



NEWSLETTER

of the Pacific Section

American Association of Petroleum Geologists

VOLUME 27

JANUARY, 1973

NUMBER 1

"The ladies advanced registration form for the National AAPG, SEPM, SEG convention in Anaheim, May, 1973, has an error. The Zip Code should read 74101".

Convention Colloquy

May in Southern California is delightful — the grass is green and the air is clean. To help you on your way here Western and Continental Airlines are cooperating to ease your ticketing and scheduling and even the price using group rates from major oil centers. After the convention they will help you visit Hawaii, offering several attractive package deals. Some people have been concerned about getting to Anaheim. Anaheim is part of greater Los Angeles, lying only about 20 miles southeast of the downtown area, and accessible by buses from the airport which run every half hour. From the airport, it is a trip comparable to that from any international airport to the metropolitan area. For those of you who drive, the multitude of hotels near the convention center with ample parking are only a few minutes off the freeway.

It is traditional at this time to detail the program. Stretching this a little, we wish to emphasize the utility and interest you will find here — really it is divided into three sections: current events of importance in the exploration industry, an update on the progress of the sciences, and participation in learning. Regarding the first, the joint sessions will feature papers on important new areas which have not previously been publicly described. The exhibits will feature new equipment adapted to difficult environments. For recent scientific advances there are the AAPG, SEPM and SEG technical sessions, symposia and colloquia. You need to be aware of the latest on the diagenesis of organic matter, the inter-relationships of tectonics and sedimentation, environmental impact, the economics of alternate energy sources, the new types of sediments which are being recognized in deep marine environments, and what type of

(Continued on Page 2)

Ventura Basin Faults To Be Studied

Four major faults in the Ventura basin will be the subject of a study to determine the age and geometry of faulting and the stress fields associated with faulting. The study will be based principally on subsurface data. The project is funded by the National Science Foundation and will be directed by Dr. Robert S. Yeats of Ohio University, Athens.

The Oak Ridge, Red Mountain, San Cayetano, and Santa Susana faults will be studied. The large number of well logs available in the onshore Ventura basin provides the opportunity for a three-dimensional analysis of strain history probably unique in the Transverse Ranges. Other information concerning anomalous fluid pressures, nonplanar oil-water interfaces, and geothermal gradients will also be used.

Stress trajectory cross sections and maps showing displacement vectors and strain rate changes will be constructed using computer analysis and display. The objective of the study is a better understanding of long-term strain accumulation and its relation to faulting and seismicity in the Transverse Ranges.

Because California has no law requiring general release of sub-surface data, the cooperation of oil companies in the release of data pertinent to the study is essential. The low level of exploration activity in the onshore Ventura basin is expected to facilitate data release. Participating companies will have access to all results of the study and will be furnished with periodic progress reports.

San Joaquin

NO REPORT.

RESOLUTION

The following Resolution of the Northern California Geological Society was forwarded to Ronald Reagan, Governor of California.

A Resolution by the
NORTHERN CALIFORNIA
GEOLOGICAL SOCIETY

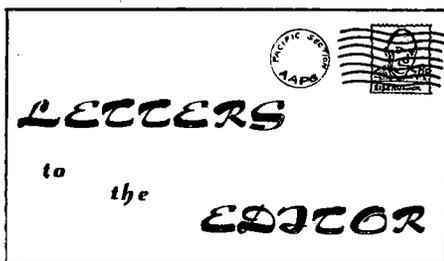
Concerning the
Appointment of Geologists to the
State and Regional Coastal Zone
Conservation Commissions

In that section of the Coastal Zone Conservation Act which stipulates the qualifications of commissioners, it is stated that "Each public member . . . shall be a person who, as a result of his training, experience, and attainments, is exceptionally well qualified to analyze and interpret environmental trends and information, to appraise resource uses . . . to be responsive to the scientific . . . needs of the state," and that "Expertise in conservation, . . . ecological and physical sciences . . . shall be represented on the commission and regional commissions".

All aspects of the earth's environment, including the air, the water, and the land, are encompassed by the earth sciences and especially, by the science of geology, which applies the natural and physical sciences to the study of the earth and the processes which change it, and includes within its scope many subjects essential to the understanding, preservation, and orderly management of the coastal zone, for example:

- ... processes of shoreline erosion and deposition
- ... long-term effects of coastal modifications
- ... bay and estuarine sedimentation
- ... tidal, current and wave processes
- ... stream flow and flooding
- ... landslides, and hill-slope erosion and recovery
- ... earthquake faults and seismic hazards
- ... the stability of building sites
- ... groundwater development and

(Continued on Page 4)



Editor, the *NEWSLETTER*

Whatsa Pacific Section? Like Dick; I donno either. Trying out a reasonable answer would be to exhibit the vellieties of an exfoliate mind. A complementary question is WHY a Pacific Section?

To cite a syllogistic cliché, people are gregarious; geologists are people, aren't they?; therefore geologists are gregarious. And they flock, eat, talk, sleep, love and excrete geology together. So . . . I would say that the Pacific Section is a natural outgrowth of the herd. If you dissolved it, someone or two or three would form another. Change the name if you wish but you have the same thing. A rose . . . you know. So, like a shadow or a reputation or a mongoloid child or a public debt, it's here and we have to cope with it. OK so far?

Now the *NEWSLETTER* may be dull but not as "dull as hell" as you suggest. . . . Actually, when I look it over carefully the second time, I'm happy to find that there's some very interesting poop therein. It's up to date, contains calendars for two coming months, memorials, letters to the Ed, data on coming conventions, and recommended reading. Local society news is pretty dull I admit. That not your fault. Surely these reports could be spiced up with a little effort, or even eliminated.

My main criticism is that the *NEWSLETTER* is 100% geology. It's like a housewife who wears only jeans, tennis shoes, is too busy cooking and raising kids to do up her hair, and talks only of her children. But if you dress her up in a flowered sheath, add a pair of size C falsies, give her a birthday hairdo and a grenadine double rum, she will sparkle like Elizabeth Taylor selling kisses at a diamond smugglers convention.

Now I maintain that there is a great big wide beautiful wonderful world of fascinating things besides geology. Whats more, geologists think so too, I'm sure from 35 years of association. So I suggest that you include in the *NEWSLETTER* about three columns — 1000 to 1200 words — of jokes, limericks, stories, essays, incidents or complaints contributed by members who rise to the challenge or like to write or just love to bitch about something, or contributed by our handsome, unbiased, trustworthy,

honest and outstanding editor.

Cordially,
OTTMAR F. KOTICK
25911 Elena Road,
Los Altos Hills, Calif.

So far, that first prize bottle of booze is yours. But, you really know how to hurt a guy. All along I thought the NEWSLETTER was charmingly sprinkled with witticism and good humor. Guess I'm getting too old for this job. I reject your other accusation — I have NEVER, repeat NEVER excreted geology alone or especially with someone else.

...The following "Open Letter" is directed to corporate management and administrators whose decisions affect the activities of geologists.

On July 4, 1972, I became president of the Pacific Section of AAPG, succeeding Dick Hester. With any luck, during the current year I shall be constructive in Section programs and affairs, most notably in directing its energies and guiding its ultimate destiny. At the moment I have special concern for its membership, which I feel is declining in numbers and advancing in age.

Each time I attend a Pacific Section function, I am assailed by the impression that I see virtually the same people at each event, and each time they appear a little bit older. Although I don't yet have a statistical profile on the Section, I am certain that each year the median age of our members increases. The finality of such a trend is inescapable — the Section will eventually die of old age.

It depresses me that where petroleum geologists gather, young ones appear to be absent. Paradoxically, I am sure that the petroleum industry hires young geologists; otherwise, the industry, too, would be headed for extinction. The question which I have put to our recently formed Planning and Organization Committee is how can we make membership in AAPG and in the Pacific Section more appealing to young geologists?

Already we are embarking on new schemes to enhance the standing of the Section, and I should like to pose one to you. Fundamental in this proposition is the notion that AAPG is uniquely helpful and of significant value to the industry in its worldwide search for oil and gas. If you do not embrace that concept, read no further.

It occurs to me that one of the reasons why we are not admitting young geologists to AAPG has to do with money. Dues are currently \$25± per year nationally and \$5 per year for the Pacific Section. In return, the member receives the Bulletin and selected other publications and the opportunity of attending meetings and spending more money.

For a young person, this glittering chance may appear largely a chimera.

I should like to ask you to ponder the policies of your company regarding membership and the other expenses of belonging to AAPG. If you are presently underwriting costs of employee attendance at AAPG meetings, my everlasting thanks. If you are not bearing the cost of AAPG membership for your employees, we both may be losing a bet — and new members for AAPG.

In closing, may I ask you to consider footing the bill for your geologists in their applications for membership and their dues to AAPG, if you are not already doing so. The dividend for you may be in the form of greater dedication and more competent professional practice on the part of your geologists, and, who knows, maybe oil discovery. For us, the return will be a more vital and effective organization devoted to the more complete understanding of petroleum geology and its communication to the world at large.

Sincerely,
ARTHUR O. SPAULDING,
President
Pacific Section — AAPG

DEAR EDITOR,

I have a set of the *NEWSLETTER* (1947-1970) that I will GIVE to any organization that will pay for the mailing thereof.

Also have for SALE — Bul. A.A.P.G. (Vol. 42-1958 through vol. 57-1972) unbound — complete — price \$190 plus mailing.

Yours Truly,
FRED R. NEUMANN,
319 Orient St.
Chico, Calif. 95926

It does my heart good to see that you are saving the post 1970 issues of the NEWSLETTER. Fred, you are a man of obvious high breeding.

Convention Colloquy . . .

(From Page 1)

geophysical data is best suited to future exploration. For participation, there are a variety of pre and post convention field trips in the Southern California area which has always been famous for surface exposures of geological phenomena, and there are courses on petroleum geochemistry and deep water sedimentation the Saturday and Sunday preceding the convention. At daily "But and Re-but" sessions you will have a chance to discuss the interesting papers of the day with their authors.

This is a time of rapid scientific and technological advance and change in the scene of energy exploration opportunity.

Your Anaheim Convention Committee feels sure that you will agree — participation is a must!

Position Available

SENIOR PETROLEUM GEOLOGIST

BP Alaska Inc., a subsidiary of the BP Group, with substantial interests in Alaska seeks a senior development geologist. Initial assignment will be Anchorage, Alaska as District Development Geologist responsible for Geological supervision of drilling operations.

Ideal candidate should have approximately ten years experience in petroleum geology with a good background in the geological aspects of drilling operations.

As the future prospects of the candidate selected for this position are excellent, a strong theoretical and practical knowledge of reservoir geology plus a good knowledge of log interpretation and reservoir engineering are required.

Please send resume' with salary requirements in confidence to:

Personnel Manager
BP Alaska Inc.
270 Park Avenue
New York, New York 10017
An Equal Opportunity Employer

Alaska

NO REPORT.

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

Material for Publication and requests for previous copies should be addressed to STANLEY E. KARP—GEOLOGY DEPT., BAKERSFIELD COLLEGE, BAKERSFIELD, CALIF. 93305.

Material received by the 15th of each month will be included in the following issue.

CHANGE OF ADDRESS, subscription and membership inquiries should be directed to MEMBERSHIP SECRETARY, PACIFIC SECTION AAPG, P. O. Box 17486, FOY STATION, Los Angeles, Ca. 90017.

Northwest

On November 8 the Northwest Geological Society was honored with the presence of Mr. Hunter Yarborough of the Humble Oil and Refining Company who spoke on "Plate Tectonics and Major Oil Accumulations." His talk included a broad overview on plate tectonics as applied to oil and gas exploration. On December 4, AAPG distinguished lecturer Dr. L. Frank Brown, Jr., of the University of Texas, spoke on "Environmental Geology and Genetics Mapping." Among the topics he discussed were such critical problems as "Expanding populations with its myriad needs for water, sanitation, recreation, and proper land use, coupled with complementary industrial expansion in developing megalopolis belts."

Vernon C. Newton, Petroleum Engineer of the Oregon State Department of Geology and Mineral Industries, reports that drilling permits for that state on federal land have been held up for more than a year due to the stringent requirements for environmental impact statements. The Bureau of Land Management is now preparing such an impact statement.

Diek Bowen, Economic Geologist for the Oregon State Department of Mineral Industries, has been working under a grant for the Bureau of Mines in connection with geothermal exploration in eastern Oregon. He has conducted geothermal gradient tests in mineral test wells and water wells of that area. In addition, a program for drilling of shallow holes is underway in areas not covered by other wells.

A new report (Bulletin 74) was recently released by the Oregon State Department of Geology and Mineral Industries on "Geologic Hazards of Tillamook and Clatsop Counties, Oregon," by Herbert G. Schlicker, Engineering Geologist for the Department. This study deals mainly with landslides and flooding conditions of the area.

Petroleum exploration activity presently appears to be in a lull in Washington as your correspondent has had very little contact in recent weeks with oil geologists.

Vaughn E. Livingston, Jr., State Geologist, presented a talk in November on "Geothermal Energy" in Seattle before both AIME members and the West Coast Mineral Association. His talk included a review of the geothermal setting of the world, together with a general summary of research being conducted on heat

flow, followed by an interesting slide review of current geothermal operations.

If you missed hearing from your Northwest correspondent last month, it was because we were up to our ears in moving the Washington State Division of Mines and Geology offices. We are now reasonably settled and happy in our "temporary" quarters on the corner of Jefferson Street and 14th Avenue. Our mailing address and phone number remain the same (Division of Mines and Geology, Department of Natural Resources, Olympia, WA 98504; (206) 753-6183.

WELDON W. RAU

CALENDAR for January

S	M	T	W	T	F	S
	1	2	3	4	5	6
9	NOON LECTURES SERIES. USC Stauffer Science Hall 100. Ronald Kolpack, Geological Sciences, USC. "Environmental Studies In the California Borderland."					
15	BAKERSFIELD COLLEGE. Biostratigraphy Seminar. Science and Engineering 56, 7:30 p.m. "Late Tertiary Tectonism Along the Eastern Gulf of Alaska Continental Margin." Dr. Roland Van Heume, USGS, Menlo Park.					
17	LOS ANGELES BASIN GEOLOGICAL SOCIETY. Dr. Perry Ehlig, Cal State LA. "Solution To the Offset of the San Andreas Fault-Mint Canyon Formation." Roger Young Aud., 12 Noon.					
24	NORTHERN CALIFORNIA GEOLOGICAL SOCIETY. D. H. Shuldice, Shell Canada, Ltd., Calgary. Geology of the Western Canadian Continental Shelf". Leopard Cafe, 140 Front Street, San Francisco. Noon.					

February

S	M	T	W	T	F	S
				1	2	3

Sorry for the sparse calendar but we have not been informed of any other activities for February other than that at Bakersfield College. Please send in your spring programs.

5 BAKERSFIELD COLLEGE. Biostratigraphy Seminar, Science & Engineering 56, 7:30 p.m. "The Oligocene-Miocene Boundary in the Shallow Water Marine Sequences of the Pacific Coast." Dr. Warren Addicott, USGS Menlo Park.

Los Angeles

The holiday dinner dance at the Lobster House in Marina del Rey was a great success in every respect except one. Only 32 couples showed up. The music, booze and Santa Claus (Bob Smith) were great but, unfortunately, only a few people were there to enjoy it. If anybody has any bright ideas where we might have a substitute social event, etc., please contact the new L.A. B.G.S. officers after the first of the year.

At noon on January 17, 1973, Roger Young Auditorium, the Los Angeles Geological Society will have Dr. Perry Ehlig of California State University Los Angeles as guest speaker. The title of his paper will be, "Solution to the offset of the San Andreas Fault - Mint Canyon Formation".

At the request of the Four Corners Geological Society, the following is noted:

The Four Corners Geological Society will again sponsor a river field conference. This year's trip will be conducted on the San Juan River where the river carves deep canyons across the Monument up-warp of southeastern Utah. These canyons afford spectacular exposures of Middle Pennsylvanian through Jurassic strata and the well known anticlinal folds of this portion of the Colorado Plateau province. Exposed algal bank reservoirs of the Aneth type and numerous bioherms will be featured.

For reservations or further information, contact Don Baars, Field Conference Chairman, Four Corners Geological Society, P. O. Box 1501, Durango, Colorado 81301.

Butch Brown reports the following final election results for the 1973 Los Angeles Basin Geological Society slate of officers:

Bill Hunter.....	President
Louis Heintz....	Vice President
Tom Manera.....	Secretary
Scott Knight.....	Treasurer
Craig White.....	Chaplain

Enclosed is an abstract of Dr. L. F. Brown's distinguished lecture on Environmental Geology and Genetic Mapping. In his lecture he pointed out several states such as Alabama and Texas have proceeded quite far with environmental geology and genetic mapping. California, where this type of project is sorely needed, appears to be lagging.

TOM W. REDIN

Northern California

I have two items of news to report. One is history, as it concerns our last meeting held at the Leopard Cafe in San Francisco on December 1, 1972. Our Distinguished Lecture Speaker was Dr. L. F. Brown, Jr., Research Scientist, Associate Director for Research, Professor of Geological Sciences at the University of Texas at Austin. The subject of his talk was "Upper Paleozoic Fluvial-Deltaic, Shelf, and Slope Depositional Systems in a Cratonic Basin, West-Central Texas". We had an attendance of 60 persons, a decrease from the last few meetings but still a good size group.

Our January meeting will be held on January 24, 1973 at the Leopard Cafe at 140 Front Street, San Francisco. Social hour, 11:30 A.M., and Luncheon at 12:00 noon. This will be another A.A.P.G. sponsored Distinguished Lecture titled "Geology of the Western Canadian Continental Shelf" given by Mr. D. H. Shouldice. The speaker is the Senior Staff geologist at Shell Canada, Ltd., Calgary. Guests are welcome to these meetings so if you are expecting to be in the area of San Francisco on that day do come and join us.

Ed, my best wishes to you and all members of the Pacific Section for a happy, healthy and prosperous New Year.

J. H. SAWYER

Sacramento

Sparse reporting this month during the holidays. After the New Year things should pick up. Hope you and your family had an enjoyable holiday season.

Approximately 40 copies of the 1972 edition of "The Geysers Geothermal Field Guide Book" are available at \$5.00 each (postage paid) from the Northern California Chapter, American Petroleum Institute, P.O. Box 541, Woodland, Calif. 95695. Revisions to the 1970 edition at \$1.50 per set are also available, and includes an updated map and several new articles.

The Geological Society at Sacramento is in the planning stage of having a "field trip from the air" in the Spring, 1973. The trip would involve viewing geology along the East side of the Si-

erra Nevada Mtns. to Owens Valley, along the Calif.-Mexican border, and returning North along the San Andreas Fault zone.

The Sacramento Petroleum Association held its annual Christmas Party for members December 20th. Lunch was free to all members, and of course an ample supply of wine.

We were again saddened by the passing of Mrs. Joseph Parenter. Joe is President of Del Paso Exploration Co. here in Sacramento.

TERRY PLUMB

Coast

NO REPORT.

Resolution . . .

(From Page 1)

- conservation
- ... exploration for and development of mineral resources, including present and potential sources of energy and problems attendant upon their use
- ... geochemistry and trace element studies

The entire professional experience of geologists consists of the analysis and interpretation of diverse information in the earth sciences as to probable cause-and-effect relationships, emphasizing their application to society's needs.

There are, in the San Francisco Bay region and other parts of California, a number of distinguished geologists, active in or retired from careers in government service, the universities, or private industry who are exceptionally well qualified to serve on Coastal Zone Conservation Commissions.

The executive committee of the Northern California Geological Society, representing more than 175 geologists in the San Francisco Bay Region, has resolved that the Honorable Ronald Reagan, Governor; the Honorable Robert Moretti, Speaker of the Assembly; and the Senate Rules Committee be urged to insure that a geologist be appointed to each of the seven commissions now being created.

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CHIPS

from Rocky Granite

This is the first and the last of a new series of offerings of erudite comments, savory recipes and pearls of wisdom. This should satisfy the many requests for a more rounded publication.

POP - CORN DRESSING

- 2 qts. mixed dry white bread and corn bread, crumbled.
- 1 cup pop corn
- 1 cup minced onions, sauteed
- 1 cup diced celery, sauteed
- 2 T. sage or poultry seasoning
- 1 t salt
- 2 cups broth (as needed)

Mix all ingredients together, clean and stuff lightly in a 12-14 lb. turkey; close cavity with skewers and twine. Tie wings close to breast. Place on rack in oven pan. Roast in moderate oven (325°) 5 hours or to desired state of doneness.

CAUTION: Do not exceed recommended cooking time or the pop corn will blow the ass off the turkey.

When hard rocks grow old they weather into soft soil. This proves that the first hundred years of a rocks life are the hardest.

I would have won the baking contest with my marble cake but the judges took it for granite.

GEOGRAPHY OF A WOMAN

From 12 to 15 — She's like Africa — Virgin and unexplored.

From 15 to 30 — She's like Asia — Hot and exotic.

From 30 to 45 — She's like America — Fully explored and free with her resources.

From 45 to 55 — She's like Europe — Exhausted but still with points of interest.

From 55 on — She's like Texas — Everybody knows it's down there, but nobody gives a damn.

Well — not all rocks are gneiss.

Each one of us is a mixture of good qualities and perhaps some bad. In considering our fellow man we should remember his good qualities and realize his faults only prove that he is, after all, a human being. We should refrain from making harsh judgment of a person just because he happens to be a dirty, rotten, no good son-of-a-*****!

REMEMBER — You can lead a horse to drink but you can't make him water.

CORPORATE LUNCHEON HABITS

Chairman of the Board — Dines with God.

Director — Dines alone.

President — Has lunch brought to his office.

Vice-President — Eats when the President tells him to.

Manager of Exploration — Dines with his secretary.

Chief Geologist — Dines at the Petroleum Club.

District Geologist — Eats with the mud salesman.

Geologist — Has lunch at the Coffee Shop.

Geologic Technician — Eats at the Dime Store.

Petroleum Engineer — Brown bags it.

DON'T YOU BELIEVE IT —

"Criticism just rolls off my back".

"You kids, this is the last time I'm warning you."

"Your money will double in no time."

"Just give me one minute."

"I'm not trying to hurry you."

"Follow the simple instructions."

"I'll get the next round."

"Come and see us some time."

YOU CAN BELIEVE IT —

The inside of a cucumber is 20 degrees hotter than the outside.

World War II cost \$800 billion.

Cleopatra's wig was made of rope.

Dog's only sweat glands are on soles of his feet.

It's impossible to sneeze with your eyes open.

The average American eats 15 pigs, 12 sheep, 2 calves, 20 steers, 7,000 lbs. of fish, 30,000 eggs, 9,000 lbs. of potatoes, and 6,000 loaves of bread in a lifetime of 70 years. Packaging of these products requires about 20 tons of paper or 10 acres of timber including toilet paper.

It takes 1,280,000 fleas to weigh a pound.

Freud, says Andrew Salter in "The Case Against Psychoanalysis," is saying in essence, "When an analyst can't find a wish-fulfillment in a dream, the analyst *knows* it's there, in a distorted form. If one drilled for oil according to Freudian principles, the drier the hole the surer one would be that oil was present in a distorted form. Those who would say that there was no oil would be accused of being scientifically uninformed."

Charles Darwin, on opposition to his Origin of Species: "I think geologists are more easily converted than simple naturalists, because more accustomed to reasoning."

(Oh yeah? He's never been to a

meeting of the San Joaquin Geological Society.)

Thanx go to Kotick, Betty and Ma-her for some of the gneiss Chips to the above pile of schist.

HIGHWAY MAPS

Two new geological highway maps describing surface features of the landscape have been published by the American Association of Petroleum Geologists, one covering the Northern Rocky Mountain Region and the other covering the Mid-Atlantic region.

The multi-color maps present the general geology of the region in an interesting manner, sufficiently generalized to make it clearly understandable to the general public but detailed enough to be useful to the science student and the professional geologist.

Each map is a combination of a geological map, showing the location and surface distribution of rocks of various geological ages, and a base map that locates the highways, rivers, counties, cities, and towns. A different color is used for rocks of each geological age exposed on the surface.

Much geological information is also given with the maps, including cross sections showing elevation of mountains and the sub-surface depths of principal formations. Smaller maps on the back give both the physiography such as mountains and other landforms and tectonic data such as uplifts and fault zones.

The Northern Rockies map covers the states of Idaho, Montana, and Wyoming. The Mid-Atlantic map covers Kentucky, West Virginia, Maryland, Tennessee, Virginia, Delaware, North Carolina, and South Carolina.

The maps are part of a series being prepared by the American Association of Petroleum Geologists, a non-profit organization of professional geologists, in cooperation with the United States Geological Survey and the geological surveys of the various states included. Other maps available in the series cover the Mid-Continent region, the Southern Rockies, and the Pacific Southwest. Six additional regional maps are now in preparation so that the series eventually will cover the entire United States.

The maps may be obtained from the American Association of Petroleum Geologists, P. O. Box 979, Tulsa, Okla. 74101. In quantities of 1 to 14 the price of each is \$1.50 folded and \$1.75 rolled in a tube, plus \$.50 postage and handling.

Convention Field Trips

MIocene SEDIMENTARY ENVIRONMENTS AND BIOFACIES, SOUTHEASTERN LOS ANGELES BASIN

DATE: Sunday, May 13
8:30 A.M. to 6:30 P.M.

James C. Ingle, Jr., Leader; A. Bar-tow, W. H. Berger, M. L. Natland, W. Normark, C. Stuart, A. D. Warren, W. R. White, W. Wornardt, and R. S. Yeats.

Middle and Late Tertiary marine deposits exposed along the coast from the Newport Bay - San Joaquin Hills area south to San Clemente, California constitute a uniquely complete record of tectonic, sedimentary, and paleontologic events during a 15-20 million year period of basin formation and filling at the Pacific margin. Analysis of these deposits in light of modern lithofacies and biofacies patterns illustrates that shelf sedimentation commenced during the Oligocene - Lower Miocene interval (Vaqueros and Topanga formations) and that rapid subsidence to bathyal depths in excess of 2000 meters occurred in the Late Miocene (Monterey and Capistrano formations). Early Pliocene through Early Pleistocene deposits (Capistrano and Fernando formations) represent the basin-filling phase of this evolution. This trip will examine evidence of major sedimentologic, paleoecologic, and paleobathymetric events within this sequence with a particular focus on bathyal diatomites of the Monterey Formation and turbidite-submarine fan deposits within the Capistrano Formation. The route to be followed will allow comparison of coeval but contrasting sedimentary facies in two separate areas of the basin complex. Marine and continental facies of the controversial Miocene San Onofre Breccia will be scrutinized at Laguna Beach and Dana Point.

The sequence of sediments to be examined on this trip is also noteworthy for containing abundant well preserved Middle Miocene through Pliocene benthonic and planktonic microfaunas. Indeed, the Newport Bay exposures constitute a classic collecting locality within the California Tertiary. Recent studies of planktonic foraminifera, radiolaria, calcareous nannofossils, and silicoflagellates from these deposits reveal temperate to subarctic paleoceanographic conditions prevailed at this latitude during most of the Neogene with only brief incursions of subtropical and tropical species. Pre-collected microfossil samples from selected horizons will be available for participants.

Fee includes transportation, lunch, and roadlog. No limit.

GEOLOGICAL REVIEWS

HYDRO-GEOLOGY AND WATER RESOURCES OF

KERN COUNTY, CALIFORNIA*

By MICHAEL R. RECTOR

That southern portion of the San Joaquin Valley which was once considered an uninhabitable desert now claims the distinction of being a portion of the most productive agricultural land in the United States.

This accomplishment resulted from the use of an underground fresh-water supply in conjunction with the importation of additional surface supplies.

Unfortunately, however, land development has increased at a rate faster than the acquisition of new water inventories. As a result of this condition the mining of water, from the groundwater reservoir, continues at a rate which exceeds that of natural replenishment.

As water levels fall, the water quality deteriorates rendering it less desirable for beneficial uses by man. Continued use and reuse of this natural resource degrades the quality further, until the supply is rendered unacceptable for all but a few beneficial uses.

This ultimate condition can be prolonged, in Kern County, if a drainage system is designed to remedy the "salt balance" problem which now exists. Additional extensions to the life of the current water supply and to the economic development which it supports may be acquired through the use of good groundwater basin management policies.

The time for planning for our future is here. All of us should be concerned with potential solutions to the outlined problems.

*Abstract of paper presented to the Geological seminar, Bakersfield College, Dec. 4, 1972.

ENVIRONMENTAL GEOLOGY AND GENETIC MAPPING*

L. F. BROWN, JR.

One of the most critical problems facing the world during the last decades of this century will be the effect of expanding population with its myriad needs for water, sanitation, recreation, and proper land use, coupled with complementary industrial expansion in developing megalopolis belts. A paradox exists between a concern about the ultimate supply of natural resources necessary to maintain the present western life style, and a growing concern about diminishing resources and the impact of accelerating exploitation on delicately balanced or endangered environments and ecosystems. Environmental

management is the key to proper balance between exploitation and conservation.

Environmental Geology is, above all else, the practical or functional application of the science to critical environmental problems; geologists have for years similarly applied the science to mineral exploration and investigations of earth history and processes. More and more traditionally trained geologists will begin filling an increasing number of positions involving environmental studies; these tasks will require the best in research and application that the science of geology has to offer.

A major geological thrust is needed at this time to define and inventory natural environmental systems, their present status, and the impact of human modification. The principal geological tool in the battle against pollution, diminishing resources, and indiscriminate land use will be properly conceived and innovative geologic maps. The United States is poorly covered by geologic maps of adequate scale and proper concept for solving impact problems. Maps

(Continued on Page 7)

Recommended Reading

- MF 351: Reconnaissance geologic map and geochemical analyses of stream-sediment and rock samples of the Anchorage A-6 quadrangle, Alaska, by S. H. B. Clark and M. E. Yount 50c
- MF 355: Active faults, probable active faults and associated fracture zones, San Mateo County, Calif., compiled by R. D. Brown, Jr. 50c
- MF 356: Maps showing distribution of anomalous amounts of selected elements in stream-sediment and rock samples, Eagle quadrangle, Alaska, by H. L. Foster and M. E. Yount 50c
- MF 360: Landslide susceptibility in San Mateo County, Calif., by E. E. Brabb, E. H. Pampeyan, and M. G. Bonilla 50c
- MF 361: Preliminary photointerpretation and damage maps of landslide and other surficial deposits in northeastern San Jose. Santa Clara County, Calif., by T. H. Nilsen, and E. E. Brabb 50c
- MF-357: Geologic map of the pre-Cenozoic basement rocks, Gabilan Range, Monterey and San Benito Counties, Calif., by D. C. Ross 50c
- PUBLICATIONS OF THE GEOLOGICAL SURVEY 1962-70. 586 pages. (Continuation of the earlier catalog, "Publication of the Geological Survey, 1879-1961"). Free
- CALIFORNIA DIVISION OF MINES AND GEOLOGY
Special Publication 37: Crustal movement investigations in California: their history, data and significance, by Roger Greensfelder \$2.00

(From Page 6)

should be composed principally of genetic units, even if they do not conform to traditional maps nor formally accepted nomenclature. For example, first-order environmental units may include substrate units or facies such as fluvial channel-fill sand or reef limestone; vegetational units such as salt marsh or grass-stabilized dunes; landforms such as tidal deltas or highly dissected badlands; process-defined units such as land-slide areas or storm-washover channels; and man-made units. Maps of genetic units allow rapid derivation of special-use environmental maps for a broad spectrum of scientists and non-scientists. Delineation of genetic units allows three-dimensional extrapolation and interpolation of physical properties to predict the behavior of material under varied land use.

Results of environmental geologic investigations should be presented using innovative formats and techniques that encourage interdisciplinary communication, unite diverse specialists, and allow all experts to focus simultaneously on impact problems. Coupled with computer data storage, the environmental geologic map and derivative maps provide a current record of natural environments, processes and materials, as well as a permanent record of rates of erosion, deposition, and human modification and exploitation. Planners, economists, engineers, biologists, chemists, lawyers, legislative councils, and others can plot, plan, refer, and digest specific environmental data that are visually related to detailed inventory maps depicting the distribution and nature of fundamental natural systems.

Approximately 12 man-years of environmental geologic and derivative mapping and study in the 18,000-square mile Texas Coastal Zone by the Texas Bureau of Economic Geology have resulted in text and 64 full-color maps including Environmental Geology, Current Land Use, Physical Properties, Environments and Biologic Assemblages, Active Processes, Mineral and Energy Resources, Man-Made Features and Water Systems, Rainfall, Discharge and Surface Salinity, and Topography-Bathymetry. The "Environmental Geologic Atlas of the Texas Coastal Zone" provides a case history with which the philosophy approaches, and results of an extensive environmental investigation can be evaluated.

WILLIAM F. EDMONDSON
Consulting Geologist
Bakersfield, California

The Todhunters Lake Gas Field is located in Yolo County in the Sacramento Valley of California. It was discovered by Tidewater Oil Company (now Getty Oil Company) in May, 1967. To date, about 75 million MCF initial recoverable reserves of natural gas have been discovered. The principal producing zones are the Starkey Sands, the Bunker Sand and the Mokelumne Sand, all of which are of Upper Cretaceous age. Minor accumulations have been found from sands in the Markley Gorge Fill and the Winters Sand.

Three classes of traps are present: (1) Gorge truncation traps; where entrapment is entirely due to the trend of the shale filled Markley Gorge relative to the reservoir sands. (2) Fault traps; where entrapment is due to northwest-southeast trending normal faults cutting across a southwesterly dipping nose. (3) Combination traps; where the trend of the gorge and the normal faults working together provide the trap. It is estimated that of the presently discovered reserves, 17 million MCF are in gorge truncation traps, 23 million MCF are in fault traps, and 35 million MCF are in combination fault-gorge traps.

Todhunters Lake is a prolific gas field because of the fortuitous combination of gorge truncation and normal faulting occurring in the area of a structural nose. The gorge is significant only to the extent that it facilitates the creation of geometric traps and the gorge fill is not considered the principal source rock for the natural gas. The structural nose obviously facilitates the creation of traps but the absence of accumulation in so many other geometric traps along the trend of this gorge may indicate that the presence of a favorable structural trend at Todhunters Lake has contributed to the selective concentration of gas reserves in this field. However, this structural nose is so gentle that this statement should be considered a hypothesis rather than a conclusion.

A view of the present limits of developed production relative to the dry holes that existed prior to the discovery of this field shows an incredible juxtaposition of productive lands and abandoned wells. Todhunters Lake proves that significant reserves can remain undetected within thoroughly explored areas.

Back in early 1967, before the discovery of this field, any geologist who might have presented the current picture

of this area to his management or client would have been ridiculed if not locked up. Fields comparable to this are lying undiscovered all over the United States because we are all prisoners of our preconceived opinions and our unwillingness to take appropriate exploratory risks in the absence of "proof-like" data.

* Abstract of paper presented to the San Joaquin Geological Society Nov. 21, 1972.

ACCENT' The Positive

Sometime in the mid 1970's, Guadalupe Mountains National Park will be opened to the public. This park, often called Texas' hidden Yosemite, is expected to attract a half-million visitors a year. While El Capitan may be the Guadalupe's best known feature, the heart of the park is McKittrick Canyon. This canyon was given to his country by an oilman — Wallace E. Pratt.

Pratt, the first geologist ever to be employed by Humble, acquired possession of the canyon and surrounding acreage in the twenties. As a geologist, he recognized the scientific importance of a 2000' gorge in Capitan limestone and made every effort to protect its delicate ecological balance. For thirty-six years he practiced conservation and preservation to the extent that now, the park's reason for being is basically its undeveloped nature. Even his house, built at the toe of the Capitan Barrier Reef, was designed and built "so as not to intrude upon the environment."

During his years with Humble, and later Standard Oil Company of New Jersey, Pratt's concern for the environment was expressed in other ways. He was a pioneer advocate of wide well spacing, controlled production, and technical devices to prevent waste of oil and gas. In the years following retirement, he managed his ranch in the Guadalupe with conservation practices acknowledged several times to be the best in the district. He served on the High Point Soil Conservation Board. And, especially, he respected the fragility of McKittrick Canyon and never allowed it to be grazed at all.

Pratt's gift of 5,632 acres is officially designated a scientific preserve. As such, it will be protected much as Pratt did himself. Present policy is to prohibit camping and picnicking in the canyon and provide only walking trails where those interested may study the Capitan Barrier Reef and its more than 500 species of fossils.

MIKE SWITEK
Editor
Corpus Christi Geological Society

*Abstract of paper presented to the Los Angeles Basin Geological Society Nov. 30, 1972.

CHRISTMAS LETTER

We received the following Christmas letter, personally folded and mimeographed, from a dear and life-long friend. We want to share this with you.

Greetings from Bunghole, Texas. We were just thrilled when Jean's company transferred us to this wonderfully historic place. We will have an old fashioned Christmas this year for our Christmas tree will be lighted with candles. They tell us electricity will be brought to Bunghole next year.

Our new home will be warm and cozy when the windows are installed. The door (when that gets here, too) will always be open to our many wonderful friends and relatives.

We have a marvelous vegetable garden in the back yard and how thrilling it is to work with the soil. Not only it it a fantastic experience to work with our hands but it supplements Jeans cut in pay.

Jean is very busy with his new responsibilities and he enjoys every minute of it. He meets so many wonderful people at his extra service station job.

The children just love their new home and friends. Jimmys new teeth look well and the boy that knocked them out is now Jims dearest friend. Debbie is the most popular girl in her high school. Seems to be doing something every minute. We hope she will slowdown after the abortion. Pepe and his friends have an exciting new hobby of collecting old cars. Although we don't see much of our budding new executive we expect he'll be home from reform school by Christmas.

Rex, our old and faithful hound dog, has adjusted well to his new home. After he survived the snake bite, his

favorite pastime is routing out the rattlers from under the house.

Our old friends Dick and Mary spent a wonderful week with us last summer during the blizzard.

May your home be blessed with love and joy during this Yuletide Season, as our house is.

Jean Bene Pepe
Jimmy Debbie
Rex — he just died
Senteur De Boue

Recommended Reading

CALIFORNIA GEOLOGY, vol. 25, no. 8, August 1972

Dust from Antelope: The Fort Tejon Earthquake of 1857, by Donald B. Eisman.

ARIZONA BUREAU OF MINES

Bulletin 185: Arizona well information, by H. Wesley Peirce and James R. Scurlock.

FIELD NOTES FROM ARIZONA BUREAU OF MINES, vol. 2, no. 3, Sept. 1972

Geologic hazards and land-use planning, by H. Wesley Peirce.

THE ORE BIN, vol. 34, no. 8, August 1972 (Oregon Dept. of Geology and Mineral Industries).

Plate tectonics in Oregon, by John D. Beaulieu.

THE ORE BIN, vol. 34, no. 9, September 1972.

The geology of some zeolite deposits in the southern Willamette Valley, Oregon, by Wallace D. Kleck.

THE ORE BIN, vol. 34, no. 10, October 1972

Fossil sharks in Oregon, by Bruce J. Welton.

NEVADA HISTORICAL PRESS (Star Route 1, Box 751, Carson City, Nevada, 89701)

The story of Seven Troughs, by Hugh A.

Shamberger\$3.50

GEOLOGICAL SOCIETY OF AMERICA BULLETIN, vol. 83, no. 6, June 1972

Relation of known faults to surface ruptures, San Fernando Earthquake, Southern California, by R. J. Proctor, R. Crook, Jr., M. H. McKeown, and R. L. Moresco

Sea-floor spreading and the Cenozoic history of the East-Central Pacific by Ellen M. Herron

Petrology of the Silver Peak volcanic center, Western Nevada, by Paul T. Robinson

Low-angle (denudation) faults, Hinterlands of the Sevier Orogenic Belt, eastern Nevada and western Utah, by R. I. Armstrong.

Pleistocene-Holocene deformation of the San Clemente Island crustal block, California, by B. Ridlon

CALIFORNIA SUMMARY OF OPERATIONS

(Calif. Division of Oil and Gas) vol. 57, no. 1, Sacramento, 1971

California offshore oil and gas seeps, by Elbert R. Wilkinson

Santa Susana Oil Field, by W. Spencer Mitchell and Michael Wolff

LUCY E. BIRDSALL

Did You Know . . .

The 6,922 exploratory wells drilled in 1971 is the lowest number drilled annually since 1947.

The total of 6,922 exploratory wells—new-field and other categories—is 771 wells fewer than for 1970, a 10 per cent decrease. Footage drilled, 40,387,969 feet, represents a decrease of 10.8 per cent.

NEWSLETTER

Pacific Section A.A.P.G.

P.O. Box 17486 Foy Station

Los Angeles, California 90017



NEWSLETTER

of the Pacific Section

American Association of Petroleum Geologists

VOLUME 27

FEBRUARY, 1973

NUMBER 2

Northwest

Geology of the western Canadian Continental Shelf was the topic at the January 25th meeting of the Northwest Geological Society in Bellevue, Washington. Our speaker was Mr. D. H. Shouldice, an AAPG distinguished lecturer of Shell Canada Ltd. Based on information from both onshore and offshore wells, as well as geophysical data, he discussed the stratigraphy of Tertiary sediments in basins of Canada's Pacific Shelf.

A tentative date of February 15 has been assigned for the Northwest Geological Society annual ladies night meeting. It will be held in the Tap Room of the Rainier Brewing Company in Seattle and Dee Molenaar will present a talk appropriately entitled "The Challenge of Rainier." Dee, a geologist with the U.S. Geological Survey in Tacoma, is well known to all of us in the Northwest as a very versatile person. He has gained international renown as a mountain climber, having been on such expeditions as the first ascent of Mount Kennedy and the ill-fated K-2 expedition.

Position Available

Carlsberg Petroleum Corp. is expanding its International Operations and requires an energetic, versatile petroleum explorationist with a strong technical background including knowledge of seismic interpretation and development geology. Position will require an emphasis on regional geology, appraisal of various sedimentary basins world wide. Administrative talent, foreign experience and willingness to travel is desirable. Candidates with 5 to 15 years experience send complete resume' and salary requirements to:

EXPLORATION VP
CARLSBERG PETROLEUM CORP.
1801 Century Park West
Los Angeles, CA. 90067

Salary, bonus and stock option are negotiable and commensurate with experience.

Aside from mountain climbing, he is an accomplished artist, expert skier, and professional writer. In this regard, his latest book bears the name of the talk he will present to us. We are, therefore, looking forward to this evening.

A date for the March meeting of the Northwest Geological Society is not yet set. However, the program will be presented by graduate students and faculty from the University of Washington on geologic studies conducted in the Alpine Lakes Wilderness area of Washington's Cascade Mountains. This should prove to be an interesting and enlightening evening to us all.

The Oregon Department of Geology and Mineral Industries is busily preparing a guidebook for publication of all field trips to be held in connection with the forthcoming GSA Cordilleran Section meeting this spring in Portland. It will include six scheduled field trips and an unscheduled one covering areas from southern Washington and north-central Oregon to the Oregon coast.

Oil and gas exploration activities in Washington has been a low ebb the last few months. Perhaps everybody is doing their homework in preparation for the next flurry of activity. Oil geologists are, therefore, rare these days in the Northwest. However, Dana Braislin of Union and wife Carol spent the holidays up this way with their sons John and Jim.

WELDON W. RAU

Your group is to be commended for inviting graduate students to provide the technical session for your next meeting. Wish more of our California societies would emulate your program.

San Joaquin

NO REPORT.

Sacramento

NO REPORT.

CONTINUING EDUCATION

EVENING COURSES AT U.S.C.
FOR THE SPRING SEMESTER
(February 5 to May 23, 1973)

Monday Evening, G. 526L — Ground Water Management

Instructor: Dr. John F. Mann

Tuesday Evening, G. 500 — Marine Paleocology

Instructor: Dr. Orville L. Bandy

G. 600 — Seminar in Remote Sensing

Instructor: Dr. Floyd Sabins

Thursday Evening, G. 536 — Seminar in Engineering Geology

Instructor: Dr. Richard H. Merriam

All courses carry three (3) units of credit.

Please call the office of the Geological Sciences for further information. The number is (213) 746-2717.

Calif. Div. of Mines

SPECIAL REPORT 102

Index to Geologic Maps of California 1965-68.

By Edmund W. Kiessling

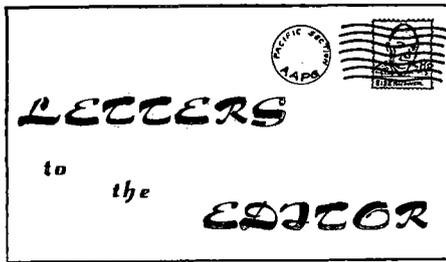
1972. 78 pages, 36 figures. Price \$2.75.

This index is the third supplement to Special Report 52. It is keyed to the 27 sheet *Geologic Atlas of California* and includes some 300 map entries. Maps not included in this report are graduate student thesis on file in university libraries, subsurface and geophysical maps or maps at a scale smaller than 1:2,500,000.

The maps and bibliography are easy to read and use. The publication should be an integral part of every geologist's library.

Coast

NO REPORT.



EDITOR

I wish to register my objection to the inclusion of the "Geography of a Woman" in the January, 1973 edition of the PPG Newsletter. This item contained a minimum of humor and a maximum of insult to a significant number of our colleagues in the geological community.

Those who enjoyed this item should consider an alternate phrasing under titles such as "Geography of a Man" or "Geography of a Person." Any such title and text attributes to the group in question only sexual capabilities and denies the intellectual energy and physical skills which have built our civilization.

The general contempt and disregard for women shown by the petroleum industry is well known, but the blatantly anti-feminine slant of the item serves only to reinforce this image at a time when sexism like racism must be expunged from the hiring and promotional practices of our profession.

Sincerely,
DONALD F. PALMER

Assistant Professor
University of Southern California
You win some, you lose some.

DEAR ED.

I'm hoping that Ott Kotick, Bill Beaty and John Maher will continue to feed "chips" to the Editor. What did you mean by the comment "the first and the last of a new series of offerings . . ."? Your first recipe was a dilli!

HERB SAWYER

EDITOR

Pacific Petroleum Geologist
Newsletter

As I approach the midway point of my business career, and still being young at heart, steady of hand and flat-footed, I have been keeping my eyes open for some good investments to supplement my retirement income.

I have run into something incredibly good, and as always, have a desire to let some of my close friends in on it.

A group of us are considering investing in a large cat ranch near Hermosillo, Mexico. It is our purpose to start rather small, with about one million cats. Each cat averages about twelve kittens a year; skins can be sold for

about 20¢ for the white ones and up to 40¢ for the black. This will give us 12 million cat skins per year to sell at an average price of around 32¢, making our revenue about \$3 million a year. This really averages out to \$10,000 a day — excluding Sundays and holidays.

A good Mexican cat man can skin about 50 cats per day at a wage of \$3.15 per day. It will only take 663 men to operate the ranch, so the net profit would be over \$8,000 per day.

Now, the cats would be fed on rats exclusively. Rats multiply four times as fast as cats. We would start a rat ranch right adjacent to our cat farm. If we start with a million rats, we will have four rats per cat each day. The rats will be fed on the carcasses of the cats we skin. This will give each rat a quarter of a cat. You can see by this that the business is a clean operation — self-supporting and really automatic throughout. The cats will eat the rats and the rats will eat the cats and we will get the skins.

Let me know if you are interested; as you can imagine, I am rather particular whom I want to get into this, and want the fewest investors possible.

Eventually, it is my hope to cross the cats with snakes, for they will skin themselves twice a year! This would save the labor costs of skinning as well as give me two skins for one cat.

Hopefully,
JEAN B. SENTEUR DE BOUE

Jean — you're sick.

Northern California

The February meeting of the Northern California Geological Society will be held on Tuesday, February 13th, at the Leopard Cafe at 140 Front Street, San Francisco. Members begin gathering at 11:30 A.M. and Luncheon is served at 12:00 noon. The speaker is Dr. H. Edward Clifton of the U.S.G.S. and he will speak on "Modern Coastal Environments and their Ancient Analogues." Any geologist who is lost in San Francisco at this particular time is welcome to attend. Fellows bring your girl friends and girls bring your boy friends!

* * *

Further to the Northern California Geological Society Resolution concerning the appointment of geologists to the State and Regional Coastal Zone Conservation Commissions that was sent to Governor Reagan, the Speaker of the Assembly and the State Senate Rules Committee. You will recall that the Res-

olution was printed in the January issue of the Newsletter. Governor Reagan's office replied to the N. Cal. Geol. Society and welcomed a list of names of geologists that might be considered for appointment. A list of names was submitted to Governor Reagan. Unfortunately, the exchange of correspondence took place during the Christmas holidays and since the appointments had to be made prior to the end of the year we don't know at this time whether any geologists were appointed to any of the seven commissions just created. Other geological societies may be interested in our experience and we will try to report on further developments.

That's 30.

HERB SAWYER

Sorry to report Herb, but the Geological Profession was left standing at the station.

Alaska

NO REPORT.

CALENDAR for February

S	M	T	W	T	F	S
				1	2	3
5	BAKERSFIELD COLLEGE. Geological Seminar. Dr. Warren Addicott, USGS, Menlo Park. "The Oligocene-Miocene Boundary In Shallow Water Marine Sequences of the Pacific Coast." Science & Engineering 56, 7:30 p.m.					
5	U.S.C. Evening Courses. See Continuing Education for details.					
13	NORTHERN CALIFORNIA GEOLOGICAL SOCIETY. Noon luncheon. Leopard Cafe, 140 Front Street, San Francisco. Dr. H. Edward Clifton, USGS. "Modern Coastal Environments and Their Ancient Analogues."					
15	NORTHWEST GEOLOGICAL SOCIETY. Dee Molenaar, USGS, Tacoma. "The Challenge of Rainier." Tap Room, Rainier Brewing Company, Seattle.					

March

S	M	T	W	T	F	S
				1	2	3
5	BAKERSFIELD COLLEGE. Geological Seminar. Dr. Daniel Axelrod, Dept of Geology, U.C. Davis. "Neogene Forests in Relation to Sierran History". Science & Engineering 56, 7:30 p.m.					

