



PACIFIC PETROLEUM GEOLOGIST NEWSLETTER

of the Pacific Section

American Association of Petroleum Geologists

February / March / April / May 1992 No. 2 & 3

CONVENTION & ELECTION ISSUE

PRESIDENT'S COLUMN

This is both our Convention and Election Issue. Featured is the schedule of Convention symposia sessions, field trips and short courses. The slate of nominees for 1992-1993 President-Elect, Vice President and Secretary is impressive.

Rich Boyd and his Convention Committee are doing an outstanding job. It has been nine years since Sacramento hosted the Pacific Section Convention. The 1983 Convention attracted a record total registration of 1,277 people. Rich informs us that our headquarters hotel, the Hyatt Regency, is an excellent example of Sacramento at its finest, a world class hotel with style and charm located across from the State Capitol Building. The Entertainment Committee has planned a series of events to sample the flavor of Sacramento and Northern California, including a Napa Valley wine tour, a local brewery and a Sierra Foothills Winery tasting event, and the Annual Icebreaker Party. A highlight will be our featured guest speaker at the Joint Society Luncheon. Boots and Coots will present a summary of the wild well controlling efforts in Kuwait. This year's theme, "Creative Approaches to Environmentally Sound Exploration", reflects our society's concerns for providing an adequate supply of energy within the context of safeguarding our environment.

Jack Cunningham and his Nominating Committee have developed some sound prospects for us to evaluate. Our plan is to mail out ballots in a couple of weeks so we will be able to announce the election results during the Convention.

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PACIFIC SECTION 1992 CONVENTION

"Creative Approaches to Environmentally Sound Exploration"

April 27, 1992 - May 2, 1992

Hyatt Regency Hotel, Sacramento, California

*Schedule of Sessions, Short Courses & Field Trips for 1992
Pacific Sections of the AAPG, SEPM, SEG, EMD
& the San Francisco & Sacramento Sections of the AEG
Joint Convention, April 27 to May 3, 1992*

APRIL 27, 1992, MONDAY

- AEG Field Trip - Geology & Economics of the Lone Formation, Lone, California
- AEG Short Course - Design & Analysis of Aquifer Tests

APRIL 28, 1992, TUESDAY

- AAPG/SEPM Field Trip - Cenozoic Structure & Stratigraphy of the East Side of the Central Diablo Range, California
- AAPG Short Course - Formation Evaluation of Shaly Sand Reservoirs
- SEG Short Course - AVO Analysis & Interpretation
- AEG Short Course - California Geology Registration Exam Review
- Golf Tournament - Lighthouse Marina Golf Club
- Tennis Tournament - Rio Del Oro Tennis Club

APRIL 29, 1992, WEDNESDAY

AAPG: GENERAL SESSION

LIN, J. T. C.;
Wheeler Ridge Field - A Revitalized Oil Field.
HABEL, R.;
The Underground Injection Control Program of the Division of Oil & Gas.

SHRAY, F.;

Changes in Formation Parameters Over Time:
An Application of the Logging-While-Drilling Technique.

FEDEROV, D. L.;

Russia as One of the Most Important Oil & Gas Producers: General Review of Oil & Gas Potential.

SEPM: MESOZOIC PALEOGRAPHY OF THE WESTERN UNITED STATES SESSION

ISOZAKI, Y.;

New Geotectonic Subdivisions of the Franciscan-Klamath Region Defined by Formation Age of Accretionary Complexes.

MARUYAMA, S., et al;

Application of K-Ar Mapping Method on the Franciscan Complex in Northern California & Redefined Geotectonic Subdivisions & Boundaries.

WHIDDEN, K. J.;

Relationship of the Central Salinian Block, the Sur-Obispo Terrane & the Sierra Nevada in the Late Cretaceous Based on Paleomagnetic Evidence.

GROVE, K.;

Origin of the Late Cretaceous Salinian Basin By Partitioning of the California Batholith.

SAUL, L. R.;

Paleoclimatic Implications of the Distribution of the Bivalve CALVA.

(continued on Pages 2 & 3)

"Creative Approaches to Environmentally Sound Exploration"

SAWLAN, M. G.;
Concordant Geometry of Map - Scale Folds & Plutons: Implications for the Structural Framework of the Sierra Nevada, California.

HAGGART, J. W.;
Cretaceous Paleogeography of the Northern Insular Belt, British Columbia, Canada.

ELDER, W. P.;
Paleobiogeographic Implications of Mid & Late Cretaceous Molluscan Assemblages from Alaska.

SEG: ADVANCES IN AVO ANALYSIS/ CASE STUDIES & THEORY SESSION

GASSAWAY, G.;
Error Fields of AVO Analysis.

HUGGINS, D.;
Case History of AVO Analysis at the Mist Field, Northwest Oregon.

SUCHSLAND, R.;
Discovery & Development of the Pierce Road Gas Field, Sutter County, California.

TOLMACHOFF, W.;
The Use of AVO Technique in the Pierce Road Gas Field, Sutter County, California.

BURGE, G. L.;
Finding Gas With AVO - A Case History in Sutter County, California.

GRAY, G. D.;
The AVO Response of the Deep Winters Formation, Sacramento Valley, California.

KALLENBERGER, P. H.;
The Merrill Avenue Gas Field, An AVO Success.

CARROLL, R.;
The Effect of Lithology & Porosity on AVO Response from Gas Sands.

APRIL 10, 1992, THURSDAY

EMD: GEOTHERMAL RESERVOIR ANALYSIS SESSION

MAURATH, G.;
Geothermal Energy Development in California: An Objective View.

GABLEMAN, J. W.;
The Localization of the Geysers Steam Field.

MONASTERO, F. C.;
The Geologic Significance of the Deep Test at SNORT #1, Indian Wells Valley, Kern County, California.

AAPG: CLASTIC DIAGENESIS & RESERVOIR ANALYSIS SESSION

CLAEYS, P.;
Diagenetic Alteration of Biotite in the Great Valley Group of Central California.

CLARK, M. S.;
Diagenetic Controls on Laumontite Cementation of Plagioclase-Bearing Sandstones, Transverse Ranges, California.

HECTOR, S., et al.;
The Reservoir Quality of the Winters Sandstone, Lindsey Slough Gas Field, Solano County, California.

GALLEAR, D. C.;
Grimes Gas Field Sand Trends & Faulting.

SEPM: GREAT VALLEY OPHIOLITE & ITS ROLE IN FOREARC BASIN DEVELOPMENT SESSION

ROBERTSON, A.;
Overview of the Tectonic Setting of the Great Valley Ophiolite, California.

MURCHEY, B., et al.;
Postulated Ridge Subduction in California During the Late Jurassic: Unifying Hypothesis to Explain the Formation of the Great Valley Forearc Basin.

MATTINSON, J., et al.;
U/Pb Ages of the Coast Range Ophiolite: A Critical Re-evaluation Based on New High-Precision Pb/Pb Ages.

SHERVAIS, J.;
Petrology, Geochemistry & Origin of the Coast Range Ophiolite, California.

BLAKE, M. C., et al.;
Formation & Deformation of the Coast Range Ophiolite & Related Rocks Near Paskenta, California.

HANAN, B., et al.;
The Stoneyford Volcanic Complex: A Jurassic Seamount in the Northern California Coast Ranges.

PHIPPS, S. P., et al.;
The Coast Range Ophiolite: Polygenetic Crust in a Late Mesozoic Oceanic Forearc.

SEG: GENERAL SESSION

ANGERER, R. H.;
Reservoir Mineralogy Effects on AVO Response in the Forbes Formation, Northern California.

BROOKS, S., et al.;
AVO Modeling & Interpretation Utilizing Well Log Data, Including Slow Shear Sonic Measurements.

BARTEL, D. C.;
Example of Near-Surface Geologic Scattering Affecting Short Offset Reflections.

GASSAWAY, G.;
Seismic Data is a Vector.

IRONS, L.;
Shallow High Resolution Seismic Data.

REBEC, T., et al.;
Reservoir Characterization Utilizing Well Log & Seismic Data.

REBEC, T., et al.;
Acquisition & In-Field Processing of a Vertical Seismic Profile (VSP) to Determine Horizontal Kickoff Angle & Depth.

AEG: EVALUATION & MANAGEMENT OF HAZARDOUS WASTES SESSION

HADLEY, P. W.;
Evaluating Exposures to Contaminated Soil.

BIEBER, D. W., et al.;
The Risk Assessment Process As It Applies to Contamination By Hazardous Substances Associated With Petroleum Exploration.

PHIPPS, M. B., et al.;
An Example of Sequential Land Use Necessitating Mitigation: Well Abandonment in the Kraemer Oil Field, Yorba Linda, California.

LEESON, F., et al;
Site Plan Evaluation & Development Impact on Oil Fields.

FELTS, M. C. et al;
The Importance of Establishing Background Hydrocarbon Levels For Hazardous Waste Studies In Petroleum Producing Areas.

WALKER, S.;
Land Discharge Alternatives For Energy Exploration & Production Wastes in California.

RUSSEL, L. J.;
Environmental Property Assessments Related to Gas Well Property Transfers In Northern California.

WOODHOUSE, C.;
Proper Classification of Waste Drilling Muds & Fluids.

SEPM: THE GREAT VALLEY OPHIOLITE & ITS ROLE IN FOREARC BASIN DEVELOPMENT SESSION

HOPSON, C. A., et al;
California Coast Range Ophiolite: Jurassic Tectonic History.

JONES, D. L.;
Extensional Disruption of the Coast Range Ophiolite at Mount Diablo.

HAGSTRUM, J. T.;
Paleomagnetism of the Mesozoic Coast Range Ophiolite, California.

EVARTS, R. C., et al;
The Del Puerto Canyon Remnant of the Great Valley Ophiolite: Geochemical & Age Constraints On Its Formation & Evolution.

HULL, D. M., et al;
Chronostratigraphic Assignment of Volcanopelagic Strata Above the Coast Range Ophiolite.

McLAUGHLIN, R. J., et al;
Coast Range Ophiolite of the Sierra Azul Block Southwest of Los Gatos, California.

AAPG: STRUCTURAL GEOLOGY OF THE SACRAMENTO VALLEY SESSION

DRUMMOND, K.;
Tectonic Growth History of Cross Valley Faults in the Sacramento Valley, California.

IMPERATO, D.;
Structure & Tectonics of the Stockton Fault Zone.

STERLING, R.;
The Intersection of the Stockton & Vernalis Faults.

GARRISON, L. E.;
The Geology & Structure of the Freeport Area, California.

LYNCH, W. D.;
Sacramento Valley Lineaments.

ALL GROUPS: CONVENTION POSTER SESSIONS

OSMOLOVSKY, P., et al;
Diagenetic Patterns in the Forbes Sandstone Great Valley Group, Central California.

PATCHICK, P. F.;
Lateral Movement on the Soledad Fault.

"Creative Approaches to Environmentally Sound Exploration"

GILLESPIE, M.;
Three-D Seismic for the Development of the
Aqueduct Field, Kern County, California.

CLARE, J. E., et al;
Abnormal Pressures in the West Grimes Gas
Field & Adjacent Areas, Colusa County,
California.

DEACON, R. J., et al;
Northwest Oregon-Western Washington
Eocene Sand Play: Analogy to the
Sacramento Valley, California Gas Play.

GOODHUE, C., et al;
Dos Cuadras Field; Shallow Horizontal Wells
Breathe New Life Into an Old Field.

MacKEVETT, N. H.;
The Kirby Hill Fault.

WALKER, C. T., et al;
Extensional Attenuation Detachment Faulting:
A Possible Structural Model for Pre-Tertiary
Rocks Beneath Railroad Valley.

LUCE, G.;
Segmentation of the Coast Range - Sierran
Block Boundary Zone, Sacramento Valley,
California.

MILLIKEN, M.;
Fault Bounded Deep Sea Channel in the
Sterns Zone, Elk Hills Field, Kern County,
California.

MAY 1, 1992, FRIDAY

AEG: GENERAL SESSION

WILLIAMS, J. W.;
Reality - An Overlooked Component of
Today's Restructured Geology Programs.

HOOSE, S. N.;
A Regulator's Perspective On Environmental
Site Inspections.

ZEMO, D. A., et al;
Methodology For In-Field Design of Monitoring
Wells in Heterogeneous Fine-Grained
Formations.

BLACK, W. E.;
Evaluating Hydrologic Parameters With
Geophysical Techniques to Aid in the
Design & Siting of Aquifer Pump Tests.

BORCHERS, J. W., et al;
Using a Down-Well Television Camera to
Evaluate damage to Well Casing Caused by
Land Subsidence.

GATH, E. M.;
Faulting & Tectonic Model of the Las Posas
Anticline, Western Transverse Ranges &
Implications For Seismic Risk in the Ventura
Basin Region, California.

WHITNEY, R. A.;
Active Strike Slip Faulting Within the Peralta
Hills Anticline, Orange County, California: A
Transverse Range - Peninsular Range
Boundary Effect.

AAPG & NEVADA PETROLEUM SOCIETY: BASIN & RANGE, FRONTIER EXPLORATION & DEVELOPMENT SESSION

FRANCIS, R. D., et al;
Crude Oil Types in Railroad Valley, Nevada,
As Determined By Biological Markers:
Structural Implications.

SILBERLING, N. J., et al;
The Geology of the Basin & Range Province of
Nevada & Utah: An Overview.

FLANIGAN, T.;
Recent Drilling In Nevada.

HULEN, J. B., et al;
Implications of Oil in a Precious Metal Deposit,
Alligator Ridge, Nevada.

BARTLEY, J. M., et al;
A Barrier Network Model For Basin & Range
Faulting.

IVERSON, B. G.;
Stratigraphy of Devonian-Mississippian Rocks,
Northern Pinon Range, Southwestern Elko
County, Nevada.

PERRY, A. J., et al;
Late Mississippian Episodic Sedimentation in
the Antler Foreland Basin, East Central
Nevada.

SNYDER, W. S., et al;
Tectonic Influence on the Pennsylvanian-
Permian Paleogeography of the Great Basin.

AAPG: STRUCTURAL GEOLOGY OF THE SACRAMENTO VALLEY SESSION

BLACKMUR, R., et al;
The Gamble Winters Pool of the River Island
Gas Field.

EDMONDSON, W. F.;
Slump Faulting Along the Rim of the Markley
Gorge, Sacramento Valley, California.

CHERVEN, V., et al;
Non-Tectonic Structures Caused By
Differential Compaction Over Buried Sand
Bodies, Southern Sacramento Basin.

PEPPER, M. W., et al;
The Midland Fault Zone, Southern Sacramento
Basin, California.

JOHNSON, D. S.;
Tectonic Effects on the Stratigraphic
Sequences Along the Midland Fault Zone,
Southern Sacramento Basin, California.

CHERVEN, V., et al;
Subsurface Structure in the Montezuma Hills,
Southwestern Sacramento Basin, California.

HORAN, E. P.;
Pressure Gradients Versus Production.

AAPG: GEOLOGY OF COASTAL & INTERIOR BASINS OF THE WESTERN UNITED STATES SESSION

OMARZAI, S. K., et al;
High-Resolution Magnetostratigraphy of the
Petroleum-Bearing Miocene Monterey
Formation of California in Horse Canyon,
Salinas Basin, California.

HORAN, E. P.;
The Geology of the Eel River Basin, California.

SPARKS, D. M.;
Grays Harbor, Washington: Geological Setting
& Petroleum Potential.

HECTOR, S.;
The La Honda Oil Field, San Mateo County,
California.

EL-SABBAGH, D.;
The Burns Sand, La Honda Basin, California:
Reassessment of Its Lithology & Its
Hydrocarbon Potential.

OMARZAI, S. K., et al;
Paleomagnetism Applied to the Miocene
Monterey Formation of California:
Paleomagnetic Properties of the Monterey
Rocks.

STORMBERG, G. L., et al;
Source Rock Characterization & Gas Stable
Isotope Geochemistry of the Mist Gas Field,
Northwest Oregon.

WONG, I. G.;
Earthquake Activity in the Sacramento Valley,
California & Its Implications to Active
Structures & Contemporary Tectonic
Stresses.

AAPG: STRUCTURAL GEOLOGY OF THE SACRAMENTO BASIN SESSION

RAMIREZ, V. R.;
Deep Structure of the Rumsey Hills Interpreted
from Outcrop, Well & Seismic Data,
Sacramento Valley, California.

UNRUH, J., et al;
Late Cenozoic Blind Thrusting &
Transgressional Kinematics, Potrero Hills
Region, Sacramento - San Joaquin Delta,
California.

FIGURES, S. H.;
The Sulfur Springs Thrust, Sacramento Valley,
California.

ERSKINE, M. C.;
Interpretative Structural Cross Section from the
Central Diablo Range to the San Joaquin
Valley, California.

MEDWEDEFF, D. A., et al;
Superposition of Basement Involved Structures
& a Detached Thrust System: A Model For
Existing & Potential Production in the San
Emidio Mountains, San Joaquin Valley,
California.

PHIPPS, S. P., et al;
Transgressional Deformation in the
Sacramento Valley & Coast Ranges of
California: Decoupled Strike-Slip &
Thrust-Wedging Above a Master
Detachment.

MAY 2, 1992, SATURDAY

- AAPG Field Trip - Late Cenozoic Subduction Tectonics & Sedimentation of Northern Coastal California & the Eel River Basin (Departs Friday Night & Returns Sunday Night).
- AAPG Field Trip - Tectonic Wedging & Imbricate Thrusting in the Northern Coast Ranges & Southwestern Sacramento Valley, California.
- AEG Field Trip - The Loma Prieta Earthquake: San Francisco to Santa Cruz Mountains.

PRESIDENT'S COLUMN

(continued from Page 1)

On the subject of the AAPG National Ballot: Good Luck to Dean B. Laudeman and Donald L. Ziegler, both nominees for AAPG Vice President, both giants from this Section.

