PACIFIC PETROLEUM GEOLOGIST NEWSLETTER

of the Pacific Section

American Association of Petroleum Geologists

VOLUME 35 FEBRUARY – MARCH 1980 NUMBER 1

PRESIDENT'S CORNER . . .

Over the next few issues, I would like to tell you about oil laws in other states that are not now operative in California but might be beneficial to exploration in this state and should perhaps be legislated.

In Louisiana is a law known as "Prescription," which is incorporated in every title transaction that simply states that "lacking production over a ten-year period, the mineral rights revert to the surface owner." Thus, if a party sold property but retained the mineral rights, he could keep them so long as oil and gas was being produced, but lacking any production, would lose them to the current surface owner in ten years.

The advantages of this law are numerous: Title work is simplified as the mineral and surface rights are generally vested together rather than split through the years to countless and often untraceable heirs and assigns; operational problems are minimized when the surface owner also owns his minerals and stands to gain by the otherwise inconvenient or disruptive activities of the oil company; and exploration activity is stimulated when a mineral owner, about to lose his mineral rights through "prescription" attempts to promote an exploratory well.

A difficulty in implementation would be whether to commence the ten-year clock for all surface and mineral owners upon passage of the law, or instead restrict it to future land transactions.

Don't forget to circle your calendar for our 55th Annual Convention in Bakersfield on April 9–11 and hear about the "Energy Challenge of the 80's."

LEGISLATION

The Press Initiative, which was mentioned in the last Newsletter, has qualified for the June, 1980 ballot as Prop. 11. This measure will levy a 10% tax on the income of oil companies who have a worldwide income over $5 million. There is a 50 percent investment tax credit against California investments which increase oil production to refining capacity of California crude.

More than 50 oil companies have joined together in opposing this proposition by supporting a committee called California for Fair Taxation. This committee has hired Woodward, McDowell and Larson, the campaign management firm who defeated the anti-smoking initiative last year to direct their efforts. The California Independent Producers Association has organized a speakers group to combat this anywhere they can reach an audience.

Now for the good news. AB 1932 which was to start a California State oil corporation died as predicted. Further good news is that the folks in Sacramento have not yet introduced any new legislation in this session affecting us.

A substantive review of the Press Initiative (Prop. 11) will be in the next issue.

1980 EXAMINATION SCHEDULE FOR REGISTRATION IN CALIFORNIA

Examinations for registration as a geologist and geophysicist and for certification as an engineering geologist will be scheduled twice this year between February 1 and November 30 and are expected to be given at SACRAMENTO, LOS ANGELES, and SAN FRANCISCO.

EXAMINATION SCHEDULE

Examinations will be given:

Geology & Geophysicist — May 16, 1980

Engineering Geologist — May 17, 1980

FINAL FILING DATE FOR MAY EXAMINATIONS WAS FEBRUARY 16, 1980

Geology & Geophysicist — November 14, 1980

Engineering Geologist — November 15, 1980

FINAL FILING DATE FOR NOVEMBER EXAMINATIONS — AUGUST 14, 1980

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.

WELL SAMPLE REPOSITORY — ENDOWMENT FUND,

Response to the Endowment Fund Campaign for support of the California Well Sample Respository at California State College, Bakersfield, continues to be gratifying. However, attainment of the self-sustaining goal of $500,000 is still a long way off. Sizeable donations have been received from major and large independent oil companies, as well as from many individuals and professional societies. Other contributions reportedly are in the process of working their way through corporate approval. Many of the larger commitments are being made over a five-year period which the Repository Board believes expresses confidence in the long term outlook for the facility and in its continuing value to the industry.

Since the initial report in the last Newsletter, contributions have been received from the following: McCulloch Oil & Gas Corporation, Reserve Oil & Gas Company, Occidental Exploration & Production Co., Chevron Oil Field Research, Shell Oil Co., Nord/Montara Petroleum Co., Hershey Oil Corporation, Pauley Petroleum, Inc., Munger Oilogram, Welex, Woodland Oil Co. (Mark Nahabedian), W. T Woodward, Robert Sumpf, S. I. Williams, John R. Coash, Ed Sprotte, Ivan Scherb, Keith Berry, John Thomson, Bob Hoffman, Wes Bruer, Harry Ptasynski, Fred Green, Jack Clare, William Barry, Ross Phillips, N. C. Janke, John Evers, Valley Mud Logging (John Mitchell), Earl Hart, Sacramento Petroleum Association, Bob Ferguson, and Aminoil USA, Inc. An impressive list — and we hope the next report will be even longer. We sincerely thank each and every donor, and urge others of you who recognize the value of the facility to no longer procrastinate in making your contribution. Please make the check payable to Cal State Bakersfield Foundation, Well Sample Repository, and send to CSB Foundation, 9001 Stockdale Highway, Bakersfield, CA 93309.

—Vic Church

NEXT DEADLINE
PPG NEWSLETTER
APRIL 17, 1980

NOMINEES FOR PACIFIC SECTION AAPG PRESIDENT-ELECT 1980–81

JOHN ARTHUR CARVER

Vice President, Latin America Exploration, for Occidental Exploration & Production Company located in Bakersfield, CA.

Education:

Stanford University, B.S. in Geology, graduated 1956; U.C.L.A., M.A. in 1960.

Employment:

Richfield Oil, Geologist, Ojai, Calif., 1956-1960 (interrupted 2 years, U.S. Air Force, Petroleum Intelligence Officer, Germany).

Shell, Development Geologist, 1960-1964.

Occidental, Development Geologist, California, Senior Exploration Geologist, California, Senior Staff Geologist, Latin America Exploration and Exploration Manager, Latin America Exploration, 1964-present.

Geological Society Activities:

General Chairman, Pac. Section, Annual Meeting, 1972.

Vice President, Pac. Section, 1973-74.

President, San Joaquin Geol. Soc., 1976-77.

Vice Chairman, Technical Program Committee, Circum-Pacific Energy & Mineral Resources Conference (Hawaii) 1978.

WAYNE D. ESTILL

Sr. Vice President for American Pacific International, Inc. located in Los Angeles, CA.

Education:

Stanford University, B.S. Geophysics. Graduated 1951.

Employment:

Superior Oil Co., Geologist, Casper, Wyoming, 1951-1955.

Honolulu Oil Co., Dist. Geologist, Santa Barbara and Bakersfield, 1955-1961.

Tidewater Oil Co., Geologist, Bakersfield, 1961-1962.

Intex Oil Co., Mgr. – Exploration, Bakersfield, 1962-1967.

King Resources Co., Mgr. – Exploration, Denver, Colo., and Los Angeles, 1968-1970.

Consultant Geologist, Los Angeles, 1970-1971.

American Pacific International, Inc., Sr. Vice President, Los Angeles, 1972-Present.

Geological Society Activities:

Associate Editor, Selected Papers, San Joaquin Geol. Soc. 1962.

Secretary, San Joaquin Geol. Soc. 1965.

Road Log Editor, Pac. Section Guidebook, 1965.

General Chairman, Pac. Section, 54th Annual Meeting 1979.

NOMINEES FOR PACIFIC SECTION AAPG VICE-PRESIDENT 1980–81

NANCY OLSON

Geologist for Texaco, Inc., located in L.A., CA.

Education:

Graduated in 1972, B.A. from U.S.C.

ROBERT MORRISON

Division Exploration Manager for Occidental located in Bakersfield, CA.

Education:

Graduated in 1958, M.A. from U.C.L.A.

PAC. SECT. AAPG 1980–81 NOMINEES – SECRETARY

Roger G. Alexander, Jr.

After completing a Ph.D. in Geology at Princeton University, Roger Alexander joined the Standard Oil Company of California (Chevron) in 1951. He was involved in exploration in California, the Rocky Mountains, and the Gulf Coast, both on and offshore. Subsequently, he was successively Chief Geologist for West Australia Petroleum Pty. Ltd., in Perth, W. Australia, for the Arabian American Oil Company (Aramco), in Dhahran, Saudi Arabia, and now for Chevron Overseas Petroleum Inc., in San Francisco.

In the past he has been President of the Intermountain Association of Petroleum Geologists, Vice-President of the Coast Geological Society, Secretary, Treasurer and President of the Northern California Geological Society, and a Delegate and Associate Editor with the national AAPG.

JACK R. SHEEHAN

Geologist for Champlin Petroleum Co., Wilmington, CA.

Education:

B.S. Oregon State College, 1953, Geology.

M.S. Univ. of Cal, Berkeley, 1956, Geology.

Employment:

Standard Oil Co. of Calif., Los Angeles, La Habra, CA. 1955-1971.

Tetra Tech Inc., Pasadena, CA., Houston, TX., 1971-1975.

Champlin Petroleum Co., Wilmington, CA., 1975-present.

Geological Society Activities:

Education Committee, Houston Geol. Soc., 1974-1975.

AAPG Pac. Sec. Convention Program Editor, 1979.

HEAVY OIL, HEAVY REGULATION

Most of us know of the shutdown, a year ago, of 62 steam generators in Getty's Kern River steam flood. When Federal air quality standards first were applied, the controlled price of oil was too low to cover the cost of stack-gas scrubbers for these generators. Getty undertook to keep their emissions below EPA limits without scrubbers, and they succeeded — until December 26, 1978. On that single day of abnormal meteorological conditions, emissions of sulfur dioxide reached 0.17 parts per million (ppm), 0.03 ppm above allowable levels. And so Getty's permits were revoked: "sudden death," with no second chance.

At that time, Federal new-oil/old-oil pricing created a "domino effect": all of the lost production from each lease was at new-oil prices while most of the remaining production was old-oil, at prices too low to cover costs on the steam generators still operating. As the reservoir cooled, it looked as though up to 70,000 BOPD of production might be lost — 7% of California's output and 1% of the U.S. total.

Last summer's decontrol of heavy-oil prices seems to have rescued Getty's steamflood; they now can recoup the cost of stack-gas scrubbers: $6 million to install and $4 million/year to operate. Subsequently, decontrol was extended up to 20° oil from the initial 16° ceiling. Statewide, this should add 120,000 – 193,000 BOPD of new production. But the heavy-oil story continues to play like The Perils of Pauline:

—how will Congress treat heavy crude in the proposed crude-oil excise ("windfall profits") tax?

—will the California Air Resources Board impose new and unattainable restrictions on nitrogen oxide emissions?

—can West Coast refineries handle any more heavy oil?

California's production of heavy oil will continue to increase (Figure 1). Until recently, vast reserves had gone undeveloped because it could not compete with lighter California crudes and cheap imports. Heavy oil has three major disadvantages:

—high viscosity, which means much higher production costs and much lower recovery factors;

—high sulfur content: 1% to 6% compared to less than 1% for most light oils;

—low refinery yields of gasoline and other light products. Simple distillation of Kern River crude yields no gasoline at all, compared to 20% gasoline from Ventura oil. After catalytic cracking, hydrocracking, coking, etc., the heavy oils may yield 25% light products vs. 70% from Arabian light or similar California light oils. Because of this need for costly, sophisticated processing, and the reduced output of higher-value light products, heavy oil has always brought a much lower wellhead price.

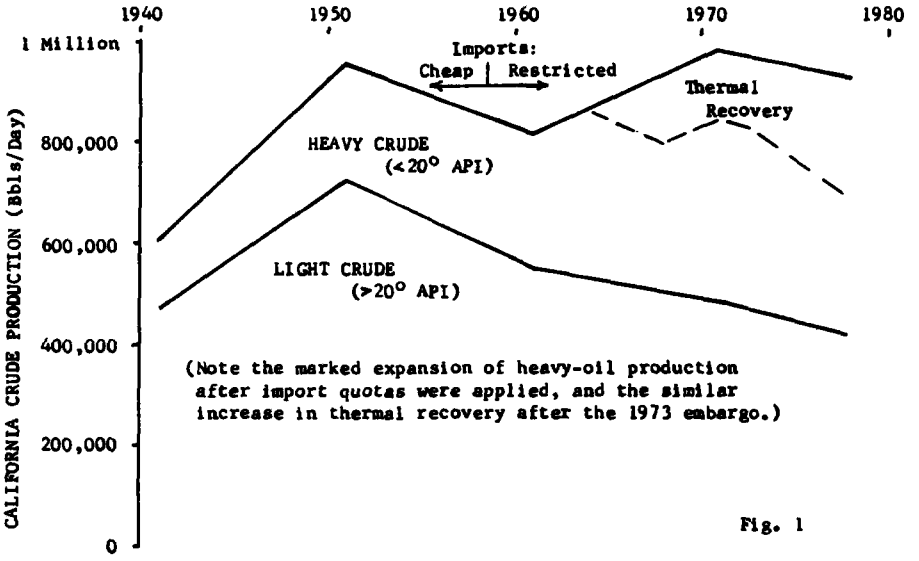

Fig. 1

In recent years, environmental hassles and political games have put heavy oil in the center of many of the West's energy problems — including last Spring's gasoline shortage. Figure 2 shows how the combinationof current environmental restrictions and the flood of North Slope crude has brought a 30% reduction in gasoline output from available refining facilities. Let's look at some of the factors which have kept the industry from alleviating this problem:

—Can we add new cracking facilities to present refineries? Air quality regulations virtually prohibit this. (At Chevron's Richmond refinery, 90,000 BOPD of processing capacity is shut down because the local air pollution agency has "reinterpreted" the permit it had granted.) And even if we could have built, gasoline pricing regulations permitted only 60% of the cost of new facilities to be recouped through pump prices.

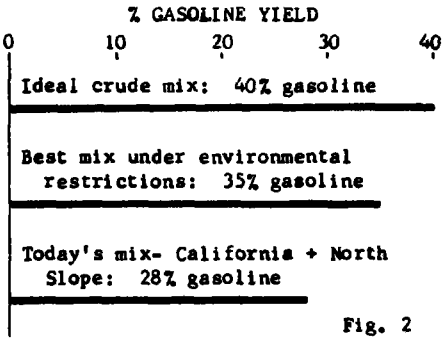

Fig. 2

—Can we trade some of the Alaskan oil for lighter, low-sulfur foreign crude? The proposed exchange with Japan would ease the burden on West Coast cracking and desulfurization plants, and would save at least $1/bbl. in transportation costs — plus millions of barrels of bunker fuel. But environmental extremists insist that not a drop of Alaskan oil be exported, and the maritime lobby wants it all moved in U.S. ships.

—Can we burn the residual fuel oil in California's electrical plants, as a replacement for scarce natural gas and delayed nuclear plants? No. Air quality regulations limit the sulfur in fuel oil to 0.25% in southern California and 1% in northern California. Low-sulfur oil must be imported from Indonesia to meet this need. And so the "bottom ends" from our California and North Slope crudes accumulate faster than they can be sold. When no more tankage is available to store the residual oil, refineries have been forced to reduce their throughput, and thus their production of gasoline.

And so we are left with an abundance of oil which — due mostly to the inflexible, narrow-focus nature of recent air-quality regulations — we can't produce, can't make into gasoline and can't convert into electricity. Here is one facet of the energy crisis that is in our power to solve, yet it seems to be ignored or misunderstood by our regulators and legislators.

—Tom Wright

ORDER FORM

Publications Committee
Pacific Section AAPG
P.O. Box 4164
Thousand Oaks, CA 91359

Please send me copy(s) of *Criteria in Correlation: Relevant Principles of Science* by Robert Kleinpell at $5.00 per copy prepaid.

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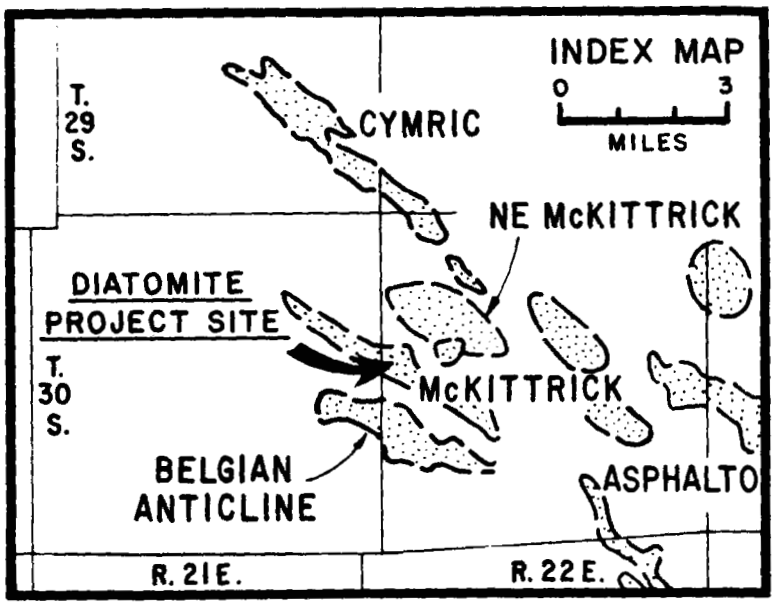
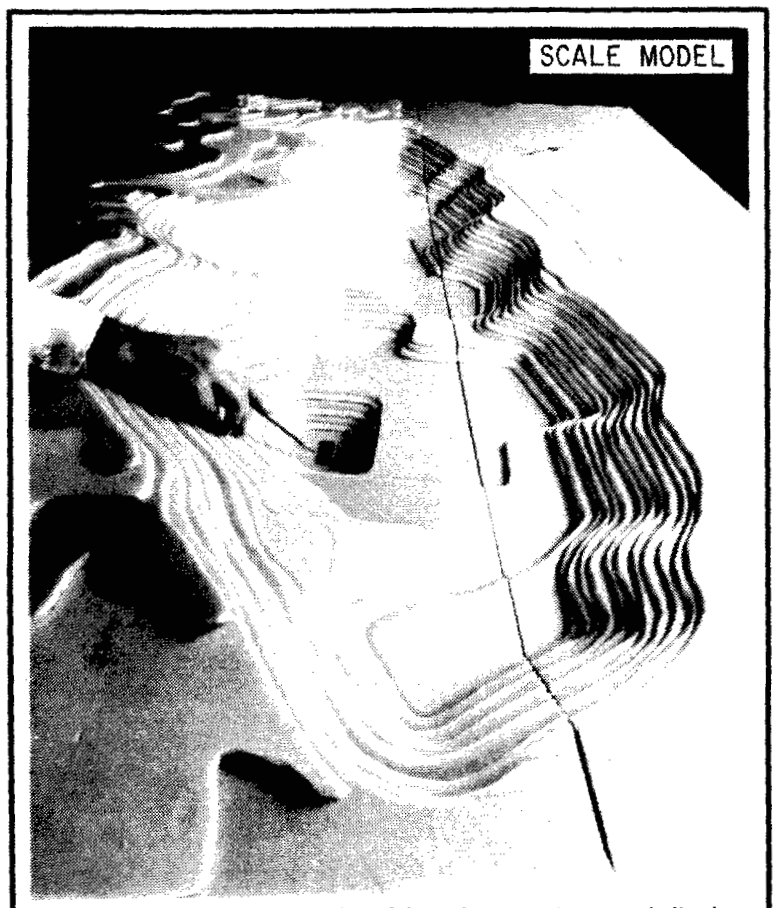




The rectangle in the deepest portion of the scale model gives some indication of the scope of the proposed commercial diatomite project. It represents the size of a football field. The total project area covers about 1680 acres.

McKITTRICK DIATOMITE DEPOSIT

By LEON EARNEST

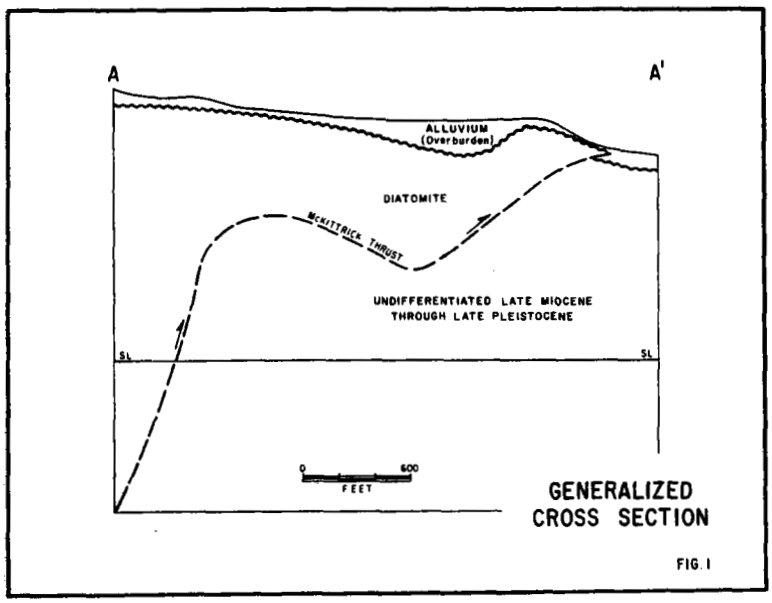
Getty Oil Company is studying the feasibility of producing commercial quantities of oil from an oil bearing deposit of diatomaceous earth located in western Kern County. The depoist, which lies at depths of zero to 1200 feet beneath the 1680-acre parcel of land owned by Getty near McKittrick, is estimated to contain about 300 million barrels of mineable oil. Getty Oil Company proposes to mine the diatomaceous earth and subject it to one of two extraction methods the company will test with experimental pilot programs. If successful, the project could produce about 20,000 barrels a day of 13 to 14° gravity oil for a period of approximately 48 years.

Getty had previously considered mining the material as a commercial source of diatomaceous earth. However, because of the limited market for this project, the company abandoned the plan. In 1972 when the price of crude oil began escalating, the company renewed its interest in the project, this time with a view toward crude oil recovery.

In McKittrick Field, the diatomite facies of the late Miocene age Antelope shale was thrusted over younger rocks along the 8 mile length of the McKittrick Thrust Zone during middle Pleistocene time, making the emplacement of the diatomite body contemporaneous with deposition of the Tulare Formation in McKittrick Valley (Figure 1). While the McKittrick Thrust has a near vertical plane on the southwest margin of the field, the glide plane of the diatomite overlying the field forms an irregular surface (Figure 2). Most probably the diatomite was emplaced by a combination of semi-plastic flowage on the southwest near the thrust and gravity sliding of large blocks of diatomite in the central and northeastern portion of the deposit. Cumulative offset of the diatomite often exceeds one-half mile. Internal structure of the overthrust diatomite, when viewed in outcrops, varies from approximately homoclinal to chaotic.

From 1972 to 1977 Getty Oil Company drilled and cored 141 stratigraphic test wells in McKittrick Field to determine the structure and extent of the oil bearing diatomite body, the distribution of lithologies and oil within the deposit, and the economic reserves available for strip mining under the Getty properties. While apparently a homogenous body where it crops out, cores and electric log proved the diatomite to include chert, sand, and clay beds. Though porosity and fluid saturations were variable within the diatomite, core and electric log analysis showed the ore body averages about 15 percent oil by weight, or 0.88 bbl (37 gallons) per ton, and 35 percent water. The surface samples average 82 pounds per cubic foot in place and 55 pounds per cubic foot after excavation.