EXECUTIVE COMMITTEE MEETING

SPRING PICNIC

The 1973 spring picnic preparations are progressing nicely. The picnic will be at the Newhall Land and Farming Company barbecue facilities; the golf tournament will be at the Valencia Golf Course. The field trip will relate to the Department of Water Resources aqueduct installations and the Los Angeles Department of Water and Power's facilities.

MARTIN VAN COUVERING AWARD

R. Hester reported that the Martin Van Couvering Award program is doing well. The last recipients of the award have talked to Mr. Van Couvering and thanked him.

It was agreed that the candidates for the next award would come from the Los Angeles region and attend the Anaheim convention. R. Hester was commended for his work and was instructed to involve as many schools as possible in the awards.

NEWSLETTER

A motion was made and passed to have 300 extra copies of the Newsletter available for distribution at the Anaheim convention and that that issue (May) should be oriented toward the

convention. It was further agreed that President Spaulding would write a welcoming article for that issue.

1974 ANNUAL MEETING

President Spaulding reported that the plans for the Sheraton Hotel in San Diego were completed. He had recently visited the facilities and found them to be satisfactory.

ACTIVITIES

President Spaulding reported that J. Durrie, Chairman of the Activities Committee has resigned. This was necessary because he has an increased workload due to a new assignment. A replacement will be appointed soon.

NOMINATIONS

The Nominations Committee reported that all nominations are in and will be published soon.

NATIONAL ADVISORY COMMITTEE

Our representative to the National Advisory Committee, T. Baldwin, will be completing his term soon and a candidate will need to be selected. T. Baldwin suggested that there be one nominee only for this office.

PLANNING AND ORGANIZATION

The Planning and Organization Committee reported that progress is being made and that the committee is proposing that we subsidize student and/or junior AAPG memberships. The suggested steps for implementation are:

- (1) Select 12 or more schools.
- (2) Offer two memberships per school (including Pacific Section mem-

(Continued on Page 4)

geology and mineral resources could be described and discussed.

The Environmental Geology Committee of AAPG wishes to maintain a file concerning the activities of the local Environmental Geology Committees and encourages contact between the local committees and with the association's committee.

We hope you will give careful and sympathetic consideration to these suggestions.

RICHARD BLACKWELL
GEORGE E. MOORE

Members, Environmental
Geology Committee AAPG

Los Angeles

The Holiday Dinner Dance of the Los Angeles Basin Geological Society was held at the Lobster House at Marina Del Rey on November 25, 1972. Sixty-eight people were in attendance to enjoy fine food and dancing to the Ron Rubin Orchestra. The success of this year's occasion can be attributed to the following committee members and contributors:

COMMITTEE CHAIRMEN

Arrangements — Frank Webster, Shell Oil Co.

Tickets and Notices — Ken Bird and Dick Castle, Shell Oil Co.

Contributions — Herb Mann, Shell Oil Co.

CONTRIBUTORS (who generously donated the cocktails):

Anderson & Nicholeris
Borst & Giddens Oil Well Logging
Service, Inc.

Byron Jackson, Inc.
Core Laboratories, Inc.

Dresser Atlas
Dresser Industries
Exploration Logging of U.S.A.

General Oceanographics, Inc.
Munger Oil Information Services,
Inc.

O'Meara & Rogers Construction Corp.
Inc.

Reese Sales Co.
R. F. Smith Corp.
Schlumberger Offshore Services
Strata - Log
Welex

On behalf of the Society, under the guidance of Butch Brown, we wish to thank all of those who contributed and participated.

* * *

B. Brick Robinson, Shell Oil, New Orleans, dons seven league boots with his transfer from the production dept. to exploration. Seems like Shell will handle Texas offshore from New Orleans.

PACIFIC SECTION — AMERICAN ASSOCIATION PETROLEUM GEOLOGISTS EXECUTIVE COMMITTEE

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Recommended Reading.....LUCY E. BIRDSALL

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CHANGE OF ADDRESS, subscription and membership inquiries should be directed to MEMBERSHIP SECRETARY, PACIFIC SECTION AAPG, P. O. Box 17486, FOY STATION, Los Angeles, Ca. 90017.

ACCENT' The Positive

AN OPEN LETTER TO PRESIDENTS OF LOCAL GEOLOGICAL SOCIETIES

The Environmental Geology Committee of the AAPG feels strongly that the local geological societies present the most favorable approach for association members to be involved in environmental geological affairs. It is obvious that local geologists are in the best position to furnish expertise, not only in petroleum matters but also in areas such as ground water pollution, dam sites, watershed erosion, earthquakes, and subsidence. This would also include the review and commentary on Environmental Impact Statements affecting the energy potential or geology of a particular area; such statements might range from LNG plants to well sites to flood control and wilderness proposals.

The committee believes that gains can be achieved by local societies conducting field trips for lay groups interested in the environment and in geology. The trips may be to environmentally sensitive places, but along the way the

Convention Colloquy

The stage is set for the most informative and unconventional convention the AAPG-SEPM-SEG has seen. All parts of the country show unusual interest — no surprise with 1973 the year of recognition of energy impact and the wide ranging program and entertainment available at Anaheim. To assure your choices on housing and limited participation program, pre-register; there is not much time left.

Registration opens at 10 AM, Saturday, May 12 in the lobby of the beautiful Disneyland Hotel with short courses and field trips scheduled for Saturday and Sunday. Meet your friends at the Icebreaker in the Grand Ballroom Sunday evening.

The spectrum of the program, Monday through Wednesday, is complete. Every area of interest to the oil (and energy) explorationist is covered by experts, for example: A. N. Thomas, et al. of British Petroleum on the Forties Field, North Sea; P. T. Lucas of Shell on the Altamont Field, Utah; Vincent McKelvey on the U.S.G.S. viewpoint on environment; Senator Clifford Hansen on the energy crisis; A. H. Bouma on marine sedimentation — the list goes on and on.

We Southern Californians are set to show you our hospitality and opportunities for fun and scenery, long a matter of local pride. For conviviality, join the Icebreaker, all convention luncheon and dance. The ladies have a variety: the Queen Mary trip, Environmental Workshop and field trips and you and your family have the fascinating sights and sounds of Disneyland, Sunset Strip, Marineland. After the convention, choose your travel from field trips all

over Southern California or fly on to Hawaii.

Check your General Announcement and you'll agree that you can't afford to miss Anaheim in 1973.

A. R. WELLER

Convention Field Trips

METROPOLITAN OIL FIELDS AND THEIR ENVIRONMENTAL IMPACT

Sunday, May 13, 9:00 A.M. to 5:00 P.M.

Leaders: J. N. Truex, W. J. Hunter, THUMS; D. S. McMurdie, Union Oil Co.; J. C. Taylor, Shell Oil Co.; R. O. Castle, U.S. Geological Survey; A. G. Barrows, California Division of Mines and Geology; R. C. Erickson, Standard Oil Co.

This one-day trip will tour four metropolitan oil fields in the southern part of the Los Angeles basin. A stop will be made at the old Ford assembly plant near the center of the subsidence bowl of the Wilmington oil field, and a trip by boat is planned to visit drilling island C (Chaffee) in the offshore East Wilmington field. Other stops will include the Signal Hill, Dominguez, and Inglewood oil fields along the active Newport-Inglewood fault zone. A visit to the site of the dam failure in the Baldwin Hills will conclude the trip.

The trip will leave by bus from the Disneyland Hotel at 9:00 A.M. and will return in time for evening activities.

Fee: \$14.00. (Includes transportation, box lunch, and road guide).

Limit: 94 persons.

SANTA BARBARA CHANNEL REGION REVISITED
Thursday, May 17, 8:30 A.M. to Friday, May 18, 6:00 P.M.

Leader: R. L. Kolpack, University of Southern California.

Co-Leaders: D. M. Straughan, University of Southern California; D. W. Weaver, University of California, Santa Barbara; and T. W. Dibblee, Jr., U.S. Geological Survey, Menlo Park.

A two-day trip to the mainland Santa Barbara Channel region will emphasize environmental criteria used to evaluate the 1969 oil spill. Representative intertidal faunas and coastal processes associated with cobble and sandy beaches, rocky headlands and active natural oil seeps will be discussed and observed. In addition, stratigraphic and structural features of the Tertiary sections in the Santa Ynez and Santa Monica Mountains as well as the remarkable Pliocene and Pleistocene record in the Ventura area will be described and examined.

Buses will leave Disneyland Hotel at 8:30 A.M., May 17 and will return at 6:00 P.M., May 18, 1973.

Fee: \$45.00. (Includes transportation, lunches and motel).

Limit: 44.

Executive Committee . . .

(From Page 3)

- bership), with emphasis on student rather than junior membership.
- (3) If possible, contact an enthusiastic AAPG member on the faculty and ask him to select the recipients.
- (4) Send the membership pamphlets and application to the faculty member.
- (5) Limit the annual budget to \$200 for such memberships.

A motion was made and passed to adopt the report of the Planning and Organization Committee.

It was also recommended that appropriate recognition be given to these new members in the Newsletter.

NEWSLETTER

Pacific Section A.A.P.G.

P.O. Box 17486 Foy Station
Los Angeles, California 90017



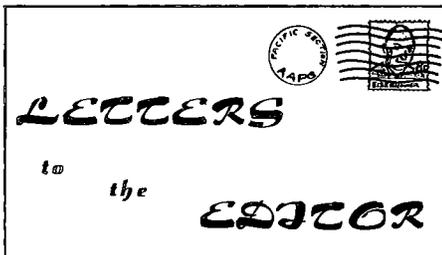
NEWSLETTER

of the Pacific Section
American Association of Petroleum Geologists

VOLUME 27

MARCH, 1973

NUMBER 3



Dear Ed:

The readers of the Newsletter (I still believe PPG was better) might like to know that a 1972 guidebook of the Northern Peninsular Ranges (Orange and Riverside Counties) prepared by the National Assoc. of Geology Teachers and the South Coast Geol. Society — is available at a cost of \$4.50 per copy from Arthur E. Flint, Geology Dept., Chapman College, 333 N. Glassel Street, Orange, Calif. 92666. Papers on Engineering Geology, Groundwater Geology, Economic Geology, and Petroleum Prospects of the area — are included in this guidebook.

An old friend of mine, who now works for a company called, CLEM, called a couple of days ago. His company is looking for 8 to 12 geologists and/or petroleum engineers with perhaps 15 years experience (possibly early retirees) who might be interested in a two year contract to work in Algeria. My impression is that the need is for geologists and petroleum engineers who are primarily oriented toward field development and reservoir engineering. Anyone interested should contact Mr. Okel — Phone (213) 377-9780.

I have asked him to send a brief summary of information he considers pertinent and you may wish to publish the availability of these jobs.

Regards,
PETE GARDETT

Good news like this rates a front page spread.

Letters to the Editor:

Emboldened by Professor Palmer's righteous response in the February Newsletter, I would like to register my own objection to "Geography of a Woman" and to Senteur De Boue's Christmas letter.

(Continued on Page 4)

Convention Short Course

SEPM SHORT COURSE ON
TURBIDITES AND DEEP WATER
SEDIMENTATION
May 12 1973

This course has been organized for SEPM by Drs. A. H. Bouma and G. V. Middleton. The course is designed as a "refresher" course for professional geologists or students whose interests have prevented them from following the major developments in the concepts of turbidity currents and deep-water sedimentation that have taken place in the last ten years.

The course will be given just before the Annual AAPG-SEPM meeting on Saturday, May 12, 1973 from 10 AM to 5 PM at the Sierra Tower, Disneyland Hotel, Anaheim, California. The organization of the course is new: four groups of two instructors will have a maximum of thirty in each session, which will allow ample opportunity for discussion. Each group will spend about 90 minutes on each of four major aspects of the subject —

1. Mechanics of flow and deposition
2. Submarine fans and channels
3. Basin (distal) sediments
4. Facies models for turbidite basins.

Questions discussed will include: What are turbidity currents and how do they form, move, and deposit sediment? What other mechanisms deposit sediment in deep water? What have oceanographic studies (including deep-sea drilling and seismic profiling) shown about the characteristics of deep-sea channels, fans, and basins? How can we recognize ancient sediments deposited in these environments? What do facies models based on these studies tell us about the geometry of the sandstone bodies? Instructors will include G. V. Middleton and R. G. Walker (McMaster University, Canada), M. Hampton (University of Rhode Island), C. H. Nelson (U.S.G.S.), V. Kuhl (Oregon State University), A. H. Bouma (Texas A&M), and E. Mutti (University of Torino, Italy).

Registration fee for the course is \$20 and includes a volume of notes prepared for the session. For those unable to attend the course, the notes may be purchased separately for \$5. Pre-registration closes May 1; please contact John R. Castano, Shell Oil, P.O. Box 3397 Terminal Annex, Los Angeles, to enroll for the course or to obtain your copy of the notes.

The Short Course, together with the Sunday field trip (SEPM Field Trip 1), the Sunday evening Turbidite Colloquium featuring super-proximal environments, and the various sessions will enable participants to catch up with the latest developments in the least painful manner.

Sacramento

Newly elected officers for the Sacramento Petroleum Association for 1973 include:

- Terry Plumb, President. Signal Oil & Gas Co.
- Lee Rhodes, Vice President. Exploration Logging of U.S.A.
- Tom Will, Secretary-Treasurer. Texaco.

Drilling activity throughout the Sacramento Valley is extremely slow, due primarily to the inclement weather conditions. At the time of this writing only four rigs were operating, excluding geothermal activity in Lake and Sonoma County.

John F. Meehan, Research Director, Office of Architecture and Construction, State of California, was the speaker before members of the Geological Society of Sacramento, January 30, 1973. Mr. Meehan's topic was the devastating earthquake which hit Managua, Nicaragua on December 23, 1972.

TERRY PLUMB

Alaska

NO REPORT.

Convention Field Trips

SEDIMENTARY FACIES CHANGES IN TERTIARY ROCKS, CALIFORNIA TRANSVERSE and SOUTHERN COAST RANGES

Wednesday, May 16 (2:30 P.M.) to
Friday, May 18.

LEADERS: H. E. Clifton, T. H. Nilsen,
J. A. Bartow, J. G. Vedder, U.S.
Geological Survey; J. C. Crowell,
University of California at Santa
Barbara.

A two-day trip to selected localities in the Transverse and Southern Coast Ranges to study facies changes within Tertiary clastic rocks. Included will be a visit to outcrops of the Violin Breccia of Miocene and Pliocene age, a remarkable accumulation of coarse alluvial debris at the base of the San Gabriel fault scarp, and a related thick succession of nonmarine Pliocene rocks in the Ridge basin. The Eocene Tejon Formation and adjacent formations will be examined in the western Tehachapi and San Emigdio Mountains, where the Tejon Formation passes laterally and vertically from nearshore deposits into sandstones and shales that accumulated in deeper water. A fairly arduous excursion on foot through the rugged Caliente Range will afford an opportunity to observe a superbly exposed marine to nonmarine transitional sequence of middle Miocene age and a regressive sequence of early Miocene age that changes down section from nonmarine deposits into sediment deposited in progressively deeper marine environments. Emphasis will be placed on interpretation of depositional environments for each unit and the relationship of the facies changes to local tectonism. A short tour will be made through the Edmonston pumping plant near Grapevine, where water from northern California is raised approximately 1900 feet and pumped across the Tehachapi Mountains to southern California.

The bus will leave from (? the convention center) at 2:30 P.M., Wednesday, May 16. The return to Anaheim is planned for approximately 9:00 P.M. on Friday, May 18. Fee: \$45.00 (includes transportation, 2 nights lodging, lunches and Roadguide. Suppers and breakfasts during the trip will be the responsibility of the individual participants). Limit: 37 persons.

Northwest

NO REPORT.

Anacapa Island

The Las Anacapas of Cabrillo, (Land of the Fox Coats?), namesake of Anacapa and the Anacapa Rift and Anacapa Passage, this Channel Islands National Monument, with lighthouse, was a Pleistocene stepping-stone from Hueneme to the Channel Islands Santa Cruz, Santa Rosa and San Miguel.

Presently separated from the mainland by 12 miles of Pacific Ocean and the Hueneme - Mugu Submarine Canyons, these islands at one time were joined, "Santarosæ" and less than 5 miles from shore during most glacial periods.

Anacapa Island is composed mainly of Middle Conejo basic extrusives and pyroclastic volcanic rocks of Miocene age with interbedded breccias of San Onofre age and content similar to San Onofre of Pt. Dume and Santa Cruz island. A patch of Pleistocene non-marine sediments is present on the surface near the center of the island.

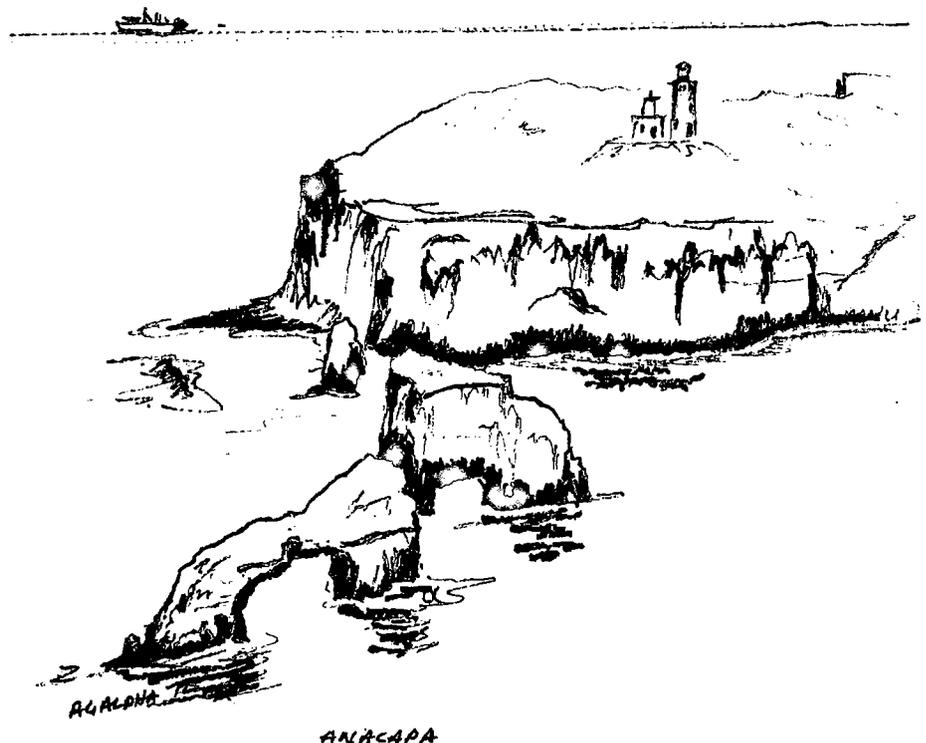
Surrounded by kelp growing from Middle Miocene marine and volcanic rock outcrops on the sea-bottom, the island is a scenic wonder for fishermen, sailors and divers. Anacapa is five miles long and two-thirds at its widest; it is sandwiched between the Malibu (Raymond) and Santa Cruz faults, a

left-lateral rift which formed during Early to Late Miocene time, and occurs as a ridge between the Santa Barbara and Santa Monica Basins.

Now a seaward extension of the Santa Monical Mountains and associated with the Murray fracture zone, Anacapa is immediately south of the Oxnard shelf.

At one time firmly connected to the mainland the peninsula allowed the dispersal of a variety of flora and fauna the most unique of which was the dwarf mammoth *Elephas exilis* Stock, a 4-foot-tall beast evolving on and captured by these Channel Islands. The tiny mammoths have been found buried and associated with man in the Pleistocene Tecolote, Fox, and Garanon formations of the third interglacial (Wisconsin). The inhabitant found themselves periodically awash (sunk 1,000') and uplifted (300-500') by eustatic sea level fluctuations and tectonic influences.

It is with great pleasure that we begin this new series of sketches of areas of geologic interest in California. The ink drawings were created by Andy Alpha and his talent is well known to most of us. We appreciate Dick Hester's efforts in acquiring these drawings for us. We are also indebted to Art Hrites for his research and word paintings of the geology.



Now Hear This...

At a recent PacSecExCom meeting, our Treasurer presented lists of dues-delinquent members to the committee whereup the V.P. gleefully pointed out that my name was on the list.

At first I ignored the comment, assuming he was joshing. I said, "Nonsense; never happened; I remember writing the check."

After I was given a copy of the list for my own and saw the damaging evidence for myself, I told everyone that I guess I will just have to get my cancelled check out and show them.

How could they accuse me. I offered to resign from the committee, but they all laughed. I felt bad, but I'd show them when I got the check from my files.

When I got home I forgot about it, but was reminded when I received my copy of the minutes of the meeting. My good wife keeps all necessary documents and records and I told her to find that damn check!

She couldn't find it. "You have too many crummy checks — how can I tell," she wailed . . .

I took the records from her and said, "I know I paid it — I'll find it!"

I started flipping through the records, there was: on 3/5/71 — \$20 for the GSA; on 3/31/71 — \$85.85 to AAPG

Group Insurance; on 5/1/71 my Pacific Section dues for \$5.00 — but that was last year's; on 5/5/71 another \$80.00 to AAPG Group Insurance and \$24.00 to National AAPG dues; on 6/4/71 — \$10.00 to AAPG for the Spring Picnic, I think; on 6/12/71 — \$30.00 to California State Board; on 6/21/71 another \$85.85 to National AAPG Group Insurance; 8/21/71 — \$7.50 to the Coast Geological Society; on 9/28/71 another \$85.85 to AAPG Group Insurance; on 11/8/71 — \$30.00 to GSA; on 11/11 — \$46.80 to the AAPG Group Insurance; on 11/21/71 another \$80.00 to AAPG Group Insurance; on 12/13/71 — \$7.00 to AAPG — can't recall for what; on 1/3/72 another \$85.85 to AAPG Group Insurance; on 2/18/72 \$25.00 AIPG dues; and \$10.00 — RMAG dues; on 2/21/72 — \$48.50 for AAPG convention; on 3/14/72 — \$26.00 for another AAPG convention; — you know what? I never did find that damn check. I guess I was too busy being President that year. I have again offered to resign from the committee but they still laughed.

Now I want you out there to check your records — we haven't gotten checks from over 1/3 of our members and you can't fly a plane with that much wing missing. You can't all be as forgetful as I am.

RICHARD L. HESTER

15 Februray 1973

Just like a male chauvinist to blame his wife for not paying his dues.

CALENDAR for March

S	M	T	W	T	F	S
				1	2	3
1	COAST GEOLOGICAL SOCIETY. Noon Luncheon. Dave's Deli, Ventura.					
5	BAKERSFIELD COLLEGE GEOLOGY SEMINAR. 7:30 p.m. Science & Engineering 56. Daniel Axelrod, U.C. Davis. 'Neogene Forests In Relation to Sierran History.'					
6	NOON LECTURE SERIES. USC. Stauffer Science Lecture Hall 100. George V. Chilingar, Petroleum Engineering, USC. "Compaction of Sediments."					
8	COAST GEOLOGICAL SOCIETY. Noon Luncheon. Hong Kong Inn, Ventura.					
13	SAN JOAQUIN GEOLOGICAL SOCIETY. Joint meeting with Landmen. Don Taylor, Tenneco. "Recent Deep Drilling In the San					

- Joaquin and Its Effect On the Future."
- 20 NOON LECTURE SERIES. USC Stauffer Science Lecture Hall 100. Konrad B. Krauskopf, Stanford. "The Source of Ore Metals."
- 20 COAST GEOLOGICAL SOCIETY. Dinner meeting. Don Lande, D.O.G. "Geothermal Resources." Admirals Table, Ventura.
- 20 NORTHERN CALIFORNIA GEOLOGICAL SOCIETY. Noon luncheon. Alan J. Galloway, California Academy of Sciences. "Geology of the Pt. Reyes Area." Leopard Cafe, San Francisco.
- 21 LOS ANGELES BASIN GEOLOGICAL SOCIETY. Noon luncheon. Dr. Gregory Davis, USC. "Geology and Rare Earth Minerals of Mountain Pass, California." Roger Young Auditorium.

April

S	M	T	W	T	F	S
1	2	3	4	5	6	7
2	BAKERSFIELD COLLEGE GEOLOGY SEMINAR. 7:30 p.m. Science & Engineering 56. Ronald Kolpack, USC. "Sediment Transport On the Southern California Coast."					
3	NOON LECTURE SERIES. USC Stauffer Science Lecture Hall 100. Andre Sarna, USGS, Menlo Park. "Tephrochronology: Correlation of of California Coast Range Deposits By Trace Elements."					
17	COAST GEOLOGICAL SOCIETY. Dinner Meeting. Paul Siemon, Continental Oil. "Decollement Blocks of the Eastern Ventura Basin." Admirals Table, Ventura					
20-22	NATIONAL ASSOCIATION OF GEOLOGY TEACHERS. Far Western Section Meeting, California State College, Bakersfield.					
24	NOON LECTURE SERIES. USC Stauffer Science Lecture Hall 100. Manley Natland, Laguna Beach. "New Classifications of Water Laid Sediments."					
27	NORTHERN CALIFORNIA GEOLOGICAL SOCIETY. USGS, Menlo Park, 3 p.m. Dr. Tim S. O'Driscoll. "Basement Tectonics and Fold Patterns — Kinematic Models Approach."					
27	LOS ANGELES BASIN GEOLOGICAL SOCIETY — Tentative.. AAPG Distinguished Lecturer Elliott T. S. O'Driscoll. Basement Tectonics and Fold Patterns — Kinematic Models Approach."					
28-29	NORTHERN CALIFORNIA GEOLOGICAL SOCIETY. Spring Field Trip. Mother Lode Country.					

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Letters . . .

(From Page 1)

My complaint is made on behalf of Drat It, or Derogatory Remarks About Texas Invite Talion (you-all will learn a new word, anyway).

"Nobody gives a damn," indeed! Texans toiling involuntarily in California long for the likes of Bunghole — better surely than Bakersfield in a Tule fog?

BOB CARTER
USGS, Menlo Park

Whatever turns you on. Where do you get those words like "emboldened" and "talion"? They ain't in the "Glossary of Geology & Related Sciences".

Dear Editor:

Certain fecund types are natural born entrepreneurs whom I admire. One such, outstanding, is Jean B. Senteur De Boue. I salute him with my wildest entrechat.

In your last Newsletter, as you recall, Jean explained his proposal for opening a tremendous cat house in Mexico, which, together with an associated rat house, would make literally piles of money. After giving Jean's plan a fast market analysis with the help of my favorite furrier and a member of the local Mafia, we not only find no flaws (of significance, that is), but have come up with some great ideas for expanding the business to include gophers, Cedar Waxwings, highschool dropouts, punch-drunk fighters, women's libbers and female demonstrators who wear pants.

It's unfortunate that I can contribute no money at the present time to this magnificent proposal. However, before my enthusiasm wanes, I do want to make a starting offer of eight of my neighbor's cats who are desecrating my rose garden with perfumed calling cards and interrupting my sleep with 2 AM mating announcements. In addition, I will contribute one of my old suitcases, now collecting dust in the garage, in which he can carry his piles of money to the bank.

At present my extra funds are tied up in a secret plan which has been rotting away in my subconscious for a long time. That is to preserve the gorilla which Robert Ardrey, in his book *AFRICAN GENESIS*, says is a dying species since coming out of the trees. Ardrey explains that on the ground, the gorilla is so consumed with inferiority that he is no longer interested in copulation. His demoralized brooding is so intense that, come nightfall, he holes up alone in his nest of branches and grass and lies there alone, all night long without

anybody to cuddle up. Ardrey says he is so depressed that he doesn't even bother to kick out his leavings.

Now, my plan is to cross a Gorilla with an Aardvark, (using artificial insemination, of course, because if the poor guy can't get interested in a female gorilla, how could he stand an Aardvark?) The idea is to produce an animal so horrendous and frightful that the gorillas, from sheer fright, will race quickly back into the trees where, hopefully, they will renew their lost love-making, perhaps with eagerness, who knows? Thus my contribution to the Great Society will be the preservation on shifting earth of potentially valuable football material, now about to become extinct. I hope to get some funds from the Rams and 49ers, and AAPG.

Cordially,

OTT KOTICK

De Boue talked about a cat farm, not a cat house. Was that a Freudian slip on your behalf, Ott?

Convention Colloquy

PACIFIC COAST GEOPHYSICISTS

The annual spring meeting of the Pacific Section of the SEG will be held in conjunction with the National AAPG Convention in Anaheim, California, May 14-16, 1973. Papers on the Canadian Arctic, Labrador Shelf, North Sea, and California will be presented. A five-paper symposium on seismic energy sources will be held. We are privileged to have Ray L. Sengbush on the program to conduct a four-hour seminar on seismic interpretation. Mr. Sengbush, author of at least nine papers on seismic interpretation, usually presents a twelve-hour series for the SEG Continuing Education Program, but has agreed to shorten the course to present it at this convention.

This seminar should be of particular value to geophysicists and geologists concerned with seismic interpretation. The lectures will be divided into two parts: (1) The Linear System Model; seismic signal processes, additive noise, distortions of the pulse, deconvolution, and multiples, and (2) The Geometric Model; time corrections and stacking, velocity estimation, reflection picking, migration, refractions, and diffractions.

Utilization of optimal acquisition and processing to preserve the amplitude and frequency characteristics of the underlying reflectivity, along with velocity estimates from strictly surface measurements, significantly improves interpretation in terms of lithology, stratigraphy, and fluid content, and demonstrates that the seismic method is more than a structural mapping tool.

Convention Field Trips

IMPERIAL VALLEY, REGIONAL GEOLOGY AND GEOTHERMAL EXPLORATION

Thursday, May 17, 8:00 A.M. to Friday, May 18, 9:00 P.M.

LEADERS: J. E. Kilkenny, Union Oil Co.; R. V. Sharp, U.S. Geological Survey; P. C. Van De Kamp, Shell Oil; Bernardo Dominguez A., Comision Federal de Electricidad.

The Imperial Valley trip of two days will provide an opportunity to observe parts of the Chino-Elsinore fault system and some major branches of the San Andreas fault system including the San Jacinto, Banning, and Mission Creek faults. Other features that will be seen are the Coachilla Valley dunes, ancient shoreline of Lake Coahuila, Salton Sea, Obsidian Buttes, and the Algodones Sand Hills. The old carbon dioxide field at Niland, the Buttes geothermal brine field, and the mud volcanoes will be visited. A trip across the Mexican border to the Cerro Prieto geothermal field will highlight the second day, which includes a tour of the electrical generating plant, the producing wells, and the Cerro Prieto volcano.

Buses will leave from the Disneyland Hotel at 8:00 A.M., May 17 and will return at 9:00 P.M., May 18.

Fee: \$35.00. (Includes transportation, lodging for 1 night, lunches, and Road Guide. Payment for breakfasts and dinners will be the responsibility of the individual.)

Limit: 100 persons.

Position Available

Immediate openings available with NATIONAL OIL CORPORATION in Tripoli, Libyan Arab Republic, for qualified professionals (Geologists, Geophysicists, Photogeologist) with minimum of eight years experience. Basic salaries range from \$14,000 to \$21,600 depending on qualifications and experience. Additional benefits include liberal housing allowance, bonus, annual leave, etc. Term is for two years under renewable contracts. Nationality unimportant but competence in English language required. Send resume of education, experience, personal history, and references to:

National Oil Corporation (Libya)
5625 Daniels Avenue
Dallas, Texas 75206

Thanks to Mike Rector, Employment Committee Chairman, for keeping us posted on the above positions. Mike is doing his share to ease the unemployment problem — says he is looking for an assistant who will work in the \$900 - \$1100/month pay range. Can Associate Professors apply, Mike?

AAPG Membership . . .

(From Page 5)

ings and will send members and wives to national conventions every few years, all at company expense. We encourage participation in Association affairs and cover the expense of member employees' trips on Association business. We believe, however, that the young geologist should feel that he has a personal stake in his professional development — in the form of his annual dues. . . . Among our younger geologists only two men, hired this past summer, are not yet members."

- (3) "I do not feel that the dues are the critical factor, however, as the amount is really not large in comparison to the earnings of the group we are talking about. We do encourage professional societies membership by using it as one of the criteria for convention attendance and by stimulating interest in the other more subtle ways available to us. It seems to me the answer really lies in getting the supervisors of the younger geologists committed and being damned sure that those younger geologists who do show an interest are welcomed. More than that, some way should be evolved to give the younger geologists more responsibility."

- (4) "I personally am a great supporter of the AAPG and am pleased that almost 70% of our 175 geologists belong to it. We believe in attendance at national and regional meetings and gladly pay expenses for our geologists. While we recognize your point that company payment of membership and dues may conceivably help bolster participation in the AAPG, we prefer to think that such involvement and participation is a personal responsibility of the technical person. We, and most of our geologists, feel that it is the duty and obligation of a professional person to belong to and support his society, and it should also be his desire. . . ."

It is obvious from these remarks that AAPG is held in high regard by the entire industry. It is intriguing that the smaller companies evidently favor the approach of paying all of the employees professional expenses, perhaps in the interest of winning greater allegiance from the employee, whereas the larger firms expect professional behavior and attitudes from the geologist as part of his commitment to the organization and as a matter of course.

My October letter, while apparently failing to excite new company policies on the matter of gaining new members for AAPG, may have awakened new enthusiasm for AAPG among company management with the result that younger geologists will be further encouraged to join our ranks.

Sincerely,
ARTHUR O. SPAULDING,
President
Pacific Section, AAPG

EXECUTIVE COMMITTEE MEETING

1973 AAPG NATIONAL MEETING, ANAHEIM

The speaking program of the sessions is full and complete.

The field trips are all finalized. Financing has been completed as to Guide Books, costs, etc.

Dates of the meeting are May 14-16. Luncheon Speaker has not been decided. A Federal Government figure in National Energy Policy will be invited.

Preprints will be initiated by a Pac. Section Committee. The National Committee will cooperate by giving the names, addresses, etc., of the speakers so they may be solicited for any preprints.

M.VAN COUVERING AWARD

A report was submitted outlining the guidelines as to selection of the individuals. The award was initiated in October 1972 and two students from Bakersfield College were given \$50 each to attend the fall SEPM field trips. The Award Fund generates \$300/year giving six students the opportunity to attend one of our regularly scheduled events. The Executive Committee approved the report.

SPRING PICNIC

W. Bedford is General Chairman. Event is scheduled for June 1, 1973, at Valencia Country Club.

ACTIVITIES

Sig Hamann is the appointed Chairman of this committee.

MEMBERSHIP

R. Lindblom gave a progress report on the profile of membership being compiled as to age, employment and residence. Over 650 members have been "profiled" to date. Messrs. W. Hunter and B. Barron are new members of the committee.

L. Villanueva commented on handling delinquent dues paying members. Judy Hughes gave a current list of these people to the Treasurer and President at the meeting.

FINANCE

A summary of a meeting held by the Finance Committee in Bakersfield, January 9, 1973, was submitted. High-

lights of the report are: 1) Pac. Sect. Finances are in good shape; 2) immediate problems are the high cost of the monthly Newsletter and large number of delinquent dues paying members; 3) the Committee recommends that the Newsletter be cut to ten issues, the change of address stamps be discontinued, the Newsletters costs be further studied and new bids be asked for printing and a concerted effort be made to collect delinquent dues. The report was approved by the Executive Committee.

ADamn it — if everyone would pay their dues we would not have to restrict the Newsletter to ten issues.—Ed.Q

LEGISLATIVE

D. Allen is the new chairman of this committee. He reported that he is on the State mail list of new legislation by the Assembly and Senate and communication with W. Bruer, State Geologist, has started.

AB1961 (Geol. & Geophysicist Registration Bill) has passed and been signed. It will go into effect March 1973.

PLANNING & ORGANIZATION

The committee's recommendation to subsidize a limited number of student memberships in AAPG at cost not to exceed \$200 per year was accepted by the Executive Committee. Future proposals for study are: 1) definition of function of Pac. Sect.; 2) two year term for Treasurer; 3) establish an office of president-elect and abolition of past-president as member of Executive Committee; 4) create standing committees; 5) prepare an operating manual for incoming Executive Committee members.

CORE STORAGE

Discussed problems on finding a "resting place" for cores at various company field warehouses to be removed in the Valley. Cal State Bakersfield is planned to be location for such cores in the state at some future date but they have no facilities now.

Pacific Section

The following candidates have accepted nomination to office in the Pacific Section for next term. We will profile each candidate along with their photograph in the April Issue.

PRESIDENT

Pete Hall — Consultant
Bob Lindblom — Standard

VICE - PRESIDENT

John Carver — Occidental
Ernest Rich — Stanford University

SECRETARY

Jim Benzley — Gulf
Jim O'Neill — Argonaut

TREASURER

Bill Adent — State Lands Division
Bruce Barron — Oil Well Services

AAPG Membership

Last October I mailed a letter to twenty-two oil companies for the purpose of soliciting their cooperation in getting new members for AAPG and the Pacific Section. This letter was published in a recent edition of the *Pacific Petroleum Geologist*. I have now received ten replies from several independent companies as well as selected major oil companies. Disappointingly, I have not had responses from half a dozen pillars of the industry. It is appropriate at this time to discuss the reactions which I have received from those who have replied.

Without exception, the respondents have indicated their wholehearted and unstinting support for APG and its broad range of activities. Each respondent has acknowledged that AAPG provides a unique service to the oil industry in its efforts to find and develop new petroleum reserves. The respondents differ, however, in their attitudes with regard to defraying or otherwise subsidizing the costs of membership in the organization.

Apparently none of the major oil companies wishes to underwrite the cost of membership and annual dues. On the other hand, most of the lesser companies believe that it is desirable to stimulate membership in AAPG as a means of engendering professional esteem, and, as a result, many independents supply both membership fees and annual dues.

Selected comments of the respondents are of particular interest and should be reproduced for the benefit of AAPG members as a revelation of company attitudes. These attitudes may be divided into two classifications: those where membership and dues are paid and those where members must make these expenditures.

MEMBERSHIP AND DUES PAID

- (1) ". . . , we actively encourage our professionals to belong to the AAPG and AIPG. We pick up their annual dues and pay their expenses for attending Pacific Section and national meetings. However, we don't send many young geologists to the meetings for the reason that we don't have many young geologists in our employ (two out of fifty, plus or minus). I believe that is at the root of the problem insofar as the average age of Pacific Section function attendees is concerned. Most companies are in the same position in that they work California with experienced geologists and the few younger people on their staff are sent either overseas or to the more active areas such as the Gulf Coast, Alaska, etc. . . . I just don't be-

lieve there are very many young geologists actively working on the Pacific Coast today; and, short of fifty-cent gas prices in the Sacramento Valley and the removal of the super-environmentalist's obstructions to offshore drilling, I don't believe that we will see the situation change."

- (2) "We're presently bearing the cost of membership in AAPG and other organizations for all our staff."
- (3) "Company pays for a professional membership of the employee's choice, luncheon meetings, attendance at local section, conventions for all geologists, and selected attendance at the national convention."
- (4) "The Company pays for memberships for any professional in the firm who shows an interest and a willingness to participate in society activities. While the firm retains the right to drop the sponsorship if the person doesn't really become active, we encourage individuals to join technical committees and gradually assume a leadership role. . . . Each year, an increasing budget is planned for sending any professional, including fellows just out of college, to technical conferences for training purposes. The company pays for all reasonable expenses. However, where the attendance is for technical training, we ask that the attendee prepare a report on his return which will be distributed to others with similar technical interests. We also ask that he pick up appropriate information and spread knowledge of this information to others where it may be of value. . . . If one of our professional staff members presents a paper at a meeting, efforts are also made to provide funds which will permit the man's wife to accompany him."

MEMBERS PAY FEES AND DUES

- (1) "For a number of years I have had a policy that our professional people must contribute some of their own time and resources to their organizations before I could recommend company assistance. For example, my company has for many years provided the opportunities and the fees in support of national as well as local conventions, seminars and field trips for geologists and geophysicists. We have also encouraged our people to participate in the functions of committees and to accept officer responsibility, when elected. In support of these activities I know that our company has contributed a great deal more than the individual. This policy with leadership and encouragement

has resulted in our organization having 100% membership in their respective organizations and an above average participation in professional activities. I do not believe that this would be true if we paid their dues, because the individual would not feel as strong a responsibility to nor have the desire to participate in an activity as he would if he had contributed his own money toward its support."

- (2) "We pick up the tab for attendance at luncheon meetings (we even furnish company transportation) and will include the wife's ticket to evening affairs. We are extremely generous in sending member employees to sectional meet-

(Continued on Page 6)

Los Angeles

At noon on January 17, 1973, Dr. Perry Ehlig of California State University, Los Angeles, presented a fine paper entitled "Solution to the Offset of the San Andreas Fault — Mint Canyon Formation". I'll try to obtain an abstract of this report for the next edition of the Newsletter. Students present at this meeting as guests of industry were:

Keith Ehler, Cal State Univ., LA — Signal Oil & Gas Co.

David G. Aubrey, U.S.C. — Union Oil Co.

James Tung, U.S.C. — Shell Oil Co.
Steven Murray, U.S.C. — Texaco, Inc.

At noon on Wednesday, March 21, 1973, Roger Young Auditorium, the Los Angeles Basin Geological Society will have Dr. Gregory Davis of the University of Southern California as guest speaker. The title of his paper will be "Geology and Rare Earth Minerals of Mountain Pass, California".

A tentative date of April 27, 1973, has been set for AAPG Distinguished Lecturer from Australia, Mr. Elliott S. T. O'Driscoll. The title of his paper will be "Basement Tectonics and Fold Patterns — Kinematic Models Approach".

PERSONAL ITEMS

Jack Sheehan of Tetra Tech, Pasadena, has been transferred to Houston, Texas, to open a new office.

Erich Thomas, Jim "Chinky" Lowe, and Dave "Air Brakes" Totten of Union Oil, Santa Fe Springs, are attending Gravity-Magnetics school at Union's head office.

Our new leader for 1973, Bill Hunter of Thums Long Beach, is preparing to twiddle his thumbs in anticipation of a development drilling shutdown due to the passage of Proposition 20.

TOM W. REDIN

Northern California

The monthly luncheon meetings in San Francisco continue to attract relatively large gatherings. This is certainly the best response that the society has had in several years.

Sixty-three members attended the luncheon meeting on January 24 when D. H. Shouldice, Senior Staff Geologist for Shell Canada Ltd., Calgary, Alberta, and an AAPG Distinguished Lecturer spoke on the "Geology of the Western Canadian Continental Shelf".

The paper dealt primarily with the stratigraphy of the Tertiary sediments in the Tofino and Queen Charlotte basins of Canada's Pacific Shelf. The paper included information from Mesozoic and Tertiary outcrops along the shoreline margins of the basins, from the six Richfield Oil Corporation wildcats on the Queen Charlotte Islands; from Shell Canada's aeromagnetic, reflection, and refraction seismic surveys; and from 14 offshore wildcats drilled between May 1967 and May 1969.

At the above mentioned meeting on January 24th, we had a secret ballot for a Delegate to the AAPG House of Delegates. Donald E. Fissell: AAPG 1956, Chief Geologist for PG & E was elected Delegate, and A. E. Roberts: AAPG 1950, Geologist, Office of Marine Geology, USGS in Menlo Park was elected Alternate Delegate.

At a special luncheon meeting on February 6, 1973 we had the rare opportunity of meeting and talking with James E. Wilson, President of the AAPG, and with three former AAPG Presidents, Mason Hill, Frank Conselman and Michel Halbouty. These gentlemen with a group of other visitors had gathered at the USGS earlier in the week for a preliminary conference to plan the CIRCUM-PACIFIC CONFERENCE to be held in Hawaii in August, 1974. The AAPG is one of the principal sponsors of the conference and several of our members are involved with various committees. President Jim Wilson spoke on "The Road Ahead — Where Does It Lead?". This was a brief discussion on the subject of his formal testimony to Senator Buckley of New York at a recent Senate Committee Hearing concerning our domestic oil and gas reserve position.

The March meeting of the Northern California Geological Society will be held on Tuesday, March 20, at the Leopard Cafe at 140 Front Street, San Francisco. Plan to join us at 11:30 A.M. and

Luncheon is served promptly at 12:00 noon. The speaker is Alan J. Galloway, California Academy of Sciences, and the subject of his talk is "Geology of the Pt. Reyes Area". Alan Galloway graduated from Cambridge, England, with an M.A. in 1925. He then spent 32 years with Shell Oil in this country. He worked in Bakersfield area, in Texas, in the Mid-Continent, and finally wound up as the executive vice-president in New York. Following retirement from Shell in 1958, he began his studies of the Point Reyes geology and is currently publishing on that area.

Our spring field trip is scheduled for Saturday and Sunday, April 28 & 29. This will be a trip through the Mother Lode country led by Oliver Bowen, one of the authors of State Bulletin 141, the geologic guide book of the area. The fee of about \$27.00 includes bus trip; overnight at the National Hotel in Jackson with prime rib dinner, breakfast and box lunch; wine tasting and lots of camaraderie. Sounds good, don't it?

The April meeting will be held on April 27th at 3 P.M. on the Peninsula instead of San Francisco. The meeting will be at the conference room in the Topo. Bldg. of the USGS Pacific Coast Center on 345 Middlefield Road in Menlo Park.

This will be a joint meeting with the Peninsula Geological Society and the speaker will be Dr. Tim S. O'Driscoll.

I'm stymied and frustrated! I have been trying to figure out how we can entice some of the service companies to our area, so we can also get to thank them once in a while for their contributions to a dance or barbeque or what have you. That cat ranch idea has possibilities but not for the Bay Area. We have to work up some drilling prospects. No time now but I'll get the bird dogs on the point.

HERB SAWYER

San Joaquin

The February meeting of the S.J.G.S. was a considerable success with 130 people to hear Sargent Reynolds of Tri Valley tell it like it is on the "Subsurface Geology of the Sacramento Valley." We hope to get an abstract later. The coming March 13 joint S.J.G.S. and Landmen's meeting in Bakersfield will have Don Taylor of Tenneco speaking on "Recent Deep Drilling in the San Joaquin and Its Effect on the Future". This is a reminder to all of you rock jabbers and acre grabbers to get those reservations in to S.J.G.S., Box 1056, Bakersfield, 93302.

Your correspondent understands that

the next report may be a large one from Standard; that is, if there is anyone to answer the phone.

Geophysicists may now register in California as official earth shakers by applying to the State Board of Registration for Geologists and Geophysicists in Sacramento and get in under the grandpa clause.

Henry Walrond is moving the Norris Oil Company office from Bakersfield to Box A1, Ventura 93301. Now Henry, after 15 years in Bakersfield, is going to have to get used to winter sun and summer fog. Sorry about that Henry, but your biologic clock will adjust. (*Norris must be in bad shape to put Henry in a box. Can't they afford an office and desk for him?*)

Speaking of adjustments, Conrad Howard, ex-Shell of Los Angeles, is now with Jim Elison and Vallecitos Oil Company in Bakersfield. Quite a change from the cold north slope flatlands to the California and Four Corner hills where Vallecitos operates.

Dana Grannell of ARCO is now in Dallas, Texas. Bert Marier of Getty Oil is now in Midland after spending only 23 years in California. Bert found the office in Midland in spite of the dust, and would anyone be interested in a boat?

Gene Pollock of Tenneco is now in Madrid. We don't know all the places Gene has been but we are sure he can acquire a taste for aroz con pollo. 'Kip' Herring of Oxy is now in Peru learning to cut vines and deep breathe. He is also finding oil. Charley Leveret, also of Oxy, is up from Trinidad and is now doing his South American geology by long distance. Welcome to Bagdad on the Kern, Charley.

Bill Edmondson, well known Bakersfield gas consultant, is considering taking his gas royalties in kind. Probably be able to make a better deal with the neighbors than he can with P.G.&E. if things get really tight. Well after all, if Texas and Louisiana will, why not individuals? Can't get enough B.T.U.'s out of burning dollar bills anyway.

Just in—Standard Oil Bakersfield is experiencing another mass exodus to San Francisco. The "Standarites" moving to Market Street are Bob McCrae, George McJannet, Carl Helms (*I don't believe it*), Neal Buttrum, George Fugate, Louis Eyroud and Burt Ellison. Irwin Clark is slated for an overseas assignment. The future home of Ernie Maxwell and Bill O'Donnell is still a mystery to us, hope its not to them. We'll keep you posted when everyone comes in for a landing.

HAROLD SUGDEN

Coast

The scarcity of news from this quarter has given birth to scurrilous rumors that this part of Southern California slipped into the sea when nobody was looking. I hope to dispell this rumor. There are geologists alive and well here, partaking in geological and other activities at undiminished rates.

One such activity was the Christmas dance. Persistent rumors suggest that all in attendance enjoyed themselves thoroughly. That this fact has not been driven home to the general public is due in part to lapses by your reporter, and to the fact that the event was rather lightly attended. The dance was, nonetheless, a success, and chairman Al Hanson should be thanked, as should the following corporate donors, whose contributions helped greatly:

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 SCHLUMBERGER
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 CHRISTENSEN
 DIAMOND PRODUCTS
 BORST AND GIDDENS
 WELL LOGGING
 ANDERSON AND NICHOLERIS,
 Paleo Consultants

Forthcoming events include an evening talk by Mr. Don Lande of the Division of Oil and Gas on "Geothermal Resources," to be held Tuesday, March 20.

On Tuesday, April 17, Paul Siemon of Continental Oil will speak on "Decollement Blocks of the Eastern Ventura Basin."

Both talks are coupled with dinner at the Admirals Table, 1105 So. Seaward, Ventura. Happy hour, in both cases, starts at 6 P.M. with dinner at 7 P.M. Cost is \$5.50 per person for a steak dinner. Telephone reservations on or before the preceding Monday to either Al Hanson, Ventura ((805) 643-2154), or John Curran, Santa Barbara ((895) 965-8055). (There will be no May meeting in deference to the National Convention.)

January's speaker was Mr. D. H. Shouldice, A.A.P.G. Distinguished Lecturer. He is with Shell Canada, Ltd.; the topic of his talk was "Geology of the Western Canadian Continental Shelf."

