PACIFIC PETROLEUM GEOLOGIST

1957

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"Geology of the Western Interior Basin" By Dr. Benjamin Burma
"Timing of Some Oil Accumulation in Southern California" By Frank Parker

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"Some Observations on the Nature & Magnitude of Faulting in the Great Basin" By Dr. Leonard Lupher
"New Method of Dating Petroleum Source Beds" Dr. Jack F. Evernden
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"Stratigraphic Analysis & the Search for Oil" By Dr. L. L. Sloss
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December
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PACIFIC PETROLEUM GEOLOGIST

NEWS LETTER OF THE PACIFIC SECTION
AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

Vol. 11 January 1957 No. 1

ASSOCIATION ACTIVITIES

LOS ANGELES LUNCHEON MEETING

On Thursday, December 6, the Los Angeles Luncheon Meeting, held at the Roger Young Auditorium, heard James B. Anderson present an excellent illustrated talk on "A Geologist in Jordan." Mr. Anderson spent four months of the summer of 1956 in the Hashemite Kingdom of Jordan doing geological work for Mr. E. W. Pauley.

Jordan, located in the heart of the Arab world, is bounded on the north by Syria, on the east by Saudi Arabia and Iraq, and on the west by Israel (or as the Arabs say, "By the Jewish-held territory of Palestine"). The total area of Jordan is 37,500 square miles. Most of the people are of Moslem faith. The population is estimated at over one and one-half million. Of this, over 600,000 are refugees of Palestine that were driven out by the creation of the State of Israel and the subsequent Arab-Israeli war. Amman, the capital, has a population of over 200,000. It is twenty-five miles northeast of the Dead Sea in the Jordanian Highlands at an elevation of about 2,800 feet above sea level.

The climate is similar to the interior valleys of Southern California. The lowest point in Jordan is the Dead Sea with a surface elevation of 1,296 feet below sea level. The highest point is in the Jordanian Highlands south of the south end of the Dead Sea where an elevation of 5,400 feet above sea level is reached. The Jordan River flows into the Dead Sea providing most of the water. The Jordan River depression and tributaries below sea level are hot in the summer and warm in the winter (similar to Imperial Valley). Crops in the Jordan Valley range from bananas to apples and grain, depending on elevation.

Agriculture, tourism and aid from the United States and Great Britian are the main sources of Jordan income. Jordan recently severed all connections with Great Britian, including aid. Arabic is the official language of the country, but many people speak English.

The rocks of Jordan range in age from Pre-Cambrian to Recent. The Pre-Cambrian is a complex of igneous and metamorphic rocks like our San Gabriel complex. Overlying this basement is a series of sediments of extreme latitude in both thickness and lithology. Southern Jordan, on the rather indefinite edge of the "Arabian Shield," has been a positive area throughout most of the post-Cambrian with the consequent accumulation of a thick section of aeolian sand and lake deposits. The strata thicken and gradually become more marine in a northwesterly direction. In Southern Jordan the sediments total 4,100 feet, of which 2,800 are non-marine. In central Jordan, which was apparently a hinge line between the foreland area of the "Shield" to the south and the Tethys Geosyncline to the northwest, the sediments total 6,100 feet with less than 2,000 feet of non-marine sediments. In Northern Jordan and Southern Lebanon, the sediments are almost 17,000 feet thick. All are marine except for some thin beds in the lower Cretaceous. There are surface indications of oil in Jordan.

In general, the structures of Jordan are gentle folds and faults. These are formed by movement on a basement fault system having its inception in Pre-Cambrian time. The Dead Sea-Jordan Valley depression is an expression of one of these rifts. There appears to be little or no lateral movement along this rift.

SACRAMENTO GEOLOGICAL SOCIETY MEETING

The December meeting of the Sacramento Geological Society was held on Tuesday, December 11, 1956. Dr. Benjamin Burma of the California Exploration Company addressed the meeting on the subject of "Geology of the Western Interior Basin."

The area under discussion is limited by the Canadian border on the north, by the Rocky Mountains on the west, by the Mississippi River on the east and by Texas on the south.

Remarks

Dr. Burma, who is basically a paleontologist, has made correlations with electric logs over this extensive area, and has concluded that the Cretaceous formations based on gross lithology and on paleontology transect time lines in this area. The work was greatly facilitated by the presence of bentonite beds which could be identified over vast area with the electric logs. These made marvelous time markers.

Some of the errors in the literature which Dr. Burma feels his work has uncovered are as follows:

(1) In Western Kansas the Sharon Springs shale is present above the Rumford bentonite and in eastern Nebraska it occurs below the Rumford bentonite.

(2) The Graneros shale of the eastern Black Hills is the time equivalent of the Dakota sandstone in eastern Nebraska. It was pointed out, that the major source of the Dakota sandstone is now considered to be from the east by most petroleum geologists. This is contrary to much of the older literature, which emphasizes a western source.

(3) The time top of the Lakota and Fall River sandstones in some areas was found to be much lower than the lithologic top.

(4) Ammonites of this region have long been considered reliable guide fossils, but Dr. Burma indicated that they are really facies fauna and as age indicators are headed for the "junk pile".

PACIFIC PETROLEUM GEOLOGIST

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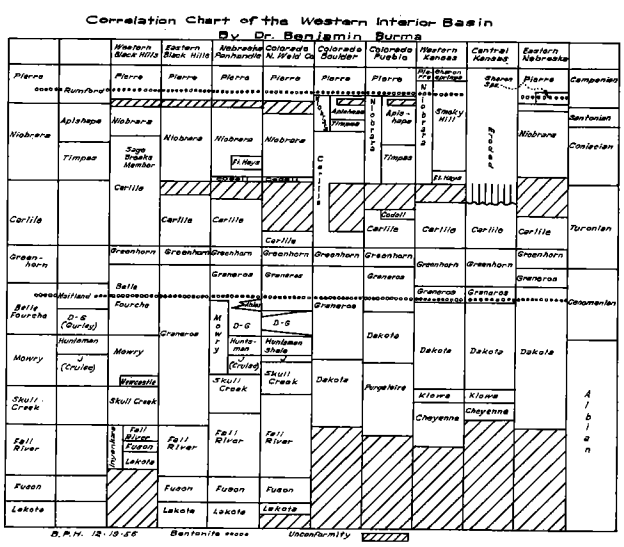
Cartoonist	Harold Sullwold
	Bob Sanem
Coast Correspondent	Louis Taylor
San Joaquin Correspondent	Donald Ford
Sacramento Correspondent	Keith Jones
Northwest Correspondent	Ralph Rudeen

NEXT DEADLINE JANUARY 29



Notes on Petroleum

Much of the oil production is from the Gurley (D-G) and Cruise (J) sands which were probably deposited in as little as 50' of water. It was pointed out that whereas most of the production of this region comes from highs, Harrisburg, the largest oil field in Nebraska, produces from a shallow syncline, on a homocline.

Notes on Structure

Much of the region contains gentle folds with 50' to 60' of closure, some of which are as long as 25 miles. In places, the wells have cut normal faults with dips as low as 25° in the Niobrara formation. These range from nearly zero up to 150' of stratigraphic throw. Many faults above and below the Niobrara are bedding plane faults. The Laramide Revolution is believed to be post Pierre and much of the faulting is considered to have occurred at this time and much of the folding occurred during Cretaceous time.

Lithology

In general, Cretaceous continental sediments grade upward into Cretaceous marine shales containing some sand and with chalk and thin limestone layers near the top. Most of the region was one of uniform sedimentation during much of Cretaceous time. A brief description of the major Cretaceous lithologic units is given below with the youngest at the top.

Pierre; Mostly shale with a thin sand at top that grades upward into Paleocene.
Niobrara; Shale and chalk, marine.
Carlile; Shale, marine.
Greenhorn; Shale and some limestone, marine, locally limestone is predominant. Contains abundant Inoceramus, deposited under especially uniform conditions over a wide area.
Bellefourche; Shale and some sand, marine, includes the oil bearing Gurley (D-G).
Mowry; Shale with some sand, marine, siliceous, includes the oil bearing Cruise (J).
Scull Creek; Shale, marine, gray to black.
Fall River; Sandstone, continental with marine at top.
Fuson; Clayshale, continental.
Lakota; Sand, continental.

A.A.P.G. FORUM

On November 19th, 1956, the Los Angeles Forum held its monthly meeting at the General Petroleum Auditorium. Mr. Frank Parker was one of the featured speakers and delivered a talk entitled "Timing of Some Oil Accumulation in Southern California".

The geologic age of the reservoir is one positive method of limiting the earliest time at which that particular accumulation took place. It can be said that in any single pool, accumulation can be no earlier than the age of the reservoir rock in which it occurs. Even this is theoretically uncertain, as we can conceive of an open asphalt lake buried by drifting sand, then sealed by later sediments, then we would have an accumulation earlier than its reservoir rock. Another criterion is the age of first tilting, assuming this also is the age at which first migration could occur. This has some validity, but at least for California we can hardly envisage deposition in our basins without appreciable initial dip. So this criterion is little more definitive to us than that of "age of reservoir rock."

To all appearances, the evidence given by the time at which the trap became effective offers the most promise. To use the age of the trap to date an accumulation, we must be able to prove, for one thing, that what we now see is not merely a fragment or localization of an earlier larger trap. This is something not commonly susceptible of rigorous proof, particularly with fault traps.

The data needed to prove the earliest effective date of a trap is the presence of beds younger than blanket sand reservoir beds, conformable with them and taking equal part in the folding or faulting, the whole having been a simple unbroken monocline until construction of the trap. Where such data are available and can be proved, they will determine that accumulation

took place subsequent at least to the deposition of the youngest conformable beds.

Some less direct methods have been proposed and tried elsewhere, with some apparent success. Levorsen has used the gas content in the Oklahoma City pool to prove that accumulation took place until the field reached its present depth of burial. The theory in essence is that if a reservoir is full to the spill point with gas, or with oil below a gas cap, or with oil saturated with gas to the bubble point under present conditions, that accumulation took place under present or greater hydrostatic head and consequently at present depth of burial or greater. This approach would seem to be of little use in California, as our under-saturated crudes are usually in shallow pools and so many other factors complicate the situation that this line of evidence would appear inconclusive.

Now let's see what can be done about California oil. The absence of pre-Miocene source rocks through most of the Los Angeles Basin implies that the oil here is of Miocene or younger age in origin and accumulation. The greater abundance of oil in the Pliocene suggests that Pliocene rocks were the source of the Pliocene oil. We can show the gross structure in nearly all southern California fields is primarily Pleistocene. Our data, however, is not sufficiently precise to determine Pleistocene as the earliest age of the effective traps because lower Pleistocene, while commonly appearing conformable on upper Pliocene, is locally unconformable and local unconformities are also recognized within the Pliocene. Also, we know of no trapping faults which actually can be dated as having originated in the Pleistocene.

So far, we can then say oil was accumulating after Middle Pico in the L. A. Basin.

We can add that faults which have equal throw in Repetto as in Upper Miocene have formed separate traps for some Miocene oil off of the crest of Santa Fe Springs, as shown by Al Woodward's paper at the convention, so Miocene oil did migrate in post-Repetto (probably post-Pico) time. In the Newhall-Del Valle area, we have oil in folds which involve late Saugus beds to such a high degree that only rudimentary structures very unlike those of today could have existed in Miocene and Pliocene time. Furthermore, the Castaic Junction field occupies a position which appears to be near the local deep of the late Saugus basin and could hardly have been the site of a major dome in late Pliocene time.

Oil has accumulated in Miocene in a westward pinchout at Castaic and an eastward pinchout at Newhall-Potrero. The accumulation of the Ramona field (Miocene) is to a large extent controlled by faulting of great movement after late Saugus. These imply, if not prove, accumulation in Miocene beds took place after late Saugus.

Perhaps Wasco is the most convincing case. The age of folding is Pleistocene Tulare and later and it is apparent, due to westward thickening in Pliocene that Wasco is the deep expression of the shallow Semitropic field. Certainly if we restore the tilt to that of San Joaquin Clay time there could scarcely be reversal even of the present fold at Wasco.

Thus we have accumulation of Eocene oil in a trap not existing until Pleistocene. The important point of this is "sufficient oil was still left in Eocene source rocks to fill a structure not formed until Pleistocene."

Approaching the problem from the other direction, i.e. - trying to prove an accumulation that has originated early and persisted until today, is even more difficult. The absence of oil from normally productive beds in a few closed structures is taken by some to mean all migration and accumulation possible in those beds had taken place before the trap became effective. This may well be true, but does not appear to be susceptible to proof with our present knowledge. It might be expected in areas of strong and repeated deformation or deformation along different trends than previous folds that old accumulations would be breached or otherwise destroyed without trace. This possibly explains the scarcity of oil in Middle Miocene and older rocks in the Los Angeles Basin, or in the Cretaceous rocks elsewhere in California. It also may be that the related source rocks were wrung dry prior to the Pleistocene deformation leaving no newly squeezed out oil for these new traps. Wasco and other valley fields may have their Eocene and Miocene oil because that area had no strong deformation intervening between Eocene and Pleistocene - just more or less continuing subsidence.

The study of migration and time of accumulation, while it has been of little economic value so far, may be developed into a useful tool, possibly for finding oil, but primarily for avoiding barren structures.

COAST GEOLOGICAL SOCIETY

Dr. Hobart E. Stocking of the U.S. Atomic Energy Commission addressed the Coastal Geological Society at Santa Barbara on Uranium, its Geology & Geographic Location.

Dr. Stocking gave a brief account of the early history of Uranium. He stated that in meteorites, the uranium content is low and that in the earth's siliceous crust there are 3 to 4 parts per 1,000,000 in the average rock. Commercially, uranium is found in veins and in shale deposits. Areas of greatest production are in the Williston Basin, Colorado Plateau, Black Hills, New Mexico, Arizona, Colorado; particularly in the Shinarump, Moenkopi and Morrison formations of continental type deposition. All sedimentary type deposits are epigenetic and all the uranium is younger than the host rock. Often the uranium is concentrated in ancient trees, twigs and mudstone pellets. Sixteen percent of the total U.S. production comes from the Shinarump and 40 per cent from the Morrison. The predominent method of mining is by open pit.

A brief summary of nuclear physics was given which included the formula for nuclear fission.

$$N + {}_{92}U^{235} \rightarrow {}_{46}Pd + {}_{46}Pd^{117} + N + N + E$$

!!!1957 DUES ARE DUE !!!

If you are one of the unlucky ones not to attend our fall convention and would still like to receive the Pacific Petroleum Geologist, local announcements, etc., for 1957, you should pay your dues as soon as possible. Billings have been sent out to all members and subscribers who paid their 1956 dues and should be in your hands now. If dues are not received by February 1, 1957, it will be necessary to remove your name from all mailing lists. Make checks payable to the A.A.P.G., Pacific Section, and send to Mr. W. E. Kennett, Room 301, 1054 Wilshire Boulevard, Los Angeles 17, California.

SUPPORT YOUR A.A.P.G.

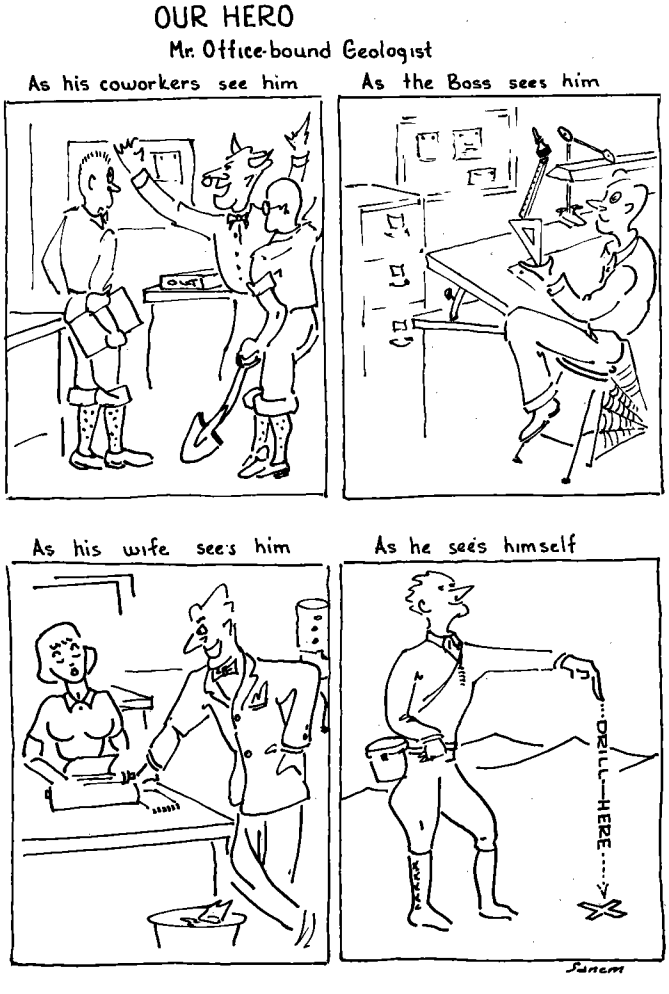
II CUBAN PETROLEUM CONGRESS - ADVANCE NOTICE

The II Cuban Petroleum Congress will be held in Havana May 5-11, 1957. It will include an industry exhibit open to the public and technical and scientific sessions open to registrants exclusively.

Work Sections shall be six: Section I - Geology, Geophysics and Geochemistry
Section II - Drilling and Production
Section III - Processing, Distribution and Utilization
Section IV - Research, Development and Testing
Section V - Education and Training of Personnel
Section VI - Management, Economics and Law

Papers may be in Spanish, English or the native tongue of the author's country of residence. Spanish and English shall be official languages. Manuscripts should be on hand by March 1, 1957. Title of papers, author's name and a resume of the subject matter should be submitted as early as possible to permit preparing a preliminary program to circulate abroad in ample time.

Additional details may be obtained addressing
II CUBAN PETROLEUM CONGRESS
Edificio Habana 800
Havana, Cuba



NORTHWEST GEOLOGICAL SOCIETY

The Northwest Geological Society monthly dinner meeting was held at the Poodle Dog Cafe in Tacoma on December 3. After an excellent steak dinner the sixty in attendance enjoyed a paper on "Groundwater and Well Construction in the Pacific Northwest." The speaker was John W. Robinson of Robinson and Roberts, Groundwater Geologists of Tacoma.

Problems and techniques of water-well drilling were discussed. The talk was supplemented by colored movies showing drilling operations. Of particular interest to the group was the drilling rig which employed reverse circulation. This equipment is particularly effective in drilling through gravels and cobbles.

SACRAMENTO GEOLOGICAL SOCIETY
FIELD TRIP OF DECEMBER 15, 1956.

The members of the Sacramento Geological Society visited Humbles' Mary Tippets #1, 15-12N/3W M.D.M. on December 15, 1956. The location is on Rumsey Hills on the west side of the Sacramento Valley. Humble has built a 8 1/2 mile gravel road and a 3" welded water line to their location at a cost of $100,000. A new road cut into the Pliocene Tehama formation was inspected enroute to the drilling site. The rig has a full view mast capable of supporting 1,000,000 lbs. Its capacity is a 17,000' hole with 4 1/2" drill pipe. It is equipped with 3 General Motors Series 71 Quad Diesel Engines and the mud system is equipped with a centrifuge to separate salt water from drilling fluid.

PERSONAL ITEMS

Jack Nair resigned from Superior Oil Company to join Phillips Petroleum Corporation as an offshore geologist.

Bill Castle, Richfield Ojai scout, is setting the style these days. He was observed at the California Scout and Landman's Christmas party at Bakersfield wearing two (2) ties - one a bow!

Louis Taylor resigned as Senior Engineer for Baroid at Ventura to join Tidewater as Ventura District Scout.

George Thomas, Humble, transferred from Eugene to the Production Geology Division at Chico.

New officers installed at the December 20th Coastal Geological Society meeting are as follows:

1. President - Gordon Bell, Western Gulf Oil Company.
2. Vice President - Howard Stark, Richfield Oil Company.
3. Secretary - Dan Flynn, General Petroleum Corporation.
4. Treasurer - John Wilson, Standard Oil Company.

Eric Phillips, Western Gulf, is Christmas vacationing in the San Francisco area.

George Brown, M. A. graduate from UCLA, began working December 17 in the Los Angeles office for Ohio.

Bill Hubbard, geologist in Ohio's Los Angeles office, recently transferred to overseas operations in Guatemala.

Upon completion of his arduous duties as A.A.P.G. President, Mase Hill felt compelled to take his first official vacation in several years.

Chet Baker has recently been transferred from Continental's Houston headquarters to Los Angeles and will work on offshore activities. Chet was formerly a paleontologist with Richfield in Bakersfield. Since that time, however, he has spent two years with Aramco in Arabia and two years with Sahara Petroleum in Egypt. Good to see you back Chet!

Mandy Touring, Humble's District Geologist in Eugene, Oregon, is on leave to finish field work for his Doctorate.

Mort Klien left Humble to go consulting. His phone is RYan 1-2287.

Dick Noble, geophysicist, Humble, resigned to study at UCLA for a Masters in Geography.

The Humble office in Bakersfield is now located at 218 Bernard Street.

Rufus Cook, currently of Standard Oil in Bakersfield, will, in the near future, join the Iranian Exploration and Producing Company in Iran as a Survey and Exploitation Geologist.

Willard J. Libby, recent graduate from Northwestern University, will work for Standard Oil in Bakersfield.

W. F. Blaze, formerly with Gulf in Denver, is now with Standard in Bakersfield.

The new officers of the Northern California Geological Society are:

1. President - Kenneth L. Edwards
2. Vice President - Ben H. Burma
3. Secretary-Treasurer - J. Tom Llewellyn .

Jim Bigelow, Western Gulf of Bakersfield, is doing temporary duty in the Ventura office.

Gordon Bell, new President of the Coastal Geological Society, is living it up by taking a short local vacation.

Leon Williams and Don Duncan are both to be transferred from Sacramento. Leon is going to Fullerton in February and Don to Coalinga in January. Their replacements have not been announced as yet.

George Thomas, Humble - production geologist, has recently been transferred to Chico, California, from Eugene, Oregon.

Wally Taylor, with Standard Oil Company, was transferred from Sacramento to Salt Lake City on December 17, 1956.

Bob Lindblom, with Standard Oil Co. in Sacramento, is vacationing at home in Minnesota. It is understood he negotiated a "hot deal" to buy a new Thunderbird while in the East.

The Sacramento Scouts' Party was held at Scheidel's Barvarian Restaurant on Tuesday, December 18. A large crowd was present and a good time was had by all.

Bill Gealey, formerly with Standard in Bakersfield, has transferred to San Francisco with the California Exploration Company. Word has it that Bill will be working on African and Middle East geology.

Ken Jensen, of Tidewater, is back in Bakersfield after a short tour in Sacramento.

Buz Ivanhoe was in Guatemala on vacation and, short of funds, met Dick Hester down there. Dick is home in Bakersfield for the holidays - only comment about Guatemala was "___ ___ wet."

Ernie Hoskins, Shell Oil in Bakersfield, is in Los Angeles for several month's training.

The Shell office in Bakersfield is currently understaffed due to numerous vacations.

Don Sorgenfrei, seismologist with Superior from Midland, Texas, is now in Bakersfield.

The Petroleum Club of Bakersfield was formally opened November 8, 1956, using the redecorated Normandy and Tower Rooms of the Bakersfield Inn. Present officers are:

President - Tom Fitzgerald
Vice President - Jack Beach
Secretary - Tex Rickard

The Club held an "open house" for wives and guests on December 27, 1956.

Tom E. Folsom, Honolulu Oil Corp., has been elected for a two-year term as a Director-at-Large of the California School Boards' Assn. Tom is presently serving as President of the Board of Education of Whittier Union High School District.

Shell's Olympia and Seattle offices joined forces and had a Christmas party at the Troubador Inn in Tacoma on December 14.

Wayne Marrs, geologist, Continental Oil Company, Billings, Montana, spent the holidays with his mother in Olympia.

Ivor McCray, scout, Shell Oil Co., Olympia, flew to Los Angeles to spend Christmas with his family.

Oleta Jones, paleontologist, Shell Oil Co., Olympia, is visiting her family in Fresno. Come back, Oleta - we have other paleontologists, but not female!

After Bob Rist, Monterey, New Orleans, had barely regained his health from visits of Jim O'Flynn and Ralph Brodek, Ross and Willi Phillips appeared on the scene on their way home from their stint in Turkey. As if things weren't bad enough already, Barney Barnard winged into town! With a small assist from Bob, it is reported that Barney saw more of New Orleans in thirty-six hours than the Phillips had all week.

Ed (The Moose) Parker, Standard, recently transferred from Seattle back to Bakersfield.

Ross Nichols, Cal Tex Oil Company, Sumatra, is vacationing in Southern California after seeing the Olympics in Australia.

Jim Benzley's daughter, Sherrill, was elected "Miss San Gabriel" for the 1956-57 season. She designed the San Gabriel float and reigned as Queen of the float at the Rose Bowl Parade. Where have you been hiding this talented young lady, Jim?

NURSERY NEWS

R. J. Malloy and his wife Marilyn had their fourth boy, James Peter Malloy, eight pounds, December 15, 1956. The Malloy's also have one girl.

Mr. and Mrs. Don Rogers announce the birth of a new daughter, Mallorie, November 3, 1956, who weighed in at 5 pounds 1 ounce.

John and Marian Terpening, General Petroleum, Bakersfield, are still following precedent with the addition of a third son, Craig William, November 21, 1956, weighing 8 lbs. 10 oz.

Howard and Nancy Kinzey, Shell Oil Company, Olympia, announce the arrival of Brian Marvin, their second offspring. He arrived December 26 and weighed 9 lbs. 2 oz.

Mahlon and Dorothy Kirk, Shell Oil Company, Seattle, are the proud parents of their fourth child, Wendy Ann, born December 12.

Mr. and Mrs. Paul Westrup have a new baby girl named Ann Louise who topped the scales at 8 lbs. 7 oz.

Mark and Verne White, Standard Oil Co., Los Angeles, announce the birth of a daughter, Julie Sue, 7 lbs. 4-1/2 oz. on December 17, 1956. The new arrival is their sixth child - four girls and two boys.

Al and Mary Johnston are the proud parents of a baby boy, Daniel Hamilton, 7 lbs. 11 oz., born December 21, 1956.

CALENDAR

Jan. 10, 1957: Thurs., 7:30 P.M., A.A.P.G. Coastal Geological Society. University Club, Santa Barbara. "Paleotectonic Mapping" by Edwin D. McKee, U.S. Geological Survey.

Jan. 10, 1957: Thurs., 12:00 Noon, S.E.G.Luncheon Meeting. Rodger Young Auditorium, 936 West Washington Blvd., Los Angeles. "The Varian Magnetometer" by Dr. J. I. Gimlette of Hycon Aerial Surveys. A movie, "Portrait of the Earth" will also be shown. $2.50 including tax, tip and parking.

Jan. 11, 1957: Fri., 7:30 P.M., San Joaquin Geological Society Dinner Meeting. Cocktails 6:30 P.M. Dinner 7:30 P.M. - Spanish Ballroom, Hotel El Tejon, Bakersfield. "Paleotectonic Mapping" by A.A.P.G. Distinguished Lecturer Edwin D. McKee, Chief of Paleotectonic Map Project, U. S. Geological Survey, Denver.

Jan. 15, 1957: Tues., 7:30 P.M., A.P.I. Los Angeles Basin Chapter, Shell Recreation Hall, Hill and Obispo Streets, Long Beach. Program to be announced.

Jan. 17, 1957: Thurs., 7:30 P.M., A.I.M.E. Los Angeles Basin Jr. Petroleum Group, Turf Club, Anaheim Telegraph Road and Lakewood Blvd., one block North of Santa Ana Freeway, Rivera. "Profitability" by Folkert Brons, Area Reservoir Engineer, Shell Oil Company and Milan Arthur, Chief Evaluation Engineer, Union Oil Company. Members $3.50, non-members $3.75, incl. tax, tip and parking.

Jan. 22, 1957: Tues., 7:00 P.M., A.A.P.G. Forum, General Petroleum Auditorium, Los Angeles. "Tertiary Stratigraphy of Blairsden Quadrangle" (in Northeastern California) by Cordell Durrell, Professor of Geology, U.C.L.A. Illustrated with Kodachrome slides.

Jan. 28, 1957: Mon., 12:00 Noon, A.I.M.E. Petroleum Forum, Rodger Young Auditorium, 936 West Washington Boulevard., Los Angeles. "Progress in Secondary Recovery Operations, Union Oil Co. $2.25 (tax, tip and parking included).

Feb. 4, 1957: Mon., 7:30-9:30 P.M., Biostratigraphy Seminar, Bakersfield College, Room 56, Science & Engineering Building. "Recent Studies in Foraminiferal Biology" by Dr. Zach Arnold, University of California, Berkeley.

Feb. 7, 1957: Thurs. 12:00 Noon, A.A.P.G. Los Angeles Luncheon Meeting, Rodger Young Auditorium, 936 West Washington Blvd., Los Angeles. Speaker to be announced. $2.00 including tax, tip and parking.

Feb. 15, 1957: Tues., 7:30 P.M., Sacramento Geological Society, Board Room of Public Works Building, 1120 N. Street, Sacramento. "Feather River Project" by Lawrence James, Chief Geologist of the Department of Water Resources.

BIBLIOGRAPHY OF RECENT PUBLICATIONS

SCIENTIFIC PUBLICATIONS - JOURNALS & BULLETINS

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Professional Paper 305-A "Core Tests and Test Wells, Oumalik Area, Alaska" by F. M. Robinson; "Paleontology of Test Wells and Core Tests of the Oumalik Area, Alaska, Part 5, Subsurface Geology and Engineering Data."

Bulletin 1028-F "Geology and Petrology of Pribilof Islands, Alaska" by T. F. W. Barth.

Bulletin 1030-J "Stratigraphy of the Morrison Formation in part of Northwestern New Mexico" by V. L. Freeman and L. S. Hilpert.

Bulletin 1042-C "Geology of the Virginia City Quadrangle, Nevada" by G. A. Thompson.

Circular 391 "Index of Surface Water Records to September 30, 1955, Part II - Pacific Slope Basins in California" by J. S. Gatewood.

Water Supply Paper 1330-C "Water Requirements of the Aluminum Industry" by H. I. Conklin.

Water Supply Paper 1360-D "Water Resources of the Bill Williams River Valley near Alamo, Arizona" by H. N. Wolcott, H. E. Skibitske, and L. C. Halpenny.

Miscellaneous Geological Investigations Map I-197 "Preliminary Map and Structure Sections in Lower Yukon River Area, Alaska" by W. W. Patton, Jr. and R. S. Bickel.

Miscellaneous Geological Investigations Map I-230 "Map of the Salt Chuck Area, Prince of Wales Island, Alaska, Showing Linear Features as Seen on Aerial Photograph" by C. L. Pillmore and Kathleen McQueen.

Open File Reports (cannot be purchased - must be inspected).

(1) "Geology of Southeastern Ventura Basin, Los Angeles County, California" by E. L. Winterer.

(2) "Preliminary Geologic Reconnaissance Map of Part of the Southeastern Mojave Desert, California" by D. H. Kupfer and A. M. Bassett. (Released December 26, 1956.)

(3) "Geologic Map of Alvord Mountain Quadrangle, California" by F. M. Byers, Jr.

(4) "Annotated List of Plants Occurring on the Arctic Slope of Alaska" by L. A. Spetzman.

New Composite Topographic Maps (On sale in January)

(1) Los Angeles and Vicinity East
(2) Los Angeles and Vicinity West
(3) Long Beach and Vicinity

California State Division of Mines

Bulletin 174 "Pumice, Pumicite and Volcanic Cinders in California" by C. W. Chesterman, and "Technology of Pumice, Pumicite and Volcanic Cinders in California" by F. Summer Schmidt. (Price - $2.50)

California Journal of Mines and Geology - October 1956 "Mines and Mineral Resources of El Dorado County", "Recommendations for a National Minerals Policy", "Annual Report of the State Mineralogist."

PACIFIC PETROLEUM GEOLOGIST
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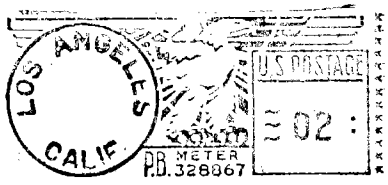

Mr. F. R. Neumann
381 E. 4th St.
Chico, Calif.

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PACIFIC PETROLEUM GEOLOGIST

NEWS LETTER OF THE PACIFIC SECTION
AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

Vol. 11 February, 1957 No. 2

ASSOCIATION ACTIVITIES

MOODY TO HEAD A.A.P.G.

GRAHAM B. MOODY, Consulting Geologist, Berkeley, California, will become the 41st President of the American Association of Petroleum Geologists on April 4, THEODORE A. LINK, President of the Association announced today. Serving with Moody on the 1957-58 Executive Committee of this international geological organization will be THEO. A. LINK, President, Cree Oil of Canada, Limited, Calgary, Alberta, and Toronto, Ontario, as past president, and three other newly elected officers: Vice-President BYRON W. BEEBE, Vice President and Director of Production, Keating Drilling Company, Oklahoma City, Oklahoma; Secretary-Treasurer, WILLIAM J. HILSEWECK, partner, Blackwood & Nichols, Dallas, Texas; and, as Editor of the A.A.P.G. monthly Bulletin of Petroleum Geology, SHERMAN A. WENGERD, Associate Professor of Geology, University of New Mexico, Albuquerque.

The new A.A.P.G. officers will assume the responsibility of directing this 13,500-member organization at the close of the 42nd annual meeting of the Association being held in Kiel Auditorium in St. Louis, Missouri, April 1-4.

President-elect Moody was born in Denver, Colorado, November 15, 1889. After receiving a B.S. degree in geology and chemistry from the University of California in 1912 he did part-time graduate work at U.C. until 1914. During 1917-18 he was Production Geologist for the Fuel Oil Department, South Pacific Company. He joined California Petroleum in 1918 in the capacity of Administrative Geologist, remaining there until 1920. At that time he joined Standard Oil Company of California. Mr. Moody remained with Standard Oil until 1954, and during that time became Chief Reserves Engineer.

Retiring from Standard in 1954, Moody became a Consulting Geologist with offices in San Francisco and Berkeley.

Mr. Moody became a member of the American Association of Petroleum Geologists in 1927. He was secretary of the Pacific Section in 1935, a member of the Research Committee (1945-46) and served on the Committee for Statistics on Exploratory Drilling (1945-56); he also was General Chairman of the St. Louis Convention (1954), and Vice President of the Association in 1954.

A. A. P. G. LUNCHEON

The AAPG luncheon on January 3, 1957, was held at Rodger Young Auditorium as customary. After business of the meeting was concluded, Paul H. Dudley gave an illustrated talk on "Highlights of the Philippines". He returned this Fall from the Islands where he has been on a consulting job for Philippine Oil Development Company.

The Philippine Archipelago, made up of 7300 islands, extends from Latitude 5° N., to Latitude 20° N., a distance of nearly 1100 miles. The geologic section is mostly Tertiary and, from the standpoint of lithology and microfaunas, is related to the section in Indonesia. Sediments overlie basement that usually is made up of acid or basic volcanics or acid or basic plutonics. The age of basement is not clear to date. It is certainly pre-Tertiary, but may be possibly pre-Mesozoic. In one of the islands, for instance, small amounts of strata, bearing Mesozoic fossils and lying unconformably below Tertiary, have been mapped as basement.

There are oil seeps in some of the southern islands and exploration was started as early as 1896 when a number of shallow wells were drilled on Cebu. These produced uncommercial amounts of oil and were abandoned. Richmond Petroleum Corporation, a subsidiary of Standard of California, drilled several wells in the southern part of Luzon in 1921-22. These encountered oil and gas showings, but were abandoned. The most recent test, Philippine Oil Development Company's well drilled in the Cagayan Valley, was abandoned at 10,414 feet. This is the deepest well, to date, in the islands.

A series of map slides showed: (1) where exploration had been carried out in the islands; (2) Northern Luzon, the Cagayan Valley and its size relative to the San Joaquin Valley, the location of the recent well in the first valley, and a generalized geologic section; (3) Southern Luzon, the Central Plains, Manila, Corregidor and Bataan, Pagsanjan Falls and Lake Taal; and (4) the outline of the Old Walled City of Manila in 1670. With these as guides at appropriate intervals, those present were shown a series of colored slides depicting views of Cagayan Valley, a trip into the rice-terrace country of the Mountain Province, an expedition down the west coast of Luzon, highlights of Baguio, the Central Plains, Manila, Pagsanjan Gorge, and Lake Taal. In the course of showing the pictures the talk brought out some of the more interesting facts about the history of the islands and the races therein.

NORTHWEST GEOLOGICAL SOCIETY

On January 17, the monthly dinner meeting of the Northwest Geological Society was held at the Poodle Dog Cafe in Tacoma. Guest speaker for the evening was Charles E. Kirschner of Standard Oil Company of California, Seattle, who gave a very interesting illustrated talk on "Reconnaissance Observations on the Geology of the Trinity Islands, Alaska".

The Trinity Islands, Tugidak on the west and Sitkinak on the east, form the southwesterly extent of the Kodiak Islands group. Each island is approximately 5 miles wide and 20 miles long. The surface

of Tugidak Island is a series of low wave-cut terraces with maximum elevation 200 feet. Sitkinak Island comprises a group of hills on the east and west with maximum elevation 1640 feet, separated by a valley enclosing Sitkinak tidal lagoon.

The bedrock of east Sitkinak Island is Cretaceous(?) marine epineritic bedded graywacke and siltstone complexly folded and faulted. West Sitkinak Island is Cretaceous(?) marine infraneritic thin-bedded siltstone and fine graywacke isoclinally folded and faulted. The thickness of these units is unknown; structural trends are northwest.

Sitkinak lagoon and valley lie in a northwesterly-trending graben in which about 4000 feet of Eocene(?) continental to brackish marine conglomerate, sand, silt, and coal crop out.

The bedrock of Tugidak Island consists of Pliocene-Pleistocene soft mudstone and thick-bedded gray sands, which strike N45°E and dip 5° NW.

The Cretaceous sediments were deposited in a northeasterly-trending mobile, extra-continental geosyncline and were probably derived from a volcanic land mass to the southeast. Late Cretaceous or Laramide diastrophism brought to a close the Cretaceous sedimentation cycle. The Tertiary sediments were deposited in a similar, less well developed geosyncline, but had a northwesterly source. Intermittent orogenic uplift near the close of this cycle caused nondeposition or erosion of mid-Tertiary sediments. Later Tertiary diastrophism that closed the Tertiary cycle of sedimentation has continued to Recent time and includes differential orogenic movements, in part, along major northeasterly-trending faults.

Upon concluding his talk, Mr. Kirschner showed colored movies of field camp life in Alaska. In addition to geology, there were numerous spectacular shots taken from a helicopter and several interesting shots of fish and wild game.

PAUL M. PAINE PASSES AWAY

Paul McClary Paine, one of the nation's most noted geologists, passed away recently at his home in Corona del Mar, apparently the victim of a Heart attack.

He was born in Baltimore, Maryland, and attended the Massachusetts Institute of Technology. After graduating in 1904 he became a special agent for the Government on Mineral Examinations in connection with Land Fraud Investigations. He later became associated in executive capacities with Honolulu Oil Corp., Gypsy Oil Company, Shell Oil Company, and then lectured widely in many universities all over the world. He was also a distinguished lecturer of the A.A.P.G.

In 1919 Paul entered private practice as an independent oil engineer and geologist. During his career he was a Director of Union Oil Company, Formax Oil Company, and also Kern County Land Company, and represented various oil companies in mergers and reorganizations. He is probably best known to many of his friends as the author of a book on "Oil Land Valuation" that is widely accepted as a basic treatise. Paul was well liked by the younger fellows because of the sincere interest he took in them and as a result gave a number of private courses in valuation.

Mr. Paine leaves his widow, daughter, and two grandchildren. His loss will be keenly felt by all his colleagues and friends in Industry in the months and years to come.

S. E. G. LUNCHEON

Dr. J. I. Gimlett, Hycon Aerial Surveys, spoke on the Varian Magnetometer on January 10th at the Rodger Young Auditorium. Also presented was a film, "Portrait of the Earth", produced by Hycon Aerial Surveys.

The Varian magnetometer uses the principle of nuclear induction and nuclear magnetic resonance to obtain precise measurements of the earth's magnetic field. Protons, because of their intrinsic magnetic and spin moments, will precess about any magnetic field. The frequency of precession is directly proportional to the strength of the field. The precessing protons induce a voltage in a pickup coil at the precession frequency. The electronic "hardware" of this magnetometer is thus essentially a frequency measuring device.

Almost any degree of accuracy can be obtained. The instrument can measure down to ± 0.25 gammas, or less, if such refinement is required.

The Varian magnetometer has many advantages over other more conventional types. Each reading is absolute and independent. The magnetometer is drift-free. These factors greatly aid the preparation of aeromagnetic maps, even permitting correcting for diurnal variations using a continuous recording ground instrument (of the nuclear precession type). All measurements are independent of changes in temperature and pressure, and of mechanical shocks.

The detector itself requires no orientation. This greatly simplifies the "bird" and eliminates a possible source of error.

The airborne version of the Varian magnetometer is a compact instrument, weighing only 75 pounds. (The new portable ground instrument, ± 1 gamma, will weigh just 15 pounds). The simplicity and lightness of this magnetometer make it particularly adaptable for installation in small fixed-wing aircraft and helicopters.

COASTAL GEOLOGICAL SOCIETY

Distinguished Lecturer Edwin D. McKee, Chief of the Paleotectonic Map Project, U. S. Geological Survey, Denver, addressed the Coastal Geological Society January 10, 1957. In his paper, "Paleotectonic Mapping", Dr. McKee discussed the work of the Paleotectonic Map Project with emphasis on a synthesis of the Jurassic system.

Nature of the Project

Paleotectonic Map compilation was begun by the U. S. Geological Survey in July, 1952. Work was fully underway by the fall of 1953, and from then on, the staff of the paleotectonic map project has consisted of six to seven geologists. The objective of the program is to prepare folios that depict rock thicknesses, generalized lithology, ancient geography and other regional relations for each of the geologic systems in the United States, and to interpret these data in terms of tectonic evolution.

Compilation of Data

Data are being compiled with the objective of developing a permanent, usable file to which new data may be added continuously. The file consists of punch cards arranged by State. A card is prepared for each formation at every locality for which data are available; each card contains the formation name, locality or map number, geologic age, source of data and a summary of additional data. The punch card files of the paleotectonic map project, located in the Federal Center at Denver, Colorado, are open and available for the use of all geologists, except for relatively few data obtained in confidence.

Preparation of Folios

Stratigraphic data are compiled for each State at a scale of 1:1,000,000. Ultimately, they are presented in the folios, on maps, each of which covers a folded page 24 x 30 inches at a scale of 1:5,000,000. They are prepared as objectively as possible, although a certain amount of interpretation is necessary to make the data, collected from diverse sources, mutually consistent. Also, maps of a more subjective nature representing interpretations of the factual data, are prepared to show geographic features and environments.

The Jurassic Folio

The Jurassic system is the first for which a synthesis has been prepared in the form of a folio. It was selected for this purpose because it appeared to be well suited for the development of project methods and techniques. Rocks of this system are of current economic interest; they also include a wide variety of types, but are believed not to be as complex stratigraphically or as extensive as those of most other systems.

Some Conclusions Based on the Jurassic Folio

(1) The summary map of Jurassic deposits shows three major regions of sedimentation: (a) a basin extending north of the present Coast of the Gulf of Mexico containing more than 6,000 feet of sediments; (b) an eastern shelf bordering a western miogeosyncline in the Rocky Mountain region: the shelf deposits totaling less than 600 feet, those of the miogeosyncline up to 6,000 feet; (c) a eugeosyncline in the West Coast region with rocks 15,000 or more feet thick including many volcanics.

(2) The paleogeologic map demonstrates that a major southwest-plunging synclinorium developed during late pre-Jurassic time in the western interior of the United States.