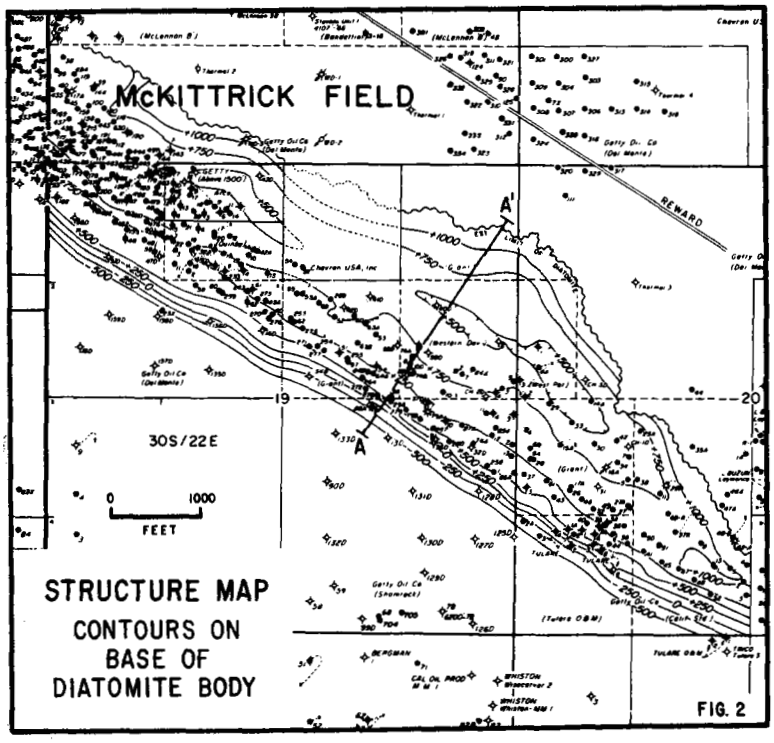
Getty studied 15 extraction techniques for removing the oil from the diatomaceous earth, but eventually narrowed its selection to two: a solvent extraction



method developed by the Dravo Corporation of Pittsburg, and a retorting method, developed by Lurgi Mineroltechnik of Frankfurt, Germany. Pilot plants using both techniques are scheduled to be constructed on the McKittrick site in late 1980. The pilot programs will determine the most effective and economic method of extraction, taking into consideration expected differences in the end product from the two processes. If the company decides to proceed with a full-scale project following the pilot testing period, the startup of the diatomite operation could begin in the mid 1980s.

Proposed commercial mining operations provide for an open mine area of 250-to-350 acare at any one time. As the work proceeds into a new area, tailings from the original excavation and the accompanying overburden will be stored in the area and preventive measures will be taken to control erosion and dust. Getty is also examining the various options in excavation and transportation equipment for the diatomite. Engineers expect the handling problems on the project to be much less serious than with oil shale.

During the progress of the mining operation, Getty proposes to abandon some of its existing wells in the site area. Later, the company may redrill these wells to continue producing from the Tulare zone that underlies the diatomaceous earth.



55th Annual Meeting

PACIFIC SECTION AAPG – SEPM – SEG

Civic Auditorium Bakersfield, California

April 9 – 11, 1980

TENTATIVE TECHNICAL PROGRAM

THURSDAY MORNING — APRIL 10 —
JOINT SESSION — AAPG – SEPM – SEG

7:30 Speaker's Breakfast

8:30 Presiding:
Introductions and Welcome: **Guy L. Burge, Jr.**

TO BE ANNOUNCED

KEYNOTE ADDRESS: **Ralph L. Lewis,** Manager of Public Information, Gulf Oil Corporation, New Orleans, Louisiana:
ENERGY — A Worldwide View

9:30 **L. F. "Buzz" Ivanhoe:** Occidental Petroleum Company Bakersfield, California:
Where In The World Will We Get Our Oil In The 1980's

THURSDAY MORNING — APRIL 10 —
AAPG – ONSHORE FIELDS

10:00 **Bruer, Wesley G.,** Consulting Geologist, Bakersfield, California:
Mist Gas Field, Columbia County, Oregon.

10:30 **Edmondson, William F.,** Mariposa Petroleum Co., Bakersfield, California:
Member Sands of the Winters Formation

11:00 **Sprouse, Donald W.,** Tenneco Oil Company, Bakersfield, California:
Yowlumne Oil Field.

11:30 **Colazas, Xenophon C.,** Department of Oil Properties, City of Long Beach, California; **Donald D. Clarke,** State Land Commission, State of California, and **Dennis R. Smith,** Dames & Moore, Los Angeles, California:
Computer Sand Volume Determinations in the Long Beach Unit of the Wilmington Oil Field.

THURSDAY MORNING — APRIL 10 —
SEG – POTENTIAL METHODS, NPR UPDATE

10:00 **LarryBeyer,** USGS, Menlo Park, California:
Borehold Gravity Studies in the San Joaquin Basin: Benefits of Previous Work and Suggested Future Studies.

10:30 **George V. Keller,** Colorado School of Mines, Golden, Colorado:
Electrical Prospecting for Oil

11:00 **Wen-Jea Whan, Charles H. Stoyer** and **Nancy J. House*,** Colorado School of Mines, Golden Colorado:
Direct Current Prospecting for Oil: Field Results.

11:30 **Phillip L. Work,** G.T.S. Corporation, Houston, Texas:
NPR-Alaska, an Update.

THURSDAY AFTERNOON — APRIL 10 —
SEG–SEISMIC PROCESSING AND FIELD TECHNIQUES

2:00 **Dale G. Stone*** and **John L.Atherton, S.S.C., Tulsa, Oklahoma:**
Decomposition of Seismic Traces.

2:30 **Ray Farrell*, Edwin R. Beer** and **James S. Martin,** Seiscom Delta, Houston, Texas:
Wavelet Processing of Seismic Data.

3:00 **Clint Frasier,** Chevron Oil Field Research Co., LaHabra, California:
A New Time-Domain in Marine Synthetic Seismogram.

3:30 **Ken Larner*** and **William H. Dragonet,** Western Geophysical Co., R & D, Houston, Texas:
Data Enhancement from a 486 Channel Streamer.

4:00 **G. W. Hollingshead*,** Gulf Canada Research, Ltd., Calgary, Alta. and **R. R.Slater,** Gulf R & D Co., Harmarville, Pennsylvania:
A Novel Method of Deriving Weathering Statics from First Arrival Refractions – FARR Weathering Method.

4:30 **Les Denham,** Seiscom Delta, Houston, Texas:
Extended Resolution Seismic Exploration.

FRIDAY MORNING — APRIL 11 —
AAPG–GEOCHEMICAL IMPLICATIONS.

9:00 **Surdam, Ronald C.,** Department of Geology, University of Wyoming, Laramie, Wyoming, and **C. A. Hall,** Department of Earth and Space Sciences, University of California, Los Angeles, California:
Diagenetic Reactions in the Monterey Formation, Pismo Syncline, California.

9:30 **Isaacs, Caroline M.,** U.S. Geological Survey, Menlo Park, California:
Field Characteristics of Monterey Rocks Along the Coast Near Santa Barbara, California.

10:00 **Krystinik, Lee F.,** U.S. Geological Survey, Menlo Park, California:
Pore-Filling Cements: Products of Shale Dewatering in the Upper Miocene Stevens Sandstone, Elk Hills Field, Kern County, California.

10:30 **McCulloh, Thane H.,** U.S. Geological Survey, Seattle, Washington, and **Richard J. Stewart,** Department of Geological Sciences, University of Washington, Seattle, Washington:
The Subsurface Interface Between Zeolitized and Overlying Less-Altered Rocks, Southern San Joaquin Valley, California: Its Configuration and Implications for Petroleum Entrapment..

11:00 **Suczek, Christopher A.,** Geology Department, Western Washington University, Bellingham, Washington, and **William R. Dickinson,** Geosciences Department, University of Arizona, Tucson, Arizona:
Sandstone Compositions Related to Plate Tectonic Settings.

11:30 **Copelin, Edward,** Union Oil Company, Brea, California:
Evidence for Very Early Migration in Recent Sediments of the California Continental Borderland.

THURSDAY AFTERNOON — APRIL 10 —
EXPLORATORY POTENTIAL OF FRONTIER AREAS

2:00 **Cooper, Alan K., David W. Scholl, Michael S. Marlow, Jonathan R. Childs, George D. Redden, Keith A. Kvenvolden,** and **Andrew J. Stevenson,** U.S. Geological Survey, Menlo Park, California:
Hydrocarbon Potential of Aleutian Basin, Bering Sea.

2:30 **Sparks, Dennis M.,** Geo-Logic, Inc., St. Helena, California:
A Geological Assessment of the Petroleum Potential of the Tertiary Basin of Western Oregon and Washington.

3:00 **Crouch, James K.,** U.S. Geological Survey, Menlo Park California:
Speculations of Hydrocarbon Potential of Deep-Water Basins in the Outer Southern California Borderland.

3:30 **Foster, Norman H., Edward D. Dolly,** and **Harry K. Veal,** Independent Geologist, Denver, Colorado:
Petroleum Potential of the Great Basin.

4:00 **Hastings, Douglas D.,** Chevron U.S.A., Inc., San Francisco, California:
Results of Exploratory Drilling, Northern Fallon Basin, Western Nevada.

4:30 **Thompson, Sam III,** New Mexico Bureau of Mines and Mineral Resources, Socorro, N.M., **Jorge C. Tovar R.,** Petroles Mexicanos, Chihuahua, Mex., and **J. N. Conley,** Independent Geologist, Tulsa, Oklahoma:
Oil and Gas Exploration Wells in the Pedregosa Basin.

FRIDAY MORNING — APRIL 11 — SEG — FIELD TECHNIQUES, SEISMIC STRATIGRAPHY, 3-D.

9:00 **Carol Hoyt,** Nekton, San Diego, California:
New Flexibility in High Resolution Profiling: Microprocessor-Controlled Multi-System Recording with Real-Time Signal Processing.

9:30 **Donald E. Foulkes** and **John A. Ward*,** Technica, Inc., Houston, Texas:
Seismic Stratigraphy in Contrasting Clastic Facies.

10:00 **Claude Eizlini, Pat Hooyman*, R. Kirkland** and **G. Wilbourn,** Geodigit, Inc., Denver, Colorado:
Prediction of Lithologic Changes of the Cretaceous Forbes in the Central Sacramento Valley.

10:30 **Alistair Brown** and **Daniel J. O'Donnell,** G.S.I., Dallas, Texas:
Case History of a 3-D Seismic Survey over a Producing Field Offshore Louisiana.

11:00 **Ben Giles,** G.S.I., Dallas, Texas:
Improved Geologic Imaging With 3-D Seismic.

11:30 **J. Allen, L. A. Martin, R. L. Kolb*, W. F. Fenley*,** Geophysical Systems Corp., Pasadena, California:
Practical 3-D SEismic Exploration with 1024 Channel Geocore IV System.

SEPM – SPEAKERS AND AUTHORS

THURSDAY MORNING — APRIL 10 — SEPM – TECHNICAL SESSION

10:20 **Graham and Bachman**
"Deep Sea Fan Processes and Structural Control — implications for high resolution profiles on a modern fan complex, offshore Southern California"

10:40 **Vedder, Howell and McLean**
"Stratigraphic and Structural Relations to the Pre-Tertiary Rocks on the perimeter of the Santa Maria Basin"

11:00 **Blake**
"Biostratigraphic implication of Neogene benthic foraminifera from D.S.D.P. Leg 63, Southern California Borderland"

11:20 **Ballog and Malloy**
"Neogene palynology in the Southern California Borderland, D.S.D.P. Leg 63"

11:40 **Lee**
"Late Cretaceous Biostratigraphy and Micropaleontology of the Santa Ana Mountains, California"

LUNCH

THURSDAY AFTERNOON — APRIL 10 — SEPM — TECHNICAL SESSION

1:00 **Mulhern**
"Lacustrine, Fluvial and Fan Sedimentation: A Record of Quaternary Climate Change and Tectonism, Pine Valley, Nevada"

1:20 **Arends and Damassa**
"Diatoms, Silicoflagellates and Palynomorphs from the Holocene Sediments of Basins in the Southern California Continental Borderland"

1:40 **Laws**
"Preliminary Report on Diatoms from Pleistocene Sediments Central San Francisco Bay"

2:00 **Sloan**
"The Foraminifera of the Sangamon (?) Central San Francisco Bay"

2:20 **Quinterno, Carlson and Molnia**
"Bethnic Foraminifers from the Eastern Gulf of Alaska"

20 MINUTE BREAK

2:40 **Lipps**
"Ecology of Shallow-Water Foraminifera: Anarctica to the Tropical Pacific"

3:00 **Lagoe**
"Recent Arctic Foraminifera: an overview"

3:20 **Echols and Armentrout**
"Holocene Foraminiferal Distribution Patterns on the Shelf and Slope, Yakatage – Yakutat Area, Northern Gulf of Alaska"

3:40 **Hickman and Nesbitt**
"Holocene Mollusk Distribution Patterns in the Northern Gulf of Alaska"

4:00 **Douglas, Liestman, Walch, Blake, Cotton**
"Transition from Live to Sediment Assemblage in Benthic Foraminifera from Southern California Borderland"

4:20 **Edwards**
"Mass Movement Effects on a Bathyal Macrofaunal Population, California Borderland"

4:40 **Ingle and Keller**
"Benthic Foraminiferal Biofacies of the Eastern Pacific margin between 32°S and 32°N"

FRIDAY MORNING — APRIL 11 — SEPM — QUATERNARY SYMPOSIUM

9:00 **Lohmar, Macdonald and Jones**
"Late Pleistocene-Holocene Sedimentary Infilling and Faunal Change in a Southern California Coastal Lagoon"

9:20 **Rappeport**
"Depositional Environments within High Energy Tidally Dominated Embayments along the Pacific Continental Margin of the United States"

9:40 **Atwater and Belknap**
"Holocene Intertidal Deposits of the Sacramento – San Joaquin Delta, California"

10:00 **Armentrout**
"Glaciomarine Depositional Environments and Biofacies, Yakataga District Continental Shelf, Gulf of Alaska"

10:20 **Davis**
"Basin edge tectonics and stratigraphic development of Southern San Joaquin Valley, California"

10:40 **Fischer, Darigo and Rudat**
"Quaternary Stratigraphy and Depositional Environments of San Pedro Bay, Southern California"

11:00 **Clifton and Phillips**
"Lateral Trends and Vertical Sequence in Estuarine Sediments, Willapa Bay, Washington"

11:20 **Molnia**
"Twentieth Century History of the Gulf of Alaska Coastline, Cape Suckling to Cape Spencer"

11:40 **Dupre, Clifton and Hunter**
"Modern and Ancient Coastal Sedimentary Facies, Monterey Bay, California"

LUNCH

FRIDAY AFTERNOON — APRIL 11 — SEPM — QUATERNARY SYMPOSIUM

1:00 **Osborne, Scheidemann, Nardin and Harper**
"Quaternary Stratigraphy and Depositional Environments of Santa Monica Bay, Southern California"

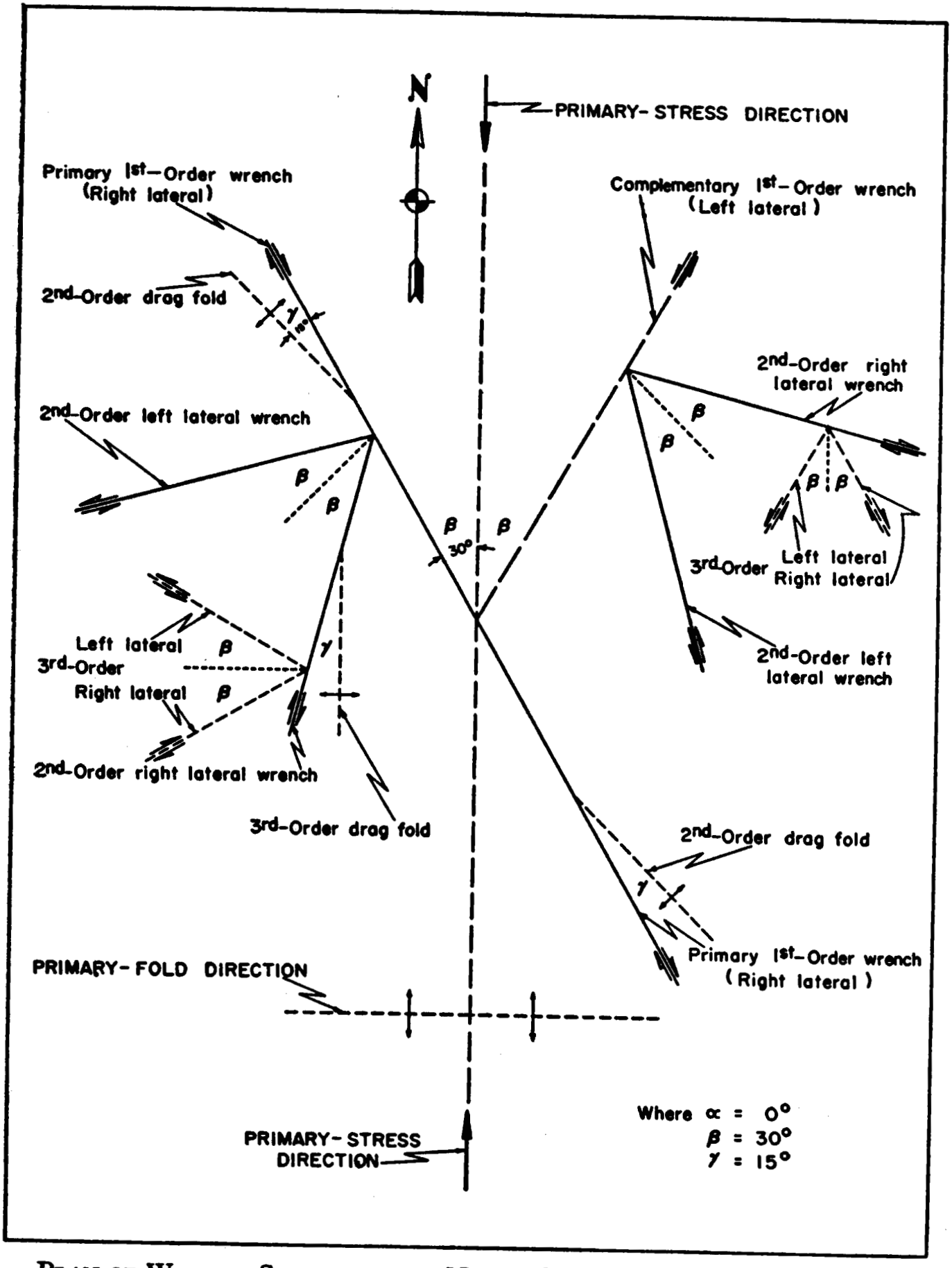
1:20 **Molnia and Carlson**
"Quaternary Sedimentary Facies on the Continental Shelf of the Northeast Gulf of Alaska"

1:40 **Edwards and Field**
"Sedimentary Processes Active on Slopes of the California Borderland"

2:00 **Gorsline**
"The Sedimentological History and Characteristics of Continental Margin Basins: California Borderland"

2:20 **Normark and Hess**
"Quaternary Styles of California Submarine Fans"

2:40 **Bachman, Underwood, Schweller and Karig**
"Variables Affecting Trench and Trench Slope Sedimentation along Active Continental Margins"



PLAN OF WRENCH SYSTEM UNDER NORTH-SOUTH SIMPLE COMPRESSION

Northern California

NCGS Officers for 1979–80 are:

President	Charles Kirschner (U.S.G.S.)
Program Vice President	Barry Solomon (U.S.G.S.)
Secretary	Peter Miller (Chevron, U.S.A.)
Treasurer	Jerry Kopel (Chevron, U.S.A.)
President-Elect	John O'Rourke (Cooper, Clark & Assoc.)
Counselor	Vern Stevens (U.S.G.S.)
Counselor	Herbert Sawyer (Consultant)

The Leopard Cafe has closed because of the proposed construction of a new high rise building. This grand old landmark for official sportsdom (Giants and 49'ers, etc.) in the bay area has been our traditional meeting place for many years. However, we have found a new first rate facility for our luncheons through June 1980. The Elks Lodge, 456 Post St., San Francisco, near Union Square, offers a spacious reception area, a fine bar, plus a large banquet room. Our first luncheon meeting at the Elks Lodge, January 23, will feature David Scholl, U.S. Geological Survey, AAPG Distinguished Lecturer, speaking on "Resource Potential and Plate-Margin Geology on Frontier Basins of North Pacific and Bering Sea." Other distinguished lecturers through April include Richard Buffler, John Horne, and James Momper, speaking on the deep Gulf of Mexico Basin, depositional models in coal exploration and mine planning, and oil expulsion as a consequence of oil generation.

Leslie Youd (USGS) recently discussed new methods for mapping liquefaction and ground failure potential. His talk was timely, informative, and well received. judging from the lively question and answer session.

Chuck Kirschner (President) recently joined the U.S. Geological Survey at Menlo Park and is continuing his petroleum geological studies of Alaska and the Navy Petroleum Reserve.

Don Zieglar of Chevron U.S.A. informs me that "Energy Bridges to the Future" is the theme for the 1981 National AAPG convention to be held in San Francisco. Plans tentatively call for seven concurrent sessions and possibly seven field trips, plus some parallel trips for the ladies.

Pete Miller

Coast

As a matter worth noting, Coasts' officers and members would like to congratulate Gregg Blake for his excellent speaker selection program. With 60% – 75% membership turn-out per meeting and increased student attendance, the speaker program is commendable.

The officers would also like to thank all the individuals and companies for their continued financial support of students who attend our monthly meetings. The combination of excellent speakers and financial assistance provides a well spring of student attendance.

PETROLEUM ORDINANCE CODE — VENTURA COUNTY

On November 13, 1979, the Board of Supervisors of Ventura County approved a work program that is intended to amend the existing petroleum ordinance code that was last amended in 1961. Funds for the ten month program will come from a State grant and from the County's General Fund.

At this time, it is unknown what form and what affect a new ordinance might have on the industry. Both local property owners and industry representatives hope that they will gain benefits from an updated code (the existing code requires a Planning Commission approved CUP for all projects, whether they are exploratory or developmental).

Nine (9) different companies and the State Division of Oil and Gas were represented at an introductory meeting with the County in December. If you wish to take part in the development of this significant legislation, contact Todd Collart, Ventura County Planning Division, 800 South Victoria, Ventura, CA. 93309 for more information.

Gary Nulty

COAST CALENDAR

Tuesday, March 18, 1980 — Dr. Eugene Fritche, Cal. St. University, Northridge, *Miocene Paleogeography of California — with emphasis on the Transverse Ranges.*

Tuesday, April 15, 1980 — "Thesis Nite", *Topic to be announced.*

Tuesday, May 20, 1980 — Dr. Cliff Hopson, University of California, Santa Barbara, *Middle Jurassic Ophiolite in the California Coast Ranges.*

NCGS CALENDAR —

April 16 — James Momper: *"Oil Expulsion — A Consequence of Oil Generation."*

Alaska

President	John Levorsen, Alaska Oil & Gas Conservation Commission
President-Elect	Roger Herrera, Sohio Petroleum Company
Vice-President	Gene Nakayama, ARCO Oil & Gas Co.
Secretary	Jo Anne Carpenter, Pacific Lighting Gas Development Co.
Treasurer	Roger Stickney, Union Oil Co. of Calif.