Also at this meeting, Butch Brown brought along an audiovisual promo for

the May National A.A.P.G. Convention. We understand it did such a tremendous job of selling the Los Angeles area, that there ensued a five or ten minute period of sublime ecstasy followed by profound euphoria. When the group had regained its composure sufficiently to speak, it was generally conceded to be a good presentation. We understand Butch has offers for similar spiels from Di-Gel, Alpo, and Mr. Clean, and is thinking of founding his own ad agency: Grosvenor, Crandell, & Brown.

(I'd sue if I were you Butch. I think you've got grounds.)

The regular Thursday luncheon, which has been an institution in the Ventura area for years, centuries even, has a new selection of restaurants, as can be seen in the calendar section.

By the time this sees print, our February speaker, Dr. Perry Ehlig of Cal State Los Angeles, will have discussed "Offset of the Mint Canyon and Caliente Fms. along the San Andreas and San Gabriel Faults." As occasionally happens, our speaker was lined up after it was too late to give advance notice of his talk in the February Newsletter. And in this case, the talk will have occurred after the deadline to report it in the March Newsletter. Look for our report in the April Newsletter! Take note of our March and April speakers! Beware of our Thursday luncheons!

Most of all, rest assured that the Coast Society is alive and well!

RICHARD L. STEWART

Best news we've heard in a long time.

RECOMMENDED READING

U. S. GEOLOGICAL SURVEY
 Professional Paper 655-E: Soil-moisture and energy relationships associated with riparian vegetation near San Carlos, Arizona, by I. S. McQueen and R. F. Miller 60¢
 Professional Paper 685: Fossils from the Ordovician Bioherm at Meiklejohn Peak, Nevada, by R. J. Ross, Jr.\$1.25
 Professional Paper 724-A: Huntington Lake quadrangle, central Sierra Nevada, Calif. — Analytic data, by P. C. Bateman and D. R. Wones. ... 55¢
 Bulletin 1336: Precambrian geology of the northern Bradshaw Mountains, Yavapai County, Ariz., by C. A. Anderson and P. M. Blacet\$1.25
 Bulletin 1355: Placer gold deposits of Arizona, by M. G. Johnson\$1.00
 Bulletin 1371-B: Mineral resources of the Salmon-Trinity Alps Primitive Area, Calif., by P. E. Hotz, H. K. Thurber, L. Y. Marks and R. K. Evans, with a section on an aeromagnetic survey and interpretation, by Mark Griscom\$3.75
 Water Supply Paper 1798-J: Sediment

transport in the tributaries of the Sacramento River, Calif., by B. L. Jones, N. L. Hawley, and J. R. Crippen.

..... 25¢
 Water Supply Paper 1873-D: Measurement of salt-wedge excursion distance in the Duwamish River estuary, Seattle, Wash., by means of the dissolved-oxygen gradient, by W. A. Dawson and L. J. Tilley 25¢
 Water Supply Paper 2009-A: Runoff characteristics of California streams, by S. E. Rantz 70¢
 Water Supply Paper 2025: Glossary of selected terms useful in studies of the mechanics of aquifer systems and subsidence due to fluid withdrawal by J. F. Poland, B. E. Lofgren and F. S. Riley 15¢

MAPS:

Geologic map index of Wyoming, 1954-1970, compiled by W. L. McIntosh and M. E. Eister 50¢
 MF 372: Generalized geologic map of the Alaska-Aleutian Range batholith showing potassium-argon ages of the plutonic rocks, by B. L. Reed and M. A. Lanphere\$1.00

The following MF maps are Metallic mineral resources maps, on a scale of 1:250,000, compiled by E. H. Cobb, priced at 50¢ per copy.

MF 379: McGrath
 MF 384: Taylor Mts.
 MF 404: De Long Mountains
 MF 405: Ruby
 MF 407: Taku River
 MF 409: Anchorage
 MF 410: Fairbanks
 MF 411: Icy Bay
 MF 412: Lime Hills
 MF 413: Livengood
 MF 415: Petersburg
 MF 417: Bendeleben
 MF 418: Bradfield Canal
 MF 419: Gulkana
 MF 420: Ketchikan
 MF 421: Kotzebue
 MF 437: Prince Rupert
 MF 439: Beaver
 MF 443: Port Moller

GEOLOGICAL SOCIETY OF AMERICA BULLETIN, vol. 83, no. 10, October 1972

Lateral displacement of Upper Miocene rocks and the Neogene history of offset along the San Andreas Fault in Central California, by O. F. Huffman.

Petrologic significance of low heat flow on the flanks of slow-spreading mid-ocean ridges, by Roger N. Anderson.

Seamounts as sea level indicators, by Maurice L. Schwartz.

Petrologic intervals and petrofacies in the Great Valley Sequence, Sacramento Valley, California, by William R. Dickinson and Ernest I. Rich.

Tectonic significance of gravity and aeromagnetic investigations at the head of the Gulf of California, by

(Continued on Page 10)

GEOLOGICAL REVIEWS

"GEOLOGY OF THE WESTERN CANADIAN CONTINENTAL SHELF"

D. H. SHOULDICE
Shell Oil Canada

Review by R. L. Stewart

The talk dealt primarily with the stratigraphy of the Tertiary sediments in the Tofino and Queen Charlotte basins of Canada's Pacific shelf. Information was included from Mesozoic and Tertiary outcrops along the shoreline margins of the basins, from the six Richfield Oil Corporation wildcats on the Queen Charlotte Islands; from Shell Canada's aeromagnetic, reflection, and refraction seismic surveys; and from 14 offshore wildcats drilled between May 1967 and May 1969.

The pre-Tertiary framework of the shelf consists of a thick and complex sequence of Mesozoic sedimentary, metamorphic, and intrusive and extrusive igneous rocks. Little is known about the early Tertiary history, but data from the Tofino basin suggest widespread early-middle Eocene submarine volcanic activity, initial uplift followed by subsidence in late Eocene time, distance transgressions of Oligocene-early Miocene seas, followed by a middle Miocene period of crustal deformation, uplift and regression. There was a major transgression in late Miocene and a lesser one in early Pliocene time, followed by a regressive phase in late Pliocene-Pleistocene time.

The early Tertiary volcanism in the Tofino basin spread northward and continued, at least sporadically, in the Queen Charlotte basin into the Miocene. Tertiary sedimentation in the Queen Charlotte basin did not begin until the Miocene and, although interrupted by perhaps two periods of uplift and erosion, continued through the Pliocene into the Pleistocene.

The maximum thickness of Tertiary sediments is more than 15,000 feet. Depositional environments range from deep-water, open marine sequences of shales, siltstones, and sandstones in the Tofino basin, through both deep and shallow water marine sediments in the Queen Charlotte basin, to a thick non-marine sequence of sandstone, shale, siltstone, and coal in Hecate Strait and the Queen Charlotte Islands. The sands in both basins are composed primarily of feldspars and quartz, and those of the Queen Charlotte Islands are character-

ized by high porosity and low permeability.

There is a wide variety of structural styles including areas of numerous large anticlines with multiple unconformities and complex growth and fault histories; areas of small, gentle, low relief anticlines; and areas where the Tertiary sediments overlap older volcanics with little or no folding of the sediments. There are insufficient deep seismic reflections to interpret properly and to understand the structural style of the Tofino basin, but at least two basic mechanisms must be considered: (1) simple compressional folding with detachment from the basement, and (2) flowage of the overpressured shales into the cores of the anticlines. At various times in different places in the basin, each of these mechanisms might have been dominant.

Both oil and gas shows have been encountered, but no commercial accumulations have yet been found.

LATE CENOZOIC HISTORY OF THE OFFSHORE VENTURA BASIN-OXNARD PLAIN REGION

by
H. GARY GREENE

U.S. Geological Survey
345 Middlefield Road
Menlo Park, California 94025

In late Miocene time, after deposition of Monterey and Topanga-Vaqueros undifferentiated units and explosive injections of Conejo volcanics, regional uplift took place exposing the Miocene and older rocks along the Anacapa ridge. Erosion effectively beveled the rocks and supplied some detritus to a shallow basin to the north. During Pliocene time sediments of the Pico Formation were deposited in the basin and were restricted from further transport to the south by an emergent land ridge. Small, prograding terraces were built out across the insular shelves of Anacapa Island at this time. In latest Pliocene to earliest Pleistocene time sediments of the Santa Barbara Formation were laid down in the basin, and possibly at the start of the Pleistocene time Santa Barbara sediments reached sill level and may have overflowed into Santa Monica Basin. Santa Barbara sediments lapped up against the emergent land areas near the western end of the Santa Monica Mountains and the Anacapa ridge area in the later part of their deposition. Early Pleistocene time saw the deposition of the San Pedro strata that evidently was being deposited in a nearly filled basin. The source of sediments for the San Pedro deposits came from the Santa Ynez Mountains and the interior areas to the north and east and were delivered to the site of deposition by the Santa Clara River and other

smaller streams. A prograded shelf was developed at this time and was probably periodically emergent. Most of the area was subjected to recurring diastrophism throughout most of the later Tertiary period. Strata were disturbed as late as early Pleistocene time. A hiatus occurred between early and late Pleistocene time and erosion across most of the area removed an indeterminate amount of lower Pleistocene and older material. During the beginning of early Pleistocene time the sea probably transgressed to within 9.5 kms (6 miles) of the present shore line, as suggested by the acoustical feature mapped as a possible late Pleistocene strand line, and renewed deposition laid down the upper Pleistocene flood plain and alluvial deposits. At the end of the Pleistocene, a regressive sea and local diastrophism caused the area again to become emergent and erosion attacked the upper Pleistocene surface. Then, probably at the start of Holocene time, the sea transgressed to approximately the present strand line and the modern marine sediments began to accumulate.

Did You Know . . .

GEO-REF is seeking graduating geology majors to work in Washington, DC, as indexers/editors. A Bachelor's degree is the minimum requisite, faculty recommendation is desirable, and knowledge of at least one language other than English will be helpful. Salary commensurate with talent. Write to GEO-REF care of AGI, 2201 M Street, NW, Washington, DC 20037.

* * *

The last of the CEGS Short Review Series is now available free of charge from the CEGS office. Short Review No. 20, *The Estuarine Environment, Part II* by J. R. Schubel and D. W. Pritchard, deals with the pollution aspects of estuaries. Part I of the article, Short Review No. 18, dealt with physical oceanography and sedimentation in the estuarine environment.

* * *

Dr. Mack Gipson, Jr., of Virginia State College is serving as Coordinator, as of January 1, for AGI's Program on Minority Participation in the Geosciences. The Program is designed to develop a financial base through help from private foundations, educational institutions, and government funding agencies for exploring new ways in which minority groups might become active in the geosciences. Dr. Gipson will be working part time at the AGI office while continuing teaching at Virginia State.

Recommended Reading

(From Page 8)

- John R. Sumner.
GEOLOGICAL SOCIETY OF AMERICA BULLETIN, vol. 83, no. 11, November 1972
- Cenozoic volcanic rocks in the southern Shoshone Mountains and Paradise Range, Nevada, by Charles J. Vitaliano and Dorothy B. Vitaliano.
- Bathymetry, magnetic anomalies, and plate tectonic history of the mouth of the Gulf of California, by Roger L. Larson.
- Magnetic anomalies and fracture-zone in the Gulf of California, by Peggy A. Larson, John D. Mudie and Roger L. Larson.
- Genesis of garnet skarn, Calaveras County, California, by Kenneth J. Brock.
- Paleogeographic significance of meta-tuff boulders in Middle Tertiary strata, Santa Ana Mountains, California, by A. O. Woodford, T. H. McCulloh, and J. E. Schoellhamer.
- Pediments and terraces along the Moapa Valley, Clark County, Nevada, by Leonard Robert Gardner
- GEOLOGICAL SOCIETY OF AMERICA BULLETIN**, vol. 83, no. 11, November 1972
- Kink bands along the Denali Fault, Alaska, by John R. Kleist.
- Transcurrent and transform faults: A problem of terminology, by Z. Garfunkel
- Comments on the distribution and gage of high-grade blueschists, associated eclogites and amphibolites from the Tiburon Peninsula, California, by Priscilla Dudley
- Magnesium in calcite of marine Ostracoda, by H. Meade Cadot, W. R. Van Schmus, and R. L. Kaesler.
- GEOLOGICAL SOCIETY OF AMERICA BULLETIN**, vol. 83, no. 12, December 1972
- Distribution, morphology, and size frequency of cinder cones on Mauna Kea Volcano, Hawaii, by Stephen C. Porter.
- Structure of the Continental Margin and tectonism at the Eastern Aleutian Trench, by Roland von Huene.
- Late Mesozoic evolution of the Western Pacific Ocean, by Roger L. Larson and Clement G. Chase.
- World-wide correlation of Mesozoic magnetic anomalies, and its implications, by Roger L. Larson and Walter C. Pitman III
- Dueterium as a tracer of regional ground-water flow, Southern Great Basin, Nevada-California, by Isaac J. Winograd and Irvin Friedman.
- Potassium-Argon ages of lavas from the Hawi and Pololu Volcanic Series, Kohala Volcano, Hawaii, by Ian McDougall and D. A. Swanson.
- Major structural break between Paleozoic and Mesozoic rocks in the Eastern Sierra Nevada, California, by Benjamin A. Morgan and Douglas W. Rankin.
- Nature and significance of the Inyo Thrust Fault, Eastern California, by Calvin H. Stevens and Robert C. Olson.
- Ages of zircons from the Northern Cascade Mountains, Washington, by James M. Mattinson.
- Southern Continental Borderland, Baja California: Its tectonic and environmental development, by Larry J. Doyle and Orville L. Bandy.
- JOURNAL OF SEDIMENTARY PETROLOGY**, vol. 42, no. 3, Sept. 1972
- Pigeon Point Formation: An Upper Cretaceous shoreline succession Central California, by J. H. Tyler.
- Resuspension of estuarine sediments by small amplitude waves, by F. E. Anderson.
- An analysis of factors controlling deviations in hydraulic equivalence in some modern sands, by R. Lowright, E. G. Williams and F. Dacheille.
- Sedimentary structure and environment of some thick sandstone beds of turbidite type, by David H. Chipping.
- Pore fluid and mineralogical studies of Recent marine sediments: Bauer Depression region of East Pacific Rise, by James L. Bischoff and F. L. Sayles.
- THE JOURNAL OF GEOLOGY**, vol. 80, no. 6, November 1972
- Continental Drift, V: Proposed hypothesis of earth tectonics, by A. A. Meyerhoff, Howard A. Meyerhoff, and R. S. Briggs, Jr.
- THE ORE BIN**, vol. 34, no. 11, November 1972 (Oregon Dept. of Geology and Mineral Industries)
- Coastal landforms between Tillamook Bay and the Columbia River, Oregon, by Ernest H. Lund.
- CALIFORNIA GEOLOGY**, vol. 25, no. 12, December 1972
- Resume of oil, gas and geothermal field operations in 1971, by California Division of Oil and Gas.
- LUCY BIRDSALL

DID YOU KNOW . . .

The low state of exploration for natural resources within the U.S.A. and Canada is cause enough for your Association to make its scientific opinions felt in Congress and to the executive branch, as well as in the halls of each state legislature.

NEWSLETTER

Pacific Section A.A.P.G.

P.O. Box 17486 Foy Station

Los Angeles, California 90017



NEWSLETTER

of the Pacific Section
American Association of Petroleum Geologists

VOLUME 27

APRIL, 1973

NUMBER 4

GUEST EDITORIAL . . .

COURAGE, CONVICTION, AND CONCERN
THE BASES FOR SCIENTIFIC PROFESSIONALISM
THE BASIS FOR SCIENTIFIC PROFESSIONALISM

"The great end of life is not knowledge, but action." — Thomas Huxley

We must assume that the geologists who join A.I.P.G., A.A.P.G. Professional Division, and/or S.I.P.E.S — and the geophysicists who wish to develop a certifying arm for their geoscientists, A.E.G. for their, and A.I.M.E. the same, are scientists first and professionals second. These scientists are charged with searching for the truth about the earth in a business-like way, and at a profit. I believe that exploration scientists are the most courageous of all scientists because they have convictions that are continually being tested, not only for "rightness" of their theories, but also for the profitability of their endeavors. Yet W. E. Wickenden, former President of Case Institute, once said in *The Second Mile*,

"Every calling has its mile of compulsion, its daily round of tasks and duties, its standard of honest craftsmanship, its code of man-to-man relations, which one must cover if he is to survive. Beyond that lies the mile of voluntary effort, where men strive for excellence, give unrequired service to the common good, and seek to invest their work with a wide and enduring significance. It is only in this second mile that a calling may attain to the dignity and the distinction of a profession."

Our work must thus be concerned with the good we can do for humanity—an urge that springs from the spiritual depths of fewer geoscientists than we may hope.

Tarred with the brush of industrialism, we have been shrinking violets in

ivory towers (to mix two trite phrases); fearful of the I.R.S., the O.P.E.C., the N.E.A., the F.P.C., the F.T.C., and every other acronym emanating from governments. *Industry has risen to fight*. So have many geologists, *but not enough*. A concern unfollowed by conviction and unfortified by courage is a hollow concern. The scientific professional is hampered by lack of numbers and inadequate financing because so many will not join in the fray ("The dues are too high." "I don't have time." "My wife says we can't afford it." "Why should I do anything for the profession? Look what it's done to me, or what has it done for me.").

The apathy of the scientist is legion, but what about the professional? To be concerned is an acquired social trait; to be overly concerned without the scientific facts is dangerous. Witness the number of ridiculous statements by preservationists who wish to correct social wrongs by one bold unscientific dis-factual stroke. I place in exactly the same category the geoscientist who says, "I've got mine, buster, too bad about you. Why should I join A.A.P.G.?" The answer is not just education, but the courage to evince our convictions and then pursue rigorous action via cooperative effort.

Sir Francis Bacon once said, "I hold every man a debtor to his profession; from which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves by way of amends to be a help and ornament thereunto."

Sure it's unpopular to be a non-conformist when so many geoscientists are conformists holding jobs rather than pursuing goals. We must seek not only the solution to difficult scientific riddles but also the betterment of mankind. Would that we could all see the great-

CONVENTION SPEAKER

The only geologist to walk on the moon, Dr. Harrison "Jack" Schmitt, will be a featured speaker at the annual convention of the American Association of Petroleum Geologists in Anaheim, Cal., May 14-16.

Schmitt, a long-time member of AAPG, was a member of the three-man crew of Apollo 17 which made a 300-hour flight to the moon December 6-19, 1972. He was pilot of the lunar module "Challenger" and spent 22 hours exploring the moon's surface with fellow astronaut Eugene Cernan, Commander of the mission.

The geologist-astronaut will speak at the All Convention Luncheon on Tuesday, May 15, at which time he will be given a special AAPG award and plaque for Lunar Geological Exploration. He will discuss his observations of the moon's geology and its contributions to a better understanding of how our earth was formed.

Schmitt, whose hometown is Silver City, N.M., is a 1957 graduate of California Institute of Technology and has a Ph. D. in geology from Harvard. He was named a scientist-astronaut by NASA in 1965 and instructed other astronauts in lunar navigation, geology, and feature recognition. Prior to joining the Manned Spacecraft Center, Schmitt was on the staff of the Astrogeology Center of the U. S. Geological Survey at Flagstaff, Ariz., engaged in photo and telescopic mapping of the moon.

Northern
California

NO REPORT.

Alaska

NO REPORT.

(Continued on Page 2)



LETTERS

to
the
EDITOR

Dear Editor:

It may be of interest to readers of the Pacific Petroleum Geologist to note the end of an era.

The Tips Castaic Junction was officially closed as of the first of the year, 1973.

This meeting place for many oil people has seen the drilling activity of Castaic Hills, Castaic Junction, Dell Valle, Honor Rancho, Newhall Potrero, Oak Canyon, and Ramona to name just a few of the adjacent oil fields.

The original spot was the old "Beacon" cafe and in June 1948, Tips opened. Later this restaurant was to be known as Tips Castaic Junction or Tips #1.

Progress meant the building of a new highway which by-passed the Tips Castaic Junction, and the name changed to Valencia.

Thus, as of 1973, gone is the meeting place of many oil men, "halfway" to Bakersfield or Ventura from Los Angeles.

Gone are the memories of standing in line for a seat or table for lunch, those Christmas buffets and the many employees of the Tips organization which always had a smile and a hello be it 3:00 A.M. or after pulling a DST with 3000' salt water.

R. J. HINDLE
District Development Geologist
Sunoco, Newhall

We might add the El Tejon, company cars and core parties to the list. Just proves that nothing is forever.

Dear Editor:

For some years now I have been a member of the Pacific Section A.A.P.G. and enjoy your Newsletters very much, particularly the humor, some of which is quite as oblique as my own.

Congratulations on including Andy Alpha's sketches in your Newsletter. In 1969 he did a great number of them for us in the New Mexico Society for a now famous Guidebook of a field trip south of the border.

My letter, however has two other purposes; one is to say how much I appreciate the feelings expressed to Art Spaulding in his survey of A.A.P.G. membership and who should pay for what. Both sides of the question appear logical but it has always seemed

to me that a person would appear more professional if he paid his own A.A.P.G. dues and then have his company, university or state survey pay his way to the meetings. The second item involves copies of the Pacific Section Newsletter a difficulty in which I have received two every time it is published. I have reported this to the Section at least six times. Could you arrange to have just one sent?

An additional item — if I did not pay my dues for this year, I want a bill sent to me. This is in response to Dick Hester's very funny summary on page 3 of the March issue.

I still think your Newsletter is one of the best of many I receive, and I am convinced that newsletters are read very quickly and paid attention to by anyone with a shred of professional attitude. I look forward to the Anaheim Convention!

Most sincerely yours,
SHERMAN A. WENGERD

Thank you for the kind words. The

two copies of the Newsletter you receive resulted from the decision of our Executive Committee to send the Newsletter to the 65 officers of AAPG associated societies throughout the U.S. If you, as Past President of National AAPG can't change things, what can I, a mere peon, do to grind to a halt the wheels of tradition. Try being a Hester and don't pay your dues. No, that won't work. He still got the Newsletter. Hell, I don't know. Burn one copy.

Guest Editorial . . .

(From Page 1)

ness and goodness of the profession of exploration for natural resources and their wise conservation through diligent action. I challenge every one of you to stand up and be counted—now!

"The only way to achieve true success is to express yourself completely in service to society." —Aristotle

SHERMAN A. WENGERD

MORRO ROCK

Along the California coastline halfway between Santa Barbara and Monterey in the San Luis Valley a linear series of prominent dark hills align themselves with the surface trace of a disturbed zone known as the West Havena fault.

These plugs of Tertiary intrusives protrude through a mish-mash of Franciscan rocks, thin veneers of Pleistocene marine beds, terrace deposits and dune sands.

Bishop Peak, Cerro Romavido, Hollister Peak and Black Hill march straight out to sea in line with smaller knobs of large coastal indent called Estero Bay volcanics punctuated by Morro Rock.

Morrow translates "headland"; the rock is 576' high formed of durable trachyte and has often been called the Gibraltar of the Pacific. Tons of building materials have been removed from the outcrop in the past.

Cabrillo passed through the area in 1542 leaving behind a wealth of Spanish place names.

Few California landfalls have a more prominent signature than this lonely seastack sentinel standing guard at one end of the thin sand bar which separates Morro Creek and Morro Bay from the bay between Points Buchon and Estero.



CALENDAR for April

S	M	T	W	T	F	S
1	2	3	4	5	6	7

- 2 BAKERSFIELD COLLEGE GEOLOGY SEMINAR. 7:30 p.m. Science & Engineering 56. Ronald Kolpack, USC. "Sediment Transport On the Southern California Coast."
- 3 NOON LECTURE SERIES. USC Stauffer Science Lecture Hall 100. Andre Sarna, USGS, Menlo Park. "Tephrochronology: Correlation of California Coast Range Deposits By Trace Elements."
- 11 LOS ANGELES BASIN GEOLOGICAL SOCIETY BARBEQUE. Standard Pipeline Station, La Mirada. Speaker: Don Lande, D.O.G. "Geothermal Resources in California." Happy Hour—6 p.m.
- 17 COAST GEOLOGICAL SOCIETY. Dinner Meeting. Paul Siemon, Continental Oil. "Decollement Blocks of the Eastern Ventura Basin." Admirals Table, Ventura
- 21-22 NATIONAL ASSOCIATION OF GEOLOGY TEACHERS. Far Western Section Meeting, California State College, Bakersfield.
- 24 NOON LECTURE SERIES. USC Stauffer Science Lecture Hall 100.

Manley Natland, Laguna Beach. "New Classifications of Water Laid Sediments."

- 25 S.E.G. DISTINGUISHED LECTURE, Bakersfield. Bill Lee's Bamboo Chopsticks. Noon.
- 26 S.E.G. DISTINGUISHED LECTURE, Los Angeles. Taix Restaurant. Noon. See S.E.G. for details.
- 27 NORTHERN CALIFORNIA GEOLOGICAL SOCIETY. USGS, Menlo Park, 3 p.m. Dr. Tim S. O'Driscoll. "Basement Tectonics and Fold Patterns — Kinematic Models Approach."
- 28-29 NORTHERN CALIFORNIA GEOLOGICAL SOCIETY. Spring Field Trip. Mother Lode Country.
- 30 LOS ANGELES BASIN GEOLOGICAL SOCIETY. AAPG Distinguished Lecturer Elliott T. S. O'Driscoll. Basement Tectonics and Fold Patterns — Kinematic Models Approach."
- 30 BAKERSFIELD COLLEGE GEOLOGY SEMINAR 7:30 p.m. Science and Engineering 56. Dr. Lowell Redwine, Union Research. "Tertiary Princeton - Submarine Valley System Beneath the Sacramento Valley, California."

May

S	M	T	W	T	F	S
		1	2	3	4	5

- 1 NOON LECTURE SERIES. USC. Stauffer Science Lecture Hall 100. John Crowell, U.C. Santa Barbara. "Ice Ages Through Time."
- 3 COAST GEOLOGICAL SOCIETY. Luncheon. Hong Kong Inn, Ventura.
- 4-5 SOUTHERN CALIFORNIA ACADEMY OF SCIENCES. Cal. State Long Beach. Symposia — Urban Geological Problems.
- 10 NOON LECTURE SERIES. USC Stauffer Science Lecture Hall 100. Cuchlaine A. M. King, SUNY, Binghamton, "Coastal Process Models."
- 10 COAST GEOLOGICAL SOCIETY. Luncheon, Olde Timer, Ventura.
- 12-18 AAPG NATIONAL CONVENTION — Anaheim, Calif.
- 12 SHORT COURSE — "Turbidites & Deep Water Sedimentation Processes." SEPM.
- 13 * SHORT COURSE — "Diagenis In Organic Sediments" — AAPG.
- * FIELD TRIP — AAPG Trip #1 — Metropolitan Oil Fields and Their Environmental Impact.
- * FIELD TRIP — SEPM Trip #1 — "Miocene Sedimentary Environments and Bio Facies, Southeastern Los Angeles Basin."

* FIELD TRIP — SEG Trip #1 — "Seismicity of the Los Angeles Basin."

14-16 TECHNICAL PAPERS — AAPG, SEPM, SEG. WOMENS ACTIVITIES.

17-18 * FIELD TRIP — AAPG Trip #2 — "Imperial Valley, Regional Geology and Geothermal Exploration."

* FIELD TRIP — AAPG Trip #3 "Santa Barbara Channel Region Revisited."

* FIELD TRIP — SEPM Trip #2 "Sedimentary Facies Changes in Tertiary Rocks, California Transverse and Southern Coast Ranges."

22 NOON LECTURE SERIES. USC Stauffer Science Lecture Hall 100. F. A. F. Berry, Geology and Geophysics, U.C. Berkeley. "Origins of Abnormal Pore Fluid Pressures."

S. E. G.

See April Calendar for dates and locations of lectures.

DISTINGUISHED LECTURE TOUR

The Society's Spring 1973 Distinguished Lecture Tour will feature Paul L. Lyons, former President of SEG and an Honorary member of the Society since 1967. His subject will be "Expanding Horizons of Geophysics." The following is the abstract of his paper:

EXPANDING HORIZONS OF GEOPHYSICS PAUL L. LYONS

Improved methods, knowledge, and application are cumulative in exploration geophysics. Increasing costs are more than matched by the increasing resolution of mineral prospects now possible, provided that expenditures are used to best advantage, and provided our background of knowledge is used to the fullest extent. New insights promote increasingly better usage of gravity and magnetic field measurements. Currently in seismic exploration, continued breakthroughs are possible through the use of velocities both in processing and interpretation. Also, velocities provide a better liaison with geology, so that the geophysicist is ever closer to the goal of resolution of results into geology. It is predicted that increasing effectiveness of the seismic tool will evolve in the delineation of more stratigraphic traps, and that significant approaches will be made to the direct finding of oil and gas in porous and permeable rocks.

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Recommended Reading.....LUCY E. BIRDSALL

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

Material for Publication and requests for previous copies should be addressed to STANLEY E. KARP—GEOLOGY DEPT., BAKERSFIELD COLLEGE, BAKERSFIELD, CALIF. 93305.

Material received by the 15th of each month will be included in the following issue.

CHANGE OF ADDRESS, subscription and membership inquiries should be directed to MEMBERSHIP SECRETARY, PACIFIC SECTION AAPG, P. O. Box 17486, FOY STATION, Los Angeles, Ca. 90017.

Pacific Section

PACIFIC SECTION CANDIDATES

It is that time again to choose officers for the Pacific Section. Hester and his committee came up with another slate of top candidates which make the choosing part most difficult. We hope that our summaries (supplied by the candidates) makes your decision a little easier.

For President



ROBERT G. LINDBLOM

Development Geologist, Standard Oil Company of California, San Francisco, California.

BORN:

December 14, 1925, Duluth, Minnesota

ACADEMIC TRAINING:

1946-1948 Duluth Jr. College

1948-1950 University of Chicago, B.S., Physical Sciences

1950-1951 University of Minnesota, Graduate Work, Geology

MILITARY SERVICE:

1943-1946 U. S. Air Force

EXPERIENCE:

1951 — Standard Oil Company of California

1951-1956 Geologist, Taft and Bakersfield, California

1956-1957 Geologist, Sacramento, California

1957-1964 Geologist, Bakersfield, California

1964-1973 Geologist, La Habra, California

PROFESSIONAL AFFILIATIONS:

AAPG, SEPM, AIME (SPE)

AAPG ACTIVITIES

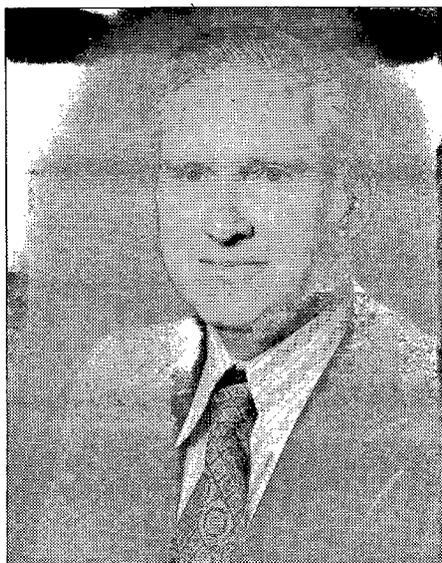
1960, 1961 Vice President/President, San Joaquin Geological Society

1964 San Joaquin District Representative, AAPG

1971, 1972 Secretary, Pacific Section AAPG

1972, 1973 Membership Committee Chairman, Pacific Section AAPG

For President



KEMPTON B. ("PETE") HALL
Consultant, Ojai, California.

BORN:

June 30, 1916, Los Angeles, California.

ACADEMIC TRAINING:

1934-41 UCLA; B.A. Geology.

MILITARY SERVICE:

1941-46 U.S. Army; Major CAC.

EXPERIENCE:

1947-66 Richfield Oil Corporation and Atlantic Richfield Company; Scout-Geologist-District Geologist-Exploration Supervisor-Coast District.

1966 — Consultant Geologist.

Registered Geologist; States of California #700.

Certified Professional Geologist AIPG #217.

PUBLICATIONS:

Ventura Basin-Santa Barbara Channel-Guide Books-AAPG Cross Sections and Correlation Sections.

PROFESSIONAL AFFILIATIONS & POSITIONS HELD:

AAPG; Santa Barbara District Representative.

AIPG; Charter Member - Executive Committee - Coast District Representative.

Coast Geological Society; President and Treasurer.

Sigma Gamma Epsilon (Honorary).

AAPG PACIFIC SECTION

ACTIVITIES (Assoc. '48;

Member '53):

1961 Chairman Spring Field Trip.

1962 Spring Field Trip Leader.

1964-5 District Representative.

1967 Convention Committee.

1969 Speaker, Pacific Section, Annual Meeting.

1970 General Chairman, Spring Meeting & Field Trip.

1970-1-2-3 Environmental Geology Committee.

1971 Vice President.

1972 Speaker, Pacific Section, Annual Meeting.

For Vice President



ERNEST I. RICH

Associate Professor, Geology and Associate Dean for Student Affairs, School of Earth Sciences, Stanford University.

BORN:

October 5, 1922

BUSINESS ADDRESS:

School of Earth Sciences
Stanford University
Stanford, California 94305

HOME ADDRESS:

120 Emma Lane
Menlo Park, Ca. 94025

EDUCATION:

B.S. University of New Mexico, 1949

M.S. U.C.L.A., 1953

Ph.D. Stanford University, 1968

EMPLOYMENT:

U.S. Air Force, 1941-45

Geologist, U.S. Geological Survey 1950-1960

Asst. Dean, School of Earth Sciences, Stanford Univ., 1960-68

Assoc. Prof. of Geology and Assoc. (Continued on Page 5)

Pacific Section . . .

(From Page 4)

Dean, Student Affairs, 1971-present

RESEARCH INTERESTS:Sedimentation and Geomorphology/
Photogeology**PUBLICATIONS:**17 articles and papers in professional
journals and numerous company
reports**For Vice President**

JOHN A. CARVER

BIRTHDATE:

March 16, 1932.

BUSINESS ADDRESS:Occidental Petroleum Corporation
5000 Stockdale Highway
Bakersfield, California 93309**PRESENT POSITION:**Senior Staff Geologist
Latin America / Caribbean Explora-
tion.**EDUCATION:**Bachelor of Science, Stanford Uni-
versity — 1955

Masters, UCLA — 1960

EXPERIENCE:1956-60 — Wellsite Geologist for
Richfield1960-64 — Development Geologist for
Shell1964-73 — Geologist for Occidental
with experience throughout Cali-
fornia, Arizona, New Mexico and
Oklahoma as well as South Ameri-
ca.**OTHER ACTIVITIES:**General Chairman for Pacific Section
Convention held in Bakersfield in
1972.**For Secretary**

JAMES L. O'NEILL

BIRTHDATE:

January 31, 1925

BUSINESS ADDRESS:Argonaut Oil & Gas Consultants
P.O. Box 2012

Bakersfield, CA. 93303

PRESENT POSITION:

Partner

Argonaut Oil & Gas Consultants

EDUCATION:

B.S., Stanford, 1949

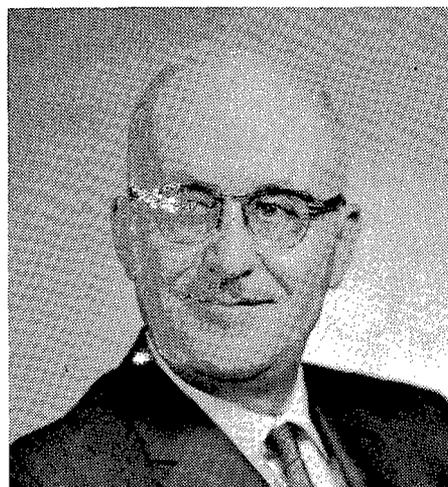
EMPLOYMENT:Independent Exploration Co., 1949-
52

Miller & York Drilling, 1952-53

Oceanic Oil Co., 1953-59

Montgomery Drilling, 1959-61

Consultant, 1961-present

ACTIVITIES:AAPG member since 1952. Past
President & VP, San Joaquin Geo-
logical Soc. Vice-Chairman, Paci-
fic Section Convention, Bakersfield,
1972.**For Secretary**

JAMES C. BENZLEY

BIRTHDATE:

December 24, 1914

BUSINESS ADDRESS:Gulf Oil Corp.
P.O. Box 1392
Bakersfield, CA. 93302**PRESENT POSITION:**

District Production Geologist

EDUCATION:

B.S., Utah State, 1937

Graduate Studies

EMPLOYMENT:

Union Oil, 1937-1940

Amerada, 1940-1953

Gulf Oil, 1953-present

ACTIVITIES:AAPG member since 1942. Member
of various committees on Local,
Regional and National level.**PUBLICATIONS:**Contributions to various Guidebooks
and Company reports.**For Treasurer**WILLIAM A. ARDENT
BRUCE M. BARRON**Sacramento**There's a scarcity of news to report
this time, kind of like the drilling activi-
ty up this way.Wednesday, March 14, Sacramento
Petroleum Association members viewed
the film "Pipeline to Japan." This is a
documentary film showing how natural
gas produced in Alaska is processed into
a liquid and then transported to Japan
by specially designed ships. It is avail-
able from Phillips Petroleum Co. on a
loan basis—don't miss it.

* * *

The A.P.I. held a dinner meeting
March 20, at the El Rancho Hotel, 1029
West Capitol Ave., West Sacramento.
There was a no host cocktail hour from
6:30 - 7:30 p.m., dinner at 8:00 p.m.
The speaker for the evening was Mr.
Edward J. Taafe of Standard Oil Co. of
California. Mr. Taafe's topic was "The
Impact of Proposition 20 on the Oil and
Gas Industry."

* * *

The tentative date of June 8, 1973
has been set for the annual Sacramen-
to Petroleum Association's Golf Tourna-
ment and Barbecue. This event will
again be held at the Yolo Fliers Club in
Woodland. Green fees, dinner costs, etc.
will be given at a later date.
TERRY PLUMB**CONTINUING
EDUCATION**The San Joaquin Geological Society
Continuing Education Committee is
planning a seminar for early fall, 1973,
on "The Geology, Production, Legal
and Environmental Aspects of Geother-
mal Energy." It is planned to have
three lecturers. Two of these will be
eminent academicians covering the ge-
ology and exploration for geothermal
deposits plus the engineering and eco-
nomics of production. One lecturer
will be concerned with the legal require-
ments of bringing the energy to the
public. The lecturers will discuss the
environmental aspects of Geothermal
Energy.The committee has chosen this topic
for the fall of 1973 believing that in
this energy crisis every practicing geol-
ogist should be up-to-date on every fa-
cet of the energy picture.DON WM. REYNOLDS,
Chairman
WILLIAM L. D'OLIER,
Member

CONVENTION ACTIVITIES

MORNING

AFTERNOON

EVENING

MAY

SHORT COURSE — "TURBIDITES & DEEP WATER SEDIMENTATION PROCESSES" SEP M FEE \$20.00 [PR]	
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12

REGISTRATION [GB]	
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13

SHORT COURSE — "DIAGENESIS IN ORGANIC SEDIMENTS." A A P G [GB]	
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SUNDAY

FIELD TRIP — "METROPOLITAN OIL FIELDS AND THEIR ENVIRONMENTAL IMPACT." A A P G TRIP 1	
---	--

FIELD TRIP — "MIOCENE SEDIMENTARY ENVIROMENTS AND BIOFACIES, SOUTHEASTERN LOS ANGELES BASIN." SEP M TRIP 1	
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FIELD TRIP — "SEISMICITY OF THE LOS ANGELES BASIN." HOUSE OF DELEGATES MEETING	
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RESEARCH COLLOQUIA SEP M [RI]	
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14

PRESIDENTIAL ADDRESSES [AR] Joint Session — AAPG - SEPM - SEG	MAJOR DISCOVERIES IN HOSTILE ENVIRONMENT — Joint Session [AR]
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MONDAY

PROFESSIONAL GEOLOGISTS [GG-3] Division Session — AAPG	
---	--

COASTAL SEDIMENTATION — SEPM [SA-1]	
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DOLOMITIZATION — SEPM [GG-4]	
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STRUCTURAL INFLUENCE ON SEDIMENTARY PROCESSES — SEPM [SA-2]	
---	--

LADIES ENTERTAINMENT — QUEEN MARY TOUR & SUPER - LUNCH	
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15

TUESDAY

ENERGY MINERAL ECONOMICS — A A P G [AR]	
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ACCUMULATION AND DIAGENESIS OF ORGANIC MATTER IN SEDIMENTS — AAPG [SA-1]	
--	--

OIL INDICATOR AND HIGH-PRESSURE SHALES [GG-4] A A P G	TECHNICAL SESSION A A P G [GG-4] Miscellaneous Papers
--	--

REMOTE SENSING A A P G [GG-3]	GEOCHEMISTRY AND DEEP WATER DIAGENESIS [GG-3] SEP M
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ALL CONVENTION LUNCHEON [CC]	
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ICE BREAKER
6:30 - 8:30 p.m.

AWARDS BANQUET
6:30 p.m.

AT A GLANCE

15
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MORNING

AFTERNOON

ARCTIC EXPLORATION — SEG [OCB] NORTH SEA and INDONESIA — SEG [OCB]

PALEONTOLOGY — SEPM
FORAMIFERA MISCELLANEOUS FOSSIL GROUPS [WR]

TECTONICS AND SEDIMENTATION SEPM [SA - 2]

LADIES ENTERTAINMENT
ENVIRONMENTAL WORKSHOPS [DH] FIELD TRIPS

CALIFORNIA GEOLOGY AAPG [SA - 2]

16
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ENVIRONMENTAL GEOLOGY
AAPG SEPM [AR]

MARINE GEOLOGY AAPG [SA - 1] TURBIDITES AND DEEP WATER SEDIMENTATION — SEPM [SA - 1]

CALIFORNIA GEOLOGY AND GEOTHERMAL — SEG [OCB] SOURCE MECHANISM IN HOSTILE ENVIRONMENT — SEG [OCB]

SEPM BUSINESS MEETING
ALL ALUMNI COCKTAIL PARTY [CC]

ANCIENT CARBONATES and EVAPORATE SEPM [GG - 3] CARBONATE SEDIMENTOLOGY SEPM [GG - 3]

SEDIMENTARY PETROLOGY SEPM [GG - 4] SEDIMENTOLOGY SEPM [GG - 4]

STRATIGRAPHY and SEDIMENTATION SEPM [WR]

LADIES ENTERTAINMENT DISNEYLAND

17
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18

FIELD TRIP — IMPERIAL VALLEY, REGIONAL GEOLOGY and GEOTHERMAL EXPLORATION
AAPG TRIP 2

FIELD TRIP — SANTA BARBARA CHANNEL REGION REVISITED
AAPG TRIP 3

FIELD TRIP — SEDIMENTARY FACIES CHANGES IN TERTIARY ROCKS, CALIFORNIA TRANSVERSE AND SOUTHERN COAST RANGES SEPM TRIP 2

POST CONVENTION TOURS OF HAWAII

NOTE — BUT and REBUT SESSIONS — Monday through Wednesday — 4:00 - 6:00 — GRAND LOBBY

LOCATION
KEY

[PR] — PACIFIC ROOM (Disneyland Hotel)
[GB] — GRAND BALLROOM
[RI] — ROYAL INN HOTEL

CONVENTION CENTER
[AR] — ANAHEIM ROOM
[SA] — SANTA ANA ROOMS
[GG] — GARDEN GROVE ROOMS
[OCB] — ORANGE COUNTY
[WR] — WESTMINSTER ROOM

NEPTUNE BALL
9:00 p.m.

Los Angeles

At Dr. Robert Sharp's talk on "Geological Problems, Mariner IX, Mars Photographs", the following students were guests of industry:

Audrey Curry, U.S.C.

Dave Carter, U.S.C.

Cyril Lobo, U.S.C.

Jack Jones, U.S.C.

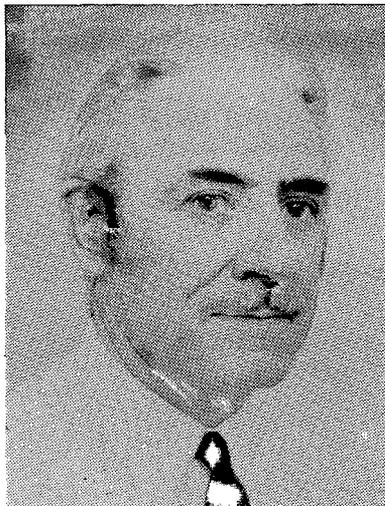
Jo Laird, Cal Tech

Don Henson, Cal Tech

Mike Molin, Cal Tech

The Oil Company hosts were Humble, Union, Shell, Signal, and Texaco.

* * *



Dr. E. S. T. O'Driscoll, Senior Consultant for Western Mining Corporation, Western Australia, and a Distinguished Lecturer sponsored by The American Association of Petroleum Geologists, will address a meeting of the Los Angeles Basin Geological Society on April 30, 1973. The meeting will be held at 12 noon in Roger Young Center. Dr. O'Driscoll will be speaking before approximately 25 geological societies and university groups in the United States between April 9-27, 1973. The title of his lecture is "Basement Tectonics and Fold Patterns — Kinematic Models Approach".

* * *

The first 1973 barbecue will be held on Wednesday, April 11, 1973, at the Standard Oil Pipeline North Station, La Mirada. Social Hour starts at 6:00 p.m. with steaks and wine starting about 7:00 p.m.

Don Lande, Engineer for California D.O.G. will give a paper entitled "Geothermal Resources in California".

Hosts for this outstanding social event will be Shell Oil Co., one of the few surviving oil companies in the L.A. Basin.

* * *

The last of Standard Oil's La Habra

Geological Staff will depart shortly. Joining the Bay Area commuters to downtown San Francisco will be Bob Lindblom, John Jacobson, George Yeckl, and Art Gilbert. (Be sure to check with Don Sutton before buying a house.) Chet Love will join Aramco's staff in Saudi Arabia and John Spangler will join Amoseas staff in Lybia.
TOM REDIN

GEOLOGICAL REVIEWS

OFFSET OF MIOCENE MINT CANYON FORMATION FROM VOLCANIC SOURCE ALONG SAN ANDREAS FAULT, SOUTHERN CALIFORNIA*

PERRY L. EHLIG and
KEITH W. EHLERT,

Department of Geology,
California State College,
Los Angeles, California 90032

The upper Miocene Mint Canyon Formation was deposited in a westward plunging trough in the Soledad Basin to the west of the San Andreas fault. Fluvial sediments along the flanks of the trough are of local derivation, but conglomerate along the axis of the trough is derived from volcanic terrane east of the San Andreas fault. In addition to a wide variety of andesitic to rhyolitic clast types, the conglomerate contains clasts of a unique quartz latrite porphyry with abundant rapakivi textured glomeroporphyritic phenocrysts of feldspar, 5 to 15 mm. long. K-feldspar is commonly mantled by plagioclase but also occurs as mantles on single crystals and crystal clusters of plagioclase. Accessory minerals include biotite, hornblende and allanite. The ground mass is commonly granophyric.

A Tertiary volcanic field contain the same rock types, including identical rapakivi textured porphyry, occurs 140 miles southeast of the Soledad Basin in the northern Chocolate Mountains east of the San Andreas fault. This indicates 140 miles of right-slip along the San Andreas fault since the upper Miocene and supports Crowell's (1962) correlation of other rock units between the two areas.

Volcanic terranes near Rosamond and Barstow in the Mojave Desert, previously considered possible source areas for clasts in the Mint Canyon Formation, were examined and found to contain different rock types.

*Presented to the Los Angeles Basin Geological Society January 17, 1973.

Coast

Forthcoming events include April's dinner talk on "Decollement Blocks of the Eastern Ventura Basin" by Paul Siemon of Continental Oil in Ventura, on Tuesday, April 17. There will be no May meeting in deference to the AAPG National Convention in Anaheim. On Tuesday, June 12, Art Spaulding of the City of Los Angeles will speak on "The Impact of Proposition 20 on the Oil Industry." Both talks will be at the Admirals Table, Ventura. Cost is \$5.50, and includes a steak dinner. Reservations should be made by the preceding Monday by contacting either Al Hanson in Ventura at (805) 643-2154, or John Curran in Santa Barbara at (805) 965-8055. Happy hour is at 6:00; dinner at 7:00. A special invitation is being extended to local area students in the Earth Sciences to attend these talks, omitting the dinner, if they wish to economize time.

Our thanks to Dr. Perry Ehlig of Cal State Los Angeles, for his talk on "Offset of the Mint Canyon and Caliente Formations along the San Andreas and San Gabriel Faults." The Mint Canyon Fm., of Upper Miocene age, was deposited in an east-to-west trough in the Soledad basin west of the San Andreas Fault. Fluvial deposits along the flanks of the trough are of local derivation, but conglomerates along the axis of the trough are derived from volcanic terrane east of the fault. In addition to a wide variety of rhyolitic to andesitic clast types, there is found a unique quartz latite porphyry. The porphyry contains feldspar crystals exhibiting rapakivi texture (this is igneous petrologese for K-feldspar phenocrysts which are somewhat rounded and concentrically mantled with sodic plagioclase). Such a rock type, along with other Tertiary volcanic rocks are to be found in the northern Chocolate Mountains, 140 miles south east of the Soledad basin, suggesting that amount of right lateral movement on the San Andreas system. Similar clast types have been found in the Caliente Fm., across the San Gabriel Fault from the Mint Canyon Fm., suggesting depositional contemporaneity of these two units, and right lateral displacement of some 35 miles.

A summary of Mr. D. H. Shouldice's AAPG Distinguished Lecture, attributed to me in the March Newsletter, was derived from a summary provided by the Distinguished Lecture Committee, and originating, presumably, with Mr. Shouldice. I don't wish to take credit for a good summary, which I didn't write.

R. L. STEWART

Sorry about that. It was my error.
Ed.

San Joaquin

Word has it that Walt Harris of Oxy is now with Cleary Oil in Oklahoma City. Okies gain is Cal's loss.