As a memorial to the late **Bob Hacker**, beloved Honorary Member of the Pacific Section AAPG, and its President in 1978-1979, a revolving publication fund is being established to finance the publication of guidebooks, symposia and similar volumes by the Section. Proceeds from the sale of such publications, as well as future contributions, will be used to maintain and increase the fund. An anonymous donor has pledged to match contributions (up to a total of \$1,000) on a dollar-for-dollar basis. Checks should be made payable to the Pacific Section AAPG and addressed to:

Pacific Section AAPG
Post Office Box 1072
Bakersfield, California 93302
Attention: John Randall

Regarding the proposed Pacific Coast Association of Geological Societies (PCAGS): Bob Lindblom, Chairman of the Committee, has submitted a revised Pacific Section Constitution and By-laws proposal for review. Emphasis is on: Does the revision address the concerns for the Section to become a part of the proposed PCAGS and does the revision satisfactorily set forth the Section's requirements for membership and the definition of listed Committees? Bob is soliciting comments until April 15, 1992 to allow a presentation at our Annual Executive Committee Meeting in Sacramento during the Convention.

It's survey time again! Last year's restructuring questionnaire survey was quite successful as a feedback tool. To enable our incoming Officers to be better informed, we need help. Surveys are difficult to design. Please send your comments or a "mock-up" survey to our Pacific Petroleum Geologist Newsletter address.

See you in Sacramento!

John W. Randall, President

February 11 - Spouse's Night, Everyone is Welcome! Bob Crozier, "A Visit to Albania and an Evaluation of Their Heavy Oil Operations".

March 10 - Dr. Michael S. Clark, ARCO, "Sequence Stratigraphy and Facies Architecture of the Shallow Marine to Basin Transition, Middle Eocene, Southern California".

April 14 - Dr. Geoff Thyne, California State University, Bakersfield, "Isotopic and Chemical Evidence from Formation Water for a Paleoaquifer During the Early Burial History of the Marine Stevens Sandstone, North Coles Levee Field, San Joaquin Basin, California".

May 12 - Jim Robinson, Santa Fe Energy Resources, Inc., "BLM Regulations and Policies: Past, Present and Future". A meeting will be held. Speaker to be announced.

June 9 - Marc Kamerling, ARCO, "Horizontal Drilling in the Yowlumne Field". This meeting will be held at California State University, Bakersfield's Dore Theatre and may be attended without participating in the day-long seminar on horizontal drilling. Please see Pages 5 and 12 for more information.

Suggestions for meeting speakers or topics should be addressed to Mike Lewis at 805/322-3992.

The meetings are held at the American Legion Hall at 2020 H Street in Bakersfield. Attitude adjustment starts at 6:00 p.m. and dinner is served at 7:00 p.m. For more information and reservations please contact Les Collins at 805/397-7472.

Northwest

For suggestions or questions, please contact Lanny Fisk at 503/382-0825, Barbara Portwood at 503/287-2762, or any other member of the NWPA Program Committee: Phil Brogan, Harry Jamison, Paul Dudley or Nancy Ketrenos.

February 18 - Luke Hall and LaVern Hoffman, "Seawater Intrusion and Groundwater Conditions, Southern Ventura County".

March 17 - Thom Davis, Davis & Namson Consulting Geologists, "Structural Interpretation of the Western Transverse Ranges and Southern Coast Ranges".

April 21 - Dr. Harry Cook, U.S.G.S., 1992 AAPG Distinguished Lecturer, "A Comparison of Paleozoic Passive-Margin Carbonate Platforms of the Western United States and the (Former) Soviet Union".

Meetings are held the third Tuesday of every month. Meeting time is at 6:00 p.m., dinner at 7:00 p.m. at the American Legion Hall in Ventura. The address is 83 South Palm Street. For reservations please contact Groundwater Technology's Receptionist at 805/664-9811 by **10:00 a.m. at least one day before the meeting**. Reservations are required to guarantee dinner.

Los Angeles

March 19 - Bob Haddad, UNOCAL, "Global Warming".

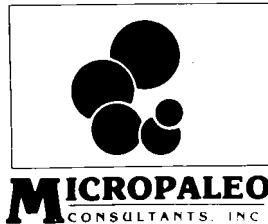
May 21 - Dottie Stout, Cypress College, "Geologic Education".

July 16 - Monty Hampton, U.S.G.S., "Seafloor Mapping of the Eastern Pacific".

September 17 - Don Zenger, Pomona College, "Deep Burial Dolomitization".

Luncheon meetings are held at noon on the third Thursday of alternate months. Meetings are held at UNOCAL Center, California Room, 1201 West Fifth Street, Los Angeles. Visiting geologists and friends are cordially invited.

For reservations or information, please call Reggie Moore at 714/455-4080 or Mike Mulhern at 213/485-3805.



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COMING EVENTS

- February 18 to 20** - The Eighth Annual U. S. Geological Survey "V. E. McKelvey Forum on Energy and Mineral Resources", Wyndham Greenspoint Hotel, Houston, Texas.
- April 29 to May 1** - Pacific Section AAPG Convention, Sacramento, Rich Boyd, Chairman (Capitol Oil).
- May 12 to 14** - U. S. Department of the Interior, Minerals Management Service, Pacific Outer Continental Shelf, Information Transfer Meeting. Please contact Kathy Mitchell at 714/648-1601 or Mary Elaine Dunaway at 805/389-7848 for more information.
- May 29** - "Managing California's Liquid Gold", a Seminar sponsored by UC Santa Barbara, to address legal, political and environmental water issues. For further details, please contact Scott Slater at 805/893-4143.
- June 9** - "Applications of Horizontal Drilling Techniques in California". Presented by the San Joaquin Geological Society and California State University, Bakersfield Geology Department. Please contact Larry Knauer at 805/763-6280 for more information.
- June 21 to 24** - AAPG National Convention, Calgary, Alberta, Canada. Hosted by the Canadian Society of Petroleum Geologists (CSPG).
- August 2 to 5** - AAPG International Conference & Exhibition, Sydney, Australia. Please call 918/584-2555 for more information.

SACRAMENTO PETROLEUM ASSOCIATION

Meetings are held at noon at Neptune's Table Restaurant, 5990 South Land Park Drive. For reservations please contact Rich Boyd at 916/929-4141.

NEW MEMBERS

Los Angeles Basin Geological Society

Toni L. Ellerts, Stocker Resources, Inc., Los Angeles

Coast Geological Society

William L. Bilodeau, California Lutheran University, Thousand Oaks
Richard P. Cousineau, Engineering Geologist, Santa Barbara
John R. LeGette, Petrolog, Ventura
Stanley Roden, Attorney, Hatch & Parent, Santa Barbara

San Joaquin Geological Society

Eric L. Bert, OXY USA Inc., Bakersfield
Robert L. Fleisher, Chevron, Houston
William P. Scanlan, Schlumberger, Bakersfield
James A. Waggoner, San Diego

Other States

Mark A. Kuhn, Chevron U.S.A., Inc., Houston

APPLICATIONS OF HORIZONTAL DRILLING TECHNIQUES IN CALIFORNIA

The **San Joaquin Geological Society** is organizing this seminar to take place on Tuesday, June 9, 1992 in Bakersfield, California.

Speakers will be drawn from most companies doing this type of drilling in California. Likely participants, at this time, include Bechtel Petroleum, ARCO Oil and Gas, UNOCAL, Shell Western E & P Inc., Texaco, CUSA, Berry Petroleum, Eastman-Christensen, Teleco and Schlumberger.

Project locations include Elk Hills, Midway-Sunset, Yowlumne, Kern River, Jacalitos, Coalinga, Lost Hills, Dos Cuadras and Point Pedernales.

We have requested that speakers cover all aspects of planning, drilling and completion of each project, since these projects are very much dependent on good communication and planning by the various disciplines involved. For this reason, anyone involved in a horizontal well project should benefit from attending this seminar.

This technology may be the answer to many of the problems in the California oil patch: drilling offshore fields from fewer platforms or from onshore; developing pools that were uneconomic with vertical wells; realizing the economic benefit of reaching more areas of mature fields for primary depletion and steamflood/waterflood projects. Many aspects of this technology are still unfolding and being tested. This seminar provides a forum to exchange information and come away with a better understanding of what horizontal drilling is accomplishing in California.

For additional information about the seminar, please contact Larry Knauer at 805/763-6280.

BLM ENVIRONMENTAL ANALYSIS OF OIL & GAS LEASING

The Bureau of Land Management has identified 48 parcels in Kings and Kern Counties that have potential for oil and gas development. An environmental analysis of the impacts of exploration and drilling has been prepared and is available for public comment.

BLM plans to offer these public land parcels for lease later this year. They were selected during environmental screening of potential lease site by BLM staff. Six parcels are located in the South Kettleman Dome/Devils Den area of Kings County, and 42 parcels are in the Midway-Sunset, Maricopa, Chico-Martinez and Lost Hills areas of Western Kern County.

The environmental analysis is available for review at the BLM District Office, 800 Truxtun Avenue, Room 300, Bakersfield, California 93301. The public comment period closes April 13, 1992 and comments should be directed to the District Manager, Ron Fellows.

The lease sales are scheduled for June 25 and September 3, 1992 at the federal building in Sacramento and leases will be awarded to the highest bidder. Congress requires BLM to regularly offer oil and gas lease sales to the public.

CALL FOR PAPERS

GEOLOGY & TECTONICS OF THE SOUTH COAST REGION

A major symposium is being organized on the geology and tectonics of the South Coast region (Palos Verdes Hills to Ensenada) for the **1993 Pacific Section Convention** in Long Beach.

The program will focus on the evolution and present tectonic activity of the boundary zone between the Peninsular Ranges and the Continental Borderland Province.

Three half-day sessions are planned. **Session I: "Geologic History and Paleotectonics"** and **Session III: "Regional Geophysics and Neotectonics"**, are fully completed with invited papers. **Session II** will highlight detailed studies of specific structural features and their deformation histories. To date, papers have been committed on the Wilmington anticline and the Palos Verdes Fault, the offshore faults, and the southern (offshore) Newport-Inglewood Fault Zone. We are seeking additional papers that utilize detailed subsurface data in isopach mapping and other studies that document the timing and style of deformation on structures in the southwestern Los Angeles Basin. Of special interest would be papers on:

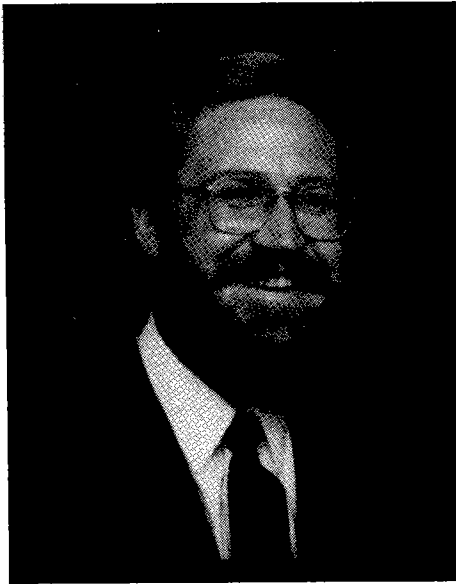
- **Structural Evolution of the Huntington Beach Oil Field**
- **THUMS-Huntington Beach Fault**
- **Geology of the Beta Oil Field**
- **Geology of the San Pedro Bay**

If you are interested in contributing a paper on one of these or a similar topic, please contact Bill Bartling at 805/395-6308 or Tom Wright at 415/456-9244.

POSITION ANNOUNCEMENT

The California Department of Conservation is recruiting for an Assistant Director for the Division of Mines & Geology in Sacramento. The Assistant Director will manage all administrative and policy activities for the Division, and will earn a salary of \$72,700 per year. The application deadline is April 21, 1992. For more information, please contact the Mines & Geology office at 916/924-2300 (FAX: 916/924-2156), outside of California, telephone 800/822-4277.

CANDIDATES FOR OFFICE - PACIFIC SECTION AAPG



W. C. RUSTY RIESE, Candidate for President-Elect

Present Position:

Area Exploration Manager, ARCO Oil and Gas Company

Education:

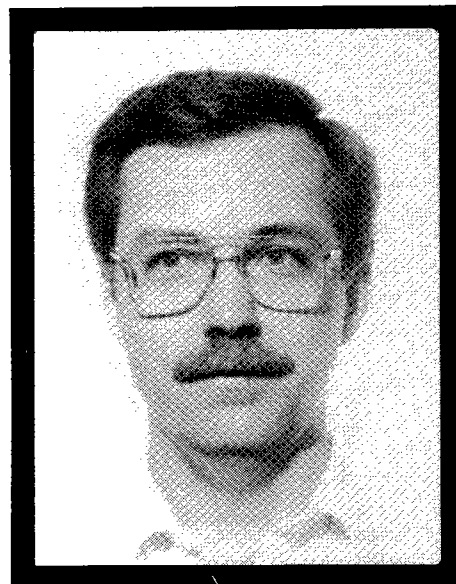
1973, New Mexico Institute of Mining and Technology, B. S. Geology; 1977 and 1980, University of New Mexico, M. S. and Ph.D. Geology

Employment:

1974 - 1981: Gulf Mineral Resources Company, Junior Geologist, Project Geologist, Albuquerque; 1981 - 1984: Anaconda Minerals Company, Project Geochemist, Administrative Coordinator, Denver; 1984 - 1989: ARCO Oil and Gas Company, Senior Geologist, Area Geologist, Houston; 1989 - Present: ARCO Oil and Gas Company, District Geologist, Area Exploration Manager, Bakersfield

Professional Activities:

AAPG, Pacific Section AAPG, AIPG, AExGch, IAGOD, IAGC, SGAMD, Sigma Xi, Fellow GSA, SEcG; Judge, San Francisco AAPG National Convention, 1990; Pacific Section Convention Committee, AAPG, 1991; Adjunct or Affiliate Faculty Rice University, Oregon State University, Humboldt State University, California State University Bakersfield; Adjunct or Affiliate, Arapahoe Community College, Colorado State University, University of Houston; New Mexico Section Treasurer, AIPG, 1980; New Mexico Section Vice President, AIPG, 1981; Rocky Mountain Section Convention Committee, AAPG, 1981; Houston National Convention Session Organizer, Judge, 1988; Secretary, Pacific Section AAPG, 1991-1992; Reviewer, AAPG Bulletin, 1991 to Present.



ROBERT L. COUNTRYMAN, Candidate for Vice President

Present Position:

Equity/Development Geologist, Chevron U.S.A., Inc. Bakersfield

Education:

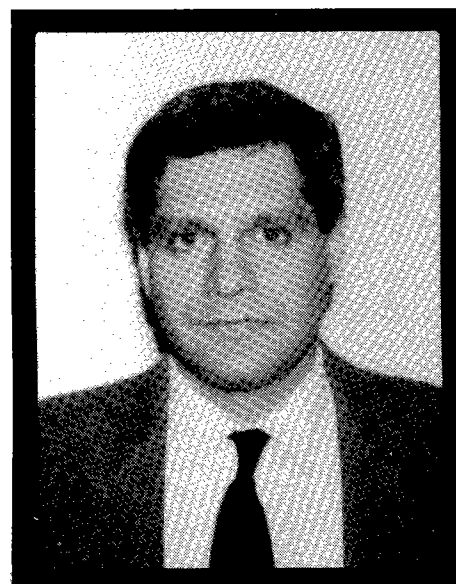
1973, California State University, Northridge, B. S. Geology; 1977, University of California, Los Angeles, M. S. Geology

Employment:

1973 - 1976: Industrial Minerals Geologist, Tenneco Oil Company, Nevada; 1977 - 1979: Research Geophysicist, UCLA, South Pole, Antarctica; 1979 - 1984: Exploration & Production Geologist, Development Geology Supervisor, Gulf Oil Company, Bakersfield; 1984 - 1987: Stratigrapher, Venezuela Task Force, Chevron Overseas Petroleum; 1987 - Present: Development/EOR/Equity Determination Geologist, Chevron U.S.A., Inc., Bakersfield

Professional Activities:

California Registered Geologist #4868; National AAPG, Pacific Section AAPG, Pacific Section SEPM, GSA; Secretary, Pacific Section AAPG, 1990-1991; President/President-Elect, San Joaquin Geological Society, 1984-1986; Vice President, San Joaquin Geological Society, 1983-1984; San Joaquin Geological Society Delegate to National AAPG, 1991-1994; Member of Pacific Section AAPG Constitution & By-laws Committee, 1991-Present; Editor, San Joaquin Geological Society Selected Papers, Volume 7; Participant, Chair and Co-Chair on a Number of Committees for Various Pacific Section AAPG Conventions.



JOHN W. HOWE, Candidate for Secretary

Present Position:

Consulting Geologist, Archer Exploration, Bakersfield

Education:

1977, Illinois State University, B. S. Geology

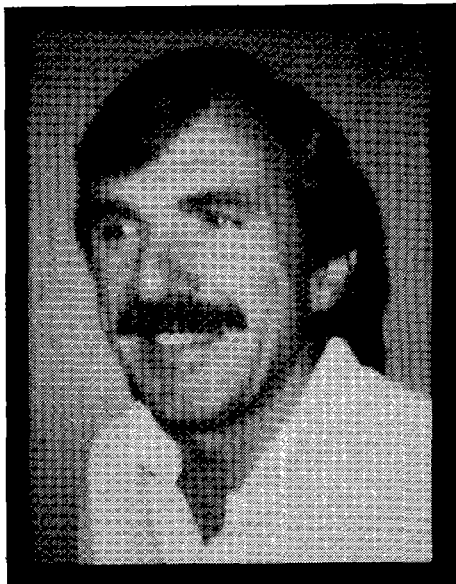
Employment:

1978 - 1979: Engineering Technician/Geologist, Balsamo Olsen Engineering; 1980 - 1981: Exploration Geologist, Conoco, Inc., Texas; 1981 - 1983: Production/Exploration Geologist, Cities Service Oil & Gas Company, California and Alaska; 1983 - 1987: Exploration Geologist, OXY USA Inc., Bakersfield; 1987 - Present: Independent Consulting Geologist

Professional Activities:

California Certified Petroleum Geologist #4152, National AAPG, Pacific Section AAPG, San Joaquin Geological Society, Society of Petroleum Engineers; Dibblee Field Trip Coordinator, Pacific Section AAPG Convention, Santa Barbara, 1988; Barbecue Committee, Pacific Section AAPG Convention, Bakersfield, 1991; Golf Tournament Committee, San Joaquin Geological Society, 1991.