In case you are unaware, the Alaska Geological Society of AAPG publishes a 4-page newsletter. There are about 320 members. If you want to know what is happening in Alaska please address Bill Barnwell for information: Alaska Geological Society, Box 1288, Anchorage, Alaska 99510.

NOTE: AGS cross-section committee is preparing an east-west cross-section across NPRA to Prudhoe Bay.

ALASKA CALENDAR:
(Luncheon Meeting, Hilton Hotel, Anchorage)

March 28 — David Carneggie (USGS): *Remote Sensing Applications in Alaska.*

April 27 — Art Grantz (USGS): *Constraints of Geological Processes on Petroleum Development, West Beaufort Sea.*

Los Angeles

The Los Angeles Basin Society's new officers for 1980 are:

President	Don Hallinger, Southern California Gas
Vice-President	Darlene Condra, Texaco
Secretary	Otis Walter, Texaco
Treasurer	Jom Dombrowski, Texaco

The Society's March luncheon meeting will be held at Taix's French Restaurant in Los Angeles on the 27th. Speaking on the subject of computer mapping will be Claude Abry, consultant.

The April meeting on the 24th will feature a talk on oil exploration in Central America by Tony Morris, Morris Petroleum.

This year it is the Los Angeles Basin's turn to sponsor the annual Spring Picnic. Preparations are being made and we hope to have a fine outing.

Otis Walter

San Joaquin

Slate of Officers — 1979–1980

Phil Ryall — *President*
Bill Stanton — *Vice President*
Kristi Stewart — *Secretary*
Dan Pasquini — *Treasurer*
John Thomson — *Representative to Pacific Section*

ARRIVALS — DEPARTURES

Gulf recently hired four recent university graduates to complement their exploration staff. Welcome to the oil patch — Rusty Gilber, Don Greenfield, Dorie Malven and Tom Stenbeck. Also, Rob Skillin has joined Production Geology at Gulf.

Mr. Marsh Stam became an ex-Gulf man by taking early retirement from his position as Regional Geologist, Onshore and Frontier Region. It is rumored that he will probably be opening a consulting business. The vacancy created by Marsh's retirement has been filled by Paul Day. Congratulations, Paul.

Bob Hulse and Fred Krieg bid farewell to Oxy and started the new year with new companies. Bob is now with Texas Oil & Gas, Fort Smith, Arkansas; while Fred elected Union-Texas in Houston, Texas.

Buttes Oil & Gas is also losing two, Guy L. Burge, Jr. and David E. Olson. Dave has accepted a position as vice-president with Mission Resources, Bakersfield; and Guy is planning on setting up an office as a petroleum company management consultant.

Tenneco's loss is Mike Henry. He is leaving the oil patch for San Diego, where he will work for Intersea Research.

Magi Nelsen

NEW PUBLICATIONS

"Tectonics of the juncture between the San Andreas fault system and the Salton Trough, Southeastern California" is the title of a recent G.S.A. publication by John C. Crowell and Arthur G. Sylvester of the University of California, Santa Barbara. It has been preparred on the occasion of a three-day field trip conducted at the time of the 1979 G.S.A. meeting in San Diego. Interesting explanations in the text include an attempt to show how complex local details seem to fit into a broad plate-tectonic scheme.

Copies of this guidebook may be obtained for $12.00 (includes tax, handling and postage) from Dept. of Geological Sciences, Univ. of Calif., Santa Barbara, CA 93106.

Paleoclimate, Paleomagnetism, and Continental Drift (AAPG Studies in Geology No. 9) by J. K. A. Habicht.

This volume is really a book of maps, featuring a 42-inch foldout for each major time period from Cambrian through Tertiary. Each foldout depicts paleoclimate and paleolatitude reconstructions. A short text (30 pages plus diagrams and index) offers references and interpretation.

Price of the book is only $15.00 ($12.00 with AAPG/SEPM member discount). December, 1979. Format is 8-1/2 x 11" and a special plastic comb binding allows the book to be opened flat to any foldout. Available at AAPG Bookstore.

HELP WANTED:

Exploration Geologist — Five Years Plus Experience — Top Salary and Benefits — Century City location. Contact Wm. H. LeRoy, Pauley Petroleum Inc. (213) 879-5000.

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

Material for publication and requests for previous copies 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 SECRETAARY, PACIFIC SECTION AAPG, P.O. BOX 1072, BAKERSFIELD, CALIFORNIA 93302.

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

NEW PUBLICATIONS

Miscellaneous Paper No. 29

Criteria in Correlations: Relevant Principles of Science by Robert M. Kleinpell

Price: $5.00

This publication can be ordered by sending a check for $5.00 to:

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Pacific Section A.A.P.G.
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Pacific Palisades, CA 90272

DA-AM
Honorary

PACIFIC PETROLEUM GEOLOGIST NEWSLETTER

of the Pacific Section

American Association of Petroleum Geologists

VOLUME THIRTY-FOUR | APRIL – MAY 1980 | NUMBER TWO

PRESIDENT'S CORNER . .

In our last issue, I described the merits of an oil law in Louisiana known as "Prescription," which addresses reversion of mineral rights to surface owners and might be beneficial if legislated in California.

Another oil and gas law, known as "Forced Integration," is operative in Oklahoma and might also favorably impact industry if enacted in California (and other states), where it has not yet been considered.

"Forced Integration" is a means whereby a party wishing to drill an exploratory well can force other land and lease owners (of mineral rights) around him to either join in the drilling of that well or farmout to him at prevailing terms. The land placed into such a forced drilling unit generally varies from 40 to 1280 acres, depending upon well depth.

The only prerequisite is that the party initiating the action have an existing lease within the outline of the proposed unit before initiating integration proceedings. Thus, a party with only one acre under lease and seeking to drill a deep test in a 640-acre size unit, can initiate proceedings that will assure the drilling of his well. Those companies and individuals owning mineral rights in the remaining 639 acres can make one of four elections: **One,** participate in the well by putting up their working interest share of the costs; **two,** sell a lease (i.e., $50.00 per acre + 20% royalty to landowner); **three,** farmout at prevailing area terms; or **four,** keep an override set at 1/16 for oil and 1/8 for gas (lacking any prevailing rate history — or if higher than prevailing rates).

The obvious great advantage of this law is that exploratory drilling is promoted (companies and individuals cannot just sit on land) and geologists working on plays can be assured that their ideas will be promptly tested. On the other hand, it can, at times, make strange bedfellows or anger a landowner with mineral rights who really doesn't want drilling on his property. Most of the time the process is routine and problem free, but it is also in a sense a forfeiture of an individual freedom (to do nothing) for the overall good of the country by accelerating discovery of new domestic oil and gas supplies.

The annual convention was a great success with 1123 registrants thanks to all who participated and the hard work of General Chairman Guy Burge and his able staff. Next year we will all meet in San Francisco with more science, good times, and fellowship in store.

PACIFIC SECTION AAPG

New officers for 1980–81 are:

President ..... Tom Wright (Chevron)

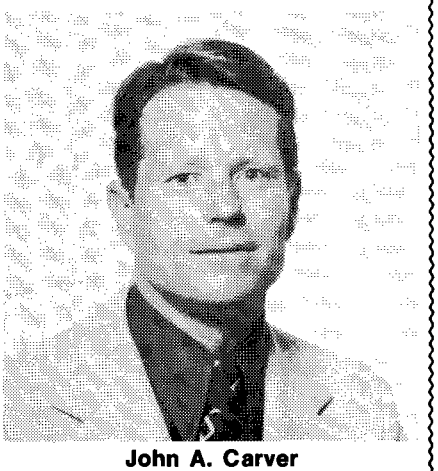
President-Elect ..... John A. Carver (Occidental)

Vice President ..... Nancy Olson (Texaco)

Secretary ..... Roger G. Alexander (Chevron)

Treasurer ..... Susan Chandler Kiser (Getty)

Past President ..... Stanford Eschner (Occidental)



John A. Carver

LEGISLATION

Assemblyman Lockyer has introduced AB 2796 which will impose a severance tax on the value of oil and gas produced in California to replace the current system of property tax. The Bill has passed the Assembly and is in the Senate awaiting Committee action. Before the Bill and its parallel constitutional amendment will be acceptable, a number of basic changes will have to be made. Assemblyman Rogers (Republican, Bakersfield) has Lockyer's verbal agreement that the following provisions will be included:

(1) A ceiling on the maximum percent of the tax.

(2) That the administering and collecting of the tax be under local control.

(3) That the revenue from the tax remain in the county of origin.

(4) The amount of revenue collected will not exceed the amount being collected under ad valorem taxation.

(5) That in relation to the severance tax and the windfall profits tax, the language will prevent a situation which be a tax on a tax.

(6) A special rate will recognize high production costs of some oil and gas.

Assemblyman Rogers and Senator Stiern (Democrat, Bakersfield) are working closely with the Kern County Assessor and the author to ensure that the industry will be treated fairly. However, until these amendments are actually in print in the Bill, there is no assurance that they will be made.

Proposition 11 Goes Down in Defeat

The most critical issue that faced the petroleum industry in this June election was the ballot initiative labeled Proposition 11.

Basically this measure would have more than doubled the California corporate income tax by imposing a 10% surtax, in addition to the present 9.6% tax, on certain energy companies doing business in California. Any company — other than a public utility — deriving more than 50% of its worldwide sales from "the obtaining, processing, distributing, or marketing of oil, gas, coal or uranium," if its worldwide income exceeds $5 million per year.

Fortunately the electorate recognized the basic unfairness of this measure and defeated it by 56 to 44% If this had passed, many companies were planning to scale down their California operations.

NEXT DEADLINE
PPG NEWSLETTER
JULY 11, 1980

Lloydminster and Beyond

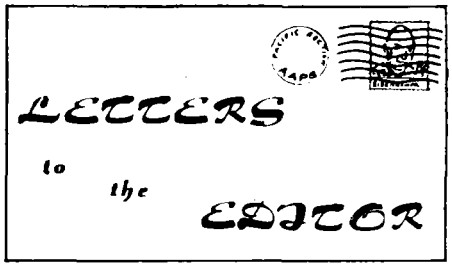
The Saskatchewan Geological Society will host a conference and core workshop on 15, 16, 17 October 1980. The focus will be the geology of hydrocarbon reservoirs in the Mannville Group, especially the heavy oil bearing strata, of western Saskatchewan and eastern Alberta.

PAPERS

The Program Committee solicits papers for oral presentation and/or publication in a proceedings volume (to be published prior to the conference) and/or presentation as poster exhibits. Titles and abstracts (maximum 400 words) must be submitted as soon as possible so that selection can be made by 15 June. Send papers to:

Dr. L. W. Vigrass,
Program Chairman
Energy Research Unit
University of Regina
Regina, Saskatchewan
S4S 0A2 tel. (306) 584-4269

Papers to be included in the proceedings volume must be submitted in "photo-ready" format by 1 September 1980.



Suddenly last month saw a flurry of activity on the two remaining "Sunset" bills — AB 46 (McCarthy) and AB 751 (Priolo). On April 8th, AB 751 was scheduled for hearing before the Senate Governmental Organization Committee on April 15th. Later we also learned that AB 46 had also been added to that committee's agenda at the last moment.

Scuttlebutt around Sacramento has been that AB 751 did not have too much of a chance for passage. It includes not only lots of licensing functions but also most major Departments of State government in its "Sunsetting" provisions, and, in addition, is authored by a lame duck Assemblyman. But AB 46 was more restricted in scope, thus encouraging less opposition, and it was authored by the Speaker of the Assembly. So it has been more to be worried about.

On April 14, AB 751 was withdrawn from the G.O. Committee by the author for unexplained reasons. McCarthy should have been so perceptive! AB 46 was left on calendar and was heard by the full committee on Tuesday. 5 out of 9 votes was needed for passage. The final vote was 4 for, 1 against, and 4 abstaining. This means that AB 46 has been killed in this committee, thanks undoubtedly to unforeseen forces working behind the scenes. What or who these forces were we will never know, and we will never know just how they worked, but the end result is what is important. Maybe it was your opposition voiced in a phone call or a letter that was just enough to swing the key vote, or maybe it wasn't, but AB 46 is no longer a threat to the registration of geologists and geophysicists in California. Congratulations to us all!

W. Peak
6360 Eichler St.
Sacramento, CA 95831

AAPG NEWS RELEASE

TULSA — The odds of finding a really large oil or gas field in the U.S. through wildcat drilling are 1,820 to one according to a study just completed by the American Association of Petroleum Geologists.

John J. Amoruso, a Houston consultant and independent, chaired the special AAPG committee that compiled the study. The study covered the last decade, 1969–78, when the oil industry drilled 54,610 new field wildcats.

AAPG defined new field discoveries in four categories and assigned letters A through D to them with "A" designated as a new field discovery with ultimate recovery of 50 million barrels of oil or more than 300 billion cubic feet of gas. (North Slope of Alaska discoveries were not included in the study.)

"Of the total wells drilled only 30 received the 'A' designation," said Amoruso, "and only 933 were recorded as significant — that is with estimated recovery of more than one million barrels of oil or more than 6 billion cubic feet of gas."

AAPG defined "B" discoveries as capable of recovering from 25 to 50 million barrels of oil or from 150 to 300 billion cubic feet of gas. "C" was graded from 10 to 25 million barrels of oil or 60 to 150 billion cubic feet of gas, and "D" from one to 10 million barrels of oil or six to 60 billion cubic feet of gas.

Of the total new field wildcat wells drilled during the decade the 16 largest oil companies drilled 5,752 or 10.5 percent while all other operators drilled 48,585 or 89.5 percent.

Ranked according to lease revenue, the 16 largest companies used in the study were: Exxon, California Standard, Mobil, Gulf, Texaco, Indiana Standard, Atlantic Richfield, Spell, Continental, Phillips, Getty, Ohio Standard, Union of California, Sun, Marathon and Cities Service.

Amoruso said that current estimates of the reserves found in significant fields (A–D) by the decade of drilling are 2.8 billion barrels of oil and 41.3 trillion cubic feet of gas. Domestic production (excluding Alaska) during 1969–78 was 31.4 billion barrels of oil and 210 trillion cubic feet of gas.

The study showed that the 16 largest companies discovered 1.5 billion barrels of oil — 53.7 percent of the total — and 16.6 trillion cubic feet of natural gas — 40.3 percent of the total.

All other operators discovered 1.3 billion barrels of oil — 46.3 percent of the total — and 24.7 trillion cubic feet of gas — 59.7 percent of the total.

According to the Bureau of Census data for the five-year period, 1973-1977, the 16 largest companies accounted for about 60 percent of industry expenditures for geological and geophysical information and lease acquisition, and paid for about 35 percent of the costs of all exploratory drilling.

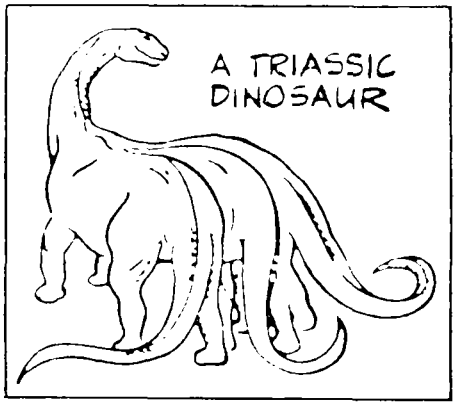
All other operators accounted for 65 percent of the cost of all exploratory drilling in the U.S. over the five-year period. AAPG's study drew the inference that the large oil companies explore for oil and gas and buy leases at levels proportionate to their share of total U.S. production, but when it comes to exploratory drilling these companies account for only about one-third of all money spent.

The largest companies spent more than twice as much on pre-drilling exploration, such as seismographic and other exploration techniques. Other operators spent twice as much for actual drilling. The larger companies concentrate on exploration and drill wildcats on high cost, high risk, deeper and potentially more rewarding prospects than the average of those drilled by all other operators.

Total cost of all exploration and wildcat drilling for the decade amounted to $34.4 billion.

"Only 933 wells were listed by AAPG in the significant A to D categories, representing less than two percent of the total wildcats drilled," said Amoruso.

FRIVOLITY:



BY POPULAR DEMAND, HERE IS THE TRIASSIC DINOSAUR, AGAIN. Courtesy: Wyoming Geological Society's News Letter.

Reprint: *United States PETROLEUM STATISTICS 1979 (Revised)* from data sheet published by Independent Petroleum Association of America.

EXPLORATION (Geophysical activity, acreage under lease, wildcat wells drilled)

Year	Crew months worked	Total acres leased Jan. 1 (Thousands)	Rotary Rigs active	Wildcat wells		
				Total	Dry	% Dry
1959	5,696	382,607	2,074	13,191	10,577	80.2
1960	5,207	424,251	1,746	11,704	9,515	81.3
1961	5,024	416,871	1,763	10,992	9,022	82.1
1962	4,231	408,870	1,637	10,797	8,815	81.6
1963	4,174	387,457	1,501	10,664	8,686	81.5
1964	4,406	372,408	1,502	10,747	8,951	83.3
1965	4,471	375,306	1,388	9,466	8,005	84.6
1966	3,835	350,895	1,270	10,313	8,705	84.4
1967	3,496	333,858	1,134	8,878	7,360	82.9
1968	3,390	325,106	1,169	8,806	7,439	84.5
1969	3,259	332,005	1,194	9,701	8,001	82.5
1970	2,521	343,213	1,031	7,693	6,422	83.5
1971	2,757	332,647	975	6,922	5,834	84.3
1972	3,140	350,725	1,107	7,539	6,254	83.0
1973	2,999	366,386	1,194	7,466	5,947	79.7
1974	3,660	380,313	1,474	8,619	6,610	76.7
1975	3,416	404,087	1,660	9,214	7,071	76.7
1976	3,140	396,173	1,658	9,234	6,785	73.5
1977	3,063	398,990	2,008	9,961	7,275	73.0
1978	N A	408,418	2,259	10,677	7,949	74.5

PROVED RESERVES

As of Dec. 31st:	Liquid hydrocarbons (Million barrels)			Natural gas (Trillion cu. ft.)	Reserve/production ratio		
	Crude oil	Gas liquids	Total liquids		Crude oil	Total liquids	Natural gas
1959	31.719	6.522	38.241	261.2	12.8	13.3	21.1
1960	31.613	6.816	38.429	262.3	12.8	13.2	20.1
1961	31.759	7.049	38.835	266.8	12.6	13.0	19.9
1962	31.389	7.312	38.101	272.2	12.3	12.8	20.0
1963	30.970	7.674	38.644	278.2	11.9	12.4	19.0
1964	30.991	7.747	38.738	281.3	11.7	12.2	18.3
1965	31.352	8.024	39.376	286.5	11.7	12.1	17.6
1966	31.452	8.329	39.781	289.3	11.0	11.5	16.5
1967	31.377	8.614	39.991	292.9	10.3	10.9	15.9
1968	30.707	8.598	39.305	287.4	9.8	10.3	14.8
1969	29.632	8.143	37.775	275.1	9.3	9.6	13.3
1970*	39.001	7.703	46.704	264.7	8.8	9.1	12.1
1971	38.063	7.304	45.367	278.8	11.7	11.3	12.6
1972	36.339	6.787	43.126	266.1	11.1	10.7	11.8
1973	35.300	6.455	41.755	250.0	11.1	10.6	11.1
1974	34.250	6.350	40.600	237.1	11.3	10.8	11.1
1975	32.682	6.268	38.950	228.2	11.3	10.9	11.6
1976	30.942	6.402	37.344	216.0	11.0	10.6	11.1
1977	29.486	5.994	35.480	208.9	10.3	10.0	10.7
1978	27.804	5.926	33.730	200.3	9.2	9.1	10.4

*Includes 9.6 billion barrels of crude oil and 26 trillion cubic feet of natural gas added for Alaskan North Slope.

