



PACIFIC PETROLEUM GEOLOGIST NEWSLETTER

of the Pacific Section
American Association of Petroleum Geologists

FEBRUARY/MARCH 1984

PRESIDENT'S CORNER . . .

"You tell me whar a man gits his corn pone en I'll tell you what his 'pinions is"
— Mark Twain.

Assemblyman Bates (D-Oakland) has predictable opinions about the oil business. He is pulling maneuvers to get his 6% severance tax bill passed with only a majority vote rather than the normally required two-thirds. The strategy is to couple the tax with equal sized tax decrease so only a simple majority is needed for passage. A legislative counsel's opinion supports this view. They all get their corn pone out of the public trough.

By the time this column appears, the matter will have been decided by the Assembly and possibly even the Senate. Our best hope is the Governor's veto.

This severance tax is in addition to all other taxes — property, windfall profit, state and federal income, local severance, DOG Assessment and various other local fees. Other states that have severance taxes exempt oil production from some of these other taxes.

Those of us in petroleum economics are especially cognizant of the devastation that would be wrought upon our business by the Bates' bill. Many marginal properties would be shut-in. High cost steam flood projects would be jeopardized.

Perhaps the most unfair aspect is that Kern County would be by far the hardest hit county as it produces 60% of the state's oil. Bates generously plans to exempt the first 100 barrels a day and reimburse local government for their loss in property taxes. With 600,000 barrels a day of production, we would send about \$790,000 a day to Sacramento. Do you think that Kern County would get much of that back? Do you believe in the tooth fairy?

James R. Weddle

PAC. SEC. PLANS BBQ

The Pacific Section AAPG annual picnic and field trip is planned for June 1 in the Wrightwood area. Golf and tennis tournaments will be held at the same time. The Los Angeles Basin Geological Society is leading a field trip covering Slide Mountain, The Fault, and other stops of interest in the Miocene of Cajon Pass. Following the field trip will be a deep-pit barbeque. An announcement with the price, time, and location map will be mailed to members later this spring. **Please mark your calendars!**

PAC. SEC. LISTS HONORARY MEMBERS

The Honorary Member program was begun in 1961 to recognize those Pacific Section members who have contributed distinguished service to the cause of petroleum geology.

The following people are recipients of Honorary Member status:

- 1961 Olaf P. Jenkins (deceased)
- 1962 Graham B. Moody (deceased)
- 1962 Homer J. Steiny (deceased)
- 1963 Walter A. English (deceased)
- 1964 Martin Van Couvering (deceased)
- 1965 Harry R. Johnson (deceased)
- 1965 Alfred Woodford, Prof. of Geology Emeritus, Pomona College, Claremont, CA 91711, (714) 626-1540
- 1966 William P. Winham, 2441 Cedar Street, Bakersfield, CA 93301
- 1966 Frank A. Morgan (deceased)
- 1968 E. Robert Atwill (deceased)
- 1968 E. Fred Davis (deceased)
- 1968 Robert M. Kleinpell, 5900 Encino Rd. #3, Goleta, CA 93117
- 1969 Mason L. Hill, Ph.D. '32 Wisc., Consultant, 14067 E. Summit Dr., Whittier, CA 90602
- 1969 Ian Campbell (deceased)
- 1970 William F. Barbat, B.S. '26 UCB, Research Associate, California Academy of Science, Golden Gate Park, San Francisco, CA 94118, (415) 221-5100, (Res.) 547-2057
- 1970 Thomas L. Bailey (deceased)
- 1970 Stanley G. Wissler, M.A. '23 Columbia University, Consulting Geologist, 4245 Chestnut Avenue, Long Beach, CA 90807, (213) 424-2381
- 1971 Harold W. Hoots (deceased)
- 1971 John C. Hazzard (deceased)
- 1972 Frank S. Parker, 712 Fair Oaks Avenue, South Pasadena, CA 91030
- 1974 J. Douglas Traxler, M.A. '47 UCLA, Brea Oil Company, 12655 W. Washington Blvd., Suite 106, Los Angeles, CA 90066, (213) 390-8603, Res. 454-5256
- 1974 John E. Kilkenny, A.B. '35 UCB, Consulting Geologist, 1120 So. Fourth Street, Alhambra, CA 91801, (213) 289-2429
- 1974 Gordon B. Oakeshott, Ph.D. '36 USC, Consulting Geologist, 3040 Totter-