(3) The map of Lower Jurassic rocks (Interval A) shows a thick wedge of strata in the western interior with margins and axis considerably west of those in later parts of the Jurassic.

(4) The map of Lower Jurassic rocks (Interval A) illustrates deposits that were largely eolian in the western interior region. Dominant wind directions were from the north or northwest in contrast to those of later Jurassic times which were from the southwest.

(5) Maps of the middle parts of the Jurassic (Intervals B and C) illustrate the early stages of a long period of basin sinking in the Gulf Coast region with extensive evaporite deposits, followed by the marine deposits shown above.

(6) Maps of the middle parts of the Jurassic (Intervals B and C) show successive marine invasions from Canada southward into parallel troughs in the western interior region. The earlier troughs (Interval B) were farther east than the succeeding ones.

(7) The map of the last part of Jurassic time (Interval D) illustrates uplift in many areas. Conglomerates in the Gulf Coast region and in parts of the western interior region indicate tectonic activity in adjoining areas. On the West Coast, the great thickness of sediments, including coarse detritus, denotes marked tectonism.

A. A. P. G. NATIONAL CONVENTION

The Geologist's specials to the National Convention in St. Louis are arranged as follows:

TRAIN: Southern Pacific - Golden State

Leave: Los Angeles, Union Station, Friday, March 29 - 1:20 P.M.
Arrive: St. Louis, Sunday, March 31 - 12:29 P.M.

Round Trip Fare
$131.95 plus $13.20 (tax) - $145.15

One Way Fare
$78.62 plus $7.86 (tax) - $86.48

The Pullman Fare one way is:

Roomette (one)
$32.45 plus $3.25 (tax) - $35.70

Single Occupancy Bedroom
$44.25 plus $4.43 (tax) - $48.68

Double Occupancy Bedroom
$51.20 plus $5.12 (tax) - $56.32

Double Occupancy Compartment
$56.05 plus $5.61 (tax) - $61.66

Double Occupancy Drawing Room
$78.20 plus $7.82 (tax) - $86.02

Double Occupancy Bdrm. Suite
$88.50 plus $8.85 (tax) - $97.35

This car goes thru from Los Angeles over the Rock Island and Missouri Pacific direct into St. Louis. No changing cars. This plan does not include the "family plan" as it is necessary to leave Los Angeles on Monday to Thursday inclusive to obtain the reduced rate.

The traveler should detail his return so that round trip transportation and pullman space is complete, prior to leaving Los Angeles.

This trip is being handled through:
Mr. M. W. Sidel
610 So. Main St.
MIchigan 6161,
Ext.22689

PLANE: TWA Super G Constellation, Flight No. 98
Non-stop to St. Louis - Geologist Special

Leave: Los Angeles, International, Sunday, March 31, at 8:00 A.M.
Arrive: St. Louis, Sunday, March 31, at 3:31 P.M.

Round Trip Fare
$217.35 (tax included)

One Way Fare
$114.35 (tax included)

This trip is being handled through:
Mr. Al Douglas
MIchigan 9441
Ext.291

To take advantage of the "family plan" it is necessary to leave Los Angeles after noon on Monday and start return trip prior to noon on Thursday.

Further information can be had from:
HOMER STEINY, Ch. Transp. Comm.
580 N. New Hampshire Ave.
Los Angeles 4, California
Phone: NOrmandy 1-4314

ROCKY MOUNTAIN SECTION

The 7th annual meeting of the Rocky Mountain Section of the A.A.P.G. will be held in Salt Lake City, Utah, February 25, 26 and 27. The theme is to be "Stratigraphic-Type Oil Accumulation and Modern Exploration Techniques in the Rocky Mountains." Of particular interest will be two papers on the Paradox Basin, currently one of the most active areas in the country.

COMMITTEE CHAIRMEN

Listed below are the committee chairmen of the Pacific Section, A.A.P.G. for the year 1957:

GENERAL CHAIRMAN OF FALL CONVENTION
Robert L. Johnston
Western Gulf Oil Co.
900 Wilshire Blvd.
Los Angeles 17, California

DISTINGUISHED LECTURE REPRESENTATIVE
F. E. Minshall
Continental Oil Co.
1137 Wilshire Blvd.
Los Angeles 17, California

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215 West 7th Street
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CHRISTMAS DANCE CHAIRMAN
O. K. Fuller, Jr.
Humble Oil & Refining Co.
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Los Angeles 17, California

PACIFIC NORTHWEST GEOLOGICAL SOCIETY

President: Floyd L. Johnson
Western Gulf Oil Co.
Room 307, Security Bldg.
Olympia, Washington

Secretary: Conrad B. Howard
Shell Oil Company
Union Avenue Bldg.
Olympia, Washington

Treasurer: Marshall T. Huntting
State Division of
Mines and Geology
General Administration Bldg.
Olympia, Washington

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Vice-Pres.: V. L. Vander Hoof
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Calif. Exploration Company
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San Francisco, California

Vice-Pres.: Benjamin H. Burma
Calif. Exploration Company
Room 400, 200 Bush Street
San Francisco, California

Secretary: Tom Llewelyan
Honolulu Oil Corporation
215 Market Street
San Francisco, California

DISTINGUISHED LECTURER

Dr. Gordon I. Atwater, Consulting Geologist, New Orleans, Louisiana, has accepted our invitation to appear on the Distinguished Lecturer series for the month of March, commencing March 4, 1957. Dr. Atwater will speak on the Louisiana Offshore Province.

PERSONAL ITEMS

Hans Vandenberge, a scout for Standard Oil Company, has recently been transferred from Bakersfield to Standard's Sacramento office.

Bruce Brooks and Bill Edmondson subtly arranged to have the Gerhart No. 1 drilled just in time for them to attend the Schlumberger Open House in Sacramento on January 25, which turned out to be a gala affair.

Dave Toelle, with The Texas Company, has been transferred from Sacramento to Bakersfield.

Art Nelson, with Shell, is to spend the next six months in Bakersfield as the acting Division Land Manager. He will be replaced by Charles Barnes from Seattle.

Glenn Harris, with Shell, is spending two weeks in Shell's Los Angeles "charm school."

Sargent Reynolds is back in Woodland after a long spell in Turkey. It is rumored that he brought a houseful of antique Turkish brasswork back with him.

Raymond Hoerr has transferred from Schlumberger's Bakersfield office to Sacramento. Raymond is married and has one child. He recently graduated from the University of Washington.

Lincoln Erwin, a Schlumberger engineer, has recently transferred from Ventura to Sacramento. He arrived just in time for the Schlumberger Open House.

After spending several seasons in Alaska, John Beall has transferred from Shell's Seattle office to Ventura. You can take off your mukluks now, John!

N. L. Johnson, geologist, Sinclair, Portland, has been transferred to Tulsa.

Friends of Dick DeLapp, Schlumberger engineer in Sacramento, will be sorry to hear he was seriously injured in an auto accident on January 24 near the town of Arbuckle in Colusa County. The total extent of his injury has not as yet been determined. He is undergoing treatment at the Mercy Hospital in Sacramento.

A number of Bakersfield ski enthusiasts, including Arch Warne, Richfield, Nat MacKevett and Mac Robinson of Shell, have been seen riding the boards lately in such places as Mammoth and Yosemite.

Jack Oney recently joined Sunset International Petroleum Co. in Los Angeles.

Bert Marier, Tidewater in Bakersfield, and wife have their hands full with four cases of measles in their home!

Cut Webster, Honolulu in Bakersfield, continues to show good Stanford school spirit by ordering a red and white 1957 Dodge convertible.

Jess Parsons, Texas in Bakersfield, recently tried to get a new company car by rolling his car over northeast of Coalinga. Fortunately, Jess suffered only from bruises. (Note: This is the same car that Jim Learmont used when he tried to push an S. P. train off the tracks.)

Jack Clare, Superior in Bakersfield, has taken to raising a garden while well-sitting on the West Side. Jack even went so far as to haul the soil in for the garden.

Ted Sheldon, Seaboard in Bakersfield, is recovering from a bout with pnuemonia.

Bruce (Machine-gun) Brooks and Don Sorgenfrei, Superior in Bakersfield, are reported to have maliciously done away with a number of geese and ducks from the Superior Duck Pond.

Jack Decker, Consultant in Bakersfield, has recently joined Pacific Oil and Gas Development Corp. as Manager of Exploration. Jack is presently establishing an office for Pacific Oil and Gas in Bakersfield in the Professional Building.

John Castano, Shell in Bakersfield, is going to Houston in February for a two-week Sedimentation Seminar in the Shell laboratories.

Ted Bergen, Shell Paleontologist in Bakersfield, has been teaching a paleontology course this past semester at Bakersfield Jr. College. Course and field trips were good and probably will be repeated in the future.

Sonja Blegen, Shell in Bakersfield, is reported to have made it back to Bakersfield after a vacation in Minnesota.

Bachelors take notice - Tom Benson, The Texas Co., Santa Maria, has found Shangri-La. He lives in an apartment house with thirteen (who said it was unlucky) SINGLE school teachers. For Christmas he received an electric blanket with dual controls!

Benton Phillips, a graduate of Redlands, recently joined General Petroleum Corporation at Santa Maria.

A recent visitor to Shell's Olympia office was Bill Thomas, Chief Scout, Shell, Los Angeles.

If you can't catch 'em - plant 'em! This seems to be the philosophy of Vince Finch, Division Exploration Manager, Shell, Seattle. He recently planted a thousand rainbow trout in a pond on his country estate. When asked how they were doing, he said he couldn't even see them through the ice.

C. G. McKnight, Scout, Lion Oil Company, Denver, was present at the last Northwest Geological Society Meeting in Tacoma.

Jim Moore, paleontologist, Shell, Olympia, is in Santa Monica for a few week's training. Santa Monica? Sounds like a vacation!

Charles Guion, Scout, Humble, Sacramento, was a recent visitor to the Northwest.

Jim Elison, Geologist, Shell, Seattle, will spend February and March in Los Angeles absorbing training, smog, and possibly some sunshine.

Lou Canut of Texaco's Santa Maria office is going to take up obstetrical nursing. It seems he failed in his attempt to set up facilities on his porch for the forthcoming birth of a litter of Beagles. Mama Beagle turned up her nose at his attempt and had her family in the yard!

Frank Mondary has resigned as Scout for Tidewater's L. A. office and will work as a geologist for Superior. His office will be in Los Angeles but he will be active in the Coastal area.

Hershel Nixon, Tidewater, recently transferred from Ventura to Los Angeles as area geologist.

Tildon Fryor, Geologist, Sunray, is sick in St. John's Hospital in Santa Monica. Best wishes for a "speedy" recovery Tildon.

Jerry Knowles, Richfield, Los Angeles, is back from Nevada and it looks like he brought some snow with him.

Bob Anderson, Signal, has been temporarily transferred to Oklahoma City to work on the Venezuelan Geologic Committee.

Doug Traxler, Geologist, Signal, and also a Lt. Commander with the Navy, is spending two weeks in Ventura for the Petroleum Conference.

Jerry Long, formerly of Pacific Log Exchange, is now with C.W.O.D.

Harry Sisson is Monterey's new Chief Geophysicist.

Bill Ruehle, Geophysicist with General Petroleum, recently transferred to the Socony Mobile Field Research Lab in Dallas, Texas.

Vic King, Geologist with General Petroleum in Los Angeles, flew around the world on his recent trip and stopped over at Papua, New Guinea.

It is rumored, but will be vehemently denied, that the Internal Revenue Department investigated a certain party whose first initial to his last name is Loyal Alexander Tarbet. The Government's charge was that since no man could possibly consume six quarter barrels of beer in thirty-two days(?) he must be selling the stuff. (For those who haven't heard, he has beer on tap in his home.) The charge was quickly retracted when they saw "You Know Who." Not only does his girth eloquently attest to his fondness of the malt, but when he runs, he sloshes!

NURSERY NEWS

Don and Rose Marie Fissell, Standard in Los Angeles, welcomed their second boy, Daniel Richard, 8 lbs. 1/2 oz. (with hair) born February 2.

Don and Cherry Stone, Standard in Los Angeles, have announced the arrival of identical twin girls - Jennifer Lynn 7 lbs. 5 oz., and Donna Maria 8 lbs. 10 oz., born January 24. The Stones' have two other girls.

W. F. Blaze and wife, Standard in Bakersfield, received an extra special Christmas package in the form of John Francis, a 6 lb. 3 oz. boy, born December 25. Its their first!

Bud Johnson and wife, Tidewater in Bakersfield, balanced their family on January 19, with Patricia Ellen weighing in at 7 lb. 6 oz. Their first was a boy.

Carl and Margaret Helms, Standard in Sacramento, welcomed a new arrival on January 22, 1957. He is Timothy Robert - 9 lb. 1 oz. This makes three, all boys, for the Helms. Standard in Sacramento is a mighty prolific organization.

Jack and Diane Cunningham of Standard Oil Company in Sacramento are proud to announce the arrival of Glenn Flint on January 19, 1957 - 6 lb. 14 oz. The Cunninghams have two other boys.

Mr. and Mrs. Jim Blom of Standard at Ojai welcomed a new member to the family. Christine arrived on January 20, 1957, and weighed in at 7 lb. 4 oz.

CALENDAR

Feb. 5, 1957: Tues. 6:30 P.M. San Joaquin Valley A.I.M.E., Stockdale Country Club, Bakersfield. "Roll of Production Research in Oil Recovery" by John Sherborne, Production Research Division, Union Oil Co. Brea.

Feb. 7, 1957: Thurs., 12:00 Noon, A.A.P.G. Los Angeles Luncheon Meeting, Rodger Young Auditorium, 936 West Washington Blvd., Los Angeles. "A Geologist in Austria" by Harold Lian, Union Oil Company, $2.00 including tax, tip and parking.

Feb. 12, 1957: Tues., A.A.P.G. Coast Geological Society Dinner Meeting. Montecito Country Club, Santa Barbara. Program to be announced.

Feb. 13, 1957: Wed., 6:00 P.M., Northwest Geological Society Dinner Meeting. Poodle Dog Cafe, Tacoma, Wash. "Pennsylvanian-Permian of Western United States" by Prof. Harold J. Bissell, Brigham Young University.

Feb. 13, 1957: Wed., 6:30 P.M. Supper - 8:00 P.M. Lecture. A.I.M.E. Los Angeles Basin Junior Petroleum Group, Turf Club, Anaheim-Telegraph Road and Lakewood Blvd., one block north of the Santa Ana Freeway Rivera. "Refineries - What Happens To Your Barrel of Crude" by Paul Fryar, Los Angeles Refinery, Union Oil Company. "Catalytic Reforming" by Bill Malseed, Wilmington Depot, Shell Oil Company. Members $3.50 - nonmembers $3.75, including tax, tip and parking.

Feb. 15, 1957: Tues., 7:30 P.M., Sacramento Geological Society, Board Room of Public Works Building, 1120 N. Street, Sacramento. "Feather River Project" by Lawrence James, Chief Geologist of the Department of Water Resources.

Feb. 18, 1957: Mon., 7:30 P.M. San Joaquin Geological Society Dinner Meeting. Cocktails 6:30 P.M. Dinner 7:30 P.M. - Spanish Ballroom, Hotel El Tejon, Bakersfield. "A.A.P.G. Affairs" by Mr. Robert H. Dott, Executive Director of A.A.P.G.

Feb. 19, 1957: Tues., 7:30 P.M., A.A.P.G. Distinguished Lecturer, Engineers Club, Biltmore Hotel, Suite 3333, Los Angeles. "A.A.P.G. and How it Functions" by Mr. Robert H. Dott, Executive Director of A.A.P.G.

Feb. 25, 1957: Mon., 12:00 Noon, A.I.M.E. Petroleum Forum, Rodger Young Auditorium, 936 West Washington Blvd., Los Angeles. "Progress in Formation Evaluation" by Don Nutter, Shell Oil Company, $2.25, tax, tip and parking incl. Late reservations call Walt Sheldon, MU 3251.

March 4, 1957: Mon., 7:30-9:30 P.M., Biostratigraphy Seminar, Bakersfield College, Room 56, Science & Engineering Building. "Mesozoic & Cenozoic Megafossil Stages of the Pacific Area" by Dr. J. W. Durham, Univ. of California, Berkeley.

March 7, 1957: Thurs., 12:00 Noon, A.A.P.G. Los Angeles Luncheon Meeting, Rodger Young Auditorium, 936 West Washington Blvd., Los Angeles. Speaker to be announced. $2.00 including tax, tip and parking.

March 12, 1957: Tues., 6:15 P.M., Branner Club Dinner, Athenaeum, Cal. Tech. Max Birkhauser, Shell Oil Co. will deliver a talk titled "Looking for Oil in Alaska". Please make reservations in advance with Harold Sullwold, Jr., Geology Dept., U.C.L.A., Br-26161, Ext. 881.

March 12, 1957: Tues., 7:30 P.M., Sacramento Geological Society, Board Room of Public Works Bldg., 1120 N. Street, Sacramento. "Formation Logging" by Vern Jones, Exploration Logging Co., and "Acoustic Logging" by Robert Plum, General Petroleum District Geophysicist.

March 14, 1957: Thurs., 12:00 Noon, S.E.G. Luncheon Meeting. Rodger Young Auditorium, 936 West Washington Blvd., Los Angeles. "Exploration in Mozambique, Africa" by John C. Hugus. $2.50 including tax, tip and parking.

BIBLIOGRAPHY

OF RECENT PUBLICATIONS

SCIENTIFIC PUBLICATIONS - JOURNALS & BULLETINS

United States Geological Survey

OM-186 "Geologic Map of Lower Siuslaw River Area Oregon", by E. M. Baldwin.

Mineral Investigations Field Studies Map, MF-82 "Reconnaissance Geologic Map of the Izee and Logdell Quadrangles, Oregon" by R. E. Wallace and J. A. Calkins.

Mineral Investigations Maps:

I-212-A "Geologic Map of Southern Tuwayq Quadrangle, Kingdom of Saudi, Arabia".

I-212-B "Geographic Map of Southern Tuwayq Quadrangle, Kingdom of Saudi, Arabia".
(Both maps by Bramkamp, Gierhart, Brown and Jackson).

I-226 "Geologic Map and Structure Sections, Shaktolik River Area, Alaska" by W. W. Patton, Jr. and R. S. Bickel.

I-230 "Geologic Map, Saltchuck Area, Prince of Wales Island, Alaska" showing linear features as seen on aerial photographs.

I-231 "Geologic Map, Hollis Area, Prince of Wales Island, Alaska Showing Linear Features as Seen on Aerial Photographs - Part I."

I-232 "Geologic Map, Hollis Area, Prince of Wales Island, Alaska, Showing Linear Features as Seen on Aerial Photographs - Part II."

Three preceding maps are by C. L. Pillmore and Kathleen McQueen.

California State Division of Mines

Bulletin 173 "Minerals of California" Price $3.00

PACIFIC PETROLEUM GEOLOGIST
PACIFIC SECTION, A.A.P.G.
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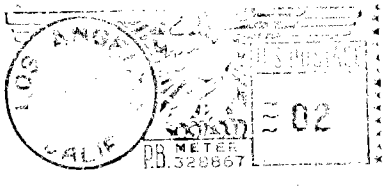


Mr. F. R. Neumann
381 E. 4th St.
Chico, Calif.

Form 3547 Requested

PACIFIC PETROLEUM GEOLOGIST

NEWS LETTER OF THE PACIFIC SECTION
AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

Vol. 11 March, 1957 No. 3

ASSOCIATION ACTIVITIES

A.A.P.G. LUNCHEON

Harold Lian, geologist for Union Oil Company, was guest speaker at the monthly luncheon meeting held at Rodger Young Auditorium on February 7, 1957. He presented a very interesting talk entitled "A Geologist in Austria" and showed many fine Kodachromes.

The principal geologic provinces of Austria are, from south to north, the Southern Alps, Central Alps, Northern Calcareous Alps, the Flysch Zone and the Molasse Zone. These units have an east-west trend, corresponding to the general Alpine strike.

The Central Alps, composed of metamorphosed Paleozoic and Mesozoic rocks, form the high backbone of the country. The Southern Alps and the Northern Calcareous Alps are disposed rather symmetrically on the south and north sides of the Central Alps. A number of ranges, composed of Mesozoic and Paleozoic sedimentary rocks, extrusives and intrusives, comprise the Southern Alps. The Northern Calcareous Alps consist of Mesozoic and Tertiary sediments. The calcareous rocks of the Southern Alps are similar to those of the Northern Calcareous Alps, leading some Alpine geologists to presume that the great thrust plates (decken) of the Northern Calcareous Alps are far-travelled remnants of overthrust masses which "rooted" in the area now occupied by the Southern Alps. The Flysch Zone consists of marine terriginous sediments of late Cretaceous and early Tertiary age and the Molasse Zone contains sediments, both marine and non-marine, of Oligeocene and Miocene age.

Each of these geologic units is bounded by great fault zones. With the exception of the Southern Alps, the thrust faults dip south.

The Alpine orogeny began in mid-Cretaceous time and lasted until the close of the Miocene. It can be divided into several phases, each of which culminates in a period of intense compression. The orogeny commenced with a mid-Cretaceous to late Eocene period of overthrusting, which produced foredeeps in front of the northern margin of the overthrust masses. Material eroded from the rising mountains and deposited in the migrating foredeeps is known as the Flysch, a name which has no formational connotation but which is an inclusive term for orogenic sedimentation. During the second phase, in early Oligocene time, the Flysch was intricately folded and over-ridden by the several thrust plates which comprise the Northern Calcareous Alps. This produced another foredeep north of the Flysch Zone and deltaic and non-marine clastics were deposited in this Molasse trough. The contents of the Molasse foredeep were folded and overridden on their southern border by the Flysch during the third and last of the great Alpine tectonic phases at the close of Miocene time. The ranges attained their present elevations as a result of Pliocene uplift.

A separate and significant event in the geologic history of Austria was the invasion from the south by a sea, which, in middle Miocene time, reached the Vienna area and which briefly connected with the Molasse sea. An episode of normal faulting produced the southwest-northeast trending Inneralpine Vienna Basin in which marine Miocene and non-marine Pliocene sediments accumulated to thicknesses ranging up to 12,000 feet. These sediments have, during the past twenty years, produced nearly all of the commercial oil and gas in Austria. The first commercial oil production outside of the Vienna Basin occurred in 1956, when a well was completed in the Molasse Zone.

A.A.P.G. DISTINGUISHED LECTURER MEETING

Tuesday evening, February 19, 1957, Mr. Robert H. Dott, Executive Director of the American Association of Petroleum Geologists, presented a paper titled "The A.A.P.G. and How it Functions" before a small group of Pacific Section members.

The American Association of Petroleum Geologists was founded forty years ago, in February, 1917.

The use of geology in the search for oil in the Southwestern United States began about 1911, resulting in several discoveries, of which the Cushing, Oklahoma field (March 1912) was most important. The great influx of geologists came in 1915-16, as a result of changes in regulations concerning lands in the Osage Indian Nation, northeastern Oklahoma, which opened for general leasing some highly desirable tracts. Some of the geologists were located in cities and towns in and bordering "the Osage", and many were scattered in camps.

These men, being isolated, and with little contact, felt the need for meetings to provide exchanges of ideas. On October 2, 1915, 27 geologists gathered for dinner in Tulsa, as guests of J. Elmer Thomas, and agreed that an association should be formed. Earlier the same year, Charles H. Taylor, head of the Department of Geology at the University of Oklahoma, and E. DeGolyer, Chief Geologist of the Mexican Eagle Oil Company, who were visiting in Norman, decided that steps should be taken to form a geological society in the Southwest. At the Tulsa dinner, Mr. Taylor proposed to issue invitations for a meeting early in 1916. About 50 geologists from Oklahoma, Kansas, and Texas convened in Norman January 7-8, 1916, and voted to meet the following year in Tulsa, and, at that time, to form an organization.

The Southwestern Association of Petroleum Geologists came into being on February 10, 1917, at Kendall College (now University of Tulsa), but a constitution was not adopted until the next meeting, in Oklahoma City, February 16, 1918, at which time the name was changed to American Association of Petroleum Geologists.

NEXT DEADLINE - March 26

Although the Constitution and By-Laws of the A.A.P.G. have been amended many times, the objectives and basic organization have changed very little. Principal objectives and functions are: (1) To publish a Bulletin and special publications containing scientific articles on geology, especially as it relates to petroleum and natural gas; (2) To hold conventions for exchange of ideas through presentation of scientific papers; and (3) To foster the spirit of scientific research throughout the membership by work of committees.

Article IV of the original Constitution provides for: President, Vice-President, Secretary-Treasurer, and Editor; these four to constitute the Executive Committee. The Retiring President was added to the Executive Committee in 1921. The Executive Committee is the manager of the Association's affairs and funds, under authority delegated by the Members through the Constitution and By-Laws. In 1926, the Executive Committee was empowered and instructed to establish business headquarters, and to employ a full-time business manager and staff to conduct the routine business of the Association.

There are three distinct, though not all-embracing, groupings of the membership:

1. Districts.-These are more or less geographic groupings of Active members, formed for the purpose of electing District Representatives.
2. Technical Division.-Society of Economic Paleontologists and Mineralogists.
3. Regional Sections.-Pacific, Eastern, and Rocky Mountain. Section membership is restricted to A.A.P.G. members and includes members of all categories residing in the respective regions. Sections function as local and regional societies.

In addition, forty-two local, independent societies are affiliated with A.A.P.G., and the Association is affiliated with, or belongs to, three national societies (A.A.A.S., N.R.C. and A.G.I.).

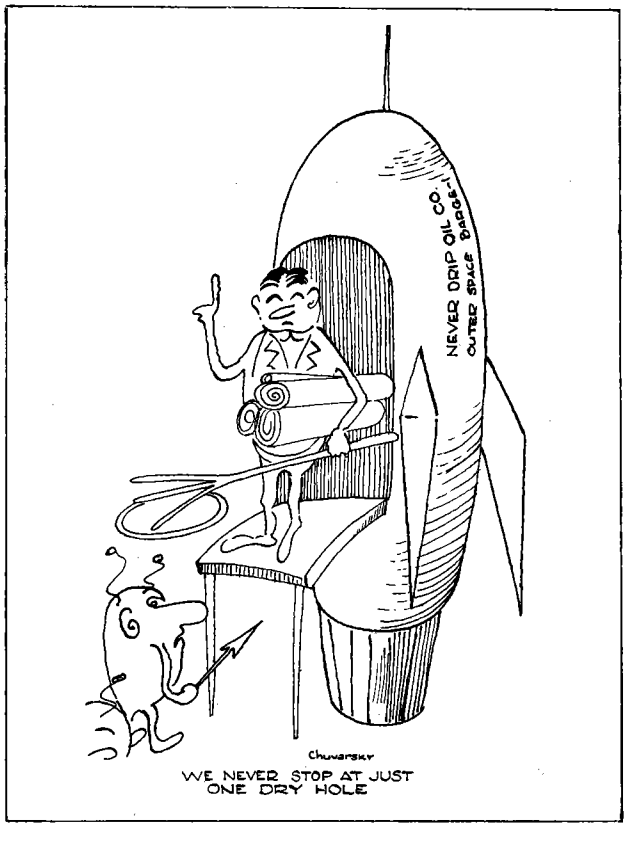
The Association's program is carried out by representatives to other societies and Commissioners on inter-society commissions, trustees, and regular and special committees. The Business Committee is the largest, and is composed of a Chairman, Vice-Chairman, District Representatives, Division Representatives, officers, officers-elect, and five members at large. This committee acts as an advisory body to the Executive Committee and the Association, and must approve all amendments to the Constitution, By-Laws and other business before they are presented to the membership.

In addition to the Business Committee, Article VI of the By-Laws lists ten Standing Committees and one Board of Trustees. Appointments to Standing Committees are for three years, one-third retiring at the end of each annual meeting. The By-Laws also provide for a nominating committee, a ballot committee, and a resolutions committee, members of which are appointed annually.

Special committees are created by the Executive Committee for special projects and are discharged when the assignments are completed, or, if a project has proved to be of continuing importance, a special committee may become standing by amendment to the By-Laws.

The Editor is assisted by a board of Associate Editors, most of whom function on a regional basis in screening papers submitted for publication in the Bulletin. The Committee for Publication is responsible for the group of papers on regional development published annually in the June and July issues of the Bulletin. Special editors handle special publications.

The present size (more than 13,000), stature, and prestige of the A.A.P.G. is due in large measure to the unselfish devotion of the members who contribute papers for our publications, who work on committees, including convention committees, and who serve as associate and special editors.



A.A.P.G. FORUM

On January 22, 1957, Dr. Cordell Durrell presented a paper on the Tertiary Stratigraphy of the Blairsden Quadrangle, Plumas Co., California.

The Stratigraphic column of the Tertiary rocks of the Blairsden Quadrangle, fifty miles northwest of Reno, Nevada, is shown below. The area includes a part of the Sierra Nevada and Grizzly mountains with an intervening lowland, the Plumas trench, part of which is the Mohawk Valley.

Pleistocene-Upper Pliocene	Mohawk Lake beds	1000 ft.+	Lacustrine sediments
	Unconformity		
Upper Pliocene	Warner Basalt	350 ft.+	Olivine basalt lava flows
	Unconformity		
Lower Pliocene(?)	Penman Formation	1350 ft.	Hornblende andesite mudflow breccia, volcanic conglomerate, etc.
	Unconformity		
Lower Pliocene or Upper Miocene	Bonta Formation	700 ft.+	Hornblende and pyroxene andesite volcanic conglomerate and mudflow breccia
	Unconformity		
Miocene	Delleker Formation	350 ft.+	Welded rhyolite tuff Gravel at base
	Unconformity		
Oligocene (?)	Clover Formation	550 ft.+	Pyroxene and hornblende andesite mudflow breccia
Eocene (?)	Lovejoy Basalt	550 ft.+	Basalt lava flows
	Unconformity		
Eocene	Auriferous gravels	500 ft.	
	Unconformity		
Pre-Tertiary	Various metamorphic and igneous rocks		

TERTIARY SECTION, BLAIRSDEN QUADRANGLE, PLUMAS COUNTY, CALIFORNIA

The auriferous gravels are composed of vein quartz, other local rocks, and, at La Porte of chert that must have come from Nevada, indicating westward transport of material in the Eocene, across the site of the present scarp of the Sierra Nevada.

The Lovejoy basalt, black, blocky flows, originated northeast of the Blairsden Quadrangle and flowed westward to the Sacramento Valley. Boulders of the basalt underlie the Oligocene leaf-bearing beds at La Porte.

The Clover formation, andesite mudflow breccia, lies on Lovejoy and other older rocks and is known only in the Grizzly Mountains and to the northeast. Its age is uncertain, but is older than lower Miocene and is probably equivalent to the Alta andesite, the Reeds Creek andesite, and the Wheatland formation.

The Delleker formation rests unconformably on Clover and all older rocks. It thickens to the east and is probably equivalent to identical tuffs of early Miocene age west of Pyramid Lake, Nevada. Boulders of quartzite and granite in associated gravel were no doubt transported westward from Nevada.

The Bonta formation rests unconformably on the Delleker and all older rocks. It is largely volcanic conglomerate and contains quartz diorite, and blocks of Lovejoy, Clover and Delleker, all of which indicate transport to the west. It contains the Mohawk flora at the base and is not older than late Miocene.

The Penman formation rests unconformably on the Bonta and all older rocks. It consists mostly of hornblende andesite mudflow breccia, but greenstone blocks at the base southwest of the quadrangle indicate westward transport.

The Penman and Bonta are of uncertain age, but either one or both are possibly equivalent to the Kate Peak and Mehrten of early Pliocene age.

The Warner basalt (earlier called Ingalls) rests unconformably on Penman and all older rocks. It extends, discontinuously, westward almost to the Sacramento Valley, and northward to Modoc County and the type locality in the Warner Range. Its age is probably late Pliocene, roughly equivalent to the Tuscan formation.

The Mohawk Lake Beds and other similar lake beds were deposited in basins formed at the time of elevation of the Sierra Nevada following the extrusion of the Warner Basalt. The Mohawk is probably Pliocene and Pleistocene.

Each unconformity mentioned above is marked by faulting. The Clover, Bonta and Warner were deposited as continuous sheets across the region, but because of unconformities, they do not have the same distribution. Clover, Delleker and perhaps Bonta are absent from the Sierra Nevada to the southwest, and they are thin to absent in the Plumas Trench. There is a general overlap northwesterly along the Grizzly Mountains. The thickest and most complete sections are in the southeast part of the Grizzly Mountains.

It is concluded that the Sierra Nevada tended to be positive during Tertiary time, that drainage westerly or southwesterly persisted from the interior across the site of the Sierra Nevada throughout the Tertiary, that the uplift of the Sierra Nevada to its present form, attended by disconnection of the drainage, did not occur until late Pliocene or Pleistocene.

DISTRICT REPRESENTATIVES

The newly elected Los Angeles District Representatives of the American Association of Petroleum Geologists are as follows:

Thomas A. Baldwin - Monterey Oil Co.
Richard B. Haines - Continental Oil Co.
Irving T. Schwade - Richfield Oil Corp.
Victor H. King - General Petroleum Corp.

Their duties are to attend the business meeting at the annual National Convention and assist the Executive Committee in determining the eligibility of candidates from this district for membership in the Association.

The retiring District Representatives, whose terms expire at the adjournment of the 1957 convention, are:

J. E. Kilkenny - Union Oil Company
G. W. Ledingham - Western Gulf Oil Company
E. W. Pease - Sunray-Mid-Continent Oil Co.

S.E.P.M. FIELD TRIP

The annual spring field trip of the Pacific Section S.E.P.M. will be held at La Jolla on May 17th and 18th. A dinner meeting on Friday evening will precede the field trip Saturday. An excursion through La Jolla area and a visit to Scripps Institute are on the agenda. Further details will be printed later.

A.I.M.E. LUNCHEON

Mr. D. S. Nutter, Area Logging Engineer, Shell Oil Co., was guest speaker at the A.I.M.E. Petroleum Forum meeting held February 25 at the Rodger Young Auditorium. Mr. Nutter presented an interesting talk on "Progress in Formation Evaluation" to members and guests of the A.I.M.E. group.

Formation evaluation has evolved from early and often unsatisfactory procedures to the present complex but much more effective art and science. As a recognized specialty, it is playing a valuable part in the exploration for and development of petroleum reservoirs. Progress in formation evaluation may be considered under three closely related subtopics: (1) Progress in understanding the reservoir; (2) Progress in developing new tools; and (3) Progress in application.

Better understanding of the properties of petroleum reservoirs has been the key to improved evaluation. It is now known that water is distributed throughout sands which produce oil, and that sands which contain oil may produce only water. Such properties as porosities, pore size distributions, permeabilities (total, effective, relative), fluid saturations, and capillary pressures have been investigated and related quantitatively. In particular, studies resulting in equations and graphs that relate electrical properties of formations to their water saturations have been invaluable in making possible the calculation of saturations from electric logs. Investigations of the effects of clays and fresh waters both on the sands themselves, logs, and natural and induced radioactivity phenomena of the formations being logged, are examples of continuing progress in understanding.

Development of new and improved tools and methods has aided in studying the reservoir and at the same time greatly improved the means of evaluating it. Present tools include mud and cuttings logging, sidewall sampling, coring (with both visual examination and laboratory analyses), S.P. log, normal and lateral resistivity logs, laterolog or guardlog, induction log, microlog or contact log, microlaterolog, displacement logs, gamma ray log, neutron logs (conventional, multispaced, spectrographic), density log, caliper log, thermal log, velocity log, formation testing (with drill stem, wire line tool, and through casing), and pressure build-up measurements. Each tool has its peculiar application and its advantages and disadvantages. Some are now widely used and some are still being developed.

Progress in the application of the knowledge and of the tools is apparent in the function of the modern formation evaluation engineer. His prime duty is to evaluate adequately and economically the exploratory well by planning carefully the evaluation program prior to drilling, by obtaining reliable and appropriate data during drilling, and by properly interpreting the data and making the most advantageous recommendations concerning the well. He also assists the geologists and reservoir engineers in assembling and interpreting petrophysical data for use in their respective activities. Finally, he keeps himself informed of and aids in the development of new tools and techniques.

This progress in formation evaluation is very valuable to the petroleum industry; first, by assuring as far as feasible that no potentially productive formation be overlooked in an exploratory well; second, by providing information needed for further geological and engineering studies; and third, by accomplishing these jobs at minimum cost.

O.I.C.

O.I.C. - What is it? Oil Information Committee, an organization formed to improve the public relations for the oil business (and we need it).

How does it operate? Its members serve in many capacities--act as speakers on various informative subjects pertaining to the oil industry, at clubs, civic groups and schools; serve as speakers and workers on worthy civic projects such as Community Chest, Red Cross, etc.; conduct tours for interested people such as teachers, students, civic officials.

Get to know the O.I.C. Its doing a fine job and should be supported by members in all phases of oil operations. The O.I.C. consists of members from Engineering, Marketing, Personnel, Geological, and other branches of the industry. Each donates time and serves in his or her best capacity. Yes, we even have lady members and they also are doing a fine job.

Inquire about the O.I.C. in your district and help promote better understanding between the public and your industry.

NORTHWEST GEOLOGICAL SOCIETY

The monthly dinner meeting of the Northwest Geological Society was held on February 13 at the Poodle Dog Cafe in Tacoma. A very interesting illustrated paper was presented by Dr. Harold J. Bissell from Brigham Young University, now visiting professor at the University of Washington. His topic was "Pennsylvanian and Permian Rocks of the Cordilleran Area".

Pennsylvanian and Permian rocks in an area of approximately 250,000 square miles in the Cordilleran area have numerous features in common which justify their consideration together. Approximately fifty formal names can be applied to units of formation rank in these systems. The sediments were deposited in well-defined basins, troughs, and upon banks adjacent to positive areas and swells within the western part or volcanic geosyncline (eugeosyncline), and the eastern part or miogeosyncline. During Permian time, at least, a volcanic archipelago probably existed west of the volcanic geosyncline. The miogeosyncline received mostly marine clastic sediments. The Manhattan Line separated the two geosynclines, at times only as an arbitrary boundary, and at other times as an epeirogenic to orogenic belt. East of the miogeosyncline was the well-defined platform or shelf which varied in time and space between the continental craton east of it and the geosyncline to the west.

Individual formations within the Cordilleran area vary in thickness from a few hundred feet to some in excess of thousands of feet (26,000 feet for the Oquirrh formation of Utah). Many of the formations straddle systemic boundaries. Sedimentation was not constant everywhere nor uninterrupted for the duration of these periods of time. In fact, epeirogeny and orogeny were characteristic, though localized at times. The Antler orogeny of late Mississippian and early Pennsylvanian time, however, affected much of western Nevada and western Idaho on a profound scale. Certain positive areas, such as one along the general region of western Utah and eastern Nevada, were tectonically active during parts of Pennsylvanian time and late in the period existed as impor-

tant land masses. Basins and troughs adjacent to this particular positive area, such as the one between it and the Manhattan Line to the west, subsided with acceleration at times. Such prominent basins and troughs as the Oquirrh basin, Wood River basin, Diamond Peak and Ely basin, Bird Spring basin and trough and others were dominantly negative parts of this area and were "basins" in the "Great Basin". Most of these along with counterparts in the volcanic geosyncline farther west, persisted as subsiding repositories throughout most of Permian time. Orogeny during approximate mid-Permian time affected much of the volcanic geosynclinal belt on a grand scale.

Reef complexes composed of bioherms, biostromes, and fossiliferous-fragmental beds are abundant and widespread in both Pennsylvanian and Permian rocks. Many of the fusulinid-rich rock have strong hydrocarbon odors (when fractured) and may, therefore, be potential sources of petroleum. Drilling for oil and gas in which these late Paleozoic rocks have been tested is still in no more than a preliminary state for most of the Cordilleran area.

During the course of his lecture, Dr. Bissell showed several charts and colored slides which were a great help to the audience.

COASTAL GEOLOGICAL SOCIETY

On February 12, 1957, Mr. J. E. Le Gros of Shell Chemical Corporation in Ventura addressed the Coastal Geological Society. His subject, The Petrochemical Industry, was most interesting and enlightening to those present.

One normally thinks of the petroleum industry as a supplier of fuels and lubricants needed to drive the machinery of the nation and to keep it running smoothly. In the past three decades, however, through the medium of chemistry, the petroleum industry has become a supplier of a vast range of materials other than fuels and lubricants to industry, agriculture, and the individual consumer.

Starting with components of crude oil and/or petroleum refinery by-products, the chemist pulls and tugs at the molecules, adding here, taking away there, joining molecules together or tearing them apart to produce a wide variety of products including solvents, resins, fertilizers, insecticides, synthetic rubber, plastics, synthetic fibers and a host of others, which may loosely be termed industrial chemicals. Thus, quite apart from considerations of fuels and lubricants, the petroleum industry, through chemistry, is directly linked to virtually every major industry in the nation as a supplier of raw materials and of intermediate or finished products.

To illustrate how a crude oil component can be altered to produce a variety of materials, let us consider the case of propane, a light hydrocarbon. By removing hydrogen from propane, propylene is produced. Adding a molecule of water to propylene produces isopropyl alcohol. Removing hydrogen from isopropyl alcohol yields acetone. Acetone can combine with itself to produce diacetone alcohol, from which is produced hexylene glycol, mesityl oxide, methyl isobutyl ketone, and methyl isobutyl carbinol. All of these materials are solvents extensively used by paint, varnish, lacquer, plastics and cosmetic industries.

Attacking another part of the propylene molecule results in the production of allyl chloride, allyl alcohol, epichlorohydrin and finally, glycerine, all of which materials find a varied and extensive use in industry.

Another example aptly illustrates how the petroleum industry is directly connected to agriculture. In Shell Chemical's Ventura Plant, natural gas from the adjacent oil field is converted to hydrogen and carbon dioxide by reaction with air and water. Carbon dioxide is removed, and hydrogen is reacted with nitrogen from the air to form ammonia. Ammonia or ammonia-derived products are used as fertilizers by the agricultural industry in quantities approaching three billion pounds annually.

Part of the by-product carbon dioxide from the ammonia process is combined with product ammonia to form urea, a solid material used as a fertilizer and as a raw material in plastic manufacture.

Thus, we have seen that the petroleum industry through the chemical industry has become a supplier to the nation of a wide variety of products besides fuels and lubricants. Thus far, only the lighter components of crude oil, methane, ethane, propane, and butane plus some of the aromatics such as benzene, tuluol, and xylene, have been used extensively as raw materials by the chemical industry. Even using only this limited range of crude oil components, the petrochemical industry has made giant strides in recent years to the point at which it now has become an important segment of the economy. What the future holds for this fast moving industry and what its effect will grow to be on its parent industry, the petroleum industry, only the future can tell. The possibilities, however, are virtually unlimited.

A.A.P.G. PICNIC

Andy Vidos, this year's picnic chairman, reports that the Pacific Section A.A.P.G. Annual Picnic has been scheduled for June 7th at Britt Park, Piru.

The golf tournament will be held on the morning of the same day at the Ojai Country Club. Bill Castle, George Roth, Barney Barnard and Tom Fitzgerald will be in charge of matchmaking and starting times.

Further information will be furnished to members by mail sometime early in May.

SACRAMENTO GEOLOGICAL SOCIETY MEETING

The Feather River Project was the title of Mr. L. B. James' address delivered before the Sacramento Geological Society on Tuesday, February 12, 1957. Mr. James is the chief geologist for the California State Division of Water Resources. The Feather River Project is a 1-1/2 billion dollar program for moving water from the northern part of the state into the thirsty southern part. The Department of Water Resources is now engaged in the problem of selecting the most advantageous routes for this undertaking. The findings will be presented to the Legislature in the form of a report in June, 1958.