PRICES

Year	Crude oil at well (per barrel)			Motor gasoline retail (Cents per gallon)		
	Current $	Constant 1972 $	Constant 1978 $	Ex. tax	Taxes	Total
1959	2.90	4.29	6.53	21.18	9.31	30.49
1960	2.88	4.19	6.38	20.99	10.14	31.13
1961	2.89	4.17	6.34	20.53	10.23	30.76
1962	2.90	4.11	6.25	20.36	10.28	30.64
1963	2.89	4.04	6.14	20.11	10.31	30.42
1964	2.88	3.96	6.02	19.98	10.37	30.35
1965	2.86	3.85	5.85	20.71	10.46	31.17
1966	2.88	3.75	5.71	21.57	10.51	32.08
1967	2.91	3.68	5.60	22.55	10.60	33.15
1968	2.94	3.56	5.42	22.93	10.78	33.71
1969	3.09	3.56	5.42	23.85	10.99	34.84
1970	3.18	3.48	5.29	24.55	11.14	35.69
1971	3.39	3.53	5.37	25.24	11.24	36.48
1972	3.39	3.39	5.16	24.46	11.67	36.13
1973	3.89	3.68	5.59	26.88	11.94	38.82
1974	6.87	5.92	9.01	40.58	12.00	52.58
1975	7.67	6.03	9.17	45.45	11.77	57.19
1976	8.19	6.12	9.31	47.44	12.03	59.47
1977	8.57	6.05	9.20	50.70	12.37	63.07
1978	9.00	5.92	9.00	53.09	12.62	65.71

DRILLING

Year	Total well completions					Total Ft. Drilled (Mil. Ft.)
	Oil	Gas	Dry	Service	Total	
1959	25,800	5,029	19,265	1,670	51,764	209.2
1960	21,186	5,258	17,574	2,733	46,751	190.7
1961	21,101	5,664	17,106	3,091	46,962	192.1
1962	21,249	5,848	16,682	2,400	46,179	198.6
1963	20,288	4,751	16,347	2,267	43,653	184.4
1964	20,620	4,855	17,488	2,273	45,236	189.9
1965	18,761	4,724	16,025	1,922	41,432	181.5
1966	16,780	4,377	15,227	1,497	37,881	166.0
1967	15,329	3,659	13,246	1,584	33,818	144.7
1968	14,331	3,456	12,812	2,315	32,914	149.3
1969	14,368	4,083	13,736	1,866	34,053	160.9
1970	13,020	3,840	11,260	1,347	29,467	142.4
1971	11,858	3,830	10,163	1,449	27,300	128.3
1972	11,306	4,928	11,057	1,464	28,755	138.4
1973	9,902	6,385	10,305	1,010	27,602	138.9
1974	12,784	7,240	11,674	1,195	32,893	153.8
1975	16,408	7,580	13,247	1,862	39,097	178.5
1976	17,059	9,085	13,621	1,690	41,455	185.3
1977	18,912	11,378	14,692	1,497	46,479	215.0
1978	17,775	13,064	16,218	1,456	48,513	231.4

OIL SUPPLY

(Thous B/D)

Year	Domestic production			Imports		Total
	Crude oil	Gas liquids	Total	Total	% of Supply	
1959	7,053	880	7,933	1,780	18.3	9,713
1960	7,035	930	7,965	1,815	18.6	9,780
1961	7,183	991	8,174	1,917	19.0	10,091
1962	7,332	1,021	8,353	2,082	20.0	10,435
1963	7,542	1,098	8,640	2,123	19.7	10,763
1964	7,614	1,155	8,769	2,258	20.5	11,027
1965	7,804	1,210	9,014	2,468	21.5	11,482
1966	8,295	1,284	9,579	2,573	21.2	12,152
1967	8,810	1,410	10,220	2,537	19.9	12,757
1968	9,096	1,503	10,599	2,840	21.1	13,439
1969	9,238	1,589	10,827	3,166	22.6	13,993
1970	9,637	1,660	11,297	3,419	23.2	14,716
1971	9,463	1,692	11,155	3,926	26.0	15,081
1972	9,441	1,744	11,185	4,741	29.8	15,926
1973	9,208	1,738	10,946	6,256	36.4	17,202
1974	8,774	1,688	10,462	6,112	36.9	16,574
1975	8,375	1,633	10,008	6,056	37.7	16,064
1976	8,132	1,604	9,736	7,313	42.9	17,049
1977	8,244	1,618	9,862	8,787*	47.1	18,649
1978	8,701	1,568	10,269	8,031*	44.5	18,300

COMPOSITE VALUE AND PRICE OF OIL AND GAS

Year	Value at wellhead (Million dollars)			Natural gas price ($ per bbl)	Composite price oil & gas (per bbl)	
	Crude oil	Natural gas	Total		Current dollars	Constant 1978 dollars
1959	7,473	1,557	9,030	70	1.88	4.24
1960	7,420	1,790	9,210	76	1.86	4.12
1961	7,566	1,996	9,562	81	1.88	4.13
1962	7,769	2,145	9,914	84	1.89	4.07
1963	7,966	2,328	10,294	85	1.88	3.99
1964	8,017	2,387	10,404	83	1.84	3.85
1965	8,147	2,495	10,642	84	1.83	3.74
1966	8,727	2,703	11,430	85	1.82	3.61
1967	9,375	2,899	12,274	86	1.87	3.60
1968	9,795	3,169	12,964	88	1.88	3.46
1969	10,427	3,456	13,883	90	1.93	3.38
1970	11,174	3,746	14,920	92	1.97	3.28
1971	11,693	4,097	15,790	98	2.07	3.28
1972	11,707	4,186	15,893	1.00	2.08	3.16
1973	13,058	4,894	17,952	1.17	2.38	3.42
1974	21,581	6,573	28,154	1.64	3.91	5.13
1975	23,116	8,945	32,061	2.40	4.73	5.66
1976	24,230	11,572	35,802	3.13	5.37	6.11
1977	24,585	15,826	40,411	4.27	6.16	6.62
1978	28,583	17,574	46,157	4.83	6.78	6.78

DISCOVERIES (New reserves added)

Year	Liquid Hydrocarbons (Million barrels)			Natural gas (Trillion cu. ft.)	Crude Oil per new oil well (Barrels)	Nat. gas per new gas well (mil. cu. ft.)
	Crude oil	Gas liquids	Total liquids			
1959	3,667	703	4,370	20.8	142,131	4,132
1960	2,365	725	3,090	14.2	111,630	2,696
1961	2,658	695	3,353	17.3	125,965	3,059
1962	2,181	733	2,914	19.6	102,640	3,359
1963	2,174	878	3,052	18.4	107,156	3,877
1964	2,665	609	3,274	20.4	129,243	4,212
1965	3,048	832	3,880	21.5	162,464	4,545
1966	2,964	894	3,285	20.4	176,638	4,650
1967	2,962	930	3,892	22.0	193,228	6,000
1968	2,455	686	3,141	13.8	171,306	3,998
1969	2,120	281	2,401	8.5	147,550	2,082
1970*	12,689	308	12,997	37.6	974,578	9,782
1971	2,318	347	2,665	10.1	195,480	2,637
1972	1,558	238	1,796	9.8	137,803	1,987
1973	2,146	409	2,555	6.5	216,724	1,018
1974	1,994	620	2,614	8.5	155,976	1,174
1975	1,318	619	1,937	10.8	80,327	1,425
1976	1,085	834	1,919	7.4	63,603	815
1977	1,404	291	1,695	12.3	74,236	1,081
1978	1,347	596	1,943	10.7	75,795	822

GAS SUPPLY AND PRICE

Year	Supply (Billion cu. ft.)				Prices (Cents per MCF)	
	Production	Imports		Total	Current cents	Constant 1978 cents
		Total	% of supply			
1959	12,046	134	1.1	12,180	12.9	29.01
1960	12,771	156	1.2	12,927	14.0	31.01
1961	13,254	219	1.6	13,473	15.1	33.15
1962	13,877	401	2.8	14,278	15.5	33.41
1963	14,747	406	2.7	15,153	15.8	33.57
1964	15,462	442	2.8	15,904	15.4	32.21
1965	16,040	457	2.8	16,497	15.6	31.92
1966	17,207	480	2.7	17,687	15.7	31.11
1967	18,171	564	3.0	18,735	16.0	30.79
1968	19,322	652	3.3	19,974	16.4	30.21
1969	20,698	727	3.4	21,425	16.7	29.29
1970	21,920	821	3.6	22,741	17.1	28.47
1971	22,493	935	4.0	23,428	18.2	28.83
1972	22,532	1,019	3.4	23,551	18.6	28.29
1973	22,648	1,033	4.4	23,681	21.6	31.05
1974	21,601	959	4.2	22,560	30.4	39.85
1975	20,109	953	4.5	21,062	44.5	53.23
1976	19,952	964	4.6	20,916	58.0	65.95
1977	20,025	1,011	4.8	21,036	79.0	84.85
1978	19,666	965	4.7	20,631	89.5	89.50

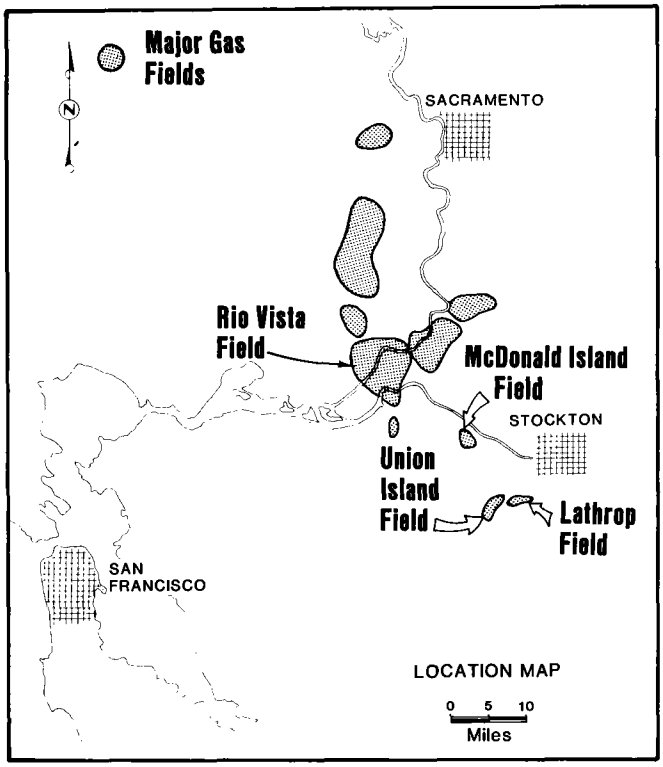
FINANCIAL DATA

Year	Rate of return (%)		Exploration and development outlays (Million dollars)		
	U.S. oil companies	All mfg. companies	Larger companies	Independents	Total
1958	7.2	8.6	2,241	1,984	4,225
1959	8.5	10.4	2,455	1,895	4,350
1960	8.8	9.2	2,412	1,788	4,200
1961	8.7	8.9	2,417	1,583	4,000
1962	8.8	9.8	2,848	1,577	4,425
1963	9.8	10.3	2,452	1,673	4,125
1964	10.1	11.6	2,817	1,633	4,450
1965	11.3	13.0	2,847	1,363	4,210
1966	12.3	13.4	2,990	1,260	4,250
1967	12.6	11.7	3,212	1,153	4,365
1968	12.2	12.1	4,087	1,303	5,390
1969	10.9	11.5	3,786	1,482	5,250
1970	9.9	9.3	3,119	1,656	4,775
1971	9.3	9.7	2,740	1,160	3,900
1972	9.6	10.6	4,225	2,255	6,480
1973	10.5	13.0	5,275	2,865	8,140
1974	14.6	14.9	8,550	3,905	12,355
1975	12.9	11.6	6,830	3,420	10,250
1976	15.2	13.9	8,646	5,864	14,510
1977	14.2	14.2	10,305	6,195	16,500

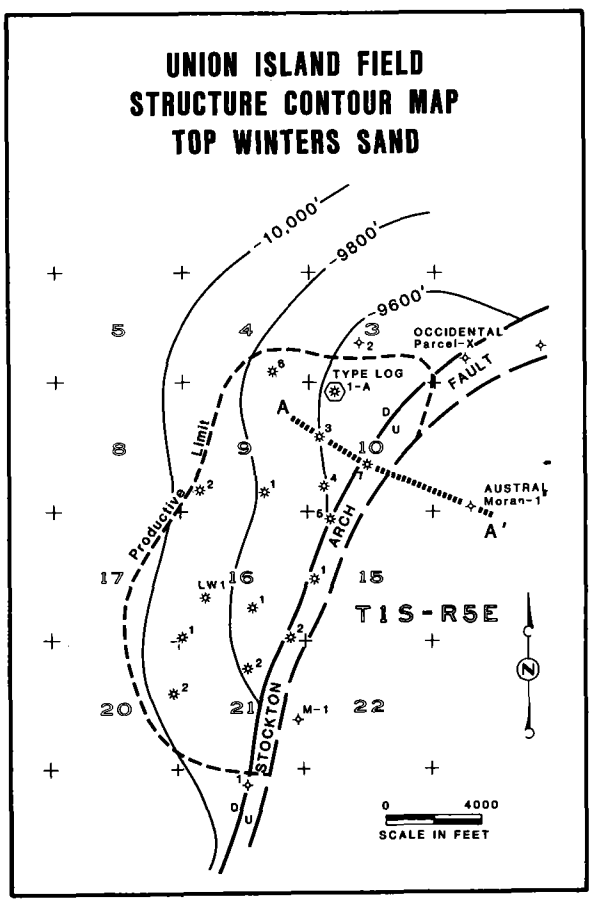
PACIFIC SECTION AAPG FIELD SUMMARIES

UNION ISLAND GAS FIELD

D. R. HILL



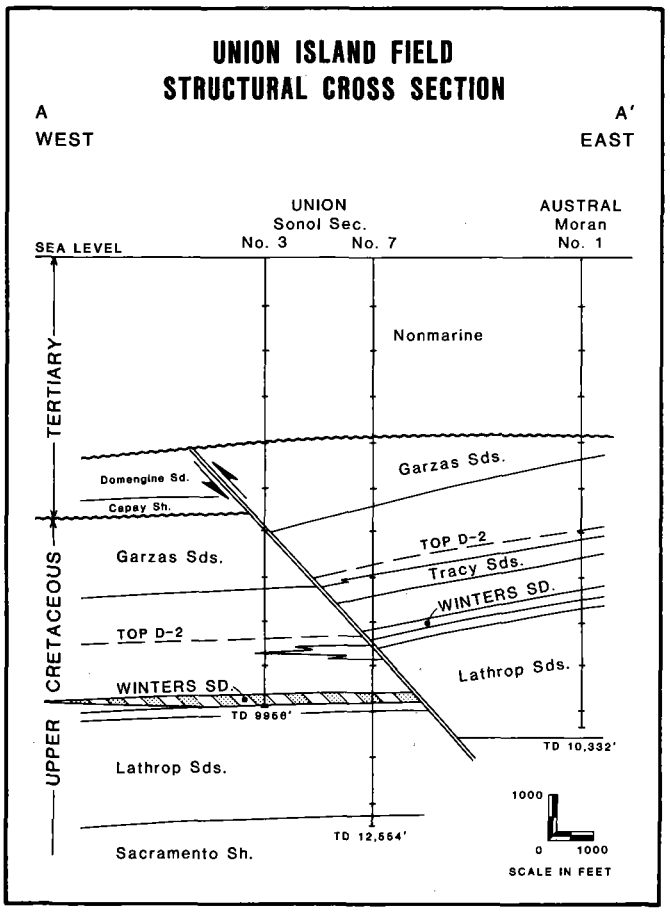
DISCOVERY WELL:	Union Sonol Securities #1A, Sec. 10, T1S, R5E, MDB&M San Joaquin County, California TD 10,000'
DISCOVERY DATE:	February, 1972
INITIAL PRODUCTION:	4450 Mcf gas per day
PRODUCTIVE FORMATION:	Upper Cretaceous, Winters sandstone
TRAP:	Structural-Stratigraphic
AVERAGE WELL DEPTH:	10,400'
DEEPEST WELL:	Union U.P. #2 Sec. 9, T1S, R5E TD 12,936'
1978 FIELD PRODUCTION:	22,160,865 Mcf
TOTAL WELLS DRILLED:	18
PRODUCING AS OF 1/1/80:	15
PROVEN ACREAGE:	3200± acres

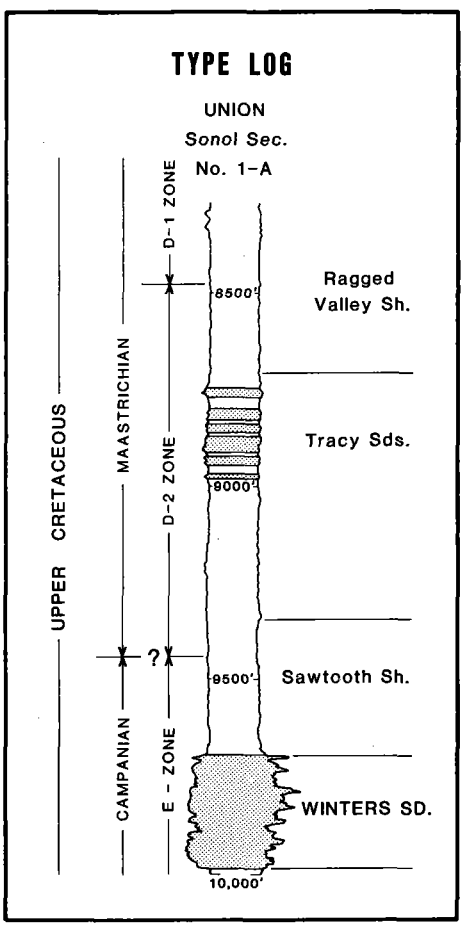


STRUCTURE: A low-relief structural bowing with less than 200' of structural closure lies beneath the Stockton Arch fault at the Union Island field. This structural bowing dies out up section and is not present above the Ragged Valley Shale. The Stockton Arch fault and stratigraphic changes within the Winters sand interval combine to form the trap for the large gas accumulation at Union Island.

STRATIGRAPHY: In the field area, the Winters sand was deposited as part of a large deep-water submarine fan complex. A lobe of Winters sand up to 300' thick extends across the Union Island field area and shales out to the northeast. This sand body is one of many Winters sand lobes in the area which were developed in the middle-fan portion of the depositional system. Each is composed of a complex series of amalgamated sand channel fills which are characterized by numerous lateral and vertical stratigraphic changes. These changes have an important affect on the shape and size of the gas accumulation. The sandstones are typically light gray, fine to coarse grained, moderately sorted, and are locally well cemented by calcite. Quartz (50%±), feldspar (30%±) and lithic fragments (10%±) are the predominant detrital components of these sands.

RESERVOIR: The Winters sand is a stratigraphically complex unit, but forms an excellent reservoir for gas. Core and log analysis indicate an average porosity of 20 to 22% and permeabilities ranging from 70-200 md. in the productive zones. Net pay thickness varies from 40 feet to about 245 feet. Many of the wells have in excess of 100 feet of net gas sand. The original bottom hole reservoir pressure was 5050± pounds. Since gas production began, the reservoir pressure has gradually declined suggesting that an active water drive is not present.





PRODUCTION: A total of 18 wells have been drilled in the field area by Union Oil Company and Phillips Petroleum. Fifteen of these wells have been completed as gas producers. Gas production varies from a high of 110,000 Mcf per day during the peak winter demand period to a low of 4,000± Mcf day during the summer. Average BTU of the gas is 890. Total cumulative gas production through July 1979 was approximately 76 million MCF. Small amounts (4 B/D) of 29° gravity condensate are also produced. When the field is producing at maximum rates, 400 to 500 barrels per day of water are produced. Normal completion practice is to run 13-3/8 inch casing to 600±, 9-5/8 inch to 6000±, and 5-1/2 inch to bottom. Tubing is then run in the cased holes and the wells are perforated for production.

CONCLUSION: The Union Island field is the result of a series of unique structural and stratigraphic circumstances which combine to forma a large hydrocarbon accumulation. Structural closure is provided by a gentle structural bowing against the Stockton Arch fault. Superimposed on this structural configuration is the Winters sand lobe with its complex internal stratigraphy which directly affects the size and shape of the gas accumulation. These factors have combined to form the largest Winters sand gas accumulation found to date in the Sacramento Valley.

Lee Krystinik Wins Levorsen Award for Outstanding AAPG Paper

At the recent AAPG–SEPM–SEG Pacific Section meeting in Bakersfield, Lee F. Krystinik of the USGS in Menlo Park was voted to receive the A. I. Levorsen Memorial Award for the outstanding AAPG paper. Krystinik's paper was entitled, "Pore Filling Cements: Products of Shale Dewatering in the Upper Miocene Stevens Sandstone, Elk Hills Field, Kern County, California."

The Levorsen award has been given at each of the AAPG section meetings since 1967. Each society within the Pacific Section is invited to select judges for this important award. Actual presentation of the award will take place at the San Francisco meeting in 1981. Serving as judges at this year's meeting were Bonnie Bloeser and Don Ware for the LABGS, Dale Kunitomi and Mark Traut for the CGS, Brick Robinson for the SJGS, and Hugh McLean, Tom Wright, and Chris Christensen for the NCGS.

—Bob Nesbit

NEW PUBLICATIONS

Four professional papers prepared under the San Francisco Bay Region Environment and Resources Planning Study were released during 1979. The study was jointly supported by the U.S. Geological Survey and the Department of Housing and Urban Development with the participation of the Association of Bay Area Governments. The professional papers are described below.

Professional Paper 941-B, "Seismic Safety and Land-Use Planning," by M. L. Blair and W. E. Spangle (1979) discusses data needed for effective planning and the methods that can be used by local and regional governments to reduce earthquake risk to acceptable levels.

Professional Paper 943, "Flatland deposits—Their Geology and Engineering Properties and Their Importance to Comprehensive Planning," by El J. Helley and others (1979) describes how knowledge of the deposits and the processes that formed them may be incorporated into planning for better use of the land.

Professional Paper 944, "Relative Slope Stability and Land-Use Planning," by T. H. Nilsen and others (1979) discusses how a regionwide knowledge of relative slope stability may be used to improve both planning and day-to-day decisions of land use.

Professional Paper 945, "Quantitative Land-Capability Analysis," by R. T. Laird and others (1979) describes a method of evaluating land-use proposals by estimating the costs that are related to geologic and hydrologic characteristics.

Each of the reports includes examples of actual applications of earth-science information to planning and decisionmaking. The reports focus on the nine-county, 7400-square-mile San Francisco Bay region, they bear on an issue that is of national concern — how best to accommodate orderly development and growth while protecting our national resources. Although many earlier Bay Region Study products were provided free, the printing costs for these reports dictate that they be sold. Copies are available for inspection at: Public Inquiries Office, U.S. Geological Survey, Room 504, Custom House, 555 Battery Street, San Francisco, California; and at our Western Region headquarters, 345 Middlefield Road, Menlo Park, California; or may be ordered by mail from the Branch of Distribution, U.S. Geological Survey, 1200 South Eads Street, Arlington, Virginia 22202. If you have any questions, please call our Wester Region representative, W. J. Kockelman, Office of Land Information and Analysis, at (415) 323-8111, ext. 2236.

RECOMMENDED READING

U. S. GEOLOGICAL SURVEY

P 1063: Stratigraphy, petrology, and some fossil data of the Roberts Mountains Formation, north-central Nevada, by T. E. Mullens — $5.00.

P 1100: Geological survey research, 1978 — $6.50.

P 1118: On modeling magnetic fields on a sphere with dipoles and quadrupoles, by D. g. Knapp — $3.00.

P 1158-A, B, C: Geologic studies in White Pine County, Nevada (published as one volume) — $3.00.

B 1368-B: Stratigraphy, structure, and economic geology of the Iliamna quadrangle, Alaska, by R. L. detterman and B. L. Reed — $3.75.

Circular 804-B: The United States Geological Survey in Alaska: Accomplishments during 1978, by K. M. Johnson and J. R. Williams, editors — Free.

WASHINGTON GEOLOGIC NEWSLETTER, vol. 8, no. 1, Jan. 1980

Utilization of Washington,'s geothermal energy resources, by R. Gordon Bloomquist.

OREGON GEOLOGY, vol. 42, no. 4, April 1980

Geothermal exploration in Oregon, 1979, by Joseph F. Riccio, and Dennis L. Olmstead.

CALIFORNIA GEOLOGY, vol. 32, no. 2, February 1980

Programs and functions of the California Division of Mines and Geology, by James F. Davis.

Drought and ground deformation, Cambria, San Luis Obispo County, California, by George B. Cleveland.

Geomorphic Provinces map of California, by Olaf P. Jenkins.

California WELL SAMPLE Repository.

CALIFORNIA GEOLOGY, vol. 33, no. 4, April 1980

The First Century, by Gordon B. Oakshott.

Experiencing the 1906 earthquake at Palo Alto, California, by Olaf P. Jenkins.

The Livermore Earthquakes of January 1980, Contra Costa and Alameda Counties, California, by CDMG staff.

Geologic and tectonic setting of the epicentral area, Livermore Earthquakes of January 1980, by Gordon B. Oakeshott.

SCIENCE, vol. 201, 1 Sept. 1978

Earthquake swarms along the San Andreas Fault near Palmdale, southern California, 1976 to 1977, by K. C. McNally, H. Kanamori, J. C. Peckmann and G. Fuis.