CANDIDATES FOR OFFICE - PACIFIC SECTION AAPG



REINHARD SUCHSLAND, Candidate for President Elect

Present Position:

District Geologist, DEKALB Energy Company, Bakersfield

Education:

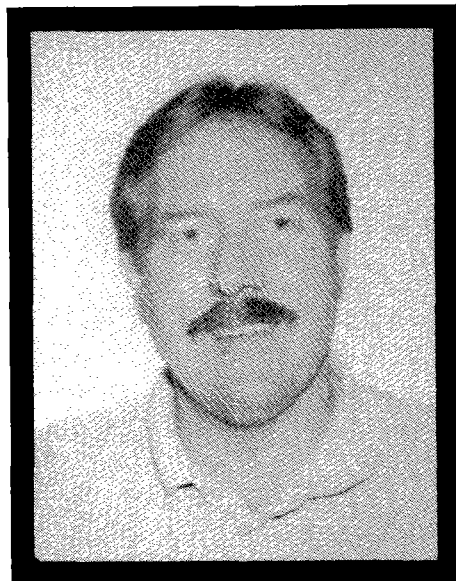
1969, California State University, Northridge, B. S. Geology; 1979, USC, M. S. Geology

Employment:

1970 - 1980: Texaco, Inc., Los Angeles, Geologist; 1980 - Present: DEKALB Energy Company, Bakersfield, District Geologist

Professional Activities:

Pacific Section AAPG, SEPM, SEG, National AAPG; Treasurer, Pacific Section SEPM, 1978; Managing Editor, Pacific Section SEPM, 1979 to Present; Printing Chairman, 57th Annual Pacific Section Convention, Anaheim, 1982; Treasurer, SJGS, 1986; Technical Program Chairman and Program Editor, 61st Annual Pacific Section Convention, Bakersfield, and co-authored Forbes Paper, 1986; Honorary Member, Pacific Section SEPM, 1986; President Elect, SJGS, 1987; President, SJGS, 1988; House of Delegates, National AAPG representing SJGS, 1989.



ROBERT H. STERLING, Candidate for Vice President

Present Position:

Vice President of Exploration, Nahama & Weagant Energy Company, Bakersfield

Education:

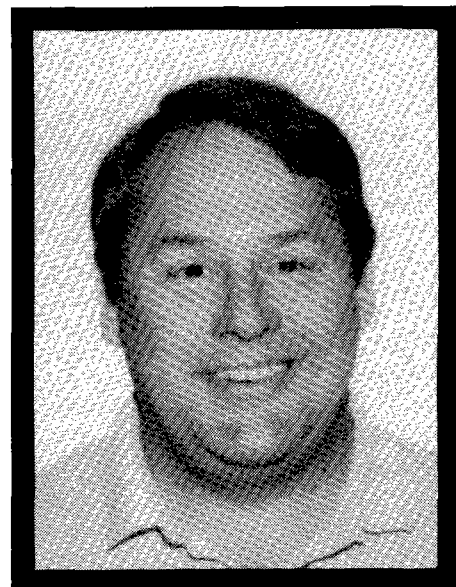
1979, California State Poly Technical University, Pomona, B.S. Geology

Employment:

1979 - 1980: Research Geochemist, Naval Ocean Systems Center, San Diego; 1980 - 1983: Exploration Geologist, Argo Petroleum, Santa Monica; 1983 - 1985: Exploration Geologist, Challenger Minerals, Bakersfield; 1985 - 1986: District Geologist, Challenger Minerals, Bakersfield; 1986 - 1987: Consulting Geologist, Bakersfield; 1987 - Present: Nahama & Weagant Energy Company

Professional Activities:

Treasurer, San Joaquin Geological Society, 1988 - 1989; California Registered Geologist #4266.



DONALD J. MANDEL, Candidate for Secretary

Present Position:

Exploration Consultant, Retriever Resources, Folsom, California

Education:

1971, San Diego State University, B. S. Geology; 1974, San Diego State University, M. S. Geology; 1980, California State University, M. B. A. Finance

Employment:

1974 - 1981: Tenneco Oil Company, Exploration/Project Geologist, Lafayette and Bakersfield; 1981 - 1983: Samson Resources, District Geologist, Denver; 1983 - 1990: Arkoma Production Company, Geological Manager, Sacramento; 1991 - Present: Exploration Consultant, Retriever Resources, Folsom, California

Professional Activities:

AAPG, GSA, Sacramento Petroleum Association, Sacramento Valley Exploration Society; California Well Sample Repository, Member of the Board of Directors, 1978 - 1981; National Association of Petroleum Landmen's West Coast Landman's Institute, Keynote Speaker, 1985; Pacific Section AAPG Convention, Technical Program Coordinator, 1992.

PACIFIC SECTION AAPG FIELD SUMMARIES

GEOLOGIC HISTORY OF A PORTION OF THE ANTELOPE VALLEY BASIN OF THE MOJAVE DESERT BLOCK AS DETERMINED FROM DRILL CUTTINGS

by George Roth

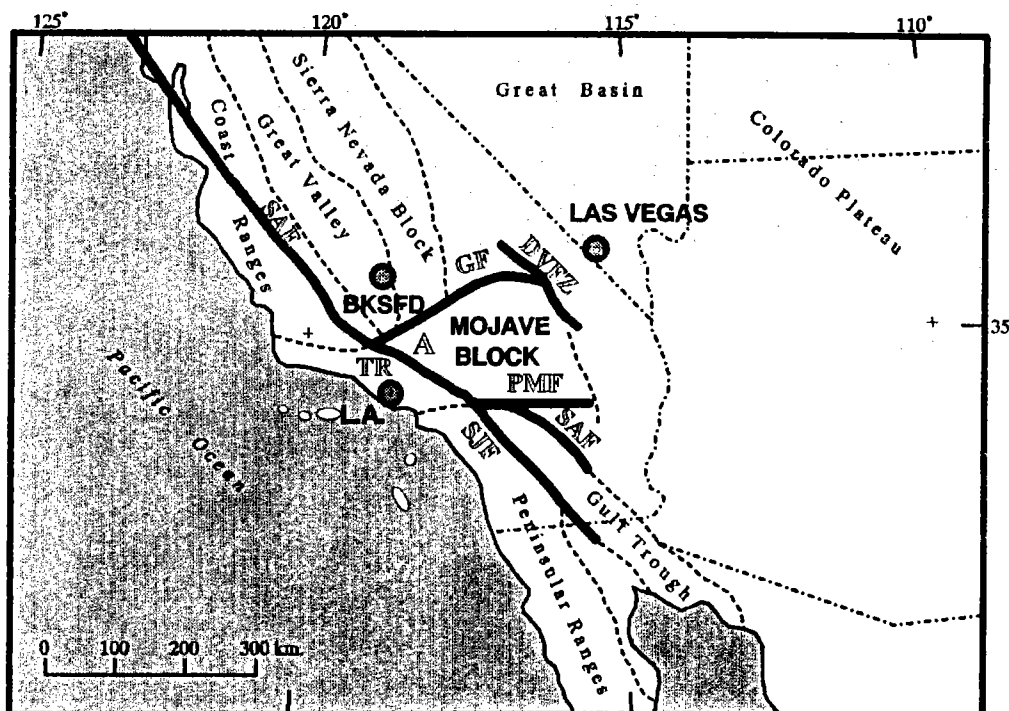
INTRODUCTION

The Mojave Desert Block (Figure 1), is bounded on the north by the Garlock Fault, a major strike-slip fault with a left-lateral displacement of at least 48 to 64 km (Davis and Burchfiel, 1973). The northeast-striking Garlock separates the Tehachapi and Sierra Nevada ranges from the Mojave Desert Block. The western limit of the Mojave Desert Block is marked by the San Andreas Fault, with as much as 565 km of right-lateral displacement (Hill and Dibblee, 1953). Matthew's (1976) correlation of the Pinnacles and Neenach Volcanic formations puts this movement at 315 km. To the east, the Mojave Desert Block is separated from the Basin and Range Province by the Death Valley Fault Zone, a right-lateral fault

with an estimated 80 km of displacement (Stewart, 1983). The left-lateral Pinto Mountain Fault and the eastern Transverse Ranges mark the southern boundary of the Mojave Desert Block. Cumulative displacement on the faults of the Transverse Ranges, Pinto Mountain, Blue Cut, Chiriaco and Salton Creek Faults is reported to be approximately 50 km (Carter, et al, 1987).

In addition to the wide range of structural elements, the Mojave Desert Block has an equally wide range of lithologic assemblages. The pre-Tertiary basement complex consists of Precambrian metamorphic and igneous rocks ranging in age from 1.87 Ga to 1.2 Ga. (Burchfiel and Davis, 1980). Upper

Precambrian through Paleozoic rocks occur as miogeoclinal, eugeoclinal and platform rocks (Jennings, et al, 1962; Jennings, et al, 1969). Backarc and intra-arc shallow marine, continental sequences and batholithic rocks of Mesozoic age (Burchfiel and Davis, 1980), Miocene calc-alkaline volcanic and sedimentary rocks, and Quaternary alkalic volcanic rocks (Wise, 1969) all crop out in and around the Mojave Desert Block. Paleocene through Oligocene sedimentary or volcanic rocks have not been identified within the Mojave Desert Block (Garfunkel, 1974); however, continental sediments of this age have been identified north of the Garlock Fault (Dibblee, 1967). Marine Paleocene sedimentary assemblages crop out in



MODIFIED AFTER DOKKA 1986

Index map showing location of the Mojave Desert.
 SAF= San Andreas fault; GF= Garlock fault; PMF= Pinto Mountain fault;
 SJF= San Jacinto fault; TR=Transverse Ranges;
 DVFZ= Death Valley Fault Zone; A= Antelope Valley Basin

Figure 1

strike-slip fault slivers juxtaposed with the Mojave Block (Dibblee, 1967). This juxtaposition through strike-slip movement was thought to be the only occurrence of marine strata within the Mojave Desert Block. However, the recent discovery of an early Eocene marine transgression east of the southern Sierra Nevada Mountains (Cox, 1987), has required modification of the crustal model and late Mesozoic and Cenozoic structural history of this area and its relationship to the Basin and Range Province. The Eocene Goler Formation figures prominently into the geologic reconstructions of the area because of the uniqueness of the marine environment and its position in the interior of southern California east of the San Joaquin Valley. The marine character of the Goler was verified by field work in 1987 by the Hunt Oil Company

(Microstrat, 1987). This work and other geophysical and geological data collected in the area led to the hypothesis that a thick sequence of marine rocks similar to the prolific rocks of the San Joaquin Basin was deposited in the Mojave region.

A seismic anomaly was interpreted to be a shallow marine, possible transgressive systems tract (Vail, 1989), and was drilled in 1990. Results of that well and subsequent analysis of the data gained from it, and recent work by other authors add to the understanding of the evolution of the Antelope Valley Basin of the Mojave Desert Block.

In March of 1990, Hunt Oil U.S.A., Inc. spudded the Goldberg #1-10 in Section 10, T.8N., R.15W., S. B. B. & M., Los Angeles County, California. The well was drilled to a total depth of 10,545 feet (Schlumberger) and plugged in April of 1990 without encountering any shows of oil or gas. The biostratigraphic, palynologic and thermochronologic analysis of drill cuttings from this well, the deepest penetration to date in the Antelope Valley, has added to the understanding of the evolution of the Mojave Desert during the change from convergent to transform continental margin in southern California.

BIOSTRATIGRAPHIC & PALYNOLOGIC ANALYSIS

Cuttings samples from 510 to 10,570 feet and one core sample from the Goldberg well were processed and analyzed for foraminifera and palynomorphs to determine age dates and paleoenvironments.

The results of those analyses (Table 1) substantiate the existence of Tertiary sedimentary section in the Antelope

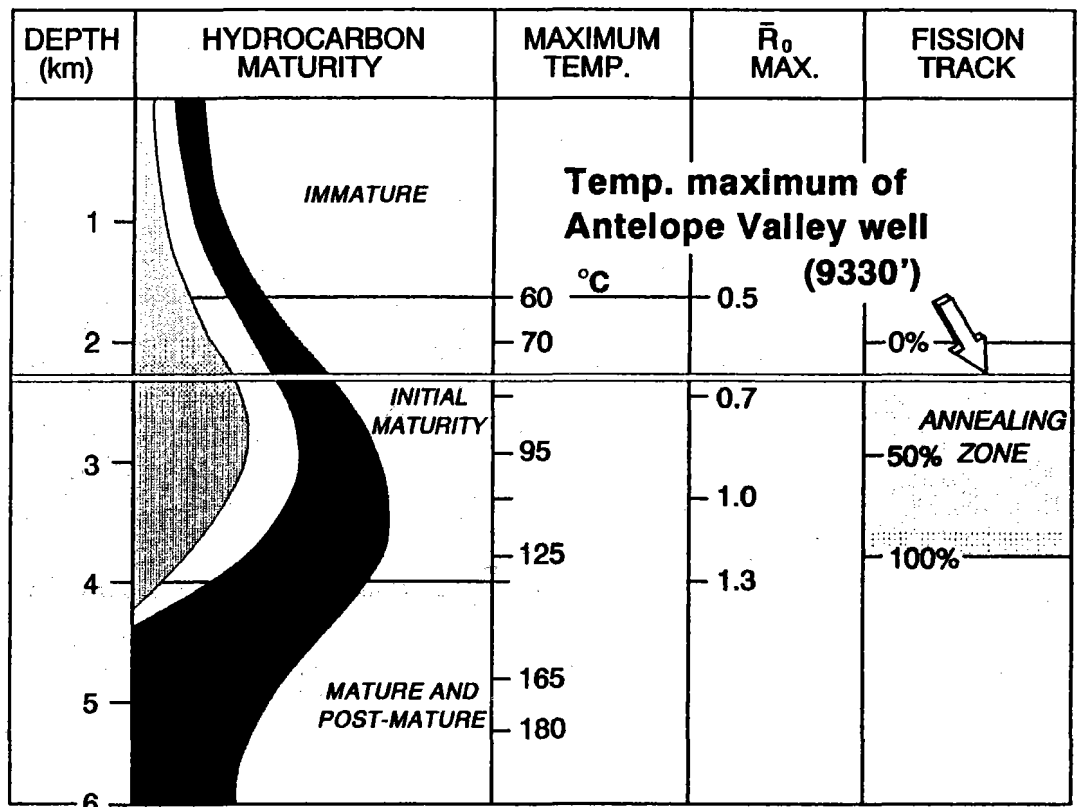


Figure 2

Valley. At a depth of 5,270 feet, a definite identification of Middle Eocene Marine forams and ostracodes was made. The occurrence of the Benthic foram *Lenticulina* sp. in the well correlates to the foraminiferal assemblages from the marine Goler Formation (Early Eocene) of the El Paso Mountains reported by Kristin McDougall in Cox, 1987. These verify the existence of an Eocene marine transgression across the area.

THERMAL HISTORY OF THE ANTELOPE VALLEY USING FISSION TRACK THERMOCHRONOLOGY

Apatite Fission Track Thermochronology (AFTT) from samples in the Goldberg well show that this area of the Basin sampled by the well is thermally immature (Figure 2). Potential source rocks in that well have not experienced a burial history sufficient to generate oil or gas. Fission track data are consistent with a model that states that the Antelope Valley Basin has undergone gradual heating since initial basin filling (Dokka, 1990).

SOURCE ROCK ANALYSIS

One hundred twenty-nine (129) dry cut samples from the interval 4,100 to 6,170 feet were analyzed to evaluate the source rock potential and thermal maturity of the Eocene section penetrated by the Goldberg well. The limited amounts of shale in this interval are poor to fair biogenic gas sources (Figure 3). If substantially deeper burial of these rocks can be accomplished elsewhere in the basin, the potential exists for

TABLE 1

Biostratigraphic & Paleoenvironmental Summary

Hunt Oil U.S.A., Inc. Goldberg #1-10
Section 10, T.8N., R15W., S.B.B. & M., Los Angeles County, California

Interval & Samples	Analyzed For	Age Determination	Paleoenvironmental Interpretation
510-5,240 27 Samples	Forams	Indeterminate	Non-marine Fluvial
5,210-5,300 2 Samples	Paly	Upper Middle Eocene to Upper Eocene	Lacustrine-Wetlands
5,240-5,270 1 Sample	Forams	Middle Eocene	Shelf
5,270-5,510 6 Samples	Forams	Indeterminate Barren	Indeterminate
5,300-5,390 2 Samples	Paly	Upper Middle Eocene to Upper Eocene	Lacustrine-Wetlands
5,600-5,630 1 Sample	Forams	Indeterminate	Indeterminate
5,720-9,400 61 Samples	Forams	Indeterminate Barren	Indeterminate
Core 9,254 1 Sample	Paly	Upper Middle Eocene to Upper Eocene	Lacustrine-Wetlands
Core 9,254 4 Samples	Forams	Indeterminate Barren	Indeterminate
9,400-10,570 20 Samples	Forams	Indeterminate Barren	Indeterminate

them to be fair sources for gas. The organic facies typifying these shales are characteristics of a terrestrially dominant herbaceous and woody-structured-inertinite input which renders these shales gas prone rather than oil prone (Bayliss, 1990).

CONCLUSIONS

1. Marine Eocene rocks have been identified in the subsurface of the Antelope Valley Basin within the Mojave Desert Block at 5,240 to 5,270 feet and verify a marine transgression across the area during Eocene.
2. Upper Middle Eocene to Upper Eocene age sediments deposited in a lacustrine environment were identified at 9,254 feet (Table 1). Although positive identification was not made below this depth, a lacustrine environment may be inferred at total depth (10,570 feet) by correlation of lithologies from 9,254 feet with those at 10,570 feet.
3. Basement rocks (i.e., Precambrian through Mesozoic igneous or metamorphic rocks) were not encountered at total depth.