Water distribution is a vital problem in which all California citizens should take an interest. Roughly, three-quarters of the water supply is in the northern part of the state, whereas three-quarters of the population is in the southern portion. This is one of five major projects which constitute the overall California Water Plan. Three major benefits will

result from this project: (1) A dependable supply of water for irrigation and other purposes will be obtained; (2) Flood control; and (3) Hydroelectric power will be generated. The plan calls for building of a dam and reservoir of 3,500,000 acre-foot storage capacity and a power plant, to be built on the Feather River above Oroville in Butte County. It also calls for building the San Joaquin-Southern California diversion from the dam down through Sacramento and San Joaquin Valleys, across the Tehachapi Mountains on into Los Angeles, San Bernardino, Riverside and San Diego Counties. The route is approximately 567 miles long and will have an initial capacity of 6000 cfs. At Castec Creek in the Tehachapi Mountains, water will cost $25/acre foot. In Riverside County the water is expected to cost $45 per acre foot.

Other diversions are planned; for example, one into Alameda and Santa Clara Counties.

Immense geological problems have arisen from this vast project. The major geological problems are those involving (1) swelling clays; (2) sulphate water, which causes trouble in setting concrete; (3) land subsidence (between 70 and 120 miles of subsiding land will be crossed in the San Joaquin Valley); (4) finding suitable dam sites with adequate foundation rocks; (5) cost estimation for tunneling and avoidance of tunneling through rocks expected to contain large hot water springs or gas pockets; (6) location of vast supplies of borrow; (7) possible movement along faults. Where important faults are crossed, pressure conduit will be used and no gravity flow will be involved. Thus, the problems caused by important vertical displacement will be minimized. Probably the most faulted area to be crossed will occur in the first twenty-eight miles of the Tehachapi Mountains where the San Andreas, Garlock and many other important faults must be crossed.

Part of the cost will be met by nonreimbursable funds expected to be provided by the Federal and State Governments, mostly in the interest of flood control. Preliminary financial analyses indicate that through the revenues obtained by the sale of water and hydroelectric power it would be feasible to finance the rest of the project. Counties and agencies which will benefit from the program may contribute to the capital costs in exchange for permanent water rights or hydroelectric power to be delivered after construction is completed. This county or agency would be free to dispose of water or power as they saw fit. Financing through the sale of revenue and general obligation bonds is being considered.

CALIFORNIA FIELD & POOL NAMES

A list of California Field & Pool Names, effective January 1, 1957, has been compiled by the Classification Committee of the Pacific Section A.A.P.G. and the Conservation Committee of California Oil & Production. Individuals desiring copies of this compilation should either write or phone M. T. Whitaker, c/o General Petroleum, P. O. Box 2122, Terminal Annex, Los Angeles 54, California. Phone - MAdison 6-5711.

NEWS RELEASE

The American Association of Petroleum Geologists has presented its Presidential Award for the most significant contribution to geological research in 1956 by a person less than thirty-five years old to a biologist.

The biologist is Robert H. Parker, of the staff of the University of California's Scripps Institution of Oceanography. Parker has studied the numbers and kinds of invertebrate animals found in Recent sediments on the sea floor off the Mississippi Delta. He has found that certain groupings of these are characteristic of specific environments. His studies thus offer clues to geologists studying sediments laid down in the past as to whether a particular stratum represents an old bay, a sandy beach, or other environment.

His findings were summarized in the paper "Macro-Invertebrate Assemblages as Indicators of Sedimentary Environments in the East Mississippi Delta Region," which appeared in the Bulletin of the Association of American Petroleum Geologists in February, 1956. For this paper he has received the Presidential Award of the association. He will accept the award, which carries a gold medal and a small cash prize, at the annual meeting of the association in St. Louis in April.

Parker's work has been carried out as part of a research project sponsored by the American Petroleum Institute.

PERSONAL ITEMS

Barney Yancy - Shell scout at Ely, Nevada - has been transferred to Ventura and will be replaced by Jack Lane, formerly of the Los Angeles office.

Lyle W. Smith has been transferred from Los Angeles to the Shell, Bakersfield Office as Division Exploration Manager.

"Baron" Tom Isle of Porsche fame is now taking up sports car racing. In his first race, the Grand Prix of Sacramento held in the parking lot behind a local shopping center, Tom placed a commendable 17th out of 34. Tom, not being discouraged, is now looking forward to the Grand Prix of Stockton.

Hans Vandenberge, Scout for Standard in Sacramento, is now a proud new citizen of the United States. He took his oath of citizenship on Wednesday, February 20th. Congratulations, Hans!

Fred Wurden, geologist, Sunshine Mining Company Denver, has been transferred to Olympia to handle their oil exploration activities in the Northwest.

Jim (Eat-off-the-mantle) Moore, paleontologist, Shell, Olympia, is recovering from a recent operation.

Bob Johnston, Division Geologist, Western Gulf, Los Angeles, visited Olympia office during a real cold snap the latter part of January.

Ivor (Still-available) McCray, Scout, Shell, Olympia, is relaxing in his new home recovering from a recent operation.

Budd Sage, Landman, Standard, Seattle, is spending a few weeks in San Francisco attending a training program.

Spence Fine, Division Geologist for Richfield in Ojai, is also an accomplished electrician. He is building a new home in which he personally is doing all the wiring.

Bill Gealey, formerly with Standard in Bakersfield, finally got around to moving his family to Marin County. Bill has been in San Francisco since last November.

B. Dale "Clutch" Kline, stalwart of the Standard bowling team in Bakersfield, recently had a bad night. The team is now in 12th position in the city league. The fact that his family is fighting the mumps and chicken-pox may have been responsible.

Rufus Cook, Standard in Bakersfield, now enroute to Iran, was given a royal send-off by numerous parties prior to his departure February 16th on S.A.S. Airlines via the North Pole and Copenhagen to Abadan, Iran. Howard T. Anderson, Standard in Los Angeles will join Rufus in Iran.

Robert L. Manly, Geophysical Supervisor with Standard in Bakersfield, is being transferred to Los Angeles as Senior Geologist, Special Projects, Southern California Division. Bob is being replaced by M. C. "Pete" MacMurrough.

W. C. "Bill" Mosier, Standard in Bakersfield, was transferred to Salt Lake City as Division Geophysicist, Great Basin Division.

Bill Bashim, Standard in Bakersfield, has been transferred to Seattle as Division Geophysicist, Pacific Northwest Division.

Bob Shaeffer, Ohio in Bakersfield, has decided to leave the beautiful climate of sunny California for that of South America. Bob is going south with the Mene Grande Oil Co.

Dick Hester, Signal in Bakersfield, recently celebrated his birthday in Guatamala with cake and a marimba band! The jungle grapevine brings word that Dick may be allowed to come home for a few days in March.

Thanks to a "one-armed bandit" in Las Vegas, Bob Maynard, Sunray in Bakersfield, is now sporting a new sport coat. What's your system, Bob?

Walt A. Stokesberry, Shell in Bakersfield, formerly Division Exploration Manager, has been transferred to the Area Office in Los Angeles as Senior Geologist.

John Curran, Honolulu in Santa Barbara, is the new chairman of the Santa Barbara Chapter of the Oil Information Committee. At a dinner held February 19th, a discussion was held on the ways and means of promoting better public relations for the oil industry in the community.

Lee R. Choate, Baroid Well Logging Service, has been named A.A.P.G. Pacific Section Directory Chairman, replacing Irv Frazier who recently resigned. Lee has had previous directory experience in the West Texas Geological Society.

Tildon Fryer is still confined in St. John's Hospital in Santa Monica.

Richard Ohrbom, a recent grad of Occidental College, has joined the Ventura staff of Western Gulf.

Don Hulse, offshore scout for Union, is recovering from a recent operation. Our best wishes for your recovery, Don, and we hope to see you again soon.

Tom Baldwin and Frank Parker are vacationing in Salt Lake City at the A.A.P.G. Rocky Mountain Section annual convention.

The white sea bass got real chummy with those aboard the San Dab V several weeks ago. Chummy with everyone, that is, except Murphy, the sea-going Schlumbergerite, the only man aboard who didn't catch a fish.

Chuck Ross, formerly with Union in Santa Paula, has joined forces with Lloyd Corp. (Printed by special request!)

Joe Hatheway, formerly with E. W. Pauley, has entered the consulting business. His address is: 8230 Beverly Blvd., Los Angeles, 38, Phone WEbster-8-3655. Joe recently returned from a four week business trip in Canada.

Ed Gribi, formerly a consulting geologist in Great Falls, Montana, has recently joined Bandini Petroleum in Los Angeles.

NURSERY NEWS

Pat and Leo Wanek (General Petroleum) have a new baby. Michael Paul weighs 8 lbs., born February 16, 1957. This is the third child for the Waneks. Pat and Mike are doing fine.

Laura Riddle was born to Helen and Bob Riddle (Humble Oil in Chico) on February 18, 1957. Laura weighed 7 lbs.

Mr. & Mrs. Lou Villanueva, Tidewater in Ventura were blessed by the arrival of Joan Ellen, their third child on February 7, 1957. She weighed 6 lbs. 13-1/2 oz.

Jack and Toni Hugus of Western Gulf in Los Angeles announced the birth of their first child, born February 25, 1957. This little fellow, John Carey, weighed 7 lbs. 2 oz. and was 21 inches long.

Bob and Julie Hacker, Lloyd Corp., Ltd., are the proud parents of Adrienne Leigh, born February 7, 1957. At weigh-in time the scales registered 11 lbs. 15 oz.!

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"Variations in Plutons of Granitic Rocks of the Huntington Lake Area of the Sierra Nevada, California" by W. B. Hamilton, pp. 1585-1598.

"Crustal Structure in Northern and Middle California From Gravity-Pendulum Data" by C. Tsuboi, pp. 1641-1646.

United States Geological Survey

Bulletin 1019-D "Bibliography of Iron Ore Resources of the World (To January 1955)" by G. W. Luttrell.

Bulletin 1021-k "Geology of the Atomic Energy Commission, Nevada Proving Grounds Area, Nevada" by M. S. Johnson and D. E. Hibert.

Bulletin 1024-F "Tungsten Deposits of the Hyder District, Alaska" by S. M. Byers, Jr. and C. L. Sainsbury.

Bulletin 1035 "Bibliography of North American Geology, 1952-1953" by R. R. King, V. M. Jussem, J. S. Pomeroy and V. L. Skitsky.

Bulletin 1036-J "Field Determination of Uranium in Natural Waters" by S. N. Ward and A. P. Marranzino.

M. S. 93 "Preliminary Geologic Map of the Dinnehotso N. E. Quadrangle, Arizona-Utah" by I. J. Witkind.

M. S. 94 "Preliminary Geologic Map of the Dinnehotso S. E. Quadrangle, Arizona-Utah" by I. J. Witkind.

G. Q. 95 "Geology of the Ubehebe Peak Quadrangle, California" by J. S. McAllister.

Geologic Map Index of Arizona by Leona Boardman, 1950, reprint, 1956.

Open File Report "Reconnaissance Study of Marsh Creek Anticline, Northern Alaska" by R. H. Morris (for inspection only).

CALENDAR

March 21, 1957: Thurs., 6:00 P.M., dinner and meeting. A.I.M.E. Junior Petroleum Group, Turf Club, Anaheim-Telegraph and Lakewood Boulevards. "Cathodic Protection" by Dr. Gil Rhorbach, of Crest Research; Ernie Kartinen, Signal Oil and Gas; and Fred Schrimp, Cal Research Corp. Members - $3.50 - Nonmembers $3.75 (Includes tax, tip and parking.)

March 25, 1957: Mon., 12:00 Noon A.I.M.E. Petroleum Forum, Rodger Young Auditorium, 936 West Washington Boulevard, Los Angeles. "How to Use Computers for Petroleum Engineering Problems" by William Pickerel, International Business Machines Corp. $2.25 (Includes tax, tip and parking.) For reservations contact I. Fatt, Owens 7-1746, Ext. 101.

April 1, 1957: Mon., 7:30 P.M. Biostratigraphy Seminar, Bakersfield College, Room 56, Science and Engineering Building. "Paleofloras of the Pacific Coast Area" by Dr. R. W. Chaney, University of California, Berkeley.

April 2, 1957: Tues., 6:30 P.M., San Joaquin Chapter A.I.M.E. will hold a meeting at Stockdale Country Club. Program to be announced.

March 5, 1957: Tues., 12 Noon, A.A.P.G. Distinguished Lecturer Luncheon Meeting, Rodger Young Auditorium, 936 West Washington Blvd., Los Angeles. "Louisiana Offshore Province" by Dr. Gordon I. Atwater, Consulting Geologist. $2.00, including tax, tip and parking. This meeting replaces the regular Thursday meeting.

March 12, 1957: Tues., 6:15 P.M., Branner Club Dinner, Athenaeum, Cal. Tech. Max Birkhauser, Shell Oil Co., will deliver a talk titled "Looking for Oil in Alaska". Please make reservations in advance with Harold Sullwold, Jr., Geology Dept., U.C.L.A., BR-2-6161, Ext. 881.

March 12, 1957: Tues., 7:30 P.M., Sacramento Geological Society, Board Room of Public Works Bldg., 1120 N. Street, Sacramento. "Formation Logging" by Vern Jones, Exploration Logging Co., and "Acoustic Logging" by Robert Plum, General Petroleum District Geophysicist.

March 12, 1957: Tues., 7:30 P.M., A.A.P.G. Coast Geological Society Dinner Meeting. Montecito Country Club Santa Barbara. "Highlights of the Philippines", by Paul H. Dudley, Consultant. This is ladies' night so be sure to bring wives and friends.

March 14, 1957: Thurs., 12:00 Noon, S.E.G. Luncheon Meeting. Rodger Young Auditorium, 936 West Washington Blvd., Los Angeles. "Exploration in Mozambique, Africa" by John C. Hugus. $2.50, including tax, tip and parking.

March 18, 1957: Mon. 7:00 P.M., A.A.P.G. Forum, General Petroleum Auditorium. "Use of Micro-organisms in Petroleum Exploration" by Dr. Giorgio Soli, Micro-biological Exploration Service Corp.

March 19, 1957: Tues. 8:00 P.M., A.P.I. Los Angeles Basin Chapter, Shell Hall-Signal Hill, "Secondary Recovery in California" by Harry D. Aggers, Manager, Secondary Recovery Operations, Union Oil Co., also the film "Crash Safety" will be shown by Peter Nye, Shell Oil Co. Safety Engineer.

PACIFIC PETROLEUM GEOLOGIST
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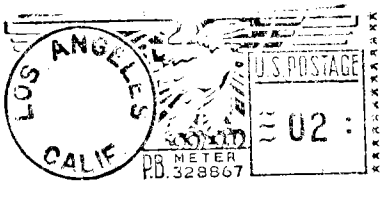

Mr. F. R. Neumann
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Chico, Calif.

Form 3547 Requested

PACIFIC PETROLEUM GEOLOGIST

NEWS LETTER OF THE PACIFIC SECTION
AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

Vol. 11 April, 1957 No. 4

ASSOCIATION ACTIVITIES

A.A.P.G. DISTINGUISHED LECTURER

Dr. Gordon I. Atwater of the firm of Atwater, Cowan and Associates, consulting geologists of New Orleans, Louisiana, was guest speaker at the luncheon meeting held at Rodger Young Auditorium, March 5, 1957. Dr. Atwater, on tour for the A.A.P.G. Distinguished Lecturer Program, presented an interesting and informative talk on "Future of Louisiana Offshore Oil Province" to a large audience.

Dr. Atwater has made a detailed study of all of the major structural features in the prolific Miocene producing trend of southern Louisiana in order to predict the future of its offshore counterpart. These features have been classified as piercement-type salt domes and deep-seated structures, and the oil and gas reserves and drilling success ratios for each type have been established. The study has been restricted to the major structural features, commonly referred to as grade "A" prospects, as the initial offshore exploration program will be restricted to these types of structures.

As a background of the study, slides were presented showing a regional dip section, which depicted the Miocene and Pliocene wedge of sediments that contains the oil and gas reserves of offshore Louisiana. Structure maps and cross sections of typical onshore fields, illustrating the three basic types of major features - shallow-piercement, intermediate-depth piercement, and deep-seated salt dome structures, were also presented. In addition, structure maps and cross sections demonstrating the complexities attendant with the exploration for deep oil and gas reserves, were shown.

It is predicted that one out of four of ninety-five major offshore structures will prove commercially submarginal. However, one out of five of the major offshore structures should contain a giant field with reserves in excess of 100 million barrels of oil and/or its equivalent. These giant fields will account for more than 50 per cent of the total reserve of the above-marginal fields.

Based on the reserves of the onshore counterpart fields, the minimum reserves for the predicted seventy-one major commercial structures in the Louisiana offshore province is estimated to be 3 billion barrels of oil, 500 million barrels of condensate and 21.5 trillion cubic feet of gas. The total reserves, expressed in terms of barrels of oil, are estimated to be 4.6 billion barrels, of which 2.6 billion will be associated with the deep-seated features. These figures do not include the additional large reserves that will certainly be found during a later generation of exploration of lower relief and inter-domal structures.

The preliminary results of a study of the comparative size of the offshore and onshore structures, together with implications that may be drawn from the results on the study, were reviewed.

BRANNER CLUB DINNER

The dinner meeting of the Branner Club was held March 12, at the Athenaeum Cal. Tech. campus, Pasadena. A richly illustrated talk was given by Max Birkhauser. His subject "Looking for Oil in Alaska", attracted a capacity crowd.

Exploratory drilling in Alaska started in 1898 when three shallow wells were drilled on the Iniskin Peninsula on the west side of Cook Inlet. These wells, one of which produced a small amount of oil for a short time, were located near seepages. In 1901, drilling along Controller Bay led to the discovery of the Katalla oilfield. Twenty-two wells were drilled in this field, but production was small, and when, in 1933, the refinery burned, the field was abandoned. Major oil companies started work in Alaska in 1923 with two test wells on the Pearl Creek Dome. In 1938 the combined Standard Oil-T.W.A.-Union Oil Companies drilled to a depth of 7596 feet in Salmon Creek on the Cold Bay structure.

In 1944 the Navy started extensive exploratory drilling in Naval Reserve IV north of the Brooks Range. The Navy drilled 36 wells and 45 core holes, and discovered the Umiat oilfield. Data regarding production are not published as yet and it is questionable whether commercial production was obtained.

In 1954 Phillips Petroleum Company started testing the complicated Yakataga structure and drilling is still in progress. Only a few days ago a new wildcat was spudded near Yakutat, and perhaps within a month's time Richfield Oil Company will start exploring on the Kenai Peninsula.

Beginning at Icy Bay on the Gulf of Alaska, the lecturer guided the listeners along the coastal area over Yakataga to Katalla, bypassed Prince Williams Sound area, where possibilities for finding oil appear to be rather remote, and started again at Homer, a small community at the south end of Kenai Peninsula. Crossing Cook Inlet the Iniskin Peninsula was visited, and then, following Shelikof Strait, colored slides of several structures in the Aleutian Range were shown. The excursion ended in the Chignik Bay area where last summer a considerable section of oil sands were discovered.

NORTHWEST GEOLOGICAL SOCIETY

The monthly dinner meeting of the Northwest Geological Society was held on March 22 at the Poodle Dog Cafe in Tacoma, Washington. The speaker for the evening was Mr. Hollis M. Dole, Director, Department of Geology and Mineral Industries for the State of Oregon. The subject of his talk was "Structural Significance of the Serpentine of Southwestern Oregon". It was a very interesting paper and was supplemented with several illustrations and color slides.

NEXT DEADLINE - April 24

SACRAMENTO GEOLOGICAL SOCIETY MEETING

Mr. Vern C. Jones with Exploration Logging Co. in Sacramento, and Robert E. Plumb with General Petroleum Co. in Bakersfield were guest speakers at the Sacramento Geological Society meeting Tuesday, March 12, 1957.

The title of Mr. Jones' talk was "Mud Logging in the Sacramento Valley". The Exploration Logging Co. has worked on about sixty holes in the valley of which about twenty have become producing gas wells. Mud logging employs devices for logging the gas and oil present in the rotary mud of drilling wells and also logs the lithology of the drill cuttings and rate of bit penetration. Its primary function is to identify reservoirs of gas and oil. The ideal indication of a gas sand is a sudden pronounced increase of gas in the mud, corresponding to a similar increase in the drilling rate and recovery of considerable sand cuttings. The increased gas showing should cease quickly after the gas zone has been entirely penetrated.

Three curves are used to keep track of the gas: (1) The continuous ditch gas analyzer, which keeps a continual record of the gas in the mud as it comes out of the hole; (2) The microditch gas. On this curve a record is kept of gas found in mud samples taken at frequent intervals. In this case the gas is whipped out of the mud with an electric beater, minimizing the effect of mud viscosity and absorption; and (3) The third curve is similar to the second, except cutting samples are used instead of a mud sample. This curve is more adapted to oil country.

Mr. Jones pointed out that many factors influence the results: (1) mud weight - The general assumption is that the muds' hydrostatic head is greater than the formation pressure. If this situation is reversed, gas shows are much more prominent and harder to get out of the mud, hence, shows drilled later on will be masked. The mud logger recognizes the situation by the increased salinity brought on because of entry of connate water into the mud system. He remedies it by recommending the mud weight be increased; (2) viscosity and shear - about forty-five seconds is the ideal viscosity from the logger's standpoint. If it becomes too high, difficulty is experienced in getting gas out of the mud before it is recirculated into the hole; (3) dynamic filtration - (forcing mud filtrate ahead of the bit). This phenomenon flushes the hydrocarbons out of the sands. Mr. Jones stated that this is a small factor in clay, lime and oil base muds, but seems to be more important in all oil bearing muds; and (4) drilling rate - A faster drilling rate will indicate a greater show than a slower drilling rate through the same sand. Rapid circulation tends to offset this.

Mr. Jones made the following observations on interpretation of mud logs pertaining to specific horizons in the Sacramento Valley. In the Pliocene Tehama formation special problems of interpretation arise because the mud is usually in poor shape and the drilling rate is very fast. Also, the cuttings are sometimes very large. These conditions tend to make the lag-time erratic and sand samples are apt not to correspond to drilling breaks or gas shows. In the Kione and/or the upper Eocene, productive zones are usually indicated by a rather low gas kick accompanied by a good drilling break and only a fair correspondence of sand sample with the drilling break. Upper Cretaceous "F" zone reservoirs usually show a high to fairly high gas kick which correlates fairly well with a drilling break and a fair sand sample. Upper Cretaceous "G" zone sands require a comparatively high gas kick before they are commercial. Usually a good drilling break and a good sand sample accompany the gas show. Most of the oil shows in wells and seeps fluoresce very light blue. The oil is clear to light brown.

For his portion of the program, Mr. Plumb spoke on "Continuous Velocity Logging". This system was developed by the Magnolia Oil Company laboratories to log uncased holes. The average rate of logging is 6,000 feet per hour. It is useful for correlation purposes and for identifying gas sands. Oil sands are somewhat more difficult to recognize than gas sands, but it does have some use in locating them.

The instruments used record the velocity of sound waves through sand, shale, chert, basalt, etc. The velocity depends not only upon rock type, but upon the quality of fluid contained in the pore space as well. As an example, for a given lithology the velocity is greatest in the water-saturated sand, intermediate in the oil-saturated sand and least in a gas-saturated sand. Generally speaking, the velocity is greater in sand than in shale.

It is a single detector logging system, which records directly from a pulsed crystal sound source to a detector located at a distance of 5.92 feet away. Like all logging tools there are sources of error. Some of the recognized sources include: (1) mud filter cake; (2) instrumental delay; (3) dispersion; and (4) washouts in the walls of the hole. Magnolia is working to minimize these errors. In this connection they have developed a two-detector system. This employs two detectors at different distances from the source crystal and records the difference in time required for sound to travel to the detectors.

Continuous Velocity Logging has proved very effective and future developments are expected to make it even more useful.

NOTE: The S.E.G. luncheon meeting was incorrectly dated in last month's P.P.G. News Letter. Turn to the Calendar section for the corrected date.

S.E.P.M. DINNER MEETING AND FIELD TRIP

The Annual Spring Field Trip sponsored by the S.E.P.M. will be held at La Jolla on Friday evening and Saturday, May 17 and 18, with Francis P. Shepard as Chairman and R. R. Lankford and E. D. Milow assisting. The Friday evening dinner meeting will be at 7:00 p.m. at the La Jolla Beach and Tennis Club. Mrs. E. Dean Milow will speak on the subject "Stratigraphy and Paleoecology--La Jolla Area". The field trip will begin Saturday morning, 7:30 at the parking area, Scripps Institute. Cliff exposures in the vicinity of Scripps and Torrey Pines will be visited in the morning. Following a box lunch and refreshments, the afternoon will be devoted to an informal inspection of the aquarium and exhibits at Scripps Institute.

S.E.G. LUNCHEON

The S.E.G. luncheon meeting was held March 14, 1957, in the Rodger Young Auditorium. Mr. K. van der Weg, Chief Geophysicist, General Petroleum, presented a talk entitled, "Marine Sonoprobe Surveys off the Pacific Coast".

Mr. van der Weg compared the Marine Sonoprobe with a rapidly recording single trace seismic unit to be used in water covered areas. It was developed by the Field Research Laboratory of Magnolia Petroleum, a Socony Mobil affiliate, for the purpose of studying the lithology of sediments below the ocean floor in the Gulf of Mexico.

Its component parts are: a magnetostrictive transducer, receiver, a precision 60-cycle power unit, a pulser unit, a cathode ray scope, and a recording unit.

The important feature of the Marine Sonoprobe is that the pulser and transducer units are designed to generate acoustic pulses whose frequency spectrum ranges around 4000 cps. This frequency was chosen to accomplish maximum penetration into the sediments and provide high resolution in thinly bedded formations.

The General Petroleum Corporation carried out surveys with the Marine Sonoprobe for over a year with the objective to:

1. Add a near equivalent of surface structure geology to the knowledge obtained from previous geophysical and geological investigations.

2. Study the attitude of bedding and thickness of recent sediments.

3. Direct, minimize and localize expensive coring operations.

The equipment was installed in a 110-foot vessel owned by Pacific Towboat and Salvage of Long Beach, California. In addition, a drop-coring device, "Cookie Puncher", was installed on deck for the purpose of taking punch-cores at localities to be selected with the Marine Sonoprobe.

Personnel: 2 geophysicists, 1 geologist and 2 surveyor-draftsmen. Surveying was done visually; at least three known points on the coast were used to determine the boat positions by means of a telescopic alidade mounted on a gyroscope repeater. Fog and haze imposed some limitations.

Results: Results along the lines of traverse were recorded on electro sensitive strip-charts. These charts are in essence variable intensity time-depth sections with approximately a five times vertical scale exaggeration. Ocean bottom could clearly be recorded in water depths up to 1200 feet. Penetration into the ocean bottom varied considerably depending upon lithology and water depth. Maximum penetration observed was 200 feet at 200 ft. water depth. Kelp hindered the operations. Thicknesses of overburden and erosional topography beneath it were recorded; also the attitude of near surface beds could be mapped in many areas.

The second half of the paper consisted of a film presentation of the operation aboard the vessel followed by an exhibit of approximately seventy-five miles of Marine Sonoprobe depth profiles.

The Marine Sonoprobe is licensed to Fairchild Aerial Surveys, Inc., Los Angeles, California.

ANNOUNCEMENT

Mr. John E. Kilkenny, Union Oil Co., has been appointed Chairman for the B.S.A. Geology Month in October, 1957. Correspondence from the A.A.P.G. office in Tulsa indicates that this is "the biggest public relations project ever undertaken in the name of our science".

SAN JOAQUIN VALLEY GEOLOGICAL SOCIETY

On March 13, 1957, E. D. (Bud) Sherman (Geologist, R. S. Rheem, Operator), and Frank Rieber (Consulting Engineer, Bakersfield), presented an illustrated talk on their November, 1956, trip for the Thailand Government. They gave an informative picture of their reconnaissance and oil evaluation of the Maefang Valley region, Thailand, by utilizing some excellent Kodachrome slides.

PROPOSED CONSTITUTION AMENDMENTS

Tom Baldwin, previous secretary of the Pacific Section of the A.A.P.G. directed to the attention of the former Executive Committee an ambiguity in the Constitution of the Pacific Section of the American Association of Petroleum Geologists regarding definition of membership and voting privileges.

This situation can be clarified by the following Amendments to the Constitution endorsed by the present Executive Committee.

In the near future you will be requested to vote on these Amendments. Pursuant to Article VII, Section 3 of the Constitution, they will be voted on by mail ballot. The result is determined by a two-thirds count of the ballots returned within ten days following the mailing to the membership.

The proposed Amendments are as follows and the new wording is CAPITALIZED and underlined:

Article III. MEMBERSHIP

Sec. 2. Payment of annual dues of this Section by any person qualified as in Section 1 above, shall be deemed to be a declaration of membership in this Section AND SHALL BE KNOWN AS AN ACTIVE MEMBER OF THIS SECTION.

Sec. 3. (New - to be added)

OTHER PERSONS NOT MEMBERS OF THE AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS WHO ARE INTERESTED IN THE ACTIVITIES OF THIS SECTION MAY BECOME SUBSCRIBERS UPON THE PAYMENT OF ANNUAL DUES OF THIS SECTION. THESE SUBSCRIBERS SHALL NOT HAVE THE RIGHT TO VOTE.

Article VII. ELECTIONS

Sec. 2. In matters pertaining solely to the business of this Section, all ACTIVE members of the Section may vote. In matters pertaining to the official business and the selection of business representatives or other officers of the American Association of Petroleum Geologists only active members of the Association shall be qualified to vote.

A.A.P.G. FORUM

Dr. Giorgio Soli of Soli Microbiological Laboratories presented a paper entitled "Use of Microorganisms in Petroleum Exploration" to the A.A.P.G. Forum on March 18, 1957, in the General Petroleum Auditorium.

The microbiological methods of oil and gas prospecting were briefly reviewed. The various types of bacteria which oxidize gaseous hydrocarbons were decribed, and their value in petroleum exploration was discussed.

While methane-oxidizing bacteria are quite widespread in nature, ethane and propane-oxidizing bacteria are not. Presumably this is because considerable amounts of methane are formed in the surface soil as a result of fermentation of organic matter. In this regard, the bacteriological and ecological investigations carried out by the Russians were reviewed. On the basis of their work, it is apparent that these microorganisms are almost exclusively present in the soil when a subsurface oil or gas accumulation is present.

The pattern of distribution of hydrocarbon-oxidizing bacteria in the soil over a subterranean hydrocarbon deposit was discussed. The bacteria seem to occur directly above the deposit. Their presence might be responsible for some of the results obtained from soil analysis, namely the so-called halo effect, since they would consume the hydrocarbons adsorbed on the soil particles in the central part of the field.

A method of sampling was illustrated, and the fact that soil samples have to be taken at a minimum depth of six feet in order to obtain reliable results was emphasized.

A map constructed over a northern California gas field was shown to illustrate the possible use of microbiological investigations in petroleum exploration. The microbiological results agreed very closely with the known field conditions. It is of interest to note that a fault known to exist in the field showed the greatest concentration of bacteria on the surface.

It was pointed out that the microbiological method of prospecting can be of particular advantage to the geologist as an additional tool for supplementing existing oil prospecting methods. A microbiological survey could be used, for instance, in conjunction with a seismic picture. The author further stated this might help in pinpointing the location of an exploratory well, thus increasing the probability of striking oil.

NORTHERN SACRAMENTO VALLEY FIELD TRIP

Dr. Michael Murphy (University of California at Riverside) and Dr. W. P. Popenoe (U.C.L.A.) will lead a field trip in the Redding area of Shasta County on May 25 and 26, 1957. The details regarding overnight reservations etc. will appear in next months' Calendar. One day will be spent on the west-side upper and lower Cretaceous outcrops which are in contact with the Klammath metamorphics. The other day will be devoted to the east-side outcrops of upper Cretaceous. The field trip is being sponsored by the Sacramento Geological Society. A folio will be available for those attending. This should be a very interesting and instructive field trip. All those interested in the Cretaceous and the regional aspect of West Coast geology are welcome and should plan to attend.

PERSONAL ITEMS

Jim Brown, Geologist for General Petroleum, was transferred from Santa Maria to Grand Junction, Colorado.

Dr. Edwin L. Hamilton of the Navy Electronics Laboratory has recently returned from Washington where he presented a paper at the O.N.R. Symposium on Basic and Applied Science in the Navy. Dr. Hamilton discussed the development of marine geology at N.E.L. over the last ten years.

O. W. Noland has been named Area Chief Geologist for Humble Oil & Refining Co. in the Los Angeles office. He is being transferred from Corpus Christi, Texas, to replace Dick Faggioli, who has been temporarily assigned to the Houston office.

Ted L. Bear and P. S. Kistler have opened offices as consulting geologists at 816 W. 5th Street, Los Angeles. Phone: MI 6964.

Anatole Safonov's wife, Madeleine, wrote a book sometime ago entitled, "The Duchess of Washoe." Madeleine has also written short stories. The book has been adapted to the stage and was recently presented in Sacramento and a large congregation of oil men and their wives attended. After a very enjoyable performance, the whole gang went down to one of the local college beer parlors and got stoned. That is to say, the college kids threw rocks at them.

Bob Lindblom, Standard Oil geologist, has had his wings temporarily clipped. He is recovering from an operation which was brought on by flying too low in his Thunderbird.

Leo Wanek has recently come home from the Mercy Hospital in Sacramento following a serious operation on Monday, March 18. He is reportedly doing well.

Richard (Rich) Roland has been transferred from Ohio's Bakersfield and Coalinga offices. Rich has been on the move a lot lately.

Ivor McCray, Scout, Shell, Olympia, now has Alaska included in his territory. This boy gets around in more ways than one!

Congratulations are in order for Marshall T. Huntting. He has just been promoted to Supervisor of the Department of Mines and Geology for the State of Washington. Marsh is replacing S. L. Glover, who recently retired.

Harold J. Buddenhagen, recently retired from Shell and now residing in Grants Pass, Oregon, was present at the last meeting of the Northwest Geological Society in Tacoma. He is presently working for the Oregon State Department of Geology and Mineral Industries.

Ken Jensen, Scout, Tidewater Oil Company, Bakersfield, was a recent visitor to the Northwest.

Jack Mulholland, Office Supervisor, Shell, Seattle, has been transferred to Farmington, New Mexico. His replacement is yet to be announced.

Bob Maynard, Regional Geologist, Sunray Mid-Continent Oil Company, Bakersfield, attended the last meeting of the Northwest Geological Society in Tacoma.

Leonard Lupher, Senior Geologist, Shell, Los Angeles, visited the Northwest offices in March.

Dan Sullivan, Division Geologist at Bakersfield for Continental, is making a two-week tour of company operations in the Gulf Coast area.

Tildon Friar, Sunray, is still on the critical list in St. John's Hospital in Santa Monica.

Ev Pease and Frank Reynolds will attend the national convention in St. Louis.

Eugene C. Tripp has recently been hired by Texas as a Junior Geologist in Bakersfield. Gene holds a masters from U.S.C.

George Yeckl, Standard Oil Company, Ojai, was promoted to District Geologist and will work in the Bakersfield Area.

The Coastal Scouts have received some nice publicity for their current efforts at all night vigilance on a certain well. The local papers have taken a few pictures of them on the job. At least these shots have been made "OF THEM" and not "AT THEM".

Mr. Paul H. Dudley, Consultant, spoke before the Coastal Geological Society at Santa Barbara on March 12, 1957. His talk, which has been reviewed in a previous issue, was illustrated with some of his very colorful slides. The ladies were invited to this meeting and demonstrated their appreciation of Paul's anticipated talk by their fine attendance.

Wayne Ross and Ernie Rennie of Tidewater's Ventura Office, are leaving this division to work in Calgary, Canada.

Dick Gayle of Tidewater at Ventura is leaving shortly to become a member of the Geological staff at Ankara, Turkey.

Charlie Sturz of Tidewater at Ventura and John Truex of Western Gulf are scheduled to go to St. Louis to attend the A.A.P.G. meetings. Charlie's attendance hinges on whether or not he falls victim to the Chicken Pox which is running wild in his household.

Jack Morrison of the Ventura General Petroleum Office has been transferred to Durango, Colorado.

Jim Brown of the General Petroleum Office at Santa Maria has been transferred to Grand Junction, Colorado.

Bill Fritz, General Petroleum engineer and Coastal Society member, has been transferred from San Ardo to Santa Fe Springs.

John Griffith, a landmark of Shell's Ventura office, has at last been touched by the hand of fate! He got a transfer to Olympia, Washington.

John Beal of Shell Oil Company has joined the Ventura staff after working in Seattle, Washington.

Ivan Colburn of Shell Oil Company resigned from his job to attend Stanford University to earn a PhD.

Cutler Webster and family were recently seen dashing about Ventura in their red Dodge convertible.

The Standard Oil Company, Geological Office in Ojai, is building a new office in Ventura.

Intex Oil Company will move their Ventura Office to 1237 East Main St., with the same post office box and phone numbers.

John C. Whitaker, Hycon Aerial Surveys, Inc. has been transferred from Pasadena to the New York office. He may be reached at 250 Park Avenue, Suite 1100, New York 17, N. Y.

NURSERY NEWS

Bruce and Leila Hill (Amerada, Rio Vista) have a new baby boy, born February 23, 1957. The Hills have named their newest offspring Jon Joel. The future geologist weighed 9 lbs. 1 oz. This is number three for the Hills.

After eleven years of wildcatting, the Maurice Prices, Shell, Olympia, have brought one in - a boy, Peter Carlton, weighing 7 pounds, 12 ounces, on February 28th.

Earl and Janet Madsen, Humble, Los Angeles, had their seventh child. Born March 12, 1957, Carrol weighed 9 lbs. 12 oz.

Dick Walters and his wife Shirley, Humble, Los Angeles, had their second child. David Todd weighed 7 lbs. 12 oz.

BIBLIOGRAPHY OF RECENT PUBLICATIONS

United States Geological Survey

Bulletin 1024-G "Geology of the Two Areas of Pegmatite Deposits in Southeastern Alaska" by C. L. Sainsbury.

Bulletin 1021-K "Geology of the Atomic Energy Commission, Nevada Proving Grounds, Nevada" by M. S. Johnson and D. E. Hibbard.

Bulletin 1045-A "Core Logs From Owens, China, Searles, and Panamint Basins, California" by G. I. Smith and W. P. Pratt.

Bulletin 1036-J "Field Determination of Uranium in Natural Waters" by S. N. Ward and A. P. Marranzino.

Bulletin 1042-G "Gemstones of the United States" by D. M. Schlegel.

Water Supply Paper 1253 "Quality of Surface Waters of the United States, 1952, Parts 9-14, Colorado River Basin to Pacific Slope Basins in Oregon and Lower Columbia River Basins".

Water Supply Paper 1374 "Preliminary Survey of Saline Water Resources of United States" by R. A. Krieger, J. L. Hatchet, and J. L. Poole.

OM-187 "Geology of Southeastern Part of the Robinson Mountains, Yakataga District, Alaska" by D. J. Miller.

CALENDAR

April 4, 1957: Thursday, Noon, A.A.P.G. Luncheon, Rodger Young Auditorium, 936 West Washington Blvd., Los Angeles. "A Visit to Papua, New Guinea" by Victor H. King, General Petroleum Corporation.

April 9, 1957: Tuesday, 7:30 P.M., Coastal Geological Society, Montecito Country Club, Santa Barbara, Robert M. Norris, Professor of Geology at University of California and Santa Barbara will speak on "Shoreline Geology".

April 11, 1957: Thursday, 6:30 P.M., Dinner & Meeting, A.I.M.E. Junior Petroleum Group, Turf Club, Anaheim-Telegraph & Lakewood Boulevards. Discussion of Water Flood and Disposal, elaborating on available data pertaining to flood performance, injection well behavior, injection equipment, well maintenance and filtration and floatation equipment. Can the Mid-Continent practices be applied to California? Should we filter and treat California Brines prior to injection? Speakers: Lee Gifford, Richfield Oil Corp. "Cuyama Project", Ken Holland, S.O.C., "Murphy Coyote Project", and B.B. Goranger, Tidewater Oil Co., "A Look at the Mid Continent."

April 11, 1957: Thursday, Noon, S.E.G. Luncheon Meeting, Rodger Young Auditorium, 936 West Washington Blvd., Los Angeles. "Exploration in Mozambique, Africa" by John C. Hugus. $2.50 includes tax, tip and parking.

April 22, 1957: Monday, Noon, A.I.M.E. Petroleum Forum, Rodger Young Auditorium, 936 West Washington Blvd., Los Angeles. "Engineering-Stepping Stone or Career", Mr. Hallan N. Marsh, Manager of Producing Engineering, General Petroleum Corporation.

May 2, 1957: Thursday, Noon, A.A.P.G. Luncheon, Rodger Young Auditorium, 936 West Washington Blvd., Los Angeles. Speaker to be announced.

May 9, 1957: Thursday, 6:00 P.M., Northwest Geologic Society Dinner Meeting, Olympic-Washington. Dr. Byron N. Cooper of Virginia Polytechnic Inst. will speak on "Appalachian Folding". Dr. Cooper is a distinguished lecturer for the A.A.P.G.

May 10, 1957: Friday, 7:30 P.M., Sacramento Geological Society Dinner Meeting, Officers' Club, McClellan Air Force Base, Sacramento. "The Grand Canyon" illustrated with slides by Mr. Ernie Bush. This is a dinner meeting and the wives are invited. Make reservations in advance with Carl Helms, Standard Oil Co., in Sacramento.

May 15, 1957: Thursday, El Tejon Hotel, Bakersfield. The Annual Spring Meeting of the Pacific Section, S.E.G.

May 17 and 18: Friday Evening and Saturday, S.E.P.M. Dinner Meeting and Field Trip, La Jolla Area and Scripps Institute.

PACIFIC PETROLEUM GEOLOGIST
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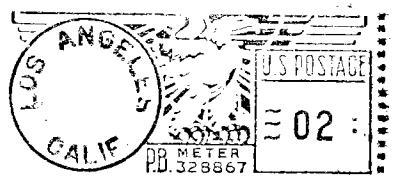

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PACIFIC PETROLEUM GEOLOGIST

NEWS LETTER OF THE PACIFIC SECTION
AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

Vol. 11 May 1957 No. 5

ASSOCIATION ACTIVITIES

SACRAMENTO GEOLOGICAL SOCIETY MEETING

Dr. Ralph W. Chaney of the University of California at Berkeley was the guest speaker at the Sacramento Geological Society meeting of Tuesday, April 16, 1957. He spoke on the subject, "The Use of Plant Fossils in Biostratigraphy." The structure and overall appearance of plants has altered insufficiently to make it practical to use such alterations as a means of determining geologic time. However, plants have changed greatly in their distribution throughout geologic time. These changes afford a means of using plants as time indicators.

Carboniferous time was a period when great forests occupied much of the world's land surface, but these forests do not seem to have extended into the Pacific Northwest. The marvelous accumulations of carboniferous plant megafossils of other parts of the country do not occur in this area. Also the Triassic and Jurassic flora are poorly represented in California, but they do occur at Hetch Hetchy in Tuolumne County, California and near Taylorsville in Plumas County, California. Flora of Cretaceous time are also sparse in this state. Plants from Tertiary deposits are much more common. Dr. Chaney showed a slide of some palms in an isolated area within a desert at Borego Valley on the eastern edge of the Peninsular Ranges of California. These trees are left over from the Eocene.

One of Dr. Chaney's objectives in this talk was to give a clear enough picture of Tertiary plant life in California so that his audience could distinguish between early and later Tertiary fossil plant specimens. As an example of the usefulness of such knowledge, he mentioned an outcrop on the Clear Creek road near Redding, California. Palms are preserved in this outcrop which he feels are indicative of Eocene age. The outcrop in question is usually mapped as Pliocene. The chief characteristics of plants of different ages in California were briefly reviewed.

