cypress College will conduct a field trip course called "Geology of the East African Rift zone." This is the fifth in a series of extraordinary excursions. Cypress has also conducted geology field trips to Hawaii, Colorado Plateau, Alaska, Australia and this summer it is Africa. If interested contact:

Dorothy L. Steller
Instructor of Geology
Cypress College
9200 Valley View St.
Cypress, CA. 90620
(Call 714–826-2220 or
879-0989)

ANNOUNCEMENT

California State College, Bakersfield, now offers the Bachelor of Science degree in Geology. Two new faculty have joined the staff, Dr. Bruce Cordell and Dr. Steve Mitchell, replacing Dr. Daniel Jones and Dr. John Manning who have retired.

New Seismic Processing and Operations Center – CGG

CGG has opened a full service seismic data processing center in Westlake Village, California, in combination with their seismic crew operations headquarters. The new facility will initially utilize a Raytheon RDS 500 computer system. The processing center will be able to accommodate the five seismic crews CGG operates on the West Coast as well as offering complete reprocessing capability for clients in the West Coast area.

Crew operations for the West Coast and Alaska will remain centered in Westlake Village with a satellite operations center coordinating Alaskan activity from Anchorage.

CGG
699 Hampshire Road
Suite 203
Westlake Village, CA. 91361
Telephone: 805–496-4311

Alaska

For the information of you dog mushing fans, the Fur Rendezvous is over and the Iditarod Trail Race is on. This signifies that Alaska is well into the winter season. Break up will begin in another month and we will then be well on our way toward the other season in Alaska, the Fourth of July.

The Bureau of Land Management is scheduled to hold a lease sale of about 2 million acres in the National Petroleum Reserve–Alaska (NPR/A) in December, 1981. This is the former Naval Petroleum Reserve No. 4 (NPR-4). Prior to this sale, exploration had been conducted solely by the U. S. Government. The U.S.G.S. assisted the Navy in exploration until the program was transferred to the Department of the Interior in the late 1970's. Husky Oil NPR Operations contracted first with the Navy and then the U.S.G.S. for the exploration of the area. Husky and Tetra Tech share the exploratory operations under the contract this winter.

This will be the first exploration by private companies within the entire NPR/A. Approximately 6 million acres have been nominated by sixteen companies. The Department of Interior will then schedule future sales for the area according to their accelerated leasing schedule.

Other imminent sales include State of Alaska Sale No. 33 to be held in the Upper Cook Inlet. This sale involves acrege which has largely been under lease at one time or another since the 1950's. Anchorage will be the site of this sale which is to be held on May 31, 1981.

In other petroleum news of Alaska, the state legislature is attempting to appropriate several million dollars to fight a tax discrimination suit being brought by the oil companies. It is estimated that as much as 7 billion dollars may have to be returned to the oil companies, should the state lose the suit.

The Alaska Geological Society Mini-Symposium is scheduled for Friday, April 24, 1981. Entitled "The Origin of the Arctic Ocean–Canada Basin," the mini-symposium is designed to be the geological highlight of the year. Featuring six speakers in morning, afternoon, and evening sessions, one is certain to learn much about the origin of the oil, gas, and mineral-rich "top of the world." Registration fee is $25.00 for members, $30.00 for non-members, and $10.00 for students. Everyone is encouraged to attend. The following are the speakers and subjects of their papers:

Dr. Art Grantz, U.S.G.S., Menlo Park, California: *"Origin of Canada Basin as Inferred and Extrapolated from Seismic Geology of Offshore Northern Alaska."*

Dr. J. W. Hillhouse, U.S.G.S., Menlo Park, California: *"Review of Paleomagnetic Studies in Arctic Alaska."*

Peter Jones, Consultant,Calgary, Alberta, Canada: *"Structural Framework of Beaufort MacKenzie Basin and its Implications for Arctic Ocean Plate Tectonics."*

Dr. J. William Kerr, Consultant, Calgary, Alberta, Canada: *"The Evolution of the Canadian Margin of the Arctic Ocean."*

Dr. Jack Sweeney, Department of Energy, Mines and Resources, Ottawa, Ontario, Canada: *"Structure and Development of the Polar Margin of North America."*

Dr. Patrick Taylor, Goddard Space Flight Center, Greenbelt, Maryland: *"The Canada Basin: Aeromagnetics."*

Inquiries and/or registration should be mailed to: Roger Herrera, AGS Mini-Symposium, P. O. Box 1288, Anchorage, Alaska, 99510.

Arlen Ehm

Coast

Geologists involved in Sale No. 53 received a jolt in early February when Secretary of the Interior James Watt announced his proposal to reinstate the five onshore areas deleted in October by former Secretary Andurs. Most geologists had an initial bitter-sweet reaction to the headlines; bitter because of the extra hours necessary to prepare for the additional areas and sweet because of the new administrations attitude regarding environmentalists. Governor Brown still has the right to an appeal however, so it is unlikely that these controversial areas will be included in the May sale.

Over 200 geoscientists turned out for the February dinner meeting which featured Dr. Colin Barker. The AAPG Distinguished lecturer was well received and the audience was well fed as Bill Reay and company once again displayed their culinary skills. On Tuesday, April 14, Bob Dillehay from GO, will discuss "Direct Digital Logging."

Personnel

The majority of the personnel news comes from Union. Topping the list is Dave Hill's promotion to district geologist for the Alaska District. Dave will be leaving shortly to assume his post in Anchorage. Al Storm will soon be shoving off for Indonesia and Jim Brenniger has left Union for Champlin in Denver. Sunmark has added geophysicist Jim Whirter to its staff.

Marc W. Traut

Los Angeles

New officers of the Los Angeles Basin Geological Society are:

Lucy E. Birdsall (U.S.G.S.) *President*
Dennis R. Kerr (Texaco, Inc.)
Vice President
Edward A. Paden (Texaco, Inc.)
Secretary
James Blankenship
(So. Calif. Gas Co.) .. *Treasurer*

San Joaquin

SPRING FIELD TRIP

REMEMBER, Friday, May 15th, is the date for the "Pacific Section Spring Field Trip and Bar-B-Que" hosted by the S.-J.G.S. at Ojai. General coordinator for the field trip and bar-b-que is Wally Jensky, President of the Coast Geol. Soc.

BAR-B-QUE:
Camp Comfort, Ojai

FIELD TRIP:
8:30 A.M., Camp Comfort — "Lithostratigraphy of the Monterey formation on the coast west of Santa Barbara, Ca.", conducted by Caroline Issacs, U.S.G.S.

GOLF TOURNAMENT:
7:30 A.M., Soule Ranch, $10.00 entry fee — Jack Kappeler, coordinator.

TENNIS TOURNAMENT:
12:00 P.M. – 4:00 P.M., Pierpont Inn Racquet Club, $10.00 entry fee, Dan Pasquini, coordinator.

FLYER WILL BE OUT SOON!

SCHOLARSHIPS

The San Joaquin Geological Society (1980-81) again has the honor of contributing to the geological departments of our local institutions of learning by presenting two scholarships of $250.00 each to Cal State and two scholarships of $250.00 to Bakersfield College.

PERSONNEL AND PERSONAL

Dr. and Mrs. Gregory Webb will be leaving ARCO and Bakersfield the third week of March to return to Amherst, Mass., where Dr. Webb is a faculty member of State University of Massachusetts.

GETTY is increasing the geologist population of Bakersfield with the following new hires: Taft District — Steve Bergeth, Larry Kenworthy, James Roush and Micke McQuire; Bakersfield District — Joe Laring, Jim Dudley, Kenneth March and Mike Condon. Also, Tony Reed recently transferred from the Bakersfield District to the Taft District. On a more personal note, those wishing to contact Kay Brodersen with Getty, should ask for Kay Pitts. Congratulations to Kay and Brian Pitts on their recent marriage.

ELECTIONS

Election time is coming up and the S.-J.G.S. nominating committee is proud to place the following names in nomination:

President-elect ..... Jack Kappeler
to be announced

Vice-President ..... Dennis Shea
Marc Traut

Secretary ..... Leo Fedewa
Allan Waggoner

U. S. Geological Survey

MAPS

I 1126: Geologic map of the Vidal NW, Vidal Junction, and parts of the Savahia Peak SW and Savahia Peak quadsn., San Bernardino County, California, by W. J. Carr, D. D. Dickey, and W. D. Quinlivan. $1.50

MF 1200: Map showing near-surface geologic structures of Kodiak shelf, Alaska, by Roland von Heune, M. A. Hampton, M. A. Fisher, D. J. Varchol and G. R. Cochrane. 75¢

MF 1230: Map showing a deep-tow geophysical study of the north end of the San Clemente fault, California borderland, by G. A. Ford and W. R. Normark. 75¢

MF 1245: Maps showing structural interpretation of magnetic lineaments in the northern Gulf of Alaska, by W. C. Schwab, T. R. Bruns and Roland von Heune. 75¢

Geologic map of Alaska, by H. M. Beikman. (2 sheets). (available unfolded only). $3.50

PACIFIC SECTION — AMERICAN ASSOCIATION PETROLEUM GEOLOGISTS

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Recommended Reading ..... LUCY E. BIRDSALL (213) 688-2850

NEWSLETTER of the Pacific Section–American Association Petroleum Geologists is published bimonthly by the Pacific Section.

Material for publication, requests for previous copies and communications about advertising costs should be addressed to JOHN W. RANDALL, GULF OIL, 5200 STOCKDALE HWY., BAKERSFIELD, CALIF. 93309.

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

PUBLICATIONS COMMITTEE: Pacific Section American Association of Petroleum Geologists, P.O. Box 4164, Thousand Oaks, CA 91359.

NEW ASSIGNMENT

Tom Wright, president of Pacific Section AAPG, has replaced John Cassell as staff geologist for Environmental Affairs, Western Exploration of Chevron U.S.A. John is taking early retirement.

NEWSLETTER
Pacific Section A.A.P.G.
P.O. Box 1072
Bakersfield, California 93302

Richard L. Hester
1911 Montecito Dr.
Glendale, CA 91208

DA-AM

PACIFIC PETROLEUM GEOLOGIST NEWSLETTER

of the Pacific Section
American Association of Petroleum Geologists

Vol 35 MAY – JUNE 1981

PRESIDENT'S CORNER . . .

Support For OCS Sale #68 — Volunteers Wanted!

Pacific Section members in the Coastal and Los Angeles regions are urged to participate in public hearings late in July on the Draft Environmental Impact Statement (DEIS) for OCS Lease Sale #68. The sale area includes Southern California offshore waters from Point Conception to the Mexican border. Hearings will be held in Santa Barbara on Tuesday and Wednesday, July 28-29, and in Long Beach on Thursday and Friday, July 30-31.

For testimony at these hearings, Pacific Section AAPG is organizing a team effort similar to the method used with great success by our environmentalist opponents at past hearings. The Bureau of Land Management, which conducts these hearings, allots 5 minutes to anyone who applies in writing before the hearing or at the opening of each session. The early testimony generally comes from representatives of State and local government, major environmental organizations, and industry; these are followed by smaller organizations and individuals. No one is allowed a second opportunity in which to reply in those not-uncommon instances where their original statement has been countered by spurious data or flagrant distortions.

Based on previous hearings, we can expect the following scenario to unfold: The Western Oil and Gas Association and individual company spokespersons will testify in support of the DEIS, referring briefly to such aspects as the economic need for domestic oil, the lack of adverse impact from prior OCS development off California, industry's exceptional OCS safety record during the past decade, the long and exacting environmental reviews which precede any new platform, etc., etc. Environmental-interest groups and their adherents will denounce the DEIS as inadequate or, alternatively, take out of context the hypothetical maximum impact of a major spill and present it as the inevitable consequence of the proposed sale. They will accept USGS resource estimates as proven reserves, not uncomfortable guesses, and use them to claim that "the resources aren't worth the risk". Ignoring or mis-

(Continued on Page 2)

THEODORE (TED) OFF
PRESIDENT-ELECT 1981-82

1981-82 OFFICERS ELECTED

Ballots for the 1981 Pacific Section AAPG election were counted May 13th and the results announced at the Spring Barbecue May 15th. Joining incoming President John Carver (Oxy – Bakersfield) on the new Executive Committee July 1st will be:

President-elect **Ted Off** (Ojai Oil Co., Camarillo)

Vice-President **Rex Young** (Buttes, Bakersfield)

Secretary **Dan Pasquini** (Argo, Ventura)

Treasurer **Mark Cole** (Texaco, Los Angeles)

JOHN CARVER
PRESIDENT 1981-82

AAPG 66th Annual Convention

About 12,300 total participants assessed global energy needs, developments in energy minerals and new exploration directions. This compares to 9500 total registrants last year in Denver which was the previous record. San Francisco's total comprised 7000 delegates, 4200 spouses, 700 students, and 400 exhibitors.

Special thanks are due to General Chairman Don Zieglar and his crew from Chevron who virtually shutdown their oil exploration and development to put on this show. There was also significant assistance from the USGS, local schools and others from Natomas and Sohio.

LEGISLATIVE MILL WORKING OVERTIME

This year's California Legislature has introduced a number of bills which could affect the practice of geology and/or the operations of the State Board of Registration for Geologists and Geophysicists (SBRGG). Both the Board and AIPG's California Section are watching all significant bills. Pacific Section's Executive Committee will write or offer testimony, if it should become necessary. A summary of the various bills follows (*starred items cannot be passed until 1982; they did not act out of their committee of origin before the May 1 deadline):

SUNSET BILLS (would eliminate SBRGG unless reconfirmed by legislature)

*AB 54 (Filante +20). Legislature would review various agencies (incl. SBRGG) each 5 years. Decision to extend or terminate based on public need, alternative methods, cost/benefit, effectiveness. Initial review of SBRGG would be June 1987. (SBRGG now amended **out** of this bill.)

*AB 24 (Johnson). Very similar to AB 54, above; same timing.

(Continued on Page 2)

NEXT DEADLINE
PPG NEWSLETTER
AUGUST 11, 1981

LEGISLATIVE MILL

(Continued from Page 1)

*AB 143 (Hallett). Very similar to AB 54, above; same timing.

*SB 26 (Campbell). Similar, except legislative review and extension required by June 1986 and SBRGG would be abolished.

BOARD OPERATIONS

SB 257 (Rains) Permit Reform Act. Creates another bureaucratic office (in Governor's Office of Planning & Research) to establish and enforce standards of efficient permit processing (including G/G licenses and examinations). Now in Senate Finance Committee, this bill has a good chance of passage in 1981.

*AB 645 (Hughes) Would permit board members, after term expires, to remain indefinitely until notified to vacate office (present limit is 1 year past expiration).

AB 2175 (La Follette) Adds "negligence" to grounds for revocation of geologist/geophysicist licenses.

ENGINEERING LICENSING (re overlaps and possible encroachment on the field of geology)

SB 602 (O'Keefe) Replaces present engineers' board with public corporation similar to State Bar, Medical Association. Nine-member council would include two public members. Scope (specialties to be covered) not defined but would include "planning the use of land and water". This and other parts of the bill might raise conflicts with engineering and groundwater geologists and possibly with some mining and petroleum work. Now in Senate Finance Committee after amendment to establish Surveyors Board.

SB 965 (Presley) This bill has been wholly altered by amendment. It no longer affects the practice of petroleum engineering, but now merely affords to soils engineers the same type of recognition now given to structural engineers as a specialty within the registered civil engineers.

OTHER

*AB 210 (Bergeson +20) Re disposal of low-level radioactive waste, technical task force would include a **registered** geologist.

AB 1543 (Tanner) Very similar to AB 210 but does not stipulate **registered** geologist. In Ways and Means; may go to final vote in 1981.

AB 1597 (Bates) Would impose a 6% severance tax on all oil produced in California. About 2/3 of tax would be offset by reductions in Federal taxes. Major impact could be early abandonment of steam and other low-margin enhanced-recovery projects; impact on exploration may be minor.

FEE INCREASE

*AB 940 (La Follette +8) Would increase $10 maximum renewal fee for specialty geologist (i.e., engineering geologist) to $80. Also permits public members to serve (but not form the majority) on SBRGG committees. Now off calendar; Don Rogers' attempted amendment which would have required a majority of licensee members on the Board was unacceptable to the SBRGG.

Proposed Regulations (for public hearing 5/21/81) would permit the Board to raise the biennial renewal fee (now $45) to a maximum of $80. May defer decision.

In resolutions to the Board, AIPG and Pacific Section AAPG have supported any fee increase necessitated by inflation but urged that fees for engineering geologists be raised to finance any specific expenses related solely to that specialty.