4. Burial history models (not reviewed herein) and thermochronological data gathered from the well indicate the basin in the general vicinity of the well has not generated hydrocarbons. However, if sufficient burial can be found elsewhere, the possibility exists for the generation of gas.

ACKNOWLEDGMENTS

I would like to thank the Hunt Oil U.S.A., Inc. Drafting Department for drafting the illustration for this paper, the management of Hunt Oil U.S.A., Inc. for allowing publication of the data contained herein, and Dawn E. Williams for typing of the manuscript.

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GEOTHERMAL DIAGENESIS Hunt Oil USA Goldberg No. 1-10

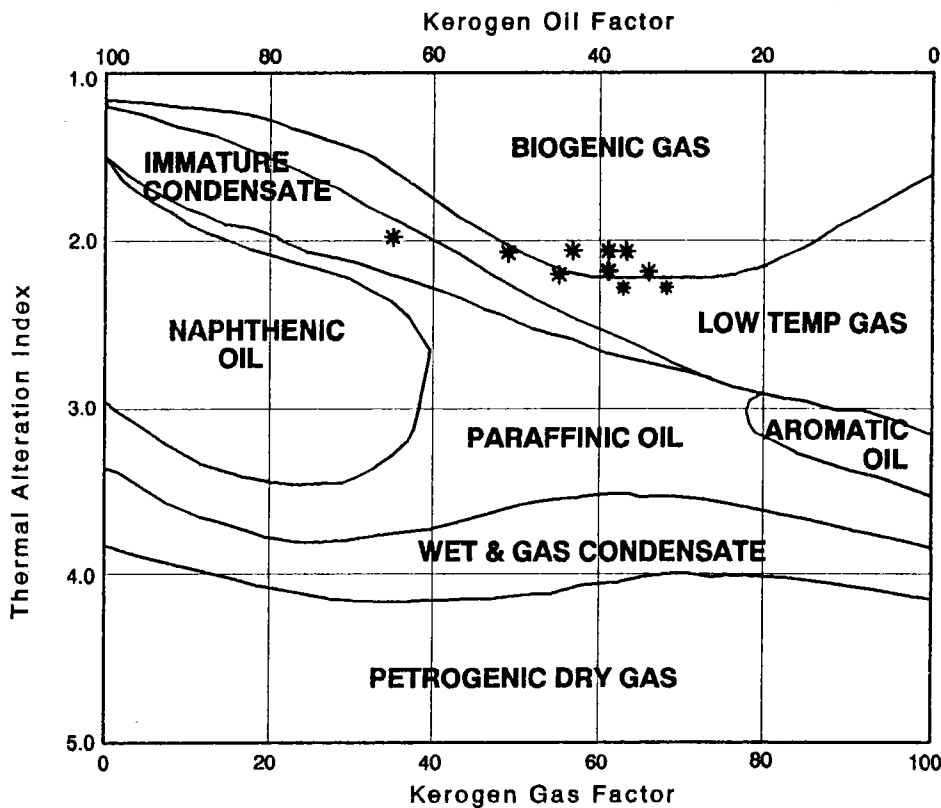


Figure 3

Microstrat, Inc., 1987, Source Rock Geochemical, Micropaleontological and Palynological Analysis of the Paleocene Eocene Goler Formation, El Paso Mountains, Southeast Kern County, California, pp. 1 - 36, Appendices 1 - 3, (Unpublished).

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George Roth is a Senior Geologist for the Hunt Oil Company, Dallas, Texas. He has sixteen years of geological experience in the Rocky Mountains, California and Texas.

BLM GEOLOGIC FIELD TRIPS FOR 1992

The following schedule is the 1992 list of Geologic Field Trips sponsored by the Bureau of Land Management (BLM) and given by various BLM Geologists: Gregg Wilkerson, Anne Falcon and Pat Bell; and BLM Volunteers: Charles Foss, Mark Milliken, Russ Robinson and others.

May 9 - San Andreas Fault: San Andreas Fault: Wallace Creek to Parkfield: This trip begins in McKittrick. The McKittrick breccia pits/oil seeps are visited on our way over the Temblors to the Carrizo Plain and the San Andreas Fault. We follow the fault through Parkfield, the "Earthquake Capital of the World". Classic examples of off-set fences, bridges and other structures along the fault zone are seen at Parkfield and other localities.

June 13 - Sequoia National Park: We will travel upon ancient river terraces, and examine the origin of the Sierras from fiery beginning to icy sculpting. The formation of gold and other mineral deposits in these rocks will be discussed. Fossil sea floor trench-subduction zones are seen. We will see domes, striations, and other glacial features. We will examine how inversion layers form in our atmosphere, how that relates to fog, and walk among Sequoias to investigate life zones in the Sierras.

July 11 - Havilla - Plute Mountains - Kelso Valley (Weldon): The Havilla, Plute Mountain, and Kelso Valley (Weldon) mining districts are visited on this trip. Mining and milling demonstrations are given at Havilla, and several underground mines are explored. Flashlights and high clearance vehicles are needed by all participants.

August 15 - Bakersfield to the Santa Maria Basin: This geological excursion includes a walk through oil-soaked rock layers which caught fire long ago and burned below ground, producing colored chalk-like rocks. We will see slices of ocean floor which have become stuck on end up against our continental edge at Port San Luis. Sand dunes at Guadalupe Dunes, the ancient microcontinent of Salinia, Ice Age terraces, plate tectonics, global warming and other topics are investigated.

September 19 & 20 - State Highway 49: Sierra Gold Belt: This trip begins in the town of Maricopa at the museum and goes through gold camps located along Highway 49, ending at Sattley in Sierra County. The trip includes demonstrations of placer mining, gold panning, and tours through several mines.

October 10 & 11 - Eastside Sierra Nevada Mountains: The geology of Owens Valley, Mono Lake, and the eastern Sierra Nevada are studied. Several mining districts and mines are examined, including Bodie State Park.

November 14 - Westside Stratigraphy of the San Joaquin Valley: The trip to the westside of the San Joaquin Valley will focus on the origin of oil, its migration and trapping. We will examine oil reservoir rocks, and oil source rocks. We will discuss ancient climates, and environments and the search for oil, and the work of the early oil finders in the Valley (which will include a visit to the Taft Oil Museum). We will also answer the questions related to the cause of the San Joaquin Valley's "heavy" oil and the distribution pattern of the different major hydrocarbon types in California. We will examine the origin of the San Joaquin Valley, The Temblors, and faulting in the area.

December 12 - Eastside Stratigraphy of the San Joaquin Valley: The classic exposures of rock units on the eastern side of the San Joaquin Valley are investigated. Several fossil collecting areas, oil production facilities, and major faults are visited.

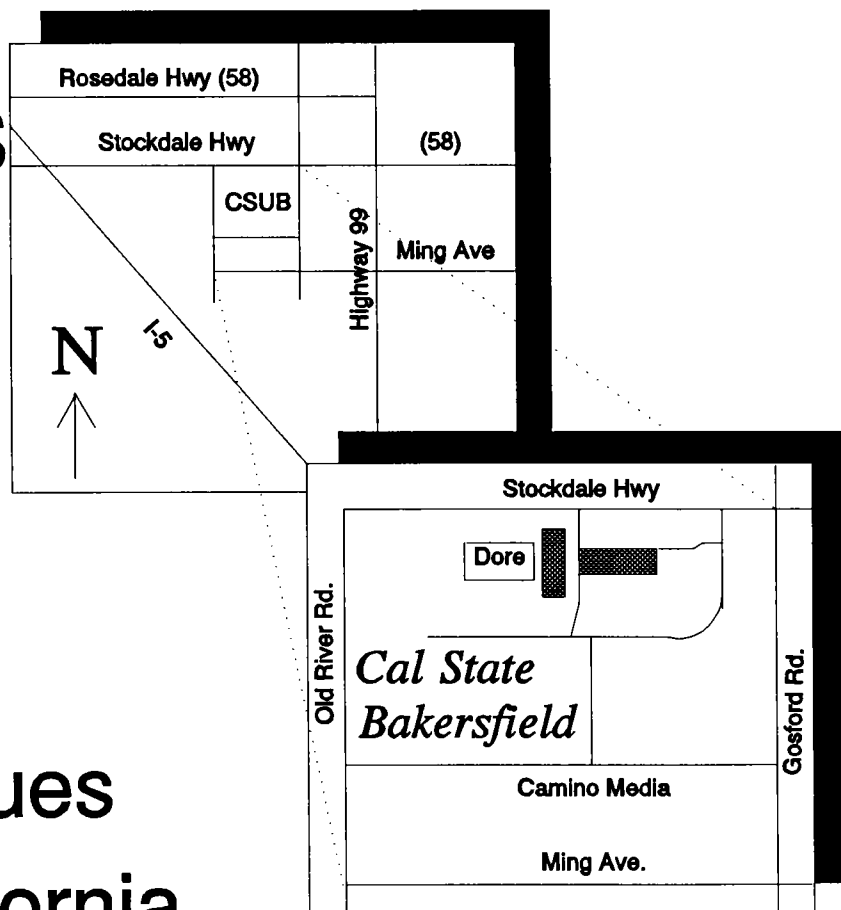
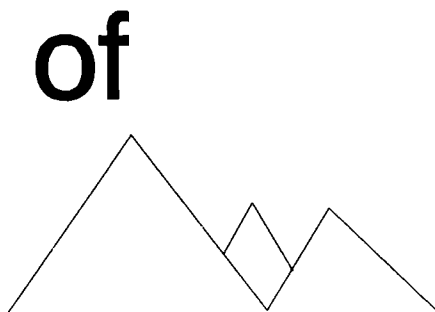
The field trips are limited to 25 vehicles. We encourage each driver to have a CB radio in their vehicle so that information can be given on the radio between stops. Reservations are on a first come-first served basis. There are no registration fees for any of these trips, but donations to offset cost of publication of the field guidebooks are welcome. To reserve a place on any of these BLM field trips contact Ken Hock at 805/861-4209 or Anne Falcon at 805/861-4219.

Please dress for the weather. Bathroom stops may be infrequent. Please bring your own lunch, snacks, and drinks. There will be one stop at a convenience store if any are available, but food choices are limited.

Any overnight accommodations are your own responsibility. If scheduling can be arranged, we can hold special trips for your particular group of 25 persons or more. Field trips are available for: Kern Canyon - Walker Pass; San Andreas Fault: Fort Tejon to Wrightwood; Kern Canyon - Havilla - Walker Basin; San Andreas Fault: Fort Tejon - Wrightwood - San Gabriel Mountains - Pasadena.

PLEASE NOTE: All trips are subject to cancellation due to bad weather and other circumstances beyond our control. If necessary, we will reschedule the trip at a later date.

Applications of Horizontal Drilling Techniques in California



WHEN: Tuesday, June 9, 1992 7:00 a.m. - 9:00 p.m.

WHERE: Dore Theater, California State University, Bakersfield

WHAT: 15 Speakers From 10 Companies
Discussing Projects in 11 California Oil Fields

HOW MUCH: Pre-Registration 95.00
Late Registration (After 05/29/92) 110.00
(Includes Lunch / Dinner / Materials)

WHO: Send Check To:
San Joaquin Geological Society
Post Office Box 1056, Bakersfield, California 93302

For Information Call: Larry Knauer (805/763-6280)

WHY: This technology may be the answer to many of the problems in the California oil patch. Drilling offshore fields from fewer platforms or from onshore; developing pools that were uneconomic with vertical wells; realizing the economic benefit of reaching more areas of mature fields for primary depletion and steamflood/waterflood projects. This seminar provides a forum to discuss the geologic settings, drilling programs and completions programs for these projects and come away with a better understanding of what horizontal drilling is accomplishing in California.

AAPG DISTINGUISHED SERVICE AWARD

ROBERT G. LINDBLOM

Bob Lindblom will be recognized for his extensive service to the AAPG and the geological profession when AAPG holds its Annual Meeting in Calgary, Canada next summer. Bob has been an active Pacific Section member for many years.

Bob retired from Chevron USA, Western Region Exploration Department in 1990, after 39 years in petroleum exploration and development. He is currently a Petroleum Consultant in Menlo Park, California, and a Consulting Professor in the School of Earth Sciences, Stanford University. He has served as Vice President and President of the San Joaquin Geological Society and Secretary, Vice President and President of the Pacific Section. He is a Certified Petroleum Geologist (AAPG) and a California Registered Geologist, as well as having authored and co-authored numerous publications, which includes co-authoring the Pacific Section AAPG Field Summary, "Denverton Creek Gas Field", featured in the last issue of the Pacific Petroleum Geologist Newsletter.

Bob's term as President of the Pacific Section coincided with the traumatic downturn in employment of geologists. Addressing this concern became a primary objective of the Section and an "Alternative Employment Seminar" was sponsored and organized by the Section under Bob's leadership. Over seventy members attended the session in February of 1987 in Valencia, California and took part in discussions on how to qualify for related high school and college science teaching, hydrology, hazardous waste and engineering geology positions.

We join with National AAPG in honoring Robert G. Lindblom for his dedicated service to his chosen profession.

HAVE YOU BEEN A MEMBER OF THE PACIFIC SECTION FOR MORE THAN FIFTY YEARS?

All Pacific Section members of the AAPG who have been members for fifty years or more are entitled to free tickets to the Joint Luncheon at the Pacific Section Annual Convention on Wednesday, April 29, 1992 at the Convention Center in Sacramento.

A special table will be reserved for those attending.

GREGG RANCH FOUNDATION OF CALIFORNIA

The Gregg Ranch Foundation of California was recently established as a non-profit public benefit organization in honor of Rodney Gregg of Yreka, California. Mr. Gregg has assisted and encouraged geologists and geology students doing research in the eastern Klamath Mountains for well over fifty years. The historic Gregg Ranch, located in the upper Scott Valley near the town of Gazelle, is the location of some of the oldest rocks in northern California (570 Ma: Cambrian).

Beginning in 1992, the Foundation is prepared to offer modest research grants to geology students doing research in the Klamath Mountains or adjoining geologic provinces. Students interested in applying for such a grant should request a Research Grant Application Form from the Gregg Ranch Foundation of California, 4920 Woodland Avenue, Lincoln, Nebraska 68516.

Persons wishing to honor Rodney Gregg or to help support research in the Klamath Mountains may send their contributions to either Nan Lindsley-Griffin, President, Board of Directors, or John R. Griffin, Vice President, Gregg Ranch Foundation of California, 4920 Woodland Avenue, Lincoln, Nebraska 68516.



For more information,
please call
BUZZ DELANO

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

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RECOMMENDED READING

Ph.D. THESIS

Texas A & M University, 1991

Generation and Migration of Petroleum in the Miocene Monterey Formation, Southern San Joaquin Basin, California, by C. I. Lee

NOTE: A copy of this thesis is available in the California State University, Bakersfield Library and thin sections are available from the California Well Sample Repository.

M.S. THESIS

University of Pennsylvania, Philadelphia, 1991

Nature and Timing of the Franciscan Uplift Along the Coast Range Fault, California Coast Ranges, by R. Miller

JOURNAL OF STRUCTURAL GEOLOGY

Vol. 13, No. 7, 1991

Geometrical Modeling of Fault-Related Folds: Pseudo-Three-Dimensional Approach, (Page 801), by M. S. Wilkerson, D. A. Medwedeff and S. Marshak

A Robust Approach to the Calculation of Paleostress Fields from Fault Plane Data, (Page 813), by T. M. Will and R. Powell

SEDIMENTARY GEOLOGY

Vol. 68, 1990

Coarse-Grained Deltaic Sedimentation in the Miocene Cuyama Strike-Slip Basin, California Coast Ranges, (Page 17), by J. A. Bartow

WATER RESOURCES RESEARCH

Vol. 6, No. 9, September, 1990

Solving Groundwater Flow Problems by Conjugate-Gradient Methods and the Strongly Implicit Procedure, (Page 1961), by M. C. Hill

U. S. GEOLOGICAL SURVEY PUBLICATIONS

Open File OF 90-05090A, 1990: FASUP English and Metric Versions: Analytical Petroleum Resource Appraisal Microcomputer Programs for Play Analysis Using a Reservoir Engineering Model, by R. H. Balay, Microfiche for \$4.00 or Paper Copy for \$3.75

Open File OF 90-0636A: Neogene Time Scale, Compiled by J. A. Bartow, Microfiche for \$1.50 or Paper Copy for \$2.25

Open File OF 90-0637A: Bibliography of Well Log Applications; Cumulative Edition through September 1, 1990, by S. E. Prenskey, Microfiche for \$4.00 or Paper Copy for \$4.50

Open File OF 91-0107A&B: Bibliography of Quaternary Geology of Copper River Basin and Adjacent Areas, South Central Alaska, by O. J. Ferrian, Jr., A on Microfiche for \$4.00 or Paper Copy for \$3.25, B on 5 1/4" diskette for \$6.00

Miscellaneous Investigation I-2077, 1991: Geologic Map of Northwestern Caliente Range, San Luis Obispo County, California, by J. A. Bartow, Scale 1:36,000, \$6.50

Professional Paper P1401-A: Groundwater in the Central Valley, California: A Summary Report, by R. H. Johnson and K. D. Evenson, 1991

Bulletin B1934: Short Contributions to Paleontology and Stratigraphy, edited by W. J. Sando, 1991, Chapters A-E are issued as a single volume for \$10.00

AAPG BULLETIN

Vol. 75, No. 12, December, 1991

Permian and Triassic Sedimentation in the Northeastern Brooks Range, Alaska: Deposition of the Saddlerochit Group: Discussion, (Page 1877), Discussion by K. J. McMillen, Reply by R. Keith Crowder

Vol. 76, No. 1, January, 1992

Early Generation Characteristics of a Sulfur-Rich Monterey Kerogen, (Page 1), by D. K. Baskin and K. E. Peters

Russ Robinson / Pat Bell

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PACIFIC PETROLEUM GEOLOGIST NEWSLETTER

of the Pacific Section

American Association of Petroleum Geologists

June & July 1992 No. 4

PRESIDENT'S COLUMN

The Pacific Section would like to thank Rich Boyd and his Committee Chairs for the splendid job they did arranging the Section's 1992 Annual Meeting. The technical program, the entertainment, and the headquarter's hotel accommodations were all first rate. The Sacramento Petroleum Association, our host, has our full admiration.