Tertiary Climate: The Cretaceous saw the beginning of the flowering plants (angiosperms), and the modern conifers. Palms occur in the Cretaceous, too. Eocene leaves are characteristically evergreen, thick, large and have no notches on their edges. Avocado and magnolia are examples. By Oligocene time the trees are deciduous and have smaller leaves. Birch and oak are examples. Some of the Oligocene trees have not survived in America, but still persist in Asia. Miocene time saw the coming of grasses and daisies. Trees such as swamp cypress, black oak, maple and hickory were common in California at this time. Pliocene plants are similar to those of the Miocene, but have smaller leaves. Cherry, aspen, willow and oak are all common. The leaves are deciduous, small, thin, and deeply notched in contrast to the Eocene with its evergreen, large, thick leaves without notches. Pleistocene fossil plants of California are restricted to the coast and consist mostly of Douglas fir, manzanita and related forms. Mistletoe occurs, too.

It can thus be seen that starting with a tropical climate in Eocene time the plants indicate an increasingly temporate climate progressing into the younger Tertiary. The indications are that since Cretaceous time at least the equator has always been tropical on this continent. The trend during the Tertiary has been for the northern limit of tropical vegetation to retreat southward about 10° every epoch. This general rule seems to hold for Asia, too. Though the evidence in Africa is very spotty, there seems to be no data to contradict this trend.

Use of Pollen and Spores: The comparatively new field of using pollen and spores for geologic time indicators has a great future in the oil business. It was pointed out that Shell Oil Company already has a laboratory set up in Southern California for this type of research. It is predicted that other company laboratories will be set up soon. The pollen grains are almost indestructible and occur universally. Though their origin is continental, they are common in both continental and marine sediments. The ideal conditions for their preservation seems to be in fine grain volcanic sediments in old lake beds. It was pointed out that virtually no work has been done in the Sacramento Valley with pollen grains.

A.A.P.G. LUNCHEON

The A.A.P.G. Luncheon Meeting, held April 4, 1957, at Rodger Young Auditorium, was addressed by V. H. King, of General Petroleum Corp. His subject was "A Visit to Papua, New Guinea". A series of kodachrome slides were shown that were taken during his expedition to Papua in the Fall of 1956.

Mr. King gave a general description of the geographical and cultural background of the region. With the help of excellent slides taken both from the air and on the ground, the physical difficulties of the geology were shown. Scenes of geological base camps and well sites exhibited the enormous problems of logistics, road building and maintenance.

ANNOUNCEMENT

A "Glossary of Geology and Related Sciences" containing nearly 14,000 terms used in theoretical and applied geology and geophysics is now in press and will be available late in May. This publication is a cooperative project of the American Geological Institute and its member societies, with more than ninety specialists contributing to its compilation. It is important to A.G.I. that as many pre-publication orders as possible are received in order to defray in advance the cost of contractual obligations in the printing and binding of the Glossary. Order blanks are available in the March and April issues of the GeoTimes.

PACIFIC PETROLEUM GEOLOGIST

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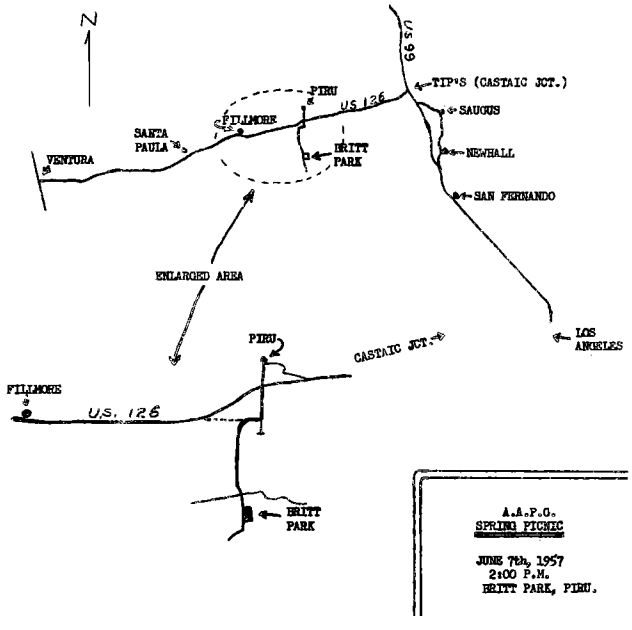
Selected Bibliography	Joan Baldwin
Calendar	Bill Schlax
Cartoonist	Harold Sullwold
	Bob Sanem
Coast Correspondent	Louis Taylor
San Joaquin Correspondent	Donald Ford
Sacramento Correspondent	Keith Jones
Northwest Correspondent	Ralph Rudeen

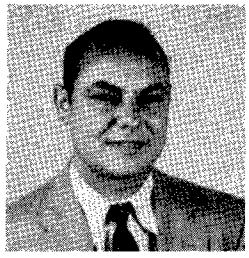
NEXT DEADLINE - MAY 27

SPRING PICNIC

Don't forget the annual A.A.P.G. Spring Picnic June 7 supersedes all previously made engagements for that date. Where else can an investment of $2.50 accrue such an affluence of dividends? Homer Steiny will again serve as acting broker.

Andy Vidos, this years' chairman, reported that Jack Wood is in charge of the cuisine; Bob Knapp has had fantastic success in obtaining contributions; Bob (no jokes please) Hacker will arrange for entertainment; Joe (iceman) Dockwiller will serve refreshments; Dick Triplett will dress the salad; Bill (high 90's) Castle has made arrangements for 100 golfers at the Ojai Country Club.





IN MEMORIAM

Tilden Morrison Fryar died April 12, 1957, in Santa Monica at the age of thirty-six after a courageous fight of several months against cancer. He left behind his devoted wife Mickey, his six-year old son Jimmy, his mother, Mrs. Jewell Fryar, and many good friends who were shocked by Tilden's passing in the prime of his life.

Tilden was born in Roswell, New Mexico on November 20, 1921. He attended public schools in Los Angeles and graduated from Fairfax High School in 1940. During the war he served with the Army from May 1943 as medical laboratory technician in the U. S., the New Hebrides, and Japan. He was discharged in February 1946 with the rank of Technical Seargent. Tilden attended U.C.L.A. where he studied geology and chemistry and graduated with a B.A. degree in geology in 1948.

Tilden started his geological career with the C.C.M.O. Co. shortly after graduation in 1948. He worked as geologist for C.C.M.O. in the Bakersfield area for two and a half years. In early 1951 he joined Standard Oil Company of California. While with Standard he was engaged in development, subsurface work and field mapping in the Los Angeles area. In late 1954 Tilden joined Sunray-Mid Continent Oil Company in Los Angeles and worked for this company as a Development Geologist until his hospitalization on January 12, 1957.

Oil geology was Tilden's primary interest and its field mapping and development phases held special fascination for him. He also enjoyed mineral collecting, chemical experiments, music and sports. Tilden was a very conscientious and hard worker, a cheerful colleague and a loyal friend.

The fatal phase of his unsuspected illnes came at a time when his career was well under way and when his future appeared the brightest. It is with deep sympathy and sorrow that his friends join his family in mourning the loss of a dear friend and loved one.

J. E. SZATAI

A.P.I. SPRING MEETING

The American Petroleum Institute will hold its Spring Meeting at the Biltmore Hotel, Los Angeles, on Thursday and Friday, May 16 and 17, 1957. There will be an evening session and banquet Thursday, May 16, at 6:30 P.M. The featured speaker of the evening will be Mr. Bill Henry, noted radio and television commentator and Washington columnist, who will deliver an address entitled "Keeping An Eye On Washington."

On Thursday afternoon the Management Address will be presented by Kenneth E. Hill, Vice President of The Chase Manhattan Bank, New York. Mr. Hill will speak on "The Outlook for The Pacific Coast Petroleum Industry". In addition to Mr. Hill's talk, the general session will include many interesting technical papers.

DEPLETION ALLOWANCE

If the oil business were all returns and no risks, there would be justification for the abuse heaped by the press and the public upon the 27-1/2 per cent depletion allowance. Seldom has a tax provision had as large a publicity and as small an understanding.

The petroleum industry, like coal, sulphur or any other extractive industry, is one of depletion. Source of supply depends on new and deeper discovery, as well as improved methods of recovery.

As early as 1918 at the time oil began to be marketed in impressive commercial quantities, the government recognized that consumption would exceed reserves unless some measure was taken to encourage the finding of replacements and offset the fear of capital loss. Depletion laws have been in effect for 39 years, but it was in 1926 that Congress passed the depletion percentage allowance. On every dollar income from the production of oil, after deduction of operating expense, 27-1/2 cents is tax exempt. However, this exemption has limitations. It may not exceed 50 per cent of net income and only the production phase of the business enjoys the tax exclusion. All other operations, such as marketing, refining and the manufacture of petrochemicals, are not entitled to it.

With the incentive of depletion allowance, our Nation has become an oil-rich Nation possessed of the strength and energy to grow, in spite of the fact that obtaining new reserves becomes increasingly more costly. Only one wildcat venture in 9 strikes oil; one in 44 breaks even; just one in 991 hits the jackpot. In California the disparity between success and failure is even more extreme with a one to 27 strike ratio and a one to 60 payout. A jackpot field has not been discovered in six years.

Still, a 38 per cent increase in well depth since 1940, accompanied by pyramiding costs, has not weakened the vigor of exploration. Secondary recovery and conservation work is widespread. Over the last nine years expenditure for exploration and development in the United States averaged close to 50 per cent of gross income (after payment of royalties) compared to the 10 per cent manufacturing ratio of investment to income.

Two authorities are cited indicative of the government's view of the effects of percentage depletion on the Nation's economic growth and progress. The President's Materials Policy Commission was definite: "The device of percentage depletion is a powerful inducement to capital to enter the relatively risky business of searching for mineral deposits of uncertain location, quality and extent. Where the national need is great, there is justification for using a higher percentage depletion rate than might be appropriate if recovery of capital investment were the sole objective....." Secretary Humphrey, who for years has been studying the 27-1/2 per cent level of depletion allowance for the oil industry, in answer to a question from the press said, "that the figure 27-1/2 was an approximation to obtain a certain objective." According to the Secretary, it has worked out practically.

Future prosperity and the growth of our industry is directly tied to the continuation of the percentage depletion law. The great threat to its continuation is misinformation arising from unwarranted and inaccurate attacks.

(Permission to reprint the above abstract granted by Don Sweeney, Manager of Public Relations, Western Oil and Gas Association).

NORTHERN SACRAMENTO VALLEY FIELD TRIP

The Northern Sacramento Valley field trip will begin at 11:00 a.m. Saturday, May 25, from the junction of U. S. Highway 99 and Clear Creek Road approximately five miles south of Redding in Shasta County, California. Ripley's Market is a landmark at this intersection. The first days' trip will be lead by Dr. Michael Murphy (University of California at Riverside) throughout the Igo and Ono areas of the west side of the valley. Mr. John Albers of the U.S.G.S., Ground Water Branch, will give a talk on the "Metamorphics of the Klammath Complex." A short dinner meeting is planned for Saturday evening at Doc Clareys' restaurant at 7:30 p.m. At that time two talks will be given; one by Mr. J. C. O'Brien of the State Division of Mines, and one by Mr. John Albers. Their topics will be "The History of Mining" and the "Shasta Copper Belts."

On Sunday, May 26, the party will meet at 8:00 a.m. north of Redding near the Casa Blanca Motel on Highway 99. The trip is expected to end about 3:00 p.m. on Sunday, May 26. A syllabus and road logs will be available at a nominal price. It is suggested that motel reservations be made in advance. Saturday night dinner reservations will be made Saturday noon. (Bring lunches)

SAN JOAQUIN GEOLOGICAL SOCIETY

On April 10, 1957, the San Joaquin Geological Society held its monthly dinner meeting at the Hotel El Tejon in Bakersfield. Mr. A. A. Almgren, Paleontologist with The Superior Oil Company in Bakersfield, presented an excellent summary of the paper "Post-Eocene age of Markley Gorge Fill, Sacramento Valley, California" by A. A. Almgren and W. N. Schlax, which appeared in the February, 1957 issue of the A.A.P.G. Bulletin. The summary was not only interesting, but controversial, as evidenced by the rebuttals and discussions which followed. Some of the controversial comments were made by R. Stanley Beck, Consultant, of Bakersfield, William E. Bauer with The Texas Company in Sacramento, Michael R. Rector with Union Oil Company in Bakersfield, and Joe Dunwoody of Tidewater Oil Company in Bakersfield.

The "Markley gorge" is a buried erosion feature of marked relief, present in the southern portion of the Sacramento Valley of California. This gorge is known to extend from about twenty-five miles north of the City of Sacramento, southwesterly to the vicinity of the Rio Vista Gas field. Some workers believe that development was prior to upper Eocene deposition, and that the sediments which fill it are upper Eocene in age. Evidence presented indicates a post-Eocene, post-Markley age, for these sediments.

The "Markley gorge" was eroded into a sequence of strata ranging in age from Upper Cretaceous through upper Eocene (including the Markley formation). The unconformable relationship of the Fill to the Markley and older formations was demonstrated on a cross section. The unconformable relationship of rocks of Oligocene and Eocene age on the surface in the vicinity of Mt. Diablo and the Pacheco syncline was cited. No such unconformity exists within the upper Eocene on the surface or in the subsurface in the vicinity of the "Markley gorge."

This gorge was filled with sediments of diverse lithology. Sands in the lower part of the Fill contain common volcanic debris and other dark colored rock fragments, and are distinctly different from the light gray uniformly arkosic sands of the

Markley formation of subsurface and outcrop. On the surface, rocks identified as Oligocene in age commonly contain volcanic debris and are somewhat similar to sands in the lower part of the Fill.

Rocks of Oligocene age on the surface at Wheatland (at the northern extremity of the gorge) and in the Mt. Diablo vicinity may be surface exposures of the Fill.

In the lower portion of the Fill an indigenous microfaunal assemblage indicating Oligocene age is present. Among the foraminifera present are Uvigerina atwilli, U. cocoaensis, U. cf. U. gallowayi, Plectofrondicularia packardi, P. packardi var. multilineata, Cassidulina cf. C. galvinensis and Anomalina cf. A. californiensis. Charts were shown illustrating the ranges of the above foraminifera in the Tumey and Wagonwheel formations. Of these, Uvigerina atwilli, Uvigerina cocoaensis and Plectofrondicularia packardi are common and characteristic foraminifera of the Oligocene of California. The Uvigerinas are restricted in occurrence to Kleinpell's Refugian stage. It was pointed out that in addition to the above characteristic and restricted species there is in excess of thirty other species of foraminifera in the Fill assemblage. However, many of these species are rare in occurrence and others, although common in occurrence, are of little value as age indicators, being long-ranging species. Rare upper Eocene foraminifera, also present in the lower portion of the Fill, are considered to be redeposited.

A.I.M.E.

Mr. Douglas Kingman, Manager of Joint Ventures, General Petroleum Corp., presented the second address in the "Management and the Engineer" series sponsored by the Coastal Petroleum Subsection of the A.I.M.E. "Managing the Joint Venture" was the subject of Mr. Kingman's talk, given at the Miramar Hotel on March 26, 1957.

Joint ventures are operations participated in by two or more companies in which the costs and production are shared by the companies on some agreed upon basis. The joint venture, as such, does not make any money.

In the operation of a joint venture, the companies pay a share of the cost and receive production in kind. The participants are represented by such groups as the Engineering Advisory Group, Accounting Advisory Group, Legal Advisory Group and Tax Advisory Group. The joint venture is operated under a unit agreement that is signed by the lessors and the working interests. The unit agreement is a legal document that modifies the basic leases. The usual provisions included in a unit agreement are: definitions, effect of unitization, plan of operation, participation and allocation, and titles. The unit agreement contains an operating agreement that is signed only by the working interests.

The operating agreement defines the duties of the participants as to the drilling of wells, producing rates, repressuring, etc., expenditures, salvage, and selection of operator. The duties of the operator require good oil field practices to be followed, records to be kept, and information furnished to the participants. An accounting agreement which defines a basis for charges on materials and overhead must be maintained and occasional audits performed.

The greatest cause for disagreement in joint ventures is the basis of participation. An endeavor must be made to maintain equities. In the Kettleman North Dome Unit, the basis of participation was surface acreage. Later units have been based on acre-feet. Development problems connected with well drilling or spacing occur and are usually resolved by the engineers. The accounting problems of overhead rates and audit adjustments are handled by the accountants. Accounting control is maintained by the audit.

Current developments are directed toward standardization of unit agreement form. The A.P.I. Committee and the Petroleum Accountants Society have developed forms that incorporate standard provisions and language acceptable to all. The basis of participation is still open to study and negotiation. Most units fail to be agreed upon because of unacceptable basis of participation.

In the future, joint venture operations will grow in importance because of secondary recovery operations and offshore work involving large expenditures.

COAST GEOLOGICAL SOCIETY

On Tuesday, April 9, 1957, Dr. R. M. Norris of the University of California at Santa Barbara addressed the Coast Geological Society on "Shoreline Geology."

The principal agencies controlling shoreline processes are: waves, tides, coastal rocks, climate, topography and man. Considering waves first, what are the main causes?

In general, there are two types of waves which strike our coast line: (1) Southern swell, long-period waves of the summer months which are generated by storm activity in the south Pacific; and (2) Shorter period waves caused by winds and storms in the north Pacific.

Wave erosion along a coast line usually takes three forms: (1) Direct attack of shoreline rocks by waves. Waves are apt to be higher and more vigorous at the inshore ends of submarine ridges. For example, the Standard Oil pier at El Segundo is built on such a ridge and often experiences twenty-foot waves, while the waves immediately to the north and south are only six feet high! (2) Waves cause the direct removal of sand from many Southern California beaches during the winter months and its restoration during the following summer. This is a common and well-known phenomenon; (3) Breaking waves which approach shorelines obliquely generate longshore currents which are of great importance and are capable of transporting much sand along the shoreline. For example, the longshore current along the Santa Barbara coast moves an average of 700 cubic yards of sand past any given point daily.

In addition to wave erosion, waves deposit various features along shorelines, including: beaches, bay-mouth bars, sand spits, etc. The sand bar in the Santa Barbara harbor at the end of the breakwater is more properly considered a spit.

Tides, caused by the gravitational attraction of the sun and moon and greatly influenced by the nature of the basin in which they occur, produce some minor geologic effects, but are generally important only in an indirect way.

The main oceanic currents, such as the Gulf Stream, the Japanese Current, and others, are caused by the earth's wind pattern and have only indirect geological effects. So far as is known, these currents are seldom responsible for any direct erosion.

The actual volume of sediment transported along any given coast line depends not only on the nature of the longshore current, but also on the volume of sand contributed by streams. In some cases, such as the Santa Barbara area, the Beach Erosion Board of the Army Engineers has been able to work out certain empirical formulas to predict the total yearly transport - thus:

$$V = 350{,}000 + 5000\ R$$

Where V is the yearly volume of sediment in cubic yards and R is the rainfall in inches for a two-year period two and a half years before the calendar year desired in V.

Under natural conditions without man-made obstructions what happens to all this sediment?--why doesn't the beach steadily increase in width? The sediment is lost in three ways so that some sort of status quo is maintained. The losses are: (1) Sand blown inshore to form coastal dunes; (2) Sand lost in deeper water in winter; and (3) Sand lost by downslope movement in submarine canyons.

Some examples of harbor difficulties were recited: In 1928 and 1929, the Santa Barbara harbor was constructed and immediately stopped the normal eastward transport of sand which accumulated on the west side of the projecting breakwater. In five years, this had built out to the end of the structure and began passing around the end into the harbor. Meanwhile, the coast to the east was undergoing severe erosion because of sand starvation. Measurements of the sand moved into Santa Barbara harbor have shown that the average daily rate during the 1934-43 period was 775 cubic yards. In February, 1951, the daily rate was 4640 cubic yards!

In 1933, Santa Monica sought to escape the Santa Barbara dilemma by constructing a breakwater open at both ends. This cut down the wave height on the inside, as was intended, and thereby slowed the longshore current, resulting in the deposition of sand and formation of a large "bulge" in the beach inside the harbor!

Whenever a breakwater is built to lower the waves and afford protection, the longshore current, generated by the breakers, slows and drops its sand. Dredging on some sort of schedule was suggested as the only practical remedy.

MID-YEAR CONFERENCE

The mid-year conference of the Pacific Coast Oil Scouts and Landmen's Association will this year be held at the San Pedro Hacienda, 301 South Western Avenue, San Pedro, California, at 1:30 p.m. May 10, 1957.

Several interesting papers have been programmed for the afternoon. To mention a few--Jim Benzley, Western Gulf Oil Co., will speak on "Exploration in the Los Angeles Basin"; Don Sweeney, Western Oil & Gas Association, will discuss "Oil & Gas Taxes and Public Interest"; and Fred Henricks, Fairchild Aerial Surveys, Inc., will speak on "Geophysical Reconnaissance".

A social hour and dinner is scheduled for the evening, commencing at 6:30 p.m.

Further details and tickets may be obtained by contacting Ralph Carver, c/o The Texas Company, Post Office Box 7721, 1215 East San Antonio Drive, Long Beach 7, California. Telephone--GArfield 3-7994. The price per ticket is $6.00 and all men in the oil industry are invited.

CHANGE OF ADDRESS NOTICES

Each month several News Letters are returned because members and subscribers are lax in leaving forwarding addresses when they move. This not only delays their receiving the P.P.G. and other announcements, but greatly adds to the enormous work load of those responsible for keeping a current mailing list. In order to minimize the duties of the officers who have volunteered their services for these tasks it would be appreciated if "Change of Address" cards were sent in immediately following a move or transfer.

NEWS RELEASES

An important step toward "push-button" oceanography has been announced by the University of California's Scripps Institution of Oceanography.

Writing in a recent issue of "Science," John D. Isaacs, associate professor of oceanography, and two of his co-workers describe a method of mooring untended instrument stations in waters as deep as two and one-half miles. Sixteen such stations were established in the Pacific and operated for four months, automatically collecting and recording information.

Previously such stations have been used only in much shallower water. The advantage of the technique is that it gives simultaneous observations over a large area at a minimum expense. To have collected so much data under earlier conditions would have required the services of sixteen such oceanographic vessels as the Scripps Institution's Horizon. There are scarcely sixteen such vessels in operation in the world today.

The instrument stations carried recorders, vertical instrument strings, power supply, lights, and radar targets. They were attached to a float located well below the surface and thus away from the zone of most intense wave action. This float was attached by a special wire to an anchor on the bottom.

Of the sixteen stations in the experiment, only two were lost from natural causes during four months' operation, even though winds in the region reached 37

knots. Installation of a mooring required only about 45 minutes after arrival at the desired location. Exchange of the instrument platform required about 15 minutes on subsequent visits.

The stations are described in the paper, "Instrument Stations in the Deep Sea," by Isaacs, Robert P. Huffer, assistant engineer, and Lewis W. Kidd, assistant research oceanographer. Development of the stations was supported by the Officer of Naval Research.

One of the world's most diversified collections of marsupial and monotreme mammals from Tasmania has recently arrived for the University of California's Museum of Vertebrate Zoology.

The monotremes, including the duck-billed platypus, are believed to be the most primitive mammals of the world, and they are the only mammals that lay eggs. The marsupials include a diversified group of pouch-bearing mammals.

The skins and skeletal specimens were collected by Dr. Harold C. Reynolds, assistant research zoologist in the museum.

Dr. Reynolds, who, as a graduate student at Berkeley, was the first scientist successfully to breed opossums in captivity, has been "down under" for the past three years. He spent the first year there as a zoologist for the museum in an Australian expedition headed by Dr. R. A. Stirton, director of the Museum of Paleontology, and two years on a Fulbright Scholarship.

Dr. Alden H. Miller, Director of the Museum of Vertebrate Zoology, said the collection of marsupials will be part of the museum's demonstration at the University's Open House on the morning of March 21 in connection with annual Charter Day exercises.

PERSONAL ITEMS

Lloyd D. Owens, on Standard Review Team in Bakersfield, has been transferred to Northern Division Geology.

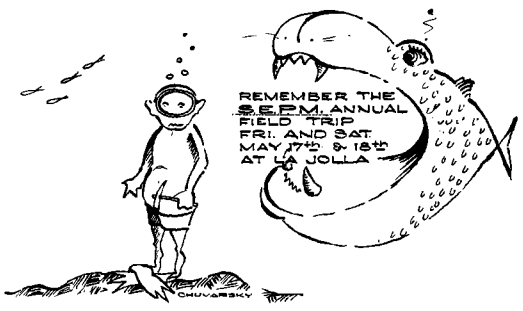
Bill Mathews, Richfield geophysicist in Bakersfield, has been transferred to Los Angeles.

Ray Arnett, Richfield in Bakersfield, has departed for Alaska on a fishing trip. Ray claims the trip is supposed to involve watching Richfield's well in the Kenai.

Stan Beck is currently in Washington (State, that is) on a combination business-pleasure trip.

Dave Calloway, Oceanic Oil Company in Bakersfield, has established a new precedent. He recently showed up to describe some cores with his secretary (female) to take notes. Anyone interested in a job at Oceanic?

Bruce Brooks, Superior in Bakersfield, is a creative genius in some fields as indicated by a recent drink, (alcoholic of course) that he concocted. Bruce calls it a "Horned Toad" and it has the following ingredients: 1 part Drambuie, 1 part Creme de Cocoa and 1 part cream. This mixture is placed in a blender with crushed ice. Bill Bedford claims that it is out of this world -- also the imbibers after the second round.



Stan Siegfus, Tidewater, is home recovering from an operation. It will probably be several months before Stan can tee off again on the fairways.

Harry Kellogg, Tidewater, formerly with G.S.I. and United, is the new computer draftsman to work on offshore activities.

Dan Sullivan, Continental, Division Geologist in Bakersfield, is being transferred to New Orleans to be the Division Geologist in the New Orleans Division. Dan has been with Continental for nine years.

Bill Fry, Continental geophysicist, Los Angeles, has been promoted and transferred to Caracus to be with the newly formed Continental Oil Company of Venezuela.

Paul Elliott, Western Gulf, Los Angeles, recently bought his wife a new TV set.

Fred Sierveld was recently hired by Richfield in Bakersfield. Fred holds a Masters from UCLA.

The A.I.M.E. met at Santa Barbara on April 23. Mr. John Bell, Manager of Humble's West Coast operations, spoke on "Managing Producing Operations".

Ernie Bush of General Petroleum's Sacramento office is transferring to Santa Maria.

Carroll Hoyt has joined General Petroleum to do offshore work. When he's not on the high seas, his office is in Santa Maria.

Jack Lane, scout from Shell's Ventura office, has been transferred to Ely, Nevada.

Bruce Mobley of Tidewater's Ventura office has been moved to the main office in San Francisco.

Bill Schlax has resigned his position as Senior Geologist with Superior to join the staff of George H. Roth, Consulting Geologist and Engineer, North Hollywood.

Those of us who complain of being transferred and having to sell our houses should shed a tear for Bob Orwig of General Petroleum. A few months ago he moved into his newly completed home and still retained ownership of his former residence. You guessed it! He has just been transferred to Bakersfield from Sacramento, and doesn't have one house to sell--he has two.

Adrian Maaskant, Shell Oil Company in Ventura, is visiting his parents in Holland.

Stan Jeffreys, Shell Oil Company in Ventura, had better get out that old Scout Manual and practice up on "knot tying." It seems that he and his wife were fishing in the San Diego area--and as the old story goes--the biggest one got away because the knots in his line came untied.

The geological office of Standard Oil Company at Ojai will make the long trek to Ventura on the weekend of May 4 and 5. Their new phone number will be Miller 8-6971, and the address is 231 N. Dos Caminos.

George H. Roth, Consulting Geologist and Engineer, is moving to new offices at 5437 Laurel Canyon Blvd., North Hollywood, California. Telephone Stanley 7-0749.

General Petroleum Corporation has several promotions to announce:

Vic King is the new Manager of Exploration.

Ben Lupton is the new Superintendent of Exploration, Southern Division at Los Angeles.

Bob Orwig is promoted to Superintendent of Exploration, Northern Division at Bakersfield.

Dan Flynn, General Petroleum's District Geologist at Ventura, has just received his Master's degree from UCLA. His thesis was on an area near Elko, Nevada.

Robert N. Scott, former Consultant, has joined Tidewater's Los Angeles office as scout. He is also proud to announce that on April 27 he will be married to Miss Alice P. Stephens at Santa Barbara.

John T. Isberg, The Superior Oil Co., has been promoted to the position of Vice President in charge of Exploration. He will be replaced as Chief Geologist by Noel W. Engel, formerly of their Denver office.

Doug Andrews, Tidewater in San Francisco, and Bud Johnson, Tidewater in Bakersfield, recently left sunny California for a tour in Turkey.

Cut Webster, Honolulu in Bakersfield, drove to the Convention in St. Louis. Cut was overheard making the comment that he saw more geology on the trip than at the Convention.

Bill Cortwright, Tidewater in Bakersfield, recently celebrated his 30th Anniversary with Tidewater at a dinner at the Bakersfield Inn.

Joe Dunwoody, Tidewater in Bakersfield, isn't putting in much overtime these days. Seems that Joe has a new house that is requiring his attention.

Now hear this! All baseball scouts! Big Dave "Butterfingers" Costello is currently holding down the 1st base sack on the Tidewater team in Bakersfield.

Ken Jensen, Tidewater in Bakersfield, has returned from a two-weeks' paid vacation to the Pacific Northwest including Washington, Idaho and Nevada. Ken claims that he was scouting for Tidewater.

John Mann, Standard in Oildale, has been transferred to the Geophysical Department, Salt Lake City, for seismic training and is scheduled to leave in June.

Tom Gross, Standard in Oildale, has been transferred to Taft as Development Geologist.

D. N. Helmuth, Standard in Taft, has been transferred to the Review Team.

Dick DeLapp is recovering nicely from his auto accident of January 24, and is now back at work in Schlumberger's Sacramento office.

Don Pearson, Schlumberger, has recently been transferred to Sacramento from Bakersfield.

C. M. Carson and C. E. Moser have joined as consulting partners on oil property evaluation and lease management. Their address is: 455 East Main, Ventura, California, telephone MIller 3-8797. Mr. Carson is a Paleontologist and Mr. Moser a Geologist and Petroleum Engineer. Together, they have a total of approximately seventy years' experience.

Dick Pratt, Texaco geologist, was recently transferred from Santa Paula to Bakersfield.

The Texas Company in Bakersfield recently distributed "Brownie Buttons" for safe driving in the San Joaquin area. There were some notable names left off the "Brownie" list.

Art Hawley, Western Gulf in Sacramento, and his family spent a pleasant Easter in the snow and sleet at their cabin site at Lake Almanor in the Northern Sierras.

Bill Bauer, The Texas Company, has recently returned to Sacramento after a short stay in Bakersfield where he did some field work for Texas. Bill's only complaint was that he didn't use his golf clubs once in the hot city.

Glen Harris, Shell, has changed places with Leroy Heaton. Leroy has come to Sacramento and Glenn has been transferred to Salt Lake City.

NURSERY NEWS

Erny Espenschied, Photogeologist, Standard, in Bakersfield, and wife, Mary, announced their first: Mary Anna, born April 16, weighing 7 lbs. and was 19 inches long.

Jim and Barbara Kurfess, Tidewater, Bakersfield, announced the birth of Katherine Hughes on February 23, weighing 5 lbs. 13 oz.. This makes two for the Kurfess'.

BIBLIOGRAPHY OF RECENT PUBLICATIONS

United States Geological Survey

Map GP-149, "Simple Bouquer Gravity and Generalized Geologic Map of the Northwestern part of the Los Angeles Basin, California" by Thane McCullough.

Professional Paper 274-L, "Volcanic Rocks of the El Modeno Area, Orange County, California" by R. S. Yerkes.

Water Supply Paper 1306-G, "Ground Water Conditions of the Mendota-Huron Area, Fresno and Kings Counties, California" by G. H. Davis and J. S. Poland.

GQ-99, "Geology of the Casa Diablo Mountain quadrangle, California" by C. D. Rinehart and D. C. Ross.

Bulletin 896 (reprinted), "Lexicon of Geologic Names of the United States, including Alaska" (2 volumes - total price $8.00) by M. G. Wilmarth.

Open File Report: "Exploratory Drill Holes in Saline Deposits near Searles Lake, California" by D. V. Haines (released for public inspection).

The Tulsa Geological Society wishes to announce that the 1956 Digest (Volume 24) is available and may be purchased by writing to the Publications Business Manager, Tulsa Geological Society, P.O. Box 263, Tulsa. The price per copy is $2.25 post paid.

Subject matter in this year's publication ranges geographically from Bolivia to Wyoming with a few "side trips" into such subjects as: Interpretation of Aeromagnetic Surveys, Composition of Seismic Reflections, Problems of the Pennsylvanian of the United States, Clay Minerals from the Viewpoint of the Petroleum Geologist, Time of Accumulation of Oil and Evolution of Cyclic Hydrocarbons, Problems of Oil Migration, Oil and Organic Matter in Source Rocks of Petroleum. In order to shorten required reading time the papers have been reduced to abstract form, in which cases editor's notations present data wherein the reader may quickly locate the subject paper published in its entirety.

CALENDAR

May 2, 1957: Thursday, Noon, A.A.P.G. Luncheon, Rodger Young Auditorium, 936 West Washington Blvd., Los Angeles. "Weather Forecasting" by Mr. George W. Kalstrom, Meterorologist in Charge, U. S. Weather Bureau Forecast Center, Los Angeles. $2.00 including tax, tip and parking.

May 6, 1957: Monday, Biostratigraphy Seminar, Bakersfield College, Room 56, Science and Engineering Building. "Phyletic Control in Correlation with Fossil Mammals and its Application to Stratigraphy" by Dr. R. A. Stirton, University of California, Berkeley.

May 8, 1957: Wednesday, Hotel El Tejon, Bakersfield. San Joaquin Geological Society dinner meeting, program to be announced. Cocktails - 6:30 P.M., Dinner-7:30 P.M.

May 9, 1957: Thursday, 6:30 P.M., A.I.M.E. Los Angeles Basin Junior Petroleum Group, Turf Club, Rosemead Blvd. and Anaheim-Telegraph Road, one block north of Santa Ana Freeway, Rivera, California, the subject, "California Offshore Picture", will entail "Tidelands Leasing" by Donald S. Coye, Shell Oil Company; "Discussion of Offshore Coring Mechanics" by Chuck Ball, Richfield Oil Corporation. An additional speaker will discuss recent aspects of California offshore geology. $3.50 for members, $3.75 for non-members, including tax, tip and parking.

May 10, 1957, Friday, 7:30 P.M., Sacramento Geological Society Meeting, Officers' Club McClellan Air Force Base, Sacramento. The subject, "Grand Canyon" illustrated with slides by Mr. Ernie Bush. This is a dinner meeting and wives are invited. Make reservations in advance with Don Barrett, General Petroleum in Sacramento, or Al Powers, U. S. Bureau of Reclamation, Sacramento.

May 14, 1957, Tuesday, 7:30 P.M. The Coastal Geological Society will meet at the Montecito Country Club, Santa Barbara. Mr. Harold Lian, Union Oil Company, will be the speaker. The subject will be announced later.

May 20, 1957, Monday, 7:00 P.M., A.A.P.G. Forum meeting, General Petroleum Auditorium, Los Angeles. Speaker to be announced.

May 25 and 26, 1957, Saturday and Sunday, 11:00 A.M., Sacramento Geological Society Annual Field Trip. Northern part of Sacramento Valley near Redding.

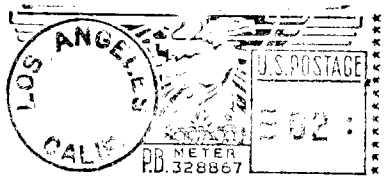
May 27, 1957, Monday, Noon, A.I.M.E. Petroleum Luncheon Forum, Rodger Young Auditorium, 936 West Washington Blvd., Los Angeles, "The Engineer's Role in Oil Production Financing" by Dean Sheldon, Consultant. $2.25 including tax, tip and parking. For reservation call Irving Fatt, Owen 7-1747.

June 6, 1957, Thursday, Noon, A.A.P.G. Luncheon, Rodger Young Auditorium, 936 West Washington Blvd., Los Angeles. Speaker to be announced.

June 7, 1957, Friday, 6:00 A.M. Golf, 6:00 P.M. Barbecue, A.P.I. Los Angeles Basin Chapter Annual Barbecue and Golf Tournament, Lakewood Country Club, Carson Blvd. and Lakewood Blvd., Barbecue--$3.50, Golf--$2.00. Free beer at 4:00 P.M., door prizes and golf prizes. Members only. Membership $1.25 a year.

PACIFIC PETROLEUM GEOLOGIST
PACIFIC SECTION, A.A.P.G.
799 SUBWAY TERMINAL BLDG.
LOS ANGELES 13, CALIFORNIA

Vol. 11 No. 5



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PACIFIC PETROLEUM GEOLOGIST

NEWS LETTER OF THE PACIFIC SECTION
AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

Vol. 11 June 1957 No. 6

ASSOCIATION ACTIVITIES

DISTINGUISHED LECTURER

Mr. Eduardo J. Guzman, A.A.P.G. Distinguished Lecturer, presented a lecture on "Geology and Petroleum Exploration and Development in Mexico" at the May 8 dinner meeting of the San Joaquin Geological Society. Mr. Guzman is assistant Director of Exploration for Petroleos Mexicanos, better known as Pemex.

Sedimentary basins with Mesozoic and Tertiary, moderately deformed, marine rocks constitute predominantly the eastern part of Mexico and underlie the coastal plain of the Gulf of Mexico. Other more restricted basins with marine sediments are located in the central-southern part of the country and along the Pacific Coast of the peninsula of Baja, California.

Although affected by pre-Mesozoic history, the occurrence of sedimentary rocks is closely related to the distribution of an extensive Cretaceous sea and the deformation of the orogeny which followed this period.

The production of oil and gas today is confined to the coastal plain of the Gulf of Mexico within four different provinces known as Northeastern Mexico, Tampico Embayment, Veracruz Basin and Isthmus-Tabasco region. Petroleum exploration is being conducted in other sedimentary areas, but no production has yet been established.

The four productive basins belong to the vast geological province known as the Gulf Coast of Louisiana, Texas, and Mexico, and have parallel histories beginning with the Laramide uplift and folding of the Mesozoic sediments which resulted in the structural mountainous trend of the Sierra Madre Oriental. Consequent downwarping east and north (gulfward) of the rising mountains resulted in a series of basins which received great thicknesses of Cenozoic marine sediments which now underlie the coastal plain.

The various provinces show, however, marked differences in their geological characteristics as a consequence of pre-Tertiary conditions. The bulk of the three billion barrels of cumulative production, as well as that of the three billion barrels of recoverable reserves, have been found mainly in Cretaceous calcareous rocks within the Tampico Embayment. Oil and gas in Northeastern Mexico has been encountered in sands of Eocene, Oligocene and Miocene age. In the Isthmus and Tabasco region the producing strata are predominantly sands within Lower Miocene formations. Oil and gas production has recently been established from Cretaceous and Tertiary rocks in the newly discovered fields of the Veracruz Basin, thus adding a new geologic province to Mexico's petroleum territory. Smaller quantities of oil have been produced in the country from salt dome cap-rock and fractures and altered igneous rocks.

Exploration is presently being conducted with seventeen seismological parties, five gravity-meter groups and more than twenty geological field parties distributed mainly within or along the margins of the known petroliferous provinces. An ever increasing exploratory effort is concentrated in north-central Mexico (states of Coahuila and Chihuahua), as well as in the peninsulas of Yucatan and Baja,California. During 1956, 402 wells were drilled in Mexico with an average depth of 5407 feet. One hundred and thirteen wells were classified as exploratory holes of various kinds. During the last ten years the drilling of 387 new field wildcats has had a percentage success of 22.2 per cent and has yielded the discovery of 86 new commercial fields. The discovery of new reserves has permitted an ever increasing production, which, during 1956, attained 94 million barrels of oil.

A.A.P.G. DIRECTORY

The Directory Committee, consisting of Lee Choate, Chairman; Jack Leach, Advertising Manager; Harry Whaley, Ventura; and Tom Roy, Bakersfield, reports that work is well under way on the new 1957 Pacific Section Directory.

By now every member should have received the personal history card to be filled out and returned to the committee. Lee Choate reports that excellent cooperation is being shown by members in returning these cards promptly.

The book will be out for distribution at the Fall convention in November. This will require that all material and any late changes be received by the Committee by a deadline of September 1. Any changes in address, telephone number, company affiliation, etc., should be reported to Lee Choate, P. O. Box 9125, Long Beach 10, Phone NEvada 6-9248.

This Directory will also have special appeal to the National Convention attendants in Los Angeles in March, 1958, so it will receive wide distribution. This will be a PICTURE DIRECTORY. Because of the popularity this book will have, the Committee requests that members submit NEW CURRENT SUITABLE photographs. For the convenience of the members, photographers have been appointed in certain key locations. In Bakersfield contact Henley Studio, 1673 Chester Avenue, Phone FA 4-9485, in Ventura, call Wilson's Studio, 208 East Main Street, Phone MI 3-6830, and in the Los Angeles Basin you will be contacted by Elson-Alexandre Studio, 1421 West Eighth Street, Los Angeles, Phone DU 5-1666 for an appointment.

Space is available in the advertising section of the Directory. If you desire advertising space or know of someone who does, please contact Jack Leach, Sunray Mid-Continent Oil Company, 714 West Olympic Boulevard, Los Angeles 15, Phone RI 8-5171.

NEXT DEADLINE JUNE 25, 1957

NORTHWEST GEOLOGICAL SOCIETY

Dr. Byron N. Cooper, of Virginia Polytechnic Institute, Blacksburg, Virginia, was guest speaker at the monthly dinner meeting of the Northwest Geological Society in Tacoma on May 9. Dr. Cooper is a distinguished lecturer for the A.A.P.G.; the subject of his talk was "Appalachian Folding".

Appalachian folds are commonly interpreted as products of late Paleozoic orogeny that followed a long period of more or less continuous sedimentation in the Appalachian geosyncline. Variations in thickness of comparable successions of strata and other stratigraphic data suggest that many Appalachian folds began to take shape while the strata accumulated. With such early beginnings, Appalachian folds have a long and very complicated history, much of which can be deciphered from the sedimentary features of the beds involved. The so-called Appalachian Revolution embodies fundamental misconceptions of the genesis of Appalachian folds and faults. Not only folding but profound displacements along Appalachian thrusts probably developed over an interval virtually as long as that required for the Appalachian sediments to accumulate. Folding and sedimentation are linked into a framework which deserves to be studied and evaluated critically with special regard to the economic implications that influence exploration and prospecting.

ANNOUNCEMENT

Attendance for the Coast Geological Society Dinner-Dance in September will be restricted to members whose names appear on the mailing list due to the limited space available. If you wish to attend, please have your name put on the mailing list prior to September 1, which can be done by writing to Mr. Dan Flynn, General Petroleum Corporation, P. O. Box 770, Ventura, California.

IN MEMORIAM

The many friends and associates of Edward Leon McDowd, retired former Chief Scout for Shell Oil Company in Los Angeles, and more recently associated with Petroleum Information, were grieved to learn of his death on May 20. Ed passed away during his hospitalization at the Veterans' Hospital, Sawtelle, following a heart attack. Funeral services were held Friday, May 24th.

Ed McDowd, of 355 Westbourne Drive, Los Angeles, retired in 1954 after 21 years of service with Shell, the last ten as Chief Scout. He began his career as a Field Scout in Shell's Los Angeles office, served as a Junior Engineer for about four years, and returned to oil scouting in 1938. He became Chief Scout in 1944.

Ed was a member of the American Association of Petroleum Geologists, the National Oil Scouts and Landmen's Association, the Petroleum Club of Los Angeles, and a past Commander of American Legion Carthay Circle Post.

Long active in sports, McDowd was manager of the Little Baseball League of Fairfax District. He also enjoyed fishing and hunting, and was known among oilmen as a veteran expert at chess and dominoes.

He is survived by his wife, the former Margaret Epeneter; his son, John Edward, 37; and his daughter, Margie Ann, 30, all of Los Angeles.