Support For OCS Sale #68

(Continued from Page 1)

representing the facts, they will use imaginary situations to raise false spectres of the "horrors of offshore drilling". When the hearings reach this stage of emotionalism they seem nothing less than a pep rally in which the extremist fringe is reaffirming its faith, unhindered by fact or logic.

This is where our team effort will come into action. Representatives of Pacific Section AAPG, the local geological societies, AIPG, perhaps even SEG and SPE can be scheduled to testify at intervals during the latter stages of each hearing; earth scientists can also speak as individuals. Each member of our team will discuss (with the aid of data provided by Pacific Section AAPG) a specific technical aspect of the DEIS, for example: pre-sale resources estimates; the 25-fold improvement in OCS oil-spill prevention during the past decade; the non-hazard of faults and earthquakes in OCS development; the lack of onshore impact of OCS operations; the 4-fold increase in the Santa Barbara Channel fish catch after the 1969 oil spill; the three complete cycles of geologic hazard studies during exploration and development; the use and limitations of directional drilling; and others. In addition, the team will listen carefully to opposition speakers, note all statements that are distorted or untrue, and prepare "instant rebuttals" (with sources cited) for the team member next "on deck" to include in his or her testimony.

Let's see how it works! Perhaps by shining the cold light of fact on these anti-oil orgies, by spoiling their fun, we can push the DEIS hearings toward a rational procedure, and so move forward with the assessment and development of America's OCS energy resources.

If you are willing to join our teams for the Santa Barbara or Long Beach hearings in July, call or write Tom Wright at (415) 894-4191, or 575 Market St. (Rm. 1682), San Francisco, CA 94105. It promises a bloody good scrap!

(Editor's Note: Tom Wright will pass the gavel to John Carver in July. During Tom's stint as President he has provided the Pacific Section with extremely capable and effective leadership . . . and because of Tom's dedication we know that he is still available for **more** *distinguised service to the Association.)*

NEW 1981 DIRECTORY OUT

The 1981 Membership Directory is now available for **free** distribution to current members of the Pacific Sections of AAPG, SEPM, and SEG. Initial distribution at the National Convention in San Francisco will be followed by distribution through affiliated local societies; in the fall, the book will also be available from AAPG's Publications Chairman Dick Williams. ($1.00 for postage and handling.)

A splendid effort by Directory Chairman Steve Sterling, has brought us a directory twice the size of previous volumes. The book was guided through publication by Managing Editor Reinhard Suchsland and printer Harry Stuveling. Advertising co-Chairmen Bob Lindblom and Matt Mikulich secured a record number of ads, plus permanent 3-ring covers provided through the generosity of exlog, Welex,and Western Geophysical.

The new directory includes the total membership of all three Sections, as of January 1, 1981. Data are as complete and up-to-date as the several Membership Secretaries could provide, and proofs were checked at several stages. Nevertheless, a number of entries are incomplete or obsolete — because members neglected to fill out the directory information card with their last dues payment, or to send in a change-of-address notice to their Section secretary, or because their handwriting was illegible. To those "misprinted members" we can only point out that the Directory Committee are neither mind-readers nor biographical researchers. They did the best they could with what **you** gave them. (And for those few typos which were not caught in time, our apologies.)

LETTERS to the EDITOR

NO-SHOWS SPOIL SPRING FIELD TRIP

A glaring lack of responsibility was demonstrated by nearly 40 members of our profession at the spring field trip. They were "NO-SHOWS" who did not bother to cancel their reservations.

Just a bit of extra-cranial activity should make one realize that a bus seat would be provided for each reservation and therefore must be paid for by the sponsoring organization. The saddest part however is that the same number of interested geologists were unable to attend due to the thoughtlessness of others.

At the May Executive Committee meeting of the San Joaquin Geological Society a resolution was passed unanimously that the "NO-SHOWS" be requested to pay $10.00 to cover the bus and lunch costs. Remittance should be made to the San Joaquin Geological Society and mailed to Brad Newman, Getty Oil Co., Route 1, Box 197X, Bakersfield, CA 93308.

After a reasonable length of time we will attempt to contact "you" by phone with a possible follow-up list of unpaids to be published in the next issue of this newsletter.

While the soap box is still available this is a good time to request that a little more thought be given when making, or not making, reservations for the many other professional functions such as monthly dinner meetings. The members responsible for providing you with good speakers and good food would appreciate your consideration.

Gene Tripp
President
San Joaquin Geological Society

(Editor's note: It has been rumored from the Executive Committee of the Pac. Sect. that members can be assured that in the future prepayment will be required from registrants.)

ACADEMY AFFAIR GRIPE

About 12,300 total participants enjoyed AAPG's 66th annual convention in San Francisco except those who didn't get any food at the Academy Affair.

A number of people are talking to the catering company; however, blame must also be shared by the Northern Geological Society and Tulsa convention management. It seems that the catering service prepared for 2500 persons, the original maximum for which service was considered achievable. That number was pushed to 3000 by the NGS, and finally to 3500 by Tulsa. The outcome was feast or famine for those who attended. If the food had been served cafeteria style instead of buffet style, that may have helped.

SEG OPPOSED TO SBRGG FEE INCREASE

(It should be noted that the State Board of Registration for Geologists and Geophysicists is planning to raise renewal fees from $45 to $80 biennially and has gotten legislation introduced in the Assembly to do this. The Board will be accepting written responses to their proposal until August 1. The issue is scheduled to be decided in September. The following is a resolution from the SEG to the Board.)

Members of the Board:

On May 20, 1981, the following resolution was read to two separate meetings of the Pacific Coast Section of the Society of Exploration Geophysicists in Ventura and in Los Angeles. This Society represents 200 California Geophysicists and 60 out of State Geophysicists, many of who are Registered Geophysicists in the State of California.

The Pacidic Coast Section of the Society of Exploration Geophysicists does not oppose reasonable increase related to inflationary costs (i.e. approximately 11% per year), but it does oppose the proposed increase of nearly 100% in the registration and renewal fees for geologists and geophysicists. It is the understanding of the California Section that the major portion of the increased fees are required to fund a new position and other increased Board activities related to the practice of engineering geology. Therefore, the California Section believes the necessary funds should be obtained from recertification of that specialty if they can not be obtained from state sources.

This resolution was passed unanimously at the meetings by (65) members in Los Angeles and by (35) members in Ventura.

Should you desire further clarification of this position, please contact Robert Descamps, President of the Pacific Coast Section of the Society of Exploration Geophysicists at (805) 395-6446 or the undersigned at (213) 977-6286.

Geologist on the Move

Mike Henry is back at it. After a brief excursion from the oil patch as a marine geologist/geophysicist in San Diego, Mike has joined Aminoil in Huntington Beach as an Exploration Geologist. With surf board in hand, he says that until the San Andreas does its thing and Maricopa becomes the next La Jolla, Huntington Beach will do just fine.

New Officers — Pacific Sections SEG

Officers for 1981-82 of Pacific Coast Section of the Society of Exploration Geophysicists are:

President
Mr. John W. Shastid (805) 656-7600
Union Oil Company of California
P.O. Box 3095
Ventura, CA 93306

Vice President — Northern Area
Mr. Bob Dennis (805) 395-6414
Gulf Oil Exploration & Production Company
P.O. Box 1392
Bakersfield, CA 93302

Vice President — Southern Area
Mr. William E. Snydsman (714) 528-7201
Union Oil Science & Technology Division
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Brea, CA 92621

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Ventura, CA 93001

Editor
Mr. A. C. Forgay (805) 327-8601
Pacific West Exploration Company
1400 Easton Drive, Suite 132
Bakersfield, CA 93309

SBRGG EXAM

Examinations for registration as a geologist and geophysicist and for certification as an engineering geologist will be given:

Geology & Geologist — November 20, 1981.

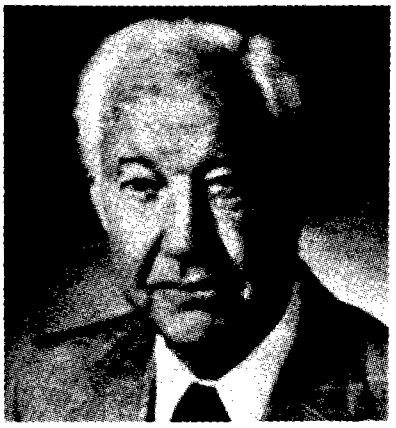
Engineering Geologist — November 21, 1981.

FINAL FILING DATE FOR NOVEMBER EXAMINATIONS IS AUGUST 20, 1981.

If you need more information contact the STATE BOARD OF REGISTRATION FOR GEOLOGISTS AND GEOPHYSICISTS, 1020 N Street, Sacramento, Calif. 95814, Telephone (916) 445-1920.

(Editor's Note: An applicant may also qualify for registration without taking the examination if the applicant has fourteen (14) years of professional geological work and meets other qualifications.)

AAPG 1981 Awardee of Sidney Powers Memorial Medal



MASON LOWELL HILL
Sidney Powers Memorial Medalist

Mason Hill was presented the Sidney Powers Memorial Medal at the AAPG Annual Convention in San Francisco. Bud Reid served as presenter of the citation: For leadership in discovery thinking, for inspiration to the fellow geologists, for outstanding contributions to the art and science of geology, especially in the area of fault interpretation, and for dedicated service to his profession.

(During the presentation John Kilkenny read the following biographical sketch of Mase's achievements.)

Mason L. Hill, "Mase" to his many friends, was born January 17, 1904 in Pomona, California. He attended the local schools and in 1922 enrolled at Pomona College where he was persuaded by A. O. "Woody" Woodford, head of the newly established Geology Department to major in geology. Mase showed an early interest in faults and both his master's thesis at Pomona and his doctorate at the University of Wisconsin dealt with that subject.

After a short period with Shell during the depression, Mase joined Richfield Oil Corporation's newly formed Exploration Department, whose aggressive program included areas that other companies shied away from. One such area was the Cuyama Valley, a small basin with complex faulting. Richfield's first well, located on the basis of Mase's fault interpretation, resulted in a major oil discovery which almost doubled the company's reserves.

In the mid 1950's, Mase and his team prevailed on Richfield to explore in Alaska. They selected a location on the Kenai Peninsula and brought in another major discovery, the first in the state. Undaunted by previous failures on the forbidding North Slope, they joined with Humble to acquire acreage at Prudhoe Bay, shooting out a large structure and subsequently discovering the largest oil field in North America.

While achieving success in petroleum exploration, Mase was finding time to do valuable research work on faulting. In 1947 he published *"Classification of Faults,"* introducing important new descriptive nomenclature. This was followed in 1953 by his classic paper on the San Andreas Fault in which he advanced sound arguments for large lateral movement as much as 450 miles. Since retirement Mase has authored 15 publicatons on geology interspersed with some teaching and consulting on seismic hazards.

He served as AAPG President in 1962-63. He has received many honors in his distinguished career, among them Honorary Membership in the AAPG and Pacific Section in 1969, Doctor of Science from Pomona College in 1971, and the AAPG President's award in 1973.

AAPG NEWS

TULSA, Okla. — Oil and gas investors now have an opportunity for an aid to eliminate blind guesses about oil and gas properties and drilling projects. The American Association of Petroleum Geologists (AAPG) has just published its 1981 *Directory of Certified Petroleum Geologists.*

With a listing of nearly 1,800 geologists certified by the AAPG's Division of Professional Affairs, the *Directory* offers each geologist's name, business and business address, education and professional history, and home address. A special feature that makes the *Directory* a handy reference is the geographical index of geologists, with listings by country, state and city.

In order to qualify for certification, a geologist must have a geology degree from an approved college or university, a minimum of eight years of experience in petroleum geology and the endorsement of members of the AAPG and from the geologist's own business community.

Also included in the *Directory* are the AAPG Code of Ethics, the DPA's requirements for certification, the bylaws of the DPA and a complete list of officers and committees of the DPA.

Another interesting feature of the *Directory* is the table of the geographic distribution of certified petroleum geologists, indicating the number of CPG's in each state and country.

Accurate, up-to-date and easy to use, the *Directory* is a valuable reference for potential oil and gas investors, for whatever geographic area they need consultation.

The sponsor of the *Directory*, the AAPG, is the world's largest professional geological association, dedicated to the science of geology, especially as it relates to the world's energy resources. Its international membership includes over 29,000 members in 30 countries.

For more information, contact: Ronald Hart, AAPG Bookstore, 1444 South Boulder, P.O. Box 979, Tulsa, Okla., 74101. The price of the *Directory* is $40.

Circum-Pacific Energy and Mineral Resources Conference

The third Circum-Pacific Conference will again be held in Honolulu, Hawaii, August 22-28, 1982, with additional educational courses and geological field trips scheduled both pre and post-Conference. The entire program of activities will emphasize the newly identified and significant energy and mineral resources of the Pacific and new developments in methodology and technology that may impact their development in the coming decade.

The Conference is being organized under the direction of the Circum-Pacific Council for Energy and Mineral Resources which has applied for affiliation as the Circum-Pacific Section of the American Association of Petroleum Geologists.

Resources for the '80s", theme for the Conference programs, will feature approximately 90 papers presented by outstanding international scientists and statesmen from countries bordering the Pacific. Sessions cover the following topics:

Hydrocarbons *Geothermal*
Energy Minerals
(Coal, Uranium, Oil Shale, etc.)
Hard Minerals *Renewable Energy*

General Sessions will be held the first two days of the program, with concurrent sessions the remaining three days. Papers will be scheduled from 8:30 a.m. to 1:00 p.m. each day with the afternoons free for you to enjoy some of the marvelous sights and sounds of the Island, or perhaps the beach.

Abstracts of the papers will be published in the summer of 1982 in the AAPG *Bulletin* and full papers will be published in a Transactions Volume shortly following the Conference.

Plan now to attend the 1982 Circum-Pacific Energy and Mineral Resources Conference — in a setting of unmatched beauty. Complete details will be available in the Conference brochure containing reservation forms and travel information in the fall of 1981. To receive the brochure, contact the AAPG Convention Department, P.O. Box 979, Tulsa, Oklahoma 74101, telephone number 918 – 584-2555.

TOM BAILEY MEMORIAL FUND

In memory of Tom Bailey, a Brunton Compass will be awarded each June to an outstanding geology student from Ventura or Santa Barbara City College. A fund has been established by the C.G.S. for this purpose. If you wish to make a contribution in memory of Tom, please send a check or money order payable to "C.G.S. Tom Bailey Fund" to Wallace Jensky, 1394 Uppingham Drive, Thousand Oaks, CA 91360.

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D-2 1981 Directory of Membership, Pacific Section (AAPG - SEPM - SEG) (If member prior to 6/1/81 – Free). Non-members & new members $15.00.

GUIDEBOOKS

GB 10 Gabilan Range & Adjacent San Andreas Fault (AAPG - SEPM) 1967 $10.00.

GB 11 The Guidebook to the Geology & Oil Fields of the West Side Southern San Joaquin Valley (AAPG - SEG - SEPM) $10.00.

GB 12 Geol. of the North Channel Islands & So. Calif. Borderlands (AAPG - SEPM) 1969 $11.00.

GB 17 Guidebook to the Southeastern Rim of the L.A. Basin (AAPG - SEG - SEPM) 1970 $4.00.

GB 25 West Side Central San Joaquin Valley Field Trip Guidebook (AAPG - SEG - SEPM) 1972 $8.00.

GB 28 A Profile of So. Calif. Geol. & Seismicity of L.A. Basin (SEG) 1973 $4.00.

GB 29 Metropolitan Oilfields & Their Environmental Impact (AAPG - SEG - SEPM) 1973 $4.50.

GB 30 Imperial Valley Regional Geology & Geothermal Exploration (AAPG - SEG - SEPM) 1973 $4.00.

GB 31 Santa Barbara Channel Region Revisited (AAPG - SEG - SEPM) 1973 $3.00.

GB 32 Miocene Sedimentary Environment & Biofacies. S.E.L.A. Basin (SEPM$ 1973 $5.00.

GB 33 Sedimentary Facies Changes in Tertiary Rocks, California Transverse and Southern Coast Ranges (SEPM) 1973 $4.50.

GB 37 Geology of Peninsular California (AAPG - SEPM) 1974 $10.00.

GB 39 Oil Fields of Whittier Fault Zone (AAPG - SEPM) 1975 $4.00.

GB 43 San Cayetano Fault Field Trip (AAPG) 1977 $5.00.

GB 44 Eocene Sedimentation & Paleocurrents, San Nicolas Is. CA (GSA) 1975 $2.00.