A preliminary report from Rich indicates that total registration was about 600. This included 71% professional registrants, 13% spouses, 4% students and 12% exhibitors. Financial results are not complete as of this date. Due to the relatively limited registration, profit is projected to be around \$10,000.

Honorary Lifetime Membership was awarded to Roland Baln, Glenn Ferguson and Ed Hall. The Distinguished Service Award went to Betty Bean, with the Special Teaching Award going to Gene Fritsche. Congratulations and thanks for making a difference!

The 1991 - 1992 term is ending and new leadership under Paul Hacker is preparing to take charge. Hip, hip, hurrah!

Congratulations to our 1992 - 1993 Pacific Section Officers: President-Elect, Reinhard Suchsland; Vice President, Robert Countryman; and Secretary, John Howe. The gavel will be passed and new Officers installed at the July Executive Committee Meeting.

The membership currently totals 958 paid members. This is 25% fewer members than five years ago. This decline led to the proposed reorganization. Bob Linblom, Chairman and member of the Constitution and By-laws Committee of the proposed Pacific Coast Association of Geological Societies, plans to submit the revision for approval by the Executive Committee at the July meeting and then to the Section membership for final approval or rejection.

(continued on Page 2)

CALL FOR MEMBERS

AAPG Division of Environmental Geosciences

On June 21st in Calgary, the AAPG House of Delegates will vote on the formation of a Division of Environmental Geosciences (DEG), comparable in structure and status to the present Energy Minerals Division (EMD) and Division of Professional Affairs (DPA). Approval seems certain; a straw vote last year by the House of Delegates approved the concept by more than ninety percent.

The new Division of Environmental Geosciences would absorb two existing AAPG Committees and expand their current roles. The Committee on Environmental Geology was created in 1971 to promote optimum environmental practices in petroleum exploration and development, increase public and governmental awareness of these practices, and so try to reduce inappropriate environmental constraints on exploration. The Committee on Hydrology was formed four years ago to provide a professional "home" and continued services to AAPG members who have recently changed their career direction into the area of contaminant hydrogeology and waste management. The new Division would also welcome new members who had not previously belonged to AAPG.

As with EMD and DPA, the new DEG would be organized at the Section level and would develop programs and short-courses for our Annual Meetings and assist local societies in finding speakers on appropriate technical subjects. We expect that the new Division could play an important role in ensuring the future of several of our local societies, and perhaps the Pacific Section itself, by broadening our membership base and supporting the proposed Pacific Coast Association of Geological Societies.

The Pacific Section would like to get a fast start on forming our own branch of DEG and electing a Section representative to the Division's Advisory Council. Our Planning and Organization Committee is developing a mailing list of potentially interested members. If you would like to receive membership and other information, please clip or copy the response form on Page 7 and return it to Tom Wright, 136 Jordan Avenue, San Anselmo, California 94960.

PRESIDENT'S COLUMN

(continued from Page 1)

Another Committee that has proved pro-active this year is the Publication Committee. The new Chairman, **Dan Olson**, has put together a strong Committee including a Managing Editor, Sales Coordinator and Advisors. See the Pacific Section AAPG 1992 Price List & Order Form as featured in the last PPGN issue. New publications associated with the Convention are: 1) GB70 - Guide to the Tectonics of the Boundary Between the California Coast Ranges and the Great Valley of California; 2) GB71 - Guide to the Late Cenozoic Subduction Tectonics and Sedimentation of Northern Coastal California; and 3) Eel River Field Trip by the Humboldt Geologist

Ongoing membership donations continue to the California Well Sample Repository, the Dibblee Mapping Foundation and the Van Covering Student Grant Program. This year a revolving publication fund has been established as a memorial to the late **Bob Hacker**, Pacific Section President, 1978 - 1979.

Regarding the 1993 Pacific Section Annual Meeting, **Don Clark**, General Chairman, reports that the site is the Hyatt Regency Hotel in Long Beach. The exhibits and poster sessions will be held at the Long Beach Convention Center. It will be co-hosted by the Los Angeles Basin Geological Society and the South Coast Geological Society. Participating organizations include the AAPG, SEPM, SEG, SPWLA, AIPG, and possibly the AEG. The new format will include the petroleum, geotechnical and geohazards industries. Beyond the 1993 Annual Meeting, **Tom Wright** and **Ben Cahill** have been hard at work to extend preliminary convention plans. The 1994 Annual Meeting is shaping up in Santa Barbara, with the 1995 Annual Meeting in the San Francisco area.

As I prepare to pass the prospect file to Paul, I would like to thank outgoing Officers: **Rick Bowersox**, Vice President; **Rusty Riese**, Secretary; and acknowledge **Bob Linblom** for serving four years on the Advisory Council. It has been my pleasure to serve and work with and for the Section membership.

John W. Randall, President

San Joaquin

June 9 - Marc Kamerling, ARCO Oil and Gas Company, "Horizontal Drilling in the Yowlumne Field".

July & August - No meeting.

September - To be announced.

Suggestions for meeting speakers or topics should be addressed to Bill Bazeley at 805/325-5746.

The meetings are held at the American Legion Hall at 2020 H Street in Bakersfield. Attitude adjustment starts at 6:00 p.m. and dinner is served at 7:00 p.m. For more information and reservations please contact Les Collins at 805/397-7472.

Los Angeles

July 16 - Monty Hampton, U.S.G.S., "Seafloor Mapping of the Eastern Pacific".

September 17 - Don Zenger, Pomona College, "Deep Burial Dolomitization".

Luncheon meetings are held at noon on the third Thursday of alternate months. Meetings are held at UNOCAL Center, California Room, 1201 West Fifth Street, Los Angeles. Visiting geologists and friends are cordially invited.

For reservations or information, please call Reggie Moore at 714/455-4080 or Mike Mulhern at 213/485-3805.

Northwest

For suggestions or questions, please contact Lanny Fisk at 503/382-0825, Barbara Portwood at 503/287-2762, or any other member of the NWPA Program Committee: Phil Brogan, Harry Jamison, Paul Dudley or Nancy Ketrenos.

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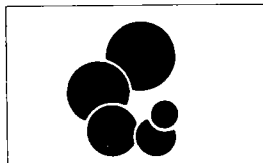
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Archer Exploration
Bakersfield

Coast

June 16 - Dr. Michael S. Clark, ARCO Oil and Gas Company, "Sequence Stratigraphy of a Shelf-to-Basin Transition, Middle Eocene, Ventura Basin".

Meetings are held the third Tuesday of every month. Meeting time is at 6:00 p.m., dinner at 7:00 p.m. at the American Legion Hall in Ventura. The address is 83 South Palm Street. For reservations please contact Groundwater Technology's Receptionist at 805/644-9811 by 10:00 a.m. at least one day before the meeting. Reservations are required to guarantee dinner.



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Meetings are held at noon at Neptune's Table Restaurant, 5990 South Land Park Drive. For reservations please contact Rich Boyd at 916/929-4141.

CALL FOR PAPERS

GEOLOGY & TECTONICS OF THE SOUTH COAST REGION

A major symposium is being organized on the geology and tectonics of the South Coast region (Palos Verdes Hills to Ensenada) for the 1993 Pacific Section Convention in Long Beach.

The program will focus on the evolution and present tectonic activity of the boundary zone between the Peninsular Ranges and the Continental Borderland Province.

Three half-day sessions are planned.

Session I: "Geologic History and Paleotectonics" and **Session III: "Regional Geophysics and Neotectonics"**, are fully completed with invited papers. **Session II** will highlight detailed studies of specific structural features and their deformation histories. To date, papers have been committed on the Wilmington anticline and the Palos Verdes Fault, the offshore faults, and the southern (offshore) Newport-Inglewood Fault Zone. We are seeking additional papers that utilize detailed subsurface data in isopach mapping and other studies that document the timing and style of deformation on structures in the southwestern Los Angeles Basin. Of special interest would be papers on:

- **Structural Evolution of the Huntington Beach Oil Field**
- **THUMS-Huntington Beach Fault**
- **Geology of the Beta Oil Field**
- **Geology of the San Pedro Bay**

If you are interested in contributing a paper on one of these or a similar topic, please contact Bill Bartling at 805/395-6308 or Tom Wright at 415/456-9244.

RECENT MOVES

William J. M. Bazeley has retired from the ARCO Oil and Gas Company. He is now working as an independent consulting geologist. His new office is located at 5115-5 Office Park Drive, Bakersfield, California 93309. The telephone number is 805/325-5746.

COMING EVENTS

June 9 - "Applications of Horizontal Drilling Techniques in California". Presented by the San Joaquin Geological Society and California State University, Bakersfield Geology Department. Please contact Larry Knauer at 805/763-6280 for more information.

June 21 to 24 - AAPG National Convention, Calgary, Alberta, Canada. Hosted by the Canadian Society of Petroleum Geologists (CSPG).

August 2 to 5 - AAPG International Conference & Exhibition, Sydney, Australia. Please call 918/584-2555 for more information.

August 17 to 21 - "Applied Subsurface Geological Mapping", Ventura. Please see advertisement on Page 7.

September 27 to October 1 - American Institute of Professional Geologists (AIPG) Annual Meeting, Lake Tahoe, Nevada. Please contact Jon Price at 702/784-6691 for more information.

October 26 to 29 - Geological Society of America Annual Meeting, Cincinnati, Ohio. Please call 303/447-2020 for more information.

NEW MEMBERS

Coast Geological Society

James M. Evensen, Jr.
Groundwater Technology, Ventura
Kevin J. Neese
Hatch & Parent, Santa Barbara
Peter J. Winkler
Groundwater Technology, Ventura

Los Angeles Basin Geological Society

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Agoura Hills

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PACIFIC SECTION AAPG FIELD SUMMARIES

WEST BELLEVUE OIL FIELD LOWER STEVENS POOL

by E. C. Tripp & R. H. Sterling

STATISTICS

Discovery Wells

Upper Stevens (2/18/57)

Superior "Wesco-Clark" #44-33
Section 33, T.29S., R.26E., M. D. B. & M.
I. P. 96 BOPD, 34.5°, 7,698' - 7,720'

Lower Stevens (5/13/78)

Challenger Minerals "Houghton" #13X-33 R/D
Section 33, T.29S., R.26E., M. D. B. & M.
I. P. 217 BOPD, 26°, 9,372' - 9,390'

Production and Reservoir Data

Upper Stevens

Nine wells, 160 acres, 22' sand maximum
3,500,000 barrels of oil, 1,000 barrels per acre foot

Lower Stevens

Eighteen wells, 180 acres, 100' sand average
Porosity of 22%, Permeability of 220 md., GOR 575
190 barrels per acre foot recoverability
Cumulative Production (1/1/91): 3,000,000 barrels

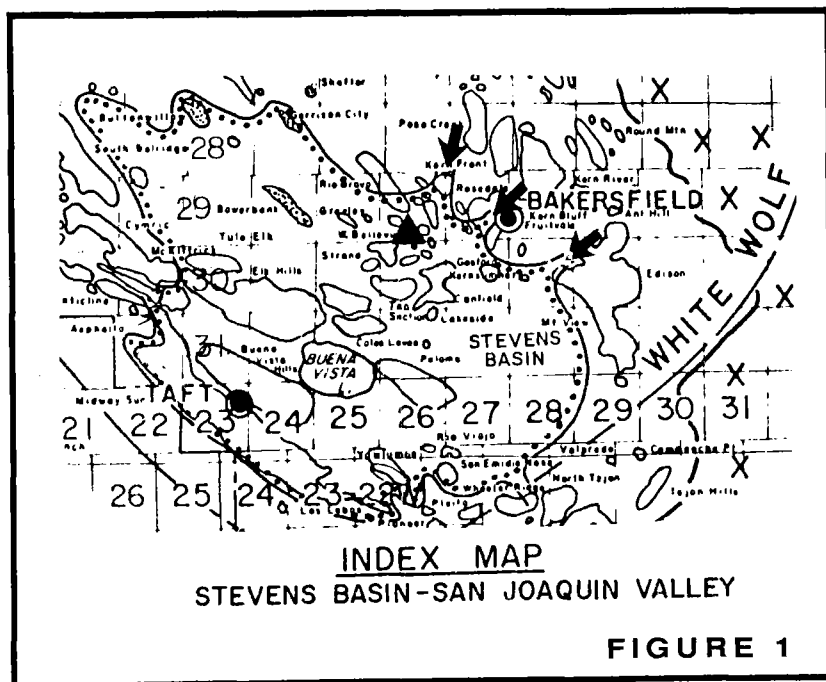
INTRODUCTION

The West Bellevue Oil Field is located on the Bakersfield Arch in the oil rich southern San Joaquin Valley about eight miles west of the city of Bakersfield, Kern County, California (Figure 1). Production is from Upper Miocene Stevens turbidite sandstones in stratigraphic traps formed by differential compaction of compensating fan channels. The sands are encased in a rich source rock, the Upper Miocene Fruitvale shale, which is equivalent to the prolific Monterey formation. Production has been established in 23 separate stratigraphic reservoirs from three of the four major eastside submarine fan systems. All of these Upper Miocene fan systems were fed into the southern San Joaquin basin from at least three major sources initiated from an ancestral Kern River in the southern Sierra Nevada.

Over twenty years elapsed between the discovery of the shallowest (Clark sand) and the deepest ("9350" sand) production. This hiatus was the result of a structural misinterpretation of the eight surrounding deep control wells, one of which (the Haberfelde #1) was at the Lower Stevens oil/water contact. The Lower Stevens pre-discovery well data in the West Bellevue area indicated a northeast-southwest strike on the Sigma electric log marker, located above the "9350" sand. This strike direction, counter to regional northwest-southeast strike, was interpreted to be the result of northwest-southeast normal faulting. Jim Cox, a Bakersfield consultant, proposed a stratigraphic interpretation wherein the anomalous change in structural strike was the result of an underlying "9350" sand thick. In 1978, Challenger Minerals drilled this prospect and encountered five feet of oil sand at the top of the "9350" sand in the #13X-33 discovery well. The well was completed from the re-drill, directionally drilled northerly and completed for 190 BPD of 26° API oil. The pre-drilling interpretation is almost identical to the post-development structure on the "9350" sand (Figure 3).

The original Clark sand (Upper Stevens) cumulative production is about 3.5 million barrels from less than 160 acres of mapped closure with a maximum of 22 feet of sand in any one well. This calculates to a recovery factor of 1,000 barrels per acre foot, which is abnormally high. The sand is most likely in communication with other sands or is much thicker between wells.

Zones older than the original Upper Stevens production have produced about three million barrels and are estimated to have one million barrels of recoverable reserves. Eighteen wells have been completed in less than 200 acres from both Upper and Lower Stevens reservoirs.



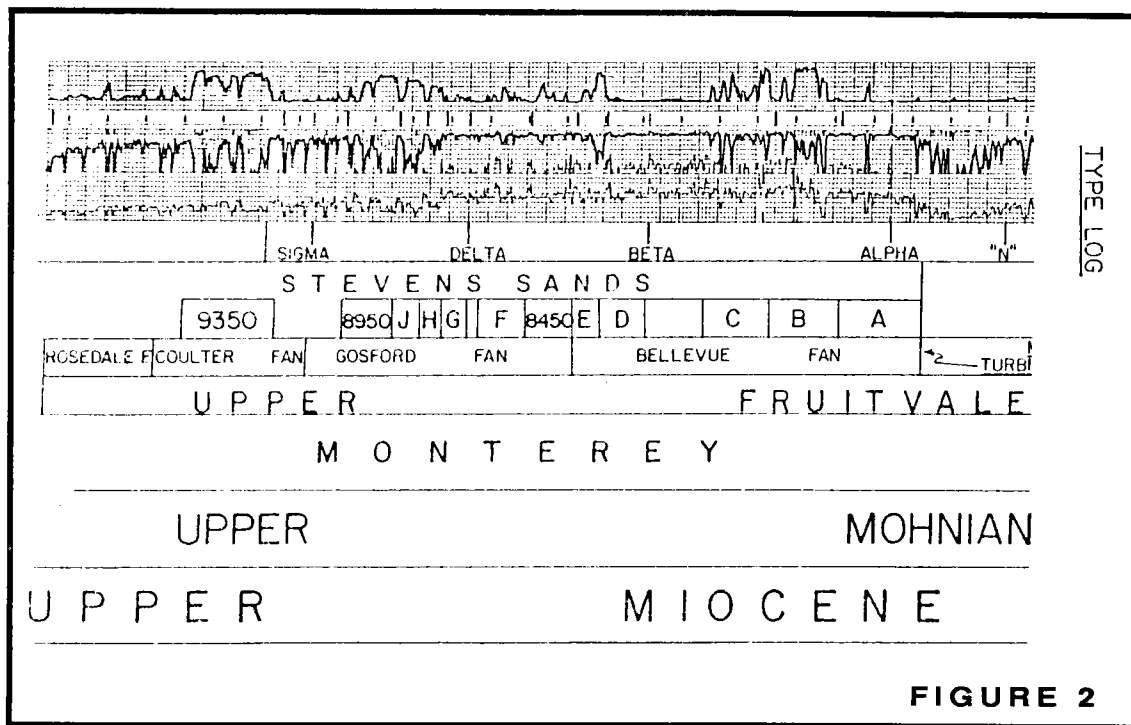


FIGURE 2

beds. A detailed study of the field included maps on thirteen producing sands together with net sand isopachs of each of these zones. Superposition of the axes of these sands in map view presents an excellent example of compensating sand channels due to differential compaction. Channels trend to the southwest and each succeeding midfan channel is offset either northwest or southeast of the preceding underlying channel or sometimes bifurcates into two channels on either side of the underlying one.