S.E.P.M. DINNER MEETING AND FIELD TRIP

The annual field trip, sponsored by the S.E.P.M., was held in La Jolla on Friday evening and Saturday, May 17 and 18. Over 175 persons attended the evening meeting and approximately 150 stayed for the trip the following day. Many thanks are due to Dr. Francis P. Shepard, Chairman, and R. R. Lankford and E. D. Milow, Co-chairmen, for their handling of all arrangements for the dinner and trip. Dr. Roger Revelle, David G. Moore and E. Dean Milow were the speakers Friday evening.

Dr. Revelle, Director of Scripps Institute, outlined the plans for the future expansion of Scripps into a graduate school of science. He also spoke on the problems which now confront the University of California as it endeavors to meet the educational needs of the expanding population of California.

Mr. David G. Moore, U. S. Navy Electronics Lab., spoke on "The Sonoprobe as a Tool for Submarine Geological Investigation".

The Marine Sonoprobe is a recording, short-pulse, high-powered sonar which combines the qualities of an echo sounder and a shallow seismic unit. It was developed by the Magnolia Petroleum Company Field Research Laboratories in connection with their studies of sediments off the Texas Cost.

Installation of the Sonoprobe is important in obtaining good records. The shock-mounted transducers are projected below the ship's hull by means of sea chests enclosed in fairings. These fairings are designed to part bubble streams running along the skin of the ship.

Sonoprobe studies in a test area off Point Loma have shown the instrument capable of recording profiles which show the thickness of recent deposits and the morphology of the buried, eroded bedrock surface. Attitudes of bedrock are also recorded, in some cases, making structural interpretations possible. Some geological features of the area which were revealed by this survey are: (1) Sediment accumulation is greatest on the central part of the narrow shelf and at the base of a prominent drowned sea cliff nearer shore. This cliff has at its base a 30-40 foot thick wedge probably deposited as talus material while sea level was at a lower stand; (2) Fault zones resulting in topographic highs on parts of the shelf act as dams to trap sediments causing thick deposits shoreward of the fault and only a thin veneer to seaward; and (3) Structural features are a simple homoclinal sequence dipping seaward in the southern part of the shelf area and a small faulted north-south trending anticline off the central part of Point Loma.

Factors which contribute to the kind and quality of records obtained within a given area are speed of the vessel, chart speed, control settings, as well as the water depth and the geological conditions. The first three of these factors can be controlled to aid in obtaining the desired records.

Mr. E. Dean Milow, San Diego State College, discussed the "Stratigraphy and Paleoecology, La Jolla Area".

Work in progress on the Eocene-Cretaceous rocks exposed in the La Jolla area indicate a revision of the local stratigraphy.

The following are the tentative lithologic subdivisions and ages:

Eocene	"Upper"	Poway formation	Unconformity "ss.memb."	200'	+
			"cg.memb."	200'	+
	"Middle"	Rose Canyon formation	"friable ss.memb."	100'	±
			"blocky ss.memb."	500'	+
			"U.siltst.memb."	500'	±
			"U.cg.memb." Unconformity		
			"L.ss.memb."	200'	±
			"L.siltst.memb." Unconformity		
	"Lower"		"mass.ss.&mudst.memb."	200'	±
		Torrey sand		100'	±
Paleocene ?		Delmar sand	Unconformity	200'	±
Cretaceous	Upper Campanian	"Chico" formation	"U.ss.memb."	200'	±
			"siltst.& ss.memb."	175'	±
			"mass. mudst.memb."	375'	±
			"L.ss.memb."	250'	±
	Turonian-Cenomanian	"Trabuco" formation	Unconformity	500'	±
	Aptian (?) M. Albian	Black Mountain volcanics	Unconformity	4000'	±

Joint occurrence of cosmopolitan foraminifers in the "mudstone member" of the "Chico" beds permits close correlation with Europe. Representatives of the "phylogenetic" lineages of Neoflabellina and Bolivinoides indicate a mid-late Campanian age for the beds containing Pachydiscus caterinae.

Lateral variation in microfossil content of the Eocene formations provide an opportunity to synthesize "depth" assemblages. Some of these foraminiferal assemblages have previously been given time connotation, yet are found as lateral equivalents. The stratigraphic occurrence of these assemblages in conjunction with certain megafossils indicates the following tentative revision of the megafossil and microfossil "zones" for part of the Eocene.

MEGAFOSSIL "ZONES"		MICROFOSSIL "ZONES" "SHALLOW"		"DEEP"
TURRITELLA OLEQUAHENSIS		"A-3" (COWLITZ)		"A-1"
TURRITELLA SARGENTI		"A-3" (POWAY)	?	"A-2"
TURRITELLA UVASANA ss.				
TURRITELLA ETHERINGTONI		"B-1A" (SHALLOW)	"B-1A" FAUNULE	
TURRITELLA LAWSONI	TURRITELLA APPLINI	"B-1"		"BASAL A-2"
CALEODEA SUSANAE	TURRITELLA AEDIFICATA	"B-2"		
		"B-?"		?

Field Trip Syllabus still available. The syllabus contains a columnar section of the San Diego area, a cross section of the cliff from Torrey Pines to La Jolla, a map showing several microfossil localities in the San Diego area, and a check list of Eocene and Cretaceous foraminifera. To obtain a copy send $1.00 to W. R. White, 929 South Broadway, Los Angeles 15, California.

SACRAMENTO GEOLOGICAL SOCIETY MEETING

Mr. Ernest R. Bush, with General Petroleum in Santa Maria, was the speaker at the Sacramento Geological Society dinner meeting on Friday, May 10, 1957. Mr. Bush gave a very interesting talk to the members and their wives about the "Grand Canyon-Past and Present".

The "Grand Canyon of the Colorado", located in northern Arizona, is 217 miles long, four to eighteen miles wide, and approximately one mile deep. The Colorado River, flowing through the Grand Canyon, carries one million tons of eroded material every 24 hours. Early dwellers of the Grand Canyon include pre-historic Indians. Over 500 Indian ruins have been discovered in the Grand Canyon region.

The first white men to see Grand Canyon were a group of Spaniards headed by Don Lopez de Cardenas. The party reached the south rim of the Canyon in 1540. The Canyon is next recorded as having been seen by a Spanish priest, Padre Garces, in 1776. The first American to visit the region was James O. Pattie, who trapped beaver with his father on the lower Colorado in 1825 and 1826. Returning eastward they traveled 13 days along the Canyon rim to the east end of Grand Canyon.

In 1858 the U. S. Army sent an expedition, headed by Lieutenant John C. Ives, to determine how far upstream the Colorado River was navigable. The party, equipped with a stern-wheeled iron steamer named the Explorer, traveled into the Gulf of California and up the Colorado to about the present site of Hoover Dam. There the hull of the Explorer was damaged and the party was forced to travel overland to the Havasupai Indian Village, located at the west end of Grand Canyon National Park.

The first expedition to travel down the Colorado River through the Grand Canyon was a party led by Major John Wesley Powell, a one-armed veteran of the Civil War. The Powell expedition left Green River, Wyoming, on May 24, 1869, and completed their journey late in August of that year. Three of Powell's men were killed by Indians after they deserted the party and climbed out to the north rim of the Canyon.

The Grand Canyon has a profound effect on the present climates existing in the area. The temperature at the bottom of the Canyon is frequently 30° (Fahrenheit) hotter than the temperature on the Canyon rim. Desert plants and animals, commonly associated with the Lower Sonoran Life Zone, exist in the bottom of the Canyon. On the rim, however, forests of pine, spruce, fir and aspen form the predominant vegetation.

Among the animals found on the Canyon rim are mule deer, mountain lion, Abert squirrel and Kaibab squirrel.

Following the talk Mr. Bush presented the General Petroleum Corporation color film "IN THE BEGINNING", which tells the geological story of the Grand Canyon. Rocks exposed in the Canyon region are of Archeozoic, Proterozoic, Paleozoic, Mesozoic and Cenozoic ages. The Paleozoic rocks, however, make up the major portion of the Canyon walls.

NOTICE TO MARINE GEOLOGISTS

There will be an evening meeting on Thursday, June 11, in Founders Hall, Room 129 on the campus of the University of Southern California between 7:00 and 9:00 P.M. Several papers will be presented by graduate students on foraminiferal ecology and marine geology.

Interested persons from industry and from other institutions are invited to attend and to participate in the discussion which will be held following the papers.

The tentative program is as follows:

Keith Green - "Foraminifera and Sediments of a Part of the Arctic Basin".

Martin Reiter - "Seasonal Variations of Intertidal Foraminifera of Santa Monica Bay, California".

Donn Gorsline - "Sediments of San Pedro and Santa Monica Basin, California".

Bert Conrey - "Repetto Sedimentary Patterns in the Los Angeles Basin".

A.A.P.G. LUNCHEON MEETING

Mr. George W. Kalstrom, Meteorologist in Charge of the U. S. Weather Bureau Forecast Center in Los Angeles, was the guest speaker at the luncheon meeting held at Rodger Young Auditorium on May 7. Mr. Kalstrom spoke on "Weather Forecasting".

A color-sound motion picture was shown entitled, "Weather, the Breath of Life". This picture depicted the effects of weather on various activities, emphasizing the fact that animal and plant life would be impossible without the continual atmospheric changes which we call the weather. A short section demonstrated the causes for weather changes - basically, the effects of solar heat differences on various portions of the earth, the results of the earth's rotation in deflecting the air flow, marine and topographic effects, and the atmospheric reactions associated with weather fronts. A sequence on weather forecasting, utilizing scenes of activities and charts at the United States Weather Bureau Forecasting Center at San Francisco and the observations and data flowing into the center from ships at sea and other observational points, carried through the seasonal changes from summer into a winter storm; and by scenes of human activities in the area indicated the tremendous importance of the weather on life in general.

The picture was followed by a short question-answer period in which several weather problems relating to cycles in precipitation, effects of atomic bombs, changes in weather, and others were discussed.

The District Forecast Center at Los Angeles International Airport issues general forecasts for Southern California and Arizona; flood and heavy rain warnings for Southern California river valleys from Santa Maria southward and inland to the Owens and Mojave Valleys and the Imperial-Coachella Valley Area; and specialized forecasts for industrial and commercial purposes.

COAST GEOLOGICAL SOCIETY

Dr. Harold Lian of the Union Oil Company, Santa Paula office, gave a very interesting talk before the Coastal Geological Society on May 14 at Santa Barbara. The talk entitled, "Geology in Austria" was well illustrated by colored slides of the Austrian mountains and the very lovely countryside. Mr. and Mrs. Lian spent a year in Austria on a Fulbright scholarship.

NEWS RELEASES

Remains of cavedwelling reptiles that lived more than 30 million years before the dinosaurs have been found in an Oklahoma limestone quarry.

Dr. Frank Peabody, paleontologist at the University of California, Los Angeles, who has studied the site, says that erosion and quarrying have exposed a limestone highland which was honeycombed with caves during the early age of reptiles, 210 million years ago.

Apparently the caves were used as shelter by large reptile predators, probably pelycosaurs. Remains of their prey - small amphibians and reptiles - are scattered throughout the soft clay deposits of the caves.

Dr. Peabody said it was unusual to find evidence of highland life of this era preserved this well, and especially in soft clay. The quarry is in the Wichita Mountains in the southwest corner of Oklahoma.

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Somewhere near the junction of the Sacramento and San Joaquin rivers lies an undiscovered archaeological "goldmine" where thousands of Indians once lived.

This is the conclusion of Dr. Sherburne F. Cook and Albert B. Elsasser of the University of California Archaeological Survey, after completion of an analysis of bones and artifacts recovered from the area.

Sixteen burial sites have been found in small mounds of soil, which were probably islands of loose

sand when these ancient people lived, said the scientists.

Apparently the islands were used exclusively as a burial ground in about 1500 B.C. by a large group of people. Archaeologists found no evidence of habitation at the sites.

Since all but one of the burial sites were located accidentally, Dr. Cook and Elsasser think that an intensive search should locate many more burials.

Objects found at the sites included ring ornaments, mortars and pestles, projectile points, clam-shell beads, and a grooved hammerstone.

The scientists were particularly interested in sets of parallel bone rods, probably from elk or deer, which covered the faces of two skeletons. This finding is unique in California archaeology. The bones apparently served as primitive shrouds, they said.

Since these sites were used exclusively for burial, there must have been a living area nearby. The number of known habitation spots within useful distance is far too small to have produced a graveyard of the indicated dimensions. Therefore, the scientists concluded, there must be a great number of undiscovered occupation sites in this area.

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Scientists on four campuses of the University of California this week began final preparation to help launch the world's mightiest coordinated scientific effort - the International Geophysical Year, which begins officially July 1.

At the Scripps Institution of Oceanography at La Jolla a fleet of floating laboratories is being readied to further explore that larger part of the earth covered by the sea.

On the Los Angeles, Santa Barbara, and Berkeley campuses a battery of sensitive instruments are being "tuned up" to help probe the globe from its core to its outermost atmosphere.

One man who has, perhaps, done more than anyone else to insure the success of this vast global experiment is UCLA's Dr. Joseph Kaplan, chairman of the U. S. National Committee which is planning this nation's participation in the world-wide activity.

For the past two years Dr. Kaplan has beat a steady stratospherical path from Los Angeles to Washington, D.C. (his IGY headquarters), to Brussels and other European cities in behalf of the IGY.

"My job is chiefly one of coordinating the planning," Dr. Kaplan says. "Men like La Jolla's Roger Revelle, UCLA's Louis Slichter, Santa Barbara's Paul Barrett, and Berkeley's Robert Brode are doing the real planning as far as the University of California's part is concerned."

Probably the largest IGY project being undertaken by the University of California is that at the Scripps Institution of Oceanography under the direction of Dr. Roger Revelle. The Scripps oceanographic program is concentrated upon two primary questions: (1) what is the movement of the waters at great ocean depths? and (2) how does sea level change around the world during the course of the year? To seek answers to these questions the Scripps Institution will conduct three long cruises into the Pacific.

At UCLA, scientists of the Institute of Geophysics, under the direction of Dr. Louis Slichter, are preparing to launch a global investigation of earth tides. Dr. Slichter will be assisted by J. C. Harrison, Dr. Leon Knopoff, Edward Kraut, and others. Integrated into IGY activity by UCLA scientists will be a continuing program in marine gravity. This investigation, which has been in progress for the last several years, is concerned with minute changes in the force of gravity brought about by regional differences in the composition of the earth's crust.

At the Santa Barbara College of the University of California preparations are under way for a reception of "visitors from outer space." Under the direction of Dr. Paul Barrett, an investigation will be carried out during the IGY of ultra high energy cosmic rays.

Cosmic ray research will be a feature of IGY activity on the Berkeley campus. Dr. Robert Brode, professor of physics, will direct operation of three cosmic ray detection stations as a part of the world-wide scientific endeavor. One of these stations is at Berkeley. Another station, to be manned under Dr. Brode's direction, will be at Antarctica and a third in Hawaii.

PERSONAL ITEMS

Bob Patterson, formerly with Formation Logging Service Co., has joined forces with Pacific-Oil Well Logging. Bob Burns, former owner of Pacific Well Logging, merged his company with Oil Well Logging, which was comprised of Burt Nunn, Bruce Barron, Andre Robitaille, Wes Ellis and Arnold Jue. This merged corporation, Pacific-Oil Well Logging, has its offices in South Los Angeles and can be reached at FAculty 1-3340.

Mr. and Mrs. Jack Kappeler, Tidewater Oil Company, Ventura, have just returned from a four-day trip to Miami, Florida, where they attended the wedding of Jack's brother. Jack must have flown one of the Navy Banshee's to make the trip in such a short time.

John Pujol, of Tidewater's Ventura office, has been receiving some unusual mail of late. It appears that he has a number of luscious pen pals. Ask John for further details.

Tom Cameron, District Geologist, Tidewater at Bakersfield, had a most unusual experience at the S.E.P.M. field trip at La Jolla. Grunion were observed on the beach around midnight and by 2:30 A.M. at high tide several had been found spawning in Tom's bed. It is rumored that they also travel by mail.

Richfield Oil Corporation's Geological staff held their annual field trip at Hidden Valley Ranch near San Marcos Pass.

John Weise, Division Geologist for Richfield in the Rocky Mountain Area, is a recent visitor to Southern California.

Gordon Bell, District Geologist for Western Gulf in Ventura, should be indeed proud of his daughter, Carol Ann. She recently won the Ventura County spelling bee and was awarded an encyclopedia and a week's trip to Washington, D. C., to attend the national spelling bee.

Lowell Garrison of the Western Gulf Ventura office has been busy correcting contractor's errors on his new house. He plans to move in very shortly.

Bob Ortalda, Standard in Oildale, was up to his old tricks at the beerbust. Bob, as usual, drank his share of beer and tried to improve his marksmanship by pitching cigarette butts in everyone's beer cup.

Al Scouler, ardent fly fisherman with Standard in Oildale, recently caught an 18-inch rainbow in the Kern River. Al said that he was using a spinner-fly combination. Hey Al--where did the cheese go in that cheese sandwich you had???

Bill Edmondson has returned to work with Superior in Bakersfield after a 3-1/2-year tour with the Navy. Bill spent quite a bit of his time in Japan.

Mac Robinson, Joe Marell and George Owens have been transferred from Shell in Bakersfield to Coalinga.

A recent visitor to the Northwest was Bob Johnston, Division Geologist, Western Gulf in Los Angeles. Bob is not to be confused with Western Gulf's Floyd Johnson, whom he visited.

The annual northward trek to Alaska begins!! The following are leaving from Shell's Olympia and Seattle offices: Howard Barnes, Pete Grimstad, Bill Johnson, Kay Moleanaar, Maury Price, Ralph Rudeen, Stan Schindler, and Bob Smith.

Seen in Seattle the other day were Bernold Hanson and Herb Johnston, geologists, Humble, on their way to Alaska with fishing poles in hand.

It seems that J. Q. Anderson, Consultant, Bakersfield, was being harassed by scouts in the Northwest during a drillstem test on the Pasquier No. 1 well being drilled near Enumclaw, Washington.

Dick Hester was recently flooded out of the jungles of Guatemala--Dick is in charge of Signal's mapping party and also acts as photographer for Petroleum Week (see May 3 issue). Bakersfield should, effectively, dry him out.

On July 1, after twenty-seven years of service, Ralph W. Chaney will retire from the Department of Paleontology of the University of California. Dr. Wayne L. Fry, currently with the Geological Survey of Canada, has been appointed to the vacancy.

Dick Pierce, Richfield in Long Beach, has returned from his vacation in--of all places--Florida. On the way back, Dick stopped in Texas to evaluate a personal interest in some potential oil properties. Being a neophyte in tornado country, Dick came back with a map which depicted all the structural highs by means of spiral contours!

Ernie Bush, with General Petroleum, has been transferred from Sacramento to Santa Maria. From all reports, Ernie, Lynn and the little Bushes are happily settled in their new home.

Leo Wanek, with General Petroleum in Sacramento, is to be transferred to Durango, Colorado. He, Pat and their family expect to leave any day.

Carl Helms, Standard Oil, has perfected a new swimming stroke which he calls the "salmon crawl." Carl invented the stroke after having been maneuvered into Bear Creek on a recent outing by his good friends, Ed Welge and Jack Cunningham.

"Baron" Tom Ise, Standard Oil, of Porsche fame, has done it again! He recently entered and won the "Grand Prix of McClellan Air Force Base" in the 1500 cc and under class.

Ed Karp, with Western Gulf, has been transferred from Los Angeles to Sacramento. Ed and Lois, his wife, are now looking for potential home buyers in Downey and home sellers in Sacramento.

Jim Wylie, with Western Gulf, is soon to be transferred from Los Angeles to Sacramento. He will bring his wife Marge, his daughter Robin, and his golf clubs with him!

W. H. (Bill) Hamlin has joined the Shell San Joaquin paleo. lab. in Bakersfield. Bill received his B. S. from Oregon in March, 1957, and is a native of Seattle. Bill is replacing G. G. (Gert) Senstleben who will retire in June with over twenty year's service with Shell. Gert graduated from a school in Switzerland and will visit there after retirement.

Poor (or envied) Don Olson, Union in Bakersfield, will shortly become the only unattached male in the Exploration Department, Bakersfield office--with the prospective "I DO" of Bob Wheaton coming up soon. Bob will be married to Rita Lyons early in July.

Ray E. Doan, geophysicist with General Petroleum in Bakersfield, is now enroute to Libya, North Africa with his family. Ray is going over with Mobil Oil of Canada, Ltd., Libyan Branch, and will be operating out of Tripoli, Libya.

Q. Moore, General Petroleum in Bakersfield, is being transferred to Los Angeles where he will operate as Exploration Coordinator in the L. A. Basin.

Cut Webster will be batching it for a while this summer while his wife spends some time in Montana. Buzz Ivanhoe's wife is taking a trip to Europe.

Dave Speyer has been transferred from Los Angeles to the Amerada office in Bakersfield to replace Neal Rosser, who has entered the Army. Dave recently completed a tour with the Air Force.

"Hi" Seiden, super hot shot with Standard in Oildale, recently exhibited rare form and stamina in his golf victory at a recent golf tournament and beerbust. Hi won high gross (129) and low net (72) at the Kern River course. Low gross of 77 was taken by Bob Adamson.

John Kirkpatrick recently went to work for Superior. John received both his A. B. and M. A. from U.C.L.A.

K. L. Rathbun, Manager of Exploration for Continental, is visiting Ed Johnson in Elko, Nevada. Regardless of any reports to the contrary, this is strictly a business trip.

A. L. Canut, Geologist with Texas in Santa Maria, has been transferred to Long Beach.

Don Herring, Senior Geologist with Texas, has returned from a special assignment in Houston, which lasted several months.

Bob Anderson, Signal, had a week away from Oklahoma and renewed his acquaintance with "Smogville."

Richfield geologists recently gathered at Hidden Valley Ranch near Santa Barbara for their annual field conference. It is absolutely untrue that the 4:00 a.m. poolside entertainment was part of the scheduled program.

Have you noticed lately how Joe seems to be losing his grip?

David H. Scott has joined Signal Oil & Gas Co. as Chief Geologist. Scott came from Caltex, Ltd. in Australia where he was superintendent of Exploration the last two years. He replaces Harry A. Godde, who has been appointed manager of Signal's offshore Exploration Department. Harry is now touring Southern Europe.

It was obvious that Wiley Price was up to his old tricks again. On May 1, the G. P. Red Horse was seen flying topsy turvey!

John Griffiths, Geologist, Shell, is now located in Olympia, Washington as assistant to the District Geologist. John was recently transferred from Ventura.

Bud Sage, Landman, Standard in Seattle, has been transferred to Bakersfield.

Mahlon Kirk and Jim Moore, paleontologists, Shell, Seattle and Olympia, respectively, spent a week in Houston recently attending a research conference. Jim was nearly carried away by Texas--one of Texas' numerous floods, that is!

NURSERY NEWS

Ed and Pat Welge, Standard Oil, are the proud parents of Hans Peter Andrew Welge who was born on May 9, 1957 and weighed 7 lbs. 8 oz. The Welges now have a boy and a girl.

Walter Howe, Shell geologist in Sacramento, and his wife Martha had a new arrival at their home on May 6. Taylor Homes Howe weighed 8 lbs. 2 oz.

Robert McConville, Signal in Bakersfield, and his wife Marilynn announce the birth of Colleen Margaret on May 11. Colleen, weighing 9 lbs. 3 oz., is their third child.

Vince Scury, Seaboard in Bakersfield, and his wife Colleen, announce the birth of their second child, a boy, on March 6, who weighed 7 lbs.

Ted Sheldon, Seaboard in Bakersfield, and Becky, his wife, are the proud parents of John Dwight, born January 25. John is their first child!

Jean and Jim Pasker, Standard in Oildale, announce the arrival of their second child, James Arthur, who was born April 29. James weighed 8 lbs. 1/2 oz.

The Will Classens, Standard in Oildale, announce the arrival of their second daughter, Elaine Ann, born April 30, weighing 7 lbs. 4 oz.

T. W. (Bill) King, Shell in Bakersfield, and Grace announce the addition of Thomas Alan to their family on April 8.

Jim and Doris Vernon, The Texas Company in Santa Paula, announce the arrival of a seven-pound baby girl, Jan Katherine, born March 14.

Dick and Muriel Brooks, Richfield in Long Beach, have added the third boy to the family. Robert William, 8 lbs. 14 oz., arrived April 26.

Justin and June Hall, Monterey in Los Angeles, are the proud parents of Jane Melissa, 7 lbs. 4 oz., who made her appearance on May 28.

Mr. and Mrs. Bob Hoffman, Tidewater Oil Company, Ventura, proudly announce the arrival of Susan Marie on May 10, 1957. Susan weighed 7 pounds 13 ounces.

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Bulletin 1024-I "Tungsten Deposits in Fairbanks District, Alaska" by S. M. Byers.

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Water Supply Paper 1360-G "Groundwater Conditions in the Mendota-Huron Area, Fresno and Kings Counties, California" by G. H. Davis and J. F. Poland.

Miscellaneous Geological Investigations Map I-239 "Aerial and Engineering Geology of the Oakland - West Quadrangle, California" by Dorothy H. Radbruch.

California Division of Mines

Special Report 47 "Economic Geology of the Bishop Tungsten District" by P. Bateman. Includes geologic maps of the Big Pine, Bishop, Mt. Goddard and Mt. Tom Quadrangles. These maps may be purchased separately.

CALENDAR

A.A.P.G. Forum Meeting. "Recent Developments in and Use of Photomapping in Geological Exploration" by Mr. William L. Cozzens, Fairchild Aerial Surveys. June meeting, date and location to be announced.

June 6, 1957: Thursday, Noon, A.A.P.G. Luncheon, Rodger Young Auditorium, 936 West Washington Blvd., Los Angeles, "Land of the White Elephant" by Mr. E. D. Sherman, Mr. Richard S. Rheem, Operator, and Mr. Frank Rieber. $2.00, includes tax, tip and parking.

June 7, 1957: Friday, 6:00 A.M. golf, 6:00 P.M. barbecue. A.P.I., Los Angeles Basin Chapter, Annual Barbecue and Golf Tournament. Lakewood Country Club, Carson and Lakewood Boulevards. Barbecue $3.50, golf $2.00, free beer at 4:00 P.M. Doorprizes and golf prizes. Members only. Membership $1.25 per year.

June 12, 1957: Wednesday, Cocktails 6:30 P.M., dinner 7:30 P.M., San Joaquin Geological Society Dinner Meeting, Hotel El Tejon, Bakersfield. "A Geological Investigation of the Mineral Resources of a Region, With Specific Reference to the Lands of the Southern Pacific Railroad" by Dr. George A. Kiersch, Assistant Director of Exploration, Southern Pacific Company.

June 13, 1957: Thursday, 12:00 Noon. S.E.G., Rodger Young Auditorium, 936 West Washington Blvd., Los Angeles. "Continuous Velocity Log" by F. M. Lehner, Seismograph Service Corporation. $2.50, includes tax, tip and parking.

June 13, 1957: Thursday, 6:30 P.M. Los Angeles Basin Junior Petroleum Group, Turf Club, Rosemead Blvd. and Anaheim-Telegraph Road, one block north of the Santa Ana Freeway, Rivera, California. "Advancements in Drilling Well Wire Line Formation Testing" by Armor Kane, Schlumberger Well Surveying Corporation. "Continuous Velocity Log" by Bud Lehner, Seismograph Service Corporation. $3.50 for members, $3.75 for non-members, includes tax, tip and parking. Late reservations call John Watson, UN 3-4781 or Bob Kazarian, HE 8-1151.

June 22, 1957: Monday, 12:00 Noon. A.I.M.E. Pet. Tech. Group, Rodger Young Auditorium, 936 West Washington Blvd., Los Angeles. "Problems on Offshore Drilling" by Dr. G. A. Shurman, Cal Research. $2.25, includes tax, tip and parking.

June 24, 1957: Monday, 12:00 Noon. A.I.M.E. Pet. Tech. Group, Rodger Young Auditorium, 936 West Washington Blvd., Los Angeles. "Well Stimulation and Well Washing" by Mr. A. B. Bristow, Petroleum Engineer, Standard Oil Company. $2.25, includes tax, tip and parking.

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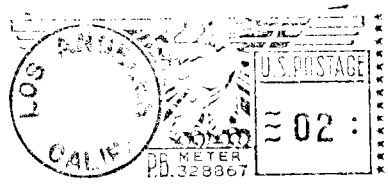

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PACIFIC PETROLEUM GEOLOGIST

NEWS LETTER OF THE PACIFIC SECTION
AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

Vol. 11 July 1957 No. 7

ASSOCIATION ACTIVITIES

A.A.P.G. Spring Picnic

Congratulations to Andy Vidos and members of his committee for their fine work in organizing an extremely successful picnic on June 7 at Britt Park. Nearly 400 geologists and guests enjoyed the splendid food and fellowship at this incomparable barbecue of the year.

Acknowledgment is also due Mr. Wilbur Britt, who has donated freely of his time as well as equipment and monies.

The success of this eventful occasion is also attributed to the following service companies for their generous contributions:

Baash Ross Tool Co., Baker Tool, Inc., Baroid Well Logging Service, Brown Mud Co., Byron Jackson Tools, Inc., California Well Logging Co., Core Laboratories, Inc., Eastman Oil Well Survey Co., Ellis, George B. & Assoc., Fairchild Aerial Survey, Inc., Formation Logging Service, Globe Oil Tool, Inc., Halliburton Electric Logging, Homco, Inc., Hughes Tool Co.. Johnston Testers, Inc., Kern County Land Co., Knox Geological Co., Lane Wells Co., McCullough Tool Co., Mardril, Inc., Munger Oilogram, Murphy, W. W., Newhall Land and Farming Co., Pacific Logging Exchange, Pacific Mud Co., Pacific Towboat & Salvage Co., Petroleum Technologist, Inc., R & R Well Logging Service, Rapid Blue Print, Scheutz, R. S., Schlumberger Well Survey Corp., Seismograph Service Corp., Shaffer Tool Works, Inc., Smith, H. C. Oil Tool Co., Tri-Counties Blue Print & Supplies, Ventura Blue Print.

A.A.P.G. DIRECTORY

The Directory Committee reports that assembly of the new 1958 AAPG-SEG-SEPM Pacific Section directory is progressing nicely. There should be no difficulty in having the book out for the fall meeting.

The response is very good where pictures are concerned. The majority of members are being photographed or are otherwise furnishing new pictures for this directory. However, a few members have not submitted a picture yet. Remember, this is a Picture Directory and a picture must be made available to the Committee if members are to be included.

Anyone who has not filled out and returned his data card should do so. Photographs taken by any of the three official photographers will be returned directly to the Committee.

Members are reminded of the deadline of September 1. Pictures, changes in status, company affiliation, address, etc. must be filed with a Committee member before that time. Contact Harry Whaley, Tidewater Oil Co., Box 811, Ventura, Phone MI 3-2154; Tom Roy, The Ohio Oil Co., Box 193, Bakersfield, Phone FA 5-5701; or Lee Choate, Box 9125, Long Beach 10, Phone NE 6-9248. This is the only way the committee can keep up with these changes.

Advertising space is still available. This section is "top drawer" material to persons and companies in or connected with the geological profession. Interested persons should contact Jack Leach, Sunray Mid-Continent Oil Company, 714 West Olympic Boulevard, Los Angeles 15 - Phone RI 8-5171.

NORTHERN SACRAMENTO VALLEY FIELD TRIP

The Sacramento Geological Society held its 1957 field trip in the Redding area of the Sacramento Valley on May 25 and 26. Copies of the syllabus and road log are still available and may be purchased for $2.00 by writing to Mr. Donald E. Barrett, General Petroleum Corporation, P. O. Box 4095, Sacramento 21, California. The syllabus includes a geologic map, columnar sections, and a road log, which make it easy for those interested in taking the trip for themselves.

Dr. Michael A. Murphy (University of California at Riverside) and Mr. John R. Albers (U.S.G.S., Ground Water Branch) lead the field trip the first day. Dr. W. P. Popenoe (U.C.L.A.) was the leader the second day.

The first day was concerned mostly with examining outcrops of the upper part of the lower Cretaceous Shasta series (Horsetown stage) on the west side of the Valley. In terms of rock units, Dr. Murphy has broken these into two formations. He calls the oldest the Rector formation. This is composed mostly of sands and conglomerates. It is conformably overlain by his Ono formation. This is made up primarily of dark gray mudstones and includes two sandstone conglomerate tongues. The older of these is referred to as the Roaring River tongue, and the younger as the Huling tongue.

At the beginning of the field trip, before reaching the lower Cretaceous, Plio-pleistocene Red Bluff gravels and the Tehama formation were seen in outcrop along Clear Creek. The Red Bluff is characterized by red and brown outcrops, whereas the underlying Tehama is distinguished by its green color in this area. Further along, outcrops of the Copley greenstone (Devonian) and the Kennett formation were pointed out.

The first stop was at an exposure of the contact of quartz-diorite (late Jurassic-early Cretaceous) of the Shasta Bally batholith and the "Horsetown beds" (lower Cretaceous of C. A. White. 1885).

This is of lower Albian age. Oyster shells are frequently found along this contact. At the second stop an interesting gradational contact from fresh granite to weathered granite to feldspathic sands of the Rector formation was observed. Whereas, the actual contact is difficult to see at this location, it can be seen more readily in another area where a conglomerate separates the granite from the sand. The third stop was in an area where the dark gray mudstones of the lower Ono formation and the sands and conglomerates of the Huling tongue were observed. At stop number four more of the mudstones of the Ono formation were seen. Good exposures of the overlying unnamed Cretaceous formation were also examined. Stop number five gave another look at the Rector formation--at this location it consists largely of conglomerates.

In the latter part of the first day an optional trip was led by Mr. John R. Albers. Those who went on this part of the trip viewed a portion of the Klamath mountain crystalline complex, including the Copley greenstone (Devonian) and the Balakala rhyolite(?). Features of the Trinity River Project were also seen.

The second day the field trip was lead by Dr. W. P. Popenoe through a 4000 foot (plus) section of upper Cretaceous sediments which outcrops on the east side of the Valley in Shasta and Butte Counties. Dr. Popenoe has studied this section extensively in past years and has broken it into Members I through VI. Member I is the Oldest and Member VI is the youngest.

Member I is 700 feet thick and composed of brown, arkosic, thick bedded sandstones. It unconformably overlies Triassic and Paleozoic sediments and igneous rocks.

Member II (Turonian age on microfossils) is composed of soft gray shales with a few sandstone stringers. It conformably overlies the member below and is about 800 feet thick.

Member III is made up of thick bedded gray sandstones with a few shale stringers. This member is conformable with Member IV below. It is more than 250 feet thick.

Member IV is composed of dark gray shales and dirty sandstones. It is about 1000 feet thick and rests conformably on member below.

Member V is composed of arkose and other sands. A conglomerate is well developed at its base. This member is about 900 feet thick and may be unconformable on IV.

Member VI is composed mostly of dark gray shales and has a thickness of about 400 feet plus.

Mr. Albers led a side field trip on the second day to the Afterthought Mine. This mine is abandoned, but used to produce copper and zinc from the Bully Hill rhyolite.

S.E.G.

Mr. F. M. Lehner, Seismograph Service Corporation, was guest speaker at the S.E.G. luncheon meeting on June 13, at the Rodger Young Auditorium; the subject of his talk was "Continuous Velocity Logging."

Continuous velocity logging was developed by Magnolia Oil Company prior to 1952, and leased to Seismograph Service Corporation in that year. The first crew was activated in March of 1954. There are now a total of eight crews in the United States - seven in the Mid-continent and one in California. The crew in California has been based in Bakersfield since May of 1954. To date, over 1,300 surveys have been done in the United States, with approximately 115 of these being done in California. Approximately 60 of the 115 have been done for the Cooperative Well Velocity Surveying Group.

In the interpretation of the continuous velocity log, a sand, shale velocity relationship, a porosity-velocity, and compressibility-velocity relationship are utilized. This device offers a new parameter to the geologist and engineer. Used with or without the electric log, a better determination of gas, oil and water sands can be obtained. It serves also as an excellent correlation tool. It must be understood that the continuous velocity log is not a panacea, but only another step in the right direction toward complete evaluation of a well.

For the geophysicist, this tool enables him to:

1. Get a time-depth curve.
   a) A few check shots must be fired to calibrate the log, but not nearly so many as were previously required for the conventional velocity survey, consequently less rig-down time, shot-hole drilling, shot-hole casing, and dynamiting.
2. Determine approximately from where his reflections are coming.
   a) A simple mathematical procedure is used to transfer discontinuities of

velocity from the velocity log to a two-way raw seismogram time. These times are checked against a seismogram shot at or near the well.

3. Synthesize reflections and procure a sample seismic record that can be used as a match with his original seismograms obtained in the general vicinity of the well.

   a) A study of multiples can be made while preparing the synthetic.

A.A.P.G. Forum

Mr. R. D. Terry, Hancock Foundation, U.S.C., was guest speaker at the Los Angeles Geological Forum meeting on May 29, at the General Petroleum Auditorium. Mr. Terry presented a very interesting talk entitled "Marine Geology of Santa Monica Bay" and showed many fine Kodachromes.

Santa Monica Bay is a large crescent-shaped bay which is bound on the north by the Santa Monica Mountains, on the east by the Los Angeles Basin, and on the southeast by a small portion of the Palos Verdes Hills. Santa Monica Shelf, a submerged continuation of the Los Angeles Basin, is incised by two large submarine canyons - Redondo and Santa Monica. The edge of the shelf is at a depth of 270 feet and its distance from shore varies from only a few hundred feet at the head of Redondo Canyon to more than eight miles between the two canyons.

Santa Monica and Redondo Canyons differ in several ways. Redondo Canyon starts in shallow water close to shore; its axis is relatively straight and has a seaward sloping bottom of 4 per cent; is considerably more complex since it has two large tributaries and numerous smaller ones. Santa Monica Canyon starts at a depth of about 180 feet, more than 3-1/2 miles from shore; its axis is sinuous, has few tributaries, and has a bottom slope of 3 per cent. On the basis of complexity, it appears that Redondo may be the older of the two submarine canyons.

Shelves may be studied in several ways by using different parameters in interpreting the sedimentary regime. These parameters are usually combined for no one factor suffices to relate the entire sedimentary picture. In the investigation of Santa Monica Shelf, the following sediment characteristics were studied: (1) Per cent sand, silt, clay, and gravel; (2) Sorting and median diameters, (3) Sediment classification using a triangular diagram with gravel, sand and clay at each apex; (4) Classification by visual examination of the coarse fractions (> 0.062 mm); (5) Classification based upon mineralogy and the degree of rounding of various minerals; (6) Classification based on gross characteristics, i.e. clastic, organic (shell debris), or authigenic (glauconite and phosphorite).

These data made it possible to learn much of the depositional history of the Bay. This included the distribution and cause for the distribution of various sediment types, the source of sediments, location of present-day depositional and nondepositional areas, location of relic and residual deposits, areas favorable for the accumulation of organic debris and for the formation of authigenic minerals.

The following is a summary of the sedimentary characteristics and distribution of bottom materials within the Bay:

1 - Most of the shelf has particles of sand size, i.e. 40 per cent sand. Sand is most abundant nearshore and decreases in an offshore direction. Its percentage is low in the canyons, and the basin has less than 1 - 10 per cent sand.

2 - Silt is the accessory sediment in the Bay (both clay and gravel are low); however, its distribution is patchy and it is most common in the canyons and the offshore basin. Biotite is abundant, and at times is the principle silt-size particle in the sediment.

3 - Gravel is widely distributed, particularly in the subsurface sediments. Gravel is most prevalent on the outer shelf between the submarine canyons, along the northern and southeastern part of the nearshore and littoral zone, and it also occurs occasionally on the offshore slopes and in the canyons.

4 - The distribution of sediment types, based on a triangular diagram is: sand nearshore, followed by silty-sand, sandy silt, and finally, silt in the offshore basin. In addition, "red sand" - a relict deposit occurs on the shelf south of Redondo Canyon and in a few areas off El Segundo and Playa del Rey.

5 - The normal offshore gradational decrease in grain size is disrupted by areas of relict sand, rock and gravel, organic debris, and concentrations of authigenic minerals.

6 - Examination of the coarse fractions reveal that "fine-quartz-feldspar sand" is the predominant material, but there are large patches of "rock-fragment sand", "red sand," "shell sand", "phosphorite-glauconite-shell sand", and "glauconite sand".

7 - Most of the shelf sediments can be considered well sorted. However, there are patches of moderately sorted and poorly sorted sediments on the shelf and in deeper parts of the Bay. Moderately or poorly sorted sediments tend to be among the coarsest on the shelf and occur among the organic, authigenic and relict sediments. Poor sorting on some of the offshore slopes and in the canyons are believed to be partly the result of slumping.

8 - Calcium carbonate content shows a general increase in an offshore direction. The percentage is highest on the outer shelf between the two canyons and on the shelf projection off Palos Verdes Hills. Most of the sediment contains about 5-10 per cent $CaCO_3$ but the outer shelf area has more than 50 per cent.

9 - Organic carbon content shows a good correlation with grain size and with submarine topography. The percentage is low over most of the shelf, increases in an offshore direction, and is highest in the submarine canyons and within the basin.

10 - Rock occurs in five areas; in the nearshore and littoral zone along the northern part of the bay and south of Redondo Canyon, and on the outer shelf between the two canyons. No rock occurs between the outer shelf area and the shore to the east.

The rocks on the outer shelf are mainly Miocene in age. One mudstone sample was dated as L. Mohnian, and reworked Foraminifera of Pliocene age were found on either side of the rocky

area. A large mass of glaucophane schist was collected from the area of shales and mudstones on the outer shelf.

The occurrence of bedrock on the outer shelf consisting of Miocene age rocks, together with schist, tentatively dated as either Miocene (San Onofre) or Jurassic (Catalina schist), can be explained by one of the following: (1) The Palos Verdes Fault continues in a NW direction and was responsible for the uplift of the rocky area. The area to the east of the rocky area is either a graben or a syncline; or (2) the rocky area on the outer shelf is a topographic high and the bedrock dips as a monocline toward the coast. The rocks on the outer shelf, therefore, are correlated, and connected with, Miocene and Pliocene age rocks within the Los Angeles Basin.

The sedimentary history of the shelf has varied greatly - even in historic time. Samples collected only 20-25 years ago contained much more sand than samples collected on this survey and cores reveal a heterogeneous mixture of gravels, sands, silts, clays, shells, mixtures of these sediment types and even layers of vegetation. It was estimated that the present average rate of clastic deposition on the shelf is 0.02-0.03 in/yr.

A.I.M.E.

The A.I.M.E. Junior Petroleum Meeting, held June 13, at the Turf Club, was addressed by Armor Kane, Schlumberger Well Surveying Corp. Mr. Kane's subject was, "The New Wire Line Formation Tester."

A Formation Tester run on logging cable is now available to the oil industry. It offers a method of safely and rapidly testing possible producing formations in uncased holes. These tests can be made up the hole after running the electric log. Reservoir pressure-data is continuously recorded at the surface as the fluid sample is extracted. The tester is capable of recovering a one, two and three-quarter or five and one-half gallon sample of reservoir fluid per trip in the hole. In the two and three-quarter and the five and one-half gallon sample chambers provision has been made to separate the flow of reservoir fluid into two portions.

A retaining pad on the body of the tool is expanded against the wall of the hole at the exact depth desired; this depth is determined by electrical log control. A bullet is then fired through the center of the retaining pad which creates a connection between the formation and a flow line to the sample chamber. When the chamber is filled, a valve is closed and the fluid sample sealed at maximum pressure. The tool is retracted to minimum diameter and brought out of the hole. Electrical circuits permit a complete recording at the surface of the mechanical operations of the tool as well as the formation pressure build-up and the hydrostatic mud pressure.

The tool was introduced commercially during the latter part of 1955 in the Gulf Coast of Louisiana and Texas. Over 1,000 operations have been made to date (Sept. 1, 1956); 50 per cent of which resulted in successful tests. Failures have been due mostly to ineffective sealing in unconsolidated sands.