GB 45 Castle Steam Field, Great Valley Sequence (AAPG - SEG - SEPM) 1978 $5.00.

GB 46 Geologic Guide of the San Onofre Nuclear Generating Station & Adjacent Regions of Southern Calif. (AAPG - SEG - SEPM) 1979 $10.00.

GB 47 Geol. of the Lake Casitas Area, Ventura County, Calif. (CGS) 1979 $8.00.

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GB 49 Geol. Guide, Topanga Group Central Santa Monica Mts. Calif. (AAPG) 1980 $3.00.

GB 50 Field Guide to the Mesozoic-Cenozoic Convergent Margin of Northern California (AAPG) 1981 $13.00.

GB 51 The Franciscan Complex & the San Andreas Fault from The Golden Gate to Point Reyes, California (AAPG) 1981 $5.00.

GB 52 Guide to the Monterey Formation in California Coastal Areas, Ventura to San Luis Obispo (AAPG) 1981 $10.00.

MISCELLANEOUS PAPERS

MP 4 Selected Papers Presented to the San Joaquin Geol. Soc. Vol. 3, 1965 $2.50.

MP 8 A symposium of Papers Presented at the 40th Pacific Section AAPG Convention (AAPG) 1965 $3.00.

MP 11 Proceedings of No. Slope Seminar (AAPG - NCGS) 1970, Palo Alto, CA $10.00.

MP 13 Program Preprints, 1972 Annual Meeting, AAPG, SEPM, SEG, Pac. Sec. $5.00.

MP 14 Selected Papers Presented to the San Joaquin Geol. Soc. Vol. 4, 1972 $3.00.

MP 17 Geologic Literature on the San Joaquin Valley (NCGS - AAPG) 1973 $9.00.

MP 19 Preprints San Diego Meeting (AAPG - SEPM) 1974 $2.50.

MP 20 Contours on Top Miocene, So. L. A. Basin (AAPG - SEPM - SEG) 1973 $2.00.

MP 21 Geol. Map of San Emigido & W. Tehachapi Mtns., Kern Co., Calif. 1973 $2.00.

MP 22 Current Concepts of Depositional systems with Applications for Petroleum Geology (SJGS) 1975 $8.00.

MP 24 Geol. History of Calif. Continental Borderland (AAPG) 1976 $8.00.

MP 27 Energy, Exploration & Politics: Preprints 1978 Annual Meeting AAPG - SEG - SEPM Pacific Section $3.50.

MP 28 Petroleum Exploration, Economics & Risk Evaluation (SJGS) 1978 $5.00.

MP 29 Criteria in Correlation: Relevant Principles of Science (AAPG - SEPM) 1979 $5.00.

MP 30 Selected Papers Presented to the San Joaquin Geol. Soc. Vol. 5, 1980 $5.00.

MP 31 Ventura Basin Tectonic Map — Ventura Sheet (CGS) 1976 $3.50.

MP 32 Deep Water Oil Sands — Ancient Case Histories, Modern Concepts (CGS) 1977 $7.00.

MP 33 Preprints, 1980 Annual Meeting AAPG, SEPM, SEG Pacific Section $8.00.

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CS 2 Eastern Ventura Basin, 1952.

CS 3 Los Angeles Basin - Palos Verdes Hills to San Gabriel Mtns., 1952.

CS 4 Salinas Valley, 1952.

CS 5 Western Ventura Basin, Pt. Conception to Channel Islands (2 sheets).

CS 6 Sacramento Valley North (2 sheets). From T23N/R1W to T16N/R1E.

CS 7 Ventura Basin - Central (1 sheet) 1956. From T5N/R23W to T1S/R21W.

CS 8 San Joaquin Valley South (1 sheet) 1957. From T31S/R20E to T28S/R30E.

CS 9 San Joaquin Valley Central (1 sheet) 1957. From T21S/R12E to T15S/R23E.

CS 10N San Joaquin Valley Central (1 sheet) 1958. From T4N/R3E to T18S/R20E.

CS 10S San Joaquin Valley Central (1 sheet). From T18S/R20E to T10N/R19W.

CS 11 San Joaquin Valley, West Side (1 sheet 1959. From T19S/R15E to T8N/R23W.

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CS 13 Sacramento Valley North/South (1 sheet) 1960. From T29N/R2W to T3N/R2E.

CS 14 L.A. Basin (1 sheet) 1962. From T15S/R15W to T8S/R10W. SB-B&M.

CS 15 Sacramento Valley Central (1 sheet) 1967. From T4N/R1W thru T4N/R7E.

CS 16 Sacramento Valley North San Joaquin (1 sheet) 1967. From T3S/R10E to T8N/R1E.

CS 17 San Joaquin Valley Kingsbury – Tejon Hills (1 sheet) 1969. From T16S/R26E to T11N/R18W.

CS 18 Geological Section Upper Cook Inlet (CGS) 1967.

CS 19 Cook Inlet Basin Stratigraphic Study (5 sheets) (AGS) 1969 $15.00.

CS 20 Lower Susitna-Knik Ara Stratigraphic Sections (2 sheets) (AGS) 1970 $6.00.

CS 21 Copper River Basin Stratigraphic Sections (2 sheets) (AGS) 1970 $6.00.

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SA 6 Parkfield to Soda Lake.

SA 7 Soda Lake to Santiago Creek.

SA 8 Santiago Creek to Sawmill Mountain.

SA 9 Sawmill Mountain to Valyermo.

SA 10 Vlyermo to Mexican Border.

SA 11 San Andreas Composite Cross Sec. Summary of SA 1 – SA 10 on 1 section.

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GB 3A Spring Field Trip Panoche Hills (SEPM) 1960 $2.00.

GB 3B Spring Field Trip, Geol. & Paleontology of the Southern Border of the San Joaquin Valley (AAPG - SEPM - SEG - SJGS) 1961 $4.00.

GB 3E Guidebook to the San Andreas Fault Zone from Temblor Mtns. to Antelope Valley Southern Calif. (AAPG - SEPM - SJGS) 1964 $3.50.

GB 4A Guidebook to Western Inez Mtns. (GCS - SEPM) 1965 $4.50.

GB 4B Guidebook to Placerita Area, Soledad Basin, L.A. County (AAPG) 1965 $3.00.

GB 5 Geol. of Southeastern San Joaquin Valley, Calif. Kern River to Grapevine Canyon (AAPG) 1965 $4.00.

GB 9 Geol. of the Big Mountain Oil Field & Nearby Area, Ventura County (AAPG) 1968 $2.00.

GB 18 Spring Field Trip, Ventura Ave & San Miguelito Oil Fields (AAPG) 1970 $2.00.

GB 23 San Fernando Earthquake Field Trip (LABGS) 1971 $2.00.

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Society of Economic Paleontologists and Mineralogists
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1. Pacific Slope Geology of Northern Baja California and Adjacent Alta California (Fieldtrip Guidebook) (1970) — $5.00 / *$4.00.
2. Turbidites and Deep-Water Sedimentation (Short Course Notes) (1973) — $7.00 / *$6.00.
3. The Paleogene of the Panoche Creek – Cantua Creek Area, Central California (Fieldtrip Guidebook) (1974) — $8.00 / *$7.00.
4. Symposium in Geochemistry: Low Temperature Metamorphism of Kerogen and Clay Minerals (1978) — $9.00 / *$8.00.
5. Eocene Depositional Systems, San Diego (Fieldtrip Guidebook, 1979 Geol. Soc. Am. Annual Mtg., San Diego) — $8.00 / *$7.00.
6. Miocene Lithofacies and Depositional Environments, Coastal Southern California and Northwestern Baja California (Fieldtrip Guidebook, 1979 Geol. Soc. Am. Annual Mtg., San Diego) $8.00 / *$7.00.
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SYMPOSIUM VOLUMES #1 – #4 ARE THE PACIFIC COAST PALEOGEOGRAPHY SERIES (1976-1980)

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9. SYMP. #2: Mesozoic Paleogeography of the Western United States (1978) $17.00 / *$16.00.
10. SYMP. #3: Cenozoic Paleogeography of the Western United States (1979) $17.00 / *$16.00.
11. SYMP. #4: Quaternary Depositional Environments of the Pacific Coast (1980) $17.00 / *$16.00.
12. Field Guide #1: Depositional Environments of Lower Paleozoic Rocks in the White – Inyo Mountains, Inyo County, Calif. (1976) $4.00 / *$3.00.
13. Field Guide #2: Cretaceous Geology of the California Coast Ranges, West of the San Andreas Fault (1977) $5.00 / *$4.00.
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Coast & San Joaquin

Pacific Section AAPG Annual Spring Field and Bar-B-Que

The S.J.G.S. as host of the annual spring field trip and bar-b-que wishes to thank Wally Jensky, Bill Reay, Gene Tripp (coordinators of picnic and field trip), Jack Kappeler (golf tournament) and Dan Pasquini (tennis tournament) and the many others who donated their time and efforts. A special thanks goes to Caroline Issacs, without her help the day would not have been possible.

FIELD TRIP: The 1981 Pacific Section AAPG field trip turned out quite well. Sunny but windy conditions prevailed as the 125 or so geopersons followed Caroline Issacs along the exposures of Monterey Shale at Gaviota Beach and Goleta Slough. The trip offered an excellent "hands-on" study of the various lithostratigraphic and diagenetic facies of this ever-so-important rock unit. Caroline has compiled an excellent guide book which was a handy accompaniment to the trip; copies of this guide are available through the S.J.G.S.

GOLF TOURNAMENT: Jack Kappeler announced that Mr. Robert Lindblom was finally dethroned as keeper of the "Frank Yule Perpetual Trophy". Dethronement was courtesy of Mr. John Woolley. Congratulations, John!

Fifty-eight people participated in the tournament at Soule Ranch Golf Course with trophies being captured by:

Low Gross	John Woolley (with 76)
Second Low Gross	Jim Parrish (with 83)
Third Low Gross	Mike Stettner (with 84)
Calloway:	
Low Net	Jack Kappeler (with 72)
Second Low Net	Jack West (with 72)
Third Low Net	Bob Hacker (with 72)
Longest Drive	Bob Lindblom
Closest to pin	Kermit Giddens
Straightest Drive	Spence Fine
Most Gross	Jim Jackson

TENNIS TOURNAMENT: The tennis tournament (a Round Robin — Doubles) was thoroughly enjoyed by all twenty players with the following walking away winners:

Championship:	Steve Curran and Moses Olshevski
Runner-ups:	Ralph Chabot and Derek Jones
Consolation Winners:	Vern Jones and Leo Fedewa
Runner-ups:	Wally Jensky and Dick Berger

The tennis tournament committee wishes to thank the Pierpont Racquet Club for their graciousness in allowing the tournament to be held on their courts and for all their help in setting up for the tournament. Also they wish to express their appreciation to the following: Reese, Core-Lab, Welex, Philip d'Aigle & Co., Schlumberger and P.D.F. Their donations created a festive air and made the tournament a special event.

BAR-B-QUE: The bar-b-que, with an attendance of approximately 250, capped off the day with good food, good beer and excellent companionship. The day was perhaps best summed up by an interview held by co-reporters Mark Traut and Magi Nielsen with Scotty Wheeler. Scotty, upon being located in one of the small buildings in the vicinity of the parking lot, pronounced the whole thing a staggering experience to which most of us will certainly agree.

SPECIAL CATEGORY

All of the Pacific Section will join us, I'm sure, in congratulating Wally Jensky. Wally, besides winning at the tennis tournament and winning a raffle-prize at the bar-b-que, became an all-time winner with the arrival of his twin daughters, Nicole and Brittany.

ELECTIONS

The **Coastal Geological Society** is awaiting final tally of votes before announcing the new slate of officers for 1981-1982.

The **San Joaquin Geological Society** is proud to announce that the following are to represent the society as its officers for 1981-1982:

President-Elect:	Jack Kappeler (Getty)
Vice-President:	Dennis Shea (Independent)
Secretary:	Allan Waggoner (Tenneco)
Treasurer:	George Kendall (Oxy)

PERSONNEL MOVES

Union tops the personnel news for this edition of the newsletter. Geophysicist, Jim Cambell, has returned to Ventura after a brief stay in Indonesia. Former 76 development geologist, John Hamiter, has taken a position with Natomas in Jakarta. Geophysicist, Clark Robertson, is soon to be a member of Union's International staff.

Clarence Harr, Union's Northern California District Manager, is retiring and will devote his time to consulting. Geophysicist, Bill Isaacs has left Union to head up Argo's geophysical department. New-hire Dave Jenkins has been added to the 76 development staff.

Fred Nilligane, formerly with Chevron, has taken a position with Conoco as an exploration geologist. Dale Kunitomi has departed Pauley and joined Argo's geological staff in Ventura.

Frank Cressy has moved from L.A. and Texaco to Bakersfield and Quintana. Probably so he can experience Bakersfield's wonderful summer-weather first-hand.

Ronald M. Bivins has announced the opening of his new office, "Petro-Econ" at 1400 Easton Drive, Suite 136-C, Bakersfield.

The recently announced opening of the Exxon office in Ventura, brings Chuck Ballard, Tim Gorham, Hollis Greene, John Lohmar, Ivan Marinescu, Francine Thompson, Ganuta Woloscyn and Ed Magdalena to the coastal area.

Recent changes among Gulf's Exploration personnel include: Bill Smith has been promoted to Manager of West Coast Onshore Exploration. Pete Hales has transferred to Gulf's Oklahoma City office. Harm La Rue and Barbara Cable are headed to Calgary to Gulf Canada. New but experienced explorationists in Bakersfield are Hal Essig, transfer from Gulf International, Hal Labourn, formerly with Oxy, and Russell Robinson, formerly with So. Calif. Edison.

Depco's Bakersfield office added to its staff with Sue (Chandler) Kiser joining the firm as exploration geologist and Stan Sansone joining as exploration geophysicist. Depco also moved to 5500 Ming Ave., Suite 240.

At Texaco in L.A., Jim Eke has been promoted to Assistant Division Manager of the Western Division. Jim was headquartered with Texaco in New York.

Marc Traut — Coastal Reporter
Magi Nielsen — SJGS Reporter

Sacramento

Officers of the Sacramento Petroleum Association for the calendar year 1981 are:

President: Andrew M. Stephens
Stephens Construction Co., Inc., P.O. Box 784, Rio Vista, California 94571.

Vice-President: Patrick R. Robinson
Consulting Geologist, 7844 Madison Ave., Fair Oaks, California 95628.

Secretary-Treasurer: Don B. Pinnell
735 Commons Drive, Sacramento, California 95825.

The address of the Sacramento Petroleum Association remains the same: P.O. Box 254443, Sacramento, CA 95825.

Los Angeles

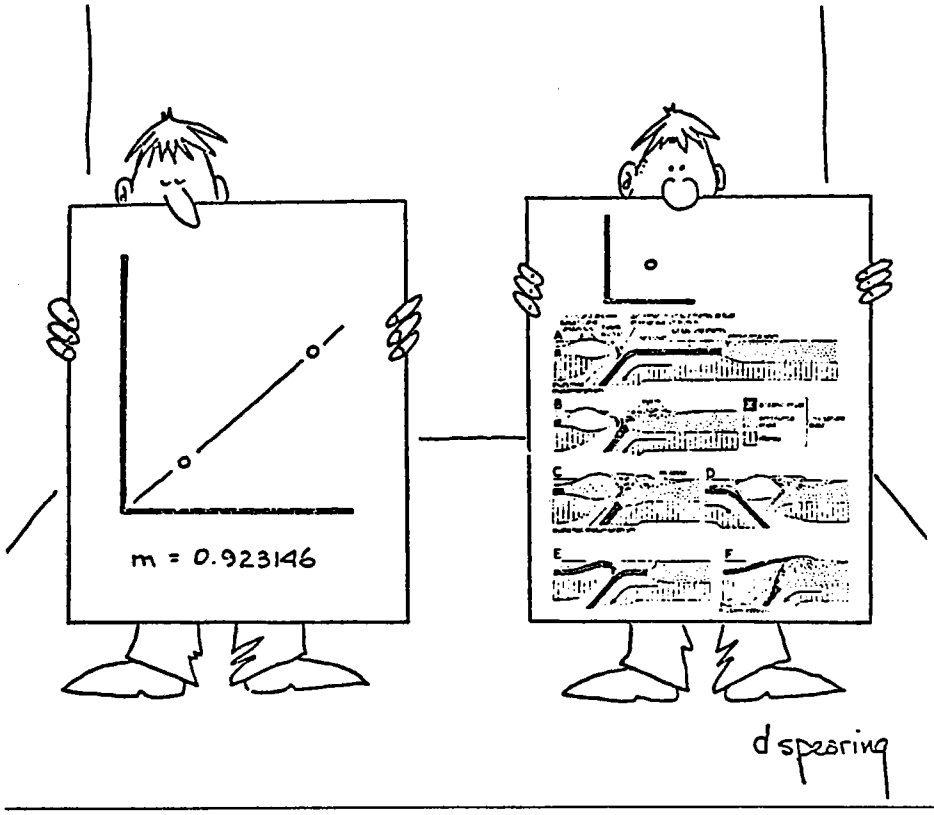
Many thanks are extended to the Los Angeles Basin Geological Society luncheon speakers for March, April and May. In March Dr. Mason Hill spoke on "The San Andreas Fault: History of Concepts". Dr. Richard Squires presented "A Transitional Alluvial to Marine Sequence: The Eocene Llajas Formation" in April. The May luncheon meeting featured Dr. Ian Kaplan who spoke on "Geochemical Methods in Petroleum Exploration".