The slate of nominees for the April election of officers in the San Joaquin Geological Society is as follows:

PRESIDENT—

Ben Leverett, Consultant
Frank Weagant, Consultant

VICE PRESIDENT—

Don Taylor, Tenneco
Les Hill, Div. of Oil & Gas

SECRETARY—

Bob Morrison, Oxy
Phil Ryall, Consultant

TREASURER—

Don Reynolds, Union
Dennis Shea, Consultant

For representative to the Pacific Section we have Jack Cage of Gulf and Bob Atwill of Oxy.

Results of the recent SJGS election are that we now have a constitution and the new S.J.G.S. representative to the national APC is Ed Borclin of Union.

The S.J.G.S. March meeting was attended by over 150 people. We know that is true because the kitchen staff didn't get to sit to eat those great steaks prepared by Chuck Edwards, Jerry Willey, and the Central California Oil Scouts. Please get reservation cards in and, if you are out of town try to call one of the SJGS officers through the morning of the meeting so we can have an idea of attendance. Don Taylor demonstrated the viability of 15,000' plus San Joaquin plays and the interest in the 12 deep holes to be drilled in the next several years will be increased as a result of Don's talk. If he gives it again, don't miss it.

Don (Politico) Rogers, Ferguson & Bosworth, won a sweeping victory for Bakersfield's third ward council seat last month. Don soundly defeated the incumbent councilman, which took some doing, since none of the other challengers were able to unseat the incumbent of their wards. Rogers proves again that geologists are concerned with other problems as well as those of the petroleum industry.

After Bakersfield and Sacramento, someday Don may be working on the energy problem in Washington. Go get 'em Tiger, we're behind you.

Lowell Redwine will present his excellent paper on the Sacramento Valley Gorges — oops, I mean Submarine Val-

ley System. Bakersfield College Geology Seminar will host Dr. Redwine April 30. The seminar was moved to an earlier date to avoid conflict with the National Convention.

J. B. Senteur De Boue is always in attendance at meetings where Hy Seiden is the supplier of wine and beer from his lofty perch at Panorama Liquors. J. B. does his Kern River scouting from Hy's commanding view of the oil field. J. B. had to be restrained when he learned that Paul Siemon's talk to the S.J.G.S. on April 10 is titled "Decollement Blocks of the Eastern Ventura Basin". When it was explained that decollement meant a sheet of sedimentary rocks that break loose from underlying formations and fold independently, and not a plunging neckline, J. B. stated that he will search for d'collete' in other places and along with his many colleagues he will be at the April meeting.

HAROLD SUGDEN

Northwest

The Northwest Geological Society will hold their April meeting jointly with the Association of Engineer Geologists on the 26th in Tacoma at the Poodle Dog Cafe. Dr. Stewart Smith, Chairman of the Geophysics Department at the University of Washington, will speak on the very timely subject "Earthquakes: Prediction, Control or Hazard Reduction." We look forward to a most interesting and enlightening evening.

Your correspondent recently learned of an organization called SMOG (Society of Miscellaneous Oregon Geoscientists). It is understood that this group has been meeting quarterly for the last three years or so. Currently, Ernest Lund of the University of Oregon, is president, Bob Van Atta of Portland State University is vice president, and Julius Dasch of Oregon State University is secretary-treasurer. There are no dues and everyone is welcome to attend. Therefore, those wishing to get acquainted with Oregon geologists may find this to be an excellent opportunity. The last meeting was held on March 6 in Salem, Oregon, at which time a Dr. Jack Diamond of the Department of Oceanography of Oregon State University talked on "Geochemical Studies in the NAZCA Plate Project." From now on we will try to keep you informed on future meetings of this organization.

WELDON W. RAU

Does the governor know about this group? We are told there is no smog in Oregon.

SEPM

The 1973 Technical Program in Anaheim as usual includes a broad range of interesting subjects, which will be of interest to the generalist or the specialist; to the geologist engaged in academic pursuits, in industry or in a state or federal survey.

The Research Symposium this year was organized by W. R. Dickinson, Stanford University, who has assembled 14 papers dealing with the relationship between Tectonics and Sedimentation for a number of well studied sequences in North America representing a variety of tectonic settings. The session on Structural Influence on Sedimentary Processes has papers along the same lines, but covers a broader geographic area. For example, there are six talks dealing with Europe and Africa, one each for Mexico and Venezuela.

The Coastal Sedimentation Session brings together a series of talks dealing with shallow water processes, and only one is concerned with ancient sediments. The Sedimentology session has six papers concerned with deep marine sediments, and two dealing with very shallow water carbonate deposits.

The session on Turbidites and Deep Water Sedimentation has eight papers which discuss ancient turbidites from North America, Cyprus, Italy, Mexico and Morocco. For the turbidite "aficionado", you will also find papers dealing with turbidites in several of the other sessions.

Two short sessions entitled Sedimentary Petrology and Stratigraphy and Sedimentation cover a variety of subjects such as "Mechanism for large scale deformation in aeolian sand dunes," "Studies of quartz grains by Cathodoluminescence", and "Bonner Formation (Precambrian Belt of Montana) as braided-stream sequence".

Ron Kolpack of U.S.C. has organized a Symposium on Environmental Geology which includes contributions from experts in several different facets of this subject.

The all day Paleontology session has been divided into Foraminifera (A.M.) and Miscellaneous Fossil Groups (P.M.). The morning session includes talks on ancient biostratigraphic studies, ecologic studies of living populations, and statistical models. The afternoon session includes such varied topics as Carboniferous colonial Corals, correlation of Pliocene deposits by tephrochronology, facies distribution of trace fossils, and paleo bathymetry by fish otoliths.

The session on Geochemistry and

(Continued on Page 10)

For the Ladies

Ladies coming to the AAPG-SEPM National Convention in Anaheim in May will find lots of things to see and do.

Jeanne Burns and her committee have

CORRECTION

Recently, I was dismayed to discover that a periodical, widely circulated among geologists, had given me credit to which I was not entitled. The misunderstanding evidently arose from the fact that the Executive Committee of the Pacific Section of A.A.P.G. saw fit to honor me by establishing, in my name, a cash award to students to help defray the expenses incurred in attending geological convention. My first knowledge of it was when President Richard L. Hester informed me of it, and offered me a choice as to the type of award. Evidently, the writer of the published item construed it as a fund donated by me, which is not the case.

Naturally, I was greatly pleased with this expression of respect and goodwill on the part of the Executive Committee and I am sorry this act of generosity was not understood. I hope the above explanation leaves no doubt as to where the credit belongs.

The reason this correction was not made earlier was that when the publication arrived on my desk, I laid it aside for later perusal, and only read it in the last few days.

MARTIN VAN COUVERING

Boy, am I glad the PPG Newsletter didn't make the mistake. That is the only one we haven't made.

planned an exciting tour and luncheon aboard the beautiful Queen Mary. There will be something new this year in the form of an environmental seminar where the ladies will hear excellent speakers and participate in interesting field trips to learn more about ecology, energy, and the petroleum industry's positive approach to protecting the environment. As always, the hospitality room will provide a welcome place for meeting friends and relaxing.

Don't forget the Icebreaker Cocktail Party and the fun Neptune's Ball and Hunt Breakfast, and don't forget Disneyland, and Knott's Berry Farm, and Japanese Deer Farm and Movieland Wax Museum and the sun and the blue sky and . . . and . . . and . . . don't forget, conventions are *fun* for ladies!

SCHEDULE OF LADIES CONVENTION FUNCTIONS

Registration:

Disneyland Hotel, Marina Tower
 Saturday, May 12—
 10:00 AM— 4:00 PM
 Sunday, May 13—
 10:00 AM— 6:00 PM
 Monday, May 14—
 8:00 AM— 5:00 PM
 Tuesday, May 15—
 8:00 AM—12:00 noon
Hospitality Room:
 Disneyland Hotel, Marina Tower, Palm Court
 Sunday, May 13—
 10:00 AM— 4:00 PM
 Monday, May 14—
 8:00 AM— 6:00 PM
 Tuesday, May 15—
 8:00 AM— 5:00 PM
 Wednesday, May 16—
 8:00 AM—12:00 noon

Queen Mary Tour and Luncheon:

Monday, May 14, 9:00 AM - 4:00 PM
 Buses load 9:00 AM, Disneyland Ho-

tel, Marina Tower
 Tours of Ship at your convenience
 Luncheon, 12:00 noon, Queen Mary
 Grand Salon
 Buses load at Queen Mary 2:45 PM
 Buses Depart for Disneyland Hotel
 3:00 PM

Environmental Seminar:

Tuesday, May 15, Disneyland Hotel
 8:00 AM— 4:30 PM
 Complimentary Continental Breakfast
 8:00 - 8:45 AM—Magnolia Room
 Keynote Address — 9:00 AM — Em-
 bassy Room
 Workshops
 Luncheon — Magnolia Room
 Buses for environmental tours leave
 Disneyland Hotel — 1:30 PM
 return to Hotel — 4:30 PM

SEPM

(From Page 8)

Deep Water Diagenesis includes talks on various phases of diagenesis and pore water chemistry; including four papers which discuss deep marine diagenesis.

Don Zenger of Pomona College is the prime mover for the Special Session on Dolomitization; the papers include both recent and ancient examples. There are two Carbonate sessions; the Wednesday morning session is entitled Ancient Carbonate and Evaporites and is concerned mainly with basin studies and reservoir rock evaluation which should appeal to those in the oil game.

The Wednesday afternoon session is called Carbonate Sedimentology and includes papers on sedimentation, stratigraphy and diagenesis of carbonates ranging in age from Cambrian to Recent.

JOHN R. CASTANO
 SEPM Technical Program
 Chairman

NEWSLETTER

Pacific Section A.A.P.G.

P.O. Box 17486 Foy Station
 Los Angeles, California 90017



NEWSLETTER

of the Pacific Section
American Association of Petroleum Geologists

VOLUME 27

MAY, 1973

NUMBER 5

CONVENTION AWARDS

Gordon I. Atwater, New Orleans consulting geologist, will receive the highly prized Sidney Powers Memorial Medal at the Awards Banquet to be held during the annual convention of the American Association of Petroleum Geologists in Anaheim, Cal., May 14-16.

Announcement of plans for presentation of this and other awards was made by AAPG President James E. Wilson.

Senior member of the geological consulting firm of Atwater, Cowan, Carter, Miller, and Hefner, Atwater is widely recognized as an authority on the salt domes, petroleum reservoirs, and geology of South Louisiana and the offshore areas of the Gulf of Mexico. He has authored many scientific papers and has been active in AAPG affairs for many years.

The Sidney Powers Memorial Award, represented by a gold medal, is named for a pioneer geologist who did much to establish petroleum geology as a recognized profession. It is the highest award the AAPG bestows.

The Human Needs award, a new honor first given last year, will go to Hollis D. Hedberg of Princeton University, Princeton, N.J., in recognition of his work in teaching students to find energy resources needed to fill human needs.

AAPG will bestow honorary memberships on six veteran members who have made outstanding contributions to the profession of geology. They are Carl E. Branson, University of Oklahoma, Norman, Okla.; William H. Curry, Jr., consultant and past president of AAPG, Casper, Wyo.; Norman L. Falcon, British Petroleum Co., Surrey, England; George R. Gibson, consultant, Midland, Tex.; John C. Hazzard, consultant, Los Angeles, Cal.; and Robert M. Kleinpell, University of California, Berkeley, Cal.

The annual Public Service Award will be presented to Ian Campbell of San Francisco, in recognition of a lifetime of distinguished public service, including California State Geologist and a member of the faculty of the California Institute of Technology.

Two members will receive Distinguished Service plaques for their special contributions to the AAPG: Leslie Bowling, New Orleans consultant; and John D. Haun of the Colorado School of Mines, Golden.

A special award for Lunar Geological Exploration — the first and perhaps the last for some time — will be given to member Harrison (Jack) H. Schmitt, geologist-astronaut of the crew of Apollo 17, who will be one of the featured speakers at the Anaheim convention.

George C. Matson trophies will be presented to Harry E. Cook III, University of California, Riverside, Cal., and to R. P. Nixon, Mobil Research & Development Co., Dallas, Texas, in recognition of the outstanding nature of papers which they presented at the 1972 Annual Convention held in Denver, Col. The President's Award will be given to Mason L. Hill in recognition of the paper judged to be the best published by the Association during 1971.

The 57th annual meeting of AAPG will be held at Anaheim, Cal., in conjunction with the Society of Economic Paleontologists and Mineralogists and the Pacific Section of the Society of Exploration Geophysicists. About 3,000 are expected to attend.

Pacific Section

SPRING FUNCTION

The Pacific Section A.A.P.G. is now firming up plans for its Annual Spring B.B.Q., Golf Tourney and Field Trip to be held Friday, June 1, 1973, under the Chairmanship of John Eke, Texaco. A formal announcement and request for reservations will be mailed to all Pacific Section members in the near future. As now planned:

B.B.Q.—

To be held at Valencia Golf Driving Range, Golden State Freeway (Hwy. 99-Interstate 5) and Magic Mountain Parkway, located on east side of highway behind Ranch House Inn. Snacks start at

(Continued on Page 3)

Northern California

I was really surprised to receive the April Newsletter and find that the editor didn't receive any report from Northern California. The correspondent must have been asleep under a tree or else we had little news to report. If we had sent in a report you wouldn't have had space for it anyway. Your No. 4

(Continued on Page 2)

WELCOME TO ANAHEIM

There is an amusing story which ends, "Once a year, and tonight's the night!" It may also be said of national AAPG conventions, "Once every five years on the Pacific Coast, and May 14, 1973 in Anaheim is the date!" A more lugubrious remark in view of recent attrition among geologists might be, "Let's make the last one on the Coast the best one!"

For better and not for worse the Pacific Section of AAPG is delighted to play the role of host for the 58th Annual Meeting of AAPG, the 47th Annual Meeting of SEPM and the Annual Meeting of the Pacific Section of SEG. We urge all readers of this newsletter to attend and thereby prevent a financial disaster. In return for their attendance I and Art Weller promise them abundant rewards.

The theme of the meeting is "Major Discoveries in Hostile Environments"—the Pacific Palisades somehow escaped notice. Otherwise, there is something in the meeting for everyone, including environmental information for the ladies. With any luck even Mickey Mouse may provide light entertainment.

Will you please be in Anaheim May 14-16, 1973.

ARTHUR O. SPAULDING,
President
Pacific Section, AAPG

MOUNT WHITNEY

Northern California . . .

(From Page 1)

was loaded! (*Are you sure your editor wasn't loaded?*)

Here are some items for May and June.

The Northern California Geological Society is planning to hold its annual meeting and election of officers on Tuesday, May 22, at the Leopard Cafe at 140 Front Street, San Francisco. Although a speaker is planned there are no details at present and the name and topic will be announced later. Plan to be there by 11:30 A.M. to meet old friends and luncheon will be served promptly at 12 noon.

* * *

President Bob Carter recently appointed a Public Service Committee consisting of the following members:

Alice R. Fyten — Chairperson

Ralph B. Kraetsch, Jr.

David Bushnell

Deane Oberst - Lehn

This committee held its first meeting in March and are planning and developing programs in the public interest.

1. The committee is eager to have observers and alternates to represent the Society at the three Northern California Coastal Zone Conservation Commission meetings and County Planning Commissions.
2. A statement (after study) about the new Dumbarton Bridge will be forthcoming.
3. Any Society member who is interested in participating as observer and/or study may contact A. Fyten, 3479 Ross Road, Palo Alto 94303.

* * *

The Northern California Geological Society will hold its June meeting on Tuesday, June 5 at the Leopard Cafe, at 140 Front Street in San Francisco. Meet at 11:30 A.M. for a drink before the noon lunch. The speaker will be Wendell Duffield of the USGS and the title of his talk is "Plate tectonics on an active lava column", with movies and slides.

* * *

A number of members of our Society are involved in planning and preparation for the Circum-Pacific Energy and Mineral Resources Conference to be held in Honolulu, Hawaii, on August 26 - 30, 1974. The Conference will be jointly sponsored by The American Association of Petroleum Geologists (AAPG) and The Committee for Coordination of Joint Prospecting for Mineral Resources in Asian Offshore Areas (CCOP). More information will be forthcoming.

J. H. SAWYER

Josua Dwight Whitney wouldn't buy Muir's thesis that the Yosemite Valleys and the rest of the California Sierra were carved by glaciers. California's highest mountain peak, 14,495.881', was named for this first Director of the Geological Survey of California in 1864 by Clarence King of the Brewer Survey party.

Rearing its hunched back only a few feet above its towering neighbors, Mts. Williamson, Tyndall, Langley, Muir and Russell, this massive chunk of Mesozoic granite with its pink flutes and chimneys carved into steep rubble-strewn slopes was first climbed by white men 100 years ago this coming Aug. 19.

John Muir climbed the mountain, the crown of his "Range of Light" two months later.

A stone's throw away—almost straight down the 8,000 foot scarp—is Whitney Portal on the East side, but eleven miles by steep trail. The peak in recent years has become a Mecca for hiking enthusiasts. On summer weekends, the excellent trail often resembles the disorganized mayhem along a high-school hallway between classes; it can be traversed — up and down — in a long day.

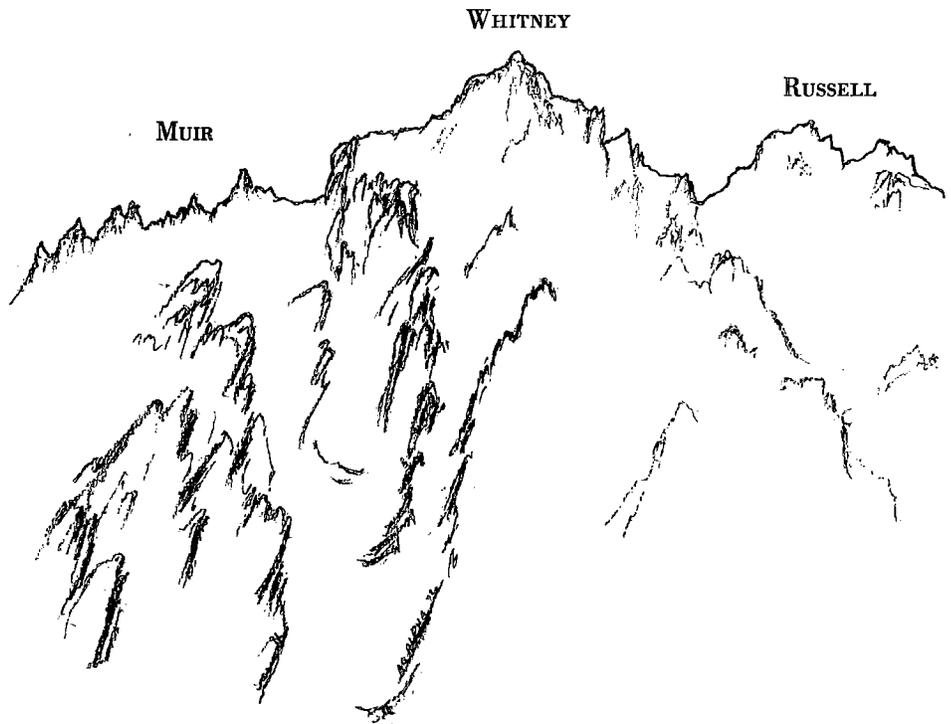
Whitney is the uppermost block of the Sierra Batholith thrust out of the Owens Valley and mingles with other fragments of an ancient peneplane surface showing westward tilting.

Mount Whitney Patrol Station at upper Crabtree meadows nestling among dwarf *Pinus balforiana* near timberline at an elevation of 10,720', is one of the country's highest Park Ranger Stations, only eight miles away by trail on the west side.

Geologist Clarence King thought he had climbed Whitney in June 1871, but he had climbed Mt. Langley instead and was not the first to do so.

The government originally reserved, but did not utilize Mt. Whitney for weather observations. It was later used as a base for solar radiation and Mars spectrum studies; the stone hut which still stands on the summit was built in 1909 by Langley of the Smithsonian. In 1919, a radiation study was made of the earth's atmosphere by Angstrom.

Lake Tahoe was originally named Bigler Lake so it's not surprising that three sophisticated Owens Valley anglers who first climbed Whitney in 1873 called it "Fishermans Peak".



Sketch by A. Alpha

Pacific Section

(From Page 1)

4:30 P.M. with the main B.B.Q. at 6:30 P.M. Total cost for this event will be \$5.75. An open bar, game room and raffle will also be available.

Golf—

Starting times from 9:00 A.M., to 12:00 Noon at Championship Valencia Course. A \$6.00/person fee includes all golf, beer, and Gross/Net prizes. Arrangements for foursomes included in the mail-out.

Field Trip—

An informal, narrated trip by deluxe bus is planned to traverse the Ridge Basin and Basement Complex north of Valencia and to tour some of the State and L. A. City facilities of the California Water Project. The trip will depart from the Valencia Driving Range area (same as B.B.Q.) at 9:00 A.M. sharp with registration beforehand. A fee of about \$6.00 will include lunch, beer, trip and road log. The trip will return in time for the B.B.Q.

Any Questions? Contact Mr. Dave Pasta, C/o Texaco, Inc., 3460 Wilshire Blvd., Los Angeles 90010. Telephone: (213) 380-5830.

Coast

NO REPORT.

PACIFIC SECTION — AMERICAN ASSOCIATION PETROLEUM GEOLOGISTS EXECUTIVE COMMITTEE

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Recommended Reading..... LUCY E. BIRDSALL
NEWSLETTER of the Pacific Section—American Association Petroleum Geologists is published monthly by the Pacific Section.

Material for Publication and requests for previous copies should be addressed to STANLEY E. KARP—GEOLOGY DEPT., BAKERSFIELD COLLEGE, BAKERSFIELD, CALIF. 93305.
Material received by the 15th of each month will be included in the following issue.

CHANGE OF ADDRESS, subscription and membership inquiries should be directed to MEMBERSHIP SECRETARY, PACIFIC SECTION AAPG, P. O. Box 17486, FOY STATION, Los Angeles, Ca. 90017.

Circum-Pacific Map Project

CIRCUM-PACIFIC ENERGY AND MINERAL RESOURCES CONFERENCE

Honolulu, Hawaii
August 26-30, 1974
MICHEL T. HALBOUTY
General Chairman

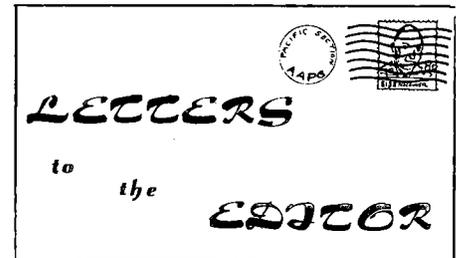
Geologic, mineral, and energy resources maps of the Pacific region are to be compiled under a project being organized by the American Association of Petroleum Geologists. The map project will be carried out in connection with a Circum-Pacific Energy and Mineral Resources Conference to be held in Honolulu in August, 1974, which will be sponsored jointly by the AAPG and the Committee for Coordination of Joint Prospecting for Mineral Resources in Asian Offshore Areas.

The Circum-Pacific map project will be one of the largest cooperative map projects ever attempted. It will cover more than half the earth, extending from Malaysia and Thailand on the West to the Andes Mountains on the East, and from the Arctic Circle south to the edge of Antarctica. It will involve the cooperation of national and international organizations throughout the Pacific region, and the collective efforts of a large number of scientists, research institutions, and companies in the Pacific countries. More than 35 countries are within the region to be covered by these maps.

Purpose of the project, which will require several years of cooperative work, is to bring together in a single, integrated series of maps the latest information on geological features, mineral, geothermal, and hydrocarbon resources of the Pacific region. In doing so, the AAPG and cooperating organizations hope to better integrate the geologic structures on land with those newly-discovered beneath the ocean through offshore research; to relate the known mineral and energy resources to these structures; and to show possible targets for future exploration. Major resources such as copper and tin districts in the Andes Mountains and Southeast Asia; the iron in Australia; the oil and gas fields in Indonesia; and the geothermal fields in New Zealand, Indonesia, the Philippines, Taiwan, Japan, and California will be shown in relation to major geologic structures both onshore and beneath the Pacific. Major zones of volcanic and earthquake activity will also be shown.

The Circum-Pacific countries have some of the world's most productive mineral and energy resources, but also some of the world's most destructive

earthquakes and volcanoes. Through the compilation of these maps the AAPG hopes to encourage more research on problems of the inter-relation between the Pacific region's resources and the deformation of the earth's crust as exemplified by the major belts of volcanic and earthquake activity encircling the Pacific. It is also hoped that the compilation of these maps, together with the Circum-Pacific Conference itself, will help foster closer cooperation between all organizations and earth scientists in the Circum-Pacific countries in efforts to find, explore, and develop resources for the benefit of the entire world.



Dear Mr. Karp:

Mike Rector and Pete Gardett are to be commended for the employment tips in recent issues of the Newsletter, but a word of caution is suggested in seeking a job with a national oil company such as in Libya or Algeria.

Gross salary offering may sound attractive and lure the unwary. Behind this enticing facade is, more often than not, a much higher living cost if you want to live like you do at home. It's all too easy to get in an income tax cross-fire between the United States and the other country. Some countries restrict the amount of money you export. Schooling can be most expensive. The management is generally composed of political appointees who are expert in taking full credit for all technical achievements and gratefully reward the foreign technical personnel with the blame for their mistakes. And that's what you are — a foreign technician. You are hired and thought of in the same way you would hire a janitor or ditch digger. You will be under surveillance, investigated for CIA connections and have all the social acceptance of a wetback.

Still, foreign work is a great experience. I recommend to any geologist who still has some adventure left in his system that he give it a try. Just protect your financial flanks and concentrate on rat-holing a nest egg during a two or three year contract rather than going as a conquering hero.

Best regards,

ANTHONY E. L. MORRIS

Executive Committee Meeting

The Executive Committee held its monthly meeting on March 16, 1973 in Room 1005, City Hall, Los Angeles, California.

The Treasurer's Report noted that \$122 was received in dues. It was agreed that a notice of dues with a clipout coupon be put in the Newsletter in addition to the notice mailed with the ballot as was done last year.

ANAHEIM MEETING

A. Weller, Chairman of the National Convention in Anaheim, reported that arrangements are progressing satisfactorily. It appears that the convention should be a success with about 3,000 attendees. Exhibit sales are greater than were anticipated in the budget. All special events appear to be in good shape in terms of preregistration.

SPRING PICNIC

J. Eke, Chairman of the spring picnic, reported that golf will be at the Valencia course; tee off will be between 9:00 a.m. and 12:00 noon on Friday, June 1, 1973. The fee will be \$6.50. There will be beer at the 6th and 13th holes. (*Do you expect us to go from the 6th to the 13th without Beer? That's cruel.*)

J. Eke reported on the field trip for J. Maytum, Chairman. The trip will be a geological excursion of the Castaic Basin and the Department of Water Resources aqueduct facilities. Cost will be \$6.00, which will include bus and lunch. There will not be a guidebook this year, but a road log will be published and there will be handouts from the Department of Water Resources. Time is from 9:00 a.m. to 5:00 p.m.

There are still some problems surrounding the barbecue. The committee wants to hold it at the Valencia Golf Course on the driving range rather than the clubhouse, which is considered too sedate for geologists; however, in the event of inclement weather, the clubhouse will be available. Cost of the barbecue will be between \$5.00 and \$5.50, including hors d'oeuvres and beer. Contributions will be solicited only from service companies.

COMMITTEE REPORTS

Activities

Sig Hamann has been appointed the new Activities Committee Chairman, replacing J. Durrie.

Membership

R. Lindblom, Chairman, has completed a membership profile of about 1,550 individuals, which covers sex, age, resi-

dence, and employment. The report basically showed that most members are in the 40-50-year age group, are male, and work for major oil companies. It is hoped that this data will be useful in finding new members. A. Weller proposed that the profile be published in the Newsletter.

Legislative

D. Allen reported that there will probably be a continuing education bill introduced, and that the profession should arrive at some workable program that would protect the members from unreasonable restrictions on their activities. A discussion concerning various systems ensued. J. Benzley handed out a questionnaire which was prepared for the San Joaquin Geological Society to determine their feelings on this problem. J. Curran agreed with the concept of the questionnaire and felt it should be sent out to other member societies. D. Allen reported that they are looking into the possibility of hiring a lobbyist to look after our legislative interests.

Planning and Organization

J. Curran reported that the student membership campaign is going well and they have received 12 applications for junior or student membership. He also reported that the committee is looking at a number of changes that would assure the Pacific Section remaining a viable organization serving its members. Among these are:

- (1) Going to a president-elect system, which would require a constitutional amendment.
- (2) Establish a two-year term for the Treasurer as, for tax purposes we are on a calendar year, but for business on a fiscal year.
- (3) Prepare an operations manual, outlining the duties of all officers, committees, and explanations of the various awards. He recommended that all officers give him some information on what they consider their jobs to be.

President Spaulding reported that he has checked into the concept of issuing certificates of service to officers, including all past officers. He proposed to buy 500 certificates in two colors and requested an authorization to spend up to \$300 for this purpose. A motion was made and passed to that effect.

Publications

President Spaulding reported that there was a very poor response to the preprint request for the 1973 convention. There was discussion as to whether or not we should publish in spite of this poor showing. It was the consensus that we will print those that we receive, and we will notify all authors that we will do so.

AFFILIATED SOCIETY REPORTS

R. Hindle of the Coast Geological So-

ciety reported that they have been inviting students to their dinner meetings; they received a good response. They have an all-out effort to get paid-up members, and in a recent campaign received dues from 57 recalcitrant members.

W. Hunter reported that the Los Angeles Basin Geological Society was also trying to get student members; 9 or 10 came to the last dinner meeting as guests of the Society.

R. McLennon, with SEPM, reported that their membership is up, particularly due to their awarding student memberships, and that they had contacted colleges for recommendations for deserving students; 18 memberships were granted last year, they expect to limit it to 10 this year. They are planning a field trip in the fall that will examine the Cretaceous section of the Simi Hills.

T. Baer, reporting for the National Committee, said that they had voted down a dues increase this year, but the Association will run a deficit of \$40,000. Management is trying to cut expenses; one suggestion was to hold the national convention every other year. The publication program is to put out about four books per year, but although they are moving well, the printing cost is going up. He further felt that a dues increase next year is probable.

1974 SAN DIEGO MEETING

J. Minch, Chairman for the San Diego meeting, reported that all his committees are essentially filled and that progress is satisfactory. He reported that the location of the field trip has not been definitely decided, but they are considering a trip to El Rosario in Baja California. This is now possible as a good road has been constructed. The trip would afford an excellent opportunity to review the marine and nonmarine Cretaceous section. Ideally, the field trip should take two days because of the four to five hours driving time. This will be worked out later. J. Groom wanted to know if the SEG is going to be invited to participate in San Diego, and he was assured that they will be.

A motion authorizing the Pacific Section to issue preprints for the San Diego convention for AAPG, SEPM, and SEG was passed.

Alaska

NO REPORT.

Northwest

NO REPORT.

CALENDAR for May

S	M	T	W	T	F	S
		1	2	3	4	5

- 1 NOON LECTURE SERIES. USC. Stauffer Science Lecture Hall 100. John Crowell, U.C. Santa Barbara. "Ice Ages Through Time."
- 3 COAST GEOLOGICAL SOCIETY. Luncheon. Hong Kong Inn, Ventura.
- 4-5 SOUTHERN CALIFORNIA ACADEMY OF SCIENCES. Cal. State Long Beach. Symposia — Urban Geological Problems.
- 7 GEOLOGY SPEAKERS FORUM. Cal. State Univ., Los Angeles. 4 p.m. Physical Science 158. Dr. Ivan Colburn, Cal. State Univ., Los Angeles, "Cretaceous Basins In Southern California".
- 7 NOON LECTURE SERIES. USC Stauffer Science Hall 100. Dr. Fritz Steininger, University of Vienna. "Geological Reconnaissance of Austria."
- 8 SAN JOAQUIN GEOLOGICAL SOCIETY. American Legion Hall. John Mathews, Supervisor of D.O. G. "Legislation Concerning the Petroleum Industry."
- 8 NOON LECTURE SERIES. USC. Stauffer Science Hall 100. Dr. Fritz Steininger "Geology of Austrian Gas and Oilfields."
- 10 NOON LECTURE SERIES. USC Stauffer Science Lecture Hall 100. Cuchlaine A. M. King, SUNY, Bing-hamton, "Coastal Process Models."
- 10 COAST GEOLOGICAL SOCIETY. Luncheon, Olde Timer, Ventura.
- 12-18 AAPG NATIONAL CONVENTION — Anaheim, Calif.
- 12 SHORT COURSE — "Turbidites & Deep Water Sedimentation Processes." SEPM.
- 13 * SHORT COURSE — "Diagenis In Organic Sediments" — AAPG.
- * FIELD TRIP — AAPG Trip #1— Metropolitan Oil Fields and Their Environmental Impact.
- * FIELD TRIP — SEPM Trip #1— "Miocene Sedimentary Environments and Bio Facies, Southeastern Los Angeles Basin."
- * FIELD TRIP — SEG Trip #1 — "Seismicity of the Los Angeles Basin."
- 14-16 TECHNICAL PAPERS — AAPG, SEPM, SEG. WOMENS ACTIVITIES.
- 17-18 * FIELD TRIP — AAPG Trip #2 — "Imperial Valley, Regional Geology and Geothermal Exploration."
- * FIELD TRIP — AAPG Trip #3

"Santa Barbara Channel Region Revisited."

* FIELD TRIP — SEPM Trip #2 "Sedimentary Facies Changes in Tertiary Rocks, California Transverse and Southern Coast Ranges."

- 21 GEOLOGY SPEAKERS FORUM. California State University, Los Angeles. 4 p.m. Physical Science 158. Dr. Konrad Krauskopf, Stanford Univ. (Topic to be announced).
- 22 NOON LECTURE SERIES. USC Stauffer Science Lecture Hall 100. F. A. F. Berry, Geology and Geophysics, U.C. Berkeley. "Origins of Abnormal Pore Fluid Pressures."
- 22 NORTHERN CALIFORNIA GEOLOGICAL SOCIETY. Luncheon. 140 Front Street, San Francisco.

June

S	M	T	W	T	F	S
					1	2

- 5 NORTHERN CALIFORNIA GEOLOGICAL SOCIETY. Luncheon. 140 Front Street, San Francisco. Wendell Duffield, USGS, "Plate Tectonics On An Active Lava Column".

Martin Van Covering Award

We are pleased to announce the recipients of the Martin Van Covering Award for 1973. The six geology majors have been chosen as worthy of financial support to attend the convention at Anaheim. We hope other societies will establish similar awards.

UCLA
Philip G. Behrman
1672 Colby Avenue
Los Angeles, Ca. 90025
Kenneth S. Shay
500 Landfair Ave., B-17
Los Angeles, Ca. 90024

USC
John E. Johnston
11609 E. Dorlan
Whittier, Ca. 90501
David E. Lincoln
11713 Arlee Ave.
Norwalk, Ca. 90650

CAL STATE NORTHRIDGE
William C. Richmond
Cal State University
Northridge, Ca. 91324
Richard R. Redfern
Cal State University
Northridge, Ca. 91324

Los Angeles

The following students were guests of the oil industry at the last Los Angeles Basin Geological Society luncheon at Roger Young Auditorium:

CALIFORNIA STATE, Fullerton
Sally Widhelm
Don Schaefer
Tim Welch
Noel Henderson

USC
Doug Poole
Terry Shackelford
Valerie Schmitt
Warren Everson

UCLA
Gordon Moir
Roy Budnik
Ken Crawford

The oil company hosts were Texaco, Exxon, Shell, Signal, Standard, Mobil, and Union.

* * *

There will be no meeting of the LABGS in May. Another barbeque is tentatively planned for July. A geological talk and entertainment in keeping with the stature of this outstanding social event will be provided. Jim Groom, Craig White and Duncan Robinson may lead a group to the Bull Pen after the talk for those geologists requiring more variety with their evenings entertainment. Even a few Union Oil Paleontologists might rise to the occasion and tag along.

* * *

Many thanks to Shell Oil for hosting the LABGS's first barbeque of the year at the Standard Oil Northam Station, La Mirada. Mr. Don Lande, Engineer for California D.O.G., was received most graciously and gave a fine paper on Geothermal Resources of California.

(How about an abstract, Tom?)
TOM W. REDIN

Did You Know . . .

At the recent AAPG convention in Denver, Paul H. Dudley, Jr., a geologist now director of public relations for Humble Oil & Refining Co., urged geologists as individuals, at least, to take a more active part in public affairs affecting the petroleum industry.

The current popular wave of action to protect the environment is stopping petroleum exploration in many areas of the United States, he pointed out. By backing the oil industry's campaign to educate the public of an impending energy gap, geologists can improve the industry's credibility by lending it their scientific standing and at the same time protect opportunities to practice their profession, Dudley said.

GEOLOGICAL REVIEWS

DECOLLEMENT BLOCKS OF THE EASTERN VENTURA BASIN*

BY PAUL SIEMON

Continental Oil Company, Ventura

The area discussed is some 30 miles east of Ventura, south and east of the town of Piru. The decollement blocks are located on either side of the Santa Clara River.

The Santa Clara depositional trough is a major depositional basin that probably originated during late Miocene and continued subsiding throughout the Pliocene and Pleistocene. Deposition continued during subsidence at a rapid rate with large volumes of shale, sands and conglomerates. This can be demonstrated by the 10,000 feet thickness of Pliocene section within the trough compared with 1,000 feet outside and adjacent to this trough on the south. Pleistocene nonmarine sands and conglomerates that interfinger into a marine section westward total another 10,000 feet. This subsiding trough is bounded on the north and south by large faults that formed the boundaries during deposition. Essentially then, the basin is a graben, not a syncline, with continual relative downward movement during deposition. After deposition of the Pleistocene, north-south compressive forces changed the bounding faults, the Oakridge on the south and the San Cayetano on the north, from primarily passive depositional faults into active reverse and thrust faults.

This review of the geological history of the Santa Clara troughs sets the stage so that during the late Pleistocene or early recent time the decollement blocks under discussion were activated. The geologically recent compressive activity would cause extreme topographic relief and high angle attitudes of the sediments, along with considerable fracturing and dislocation.

On the south side of the Santa Clara Valley, south of the town of Piru, there is one large detachment block and two smaller areas which will be referred to as the Eureka Decollement and one large area on the north side of the Santa Clara Valley, east of Piru, the Camulos Decollement. On all previous maps, the beds within these blocks were considered to be overturned and attached to the formations at depth. This interpretation of the geology would indicate the formations are not overturned and dip directly opposite to the regional dip. When topographic relief becomes oversteepen-

ed by one process or another, a block of sediments is detached by the force of gravity and slumps valleyward with a rotational movement which results in the block dipping in the opposite direction.

Faulting has always been interpreted along the high edge of the blocks because of the discordance of beds across it. This is the position of maximum displacement of a detached block. Subsequent normal erosion has eliminated all evidence of escarpments of cliffs developed by the giant slumping with the final effect of younger beds preserved valleyward from and adjacent to older beds.

Wells within the old Eureka Field indicate dips of approximately 35° to the south at their total depth which is the same as at the surface. Deeper tests indicate an abrupt change of dip to 75° and 80° below the field depth. Consequently the field probably is completely within the giant slump block.

Application of this interpretation results in considerable changes in the eastward projections of the San Cayetano and Oakridge Faults. The San Cayetano Fault would not extend eastward into the hills east of Piru as that break would be the upper edge of the Camulos detachment block. The Oakridge Fault surface trace does not arc into Wiley Canyon area and would not extend into the hills adjacent to the Torrey Canyon Field, for these surface expressions would be the upper edges of the Eureka decollement block. The so-called Smith Canyon Fault, that has been mapped north of the Eureka Canyon Field is not an Oakridge type but the lower expression of the leading edge of the Eureka decollement fault.

Thus a minor geologic incident can mask and lead to an erroneous interpretation of a major geologic event. This demonstrates that there is still considerable study required before we can interpret correctly all the geologic structure and stratigraphy of California. It also follows, then, if major changes can be made even in the interpretation of areal geologic attitudes, prospects for new oil and gas fields are still good.

*Presented to the San Joaquin Geological Society April 10, 1973.

San Joaquin

Paul Sieman's (Connoco, Ventura) talk to the S.J.G.S. was well attended and received. Don't miss it when it is given again. The abstract is in the Newsletter. Hy Seiden supplied an extra bottle to make it four for the drawing. John Dean, engineer with Getty Oil, won again. Keep this up and we

won't be able to keep engineers away.

Chuck Edwards did a FANTASTIC job with the prime rib. Aided by the consultants to set up, and Jerry Willey (Union) and Ron Waddell (Tenneco) in the kitchen, the Society produced another gourmet dinner of the month. Next month steak.

For those of you who are members and receive this newsletter, this is a reminder that your friends in geophysics and engineering might be interested in becoming subscribing members of the Pacific Section. Membership in the AAPG is not required to receive the newsletter and notices of meetings, golf tournaments, B.B.Q.'s, field trips, and other meetings of interest. They can send \$5.00 for a subscribing membership to the Membership Secretary, Pacific Section AAPG, Box 17486 Foy Station, Los Angeles, CA 90017. Two dollars of that membership comes back to the local society.

* * *

Thinking over Don Taylor's talk on the deep tests and production in the San Joaquin Valley, the question comes up as to what is the shallowest producing well in the San Joaquin Valley, or the State for that matter. If you know, send the name to Harold Sugden, Getty Oil Company, Route 1, Box 197X, Bakersfield, CA 93308. It should have casing. I'll publish the data when I get it; sorry no prizes.

* * *

New officers in the San Joaquin Geological Society are:

President—
Ben Leverett, Consultant

Vice-President—
Don Taylor, Tenneco

Secretary—
Bob Morrison, Oxy

Treasurer—
Don Reynolds, Union

Pacific Section Representative—
Jack Cage of Gulf

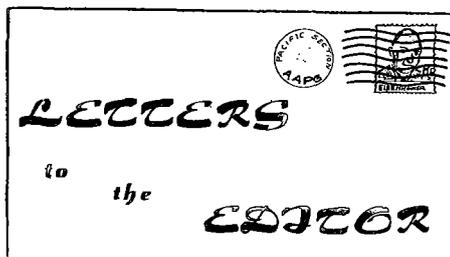
* * *

The S.J.G.S. May 8 meeting will feature John Mathews, Supervisor of the Division of Oil and Gas, who will speak on legislation concerning the oil industry.

* * *

In keeping with the Los Angeles Basin Geological Society, the San Joaquin Society hosted Allen Waggoner, geology major at Bakersfield College at their last meeting. Allen was the first recipient of the Martin Van Couvering Award last fall.

HAROLD SUGDEN



Editor: Newsletter

The following, or a portion thereof, might fill a corner in some future thin volume.

1. A mass of concreted earthy material perenially rotating on its axis will not accumulate an accretion of byrophytic vegetation.

2. A superabundance of talent skill-ed in the preparation of gastronomic concoctions will impair the quality of a certain potable solution made by im-mersing a gallinaceous bird in ebullient Adam's ale.

3. Individuals who perforce are con-strained to be domiciled in vitreous structures of patent fragibility should on no account employ petrous forma-tions as projectiles.

4. The prudent aves which matutin-ally desert the coziness of its abode will ensnare a vermiculate creature.

5. Everything that coruscates with effulgence is not ipso facto ayrous.

6. Do not dissipate your competence by hebetudinous prodigality lest you subsequently lament an exiguous inad-equacy.

7. An addle-pated beetlehead and his special divaricate with startling prema-turity.

8. It can be of no other than a fale-ficient horizontally propelled current of gaseous matter whose portentous advent is not the harbinger of a modicum of beneficence.

9. One should hyperasthetically exer-cise macrography upon that situs which one will eventually tennant if one prop-els oneself into the troposphere.

10. Aberration is the hallmark of homo sapiens while longanimous placa-bility and condonation are the indicia of supermundane obniscience.

11. When one unintentionally allows dissolution and dispersion of lactiferous fluids, it should not engender lachryma-tory activity.

12. Gambolation and riantation will be rampant among the verminity when the resident filidea is in absenteni.

13. An unused mace will result in a vitiated scion.

14. If one is afflicted with thermas-thesia one should never enter the cook-ery.

15. Ted when sol glitters.

16. If one's locus is equidistant from the aqua-terra interface one should ne-ver attempt to make an equine transmi-gration.

17. Employing lucifers as trinkets will result in singed digits.

18. One may maintain an ennead by affecting an exigent dehiscent cloture via a picot.

19. The significance of an awi resi-dent near ones terminal physiological entity denotes a merit the equivalent of a duad around the bosk.

20. Only animate invalidation com-bined with an impost can be considered to be indubitable conclusions on the third planet.

21. In order to conform to homo sa-piens aspirations of physical agility, na-bobness, and sagacity, one should be couchant betimes, and likewise be ala-critous in matutinal activity.

22. A strepitant rundle obtains pe-trolic unctious.

PS: My typing is enough to make an editor atrabilious.

BOB HACKER

LEE McFARLAND

Boy, youse guys sure got away with words.

RECOMMENDED READING

U. S. GEOLOGICAL SURVEY

Professional Paper 420-C: Geology and oil resources of the western Puente Hills area, southern California, by R. F. Yerkes\$3.10

Professional Paper 655-G: Channel changes of the Gila River in Safford Valley, Ariz., 1846-1970, by D. E. Burkham\$2.00

Professional Paper 787: The Borrego Mountain earthquake of April 9, 1968\$6.25

Professional Paper 800-A: Geological Survey Research, 1972, Chapter A\$3.25

Professional Paper 817: Summary pe-troleum and selected mineral statistics for 120 countries, including offshore areas, by J. P. Albers, M. D. Carter, A. L. Clark, B. Coury, and S. P. Schweinfurth\$2.10

Bulletin 1314-G : Cadmium in plants, by H. T. Shacklette 40c

Bulletin 1559: Geology and mineral re-sources of the northern part of the North Cascades National Park, Wash., by M. H. Staatz, R. W. Tabor, P. L. Weis, J. F. Robertson, R. M. Van Noy and E. C. Pattee.

Circular 670: Fluvial-sediment dis-charge to the oceans from the con-terminous United States, by W. F. Cur-tis, J. K. Culbertson and E. B. Chase. 17 pagesFree

MAPS

MF 430: Solid-waste disposal in the San Francisco Bay region, Calif., by Joseph Goss 50c

MF 433: Metallic mineral resources map of the Craig quadrangle, Alaska, compiled by E. H. Cobb 50c

MF 446: Metallic mineral resources map of the Unalaska quadrangle, Alaska, compiled by E. H. Cobb 50c
GEOLOGICAL SOCIETY OF AMERI-CA BULLETIN, vol. 84, no. 1, January 1973

Sediment distribution in the oceans: The Atlantic, by Maurice Ewing, George Carpenter, Charles Windisch and John Ewing

Granitic rocks of the White Mountains area, California-Nevada: Age and re-gional significance, by Dwight F. Crowder, Edwin H. McKee, Donald C. Ross, and Konrad B. Krauskopf

Tectonic elements of the northern part of the Gulf of California by Thomas L. Henyey and James L. Bischoff

GEOLOGICAL SOCIETY OF AMERI-CA BULLETIN, vol. 84, no. 2, February 1973

Chemical variation related to the strati-graphy of the Columbia River Basalt, by Thomas L. Wright, Maurice J. Grolier, and Donald A. Swanson

Lead and Strontium isotopic studies in the Cascade Mountains: Bearing on andesite genesis, by S. E. Church and G. R. Tilton

Ironside Mountains, Oregon: A Late Tertiary volcanic and structural enigma, by T. P. Thayer and C. Ervin Brown

Steady plate motion and episodic oro-geny and magmatism, by James Gil-luly

Thermal and mineral waters of non-meteoritic origin, California Coast Ranges, by Donald E. White, Ivan Barnes and James O'Neil

Space-time relations of pelagic lime-stones and volcanic rocks, Olympic Peninsula, Washington, by Robert E. Garrison

Cretaceous continental margin sedimen-tation, Southwestern Alaska, by J. Casey Moore

Rate and direction of spreading in Dixie Valley, Basin and Range Province, Nevada, by George A. Thompson and Dennis B. Burke

Sedimentary structures in base-surge de-posits with special reference to cross-bedding, Ubehebe Craters, Death Val-ley, California, by Bruce M. Crowe and Richard V. Fisher

Pinnacles-Neenach correlation: A re-striction for models of the origin of the Transverse Ranges and the big bend in the San Andreas Fault, by Vincent Matthews III

GEOLOGICAL SOCIETY OF AMERI-CA BULLETIN, vol. 84, no. 3, March 1973

Age and Environment of allochthonous peat clasts from the Bogachiel River Valley, Washington, by Caliv J. Heu-ser

(Continued on Page 8)

Recommended Reading

(From Page 7)

Equatorial Pacific, Leg 16, Deep Sea Core from a Cretaceous basalt, Central Drilling Project, by Robert S. Yeats, Warren C. Forbes, Kenneth F. Scheidegger, G. Ross Heath, and T. H. van Andel

Crustose coralline algae: A re-evaluation of the geological sciences, by W. H. Adey and I. G. Macintyre

Evidence for Quaternary movement on the McKinley Strand of the Denali Fault in the Delta River area, Alaska, by J. H. Stout, J. B. Brady, F. Weber and R. A. Page

La Nacion Fault system, San Diego, California, by Ernest R. Artim and Charles J. Pinckney

WASHINGTON DEPARTMENT OF NATURAL RESOURCES

Bulletin 65: Distribution of Copper and other metals in gully sediments of part of Okanogan County, Washington by Kenneth F. Fox, Jr. and C. Dean Rinehart\$2.00

Bulletin 64: Geology and mineral deposits of the Loomis quadrangle, Okanogan County, Washington, by C. Dean Rinehart and Kenneth F. Fox, Jr.\$4.00

THE ORE BIN, vol 35, no. 2, February 1973

The mineral industry and the environment, by John D. Beaulieu

CALIFORNIA GEOLOGY, vol. 26, no. 2, February 1973

Sea-cliff erosion at Sunset Cliffs, San Diego, by Michael P. Kennedy.