dell Street, Oakland, CA 94611, (415) 530-5595

- 1974 Henry H. Noel, A.B. '34 Stanford, Consulting Geologist, Henry H. Neel & Associates, 727 W. 7th Street, Los Angeles, CA 90017, (213) 622-6968, Res. 472-0659
- 1975 Kenneth H. Crandall, A.B. Stanford, Consultant, 209 Crocker Avenue, Piedmont, CA 94610, (415) 547-4148
- 1976 R. Stanley Beck, 621 Truxtun Avenue, Bakersfield, CA 93301
- 1977 Edwin H. Stiremeyer, Jr., 131 Wetherly, Bakersfield CA 93309
- 1978 Thomas W. Dibblee, Jr., 316 E. Mission Street, Santa Barbara, CA 93101, (805) 962-3664
- 1979 Lucy E. Birdsall, '50 University of Connecticut, Inquires Specialist — U.S.G.S., Federal Bldg., Rm. 7638, 300 N. Los Angeles Street, Los Angeles, CA 90012, (213) 688-2850
- 1982 Ted L. Bear, '40 UCLA, Consulting Geologist, Bear & Kistler, 540 Sespe Street, Fillmore, CA 93015, (805) 542-3252, Res. 542-4240
- 1982 Victor Church, Ph.D. University of Chicago, Consultant, 3120 18th Street, Bakersfield, CA 93301, (805) 325-5924, Res. 322-8167
- 1983 Thomas A. Baldwin, B.A. '43 USC, Consultant, 2184 Crescent Drive, Altadena, CA 91001, (213) 798-4556
- 1983 Arthur S. Huey, Ph.D. '40 UCB, Retired, 1126 Ladera Drive, Long Beach, CA 90807, (213) 427-6996

If there are any corrections to this list, please contact Betty Bean, AAPG Pacific Section membership secretary.

U.N. Law Of The Sea Treaty

EDITOR'S NOTE: The following letter was sent on November 1, 1983. In addition to President Reagan, letters were sent to Senators Cranston and Wilson.

Dear President Reagan:

The 1500 members of the Pacific Section, American Association of Petroleum Geologists (AAPG), urge you to support the present United States' position on the U.N. Law of the Sea Treaty.

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poraneous or early diagenetic nodules or as laminated dolomite. The $\delta^{18}\text{O}$ values of these dolomites range from -6 to $+7\text{‰}$ (PDB), and their $\delta^{13}\text{C}$ values range from -30 to $+20\text{‰}$.

Experiments conducted recently in our laboratory have shown that the important condition of dolomite formation is not high $\text{Mg}^{2+}/\text{Ca}^{2+}$ ratios, but low dissolved sulfate (SO_4^{4-}) content, which inhibits dolomite formation; sea water contains 28 mM SO_4^{2-} . Dolomitization of calcite is already inhibited at sulfate concentrations of approximately 5 to 7% of sea water value. Aragonite dolomitization, however, although strongly retarded at these low dissolved SO_4^{2-} concentration values is inhibited at sulfate concentrations of approximately 50% of sea water's value. We have also shown that dolomitization of CaCO_3 proceeds through protodolomite, a calcium-rich disordered dolomite which would transform to dolomite if equilibrium were established. Dissolved SO_4^{2-} also retards the rates of protodolomite transformation to dolomite and dedolomitization.

Sulfate ions adsorbed to the surfaces of calcite, dolomite, or aragonite may affect the kinetics of phase transformations in the carbonate system. In a sulfate-depleted environment, sulfate is rapidly desorbed; at 15° to 35°C , the process is completed in one to two days.

Thus favorable sites for dolomite formation in the marine environment are those where dissolved SO_4^{2-} concentrations are low. The most effective processes of sulfate removal from or its dilution in marine pore fluids are microbial reduction in organic-rich sediments and mixing of sea water with large amounts of fresh water. This happens, for example, in continental margin sediments with high rates of deposition, as in the Gulf of California, or in deeper water sediments associated with black shales. The presence of much dissolved SO_4^{2-} in sea water also explains the almost absence of dolomite in apparently highly favorable environments, for example, in open marine carbonates.

The relative paucity of dolomite-rich carbonate rocks (dolostones) formed during the last 100 to 120 million years, as compared with their abundance in older sediments, in particular in the Precambrian and early Paleozoic, could be explained on the basis of changes in the depositional environments and in the carbonate mineralogy of the primary calcareous sediments. These differences do not necessarily reflect changes in seawater concentrations.

WELL SAMPLE REPOSITORY

The California Well Sample Repository has received word from Art Spaulding, Vice President and General Manager of the Western Oil & Gas Association, that the member companies of WOGA are making gifts for a second building at the Repository. It was the original gifts of the members of WOGA in 1975 which made possible the first building

and brought the Repository into existence. The original building rapidly is being filled, and a second building is needed to alleviate both temporary and permanent storage problems. The Repository Board gratefully acknowledges the gift.

The response to the letter sent out in early December suggesting Memorial or Honorary gifts to the Repository Endowment Fund was rewarding both in the number of contributors and the amount. We thank each of you for your thoughtfulness and generosity. Of course, donations anytime during the year will be welcome!