BOOKS

THE GREAT WATERSHED OF CALIFORNIA, by Olaf P. Jenkins. 1978. Published by and available from Angel Press, 171 Webster Street, Monterey, CA 93940

$4.00 (Paperback)

OIL SHALE AND TAR SANDS TECHNOLOGY, RECENT DEVELOPMENTS. Energy Technical Review No. 49. Chemical Technical Review 137. By M. W. Ranney. 1979. Noyes Data Corp. Mill Road at Grand Ave., Park Ridge, N.J. 07656. 430 pa. (hard cover)

$48.00

PALEOGEOGRAPHIC PRINCIPLES OF OIL AND GAS PROSPECTING, by N. I. Markovskii. Translated from Russian by R. Teteruk-Schneider. 1978. Distributed in USGS by Halstead Press, a Division of John Wiley & Sons., Inc. 605 Third Ave., New York, NY 10016. 256 pages. (hard cover).

$37.50

THE SUTTER BUTTES OF CALIFORNIA — A study of Plio-Pleistocene volcanism, by Howel Williams and G. H. Curtis. 1977. Univ. of Calif. Publications in Geological Sciences, vol. 116, (U.C. Berkeley and L A) 60 p. (hard cover).

$10.00

San Joaquin

New officers for 1980–81 are:

President ..... Rex Young (Buttes)

President-Elect ..... Gene Tripp (Depco)

Vice-President ..... Jack West (Occidental)

Secretary ..... Ken Hersh (Occidental

Treasurer ..... Brad Newman (Getty)

At the May 13th meeting of the S.J.G.S., John Silcox, acting for Chevron, presented a check for $50,000 to the state core repository (Jim Weddle accepted the donation).

The members of the S.J.G.S. wish to thank the contributors to the "Rod Colvin Fund:" Wes Bruer, Occidental Petroleum, Hy Seiden, Rachel Joy Colvin, Bud Sherman, Jim Traxler, Mary Merrill, Jack Clare (Argonaut), Ruth Hamilton, Marion Hamilton, Vic Church, Gordon Oakeshott, Bruce MacPherson, John Lidstrom, Tom Baldwin, Warren Addicott, Geological Exploration, Inc., and Bob Burns (Burns Geological Exploration). The $1115.00 in contributions to the "Rod Colvin Fund" were used for the publication of "Selected Papers" this spring.

Bakersfield College Geotech Program

The San Joaquin Geological Society wishes to acknowledge the efforts of Bakersfield College and its geological department in helping the oil industry.

Besides the Geo-tech Program and the university prep courses, the college has over recent years added more technical courses. These programs range in scope from Petroleum Technology 51 (Rough Neck School), to an Associate of Arts degree in Petroleum Techonology–Refining.

Petroleum Technology 51, two weeks of floorman training, has been given a stamp of approval by the industry, shown best by Montgomery Drilling's refusal to hire new "rough-necks" unless they have this course.

The Petroleum Technology–Refining curriculum is heartily supported by Tosco. For those high school students interested in completing the two-year program; Tosco offers summer employment while in college and full time employment upon graduation.

Courses involved in developing Petroleum Techonolgy–Production, although primarily for the upgrading of field personnel in industry, are often frequented by geologists and othes from our local exploraton and production companies. These courses include: "Wire-Line Log Analysis" (nine weeks — introduction; 9 weeks — advanced application); a six week course covering hydro-fracturing, well cementing, sand control and fundamentals of acidizing; and a nine week course in logging (both cased hole logging and oilfield production logging). There are also courses teaching about oilfield instrumentation and single-pass generators. These technical courses are being taught by professionals in the field, with the official school "red-tape" being handled by Bakersfield College, a cooperative effort which is yielding good results.

(Information regarding Bakersfield College was supplied in an interview with Stanley E. Karp, Professor of Geology, Bakersfield College. Thank you Mr. Karp and "P.S." I love you, Mr. Karp.)

TRANSFERS — NEW HIRES

Robert R. Morrison transferred March 1, 1980 as Exploration Manager to Occidental de Argentina, in Mendoza, Argentina. Don F. Collins accepted the position of Exploration Manager, Western Division, vacated by Bob; with Jack West moving up to position as senior geologist.

Tenneco's Gary Fitzsimmons transferred in March to their Denver, Colorado office.

Allen Waggoner, a graduate of San Diego State, began his career as exploration geologist with Tenneco, last December.

Buttes manager, Rex Young is complementing his staff with the addition of Joe Dunwoody and Bruce Robinson.

Coast

New officers for 1980–81 are:

President ..... Gary D. Bell (Consultant)

President-Elect ..... Wallace A. Jensky II (ARGO)

Vice-President ..... Kevin Lant (Conoco)

Secretary ..... Mark Trout (Union)

Treasurer ..... Dr. Bruce Luyendyk (UCSB)

In our last issue, we reported that the Ventura County Board of Supervisors had decided to go ahead with a revision of their Ordinance Codes for oil permits. They have now received a $20,000 government grant for that purpose and Dennis Davis, Planning Manager, told the Planning Commission that he expects to bring the revision to their attention late this year.

In August, 1977, Argo Petroleum Corporation requested an exploratory well site within the Los Padres National Forest Rare II Area. When no action had taken place by last October (1979), Argo increased its efforts and on April 14th, Argo is pleased to report that the Forest Supervisor in San Francisco has approved its request. The pending well is in the Upper Ojai Valley. There is a stipulation in the approval that upon production, Argo would have to apply again to drill any further.

It is important to note that with persistence, and adequate safeguards, well sites can be obtained within environmentally sensitive Rare II Areas.

—Gary Nulty

ALASKA and SACRAMENTO NO REPORT

Phillip d'Aigle & Company

EXECUTIVE SEARCH CONSULTANTS/IN CALIFORNIA (714) 497-4863

Northern California

New officers for 1980–81 are:

President ..... John O'Rourke
President-Elect ..... Ed Frankovic
Vice-President ..... Dave Stearns
Program Director ..... Pete Miller
Secretary ..... Bill Pipes
Treasurer ..... Greta Heintz
Counselors ..... Chuck Kirschner
Bob Carter

The NCGS has 295 members, 75 of which are new to the society. Nearly 120 of these members initiated our new meeting place at the Elks Lodge in San Francisco in January, which was the start of our AAPG Distinguished Lecturer Series. All the presentations have been excellent and well-received. John Horne startled the assembled throng in March when he showed several fossil tree trunks and dinosaur footprints protruding from ceilings in coal mines. Frequently they fall and present a serious hazard to miners.

After 30 years with Chevron U.S.A., Bob Ortalda has elected early retirement and will open a consulting office near his home in Tiberon, California. Rogers Hardy recently joined Natomas International in San Francisco and is busy with exploration programs in Indonesia.

PACIFIC SECTION AAPG MEMBERSHIP REPORT

May 1980

Northern California Geological Society		176
	honorary	5
		181
Sacramento Petroleum Association		51
San Joaquin Geological Society		275
	honorary	3
		278
Coast Geological Society		150
	honorary	2
		152
Los Angeles Basin Geological Society		438
	honorary	8
		446
Alaska Geological Society		28
Other		222
TOTAL		1358

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

Los Angeles

Union Oil International has acquired several new employees in Los Angeles, including geophysicists Michael Hankins, Warren Mautz, Alan Pinkerton and Doug Thomas from Colorado School of Mines, Bob Duffy from University of Houston, and Susan Allingham from U.S. Riverside. Also joing Union International Los Angeles are geophysicists Ira Pines, formerly with Conoco, Ponca City; Les Edwards from Gulf Oil, London, and Paul Ware formerly with B. P. in London. Jim Groom, Union International, has been made Regional Geophysicist for Latin America & Africa. Norm Christie has been made Regional Geophysicist for Union's newly created Midest Region.

LA BASIN CALENDAR

June Meeting—Dick Hester — *"Jungle Geology of Guatamala."*

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

VOLUME THIRTY-FIVE | JUNE – JULY – AUGUST 1980 | NUMBER THREE

Testimony for Public Hearing On the Draft Environmental Impact Statement for Proposed OCS Lease Sale #53

June 16, 1980
Santa Rosa, California
On Behalf of Pacific Section, American Association of Petroleum Geologists
T. L. Wright, President

I'm speaking on behalf of the Pacific Section of the American Association of Petroleum Geologists, which numbers about 1400 earth scientists, most of them here in California. Our worldwide membership is more than 25,000.

We are the people who explore for oil and gas: Who evaluate the results of surveys and past wells, pick the locations for wildcat wells, and try to estimate the potential reserves in our prospects or our discoveries. I will be talking about those geological aspects of the Draft EIS which fall within our organization's field of expertise.

The Draft EIS for proposed OCS Lease Sale #53 contains a rather incomplete discussion of past exploration and potential petroleum resources in the sale area. Many of the misunderstandings and misrepresentations which have appeared in testimony and in the media are due to these deficiencies.

What about past exploration? This is no virgin territory where unknown hazards might lurk. There was an earlier lease sale in 1963, and 20 wells were drilled on those leases from 1963 to 1967. Ten of these wells were in the Bodega Basin off Marin and Sonoma Counties, 3 in the Pt. Arena Basin off Mendocino County, and 4 in the Eel River Basin off Humboldt and Del Norte Counties. Most of the data from these wells are publicly available, and summaries have been published. There were no accidents,no geologic hazards encountered in any of the 20 wells.

Nor is the Northern California coast a stranger to onshore drilling.There are two gas fields near Eureka with 40 years of production. Several wildcat wells have been drilled near Pt. Arena, and four deep wildcats — plus several shallow ones — on Pt. Reyes. As with the OCS wells, there have been no accidents related to these onshore wells.

What does this past drilling tell us about geologic hazards? None of the offshore wells found high formation pressures that might result in blow-outs. Onshore in the Eel River Basin some wells have found abnormal pressures — but this is a gas province, and in the unlikely event that a gas well blows out, no environmental pollution occurs. Also, its' worth noting that the previous offshore wells were drilled through the winter season without problems.

What do all these prior wells tell us about the oil potential of the Sale #53 tracts? Is there hope after 20 dry holes? The answer is yes — oil exploration often pulls success out of a string of failures. Many wells had been drilled on the North Slope before the giant Prudhoe Bay discovery — at least 6 dry holes were on that same trend. And last year's major Hibernia discovery offshore Newfoundland followed more than 50 noncommercial wells.

More to the point, in the drilling off central and northern California in the 60's, all but 2 of the 15 wells in the Santa Cruz, Bodega and Pt. Arena basins had shows of oil and gas. Five of these wells found significant shows over considerable intervals but only one — off Pt. Arena — was tested, recovering a small amount of oil. None of these wells looked like a discovery that could compete with the cheap imported crude of the '60's.

But since that time, oil exploration has seen advances in many aspects besides the price of oil. New ideas and new technology are leading to major oil discoveries and can do so in the Sale #53 area. The concept of plate tectonics has revolutionized geology and has major applications to petroleum exploration along continental margins. Digital seismic processing gives us a view of geological structures deep underground that's imcomparably better than we had in the '60's. We can now determine whether a rock unit has generated oil or gas, and how much. And on a local basis, discoveries in the Santa Barbara Channel in the 1960's have greatly advanced our understanding of oil reservoirs in siliceous shales. These and other advances will make it much easier to find significant oil resources in the Sale #53 area.

And how much oil can we expect to find? On this subject, the Draft EIS is both misleading and inadequate. First it gives estimates for the "proposed sale area," but these estimates are for the Sale #53 Tracts **only**; those amount to just 15% of the area within 5 offshore basins. For the entire central and northern California OCS, the "total risked resources" would be closer to 3 billion barrels of oil than to the 548 million barrels listed in the EIS. It would be noted that the limited availability of tracts has various disadvantages: it will prolong exploration through additional lease sales; reduce the quantity and flexibility of drilling and survey vessels; and preclude the "safety in numbers" effect which prevails when a broadly-based offshore exploratory program is in progress.

Second, let's see just what's meant by these U.S. Geological Survey estimates. There's nothing **wrong** about them, they're simply misunderstood. They tell us that these Sale #53 Tracts — just 15% of the prospective area, remember — **probably** contain about half a billion barrels of recoverable oil. There's only 1 chance in 20 that **less** than 200 million barrels are present, according to what the survey calls a "Monte Carlo Analysis." They go on to say that there's only 1 chance in 20 of finding **more** than 1.312 billion barrels in those tracts. That's a substantial amount, especially when it's compared with total known U.S. reserves of 30 billion barrels.

But let's examine those 1 in 20 odds. Actually, the business of petroleum exploration has always operated at longer odds than these. Only 1 wildcat well in 13 finds enough oil to warrant completing and putting on production. Only 1 wildcat in 50 finds enough to justify drilling additional wells to develop the discovery. And here's some statistics that are really startling: Half of the world's oil is contained in just 33 oil fields — the "supergiants" like Prudhoe Bay — out of a total of about 30,000 — that's 1 in a thousand. The U.S. has about 23,000 oil fields, but half our oil comes from a total of just 270 large fields: that's 1 in 85. So where the U.S.G.S. estimates stop — that chance of less than 1 in 20 — is where most of the oil is found. Those rare giant oil fields are what keep us in business — and our economy healthy. Naturally, if petroleum geologists knew **which** of our prospects would become giant fields, we would test those first and forget about the

rest. But we don't know — only the drill can tell us.

Could there be giant oil fields in the Sale #53 area? Certainly. All the necessary parameters are present — they only need to come together in the right combination.

The sedimentary basins of coastal and offshore California are the most favorable type for oil production. Eight billion barrels of oil has been found in the Los Angeles Basin, and each of the five Sale #53 Basins is as large or larger in area. In the onshore Santa Maria Basin, 750 million barrels of oil has been found to date: the Sale #53 Basins have a combined area nearly 10 times as great, and thus could contain 7 billion barrels.

One final geological aspect: the onshore Santa Maria Basin has 10 producing fields, but 2 large ones hold 300 million and 225 million barrels each. Most of the remaining 8, if found offshore, would be too small to develop. The Salinas Basin has only one significant field, the half-billion-barrel San Ardo. Cuyama Valley has two good-sized fields. All these are typical of what might be found offshore — and are **not** the type of prospect drilled in the '60's. In other words, the entire central and northern California offshore — not merely the token offerings of Sale #53 — would have a few very localized clusters of platforms, 1 to 3 for each large field. There is no basis for the fears of a widespread scattering of offshore facilities that would interfere with fishing or navigation.

These are some of the geological factors which should have been made explicit in the Draft EIS. In summary, we know a lot about the Sale #53 Basins; we know they don't present any risk of oil blowouts; we know they could contain several giant oil fields — but we don't know where. To find this energy which our country badly needs — and to plan for environmentally-safe development — we have to drill.

SPE ANNUAL MEETING

More than 8,000 scientists, engineers and managers from 15 nations will be searching for solutions to the world's energy problems at the Society of Petroleum Engineers Annual Technical Conference and Exhibition Sept. 21-24 in Dallas, Texas.

Recognized as the leading international forum on petroleum technology, the meeting features a Management and General Interest Session addressing public lands availability, worldwide exploration areas, exploration and production technology, alternative energy resources and capital requirements. Speakers include Cecil D. Andrus, secretary, U.S. Dept. of the Interior; Jack Birks, managing director, British Petroleum Co., Ltd.; Robert H. Nanz, vice-president, Shell Oil Co.; and L. W. Welch, Jr., president, Exxon Production Research Co. Other speakers include R. J. Goeken, president, Gulf Mineral Resources Co., and J. K. Ross, Jr., vice-president, capital markets group, Merrill Lynch White Weld.

The conference's 280-paper technical program will include authors from the United States, Saudi Arabia, the United Kingdom, Venezuela and the Netherlands. Authors will present their findings and answer questions on petroleum exploration, production and drilling developments.

An important addition to this year's meeting will be a symposium on finding and developing uranium and other ore sites through novel technology such as leaching and solution mining. The symposium will be conducted jointly by SPE and the Society of Mining Engineers.

LEGISLATION

The state legislature completed this session on August 29th. People again are safe in their homes and porperty until the legislature reconvenes in December. By then, there will be a different makeup which will perhaps be of a more conservative persuasion than the current one.

Assemblyman Lockyer (D-San Leandro) is expected to reintroduce legislation for a severence tax on oil and gas. It is rumored that this may not be a replacement of ad valorem taxes as his last bill, but a tax in addition to.

There will also be a new Congress in Washington which may be more friendly to our industry. Several Republican sponsored bills are working their way through that will ease the impact of the windfall profit tax on small producers and royalty owners. However, the burden will be shifted to others who are more successful.

JIM WEDDLE

REPORT ON THE ADVISORY COUNCIL

Since my appointment as Pacific Section's member on AAPG's Advisory Council, see Article IV of the Constitution, I have attended two meetings. Both have impressed on me the opportunities each of us has through our section's Executive Committee to directly influence AAPG activities. For instance, nominees for the six Association awards — Sidney Powers Memorial Medal, Honorary Member, Human Needs, Public Service, Distinguished Service and Journalism are recommended by the Advisory Council. Pacific Section has submitted candidates and our outstanding individuals will be considered. Nominations for Association officers are also recommended through the Council. Bud Reid from Bakersfield is AAPG's Vice President. Long range planning and professional ethics are also functions of the Council. I encourage each of you to make suggestions for nominees and other AAPG activities to Pacific Section's Executive Committee so that our section will continue to have an active role in AAPG's future.

D. L. ZIEGLAR

AAPG House of Delegates

H. Victor Church has replaced Louis C. Bortz as Chairman of the AAPG House of Delegates and will be serving until June 30, 1981.

AAPG NEW PUBLICATIONS

Stratigraphic Traps in Carbonate Rocks (AAPG Reprint Series No. 23), compiled by S. J. Mazzullo.

The volume is a collection of 10 papers from past Bulletins and Special Publications of the AAPG, citing oil and gas fields in which the stratigraphic traps were carbonate facies. Such a collection of case histories can be useful in understanding the role of carbonate rocks in the structure of new oil and gas fields.

The book also includes a bibliography of 140 papers to aid the researcher in finding other readings in both AAPG and non-AAPG sources.

Price of the book is only $7 ($6 with AAPG-SEPM member discount). 230 pages. Soft cover.

Deltaic Sand Bodies (Continuing Education Course Note No. 15, 1980), by James M. Coleman and David B. Prior. Materials covered in the book were prepared by the authors as lecture notes to be presented for a short course at the Denver annual meeting of the Association. Featured is a broad treatment of the depositional aspect of modern deltas, to include regional setting, process activity, and the role in sedimentation. These include alluvial valley and deltaic plain areas. Examples are offered from around the world. Ancient analogues are discussed. Photographs of core sections are displayed in this volume's large format.

Price of the book is only $8.00; $7.00 each with a purchase of ten or more copies. June 1980. 110 pages. Soft cover.

Problems of Petroleum Migration (AAPG Studies in Geology No. 10), edited by W. H. Roberts, III and R. J. Cordell.

The volume is a suite of 13 papers presenting differing views about the movement of hydrocarbons through the subsurface. Format is large, easy-to-read, 275 pages, index keyed to AAPG Cumulative Index Program, softbound.

Price of the book is only $18 ($15 with AAPG-SEPM member discount).

NEXT DEADLINE
PPG NEWSLETTER
OCTOBER 17, 1980

NEW BOOK

Directory of North American geoscientists engaged in mathematics, statistics and computer applications by the Mathematical Geologists of the United States (1980), available from Department of Geography, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061. 92 p. $2.75 (includes postage). The first directory which makes available the names and backgrounds of geoscientists engaged in mathematics, statistics, and computer applications in North America. Listed are over 200 individuals. The directory is designed as a reference for individuals, companies, universities and government with an interest in this rapidly developing interdisciplinary field.

Nevada Guidebook Reprint

Continuing interest in eastern Nevada is making us consider reprinting *Guidebook to the Geology of East Central Nevada, 1960,* which was published by Intermountain Association of Petroleum Geologists (one of our predecessor organizations) and Eastern Nevada Geological Society.

To order, address request to:

UTAH GEOLOGICAL ASSOCIATION
P. O. Box 11334
Salt Lake City, Utah 84147

NEWS RELEASE

The firm of Slosson and Associates, under the direction of DR. JAMES E. SLOSSON, has joined together with BRUCE BARRON and WILLARD C. (BILL) GERE to perform a regional scale analysis of the oil and gas potential of the Southern Ute Reservation (southwestern Colorado).

The work is being done for the Council of Energy Resource Tribes with a goal of promoting the general welfare of the 25 tribe member organization, through the protection, conservation, and prudent management of their energy resources. The Council is a non-profit organization created five years ago to help the energy-rich tribes develop their potential, garner the best possible price for their valuable resources, and to guarantee the environmental quality of reservation lands.

Alaska

New Hire:

Bruce Clardy, formerly with Louisiana Land and Exploration Company in Denver, has joined Sohio Alaska Petroleum Company as Exploration Supervisor in Anchorage.

Coast

The Coast Society closed the 1979-1980 year in grand fashion. Harry King of Conoco was the featured speaker at the June dinner meeting. His talk, entitled *'The North Tisdale's Oil Mine,'* was an arousing eye-opener to those in attendance. Harry provided a 'worms-eye view' of the peculiar idiosyncrasies of an oil reservoir which stimulated an informative question and answer period.

The grand finale of the 1979-1980 season was an impromptu presentation by Cliff Hopson (UCSB) and Robert Yeats (Oregon State) concerning the recent volcanic activity of Mt. St. Helens. Billed as *'A Night with Mt. St. Helens,'* Cliff and Bob left the audience of three hundred geologists and laypersons in awe of the former picturesque landmark. Their aerial reconnaissance of the pre-eruptive, eruptive and post-eruptive stages of the mountain depicted one of the many catastrophic possibilities of living in proximity to an active plate margin.

Transfers — New Hires

The number of industry geoscientists in the Coast area continues to grow. Conoco has three new geologists in Ventura: Steve Lawless, who has transferred from Oklahoma City office; Duane Covit, who comes to Conoco via Amoco, New Orleans and Rich Wheller, a new hire.

Getty Oil has added new-hire geologist Mike Ponek to its staff.

Union has added four to its exploration group: Charlie Schile, who transferred back to California after a stint in the U.K.; Clark Robertson and Rick Lawson, both new-hire geophysicists; and Lou Rothenberg, a new-hire geologist.

MARK TRAUT

Sacramento

Andy Stephens has become SPA President as a result of Dalton Pollard's resignation. Dalton is moving to Portland, Oregon, to take a new job. Pat Robinson was elected Vice President to fill Andy's old office. Don Pinnell remains Secretary-Treasurer.

The new C.I.P.A. film, *"Wildcatter,"* on the history of the California Oil Industry, was shown at a recent meeting. SPA has purchased a copy of the film for loan to service clubs, schools and interested groups in the Sacramento area.

The annual SPA Golf Tournament-Barbecue on April 18 at the Oakmoor Club in Stockton was a real success with 84 golfers and 120 steak eaters participating.f

SPA has contributed $1000 so far this year to the R. M. Pyles Boys Camp as a part of its continuing fund raising program for the camp.

We meet **every** Wednesday noon at the Steak and Ale restaurant, Franklin Boulevard at Florin Road, South Sacramento. Guests are most welcome, but should be warned to expect irreverant remarks, noise and confusion. The waitresses are pretty, though, and drinks are two for the price of one.

We have 251 members.