Jim Blankenship, L.A.B.G.S. Treasurer, requests that all members and guests planning to attend meetings to please make reservations. We are able to accommodate only a few unanticipated members at the meetings. However, at recent meetings the number of members without reservations has increased dramatically. So please make reservations!

Personnel movements include two of our Society's officers. Dennis Kerr, Vice President, left Texaco in February to pursue a career as a consulting geologist in San Diego. In February our Treasurer, Jim Blankenship, left Southern California Gas Company for Aminoil U.S.A. in Huntington Beach. We wish them both the best of luck in their new career directions.

Ed Paden

FRIVOLITY



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"It's easy to tell them apart — the **Engineer** *is the one with two data points and a trend calculated to 6 places — and the* **Geologist** *is the one with one data point and 6 working hypotheses."*

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

of the Pacific Section

American Association of Petroleum Geologists

JULY – AUGUST 1981

PRESIDENT'S CORNER

I wish to thank Tom Wright and the other members of the 1980-81 Executive Committee for leaving the Pacific Section of the AAPG in such fine shape. We have a strong financial position, and some 1400 members which is a new high, and a good start on the 1982 convention planning.

Among the other accomplishments were the publication of a new directory, which incidentally is available through your local geological societies, and the coordination and planning involved in putting on a National Convention which broke all records for attendance at over 12,000.

Our principal goals for the following year are to continue to improve the *Newsletter,* to continue to make available good educational programs to the local societies and to put on a stimulating convention next spring.

We have begun to discuss our long range goals. Hopefully I will have more to report about these ideas as they become further developed. We welcome your constructive suggestions and recommendations.

PACIFIC SECTION SEPM FALL FIELD TRIP

This year the Pacific Section SEPM annual fall field trip returns to the Los Angeles area for an examination of Cretaceous trubidites in the Simi Hills. The field trip activities will be on Friday, Saturday, and Sunday, October 9, 10, and 11. Field trip leaders Ivan Colburn, Dick Squires, and Marty Link are planning a thorough stratigraphic study and a guidebook containing new data on microfossils, petrology, facies, and paleogeography.

Activities begin Friday evening at California State University, Northridge, with a happy hour and dinner followed by brief presentations by field trip contributors. Saturday's trip will leave by bus from CSUN to examine turbidites, channels, crevass-splay deposits, and trace fossils in the Simi Hills. The final stop on Saturday will be at Chatsworth Park, where Bill Reay and his crew will barbeque a Santa Maria-style dinner. Sunday there will be two half-day trips to fan facies and fossil localities.

For further trip information and a registration form contact Dick Squires at the Department of Geological Sciences, California State University, Northridge, 91330 (phone 213-885-3540 or 885-3541), Tony Reid at Getty Oil Company (phone 805-399-2961) or write to the Pacific Section SEPM, P.O. Box 10359, Bakersfield, California, 93389.

Legislative — Calif.

In California, where legislators will wrestle with a projected $1.7 billion deficit in fiscal 1982, a bill that would prohibit the deduction of federal "windfall profits" tax payments from state corporate income tax returns is making headway. **The measure was recently voted through the Assembly revenue and taxation committee and the ways and means committee, and awaits a full Assembly vote.**

If passed in both the Assembly and Senate, the "windfall" tax payment from producers would no longer be considered a business expense, eligible for cost deduction. The California Independent Producers Association said it effectively presents a dual taxation position for producers, and that industry in the state had "better acquaint" itself with the legislation in order to stop it. Additional state revenue from the bill would total $60-70 million annually.

SECTION SUPPORTS IMPROVED PROFESSIONAL STANDARDS

At its July 14th meeting, the Pacific Section Executive Committee voted unanimously to support AB 2175, a bill introduced by Assemblywoman Marian LaFollette at the request of the State Board of Registration For Geologists and Geophysicists. The bill would add **negligence** as a cause for board action.

For the past several years, the Department of Consumer Affairs has been applying increasing pressure on the Board to do what it was created for: discourage the filing of inadequate geological reports, especially on residential developments. The Board has made a valiant effort to perform this duty but is hampered by many factors beyond its control, including resistance from the State Board of Realtors and local political pressures which can place a city or county review geologist in an all-but-**untenable** position.

AB 2175 would eliminate one of the factors now impeding Board action by providing a means of dealing with the most usual type of sub-standard geological report. At present, the Board has the authority (under Section 7860 of the Business and Professions Code) to: "receive and investigate complaints against registered geologists and geophysicists", and "by majority vote . . . may reprove, privately or publicly, or may suspend for a period not to exceed two years, or may revoke the certificate of any geologist or geophysicist . . . who has committed any deceit, misrepresentation, violation of contract, fraud or incompetency in his practice."

But these sins of commission as now listed are too large, too heinous to be applied to a geological report that is simply inadequate or sub-standard. In reviewing a number of such reports, the Board has found instances of errors or omissions which, though serious, cannot be taken as indicating incompetence. By adding the milder sin of negligence to the list, the Board will have a tool appropriate to its principal task.

What constitutes negligence in the preparation of a geological report? In Black's Law Dictionary, **negligence** is defined as: "the omission to do something which a reasonable man guided by those ordinary considerations which ordinarily regulate human affairs, would do, or the doing of something which a reasonable and prudent man would not do . . . it results whenever a man fails to exhibit the care which he ought to exhibit, whether it be slight, ordinary, or great . . . it is

(Continued on Page 2)

NOVEMBER PPG DEADLINE OCTOBER 13, 1981

JANUARY '82 PPG DEADLINE DECEMBER 3, 1981

SECTION SUPPORTS IMPROVED PROFESSIONAL STANDARDS

(Continued from Page 1)

characterized chiefly by inadvertence, thoughtlessness, inattention and the like, while 'wantoness' or 'recklessness' is characterized by willfulness . . . Negligence or carelessness signifies want of care, caution, attention, diligence of discretion in one having no positive intention to injure . . . 'Negligence' is not synonymous with 'incompetency', since the competent may be negligent."

Most of us can visualize how this definition might apply to a geological report: In petroleum, the well-file not checked (or perhaps the dry hole omitted from the prospect map), the canyon not traversed, errors in contouring, a geometrically-misleading cross-section, the reference not checked; in engineering geology, the auger holes not drilled, the tests not run, the prior report not incorporated; in geophysics, the traverse not tied, the lateral velocity gradient, terrain correction, etc., not applied. And any earth-scientist can recall — often painfully — many other pitfalls into negligence. Those of us who prepare reports for internal use by our companies have these faults called to account by our technical management, and Section 7860 does not apply to us. The public needs a similar protection.

The passage of AB 2175 would, at long last, give to the Board a means of ensuring that geologic reports prepared for the public consider all necessary elements, and treat them correctly. The Board has already distributed, to all registered geologists and geophysicists checklists and guidelines prepared by the California Division of Mines and Geology for various types of geological and geophysical reports. They have no intention of prescribing a rigid format or content; however, a quick review of these guidelines in the early stages of report preparation will ensure that no vital factors have been overlooked.

Pacific Section members are urged to write their State legislators in support of AB 2175. Its passage will set in motion a significant upgrading of our professional standards.

AAPG NEWS

TULSA, Okla. — The United States began the 1980s with a definite movement toward energy independence, with increases in exploratory drilling activity, discoveries of oil and gas, and especially important, in the number and success of new-field wildcat drilling, according to a report released by the American Association of Petroleum Geologists for North American Drilling Activity in 1980.

Exploratory drilling in the United States in 1980 increased 13.7 percent over 1979, while 1980 new-field wildcat wells increased 9.7 percent over 1979. More importantly, the percentage of exploratory wells productive of oil or gas reached an all-time high of 30 percent in 1980, and the success rate of new-field wildcat wells (becoming producers) was 19.1 percent, 1 percent over 1979.

New-field wildcats are the most significant kind of exploratory tests because of high risks in drilling but a great potential for discovering new and large reserves. A new-field wildcat is a well located on a structural feature or other type of trap which previously has not produced oil or gas.

The AAPG report indicated that total drilling activity in the United States increased 21.8 percent form 1979 to 1980, with a footage increase of 18.8 percent. During 1980, the U.S. petroleum industry drilled 54,723 miles of hole in a total of 62,462 exploratory, development, stratigraphic and service wells.

The greatest activity in the United States, accounting for 66.8 percent of all U.S. wells, was in Texas (19,253 wells), Oklahoma (9,073), Kansas (5,161), Louisiana (4,956), and Ohio (3,269).

The report also showed increases in drilling in Canada and Mexico in 1980. Canadian activity increased 22.7 percent over 1979, with a footage increase of 34.7 percent. The Canadians experienced an all-time high of 58.3 percent success for new-field wildcat discoveries.

In Mexico, 1980 drilling activity increased 30.3 percent over 1979, with a footage increase of 28.3 percent.

With 62,462 wells drilled in the United States, 9,188 in Canada and 434 in Mexico, the 1980 total for North American drilling activity was 72,084 wells, an increase of 22.0 percent over 1979.

The AAPG Committee on Statistics of Drilling reports North American drilling statistics annually. The committee chairman, Robert R. Johnson, is with Chevron U.S.A., Inc. in San Francisco.

Having nearly 30,000 members world wide, AAPG is the largest geological society in the world, devoted to promoting the science of geology, especially as it relates to energy resources.

SAN FRANCISCO WELCOME

(Editor's note: In case you missed John's welcoming speech in San Francisco, here is a reprint of what he said.)

Good Morning,
Delegates and Guests:

It is my pleasure to welcome you, on behalf of the Northern California Geological Society, to the annual A.A.P.G. convention. This year's theme is appropriately called "Energy Bridges to the Future", and is being held in a city famous for its bridges.

Of course, we all realize that the primary function of the bridges is to hold San Francisco in-place and prevent the City from moving along the San Andreas Fault!

It has been 19 years since we last met in San Francisco. Within this short span of time the geosciences have taken a quantum leap forward thanks to the efforts of many of the people here today. The accomplishments of the past two decades would, however, not have been possible were it not for the preceding 100 years of field work and the observations made by dedicated earth scientists.

We are fortunate to live during this transition period in the petroleum industry, and to have such a firm foundation of past geotechnical accomplishments upon which to build our energy bridges to the future. The superstructures of our bridges will require different techniques and tools, some of which will be unveiled here during the next few days. Some people will not understand or agree with our methods, just as in the 1930's many people believed that the Golden Gate Bridge could not be built on a foundation of sheared serpentine in a seismically active area, across strong tidal currents. Yet, the bridge is now a landmark, and I have every confidence that the energy gap can be bridged by the geoscientists of today.

San Francisco has progressed through many transitions from its Mission and goldrush beginnings into the cosmopolitan center it is today. We have cable cars next to the most advanced form of rapid transit, we have Mission Dolores, Fort Point, Ferry Building and the Old Mint surrounded by modern highrise structures. I invite you to tour our City on foot to appreciate its greatness, and I hope that your stay in San Francisco will be informative and rewarding.

John T. O'Rourke, President, NCGS

Bakersfield Short Courses

Stanley E. Karp, Professor of Geology at Bakersfield College, and staff have just completed arrangements to offer the following three AAPG Short Courses at **Bakersfield College:**

November 20-21, 1981, Tor H. Nilsen, U.S.G.S., "Modern and Ancient Deep-Sea Fan Sedimentation and Turbidite Sedimentation in California."

February 5-6, 1982, John C. Crowell, University of California, Santa Barbara, "Working with California Tectonic Problems."

April 2-3, 1982, Jozsef Toth, University of Alberta, "Groundwater Flow in Drainage Basins and its Relevance to Hydrocarbon Exploration."

Each course is scheduled for nine hours; three hours on Friday evening and six hours the following Saturday.

Where In the World Will We Get Our Oil in the 1980's?

—L.F. "BUSTER" IVANHOE (MinE42)
Certified Petroleum Geol.,
Occidental Exploration &
Prodn. Co.

(This is from an abstract of a speech delivered at the annual meeting of the Pacific Section of American Assn. of Petroleum Geologists in Bakersfield, CA on April 10, 1980.)

I used to be very enthusiastic about future oil and gas supplies, that was when my task was to develop plays in a single California basin. However, after being assigned the job of deciding where to look for the best oil prospects anywhere in the world, my reading expanded and I found that the supply picture is not as rosy as suggested by the *Reader's Digest* or liberal newspapers. It is much more complex.

In 1973 *I knew* that the U.S. would not commit economic suicide. Today I am not so sure. Anybody who thinks that our government can't mess things up still believes in Santa Claus. Most Americans still do not believe that there is an oil shortage, so we continue to have politics as usual, wherein all depends on whose ox is gored.

. . . This is how I see the main problems and where we will get our oil in the 1980's.

1. *Size of the Problem*

The energy problem is so BIG that nobody can be either unbiased or understand it all. Everyone stresses one side of the problem. The U.S. is the world's biggest oil consumer and uses one third of the world supply. We now use some 24,000,000,000 gallons of oil per month (= 18.5 MM B/D). A 1% miscalculation in the supply is 240,000,000 gallons — more than most nations consume. Only seven countries in the world use more oil than the 10% of our supply that we burn for electricity alone. *We now import almost ½ our oil.* In 1978 we found only 7% of our consumption in new fields. We are living far beyond our means.

2. *Public Is Loath To Listen*

The U.S. public wants to listen only to the super-optimists who tell them that, energywise, they do not have cancer and that their headaches will go away. From 1932-1970 the U.S. had surplus oil production, and the public cannot believe that the U.S. is no longer in the driver's seat.

3. *Cost of Energy*

If there is enough money available, the engineers can shoot a man to the moon, However, energy for public use must be cheaper than the human power it replaces. There is an economic limit even to the price of diesel fuel to run farm tractors. Many countries farm with animals. In the U.S., energy was so cheap, for so long, that people took it for granted, like water. Cheap energy is now gone, and adjustments will be very costly and inconvenient.

4. *Worldwide Market*

Americans must now accept that:

A. The fuel market is worldwide, and

B. Sovereign states do not consider themselves to be bound by commercial contracts.

This may surprise the U.S. public who seem to think only *we* have shortages. In other countries, the U.S.A. is considered to be a part of the world's energy *problems* on a par with OPEC. U.S. energy policies (or lack thereof) affect the entire world because of our great consumption. Foreigners have absolutely no sympathy for U.S. energy problems. Americans should not be so self-centered as to assume that the other nations will all stand aside and let the U.S. burn up the world's supply of oil while they do without. Oil is fast becoming too valuable to burn. Economists tell us that we must increase our total energy/oil consumption by 1%/year to maintain a minimum economic growth rate. Unfortunately, there are not indications that we will actually get that much oil during the 1980's.

5. *North American Neighbors*

Don't count too much on these.

Canada already imports over *30%* of its oil, so will have little to spare for us.

Mexico's discovery rate and oil reserves are very impressive. However, their potential is irrelevant if they have no oil to sell us. Mexico is hardly on a honeymoon with its big gringo neighbor and is unwilling to become a U.S. oil colony. They are rapidly contracting their oil exports to Europe, Japan, Canada, Brazil, etc., and have no problem finding customers. Mexico's 1979 imports to the U.S. averaged about 500,000 B/D, or less than 3% of our consumption.