Earthquakes and faults affecting Sacramento, by J. F. Meehan

LUCY E. BIRDSALL

Recommended Reading

U. S. GEOLOGICAL SURVEY

Professional Paper 440-N-1: Data of geochemistry, sixth edition, Michael Fleischer, technical editor.

Chapter N: Chemistry of igneous rocks—Part 1: The chemistry of the peralkaline oversaturated obsidians, by Ray MacDonald, and D. K. Bailey 75¢

Professional Paper 582-C: Transverse digestion of solutes in natural streams, by Nobuhiro Yotsukur and E. D. Cobb 55¢

Professional Paper 710: Jasperoid in the United States—Its characteristics, origin, and economic significance, by T. G. Lovering\$1.75

Professional Paper 746: Cenozoic rocks of the Santa Rita Mountains, southeast of Tucson, Ariz., by Harold Drewes\$1.50

Professional Paper 800-D: Geological Survey Research 1972, Chapter D\$4.50

MAPS

GQ 979: Geologic map of the McCarthy C-6 quadrangle, Alaska by E. M. MacKevett, Jr. 1972\$1.00

MF 429: Geologic map of Late Cenozoic deposits, Alameda County, California, by E. J. Helley, K. R. Lajoie, and D. B. Burke 50¢

MF 481: Generalized geologic map of the Carlin, Dixie Flats, Pine Valley, and Robinson Mountain quadrangles, Elko and Eureka Counties, Nev., by J. F. Smith, Jr. and K. B. Ketner 50¢

The following MF maps (on Alaska) are priced at 50¢/copy, and are Metallic mineral resources maps, on a scale of 1:250,000, compiled by E. H.

Cobb.

MF 454: Ambler River

MF 455: Bethel

MF 467: Bristol Bay

MF 457: Chandalar

MF 458: Hughes

MF 459: Karluk

MF 460: Kodiak

MF 461: Mount Katmai

MF 462: Mt. Michelson

MF 463: Nome

MF 464: Port Alexander

MF 465: Saint Lawrence

MF 466: Seward

MF 467: Sitka

MF 468: Trinity Islands

MF 469: Wiseman

MF 470: Afognak

U. S. BUREAU OF MINES

IC 8557: Offshore petroleum studies.

Historical and estimated future hydrocarbon production from U. S. Offshore areas and the impact on the onshore segment of the petroleum industry, by L. K. Weaver, C. J. Jirik and H. F. Pierce. 1972. 168 pp. (GPO—Stock No. 2404—01205, priced at \$1.75).

JOURNAL OF GEOLOGY, vol. 81, no. 1, January 1973

Three-dimensional beach changes, by Choule J. Sonu

NATIONAL GEOGRAPHIC MAGAZINE, vol. 143, no. 1, January 1973

This changing earth, by Samuel W. Mathews

California's San Andreas Fault, by Thomas Y. Canby, and James P. Blair

 **Sacramento**

NO REPORT.

NEWSLETTER

Pacific Section A.A.P.G.

P.O. Box 17486 Foy Station

Los Angeles, California 90017



NEWSLETTER

of the Pacific Section
American Association of Petroleum Geologists

VOLUME 27

JUNE - JULY, 1973

NUMBERS 6 - 7

HAROLD SULLWOLD ISSUE

While thumbing thru past issues of the Pacific Petroleum Geologist I was impressed by the number of cartoons that had been printed. A quick count showed that in the twenty seven year history of the PPG, Harold Sullwold had submitted more than 90 sketches. His first cartoon appeared in the December 1948 issue (Vol. 2, No. 12). Andy Cline first made his way into our hearts in September 1949, and who among us does not have a complete empathy with Sully's hero?

This year we mark Sully's twenty fifth year of association with the Pacific Petroleum Geologist. We wish to express our deep appreciation for his many contributions by dedicating this issue to HAROLD H. SULLWOLD JR.

They laughed when Sully sat down to sketch and they have continued laughing ever since, when ever one of his works appeared in the *Pacific Petroleum Geologist*. Sully really did not set out to be the world's foremost geological cartoonist — at least I don't think that was his intention — it just came out that way. I am told that we are about to be treated with a republication of some of his past gems and also told that I should write a kind introduction (intraducement?), which, of course is not needed because you all know him and have seen some of his artistic efforts, but not as many lately as you would have liked, because I have known him a long time and would be presumed to know some nice things to say about him and would say them with an air of plausibility. (Now, while you are unraveling that sentence, I will be thinking of what next to say.

Sully started his professional career (geological, not Cartooning) as my assistant at Wilshire Oil Company in Los Angeles. The fact that this company is no longer in existence and can't sue gives me a certain freedom of expression in explaining how it came about that Sully's hero, Andy Cline, is portrayed as the overworked, underpaid, misunderstood, unlucky, unappreciated

type of geologist. In other words, he is somewhat autobiographical, and is drawn from experience as well as with a pen. At least starting as my assistant and working for my boss at Wilshire Oil Company gave a good sound basic position for a start; there was no place to go but up. Down had already been fully achieved.

And so up Sully did go. He went to the U.S.G.S. for a few years, mostly in New Mexico, then to Ross Cabeen, where by dint of ferretting out some new oil patches among the old, he joined the select group of carried interest operators and royalty owners. Membership in this club permitted him to go back to U.C. L.A. for a PhD and to continue on there teaching the course in Petroleum Geology (this course has been replaced by the new one in Ecofreakology). He rose high in doing Helicopter-bourne Geology for Sunray in Alaska and finally became one of the Associates in the firm of George Roth and Associates. There he sketched out a few more discoveries and is now at last semi-retiring. This semi-retiring means that you only get work which is very difficult, pays poorly, is inconvenient, and no one else will do.

While doing all of the above listed things, as well as a number I have forgotten to mention or didn't know about, Sully took time to do a great deal for the Pacific Section and AAPG in general. He was Vice-President of the Section in 1952 and was Chairman of Field Trips for the National Convention in 1958. He also lent a hand here and there when and where it was needed. He was practically "Dougraxlerian" in this respect. And not the least, he furnished the many cartoons that enlivened the newsletter.

I took great pleasure in writing this unneeded introduction and I am sure that all of you join me in wishing that Sully would resume his cartooning career.

FRANK S. PARKER
May 6, 1973

I'll drink to that.

EDITORS REPORT

It's that time for a change. After two years and 22 issues, it seems appropriate to turn over the reins of editor to someone else. I have no idea who he (or she) will be, but I hope he will not be restricted by his previous editor. If he wishes to change the name or format, more power to him. My fervent wish is that he does not adopt the policy "This is the way we did it last year."

In reviewing the past two years, I have a feeling of pride and frustration. I wish we could have continued the series — "Accent the Positive". Eight "Accents" hardly seem adequate for an industry that has worked so hard to meet the needs of our nation. Several companies and government agencies promised to submit articles, but failed to do so. The "change of address stamps" will be discontinued and the new Membership Directory will become obsolete the day it is printed. Many of our profession's activities went unnoticed because chairmen failed to keep us informed in time for publication. College lectures, meetings, barbeques (Pyles Boys Camp) were ignored because we were not informed by the chairman or interested members.

(Continued on Page 2)

EXAMINATION SCHEDULE

Examinations will be given by The California State Board of Registration for Geologists as follows:

REGISTRATION

October 12, 1973

CERTIFICATION ON ENGINEERING GEOLOGIST

October 13, 1973

FINAL FILING DATE

JULY 16, 1973

Editor's Report . . .

(From Page 1)

Twenty abstracts of talks were printed but many more will be lost to the members for various reasons. It's been five months since we received a change of address, and we all know that is not normal.

On the positive side, the Newsletter is becoming the voice of the members. The ten "Guest Editorials", gave the officers an opportunity to reach every member of the Pacific Section. The 48 "Letters to the Editor" allowed the members to speak back — even if most of them noted the mistakes in the Newsletter. The questionnaire (now a year old) will finally bear fruit and the Newsletter can respond to the wishes of the Pacific Section.

Putting the Newsletter together is like cooking a roast, the finished product doesn't reflect the work that goes into it. What you read in the Newsletter, is for the most part, what you the members contribute. Letters, abstracts, recommended reading and sectional news was written and submitted by the Associate Editors and the members at large. I do very little with the reports. When you ask some one to do a job, you don't change his efforts to suit your own interests.

In the past two years, we have printed 22 issues (160 pages) plus seven pages of stamps. This could not have been accomplished without the efforts of the following dedicated people. ROD COLVIN and TOM REDIN made all but one issue, keeping us posted on that most active area — the Los Angeles Basin. LFON EARNEST and HAROLD SUGDEN kept us knowledgeable about the action in the San Joaquin Valley. Sacramento Valley news, although sparse at times, was well reported by ROLAND BAIN and their new president TERRY PLUMB. HERB SAWYER did a voemans job covering the far flung activities in the Bay Area. WFLDON RAU volunteered his services

to the Newsletter reporting about an area that has long been ignored — the great Northwest. DICK STEWART, who faithfully submitted reports and abstracts, occasionally missed the deadline. It's not his fault — we get better mail service from Alaska than we do from Ventura. Speaking of Alaska, DICK ATCHISON'S "TEXANESE" reports were enjoyed by all if not completely understood.

LUCY BIRDSALL, bless her, faithfully made every issue with her "Selected Reading". We ran out of space on several issues and deleted Lucys selec-

tions, but she accepted this with grace.

No one but DICK HESTER and I will ever know the amount of work and support that he gave to the Newsletter. If I live to be a hundred, I will never be able to repay him. The actual layout of each issue was performed by Hunter Printing of Bakersfield. Their super professional touch put it all together. So now my confession is complete. Being editor is not much of a job when others do the work.

Well, that's thirty. Whatever that means.

ED KARP

MT. SHASTA

Northern California's Fire mountain emerges from a softly sculptured 4000' lava plain to stand in solitary grandeur, a colossal snow and ice-clad cone 14162' high.

Shasta anchors the northern end of Muir's "Range of Light". Ice, snow and rain-fed waters seep into the light volcanic flanks and McCloud River emerges swiftly in full force as the Big Spring of the Sacramento River.

Pit River, McCloud and Modoc Indians all held the giant mountain in great awe but inhabited many of the lower lava-tube natural caves.

Geologically youthful in age, Shasta is still boiling with internal forces. Studies of trees have dated the most recent flow activity to be 150 years ago.

The lonely austere mountain is often

pounded by sudden thunderous winter storms which add weight to its perennial glacires but softens in summertime to abound in lush greenery and blossoms tended by a tremendous local bee population.

Timberline is near 9000' and roamed by many Bighorn, *Ovis montana*, Cuvier most of whom are born around the 12000' Alpine zone. Vegetation surrounds the mountain in great erratic patches subject to water, protection, sun warmth and root bedding conditions.

Using past history as a guideline, there is no doubt that sometime in the near future activity will resume along this California portion of the Circumpacific Volcanic Belt. Vineyards, gardens and homes are sprinkled around Shasta's flanks, waiting.



MT. SHASTA

**Northern
California**

NO REPORT.

Northwest

NO REPORT.

1972 QUESTIONNAIRE REVISITED

The Pacific Petroleum Geologist of September, 1972 carried the results of the questionnaire which had been submitted earlier to all members of the Pacific Section. The purpose of the questionnaire was to develop trends and reactions to various issues which may be popular or of concern to the geologic community and to permit the Section to be more responsive to its members.

Several questions were answered by overwhelming response, overwhelming being defined as in excess of 67%. It is the view of the Executive Committee that those measures which have received such acclaim should be implemented before they are forgotten.

The final tabulation of the following questions was prepared by John F. Curran, to whom the project had been assigned, and here are the results:

- (1) Would you favor the establishment of a "Speakers' Bureau" — a list of speakers who would be available to Clubs, Scouts, etc. for the purpose of "popularizing" Geology?
YES — 232; NO — 31
- (2) Would you favor a Pacific Section Distinguished Lecture Tour for the Western States? Papers would be of Regional interest and receive financial support from the Pacific Section.
YES — 169; NO — 79

- (3) Should the Pacific Section work toward improved employment practices?
YES — 170; NO — 72
- (4) Should the Pacific Section work toward improving the environment?
YES — 183; NO — 65
- (5) Would you favor a "Want Ad" column for Positions Wanted, Positions Available, etc?
YES — 177; NO — 66
- (6) Would you object to "Limited" advertisements in the Newsletter to help defray printing and mailing costs?
YES — 45; NO — 207

The implementation of these projects remains largely with the members of the Pacific Section. In the case of No. 1 above, through the medium of the Newsletter we are soliciting a list of speakers who would be interested in carrying out this mandate. The same is true with respect to Question No. 2. If the Pacific Section should devote its energies toward improved employment practices, our impression is that it's in trouble, as that is rightfully the province of other organizations, and, in our opinion, such efforts are calculated to antagonize those who are presently fond of the Pacific Section, namely members of the oil industry. The comment of one respondent in this connection is pertinent:

"How in hell could this be worked out unless the Pacific Section enlisted Caesar Chavez to work for them."

It should be noted that the Pacific Section has invariably been at work trying to improve our environment, and, in fact, two years ago the Section organized a new committee for this purpose. Although that committee was very diligent in pursuing its activities, the net results of its work amounted to virtually nothing. According to the Executive Committee's view a commitment to environmental improvement is inherent in the Section's activities, and unless there is a more specific reaction to this comment, the Section will continue to proclaim its environmental consciousness. Another respondent's comment is germane:

"What kind of reputation would the Pacific Section have if it worked towards destroying the environment?"

With regard to Questions No. 5 and 6, there appears to be no reason why the Newsletter should not commence immediately to include space for positions wanted, situations available and advertising. In fact, on the basis of our experience in recent months, the inclusion of such advertising would have provid-

ed the means for disposing of a number of employment inquiries which in its absence were given special treatment.

Would the membership kindly respond with offers of help and advice to questions 1 through 4, and we'll commence the advertising as soon as rates are determined.

ARTHUR O. SPAULDING,
President
Pacific Section, AAPG



This coming Fall, Bakersfield College will offer *Petroleum Geology* on Monday evenings, 7-10 p.m. The course is designed to prepare students for employment in the Petroleum and allied industries. The content would be especially helpful to exploration and production secretaries, draftsmen and field personnel wanting a better understanding of how oil structures are explored, formed and produced. This two unit course will be taught by Ed Karp, Bakersfield College Geology Dept.

HAROLD SUGDEN

Base Price On A Cow?

When a midwestern farmer went into the local town and bought himself a new car, he was considerably put out by the way the salesman kept adding cost to cost to cost.

When, a few weeks later on a bright spring morning the salesman showed up at the farmer's farm all eager to buy himself a new cow, the farmer took a stubby pencil, a large sheet of paper, and a lot of time to draw up a bill of sale.

What he presented to the salesman ran something like this. Basic cow, two hundred dollars. Two-tone exterior, forty-five dollars. Extra stomach, seventy-five dollars. Product storage compartment, sixty dollars. Dispensing device, four spigots at ten dollars apiece, forty dollars. Genuine cowhide upholstery, one hundred and twenty-five dollars. Automatic flyswatter, thirty-five dollars. Dual horns, fifteen dollars. Total, five hundred and ninety-five dollars.

The salesman was so put out by all this that he promptly changed his mind about buying that cow.

Lifted from "The Labor Journal", August, 1972, issue.

PACIFIC SECTION — AMERICAN ASSOCIATION PETROLEUM GEOLOGISTS EXECUTIVE COMMITTEE

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 Los Angeles.....TOM W. REDIN (213) 482-7600
 Northern California.....J. H. SAWYER (415) 948-8977
 Northwest.....WELDON W. RAU (206) 753-6183
 Sacramento.....TERRY PLUMB (916) 482-6457
 San Joaquin.....HAROLD SUGDEN (805) 399-2961
 Recommended Reading.....LUCY E. BIRDSALL

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

Material for Publication and requests for previous copies should be addressed to STANLEY E. KARP—GEOLOGY DEPT., BAKERSFIELD COLLEGE, BAKERSFIELD, CALIF. 93305.

Material received by the 15th of each month will be included in the following issue.

CHANGE OF ADDRESS, subscription and membership inquiries should be directed to MEMBERSHIP SECRETARY, PACIFIC SECTION AAPG, P. O. Box 17486, FOY STATION, Los Angeles, Ca. 90017.

MEMBERSHIP REPORT

"As I've indicated in earlier columns, I believe the Pacific Section of AAPG is only as strong as its membership. At meetings around the country, I've had the ominous impression that the Section gets older every year and that its strength is ebbing.

"When Bob Lindblom volunteered on his membership renewal card to work for the Section in any capacity, I told him I wanted a searching study of the membership to confirm or deny my impression.

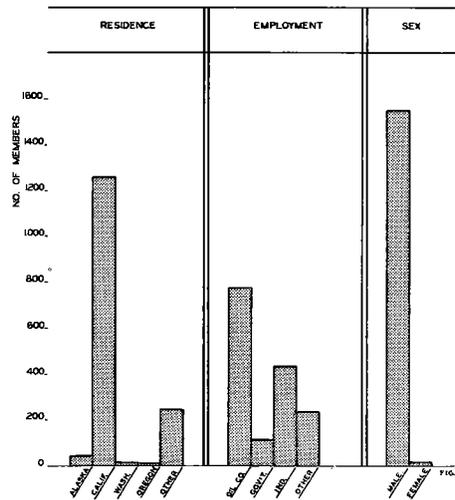
"Look at Bob's work done with Bill Hunter and Bruce Barron, and draw your own conclusions. When those of my vintage are phased out, the Pacific Section will have lost as much as one fourth of its members."

ARTHUR O. SPAULDING,
President,
Pacific Section, AAPG

REPORT OF THE MEMBERSHIP COMMITTEE PACIFIC SECTION, AAPG June 1973

Shortly after Arthur O. Spaulding was elected president of the Pacific Section of AAPG, he indicated that his primary concern was for the membership of the organization. Subsequently he invited the Membership Committee to prepare a profile of the Section's membership as a means for making recommendations for increasing the Section's numbers with special emphasis upon the community of younger geologists.

The first job of the membership committee was to relate the membership to predetermined parameters. What follows below is a rather terse summary of



the Committee's investigation.

The two figures which accompany this report display the fabric of the membership — age, employment, residence, and sex. We have used as sources of data the membership directory of the Section, National AAPG lists and the rolls of local geological societies. Altogether 1575 names were studied.

The Committee has drawn the following conclusions:

(1) The Section will face significant problems in future years as the large percentage (54%) of current members in the age group, 40-50, retires or leaves the profession. (See Figure 1.) Only 16% of the membership is made up of members younger than 40 years of age. Thus if the present trend is not radically changed, the Section may evolve into a small luncheon society;

(2) Aside from the prominent number of members in the 40-50 age group, the profile does not show other anomalous features although it is noteworthy that 15% of the membership lives outside of the four Western states. (See Figure 2.) We attribute the latter statistic to the fact that many geologists may have lived in the four Western states at one time and for the sake of communication have maintained their memberships. There is also the possibility that others may be interested in the activities of the Pacific Section as a consequence of our vitality;

(3) The employment profile shows that 77% of the membership work either for an oil company or are independently employed. The balance is made up primarily of the teaching profession;

(4) Ninety-nine percent (99%)

of our members are men. There appears to be substantial opportunity for feminine achievement and expansion.

The Committee makes the following recommendations:

- (1) A concerted effort must be made to increase membership in the Pacific Section in order to offset the impact of the eventual retirement and departure of the age group now between 40 and 50;
- (2) The management of companies employing geologists must be encouraged to promote the fortunes of local and national AAPG organizations especially through the medium of membership;
- (3) The Pacific Section and its activities must be constantly re-examined so that they provide continuing appeal to the membership;
- (4) A program should be devised to encourage Pacific Section members to take an active part in the Section's affairs. This means accepting committee appointments and elective offices and participating in Section's events of all kinds.

A final report by the Membership Committee will be submitted to the President by the end of June.

R. G. LINDBLOM,
Chairman,
Membership Committee
W. J. HUNTER,
Member,
Membership Committee
B. BARRON,
Member,
Membership Committee

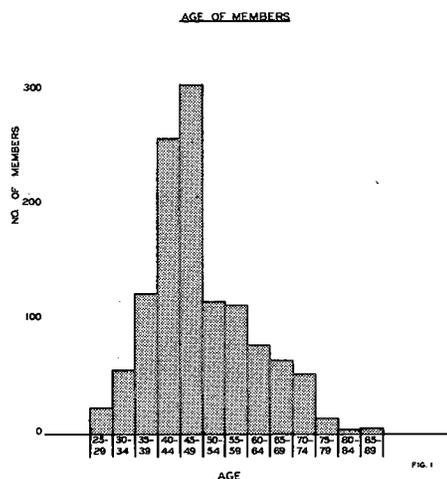
CALENDAR for June

S	M	T	W	T	F	S
					1	2
5	NORTHERN CALIFORNIA GEOLOGICAL SOCIETY. Luncheon. 140 Front Street, San Francisco. Wendell Duffield, USGS, "Plate Tectonics On An Active Lava Column".					
8	SACRAMENTO PETROLEUM ASSOC. Golf Tournament & Barbecue. Yolo Fliers Club in Woodland.					
20	LOS ANGELES BASIN GEOLOGICAL SOCIETY. Noon Luncheon. Holly C. Wagner, USGS, Menlo Park, "Geologic Reconnaissance of the Santa Maria Basin."					

July

S	M	T	W	T	F	S
1	2	3	4	5	6	7
1-31 GONE FISHIN'.						

PACIFIC SECTION A.A.P.G.
MEMBERSHIP PROFILE
MARCH 1973 R.G.L., W.J.H. & B.B.



The Coast Society did not have a meeting in May due to the AAPG National. June's speaker is Art Spaulding. He will speak on June 12 on "The Impact of Proposition 20 on the Oil Industry". It all will happen at the Admiral's Table, Ventura; cost \$5.50 per person for a steak dinner. Make reservations by contacting either Al Hanson in Ventura at (805) 643-2154 or John Curran in Santa Barbara at (805) 965-8055. Happy hour is at 6:00 p.m., dinner at 7:00 p.m.

Our March speaker was Mr. Don Lande of the Geothermal Unit of the California Division of Oil and Gas. He spoke on Geothermal Resources.

Geothermal power sources currently account for 0.5% of power generation deliverability in California. This is projected to grow to 8% by 1985. Use of fossil fuels for this purpose, currently at 63%, will decrease. Hydroelectric power, currently at 24% will grow. Other current sources of power include nuclear (1.5%) and imported hydroelectric and fossil fuel-derived power (11%).

Many major geothermal areas are near continental plate boundaries; examples are the west coast of the United States, Iceland, Japan and the Philippines. Areas of geologically recent volcanism are frequently geothermally active also.

In California, geothermal activity has been noted near Glass Mountain, Surprise Valley (which has been drilled), Mono and Long Valleys (also drilled), The Imperial Valley (drilled), The Geysers (producing) and the Sespe Hot-Springs. The latter is inaccessible due to the fact that Condors and drilling are supposedly not compatible.

Geothermal areas are frequently noted on gravity maps since the presence of deep-seated magmatic rocks near the surface will tend to create a gravity anomaly. This is particularly true in the Salton Sea area. However, steam was discovered there in a well drilled for oil and perf'd into a steam zone. Since then, between one and two dozen wells have been drilled in the area. Most were drilled during World War II as a source of CO₂. Wells in the area are very high in dissolved salt content: as much as 300,000 ppm. Some wells drilled since World War II have been for salt. Most wells in the area can be made to flow, either by swabbing or by bubbling in nitrogen. One such well is intermittantly flowed and calcium chloride water recovered and sold.

Recent prospecting in the area has been carried on by the University of California, utilizing a small rig. A hole is drilled from 200 to 1,000 ft. deep, casing is run, and a temperature survey taken. Anomalies in temperature gradients are noted and contoured. The normal gradient of 1° per 100 ft. elsewhere can be contrasted to gradients in the Salton Sea area of as much as 10° per 100 ft. A number of previously unknown gradient highs have been found in the area from this work and similar work conducted by the Bureau of Reclamation and the D.O.G.

Dry steam, such as that produced at the Geysers, can be used directly to run a turbine generator. The steam is then passed through a condenser, and the condensate re-injected. In localities where hot brine water is also produced, the steam is separated before being passed to the turbine. The condensate is then reunited with the brine and injected. The above systems are characterized as open systems, as a certain amount of steam is vented to the air.

The "closed system" being developed by Magma Power Co. involves a heat exchanger, which transfers the energy to an isobutane system which runs the turbines. The steam and water are directly re-injected.

For any development of steam resources in the Imperial Valley, subsidence is a major worry. With surface gradients of as little as 1 foot per mile, any subsidence could not only disrupt drainage and the water distribution system, but cause inundation of certain areas. The whole area has been intensely surveyed and a series of bench marks established to enable detection of any early signs of subsidence.

The Bureau of Reclamation has plans to establish steam plants for power generation in the Imperial Valley. The tail water will be de-salted and piped into the Colorado River to improve its salinity (about which the Mexicans have recently complained).

At the Geysers, between 10 and 15 wells supply steam to each generating plant, which produces about 110 mw. of power. Plants have been completed at the rate of about one per year. By 1980, power output is expected to total 1,000 mw. which is enough to supply San Francisco.

Depletion studies at the Geysers have been made, but results are generally not available. The Salton Sea area has reserves estimated to last 500 years.

Our thanks to Mr. Lande for a most interesting talk.

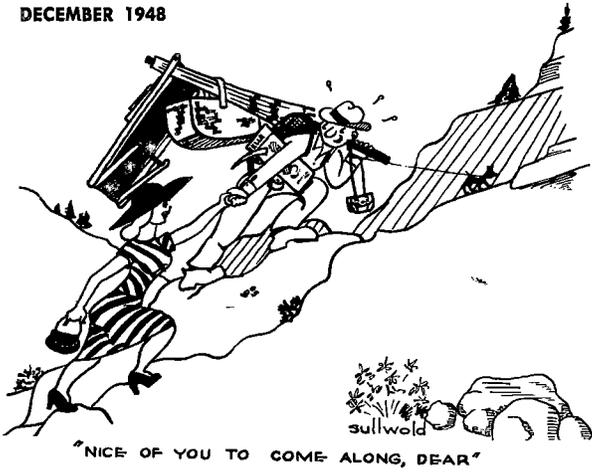
DICK STEWART

RECOMMENDED READING

U. S. GEOLOGICAL SURVEY
 Professional Paper 747: Pennsylvanian carbonates, paleoecology, and rugose colonial corals, north flank, eastern Brooks Range, arctic Alaska, by A. K. Armstrong\$1.00
 Professional Paper 771: Chemical composition of sedimentary rocks in Alaska, Idaho, Oregon, and Washington, compiled by T. P. Hill and M. A. Werner\$4.50
 Bulletin 1356: Placer gold deposits of Nevada, by M. G. Johnson\$2.00
 Bulletin 1362: Neogene marine mollusks of the Pacific coast of North America: an annotated bibliography, 1797-1969, by W. O. Addicott ..\$1.50
 Circular 601-H: Role of water in urban planning and management by W. J. Schneider, D. A. Rickert, and A. M. SpiekderFree
 Circular 673: Lithium in surficial materials of the conterminous United States and partial data on cadmium, by H. T. Shacklette, J. G. Boerngen, J. P. Cahill and R. L. RahillFree
 MAPS:
 I-810: Shaded relief map of Mars. 85¢
 MF 431: Map showing ranges in probable maximum well yield from water-bearing rocks in the San Francisco Bay region, Calif., by D. A. Webster 50¢
 MF 432: Map showing areas in the San Francisco Bay region where nitrate, boron, and dissolved solids in ground water may influence local or regional development, by D. A. Webster\$1.50
 MF 472: Geochemical map showing distribution and abundance of arsenic in silicified rocks, Goldfield mining district, Esmeralda and Nye Counties, Nev., by R. P. Ashley & W. J. Keith 50¢
 MF 473: Geochemical map showing distribution and abundance of bismuth in silicified rocks, Goldfield mining district, Esmeralda & Nye Counties, Nev., by R. P. Ashley and W. J. Keith 50¢
 MF 474: Geochemical map showing distribution and abundance of copper in silicified rocks, Goldfield mining district, Esmeralda & Nye Counties, Nev., by R. P. Ashley and W. J. Keith 50¢
 MF 475: Geochemical map showing distribution and abundance of gold in silicified rocks, Goldfield mining district, Esmeralda & Nye Counties, Nev., by R. P. Ashley and W. J. Keith 50¢
 MF 476: Geochemical map showing distribution and abundance of lead in si-

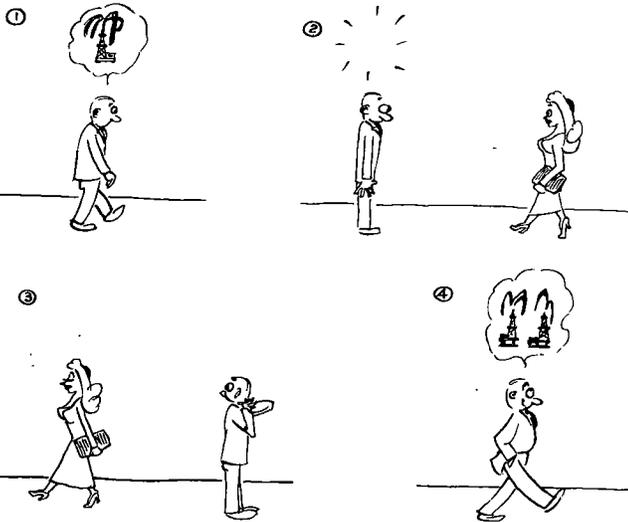
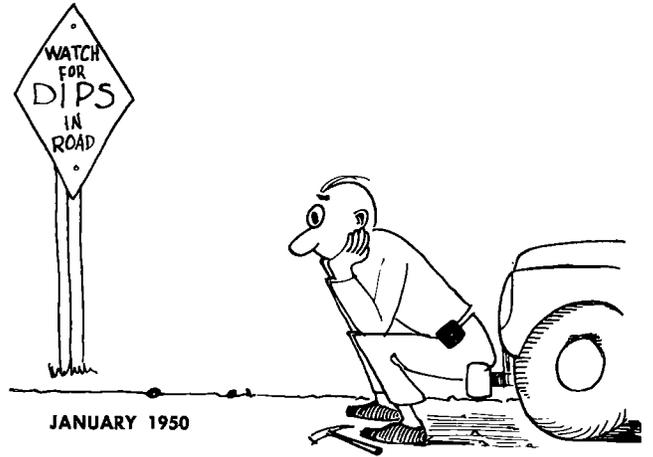
(Continued on Page 9)

DECEMBER 1948



ANDY CLINE

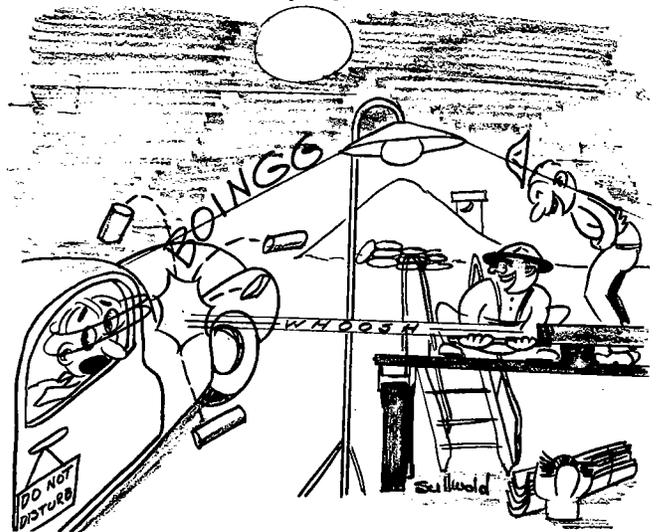
BY sullwold



ANDY CLINE- SEPTEMBER 1949 BY sullwold

ANDY CLINE

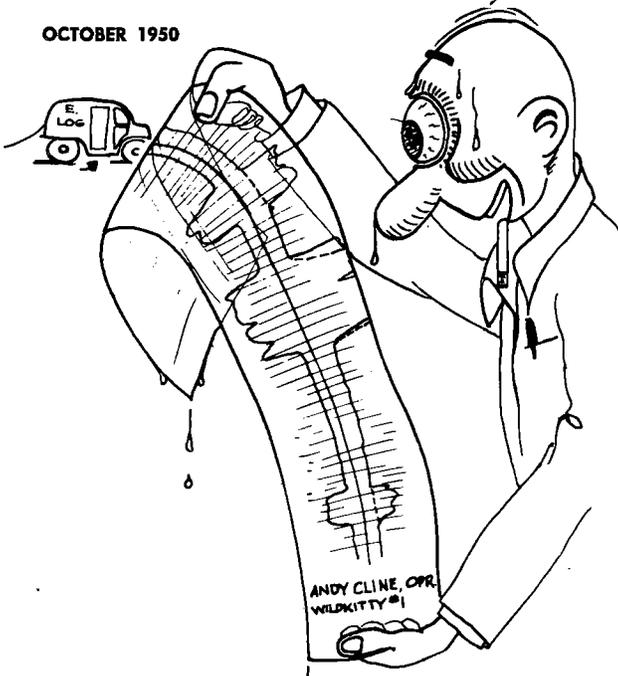
AUGUST 1951



ANDY CLINE

by sullwold

OCTOBER 1950



ANDY CLINE

by sullwold

MARCH 1952



ANDY CLINE by Sullwold DECEMBER 1951

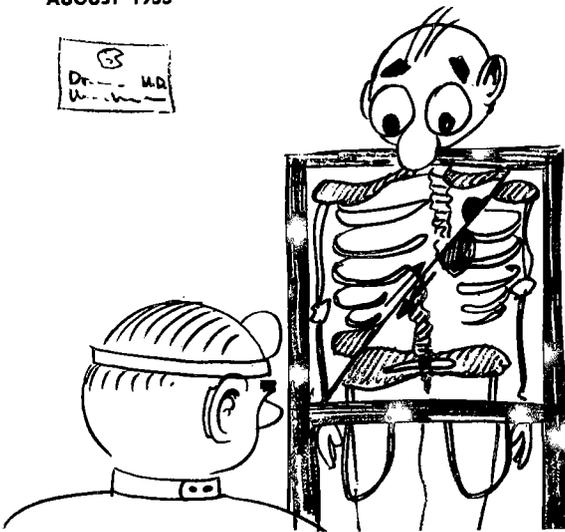


ANDY CLINE by Sullwold MAY 1956



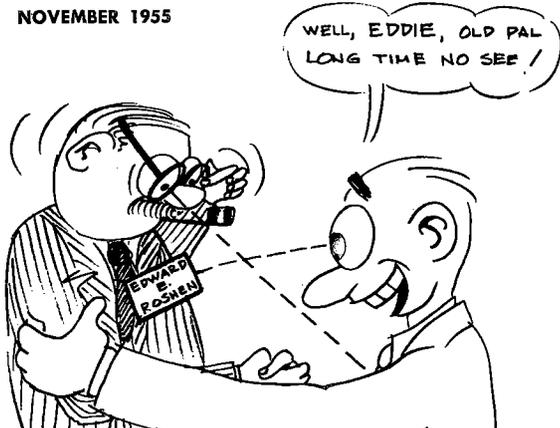
ANDY CLINE by Sullwold DECEMBER 1958

ANDY CLINE by Sullwold AUGUST 1955



ANDY CLINE by Sullwold JULY 1972

ANDY CLINE by Sullwold NOVEMBER 1955



CONVENTION - NOV. 10-11
 THANK GOD FOR THE NAME TAGS (THANKS TO MARY HUGHES, TOO)



Sacramento

Drilling activity in the Sacramento Valley appears to be on its way, and from all indications should continue through the summer months. Thirteen rigs are presently active in the valley. Geothermal activity is high also, with four rigs drilling in the Lake-Sonoma County area.

The Sacramento Petroleum Association will hold its weekly Wednesday meetings at *The Refectory*, 2989 Arden Way. The lunch and meeting will begin at the usual time — 12:30.

Sacramento was recently the meeting place for the Geothermal Short Course sponsored by the Geothermal Resources Council and the California Division of Oil and Gas. The meeting was held May 7-9, and the program consisted of a presentation of papers by noted individuals throughout the geothermal field. Plate Tectonics and Geothermal Provinces, Legal and Institutional Relationships, Field Performance and Well Life Expectancy, and Exploration Strategy were some of the topics presented. Approximately 170 people participated in the course, with representation from Hawaii to France.

The Sacramento Petroleum Association will hold its annual Golf Tournament and Barbecue Friday, June 8, 1973. The event will be held at the Yolo Fliers Club in Woodland. Costs include:

Green Fees	\$ 7.50
Cart	\$10.00
Dinner (steak)	\$ 6.50

(includes tax and tip)

TERRY PLUMB

Los Angeles

The following students were guests of the oil industry at the last Los Angeles Basin Geological Society luncheon at Roger Young Auditorium:

- Seth R. Davie — U.S.C.
- Robert Rice — U.S.C.
- Linda Seekims — U.S.C.
- Richard Redfern — Cal State University Northridge
- Bob Countryman — Cal State University Northridge
- Steven Van Wagoner — Cal State University Northridge

The oil company hosts were Texaco, Shell, Signal, Standard, Mobil and Union.

The results of the recent LABGS election of delegates to the National AAPG

House of Delegates are as follows:

Delegates 1974-75

- Bill Polski
- Howard Kinsey
- Bernard Pipkin

Alternate Delegates 1974-75

- Cortez Hoskins
- Butch Brown
- Bill Bedford

At noon on June 20, 1973, Roger Young Auditorium, the LABGS will have Holly C. Wagner, USGS Menlo Park, California as guest speaker. The title of his paper will be "Geologic Reconnaissance of the Santa Maria Basin." TOM W. REDIN

Alaska

Howdy Again Y'all:

And greetings from Alaska National Park, Environmental Capitol of the World, where the moose, goose, and caribou play and not much else is going on.

Sorry about the record string of "no reports" lately. Guess it was just an off year for writing as well as leasing, shooting, drilling and pipeline building. We Alaskans seem to be enjoying a gizzard full of chronic "Sierra Asproxmyelitis", which is an environmental malady causing the natural resource economy, men, and iron to go to rust. According to the mass media, the most profound qualifications to diagnose the problems and prescribe cures are to be a cheechako, domiciled in the social and environmental pollution-free area south of the 49th parallel and east of the Mississippi.

So much for the good news. Once again, and just a tad early, it is spring-time in Alaska . . . provincially known as breakup. This is when the ice and snow turns into mud and with any luck at all you find all of the canine calling cards piled around since October. Obviously those overlooked and downtrodden are the problem. Sort of a warmup hunt for the Easter season. Also during breakup the roads and streets vie for the Chuckhole of the Year Award, which is a gold plated bent shock absorber mounted on a busted spring. The streets between my house and town seem to be particularly competitive. According to most Alaskans the chuckholes are caused by frost heave, but one highway department high shot assures that they are caused by studded tires and that we should go back to putting on and taking off chains all winter. This should qualify him for honorary lifetime membership consideration in several progressive organizations.

Meanwhile back at the ranch, the Alaska Geological Society has been

meeting as usual on the 4th Thursday of the month at noon in the Anchorage Westward Hotel. We've had some good, interesting speakers over all, but less than the usual intellectual pugilistics. Probably everyone is saving up for the AGS 1973 Symposium September 18, 19 and 20. More about this later, but save those dates. The subject is "Resource Development and Environmental Conservation". Several outstanding speakers have already committed, unique field trips planned, and we've even arranged with the weatherman to have Fall that week. This promises to be a real brush-cutting, gully-washing downpour of controversy. And where else could you expect to learn more about the subject than in the Environmental Capitol of the World.

DICK E. ATCHISON
Alaska Associate Editor

NATIONAL

April 12, 1973

TO: Affiliated Society and Section
President, AAPG

FROM: Daniel A. Busch

RE: AAPG Committee Appointments
GENTLEMEN:

The 1973-74 fiscal year of AAPG activities begins July 1. One of the responsibilities of the President-Elect is to make numerous committee appointments prior to taking office. In making such appointments, it is my desire to:

1. Have a wide geographic spread
2. To appoint an appreciable number of the younger members of our Association.

In order to accomplish these two objectives, I am soliciting your suggestions of names of individuals from your Society or Section who, in your judgment, would be both capable and interested in serving. You might wish to solicit your Executive Board and/or membership at large for suggestions and possible volunteers.

This is one of a number of ways to make our national Association truly representative of the membership at large. Committee involvement, also, has been historically a means of maintaining a reservoir of potential officer candidates.

Would you kindly send me your suggestions of names, and possible committee preferences, by May 31. Appointments will be made shortly thereafter.

A copy of this letter also is being sent to the Society News Letter Editors with the thought that they might wish to publicize this call for volunteers.

DANIEL A. BUSCH
President-Elect

GEOLOGICAL REVIEWS

BASEMENT TECTONICS AND FOLD PATTERNS — KINEMATIC MODELS APPROACH

BY E. S. T. O'DRISCOLL

In the study of fold patterns in relation to basement tectonics, the experimental-model approach followed by Mead, Cloos and others has been elaborated in the development of relevant kinematic models. These models are displayed in motion and have the advantage of arbitrary mechanical reversibility, as well as the capability of showing the effects of deformational influences in both the "before" and "after" stages.

In the application of model results to field examples, the influence of transcurrent basement shearing is invoked to explain the development of extensively repetitive folding over large areas of layered rocks. Thus, pervasive shearing, rather than the application of external lateral stress at a distant point, produces the widely distributed deformation. In this context the kinematic models demonstrate "skin tectonics" and "wrinkle folds".

Various effects in fold patterns can be explained in terms of the varying ratio of horizontal to vertical movement in the shear systems. If the resistance of flexible layers to ductile compression is considered, it may be demonstrated that dilatational areas tend to develop at points of maximum flexure, particularly at crests and troughs of folds. Gravitational stress then augments crestal dilatations and depletes or prevents corresponding dilatations in troughs.

If differential movements occur unevenly within a wide zone of shearing, the effect will be *relative* reversals of movement (or of sheer sense) that would not necessarily involve any *actual* reversals in the direction of material movement relative to geographic coordinates. This circumstance would be analogous to the manner in which a body may undergo both positive and negative accelerations while maintaining positive velocity.

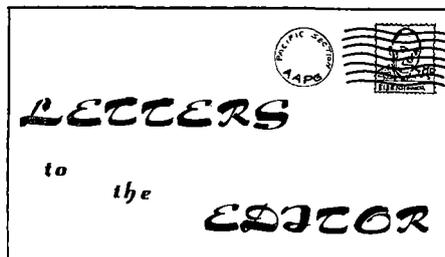
The effect of relative reversals of movement is equivalent to that of oscillatory shearing, for which the terms "forward" cycle and "reverse" cycle may be used to describe the *relative* differential movements. A succession of oscillations results in the superimposition of two approximately orthogonal deformation ellipsoids. The ellipsoid generated by the forward cycle maintains a degree of unrecovered strain on which the cross-deformation ellipsoid of the reverse cycle is then superimposed.

ed. This process is advanced as an explanation of cross-fold phenomena in which dilatational maxima are located at the tops of domes which mark the intersection of structural cross-trends, or which are aligned *en echelon* along one particular trend. Where layers are steeply dipping as in an isoclinal sequence, the cross-deformation effect is expressed in the form of steeply plunging buckles and "drag folds" with intervening tensional ruptures.

Block tectonics may be simulated by introducing discontinuities of shape and viscosity into kinematic models. In this way, oscillatory shearing may be seen to generate "intra-cratonic mobile belts" in which successive shear cycles produce repeated increments of unrecovered strain which are compounded within the belt. This compounding gives the effect of a deformation that is disproportionately large for the evident amount of net movement between blocks.

The worldwide prevalence of conjugate systems of crossing shear zones or cross-dislocations that lie in the quadrantal northeasterly and northwesterly directions is seen as a result of accelerations and decelerations in the rotational movement of the earth. The effects may be simulated in the appropriate kinematic model.

Presented to the Los Angeles Basin Geological Society April 30, 1973.



Dear Ed,

It has been a long time since our paths crossed but since I note that you slipped a brief reference to yours truly in the May P.P.G. Newsletter, I thought that I would drop you a line.

Regarding the article on Page 5, this ex-public relations expert doesn't know whether to chide you first for being about ten months behind on job assignments, as I have now returned to the fold or second, putting in an article from the "recent AAPG Convention" twelve months late or third, failing to edit your text to reflect the fact that Humble is now Exxon.

All kidding aside, I meant what I said at the time and now as a geologist, I have to live up to my own words. The other obvious comment that might be made is that many of us who have been away from Pacific Coast for sometime still retain our membership in the Pacific Section and read your excellent pub-

lication with considerable interest.

Best Regards,
PAUL H. DUDLEY JR.

Guilty on all three counts. Your "news" item was to be used as "filler" when space became available, which happened to take a year. The printer had set the type and was to use it when needed. To usurp a now famous quote — "Who you guys gonna kick around when Karp is not around?" Just kidding.

Dear Editor:

While going through a period of reminiscence of my days with Standard Oil Company of California (then Calco) in Jackson, Mississippi, I ran across this little poem by Bud Ogle which according to the details with it was originally published in the Rocky Mountain Geological Society Bulletin. If you have not published it previously, maybe the group that reads the Newsletter would appreciate reading it. It certainly outlines our woes as hard working (?) exploration geologists whose talents (?) often seem to go unrewarded. I certainly enjoy the Newsletter.

Sincerely yours,
MAURICE FISHBURN
Geologist

Naval Petroleum Reserve No. 1
Elk Hills

P. S. The invitation still exists to come out and visit the "hills" sometime.

Bud's poem is certainly a classic and like many classics, much too long to print. If our readers want a copy I'll be glad to send them a Xerox print. Perhaps our new editor will have space. Hope so.

Recommended Reading

(Continued from Page 5)

silicified rocks, Goldfield mining district, Esmeralda and Nye Counties, Nev., by R. P. Ashley & W. J. Keith 50¢

MF 477: Geochemical map showing distribution and abundance of mercury in silicified rocks, Goldfield mining district, Esmeralda and Nye Counties, Nev., by R. P. Ashley & W. J. Keith 50¢

MF 478: Geochemical map showing distribution and abundance of molybdenum in silicified rocks, Goldfield mining district, Esmeralda and Nye Counties, Nev., by R. P. Ashley and W. J. Keith 50¢

MF 479: Geochemical map showing distribution and abundance of silver in silicified rocks, Goldfield mining district, Esmeralda and Nye Counties, Nev., by R. P. Ashley and W. J. Keith 50¢

(Continued on Page 10)

Recommended Reading

(Continued from Page 9)

- MF 480: Maps showing areas of potential inundation by tsunamis in San Francisco Bay region, California, by J. R. Ritter and W. R. Dupre\$1.00
- U. S. BUREAU OF MINES
(purchase from the Government Printing Office, Washington, D.C. 20402)
- Information Circular (IC) 8557: Offshore petroleum studies. Composition of the offshore U. S. petroleum industry and estimated costs of producing petroleum in the Gulf of Mexico, by L. K. Weaver, H. F. Pierce, and C. J. Jirik. 168 p., (1972)
- JOURNAL OF GEOLOGY,
vol. 81, no. 2, March 1973
- Deep earthquakes, surface subsidence and mantle phase changes, by W. S. McKerrow and R. St. J. Lambert.
- Mounds in Lake Tahoe, California-Nevada: A model for landslide topography in the subaqueous environment, by N. J. Hyne, C. R. Goldman, and J. E. Court.
- The thermal effect of a basalt intrusion on fission tracks in quartz monzonite, by Lewis C. Calk and Charles W. Naeaser.
- JOURNAL OF SEDIMENTARY PETROLOGY, vol. 43, no. 1, March 1973
- Petrology and stratigraphy of the Epitah Dolomite (Permian) in the Tombstone Hills, Cochise County, Arizona, by Susan Patch.
- Textural changes as an indicator of sediment dispersion in the Northern Channel Island Passages, California, by James S. Booth.
- CALIFORNIA DIVISION OF MINES AND GEOLOGY
- Map Sheet 19: Geology of the Lakeview-Perris quadrangles, Riverside County, California, by D. M. Morton\$3.50
- WASHINGTON DIVISION OF MINES AND GEOLOGY
- Washington Geologic Newsletter, vol. 1, no. 2, April 1973
- Landslides: An expanding problem for the Puget Lowland, by Ernest R. Armit.
- ARIZONA BUREAU OF MINES
(Tucson, Arizona)
- Bulletin 186: Geology of the Virgin and Beaverdam Mountains, Arizona, by Richard T. Moore\$2.00
- U. S. GEOLOGICAL SURVEY
- Professional Paper 689: Sedimentary processes and distribution of particulate gold in the northern Bering Sea, by C. H. Nelson and D. M. Hopkins 75¢
- Professional Paper 698: Petrographic and chemical reconnaissance study of some granitic and gneissic rocks near the San Andreas fault from Bodega Head to Cajon Pass, Calif., by D. C. Ross\$2.25
- Professional Paper 714: Mineral resource evaluation of the U. S. Forest Service Sierra Demonstration Project area, Sierra National Forest, Calif., by J. P. Lockwood, P. C. Bateman and J. S. Sullivan\$1.00
- Professional Paper 738: Silurian rugose corals of the Klamath Mountains region, California, by C. W. Merriam\$1.00
- Professional Paper 742: Characteristics of estuarine sediments of the United States, by D. W. Folger\$1.25
- Professional Paper 749: Distribution of the Middle Ordovician Copenhagen Formation and its trilobites in Nevada, by R. J. Ross, Jr., and F. C. Shaw 70¢
- Professional Paper 755: Calorimeters for heat of solution and low-temperature heat capacity measurements, by R. A. Robie and B. S. Hemingway 40¢
- Bulletin 1314-F: Trace-element contents of some plutonic rocks of the Sierra Nevada batholith, by F. C. W. Dodge 55¢
- Bulletin 1377: Bibliography and index of U. S. Geological Survey publications relating to coal, 1882-1970, by Paul Averitt and Lorreda Lopez 75¢
- Circular 671: A land-use classification system for use with remote sensor data, by J. R. Anderson, E. E. Hardy and J. T. Roach. 16 pagesFree
- Circular 672: Ground motion values for use in the seismic design of the trans-Alaska pipeline system, by R. A. Page, D. M. Boore, W. B. Joyner and H. W. Coulter. 23 pagesFree
- U. S. DEPARTMENT OF INTERIOR, BUREAU OF RECLAMATION
- Geothermal resource investigations, Imperial Valley, California, January 1972. Developmental concepts.
- CALIFORNIA DIVISION OF MINES AND GEOLOGY
- Special Report 103: Trace elements in the Plumas Copper Belt, Plumas County, California, by Arthur R. Smith\$3.00
- Map Sheet 17: Geology and mineral deposits of the Mescal Range quadrangle, San Bernardino County, Calif., by James R. Evans\$1.50
- San Luis Obispo Gravity Map, scale 1:250,000 (1971)\$2.00
- NEVADA BUREAU OF MINES AND GEOLOGY
- Bulletin 77: Geology and mineral deposits of Southern Nye County, Nevada, by Henry R. Cornwall\$6.00
- Bulletin 79: Erionite and other associated zeolites in Nevada, by Keith G. Papke\$3.00
- LUCY E. BIRDSALL

NEWSLETTER**Pacific Section A.A.P.G.**

P.O. Box 17486 Foy Station

Los Angeles, California 90017



NEWSLETTER

of the Pacific Section

American Association of Petroleum Geologists

VOLUME 27

AUGUST/SEPTEMBER, 1973

NUMBER 8/9

GUEST EDITORIAL . . .