DON PINNELL

Postscript: Don Bain got married.

San Joaquin

PICNIC

San Joaquin Geological Society's annual "Fall Barbeque" will be Friday, September 5th, at the Kern River Picnic Grounds.

GOLF — 7:00 A.m. — North Kern Golf Course. Reservations: Barney Yancy 805−323-7931 (Shell-BKFD).*

TENNIS — 11:00 A.M. — Rio Bravo Tennis Club. Reservations: Dan Pasquini 805−648-2514 (Argo-Ventura).*

*or Magi Nielsen 805−395-8275 (Oxy-BKFD).

STEAK BARBEQUE — Kern River Picnic Grounds. Beer & Chips: 5:30 P.M. Dinner: 7:30 P.M.

MT. ST. HELENS

Dr. Robert Yeats is presenting a slide show of the Mt. St. Helens eruption to the San Joaquin Geological Society members and their families, Tuesday, September 9th, at the American Legion Hall. The hall will open at 6:45 P.M. with the talk commencing at 7:30 P.M. Beer, soft drinks and chips will be available.

SOMEBODY IS MOVING

OWEN KETRIDGE, geologist, joined Gulf, August 4th. Graduating from Fresno State this summer, Owen has already accumulated experience with the oil industry working two years with Cities Service and last summer with Hilliard Oil and Gas.

After 12½ years with Oxy, DAN PASQUINI joined Argo Petroleum August 1st, as an exploration geologist, in Ventura.

After 1½ years with Oxy, KEN HERSH left to open an office in Bakersfield for Northern Michigan Exploration.

After 1½ years away from Oxy, BRIAN BARRICK, came back, accepting a position as exploration manager for Oxy in Australia. Brian spent his time away from Oxy with Amoco.

MARK TRAUT, formerly with Union in Ventura, and GEORGE KENDALL, formerly with Kernridge, have joined Oxy in Bakersfield.

MAGI NIELSEN

FRIVOLITY

The Pengad Label Printers in Bayonne, N.J., recently reprinted some succinct, down-home definitions of various *systems of government*. The original author is unknown.

Socialism—You have two cows and give one to your lazy neighbor.

Communism—You have two cows; the Govt. takes both and gives you ¼ the milk.

Facism—You have two cows; the Govt. takes both and sells you the milk.

Nazism—You have two cows; the Govt. takes both and shoots you.

Bureau-ism—You have two cows; the Govt. takes both, shoots one, milks the other and throws the milk away.

Capitalism—You have two cows; you sell one and buy a bull.

RECOMMENDED READING

U. S. GEOLOGICAL SURVEY

P 1105: The Miocene Seldovia Point flora from the Kenai Group, Alaska, by J. A. Wolfe and Toshimasa Tanai — $4.50.

P 1129 A-I: Shorter contributions to geochemistry, 1979 (published as one volume) and includes Alaska, and general subjects — $4.50.

P 1145: Paleozoic and Mesozoic deformation in the central Sierra Nevada, California, by W. J. Nokleberg and R. W. Kistler — $2.75.

W 2061: Reconnaissance assessment of erosion and sedimentation in the Canada de los Alamos basin, Los Angeles and Ventura Counties, California, by J. M. Knott — $2.00.

Maps:

MF 1170: Map showing Holocene sedimentation rates in the northeastern Gulf of Alaska, by B. F. Molnia, W. P. Levy and P. R. Carlson — 75¢.

P 1126—A.J.: Shorter contributions to stratigraphy and structural geology, 1979 (not available in separate chapters). Includes articles on Grand Canyon, Arizona, Nevada, Alaska and California — $6.00

B 1482-A: Changes in stratigraphic nomenclature by the U. S. Geological Survey, 1978, by N. F. Sohl and W. B. Wright (includes rocks in Alaska, and eastern areas) — $3.75.

Maps:

MF 1051: Photoreconnaissance maps showing young-looking fault features in the southern Mojave Desert, California, by D. M. Morton, F. K. Miller and C. C. Smith — $5.25.

BOOKS

Annual review of energy, edited by Jack M. Hollander, Melvin K. Simmons and David O. Wood. Annual Reviews, Inc. (1979) Palo Alto, Calif. 559 pa. $17.00

Current in submarine canyons and other seavalleys, by Francis P. Shepard & others. Studies in Geology, no. 8, Am. Assoc. of Petroleum Geologists, 1979. 173 pages. $11.00 To members:$ 9.00

Environmental impact analysis handbook, edited by John G. Rau and David C. Wooten. McGraw-Hill, New York (1980). $36.50

Explorating Washington archaeology, by Ruth Kik with Richard D. Daugherty. University of Washington Press (1978) 112 p. $12.95 (cloth); $5.95 (paper)

The Oil and Gas directory, 1979-80. Oil and Gas Directory, Box 13508, Houston, 77019. 408 pages — $20.00

Two hundred years of geology in America, edited by Cecil J. Schneer. University Press of New England (1979) Hanover, N.H. 03755. 385 pa. $20.00

MAPS:

Topography of the oceans with Deep Sea Drilling Project sites through leg 64. Geologic Data Center and the Deep Sea Drilling Project. Scripps Institute of Oceanography (1979). Scale 1:47,520,-000. 1 sheet B&W.

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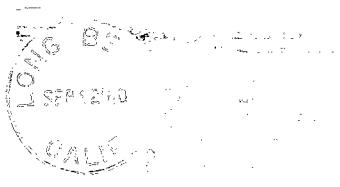

Richard L. Hester
1911 Montecito Dr.
Glendale, CA 91208

DA-AM

PACIFIC PETROLEUM GEOLOGIST NEWSLETTER

of the Pacific Section
American Association of Petroleum Geologists

VOLUME THIRTY-FOUR SEPTEMBER – OCTOBER – NOVEMBER 1980 NUMBER FOUR

The President's Corner: TELLING THE PUBLIC

OCS Lease Sale 53 and the Rosedale General Plan provide two examples of the Pacific Section's renewed initiative in public information. Any time that controversy, ignorance, or misrepresentation obscures the facts of petroleum exploration and potential resources, we have a clear professional duty not merely to our own members but to the public. Under our form of government it is the public that makes the decisions, either through their elected officials or directly via the initiative process. And at each election I'm pleasantly surprised at the public's ability to see through the cant and distortions, and make the intelligent choice; one such example is the rejection of Proposition 11, the "Big Oil" tax in last June's election.

But the public cannot make the right decisions unless it has access to the facts. The development of a workable, realistic national energy policy is essential to America's continued economic and social stability, yet that process continues to be frustrated by misinformation, faculty assumptions, and populist dogma. Within our own professional scope are several basic truths, vital to any solution to the energy crisis, which are not understood by the public or their representatives; for example:

1. Environmental damage does **not** inevitably – or even commonly – result from present-day petroleum exploration and/or development;

2. The United States has major undiscovered oil and gas resources both onshore and offshore, and their development would significantly reduce our energy problems;

3. Most major new domestic petroleum finds, especially in frontier areas, will not come on-stream until 5-10 years after discovery, so we must explore for them **now** or they will not be available to bridge the gap of the 1990's, when Middle East production (**or** our ability to pay for it) has dwindled, and before synfuels and alternate energy sources have reached full-scale production levels.

How do we get these facts before the public? It's not easy. The media not only determine the agenda for public discussion, but decide just what views and data will be heard. Because oil exploration has a mystique that draws the public interest, petroleum geologists have been able to place a few good articles in major newspapers. But our best opportunities for getting our professional insights into the media, and into the decision-making process, will come from controversial issues which attract the newspeople. At public hearings or on the editorial pages, when distortions or ignorance obscure the facts of energy resource development, we have the obligation to respond.

A formal statement from an established professional society usually compels attention and respect. But we must not misuse this instrument. First, we must not stray outside of our expertise. AAPG is a scientific society, not a trade group. There are many issues – such as Proposition 11 – which would affect the professional well-being of many of our members, yet do not involve the technical substance of petroleum geology. So when we feel compelled to challenge some outrageous claim or proposal, we should consider whether an individual response might be more appropriate than an official statement from Pacific Section AAPG. Also, on some technical issues it can be very helpful for the local geological society to make a statement in addition to AAPG (or instead of AAPG if it would avert a skeptical reaction from the anti-oil camp).

Second, no individual officer or committee chairperson should be given a blank check to make official statements in the name of his/her organization. Over the past decade, national AAPG officers on one or more occasions have placed the association on record as supporting a position contrary to the consensus of the membership. To avoid this possibility, yet facilitate rapid response on urgent issues, the Pacific Section Executive Committee at its September 9th meeting adopted the following policy:

"Prior to any Section officer, Section representative or committee chairperson issuing a statement (written or verbal) in the name of the Pacific Section AAPG, he or she must have the approval of at least three members of the Executive Committee."

This policy parallels the guidelines now followed by national AAPG. It permitted rapid action on the Rosedale General Plan issue; the draft letter to the five Kern County Supervisors was handed or read to three Executive Committee members and mailed the following day. Our members can help make this a vital program by phoning the Pacific Section President or another officer whenever they become aware of a local or state issue that would benefit from AAPG input – or clip and send us that outrageous editorial.

In addition to "putting out fires" with statements to the media and at public hearings, the Section's Executive Committee is outlining a continuing, grassroots public information program. Wayne Estill, full of enthusiasm after his key role in beating down Proposition 11, has accepted chairmanship of the previously inactive Public Affairs Committee. We plan to have that committee work with our affiliated local societies to set up Speakers' Bureaus; the Section's role would include providing slides and background data on various aspects of geology, petroleum exploration, and energy resources, and pooling ideas on how best to gain an audience before civic groups, schools, etc. I've tried this and it's fun! – So when the election furor and the holidays are past, I'll be calling for volunteers to hit the fried chicken and swiss steak circuit, We've got some vital truths to sell, so don't be shy!

Pacific Section Fights Rosedale General Plan

"CLOSED to Oil Exploration and Development." During the past ten years that label has been added to the maps in many of America's most promising sedimentary basins: the Santa Barbara Channel, Alaska, the Wyoming/Montana Overthrust Belt, and elsewhere. This is a movement, based on public ignorance and unfounded environmental fears, which few geologists can accept; we know too well the major energy resources which have been locked away despite the nation's need for energy self-sufficiency. Though we cannot

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NEXT DEADLINE
PPG NEWSLETTER
JANUARY 7, 1981

Pacific Section Fights Rosedale General Plan

(continued from page one)

accept this, many have become resigned to seeing a number of unexplored or lightly drilled areas both onshore and offshore declared off-limits.

Imagine, however, the outrage among San Joaquin petroleum geologists when, on September 15, the Kern County Planning Commission asked the county's Board of Supervisors to place this "CLOSED" label on 50,000 acres in the heart of Kern County's oil patch. The Rosedale General Plan, as proposed, placed severe limits on future development of existing fields, and all but prohibited exploratory activities. And this is no pristine wilderness; the area (see map) extends 13 miles west from Bakersfield and includes refineries, pumping units, farms, stores and small businesses, and a growing scatter of housing tracts. Within this setting, an impartial observer would probably admit that a modern drilling rig is more attractive than the typical McSanders Fast Food, Quik-Trip market, and surrounding asphalt.

Oil has been produced in the Rosedale Plan area continuously since 1928, totalling more than 200 million barrels to date from 12 fields. Though daily oil production has declined to 4600 barrels, there is great potential from assisted recovery and infill drilling. Many wells had been suspended because they could no longer produce $3/-barrel oil at a profit — but with the lifting of price controls these wells are being returned to production as rapidly as pumping units can be delivered. And the potential for new Stevens and Vedder discoveries involving stratigraphic closure or other subtle traps has hardly been scratched.

Who was pushing for the proposed Rosedale General Plan? Many new residents do not own their mineral rights, and were probably told, when buying their homes, that the pumping jacks would soon be removed. Real estate developers see the oil fields only as an impediment to the profitable business of fostering urban sprawl. And there are some community leaders who are strongly anti-oil despite the fact that Bakersfield was nurtured by oil development.

Initial moves to oust oil from the Rosedale area had occurred earlier in the year. Challenger was told that their planned offset well to a new pool discovery at Bellevue would require a conditional use permit, under new County policies, and the Board of Supervisors subsequently denied that permit by a 3-2 vote. Another operator has been prevented from moving a pumping unit onto a suspended producing well. And more recently, residents on Brimhall Road have petitioned the County Highway Commission to forbid a planned vibroseis survey in the sourtwest part of the Plan area.

Although WOGA and industry people in Bakersfield had been working to head off this threatening situation for some time, Pacific Section officers were first told of it on September 8, one week before County Supervisors were scheduled to vote its adoption. Our Executive Committee was to meet the next day. It voted unanimously to place the Pacific Section AAPG on record, both at the hearing and by letter, as strongly opposed to the Rosedale General Plan in its present form. That evening, our new Public Affairs Chairman, Wayne Estill, outlined the problem at a meeting of the San Joaquin Geological Society and enlisted many members to join in active battle.

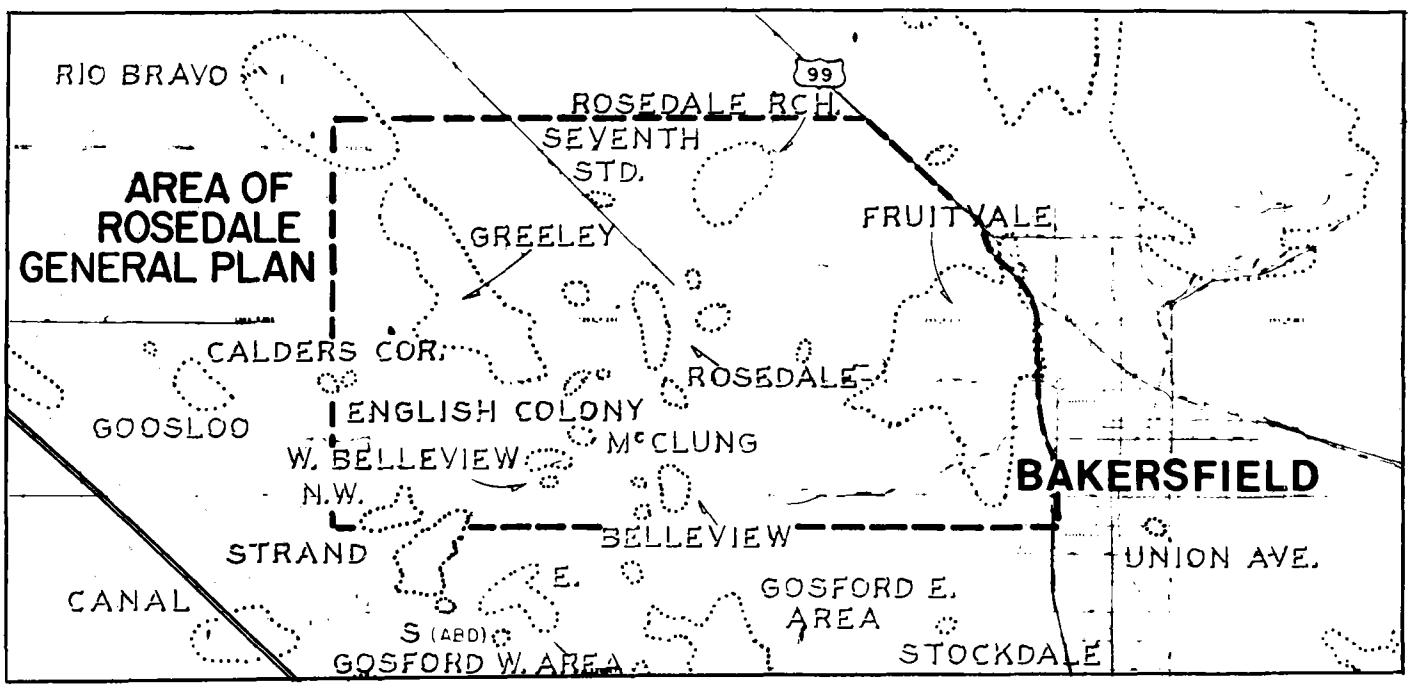
The next morning, Pacific Section President Tom Wright sent the following mailgram to each of the five Kern County Supervisors:

"Pacific Section American Association of Petroleum Geologists respectfully urges you postpone adoption of Rosedale General Plan until it is amended to provide adequate provisions for petroleum exploration and development. Proposed plan disregards national need for energy and rights of mineral owners. Letter follows."

That letter was reviewed by Executive Committee members on September 11 and mailed, on the 12th, to each Supervisor. After noting the nation's need to reduce dependence on imported oil, and briefly summarizing the Rosedale area's past and present oil production, it stated:

". . . exploration and exploitation here, as in other parts of Kern County, are far from complete. The economic conditions of the 1960's and early 1970's effectively put a halt to domestic energy development as the government opened our doors to cheap foreign oil . . . Today's prices for 'new' oil are stimulating deeper exploration and higher-risk exploration throughout the San Joaquin Valley. New geological concepts and more sophisticated technology will find significant additional reserves in the Rosedale General Plan area; that oil will be good for America and good for Kern County.

"Continued oil exploration and development will not be incompatible with the land uses which the proposed Rosedale General Plan seeks to foster. The past 25 years of petroleum activities in the City of Los



Angeles proves that much multiple use is entirely feasible. Adoption of rational petroleum ordinances from 1946 to 1963 led to the discovery and development of a nearly continuous area of new production which extends from downtown Los Angeles west to the San Diego Freeway near Westwood and has already produced more than 100 million barrels of oil. Yet the activity is so unobtrusive that residents are unaware of it — except when their royalty checks arrive in the mail.

"Many of the several hundred geologists, petroleum engineers and landmen who live and work in Kern County would be very willing to assist your planning staff in drafting reasonable multiple-use zoning ordinances. We urge you not to adopt the Rosedale General Plan in its present form. Instead, it should be sent back to the Planning Commission with specific instructions to develop and incorporate provisions which would:

"—permit the continued exploitation of established oil fields without excessive and arbitrary restrictions; and

"—enable exploration and development of new petroleum accumulations to proceed, subject to reasonable conditions in areas of present or planned commercial and residential use."

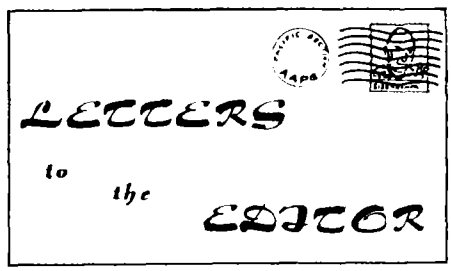
Wayne Estill represented our Section at the Supervisors' meeting on September 15. Before the meeting opened, Supervisor Trice Harvey (who has led the opposition to drilling) commented to Estill on the deluge of letters and telegrams, and told him that the vote would be deferred for a month (later extended to six weeks) so that appropriate changes could be made. Estill testified at the hearing, as did George La Perle, representatives of WOGA and the Division of Oil and Gas, and others.

On September 16th, Supervisor David Head wrote to President Wright:

"As you have probably heard Kern County has arrived at a possible solution to the current uncertainties surrounding oil production. This tentative agreement would amend certain County ordinances and thereby provide an overlay zone and island zones designed to accommodate drilling. Both these concepts should provide a more efficient and more secure atmosphere for mineral production in Kern County while at the same time assuring the surface owner his right to use. These two changes will eliminate the need for conditional use permits in many instances. They will also ensure to the best possible degree that mineral production will not be blocked by commercial, agricultural, or residential expansion."

Supervisor Gene Tackett wrote, more briefly: "As we attempt to develop a realistic plan for this area and balance the diverse needs and views of the people of Kern County, your comments will be taken into consideration." Since the meeting, industry representatives in Bakersfield have been helping County planners draft realistic petroleum ordinances, and Wayne Estill was invited to meet with the chairman of the County Planning Commission to review the results.

Here at long, last, is an instance where petroleum geologists were effective in shaping a significant political decision. With an earlier warning we can do even better in the future. Prompt response, an effective argument and wide involvement of our membership are the keys. Let's challenge the Sierra Club in the lobbying arena!



The Present Need To Hire Might Result In The Future Need To Fire

By Michel T. Halbouty[2]

Editor's note: Most of Mr. Halbouty's comments also appeared in the September issue of the AAPG Explorer.

After World War II there was a gradually increasing demand for geologists which reached its peak in the late 40's, plateaued out in the middle 50's, and became a severe problem in the early 60's.

There is no need for me to review what happened beginning late in 1959 and in 1960, when there were mass firings of geologists worldwide. I am sure we are all familiar with that episode. Not surprising, the hue and cry that emanated from these firings are still with us today. It was a cycle period that *began with the need to hire* and *ended with the need to fire.* I am deeply concerned that the nature and factors leading up to that hiring and firing cycle are analogous to what is happening today, that is: the fervent search by companies and independents, small and large, to hire graduates without regard for competence, and promiscuous proselytizing *without regard for ethics.*

I remember so vividly the great concern and surmise of AAPG officials that the mass firings were without valid reasons which prompted Ben Parker, the then President (1960-61) of AAPG, to appoint a committee to investigate the "why" of these unprecedented dismissals.

The investigation was undertaken earnestly and with deep concern for our profession. After several months of interviews with top executives of all major companies, the report submitted to AAPG was indeed revealing. It was obvious that the companies took the opportunity of the sluggish exploration period to reevaluate each geologist in their employ. This reevaluation indicated that **many** who were hired so rapidly, in the late 40's and 50's, when the demand for geologists was great, were really incompetent. It was also revealed that the majority of those discharged had only one degree. It was only natural for the companies to take advantage of the depressed exploration period to fire those they decided were not qualified explorationists. The investigation also disclosed that the companies included a few competents in the firings so as to reduce the stigma and the impression of firing a particular category (incompetents) of geologists.

The over-all conclusions in the report astounded AAPG officials, but they did resolve the doubts which initiated the investigation. The most damaging back-lash occurred in universities where the faculties in the geosciences warned their students that the companies could not be trusted and that it would be to their advantage and welfare to **not** work in the petroleum industry. Students were told by their professors and counselors that they should pursue their vocation with the academia or with government. Even today in some universities this attitude still prevails.

Now with the up-surge in drilling that is taking place the demand for the geoscientist has reached unprecendented proportions. The competition to hire students upon graduation is intense. Because of this demand students are not pursuing post-graduate work. Thus, the excellence in our profession is being diminished.

Notwithstanding the competition for the graduate students, proselytizing from company to company, independents to majors, and independents to independents has reached the point of great concern to many in our profession who share with me the belief that our code of ethics is being abused, if not ignored. This prompted me to write a letter last April to the Chairman of the AAPG Industrial Liaison Committee. This letter was broadly discussed at the Committee meeting during the AAPG annual convention in Denver. There was much anxiety expressed by representatives from both the major and independent segments of our industry regarding this serious problem.

The basic contents of the above mentioned letter dated April 10, 1980, are shown below:

"The **open** proselytizing of personnel by both major and independent companies has become obscene and if it continues unabated, personnel changes will become so habitual that there will be no trust or loyalty between employer and employee.