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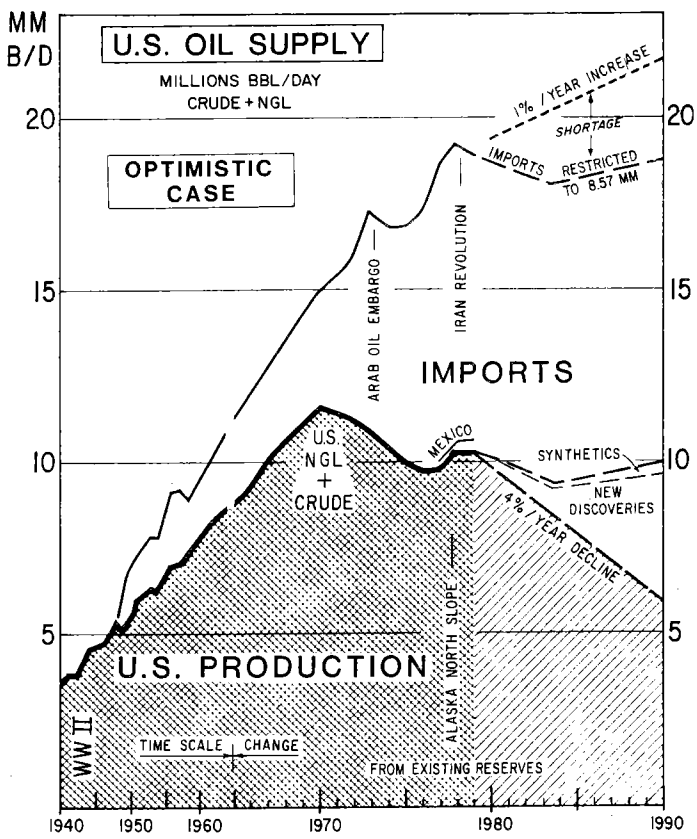

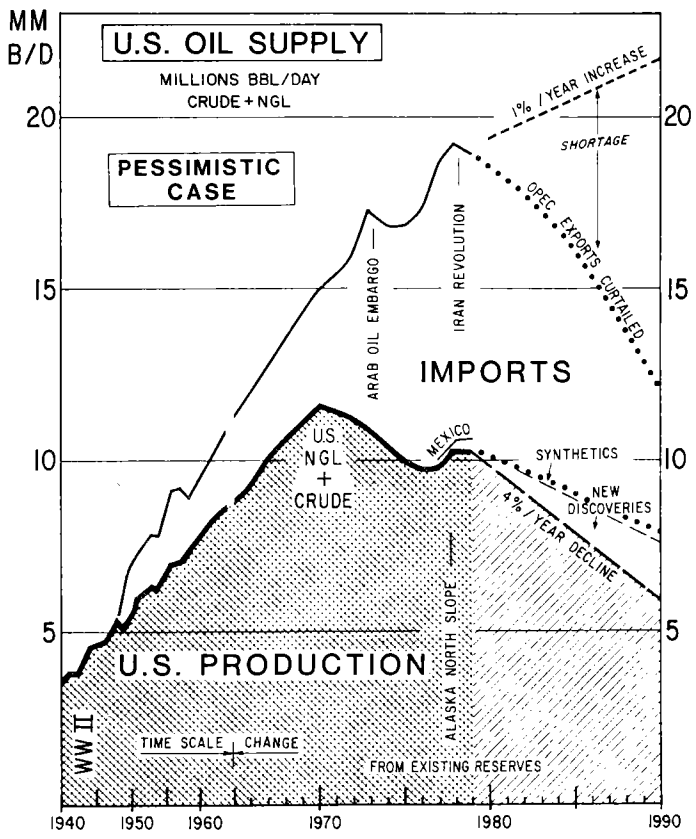

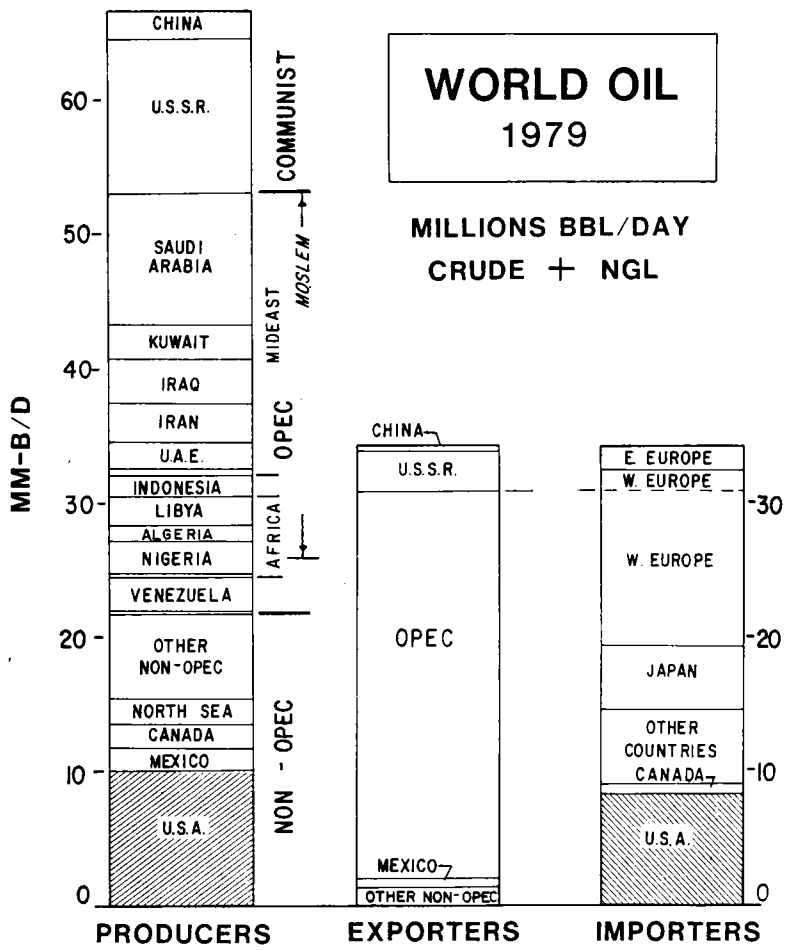

Where In the World Will We Get Our Oil in the 1980's?

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6. *OPEC Countries*

Ten OPEC nations control 85% of the world's oil exports. OPEC will control the world's oil supply and prices from now on, because only they have a big surplus of oil. We should not count on getting all of the oil that we want from the OPEC countries. We have neither a carrot nor a stick to influence them. They can get more money by selling less (refined) oil at higher prices, which will make their oil last longer. The Arab countries have a hard time spending what money they already have.

OPEC is 88% Moslem. Political pressure by Moslem governments can be expected to increase. Arab politics are incomprehensible and unpredictable to Westerners. Other countries have problems with them that we rarely hear of. For example, Iran recently cancelled all contracted oil to the Philippines because President Marcos is trying to put down a Moslem rebellion in that country. There is little or nothing that a country can realistically do to retaliate against such unilateral actions. The marines cannot guard all potential sabotage points along the entire distance form wellhead to an overseas refinery. Tankers are extremely vulnerable. An obvious prediction is that rich and vulnerable Saudi Arabia and Kuwait will have serious troubles during this decade. These two key oil nations, with 37% of the world's reserves and 19% of all production, are sitting ducks and will be the greatest booty in history.

7. *USSR Imports*

The USSR now produces about 17% of the world's oil and 10% of the exports. The CIA predicts that the USSR may cease to be a major exporter and become a net importer of oil after 1985. Where and how the Soviets will fill their oil needs thereafter will be a major problem to the world. The Soviets can be expected to increase pressure on nearby OPEC countries of the Persian Gulf, because nowhere else has a big surplus of oil. One can write a nightmare best-seller about the consequences.

IN SUMMARY

I hope that I am wrong, but I fear that the U.S. will not obtain all of the oil that we want in the 1980's.

We should hope for the best, but plan for the worst. Over-optimism may bring about a national disaster.

The 1980's will be a most interesting decade—for everybody.

Beaufort Sea Is Target Of Alaskan Oil Search

The search for Alaska's next giant oil field is focusing on the icy waters of the Beaufort Sea off the state's North Slope.

At least seven exploratory wells are planned for this winter's drilling season as operators accelerate the exploration of tracts that drew high bids of $1.056 billion at the joint federal-state sale in Fairbanks in December 1979.

Both Sohio and Exxon have ambitious drilling plans. Each company plans to drill three wildcats. Amoco also plans to drill.

Last winter Sohio drilled three tests. One flowed at a 4,400 barrels-per-day rate. At least one of the others had significant hydrocarbon shows.

For the future, the federal government is betting on Alaska's offshore basins as the nation's best hope for more energy self-sufficiency.

The Department of Interior recently announced details of a proposed five-year offshore oil and gas leasing program that calls for 16 sales in Alaskan waters.

In preparation for the proposed sales, 18 companies with Arco as operator plan to spend more than $150 million to drill three stratigraphic tests during 1982 and 1983 in the Bering Sea off the west coast of Alaska.

The tests are to be drilled in the St. George Basin, North Aleutian Shelf and the Navarin Basin.

Onshore another area is about to open up for wildcatting. The Bureau of Land Management on Dec. 16 plans to hold the first lease sale in the National Petroleum Reserve-Alaska, offering about 1.5 million acres. NPR-A formerly was Naval Petroleum Reserve No. 4.

The state of Alaska also plans to offer wildcat acreage. The state's leasing schedule envisions 13 sales from 1982 through 1985.

In the Prudhoe Bay area, work continues on two major projects designed to recover more oil from proved reservoirs, including a massive waterflood for the Prudhoe Bay field's Sadlerochit sand, which is the field's prime pay, and a drilling and development program for the Kuparuk River field west of the Prudhoe Bay field.

The waterflood, which carries a price tag estimated at $3 billion, calls for injecting 2.2 million barrels a day of sea water and 1 million barrels per day of produced water to flood the Sadlerochit reservoir.

The project is designed to add approximately 1 billion barrels to recovery from the field.

At Kuparuk River, initial development is centered on a 210-square-mile area with an estimated 3.5 billion to 4.4 billion barrels of oil in place.

Production is expected to begin at the end of the first quarter of next year at a rate of 80,000 barrels per day, rising to 200,000

(Continued on Page 6)

MEMORIAL TO WALTER S. HARRIS

The geologic profession has lost an extremely creative and prolific geologist. Walter S. Harris died suddenly of a heart attack on June 12, 1981 at the age of 48.

Walt graduated from UCLA with a B.A. in Geology in 1955 and received his M.A. degree in Geology in 1958 also from UCLA.

He then began his geologic career with Texaco in Santa Maria, working on that area and the Salinas Basin. He was then transferred to Bakersfield and worked the San Joaquin Valley and Alaska, later becoming Bakersfield district geologist. The California and Alaska experiences combined to give him a strong background in structural geology. He joined Occidental Petroleum Corp. in Bakersfield in 1966. While at Oxy, Walt obtained a broad and varied experience in national and international petroleum exploration. He worked on developing prospects in California, Alaska, Oklahoma, Greenland, Pakistan, Russia, Europe, and was one of the key contributors to Oxy's efforts in the North Sea.

In 1973 he left Oxy to become Vice President and Exploration Manager for Cleary Petroleum in Oklahoma City. It was here about eight years ago that he had his first heart attack. He miraculously survived this and had a "by-pass" operation which may have been responsible for extending his life by these eight years.

Walt really was never completely satisfied working for someone else. He was very much a perfectionist; perhaps this is why he worked best on his own. In 1974 he began his career as a consulting geologist, eventually locating in Walnut Creek, California. During this period in his life he became a prolific generator of geologic reports. He wrote very extensive geologic reports on the Gulf of Alaska, the North Slope of Alaska, and the Bering Sea, and in cooperation with Peter van de Kamp, the Southern Hingeline-Overthrust Belt. Each of these reports involved a significant task of gathering, compiling, assimilating and synthesizing of data to create an accurate geologic picture of the area. Just a few months ago he completed a total revision of the "Geology of the North Slope of Alaska".

We remember Walt for his enjoyment of the High Sierra. He loved backpacking, fishing and skiing. He was a fine craftsman as a geologist and was equally a fine craftsman in woodworking; having made beautiful hand-crafted furniture as a hobby.

Walt met his wife, Charlotte, while at UCLA and they were married in 1957. They have raised three lovely daughters. Lisa, the oldest has recently graduated in architecture from U.C. Berkeley and is employed by a firm in the Bay area. Dianne is attending U.C. Berkeley as a junior studying landscape architecture, and Lynn is in high school in Walnut Creek.

Walt died while in the process of building his cabin overlooking Lake Tahoe. He was doing this with the same enthusiasm that he approached life in general.

I will miss Walt personally as will all his friends in and out of the geologic profession.

John A. Carver

Los Angeles

Many thanks are extended to the Los Angeles Basin Geological Society luncheon speakers for June and August. In June Thomas Baldwin presented "Sea Floor Spreading — Continental Flexing — The Shape of Our Earth". Dr. John Cooper spoke on "Late Cambrian Depositional Environments and Paleogeography, Southwestern Great Basin" in August.

More than 100 L.A.B.G.S. members, spouses, and geoscience students from local universities attended the annual summer picnic on Friday, July 10 at the Los Angeles Department of Water and Power facilities at Stone Canyon. The society would like to express its appreciation to the L.A. Department of Water and Power for donating their facilities and to Gearhart Industries who supplied both a cooking trailer and volunteer help. Special thanks are extended to Doug Traxler of Brea Oil Company who organized the entire event.

The Fire and Ice Dinner Dance Committee has reported on the scheduling of the annual event. The dance will be held on Saturday, November 21 at the Woodland Hills Country Club. Look for a future announcement for reservations and additional details.

Edward Paden

Coast

The Coast Society is pleased to announce its officers for the 1981-82 year. They are: President, Tom Hopps; Vice-president, Keith Whaley, Union; Secretary, Ed Magdalano, Exxon; Treasurer, Susan Krosky, Conoco. The first event for this year will be the annual Fall Barbeque to be held in September. This function should serve as a welcome prologue for the year to come.

The outgoing officers wish to express their appreciation to all those who helped make the 1980-81 year a success. A special note of recognition is in order for Bill Reay and his Union cooking crew. Their culinary skills are a definite asset to the Coast Society.

Personnel News

Union tops the list in employee news by their hiring of six new geoscientists. They are: Sherry Schullser, UCSB, geologist; Gary Becherman, USC, geologist; Jane Ellis, SDSU, geologist; Pat Prout, formerly with Gulf, geophysicist; Ken Mewsham, formerly with GO, geologist; Duane Cavitt, formerly with Conoco, geologist.

Geophysicist Charles Perryman has transferred to Ventura from Union Oil of Canada. Union geologist John Matthews has been promoted to District Development Geologist for the Midland district. Former Union geologists Kirk Hindley and Dick Dyrhman have assumed positions with Buckhorn and Weyerhauser, respectively.

Exxon has added three geologists to its Ventura staff: Roger Griffith, a new hire; J. H. Beeson, who comes to Ventura via minerals exploration; and Jim Siegmann, who left Century City for Ventura.

Conoco has two new hire geologists on their staff. They are Tom Harnett and John Gaynor, both from USC.

Marc Traut

San Joaquin

S.J.G.S. FALL BAR-B-QUE

San Joaquin Geological Society's annual FALL BAR-B-QUE with GOLF and TENNIS TOURNAMENT is to be held FRIDAY, SEPTEMBER 25th at the KERN RIVER PICNIC GROUNDS. The welcome is out for YOU.

PICNIC . . . 4:30 P.M. . . . $11.00 (at the gate) . . . KERN RIVER PICNIC GROUNDS.

GOLF TOURNAMENT . . . $10.00 (pre-paid) . . . KERN RIVER GOLF COURSE . . . for starting times call REINHARD SUCHSLAND (Depco) 805-834-6844.

TENNIS TOURNAMENT . . . $12.50 (pre-paid) . . . RIO BRAVO TENNIS RANCH . . . for additional information call LEO FEDEWA (Airline) 805-327-1300.

Reservations with accompanying checks are required for the golf and tennis tournaments: San Joaquin Geological Society, P. O. Box 1056, Bakersfield, 93302.

ANY QUESTIONS — call GEORGE. George Kendall (OXY) 805-395-8556.

(Continued on Page 6)

San Joaquin

(Continued from Page 5)

PERSONNEL MOVES

JAMES R. DOTY, geophysicist, joined OXY's, Domestic Exploration — Wester Division on August 3, 1981. Prior to this time, Mr. Doty was working as a consultant in Visalia.

Petroleum Information's, GEORGE BURNETT, will be transferring to P.I.'s, Houston office in October. ED MILLER willbe replacing George here in Bakersfield.

AMATEX CORPORATION (311 Fairway Dr., Bakersfield, 93309 — 805-398-2262) is FRANK AMATO — Petroleum Consultant. Frank resigned from Oxy, June 30, 1981, after 12½ years in Latin American Exploration.