LOS ANGELES FACES THE ENERGY CRUNCH

In April, 1972, Mayor Sam Yorty, speaking in Bakersfield to the Independent Oil and Gas Producers of California said:

"Last year we saw the disappearance of reserve (oil) producing capacity in the states of Texas and Louisiana, and it was then that the bell tolled for the future energy supplies of the U.S. It is now clear that the U.S. is no longer self-sufficient in petroleum production (and therefore energy) and must depend on foreign supplies in the absence of an energy policy promulgated to stimulate a resurgence in the domestic industry."

The former Mayor's interest in energy matters derives in part from what was happening to the oil industry in Los Angeles. He had noticed the departure of several large companies from the City to more economic climes. Superior and Signal had gone to Houston; Marathan, Mobil, and Exxon to Denver. Now Shell is off to Houston and Getty to Bakersfield. Only ARCO has reversed this exodus. The departure of these companies and the decline of the oil business in California since 1969 has meant the loss of more than 8,500 jobs and a payroll of \$300 million. The present outlook is that current statewide oilfield production will approach zero in less than 20 years, and the formidable property tax base which yields \$68 million in property taxes annually will disappear as a result of the disenchantment of the oil industry with California.

Now let's examine the effect of the energy crisis on the everyday operation of the city. On April 5, 1973, the Board of Water and Power Commissioners adopted a resolution declaring it was urgently necessary to allow the Department to compete in the free and open market for fuel oil supplies. A few days before, the Department had found that its traditional practice

of tendering its requirements in competitive bidding yielded disappointing results. The Department had obtained only one-third of its requisite fuel supplies in bid tenders, and without the balance the Department would be forced to curtail electrical service in May.

The first foray into the open market produced one-half million barrels of fuel oil at prices ranging up to \$6.60 per barrel. Since April, 1973, the Department has been buying whatever it can find and now has sufficient supplies to last into 1974. The highest price which the Department has had to pay has been \$6.85 per barrel or more than 50% above the previous year's prices. One offer, not yet formally made, was for a five year supply of Nigerian low-sulphur crude (not fuel oil) at \$6.00 per barrel, or almost \$2.00 a barrel more than current import postings on the Gulf Coast.

On another front in City Hall, the energy crisis was materializing in an entirely different way. The City, in the conduct of its governmental function, annually uses about 12 million gallons of gasoline to provide police and fire protection, sanitation, and various other essential services. Normal practice, like that of Water and Power, has been to offer gasoline requirements in competitive bidding in April. This year our Purchasing Agent reported the receipt of no bids and his bewilderment that supply conditions had changed so radically.

Upon restructuring our specifications to make our requirements less restrictive and therefore more appealing to prospective bidders, we again offered our needs in competitive bidding and still received no bids. We next engaged in personal entreaties to our suppliers with no success. We were told to apply for credit cards and buy our gasoline like everyone else.

(continued on page 3)

Alaska

Being the correspondent and not knowing yet who (make that whom since I'm writing from the BP building) is going to take Ed Karp's place as the correspondee - I'll just aim this epistol your way and hope it will ricochet in the right direction in time for the September NEWSLETTER.

First though, Ed Karp deserves a hearty "much obliged" from the land of long shadows for a job well done and for stirring up the circulation with an apt verbal stick now and then. Also for not misspelling none of my Texacalaskanese. If he ever needs a recommendation for a "Dear Eddie" or "Stan Meanders" column he can just give me a honk. While I'm passing out bouquets, I'd also like to lay one on the groups and individuals responsible for the success of the National Convention. The Alaska contingent wasn't very large, but speaking for the fortunate few - we had an

(continued on page 2)

**Opportunities
For Employment**

Jean R. Okel, Manager, Business Development, informs us that the CLEM Corporation is searching for eight or 10 qualified people for two-year assignments in North Africa.

**GEOLOGISTS/RESERVOIR
PRODUCTION ENGINEERS
NORTH AFRICA**

10 to 15 years experience in oil and gas production. Location - ALGIERS, with some travel to desert operations. Two-year assignments. Housing furnished. Married status okay. Opportunities for early retirees. Send resume, or call:

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ALASKA . . .

(from page 1)

elephant time and enjoyed ourselves rhinocerosly. It was sorta like old home week seeing boocoo of the ole Bakersfield bunch, and real old home week seeing some Gulf Coast hosses that I haven't swapped lies with since bull-wheel and walking-beam time.

For those that might be wondering, Doc Adams did recover from the goggle-eye strain (Wahini bakiniitis) suffered on the return trip by Waikiki, and Tom Wilson did get back to Anchorage without going back around by Chicago (a week late, tho). Also the dog that Ernie Lian escorted back turned out not to be a wolfhound, but since Ern runs a home for lost, strayed, and wayward cats, he claims all dogs look like a face full of teeth to him.

Just for the record, and especially for Lou Villanueva, we had an election and the Alaska Geological Society Officers for the '73-'74 meeting year are as follows:

John McKeever, *President*
Amoco Production Company
P.O. Box 779
Anchorage, Alaska 99510

Tom Wilson, *Vice President*
Marathon Oil Company
P.O. Box 2380
Anchorage, Alaska 99510

Margaret Erwin, *Treasurer*
U.S.G.S.
508 - 2nd Avenue
Anchorage, Alaska 99501

Tom Miller, *Secretary*
U.S.G.S.
1209 Orca Street
Anchorage, Alaska 99501

Also for information or orders regarding Alaska Geological Society Publications and stray cats contact:

Ernie Lian
Box 2380
Anchorage, Alaska 99501

The AGC Nomenclature Committee chaired by John Levenson has compiled a list of over 600 Alaskan stratigraphic names together with the latest reference including an analysis of the age, system or series, and area to which the unit is assigned. I understand the USGS is nearing completion of a similar project. Those like me that can't tell the Ivishak from the Itkilyariak or Kekiktuk without a programme, may address your inquiries

concerning availability of the nomenclatural list to:

John Levenson
Alaska Division of Oil and Gas
3001 Porcupine Drive
Anchorage, Alaska 99501

Just happen to have time for one more beat on ye old Tom-Tom for the AGS Symposium on Resources Development and Environmental Conservation to be held September 18-20 with Field Trips in the Anchorage Area the 17th and from Anchorage to Glenallen and Valdez the 21st and 22nd. We are also going to have Moose season and the beautiful Alaskan fall colors that week too - the weatherman promised. If he goofs on the 17th we will just start taking our weather from the Chamber of Commerce. The array of speakers - outstanding, and the subjects - timely. Unfortunately there remains some doubt that the eminent Jean B. Senter de Boue will be able to present his dissertation on "The Introduction to the Ecological Significance of a Statistical Analysis of *Alces americana* (Moose) Coprolites as an Environmental Index Fossil."

True scientist - that he is - Jean B was last seen departing with great enthusiasm from an impromptu critique with an *Ursus horribilis* concerning temperament and more particularly diet, at least that's the word from Sidewinder 4 long rings.

Reckon that about flanges everything up for this month except for a Y'all come.

DICK E. ATCHISON

UNDERGROUND WASTE SYMPOSIUM

An *International Symposium on Underground Waste Management and Artificial Recharge* will be held in New Orleans from September 26 through 30. The meeting will focus on the disposal of industrial pollutants safely into underground reservoirs by artificial recharge.

The Symposium, sponsored by AAPG the USGS, and the International Association of Hydrological Sciences, will consist of eight technical sessions and two concurrent field trips on Tuesday, September 25th, the day before the technical program begins.

Additional information, housing applications, and advance registration forms may be obtained from:

1973 UWM II Symposium
c/o AAPG
P.O. Box 979
Tulsa, Oklahoma 74101

EXECUTIVE COMMITTEE MEETINGS

APRIL 25, 1973

The Executive Committee held its monthly meeting on this date in Room 1005, City Hall, Los Angeles, California.

COMMITTEE REPORTS

Legislative

In answer to the questionnaire mailed out by the Los Angeles Basin Geological Society, members listed, in order of preference, the following items as demonstrating a continuing geological education:

- 1) Work in the profession
- 2) Membership in a national technical society
- 3) Attendance at technical meetings
- 4) Attendance at short courses and seminars.

There was a big jump between numbers 1 & 2, while numbers 2 & 3 were very close and may indicate that both are of equal importance to the members responding.

From comments accompanying the returned questionnaires, it was obvious that if too much time and money were required to meet continuing educational standards, many members would drop their registration.

John Curran reported that the State Board of Geologists feels that no pressure should be brought to bear to require proof of continuing education as a requirement for reregistration.

At the recommendation of President Spaulding, John Kilkenny was appointed to succeed Tom Baldwin as Advisory Councilor to the AAPG.

Planning and Organization

J. Kilkenny, Chairman, reported the following recommendations by the Committee:

1) A reminder of delinquency on dues payment shall be mailed by June 30th of each year.

2) The Finance Committee be charged with the preparation of an operating budget for the coming year.

3) Commence appropriate steps to a) establish the Office of President-Elect, b) establish a two-year term for Treasurer, and c) establish the following as Standing Committees: Finance, Membership, Planning and Organization, Legislative, Publications, Directory, Fall Field Trip, Spring Picnic, and Convention Advisory.

4) Investigate and implement the establishment of a one-day symposium

(continued on page 4)

Coast

New officers for the Coast Society— to take office July 1 — are:

- President** Roger Hubbell
Continental Oil, Ventura
- Vice President** Bob Merrill
of Merrill, Ogle, Babson & Wallis,
Consultants, Santa Barbara
- Secretary** Dick Stewart
Union Oil, Ventura (yours truly)
- Treasurer** Nick Nicholeris
of Anderson & Nicholeris, Paleo
Consultants, Ventura

The topic of our June talk was "The Impact of Proposition 20 on the Oil Industry." Art Spaulding was unable to come, but Mr. Phillip D. Brown, an analyst in the office of the Chief Legislative Analyst, City of Los Angeles, filled in and gave a most interesting and informative talk. Our thanks to Mr. Brown. (A summary of Mr. Brown's talk will be published later.)

The Coast Society will resume dinner meetings in the fall. Our weekly informal Thursday luncheon meetings will continue (see Calendar for dates and location).

DICK STEWART

PACIFIC SECTION — AMERICAN ASSOCIATION PETROLEUM GEOLOGISTS

Executive Committee

- President** KEMPTON B. ("PETE") HALL
(805) 646-4512
- Vice-President** JOHN A. CARVER
(805) 327-7351
- Secretary** JAMES L. O'NEILL
(805) 325-5746
- Treasurer** WILLIAM A. ADENT
(213) 435-6681
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(213) 485-2121
- Editor** S. H. BROMBERGER
(213) 380-5830

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- Northern California** DAVID C. BUSHNELL
(415) 894-0687
- Northwest**

- Sacramento** TERRY PLUMB
(916) 482-6457
- San Joaquin** HAROLD SUGDEN
(805) 399-2961
- Recommended Reading** LUCY E. BIRDSALL
(213) 688-2850

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

Material for publication and requests for previous copies should be addressed to S. H. BROMBERGER, TEXACO INC., 3460 WILSHIRE BLVD., L.A., CALIF. 90010.

Material received by the 10th of each month will be included in the following issue.

CHANGE OF ADDRESS, subscription, and membership inquiries should be directed to: MEMBERSHIP SECRETARY, PACIFIC SECTION AAPG, P.O. BOX 17486, FOY STATION, LOS ANGELES, CALIF. 90017.

GUEST EDITORIAL ...

(from page 1)

Undaunted, we applied to the Shell Oil Company for 5,500 credit cards and were told they could not be issued until a searching investigation was made of the City's credit.

It was about this time that William Simon, Deputy Secretary of the Treasury, announced a scheme for the voluntary allocation of petroleum supplies, and Mayor Yorty promptly dispatched a letter to Mr. Simon to complain about improper allocations. The essence of Mr. Simon's allocation system is that those companies who were historic suppliers during the base period should once again be the City's current suppliers. The City's problem was that its current supplier was not its supplier during the base period, and, as a result, the City was being rebuffed by all suppliers.

As in every fairy tale, help arrived in the nick of time. First, Shell offered the City two million gallons of gasoline spaced evenly over the entire year. Then, in a gesture of friendly cooperation, Standard volunteered 1,785,000 gallons in the hope that such cooperation would prompt others to do likewise. Ultimately Prince Charming, in the form of Standard Oil Company, agreed, in a gesture of extreme goodwill, to make available 10,500,000 gallons at prices only a few cents per gallon higher than those of last year.

Now that the initial impact of the energy crisis has swept over the city, we have a breathing spell in which to take stock of our future. It should be expected that, along with all other governmental jurisdictions, we should be concerned with measures aimed at both conserving and developing energy supplies. Such obvious objectives as the adoption of building regulations to provide better insulation and reduce energy waste and the usual programs for fuel economy are well within the grasp of the City to accomplish. And, uniquely, the City of Los Angeles, which has permitted oil well drilling for years, has the capability of fostering the discovery of new energy reserves to ward off future crises.

Unhappily, public understanding of the nature of the crisis in energy will never be as swift as it was, for example, in the case of another crisis — Pearl Harbor, 1941. Instead of wringing its hands or casting about for someone to blame, government should be engaged in more constructive action to eradicate the shortage. All of which proves that Malthus was right and that ignorance and superstition are not always overcome by science and skill.

ART SPAULDING

San Joaquin

The Joint Central California Oil Scouts and San Joaquin Society's Barbecue and Golf Tournament will be held Friday, September 7th, at the Kern River "Lake Ming" golf course and picnic grounds. Golf tee off time is from 7 to 11 a.m. A donation of \$5 is payable at the course. Call or write Jerry Willey, Union Oil Co., 2700 F Street, Bakersfield, Calif. 93301, (805) 324-6571, for golf reservations and news about the prizes.

Refreshments and snacks by E. Edwards of Ferguson and Bosworth will start at 3 p.m. for those who have made their \$6 donation for the steak barbecue. The steaks, etc. come off the fire between 6:30 and 7 p.m. and the sheep herders bread will be washed down by beer, all for the same donation. For barbecue reservations call or write the following barbecue chairmen:

Dale Rushing
Mobil Oil Co.
P.O. Box 2207
Bakersfield, Calif. 93303
805-327-1814

or

Les Herndon
ARCO
P.O. Box 147
Bakersfield, Calif. 93302
805-831-1600

(continued on page 5)

THE PRESIDENT'S CORNER:

My hat is off and my heart is grateful to Past President Art Spaulding and all who generously gave of their time and energy in so ably guiding the Pacific Section to new pinnacles of glory and achievement. Theirs is indeed a tough act to follow, but a joy to inherit.

In assuming the awesome duties of president, I am humbled by the stature of those who have preceded me. I fervently hope, in accepting the duties, responsibilities and honor of this office, that I may be as steadfast in devotion and capable in execution.

An organization is as strong as its membership. In this I am blessed. With your support, I look forward with anticipation in the months ahead, to continued success for the Pacific Section in this era of challenge and of change.

K. B. "PETE" HALL

EXECUTIVE COMMITTEE MEETINGS

(from page 2)

and discussion session on a selected topic with informal discussions among students, industry geologists, and management.

Publications

Concerning the publications for this year's Convention, Chairman Hallinger reported that we have six new guidebooks, ranging in size from 32 to 76 pages.

Because of the poor response by authors in sending manuscripts in time for publication, it was decided not to publish a selected paper volume in time for the Convention. Instead, a volume of California geology papers will be prepared later in the year.

A report on the returns from the Section's Questionnaire was made. Most popular was the suggestion that a Speaker's Bureau be formed. There was opposition to Continuing Education Legislation but approval for the formation of a Pacific Section Distinguished Lecture Series.

JUNE 20, 1973

The Executive Committee held its monthly meeting on this date at the Petroleum Club in Los Angeles.

The Treasurer's Report noted that \$1,020 was disbursed in connection with the reprint of Kleinpell's "Miocene Stratigraphy." It was further stated, as per prior agreement, that the SEPM will pay one-fourth of all such expenses.

President Spaulding reported that Sam Bromberger, with Texaco in Los Angeles, has volunteered to be the NEWSLETTER editor. It was agreed that the Past Editor, S. Karp, had done an outstanding job and had stimulated interest in the NEWSLETTER.

President Spaulding, reported on the Anaheim meeting, noted that there was a \$6,000 profit. Letters from Ian Campbell and National President Wilson were read commending the Pacific Section on a great meeting.

New officers of the Pacific Section were present and introduced. Regrets were expressed on the untimely death of Jim Benzley, who had been elected Secretary. New officers are:

Kempton B. "Pete" Hall, *President*
John A. Carver, *Vice President*
James L. O'Neill, *Secretary*
William A. Adent, *Treasurer*

The National officers were announced. President-elect Merrill Haas will take office in July 1974. The officers for 1973 are:

Daniel A. Busch, *President*
August Goldstein, *Vice President*
Bernold M. Hanson, *Secretary* —
2 yrs.
Frank E. Kottowski, *Treasurer*
Robert Gutru, *Chairman of House*
of Delegates

COMMITTEE REPORTS**Legislative**

D. Allen reported that the hiring of a lobbyist is still under consideration. He mentioned a number of bills that affect the geological profession that are pending before the State Legislature.

1974 Convention—San Diego

J. Minch, Chairman, reported that all plans are progressing on schedule. The field trip will be to El Rosario to visit the Tertiary and Cretaceous sections and will be either one long day, or for those so desiring, two days. Frank Kilmer, Humboldt State College, who originally mapped this area, will be on the field trip. Some Mexican oil geologists will also be invited.

Geological Reviews**EOCENE STRATIGRAPHY
OF THE
SAN DIEGO EMBAYMENT**

by MICHAEL P. KENNEDY

Fossiliferous sedimentary clastic strata of marine, estuarine, and non-marine origin crop out along the southern California continental margin between San Diego and Oceanside. Two major transgressions and regressions are recorded here by nine lithologically distinct rock units. Regional uplift of the Peninsular Ranges and subsidence of the adjacent coastal platform and continental shelf area provided an environment in which these sedimentary facies developed. The depositional cycle includes an early-middle Eocene transgressive event that was recorded by continental shelf, nearshore, barrier beach, lagoonal, and deltaic deposits that prograde over a basal conglomerate of early Eocene age. A major regressive event followed

(continued on page 5)

**James C. Benzley**

James C. Benzley passed away May 31, 1973, in Bakersfield, California.

His career in the oil business included three years with the Union Oil Company, 12½ years with Amerada and 20 years with the Gulf Oil Corporation, first as Area Exploration Manager in the Los Angeles Basin where his efforts brought Gulf into the Yorba Linda oil field, and then as District Production Geologist in Bakersfield.

His passing was a great loss to all of us who knew him.

JOHN GATES

**Duncan B. Robinson**

All Pacific Section AAPG, SEG, and SEPM members were greatly saddened by the sudden passing of Duncan Robinson on July 9, 1973, at his home in Whittier. Duncan, who had been at Santa Fe Springs since 1966, when he was transferred from Alaska, joined the Union Oil Geophysical staff in 1956.

TOM REDIN

★ ★ ★
★ ★ ★

PROGRAM

Friday Evening, Sept. 14th - Executive Committee Meeting

Saturday, Sept. 15th - AM

8:00 - 9:15 Registration

9:20 - 9:30 Opening Address, President Hallinger

9:30 - 9:50 "The Professional Geologist Today - What Direction?",
H. H. Neel, Consultant - Chairman Goals & Strategy Ad
Hoc Committee AIPG

9:50 - 10:00 Discussion Period

10:00 - 10:30 "The Geologist & His Obligation to Society - The Practical
Aspects of Professional Ethics", - F. L. Stead, Chairman,
Ethics Committee AIPG

10:30 - 10:40 Discussion Period

10:40 - 11:00 "Outlook for Developments in the Solid Mineral Fuels", Robert
P. Blanc, Operations Manager, Minerals Explor., Getty Oil Co.

11:00 - 11:10 Discussion Period

11:10 - 11:40 "Independent and Consultant Geologists: Are They in Business
Practicing Undiagnosed Bankruptcy, or Involved in an
Unacknowledged Hobby?" - B. A. Ogle, Vice-President, Merrill,
Ogle, Babson & Wallis, Inc., Partner, Argonaut Oil & Gas Consul-
tants

11:40 - 11:50 Discussion Period

12:00 - 1:30 LUNCHEON - Speaker: "What's New - Report on Division of Mines
and Geology", - Wes Bruer, California State Geologist

Sept. 15th PM

1:45 - 2:15 "State Geologist Board Report on Current Activities & Status
of Continuing Education", - J. F. Curran, Consultant, Member
State Board of Registration for Geologists and Geophysicists

2:15 - 2:30 Discussion Period

2:30 - 3:00 "Future Education for Professional Geologists", - Dr. Clemens
A. Nelson, Professor of Geology, University of California at
Los Angeles

3:00 - 3:15 Discussion Period

3:15 - 3:45 "Geologists in Public Service", - Gordon B. Oakshott, Retired
Deputy Chief, Division of Mines and Geology

3:45 - 4:00 Discussion Period

4:00 - 5:00 Open Membership Business Meeting, California Section AIPG -
President Hallinger

6:00 Cocktails

7:00 DINNER - Speaker: "Energy Crisis in California", - J. F.
Matthews, Jr., California State Oil and Gas Supervisor

A.I.P.G. TO MEET IN VENTURA

All geologists are invited to the California Section-American institute of Professional Geologists' annual meeting Saturday, September 15, at the Holiday Inn in Ventura.

The meeting will feature stimulating timely talks and discussions relating to "The Business of Being Professional Geologists". The featured speaker will be J. F. Matthews, Jr., State Supervisor of Oil and Gas, whose topic will be "The Energy Crisis in California". Mr. Matthews will be dinner speaker.

The meeting will be in the Pacific Room of the beautiful new Holiday Inn in Ventura, a few dozen steps from the beach. Registration will be from 8:00-9:15 a.m.; cost: \$5.00 per person (wives or students, no charge for registration; A.I.P.G. membership not required). Talks will begin at 9:20 a.m. Luncheon is at 12:00; cost: \$3.50. Luncheon speaker will be Wes Bruer, State Geologist, with a report on "What's New in the Division of Mines and Geology". Dinner is at 7:00 p.m.; cost: \$8.00. (Free garage parking is available).

If you make your living as a geologist, don't miss this one! Plan to attend this one-day seminar and hear it like it is. There will be ample time for discussion after each speaker: so come prepared to voice your opinions.

SEE REVERSE SIDE FOR PROGRAM

Cut Here

ADVANCE REGISTRATION FORM

A.I.P.G. CALIFORNIA SECTION ANNUAL MEETING
Holiday Inn, Ventura, Calif., Sept. 15, 1973

Name _____ Telephone _____

Address _____

A.I.P.G. Member _____ Guest _____ Student _____

ADVANCE REGISTRATION *	\$5.00	Make checks payable to
(No fee for spouse or students)		California Section A.I.P.G.
LUNCHEON SATURDAY NOON @ \$3.50 each	_____	Mail this form and checks to
PRIME RIB DINNER SATURDAY EVE. @ \$8.00 ea.	_____	Harry Whaley, Getty Oil Co.
		Ventura, Calif., 93001
Total	_____	

* Two free drink tickets given to those registering in advance.

ABOUT THE A.I.P.G. ENCLOSURE

Please note the enclosure concerning the annual meeting of the California Section of AIGP. The information was provided for Pacific Section AAPG NEWSLETTER readers by the local section of AIPG in the hope that the meeting will be well attended.

LEDINGHAM RETIRES

We have received word from Pete Hall that Glen Ledingham, the elder, Vice President, Exploration and Production for Gulf Oil Co.-Asia has retired from Gulf and has set up a company in Tokyo. It is known as Ledingham Consultants Ltd. (Petroleum Specialists.) Glen is President and Representative Director and can be reached at:

305 Azabu Embassy Heights-11-12,
Akasaka 1—Chome Minato—Ku,
Tokyo 107, Japan
Tel: 585-2322

GEOLOGICAL REVIEWS...

(from page 4)

in the middle Eocene and is marked by regressive lithologic counterparts of the onlapping sequence. During middle and late Eocene time another transgressive-regressive cycle occurred as recorded by fluviatile, lagoonal and nearshore deposits that form the uppermost part of the succession.

Fossil coccoliths, mollusks and mammals occur in continental shelf, littoral to lagoonal, and nonmarine parts of the section respectively. The interrelationships between the fossils and the transgressive-regressive rock units have provided a key to the reconstruction of the Eocene paleoenvironment. In the lower part of the section an artiodactyl fauna of Uinta B age is correlative with a Domengine molluscan fauna and a Lutetian coccolith flora. In the upper part of the section mollusks of Tejon age, mammals of Uinta C age and coccoliths of questionable Bartonian age are also time correlative. These relationships show that the middle-late Eocene boundary, as defined by coccoliths in the Paris Basin, falls within the Uintan "Mammal Age" (based on the fauna of the Uinta Formation of Utah) and the west coast (California) "Transition Stage."

Abstract of talk given to the Los Angeles Basin Geological Society July 18th, 1973.

Sacramento

On Wednesday, June 6, the Sacramento Petroleum Association was privileged to have as guest speakers Mr. Emmett Hyde, Materials Flow and Purchasing Manager, Western Region, and Mr. Roland Bussell, Pipeline Operations Manager, both of Dow Chemical Company. A discussion with accompanying slides gave the pipeline route and gathering lines, present purchasing practices, inherent problems, and future development for the system. Dow's main pipeline presently runs north from its Pittsburg plant, 60 miles southwest of Sacramento, to Davis, 12 miles west of Sacramento. Future plans call for extension of the pipeline to the north. Indications are positive on behalf of Dow for purchase of future reserves and contract negotiation.

Friday, June 8, saw Sacramento Petroleum Association members and guests gather at the Yolo Fliers Club in Woodland for the 20th Annual SPA Golf Tournament and Barbecue. Approximately 50 golfers participated in the tournament. More than 100 were present for the happy hour and dinner. The event was a tremendous success, although the golf scores weren't, and gratifying to see new friendships made, old friendships renewed, and even a few "friendly" poker games. Appreciation is extended to Mr. Jim Cogbill, Chairman of this year's event, and to all the companies and individuals which made donations to the SPA.

TERRY PLUMB

ANAHEIM HOUSE OF DELEGATES MEETING

The potentially explosive meeting of the AAPG House of Delegates at the Disneyland Hotel Sunday, May 13th was effectively chaired by Herb Davis. All Delegates had the opportunity to state their case and time was divided equally between the pros and cons of each item on the agenda.

All Constitution and Bylaws Amendments on the agenda passed except Bylaw Article III Section 6 which was retained as presently written.

The Sloss Report recommendations on Certified Petroleum Geologists was partially implemented by changing the Bylaws (Article X) as instructed by legal counsel. Motions for conditional and outright dissolution of CPG's failed the two-thirds majority by 14 and six votes respectively out of the 108 Delegates present. Opposition to dissolution was light and scat-

tered except from the Gulf Coast and Rocky Mountain areas. The Executive Committee was directed "to establish means of unifying the professional and certification matters of all geologists."

The AAPG with its membership of over 15,000 still remains the major obstacle to the unification of all geologists in professional matters. It is apparent that the need for unification is upon us but whether the membership recognizes this need and so informs their Delegates remains to be seen.

J. D. TRAXLER
Chairman, LABGS Delegation

SAN JOAQUIN...

(from page 3)

The monthly Geology Seminar will be held at Bakersfield College on Monday, October 15th from 7:30 to 9:30 p.m. David Anderson, Division of Oil and Gas, Geothermal Office, Sacramento will deliver a talk entitled "Geothermal energy, its status and potential" in Room 56, Science and Engineering Building. There is no charge for attending the meeting.

The continuing education program of the San Joaquin Geological Society will present a Geothermal Seminar to be given the first three Monday evenings in November, the 5th, 12th and 19th. Meetings are from 7 to 10 p.m. in the Forum East building at Bakersfield College. The price is \$25, payable at the door. The lectures will cover exploration, production and legal aspects of geothermal resources. Continuing Education chairman Don Reynolds of Union Oil Company has arranged for this program and Bill D'Olier of American Thermal Resources, Inc., 5405 Stockdale Highway, Suite 205, Bakersfield, CA 93309 (805) 833-1420 is the seminar chairman and the person to whom questions should be addressed.

The November 5th lecture is on the hydrologic aspects of geothermal exploration and will be given by Professor Paul Witherspoon, Department of Geological Engineering, UC Berkeley. The following Monday, November 12, Professor William Brigham of the Department of Petroleum Engineering, Stanford, will cover reservoir engineering of geothermal production. The November 19th session will discuss legal problems before the geothermal industry and will be chaired by Professor Owen Olpin of the College of Law, University of Utah, Salt Lake City.

HAROLD SUGDEN

Northern California

New officers for the Northern California Geological Society are:

President Charles E. Kirschner
Standard Oil Co. of Calif.
WOI, 320 Market St.
San Francisco, Calif. 94111

Vice-President Thomas L. Wright
Standard Oil Co. of Calif.
Box 3862
San Francisco, Calif. 94119

Secretary David C. Bushnell
Standard Oil Co. of Calif.
225 Bush Street
San Francisco, Calif. 94104

Treasurer E. Vernon Stephens
U.S.G.S., Conservation Div.
345 Middlefield Road
Menlo Park, Calif. 94025

About 53 persons attended the June 5th meeting and heard an extremely interesting talk by Wendell Duffield of the USGS. Duffield's talk was entitled, "Plate Tectonics on an Active Lava Column," and was illustrated with slides and movies.

The Northern California Geological Society's April spring field trip was enjoyed by 45 persons. The two-day trip led by Ollie Bowen covered part of the Mother Lode country from Jamestown to Colonia, with side trips to Columbia, Murphys and Volcano. The group stayed overnight at the famous National Hotel in Jackson.

This is my last contribution to the Newsletter since Dave Bushnell, the new NCGS Secretary will take over as correspondent when we get started again in September.

HERB SAWYER

WELLER BIDS FAREWELL

In thinking about some parting remarks that I might make, it occurred to me that some brief statement of the themes which were worked into the Anaheim Convention might do. To crystallize these, I pose three questions. Wouldn't it be nice if:

- 1) . . . politics would go away?
- 2) . . . energy economics were the same as in, say, 1950 when oil and gas supply and demand relations were comfortable?
- 3) . . . exploration allowed that relatively simple and proven approaches would remain effective?

The oil industry currently faces public and private foes with ostensibly

noble aims but which often in fact impede exploration, development, and utilization of hydrocarbons. Unless we find a way to live with these impeding forces, we are bound to fail to increase energy supplies and, in turn, provide more ammunition for those who believe the oil industry to be collusive and piratical.

As for question two, 1950 was a very fine year compared to 1920 when one could hardly sell a barrel of oil, or today when demand outstrips supply causing prices to rise. Other energy sources are becoming competitive. In California there has been a recent rash of geothermal drilling, and in the western states, coal begins to look better and better.

Recall when tar-seep drilling, the anticlinal theory, and early seismic techniques produced bulges in the discovery curve in California? They probably still are effective in some places in the world, but now, in California, the effective techniques are not necessarily the old reliables, nor are they readily available in college curricula. For example, consider modern CDP seismic methods, revised reservoir-stratigraphic concepts, current source and migration theory. All are so recently evolved that the explorationist must adopt a progressive attitude and continually update his education — if he is to be successful.

Well, there you have it. I now flee to Texas to escape any rebuttals.

With best regards,
ART WELLER

Los Angeles

We regretfully report that our ranks will be further shrunken by Shell's impending move to Houston, Texas. Of equal cause for concern is Union Oiler Mike Metz's transfer from Santa Fe Springs to Santa Maria, California. Mike has been the "bean man" at many of the La Mirada barbecues over the last five or six years. He recently did an outstanding job as publicity man for the National AAPG Convention in Anaheim.

The L.A. Basin Geologic Society was treated to an excellent talk and slides on the "Geologic Reconnaissance of the Santa Monica Basin" at its June luncheon meeting by H. C. Wagner, USGS, Menlo Park. Judging from Mr. Wagner's slides of the USGS research vessel and his "scientific crew," this is the *only* way to go when doing seismic and drop core work on the OCS. Mr. Wagner indicated the USGS would publish his report in several months. Students present as guests of

the oil industry were: Judy Wiedenhoff (Cal Lutheran); Michael Pilson (Virginia State); James Clancy (USC); Kevin Knauss (USC); Jaime Gutierrez (USC); Nancy Bollin (Cal State LA); Sean Carey (Cal State LA); Stan Keinzle (Cal State LA).

On Wednesday night, July 18, the California State Division of Oil and Gas and State Lands hosted a LABGS barbecue at the Standard Oil Northam Station. The guest speaker was Dr. Michael Kennedy, Research Geologist, California State Division of Mines and Geology. The title of his paper was "Tertiary Stratigraphy of the San Diego Basin." Many of you missed a fine barbecue, talk, and discussion.

For September events, please consult Calendar.

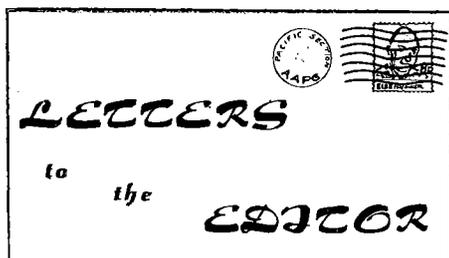
TOM REDIN

Pacific Section Annual Picnic

The annual Pacific Section Picnic/Golf Tournament was held at the Valencia Country Club June 1st with 171 persons in attendance. More than 80 golfers braved the cold and windy weather, 79 of them in vain since, to nobody's surprise, Bob Lindblom handily carried the day. Bob (of Standard) shot a two over par 75 for low gross honors and possession of the Frank Yale Memorial Trophy. This is the sixth time he has won the trophy since its inception in 1962.

We wish to thank each of the sponsors of the Picnic listed below. As in the past, their support insured a successful function. Contributing firms were:

Anderson & Nicholeris
Baroid Well Logging Service
Briles Wing & Helicopter, Inc.
Borst & Giddens Logging Service
Burns Geological Exploration, Inc.
Byron Jackson, Inc.
Core Laboratories Inc.
Digicon, Inc.
Dresser Atlas
Don Padick Geological Well Logging
Exploration Logging Inc.
Gibson Direction Drilling Inc.
Global Marine Inc.
Johnson Velocity Surveys
Munger Oil Information Service Inc.
O'Meara & Rogers Construction Corp.
Pacific Oil Well Logging
Reese Sales Co.
Schlumberger Well Services
Strata-Log
Strata-Graphic Co.
United Geophysical Co.
Vetco Offshore Industries, Inc.
Welex
BOB LINDBLOM & GENE TRIPP



Dear Ed,

You've done it again. Opened up a can of worms. I was absolutely surprised and overwhelmed at the unprecedented accolade you gave me and Andy Cline in the last issue. Trouble is, what about all the other unsung heroes of the Pacific Section far more deserving than I?

Frank Parker's story that I am going into semi-retirement is slightly exaggerated. I am building a home for that purpose in Carpinteria, but until the price of crude oil and gas catches up with the price of lumber, nails, concrete, and labor, I must keep the old nose to the grindstone.

It is public recognition like this that makes the whole effort worthwhile. My family and relatives were particularly impressed. I find words fitting for the occasion hard to come by, so I'll let Andy speak for me.

Yours,
SULLY



Could you include University of California at Santa Barbara events in the NEWSLETTER? I would also like to suggest that putting school geology departments on the mailing list might help membership and student participation.

D. SARNECKY
Geology Department
Moorpark College

Don Weaver of UCSB has agreed to supply us with a schedule of geological events there. We will begin to include them in our Calendar section beginning in October. We would like to receive schedules of activities at other schools within PPG's realm.

We are also taking steps to implement Dorothy's second suggestion in the hope that the NEWSLETTER will be posted on department bulletin boards. Other suggestions from readers as to how the NEWSLETTER may be made more appealing to younger geologists will be welcome. — Editor.

RECOMMENDED READING

U.S. GEOLOGICAL SURVEY

Professional Paper 486-J: Geohydrology of the Needles area, Arizona, California, and Nevada, by D. G. Metzger and O. J. Loetl\$1.75

Professional Paper 646-C: Gravity, magnetics, and geology of the San Andreas fault area near Cholame, Calif., by W. F. Hanna, S. H. Burch, and T. W. Dibblee, Jr.\$3.05

Professional Paper 740: Paleozoic and Precambrian rocks of Alaska and their roles in its structural evolution, by Michael Churkin, Jr.90¢

Professional Paper 759-A: High-resolution seismic survey of an offshore area near Nome, Alaska, by A. R. Tagg and H. G. Greene60¢

Professional Paper 433-M: Relations among radionuclide content and physical, chemical, and mineral characteristics of Columbia River sediments, by J. L. Glenn, with a section on Sand and gravel mineralogy, by R. O. Van Atta85¢

Professional Paper 433-N: Radionuclides in transport in the Columbia River from Pasco to Vancouver, Wash., by W. L. Haushild, H. H. Stevens, Jr., J. L. Nelson and G. R. Dempster, Jr.75¢

Professional Paper 717: Geology and ground-water characteristics of the Hanford Reservation of the U.S. Atomic Energy Commission Wash., by R. C. Newcomb, J. R. Stran, and F. J. Frank\$2.60

Professional Paper 729-A: Geology of pre-Tertiary rocks in the northern part of Yellowstone National Park, Wyo., by E. T. Ruppel, with a section on Tertiary laccoliths, sills, and stocks in and near the Gallatin Range, Yellowstone National Park\$2.60

Professional Paper 732-B: Scour and fill in Tujunga Wash — A fanhead valley in urban southern California —1969, by K. M. Scott70¢

Professional Paper 766: Foraminifera of the North Pacific Ocean, by P. B. Smith80¢

(continued on page 8)

CALENDAR for SEPTEMBER

S	M	T	W	T	F	S
						1
6	COAST GEOLOGICAL SOCIETY. Luncheon, Casa de Soria, Ventura.					
7	SAN JOAQUIN GEOLOGICAL SOCIETY and CENTRAL CALIFORNIA OIL SCOUTS. Annual Barbecue and Golf Tournament (see San Joaquin Report).					
13	COAST GEOLOGICAL SOCIETY. Luncheon. Dave's Deli, Ventura.					
15	AIPG-CALIFORNIA SECTION ANNUAL MEETING. Pacific Room, Holiday Inn, Ventura. AIPG membership not required. See enclosure.					
18-20	ALASKA GEOLOGICAL SOCIETY. Anchorage. AGS Symposium on Resources Development and Environmental Conservation.					
19	LABGS NOON LUNCHEON. Rodger Young Center. Dr. H. Gary Greene (USGS). "A recent geophysical investigation of the Oxnard Plain-Ventura Basin offshore area."					
20	COAST GEOLOGICAL SOCIETY. Luncheon. Hong Kong Inn, Ventura.					
22	LABGS FAMILY FIELD TRIP SERIES. Trip to Ventura-Ojai-Santa Paula area to see early oil fields and Cal. Oil Museum. Barbecue at Torrey Picnic Grounds. \$3.50 per person. Space limited so make reservations early with Roger Hubbell, Continental Oil, Ventura or Bill Reay, Union Oil, Santa Fe Springs.					
26-29	UWM II SYMPOSIUM, NEW ORLEANS, LA. Discussion of Underground Waste Management (see article).					
27	COAST GEOLOGICAL SOCIETY. Luncheon. Olde Timer, Ventura.					
29	LABGS LUAU. Sam's Seafood Restaurant, Huntington Beach. Cocktails start at 7:30 p.m., buffet dinner at 8:30 p.m. (all you can eat), dancing till 1 a.m. Informal dress. \$18 per couple. This event replaces Christmas dance. Contact Tom Manera, Signal, 213-427-7911.					

RECOMMENDED READING . . .

(from page 7)

- Professional Paper 791: Oligocene molluscan biostratigraphy and paleontology of the lower part of the type Temblor Formation, Calif., by W. O. Addicott\$1.25
- Professional Paper 797: Petrology of the welded tuff of Devine Canyon, southeastern Oregon, by R. C. Greene65¢
- Bulletin 1332-D: Lithologic characteristics of Pliocene rocks cored at Elk Hills, Kern County, Calif., by W. M. Berryman\$1.20
- Bulletin 1357: Placer gold deposits of Utah, by M. G. Johnson\$1.25
- Bulletin 1369: Radiometric ages of igneous rocks from Pima, Santa Cruz, and Cochise Counties, southeastern Arizona, by R. F. Marvin, T. W. Stern, S. C. Creasey and H. H. Hehnert35¢
- Bulletin 1372-D: The McHugh Complex of south-central Alaska, by S. H. B. Clark20¢
- Bulletin 1365: Geochemical reconnaissance of the Santa Rita Mountains, southeast of Tucson, Ariz., by Harald Drewes\$1.25
- Bulletin 1382-A: Chemical composition of naturally occurring fluids in relation to mercury deposits in part of north-central California, by Ivan Barnes, M. E. Hinkle, J. B. Rapp, Chris Heropoulos, and W. W. Vaughn45¢
- Bulletin 1382-B: Radioelement and trace-element content of the Ione Formation, central California, by H. A. Wollenberg and F. C. W. Dodge30¢
- Circular 677: A review of benthic faunal surveys in San Francisco Bay, by F. H. Nichols. 20 pagesFree

MAPS

- MF 495: Preliminary geologic and tectonic maps of Oregon east of the 121st meridian, compiled by G. W. Walker\$1.00
- GQ 996: Geologic map of the Mayer quadrangle, Yavapai County, Ariz., by C. A. Anderson and P. M. Blacet\$1.00
- MF 453: Sources of emergency water supplies in Napa Valley, Calif., by D. A. Webster50¢
- MF 471: Map showing landslides in the Pacific Palisades area, city of Los Angeles, Calif., by J. T. McGill50¢
- MF 484: Preliminary geologic map of Solano County and parts of Napa, Contra Costa, Marin and Yolo Counties, Calif., compiled by J. D. Sims, K. F. Fox, Jr., J. A. Bartow and E. J. Heiley50¢
- MF 492: Bedrock geologic map of Bettles and southern part of Wiseman quadrangles, Alaska, by W. W. Patton, Jr. and T. P. Miller50¢
- MF 485: Preliminary geologic map of the Austin quadrangle, Lander County, Nev., by E. H. McKee50¢
- MF 505: Map showing recent tectonic movement on the Concord Fault, Contra Costa and Solano Counties, Calif., by R. V. Sharp50¢
- MF 506: Geochemical, aeromagnetic, and generalized geologic maps showing distribution and abundance of lead, silver, gold and copper, Goldrun Creek quadrangle, Humboldt County, Nev., by R. L. Erickson and S. P. Marsh\$1.00
- MF 507: Geochemical, aeromagnetic, and generalized geologic maps showing distribution and abundance of mercury, arsenic, antimony and tungsten, Goldrun Creek quad-

range, Humboldt County, Nev., by R. L. Erickson and S. P. Marsh \$1.00

- MF 508: Geochemical, aeromagnetic, and generalized geologic maps showing distribution and abundance of molybdenum and zinc, Goldrun Creek quadrangle, Humboldt County, Nev., by R. L. Erickson and S. P. Marsh50¢

U.S. DEPT. OF COMMERCE
(GPO, Washington, D.C.)

- Building Science Series 46: Building practices for disaster mitigation. Edited by Richard Wright, Samuel Kramer and Charles Culver. Feb. 1973 (Number S/N0303-01100)\$5.30

U.S. BUREAU OF MINES (sale items by the Government Printing Office, Washington, D.C. 20402)

- Information Circular 8575: Offshore petroleum studies — Historical and estimated future hydrocarbon production from U.S. offshore areas and the impact on the onshore segment of the petroleum industry. (GPO Stock Number 2404-01300)55¢
- Information Circular 8557: Offshore petroleum studies — Composition of the offshore U.S. petroleum industry and estimated costs of producing petroleum in the Gulf of Mexico (GPO Stock Number 2404-01205)\$1.75

LUCY E. BIRDSALL

Northwest

NO REPORT.

NEWSLETTER**Pacific Section A.A.P.G.**

P.O. Box 17486 Foy Station

Los Angeles, California 90017



NEWSLETTER

of the Pacific Section
American Association of Petroleum Geologists

VOLUME 27

OCTOBER, 1973

NUMBER 10

GUEST EDITORIAL . . .

SAVE OUR CORES

Not long ago, I had occasion to spend some time in the Shell Gosnell core house on Ventura Avenue. As I went inside, I stepped 10 years into the past — there was the familiar clutter of core trays, UV lights, cut bottles, and core description forms, all covered with a fine layer of dust. What was more important, the cores were in remarkably good shape. The cores I needed from the Saticoy field had been split in half, photographed, and re-packed into cardboard cartons, with their location in the core house noted on an inventory sheet. Nearby were cores from Ventura Avenue, South Mountain, and other areas throughout the Ventura basin, all carefully catalogued for future study.

I was interested in magnetic reversal stratigraphy of the Saticoy producing section. Sure, the cores had been sampled for paleomagnetism years before, but at that time we didn't know that the cores had to be thermally demagnetized at temperatures up to 300°C to remove the present-day magnetic field. And that illustrates the major concern I have about the Gosnell core collection and others like it around the State of California.

In my opinion, these cores are an irreplaceable treasure of basic information about California geology. Many important stratigraphic sections are known only from the subsurface, and if the cores from these sections were lost, the only record that would be preserved would be the old core descriptions, the washed samples, and squiggles on electric logs. Many, perhaps most, of these cores were described carefully, sampled for benthic forams, permeability and porosity and fluid saturation, even thin sectioned. Is that enough of a record so we can take the risk of such cores being lost for future study?

The new technique of thermal demagnetization is only one example of

studies that can now be done that were not perfected at the time the cores were taken. We are now concerned about pelagic forams, radiolarians, and coccoliths in addition to the benthic bugs. We can examine surface textures of sand grains with the scanning electron microscope and study oxygen isotope ratios of carbonate cement. We understand much more about the environmental significance of trace fossils. The list could go on.

There are many possibilities outside the oil industry, particularly in earthquake-related studies. The first steps toward earthquake prediction have been taken by scientists at Caltech and Lamont who relate changes in compressional wave velocity prior to an earthquake to strain-dilatancy — increase in porosity related to increase in strain. Demonstration of this phenomenon in the laboratory has been with samples of Westerly Granite from New England. Why not do lab experiments on strain-dilatancy using cores taken from deep wells in California?

What's the danger of the cores being lost? I recently heard a horror story of a company that had ceased exploration in California and had announced plans for destruction of its corehouse. There was a "core party" and some material was salvaged by other companies but the rest of the cores were destroyed. This story, or variations of it, has happened in California time after time.

The Shell Gosnell core house has survived over the years because of the dedication of a few Shell geologists who were around when the cores were first taken and who realized their potential value for future study. When the Shell Ventura office was moved to Los Angeles, the core house could still be looked after. Now

(continued on page 2)

Pacific Section

S.E.P.M., Fall Field Trip

October 26 and 27, 1973

CRETACEOUS STRATIGRAPHY
OF THE

SANTA MONICA MOUNTAINS
AND SIMI HILLS

The Pacific Section S.E.P.M. Fall Field Trip will be close to home for many of us this year and we are looking for a big turnout. Field trip co-chairmen Eugene Fritsche and Ivan Colburn wish to extend a hearty invitation to everyone to join them on this investigation of the Cretaceous of the Santa Monica Mountains and Simi Hills. The dates are Friday evening, *October 26*, for dinner and a pre-trip orientation meeting and Saturday, *October 27*, for the trip itself. Mark these dates on your calendar and *plan to attend*. Pre-registration is necessary, so send or call as described below for your copy of the complete *field trip information packet*. *Do it now!*

The Friday night dinner at 7:30 p.m. will feature a catered, all-you-can-eat buffet at the California State University, Northridge Banquet Room. This will be followed by an orientation of the field trip led by some of the people who have worked so hard to make this trip a success.

The trip will leave by bus at 8:00 a.m. from the campus of Cal. State, Northridge and will head south to look at exposures in the Santa Monica Mountains. Lunch will be among the Cretaceous rocks in a park in the San Fernando Valley. In the afternoon we will look at outcrops in the Simi Hills.

Our able leaders and guidebook contributors for this trip include Al Almgren (micropaleontology), W. P. Popenoe (macro-paleontology), Bob Yerkes and Russell Campbell (structure), Del Tucker (stratigraphic correlation), and Ivan Colburn and Eugene Fritsche (sedimentation). The field trip will emphasize the paleon-

(continued on page 4)

GUEST EDITORIAL . . .