Duplicate material of slabbed cores is available on request. (Cores are slabbed both to provide a better surface for visual inspection as well as to reduce storage volume.) For information, call or write the Repository at Cal State Bakersfield, 9001 Stockdale Highway, Bakersfield, CA 93309; (805) 833-2324.

An attractive wall plaque with the names of all donors, now totalling over 150 companies, organizations, and individuals, will soon be permanently on display in the Repository. We hope your name is on it, but if it isn't, it's not too late since we have provided adequate space for all additional contributors.

This is *your* facility — we invite you to use it — often!

Victor Church

In Memory of Olaf P. Jenkins

Olaf P. Jenkins, 94, of Pasadena Grove, California, retired consultant, Bradberry Associates, died October 19. Many Pacific Section members will remember him as the former chief geologist (1929-47) and chief mineralogist (1947-58) of the California Division of Mines and Geology and the author of *Early days — memoir and Building a state geological survey, California 1928-58*. When Jenkins first joined the Division, it was a statistical bureau dealing almost exclusively with mining — when he left it was recognized as one of the foremost. He was made an honorary life member of the AAPG and fellow of the California Academy of Sciences.

Change of Address

Danuta T. Woloszyn, 300 Capstan Dr., Anchorage, AK 99516.

R. Jantzen, SOHIO Pet., 9401 Southwest Freeway, Suite 1221, Houston, TX 77074.

Stanley A. Sansone, DEPCO, 1000 Petroleum Bldg., 110 Sixteenth St., Denver, CO 80202.

Marty R. Smithey, DEPCO, 1000 Petroleum Bldg., 110 Sixteenth St., Denver, CO 80202.

Ronald L. Ackley, 800 E. Imhurst Cir., Sacramento, CA 95825.

Evans, Carey and Crozier, 2700 K. St., Bakersfield, CA 93301.

McClelland Engineers, Inc., 2140 Eastman Ave., Ventura, CA 93003.

Thomas Adame Jr., Sun, 1801 Broadway, Suite 1000, Denver, CO 80202.

Mark W. Traut, Cities Service, P.O. Box 939, Bakersfield, CA 93302.

Robert A. Teitsworth, Trio Pet. Inc., 5401 Business Park So., Suite 115, Bakersfield, CA 93309.

Stan Eschner, Trio Pet. Inc., 5401 Business Park So., Suite 115, Bakersfield, CA 93309.

Brian H. Brown, 2415 Rampart St., Oakland, CA 94602.

John A. Packard, Union Oil, 32 Cadbury Rd., Sunbury-on-Thames, Middlesex, TW16 7LU England.

American Pacific International Inc., 23456 Hawthorne Blvd., Suite 300, Torrance, CA 90505.

New Members

Bakersfield, CA

Jaff Auchterlonie, Getty; Bruce Bridenbecker, Cities; Mark R. Faham, Gulf; Michael D. McGuire, Getty; Margaret L. Turner, Cities; Dirk Van Hart, Occidental; Gerald B. Church, SSC; John T. Collins, Shell; Frank Cooper, Gearhart; Roger Cunningham, Gearhart; Elizabeth D. Murphy, Gearhart; Mike McCamley, Getty; Jerry McNaboe, Getty; Kyle Rheubottom, Getty; Douglas Seedorf, Gulf; Jack Tucker, Calif. Well Sample Repository; Jack Gallagher, Occidental; Halina W. Duda, Hershey Oil; Gene Evola, Gulf; Fred W. Vlierboom, Occidental; Geroge Roszkowski, Getty; John D. Thaeler, Occidental; Boyd S. Getz, Chevron; Stanley W. Stearns, Evans, Carey & Crozier; Jim Work, Occidental; Robert S. Williams, Cities Service; Michael E. Novolio, Tenneco.

Ventura/Santa Barbara Area

Juan A. Guerrero, Chevron; Bradford J. Guidry, Reading & Bates; Ioan Marinescu, Exxon; Marilyn G. Merritt, Chevron; A. Daniel Monroy, Chevron; Kent E. Newshan, Union; Stephen J. Pavlak, Union; Chip Corbett, Schlumberger; Ed Guenard, Exlog; Joseph Holliday, Union; David W. Mautz, Union; Jack H. Gregg, Union; Richard LeVeque, Union; Karen Christensen, Conoco; Mark Dockum, Conoco; Carl J. Lothringer, Union; Joseph Moser, Conoco.

Los Angeles Area

Gerson L. DeAlmeida, Texaco; Don K. Sherman; David E. Willis, Union; Joseph A. Curiale, Union.

California, general

John A. Bickley, Aminoil; Ken Daverin; William J. Hunter; Paul Weimer, SOHIO Pet.; Warren Tong; James G. Jensen, Texas Oil and Gas Corp.; Fredrick A.F. Berry; Craig D. Prentice, Exlog; David Akin, Energylog.