LES HERNDON, first he transfers from Bakersfield to Denver, then after about a year, he moves again. This time, he didn't even leave the office building, but he did change companies. After 12 years of scouting for ARCO, Les joined forces with Petro-Lewis in Denver, as Chief Scout. Les says "hi" to all his "Pacific Section" friends, and anytime you're wanting to chat, just give him a call (303-620-1439).

From Dallas to Bakersfield to Houston — maybe he's just a Texan at heart or maybe he missed those rainy days for which Texas is famous; either way, DAVE CALLAWAY left us to accept a transfer and promotion, August 3rd, with ARCO Exploration Company's Houston office. Dave is now Regional Exploration Manager for South Texas. ARCO, also, promoted BILL BAISLEY from Senior Area Geologist to Province Exploration Manager for Onshore California and Santa Barbara Channel.

QUINTANA PETROLEUM CORPORATION (Frank Cressy) has moved into its new offices at 1321 Stine Rd., Suite B-1, Bakersfield, 93309 (805-398-5651).

JOE DUNWOODY, Consulting Geologist for Florida Exploration Company is now located at 1717 – 28th Street, Bakersfield, 93301 (805-395-0377).

WES FRANKLIN changed responsibilities at Tenneco, trading his position as Division Geologist in Exploration for one as Division Geological Engineer in Production. Bob Hunt, formerly Assistant Chief Geophysicist with the Houston office, transferred to Bakersfield to fill the slot of Division Geologist vacated by Wes.

GULF OIL has added 3 new geologists to their exploration staff: Mike Campbell, Mike Wilson, and Steve Sanford. All are recent graduates who are now developing plays in California and Nevada.

GETTY OIL COMPANY, Western Exploration moved to 5329 Office Center Court, Bakersfield, 93309 (805-325-9599). New mailing address is P. O. Box 11148, Bakersfield, 93308.

Joining Getty's Exploration department at their new office are TONY REID, geologist, transferring from the production department; TIM MORRE, geologist, from the U.S.G.S.; FRANK VICTOR, geophysicist, from Tulsa; and JOHN KOVACS, geophysicist, from Columbia Gas, Columbia, Ohio. There are a couple of faces that won't be seen at the new address, GARDNER PITTMAN and BRAD NEWMAN. Gardner Pittman accepted the position of District Geologist for Getty's Denver office. While in Bakersfield, he was District Development Geologist. BRAD NEWMAN transferred to the Ventura office as District Development Geologist in July.

TALOCO INC (Ron Waddell) opened its office at 406 Chester Ave., Bakersfield, CA 93304 (805-327-4194).

de-ja-vu ... Chevron advertising for geologists to work in the Bakersfield area.

PROMOTIONS, TRANSFERS and NEW HIRES is news that we're all interested in hearing. To share this news with others, please call Magi Nielsen (OXY ... 805-395-8275).

PACIFIC SECTION — AMERICAN ASSOCIATION PETROLEUM GEOLOGISTS

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Recommended Reading ..... LUCY E. BIRDSALL (213) 688-2850

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PUBLICATIONS COMMITTEE: Pacific Section American Association of Petroleum Geologists, P.O. Box 4164, Thousand Oaks, CA 91359.

Alaskan Search

(Continued from Page 4)

barrels daily when the field is fully developed.

The state's wells are putting out 1.58 million barrels daily, compared with 2.59 million barrels per day for Texas, the nation's No. 1 producer.

Runners-up are Louisiana, 1.23 million barrels per day; California, 1.04 million barrels per day; and Oklahoma, 441,000 barrels per day.

—Bill Rintoul

NEWSLETTER
Pacific Section A.A.P.G.
P.O. Box 1072
Bakersfield, California 93302

Richard L. Hester
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Glendale, CA 91208

DA-AM

PACIFIC PETROLEUM GEOLOGIST NEWSLETTER

of the Pacific Section
American Association of Petroleum Geologists

SEPTEMBER – OCTOBER 1981

LEGISLATION

California Legislators have decided against a bill to prohibit the deduction of the "windfall profts" tax from corporate income tax returns. In late August, a scheduled vote on Rep. Lawrence Kapiliff's (D-San Diego) bill in the Senate revenue and taxation committee failed to occur as only four members of the nine-member committee were in attendance. It was the last opportunity this year. Under the provisions of the bill, the "windfall" tax payment would no longer be considered a business expense, eligible for a cost deduction. Producers and royalty owners in the State would have been required to refile 1980 tax returns, paying additional taxes for the year, as the bill's effective date would have been retroactive to January 1, 1980.

A court order requiring the Interior Dept. to refund more than $220 million in bids it received on 21 contested tracts in a Southern California offshore lease sale was overturned by a federal appeals court in August. The decision concerns 21 Santa Maria Basin tracts which were enjoined by district court Judge Mariana Pfaelzer prior to their offering in Outer Continental Shelf Sale #53. The appeals court did order, however, that the enjoinment remain in effect until the case is resolved. **Initial arguments are to begin in January, 1982,** with briefs from both the State and Interior to be submitted by the end of October. Interior appealed Pfaelzer's contention that the federal government violated the Coastal Zone Management Act when it proceeded to lease offshore acreage "directly effecting" state coastal areas. The state is still expected to appeal charges against Interior's lease sale that were dismissed by Pfaelzer.

In Oregon, a bill to place a five per cent severance tax on Oregon oil and gas production has passed both houses and awaits the governor's signature. The tax is the first production levy in the state (in addition to property taxes) and was limited to six per cent or less under a constitutional amendment passed by voters last year. Industry believes, however, that the tax is in anticipation of future offshore leasing in state waters, rather than Mist Field in Columbia County.

PAC SEC REVIEW OF DEIS-OCS SALE #68

The Pacific Section has reviewed the Draft Environmental Statement (DEIS) for OCS Lease Sale No. 68 and recently submitted 16 pages of comments to the Pacific OCS Office of the Bureau of Land Management. This review, and testimony at public hearings July 28-31, 1981, was prepared and presented by a panel including Bruce Barron, John F. Curran, Dr. Peter J. Fisher, Donald E. Hallinger, L. F. Ivanhoe, Jack R. Sheehan, Dr. Harold H. Sullwold, and chaired by Thomas L. Wright (immediate Past President of Pacific Section and currently chairman of its Public Affairs Committee.)

SBRGG MEETINGS

The State Board of Registration for Geologists and Geophysicists have scheduled meetings:

Nov. 15, 1981 in San Francisco
Feb. 16, 1982 in Sacramento
March 16
April 19
May 25
June 22

These meetings are open to the public. Direct inquiries to Donald Hallinger, who represents petroleum geologists, Mgr. of Exploration, Pacific Gas & Lighting, 720 W. 8th Street, Los Angeles, Ca 90017.

ALASKAN OFFICIALS HALT SEISMIC TESTING FOR OIL IN THE BEAUFORT SEA

ANCHORAGE—State officials ordered a halt to seismic testing for oil in Alaska's Beaufort Sea after Eskimo groups complained that blasting could endanger the annual fall migration of the bowhead whale.

The order, handed down by John Katz, Alaska's natural resources commissioner, revokes all permits for seismic testing in state-owned waters but hasn't any impact on federal leases in the area.

Mr. Katz said he was halting testing "until we're sure that there won't be any harm to the whales and whaling activity."

North Slope borough officials and whalers last week threatened to sue the state if seismic exploration was allowed to continue. A borough official said yesterday that he was satisfied with the order. "We aren't proceeding with any judicial action at this time, since our major objective—which is to stop seismic activity—has been accomplished," the official said.

Only one company, Energy Analysts Exploration 48 Inc., is conducting testing in the area off Alaska's Northern coast.

The order means the state won't permit any further testing this year unless the whale migration is completed earlier than expected.

PORTION OF ABSTRACT OF ROBEY CLARK'S "BRIDGING THE ENERGY GAP"

(Editor's Note: Robey's plan was fully presented in the July issue of the AAPG EXPLORER.)

In spite of dire predictions by officials of government, anti-petroleum groups and even some industry spokesmen, that petroleum production in the United States was in a period of irreversible decline, domestic petroleum production has actually increased in many states in 1980. President Robey H. Clark, in his Presidential Address on June 1, 1981 to the American Association of Petroleum Geologists' annual convention in San Francisco, discussed the success of the recent increased exploration efforts and the prime central role and responsibility that petroleum geologists have in the exploration process.

The decline and recovery of the domestic petroleum industry may be chronicled by comparing the rotary rig count with the number of well completions (Figure 1). The rotary rig count decreased from 1955

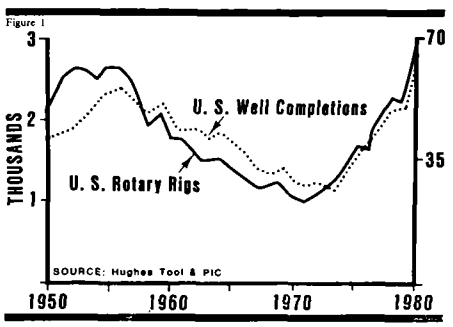


Figure 1

(continued on page 2)

"BRIDGING THE ENERGY GAP"

(continued from page 1)

to 1971. Then, spurred by the combination of new science, new technology, higher prices, and a deteriorating international scene, the rig count began an upward climb. From 1971 through 1980, rig count has more than tripled; it is still rising. Today, there are about 3,800 rotary rigs running. Well completions parallel the rotary rig count. The trippling of the rig count has confounded the defeatists who said that production of domestic oil and gas was in a permanent decline.

The increased drilling and completion rate has been successful in providing the United States with increased amounts of oil and gas. In 1980, the domestic production decline was reversed in many states. Of the states with production from the land or adjoining offshore continental shelf areas, sixteen states have shown increased oil production and eighteen states have shown increased gas production.

The increased level of exploration has enabled the United States to maintain proved reserves of approximately 27 billion barrels (10-15 times the annual production rate) about the same reserve cushion that has existed since 1950. (Figure 2).

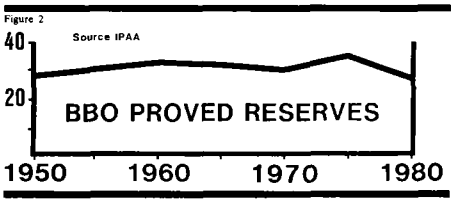


Figure 2

In the intervening years, some 89 billion barrels of oil were produced, but the remaining reserves are still about the same. New ideas and new technology in exploration and production have enabled the industry to keep the reserve level relatively constant, all the while making the United States the leader among nations of the most oil produced over the years. We still rank a high third in daily production behind Russia and Saudi Arabia.

A continuing high level of domestic petroleum exploration will result in new basins being brought into production, mature basins being re-explored and new productive zones being found in old fields. The oil and gas resource base is so large that with a vigorous exploration program, it would not be surprising to see the proved reserve number change little over the next 30 years. Several large provinces are just beginning to show their productivity potential.

The biggest contribution to new supply will most likely come from Alaska (Figure 3). Significant reserves have already been located. For instance, near Prudhoe Bay, hydrocarbon discoveries have been made at Pt. Thompson, Milne Pt., Gwydyr Bay, and Sag River. Already a major field has been developed at Kuparuk River. A world-class structure with a predrilling potential as large as Prudhoe Bay is located in the northwest corner of the Alaskan wildlife range, and the industry will soon bid for exploration rights in the National Petroleum Reserve #4 to the west. To the north is the Beaufort Sea, which many well-informed explorers think will ultimately become the nation's most prolific oil province. An additional half million barrels a day from northern Alaska is a reasonable target.

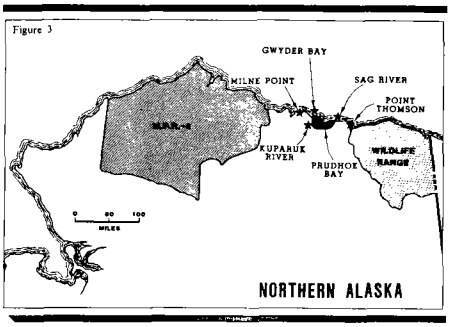


Figure 3

Huge areas within the continental United States offer tremendous oil and gas potential with continuing, aggressive exploration. The very large Williston Basin is one example. After first flowering in the 1950's when the Nesson and Cedar Creek anticlines were developed, activity declined. Rejuvenation began in the 1970's when rising prices, better seismic data, and improved production practices brought the basin back to the forefront of exploration and development. Production is now increasing year by year. Three giant fields have been discovered in recent years; Little-Knife, Mon-Dak, and the Billings Nose; all three are to some extent stratigraphic traps. In addition, there are many small structural prospects at the Red River level. Perhaps 100,000 barrels of new oil or more per day can be found and developed in the next few years.

In the last few years numerous large oil and gas fields have been found in the Overthrust Belt of Wyoming and Utah. The area has a gas potential of perhaps 50 trillion cubic feet, and an oil potential of several billion barrels. Dozens of high capacity wells will be ready for the market after outlets and facilities for sweetening of sour gas are installed. This area certainly has the capability of reaching daily production of 2 billion cubic feet of gas and 200,000 barrels of oil and condensate within the next few years.

In the Texas Gulf Coast, the fractured Austin Chalk comprises a regional oil accumulation that is hundreds of miles long, tens of miles wide, and occurs at moderate depths. Giddings Field is the most prolific location found so far and other similar fields are expected in the trend. The chalk trend is located in the heart of the Gulf Coast where there are very few logistical problems. Thousands of wells can be drilled and completed very quickly to add another 100,000 to 200,000 barrels of new oil production per day.

The discovery of gas and condensate in thick, porous and permeable Tuscaloosa sands in deeply buried structures generally below 15,000' has resulted in a rapidly developing major exploration play. Much gas, condensate, and some oil has been found in a 25-mile-wide band from central Louisiana to the Mississippi state line. The trend may, in time, prove to be far more extensive than presently known but, already, the added production potential may be in the order of a billion cubic feet of gas and 100,000 barrels of oil, condensate,and natural gas liquids per day.

Other frontier areas of great exploration potential are Georges Bank off the coast of Massachusetts, the Gulf of Mexico, the deep Anadarko Basin, and offshore California. Mature basins such as occur throughout the Mid-Continent need to be re-explored and re-drilled. Enhanced recovery programs need to be accelerated.

Using a reasonable range of production estimates of the areas just discussed, it is expected that an equivalent barrel production of 1.7 to five million barrels of oil per day might be attained with a deliberate effort to achieve energy independence (Figure 4).

Figure 4

POTENTIAL FOR NEW PRODUCTION

	MMBOE
ENHANCED RECOVERY	.5 to 1.0
NORTHERN ALASKA	.3 to .7
WILLISTON BASIN	.1 to .15
OVERTHRUST BELT	.2 to .4
AUSTIN CHALK	.1 to .15
TUSCALOOSA	.1 to .3
MATURE BASINS	.1 to .3
FRONTIERS	.3 to 2.0
TOTALS	1.7 to 5.0

A high level of petroleum exploration and production must be maintained if we are to bridge the energy gap while alternate energy sources are being brought to practicality (Figure 5).

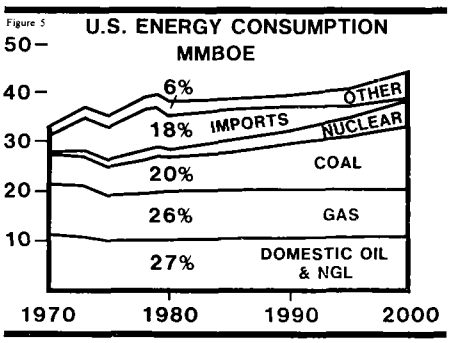


Figure 5

Oil and gas will keep the country functioning without duress while other energy sources assume more important roles in providing the United States with the energy self-sufficiency it must have to maintain the quality of life at home and leadership among nations.

PORE-FILLING CEMENTS IN THE STEVENS SANDS: PRODUCTS OF SHALE DEWATERING, ELK HILLS FIELD, KERN COUNTY, CALIFORNIA

by Lee F. Krystinik

Expanded Abstract

Chemical interactions between turbiditic sandstones and associated shales remain poorly understood, after more than twenty years of sedimentologic investigation. This study shows that cementation of the Stevens sands in the southern San Joaquin Valley was directly dependent upon ionic flux into the sandstones as adjacent shales expelled water.