One major company had 41 successful tests out of 80 attempts with 23 ineffective pad seals. Results for this company were gratifying as to pinpointing gas-oil ratios, indicating productive permeabilities and aiding in determinations of fluid content where electrical log and side-wall coring information were inconclusive.

Eight typical pressure curves were discussed (including misruns).

The present applications of the tool were discussed:

1. Determination of producible fluid--particularly differentiating between gas and oil.

2. Determination of Reservoir Pressure as an aid to:
   A) Safety in completion technique;
   B) Reduction in Drilling Cost; and
   C) Reservoir analysis.

3. Determination of minimum gas-oil ratios.

4. Location of gas-oil or oil-water contacts.

5. Obtaining of samples for examination and analysis: oil (gravity); gas (hydrocarbon content); water (salinity).

Running the formation tester requires no special precautionary measures. Because full hydrostatic mud pressure is maintained at all times, well depth is no problem. Thus, the method allows safe, economical testing in wells which heretofore could only be tested by setting casing.

S.E.G. Spring Meeting

The Pacific Coast Section, Society of Exploration Geophysicists, Spring Meeting was held May 15, 1957, at the Hotel El Tejon in Bakersfield. The speakers and their abstracts were as follows:

"Geological and Geophysical Study of a Mojave Desert Fault" by C. Hewitt Dix, California Institute of Technology, Pasadena.

The particular fault studied is one running northwest, southeast through Soggy Dry Lake, approximately 20 miles directly east of Lucerne Valley in San Bernardino County, California. Stations were laid out approximately 200 feet apart along lines to form a rather close network. Each of the lines were about 2000 feet long. The fault appears on the surface in part of the area and a detailed topographic study was made of this area. Also, a very close study of gravity was made, readings being taken on each of over 2000 stations. An effort was made to stay within 0.1 milligal accuracy. Quite a number of the stations have also been occupied by a magnetometer. The magnetometer surveying indicates the presence of dikes under the surface. Some refraction seismograph work has been done and more is projected for the immediate future.

The original objective was to measure the horizontal displacement on this fault. This has turned out to be even more difficult to do than was first suspected. At the present time, it is probable that the horizontal displacement is very small. The fault is about 16,000 feet long. Beyond the ends, secondary faulting develops and, as an extension, beyond each end appears a trough or graben. We are especially anxious to get refraction seismic detail on these end secondary structures. At least one of the dikes is strongly reverse magnetized. The dikes

tend to be parallel with the direction of the fault showing that the orientation of minimum principle stress direction is such as to provide no horizontal shear stress. However, this is not universally true along this fault as there appears to be a positive relative magnetic high showing a pair of dikes which are at right angles to each other and at 45 degrees to the fault. This possibility is interesting, suggesting that during part of the fault formation the stress was oriented so as to shear the fault in a right lateral manner, whereas in another part of the history of the stress system the reverse was true.

"The Po Valley has California Geology and Geophysics", by Carl H. Savitt, Western Geophysical Company, California.

Geology and seismic velocities are shared by the Great Valley of California and the Po Valley of Italy. Production in the Po is almost exclusively gas as is the case in the Sacramento Valley. Structural maps and cross sections further point up the similarities. Reasoning by analogy, it is possible to make some interesting speculations on the production possibilities in the Adriatic.

"Reflections and Well Logs", by R. A. Peterson, United Geophysical Corporation, Pasadena.

The basic relationship between reflection seismograms and lithologic variations indicated on well logs were reviewed. The nature and magnitude of time delay involved in the recording of seismic reflections was analyzed. The close relationship in detail between seismograms and appropriate well logs (plotted to common time or depth scales) was discussed and examples were shown. The effects of progressive change in thickness of a single bed on the detailed form of the corresponding reflection seismograms were discussed and illustrated.

"Notes on a Seismic Phenomenon Observed in The Carrizo Plains Area, San Luis Obispo County, California", by R. D. Brace, Standard Oil Company of California, Oildale.

The paper and accompanying slides show an interesting seismic phenomenon related to the San Andreas fault. A generalized field gravity map shows the location of the San Andreas fault in the subsurface. Six seismic cross sections, running normal to the fault, show very steep events in the vicinity of the surface trace of the fault. These events are interpreted as reflected-refractions traveling in the upper part of the first subweathered layer. Insufficient "cross" control is available to allow prediction of the exact travel paths of these data. The subsurface location of the fault is not necessarily indicated by the deeper-plotting data.

"Density Logging With Gamma Rays", by P. E. Baker, California Research Corporation, La Habra.

An improved method of logging formation density has been developed in which the formation is bombarded with a collimated beam of gamma-rays. By means of a scintillation detector and pulse-height discriminator, the gamma-ray energy band is accepted and recorded corresponding to the deepest penetration into the formation. Field tools have been built and tested in a joint effort by McCullough Tool Company and California Research. Laboratory tests on a field tool revealed no bore hole diameter effects for smooth holes and no effect of formation chemistry, except insofar as chemistry affects density. In extensive field tests the density log has exhibited excellent agreement with core measurements and has correlated accurately with other logs.

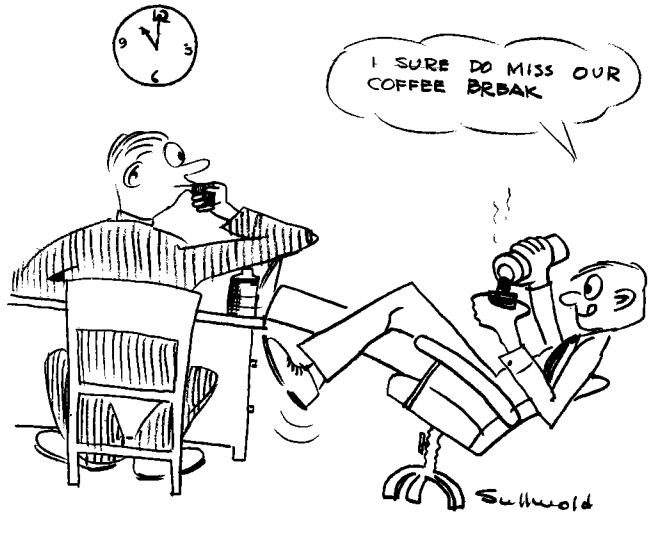
The Dinner Meeting (held jointly with the San Joaquin Geological Society) had Dr. John C. Crowell, Department of Geology, U.C.L.A. as its speaker. Dr. Crowell spoke on "Some Comments on Faulting in Southern California".

Geological studies of fairly complex regions in the Transverse Ranges, such as the Ridge Basin - Castaic area, allow generalizations which aid our understanding of faults in Southern California. Continual diastrophism during the last 30,000,000 years or more is shown by: (1) Unconformities -- Many unconformities overlap older faults and buttress unconformities indicate considerable relief, implying diastrophism; (2) Relations between faults -- Some faults cut older ones and some have been repeatedly reactivated; and (3) Sedimentary rock types -- Coarse clastics, such as the Violin breccia, indicate continuous or intermittent rejuvenation of a fault scarp.

Deformation in the Transverse Ranges has gone on hand in hand with deposition throughout most of the Cenozoic. Older rocks are, therefore, more deformed than younger, so we can usually expect more complex geology at depth. The "down-structure" viewing of geologic maps helps us appraise this factor. Conversely, in other areas, particularly complex localities may not be recognized if only younger rocks are in view.

In California not all faults are distinctly younger than associated sedimentary rock units. Some, having moved repeatedly through time, have helped to define basins of deposition, so that formations laid down in the basin never crossed the fault. In addition, some large faults separate crustal blocks which have deformed differently; these faults have behaved as structural boundaries. Here the geometry of slip is extremely complex.

Much can be learned about the fundamental nature of diastrophism by the welding of geophysical and geological studies in such an area. California earth scientists have an opportunity to arrive at fundamental understanding through cooperation. We may be able to appraise the role here of subcrustal currents, isostasy, crustal strength, etc. Details of our structural history down through the Cenozoic, like individual frames of a moving picture, can be worked out in California, and give us sample views of the general character of deformation.



PERSONAL ITEMS

Les Brockett, Geologist, Richfield, L.A., found the Los Angeles heat and the longing for the Pacific Northwest too much for him and took a trip to our Northern climes.

Now that school is out, John Griffiths' family (Shell) has arrived in Olympia to help him look for a house.

C. B. Howard, Paleontologist, Shell, Olympia, replaced scout E. I. McCray while Ivor attended the National Oil Scouts' and Landmen's Convention in Denver; both returned to the office red-eyed from lack of sleep!

James E. Kennell, Geologist, Shell, Alaska district, has been transferred to Grand Junction.

Paul Siemon has been named Division Geologist for Continental Oil in Bakersfield. He replaces Dan Sullivan who has been transferred to New Orleans.

Jack Sheehan, Standard in L. A., was seen by many at the picnic June 7. He claims he can't recall this event taking place. Wonder why???

F. Hugh Wilson, Division Geologist, Southern Division, Tidewater Oil Co., was appointed Divisional Exploration Manager and member of the Operating Committee with headquarters in San Francisco effective June 16. Wilson replaces H. H. (Hank) Neel who has been appointed Manager of Foreign Exploration with headquarters in San Francisco.

T. J. (John) Pujol, Tidewater in Ventura, will replace T. W. (Tom) Cameron as District Geologist in Bakersfield. Cameron will be transferred temporarily to the Rockies before going Foreign.

W. D. (Bill) Cortwright, Tidewater in Bakersfield, is currently serving on the Kern County Grand Jury.

Bruce Mobley, Tidewater in San Francisco, is to be transferred to Albuquerque, New Mexico.

Dick Hester, Signal in Bakersfield, and family departed June 13 for Guatemala to rest and recuperate after a round of farewell parties. For those unable to recognize Dick, he was the one with the dapper moustache!!

Wes Bruer, Superior in Bakersfield, who professes a strong dislike for the South, just returned from a vacation in Georgia. Wes' in-laws are in Georgia. Enough said!

Bill Winter, Superior in Bakersfield, has returned from a vacation in Texas. What was it, Bill? Flood or drought?

George Clark, Richfield in Bakersfield, is now the oilman's equivalent of Sam Levinson as a result of a recent talk before the Richfield public speaking class.

Ed Bien, Richfield in Bakersfield, recently tried reading the Formosa Oil News. Ed had quite a problem until he remembered that in Chinese one starts at the finish to get to the beginning.

Earl Madsen, Humble in L. A., has been transferred to Chico as a Production Geologist.

Bakersfield Scouts attending the National Oil Scouts' and Landmen's Convention in Denver were Barney Barnard, Pat Wright, Floyd Tinscher, and Harold Ross. Les Herndon was to have accompanied the group but because of a recent operation was unable to attend. Barney almost didn't make the trip due to misplacing his airline credit card in the excitement of marrying off his daughter Saundra on June 15 to a Navy lad, Harold Smith.

Bill Horsely, Richfield scout in Bakersfield, has "friends" working for Southwest Airways. On his flight to the Northern California Scouts' Barbecue, Bill found his bags tagged for shipment to Anchorage, Alaska, by way of Seattle.

Bela Csejtey recently joined Richfield in Bakersfield and is currently working on the Carrizo Plains area. Bela has a very interesting background having recently departed from Hungary in a hurry where he was a student at "Eotvos Lora'nd", University of Budapest. Bela participated in the Freedom Revolution as a member of the University National Guard.

Representatives from Bakersfield at the recent Northern California Petroleum Round Table Barbecue included Joe Parmenter, Floyd Tinscher, Bill Horsely, Ken Jensen, Don Ford, Cliff Edmundson, Harry Williams, Mike Rector, and Bruce Brooks. Harry Williams played his first game of golf and achieved low net in the blind bogey with a score of 152. Harry also received a fifth of cough medicine as a door prize.

Congratulations to Eugene Tripp, Texas in Bakersfield, who was married June 16 to Marjory Ward of Burbank.

Stan Carlson, Richfield in Bakersfield, recently spent a week of his vacation laying brick and mortar in the backyard of his new home. We understand that Stan had to return to the office to rest.

Paul Clement, Chief Geophysicist with Gulf in Bakersfield, will leave for Iran about July 1.

Bob Nelson, Honolulu in Bakersfield, is currently spending two weeks' vacation in San Diego with the Army! While Bob is under the watchful eye of Uncle Sam, Cut Webster is making full use of Bob's pool.

Hollis Bertrand, Oil Scout with Honolulu in Bakersfield, recently spent a weekend (lost, that is) in the Greenhorn area. Anyone have an old St. Bernard dog handy for Hollis to use? Seems that someone became confused and Hollis had to spend a night in the wild woods away from camp.

Bob Ortalda of recent Standard beer-bust fame has recently reformed. His acquired good-living enabled him to break out of the 80's at the Kern River Club. Bob shot a 77.

Al Scouler, Standard in Oildale, has recently put in a lot of work preparing the Boy Scout's "Camp Kern" in the Sierras for the summer camping.

The following have offered to work as a committee on the Boy Scout Week project for next October in cooperation with the A.A.P.G. and the Oil Information Committee:

Bob Erickson - Standard
Don Hendrickson - Richfield
C. E. Sturz - Tidewater
Louis Taylor - Tidewater

All are of the Ventura District.

James Trotter, Tidewater in Ventura, has taken a short trip to Omaha to attend his brother's wedding. That's a dangerous place for a bachelor!!!!

The Ventura Chapter of the Oil Information Committee met for a luncheon June 17. Distribution of the forthcoming Boy Scout literature was discussed.

The recent Sacramento bar-B-que was quite a success. Geology was discussed, golf balls lost, and many schooners of beer were consumed. A very excellent job of handling the food and other arrangements made this a very pleasant meeting.

Charles Foss, Tidewater in Ventura, has been transferred to Durango, Colorado.

Ask Jack Nair of Phillips Petroleum if he realizes that there isn't a Serve-Your-Self system for a wholesale milk store at Hope and Wilshire near the Earl C. Anthony Packard agency.

Bill Castle, Richfield Oil, has just returned from a vacation in New Mexico.

Byron Webb of General Petroleum Corp. has been transferred from Taft to Ventura. Innes MacKenzie will replace him.

George Thomas, Humble in Chico, has left to fulfill his stint with Uncle Sam's Army at Monterey.

Dick Ruberts, Shell scout in Durango, Colorado, spent six days of his vacation(?) in California in Turlock. It would seem that this part of the visit wasn't premeditated inasmuch as the entire six days were taken up by repairs on his brand new car.

Don Rogers, Humble in L. A., has been transferred to Chico where he will assume duties as a subsurface geologist.

Don Greenlee, Senior Geologist with Shell in L. A., is successfully recovering from a major operation at St. Mary's Hospital in Long Beach.

Wayne Elliott, Richfield in Long Beach, will soon launch his new yacht. Latest reports indicate that the decor of the main salon rivals anything ever seen in Coastal waters.

Those in attendance at the A.A.P.G. annual picnic owe Doug Traxler of Signal a vote of thanks. It seems as though perplexed Doug fought a near losing battle with highway maintenance crews. As quickly as they removed direction signs, Doug restored them in their original position--almost!

Roy Bensor, Shell scout in L. A., has been transferred to Durango, Colorado.

Jack Haight, Humble in Chico, has been transferred to Los Angeles as a Production Geologist.

Any of our enterprising subscribers operating a shuttle service between Los Angeles and Chico should contact the Exploration Department of Humble Oil & Refining Company.

Darren Wales, Richfield in Long Beach, is suffering from fits of acute depression. Darren, body surfing expert, from Aussie-land, and devotee of the "Bondi roll," has not caught a good breaker this season. On the other hand, Harry Jamison, arch rival and exponent of the "California Twist," has ridden twenty-six breakers for 2,842.4 yards so far this year.

Earl Bescher, Humble scout, formerly in Los Angeles, has recently been seen in local regions by his many friends.

Signal held a core party on the offshore wells at Goleta on June 27, at Tucker's Grove in Santa Barbara. First reports are obviously unreliable so accurate information as to the degree of hilarity reached and extent of damages will appear in a forthcoming issue.

J. R. (Jim) Dorrance, formerly Assistant Division Manager of The Texas Company's Production Department, Los Angeles, left by plane this week for Indonesia to become Manager of Exploration for Caltex. His new address is:

Manager of Exploration
N. C. Caltex
Pacific Petroleum Mig., Rambi Camp
Pakenbaru, Central Sumatra, Indonesia

Harry Nagle, Geologist and Cadillac owner, Standard Oil in L. A., is reported to have placed on deposit with Casinos in Lost Wages, Nevada, mucho dinero. Jack Sheehan, who also made the trip, is rumored to have fared better--apparently, he didn't gamble-------as much.

NURSERY ITEMS

Warren Cebell, Amerada in Bakersfield, and wife Marilyn announce the birth of their third son, Christopher William, born May 28, 1957. Chris weighed 7 lb. 8 oz.

Adrian Nelson and wife Greta, Tidewater in Bakersfield, announce the birth of Anton Mark on June 15, 1957, who weighed 7 lb. 3-1/2 oz.

Chuck and Louise Hardie, Standard in Oildale, announce the birth of Laura Payne on June 14, weighing 7 lb. 6 oz. (Bust 12" - Hips 8"!)

Dick and Mary Jo Wilson, Humble, announce the arrival of their first child, Jeffrey Howard on June 22, 1957. Jeffrey weighed 6 lb. 9-1/2 oz.

Bob and Marge Knapp, Standard in L. A., announce the arrival of their second son, Robert William, born June 9, 1957. Young Robert weighed 8 lb. 14 oz.

E. L. Harris, Draftsman, Shell, Olympia, became the father of a girl, Wendy Kay, on June 10. Ed immediately took a two weeks' vacation!

BIBLIOGRAPHY OF RECENT PUBLICATIONS

United States Geological Survey

Bulletin 1000-F, "Principles of Geochemical Prospecting", by H. E. Hawkes.

Bulletin 1045-B, "Core Logs from 2 Test Holes near Kramer, San Bernardino Co., Calif." by D. D. Dickey.

Bulletin 1059-A, "Selected Annotated Bibliography of "The Geology of Uranium-bearing Coal and Carbonaceous Shale in the U. S." by T. M. Kehn.

Geol. Quod. 98, "The Geology of the Carlsbad Caverns East Quadrangle, New Mexico", by P.T. Heyes.

Circular 376, "Computation of Peak Discharge at Culverts", by R. W. Carter.

Circular 378, "Water Resources of the San Francisco Bay Area, Calif." by H. F. Matthay, W. Back, R. P. Orth, R. Brennan.
(Circulars obtainable free from Geol. Survey, Wash. 25, D. C.)

Calif. State Division of Mines

Special Report 48 "Economic Geology of Casa Diablo Mountain Quadrangle, Calif." by C. D. Reinhart and D. C. Ross.

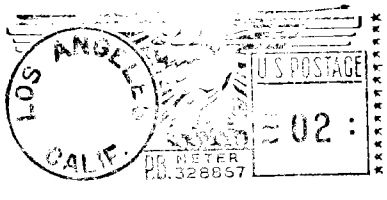
CALENDAR

July 11, 1957: Thursday, 12:15 P.M., S.E.G. Luncheon Meeting, Rodger Young Auditorium, 936 West Washington Blvd., Los Angeles. "Regional Geology of Central Interior Basin of Alaska" by Don Hembre, Geologist, Standard Oil Company, $2.50 includes tax, tip and parking. Late reservations call Fred Schultz, MA 67701.

July 22, 1957: Monday, 12:00 Noon, A.I.M.E. Petroleum Forum, Rodger Young Auditorium, 936 West Washington Blvd., Los Angeles. "Problems of Offshore Drilling" by Dr. G. A. Shurman, Cal. Research Corp., $2.25 includes tax, tip and parking.

PACIFIC PETROLEUM GEOLOGIST
PACIFIC SECTION, A.A.P.G.
799 SUBWAY TERMINAL BLDG.
LOS ANGELES 13, CALIFORNIA

Vol. 11 No. 7



Fred R. Neumann
381 E. Fourth Street
Chico, California

GA

Form 3547 Requested

PACIFIC PETROLEUM GEOLOGIST

NEWS LETTER OF THE PACIFIC SECTION
AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

Vol. 11 August 1957 No. 8

ASSOCIATION ACTIVITIES

BOY SCOUTS OF AMERICA
GEOLOGY MONTH---OCTOBER, 1957

This month has been designated "Geology Month" by the Boy Scouts. It presents a wonderful opportunity for professional geologists to interest boys in our science. A program is being sponsored by the combined AGI and AAPG Boy Scout Committees. Already a number of Pacific Section geologists are engaged in working on this project. However, to be really effective, we are going to need more help. Our prime concern are the following areas where we have had no volunteers, as yet:

Arrowhead Council (48)	San Bernardino
Grayback Council (24)	Redlands
Old Baldy Council (43)	Pomona
Riverside County Council (45)	Riverside
San Diego County Council (49)	San Diego
Crescent Bay Council (26)	Los Angeles 64
Long Beach Council (32)	Long Beach
San Fernando Valley (50)	Van Nuys
Monterey Bay Council (25)	Salinas
Mt. Whitney Council (54)	Visalia
Santa Lucia Council (56)	San Luis Obispo
Boulder Dam Council (328)	Las Vegas, Nevada
Catalina Council (11)	Tucson, Ariz.
Cochise Council (8)	Douglas, Ariz.
Grand Canyon Council (12)	Flagstaff, Ariz.
Imperial-Yuma Council (29)	El Centro, Calif.
Roosevelt Council (10)	Phoenix, Ariz.
Three-G Council (9)	Safford, Ariz.

Assistants are needed for the chairmen who have been assigned the following councils:

Northern Orange County Council (37)
Roger Alexander
Standard Oil Company
605 West Olympic Blvd., Los Angeles
(MI 2711)

Orange Empire Council (39)
John Sansone
Shell Oil Company
2080 Obispo Avenue, Long Beach (Hem 8-1151)

Los Angeles Council (33)
Robert Thomas
California Department of Water Resources
Home: 605 North Toland Avenue
West Covina (Edgewood 9-4494)

Ventura County Council (57)
Louis Taylor
Tidewater Oil Company
P. O. Box 811, Ventura (Miller 3-2154)

Kern County Council (30)
Michael R. Rector
Union Oil Company
P. O. Box 613, Bakersfield (FA 4-6571)

Verdugo Hills Council (58)
Frank Minshall
Continental Oil Company
1137 Wilshire Blvd., Los Angeles (MU 5212)

Mission Council (53)
John F. Curran
Honolulu Oil Corp.
1500 Chapala Street, Santa Barbara
(WO 2-0019)

San Gabriel Valley Council (40)
J. E. Kilkenny
Union Oil Company
617 West Seventh St., Los Angeles
(MA 9-3261)

A geologic kit will be produced and distributed to all of the Scout and Explorer units throughout the country. It is planned to emphasize both indoor and outdoor activities. Field trips can be organized on a troop or a council basis. In the kit are directions for collecting, labeling and displaying various kinds of geological materials; also, suggestions for models, displays, games and contests.

A trading post will be set up through which troops favorably situated for collecting can trade their unusual specimens with other troops over the country. Directions will be given for procuring movies and film strips on geological subjects. A bibliography of Popular Reading in Geology will be included.

The climax of the program is to be found in the good turn for the month. It is proposed that the prize-winning displays will be presented to Science departments of the high schools and junior high schools.

In order to make this program effective, we need volunteers immediately. All those who are interested, please contact J. E. Kilkenny, Union Oil Company, 617 West Seventh Street, Los Angeles (MA 9-3261), for the southern California and Arizona areas; Dan Pickrell, Pexco, Inc., 38 Sansome St., San Francisco (Exbrook 2-2270), for northern California; and Bart Sorge, United Geophysical Co., Box "M", Pasadena (PY 1-1134), for Oregon-Washington-Idaho areas.

ANNOUNCEMENT

The Coast Geological Society annual dinner-dance will be held Saturday, September 21, 1957, at the Biltmore Hotel, Santa Barbara. Cocktails will be served at 7:00 p.m., dinner at 8:00 p.m., and dancing from 9:00 p.m. to 1:00 a.m. For additional information, contact Dan Flynn, General Petroleum Corp., telephone Miller 3-5451 in Ventura.

PACIFIC PETROLEUM GEOLOGIST

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Editor	Earl C. McKnight
Assistant Editors:	
Activities	Eric Jacobsen
	Bud Oakes
Personal Items	Harry Jamison
Selected Bibliography	Joan Baldwin
Calendar	Bill Schlax
Cartoonist	Harold Sullwold
	Bob Sanem
Coast Correspondent	Louis Taylor
San Joaquin Correspondent	Donald Ford
Sacramento Correspondent	Keith Jones
Northwest Correspondent	Ralph Rudeen

NEXT DEADLINE AUGUST 27, 1957

CALTECH NEWS RELEASE

Dr. Frank Press has been appointed Director of the Seismological Laboratory of the California Institute of Technology. Dr. Press succeeds Dr. Beno Gutenberg, world-famous geophysicist, who is retiring to half-time status after twenty-seven years at Caltech and ten years as Director of the Laboratory.

The new director, 32 years old, has been a member of the laboratory staff since 1955, when he came to Caltech as Professor of Geophysics. He had previously been Associate Professor of Geophysics at Columbia University and a member of the Research Staff of Columbia's Lamont Geological Observatory.

A native of New York City, Dr. Press received his B.S. from the College of the City of New York and his M.S. and Ph.D. from Columbia. In addition to teaching during the past ten years, he was employed on research contracts with the U.S. Navy and Air Force, served on the scientific staff of numerous oceanographic expeditions, and on a tour of duty for UNESCO, set up a system of seismological stations in Israel. He has published papers on a wide range of subjects in geology, geophysics and seismology.

The Caltech Seismological Laboratory has been in operation for 30 years, having been established by the Carnegie Institution of Washington and taken over by Caltech in 1937. It consists of a central laboratory located in Pasadena's San Rafael hills, and sixteen auxiliary stations throughout Southern California.

The laboratory has long been famous not only for the contributions of Dr. Gutenberg, but for instrumental developments and world-wide tectonic interpretations by Dr. Hugo Benioff, and the recording and analysis of local and distant earthquakes by Dr. Charles Richter.

1958 OFFICER NOMINATIONS

A.A.P.G. president GRAHAM B. MOODY has announced the following slate of officer nominations submitted by the A.A.P.G. nominating committee: President--GEORGE S. BUCHANAN, Husky Oil Company, Cody, Wyoming; and SHERIDAN A. THOMPSON, Magnolia Petroleum Company, Dallas, Texas; Vice-President--GORDON I. ATWATER, consultant, New Orleans, Louisiana; and CLAUDE N. VALERIUS, consultant, Shreveport, Louisiana; Secretary-Treasurer--KENNETH COTTINGHAM, The Ohio Fuel Gas Company, Columbus, Ohio; and HAROLD T. MORLEY, Pan American Petroleum Corporation, Tulsa, Olkahoma; Editor, SHERMAN A. WENGERD, incumbent, University of New Mexico, Albuquerque.

Winners in the election of national A.A.P.G. officers, which is by mailed ballot, will take office on March 13, 1958, at the close of the 43rd annual meeting of the Association to be held in Los Angeles, California.

Chairman of the 1958 A.A.P.G. nominating committee is WILLIAM B. HEROY, Beers and Heroy, Dallas, Texas. Other members include G. CLARK GESTER, Berkeley, California, PAUL A. HARPER, The R. W. Rine Drilling Company, Wichita, Kansas, ROBERT McMILLAN, Geophoto Services, Denver, Colorado, and GEORGE D. THOMAS, Shell Oil Company, New Orleans, Louisiana.

Present members of the A.A.P.G. Executive Committee include President Graham B. Moody, consultant, Berkeley, California, Vice-President B. Warren Beebe, Keating Drilling Company, Oklahoma City, Oklahoma, Secretary-Treasurer William J. Hilseweck, Blackwood and Nichols Company, Dallas, Texas, and A.A.P.G. Bulletin Editor, Sherman A. Wengerd, University of New Mexico, Albuquerque.

EASTERN NEVADA GEOLOGICAL SOCIETY MEETING

Dr. Leonard Lupher of Shell Oil Company was guest speaker at the Eastern Nevada Geological Society meeting, Thursday, July 18, at the Hotel Nevada in Ely, Nevada. Dr. Lupher presented a very interesting paper entitled, "Some Observations on the Nature and Magnitude of Faulting in the Great Basin", and his discussion attracted one of the largest audiences that has attended a meeting of the Society. Over seventy persons were present.

The early concept of block faulting in the Great Basin, based, to a great extent, on physiographic evidence, has been largely dispelled as a result of subsequent detailed work in various parts of the region. High angle reverse faults and overthrusts were first recognized along the periphery of the region and, as work progressed, additional thrusts were delineated in more centrally located areas.

The magnitude of thrusting may be very great, but this has not been definitely established. For example, it is difficult to consider thrusts seen in the Snake Range and the North Egan Range, where Cambrian Prospect Mountain Quartzite is thrust over Pre-Cambrian rocks, as parts of a single overthrust of enormous magnitude. On the other hand, faults such as the high-angle reverse Keystone thrust in the northern Spring Mountains are well defined. In some cases a breccia layer or overthrust breccia,

seen at the leading edge of a fault like the Keystone, has been misinterpreted as indicating low-angle thrusting. Some factors determining the extent of thrusting are: the physical properties of the rocks involved, and their tendency to shear within weak zones; the rate of movement along the fault plane; and the rate of erosion of the thrust plate. It is virtually impossible to determine the magnitude of displacement if a large part of the upper plate has been removed by erosion; however, rocks involved in thrusting in the Great Basin are generally erosion resistant.

Most faulting in the Great Basin is difficult to date because orogenic activity has persisted over a considerable span of geologic time. It is not valid to restrict fault activity to the time of the Rocky Mountain Laramide orogeny. For example, the Muddy Mountain Thrust cannot be more closely dated than pre-Miocene-post-Jurassic, and movement on the Keystone fault is only known to be post-mid-Jurassic. In the latter case, however, topographic relationships suggest fairly recent displacement. Some thrusts are known to have been active more recently, and an example is found in the Currant area, where older rocks rest upon strata of Mio-Pliocene age.

There may be many ranges in the Great Basin bounded on one or both sides by normal faults, but there is little evidence that this is the case. Most of the ranges lack well defined fault scarps and the fault planes are usually concealed by valley fill. Some of the boundary faults are probably of the high angle reverse type and some of the ranges are undoubtedly anticlinal, flanked by downwarped valleys. The oldest rocks are sometimes found in the presumably down-dropped block, as is the case in Diamond Valley.

Dr. Lupher concluded by stating that the geology of the Great Basin involves many complex tectonic problems, and that faulting has occurred over a long span of geologic time. Normal faulting, iron-faulting, thrusting, upwarp, folding and erosion all contribute to the intricate nature of the structure.

AID TO PETROLEUM INDUSTRY SEEN IN NEW DATING METHOD

A new method of dating petroleum source beds by measuring the decay of potassium 40 into argon 40 may find significant application in the petroleum industry.

The time measurement system was recently described by Dr. Jack F. Evernden, associate professor of geology at the University of California, Berkeley.

Dr. Evernden stated that the new method will offer several advantages over previously used radioactive dating systems and will serve to complement paleontological dating techniques.

One advantage is that sedimentary rock samples from petroleum source beds can be directly dated. Many such beds contain glauconite, a micaceous mineral which formed on the floor of prehistoric seas when sediments were deposited. Since this mineral contains potassium, it is possible to measure the age of the sediments by determining the amount of potassium 40 which decayed into argon 40.

"The potassium 40 isotope," said Dr. Evernden, "decays at a constant rate into argon 40. Argon is one of the 'noble' elements, which means that it will not combine with other elements. Thus, we can assume generally that there was no original argon in the sample."

It is only necessary to measure the amount of argon 40 and potassium 40 in a sample and complete a simple formula to arrive at the age of the rock, the geologist said. Experiments suggest that argon 40 leakage from glauconite is not significant.

The new dating system was developed through experiments at Berkeley conducted by Dr. Evernden; John H. Reynolds, associate professor of physics; Garniss H. Curtis, assistant professor of geology; and Joseph I. Lipson, assistant research physicist.

Dr. Evernden is working with the Pan American Petroleum Corporation in Tulsa, Oklahoma, this summer to apply the argon dating technique to the petroleum industry.

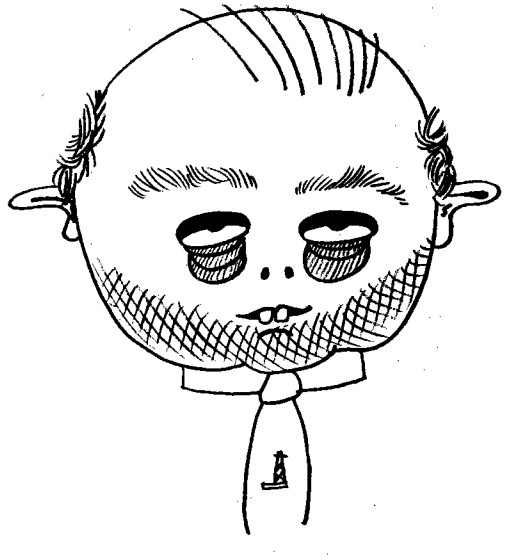
THERE IS STILL TIME--

--To have your picture included in the forthcoming 1957 AAPG-SEG-SEPM DIRECTORY and to insure that your address and affiliation are listed correctly.

The deadline for receipt of pictures and changes is September 1. Pictures and last minute changes should be sent to Lee Choate, P. O. Box 9125, Long Beach 10, telephone NEvada 6-9248.

Also, advertising space is still available. For information, contact Jack S. Leach, Sunray Mid-Continent Oil Company, 714 West Olympic Blvd., Los Angeles 15, telephone RIchmond 8-5171. Anyone desiring advertising space should have the material in Jack's hands by September 1.

Below is a picture of "No-Show Norville". This is the picture the committee plans to run for the members who do not submit their own. Who's more handsome--Norville or you??



THIS IS THE PROMISING GEOLOGIST WHO DIDN'T SEND HIS PHOTO TO THE DIRECTORY.

Pacific Section Publications

President, Harvey Lee, has announced that the following publications are available for purchase:

Directory - 1955

Directory of the Pacific Section members with individual photographs and affiliations.

Price: $.50 postpaid.
From: Elizabeth Johnston, c/o Graydon Oliver, 215 West Seventh Street, Los Angeles 14, California.

Cross Sections

Detailed cross sections prepared under the direction of the Cenozoic Sub-Committee on Geologic Names and Correlations:

No.	A.A.P.G. SECTIONS	
1	Sacramento Valley - South (2 sheets) North side of Sacramento Valley through Rio Vista, Thornton and Lodi Gas Fields, including Mt. Diablo-South Sacramento Correlation Chart	1951
2	Ventura Basin - East (1 sheet) Basement North of Oak Canyon Oil Field to Aliso Canyon Oil Field	1952
3	Los Angeles Basin (1 sheet) Palos Verdes Hills to San Gabriel Mts.	1952
4	Salinas Valley (1 sheet) San Antonio River northerly to San Andreas Fault, through San Ardo Oil Field	1952
5	Ventura Basin - West (2 sheets) Pt. Conception to Ventura including Channel Islands	1952
6	Sacramento Valley - North (2 sheets) A. From T 23 N/R 1 W through T 16 N/R 1 E, and B. Correlation Chart	1954
7	Ventura Basin - Central (1 sheet) From Santa Ynez Fault north of Ojai to Western Santa Monica Mts., through Ventura Avenue and West Montalvo Oil Fields	1956
8	San Joaquin Valley - South (1 sheet) From San Andreas Fault to Sierra Nevada Foothills, passing through Belgian Anticline, McKittrick, Elk Hills, Coles Levee, Fruitvale, Kern River and Round Mountain Fields	1957

Price: $1.50 each plus $.50 mailing and handling charges for eight cross-sections or less.
From: Elizabeth Johnston, c/o Graydon Oliver, 215 West Seventh Street, Los Angeles 14, California.

Guidebook - 1952 National Convention

290 pp., maps, cross sections, stratigraphic charts, and road logs of 670 miles of road with short illustrated papers on regional geology and some oil fields of Southern California.

Price: $6.50 postpaid
From: William E. Kennett, Treasurer, 1054 Wilshire Boulevard, Suite 301, Los Angeles 17, California

Guidebook - "Capay Valley-Wilbur Springs Westside Sacramento Valley"

N.C.G.S. - A.A.P.G. Spring Field Trip, May 7th and 8th, 1954

Price: $2.50 postpaid
From: J. Thomas Llewellyn, Secretary-Treasurer, Northern California Geological Society, 215 Market Street, San Francisco 5, California

Guidebook -"North Mt. Diablo Monocline, Contra Costa County, California"

A.A.P.G. - S.E.P.M. 1950 Annual Spring Field Trip, May 12th and 13th

Price: $1.50 postpaid
From: J. Thomas Llewellyn, Secretary-Treasurer, Northern California Geological Society, 215 Market Street, San Francisco 5, California

NOTE: Checks for the Directory, the Cross Sections, and the 1952 National Convention Guidebook should be made payable to the Pacific Section, A.A.P.G. and sent with the order to those in charge of distribution, as shown beneath the price of each publication. Checks should be made payable to Northern California Geological Society for the two Guidebooks ordered from J. Thos. Llewellyn.

Prices effective July 1, 1957.

S.E.G.

Mr. Don Hembre, Standard Oil Co., was guest speaker at the S.E.G. Luncheon meeting on July 11, at the Rodger Young Auditorium. Mr. Hembre presented a very interesting talk, entitled "Regional Geology of Central Interior Basin of Alaska."

The Koyukuk Basin is one of several en echelon northeast trending Mesozoic tectonic elements forming the skeleton of central and northern Alaska. The strata in this Basin range from late-early Cretaceous to early-late Cretaceous in age, and represent the last marine deposition in this area. The Brooks Range and the Chukotoskiy-Seward uplifts formed the northern flank and the Ruby Geanticline, the southern and eastern flank of the Koyukuk Basin. These tectonic highs formed during the Mesozoic were probably sources of sediment during Cretaceous time, and have been re-uplifted during Pliocene time. The Hogatza Uplift occurs within the outline of the Koyukuk depositional basin (in the Hogatza River area) and exposes early Cretaceous strata.

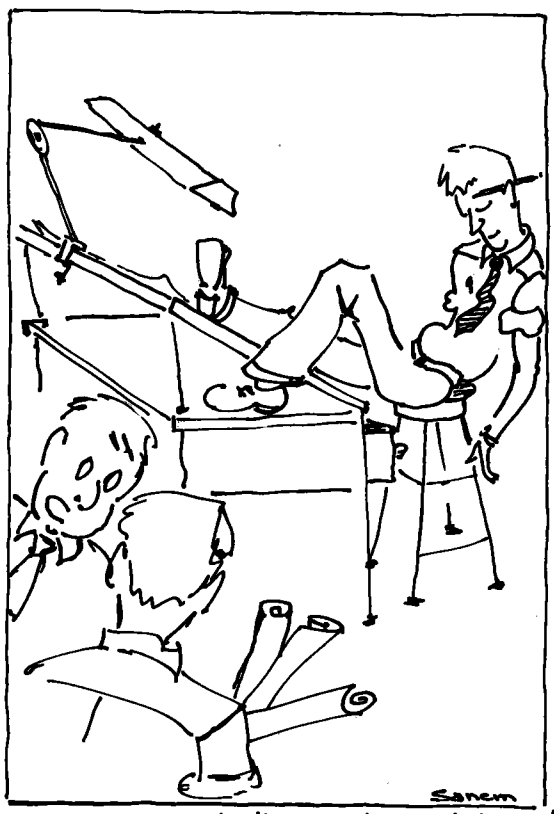
Koyukuk basin stratigraphic problems are numerous and complex; however, the U.S.G.S. has been able to recognize two different facies in the western end of the Basin, the "border" and "interior" facies. Exact correlation between these facies and the total thickness of either facies in any one area are unknown. In general, these western basin sediments indicate a regression of marine conditions. The base of the interior sequence is not exposed. Although all heretofore observed strata have been of an Albian or Cenomanian age, it is possible that earlier Cre-

taceous and/or pre-Cretaceous Mesozoic sediments were deposited in the axial portions of the Basin.

The Brooks Range metamorphics in the northeastern end of the Basin are overlain by a basal conglomerate several hundred feet thick, above which occurs an extremely thick unmeasured sequence of interbedded greywackes and shales. These sediments contain large amounts of volcanic derived clastic material and are devoid of any recognizable megafauna, although plant fragments are abundant. The graded bedding and wide lateral persistence of thin beds comprising this sedimentary sequence present an interesting environmental problem. The correlation of this northeastern basin sequence to either the "border" or "interior" facies of the U.S.G.A. western basin studies is unknown. Lithologically, it most resembles portions of the lower "border" facies.

The dominant structural trend of the Koyukuk Basin is northeast. This is the regional strike of the sediments, as well as the controlling tectonic elements. Very little detailed structural mapping has been undertaken in the Basin, but folding and faulting in all areas investigated has been intensive and extensive and indicate regional northwest-southeast compression. The age of these structures is hypothetically related to the great Pliocene and Laramide Revolutions.

The Koyukuk Basin is extremely inaccessible, lacks marine faunas and good reservoirs over wide areas, and in many areas has been intensely deformed with accompanying low grade metamorphism. The western Koyukuk Basin, however, has an inviting petroleum potential. It contains marine sedimentary section with great stratigraphic variation and innumerable untested structures. This portion of the Koyukuk Basin is similar in many respects to the Colville geosyncline to the north where proven oil and gas accumulations exist in the Fourth Naval Petroleum Reserve.



He said he didn't want to be disturbed - he's dreaming up a new play.

PERSONAL ITEMS

G. T. "Bud" Warren, popular Standard Oiler in the Sacramento area and leading exponent of a relaxing evening at the Club Mo Mo in the Capitol city, recently had an unexpected reunion with an old south Chicago friend, Leon. Bud is hesitant, but with cajolery will relate this close-shaved incident.

Bob Scott, who was formerly Tidewater's Los Angeles Basin scout, had a change in assignment. He will now be a geologist working with Herschel Nixon in the Los Angeles Basin. John Bullington is Bob's replacement.

Roland J. Bain, former Texas Company geologist at Long Beach, has returned to duty as a geologist at Sacramento, following completion of one year's study at the French Petroleum Institute in Paris on a Fullbright scholarship.

Jim Dorrance has reported a new address on his Indonesian assignment and would be glad to hear from his friends:

J. R. Dorrance
c/o C. W. Simmons, Caltex Pacific Pet., Ltd.
41-A Robinson Road
Singapore, Malaya

Bob Hindle, Sunray, has been up at Sisquoc Ranch for some two months now without relief. Has Bob been relegated to the Salt Mines?

Dick Eckhardt, Sunray, has become a regular commuter between Alaska and Los Angeles due to the recent Richfield discovery.

Jack Leach, Sunray, and Warren Hagist, Superior, orightened up the recent Eastern Nevada Geological Society meeting at Ely. It is reported "they didn't lose a thing."

Keith Rathbun, Continental,has just returned from a two months' stay in Egypt for special work with Sarah Petroleum Company. Keith flew back on the same plane with Sophia Loren - all the way from Copenhagen. How can anyone be so lucky?

Dick Haynes, Continental, just returned from a vacation in the western Yellowstone area. He had more trouble with the bears than anything else.

Monterey Oil Company changes in personnel are: Bill Emerson is transferring to Monterey's Midland office; former Californian Robert Rist is transferring from the New Orleans office to the Los Angeles office; Justin Hall from the Los Angeles office to the New Orleans office.

Jack Hugus, geophysicist for Western Gulf and S.E.G. treasurer, will leave in about two weeks to work in the aircraft industry in San Diego. All Jack's friends regret his decision.

Mark Latker, Western Gulf geologist in the Los Angeles Basin, is transferring to Gulf and Venezuela next month.