The lower portion of the Gosford fan (Figure 2) exhibits the best

approximation of a channelized midfan sequence, grading from well-developed sand at the base ("8950" sand) and fining upward to the Delta shale, a low SP, low resistivity claystone. The Delta Shale is an excellent marker horizon over the entire field and can be correlated with some accuracy several miles from the field.

GEOLOGY

The oldest sediments on the Bakersfield Arch are Eocene sands and shales, overlain by Oligocene Vedder sand and shales. The overlying Lower and Middle Miocene and the lower portion of the Upper Miocene are essentially sand free. The Arch was a positive feature, from at least post-Vedder time until the beginning of Stevens sand deposition, as sands are present elsewhere within pre-Stevens formations, especially to the south.

Stevens sands at West Bellevue originated from eroded granitic rocks in the Sierra Nevada to the east and were transported to deep water through the Fruitvale and Rosedale "channels", two of three major basin sources along the southeast margin of the San Joaquin Valley. All three sources originated from an ancestral Kern River within the Sierra Nevada east of Bakersfield (Figure 1).

Within 2,000 feet of total section between the underlying Lower Fruitvale shale and overlying "N" cherts there are about 800 feet of Stevens sands in the West Bellevue Oil Field. The sands can be divided into four major turbidite units, which represent major submarine fan systems. From youngest to oldest they are the Bellevue, Gosford, Coulter and Rosedale fans (Figure 2). In the Bellevue area the oldest fan system, the Rosedale fan, is absent or its equivalent is essentially devoid of sand. The Coulter, Gosford and Bellevue fans, as well as individual sands within the fans, are separated by excellent marker shale

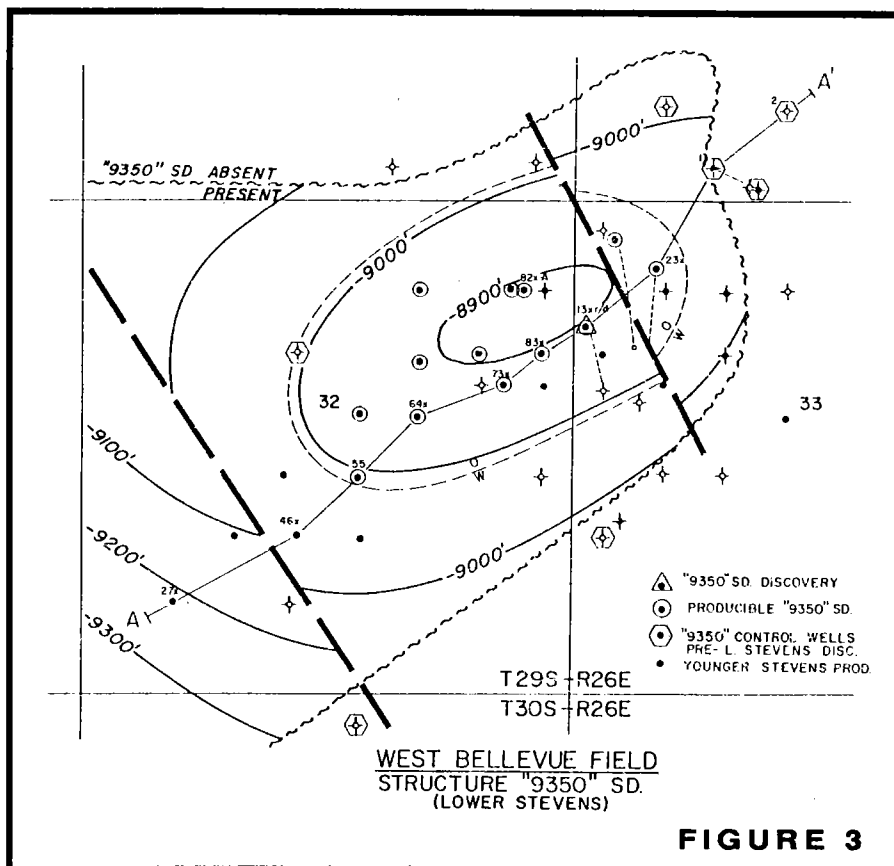
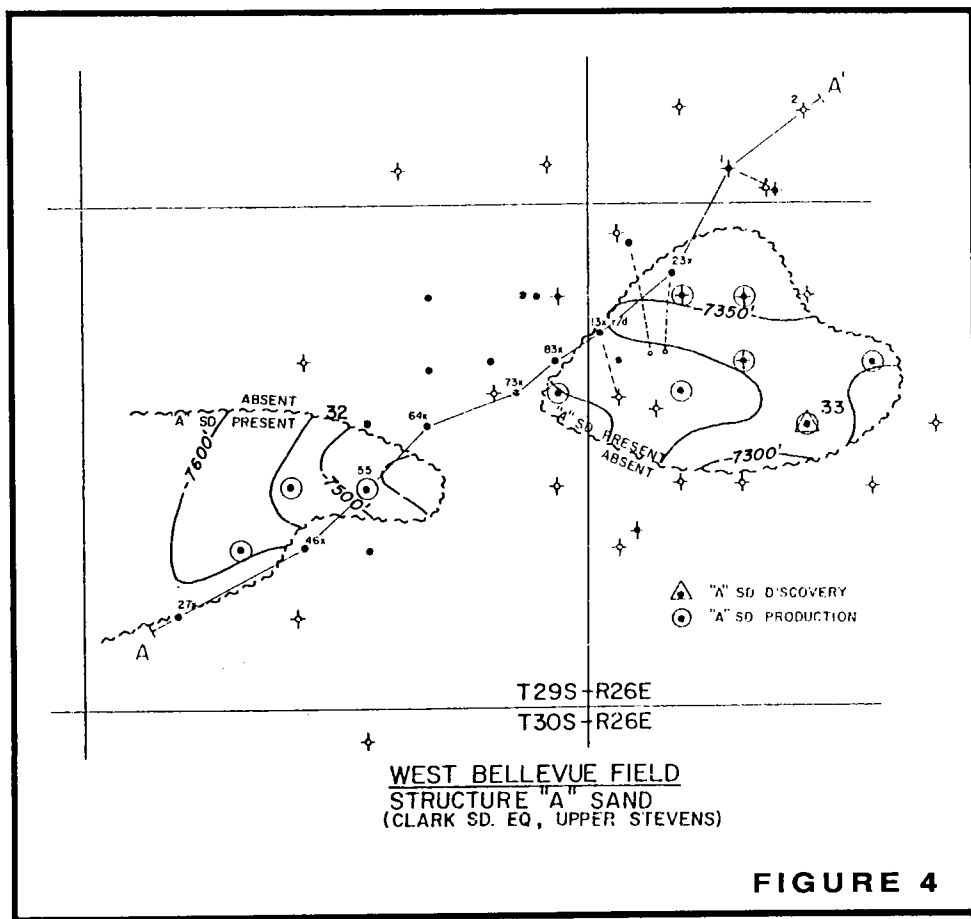


FIGURE 3



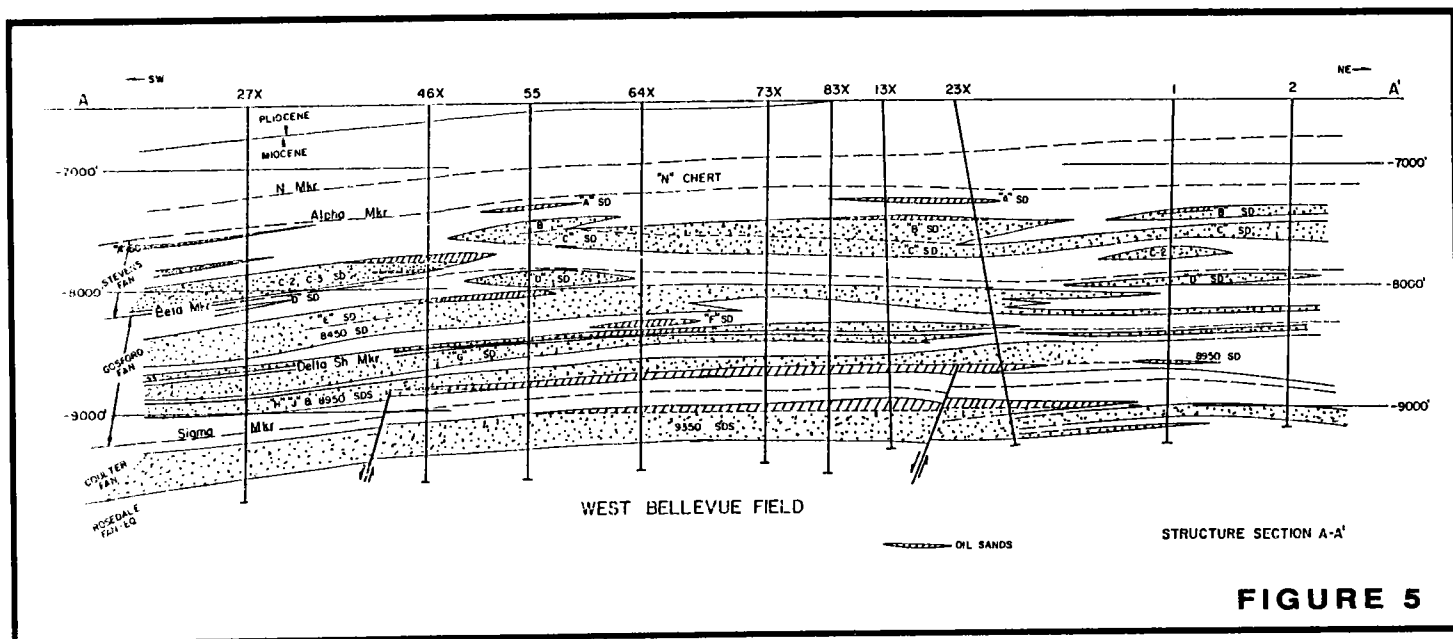
Structure section A-A' (Figure 5) depicts the stratigraphic relationship of several producing horizons as well as the definitive shale markers which persist as boundaries between the turbidite fans.

The West Bellevue Oil Field has been tested down to the Vedder sand in the #82X-32 well and the Haberfelde #1-32. The sand was wet in both wells. The only deeper objectives may be Eocene sands. Regional control however, suggests the Eocene section is probably sand poor.

E. C. Tripp is a Consulting Geologist in Bakersfield, California.

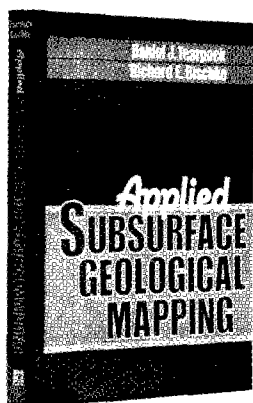
R. H. Sterling is Vice President of the Nahama and Weagant Energy Company in Bakersfield, California.

Maps on two producing sands are illustrated in Figures 3 and 4. The most prolific production is from the "9350" sand (Figure 3), the deepest and oldest Lower Stevens production. The Clark, or "A" sand equivalent (Figure 4) is the youngest and the original Upper Stevens producing horizon. Both are stratigraphic traps whose sands pinch out to the northeast. An "A" sand equivalent is also present over the southwest portion of the field.



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BLM GEOLOGIC FIELD TRIPS FOR 1992

The following schedule is a revised list of the 1992 Geologic Field Trips sponsored by the Bureau of Land Management (BLM) and given by various BLM Geologists Gregg Wilkerson, Anne Falcon and Pat Bell; and BLM Volunteers: Charles Foss, Mark Milliken, Russ Robinson and others.

August 15 - Bakersfield to the Santa Maria Basin: This geological excursion includes a walk through oil-soaked rock layers which caught fire long ago and burned below ground, producing colored chalk-like rocks. We will see slices of ocean floor which have become stuck on end up against our continental edge at Port San Luis. Sand dunes at Guadalupe Dunes, the ancient microcontinent of Salinia, Ice Age terraces, plate tectonics, global warming and other topics are investigated.

September 19 & 20 - State Highway 49: Sierra Gold Belt: This trip begins in the town of Maricopa at the museum and goes through gold camps located along Highway 49, ending at Sattley in Sierra County. The trip includes demonstrations of placer mining, gold panning, and tours through several mines.

October 10 & 11 - Eastside Sierra Nevada Mountains: The geology of Owens Valley, Mono Lake, and the eastern Sierra Nevada are studied. Several mining districts and mines are examined, including Bodie State Park.

November 14 - Westside Stratigraphy of the San Joaquin Valley: The trip to the westside of the San Joaquin Valley will focus on the origin of oil, its migration and trapping. We will examine oil reservoir rocks, and oil source rocks. We will discuss ancient climates, and environments and the search for oil, and the work of the early oil finders in the Valley (which will include a visit to the Taft Oil Museum). We will also answer the questions related to the cause of the San Joaquin Valley's "heavy" oil and the distribution pattern of the different major hydrocarbon types in California. We will examine the origin of the San Joaquin Valley, The Temblors, and faulting in the area.

December 12 - Eastside Stratigraphy of the San Joaquin Valley: The classic exposures of rock units on the eastern side of the San Joaquin Valley are investigated. Several fossil collecting areas, oil production facilities, and major faults are visited.

The field trips are limited to 25 vehicles. Reservations are on a first come-first served basis. There are no registration fees for any of these trips, but donations to offset cost of publication of the field guidebooks are welcome. To reserve a place on any of these BLM field trips contact Ken Hock at 805/861-4209 or Anne Falcon at 805/861-4219.

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RECOMMENDED READING

GEOLOGICAL SOCIETY OF AMERICA

Vol. 104, No. 1, January, 1992

Aminostratigraphy of Pliocene-Pleistocene High-Sea Level Deposits, Nome Coastal Plain and Adjacent Near-Shore Area, Alaska, (Page 40), by D. S. Kaufman

Vol. 104, No. 2, February, 1992

Isotopic Provenance of Paleogene Sandstones from the Accretionary Core of the Olympic Mountains, Washington, (Page 140), by P. L. Heller, R. W. Tabor, J. R. O'Neil, D. R. Pevear, M. Shafiqullah and N. S. Winslow

Vol. 104, No. 5, May, 1992

Heat Flow and Subsurface Temperature as Evidence for Basin-Scale Groundwater Flow, North Slope of Alaska, (Page 526), by D. Deming, et al.

GEOLOGY

Vol. 19, No. 12, December, 1991

En Echelon Miocene Rifting in the Southwestern United States: A Model for Vertical Axis Rotation in Continental Extension, (Page 1,165), by J. M. Bentley and A. F. Glazner

Vol. 20, No. 1, January, 1992

How Wide is the Calaveras Fault Zone - Evidence for Distributed Shear Along a Major Fault in Central California, (Page 55), by D. R. Montgomery and D. L. Jones

Vol. 20, No. 2, February, 1992

Transverse Structural Trends Along the Oregon Convergent Margin: Implications for Cascadia Earthquake Potential and Crustal Rotations, (Page 92), by C. Goldfinger, L. D. Kulm, R. S. Yeats, B. Applegate, M. E. Mackay and G. F. Moore

AAPG BULLETIN

Vol. 76, No. 2, February, 1992

Geology of the Eel River and Adjacent Region: Implications for Late Cenozoic Tectonics of the Southern Cascadia Subduction Zone and Mendocino Triple Junction, (Page 199), by S. H. Clarke, Jr.

AAPG BULLETIN (continued)

Vol. 76, No. 3, March, 1992

Computer Aided Well Log Correlation, (Page 307), by J. H. Fang, et al.

Vol. 76, No. 4, April, 1992

Hydrocarbon Columns, Buoyancy, Pressures and Seal Efficiency: Comparisons of Oil and Gas Accumulations in California and the Rocky Mountain Area, (Page 501), by D. L. Ziegler

Origin of Rollover, (Page 509), by H. Xiao and J. Suppe

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Mantle Convection, (Page 151), by G. F. Davis, et al.

GEOBYTE

Vol. 6, No. 6

Petrophysical Corner - LAS Edition: Using the LAS Format - Part I, (Page 44), by R. Y. Eliphick, Associate Editor

NATURE

Vol. 356, No. 2, March, 1992

A Shear-Strain Anomaly Following the Loma Prieta Earthquake, (Page 142), by R. L. Gwyther, et al.

Russ Robinson / Pat Bell

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Co-Editor, Graphic Design
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NEWSLETTER of the Pacific Section - American Association of Petroleum Geologists Newsletter is published bimonthly by the Pacific Section. Material for publication, requests for previous copies, and communications about advertising costs should be addressed to RENEE ANNETTE CARR, WZI Inc., Post Office Box 9217, Bakersfield, California 93389-9217.

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**DEADLINE FOR
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NEWSLETTER

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PACIFIC PETROLEUM GEOLOGIST NEWSLETTER

of the Pacific Section
American Association of Petroleum Geologists

August / September / October 1992 No. 5

PRESIDENT'S COLUMN

The Pacific Section is undergoing some fiscal restraints brought on by lower than expected revenues from the Sacramento Convention and a slight decrease in our membership/dues.

The Section has prepared a program to deal with this temporary situation. Recommendations from the Finance Committee, **Dave Salter** and **Muriel Norton**; also the Newsletter Editors, **Tom Berkman** and **JoAnn Conard**, include the following cost-cutting solutions:

1. The Newsletter will be coming out on a quarterly basis.
2. Printing and mailing options are being examined for potential savings.
3. Advertisers are being solicited for upcoming issues.