"I know it is a difficult matter to control as each individual has the freedom to move

(continued on page 4)

The Present Need To Hire

(continued from page 3)

in any direction that he, or she, deems advantageous. BUT — when geoscientists abruptly move from one job to another it gives me great concern for the future of our profession and the excellence of its productivity. I am fully aware that this is a most perplexing subject to discuss, but I keep wondering if goescientists are becoming so callous as to negate the value of trust and loyalty.

"The question may be asked: Has the Code of Ethics in our profession reached the point where there is no regard for loyalty, fidelity to trust, and invioability of confidence? If the answer to that question is 'yes,' then I feel sorry for those who are to follow us as it would be obvious that man's greed has overwhelmed his sense of propriety. If the answer to that question is 'no,' which I believe it is, then we must examine the philosophy of life and the order of priorities on which the younger members of our profession base their decisions.

"As I look and listen, I get the impression that over the last ten, or more, years new geologists entering the profession consider the financial reward the **primary measure** of job satisfaction. Operating from this position then job hopping becomes a way of life. This kind of lifestyle sacrifices the sense of loyalty to a company or employer, the satisfaction of team effort, and the long range opportunities for promotion into managerial and executive positions.

"You may ask: What is the solution?

"I'm not sure I know, but I feel the solution lies in possibly three areas:

"(1) During their college years, young geoscientists should be instilled with a deep appreciation of the philosophy of professional conduct embodied in our Code of Ethics. This is a faculty responsibility as much as dispensing knowledge and from what I observe faculty is completely ignoring this responsibility.

"(2) The employer must instill in his employee a true sense of worth or value; that the employee should be shown he is vital to the operation; and that he is recognized as an integral part of the organization and acknowledge his contributions and achievements.

"(3) The employee, in turn, should show his loyalty and dedication by performing his duties and/or assignments to the best of his ability. The realization of his goals would then be bounded only by the amount of determination he brings to his work to perform and create. This would result in such satisfaction to the employee he would be reluctant to change employers.

"I may be too idealistic and hoping for a utopia that will never exist in this area and, of course, I may be whistling in the dark where no one can hear me, but I still believe it is something for leaders in our profession to begin thinking about with the hope that there might be a solution. Therefore, it may be well that this matter be discussed by the Industrial Liaison Committee and possibly as a result of our initial discussions further rapport between selected members of our Committee and a corresponding group from the Committee on Academic Liaison may produce worthwhile results."

It was generally agreed at the Industrial Liaison Committee meeting that my letter was indeed relevant to a precarious situation existing in our profession and a subcommittee was appointed to study this matter further for appropriate recommendations. What the subcommittee may conclude and recommend remains to be seen, but, in the meantime, I am very concerned that the proselytizing for explorationists that is taking place will cause repercussions and irreparable damage to our profession far more than the benefits to certain individuals.

If there is no loyalty from geologists, as they flitter from one job to another, why should there be any loyalty from the employer if the demand slackens? This should be of great concern to all of us as this very attitude could again trigger mass firings and faculty retaliation at universities in the future.

We should question ourselves: Have we reached the point where we have become callous to our professional ethical responsibilities? Have we forgotten the meaning of loyalty, fidelity to trust, and invioability of confidence to those who employ, train, educate and offer the novice opportunities to prosper and excel in our profession? Are we heading into another cycle of hirings and firings which will have far-reaching effects on individuals as well as our discipline? These are questions of utmost importance to the future of our profession and only those of us who belong to it can give the proper answers or solve the problems.

(1) Submitted to the Pacific Section of AAPG on September 3, 1980.

(2) Consulting Geologist and Petroleum Engineer, Independent Producer and Operator.

OPEN LETTER TO ROBERTO GARCIA FOR PPG DISCUSSION

Dear Mr. Garcia:

I have just acquired a copy of your excellent paper in "Selected Papers" San Joaquin Geological Society, Vol. 5, April 1980. Of special interest to me is your article "Depositional Systems and Their Relationship to Gas Accumulation in the *Sacramento Valley* by Roberto Garcia, page 2 to 24, Editor John L. Stoop, Publication Committee Phillip Ryall and William R. Stanton, Dr. L. F. Brown Jr., Bureau of Economic Geology Austin, Texas for review.

For the past several months I have again been engaged in a study of the Kione in the Sacramento Valley so I had renewed interest in your paper. Especially interesting to me was the Ancient High Constructive Lobate-Elongate Delta System, Facies. Your work on Facies and Log Patterns-Prograational and Shaly Sequences as genetic units representing environments are of great interest as an interpretation tool.

With all the tremendous mechanical time and effort and interpretation involved in your study of Northern California sands I am wondering why you yourself, or the Editor, or the Publication Committee, or the reviewer allowed and confirmed Figure 2 on page 2 of your publication to show the *San Joaquin Valley* team "Garzas" as equivalent to the Moreno Shale when the so-called "Garzas Shale" has been demonstrated in the literature to be equivalent to a position down in the Panoche Formation when mapped to Tracy from the Type Section in Panoche Hills some 80 miles to the south of Tracy in the *San Joaquin Valley.*

The fact is your paper dealt with an area in Northern California in the Sacramento Valley to a point about as far south as Tracy so it would seem a genuine dis-service to include a discarded term from Garzas Creek which has been shown as misrepresented and ambiguous in papers since about 42 years ago and in print after World War II some 35 years ago. This was based not only on direct physical mapping the distance from the Type Section to Tracy but also on age difference of millions of years determined by foraminifers and megafossils and vertebrates.

Therefore, if you have new evidence showing your correlation of the Moreno as equivalent to the "Garzas" as shown in your paper I would be most grateful to be so informed.

Sincerely,
Max B. Payne

Wild and Beastly Party For San Francisco Convention

Mark your calendars for Tuesday evening, June 2nd, in San Francisco, for a party you won't want to miss. That's the night that AAPG will take over the California Academy of Sciences in Golden Gate Park for hours of feasting and music. Meet old friends and new, plus other beasts and fossils dead and alive! Drink with the fish in the Steinhart Aquarium, the West's best! Explore the museum to discover: numerous free bars; ethnic buffets such as Chinese, Japanese, Seafood, Italian and more; special entertainment; and two dance bands. You've never been to a party like this one, so plan to preregister **early** —attendance will be limited.

Hill, Dibblee and Oakeshott To Be Honored By National AAPG

At the annual convention of the American Association of Petroleum Geologists in San Francisco next June 1st, the Association will honor three giants of California geology. Mason Hill will receive the Sidney Powers Memorial Medal "for outstanding contributions to petroleum geology." Thomas W. Dibblee, Jr. will receive the Human Needs Award "for the most outstanding application of geology to the benefit of human needs". Gordon B. Oakeshott will be named an Honorary Member "for his service and devotion to the science and profession of petroleum geology and to the Association."

Can there be anyone in the Pacific Section who doesn't know these names? Their published maps and papers have been essential to our understanding of California geology, and most of us have been privileged to stand by an outcrop as one or another of these men explained its subtle secrets. Tom Dibblee, arguably the most productive field geologist of all time and long a legend in our profession, had mapped 700 square miles of southwestern Santa Barbara County before his 20th birthday. In Richfield's employ he played a key role in the Cuyama Valley discoveries; the main productive zone at South Cuyama and Russell Ranch is named the Dibblee Sand. "Rewarded" with a desk job, Tom joined the U.S.G.S. and spent the next 25 years in detailed mapping of vast tracts of California's deserts, Coast Ranges and Transverse Ranges. Much of this work has been part of the Survey's Earthquake Hazard Reduction Program. It is for his work in mapping active and potentially-active faults throughout California that Tom Dibblee has been selected to receive AAPG's Human Needs Award.

Mason Hill led the Richfield geological organization for the 20 years after World War II, when it was the pride and envy of all West Coast geologists. That effort opened new provinces in Cuyama Valley and Cook Inlet, and culminated in the Prudhoe Bay discovery. In 1953, Mase Hill and Tom Dibblee previewed the New Global Tectonics with their milestone paper on large-scale lateral offset on the San Andreas fault. Mase vigorously and successfully defended that concept against all skeptics and, just as vigorously, some 15 years later he fought to keep the marine geologists honest when their tentative reconstructions of West Coast plate motions violated the facts of field geology. An Honorary Member of AAPG, and winner of the President's Award (best Bulletin paper) in 1973, Mason Hill has served the Association as Pacific Section President in 1956 and National President in 1961-62. It is certainly fitting that Mase be chosen to receive the Sidney Powers Medal, AAPG's highest honor.

Gordon Oakeshott has given genial and willing service to California geologists and the AAPG for nearly 50 years. His mapping in the San Fernando quadrangle in the early 1930's was still the definitive interpretation 40 years later, during studies of the San Fernando earthquake of 1971. Gordon served as Deputy Chief and Chief of the California Division of Mines and Geology during his 25 years in that organization, and edited their major publications on the San Fernando earthquake and the 1952 Kern County earthquake. Since his retirement, he has written several books, including *California's Changing Landscapes* and *Volcanoes and Earthquakes*. He was General Chairman of the 1962 national convention in San Francisco, as well as serving AAPG on innumerable national and Pacific Section committees.

Next June's signal tribute to three of our best-loved colleagues was approved by AAPG's national Executive Committee in October, on the basis of a thoroughly documented presentation prepared by Pacific Section's ad hoc Honors and Awards Committee (Art Spaulding, Chairman; Wes Bruer, John Kilkenny, Ted Off) and presented by Advisory Council representative Don Zieglar.

Successful Convention Results In Support For Core Library, Distinguished Lecturers

Last April's Pacific Section Convention in Bakersfield was an outstanding success: total registration of 1,123 was on a par with Anaheim's 1,164, and the 1976 San Francisco total of 1,136. Net proceeds distributed to the three sponsoring organizations included $14,000 to Pacific Section AAPG plus a publications inventory of $4,250, for future sale by our Publications Manager. Chairman Guy Burge and his hard-working committee deserve much credit for these results.

With financial solvency thus assured for another year, the Section's Executive Committee responsed favorably to several requests presented at its September 9th meeting in Bakersfield. A second annual grant of $1,750 in support of the Core Repository at Cal State Bakersfield was voted unanimously. Also by unanimous vote, the Section will grant up to $250 to each affiliated local geological society to help defray expenses for an additional Distinguished Lecturer beyond what each Society has currently budgeted. And, in response to a request from AAPG's Energy Resources Library in Tulsa, the Section will fill the gaps in that library's collection of Section publications by donating more than $200 worth of maps, guidebooks and other Section volumes.

National AAPG has also requested financial support for the publication of an all-new version of the Tectonic Map of North America, to replace the 1969 edition. The total project will require $500,000 in funding over the next five years. Other sections have already pledged up to $5,000 toward the new map. No decision has been made regarding a Pacific Section contribution.

Also under consideration is a new Section policy that would enable an affiliated local geological society to share in the proceeds of a convention held in its area. Purpose would be to provide an incentive for the smaller societies to take on the work of organizing a convention. If adopted, the policy would assist the Northern California Geological Society, co-sponsor of the 1981 National AAPG convention, and would also apply to subsequent Section conventions.

A New Well-Data Library For Bakersfield

An extensive set of California well records is "lookin' for a home," and Bakersfield geologists are considering the establishment of a non-profit log library to better serve independents and consultants in the oil patch.

The State Division of Oil and Gas has a full set – some 1400 cartons – of duplicate well records and would donate it to any organization willing to provide upkeep and public access. Advantages over the Division's public file, and the other existing collections, would include unlimited access and, presumably, lower costs than commercial sources.

This opportunity was discussed at the Pacific Section's September 9th Executive Committee meeting. Several geological societies east of the Rockies maintain major log libraries which require a fee to join, plus user fees. It was concluded that Pacific Section has neither the financial resources nor the people to undertake such a project on its own. Nor can the Core Repository at Cal State Bakersfield, with its limited storage space and personnel.

So, if you're rarin' to be a librarian (and perform a noble service for the profession), contact San Joaquin Geological Society president Rex Young for further details.

STATE BOARD RE-ELECTED DR. SLOSSON

Dr. James E. Slosson was reelected president of the California State Board of Registration for Geologists and Geophysicists for a third term. Dr. Slosson is the former State Geologist nd former member of the Seismic Safety Commission. He is a consulting engineering geologist in Van Nuys. Ms. Coreen Young was reelected vice president of the board. She is a public member living in Santa Barbara, California.

IN MEMORIAM

Gordon R. Bell died on October 3, 1980 in Bakersfield after an illness of several months. He was 73 at the time of his death and had retired from Gulf Oil in 1972.

Gordon grew up on the San Francisco Bay area and graduated from University of California Berkeley in 1933.

His first employment was with Shell Oil with assignments in Los Angeles and Houston with one 3 month tour of duty in Colombia for Shell. Later, he worked with Western Geophysical in 1939-40 and with CCMO from 1940-44.

In 1944, he joined Gulf as a junior geologist in Los Angeles. In May 1949, he became District Geologist in Santa Maria and was later transferred to Ventura in the same capacity. In 1960, he became Senior Production Geologist in Bakersfield. For several years, Gordon and Jim Benzley were the sole representatives for Gulf during the time the company's exploratory activities were sharply reduced in California.

After Gordon's retirement in 1972, his advice, counsel, and patience continued to be highly regarded by Gulf so that he was hired as a contract geologist for several years.

Gordon is survived by his wife, Leona, and two daughters.

FRIVOLITY

FINAGLE'S LAWS

First Law:—If anything can go wrong with an experiment, it will.

Second Law—No matter what result is anticipated, there is always someone willing to fake it.

Third Law—No matter what occurs, there is always someone who believes it happened according to their pet theory.

Fourth Law—No matter what the result, there is always someone eager to misinterpret it.

Finagle's Creed—Science is truth; don't be misled by facts.

Finagle's Motto—Smile . . . Tomorrow it will be worse.

Handy guide to the modern sciences:
If it's green or wiggles, it's biology.
If it stinks, it's chemistry.
If it doesn't work, it's physics.
If it can't be explained, it's geology.

Alaska

Winter has arrived in Alaska, the land of the midnight sun, Seward's Folley, the nation's deepfreeze, or, as we Alaskans prefer, the "Upper One." This is in contrast to the Lower 48. Termination dust is on the mountains, the tourists are gone, and everyone is back from vacation prior to leaving again for Thanksgiving, Christmas, and New Years. However, the most concrete evidence for the arrival of winter is that Gil Mull, USGS, is back from his annual trek through the Brooks Range.

Speaking of field parties, Art Grantz, USGS, and and Dave Stone, University of Alaska, have revived an old method of field geology. They conducted field investigations of the Talkeetna Mountains on horseback. I will avoid pursuing the myriad of possibilities that this brings to mind. Dave moved on to the stable in the old Kennecott mine at Mc Carthy while Art took his annual cruise along the northwest Alaska coast. There is little doubt as to who was party chief in the Talkeetnas.

The coming winter season will be one of high activity in the oil and gas industry with numerous exploratory and development wells being planned. This will be the busiest season yet on the North Slope with several rigs being constructed or already delivered. With regard to the overall exploration picture, activity continues in the areas of previous discoveries as well as preparations being made for tests in the newly-leased areas of the Beaufort Sea. This is a remarkable achievement when one considers the tremendous opposition from environmentalists and bureaucrats.

For those of you who have been searching diligently for an excuse to come to Alaska in the wintertime, search no more. The Alaska Geological Society has come to your aid, so mark your calendar. We are having a symposium on the week of Fur Rendezvous in February, 1982. This will allow you ample time to brush up on your mushing if you plan to participate in the local sports scene. For you indoor sports, there will be the usual frolicking and cavorting associated with Alaska's continuing effort to be the leader in the per capita consumption of spirits.

The Alaska Geological Society believes that more of you West Coasters should be members of the AGS in order for you to keep abreast of what is happening up here. A membership will entitle you to receive the AGS NEWSLETTER published monthly with outstanding timely articles such as the federal housing program for igloos for North Slope geologists and humorous articles by the Department of Energy on energy independance for America. Roger Herrera, Sohio/BP Alaska, is President and he could use your 5 bucks. Other officers are, Darrel Helmuth, Chevron, Vice President; John Rogers, Arco, Treasurer; Dick Newman, USGS, Secretary; and Peter Hanley, Dames and Moore, President-Elect. Inquiries should be addressed to: Alaska Geological Society, P. O. Box 1288, Anchorage, Alaska, 99510. Ask for the list of publications, also, as we have some of those to push.

ARLENE EHM

Coast

The Coast Society opened the 1980-81 year with its annual Fall Barbecue at the Lagomarsino Ranch in Ojai. Warm skies and fine food set the mood for the upcoming year.

A series of excellent presentations have been scheduled for the fall and winter dinner meetings. On Tuesday, November 18, the Coast Society presented E. I. Bruist from Shell, who discussed the "Discovery and Development of the Beta Field." Dr. Dick Squires, of Cal State Northridge, will share his findings in regard to the "Depositional Environments of the Eocene Llajas Formation" on Tuesday, January 20.

For the month of February the Coast has scheduled Colin Barker, an AAPG Distinguished Lecturer for 1981. The precise date of his talk, entitled "Plate Tectonics, Organic Matter and Basin Evaluation for Petroleum Potential," will be announced later. On Tuesday March 17, Mike Blundell from Union, will present the "Depositional Environments of the Vaqueros Sandstone."

The Coast Society's Christmas Dance is scheduled for Saturday, December 13. The dance, like all the monthly meetings, will be held at the American Legion Hall in Ventura.

Personnel

A number of new faces should crop up at the Coast meetings this year. Dan Pasquini, formerly with Oxy, has joined Argo Petroleum in Ventura.

Marvin Katz, a new hire geologist from UCLA, has been added to Getty's staff.

Conoco has two new additions to its exploration group: Susan Krosky, a geophysicist, who has transferred to Ventura from Houston, and Gary Messorotes, formerly with United Geophysical.

Union has a new district geologist in Santa Maria. Brian Kimmel, former exploration geologist in Ventura, has been promoted to that position.

Rick Van Derck, a geophysicist, and Tom Hopps, a geologist, have both hung up their own shingles in the Ventura area.

M. W. TRAUT

Los Angeles

Sixty-four persons attended the annual Fire and Ice dance on Friday, November 14 at the Naval Commissioned Officers Club in Long Beach.

L.A. Basin president Don Hallinger, whose term ends Dec. 31, has been appointed Vice President of the Pac Section by its Executive Committee. Don will complete Nancy Olson's term. Nancy has departed for an overseas assignment with Teaco.

At the November 20th luncheon meeting Dr. Lowell E. Redwine, consulting geologist, spoke on "Hypothesis combining dilation, natural hydraulic fracturing, and dolomitization to explain petroleum reservoirs in Monterey Shale, Santa Maria area, California."

Promotions and New Hires

E.D.B. (Dean) Laudeman has been promoted to Vice-President of U.S. Exploration, Union Oil, Los Angeles. Dean was formerly Vice-President of Union Oil of Canada, Calgary.

Union Oil International of Los Angeles has three new grophysicists. They are Greg Chapel, graduate of Colorado School of Mines, Steve Gabbertt, Utah University graduate, and Peter Wong, Rice University graduate.

Northern California

The Northern California Geological Society, with a new set of officers and in the midst of a spirited membership drive, has an excellent speaker schedule for the coming 1980-81 year. A few of the highlights include Mike Carr (USGS) speaking on the astrogeology of Mars and Jupiter; Tor Nilsen (USGS) on turbidites; Davy Jones (USGS) on accretionary tectonics of Western North America; and Earl McBride (U. Texas) on secondary porosity in sandstones. Luncheon meetings are on every third Wednesday of the month at the Elks Club, San Francisco, and visitors are quite welcome.

The NCGS will be a co-host society for the upcoming AAPG 1981 Annual Meeting in San Francisco (May 31 - June 3). Don Zieglar, Chevron U.S.A., is the General Chairman and several committees have been formed from our pool of talent in the area. They are already hard at work making the preparations (everything from field trips to information booths) for this annual meeting.

WILLIAM V. PIPES

Sacramento

NO REPORT

MEMBERSHIP: 1981-82 DIRECTORY

It's time to update the membership directory — again!! Believe it or not, we're going to give you the most comprehensive directory ever. To top it off, we will even provide a binder, so the book doesn't scatter to all corners of the earth.

To make the directory as useful as possible however, we need your cooperation. Many of you already cooperated by having your picture taken at the last convention. There will be a few more receding hairlines and wrinkles in this issue but at least we will be able to recognize each other. Any of you that did not take advantage of the photo booth at the convention are welcome to send a photo to the directory chairmen at this time. In addition to the photo, we would like to update personal information. If your employer, job title, name of spouse or office phone number has changed, or you expect one of these items to change by the end of the year please fill out the accompanying form and mail it to the appropriate chairman listed below. In case you're not sure, why not tear the form out of the newsletter and place it inside last years directory. We will be accepting changes until the 1st week in January, 1981. If you know someone delinquent in dues you may inform them that it will be a lot cheaper to pay the dues than purchase a directory.

Who will receive the directory? If you are a member of either Pacific Section AAPG, SEPM, or SEG, as of December 31, 1980, and are on the mailing list of one of these societies you will receive a copy of the directory. The directory is free to members and will be available at a future local meeting or at the 1981 national convention in San Francisco.

For your information the chairmen of the directory are as follows:

Pacific Section AAPG
Steve Sterling
Union Oil Co.
2323 Knoll Dr.
Ventura, CA 93303
Phone: 805-659-0130

Pacific Section SEPM
Reinhard Suchsland
DEPCO, Inc.
5558 California Ave., Suite 350
Bakersfield, CA 939
Phone: 805-834-6844

Pacific Section SEG
Chester Pohle
Tenneco Oil Co.
P. O. Box 9909
Bakersfield, CA 93389
Phone: 805-395-5200

Cut here

Mail to appropriate chairman

Last name, First name, Initial _____ (Spouse) _____ Affiliations _____

Degree, year, school _____

Title or position _____

Employer _____

Street address _____ City _____ State _____ Zip _____

Office phone (area) _____ (number) _____ Home Phone _____ (number) _____

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San Joaquin

Dinner Meetings

San Joaquin Geological Society has scheduled the following talk for December.

December 9 (Ladies Night) — "Jungle Geology in Guatemala" presented by Dick Hester, Consultant

Have You Heard That . . .

Mr. Gregory Webb, faculty member of the State University of Massachsuetts (Amherst, Mass.), has temporarily joined Arco's staff, while on leave from the university. It is a return trip to Bakersfield for Mr. Webb, who once worked for Standard Oil's Bakersfield office.

A recent reorganization at Getty brought Louis F. Villanueva back from their Houston Office. Louis is now the Bakersfield district geologist with Brad Newman as his district lead geologist. The Taft district is handled by Leon Earnest, district geologist, and Rick Bowersox, district lead geologist.

Sun Oil moved out of Bakersfield before they moved into Bakersfield. Cancelling plans to open an office on California Avenue, Sun decided instead upon a location in Ventura. (Maybe, they noticed that everworsening traffic jam at California and Stockdale).

Speaking of moving, Oxy has purchased a new office site on Ria Mirada Drive with plans to move into a new building within two years.