(from page 1)

the Los Angeles office has been moved to Houston, and most of the geologists who participated in Ventura basin exploration in the days of extensive coring are scattered far and wide.

The Gosnell core house is a treasure house to some, but merely a lease expense to the Shell production office on Ventura Avenue. And as oil production declines, the production office is obliged to cut costs, to keep its lease expenses down to a minimum. What good is a warehouse full of rocks when you're trying to cut down on your overhead?

A good question, actually. Californians are fortunate that these cores were collected as part of the search for petroleum. But now that the oil search has moved elsewhere, how long should the oil companies be expected to pay for the storage of cores they no longer need in their business?

It's time for this job to be taken over by others, and the cores made available to the scientific community. With this in mind, I propose that the Pacific Section sponsor legislation to assign to the California Division of Mines and Geology (or, alternately, the Division of Oil and Gas) the responsibility of assembling the core collections from companies on a voluntary basis throughout the State. This legislation should provide funds for the storage and cataloguing of these cores in a central facility, a core library, perhaps at a military base that is being shut down.

The Pacific Section seems to me to be the logical organization to campaign to "save our cores." It is the only organization I know of that contains within its ranks industry geologists who are aware of the cores and of their potential significance, and geologists from governmental agencies and universities who are aware of the need for these cores in non-petroleum studies.

Save the California condor, save the redwoods, now it's save the cores! Is this something the Pacific Section should become involved in? Certainly the cost of core salvage is trifling compared to the salvage of endangered species. I'd like to hear other people's views on this subject. So would the Executive Committee and so, perhaps, would the Legislature in Sacramento.

BOB YEATS

Northern California

The big news from NCGS is the abdication of newly elected President Chuck Kirschner, who has accepted a position with Amoseas in Djakarta. Tom Wright, having all but completed his yearly duties as V.P. and done a commendable job of it, will replace Chuck.

October's meeting will be a lecture and open house of the National Center for Earthquake Research at 800 Menlo Avenue, Menlo Park (2:30-4:30 p.m., Oct. 16). Current progress and recent developments will be discussed; the tour will include the telemetry center, rock mechanics lab, and

the seismographs. Since a heavy turnout may force a change of lecture hall to the USGS, a call to Ginger Meese (894-0270) might save a trip.

On November 8, we will have Distinguished Lecturer Collin Wilkinson speaking on the Geology of the North Sea Area at the luncheon meeting.

DAVE BUSHNELL

Sacramento

NO REPORT.

San Joaquin

NO REPORT.

SALINE RANGE AND VALLEY

The mountain rises abruptly from a Sherwin stage Pleistocene lake valley in California. Its rocks are folded, mutilated and nearly spindled in the afternoon shadow of Inyo Mountains' 11,000' peaks between Independence and Death Valley.

Desert mountains defy perspective. Distance measurements only become apparent after hours of chasing the objective. The Saline Range is much easier to climb with the mind but not nearly as much fun as with a canteen over scruffy, crumbly and gritty outcrops.

An unbelievable volume of Pleistocene intrusives are wedged into and

around California's claim to Paleozoic fame: abundant pre-Cambrian sediments supporting Lower Cambrian carbonates dated by *Olenellus trilobites*.

There are taller peaks around but none are more austere, dessicated. High desert escarpments develop as suddenly as dry air, sagebrush and cactus.

Just south of Waucoba Springs, the Saline Range fellfields differ from the higher Sierra only in content of moisture and vegetation. Rattlesnakes, owls, bristlecone pines, desert and Sierra bighorn, and tiny Tule elk populations dwindle in the vicinity.



Saline Valley and Range

CALENDAR for OCTOBER

S	M	T	W	T	F	S
	1	2	3	4	5	6

9-11 CONTINUING EDUCATION SERIES. Union Oil Center Auditorium, 2:30-6:30 p.m. Dr. John Crowell, University of California at Santa Barbara. "Concepts of Tectonics and Structural Geology." \$25 members; \$30 non-members; \$5 students.

15 BAKERSFIELD COLLEGE GEOLOGY SEMINAR. 7:30 p.m. Science and Engineering 56. David Anderson, Division of Oil and Gas Geothermal Office, Sacramento. "Geothermal Energy, Its Status and Potential."

16 NOON LECTURE SERIES. USC Stauffer Science Lecture Hall 100. W. Gary Ernst, UCLA. "Plate Tectonics and Franciscan Metamorphism."

17 LABGS NOON LUNCHEON. Roger Young Center. H. Gary Greene, USGS. "A Recent Geophysical Investigation of the Oxnard Plain - Ventura Basin Off-shore Area."

18 COAST GEOLOGICAL SOCIETY LUNCHEON. Hong Kong Inn, Ventura.

25 COAST GEOLOGICAL SOCIETY LUNCHEON. Olde Timer, Ventura.

CALENDAR for NOVEMBER

S	M	T	W	T	F	S
				1	2	3

1 COAST GEOLOGICAL SOCIETY LUNCHEON. Casa De Soria, Ventura.

5 SAN JOAQUIN GEOLOGICAL SOCIETY Continuing Education Program. Forum East Building, Bakersfield College, 7:00 to 10:00 p.m. Lectures will cover exploration, production and legal aspects of geothermal resources. The price is \$25, payable at the door. Questions should be addressed to Bill D'Olier, American Thermal Resources, Inc. (805) 833-1420.

6 NOON LECTURE SERIES. USC Stauffer Science Lecture Hall 100. Roger Anderson, Scripps Institute of Oceanography. "Relationship Between Petrology and Magnetism of Basalts from Spreading Centers and Hot Spots."

8 COAST GEOLOGICAL SOCIETY LUNCHEON. Dave's Deli, Ventura.

10 LABGS FAMILY FIELD TRIP SERIES. Trip to Ventura-Ojai-Santa Paula area to see early oil fields and Cal. Oil Museum. Barbecue at Torrey Picnic Grounds. \$3.50 per person. Space limited so make reservations early with Roger Hubbell, Continental Oil, Ventura or Bill Reay, Union Oil, Santa Fe Springs.

13 NOON LECTURE SERIES. USC. Stauffer Science Lecture Hall 100. Robert V. Sharp, USGS, Menlo Park. "Displacement Along the San Jacinto Fault Zone."

14 LABGS BARBEQUE. Northam Station, La Mirada. Harold R. Lang and Richard Dreesen, California Division of Oil and Gas, Long Beach. "Preliminary Sub-surface Investigation of the Northern Margin of the Los Angeles Basin."

15 COAST GEOLOGICAL SOCIETY LUNCHEON. Hong Kong Inn, Ventura.

19 BAKERSFIELD COLLEGE GEOLOGY SEMINAR. 7:30 p.m. Science and Engineering 56. Gordon B. Oakeshott, Division of Mines and Geology, Sacramento. "California's Most Actively Changing Landscapes Today."

20 NOON LECTURE SERIES. USC. Stauffer Science Lecture Hall 100. Ted Reed, UCLA. "Stratigraphy of

Crude Oil Composition and Sedimentary Organic Matter."

22 COAST GEOLOGICAL SOCIETY LUNCHEON. Olde Timer, Ventura.

Change of Address, Phones, for USGS National Headquarters

Various units of headquarters elements of the U.S. Geological Survey, Department of the Interior, Washington, D.C., are beginning to move to the Survey's new National Center at Reston, Va. By early 1974, it is expected that more than 2,200 USGS employees will have completed the move to the new \$45 million facility located on a 105-acre site about 20 miles west of the Nation's Capital. The new Center permits consolidation of Survey headquarters elements now scattered in more than 30 buildings, some as far as 27 miles apart in the metropolitan Washington area.

The USGS Information Office, which provides news media services, is scheduled to move to the new Reston, Va. facility during the weekend of September 8, 1973. Please note the following address and telephone changes. Because of many problems related to the move, please be patient with possible temporary delays in providing services.

Information Office
U.S. Geological Survey
National Center
Reston, Va. 22092
Tel: (703) 860-7444

During the move, and for an indefinite period following, the Information Office will maintain a liaison office in Washington at its old location, GSA Building, Washington, D.C. 20244, telephone (202) 343-4646.

Alaska

NO REPORT.

Los Angeles

NO REPORT.

Northwest

NO REPORT.

PACIFIC SECTION — AMERICAN ASSOCIATION PETROLEUM GEOLOGISTS

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

Material for publication and requests for pre-view copies should be addressed to JOHN W. LIDSTROM, TEXACO INC., 3460 WILSHIRE BLVD., L.A., CALIF. 90010.

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CHANGE OF ADDRESS, subscription, and membership inquiries should be directed to: MEMBERSHIP SECRETARY, PACIFIC SECTION AAPG, P.O. BOX 17486, FOY STATION, LOS ANGELES, CALIF. 90017.

S.E.P.M. FIELD TRIP . . .

(from page 1)

geology, lithology, and sedimentary structures of the rocks with discussions focused on their possible depositional environment.

How much is all this going to cost? You'll be happy to know that in these times of inflation, it's going to cost less than many of our previous trips.

Guided trip with Friday dinner, bus transportation, Saturday lunch, and guidebook:

\$11.00 to members, Pacific Section, S.E.P.M.

\$12.00 to non-members, Pacific Section, S.E.P.M.

Guided trip with bus transportation, Saturday lunch, and guidebook:

\$6.50 to members, Pacific Section, S.E.P.M.

\$7.50 to non-members, Pacific Section, S.E.P.M.

In addition, however, we are hoping this year to attract a large geology student contingent to get them acquainted with our organization and its activities. If you are coming on an expense account or feel that you can afford it, we are hoping that you will agree to sponsor a student by providing his Friday dinner and Saturday lunch. To accomplish this, all you need do is add \$6.00 to your registration fee. You will be notified of the name of the student you are sponsoring and arrangements will be made for you to meet him on Friday evening.

So what now? Choose the field trip package from the above that best fits your needs (don't forget to sponsor a student), and *send money* (make checks payable to PACIFIC SECTION, S.E.P.M.) to A. Eugene Fritsche, Department of Geology, California State University, Northridge, Calif. 91324. In return, a packet listing all times and places for field trip events and motel accommodations will be sent to you. OR call (213) 885-3541 and leave your name and address with the secretary in the Cal. State, Northridge, Geology Dept. You will be sent the packet and necessary preregistration materials. Deadline for preregistration is Friday, *October 19*.

While you're at it, why not add \$2.00 for *membership* in the *Pacific Section, S.E.P.M.* This will save you \$1.00 on the field trip and entitle you to \$1.00 discounts on all our publications, including the Turbidite Short Course Notes, the Miocene Symposium Volume, and our spring, 1974, Cretaceous Biostratigraphy Symposium. National S.E.P.M. membership is not necessary for Pacific Section membership.

ECOLOGY COMPROMISE NOT NEW

ECOLOGICAL and environmental movements often verge on mass hysteria, with large groups of people influenced by professional leaders and busybodies.

"Under these conditions there is little chance for reason or compromise to make things work," says Frank A. Morgan, consulting geologist.

There is evidence that the most dedicated naturalist has always been a compromiser when operating alone. He has had to be reasonable to achieve the necessities of life.

The caveman accepted smoke on his walls to keep warm. He felled a tree for fuel, deciding between the beauty of the forest and his absolute needs. Perhaps he needed the forest space to grow corn, or the tree to build a ladder to his home.

Later, the beautiful woods of our eastern seaboard were cleared in patches, a "tragic" compromise to grow food and make roads. Strangely, this became the American symbol of a thrifty man, to clear a plot of land to improve living conditions for his family, to make a road for his wagon, to advance from the civilization of the stone age.

Later compromises with the ideals of the ecologist have been gladly accepted in the name of convenience and comfort. The kitchen has been moved inside from the back yard, and it now smells up the house. The toilet was moved in later. The beds are now in stuffy rooms, while the Indian preferred the air outside.

We sometimes wonder about the Garden of Eden. Could a trail or a garbage pit have been banned without a mass meeting — or a law?

In 1915 there was an activist committee in the mountain country of California, whose purpose was to put the Ford agency out of business. The cars scared the horses on the roads and there was a law.

Later, the same group fought the adoption of the windshield; the glass was too dangerous, and there was a law. They objected to the installation of "Fore-Doors" (a trade name for front doors) because the driver could not make fast exit to chock the wheels; later, the closed car for the same reasons, and there was a law.

They blocked the building of home garages for the new cars because the livery stables could more efficiently service the transportation needs with less (?) pollution. The obstructionists

dusted off the horse and buggy laws and the fight was on.

This was much like stopping the Alaska pipeline by a 50-year-old right-of-way law on federal lands! (If it were not so serious.)

Why is it that our ecologists and environmentalists, who are so practical when operating for themselves, become so unbending when they organize into groups?

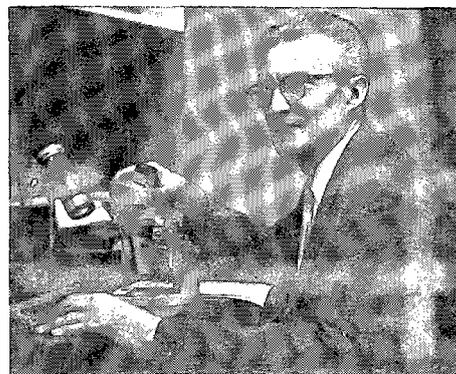
Is it the thrill and power of organization, thoughtlessly becoming a part of the mob, with a gavel and a public relations staff?

Or is it the less thoughtless politician using people for money and votes, cashing in on the strange phenomenon of mob solidarity?

Or as stated by the Harvard professor, "Are they busybodies who, under the pretense of objective study, seek power by submitting their fellow citizens to some half-baked scheme of their fabrication?"

These are serious thoughts for responsible people, for the oil industry and for all of our country.

FRANK A. MORGAN



Orville L. Bandy

Orville L. Bandy, one of the giants of our time in micropaleontology, died suddenly at the age of 56 on August 2, 1973, from acute leukemia.

Orville received his B.S. and M.S. degrees in geology from Oregon State University in 1940 and 1941, and his Ph.D. from Indiana University in 1948. For the following 25 years he taught at USC. Because of his recognized professional excellence and immense capacity for work, he served as a member of the Board of Directors of the Cushman Foundation since 1957 and served as President in 1966-67. In 1971-72 he was National President of the SEPM, and from 1967-72 was Chairman of the Geology Department at USC.

There is planned an all-day family field trip to a number of the old historic oil producing areas in the Ventura-Santa Paula-Ojai region on Saturday, November 10. The trip is scheduled under the auspices of the L.A. Basin Society with the cooperation of the Coast Society. It will be led by Pete Hall and Ed Hall, and will take place providing there is: 1) sufficient interest; and 2) decent weather. Participants should bring their own lunches. A barbecue is planned afterwards. For further details contact Bill Reay, Union Oil Co., 9645 S. Santa Fe Springs Road, Santa Fe Springs, CA 90670, phone (213) 945-1221.

The details of our October dinner meeting are not firm at this writing, and will be announced later.

The Annual Summer Barbecue of the Coast Society, held at the Lagomarsino Ranch in Ojai, through the kind generosity of Mr. and Mrs. E. J. Lagomarsino, was attended by about 50, most all of whom enjoyed themselves. As chairman, the writer wishes to thank the Lagomarsinos for their hospitality, Charlie Lee for his chefery, Nick Nicholeris for the rather thankless job of handling the finances, and all in attendance.

The California Section, A.I.P.G. meeting, held at the Ventura Holiday Inn September 15, was a great success. Comments overheard by the writer praised especially the excellent group of speakers. Ninety-six geologists, wives, and guests attended, making it an outstanding success. Credit is due K. B. "Pete" Hall, Paul Siemon, Harry Whaley, and Jim Saunders for an excellent meeting.

The first of the Coast Society's evening speakers addressed the group Tuesday, September 18, 1973. Mr. Jules F. Meyer, Project Manager, Supply and Transportation Dept., Standard Oil, spoke on "A West Coast Terminal for Very Large Crude Carriers."

Standard has announced that plans for a deep water port facility are being evaluated. An environmental impact statement is being prepared, although the final decision by Standard still awaits the results of a feasibility study now under way.

The western tier of states, including Alaska and Hawaii, presently rely on imported oil totaling 500,000 barrels a day. This is expected to climb to two million barrels by 1980 when North Slope oil is expected to begin

arriving. Foreign oil currently arrives on the West Coast via 100,000-ton tankers. In Standard's operation, half the cargo is unloaded at El Segundo, from whence the ships travel to Richmond. This is necessary due to the shallowness of San Francisco Bay.

Use of 250,000-ton supertankers would decrease the number of ships necessary to deliver a given amount of oil and provide more economical transportation per barrel of oil delivered. An offshore unloading facility for very large carriers, properly located, could decrease risks inherent in numerous smaller tankers using congested port facilities.

Tankers of 250,000 tons are 1100 feet long, 170 to 180 feet at the beam, with draft of 70 feet.

Standard's proposal involves a monobuoy 14,000 feet off their existing Estero Bay terminal. The monobuoy is 40 feet in diameter and would protrude 12 feet above the waterline. Dual 42-inch rigid lines would run from the shore site to a point beneath the buoy: flexible hoses would connect the buoy and the rigid lines. Hoses from the buoy would swivel through 360°. A tanker would moor to the buoy at the bow, thus leading to the wind. The hoses would be connected, and offloading commenced. The ship would always be free to swing into the wind or swell. When offloading is complete, the hoses would be filled with seawater and left floating near the buoy.

The onshore terminal would be built in Toro Canyon. A 279-mile pipeline would be built to the Richmond Refinery, passing into the San Joaquin Valley, and roughly paralleling I-5.

Why Estero Bay? Standard has studied a number of other sites along the coast from a number of standpoints and Estero is clearly the best choice. First, slope and bottom conditions are favorable. (A ship must be free to swing stern shoreward and have maneuvering room on the shore side; the water, on the other hand, is not so deep as to make construction very costly.) Second, weather conditions are known and are relatively moderate, especially as compared to a number of other potential locations. Third, there are facilities for small boat support. Fourth, there is access to Richmond via an established energy corridor. Fifth, possible requirements regarding establishment of strategic oil tankage would enable such tanks to be located in the San Joaquin Valley along the proposed pipeline. Finally, this site is 18 miles remote from established shipping lanes.

Other potential sites include San Francisco Bay (bar currently 55 feet, would have to be dredged to 75 feet plus rock obstacles removed; moorage near Alcatraz would require a costly steel island); offshore Golden Gate (only good moorage is in shipping lane, tanks would have to be located in bird refuge or in precipitous canyon necessitating huge excavation job); Port Hueneme (good tank site, but moorage in Pt. Mugu Missile Range); and so on.

A pipeline may be built to El Segundo from Estero Bay. (A recent story in the *Los Angeles Times* indicating that Pt. Fermin is a prime site was disputed; Standard does not consider it so — it is very close to shipping lanes leading to a busy harbor.)

A poll conducted among local residents near Estero Bay suggested that only about 50 percent opposed a "superport" in the area. Mr. Meyer suggests that "superport" connotes a meaning like the Europort, a huge port city with heavy ship traffic, factories, etc. This offshore facility would be practically invisible with one ship at a time coming and going (there are now three existing conventional buoy terminals in the area); the onshore facility would be nearly hidden in a canyon. The facility would bring in few new people, thus preserving the rural aspect of the area. There are no plans for a refinery: besides, local residents through local governmental bodies would have to approve. The facility will generate tax revenue. Preliminary results of the environmental impact study now under way suggest there will be little adverse impact on the area.

Geological problems in building the facility involve less bottom sand than originally believed, plus protruding rocks. This may result in problems anchoring the monobuoy. Anchoring will probably be done by drilling and concreting holes in the ocean bottom. The fault pattern is currently being mapped. A steelhead stream in Toro Canyon will be relocated in its natural state (no concrete channel). There is an apparently inactive slide on the south side of Toro Canyon which is recognized and will affect plans. The pipeline crosses the San Andreas and other faults. This problem is recognized and will be dealt with.

A number of questions indicated considerable interest in the topic. Our thanks to Mr. Meyer for an excellent presentation.

R. L. STEWART

RECOMMENDED READING**CALIFORNIA DIVISION OF MINE AND GEOLOGY (Sacramento 95812)**

Bulletin 198: Urban geology: Master plan for California. The nature, magnitude, and costs of geologic hazards in California and recommendations for their mitigation, by John T. Alfors, John L. Burnett and Thomas E. Gay, Jr.\$2.50

WASHINGTON DEPARTMENT OF NATURAL RESOURCES (Olympia, WA 98504)

Bulletin 66: Geology of the Washington Coast between Point Grenville and the Hoh River\$3.00

U.S. GEOLOGICAL SURVEY

Professional Paper 712-B: Geohydrology of the eastern part of Pahute Mesa, Nevada Test Site, Nye County, Nevada, by R. K. Blankennagel and J. E. Weir, Jr.\$1.75

Professional Paper 716-E: Distribution, thickness, and lithology of Paleocene rocks in Pakistan, by C. R. Meissner, Jr. and Habib-ur Rahman\$1.25

Professional Paper 726-D: Geophysical studies in the Yuma area, Arizona and California, by R. E. Mattick, F. H. Olmsted, and A. A. R. Zohdy\$1.75

Professional Paper 748: Structural geology of the Santa Rita Mountains, southeast of Tucson, Arizona, by Harold Drewes\$2.15

Professional Paper 756: Middle Jurassic (Bajocian) ammonites from eastern Oregon, by R. W. Imlay\$2.75

Professional Paper 798-A: Geochemistry and potassium-argon ages of plutonic rocks in the Battle Moun-

tain mining district, Lander County, Nevada, by T. G. Theodore, M. L. Silberman and D. W. Blake65¢

Professional Paper 820: United States mineral resources, by D. A. Brobst and W. P. Pratt, Editors\$9.15

Bulletin 1292: The geologic story of Mount Rainier, by D. R. Crandell85¢

Bulletin 1303: Chemical analysis of thermal water in Yellowstone National Park, Wyo., 1960-65, by J. J. Rowe, R. O. Fournier, and G. W. Morey35¢

Water Supply Paper 2018: Ground water in the Eugene-Springfield area, southern Willamette Valley, Oregon, by F. J. Frank\$2.75

Water Supply Paper 2028: A national study of the streamflow data-collection program, by M. A. Benson and R. W. Carter45¢

Circular 668: Reports and maps of the Geological Survey released only in the open files, 1972, by B. A. Weld, K. T. Iseri, and M. L. Millgate. 33 pagesFree

MAPS

I-719: Geologic map of the Wall quadrangle, Nye County, Nev., by E. B. Ekren, E. N. Hinrichs, and G. L. Dixon75¢

MF 483: Preliminary geologic map of eastern Sonoma County and western Napa County, Calif., compiled by K. F. Fox, Jr., J. D. Sims, J. A. Bartow, and E. J. Helley\$2.00

MF 493: Preliminary photointerpretation map of landslide and other surficial deposits of the Concord 15-minute quadrangle and the Oakland West, Richmond and part of the San Quentin 7½-minute quadrangles, Contra Costa and Alameda Counties, Calif. by T. H. Nilsen\$1.00

MF 516: Preliminary lithologic map, Colyear Springs quadrangle, Cali-

fornia, by E. H. Bailey and D. L. Jones50¢

MF 528: Preliminary geologic map of the Coal Mine Basin quadrangle, Elko County, Nev., by K. B. Ketner50¢

U.S. BUREAU OF MINES (To be purchased from the Government Printing Office, Washington, D.C. 20402)

Information Circular IC 8603: Technologic and related trends in the mineral industries, 1972, by Staff, Bureau of Mines, 1973. 44 pp. 19 figs. (GPO Catalogue No. I 28.27: 8603. Stock No. 2404-01388.)75¢

U.S. DEPARTMENT OF THE INTERIOR (To be purchased from the Government Printing Office, Washington, D.C. 20402)

Mining and Minerals Policy - 1973. Second annual report of the Secretary under the Mining and Minerals Policy Act of 1970.

(GPO Catalog number I-1.96/3:973)\$1.25

(GPO Catalogue number I-1.96/3:975/Pt. 2)\$5.30

GEOLOGICAL SOCIETY OF AMERICA BULLETIN, vol. 84, no. 9, Sept. 1973

Mineralogy, correlation and grain-size distribution of Mazama tephra and other Post-glacial pyroclastic layers, Pacific Northwest, by Laurence R. Kittleman

Calcium carbonate cementation of alluvial fans in southern Nevada, by Laurence H. Lattman

Correlation of Pleistocene shorelines in Gippsland, Australia and Oahu, Hawaii, by W. T. Ward

Correlation of ash layers in peat bogs of Eastern Oregon by Glenn A. Borchardt, Joel A. Norgren, and Moyle E. Harward

LUCY E. BIRDSALL

NEWSLETTER

Pacific Section A.A.P.G.

P.O. Box 17486 Foy Station

Los Angeles, California 90017

RICHARD L. HESTER DA
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PACIFIC PETROLEUM GEOLOGIST NEWSLETTER



of the Pacific Section
American Association of Petroleum Geologists

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NUMBER 11

L.A. GEOLOGISTS TO HEAD SLATE OF AAPG CANDIDATES

Distinguished geologists from the East, Southwest and Pacific Coast comprise the AAPG slate of presidential candidates for the 1974-75 year.

The slate is headed by two prominent Los Angeles geologists, John E. Kilkenny, a vice-president of Union Oil Co. of California, and Henry H. Neel, a partner in the consulting firm of Morgan, Neel and Associates. The successful candidate will serve as president-elect during the 1974-75 year and assume the presidency in July, 1975.

Both president-elect candidates are natives of California. Kilkenny was born in Salinas and received his degree in geology from the University of California. He is currently with Union Oil Company of California, serving as geological coordinator of their Geothermal Division and as vice-president of Philippine Geothermal, Inc. Beginning his career as a seismic computer with the Texas Company, Kilkenny subsequently held positions with Superior Oil, Olson's Scouting Service, Pure Oil, and Chancellor-Canfield Midway Oil prior to joining Union in 1951. He served as AAPG vice-president in 1968-69 and was awarded honorary membership in 1972.

Neel was born in Los Angeles and graduated from Stanford University. He is currently a partner in the Los Angeles consulting firm of Morgan, Neel and Associates. Neel's career began in 1942 with Tidewater Oil (now Getty), where he rose through the ranks from sample washer to Division General Manager of the International Exploration and Production Division in Los Angeles. He left in 1962 to begin a career as a consulting geologist. Neel has served on several AAPG committees and was president of the American Institute of Professional Geologists in 1970.

BONUS WASTE

Payment of huge bonuses to the Federal Government for offshore leases "is little more than a dead-weight penalty imposed on industry," said Dr. Daniel A. Busch of Tulsa in a talk to the Marine Technology Society meeting in Washington.

Busch, who is president of the American Association of Petroleum Geologists, said he preferred that his remarks be construed in his private role as a consulting petroleum geologist, rather than his official AAPG capacity.

Using the December, 1972, Gulf of Mexico sale as an example, Busch pointed out that \$1.6 billion was paid in high bids for leases.

"This \$1.6 billion," he said, "if made available to the industry through a system of federal subsidy, would pay the entire cost of 1,600 wells having an average cost of \$1 million each.

"With increased discoveries and production, the Government would be likely to substantially increase its 'take' through increased royalties and income taxes. These should far exceed the amounts surrendered through subsidizing wildcat drilling."

Busch quoted Michel T. Halbouty of Houston, well-known geologist and independent oilman, as suggesting that the high, willing bids at offshore lease sales be accepted by the Federal Government as "commitments to spend those sums in exploration and development drilling on the awarded tracts."

Any portion of the bid money not so spent would be paid to the Federal Government.

"This recommendation," he said, "would certainly stimulate offshore drilling activity."

Busch described how Australia, starting 15 years ago, sought to correct its deficiency in petroleum by offering to subsidize up to 80 percent of wildcat dry hole costs.

"This subsidy was not automatic," he pointed out, "but contingent on review and approval by Government

(continued on page 2)

Sacramento

On September 5, Mr. Burt Amundson spoke before members of the Sacramento Petroleum Association at the weekly Wednesday meeting. Burt presented a very lucid and informative talk with accompanying aerial slides from the western Delta region in the Sacramento Valley to the Temblor Ranges in the Coalinga-Bakersfield area. A portion of the talk was also devoted to viewing aerial slides of the San Andreas Fault System, primarily in the San Francisco Bay region. Burt was employed as a geologist for Standard Oil of California during 1951-1961. His subsurface and field studies were primarily concerned with the regional aspects of the Tertiary and Cretaceous Systems in the San Joaquin Valley. He is currently an instructor in geology at Sacramento City College, Sacramento.

The Northern California chapter of A.P.I. recently held its annual Golf Tournament and Barbecue on September 28 at the Yolo Fliers Club in Woodland. This year's event was again a tremendous success, with approximately 50 golfers on the course and over 130 oilmen attending the evening "happy hours" and dinner. Thank you is extended to all the companies and individuals which made donations of time and prizes to the A.P.I.

On Thursday, November 8, 1973, the Sacramento Petroleum Association will present a lecture by Mr. Colin D. Wilkinson, Regional Geologist in the International Department of Phillips Petroleum Company, Bartlesville, Oklahoma. The title of his lecture will be "The Exploration, Geology, and Potential of the North Sea." The meeting will be held at 8 p.m. in Lillard Hall, Room 103, Sacramento City College. Mr. Wilkinson is a Distinguished Lecturer sponsored by the American Association of Petroleum Geologists.
TERRY PLUMB

BONUS WASTE . . .

(from page 1)

geologists and geophysicists. This program has been so successful that Australia soon will be self sufficient in hydrocarbons, and their subsidy program will be terminated July 1, 1974."

Busch pointed out that a wildcat support plan such as that proposed by Halbouty, or the Australian plan, could be supervised by the U.S. Geological Survey without either tax money or outside federal spending. "Industry's money would be recycled and spent to the best advantage of everyone."

Los Angeles

LABGS Luau

All of you who missed the first LABGS fall LUAU — EAT YOUR HEARTS OUT! The 27 couples who attended has a blast! The Hidden Village room at Sam's Seafood Restaurant in Huntington Beach was really beautiful, and colorful leis were given to all couples. The delicious Luau buffet was piled high with fruits, chicken Hawaiian, and Bar-B-Queed beef, and even those of us who went back for seconds and thirds couldn't dispose of it all. The "Frank Nault Group" played music that appealed to most everyone. The social hour before the buffet, and the wine on the tables were generously contributed by the following firms:

Ausburn Oil Well Cementing Co.
B & B Pipe & Tool Co.
Borst & Giddens Logging
Byron Jackson Inc.
Core Laboratories
Dresser Atlas
Exploration Logging
Geological Exploration Co.
Gibson Directional Drilling
Global Marine
Heintz & Associates
Midway Fishing Tool Co.
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Regan Forge & Engineering Co.
R. F. Smith Corp.
Schlumberger Offshore
Strata-Log
Tryad Service Co.
United Directional Services
United Geophysical Co.
Welex

We are especially grateful for the financial support of these companies. Their help insured that all who attended had a good time. Thanks again!
BILL HUNTER

AAPG NAMES COMMITTEEMEN

The American Association of Petroleum Geologists has named the following Pacific Coast area geologists to posts as committeemen for the 1973-74 fiscal year, President Daniel A. Busch of Tulsa announced.

Dr. Busch said that the following list consists of both elective and appointive offices. He emphasized that the volunteer services of members at the local level are essential to carry out the Association's many and varied programs.

CALIFORNIA

Bakersfield: Edgar K. Borglin, House of Delegates; Louis F. Villanueva, House of Delegates.

Brea: Edward W. Scott, Research Committee.

Camarillo: Robert J. Hindle, House of Delegates.

Citrus Heights: Gordon B. Oakeshott, Distinguished Lecture Committee.

Danville: William Crain, Membership Committee.

Laguna Beach: Manley Natland, Marine Geology Committee.

La Habra: Lawrence C. Bonham, Boy Scout Committee; John E. McCall, Research Committee; George T. Moore, Marine Geology Committee and Boy Scout Committee.

La Jolla: Joseph R. Curray, Marine Geology Committee; George W. Moore, International Science Fair Awards Committee.

Long Beach: J. Douglas Traxler, House of Delegates; Stanley G. Wissler, Committee on Stratigraphic Correlations and Chairman, Commissioners on American Commission on Stratigraphic Nomenclature.

Los Angeles: James B. Anderson, House of Delegates; John W. Bedford, House of Delegates; Ray A. Burke, Industrial Advisory Committee; Ivan P. Colburn, House of Delegates; William H. Easton, Academic Advisory Committee; Donn S. Gorsline, Committee on Publication and Marine Geology Committee; Donald E. Hallinger, House of Delegates and Membership Committee; John E. Killenny, Distinguished Lecturer Committee and Advisory Council; J. W. Lockett, Jr., Division of Professional Affairs Board of Certification; John R. McMillan, Industrial Advisory Committee; Ernest B. Miller, Industrial Advisory Committee; William R. Moran, Committee on Publication, Committee on Energy Minerals and Associate Editor; Anthony E. L. Morris, Committee on Publication and Asso-

ciate Editor; Siegfried J. Muessig, Committee on Energy Minerals; Henry H. Neel, Associate Editor; George P. Pichel, Industrial Advisory Committee; Bernard W. Pipkin, House of Delegates; Arthur O. Spaulding, Committee on Environmental Geology.

Menlo Park: Robert D. Carter, Committee on Stratigraphic Correlations and Committee on Preservation of Samples and Cores; George Gryc, Associate Editor; Richard K. Hose, Associate Editor; John C. Maher, House of Delegates and General Vice Chairman, Operations, Circum-Pacific Energy and Mineral Resources Conference Committee; I. L. Tailleur, Committee on Stratigraphic Correlations.

Orinda: Donald E. Fissell, House of Delegates.

Palo Alto: Stanford L. Rose, Committee on Energy Minerals.

Palos Verdes Peninsula: John N. Terpening, Committee on Computer Applications to Geology.

Piedmont: Kenneth H. Crandall, Industrial Advisory Committee, Development Council of AAPG Foundation, and Chairman, Advisory Committee for Circum-Pacific Energy and Mineral Resources Conference Committee.

Sacramento: James R. Weddle, Committee on Preservation of Samples and Cores.

San Diego: Edwin C. Buffington, Marine Geology Committee; David G. Moore, Marine Geology Committee.

San Francisco: Ian Campbell, Continuing Education Committee; E. W. Ellsworth, Convention Manager, Circum-Pacific Energy and Minerals Resources Conference; Lawrence W. Funkhouser, Chairman, Industrial Advisory Committee; Peter W. Gester, Membership Committee and Industrial Advisory Committee; Earl W. Hart, Committee on Preservation of Samples and Cores; David H. Pfeiffer, House of Delegates; J. D. Weir, Associate Editor; Thomas L. Wright, Committee on Environmental Geology.

San Rafael: Donald L. Ziegler, House of Delegates.

Santa Barbara: John C. Crowell, Continuing Education Committee.

Santa Paula: Edward A. Hall, House of Delegates; D. E. Ritzius, Committee on Preservation of Samples and Cores.

Stanford: John W. Harbaugh, Committee on Computer Applications to Geology and Committee on Conventions; Richard H. Jahns, Industrial Advisory Committee.

(continued on page 3)

AAPG NAMES COMMITTEEMEN...
(from page 2)

Ventura: Ted Off, Committee on Preservation of Samples and Cores.
Whittier: John E. Sherborne, Academic Advisory Committee.
Woodland: Sargent T. Reynolds, House of Delegates.

ALASKA

Anchorage: Charles T. Barker, Marine Geology Committee; Lester D. Brockett, House of Delegates; Willis M. Decker, House of Delegates; Charles R. Harrison, Committee on Stratigraphic Correlations; Harry C. Lee, Marine Geology Committee; John A. Levorsen, Marine Geology Committee.

College: Don M. Triplehorn, Continuing Education Committee.

Pacific Section
NO REPORT.

San Joaquin
NO REPORT.

Alaska
NO REPORT.

PACIFIC SECTION — AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

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

Material for publication and requests for previous copies should be addressed to JOHN W. LIDSTROM, TEXACO INC., 3460 WILSHIRE BLVD., L.A., CALIF. 90010.

Material received by the 10th of each month will be included in the following issue.

CHANGE OF ADDRESS, subscription, and membership inquiries should be directed to: MEMBERSHIP SECRETARY, PACIFIC SECTION AAPG, P.O. BOX 17486, FOY STATION, LOS ANGELES, CALIF. 90017.

CHANGE OF ADDRESS

Charles E. (Chuck) Kirschner has left Standard in Frisco for Amoseas in Jakarta. New address: C. E. Kirschner, Amoseas Indonesia Inc., c/o P. T. Caltex Pacific Indonesia, Katakpos No. 158 Jakarta, Indonesia. Future correspondence for the Northern California Geological Society should be addressed to T. L. Wright, Chevron Overseas Pet. Inc., P.O. Box 3069, San Francisco, CA 94119, since Chuck has vacated the post as president.

John T. Isberg has taken early retirement from the Superior Oil Co. and has opened an office as a petroleum consultant in Houston. New address: 2107 Winrock, Houston, Texas 77027.

Formerly Vice-President of Marconsult, Inc., **Robert F. Herron** is now working with Oceanographic Services, Inc., in Santa Barbara. New address: Oceanographic Services, Inc., 135 East Ortega Street, Santa Barbara, CA 93101.

Rather than face the overwhelming responsibility as editor of the NEWSLETTER, **Sam H. Bromberger** has transferred from Texaco's L.A. office to London, England. New address: Texacs Prod. Serv. Ltd., 1 Knightsbridge Green, London, SW1X, England, 7QJ.

James C. (Jim) Taylor has left Shell to avoid the move to Houston, and is now working for the Oil and Gas Div. of the USGS in Menlo Park. Although Houston isn't bad, Menlo is a hell-of-a-lot better. New address: U.S. Geological Survey, 345 Middlefield Road, Menlo Park, CA 94025. Phone (415) 823-8111, Ext. 2618.

James R. (Jim) Maytum has traded the microscope for the attaché case and hat by receiving a promotion from Texaco's Paleo Lab in L.A. to a staff job in New York. New address: Texaco Inc., 135 East 42nd Street, N.Y., N.Y. 10017.

LABGS SHORT COURSE

The Los Angeles Basin Geological Society recently completed its 1973 Short Course entitled "Working With California Tectonic Problems," presented by Dr. John C. Crowell, Professor of Geology, University of California, Santa Barbara.

In addition to a review of some basic concepts of structural geology and recent developments in plate tectonics, Dr. Crowell presented an excellent update of current research in California geology and the manner in which this new data relates to the plate tectonic scheme of the West Coast. Perhaps the most stimulating section of the Short Course was Dr. Crowell's speculation about the formation of the Los Angeles and Ventura Basins as "pull-apart" basins and how this theory applies to the petroleum potential of offshore Southern California.

Despite the recent departure of exploration groups from the Los Angeles Basin, 52 people attended the Short Course, a number nearly equivalent to last year's attendance. Our thanks are extended to Dr. Crowell for his presentation of a fine course.

JOHN HACKETT, JR.



PROPOSED CONSTITUTIONAL AMENDMENTS

The following Constitutional amendments have been proposed by Stan Eschner under the direction of the Planning and Organization Committee. Underlined portions reflect proposed changes. By-Laws have been added to clarify the duties of Standing Committees. Ballots will be distributed to the membership in February 1974 with a final draft of the Constitution. Please address correspondence concerning these amendments to the Editor before this date.

CONSTITUTION

PACIFIC SECTION OF THE AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

Adopted: September 1924 • Last Amended: September 1973

ARTICLE I

Name

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

ARTICLE II

Object

SECTION 1 The object of this Section shall be to provide for discussion of subjects and problems coming within the scope of the profession and by such intercourse, to promote the advancement and aims of The American Association of Petroleum Geologists as set forth in its Constitution, by-laws and code of ethics.

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

ARTICLE III

Membership

SECTION 1 A member, in any classification, of the American Association of Petroleum Geologists in good standing shall be eligible for membership in this Section.

SECTION 2 Annual payment of the dues of this Section by any person qualified above shall be a declaration of Active membership in this Section.

The Executive Committee may honor the accomplishments of one or more members each year by designating "Honorary Life Members." Honorary Life Members shall be exempt from all future dues.

SECTION 3 Other persons not members of The American Association of Petroleum Geologists who are in the activities of this Section, may subscribe to the publication of the Section "Pacific Petroleum Geologist

Newsletter" subject to the approval of the Executive Committee. Non-member subscribers shall not have the right to vote or hold office but may otherwise participate in all activities of this Section.

ARTICLE IV

Officers

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

SECTION 2 There shall be an Executive Committee consisting of the President, Vice-President, President-Elect, Secretary, Treasurer, Retiring President, Editor of the "Pacific Petroleum

Geologist Newsletter" and one Representative each selected by such other cooperating geological societies (including the Coast Geological Society and the San Joaquin Geological Society) as are at any time approved by the then existing Executive Committee.

ARTICLE V

Funds

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

SECTION 2 The funds of this Section shall be deposited to the credit of Pacific Section of The American Association of Petroleum Geologists in any federally insured depository selected by the Treasurer but not to exceed the limit insured by the Federal Deposit Insurance Corporation. Whenever necessary, the President shall certify to the authority of the Treasurer in administering such account by providing the depository bank with a notice of the Treasurer's election and with a true copy of this Constitution.

The Treasurer shall have authority to issue checks against the bank account so established, on his sole signature, but in the event of his absence or incapacity to act due either to sickness or death, withdrawals or payments by check may be made on the signature of the President during the continuance or the absence or incapacity of the Treasurer, in which event the identity and authority of the President and the circumstances re-

lating to the absence or incapacity of the Treasurer shall be certified to by the Executive Committee if so required by the depository.

ARTICLE VI Meetings

SECTION 1 Pacific Section meetings shall be held annually or at other times on call of the President.

SECTION 2 The time and place of Pacific Section Business Meeting shall be determined by the Executive Committee.

ARTICLE VII Elections

SECTION 1 The President of the Pacific Section of The American Association of Petroleum Geologists, with the approval of the Executive Committee, shall appoint a nominating committee at least three (3) months prior to the business meeting of the Pacific Section, consisting of five (5) members, two (2) of whom shall be past officers of the Pacific Section.

The nominating committee shall, each year, select two (2) candidates for each of the following offices: President-Elect, Vice-President and Secretary, and every other year shall select two (2) candidates for the office of Treasurer. The slate of the candidates shall be announced in the "Pacific Petroleum Geologist Newsletter" at least five (5) weeks prior to the election. Additional nominations may be made by written petition of twenty-five (25) or more members of the Pacific Section in good standing, received by the Secretary within two (2) weeks following the publication of the nominating committee slate of candidates. The Executive Committee shall have the authority to name an additional nominee in case of necessity, to assure two candidates for each office. Voting shall be by mailed ballot. The Secretary shall set a date for counting ballots and shall mail ballots to all members not less than three (3) weeks prior to this date.

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

SECTION 3 This Constitution may be amended by a mail ballot. Ballots concerning constitutional amendments shall be mailed upon the authority of

the Executive Committee or upon receipt by the Secretary of a Petition for Amendment signed by fifty (50) or more members in good standing. A two-thirds majority of the ballots returned within three (3) weeks following mailing to the membership shall be required to pass any amendment.

BY-LAWS ARTICLE I Committees

SECTION 1 Standing Committees

The Pacific Section of The American Association of Petroleum Geologists shall establish and maintain the following standing committees:

- a. Committee on Finance
- b. Committee on Membership
- c. Committee on Planning and Organization
- d. Committee on Legislation
- e. Committee on Publications
- f. Committee on Directories
- g. Committee on Fall Field Trip
- h. Committee on Spring Picnic
- i. Committee on Convention Advisory.

SECTION 2 Appointments and Tenure

The President shall appoint all committee chairmen and co-chairmen and fill vacancies whenever they occur. The committee chairmen or co-chairmen shall appoint all vice-chairmen and committeemen for their respective committees. The Executive Committee may remove any committee chairmen or co-chairmen. The chairmen and co-chairmen may remove any vice-chairmen or member of their committee. The term of office of a member of a standing committee shall be one (1) year. Chairmen may succeed themselves from year to year if reappointed by each succeeding President. Committee members shall be active members of the Pacific Section.

SECTION 3 Committee on Finance

The primary function of the Committee on Finance shall be to prepare an annual budget for approval by the Executive Committee. The Treasurer shall serve as an ex officio member and no other member of the Executive Committee shall serve as a member of the Finance Committee.

SECTION 4 Committee on Membership

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

SECTION 5 Committee on Planning and Organization

The Committee on Planning and Organization shall be comprised of past Presidents of the Pacific Section, that can participate. Their primary function shall be to assist the President in long-range goals and objectives of the society as well as in specific problems that may require their backgrounds.

SECTION 6 Committee on Legislation

The primary function of the Committee on Legislation shall be to advise of Federal, State and local legislation that affects the profession.

SECTION 7 Committee on Publications

The primary function of the Committee on Publications shall be to assist in securing material for publication in the "Pacific Petroleum Geologist Newsletter." The Editor of the Newsletter shall serve as ex officio member and no other member of the Executive Committee shall serve as a member of the Committee on Publications.

SECTION 8 Committee on Directories

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

SECTION 9 Committee on Fall Field Trip

The primary function of the Committee on Fall Field Trip shall be to plan a fall field trip, and following Executive Committee approval, program and carry out this activity.

SECTION 10 Committee on Spring Picnic

The primary function of the Committee on Spring Picnic shall be to plan a spring picnic, and following Executive Committee approval, program and carry out this activity.

SECTION 11 Committee on Conventions

The primary function of the Committee on Conventions shall be to submit a convention plan, and following Executive Committee approval, program and carry out this activity.

EXECUTIVE COMMITTEE MEETING

OCTOBER 25, 1973

The Executive Committee held its monthly meeting on this date at the Holiday Inn in Ventura, California.

COMMITTEE REPORTS

1974 Convention - San Diego

John Minch, Chairman, reported that plans are progressing on schedule. All committee chairmen have been appointed excepting Contributions and Program Ads. President Hall stated he would prefer not soliciting the oil companies for contributions. In lieu of contributions, encourage the companies to let their personnel attend the convention.

The Guide Book, consisting of approximately 80 pages has been blocked out and will include an excellent map of the Cretaceous section. It is estimated the cost of the Guide Book without map will be between \$7 and \$8, with map \$10. John Minch proposed printing 1000 copies. It is estimated cost of printing will be \$6-7 per book.

The Convention Committee requested an advance to cover miscellaneous expenses. The Pacific Section Executive Committee approved an advance of \$500.

Art Spaulding reported that in response to his polling companies have indicated that the location of the 1974 Pacific Section Convention presents no special problems and company personnel will be encouraged to attend.

Honors and Awards Committee

John Curran, Chairman, and his committee have proposed Ken Crandall and King Hubbard for the Sidney Powers Award and L. Courtney Decius for honorary membership in the AAPG.

Spring Picnic and Field Trip

Doug Traxler will coordinate this effort.

Finance Committee

Jack Clare will continue as chairman with Bill Bedford and Don Hallinger assisting.

Plans and Organization Committee

Art Spaulding reported this committee consists of seven past presidents. Formed last year, the committee's purpose is to review the structure and goals of the Pacific Section and to recommend to the Executive Committee any reorganization or restructuring it may deem necessary.

Directory Committee

It was proposed that the directory be updated by printing changes in

names, addresses, telephone numbers and company affiliations of individuals on pages the size of the current directory page. These new additions could then be inserted in the back of the directory. President Hall directed Doug Traxler to follow through and see if this would be feasible and economical.

Fall Field Trip Committee

Dave Ford reported Eugene Fritsche and Ivan Colburn are field trip co-chairmen. The field trip will be held October 26 and 27 and cover the Cretaceous of the Santa Monica Mountains and Simi Hills. Those attending the field trip will meet at Northridge College.

Core Depository Committee

Jim Weddle not present, but sent word that California State, Bakersfield, will furnish land for a depository but a building will have to be donated to house the cores. It is estimated it will cost \$20,000 to \$30,000 yearly to maintain the core depository. This money will have to be obtained from outside sources as the College does not have any budget for this project.

Northern California

The fall field trip to the geysers geothermal energy was led by Dave Cerkel and was considered by the 40 attendees to be as educational as it was enjoyable. A spring field trip is being planned - watch this column for advance information.

Our next luncheon meeting will be November 8 at Marconi's, 122 Battery Street, San Francisco. The featured speaker will be Collin Wilkinson, AAPG Distinguished Lecturer, speaking on North Sea Exploration. This should be one of the best of the year and well worth attending.

On December 11, we will be back at the Leopard to hear Jules F. Meyer and R. C. Erickson discuss "West Coast VLCC Terminal and Pipeline, Related, Aspects of Geological Engineering."

DAVE BUSHNELL

OAK RIDGE

Thrust into its present position south of the Oak Ridge fault, the Ridge is a series of hills rising to 2500 feet and forming the southern boundary of the Santa Clara Valley. These are the last seaward remnants of the San Gabriel-Santa Susanna chain.

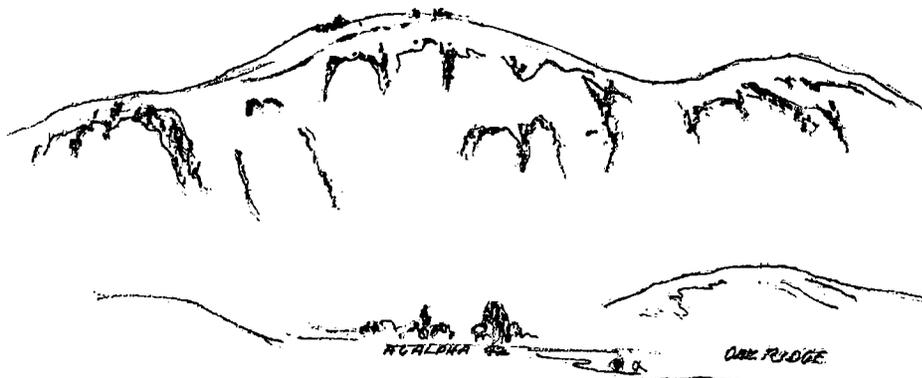
The Ridge drops into the obscurity of the Oxnard Plain at South Mountain, West Mountain and Saticoy Oil Fields just a few blocks from the California Oil Museum in Santa Paula.