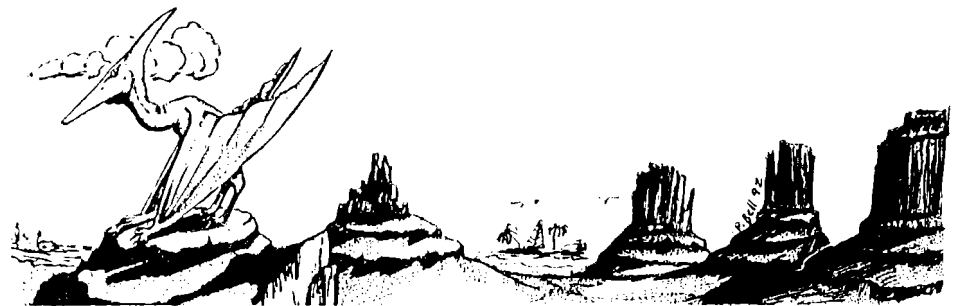
We will get through this difficult period! In order to accomplish this, it will require everyone's help. To that end, Convention Chairman **Don Clark** and his Committee are preparing an excellent program for the Long Beach Convention. Volunteers are needed on every level to help make this a big success.

Congratulations to **Bob Lindblom** for his recent nomination as Vice Presidential Candidate for the National AAPG and also for his appointment to the Board of Registration for Geologists and Geophysicists. With all of his activities, he still finds time to serve on the Committee. Bob, what I want to know is what kind of vitamins are you taking and where can I get some!

Special thanks to **Frank Cressy** for editing and soliciting the Field Summaries and to **Russ Robinson** and **Pat Bell** for the Recommended Reading Column.

(continued on Page 2)

CALL FOR PAPERS



1993 Pacific Section AAPG Convention

The 1993 Annual Meeting of the Pacific Section of AAPG and seven other geological groups will be held May 5 to 7, 1993 in Long Beach, California. The convention site will be the Long Beach Hyatt Regency Hotel, adjacent to the Long Beach Convention Center.

Societies represented at the meeting include Pacific Section AAPG, Society of Economic Paleontologists and Mineralogists, South Coast Geological Society, Society of Exploration Geophysicists, Association of Engineering Geologists, Society of Petroleum Well Log Analysts, Society of Core Analysts and the American Institute of Professional Geologists. Participating groups represent petroleum, environmental, groundwater, geologic hazards and geotechnical interests, and will bring extra depth to the convention theme, "Energy and Environment".

Technical sessions include geology and tectonics of the South Coast, Mesozoic paleogeography of the western United States, billion barrel oil fields of California, remote sensing, geothermal, groundwater issues, oil/gas and environmental law, recent earthquake activity/computer fault models and new technologies.

Two day field trips scheduled at present include "Miocene Volcanic and Depositional Environments and Paleogeography of the Santa Monica Mountains", led by Gene Fritsche and Peter Weigand, and "Field Review of the Landers Earthquake", led by Bob Whitney (four-wheel drive vehicles only). In addition, a one day trip entitled "Santa Barbara Area Groundwater and Wine" will be led by Richard Slade.

For the first time, the convention is being held concurrently with the HazMat-West Convention, which is aimed at the environmental and safety industries. Exhibits for both conventions will have adjoining display areas in the Convention Center, allowing access by both conventions' attendees.

The luncheon keynote speaker will be Mr. Lodwick M. Cook, Chairman and Chief Executive Officer of ARCO Oil and Gas Company, who will share his thoughts on the convention theme.

Voluntary abstracts on session topics and any other topics are currently being accepted. Contact Bob Menzie, Technical Program Coordinator, for abstract forms at 805/631-5758. Accepted abstracts will be published in the April, 1993 AAPG Bulletin.

Bob Menzie, Illustration by Pat Bell

PRESIDENT'S COLUMN

(continued from Page 1)

Jack West has been busy traveling the country following the National Advisory Council looking out for the Pacific Section and keeping us informed. Jack Cunningham, John Randall and other Past Presidents have been generous with their time and advice. The Section will be calling on you again.

Congratulations to Sue Kiser for election as the first Vice President of the new Division of Environmental Geoscientists (DEG). The Section is eager to help establish a Chapter on the West Coast.

The California Well Sample Repository will be soliciting volunteers to rebuild shelving that recently collapsed. This will be done when funds are available.

My personal thanks to everyone who has contributed to the Bob Hacker Publication Fund. To date you have donated over \$3,400. Pop would be quite touched by your generous gifts. But then again, he was always a little touched anyway.

Final reminders, pay your dues before December 30, 1992 so that you can be included in the Directory. Please send in any change of address or we will be charged for return postage.

See you at Long Beach in 1993!

Paul D. Hacker, President

Northwest

For suggestions or questions, please contact Lanny Fisk at 503/382-0825, Barbara Portwood at 503/287-2762, or any other member of the NWPA Program Committee: Phil Brogan, Harry Jamison, Paul Dudley or Nancy Ketrenos.

San Joaquin

September 18 - Annual Fall Barbecue and Golf Tournament.

October 13 - Stephen Graham, Ph.D., "The San Joaquin Basin through the Mid-Tertiary Tectonic Transition".

November 10 - Mark Wilson, Bechtel Petroleum Operations, Inc., "One Billion Barrels of Oil Production at Elk Hills, California".

Suggestions for meeting speakers or topics should be addressed to Bill Bazeley at 805/325-5746.

The meetings are held at the American Legion Hall at 2020 H Street in Bakersfield. Attitude adjustment starts at 6:00 p.m. and dinner is served at 7:00 p.m. For more information and reservations please contact Terry Thompson at 805/763-6322.

Los Angeles

September 17 - Don Zenger, Pomona College, "Deep Burial Dolomitization".

November 5 - Steven Testa, Applied Environmental Science, "Mitigation of Hazards from Mt. Pinatubo Volcano, Phillipines". Officers for 1993 will be nominated at this meeting.

Luncheon meetings are held at noon on alternate months. Meetings are held at UNOCAL Center, California Room, 1201 West Fifth Street, Los Angeles. Visiting geologists and friends are cordially invited.

For reservations or information, please contact Reggie Moore at 714/455-4080.

Northern

The Society is asking all current members to renew their membership at this time. Please send your name, address and telephone number along with your check to Phyllis Stanin, 1246 Crimson Court, Walnut Creek, California 94596. The annual cost of membership is \$10.00 and you may send an additional \$5.00 for their Scholarship Fund.

If you would like more information, please leave a message at 510/842-4096 and your telephone call will be returned.

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Coast

September 15 - Jonathan F. Light, Law Offices of Nordman, Cormany, Hair & Compton, "Hazardous Waste Litigation".

October 13 - Dr. Floyd Sabins, Chevron Oil Field Research Company, "Remote Sensing for Oil Exploration".

Meetings are held the third Tuesday of every month. Social hour is at 6:00 p.m., dinner at 7:00 p.m. at the American Legion Hall in Ventura. The address is 83 South Palm Street. For reservations please contact Groundwater Technology's Receptionist at 805/644-9811 by 10:00 a.m. at least one day before the meeting. Reservations are required to guarantee dinner.

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**SACRAMENTO
PETROLEUM ASSOCIATION**

Wednesday meetings are held at noon at the Hungry Hunter Restaurant, 450 Bercut Drive, Sacramento. Please contact Rich Boyd at 916/929-4141 for reservations.

**HISTORY OF THE
SAN JOAQUIN
GEOLOGICAL SOCIETY**

The San Joaquin Geological Society (SJGS) is undertaking a revision to, and expansion of, the previously published "A Partial History of the SJGS" in 1986. A number of significant supplements to our "knowledge base" have been added, but we need more information on past publications of the society, past officer's names, and other such information. Also, if you have documents, recollections or other information concerning the details of the formation of the SJGS or the history of its early years, please contact Bob Countryman (805/395-6437) or Larry Knauer (805/763-6280). You may also send your information to the PPGN Editor and he will forward it to the Committee documenting our history.

Bob Countryman

HELP WANTED

Newsletter staff seeks companies/individuals to place advertisements in upcoming issues. Advertisements should be camera-ready, preferably in the desired size. Costs for popular sizes are listed below. Four (4) issues of the newsletter are published a year.

<u>Size</u>	<u>Cost</u>
Business Card	\$ 60.00 / Issue; \$190.00 / Year
1/8 Page (Double Column)	\$150.00 / Issue; \$470.00 / Year
1/3 Page	\$250.00 / Issue; \$800.00 / Year

Please contact Tom Berkman (805/321-4007) or JoAnn Conard (805/763-6183) for more information.

COMING EVENTS

September 27 to October 1 - American Institute of Professional Geologists (AIPG) Annual Meeting, Lake Tahoe, Nevada. Please contact Jon Price at 702/784-6691 for more information.

November 10 to 12 - Pacific Coast Oil Show and Conference, Kern County Fairgrounds, Bakersfield. Please see the article on Page 6 for more information.

November 14 - Northern California Geological Society Fall Field Trip. The field trip will focus on the tectonic boundary between the San Joaquin Valley and the Central Diablo Range. Active tectonics in the Coral Hollow Area and along the California Aqueduct will also be discussed. Field trip leaders include: Mel C. Erskine, Ph.D., Consultant; Bill Lettis, Ph.D., William Lettis Associates, Inc., and Alan Bartow, U.S.G.S. Please contact Mel Erskine at 510/234-6214 for more information.

October 26 to 29 - Geological Society of America Annual Meeting, Cincinnati, Ohio. Please call 303/447-2020 for more information.

April 25 to 30, 1993 - 29th Forum on Industrial Minerals, Long Beach. Sponsored by the California Division of Mines and Geology and the United States Bureau of Mines. Please contact Dave Beeby, California Division of Mines and Geology, at 916/323-8562 for more information.

May 5 to 7, 1993 - Pacific Section AAPG 1993 Annual Convention, "Energy and the Environment", Long Beach, California. Please see the cover page for more information.

RECENT MOVES

Dr. E. Joan Baldwin has moved from Big Bear to Laguna Niguel, California.

Robert W. Bogle has moved from Richardson, Texas to Englewood, Colorado.

Renee Annette Carr is no longer with WZI Inc. She is now working as an independent computer engineering consultant.

Jean Paul Chauvel has moved from Bakersfield to Ventura with UNOCAL.

David M. Filgas has moved from Thousand Oaks to Midland, Texas with the Exxon Company, USA.

Jonathan Kuespert has moved from Bakersfield to Los Angeles.

E. D. Miller has moved from Bakersfield to Denver, Colorado with Petroleum Information.

Thomas H. Neel has moved from Englewood, Colorado to New Orleans, Louisiana.

Ed Ralston has moved from Bakersfield to San Ramon, California with UNOCAL.

Don William Reynolds has moved from Centerburg, Ohio to Ventura.

Dr. James E. Slosson has been appointed to the California Seismic Safety Commission by Governor Pete Wilson. Dr. Slosson is the Chief Engineering Geologist with the firm of Slosson and Associates.

Gilbert R. Stern has moved from Los Angeles to Houston, Texas with UNOCAL International.

PACIFIC SECTION AAPG FIELD SUMMARIES

ABNORMAL PRESSURES IN THE UPPER CRETACEOUS, FORBES FORMATION WEST GRIMES GAS FIELD & ADJACENT AREAS COLUSA COUNTY, CALIFORNIA

by John E. Clare, Robert A. Pinotti & Wendy A. Klein

INTRODUCTION

Average pressure gradients in the producing Forbes zones in the West Grimes gas field range between a low of 0.55 psi/ft. and a high of 0.69 psi/ft. There is no commercial production found at West Grimes with an average gradient greater than 0.69 psi/ft. Although several completions have been attempted, all to date are non-commercial.

Recent discoveries west of the West Grimes field have been completed from intervals with lower gradients. The

producing zone in the one well Davis Ranch field has a gradient of 0.49. The Cenex "Transamerica" and Tri-Valley "Morrow" wells have gradients of 0.46 psi/ft. and 0.51 psi/ft., respectively.

Once the hydrostatic pressure gradient (0.44 psi/ft.) is exceeded, the pressure increases with depth in a linear fashion. In the West Grimes field, the increase is approximately 0.08 psi/1,000 ft., to an average gradient of 0.7 psi/ft., which for the purposes of this paper is defined as Top of Superpressure. Below Top of Superpressure the gradient increase is approximately double, or approximately 0.16 psi/1,000 ft. Superpressure is mappable and crosses structural and stratigraphic horizons.

Temperature gradients also increase in a linear fashion with depth, and below Top of Superpressure the temperature gradient is approximately double the gradients above superpressure.

Several methods for calculation of bottom hole pressures in abnormal pressured sediments from wireline logs have been successfully used in the Gulf Coast and other parts of the world. These methods have not proved reliable in the Forbes Formation area and alternative methods must be used.

In the West Grimes area where sufficient subsurface pressure data are available, it is possible to estimate pressure in nearby areas or wells where no subsurface pressure data are available.

Two maps are included with this paper - a structural contour map on the Forbes "Z" marker and a contour map on Top of Superpressure.

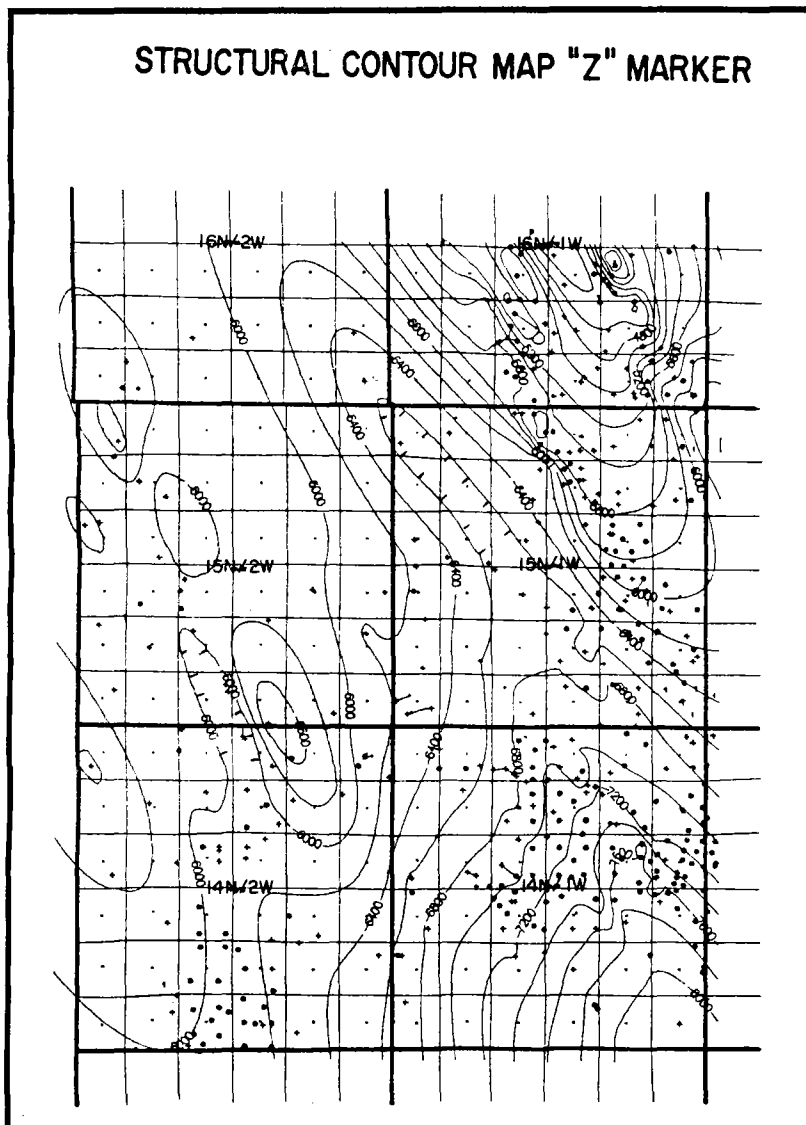
PRESSURE ESTIMATION

When there is a sufficient amount of shut-in pressure data available in a specific area, the bottom hole pressure at any depth from Top of Overpressures to Top of Superpressure, can be estimated with a fair amount of accuracy.

The formula is used as follows:

$$P2 = P1 + (x) (D2 - D1) \text{ where:}$$

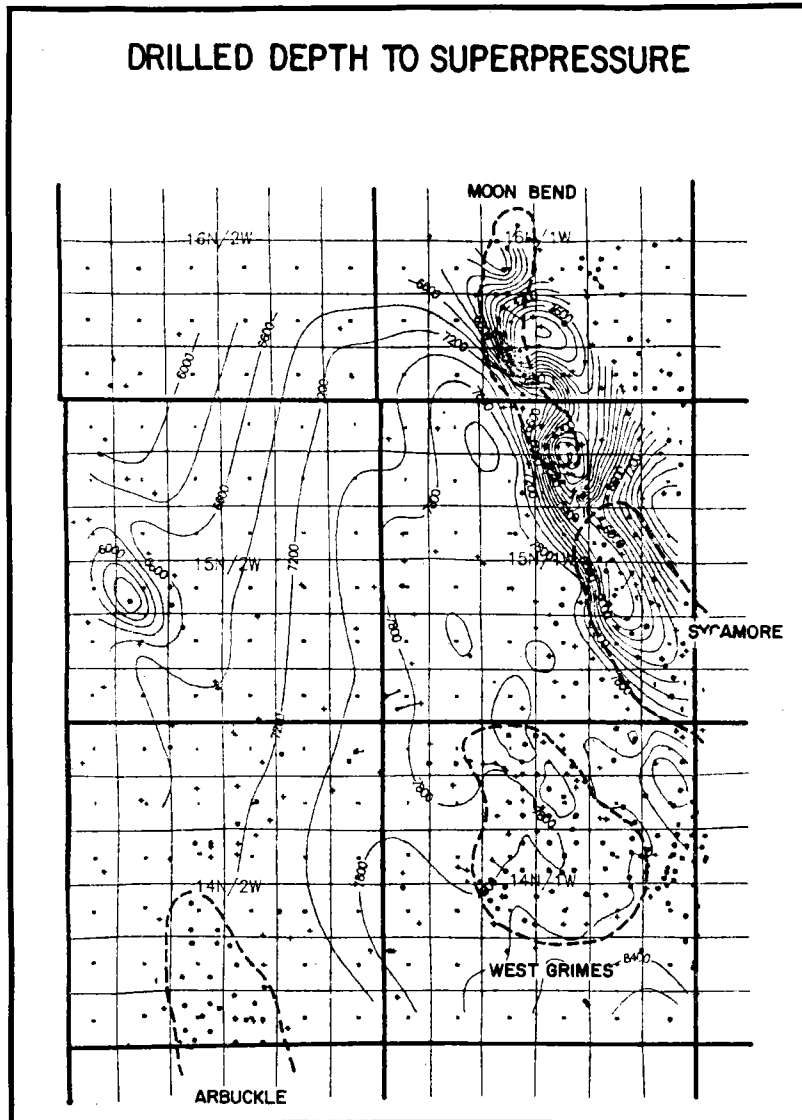
- P2 = Pressure at Depth 2
- P1 = Pressure at Depth 1
- x = Overburden Gradient
- D2 = Depth 2
- D1 = Depth 1



There must be enough reliable shut-in pressure data to calculate the overburden gradient. In the area of study where sufficient data are available, the overburden gradient in the section from Top of overpressure to Top of Superpressure appears to vary from 1.04 psi/ft. to 1.29 psi/ft. Top of Superpressure are defined as an average gradient of 0.7 psi/ft.