Speaking of Oxy, Magi Nielsen has been promoted to the position of scout for Oxy's, Western Division.

Six Bakersfield consultants are moving into new office condominiums in the Easton business complex at 1400 Easton Drive. They include Guy Burge, George LaPerle, Phil Ryall, John Thomson, Jim Weddle and Bill Winter.

MAGI NIELSEN

News Release

The Society of Petroleum Engineers has elected W. Clyde Barton, Jr., of Los Angeles to serve as the 1982 president. Barton is director of production operations, International Oil Division, for Union Oil Co. of California.

Mr. L. F. Ivanhoe, geologist and geophysicist, announces the formation of NOVUM CORP. He is prepared to provide technical consulting services for world wide energy exploration. Inquiries should be addressed to: 6000 Cypress Point Drive, Bakersfield, Ca. 93309; (805) 834-4487 or 833-8601.

"W. J. (Bill) Hunter announces that he has moved from Venice Beach to Century City, and is now Manager of Operations for Beverly Hills Oil Company. The address is 2029 Century Park East, Suite 3230 (new office number), Los Angeles, CA 90067. The temporary phone number is (213) 277-7904 and 277-3190 (after mid-November). Bill states that reported sightings of the Blunt-nosed leopard lizard at Venice had nothing to do with his moving to the 32nd Floor in Century City."

Pacific Section Treasurer Declares Extra Dividend

The Pacific Section Treasurer is responsible for assuring the maximum prudent increase on assets – but Treasurer Sue Chandler Kiser (Getty, Bakersfield) has topped her predecessors-in-office by producing an 8 lb., 6 oz. baby girl on September 10th. At the Pacific Section Executive Committee meeting on September 9th it was evident that our Treasurer would soon declare a special dividend, and small Audrey Ann arrived just 18 hours later. We hear she is already drinking from a canteen and soon will get busy on her teething pick. Sue has insisted that the dividend be credited to the account of Glenn and Sue Kiser and will not be entered on the Pacific Section's books.

PACIFIC SECTION — AMERICAN ASSOCIATION PETROLEUM GEOLOGISTS

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President Elect ..... JOHN A. CARVER (805) 871-1345
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San Joaquin ..... MAGI NIELSEN (805) 395-8000
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 COMITTEE: Pacific Section American Association of Petroleum Geologists, P.O. Box 4164, Thousand Oaks, CA 91359.

POSITION AVAILABLE: The UCLA Department of Earth and Space Sciences invites applications for the position of Lecturer in Exploration-Petroleum Geology. This one-quarter course is scheduled to be taught during Spring quarter, 1981 at a time convenient to the lecturer. Send resume to W. G. Ernst, Department of Earth and Space Sciences, University of California, Los Angeles, California 90024. UCLA is an affirmative action/equal opportunity employer.

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

DECEMBER 1980 – JANUARY 1981

1981 APPG ANNUAL CONVENTION

From May 31 – June 3, the Northern California Geological Society and the Pacific Sections of AAPG-SEPM-SEG will host one of the largest and most productive meetings in AAPG's history.

Housing and Advance Registration is now open for the 1981 AAPG ANNUAL CONVENTION, to be held in San Francisco. The theme of the meeting is "Energy Bridges to the Future." Approximately 500 papers will be presented in technical sessions. The annual meeting of AAPG's Divisions — SEPM, EMD and DPA will be held in conjunction with the meeting.

During the meeting, the services of an Employment Interviews Center will be available to facilitate arranging interviews between applicants and potential employers. If you are interested in this service contact: Calvin T. Colson or James W. Langman, Committee Co-Chairmen, Natural Gas Corp. of California, One Market Plaza, Suite 3001, San Francisco, CA. 95105; (415) 495-4971.

SPRING PICNIC WILL FEATURE MONTEREY SHALE

This year's Pacific Section Spring Picnic will be held Friday, May 15 at Camp Comfort, Ojai. It has been organized jointly by the Coast and San Joaquin Geological Societies. The field trip will be led by Caroline M. Isaacs of the U.S. Geological Survey, Menlo Park, and will focus on field characterization of rocks in the Monterey Formation along the coast west of Santa Barbara. The trip will take us to examine the closest onshore equivalents of the petroleum source and reservoir rocks in the offshore Santa Ynez unit. It will be an abbreviated version (1 day vs. 2 days) of a field trip scheduled for the 1981 National Convention on June 4 and 5. Registration for the Pacific Section trip will cost only $15 whereas the National AAPG trip will total $385 (includes charger flight from San Francisco, 3 nights lodging, and . . .)

Bill Reay is making arrangements for the barbecue. Watch for a pre-registration mail out.

HALLINGER ELECTED SECTION V. P.

Don Hallinger (Pacific Lighting Gas Development Co., Los Angeles) was elected Vice President of Pacific Section AAPG, replacing Nancy Olsen, who has transferred from Texaco (Los Angeles) to Aramco in London — eventually, Dhahran.

Don's election was approved at the Section's November 18th Executive Committee meeting in Oxnard. Don has served as Chairman of the Section's Finance Committee since 1971, and completed a term as President of the Los Angeles Basin Geological Society this past December 31st.

1981 EXAMINATION SCHEDULE FOR REGISTRATION IN CALIFORNIA

Examinations for registration as a geologist and geophysicist and for certification as an engineering geologist will be scheduled twice this year between February 1 and November 30 and are expected to be given at SACRAMENTO, LOS ANGELES, and SAN FRANCISCO.

EXAMINATION SCHEDULE

Examinations will be given:

Geology & Geophysicist — May 15, 1981.

Engineering Geologist — May 16, 1981.

FINAL FILING DATE FOR MAY EXAMINATIONS IS FEBRUARY 16, 1981.

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.

Announcement of PACIFIC SECTION AAPG 1981 Slate of Candidates

The following candidates have been recommended by the Nominating Committee for Pacific Section offices for 1981-82:

PRESIDENT-ELECT

Donald E. Hallinger (Southern California Gas Co.).

Theodore Off (Ojai Oil Co.).

VICE-PRESIDENT

Wes Franklin (Tenneco Oil Co.).

Rex Young (Buttes Oil & Gas).

SECRETARY

Dan Pasquini (Argo Petroleum Corp.).

Jack R. Sheehan (Champlin Petroleum Co.).

TREASURER

Eugene A. Fritsche (Geosciences Department, California State Univ.).

Mark R. Cole (Texaco, Inc.).

Additional nominations may be made by written petition of twenty-five or more members; however, it must be received by the Secretary (Roger Alexander) within two weeks following publication of this slate. Photos and biographies of the nominees will appear in the next PPG issue.

FAR EAST, AUSTRALIA, EUROPE DRLG ACTIVITY

Production for the Far East region increased only slightly during 1979, however, with major increases in petroleum activity on Peninsular Malaysia, offshore India and China. The reports show the most active "new" area within the Far East region was China.

Worldwide Exploration Consultants' geologist, E. F. Durkee, reported Austrailian exploration and development drilling continued at a pace in 1979 comparable with the rate in 1978. The greatest amount of drilling occurred in South Australia and offshore Western Austrailia.

Highlighting Australia's offshore drilling was the completion of seven deep test wells in water overlying the large and previously untested Exmouth Plateau, a major

(continued on Page 4)

AAPG CONVENTION TECHNICAL PROGRAM ANNOUNCED

In addition to the advertised AAPG, AAPG-SEPM and AAPG-SEG sessions, a new AAPG session, "Tectonics – Western North America," has been created. There will also be four (4) AAPG "mini sessions" of three (3) papers each on California Geology, Oil Fields I and II and Foreign Frontiers. A total of approximately 120 papers will be given in the AAPG individual and joint sessions.

All technical sessions will be held at the San Francisco Civic Auditorium. Poster sessions are at Brooks Hall. Short courses are at the San Francisco Hilton Hotel. SEPM Research Colloquia are at the San Francisco Hilton Hotel except for the Coastal Sedimentation Group, which is in the Crystal Ballroom of the San Francisco Hotel.

SATURDAY, May 30

AAPG Short Course: Geothermics, Fundamentals and Applications.

SEPM Core Workshop: Deep Water Clastics.

SUNDAY, MAY 31

AAPG Short Course: Borehole Environment.

AAPG Short Course: Techniques for Presenting Papers at Meetings.

SEPM Short Course: Depositional Systems in Basins Along Active Continental Margins.

DPA Workshop: Testing of Prospects 9:00 a.m. – 12:00 noon.

1. dollar sources available for drilling
2. permit requirements prior to spudding
3. agreements, requirements by the royalty interest parties, working interest parties, etc.

SEPM Research Colloquia

10:00 a.m. – 6:00 p.m. —
Diatom Biostratigraphy

1:00 p.m. – 3:00 p.m. —
Organic Geochemistry of Sediments

1:00 p.m. – 3:00 p.m. —
Paleozoic Foraminiferid

4:00 p.m. – 6:00 p.m. —
American Mississippian Stratigraphy

1:00 p.m. – 3:00 p.m. —
Computer Technology

4:00 p.m. – 6:00 p.m. —
Evaporites

8:00 p.m. – 10:00 p.m. —
Mississippian-Pennsylvanian Boundary

8:00 p.m. – 10:00 p.m. —
Tertiary Reefs

8:00 p.m. – 10:00 p.m. —
Coastal Sedimentation

MONDAY MORNING, JUNE 1

AAPG Foreign Frontiers
AAPG California Geology
AAPG Geology of Selected Oil Fields I
SEPM Carbonate Slope Sediment and Processes
SEPM Clastic and Carbonate Submarine Fans
SEPM The Carboniferous – Permian Boundary
SEPM Tertiary Reefs
AAPG Geology of Selected Oil Fields II
ALL CONVENTION FEATURE ADDRESS AND AWARDS (9:45 a.m. – 11:45 a.m.)

MONDAY AFTERNOON, JUNE 1

AAPG/SEPM Characteristics of Convergent and Transform Margins
AAPG/SEG The Best of SEG for AAPG
AAPG Regional Unconformities and Hydrocarbon Accumulations
SEPM Ancient Clastic Deposits I
SEPM/AAPG Diagenetic Products and Basin Geothermics Related to Petroleum Exploration
EMD Survival Strategies of the U.S. Uranium Industry in the 1980's
SEPM Shallow Gas in Marine Sediment – Geological and Geochemical Implications
SEPM Modern Carbonates
SEPM Research Colloquia

7:00 p.m. – 9:30 p.m. —
Trace Fossils
Carbonates
Bedforms and Bedding Structures

AAPG/SEPM/EMD POSTER SESSIONS:
Energy Minerals
Paleontology I
Clastic Sedimentology
Petroleum Geochemistry and Diagenesis

TUESDAY MORNING, JUNE 2

AAPG/SEG Geologic and Geophysical Rationale Related to the Deliberate Search for the Subtle Trap (Stratigraphic, Unconformity and Paleogeomorphic) I.
AAPG RESEARCH SYMPOSIUM — Seals for Hydrocarbons I.
SEPM RESEARCH SYMPOSIUM — The Shelf-Slope Boundary — A Critical Interface on Continental Margins I.
SEPM Ancient Clastic Deposits II.
SEPM/AAPG Diagenetic Mechanisms and Effects on Physical Properties of Marien Clastic Rocks.
AAPG Organic Geochemistry as a Geological Tool.
EMD Oil Shale.
SEPM Ancient Carbonates.
AAPB/SEPM/EMD POSTER SESSIONS:
Energy Minerals
Paleontology I
Clastic Sedimentology
Petroleum Geochemistry and Diagenesis
SEPM, EMD and DPA Luncheons.

TUESDAY AFTERNOON, JUNE 2

AAPG/SEG Geologic and Geophysical Rationale Related to the Deliberate Search for the Subtle Trap (Stratigraphic, Unconformity and Paleogeomorphic) II.
AAPG RESEARCH SYMPOSIUM — Seals for Hydrocarbons II.
SEPM RESEARCH SYMPOSIUM — The Shelf-Slope Boundary — A Critical Interface on Continental Margins II.
AAPG Enhanced Recovery — Geologic Aspects and Case Histories.
EMD Geothermal.
AAPG Applications of Surface Geochemistry.
SEPM Modern Clastics: Depositional Settings and Facies Associations.
SEPM Monterey and Related Siliceous Rocks of California — Part I, Age and Correlation.
SEPM Research Colloquia

7:00 p.m. – 9:30 p.m. —
The Shelf-Slope Boundary — A Critical Interface on Continental Margins.
Clastic Diagenesis.
Turbidites and Deep Marine Sedimentation.
Marine Micropaleontology.

AAPG/SEPM/EMD POSTER SESSIONS:
Oil and Gas General and Search for the Subtle Trap.
Paleontology II.
Carbonate Sedimentology.
Worldwide Paleogeography — Mesozoic and Tertiary.

WEDNESDAY MORNING, JUNE 3

AAPG Tectonics — Western North America.
SEPM Monterey and Related Siliceous Rocks of California — Part II, Depositional Environments.
SEPM Styles of Sedimentation on the Pacific Margin.
SEG (Pacific Section) Seismic Stratigraphy I.
EMD Coal and General Energy Minerals.
SEPM Carbonate Geochemistry and Mineralogy.
SEPM Glacial Marine Sediment and Sedimentary Processes on Shelves Dominated By Ice.
AAPG Student Sessions I.
AAPG/SEPM/EMD POSTER SESSIONS:
Oil and Gas General and Search for the Subtle Trap
Paleontology II
Carbonate Sedimentology
Worldwide Paleogeography — Mesozoic and Tertiary

WEDNESDAY AFTERNOON, JUNE 3

AAPG General Petroleum Geology.
SEPM Monterey and Related Siliceous Rocks of California — Part III, Diagenesis.
AAPG/SEPM Worldwide Paleogeography — Mesozoic and Tertiary.
SEG (Pacific Section) Seismic Stratigraphy II.
SEPM Mass Transport Processes and Products.
AAPG Computer Applications to Geology.
SEPM Geologic Concepts, Applications and Other Wonderments.
AAPG Student Sessions II.

NEWS RELEASE

TULSA, Okla. — The AAPG *BULLETIN*, the 64-year-old monthly scientific journal of the American Association of Petroleum Geologists, has been revitalized beginning with the January 1981 issue.

The sleek new image includes an 8 ½ x 11 page size, larger text type, two and three column format option, as well as a four color cover.

The *BULLETIN*, with a circulation of more than 29,000 had a 30 percent increase in ad revenue in 1980, and advertising revenues are expected to increase dramatically in 1981.

Established in 1917, the *Bulletin* is distributed to AAPG members in 80 countries. Additional distribution is to non-member subscribers, libraries, and other professional organizations on an exchange basis. Because of its highly selective editorial screening process, the *BULLETIN* has long been recognized as a journal of scientific excellence in geologic interpretations and observations.

Alaska

As this is being written, the temperature is −36° F, and the wind is 25 miles per hour making the chill factor −95°F. The brief semi-daylight hours do little to improve the visibility since a white-out is in progress. These brisk and invigorating conditions have rendered my face frostbitten on two occasions recently. Spending the holiday season on the Arctic Riviera can be an enlightening experience for those who haven't been accorded the privilege previously. It should be noted that the only indication that the sea coast is even in the vicinity is that the vast flat whiteness becomes somewhat vaster and flatter over the ocean.

The above comments are provided simply to inform the Sun Belters of what they are missing by living in a climate without seasons. If you find that you really can not wait until the 1982 Fur Rondy symposium to sample this Alaska Experience, AGS President Roger Herrera has developed a one-day symposium for you. It is entitled "Geology of the Arctic Basin" and is scheduled for Friday, April 24, 1981. At present, six "prominent" Arctic scientists are scheduled to speak followed by discussions and elbow bending. Requests for information should be directed to "1981 Symposium, Alaska Geological Society, P. O. Box 1288, Anchorage, AK 99510.

Speaking of the Alaska Experience, Congress has finally passed the controversial d-2 legislation now called "The Alaska National Interest Lands Conservation Act, PL 96-487." This title is actually a misnomer as Alaska just happened to be the location of the national interest. Although the Andrus-Udall-Sieberling machine was unsuccessful in creating The Alaska National Park, a considerable amount of the state of Alaska has been locked up for environmental purposes, only. While the specifics of the legislation will not be detailed here, it might be important to note what some of the other ramifications might be. The coastal portion of the Arctic National Wildlife Range may receive some limited efforts toward exploration with the possibility of opening the area to a resources assessment program. Development of the area would require an act of Congress.

The National Petroleum Reserve/Alaska may be put up for some type of leasing in the future. The NPR/A now has the final two wells being drilled under FY 80 and will have four more under FY 81. Recommendations are then to be made regarding a manner of leasing for the area.

The Alaskan oil industry is especially heartened with the results of the recent national elections as well as the appointments being made. The trend established by the previous administration may well have proven terminal for the Alaskan oil industry had they been awarded another four years.

If you would like a directory of the Alaska Geological Society, send your request to the above address. It is interesting to note that some of the Alaska type fossils appear to be aging.

Margaret Erwin, who has been an employee of the U.S.G.S. for umpteen years and a member of the resident community when the Alaska Geological Society was founded, is now retiring. She will be leaving the U.S.G.S. Public Inquiries Office, where she has been in charge since 1953, and moving to near Port Angeles, Washington. She has held several offices in the AGS and will be missed both by the AGS and the employees of the PIO and the many individuals who have depended on her knowledge of Alaska and Alaskan literature.

ARLEN EHM

Coast

The Coast Society is pleased to announce the speakers for the April and May dinner meetings. On Tuesday, April 14th, Bob Dillehay of GO, will discuss "Direct Digital Logging." The May meeting, scheduled for Tuesday the 19th, will feature Jan Lundberg. His talk entitled "What to tell your friends about the Oil Industry" should be of interest to us all.

The members of the Coast Society grant a hearty welcome to Sunmark Exploration Company. Sunmark has opened an office in the Ventura area to pursue onshore California exploration; Craig Bourgeois is the district manager, Gorden Welsh and Jack Willey are the respective managers of geology and geophysics. Geologist Steve Sanders and Tom Adame with geophysicist Larry Constantine round out the exploration group at this time. Sunmark's address is: 2151 Allesandro Drive, Ventura 93001.

Exxon will be opening a production office in Ventura this February. The office, which will handle their California producing properties, should include as many as seven geologists.

Other personnel news includes Conoco's acquisition of Ed Hickey as a development geologist. Also, Walt Rensen of Getty has transferred from Bakersfield to Ventura, and Al Hanson, long time Getty geologist, has retired.

Thursday, February 12, 1981

A.A.P.G. Distinguished Lecture — Dr. Colin Barker — Univ. of Tulsa — "Plate Tectonics, Organic Matter, and Basin Evaluation for Petroleum Potential."

Shell Club House on Shell Road in Ventura.

Happy Hour: 6 p.m. — Dinner: 7 p.m.

MARC W. TRAUT

Los Angeles

The 1981 officers of the L.A. Basin Geological Society are:

President ..... Lucy Birdsall (U.S.G.S.)
Vice President ..... Dennis Kerr (Texaco)
Secretary ..... Ed Paden (Texaco)
Treasurer ..... Jim Blankenship (So. Calif. Gas Co.)

February 26 — Marty Link, "Hydrocarbon Potential of the Matillija."

Northern California

February 12 — Colin Barker, "Plate Tectonics, Organic Matter, and Basin Evaluation for Petroleum Potential."

Sacramento

NO REPORT

San Joaquin

FUTURE EVENTS

The San Joaquin Geological Society's dinner meeting of February 10th will feature a talk by Dr. R. A. Crewdson (Occidental Geothermal), "Geothermal Exploration in the Western U.S." Then on March 10th, Dr. Lowell Redwine (Consultant) will present the talk, "Monterey Shale Reservoirs." A special thanks goes to Jack West, Vice-President, S.J.G.S., for his diligence in securing such excellent talks for S.J.G.S. this year.

February 16, 1981, the "A.A.P.G. Distinguished Lecture Tour" (sponsored by S.J.G.S. and Bakersfield College) presents the distinguished speaker, Dr. Colin Barker, University of Tulsa, Professor of Geo-Sceiences. Dr. Barker's lecture will be "Plate Tectonics, Organic Matter and Basin Evaluation for Petroleum Potential." The lecture will be held in the Finlinson Center at Bakersfield College. (Finlinson Center is located between the Language-Arts Building and the cafeteria on the Bakersfield College campus.).

S.J.G.S. will be running the Pacific Section Spring Field Trip and Bar-B-Que, Friday, May 15th at Ojai. The field trip, "Lithostratigraphy of the Monterey formation on the coast west of Santa Barbara, Ca.," will be led by Caroline Isaacs, U.S.G.S. and will be leaving from Camp Comfort, Ojai, at approximately 8:30 A.M. (The field trip includes a portion of the lo nger trip to be held in conjunction with the National A.A.P.G. Convention in San Francisco this spring.) Also, there will be tennis and golf tournaments. Watch for a later mail-out containing more detailed information of all events and remember to keep the day free.

NATIONAL A.A.P.G.

S.J.G.S. selected two of Bakersfield's most respected geologists as representatives for San Joaquin Geological Society to the National A.A.P.G., Mr. Don Collins (Oxy) and Mr. Dave Callaway (Arco).

GEOLOGISTS ON THE MOVE

Jim Drennan's cohorts are wondering how long he will be able to stand Houston's muggy weather. There's a rumor, completely unfounded and probably not at all true, that a pool is being formed as to just which month he will give up and move back home to Bakersfield. Jim recently left Depco, to join Ferguson & Bosworth in their new Houston office.

Getty lost a geologist, but didn't lose the man. Say What? It's that Brad Newman — Getty just keeps offering him promotions and he just keesp accepting. Brad will get to play the heavy in his new role, "Operations Research Analyst — Finance." Congratulations, Brad.

Arco recently welcomed two new geologists into its Exploration Department, Tim Verseput and Tom Davis. Tim transferred in from Arco's Dallas office and Tom joins Arco after receiving his doctorate from the University of California at Santa Barbara.

At Gulf Oil, H. F. (Lin) Hazel has been promoted to General Manager of Exploration for its West Coast District. He replaces Lee Woodard who is returning to Midland, Texas for Gulf after spending 19 months in Bakersfield.

MAGI NIELSEN

NEXT DEADLINE
PPG NEWSLETTER
MARCH 9, 1981

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FAR EAST *(continued from Page 1)*

geologic province off the northeast coast of Australia.

Oil production in Europe increased significantly — 30 percent over the 1978 figure. The major share of the increase came from the North Sea, the Spanish Gulf of Valencia, and northern Italy as development of fields discovered in the 1970's progressed, according to geologist Cynthia Kat, British National Oil Corp., Glasgow, Scotland.

NEWSLETTER
Pacific Section A.A.P.G.
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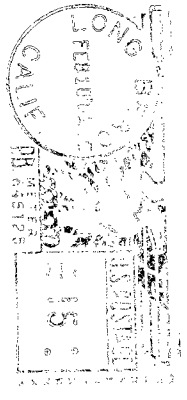

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