Oak Ridge is a linear surface expression of at least eight anticlinal oil fields, most of which are very appar-

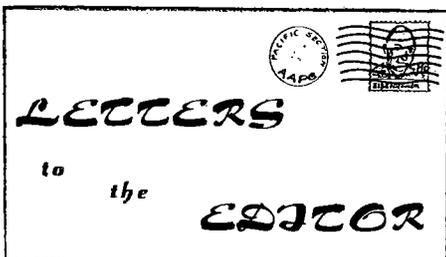
ent on surface maps. These were slowly explored and developed from 1889 to 1947.

Much more than 275 million barrels of medium gravity oil and 250 million cubic feet of gas have been produced from the Oak Ridge fields from Pliocene, Miocene, Oligocene, and Eocene reservoirs, with a lion's share from Sespe.

The Santa Clara River closely follows the Oak Ridge Thrust Fault; both meet the Pacific Ocean near Montalvo. The thrust continues in the subsurface of the Santa Barbara Channel for many miles to the west.



Oak Ridge



**WHY STATE-REQUIRED
"CONTINUING EDUCATION"
PROGRAMS WON'T WORK**

State-required "continuing education" for licensed members of the learned professions is impractical and undesirable, primarily because the whole idea is based on a false premise. Exciting and proposed continuing education requirements are based on extensions of the pedagogic method. Traditionally, licensing agencies have given guidance to juniors coming into the professions. But licensees mature and become experts in diversified specialties. The false premise is that the teacher-pupil relationship implicit in a continuing education program can be successfully applied to advanced practitioners whose competence in their own specialties, equals or exceeds the competence of licensing agencies. Obviously, the pedagogic method no longer applies; and no other compulsory method is in use, or known. The idea that a Board that qualified the juniors, or any other Board, can supply lifetime required educational guidance to mature experts is patently absurd. It is doubtful that Board members, tops in their own specialty, could even prescribe for each other.

If the pedagogic method — "courses" and seminars — now governing pharmacists at a cost of \$50 per year per person, is imposed by the legislature on the potential one million licensees, a \$50 million per year bureaucracy of "instructors" would be established, mainly at consumers' expense, and of dubious competence.

The evils of geographic maldistribution would discriminate in favor of those choosing to work and live near sites of compulsory "courses," and would deny less accessible areas the needed talent.

The arguments above also apply against "voluntary" specialty certification which was specifically recommended to the last legislature. There is too much risk to the consumer that the wrong people might get "certified" for certain jobs.

Wilferd W. Peak, President, State Board of Registration for Geologists, in his letter of May 10, 1972 to the California Senate Committee on Business and Professions, explained clearly that geologists now voluntarily re-

ceive the individual continuing education they need, and that they oppose mandatory programs.

Members of the geological profession should keep alert for adverse legislation that might be introduced regarding "continuing education" — or "voluntary certification" and kill it.

WILLIAM W. PORTER II

(This letter has been condensed from a more extensive analysis submitted by Mr. Porter based on Senate Committee on Business and Profession Report on Continuing Education, March 21, 1973. Copies of his complete text will be made available by the Editor, Pacific Section Newsletter on request.)

**CALENDAR for
NOVEMBER**

S	M	T	W	T	F	S
				1	2	3

14 LABGS BARBEQUE. Northam Station, La Mirada. Harold R. Lang and Richard Dreessen, California Division of Oil and Gas, Long Beach. "Preliminary Sub-surface Investigation of the Northern Margin of the Los Angeles Basin."

15 COAST GEOLOGICAL SOCIETY LUNCHEON. Hong Kong Inn, Ventura.

19 BAKERSFIELD COLLEGE GEOLOGY SEMINAR. 7:30 p.m. Science and Engineering 56. Gordon B. Oakeshott, Division of Mines and Geology, Sacramento. "California's Most Actively Changing Landscapes Today."

20 NOON LECTURE SERIES. USC. Stauffer Science Lecture Hall 100. Ted Reed, UCLA. "Stratigraphy of Crude Oil Composition and Sedimentary Organic Matter."

22 COAST GEOLOGICAL SOCIETY LUNCHEON. Olde Timer, Ventura.

26 GEOLOGY SPEAKERS FORUM. Cal State, L.A. Physical Science 158, 4 p.m. Ken Puchlik, Laurence Livermore Laboratory. "Geology of the AEC Nevada Test Site."

**CALENDAR for
DECEMBER**

S	M	T	W	T	F	S
						1

4 NOON LECTURE SERIES. USC Stauffer Science Lecture Hall 100. Gordon Gastil, California State University, San Diego. "Tectonics of Southern Baja California."

17 BAKERSFIELD COLLEGE GEOLOGY SEMINAR. 7:30 p.m.

Science and Engineering 56. Dr. Robert L. Wesson, USGS. "Prospects for Earthquake Prediction in California."

18 NOON LECTURE SERIES. USC Stauffer Science Lecture Hall 100. Norman Silberling, Stanford University. "Development of a Triassic Time Scale: a Paleogeographic and Sedimentologic Problem."

19 LABGS NOON LUNCHEON. Rodger Young Center. Dr. P. J. Fischer, Professor Calif. State University at Northridge. "Submarine Canyons Off the Hawaiian Islands."

Northwest

NO REPORT.

Coast

NO REPORT.

RECOMMENDED READING

CALIFORNIA GEOLOGY, vol. 26, No. 7, July 1973. Pleistocene Lake San Benito, by Olaf. Jenkins Probe of global tectonics.

CALIFORNIA DIVISION OF MINES AND GEOLOGY (Mail orders: P.O. Box 2980, Sacramento 95814)

Death Valley Sheet, Geologic Map of Calif. (reprint)\$1.50

Kingman Sheet, Geologic Map of Calif. (reprint)\$1.50

San Francisco Sheet, Geologic Map of Calif. (reprint)\$1.50

Santa Ana Sheet, Geologic Map of Calif. (reprint)\$1.50

Weed Sheet, Bouguer Gravity Map of California. Scale 1:250,000\$2.00

Special Publication 39: Earthquakes. Be prepared! When the earth quakes—you can reduce the danger, by William B. Clark and Carl J. Hague10¢

STATE OF WASHINGTON, DEPARTMENT OF NATURAL RESOURCES DIVISION OF MINES AND GEOLOGY (Olympia, Washington, 80504)

Directory of Mining Operations, 1971-72Free

Information Circular 47: Geology in land use planning; some guidelines for the Puget Lowland, by Ernest R. ArtimFree

Information Circular 49: Conconully Mining District of Okanogan County, WashingtonFree

RECOMMENDED READING . . .

(from page 7)

Reprint 11: The search for hot rocks, geothermal exploration, Northwest, by J. Eric SchusterFree

Open File Report (inspection only): The preliminary geologic map of the Southern Cascade Range, Washington, by Paul E. Hammond. (Note: copies deposited at Calif. Division of Oil and Gas, 1416 Ninth St., Sacramento; and at the Oregon Dept. of Geology and Mineral Industries, 1069 State Office Bldg., Portland)

ARIZONA BUREAU OF MINES

Bulletin 186: Geology of the Virgin and Beaverdam Mountains, by Richard T. Moore\$2.00

NEVADA BUREAU OF MINES AND GEOLOGY

Bulletin 78: Geology and mineral deposits of Esmeralda County, Nevada, by J. P. Albers and J. H. Stewart\$6.00

Bulletin 80: Geology of the Granite Complex of the Eldorado Newberry, and Northern Dead Mountains; Clark County, Nevada, by Alexis Volborth\$4.00

Bulletin 82: Forecast for the future — Minerals, by Arthur Baker III, N. L. Archbold and W. J. Stoll\$4.00

Map 44: Modified geologic map of Nevada, by N. L. Archbold\$2.00

Map 45: Reconnaissance geologic map of the McCullough Range and adjacent areas, Clark County, Nevada, by Edward C. Bingle and Harold F. Bonham, Jr.\$2.50

Map 46: Industrial mineral deposits of Nevada, by Keith G. Papke \$2.00

GEOLOGICAL SOCIETY OF AM-

ERICA BULLETIN, vol. 84, no. 7, July 1973

Crustal and upper mantle structure of the central Aleutian Arc, by John A. Grow

Origin of Iherzolite inclusions in the Malapai Hill basalt, Joshua Tree National Monument, California, by Robert J. Stull and Kent McMillan

Rice Valley Outlier — New sequence of Cretaceous-Paleocene strata in North Coast Ranges, California, by James O. Berkland

Submarine Bench at 5M, Ohau, Hawaii, by W. H. Easton

GEOLOGICAL SOCIETY OF AMERICA BULLETIN, vol. 84, no. 8, August 1973

Ecoligites from Southwestern Oregon, by Edward D. Ghent and Robert G. Coleman

Character and chronology of basin development, western margin of the Basin and Range Province, by Charles M. Gilbert and Mitchell W. Reynolds

Alaska-Aleutian Range batholith: Geochronology, chemistry, and relation to circum-Pacific plutonism, by Bruce L. Reed and Marvin A. Lanphere

Mono Craters, California: A new interpretation of the eruptive sequence, by Eugene I. Smith

Map parameters for correlation of marine terraces in California, by V. K. Verma

SCIENTIFIC AMERICAN, vol. 229, no. 1, July 1973

Plate tectonics and mineral resources, by Peter A. Rona

ENGINEERING AND MINING

JOURNAL, vol. 174, no. 7, July 1973

What can be learned from surface subsidence? Part 2: Practical rock mechanics for the miner, by Jack Parker

Geothermal steam in the Geysers-Clear Lake Region, California: Discussion, by Loren A. Raymond and James O. Berkland

SCIENTIFIC AMERICAN, vol. 229, no. 2, August 1973

The evolution of the Andes, by David E. James

BOOKS

Geothermal Energy, Resources, Production, Stimulation, Edited by Paul Kruger and Carel Otte. Stanford University Press, Stanford, Calif. 94305\$17.50

Managua, Nicaragua earthquake of December 23, 1972. Earthquake Engineering Research Institute (1973), 366 40th St., Oakland, Calif. 94609. 214 p.\$5.00

Oil and gas fields of Australia, Papua, New Guinea and New Zealand, edited by Lesle R. Beddoes, Jr. Tracer Petroleum & Mining Publications Pty Ltd. (1973) 91 Clarence St., Sydney, NSW, Australia.

382 p.\$92.00

Petroleum exploration offshore from New York by William B. Rogers, Robert H. Fakundiny and W. Lynn Kreidler. New York State Education Department (1973), New York State Library, Albany 12224.

25 p.75¢

Kuwait: prospect and reality, by H. V. F. Winstone and Zahra Freeth. Crane, Russak & Co. (1972).

232 p.\$20.50

The story of Rochester, Pershing County, Nevada, by Hugh A. Shamberger, 1973. (Prepared in cooperation with the Nevada Dept. of Conservation and Natural Resources and U.S.G.S.) Published by Nevada Historical Press (C/o Hugh A. Shamberger, Star Route 1, Box 751, Carson City, Nev. 89701)

LUCY E. BIRDSALL

NEWSLETTER

Pacific Section A.A.P.G.

P.O. Box 17486 Foy Station

Los Angeles, California 90017



PACIFIC PETROLEUM GEOLOGIST NEWSLETTER

of the Pacific Section
American Association of Petroleum Geologists

VOLUME 27

DECEMBER, 1973

NUMBER 12

GUEST EDITORIAL . . .

A REPORT FROM YOUR ADVISORY COUNCILLOR
WITH SOME THOUGHTS ON THE FUTURE

I appreciate the opportunity to write a guest editorial for the PACIFIC PETROLEUM GEOLOGIST NEWSLETTER. I served on the first editorial staff in 1947 the year it was founded by Martin Van Couvering. I have read every issue printed since then as well as making a few contributions from time to time. I also have a nearly complete file which has proven to be a valuable reference on occasion.

First I would like to say that I have always been proud to be a Pacific Coast Petroleum Geologist. Those of us working in California are exposed to structural and stratigraphic geology as complex as in any other part of the world. Having worked here we are prepared to work almost anywhere else, except perhaps in dominantly carbonate areas. As a group we have a good oil finding record and our Pacific Section members have proved to be good oil finders when transferred to other areas.

Since July of this year I have been your representative on the Advisory Council of the National AAPG succeeding Tom Baldwin who did a very fine job looking after our interests. A meeting was held in Denver the last week in September presided over by Jim Wilson, past President of the AAPG and the new Council Chairman. Prominent on the agenda was the selection of Candidates for Honors and Awards at the April 1974 National Convention at San Antonio. There were many more candidates this year due to the solicitation of the Sections and Local Societies for suggestions. Your Pacific Section Honors and Awards Committee made some excellent recommendations. Harold W. Hoots, a long time active member of the Pacific Section, formerly Chief Geologist for Richfield Oil Corp. and presently a member of the Stanford

Research Associates was selected for Honorary Membership. Other suggestions are high on the list and will receive consideration for the next year's awards.

It has become evident to me that our relations with the National AAPG have been improving during the past few years. Our Pacific Section officers and representatives are in closer touch with what is going on in the parent organization. This is due in part, I think, to the new constitution adopted in 1969 which changed the old Business Committee to the House of Delegates and provided for the new legislative group to elect its own chairman to sit as a voting member of the Executive Committee. Another factor has been the reorganization of headquarters personnel with Fred Dix as new Executive Director. Still another step forward was the recent addition to the AAPG Constitution providing that "one of the purposes of the AAPG shall be to advance the professional well-being of its members."

There is still room for improvement and more cooperation. This is necessary to enable our profession to help meet the tremendous oil finding challenges that lie ahead.

I should emphasize at this point that the prime purpose of the AAPG is to provide its members with scientific information and education relating to the search for oil and gas. We are not legally permitted to lobby although we will keep abreast of legislation and government activities pertaining to exploration.

Up until a few years ago many geologists were almost exclusively concerned with the geology of the particular areas and basins in which they were working. This attitude has been changing and with the world-wide

(continued on page 2)

GEOLOGICAL REVIEWS

A Preliminary Subsurface
Investigation of the Northern
Margin of the Los Angeles Basin

By RICK DRESSEN
HAROLD LANG

The area of investigation is along the south flank of the Santa Monica mountains from Elysian Park westward to Santa Monica.

The primary structural features of the study area are two, intersecting zones of deformation: The Santa Monica zone and the Newport-Inglewood zone. Incidental to these primary features are secondary zones of shearing and folding. It is believed that structural features of the area indicate two, chronologically and mechanically distinct regimens of deformation: The left-lateral Santa Monica zone having a latest Miocene inception and a primary vector of compression NE-SW, and the right-lateral Newport-Inglewood zone having a late Pliocene inception and vector of compression NW-SE.

Bisecting the northern margin of the Los Angeles Basin, the Santa Monica zone of deformation generally strikes N. 30° E. and dips an average of 75° to the NW. Movement along this zone, which has been assigned as much as 7½ miles left lateral separation (Ref. Lamar), has resulted in a maximum of 2000 to 6000 feet of reverse relative separation measured at the top of the Topanga formation. The primary phase of activity along the zone was from latest Miocene to earliest Pliocene time.

Activity on the Newport-Inglewood zone began in late Pliocene time and seismic data demonstrate that it is still active. It is believed that the Santa Monica zone was in a dormant state at the time that it was cut by the Newport-Inglewood zone. The Newport-Inglewood zone was deflected to the west by the resistant core of the Santa Monica anticline,

(continued on page 2)

GUEST EDITORIAL . . .

(from page 1)

emphasis on the search for petroleum and the involvement of so many of our California Geologists in studying the geology of areas outside the state it becomes imperative to be more widely and better informed. The AAPG Bulletin takes on an added importance to us with its great variety of articles on a wide spectrum of geologic subjects relating to petroleum. We are fortunate in having an expert editorial staff at National Headquarters. Most of you have probably read some of the recent controversial and thought-provoking Bulletin articles on continental drift, sea floor spreading and plate tectonics.

The last subject that I would like to bring up is one of paramount importance to all of us — The Energy Crisis — which has recently been greatly aggravated by the Arab Nations' shut-off of oil supplies to the United States and curtailing production to Europe and Japan. There will undoubtedly be new developments by the time you read this but there is no doubt that we are entering a long period of great demand for petroleum at prices that will stimulate exploration activity. Now is the time to go after the obscure and subtle stratigraphic traps and the hidden fault accumulations as well as the more conspicuous offshore seismic structural features. Deep objectives, previously thought to be sub-commercial, should be reexamined in light of changing economics. For a number of years Mike Halbouty, former AAPG President, has advocated the need for drilling more exploratory wells to improve our oil finding rate and this is never more true than today. The late A. I. Leversen believed that there are still many large undiscovered stratigraphic fields. This is the time to search for them.

The recent AAPG publication, Memoir 15 "Future Petroleum Provinces of the United States—Their Geology and Potential" of which I was Pacific Coast Editor with the invaluable help of 30 outstanding Pacific Section geologists, guestimated a figure of 114 billion barrels of undiscovered oil and equivalent gas in place in California basins. Of this total we figured that offshore basins might have 89 billion barrels and onshore basins 25 billion barrels. If we are anywhere near right this gives us a great target to shoot for. No estimate was made for offshore Oregon and Washington which have a great volume of marine sediments and only a few scattered exploratory test wells. We all know that Alaska

offers very great potential with many large untested offshore basins as well as the prolific North Slope and the Cook Inlet.

A year ago there were many of us who were afraid that Pacific Coast exploration (and the Pacific Section) had reached its peak and was headed down hill. The Middle East war and political developments should change this trend. There are now good indications that overly strict environmental controls will be relaxed to permit more exploration both onshore and offshore. The money for an accelerated exploration program should be available — the rest is up to us.

JOHN E. KILKENNY

ARCTIC GEOLOGY

The Arctic regions of the world must be producing 20 to 25 million barrels of oil per day by 1990 to meet world energy requirements, according to one of the authors of "Arctic Geology," recently published by The American Association of Petroleum Geologists. The book treats the scientific, economic, environmental, and political problems which must be solved to meet this goal in a comprehensive suite of 70 papers, including 24 by Russian scientists, covering Alaska, Canada, Siberia, European Russia, Greenland, Iceland, and the Nordic countries.

The thorough coverage given the geology, geophysics, and historical development of this vast area of more than 14 million square miles is supplemented by several papers of interest to those outside the fields of geology and geophysics.

The 747-page book, number 19 in the AAPG's Memoir series, was edited by Max G. Pitcher, Denver, and can be ordered from the AAPG, Box 979, Tulsa, OK 74102. Price is \$30. A comprehensive index is provided and each paper includes an extensive bibliography.

DISTRIBUTION OF PACIFIC SECTION MEMBERSHIP

L.A. Basin	422
Bakersfield	180
San Francisco	180
U.S. (Other than West Coast)	170
Coast (Ventura-Santa Barbara)	80
Foreign	35
Sacramento	33
Alaska	30
Pacific Northwest (Oregon-Washington)	22
Total.....	1152

GEOLOGICAL REVIEWS . . .

(from page 1)

following a zone of accommodation along the southwestern limb of the mountains. As breaks had previously been established along the dormant Santa Monica zone, some of the right lateral displacement of the Newport-Inglewood was transferred as reverse, post-Pliocene displacement along the Santa Monica zone west of the Newport-Inglewood.

The Brentwood-Cienegas and the 6th Street zones are both incidental of the same stress pattern that resulted in the Newport-Inglewood zone.

The Brentwood-Cienegas zone strikes nearly due west, dips steeply to the north, and has resulted in 4500' of relative reverse displacement of the top of the Topanga. This zone cuts the Santa Monica north of the Sawtelle oil field and probably has a history and western extent similar to the Newport-Inglewood zone. The Brentwood-Cienegas zone is continuous eastward to the Las Cienegas field trending toward Bandini field and the Whittier-Elsinore zone.

The 6th Street zone is geometrically similar to the Brentwood-Cienegas but does not cut the Santa Monica zone. Relative displacement of the top of the Topanga is some 3000 feet. The eastern extent of the zone outside the area is indeterminate, but probably trends toward the Whittier-Elsinore zone subparallel to the Brentwood-Cienegas zone.

CALENDAR for JANUARY

S	M	T	W	T	F	S
		1	2	3	4	5
14-16 GEOTHERMAL EXPLORATION SHORT COURSE. Senator Hotel, Sacramento. GRC Office, Box 1033, Davis, Calif. 95616.						
15 NOON LECTURE SERIES. USC, Stauffer Science Lecture Hall 100. Barry Raleigh, U.S. Geological Survey, Menlo Park. "Earthquake Prediction and Control."						
16 LABGS NOON LUNCHEON. Rodger Young Center. T. L. Teng, University of Southern California. "Seismic Studies in the Los Angeles Basin."						
21 BAKERSFIELD COLLEGE GEOLOGY SEMINAR. 7:30 p.m. Science and Engineering 56. George V. Chilinger, Department of Petroleum Engineering, USC. "Compaction of Fine and Coarse-Grained Sediments."						

Los Angeles

I'm sorry I missed the L.A. Basin Geologic Society luau, but we were back visiting relatives in Chicago. We had a fine trip. I did manage to make the SEPM Cretaceous field trip in the Santa Monica Mountains and Simi Hills. The local student turn out for this occasion was excellent.

I had a preview look at the slate of candidates for the 1974 Los Angeles Basin Geological Society. We are definitely down to a two party system, Texaco and Union. Too bad there are not any issues at stake.

The LABGS fall family field trip was enjoyed by everyone except one of its leaders, Bill Reay. Mr. Reay had some well sitting duties and couldn't make it. Dave Totten reports:

"The family field trip to the 'Birthplace of California oil' was a grand success. About 60 interested spectators drank in the beauty of the Santa Clara Valley on a beautiful clear day, drank in the fascination of several oil fields, and drank in the refreshments at the evening Bar-B-Que. The Hall boys, Ed and Pete, led a very leisurely tour of these areas, explaining the history of the fields, the geology, and some of the geomorphology. Pete also included a tour of his fruit stand. Tom Hopps, Argo Oil Company, gave a good summary of the Silverthread Field, showing a fine outcrop with Monterey faulted over Plio-Pleistocene debris. The Bar-B-Que, thanks to two lovely ladies from Union Oil Company, went over with a big bang. (Or was it Fill Blaisdell's baked beans?) Loretta Savee and Jeri Bringas were welcome helpers at the great steak dinner. Thanks to all for attending and for making this one of the greatest family outings ever."

Note: Maybe Pete Hall could arrange a trip on his own land, next year where everybody could look at the geology and crush grapes at the same time.

The LABGS BBQ, Northern Station, La Mirada, given November 14 was a great success. The guest speakers Harold Lang and Richard Dreesen were well received. Many thanks to Dave Ford and the Union Oil Paleontologists for putting on a fine bar-b-que. Dennis McMurdie did a great job with the steaks.

TOM REDIN

AAPG RESEARCH CONFERENCE

"Recent Advances in Carbonate Studies," March 27-30, 1974, at the West Indies Laboratory, St. Croix, U.S. Virgin Islands, will be convened by Lee C. Gerhard and H. Gray Multer. The purpose of the Conference is to provide a setting for informal discussions and presentations of recent advances in carbonate studies. There will be a field trip to Buck Island Reef National Monument.

Attendance is by invitation or by application to the convenors. Participants should be specialists in carbonates or knowledgeable in closely-related subjects. Attendance will be limited to 35 people. Interested persons should write (airmail) to Dr. Lee C. Gerhard, West Indies Laboratory, Fairleigh Dickinson University, P.O. Annex Box 4010, Christiansted, St. Croix, U.S. Virgin Islands 00820.

Northern California

NO REPORT.

Employment Opportunity

Technical Assistant Wanted. Security Pacific Bank, L.A. Head Office Petroleum Dept. needs technical assistant to support engineers and loan officers. One year J.C. desirable. Willing to tran. Salary \$650/mo. minimum. Call (213) 620-6033.

CHANGE OF ADDRESS

Donald D. (Don) Bruce has joined W. R. Grace & Company in New York as Staff International Geologist. His new mailing address is: 1114 Avenue of the Americas, New York, N.Y. 10036.



PACIFIC SECTION — AMERICAN ASSOCIATION PETROLEUM GEOLOGISTS

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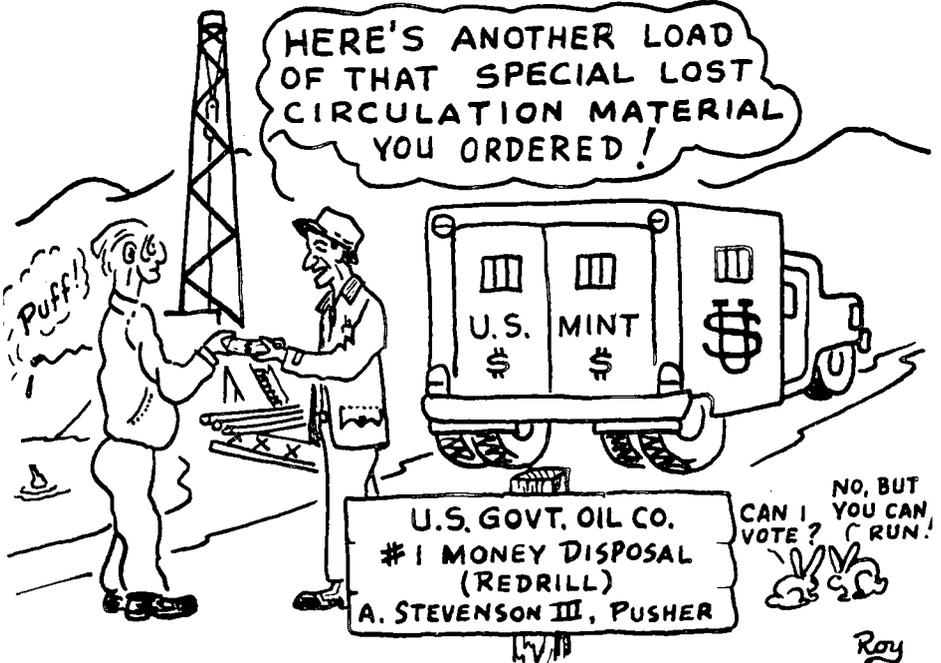
Recommended Reading LUCY E. BIRDSALL (213) 688-2850

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CHANGE OF ADDRESS, subscription, and membership inquiries should be directed to: MEMBERSHIP SECRETARY, PACIFIC SECTION AAPG, P.O. BOX 17486, FOY STATION, LOS ANGELES, CALIF. 90017.



That's How Consultants Are Born by Bud Ogle

I.

Oh, Geologist's brain was grinding one day
When out of the mist there flashed a fresh play.
His fancy was struck by the promise in store
Of billions of barrels - perhaps even more.
He sprang to work with vim and with verve,
Concentration was keen, his mind did not swerve.
Columns of strata and isopachs too
Assembled together: there was bound to ensue
A basinal picture whose inner propensity
Next must be delved with further intensity.
Conferences start, money is needed
To shape the grain that now has been seeded.

II.

Oh, geologist's chore has just barely begun
His battle has started; he's now on the run.
His superior's canny with *years* to his credit,
(Years, not oil, are also the debit).
'Round and around the play is debated -
"This - oil country? - If so, who has stated?
Control is weak, your sub-surface poor,
If you had more data why then we'd be sure!"
At last (since his bin is empty of plays,
And management expects one, *some* of these days!)
Superior moves to perk up the ear
Of the genius in charge of the next higher tier.
"Seis is needed and field mapping too
Will give us the answers on what next to do,"
"A budget's involved - don't you know that?"
Executive shouts and blows off his hat.
He frets and he stews as he ponders the play
(With technical background - geology IA.)
"There's so many reasons why this is not sound
There're no derricks there - no oil in the ground!"
A standstill is reached, as hope starts to fade -
Superior's shrewd, knows the tricks of the trade
"Word has got out - can't say if it's so,
Gulf Oil is leasing, there's bound to be more."
The lure has struck home; to combat we charge,
We move into action: "this picture is large!"
"Seis crews we'll move, and field men we'll find
To rush to the fray; there's just barely time!
Lease men we'll shuffle and transfer a few
Who can hustle a lease in competitive stew."

III.

Oh, geologist moves with no hesitation
As seis dope points up a structure's location.
There's contouring now with reams of new data
As powerful tools unravel the strata.
All the requirements are finally fulfilled.
Next move is obvious; a well must be drilled!
But what of the leasing as hope starts to rise?
Has a block been assembled of reasonable size?

IV.

Oh, geologist's plans may oft go awry
If landman's not cunning, nor tricky, nor sly.
For there're landowners careful and landowners wary
But all must soon end as the landman's quarry.
So landmen march forth with leases in tow
Showing royalties small and bonuses low.
(Cause management's trying to get a big block
With cash from the pocket and not from the sock.)
A month on the ground with a dollar or two

Must give us results or the play may be through
Records are searched and field checking starts,
Acreages divided into 96th parts!
Owners departed, their whereabouts unknown,
Interests scattered as grain may be sown!
The task won't be easy it now can be seen
But landman can track with nostrils so keen.
A certain percentage signs; does not falter,
But others may set out the role of Gibraltar.
Titles are cleared, and interests divided
Are signed a twain a, unit united.
The holdouts give forth with plans astounding
Inspired by lawyers (who need more rounding).
Our secret is out and kibitzer joins
To yap at our flanks and grasp at our loins.
His picture's not clear but his money is sound
And quickly his dollars envelope good ground.
"Management, Management can we have more?
A dollar we offer but they offer four."
A conference follows to size up the plot,
To find if our structure is covered or not.
There're holes in the block, but some solid wedges
Are conspicuously present (cut on the edges!!)
Executive's head is shaking anew;
Geologist's dream is up for review.
More money must come if this dream's to bloom.
Can he dispel this care of gloom?
Maps are laid out, cross-sections are scanned,
The coals of oil-barrels are once again fanned.
Competitor's acreage is brought into play.
"Perhaps a 'deal' could still save the day?
If we could get this, and trade them for theirs
With bonus or pride, or drilling shares . . . ?"
Minds are made up and more money rolls
To seal up the gaps and blot out the holes.
More owners are signed, competitors vie
And prices are rising! where is the sky?
Finally there comes, and this we must learn,
An end, (tis the law of diminishing return).

V.

Oh, geologist fits all the parts into place
The land and the rocks must fit the same space.
The next step is easy - we must dig a hole
By turning a bit in search of our goal.
But into the plot a nemesis looms
Addicted to doubts and pervading glooms.
A slipstick inhand, a heart with no fire,
Engineer's yammering predictions most dire.
Plucking some figures from out of the air
And cubing some constants with maybe a square
He quickly can prove that prospects are dim.
Drilling this hole - a geologist's whim!
His time has come; he finally concedes
To plan the drilling, as much as he bleeds.
Speed is the thing: a record he'll make
By cutting out coring there's no drilling break!
Geologist pleads for some cores, just a few
Compromise follows - "We'll give just *two*."
Nights without end and days full of toil
As the bit turns on in search of some oil
Geologist's haggard; he's losing some weight
For everything happens 'twixt midnight and eight.
"We're getting some shows and oil sands been found."
An E-log we want - get that sonde in the ground!"
Eager hands grasp at the film 'fore it's dry.
"Is it a bust or will we ride high?"
The sand's not too thick, the kicks not too strong
But it calls for a test to know if we're wrong.
The packers don't set; the test's not conclusive

(Oil has a way of being elusive).
 "Let's go again" geologist cries -
 Engineer doubts if its mechanically wise.
 The next packers hold; it looks like we've hit!
 There's oil to the surface and into the pit.

VI.

Oh, geologist's persistence has loosed nature's hoard.
 Such devotion to duty will bring just reward!
 Picture's are made of the crew on the rig
 And there's engineer looking quite big!
 V.P. is loosing a blurb to the press
 But where is our hero - I'll give you a guess.
 He's back in the office with dreams of new plays
 And girding his loins for certain new frays.
 His cup is full; management's been kind,
 (A five buck raise in his paycheck he'll find.)
 Superior, even has been given new cheer -
 "I'll take that boy down and buy him a beer!"

Sacramento

Mr. Colin D. Wilkinson, Regional Geologist for Europe-Africa in Phillips Petroleum Company, and Distinguished Lecturer for the AAPG, spoke before a joint meeting of the Sacramento Petroleum Association and Sacramento City College Geology Department on November 8, 1973. Mr. Wilkinson's lecture was entitled the "Exploration, Geology, and Potential of the North Sea," and was presented before approximately 35 members.

According to Wilkinson "the North Sea exploration was triggered in 1959 by the discovery of the giant Slochteren gas field in northeastern Holland. After the discovery of gas reservoirs in the United Kingdom sector of the North Sea, there followed a series of dry holes which led to a period of discouragement. The discovery of the Cod and Ekofish fields and adjacent finds in the Northern Tertiary basin outlined the first giant oil field in northwestern Europe."

Although the Ekofish field and adjacent finds are located in an area of ever increasing energy demand and consumption, the North Sea oil-gas production is not expected to make a great impression on the European energy needs. Production from the North Sea may reach between 3 to 5 million barrels per day by 1980, but Western European consumption will have risen to between 14 to 30 million barrels per day.

Mr. Reese Norton, Executive Vice President of Clean Bay, Inc., and Mr. Bill Evans, Operations and Equipment Manager of Clean Bay, Inc., were the distinguished speakers before members of the Northern California chapter of the American Petroleum Institute on November 13, 1973. The meeting was held at the Carlton

Club in Woodland with 40 members in attendance for cocktails, dinner, and talk. The topic of the evening was the "Operations of Clean Bay, Inc. and its handling of oil spills."

Clean Bay is a non-profit corporation whose primary function is as an oil spill control cooperative. Sponsorship is attained from 10 companies in the San Francisco Bay Area with refining and marketing terminals. The companies comprising the group are Arco, Exxon, Mobil, Pennzoil, Phillips, Sequoia, Shell, Standard, Time and Union. The area of responsibility for Clean Bay extends from Fort Bragg, north of San Francisco, south to Cape San Martin; approximately 340 miles of coastline. Also included are the shoreline and waters of the greater San Francisco Bay region.

Mr. Norton noted "Clean Bay's main function is to stand in total readiness to contain and clean up upon request any oil spill within its area of interest. This includes spills by member companies and non-member firms. Additionally, we will clean up unidentified spills when requested by government agencies."

Mr. Evans showed a series of slides on Clean Bay's operational set up and equipment, as well as a major test on Clean Bay's organization and equipment on January 18, 1973, when they responded to a spill of 171,000 gallons of oil in the Oakland Estuary from tanks of a waste oil terminal.

Drilling activity in the Sacramento Valley is slow, probably due for the most part to inclement weather conditions and shortage of rigs. Many drilling contractors are experiencing the lack of or reduced supply of fuel oil, casing, and other critical items necessary for drilling operations. A number of locations are listed for drilling, but it remains to be seen if and when operations will begin.

TERRY PLUMB

LEGISLATIVE ACTION RELEVANT TO GEOLOGISTS

S.B. 158, Rodda, 2/5/73. Subdivision may act. Refers primarily to engineering geologists. No current action.

S.B. 283, Alquist, 2/22/73. Established a council for the siting of power facilities. *Vetoed* by Governor.

S.B. 567, Dills, 3/29/73. Registration of management consultants for E.I.R. studies, medical and public health. Does not require technical degree. Very poor bill. Wolfe testified against in committee, has been amended, may be killed eventually.

S.B. 761, Roberti, 4/12/73. Makes appropriation for geothermal energy development. To committee, no data on bill.

S.B. 893, Berryhill, 4/23/73. Requires annual report from State Geologist. To Governor 9/16/73.

S.B. 1114, Gregorio, 4/30/73. Requires school bldgs. along faults to be replaced. Probably a bad bill, but may be passed.

S.B. 1492, Coombs, 4/19/72. (Old bill). Continuing education for registered specialties. Discussed several times previously in various Pac. Sec. meetings. The Board of Registration is supposed to be currently reviewing the problem. A survey of LABGS and SJVGS geologists made by the respective chapters, and previously reported to the Pac. Sec., indicated that most felt the primary consideration should be employment in the industry as an indication of competence and continuing education, with society functions and formal courses ranking as less important.

A.B. 616, Murphy, 3/7/73. Requires competence demonstration by architects and engineers before hiring by State agencies. In committee, no known action. Bad bill, could possibly encourage favoritism and eliminate value of registration.

A.B. 1147, Powers, 4/9/73. Registration of Analytical Chemists. Could infringe upon mineralogists, assayers, etc. No current action, AIPG watching.

A.B. 1575, Warren, 4/25/73. Related to development of energy resources, no data to date, in committee.

According to newspaper reports, Smilodon Californicus, the Saber toothed Cat, has been declared the official State fossil. The Pacific Section did not take a stand on this vital issue.
 DENNIS ALLEN

SHORT COURSE

The San Joaquin Geological Society is sponsoring a short course on "Global Tectonics, California, and Petroleum Exploration." The course will be held on February 22 and 23, 1974, in the West High School Lecture Center, Bakersfield, California. Speakers will be Gregory A. Davis (University of Southern California), William R. Dickinson (Stanford University), W. G. Ernst (University of California, Los Angeles), Eldridge Moores (University of California at Davis), Eli A. Silver (USGS Menlo Park). The cost, which includes a publication of lecture notes, will be \$30, with a reduced fee of \$15 for students. Registration will begin at 8:30 a.m., February 22, 1974, at the Lecture Hall.

This course is designed to bring together industry geologists with those from Universities and the U.S. Geological Survey to discuss California geology in light of recent developments in new global tectonic theories.

Lecture Schedule

1. (Silver)

Geometry of Plate Tectonics

The development of characteristic shapes and patterns of plate boundaries and triple junctions is governed by the relative motions of plates or spherical caps of lithosphere, and plate tectonic theory embodies a systematic geometric logic.

2. (Dickinson)

Geologic Implications of Plate Tectonics

Plate tectonic theory gives fresh meaning to concepts like geosynclines and orogenies and offers improved explanations for the evolution of sedimentary basins using ideas of crustal rifting, drift, subduction, and collision.

3. (Davis)

Structural Development of Rifted Continental Margins

Continental separation by spreading that leads to the formation of a new oceanic basin produces major structural features, with associated sedimentary accumulations, along the rifted margins of the continental fragments involved.

4. (Moores)

Ophiolites and Oceanic Crust

The growth of an oceanic basin involves the formation of layered oceanic crust, and the similarly layered ophiolite sequences of orogenic belts remnants of old oceanic lithosphere, are now recognized as the crustal

5. (Ernst)

Arcs and Subduction Zones

The consumption of lithosphere beneath continental margins or island

arcs leads to arc-trench systems with integrated patterns of magmatism, metamorphism, and sedimentation related to subduction of crustal elements and eruptions along volcanic chains.

6. (Silver)

Basin Development Along Translational Continental Margins

Continental margins marked by complex transform systems, with only subordinate extension or contraction of lithosphere, harbor special associations of structural elements and sedimentary basins.

7. (Davis)

Plate Tectonics and Orogenic Structures

Plate tectonic interpretations of orogenic belts as combinations of subduction zones, magmatic arcs, and suture belts formed by continental collision shed new light on the significance of mélanges, nappes, foreland thrusts, and fold belts.

8. (Moores)

Plate Tectonics and Ore Deposits

The processes primarily responsible for the concentration of metallic ores in orogenic belts proceed in geologic environments controlled by plate interactions, especially the formation and the consumption of lithosphere.

9. (Dickinson)

Plate Tectonics and Sedimentary Basins

Plate tectonic theory dictates a classification and interpretation of sedimentary basins, with their facies frameworks, in terms of proximity to plate junctures, types of nearby plate junctures, and nature of underlying crust and lithosphere.

10. (Davis)

Pre-Mesozoic History of California and the West

Plate tectonic reconstructions of the development of the Cordilleran geosyncline and the deformational events of the Antler and Sonoma orogenies involve various sequential combinations of crustal separation and collision, as well as various spatial combinations of marginal seas and offshore arcs.

11. (Ernst)

Mesozoic Framework of California

Spatial relations of the largely coeval Franciscan assemblage or complex, the Great Valley sequence, and the Sierra Nevada batholith invite analogy with the subduction zone, arc-trench gap, and magmatic arc of arc-trench systems to explain their development, and that of similar rock masses of slightly different age.

12. (Silver)

Evolution of the San Andreas Fault System

Analysis of the San Andreas fault as a transform provides a theoretical

basis for understanding the timing of structural offsets and basin development along and near the California continental margin and within the Gulf of California during Cenozoic time.

13. (Moores)

Paleogeographic Implications of Plate Tectonics

Changing positions of continental masses and changing patterns of plate boundaries strongly influence paleoclimatic relations, the distribution of biogeographic provinces, patterns of oceanic circulation, and related aspects of sedimentation.

14. (Ernst)

Diagenetic Environments Along Continental Margins

Incipient alteration of sediments and modification of contained organic constituents is influenced by geothermal gradients related to sedimentation rates, structural features and heat flux that vary in different plate tectonic settings.

15. (Dickinson)

Plate Tectonics and Migration of Petroleum

Major petroleum accumulations along rifted continental margins and within pericratonic foreland provinces suggest that progressive subsidence of attenuated crust under sedimentary loading and partial subduction of sedimentary sequences may favorably influence up-dip migration of petroleum into favorable reservoir horizons.

PERSONAL ITEM

The following advertisement appeared in the personals of the "Saturday Review/World" recently "TO ALL USERS OF DENTURE STICK-TITE: Jean B. Senteur de Boue regrets that his product exceeded his most optimistic expectations. Mr. de Boue is working around the clock to develop a tasty and effective release solvent. In the meantime, he asks his friends to be patient."

San Joaquin

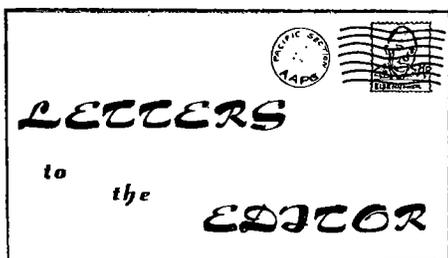
NO REPORT.

Alaska

NO REPORT.

Northwest

NO REPORT.



OIL IS FINITE KNOWLEDGE INFINITE

I am impressed by a learned paper by one of our distinguished geologists, Hollis Hedberg, which mentions the finiteness of petroleum with the thought that someday this minor constituent of the earth's crust will be gone and that historians of the future will look back on the Petroleum Age as but a fleeting moment in the annals of man; perhaps a period of 200 or 300 years.

I am sure this is true and it may imply that we will all be out of jobs and the world will be out of energy; however, I believe this will be countered by the ability of man in INFINITELY expand knowledge and adapt to change.

Who knows, someday we may all be exploring for infinite quantities of heat; uranium or something else. Then imagine pumping fissionable minerals down into a depleted oil reservoir; then growing infinite quantities of potatoes and corn and bugs for yeast; then pumping the mashed potatoes and corn flakes and bugs into the same reservoir — and we come up with a restored oil field, saturated with hydrogen and carbon and oxygen, a carbohydrate similar to alcohol which we can drill for and produce for energy; burn it or drink it.

I know or my chemistry and my thermodynamics are questionable, but this dream may not be so wild — as a similar product used to be generated deep in a coal mine in New Mexico. We called it Gallup Corn. The Navajos called it fire water, which sounds like a lot of energy.

Whimsical?

Of course!

Like my lady's gown from petroleum.

FRANK A. MORGAN

ROBERTA ANNE HARRIS TRUST

As you know, our colleague Bill Harris was killed in the sudden collapse of a trench across a trace of the San Andreas fault in Leona Valley. Bill's daughter, Roberta, is 18 months of age. State Mining and Geology Board member, J. Wilmar Jensen, attorney (Modesto), has generously offered to prepare the necessary papers

to establish a trust fund for Bobbi's higher education. Bill's brother, John R. Harris, M.D., Walnut Creek, has agreed to serve as trustee.

Those who wish to do so may send their contributions to the "Roberta Anne Harris Trust," care of the undersigned, Room 1341, Resources Building, 1416 Ninth Street, Sacramento, CA 95814. Contributions will be forwarded to Dr. Harris.

WESLEY G. BRUER
State Geologist

The Energy Crisis

The San Francisco Chronicle of June 20, 1973 carried a special report under the banner headline

IGNORANCE BLAMED FOR ENERGY CRISIS

Oil Firms, Government Both Erred

While I would like to leave to the Government the job of answering for itself, I would like to answer the charge for the "Oil Firms" or at least one of them. After all, one can not be blamed for objecting to being called ignorant.

To start with I'd like to change the headline to read:

INTELLIGENCE BLAMED FOR ENERGY CRISIS

Oil Firms Responsible

Nature put oil in many places — hid it would be a better way of saying it. In the early days it was not difficult to find: oil men just drilled near to where oil could be seen on the surface. And, whoops! up it came all by itself.

However, it soon developed that these places were limited, and, as people seemed to like the product and to want a lot more of it, the oil men of those days were faced with quite a problem in trying to meet the demand.

How to find new deposits where there were no surface indications?

These early oil men thought about it and, guess what — they decided to draw on their intelligence, a faculty which had not been too highly taxed up to that point. They called in the geologists!

These newcomers set to work and figured out some of nature's hiding secrets. They then worked out how this knowledge could be used to find oil deposits in areas where surface rocks gave clues as to what had taken place underground.

With this help things went along nicely for a while, and quite a lot of oil was found. But people kept wanting still more of this useful product, and the oil men found these places with surface rock clues were also be-

coming harder to locate. They were pretty sure there was oil to be found even where no rocks were on the surface, but how to find it!

They had another bright idea — they called on the geophysicists to help out. These geophysicists had the ability to measure certain underground characteristics even though the surface furnished no clues. Well, the idea worked, and these geophysicists did help out, and did and did and did!

Well, to make a long story short, a lot of oil was found, and this was done at not too great a cost. The result was that the oil industry has been able to furnish the public a good supply of oil at cheap prices — so cheap that they have used it for many things: heating, traveling, air-conditioning, etc., etc., etc.

Now, let's suppose that oil men had been a little short on intelligence, or even that they were ignorant as the article mentioned suggests. They would not have been able to figure things out very well and would not have found very much oil. And what they did find would have cost them a lot more. This cost, naturally, would have been passed on to the public — otherwise they could not have stayed in business. Why, a gallon of gasoline might have cost even as much as one of soda water — \$1.56 sold in quart bottles!

With these high prices and resulting low demand, of course, people would not have had all the advantages they now have. But, not having had them, they would not have known what they were missing and would have been contented with their lot. The question is whether these ignorant oil men would have been able to supply this limited demand. Our guess is that they would and that there'd be no energy crisis today.

Hence, we think it fair to repeat our headline — **INTELLIGENCE BLAMED FOR ENERGY CRISIS.**

In the above we have mentioned only the oil finders — the geologists and geophysicists. But really this is a little simplified — these oil finders, without the intelligence shown by the men who did the drilling, producing, transporting, and refining of the oil, still would not have been able to do much of a job.

RAY P. WALTERS
Atherton, California

Pacific Section
NO REPORT.

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

Professional Paper 433-L: Distribution of radionuclides in bottom sediments of the Columbia River estuary, by D. W. Hubbell and J. L. Glenn\$2.00

Professional Paper 803: X-ray mineralogy of the Parachute Creek Member, Green River Formation, in the northern Piceance Creek basin, Colorado, by D. A. Brobst and J. D. Tucker\$1.00

Bulletin 1374: Placer deposits of Alaska, by E. H. Cobb\$3.10

Journal of Research of the U.S. Geological Survey, vol. 1, no. 5, September-October, 1973. Single copy: \$2.75; subscription \$15.50 a year.

MAPS:

HA 379: Reconnaissance bathymetry of Pyramid Lake, Washoe County, Nev., by E. E. Harris. 1970. (Reprinted 1973)50¢

MF 489: Preliminary geologic map of a prospective transportation route from Prudhoe Bay, Alaska, to Canadian border, Part I. Beechey Point and Sagavanirktok quads, compiled by Warren Yeend50¢

MF 494: Preliminary geologic map of a prospective transportation route from Prudhoe Bay, Alaska, to Canadian border, Part II, Mt. Michelsen quadrangle, Alaska, compiled by Warren Yeend50¢

MF-501: Preliminary geologic map of a prospective transportation route from Prudhoe Bay, Alaska, to Canadian border, Part III, Arctic quadrangle (north half), Alaska, compiled by Warren Yeend and W. P. Brosgé50¢

MF-502: Preliminary geologic map of

a prospective transportation route from Prudhoe Bay, Alaska, to Canadian border, Part V, Coleen quadrangle (north half), Alaska, compiled by Warren Yeend50¢

MF-518: Faults and earthquakes in the Monterey Bay region, California, by H. G. Greene, W. H. K. Lee, D. S. McCulloch, and E. E. Brabb\$2.00

MF-522: Preliminary geologic map of a prospective transportation route from Prudhoe Bay, Alaska, to Canadian border, Part IV, Arctic and Table Mtn. quadrangles, compiled by Warren Yeend and W. P. Brosgé50¢

MR-32: Lode gold and silver occurrences in Alaska, compiled by E. H. Cobb. 1952 (reprinted 1973)75¢

GEOLOGICAL SOCIETY OF AMERICA BULLETIN, vol. 84, no. 10, October 1973

Fusion relations in the System $\text{NaAlSi}_3\text{O}_8$ - $\text{CaAl}_2\text{Si}_2\text{O}_7$ - KAlSi_3O_8 - SiO_2 - H_2O and generation of granitic magmas in the Sierra Nevada Batholith, by Dean C. Presnall and Paul C. Bateman.

New virtual and paleomagnetic pole positions from isotopically dated Precambrian rocks in Wyoming, Montana, and Arizona: Their significance in establishing a North American apparent polar wandering path, by E. E. Larson, R. Reynolds and R. Hoblitt.

Franciscan rocks near Sur Fault Zone, northern Santa Lucia Range, California, by Wyatt Graves Gilbert.

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Teapot Dome revisited.

LUCY E. BIRDSALL

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