The upper Miocene Stevens sand (local usage) is a series of turbiditic channel and sheet sandstones within the upper portions of the Monterey Formation. Study of closely spaced cores through the Stevens at Elk Hills Field (as close as one core per quarter section) provided the opportunity to gain insight into interactions among turbiditic sedimentation, tectonics, and diagenesis within a deep and restricted basin. Turbidite channels were penetrated in the western portion of the field and turbiditic sheet sands (Stevens "main body" sands) were encountered to the east (Figure 1). In aggregate, these sands produce more than 80,000 bbl/day from Elk Hills Field.

Deposition of the Stevens was controlled by the paleotopography of the basin. Synclinal troughs channelized and directed density flow. Anticlinal highs deflected flows or ponded sediment until a new depositional gradient could be established. The tendency of density flow to follow synclinal troughs and deflect around anticlinal highs has resulted in the selective exclusion of "proximal" turbidites from cores taken at the crests of early-formed anticlines.

Analysis of lithofacies using core material, well logs, and petrographic data, suggests that the provenance of the Stevens may have been misinterpreted in the past. Instead of a single or limited number of point sources to the east, the Stevens "main body" sand also had sources to the west. The presence of pebble conglomerates, pebbly sandstones, coarse-grained arkosic turbidites, and rare diamictites in down-dip wells in the area of Elk Hills indicates a more "proximal" channel to inner fan depositional environment. The "distal" turbidites on the axis of the Elk Hills anticline are thin and fine-grained because the anticline was already structurally positive during the deposition of the Stevens "main body" sands.

(continued on page 4)

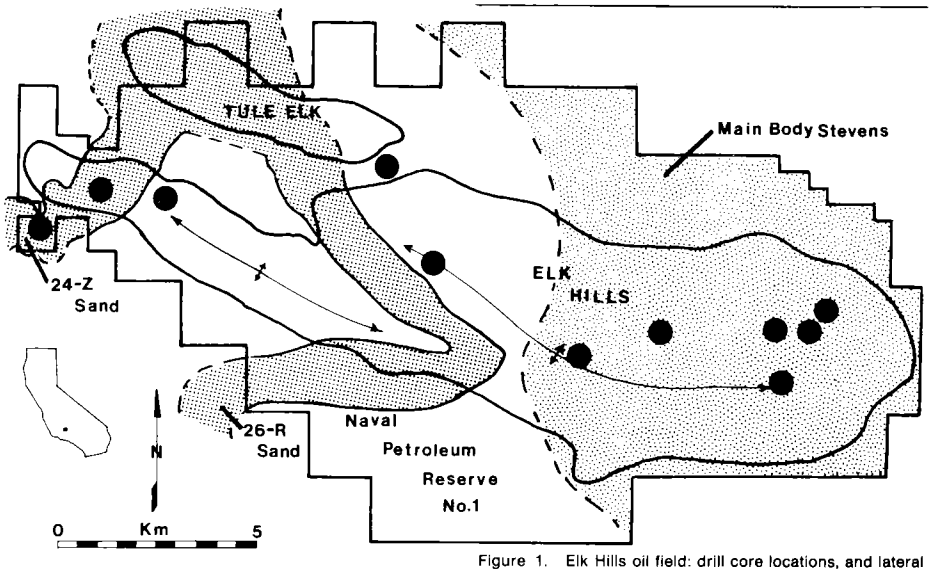


Figure 1. Elk Hills oil field: drill core locations, and lateral extend of the Stevens sheet ("main body") and channel sands (26R, 24Z).

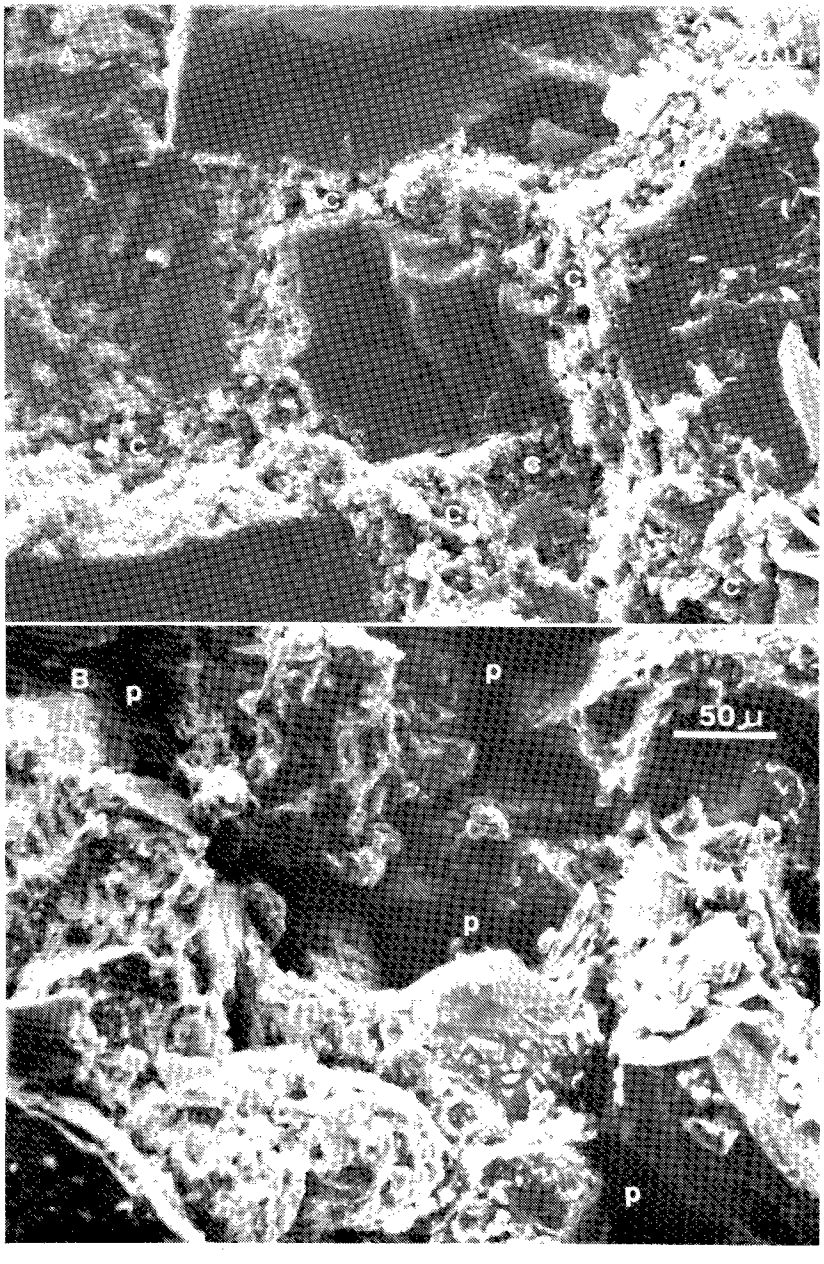


Figure 2. Electron micrographs from (A) base and (B) center of a Stevens sand body (well 32G – 35S 2290 and 2280 m), showing cementation by clay "C" and open porosity "P."

PORE-FILLING CEMENTS

(continued from page 3)

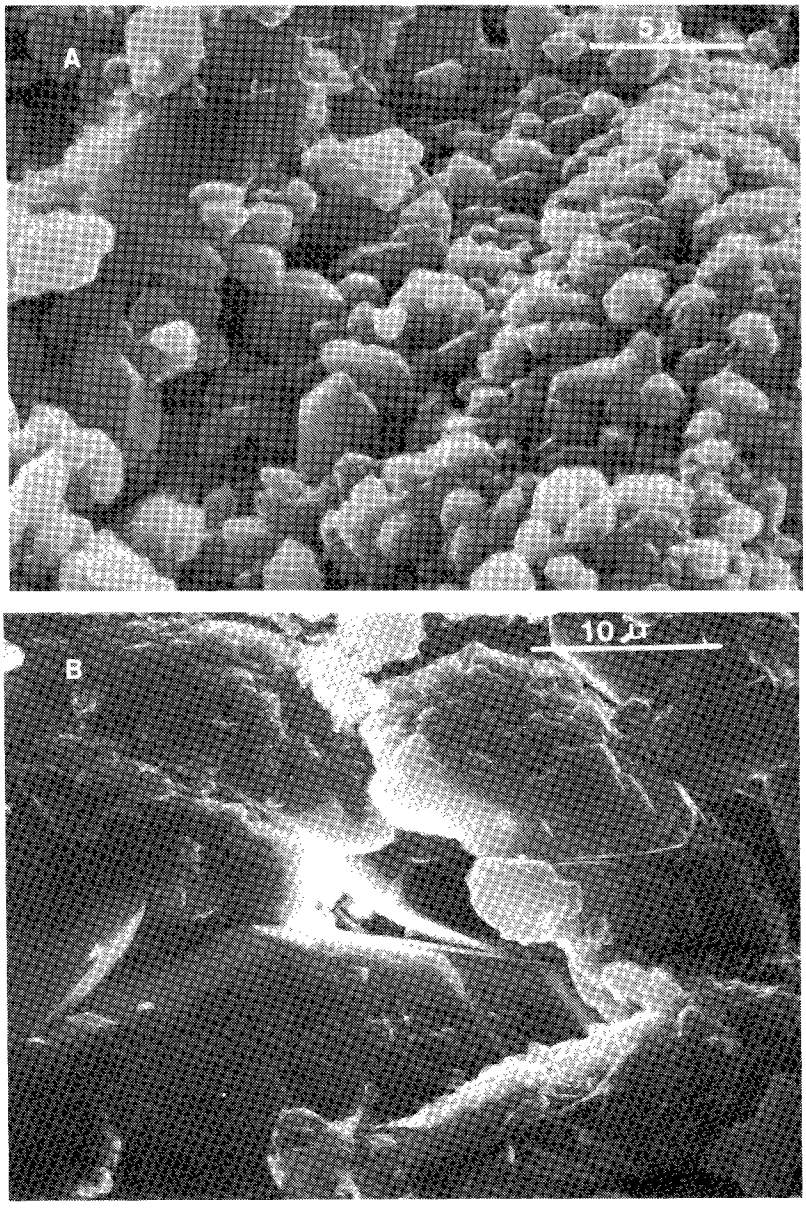
Cementation of Stevens sandstones is most intense near contacts with thick shale bodies. Authigenic clay can fill intergranular porosity so completely that log responses are subdued or reduced to a response characteristic of a shale. The intensity of cementation decreases toward the center of sand bodies, away from adjacent shales. Figure 2 shows two SEM photomicrographs, one of sandstone near a thick shale (A), and the other from ten meters toward the center of the sandstone body (B). Although grain size and sorting are nearly identical, and porosity changes only five percent (22 to 27 percent), the permeability changes nearly four orders of magnitude 0.1 to 1200 md). This disparity is due to the presence of abundant microporosity in the interstices of the authigenic clay, and partitioning of the microporosity by these pore-bridging clays.

SEM-EDS analysis shows that the sandstones and the shales adjacent to them are cemented with the same minerals. Sandstones cemented by quartz, illite, and kaolinite occur adjacent to shales in which authigenic quartz, illite, and kaolinite fill microporosity. Sandstones cemented by calcite are generally in contact with calcareous shale. Potassium feldspar and albite cements occur in sandstones associated with shales that contain these cements.

Framework grains in the sandstones exhibit little or no dissolution. Hornblende, present in trace amounts, is the only framework constituent that is partially dissolved. The lack of alteration in framework grains suggests a source of cement external to the sandstones. In contrast to the sandstones, many shale samples contain partially dissolved volcanic rock fragments, feldspar, mica, and biogenic carbonate.

The crystalline habits of authigenic quartz and albite change with distance toward the center of the sand body, away from the encasing shale. Near the contact with a shale body, authigenic quartz commonly occurs as epitaxial microquartz (< 5 microns in diameter; Figure 3a). In the central portions of thick sand bodies, authigenic quartz is present as large, well-formed, syntaxial overgrowths (Figure 3b). Albite near the borders of sand packets is often finely crystalline, subhedral and highly acicular (Figure 3c). Albite in the interior of the same sand packets is commonly more coarsely crystalline, euhedral and blocky (Figure 3d).

The above observations suggest the presence of an ionic concentration gradient that is highest at sand/shale contacts, and lowest in the central portions of thick sand packets. The unaltered state of framework grains and the evidence suggesting a concentration gradient indicate that the shales encasing the sandstones were the probable source of ions for cementation.



Mass balance calculations support the concept of the dewatering of shale as a source of ions for the cement. About eighty pore volumes of water are needed to precipitate the amount of cement observed. Silica is probably supplied by the degradation of biogenic opal and/or by clay transformations. Aluminum (Al) solubility and transport were augmented by organic acid complexing. Enough Al to satisfy the mass balance calculations can be moved in a 10^{-3} M solution of organic acids at in situ temperatures and pH. The Monterey Formation is rich enough in organic matter to provide concentrations of organic acids in excess of this amount. Potassium and calcium were probably supplied by the dissolution of mica and K-feldspar, and biogenic carbonate respectively.

The nature of diagenesis reported in this study has economic implications relative to the formation of structural-stratigraphic-diagenetic traps. Deposits similar to the Stevens at Elk Hills offer the potential for reserves in untested, off-structure areas (Figure 4). Up-dip portions of these sand bodies may prove non-commercial at their "feather-edge," due to intense pore-filling cementation. However, these sand bodies may be oil-saturated down-dip, offering many possibilities for extended drilling of proven prospects and new plays.

Lee F. Krystinik received his PhD. on the diagenesis of deep-water sandstones, from Princeton University in March of 1981. He is now a Staff Geologist at Reservoirs, Inc., a geological consulting firm. Krystinik is presently engaged in studies of diagenesis to determine the sensitivity of reservoir sandstones in the Mid-Continent and California to drilling and completion fluids. Any comments or suggestion are welcomed: c/o Reservoirs, Inc., 1827 Grant Street, Denver, CO 80203 or at (303) 830-1986.

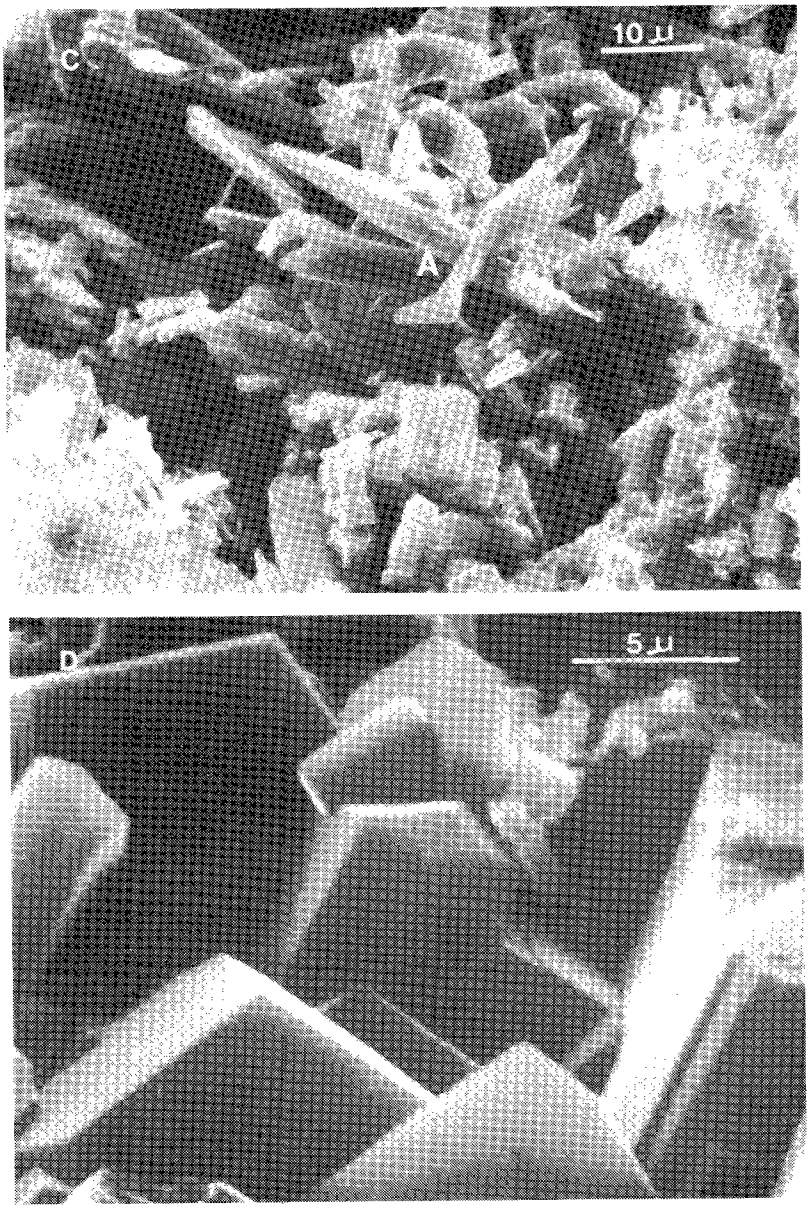


Figure 3. Differential cementation: (A) epitaxial microquartz formed near sand/shale contact; (B) syntaxial quartz overgrowths from the central portions of a sand body; (C) acicular albite "A" from a margin of a sand body; (D) authigenic albite from the center of a sand body. These textures suggest a concentration gradient from the shales into the sands.