Sufficient data are available in the West Grimes gas field to postulate that the overburden gradient are between 1.25 and 1.29 psi/ft.

As very few drill stem test charts are available to us, reported shut-in pressures must be used with caution as many of the pressures are not stabilized. Shut-in pressures are more likely to be stabilized in wells that flow commercial amounts of gas than in wells which recover water or are tight.



Overburden gradient in a particular area may be calculated if enough drill stem test shut-in pressures are available. When only a few shut-in pressures are available and it is unknown if they are stabilized, pressure predictions may be erroneous. Final shut-in pressures are usually not stabilized in wells that do not flow commercial gas.

There is enough pressure control in the West Grimes field proper to pick the top of abnormal pressures. This occurs approximately at an excellent electric log marker. This marker also appears to be the top of abnormal pressures in some areas adjacent to the West Grimes gas field.

Top of Superpressure (gradient of 0.7 psi/ft.) can be picked from the electric log and sonic log in most but not all wells. This point is substantiated by numerous shut-in pressure data in West Grimes and adjacent areas.

ESTIMATING PRESSURES ON EXISTING WELLS & COMPARING WITH ACTUAL PRESSURE USING ABOVE FORMULA

Well: Gulf (Chevron) West Grimes Unit 15-3 Section 15, T14N, R1W

Estimated Top of Overpressure: 5,490 ft.
Estimated Overburden Gradient: 1.29 psi/ft.

Producing Zone	Estimated Pressure From Formula	Actual Pressure	Error	Percent of Error
6075-91	3,171#	3,132#	+39#	1.25%
6257-87	3,405#	3,392#	+13#	0.38%
7800-19	5,396#	5,408#	-12#	0.22%

Estimated values are calculated from Top of Overpressure. Depth to Superpressure may be estimated by the same formula. Estimating depth of Superpressure from Top of Overpressure at 5,490 ft.

Estimated Depth of Superpressure: 7,908 ft.
Actual Depth of Superpressure: 7,880 ft.
Error: 28 ft.

CONCLUSIONS

- Commercial Forbes production in the West Grimes and adjacent areas is always overpressured. Average pressure gradients generally range from 0.46 to 0.70 psi/ft. in commercial gas sands. There is no commercial production below a depth where the average pressure gradient is greater than 0.70 in the West Grimes field, but locally in the Sycamore field, Moon Bend and the southwest portions of the Grimes field, a few wells produce commercially with a higher gradient than 0.70.
- Estimating bottom hole pressures from wireline logs while successful in the Gulf Coast and in other parts of the world has so far proved unreliable in the subject area.
- Where sufficient bottom hole pressure data are available, it is possible to estimate pressures in some cases with fairly good accuracy.
- Top of Superpressure, defined as a gradient of 0.7 psi/ft., may usually, but not always, be picked from wireline logs with good accuracy.

5. Overburden gradients vary in the West Grimes area and in the absence of sufficient drill stem tests, this factor is necessary to estimate pressures. The gradient appears to vary from 1.04 to 1.29 psi/ft. In the Superpressure the gradient is higher.
6. Entrapment of gas in the Forbes is believed to be at least partially controlled by pressure changes.

ACKNOWLEDGMENTS

The authors wish to thank Charles V. Lee for his review of this paper and his comments and suggestions.

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John E. Clare is with Argonaut Oil & Gas Consultants in Bakersfield, California.

Robert H. Pinotti is with Oregon Natural Gas Development Corporation, Portland, Oregon.

Wendy A. Klein is a Consulting Geologist in Rocky Hill, New Jersey.

AAPG NOMINEES FOR 1993 ELECTIONS INCLUDE TWO FROM PACIFIC SECTION

Nominees for the Spring 1993 National Election were announced recently. They include two members of the Pacific Section, and they are not running against each other for the same office.

The nominees are:

- President Elect: Toby Carleton, Midland, Texas
Lewis Pittman, Dallas, Texas
- Vice President: **Bob Lindblom**, Menlo Park, California
Robert Leigh, Bogota, Colombia
- Secretary: Warfield Hobbs, New Canaan, Connecticut
Jeremy Platt, Palo Alto, California
- Editor: Kevin Biddle, Houston, Texas

Jack West

SEMINAR / PUBLICATIONS ON HORIZONTAL DRILLING

The San Joaquin Geological Society and the California State University Bakersfield Geology Department organized and hosted a one-day seminar on June 9, 1992 about the "Applications of Horizontal Drilling in California". Thirteen papers were presented.

1. Summary of California Horizontal Well Activity, by J. G. Kuespert, Chevron USA.
2. A Horizontal Well Program for the Upper Miocene 26R Pool, by S. A. Reid, Bechtel Petroleum Operations, Inc., J. G. Kuespert, Chevron USA; and G. S. McJannet, U. S. Department of Energy
3. Horizontal Drilling Applications in California, by W. A. Goldman and K. M. Nero, Eastman Teleco
4. An Evaluation of a Horizontal Redrill, Lost Hills, California, by P. Breunig, Chevron USA
5. Application of Short Radius Horizontal Completions, by B. M. Hirst, Pacific Geotechnical Associates
6. Stratigraphic Control and Formation Evaluation Horizontal Wells Using MWD, by L. R. B. Hammons, Eastman Teleco, E. K. Fisher and D. H. Sellers, Texaco
7. Extended Reach Drilling from Platform Irene; A Case Study of Well A-21, by J. L. Hood III, UNOCAL
8. Horizontal Drilling in the Dos Cuadras Field, by J. D. Payne, UNOCAL
9. Acquisition and Interpretation of Horizontal Well Logs, by K. Hodenfield and B. Scanlan, Schlumberger
10. Progress of a Horizontal Well in a Mature Steamflood Project: Kern River Field, California, by K. L. Haney, Texaco
11. Horizontal Wells Proving Successful in Steeply Dipping Steam Drive Reservoir, Midway-Sunset Field, Kern County, California, by J. J. Sande, Shell Western
12. UNOCAL's Horizontal and Radial Pilot Injectors in the Midway-Sunset Field, by N. D. Livingston, J. M. Quintana and S. M. Buller, UNOCAL
13. Horizontal Drilling in the Yowlumne Field, by M. Kamerling and A. Marino, ARCO Oil & Gas Company

All thirteen papers are bound together as AAPG Pacific Section Publication MP-42. This publication is 260 pages long. It may be purchased for \$20.00 by sending a check to: AAPG Pacific Section Publications, Post Office Box 1072, Bakersfield, California 93302.

PACIFIC COAST OIL SHOW & CONFERENCE

The Pacific Coast Oil Show & Conference runs November 10 to 12, 1992 at the Kern County Fair Grounds, Bakersfield, California. This year marks the eleventh year for the show and conference, which has in recent years attracted 6,000 visitors from throughout the United States and foreign countries.

This year's show will feature more than 300 exhibits and eight papers directly related to production, drilling, refining, pipeline, design engineering, exploration, environmental and safety aspects of the oil industry.

New exhibit hours will be 10 a.m. to 6 p.m. on Tuesday, November 10, 1992; Noon to 8 p.m. on Wednesday, November 11, 1992; and 10 a.m. to 2 p.m. on Thursday, November 12, 1992. Papers will be presented during these times.

The kick-off luncheon is scheduled for Tuesday, November 10, 1992 from 11:30 a.m. to 1:30 p.m., with Keynote Speaker Edward G. Heidig, director of California's Department of Conservation. Heidig has played a leading role in coordinating policies affecting the oil and gas industry in California. For luncheon tickets at \$12 per person, please call the Bakersfield Chamber of Commerce at 805/327-4421.

The popular Oilman's Barbecue will be Wednesday, November 11, 1992 at the Auction Barn, from 5 p.m. to 9 p.m., with no-host refreshments, dinner and live entertainment. The San Joaquin Chapter of the American Petroleum Institute is holding this event to raise funds for the Chapter scholarship program. Please call early to reserve tickets at \$12.50 per person by contacting Janice Meeke (805/322-3992), Tom Demos (805/326-6159), or Ed Voorhees (805/763-6617).

Bill Rintoul

Excerpted from Bill Rintoul's September 20, 1992 Column in the Bakersfield Californian

**DIVISION OF
ENVIRONMENTAL GEOSCIENCES**
Pacific Section Activities

Our "Call for Members" in the June/July PPGN drew 45 responses. An additional 55 in Pacific Section's region have joined the National Division of Environmental Geosciences (DEG) as of September 1, 1992. Geographic distribution (by local society) is: San Joaquin, 27; Los Angeles, 25; Northern California, 22; Coast, 9; Sacramento, 4; Pacific Northwest and Alaska, 9. Asked to indicate their interest in the DEG's three main areas of emphasis, 88% marked hydrogeology, 55% marked environmental constraints on exploration/development, and 78% marked environmental issues outside of the oil patch.

Susan Chandler Kiser (WZI Inc., Bakersfield) has been named Vice President of the National DEG. Serving on the DEG Advisory Board are Wally Jensky (Harding Lawson Associates, Thousand Oaks) as Pacific Section Representative, Tom Wright (Consultant, San Anselmo) as a Member-at-Large, and Don Lewis (Chevron, San Francisco) as Chairman of the Liason Committee's International Subcommittee.

DEG members met informally in Bakersfield on September 18, 1992 at the SJGS/Oil Scouts Barbecue. The consensus was to defer the creation of a formal Pacific Section DEG and concentrate on developing active groups within each local society. DEG items will be carried in the PPGN. However, nearly 80% of our present National DEG members do not belong to the Pacific Section AAPG. To reach these people we are considering adding a DEG category to PS/AAPG's annual membership mailing and sending it to them. They would then receive the Newsletter and any DEG-only mailings. This mailing list could also be used to include non-AAPG members in local and regional DEG activities.

DEG members in the SJGS plan to meet monthly in Bakersfield just before (5:00 to 6:00 p.m.) the SJGS dinner meetings, either informally or for their own brief environmental program. Bob Countryman (Chevron, Bakersfield) has proposed that DEG/SJGS sponsor a 40-Hour OSHA Health and Safety Training Course (required for hazardous waste sites) in Bakersfield this winter. Doug Imperato has proposed a three-day short course in Santa Barbara on Geological Controls on Contaminant Transport in the Vadose Zone and Groundwater Hydrology. This course would utilize faculty and facilities of University of California Santa Barbara's Vadose Zone Monitoring Laboratory. For updates on these or other DEG activities please contact Tom Wright at 415/456-9244.

Tom Wright

Gustav F. Winterfeld, Ph.D.

Project Paleontologist
*EIS/EIR Planning and Implementation
for the Petroleum Industry*



DAMES & MOORE

4125 BLUE THERMONT, SUITE 160
SAN JOAQUIN, CALIFORNIA 95831
(916) 486-1333 FAX (916) 486-2411

DELEGATES' CORNER

One of the main responsibilities of being a delegate to the National AAPG is to act as a liaison between the local AAPG members and the national organization. This two-way communication helps to keep the Society dynamic and responsive to the needs of its members. Toward that end, the SJGS delegates have decided to experiment with "Delegates' Corner" in the PPGN to discuss topical and timely issues thereby helping to communicate what the National AAPG is doing for the members. In each issue of the PPGN, we will select a topic that we hope will inform the readers of new programs and policies, changes in existing AAPG programs, and/or other issues of interest.

Today's column will cover the results of the House of Delegates' Meeting held in Calgary on June 21, 1992. A number of important items came out of this meeting. Foremost was the near unanimous vote to create a new Division of Environmental Geosciences (DEG) discussed on this page. The DEG will be the fifth division in the history of AAPG and joins the current Division of Professional Affairs (DPA) and Energy Minerals Division (EMD). Two previous divisions have spun off, as the SEPM and the SEG. The DEG is intended to help establish the AAPG as a leader in addressing environmental issues that affect the petroleum/energy industry and to meet the needs of geologists currently involved in the environmental arena. Applications for Charter Membership may be obtained by writing or calling the AAPG offices in Tulsa.

Other important issues include: 1) Changes in the requirements for Student Membership making it possible for geologists returning to the university to also return to Student Membership (and lower fees); 2) Admission of the Circum-Pacific Council as an Associated Society; 3) Voting down the enlargement of the Advisory Council to permit an increase in international representation; and 4) A number of minor "house-cleaning" issues passed to facilitate the changes the Society is making as it becomes a more international organization; changes in definitions for associated and affiliated societies; and changes in rules involving appointments of Associate, Junior and Student Members to various AAPG Committees.

AAPG membership is currently about 32,400 members and continues to decrease slowly reflecting the turmoil in the domestic oil industry. An increasing percentage of the membership comes from or are based in international locations with AAPG now having members from 87 countries. Despite the overall decrease in membership, the Society is "in the black" having recovered from the "bust" years. You can help the Society remain healthy by recruiting a new member this year. If we all did this, the membership decline would be easily reversed.

We hope Pacific Section members find this column both useful and interesting. In the next issue, we'll expand on the changes made in Student Membership and the advantages this may have for members returning to the university. We invite readers to write us to request any other specific topics that you would like to see in future issues of the PPGN and we especially invite Delegates from the other local societies to participate in our experiment in communication. Please send your letter to the PPGN Editor or feel free to call me directly at 805/395-6437. Regards,

Bob Countryman, SJGS Delegate Chair

RECOMMENDED READING

NATURE

Vol. 356, No. 6368, 1992

A Basalt Trigger for the 1991 Pinatubo Volcano?, (Page 426), by J. S. Pallister, et al.

Vol. 356, No. 6369, 1992

Geochemistry: Tracing Great Fluid Migrations, (Page 481), by D. A. Sverjensky

AAPG BULLETIN

Vol. 76, No. 6, June, 1992

Effects of Biogenic Silica on Acoustic and Physical Properties of Clay-Rich Sediments (Page 792), by J. S. Tibble, et al.

A Model for Classifying and Interpreting Logs of Boreholes that Intersect Faults in Stratified Rocks (Page 895), by P. S. Mulrany

Vol. 76, No. 7, July, 1992

Trap Styles - A New Classification Based on Sealing Surfaces (Page 983), by N. V. Milton, et al.

Vol. 76, No. 8, August, 1992

Diagenesis and Organic Maturation of Sedimentary Rocks Under Volcanic Strata, Oregon (Page 1,190), by N. S. Summer, et al.

Vol. 76, No. 10, October, 1992

The Southern Washington Cascades Conductor - A Previously Unrecognized Thick Sedimentary Sequence? (Page 1,569), by W. D. Stanley, et al.

GEOBYTE

Vol. 7, No. 3, June/July, 1992

International Directory of Mapping/Contouring Software - June, 1992 (Page 14), by F. J. Wagner, Jr., et al.

Pitfalls in Computer Contouring: Part 1 (Page 30), by B. L. Krum, et al.

Vol. 7, No. 4, August/September, 1992

Pitfalls in Computer Contouring: Part 2 (Page 31), by B. L. Krum, et al.

Petrophysical Software V: The Directory (Page 17), compiled by R. Y. Elphich

GEOLOGY

Vol. 20, No. 3, March, 1992

Permeability Changes Associated with Large Earthquakes: An Example from Loma Prieta, California (Page 211), by S. Rojstaczer, et al.

Diagenetic Formation of Bedded Chert: Evidence from Chemistry of the Chert-Shale Couplet (Page 271), by R. W. Murray, et al.

Vol. 20, No. 5, May, 1992

Implications of Perennial Saline Springs for Abnormally High Fluid Pressures and Active Thrusting in Western California (Page 431), by J. R. Unruh, et al.

Vol. 20, No. 6, June, 1992

Remagnetization of Coastal Range Ophiolite at Stanley Mountain, California, During Accretion Near 10 Degrees North Paleolatitude (Page 503), by J. T. Hagstrum

Vol. 20, No. 9, September, 1992

Exxon Global Cycle Chart: An Event for Every Occasion? (Page 787), by A. D. Miall

JOURNAL OF PETROLEUM TECHNOLOGY

Vol. 44, No. 8, August, 1992

Groundwater Issues Relating to an Alaskan Methanol Spill (Page 936), by S. R. Robertson

BOOKS

Deep Marine Environments: Clastic Sedimentation and Tectonics (416 Pages), by K. T. Pickering, et al., 1989, published by Harper Collins Publishing, 77-85 Fulham Palace Road, Hammer Smith London, W6 8JB, England. Prices: \$70.00 for hardbound, \$44.95 for softbound.

U. S. GEOLOGICAL SURVEY

Open File Report 91-0574: Cocolith Correlation of California Cenezoic Geologic Formations, by D. Bukry, 1991. Prices: \$4.75 for paper.

Russ Robinson / Pat Bell

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Co-Editor THOMAS A. BERKMAN
(805) 321-4007

Co-Editor JOANN CONARD
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Graphic Design
& Layout RENEE ANNETTE CARR
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Historical BILL RINTOUL

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(907) 276-7600

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Recommended Reading RUSS ROBINSON
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Pacific Section A.A.P.G.
Post Office Box 1072
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