Congratulations to John Kirkpatrich, Superior Oil Company, Los Angeles, who was married July 31 to Patricia Hagerman. John and Pat will live in Glendale.

Chuck Cline is now working for General Petroleum in Sacramento. He has recently received his Master's degree from Brigham Young University. Chuck had worked for General Petroleum before getting his M.A.

Stewart Chuber is on the General Petroleum payroll and is doing some field work in connection with his thesis in the Willows area of the Sacramento Valley. Stewart is a student at Stanford University and has previously worked for Socony in Lybia.

Chuck Cary, Union in Bakersfield, is recuperating from an operation on his nose. Is there a story there, Chuck?

Ted Sheldon, Seaboard in Bakersfield, has been temporarily transferred to Meeker, Colorado, for a short stint.

Jerry Ganopole, Seaboard in Bakersfield, has returned from an extended vacation trip in the Pacific Northwest.

Buzz Ivanhoe, Franco-Western in Bakersfield, will resign, effective August 1, to become a Consultant, with emphasis on foreign operations.

Al Hopkins, Richfield in Bakersfield, has turned horticulturist. Latest information - Al has installed a victory garden in the top of his map file and is currently specializing in tropical plants.

A local coffee shop in Lamont is doing a rush business with representatives from 10 to 13 contributing companies watching a well from the coffee shop.

Hal Reade, Richfield in Bakersfield, found fishing at Balboa very poor, so he spent the rest of his vacation lying on the beach making a "grain count".

Jack Nisbet, Richfield in Bakersfield, reportedly brought back more grapes than information while scouting a well disguised as a grape picker in the Arvin area. The thought occurs maybe he would have obtained more information disguised as an oil scout!

Stan Carlson, Richfield in Bakersfield, is currently enjoying the second segment of his three-part vacation by spending two weeks around his old home town in Washington. Stan is the cause of much envy due to his four weeks' vacation.

Two houses and a bachelor apartment are available in Bakersfield coincident with the transfer to Long Beach of Bill Rascher, Nolen Webb, and Neal Hurley, Richfield geophysicists.

Tennant Brooks, Ferguson & Bosworth, in Bakersfield, is spending some time in a local hospital for a checkup on an unknown ailment.

Standard people received a letter from Howard Anderson, now with Iranian Exploration and Producing Company, saying that he is enjoying life in Iran and finds the native people very interesting and colorful.

It is reported that Jack G. Barr of Standard, in Seattle, is now on a very strict diet, but not due to doctor's orders. He recently acquired a new MGA '57 hard top coupe, fire engine red. Tight squeeze, Jack?

Howard Gonsalves is on a Volkswagon tour of Europe for his vacation this year.

Steve Shank, a graduate of the University of California, has been employed as a geologist by Superior Oil in Los Angeles. Steve received his M.A. from Cal in '57.

Ottmar F. Kotick retired from the U.S. Army on July 31. He is returning to geological activities in California, initially as a Research Associate at Stanford University, beginning in September. Ott's friends are glad he is returning to the fold.

Wayne Elliott, Richfield in Long Beach, launched his new yacht for the first time last Saturday after working on it for two years. It floats!

Irv Schwade, Richfield, just returned from another sojourn in Peru. He reports Peru practically proclaimed a national holiday for the newly chosen Miss Universe.

John Loofbourow and Gerry Knowles, Richfield, are taking Spanish lessons. No doubt they will soon be sent to Alaska.

Doyle Paul, formerly with Ohio Oil in Ventura, has gone to work for Petrobras in Brazil. Doyle would like to hear from any of his friends:

Doyle Paul
c/o Petrobras
Caixa Postal #240
Maceio, Alagoas
Brazil

Jerry Long, formerly with C.W.O.D., has been hired as a Scout-Geologist by Signal. He is a replacement for Harry Stuveling, who has been assigned to geology.

Floyd Clawsen, who has just recently been separated from the Service, is Jerry Long's replacement at C.W.O.D.

Les Schultz, General Petroleum, is on vacation at Huntington Lake.

Vic King, General Petroleum, just returned from a week's vacation at Balboa.

Chuck Orcutt, Richfield in Long Beach, is touring western Canada on his vacation.

Dick Brooks, Richfield in Long Beach, is leaving for the state of Washington to spend his vacation.

Les Roth, Amerada Petroleum Corp., Ventura, Geologist, spent nine days at Bass Lake perfecting his techniques for taking "high-speed flops." In fact, he really knocked himself out doing this--and sometimes he even had to lifted back into the boat!!!!

Ivor McCray, Scout for Shell at Olympia, and Bill Thomas, Chief Scout, returned from a trip to Alaska just before the rush of '57. Ivor reported that Alaska is not much different from Washington and Oregon. He made no comments about the night life.

Grant Valentine, District Geologist for Shell at Olympia, reports that a shark in excess of 14 feet in length has been cruising in front of his home for several days. The Valentine children have not been swimming in the Sound lately.

The Cutler Websters paid an all too short a visit to friends in Olympia on their recent vacation trip.

Jim Mercier, Tidewater Associated Oil Company in Ventura, is reportedly the meanest man in his neighborhood. He openly admitted that he enticed the neighborhood kids to play with a skunk which he had found loitering in his back yard. They did, and it did. After burying their clothes, they seriously considered burying the kids, as soap and water did not do any good. It doesn't look like Jim will have much company for a while.

Dick Brown of Western Gulf Oil Company is being transferred from the Offshore Boat to the office at Palo Alto.

Tom Benson of The Texas Company's Santa Maria office will be married to Miss Sally Carrington of Marion, Massachusetts. The event will take place August 24, 1957. Apparently, it was necessary for Tom to get married in order to obtain another car. He wore out his new Austin trying to keep up courtship between Santa Maria and San Francisco.

The Santa Maria Geological Discussion Group was addressed by Ernie Bush of General Petroleum, who spoke on the Grand Canyon.

Rod Collins, General Petroleum, Santa Maria, recently flew to Alabama on his vacation.

Bill Bailey of the Santa Maria Division of Oil and Gas was transferred to Los Angeles. Cecil Barton moved from Taft to replace him.

Doug Crawford, Division Paleontologist for Union Oil at Orcutt, took his vacation in the land of Wiky Waky. He spent three weeks in Hawaii.

Joe Dockwiller, of Union Oil at Santa Paula, just returned from his vacation at Bass Lake, where he and his freeloading friends, Jack Nair of Phillips Petroleum, to mention a few, enjoyed several days of water-skiing.

Mr. Ken Frost, Scout for Shell Oil Company, was married to Miss Geraldine Hasbrouck July 21, 1957, in Oxnard. No immediate plans for a honeymoon have been made, but the bride has some ideas for a trip.

A gala Bar-B-Que was held by the Coast Geologic Society in Ojai, July 20. Jack Wood again exceeded himself in the Culinary Art, and the rest of us exceeded ourselves in eating. The gathering was made more enjoyable by the presence of the ladies, who for once, did not have to wash the dishes. The old pool table experts, Bill Castle of Richfield Oil, and Sam Tate of Humble Oil, showed us how it was done, and some of the gals didn't do so bad either.

Jack Haight, with Humble, has recently been transferred to Los Angeles and promoted to Assistant Production Geologist.

John Reeder, Area Chief Scout, Humble Oil and Refining, has been transferred to Corpus Christi. Paul B. "Pete" Smith, formerly of Midland, Texas, has replaced Reeder as Area Chief Scout.

Joe Jensen, Consultant for Tidewater Oil Company, and his wife Lois, spent two weeks in June traveling nearly 2,000 miles through the six New England states. A good part of the time was spent looking up the places where Mrs. Jensen's ancestors lived from 1646 until about 1815. They failed, however, to find any current day relatives.

Don Herring, The Texas Company, Los Angeles, got caught in the oil boom while vacationing in the Northwest, but took time out to enjoy some salmon fishing at Westport.

The Pacific Northwest recently felt the results of an oil boom. A report of a successful drill-stem test brought geologists, scouts and lease hounds from as far away as Texas and Kansas, to say nothing of California. Lease brokers descended on the Land Commissioner's office like a plague of locusts and filed leases on state-owned land in excess of 350,000 acres in a period of five days. A similar favorable report from Alaska during the Washington rush sent some of the same people scurrying on to Anchorage.

Californians attracted to Washington by the oil boom included Max Payne, Bill Yerington, Mike Rector, Dick Eckhart, Tex Leverett, Charley Guion and Wes Bruer.

Jim Slasson is attending the Summer Institute in Geology at the University of Illinois on a grant from the Natural Science Foundation.

NURSERY ITEMS

James Bigelow, Gulf in Bakersfield, and wife Jean, announce the birth of a son on July 23, 1957.

Irv Frazier, Texas Co., recently became a grandpop to a red-headed boy, Gregory Howard Hill, 7 lbs. 4 ozs., born in Berkeley.

BIBLIOGRAPHY OF RECENT PUBLICATIONS

United States Geological Survey

Professional Paper 294-A, "North American Mesozoic Charophyta", by R. E. Peck.

Bulletin 1000-F, "Principles of Geochemical Prospecting", by H. E. Hawkes.

Bulletin 1000-G, "Geochemical Prospecting Abstracts, July 1952 - December 1954", by J. E. Erikson.

Bulletin 1036-L, "A Field Chromatographic Method for Determination of Uranium in Soils and Rocks", by C. E. Thompson and H. W. Lakin.

Bulletin 1059-B, "Selected Annotated Bibliography on Geology of Uranium-bearing Phosphorites in U.S.", by D. Curtis.

Water Supply Paper 1254, "Geology and Groundwater Features of Smith River Plain, Del Norte County, California", by W. Back.

Open File Report, "Geology of Possible Petroleum Provinces in Alaska", by D. J. Miller, T. G. Paine, and G. Gryc.

Open File Report, "Preliminary Geological Map of Part of Bokan Mountain Uranium - Thorium Area, Alaska", by E. M. Mackevett, Jr.

Open File Report, "Data on Water Wells in Willow Springs, Gluster, and Chafee Areas, Kern County, California", by F. Kunkle and others.

Geologic Map, (Release date August 7, 1957)
Geologic Map of Alaska ($2.00 per copy).

O.M.-189, Reconnaissance Geology of the Malaspina District, Alaska, by G. Plasker and D. J. Miller. (Price $.75).

California State Division of Mines

Journal of Mines and Geology, January - April, 1957,
"Geology of Island Mountain Copper Mine, Trinity County"
"Mines and Mineral Deposits of Mariposa County"

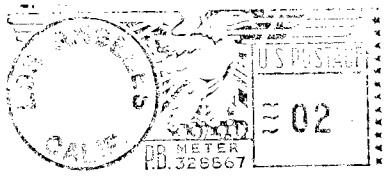
CALENDAR

August 13, 1957: Tuesday, 7:30 P.M., Coast Geological Society Dinner Meeting, Montecito Country Club, Santa Barbara. Mr. F. M. Lehner, Seismographic Service Corporation, will speak on Continuous Velocity Logging.

August 26, 1957: Monday, 12:00 Noon, A.I.M.E. Petroleum Forum, Roger Young Auditorium, 936 West Washington Blvd., Los Angeles. "Design of Water Treating Plants for Water Flooding or Water Disposal," by Robert Jorda, Shell Oil Company. $2.50 includes tax, tip and parking. Late reservations call Irving Fatt, Owen 7-1747, Extension 101.

PACIFIC PETROLEUM GEOLOGIST
PACIFIC SECTION, A.A.P.G.
799 SUBWAY TERMINAL BLDG.
LOS ANGELES 13, CALIFORNIA

Vol. 11 No. 8



Fred R. Neumann
381 E. Fourth Street
Chico, California

GA

Form 3547 Requested

PACIFIC PETROLEUM GEOLOGIST

NEWS LETTER OF THE PACIFIC SECTION
AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

Vol. 11 September 1957 No. 9

ASSOCIATION ACTIVITIES

BIOGRAPHY

Harvey W. Lee, President of the Pacific Section of the A.A.P.G, is a native of Lynn, Massachusetts. With the assistance of his parents, he arrived in Los Angeles at the tender age of nine, where he eventually attended Poly High, and, thence, later migrated to the University of California.

After emerging in 1922 with his degree in geology, he first faced the cold, cruel world working for Honolulu Oil Corporation. Thereafter, in 1923, he tried the Research Staff of Union Oil Company at Wilmington for size. He immediately became enmeshed in a program of natural gas and gasoline experimentation. He then became involved in a study of well cementing processes and geological subsurface water analysis correlations.

When Union appointed Stan Wissler to look into the possible application of paleontology as an aid in the search for oil, Harvey became his assistant. Together, they performed some of the earliest work of this type ever done on the West Coast. His first taste of field scouting came in 1927 for Union's Geological Department. The ensuing five years gave him varied experiences; such as, field mapping, around Taft and Maricopa, and general reconnoitering around San Joaquin Valley.

In 1935, after doing some consulting work, as well as assisting the U.S.G.S., Harvey returned to Union Oil Company as Chief Scout. The Exploration Department is now utilizing his talents as Administrative Assistant.

Harvey's position as President of A.A.P.G.'s Pacific Section is a well-earned recognition of his talent and service to the organization. In the past, he has served faithfully and well on many of its committees. He was General Chairman of the 1947 convention at the Huntington Hotel, and in the following year became Vice President of the Pacific Section. He is also active in the affairs of the National Oil Scouts and Landmen's Association; the A.P.I. Reserves Committee; the Oil Club; and the Petroleum Club of Los Angeles.

CONSTITUTION AMENDMENTS

Votes on the amendments to the By-Laws were counted by your secretary ten days after the ballots were mailed, as specified in the Constitution. Results:

Yes - 554
No - 25

PACIFIC SECTION NOMINATIONS

The nominating committee, comprised of Frank S. Parker, Chairman, Russell R. Simonson, Homer Steiny, Gordon R. Bell, and W. L. Matjastic have selected nominees for Pacific Section offices for the year beginning November 1957, as follows:

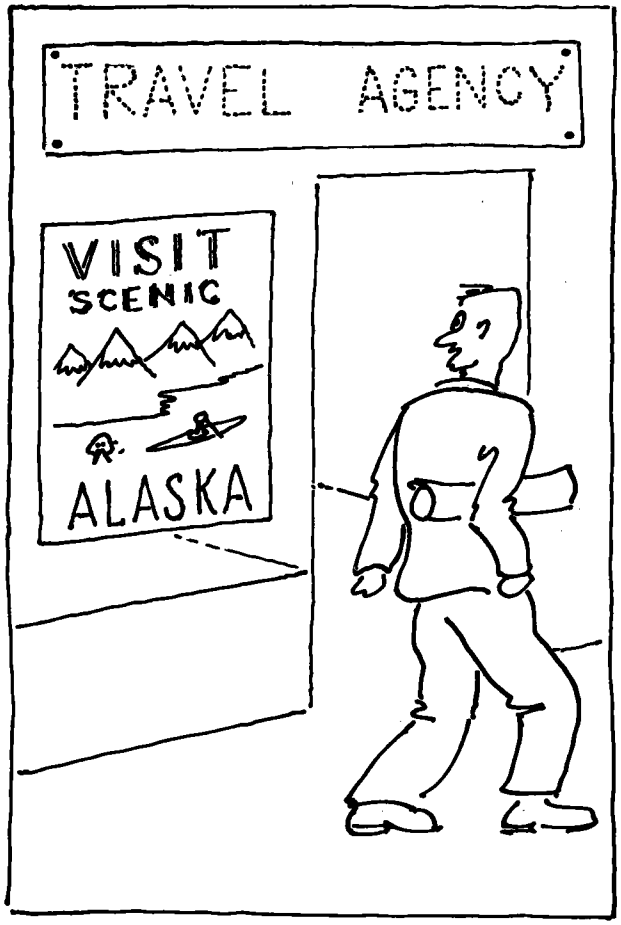
President - U. S. Grant IV
Milton Lewis

Vice President - Thomas Baldwin
J. Douglas Traxler

Secretary - Richard Ballantyne
George Wheatley

Treasurer - Robert Knapp
Walter Stokesbury

Additional nominations may be made by written petition of 25 or more members of the Pacific Section in good standing and received by the Secretary on or before October 1.



PACIFIC PETROLEUM GEOLOGIST

Published monthly by the Pacific Section, American Association of Petroleum Geologists. Address communications to the Pacific Petroleum Geologist, 799 Subway Terminal Bldg., Los Angeles 13, California.

Editor	Earl C. McKnight
Assistant Editors:	
Activities	Eric Jacobsen
	Bud Oakes
Personal Items	Harry Jamison
Selected Bibliography	Joan Baldwin
Calendar	Bill Schlax
Cartoonist	Harold Sullwold
	Bob Sanem
Coast Correspondent	Louis Taylor
San Joaquin Correspondent	Donald Ford
Sacramento Correspondent	Keith Jones
Northwest Correspondent	Ralph Rudeen

NEXT DEADLINE SEPTEMBER 24, 1957

PERSONAL ITEMS

Ask Warren Hagist of Superior about the episode concerning La Buca, the Greek belly dancer.

Was Bud Oaks of Union just washing the inside of his boat out with salt water recently at Newport, or did he forget to put in the drain plugs?

Gene "Jocko" Johnson, Shell Oil Company scout in Long Beach, was the recent victim of a very delicate operation. Many of Gene's "intimate" friends will be pleased to hear he has fully recovered and is once again "active."

Bob Rist, Monterey Oil, Los Angeles, has been promoted to Senior Staff Geologist. Prior to his appointment, Bob was assigned to the New Orleans office.

Bill King, formerly with The Texas Company, has joined William Ross Cabeen and Associates.

Robert N. Williams has been appointed Consultant Geologist to Empresa Nacional del Petroleo (ENAP), the Chilean Government Oil Agency, and will make his headquarters in Punta Arenas, Chile. Williams, a University of California graduate, has been Chief Geologist of Coronet Oil Company for the last five years with headquarters in Midland, Texas, and prior to that worked in California.

Standard Oil Company's "Gold Dust Twins" are at it again. A number of years ago, "Doc" Lammers was ill, so his buddy, Hal Rader, took time off for an operation. Once again "Doc" has been off due to an operation, and it seems that Hal is also taking time off for a rest. How's the fishing, fellows?

Jack Sheehan, Standard Oil, has been temporarily assigned to Alaskan duty. He is replacing Orrin Gilbert, who has been representing Standard at the Richfield location on Kenai, Peninsula.

Ed Sprotte, District Geologist for Shell in Long Beach, was recently transferred to Los Angeles. Jack Holzman has replaced Ed in Long Beach.

Les Schultz, General Petroleum in Los Angeles, spent his recent vacation at Huntington Lake. It may well be that the Schultz family will vacation hereafter at the beach. It seems it was a wee bit chilly up in them thar hills!

Jerry Williams has been transferred from Ohio's Los Angeles office to Ventura to replace Ed Miller, who will go to Bakersfield.

Paul Harris, Geologist in Los Angeles with The Texas Company, has been promoted to District Geologist for the Los Angeles Basin, with headquarters in Long Beach. He replaces C. E. Van Gundy, who will move to Los Angeles to take charge of offshore work.

John Kilkenny and family are vacationing at Newport.

Dick Faggioli will be back in the local Humble fold after September 1. Dick has been on a tour of duty in Houston for about six months.

At least one Richfield foreign geologist will never miss another Spanish lesson--it seems that the instructor waited in vain for the pupil to arrive. What the pupil didn't know was that the instructor had been replaced for that day by a real living doll!

Bob Kelly, Continental in Los Angeles, recently returned from a trailer vacation he took to Oregon.

Cy Bird is transferring from Humble's offshore program to San Joaquin Valley studies, but will remain in Los Angeles. Transferred without moving? How about that!!

"Bingo" Bill Corey, Continental in Los Angeles, will soon depart for Caracas on a temporary assignment to Continental of Venezuela. Bingo is now on his vacation practicing Spanish and Latin American protocol at a lake somewhere in Guadalajara, Mexico. (Neither the informant nor the editor can pronounce or spell the name of the lake.)

Quentin Moore, General Petroleum in Los Angeles, is on a vacation in Tennessee.

Walt Smith, District Geologist for Shell in Ely, has been working in Los Angeles for two months and is anxiously looking forward to his return to Nevada.

Dave Davenport, formerly with Sahara Petroleum in Egypt, will be in Continental's Bakersfield office temporarily, where he will be in the geological training program.

Irv Schwade, Richfield in Los Angeles, is vacationing in Mexico, via automobile, with his family.

Paul Elliott, with Western Gulf in Los Angeles, recently picked up a new car in Detroit, attended a Naval Reserve course in Washington, D. C., returned home via New Orleans, and checked in with 4,700 miles on the new(?) car. It is understood Paul will soon be seen nation wide on "Next Time Try the Train" billboards.

With your kind indulgence, we interrupt the personals at this point in order to fulfill the many requests of those desiring a copy of the Constitution of the Pacific Section of the American Association of Petroleum Geologists.

CONSTITUTION

PACIFIC SECTION OF THE AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

Adopted September 1924
Amended November 1939
Amended October 1943
Amended November 1944
Amended November 1951
Amended October 1952
Amended November 1953
Amended November 1954
Amended April 1955
Amended July 1957

ARTICLE I -- Name

This organization shall be known as "Pacific Section of the American Association of Petroleum Geologists" and is hereinafter referred to as "this Section".

ARTICLE II -- Object

The object of this Section shall be to provide for discussion of subjects and problems coming within the scope of the profession and, by such intercourse, to promote the advancement and aims of The American Association of Petroleum Geologists as set forth in its Constitution and by-laws.

ARTICLE III -- Membership

Sec. 1. Any member, associate or Junior (Amend. Nov. 1951) of the American Association of Petroleum Geologists in good standing and residing in California, Oregon or Washington, shall be eligible to membership in this section.

Sec. 2. Payment of annual dues of this Section by any person qualified as in Section 1 above, shall be deemed to be a declaration of membership in this Section and shall be known as an active member of this Section. (Amend July, 1957)

Sec. 3. Other persons not members of The American Association of Petroleum Geologists who are interested in the activities of this Section may become subscribers upon the payment of annual dues of this Section. These subscribers shall not have the right to vote. (Amend July 1957)

ARTICLE IV -- Officers

Sec. 1. The officers of this Section shall be a President, a Vice-President, a Secretary and a Treasurer. During the absence of the President, the Vice-President shall assume his duties. The duties of these officers shall be those customary for their respective offices. They shall assume these duties immediately following the meeting at which they are elected as hereinafter provided. Their term of office shall be for one year or until their respective successors are elected.

Sec. 2. There shall be an Executive Committee consisting of the President, Vice-President, Secretary, Treasurer, Retiring President, Editor of The Pacific Petroleum Geologist (Amended Nov. 1953), one member selected by the San Joaquin Geological Society, and one member selected by the Coast Geological Society (Amend April 1955).

ARTICLE V -- Funds

Sec. 1. The dues of this Section shall be $2.50 (Amend. April 1955) per year, due and payable in advance.

Sec. 2. The funds of this Section shall be deposited to the credit of Pacific Section of the American Association of Petroleum Geologists in any (Amend. Nov. 1954) federally insured depository selected by the Treasurer but not to exceed the limit insured by the Federal Deposit Insurance Corporation. Whenever necessary, the President shall certify to the authority of the Treasurer in administering such account by providing the depository bank with a notice of the Treasurer's election and with a true copy of this Constitution.

The Treasurer shall have authority to issue checks against the bank account so established, on his sole signature, but in the event of his absence or incapacity to act due either to sickness or death, withdrawals or payments by check may be made on the signature of the President during the continuance of the absence or incapacity of the Treasurer, in which event the identity and authority of the President and the circumstances relating to the absence or incapacity of the Treasurer shall be certified to by the Executive Committee if so required by the depository.

ARTICLE VI -- Meetings

Sec. 1. Meetings shall be held annually and at other intervening times on call of the President.

Sec. 2. The time and place of the annual meeting shall be determined by the Executive Committee.

ARTICLE VII -- Elections

Sec. 1. The President of the Pacific Section of the American Association of Petroleum Geologists, with the approval of the Executive Committee, shall appoint a Nominating Committee not later than August 1 each year, consisting of five (5) members, two (2) of whom shall be past officers of the Pacific Section. The Nominating Committee shall select at least two (2) candidates for each of the following four offices: (1) President, (2) Vice-President, (3) Secretary, and (4) Treasurer. The slate of candidates shall be announced in the September issue of the Pacific Petroleum Geologist. Additional nominations may be made by written petition of 25 or more members of the Pacific Section in good standing and received by the Secretary on or before October 1. Voting shall be by mailed ballot and all ballots must be returned to the Secretary of the Pacific Section not later than October 15 of each year (Amend. Nov. 1954)

Sec. 2. In matters pertaining solely to the business of this Section, all active (Amend. July 1957) members of the Section may vote. In matters pertaining to the official business and the selection of business representatives or other officers of The American Association of Petroleum Geologists only active members of the Association shall be qualified to vote.

Sec. 3. This constitution may be amended by two-thirds vote of all members present and voting at an annual meeting or by mail ballot and, in the event of the latter, two-thirds count of the ballots returned within ten days following their mailing to the membership.

ANNOUNCEMENT

The Coast Geological Society annual dinner-dance will be held Saturday, September 21, 1957, at the Biltmore Hotel, Santa Barbara. Cocktails will be served at 7:00 p.m., dinner at 8:00 p.m., and dancing from 9:00 p.m. to 1:00 a.m. The price is $14.00 per couple. Reservations may be made by contacting John Wilson, Standard Oil Company, 231 North Dos Caminos, Ventura. Please enclose remittance with reservation request.

Lloyd Owens, Standard in Bakersfield, had his automatic transmission go out in Montecello, Utah. He was last seen heading for Bakersfield in an ox cart after a wonderful vacation in Montecello.

Bill Blaze, Dick Meditz, Rod Huppi, and Bob Stoddard, local Bakersfield philanthropists, were noticed arriving at work in a black Cadillac limousine, with chaffeur. Less fortunate Standard geologists are now demanding a raise.

Tom Wilson, Ohio in Bakersfield, spent a luxurious two weeks at his old home town in Douneyville. He reports that his old home residence has been made into a historical monument.

George Rudkin, Ohio in Bakersfield, spent a hilarious two weeks at Bass Lake annoying the fish with a motor boat.

Dick Atcheson, Ohio in Bakersfield, is moving south---down the street three houses. He is presently waiting for his sister-in-law to come out from Texas to help his wife move the furniture.

The Richard Rheem office in Bakersfield will remain open with a reduced staff. Bill Boyer and Bob Anderson, who have just returned to Rheem, will man the office.

Bud Sherman, formerly with Richard Rheem in Bakersfield, has gone into consulting work. His new office address is: 1716 Oak Street, Bakersfield. Telephone FA 5-6478.

Dale Holyoak, General Petroleum in Bakersfield, has been transferred to offshore work in Los Angeles.

Work has come to a standstill at the General Petroleum office in Bakersfield, according to Don Frames, local geologist in charge of greeting new secretaries.

Frank Reynolds and Buzz Welsh, Sunray in Bakersfield, have been transferred to Los Angeles, leaving Bob Maynard and Jim Miller in the Bakersfield office.

Nine Shell and one Western Gulf man participated in the Westport Salmon Derby on Saturday, August 26. Needless to say, with those odds, a Shell man won the pot for the biggest salmon--Jim Moore, for the second straight year, scored with a twenty-six pounder, and to pile insult on injury, caught two more in excess of twenty pounds. It is rumored that Jim will be forced to fish without bait next year. Only two persons failed to catch a salmon--Floyd Johnson of Western Gulf, and Gordon Chase of Shell.

Orville Noland, with Humble in Los Angeles, will become Division Geologist in Corpus Christi.

Fred Porter, Oceanic in Bakersfield, has just returned from a six-week trip through Europe where he acquired a taste for European beer and Aqua-vet.

Neal Hurley, Geophysicist for Richfield in Bakersfield, is being transferred to Alaska. Neal has just returned from a vacation in Old Mexico.

Barney Barnard, Richfield's Scout in Bakersfield, has just returned from a vacation at Mission Beach where he and his wife celebrated their 20th wedding anniversary. The Ross Phillips assisted in the celebration. Mr. Phillips poured.

Bela Csejtey, Hungarian refugee, who has been employed by Richfield in Bakersfield, is leaving to enroll at Princeton in September.

Ivor McCray and Bill Thomas of Shell spent several days in Alaska during the early part of August. Bill caught a large King salmon while there, the weight of which remained a mystery until Bill learned Vince Finch's record salmon was a fifty pounder. Official weight of Bill's salmon--fifty-one pounds!

Doug Thamer, Geologist with The Texas Company, is saying goodbye to all his friends in the oil business and going back to Stanford University to get a degree in Business Administration. Doug received his Bachelor's Degree in Geology from Stanford in 1952 and has been working for The Texas Company since that time. He has worked in many places, including the San Joaquin Valley, Shannon, Livermore Valley, Santa Cruz Island, Nevada, and most recently in the Sacramento Valley. Everyone is sorry to see Doug and his wife, Susan, leave Sacramento, but know they will find satisfaction in this new venture.

Roland Bain has recently been rehired by The Texas Company as a geologist in the Sacramento Valley. He had previously worked for The Texas Company and then went into the construction business. Later, he went to Europe on a Fullbright Scholarship and has recently returned to this country.

Tom Wilson, with Brazos Oil and Gas Company, has been very ill. Tom's many friends wish him well and hope for a speedy recovery.

Bob Lindblom's friends might ask him what he thinks of people like Ed Welge, who tapes Liederkranz cheese to the underside of chairs. Bob looked for a dead mouse for two weeks!!!

Ed Welge and Jack Cunningham have been transferred to Oildale from Standard Oil's Sacramento office. Everyone in the Valley is sorry to see the Welges and the Cunninghams leave.

Lum Lovely, Union Oil Company, has recently transferred from Bakersfield to Santa Paula.

Joe Ernst has been promoted by The Texas Company to District Geologist at Santa Maria.

Jack Kappeler, of the Tidewater Ventura office, will spend his two-week vacation, as usual, flying for the Navy.

Bob Paschall, of Hancock Oil Company's Ventura office, severly dislocated his left arm recently at Ojai. Only a week before, he and his son climbed to the top of Mt. Whitney without incident. We sincerely wish you a speedy recovery, Bob.

Gordon Bell, District Geologist for Western Gulf at Ventura, is now vacationing at Apple Valley.

The Coast Geological Society held its regular meeting August 13, 1957, in Santa Barbara. Mr. F. M. Lehner, of the Seismograph Service Corporation, spoke on "Continuous Velocity Logging."

Frank Yule, of the Ventura office of General Petroleum, has just returned from a two-week vacation in the East where he picked up a new car. He reports exceptionally good mileage at very high speeds. Perhaps he is the one the Los Angeles police tried out their new 110 miles-per-hour-cars on.

Coastal Oil Scouts will hold their annual Halloween dance at the Miramar in Santa Barbara, October 26, 1957. Please plan to get your tickets early, as they are selling like hot cakes!

Tidewater's "smiling" Dave Costello is in the double pay classification again--on military leave.

Tom Cameron, former District Geologist for Tidewater in Bakersfield, has resigned from the company.

Harold Bilman, District Geologist for Union in Bakersfield, has just returned from a vacation in Mexico City. It is reported that Harold is practicing the Mexican two-step.

Dick Palmer, Don Six and Jim Learmont, of The Texas Company in Bakersfield, have been transferred. Dick goes to the Houston office, Don to the Division Office in Los Angeles, and Jim to the Division Office in New Orleans. Kenney Myron, former District Geologist for Texaco in Santa Maria, will replace Palmer as District Geologist in Bakersfield. A dispenser for tranquilizing pills has been installed in the Bakersfield geological office.

Bob Lindblom, Standard in Sacramento, has been breaking in his new Tommy Armour golf clubs. He is regularly breaking the 100 mark these days. It has recently been discovered, however, that he carries a six-pack of Coors in his car to pay off his bets before he reaches the clubhouse.

Bob Stoddard is a new employee of Standard's in Bakersfield. Bob is from the Colorado School of Mines.

Dick Ohrbom, Western Gulf in Los Angeles, has been transferred to Durango, Colorado.

Jim McDonald with Humble in Los Angeles, recently traded in an M. G. and a convertible Ford and now cruises around in a 1957 Mercury station wagon. Air-cooled yet!! What part of Alaska do you like best, Jim?

Robert Zavadil will soon be in Western Gulf's Los Angeles office where he will assume duties as a Geophysicist. He was formerly in Tulsa.

NURSERY ITEMS

Jack and Melissa Leach, Sunray in Los Angeles, are the proud parents of Carolyn Anne, 6 lbs. 7 oz., who made her appearance on August 7.

Bill Roberts, Union Bakersfield, and his wife, recently added a girl, Dina Michelle, to their team. This makes 3 girls and 1 boy.

Ernie and Wilma Hoskins, Shell in Bakersfield, announce the birth of Richard James on August 17, 1957, weighing 6 lbs. 11 oz.

BIBLIOGRAPHY OF RECENT PUBLICATIONS

September 5: Thursday, 12 Noon
A.A.P.G. Luncheon, Rodger Young, "Discussion of Aerial Surveying, Photogrametry, Aerial Geophysical Methods, and their Application for Mapping and Exploration" by Dr. J. I. Gimlette, Hycon Aerial Surveys.
$2.25, including, tax, tip, and parking.

September 10, 1957: Tuesday 7:30 p.m., Coast Geological Society Dinner Meeting, Montecito Country Club, Santa Barbara. "Oil Taxes and The Public Interest," by Don Sweeny, Western Oil and Gas Association.

September 10, 1957: Tuesday, San Joaquin Geological Society Dinner Meeting, El Tejon Hotel, Bakersfield. "Faulting in the Ventura Basin" by Robert F. Herron, Hancock Oil Company. Cocktail Hour 6:30, Dinner 7:30.

September 12, 1957: Thursday, 12 Noon, S.E.G. Luncheon Meeting, Rodger Young Auditorium, 936 West Washington Blvd., Los Angeles. Frank Hortig, Executive Officer of State Lands Commission will review the California tidelands leasing lands.
$2.50, including tax, tip, and parking.
For late reservations call F. E. Schultz, MA 6-7701.

September 17, 1957: Tuesday, 8:00 p.m., A.P.I. Los Angeles Basin Chapter, Shell Hall, Long Beach. "Drilling and Completing with Natural Gas in The Wilmington Field" by Verne Smith, Chief Engineer, Shamrock Drilling Company. Also, a movie, "The Corporal Story" (The Army's Guided Missile) by Firestone Tire and Rubber Company.

September 23, 1957: Monday, 12 noon, A.I.M.E. Petroleum Forum, Rodger Young Auditorium, 936 West Washington Blvd., Los Angeles, "Field Installations for Extraction of Natural Gasoline and Dehydration of Gas" by William Lacey, Black, Sivalls and Bryson.

September 23, 1957: Monday, 7:00 p.m., A.A.P.G. Forum Meeting, General Petroleum Auditorium, Los Angeles. "Sediments and Structure of San Pedro and Santa Monica Basins" by Donald Gorsline.

October 4, 1957: Friday, 6:00 p.m., Northwest Geological Society, Poodle Dog Cafe, Fife, Washington, "Stratigraphic Analysis and the Search for Oil" By Dr. L. L. Sloss.

October 8, 1957: Tuesday, 12:00 noon, A.A.P.G. Luncheon Meeting, Distinguished Lecturer, Rodger Young Auditorium, 936 West Washington Boulevard, Los Angeles, "Stratigraphic Analysis and the Search for Oil" by Dr. L. L. Sloss, Professor of Geology, Northwestern University.

CALENDAR

BIBLIOGRAPHY OF RECENT PUBLICATIONS

United States Geological Survey

Professional Paper 282-C	"River flood plains; some observations on their formation" by M. G. Wolman and L. B. Leopold
Bulletin 1019-H	"Selected annotated Bibliography of high-grade silica of United States and Canada through December 1954" by M. C. Jaster
Bulletin 1019-E	"Geology and annotated bibliography to 1953 of magnesium resources of United States"
Bulletin 1036-K	"Differential thermal analyses of selected borate minerals" by R. D. Allen
Bulletin 1049	"Bibliography of North American geology 1940-1949, Part I Bibliography, Part II Index"
Bulletin 1061-A	"Pennsylvanian and Permian rocks of southern Inyo Mountains, California" by C. W. Merriam and W. E. Hall

Circular 400	"History of land classification relating to water power and storage sites" by S. F. Lawrence, C. E. Nordeen, and H. L. Pumphrey
Open file report	"Glacial features and surficial deposits of Malastina district, Alaska" (12 pp. 2 maps) by G. Plasker and D. J. Miller
	Shaded relief map of Arizona (Scale 1=500,000)
Water Supply paper 1393	"Surface water supply of the United States, 1955, Part 9, Colorado River Basin"
Circular 399	"Water resources summary for Southern California, 1956" by W. Hofmann and W. C. Peterson

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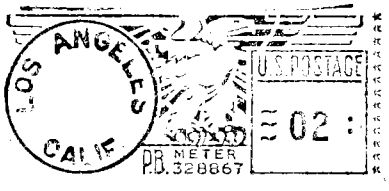

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PACIFIC PETROLEUM GEOLOGIST

NEWS LETTER OF THE PACIFIC SECTION
AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

Vol. 11 October 1957 No. 10

ASSOCIATION ACTIVITIES

S.E.G. LUNCHEON

Mr. Frank Hortig, acting executive officer of the State Lands Commission, addressed the Pacific Coast Section of the S.E.G. on September 12, 1957. His talk dealt with California tidelands oil developments, and covered the history and current outlook.

California tidelands developments have several notable firsts. The first U.S. tideland oil production was at Summerland, Santa Barbara County, in 1896. The first offshore rig was built on pilings at the Elwood field. For a long time offshore development was limited to those areas that could be shown to be drilled by onshore production. The Shell-Cunningham Act permitted offshore exploration with the State Lands Commission preclassifying offshore leases as either proven or wildcat. Bids were received on a cash-bonus, plus 1/8 royalty basis. The only lease to be successfully processed under the Shell-Cunningham Act was that at Summerland by SOCAL-Humble. At the request of the State legislature, the State Lands Commission returned unopened lease bids that were near completion early this year. This was to allow the State legislature to review the lease basis of California tidelands.

In 1957, the State legislature enacted several amendments to the tideland leasing procedure which became effective September 11. Bids will be on either a cash-bonus, plus royalty basis or on a royalty basis alone. This will also be a sliding royalty scale, with the minimum royalty fixed by law at 1/6. The State Lands Commission, at its discretion, may require a higher minimum than the 1/6 fixed by law. The new legislature has required that the results obtained under any permit for offshore exploration be made available to the State Lands Commission. This requirement was previously in effect by order of the State Lands Commission, but it is now part of the law. The amendments also provided that the divulgence of any such information by any member or representative of the State Lands Commission shall be considered a misdemeanor.

The first areas to be processed for bidding under the new legislation will fall in an area lying between the Elwood field on the east and Point Conception on the west. The minimum time for calling for bids could be 84 days from September 11, but in reality, will not probably be called for until January or Feoruary, 1958. By inference, the Commission has shown a preference for proven lands to be considered on a royalty basis and wildcat lands on a cash-bonus basis. Mr. Hortig stated that they are not desirous of having a winning bidder be a financial loser.

Through 1955, California's offshore production amounted to 15 million barrels, from which the State received royalty payments of approximately 115 million dollars.

SACRAMENTO GEOLOGICAL SOCIETY MEETING

Mr. Don Miller of the U.S.G.S., Alaska Branch, gave an interesting and timely talk on the Cenozoic and Mesozoic basins of southern Alaska on September 10, 1957. Mr. Miller, Tom Payne and George Gryc are the authors of a comprehensive report on petroleum in Alaska which is on open file and soon to be published by the U.S.G.S.

History of Early Exploration. In the early 1900's several shallow wells were drilled near the oil seeps of the Katalla, Chinitua and Kanatak districts. As a result of this early activity, the Katalla oil field was discovered. From 1901 to 1933 this small field produced 150,000 barrels of 43-gravity crude oil. The discovery was made at 366 feet in shales of the Katalla Formation of upper Oligocene (?) age. Faulting is believed to be at least partly responsible for the trap. A one-barrel per day well was considered to be a good producer.

In the 1920's, Standard Oil and Tidewater acquired leases and drilled in the Kanatak district on the Alaska Peninsula and since that time there has been a scattering of wells drilled. During World War II, all known petroliferous areas of Alaska were withdrawn from leasing by the government. Naval Petroleum Reserve #4 in northern Alaska was explored at this time and several oil fields were discovered. Wildcatting was culminated on July 23, 1957, with the announcement by Richfield of a discovery on the Kenai Peninsula known as the Swanson River Unit #1. It is estimated that the number of acres now under lease in southern Alaska is in the neighborhood of 12,000,000 acres. Even a portion of the Malaspina Glacier in Southeastern Alaska has been leased.

In late Mesozoic time there were a series of geanticlinal and geosynclinal belts in concentric arcs centering about the Gulf of Alaska. In Mesozoic time at least one of the geanticlines was invaded by a granitic magma. The geosyncline received marine sediments throughout Mesozoic time and into Tertiary time. These are mostly clastic sediments, however, over part of the region there are non-marine earliest Tertiary coal-bearing sediments.

Cook Inlet Mesozoic Province. This area extends 800 miles from the Copper River Basin southwestward through the Cook Inlet and along the Alaska Peninsula to Point Moller. In this province the Cretaceous, Jurassic and upper Triassic sediments and older rocks, if present, are possible petroleum objectives. To date, 21 wells with a total footage of about 51,000 feet have been drilled in Mesozoic sediments.

In the northeast part of the province, the lower

Jurassic is comprised predominately of volcanic rocks and is regarded as the basement as far as petroleum possibilities are concerned, but in the southwestern part the lower Jurassic and the upper Triassic are both objectives for petroleum. The lower Jurassic is composed of less volcanic material and more marine sediments in the southwest part. The upper Triassic is mostly unaltered limestone and locally it is petroliferous. Possibly there are older sedimentary rocks in the subsurface. If so, they too may be objectives.

Lower Cretaceous calcarenite limestone sediments are present in outcrop at both ends of the province, but Cretaceous limestones do not occur in between. In the Nelchina district, these limestones are a possible petroleum source. There is evidence to indicate that upper Cretaceous sediments are present in the subsurface in the Kamishak district and that they are predominately shale. At the southwest end of the province there are upper Cretaceous coal-bearing sediments. These are the only Mesozoic sediments of the Cook Inlet province from a definite non-marine environment. Even here the sediments are interbedded with marine fingers; some of these fingers are petroliferous. Tertiary non-marine sediments overlie the Mesozoic section over much of the province with approximate structural conformity. The Tertiary rocks are sandstone, shale, conglomerates, volcanics and coal. Much of the coal mined in southern Alaska comes from these Tertiary sediments of the Cook Inlet Mesozoic provinces.

Cook Inlet Tertiary Province. This province extends northeastward from the mouth of Cook Inlet to the Matanuska Valley. This is a structural basin (northeast part of Matanuska geosyncline) filled with Eocene continental and perhaps marine sediments. Deposits somewhat younger than Eocene may also be present. The basin trends northeast-southwest and centers around the Cook Inlet. Unaltered Mesozoic marine sediments probably underlie the Eocene. The Tertiary and Mesozoic rocks, if present, are possible objectives for petroleum in this province. In general, folding in this basin is thought to be gentle to moderate. Richfield's much-discussed discovery well, Swanson River Unit No. 1, is in this province.

East of Cook Inlet 5000 feet of the Kenai formation outcrop. This is an Eocene continental (perhaps some marine) deposit. It is composed mainly of slightly indurated arkosic sands and associated siltstones and claystones. Some conglomerate lenses are present as well as many thin beds of sub-bituminous coal. It is believed to have been deposited near sea level and contain a temperate to tropical flora and is typical of the Tertiary exposed around the borders of the basin.