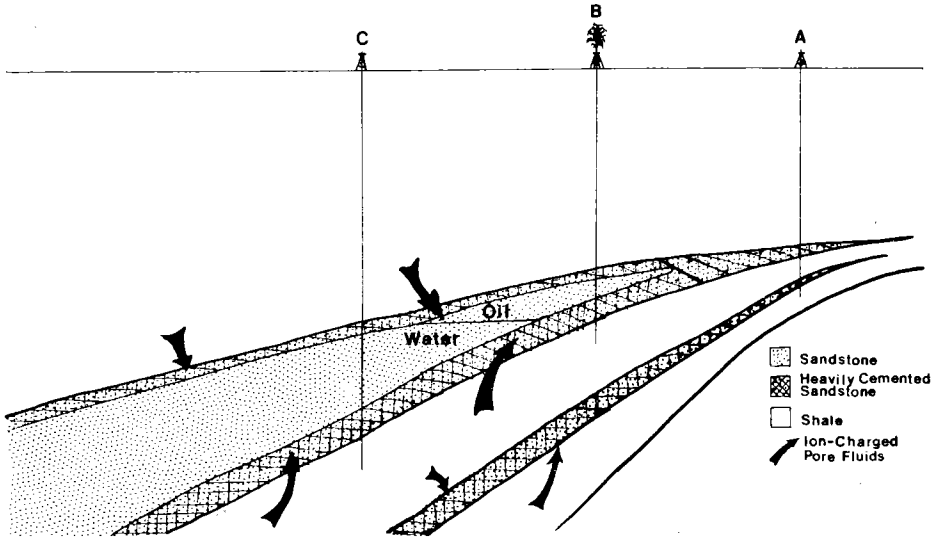


Figure 4. Cementation model for the Stevens sand: A cement rind formed around a sand body can emerge as the sand body thins laterally. If the sand thins onto structure, a combination structural-stratigraphic-diagenetic trap can be formed. Well A encounters oil-saturated sandstone which is too heavily cemented to produce; Well B encounters oil in porous and permeable sandstone; and Well C might encounter heavily-cemented and water-wet sandstone.

MEMORIAL TO RICHARD D. STEWART

Richard D. Stewart, AAPG and Pacific Section member, passed away August 12, 1981 in Rio de Janeiro, Brazil. At the time Dick was Resident Manager and Vice President of Union Oil Exploracao de Petrolia, a subsidiary of Union Oil Co. of California.

Dick was a graduate of UCLA, 1949, and in the same year went to work for Union Oil Co. and joined the Pacific Section. His first job was in the Santa Paula office working Ventura Basin Geology. Later he was promoted to District Geologist for the Los Angeles Basin where he was involved in the discovery and development of the Las Cienegas Field under the City of Los Angeles.

In 1960 Dick was transferred to Union's International Division and worked in many countries all over the world. Most of his time was spent in the Far East and he was one of those responsible for getting Union Oil Co. into the prolific Indonesian producing areas. He was company representative in Thailand for 5 years and paved the way for Union's later discoveries in the Gulf of Thailand.

Dick was well known and liked wherever he went no matter what part of the world. He was a good-will ambassador not only for the Union Oil Company but also for our country as attested by letters from his many foreign friends who responded to his wife, Jean upon hearing of his untimely death.

He is survived, in addition to Jean, by two daughters, Bonnie Baird and Linda Gardner, a son, Neil Stewart and 4 grandchildren.

Dick will be sorely missed by his many friends throughout all walks of life.

John E. Kilkenny

SPE 1982 PRESIDENT

W. Clyde Barton, Jr., is the 1982 president of the Society of Petroleum Engineers. He assumed office Oct. 6 at the SPE Annual Technical Conference and Exhibition in San Antonio, succeeding Arlen L. Edgar, independent oil and gas consultant from Midland, Texas.

Barton is director of production operations, International Oil Division, for Union Oil Co. of California. An SPE member since 1956, Barton has served as chairman of the 1976 California Regional Meeting and the Los Angeles Basin Section and as 1973-74 president of the Los Angeles Petroleum Forum. He was 1977 chairman of the Technical Information Committee.

PACIFIC SECTION AAPG MEMBERSHIP REPORT

SEPTEMBER 25, 1981

NORTHERN CALIFORNIA GEOLOGICAL SOCIETY	
Active	117
Subscriber	22
	139
SACRAMENTO PETROLEUM ASSOCIATION	
Active	30
Subscriber	16
	46
SAN JOAQUIN GEOLOGICAL SOCIETY	
Active	147
Subscriber	80
	227
COAST GEOLOGICAL SOCIETY	
Active	106
Subscriber	40
	146
LOS ANGELES GEOLOGICAL SOCIETY	
Active	106
Subscriber	68
	313
ALASKA GEOLOGICAL SOCIETY	
Active	18
OTHER	
Active—overseas	10
Active—Northwest area	21
Subscriber—Northwest area	2
Active—all other states	121
Subscriber—all other states	30
TOTAL	1073

Coast

COAST GEOLOGICAL SOCIETY
P.O. Box 3014
Ventura, California 93003

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Consultant

Vice-President Ed Magdelana
Exxon

Secretary Susan Krosky
Conoco

Treasurer Paul Hacker
Argo

The annual fall picnic was held on Saturday, September 26 at the Lagomarsino Ranch in Ojai, and almost 100 CGS members and spouses attended the event. The society would like to thank the Lagomarsino's for use of their facilities and Bill Reay and his Union cooking crew for making the picnic a success.

The December dinner meeting of the CGS will be held on December 15 at the American Legion Hall in Ventura. Dr. Ian Kaplan from UCLA will talk on "Geochemical Methods in Petroleum Exploration." For reservations call Roberta Walton at 653-5916 or Mary Meena at 656-7600 by Monday, December 14.

Personnel News

Exxon has added Matt Hickel to its Ventura staff of geologists. Matt is from San Diego State.

Terry Budden has been promoted to District Exploration Geologist, Northern California District, for Union Oil. Todd Grimmet, geophysicist, and Rex Leveque, geologist, have been hired to work in Union's Southern California District.

Sun Exploration has hired Sona Stapleford, formerly with Exxon, as an exploration geologist.

Keith Whaley resigned from the position of Vice-President, Coast Geological Society.

Susan Krosky

Northern California

~~NORTHERN~~ CALIFORNIA GEOLOGICAL SOCIETY

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Sohio Petroleum Co.

President-Elect Peter Miller
Chevron U.S.A. Inc.

Vice-President David Bushnell
Natomas Co.

Secretary David G. Howell
U.S.G.S.

Treasurer John Kleist
Chevron Overseas

Councilor Rod Huppi

Councilor Les Magoon

The Chevron U.S.A. Exploration, Land & Production group will move from downtown San Francisco to Concord, Calif., near the Willows Shopping Center during December 1981. Chevron's new 4 story complex is 2 football fields in length! Because of Chevron's large NCGS membership and active participation, some alternate meeting sites (Oakland Museum) may prove advantageous. Chevron Petroleum Overseas will remain in the Magical City a few more years.

November 9 —

James Monger, "Stratigraphic Evolution of N. America Cordillera".

PLEASE NOTE: **Oakland Museum, Oakland.**

December 16 —

Ken Bird: "Geology and Petroleum Potential of Nahonal Petroleum Reserve, Alaska — Where did the billion dollars go?"

Pete Miller

Sacramento

Officers of the Sacramento Petroleum Association for the calendar year 1981 are:

President:
Andrew M. Stephens,
A. M. Stephens Construction Co., Inc.,
P.O. Box 784,
Rio Vista, California 94571.

Vice-President:
Patrick R. Robinson,
Consulting Geologist,
7844 Madison Ave.,
Fair Oaks, California 95628.

Secretary-Treasurer:
Don B. Pinnell,
735 Commons Drive,
Sacramento, California 95825.

The address of the Sacramento Petroleum Association remains the same: P.O. Box 254443, Sacramento, CA 95825.

San Joaquin

SAN JOAQUIN
GEOLOGICAL SOCIETY
P.O. Box 1056
Bakersfield, California 93302

President ..... Eugene Tripp
DEPCO

President-Elect ..... N. Jack Kappeler
Getty

Vice-President ..... Dennis Shea
Independent

Secretary ..... Allen Waggoner
Tenneco

Treasurer ..... George Kendall
Oxy.

S.J.G.S. "party-goers" started the season with the annual bar-b-que, September 25th at the Kern River park. Wes Franklin put himself into the running for "chef-of-the-year" with the great steaks he served. Thanks, Wes.

For some the bar-b-que marked the end of a winning day on the tennis court or golf course.

San Joaquin Tennis
Tournament Winners — 1981

A Division: Jim Blom and Buzz Delano
Runner-up: Bill Dykes and Bill Tracy

B Division: Fred Porter and Bob Nesbit
Runner-up:
Lowell Redwine and Leo Fedewa

San Joaquin Golf
Tournament Winners — 1981

Low Gross:	Phil Rippey
High Gross:	Larry Sanek
Low Net:	Bob Carlson

A thank you and appreciation go to Leo Fedewa for managing the tennis tournament and to Reinhard Suchsland for coordinating the golf tournament.

Fall Schedule of Speakers and talks for S.J.G.S. dinner meetings:

November 10th —
Don Rogers will speak on politics and how politics relate to the oil industry.

December 8th —
"Ladies Night" — Scott Maugham will present "Amazon Travelogue".

LORI BROCK JUNIOR MUSEUM OILDORADO DAY

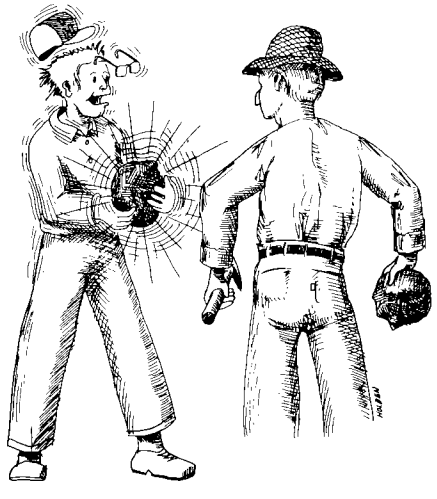
The Lori Brock Junior Museum recognizes the Petroleum Industry Sunday, November 8th from 1:00 P.M. to 5:00 P.M. with an Oildorado Day on the Museum grounds.

Tickets, priced at $2.00 for children and $3.00 for adults, include a Roughneck Supper — hot dogs, Polish sausage, chili beans and tossed green salad. Soft drinks for the children and beer and wine for the adults will be available at an additional charge.

Children will have the opportunity to explore a diversity of art and craft activities as well as prepare and sample a Kern County original — Roustabout Stew. On the grounds children may watch a blacksmith and a leather worker demonstrate their skills while others explore the Museum wilderness as they journey about on the James Petroleum Wagon and the traditional pony cart.

Hundreds of prizes will be given away to the children and, to help highlight the afternoon, there will be pipers and bands.

Reservations and further information may be had by calling the Museum at 395-1201.



"Look! A fossil earthquake... and it's at least a 5.5 on the Richter Scale!"

RINTOUL VIEWS MODERN OIL ERA

The history of the California oil industry in the post-World War II era, from the last of the wildcatter drillers to the rise of the big corporations, is described in a new book by William Rintoul.

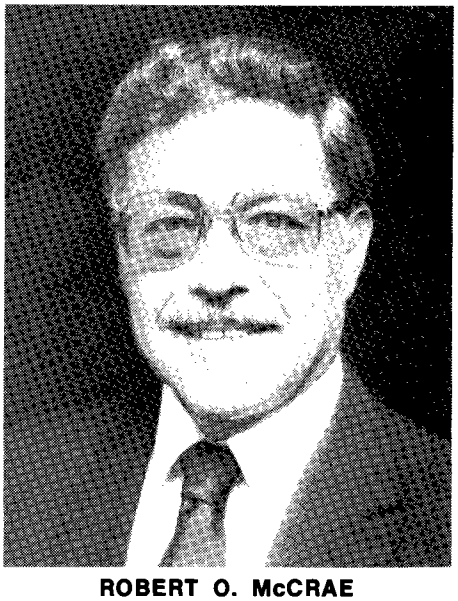
"Drilling Ahead: Tapping California's Richest Oil Field" will be published Sept. 21 by Western Tanager Press of Santa Cruz, a leading regional publisher of Western history.

In his book, Rintoul tells of the search for black gold by California's 49ers—1949, that is—with chapters on the discoveries in New Cuyama, Long Beach, Asphalto and Placerita Canyon.

He also details the technical advances of the era, from offshore drilling to steam injection, and concludes with the disastrous Santa Barbara Channel spill of 1969.

Rintoul, who has been writing about the oil industry for more than 30 years, also is the author of "Oildorado: Boom Times on the West Side" and "Spudding IN: Recollections of Pioneer Days in Calfornia's Oil Fields."

"Drilling Ahead" is illustrated with photographs and will sell for $19.95.



ROBERT O. McCRAE

Robert O. McCrae, formerly Manager Exploration with Hilliard Oil & Gas, has been named Senior Vice President and General Manager and Manager of Exploration for Mission Resources, Oakland, California. Prior to joining Hilliard, he was with Standard Oil of California for twenty-five years in assignments with the exploration and production departments in the Rocky Mountains, Gulf Coast and West Coast including Alaska, in both onshore and offshore exploratory and development activities.

RECOMMENDED READING

OREGON DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES, (1005 State Office Building, Portland, Oregon 97201)

Bulletin 102: Bibiliography of the geology and mineral resources of Oregon (Seventh Supplement, January 1, 1976, to December 31, 1979), compiled by Debbie Burnetti, Editor, et al. $4.00.

Special Paper 13: Faults and lineaments of the Southern Cascades, Oregon, By C. F. Kienle, C. A. Nelson and R. D Lawrence. $4.00.

Map Series GMS-14: Index to published geologic mapping in Oregon, 1989-1979, by C. A. Schumcacher. $7.00.

Map 70: Bouguer gravity map of Nevada, Caliente Sheet. $4.00.

Special Publication 4: Geology of Nevada: A discussion to accompany the geologic map of Nevada, by John H. Stewart. $9.00.

STATE OF WASHINGTON, DEPARTMENT OF NATURAL RESOURCES, DIVISION OF GEOLOGY AND EARTH RESOURCES

Information Circular 73: Index to geologic and geophysical mapping of Washington, compiled by Connie Manso. $4.00.

Report of Investigation 25: A cross section of a Nevada-style thrust in northeast Washington, by J. R. Snook, H. E. Lucas and M. J Abrams. 50c.

U.S. GEOLOGICAL SURVEY

Circular 823-B: The United States Geological Survey in ALASKA: Accomplishments during 1979, N. R. Albert and Travis Hudson, editors. Free.

MAPS:

I 1182-AL: Bathymetric map of the Continental Shelf, slope, and rise of the Beaufort Sea North of ALASKA, by Jonathan Greenberg, P. E. Hart, and Arthur Grantz (accompanied by 6-page text) $1.25.

Professional Paper 1197: Amount and timing of late Cenozoic uplift and tilt of the central Sierra Nevada, California—Evidence from the upper San Joaquin River basin, by N. K. Huber. $2.25.

MAPS:

GP-0933: Average elevation map of the conterminous United States (Gilluly averaging method), by W. H Diment and T. C. Urban. $1.50.

I-1238: Geologic map of the Chico monocline and northeastern part of the Sacramento Calley, California, by D. S. Harwood, E. J Helley and M. P. Doukas. $1.50.

Publications of the Geological Survey, 1980. (352 pages). Free.

MAPS:

MF 859: Bathymetric maps of the northern Gulf of ALASKA, by T. J. Atwood, T. R. Bruns, P. R. Carlson, B. F. Molnia and George Plafker. $2.25.

Please check to be sure you have paid your membership dues for 1981-1982.

JANUARY '82 PPG DEADLINE DECEMBER 3, 1981

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REMINDER
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