Gulf of Alaska Tertiary Province. This province trends northwest-southeast and occupies part of the coastal area northeast of the Gulf of Alaska. Its sediments were deposited in the Yakatoga geosyncline. The eastern limit is formed by the Chugach-St. Elias Mountains made up of Mesozoic rocks which have been metamorphosed or highly indurated. Older rocks may be present, too. A belt of Tertiary rocks outcrop along these mountains and dip to the west beneath the Gulf of Alaska. The Tertiary sequence is devisable into three major lithologic units, each representing a major change in depositional conditions. The Tertiary outcrop section is at least 10,000 feet thick. The lower Tertiary unit is composed of interbedded brackish and marine clastic sediments. Coal beds are present and the flora and fauna indicate a tropical to warm-temperate climate. The rocks are considered to be Eocene to Oligocene in age. The middle Tertiary is composed of shallow to deep water marine sediments. The molluscan fauna is comprised of warm-temperate to tropical species. Its age is believed to be late Oligocene to early Miocene. Remains of pelagic marine animals, including whales and nautiloids, have been found. Organic matter and pyrite are abundant. Massive concretionary siltstone is the most characteristic facies, but water laid tuff, volcanic breccia and lava flows occur. Glauconitic sandstones have been found. The upper Tertiary unit is believed to be middle Miocene to Pliocene in age. It is composed of clastic marine sediments. The molluscan fauna indicate cool-temperate to boreal conditions. The typical sediment is a conglomeratic mudstone bearing marine fossils. It is believed to have been the result of icebergs or ice sheets dropping their loads onto the ocean floor as they melted.

A.A.P.G. DIRECTORY

The 1958 Directory of Membership of the Pacific Section, A.A.P.G., S.E.G., S.E.P.M. was placed in the hands of the printer September 18. It will be available to the memberships at the joint fall convention November 8th.

This directory promises to be a very fine publication. It will list approximately 1400 Pacific Section members and subscribers in the three western states and at other scattered points throughout the world. About 60 percent of members individual pictures will be new this year.

The Directory Committee wishes to extend its sincere appreciation for the splendid cooperation and enthusiasm shown it by the members without which this success could not have been attained.

FORUM MEETING

On Monday, September 23, the Los Angeles Geological Forum Meeting, held at the General Petroleum Auditorium, heard Donn S. Gorsline present an excellent illustrated talk on "Sediments and Structure of San Pedro and Santa Monica Basins".

The San Pedro and Santa Monica Basins are two of fourteen or more submarine depressions that are arranged in approximately parallel rows off southern California following a northwest-southeast trend. These basins are most probably of fault origin and are related to the structural features of the southern California area including the Los Angeles, Ventura, San Gabriel, and San Fernando Basins. It appears that these are all depressions initiated in Late Miocene and Early Pliocene time which have filled at different rates depending on the distance and accessibility of the main continental source areas from individual basins. Progressing seaward from the Los Angeles Basin, the filled land basins give way to the partially filled depressions of the Continental Borderland. The depth of fill in the marine basins is markedly less as the true Continental Slope is approached, and provide a series of typical marine depositional environments that probably existed at various times in the Late Tertiary history of the filled land basins.

Cores of the Recent sediments of San Pedro and Santa Monica Basins reveal the presence of coarse layers of graded silty sand alternating with the more typical clay silts of deep marine basin floors. These layers are apparently the deposits of turbidity currents that find their source either in slumps and slides from the coastal slopes, or in slides and flows from the heads of the various submarine canyons that indent the coastal sides of these nearshore basins. These basins contain fan-like deposits at the mouths of several of the submarine canyons which have probably been built up by the flows from the canyons. Turbidity currents have cut channels into the surfaces of these fans. Sand and silt arrives in the head of the submarine canyons from longshore drifted sediment moving along the nearshore margin of the present coast. In addition to the silty sand layers, silt layers and pebbly muds are also present which have moved into the basins as a result of slides or slumps from the slopes of the broad parts of the central Santa Monica and San Pedro Shelves, and from the coastal slopes along Palos Verdes. Gray silt layers are also found in the peripheral parts of the basin floor sediments away from the mouths of the submarine canyons. These are apparently the last deposits of the end fringes of turbidity currents.

Plots of the "sand-shale" ratios of the various cores shows that lobes of high sand ratios extend from the canyons out over the central parts of the basins. Similar patterns have been found in sand-shale ratio maps of the Lower Pliocene of the Los Angeles Basin. These data also indicate that the source of the flows in the basins is mainly from the heads of the canyons, and that the highest sand content is generally in the fans and basin floors.

In conclusion, it is evident that when basins lie adjacent to a source of coarse sediment supply, much of this material is transported into the basin by turbidity currents and slides. If a series of basins are present, the filling of basins at a distance from the sediment source will proceed slowly until intervening depressions have filled to their sills.

In the actively filling basins, fans and deep channels are the areas of highest sand content. In addition, basin floor sediments will also contain high sand ratios. Topography controls the location of channels and fans, as well as the direction of the sediment source.

NATIONAL A.A.P.G. DINNER DANCE

The City of Angels has been chosen as the host city for the 1958 National Convention of the American Association of Petroleum Geologists. Pacific Section Committeemen are now hard at work to insure that the March 10-13 National Meeting will be the finest ever. One of the highlights of the '58 meeting will be a lovely Dinner Dance to be held at the Beverly Hilton Hotel the evening of Wednesday, March 12. Tickets will be $12.50 per person which will include bus service from all leading downtown hotels to the Beverly Hilton and return, a marvelous steak dinner prepared by some of the West Coast's finest chefs and beautifully served in the cosmopolitan atmosphere of the Ballroom and the Bali Room, and dancing to music by two excellent orchestras. Several attractive cocktail lounges adjoin the Bali Room and the Ballroom and will be available to members of the A.A.P.G. and their guests.

As hosts of the 1958 National Convention, the members of the Pacific Section should give full support to the committees who are planning to make this the finest professional and social meeting in A.A.P.G. history. Make your personal plans early to be sure you don't miss this marvelous event.

PALEONTOLOGICAL BIOSTRATIGRAPHY SEMINAR

Clifford Church, Chairman of the Advisory Committee, has announced the program for the Paleontological Biostratigraphy Seminar, 1957-58. Meetings will be held on the first Monday of each month at the new Bakersfield College campus from 7:30 to 9:30 p.m. in Room 56, Science and Engineering Building.

Date	Topic	Guest Lecturer
Oct. 7	River Deltas-Delta Sedimentation	Dr. Tj. H. van Andel Scripps, LaJolla
Nov. 4	Tertiary Climates and Continental History	Dr. Daniel I. Axelrod Univ.of Calif. L.A.
Dec. 2	Distribution Studies of Living Planktonic Formaminifera from the North Pacific Ocean	Dr. Jack Bradshaw Scripps, LaJolla
Jan.6	Stratigraphy, Micropaleontology, and Petroleum Possibilities of the Philippines	Dr. Joseph J. Graham Stanford University
Feb. 3	Megafossil Correlations	Dr. Siemon W. Muller Stanford University
Mar. 3	Sea Mount Faunas	Dr. Edwin L. Hamilton U.S.Navy Electronics Lab.,San Diego, Calif.
Apr. 7	Paleo - Temperatures as Indicated by Oxygen Isotope Studies	Dr. Heinz A. Lowenstam Calif.Inst.of Tech.
May 5	Stratigraphic Application of Diatoms in Correlation	Dr. Kenneth E. Lohman U.S.Geological Survey Washington, D. C.

A.A.P.G. LUNCHEON MEETING

The A.A.P.G. luncheon meeting at the Rodger Young Auditorium heard Dr. J. I. Gimlette, Hycon Aerial Surveys, discuss the various types of services his company offers and saw two short films on their operation.

Many types of geophysical, geologic, and topographic mapping surveys can be accomplished from the air cheaper, faster, and more accurately than on the ground. Aerial geophysics involves the use of such equipment as the airborne magnetometer, electromagnetometer, and various members of the scintillation counter-ion chamber family. These can be employed, either jointly or separately, to solve a myriad of geologic problems. The most important airborne tool, however, is the aerial camera.

Aerial photos are widely used in all stages and phases of geologic and geophysical field work. They can be used to plan refinery sites or seismic surveys, to solve access problems, to locate feasible pipeline routes, etc. Their primary application is, of course, in photogeology. In addition to saving time and money, photogeologic techniques, when properly applied, provide information which is unobtainable by any other method. The latter is especially true when aerial color photography is considered.

Either black and white or color photography can be used in such precise stereoscopic instruments as the Kelsh Plotter or the Zeiss C-8 Stereoplanigraph to compile accurate three dimensional geologic maps with a minimum of ground work.

The two movies shown can be described as follows. "Portrait of the Earth", as its title suggests, deals mainly with aerial mapping. Special emphasis is placed on two of the newer airborne tools, the Varian Nuclear Precession Magnetometer and the Hycon Channelized Scintillometer. "The Other Side of the Mountain", though showing a new lightweight aerial camera, deals with military battlefield surveillance methods.

ANNOUNCEMENT

The Sacramento Geological Society announces the election of new officers, as follows:

President	George Davis, U.S.G.S.
Vice President:	Keith E. Jones, Western Gulf Oil Company
Treasurer:	Karl H. Arleth, Jr., The Ohio Oil Company
Secretary:	Philip Lydon, Division of Mines

Interesting and instructive monthly programs are being planned, including a Spring field trip.

S.E.G. ANNUAL MEETING

"International Geophysics, both Practical Applications and Pure Science" will be the dominant theme of the 27th Annual Meeting of the Society of Exploration Geophysicists (SEG) in Dallas, Texas, November 11-14, 1957.

Middle East political uncertainties plus recent important oil discoveries in French North Africa and Turkey have made oil developments in these areas of vital importance to the whole western anti-communist world. Three papers on practical geophysical problems in oil exploration in French North Africa will be given by French geophysicists, and one on Turkey will be presented by S. Diker, of Ankara, Turkey. In the western hemisphere there will be a paper on Guatemala and one on the Caribbean area.

In the search for commercial deposits of oil and other minerals in foreign countries, geophysicists find that local national and international policies may pose problems just as tough as those Mother Nature presents to those who would uncover her hidden mineral wealth. So - SEG will hear practical papers with such titles as "Geophysics and Geopolitics"; "Interdependence in World Wide Oil Exploration"; "Orientation of Personnel in Foreign Operations"; and "Logistics in Foreign Operations".

In pure science, the International Geophysical Year (I.G.Y.) will naturally be given great attention because SEG is one of the sponsors of this world wide coordinated attack on pure scientific problems where

political complications are at a minimum.

J. W. Joyce, Head Office for I.G.T., National Science Foundation, Washington, D. C.; Tuzo Wilson, University of Toronto, Canada; and Paul Lyons, a past president of SEG and chairman of the SEG liaison committee with I.G.Y. will present papers on this timely subject.

PERSONAL ITEMS

The annual Coastal Geologic Society dance was held Saturday, September 21 in Santa Barbara. It was a wonderful affair - those who couldn't attend missed a good dance. The food was superb - plenty of drinks and entertainment. Tom (Elvis) Cate of Shell Oil Company offered his rendition of our old favorite "Hound Dog" and performed in excellent style. In addition, Louis Villanueva of Tidewater, and his lovely wife, gave us a fine exhibition in dancing. We would like to express our thanks to John Curran of Honolulu Oil Company and his associates for the fine job of making this dance a success!

Ralph Arnold has changed his address to 324 West Arrellaga Street, Santa Barbara. He recently was host to Sr. Enrique Aguerrevere and Dr. Armando Schwarck of Caracas, Venezuela, who came here representing the Venezuelan government to review the MSS of "The Pioneering of Venezuela's Oil Wealth", and "Notes on Trinidad" by Ralph Arnold, George A. Macready and Thomas W. Barrington. Sr. Aguerrevere was one of the engineers on the original Arnold survey and since then has been Secretary to Public Works, Minister to Mexico and Ambassador to Ecuador and Panama. He graduated from Stanford in 1919. Dr. Schwarck is a Colorado School of Mines graduate and is currently Director of Geology in the Ministry of Mines and Hydrocarbons of Venezuela.

At the annual meeting of the Pacific Division, A.A.A.S., held last month at Stanford University, Ian Campbell, Executive Officer of the Division of Geological Sciences, California Institute of Technology, succeeded J. Murray Luck, Professor of Biochemistry at Stanford, as President of the Division. Henry Eyring, Dean of the Graduate School of the University of Utah, became the new President-elect.

The Coastal Scouts will hold their annual Halloween Dance on October 26 at the Miramar in Santa Barbara. This has always been a very enjoyable affair and all are urged to attend. The tariff is $10.00 per couple.

Eric Phillips, Western Gulf, Ventura, has been vacationing in the San Francisco area and in the Santa Cruz Mountains.

Gordon Bell, Western Gulf, Ventura, spent his vacation golfing and loafing at the Apple Valley Inn.

Mike Adams, Western Gulf Scout in the Coastal District, is once again in the hospital -- we hope for only a short stay.

Lou Taylor, Chairman of the Ventura Boy Scout Committee for Boy Scout activities, spoke before three Scout Round Table Groups during September. His subject, General Geology, was offered for the purpose of informing the scout leaders on what geologists can do for scout troops. Those who have volunteered their services so far are as follows: Dale Duley, Don Henriksen, Bob Paschall, Art Weller, Bob Ericson, Tom McCroden, Kit Carson, Charles Sturz, Jack Kappeler, Hal Lian and Dick Stewart.

Jack Kappeler, of Tidewater, reported to work the other morning with uniform and a jet pilot helmet, all ready to go on his weekend tour of duty. It was suggested that Jack got his beautiful gold-plated helmet by sending in twenty two Wheaties box tops. How about it Jack???

Things are looking pretty tough for Sam Tate of Humble. He was observed recently smoking a long cigar butt in his pipe.

Our sincerest sympathies to Dale Duley of Richfield at Ojai. His father passed away recently.

Don Henriksen of Richfield, at Ojai, spent a week's vacation at Yosemite.

A cluster of Ventura geologists recently perused the paragraph below, which was published in the Oil and Gas Journal in an article by C. Warren Hunt of Calgary. Since it deals with the construction of structurally complicated cross-sections, our professional curiosity was piqued. Does this seem obscure because we have fallen behind the times? Or is it written in code? Or is this, heaven forbid, scientific gobbledygook?

> "Planimetric Equation - A Method for Quantitative Profile Analysis
>
> Principle. . . A profile drawn tangential to unidirectional tectonic movement represents an element of rock volume whose areal contribution comprising each stratigraphic unit bears a constant ratio to the sum of contributions of all stratigraphic units represented regardless of geometry of folds or faults whose effects on each such stratigraphic unit are totally represented within the profile extremities."

M. W. (Walt) Wolf, formerly Division Superintendent for The California Company at Billings, Montana, has been transferred to the same position for Standard Oil Company of California at Seattle.

Bob Deacon, The Texas Company, Olympia, recently returned from a three week's tour of duty in Alaska.

Bill and Tish Yerington recently returned to the Northwest to do some salmon fishing at Westport and to visit friends. They also visited Vancouver, B. C.

Joe Dunwoody, Geologist for Tidewater in Bakersfield, was recently selected for jury duty and is presently gypping both Tidewater and the taxpayers.

At the recent Central Valley Oil Scouts Barbeque it appeared that Tidewater employees had a monopoly on the door prizes- Keith Jensen was Chairman for the event!

Keith Jensen, scout for Tidewater in Bakersfield, recently flipped Bill Haney's boat. Jensen's friends at Tidewater have calculated on their slide rules that it would be impossible for a man of Jensen's build to turn a boat over unless he was standing up.

Wes Bruer, Superior in Bakersfield, has been improving his arches by walking in the sand in Eastern Washington. Wes got his car stuck in the sand and had to walk thirteen miles in the cool night air without a beer stop.

Charlie Sturz, of Tidewater, spoke on Geology and Paleontology to Troop 122 at Ventura on September 23.

Professor Webb, of the University of Santa Barbara, has a fine collection of the various tools a geologist uses and also a display of minerals and fossils. He extends an open invitation to all troops to visit the University.

It is rumored that Al Hopkins, Richfield geologist in Bakersfield, is boycotting core parties and scout barbeques.

Mike Rector has been appointed Kern County Chairman for the Boy Scouts Geology Month program. Programs have been planned for the major cities in the county and will include movies, talks, exhibits and weekend field trips. These geological programs are open to the public.

Bob Critchlow, Geologist for Honolulu in Bakersfield, recently left town in his Austin-Healy, towing a large trailer. Bob is headed for Canada on a vacation.

Tom Roy, Bakersfield Chairman of the "Young Geologists for Eisenhower" during the past election campaign, has joined the "For America" movement. Tom attended a recent talk by J. Braken Lee, and states that while he is still a staunch Republican, he will now work to repeal the 16th Amendment to the Constitution. According to Tom, corporation taxes alone are presently higher than Truman's whole peacetime budget. Any geologists troubled by too large an income tax are urged to contact Tom Roy c/o Ohio Oil Company in Bakersfield.

Roy Turner, Geologist for Intex, has just returned from three month's work in the Rocky Mountain Area.

Dick Vivion, Humble Scout in Bakersfield, has his house up for sale. It is rumored he will be transferred to Seattle or Alaska.

Charlie Guion, Humble's scout in Sacramento, is still busily feeding his family on the clams he dug on his recent expedition into Washington. Charlie reported several barrels of clams per day.

Don Barrett, Geologist with General Petroleum, is being transferred to Wyoming. It must be a very good deal because Don seems to be very happy about the arrangements. Don, Helen and their two children will be leaving soon. This will put the Barretts much closer to their parents.

Jim Wylie and Lee Wix, both with Western Gulf, have added their names to the growing list of Alaskan visitors. Their colleagues in California are quite disappointed that they didn't come back with any hair-raising stories about Kodiak bears.

"Swiss" Holmes, Scout with Shell in Sacramento, was recently seen trying on a Boy Scout uniform in a downtown department store. Rumor has it that a group of Boy Scouts are going up to the "no dope" Humble Tippetts well in connection with the B.S.A. Geology Month in October. "Swiss" has gotten rid of the gray hair by getting a crew cut. Maybe he'll convince Humble with his disguise, but he'll never fool the Beaver Patrol.

Exploration Logging is planning an Open House on October 4 in their new offices in Sacramento. Rumor has it that many Sacramento oil people who have been on the wagon are going to get off in honor of the event.

Bill Heiner, Geologist with General Petroleum in Los Angeles, is currently vacationing in the Oak Creek Canyon country in Arizona.

Al Marcus, Landman for General Petroleum in Bakersfield, has just returned from Alaska with stirring tales of his encounters with wild bull moose and grizzly bears.

John Curran is Chairman of the "Boy Scout Month" Committee in Santa Barbara. A meeting was held September 17 and those in attendance were: Ralph Arnold, Wilbur Davis, Wayne Estill, Richard Fisher, Charles Green, Bruce Nolf, Robert Norris, Phil Orr, William Rand, Lowell Redwine, James Walker and Robert Webb.

Irv Frazier, scout with The Texas Company in Los Angeles, is vacationing throughout Mexico via plane and car.

Another Irv, Schwade, that is, with Richfield in Los Angeles, recently returned from a, - "Wonderful, marvelous..." vacation in Mexico. Irv logged some 4,700 miles in three weeks!!!

Howard Sonneman recently returned to Humble's Los Angeles office for a few day's respite from field duties in the Paso Robles area. He likes the weather better - you guessed it - up North!

Willis R. Brown has joined the ranks of The Texas Company as a Junior Geologist.

Benton Phillips has transferred from General Petroleum's offshore group to the Bakersfield office.

Bob Hindle and Dick Eckhardt returned from a two-week's trip to Alaska with some rather alarming news. It seems that Jim Wiley, with Western Gulf in Sacramento, occupied one of two seats behind Bob and Dick on the flight North. Without going into clinical detail, suffice it to say Jim exhibited many disturbing symptoms of rapidly advancing old age. Need some Geritol, Jim, to appreciate the better things in life?

Tom Baldwin, with Monterey in Los Angeles, was another Mexico sojourner. For a time, Tom's gray car became a two-tone--gray and brindle-brown. A burro tried to jump over the hood while Tom was driving through Guadalajara, and didn't quite make it. Results - shattered windshield, no injuries, and the aforementioned change in color.

Dick Hester, with Signal in Guatemala, recently visited in Los Angeles. All reports seem to indicate that the jungle agrees with Dick.

The recent Los Angeles Basin Oil Scout's Barbecue and Golf Tournament was a howling success! Most of the howling came late in the evening, but those misguided souls who attempted the 7200 yard safari at Yorba Linda Country Club were howling loud and long by noontime. We understand next year's tournament is to be a nine-hold affair, course length 237 yards, held at a miniature golf course!

Tom Baldwin, traveler extraordinary, announced he met an old friend recently. While studying exposures on the Champs Elysees in Paris, Tom ran into J. A. Christensen, formerly with British-American in Bakersfield, and now with Osnassis. Christensen is holding up well under the strain of doing field work while based in Monte Carlo.

NURSERY ITEMS

Bob McGlasson, geologist in Texaco's Paleo Lab, is the proud father of an 8 lb. 4 oz. girl, born August 21, 1957. Her name is Kathleen Joan. Both mother and daughter are doing fine.

Spence and Jo Reber are the proud parents of another boy, born September 17, 1957. This makes five boys and one girl for the Rebers.

Andy and Norma Mayhill, Standard, Seattle, announce the birth of Kathleen Linda, September 16, 1957, weight 5 lbs. 6 ozs.

Mr. and Mrs. Dave Moore of Geological Diving Consultants and N.E.L. welcomed a new daughter, Patricia, 7 lbs. 10 ozs. on September 11. This makes four "queens" for Dave and Claire, a hard hand to beat!

BIBLIOGRAPHY OF RECENT PUBLICATIONS

United States Geological Survey

Professional Paper 303 A & B	A: "The Paleozoic Section in the Shainin Lake Area, Central Brooks Range, Alaska" by A. L. Bowsher & J. T. Dutro, Jr.
	B: "A New Upper Paleozoic Formation, Central Brooks Range, Alaska" by W. W. Patton, Jr.
Bulletin 1019-I	"Annotated bibliography of high calcium limestone deposits in the United States including Alaska, to April 1956" by G. C. Gazdik and K. M. Tagg.
Bulletin 1019-J	"Annotated bibliography and index map of salt deposits in United States" by W. B. Lang.
Bulletin 1043-B	"Application of high-order stereoscopic plotting instruments to photogeologic studies" by C. L. Pillmore.
Bulletin 1045-C	"Core logs from Soda Lake, San Bernardino County, California" by S. Muessig, G. N. White, and F.M. Byers.
Bulletin 1066-B	"Geophysical abstracts 169 April-June 1957" by M. C. Rabbitt, P. B. Zitaliano, S. E. Vesselowsky and others.
Bulletin 1071-A	"The gold pan as a quantitative geologic tool" by P. K. Theobald, Jr.
Circular 399	"Water Resources summary for Southern California 1956" by W. Hofmann and W. C. Peterson.
Geological Quad-100	"Geology of Juno (Baker-3) quadrangle, Alaska" by F. Barker.
M. S. 133	"Laguna 4 N.W. Quadrangle, Bernalillo, Sandoval and Valencia Co., New Mexico" by R. H. Moench and W. P. Puffitt.
M. S. 134	"Laguna 4 S. W. Quadrangle, Bernalillo & Valencia Co., New Mexico" by R. H. Moench and W. P. Puffitt.
Water Supply Paper - 1413	"Geology & Ground Water resources of Kitsap Co., Washington" by J. E. Sceva.

CALENDAR

October 7, 1957: Monday, Cocktail hour 6:30 p.m., Dinner 7:30 p.m., San Joaquin Geological Society Dinner Meeting, El Tejon Hotel, Bakersfield, "Stratigraphic Analysis and Search for Oil" by Dr. L. L. Sloss, Northwestern University.

October 8, 1957: Tuesday, 12:00 noon, A.A.P.G. Luncheon Meeting, Distinguished Lecturer, Roger Young Auditorium, 936 West Washington Boulevard, Los Angeles, "Stratigraphic Analysis and the Search for Oil" by Dr. L. L. Sloss, Professor of Geology, Northwestern University.

October 9, 1957: Wednesday, Cocktail hour 6:30 p.m. Dinner 7:30 p.m. joint S.E.G. - A.A.P.G. Dinner Meeting, El Tejon Hotel, Bakersfield, "Seismology and the Earth's Deep Interior" by Dr. K. E. Bullen, University of Sydney, Australia, & Chairman of Australian National Committee for International Geophysical Year.

October 10, 1957: Thursday, 12:15 p.m. S.E.G.. Luncheon Meeting, Roger Young Auditorium, "Seismology and the Earth's Deep Interior" by Dr. K. E. Bullen, University of Sydney, Australia and Chairman of Australian National Committee for International Geophysical Year. $2.25 (including tax, tip & parking). Late reservations, call Fred Schieltz, MA 6-7701.

October 21, 1957: Monday 7-9 p.m. A.A.P.G. Forum meeting, General Petroleum Auditorium, Los Angeles, "Geology of North Shore of Lake Chapala, Mexico, by Dr. T. Clements, Professor of Geology, University of California.

PACIFIC PETROLEUM GEOLOGIST
PACIFIC SECTION, A.A.P.G.
799 SUBWAY TERMINAL BLDG.
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PACIFIC PETROLEUM GEOLOGIST

NEWS LETTER OF THE PACIFIC SECTION
AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

Vol. 11 November 1957 No. 11

ASSOCIATION ACTIVITIES

FALL CONVENTION

The Thirty-Fourth Annual Meeting of the Pacific Section of the American Association of Petroleum Geologists, Society of Exploration Geophysicists, and the Society of Economic Paleontologists and Mineralogists will be held jointly at the Ambassador Hotel, Los Angeles, California, on Thursday and Friday, November 7 and 8, 1957.

Registration for the A.A.P.G., S.E.G., and S.E.P.M. societies will begin at 8:00 A.M. Thursday in the Ambassador Hotel. Tickets for various luncheons will be available at registration desk.

The Convention Committee will be under the General Chairmanship of Mr. Robert L. Johnston.

A brief outline of the program of professional papers to be presented for the American Association of Petroleum Geologists portion follows:

Thursday Morning 9:30 A.M.

"Welcoming Address"
Harvey W. Lee, President, Pacific Section

"Geological and Geophysical Studies at Railroad Valley, Nevada"
Dr. R. J. Bean, Dr. R. C. Spivey, Shell Oil Company, Los Angeles, California

"Stratigraphic and Absolute Age Dating of the Cretaceous Rocks of Northern Baja California, Mexico"

Dr. F. G. Stehli, Dr. C. R. Allen, Dr. L.T. Silver, California Institute of Technology, Pasadena, California

"The Fillmore Oil Field, Ventura County, California"
Donald A. Henriksen, Richfield Oil Corporation, Ojai, California

"The Llano Seco and Perkins Lake Gas Fields, Butte & Tehama Counties, California"

Tod P. Harding, Humble Oil & Refining Company, Chico, California

"The Oil Creek Field, San Mateo County, California"
Harold L. Fothergill, Union Oil Company, Orcutt, California

Thursday Afternoon 2:00 P.M. (Joint Session)

"History of the Development of the California Tidelands"

Assemblyman Joseph C. Shell, 58th District, Los Angeles, California

"Geology and Related Developments in a Portion of the City of Los Angeles"

Peter H. Gardett, Consultant, Los Angeles, California

"The Race Track Hill Anticlinal Trend, Kern County, California"

William D. Lewis, Consultant, Bakersfield, California

"Stratigraphic Sections and Stratigraphy of the San Joaquin Valley, California"

Kenneth F. Krammes, Intex Oil Company, Bakersfield, California

"Cascade Oil Field, Los Angeles County, California"
George H. Roth, Consultant, North Hollywood, California; Harold H. Sullwold, Jr., Geology Department, U.C.L.A., Los Angeles, California

Friday Morning 9:00 A.M.

"The Castaic Junction Field, Los Angeles County, California"

Paul H. Dudley, Jr., Humble Oil & Refining Company, Los Angeles, California

"Yorba Linda Oil Field, Orange County, California"
James C. Benzley, Western Gulf Oil Company, Los Angeles, California

"Geology of the Orocopia Mountains, Southeastern California"

Dr. John C. Crowell, U.C.L.A., Los Angeles, California

"Eocene Stratigraphy and Paleontology of the Orocopia Mountains, Southeastern California"

Takeo Susuki, Dr. John C. Crowell, U.C.L.A., Los Angeles, California

"An Aeromagnetic Study of the Copper River Basin, Alaska"

Gordon Andreasen, Isidore Zietz, Arthur Grantz, Alaskan Branch, U.S.G.S., Menlo Park, California

"An Aeromagnetic Reconnaissance of the Cook Inlet Area, Alaska"

Gordon Andreasen, Isidore Zietz, Arthur Grantz, Alaskan Branch, U.S.G.S., Menlo Park, California

Friday Afternoon 2:00 P.M. (Joint Session)

"Annual Business Meeting of the Pacific Section A.A.P.G."

NEXT DEADLINE NOVEMBER 27, 1957

"Stratigraphic Classification and Terminology"

Hollis D. Hedberg, Gulf Oil Corporation, Pittsburgh, Pennsylvania

"Gravity Exploration"

Raoul Vajk, Standard Oil Company of New Jersey, New York City, New York

"Stratigraphy of the North Coastal Area of the Olympic Peninsula, Washington"

Robert D. Brown, Jr., P.D. Snavely, Jr., H. D. Gower, U. S. Geological Survey Menlo Park, California

A joint luncheon of the A.A.P.G., S.E.G. & S.E.P.M. will be held at 12:00 noon in the Embassy Room of the Ambassador Hotel. Tickets at $3.50 per person (including tax and gratuities) will be on sale during registration. Robert H. Dott, Executive Director, A.A.P.G., will speak.

The Annual S.E.P.M. Dinner and Evening Session will be held at the Mona Lisa Restaurant at 3343 Wilshire Boulevard at 7:00 P.M. Tickets at $3.50 per person (including tax and gratuities) will be on sale Thursday. Garniss H. Curtiss will speak on the "Geologic Significance of Potassium-Argon Ages of Plutons in the Sierra Nevada, Klamath Mountains and Coast Ranges".

The Annual Luncheon of the S.E.G. will be held in the South Boulevard Room of the Ambassador Hotel at 12:00 noon. Tickets at $3.50 per person (including tax and gratuities) will be on sale during the convention. O. C. Clifford, Jr., the National President-elect of the S.E.G. will speak at the luncheon. Subject to be announced.

Friday Noon

Unofficial college reunion luncheons are being arranged for the convenience of those not planning to attend the S.E.G. Luncheon on Friday noon. Tickets at $3.50 per person (including tax and gratuities) will be on sale during the convention. These luncheons will be held in the Ambassador Hotel in the following locations:

U.C.L.A.	- Embassy Room, S.F. Fine, - Chairman
Stanford	- Cocoanut Grove Lounge, E.A. Gribi, Jr., Chairman
Cal. Tech.	- Lido Patio, J.E. Joujon-Roche - Chairman
U.S.C.	- Lido Room, A.W. Hughes, - Chairman
Cal.	- Frenchette Room, F.B. Carter, - Chairman
Pomona	- Rose Room, L.J. Simon, - Chairman
U. of Wash.	- Garden Room, W.N. Schlax, - Chairman

A cocktail party will be held in the Foyer of the Ballroom from 7:00 to 8:00 p.m. prior to the Annual Dinner Dance.

The annual semi-formal Dinner Dance will be held in the Ambassador Hotel Friday evening. Dinner will be served in the Boulevard Room commencing at 8:15 p.m. and the dance will start in the adjoining Ambassador Ballroom at 9:30 p.m. Music will be furnished by Carroll Wax and his orchestra. All persons attending the convention are cordially invited. To facilitate handling tickets and table reservations it is imperative that each party group select one member to assume responsibility for their table. This person should enter the names of his party on the back of the reservation enclosed with the program. Make checks payable to A.A.P.G., Pacific Section at $7.50 per person, and send with reservation card to Robert W. Spalding, Shell Oil Company, 1008 West Sixth Street, Los Angeles 54, California.

The Cocoanut Grove Lounge has been reserved for visiting wives between the hours of 10:00 a.m. and 12 Noon on Thursday.

SACRAMENTO GEOLOGICAL SOCIETY

On October 16, 1957 Mr. Sargent Reynolds, a Consultant Geologist in the Sacramento Valley, gave a very interesting and informative talk on his recent travels in Turkey. The discussion began with a summary of Turkish history, especially of the Ottoman Empire, and of the changes made since by Ataturk. Mr. Reynolds showed many colored slides of the scenery and life throughout Turkey. He started with pictures in Northwestern Turkey around the Bosporus and Istanbul and then continued on southeastward into the heart of Turkey to the modern Capital of Ankara. From there he continued southeastward to the Mediterranean Sea and the city of Iskenderun near the border of Syria. Then he showed pictures which had been taken in Eastern Central Turkey at Diyarbakir, which is the center of petroleum exploration in Turkey. At the present time, there are two minor oil fields in this area and about fifty exploratory wells have been drilled.

ANNUAL HOLIDAY DINNER DANCE

The joint A.A.P.G., S.E.G.. and S.E.P.M. Annual Christmas Dinner Dance will be held at the Oakmont Country Club in Glendale on Saturday, December 28. Announcement of the dance and reservation cards will be mailed in the near future. O.K. Fuller, Humble Oil & Refining Company is chairman in charge of arrangements.

A.A.P.G. LUNCHEON MEETING

On Tuesday, October 8, 1957, Dr. L. L. Sloss, Professor of Geology at Northwestern University, presented a Distinguished Lecture Series talk before a pleasingly large group at Roger Young Auditorium. The subject of Dr. Sloss' paper was "Stratigraphic Analysis and the Search for Oil".

Stratigraphic analysis may be defined as a procedure based on the integration of stratigraphic data and leading to stratigraphic interpretations. Such interpretations may involve reconstruction of conditions and events in a given area during a specific span of geologic time and thus contribute to an understanding of paleogeography and historical geology. Or, analysis may yield interpretations in terms of the shapes, distribution and interrelationships of bodies of rock, their internal constitution and their contained fluids, including oil and gas. In the sense employed in Dr. Sloss' paper, stratigraphic analysis covers a broad field from purely academic inquiry to strictly practical petroleum geology, and it is impossible to draw a line separating these apparent extremes.

There are many approaches to stratigraphic analysis. One of the most fruitful has been the application of facies mapping techniques to the integration and interpretation of stratigraphic data. The facies map approach requires selection of geographic area and scale, stratigraphic interval or units to be investigated, and the significant stratigraphic parameters or properties to be considered. Examples drawn from regional, semi-regional. district. and pool levels aid in an understanding of problems raised by map scale, the spacing of control points, validity of correlation, and the objectives of the individual study.

Stratigraphers do not yet have a common body of experience relating to the interpretation of facies maps and the degree of agreement reached in terms of paleogeologic or structure-contour maps, for example, has not been attained. Nevertheless, principles of acceptable interpretation are beginning to emerge and it is possible to recognize a number of paleogeographic and tectonic features among facies patterns. More direct applications to oil exploration are found in the recognition and mapping of stratigraphic gradients related to migration and accumulation, patterns of source-reservoir inter-relationship, and purely emperical comparison of known producing trends and inadequately explored areas or horizons exhibiting similar facies patterns.

In his talk Dr. Sloss emphasized interpretation of facies maps with special attention given to sand facies for the convenience and interest of his California audience. He presented and discussed a variety of excellent examples to illustrate the diversity of patterns and conditions encountered.

FORUM MEETING

Dr. Thomas Clements, University of Southern California, was guest speaker at the Los Angeles Geological Forum Meeting, October 21, at the General Petroleum Auditorium. Dr. Clements presented a well-illustrated talk on "Geology of th North Shore of Lake Chapala, Mexico."

Vertebrate fossils found on the bottom of lake Chapala in Jalisco, Mexico, when the lake level was very low in the Spring of 1956 led to the sending of an expedition to the area by the Los Angeles County Museum in September of the same year. Dr. Theodore Downs, Curator of Vertebrate Paleontology at the Museum was the paleontologist, and Dr. Thomas Clements, Head of the Department of Geology at the University of Southern California and also Curator of Mineralogy and Petrology at the Museum, was the geologist.

One of the working hypotheses regarding the origin of the fossils on the lake floor was that they had been washed out of beds outcropping on the north shore of the lake. To test this hypothesis, these beds were mapped in detail, and a section was measured. The name Chapala Formation was tentatively assigned to the beds.

The strata comprising the Chapala Formation have a general northwesterly strike and they dip to the northeast at about 20 degrees, although reverse dips occur in the middle part of the section. The beds consist of claystone, siltstone, marl, thin sand or sand and gravel layers, ash and pumice, and occasional diatomaceous shales. The presence of fresh-water fossils, and the good sorting and stratification exhibited by much of the material indicates a lacustrine origin.

Scattered mammalian fossil remains occur in the formation, generally in the sand and gravel beds. These include mastodon, tapir, and at least two genera of horses. Although the study of the fossils is not completed, the age appears to be very late Pliocene or early Pleistocene, or possibly transitional Plio-Pleistocene.

The basal beds of the formation lie on rhyolitic breccia to the south, and the upper part is faulted against rhyolitic volcanics to the north. Part of the formation is overlain unconformably by terrace gravels which also show a lake origin.

The fossils found on the floor of the lake represent many animals not found in the Chapala Formation. Furthermore, the forms suggest a late Pleistocene age. It is concluded, therefore, that the Chapala Formation was not the source of the fossils on the lake floor.

U.C.L.A. NEWS

John C. Crowell, Associate Professor of Geology, has taken over the rotating chairmanship from William C. Putnam, who has served the department with distinction for more than seven years.

Dr. John L. Rosenfeld has joined the department as Assistant Professor of Geology. His field of interest is primarily in metamorphic petrology and structure. He has done extensive field work and research in the complex New England region. Donald W. Lovejoy will be with the department this year as an Assistant Professor, to aid in offerings in stratigraphy, field geology, and general geology. He is completing his PhD at Columbia and has worked during recent summers in Central Nevada on stratigraphic and structural problems in lower Paleozoic rocks near Elko. Harold L. Sullwold is teaching the senior course in petroleum geology.

Several of the senior staff are on leave for this year. Professor Kenneth D. Watson is spending the year in field work and exploration work in Canada. Professor George Tunell is on sabbatical leave in order to undertake research on the campus at Penn State University, and at other

places in this country. This spring Professor Cordell Durrell will leave UCLA for a two-year period in order to help organize a curriculum in geology, especially petroleum geology, at the University of Bahia, Brazil.

Last summer the UCLA field course was conducted in central Nevada, in the Roberts Mountains area, by Dr. Edward L. Winterer, Dr. Michael A. Murphy, and several advanced UCLA graduate students: Donald L. Lamar, Douglas C. Martin, and Peter U. Rodda. Fifty-one students had an opportunity to grub around in the complexities associated with the Roberts Mountain thrust. This field training supplemented their work during the year in Coast and Transverse Range areas within reach of Los Angeles.

During the last year UCLA awarded 44 A.B. degrees in geology, 7 M.A. degrees, and 3 PhD's.

UNIVERSITY OF OREGON NEWS

The annual geology summer camp was lead by Dr. Lloyd W. Staples, Professor of Geology, and assisted by Jack Napper. The session was split between the Coos Bay locality at Charleston, where a thick series of Tertiary marine sediments is exposed, and the Mormom Basin in Baker County where igneous and metamorphic rocks are exposed. Seventeen students attended the session.

Dr. Ewart M. Baldwin, Associate Professor of Geology, spent the summer mapping the Camas Valley and Tyee quadrangles west of Roseburg in the Coast Range, for the U. S. Geological Survey.

Dr. Bressler, who taught petrography and petrology at the University resigned to go to Western Washington College in Bellingham.

Dr. Walter Youngquist, formerly with the department of Geology at the University of Idaho, with International Petroleum at Talara, Peru, and recently Professor of Geology at the University of Kansas, is Associate Professor of Geology in charge of paleontology. Dr. Youngquist was employed by the Humble Oil Company this summer in western Washington.

Dr. Ernest Lund, formerly Associate Professo of Geology and acting head of the Department of Geology at Florida State University, is Associate Professor of Geology, teaching petrography and petrology.

Six graduate students were actively engaged in field work for their masters degrees in various parts of Oregon under supervision of Dr. Baldwin and Dr. Staples.

CALTECH NEWS

This year's summer field camp was once again located in the Sacramento Mountains of New Mexico. The group of thirteen graduate and undergraduate students was under the direction of Barclay Ray and Ronald Shreve. In addition to five weeks spent in mapping a critical section of the Paleozoic rocks south of High Rolls, a five-day trip provided opportunity for first-hand acquaintance with the Franklin Mountains, El Capitan, Juarez, Carlsbad Caverns and potash mines. Of particular scientific interest were the discoveries, independently made, of two entire, well-preserved Mississippian crinoil calyxes.

Geologic and geophysical studies were initiated this past summer on Blue Glacier, the largest of the glaciers nourished by Mount Olympus in Washington.

Clarence R. Allen and L.T. Silver spent the first part of the summer southeast of Ensenada in Baja California, completing their study of the Agua Blanca fault zone and continuing a stratigraphic study of the Cretaceous sedimentary rocks. Harrison Brown, on an assignment from the National Academy of Sciences, organized a committee on oceanographic research. Ian Campbell was on a leave of absence status for two months while investigating Tertiary volcanic rocks in southeastern Oregon for the Humble Oil & Refining Company. C. Hewitt Dix continued his geophysical studies of faults in the region between Lucerne Valley and Twenty-nine Palms. A. E. J. Engel, spent most of the summer in northern New York state tracing changes in Grenville meta-sediments in relation to Adirondack intrusives. Heintz Lowenstam again spent the summer in Bermuda, continuing his studies of recent marine ecology with an opportunity to extend observations through a wider extent of the West Indies. R. H. Jahns spent the first part of the summer tracing contactmetamorphic changes in a highly faulted section of Paleozoic rocks in southwestern New Mexico. James A. Noble, returned to southeastern Alaska and adjoining portions of British Columbia to continue his investigations of iron-ore occurrences for the U. S. Steel Corporation.

The Division reports the largest number of new graduate students ever admitted: 21 in all. Total graduate enrollment is 43.

POMONA COLLEGE NEWS

A successful summer field camp was located at Leavitt Meadow on Sonora Pass.

Work has continued on the structural analysis of a complex area of deformed rocks in the Orocopia Mountains. This project is supported by a grant from the National Science Foundation. The Fulbright Commission has made it possible for Dr. Christof Exner, of the Geological Survey of Austria and the University of Vienna, to spend nine months at Pomona; he will participate in this research and give instruction on modern methods of study of the feldspars.

Members of the department are also concerned with the kinematics of faulting as determined from seismic data, and with dynamic aspects of deformation of rocks with the stereographic projection as a tool of three-dimensional representation.

In January, with help provided by the Scripps Institution of Oceanography, a reconnaissance was made of the southern part of Cedros Island, Baja California.

NEW MEMBERSHIP DIRECTORY

The 1958 edition of the Directory of Membership of the Pacific Section of the American Association of Petroleum Geologists, Society of Exploration Geophysicists and Society of Economic Paleontologists and Mineralogists will be placed on sale November 7, 1957, at the Fall Convention registration desk, Ambassador Hotel, Los Angeles.

This book will include the individual listings and pictures of some 1382 members and subscribers in the western states and throughout the world. Members will find this greatly improved Directory a necessary addition to their office library.

It will be necessary to establish the price at $2.50 per copy. However, the book will be offered for sale at the fall meeting and the National Convention of the American Association of Petroleum Geologists and Society of Economic Paleontologists at the Biltmore, March 10-13, 1958 at a special Convention price of $2.00

Mail orders will be accepted now for delivery after the fall meeting on November 8, 1957. To order by mail, send $2.50 for each copy desired to Lee R. Choate, Baroid Well Logging Service, P.O. Box 9125, Long Beach 10, California. Checks should be made payable to Pacific Section, American Association of Petroleum Geologists.

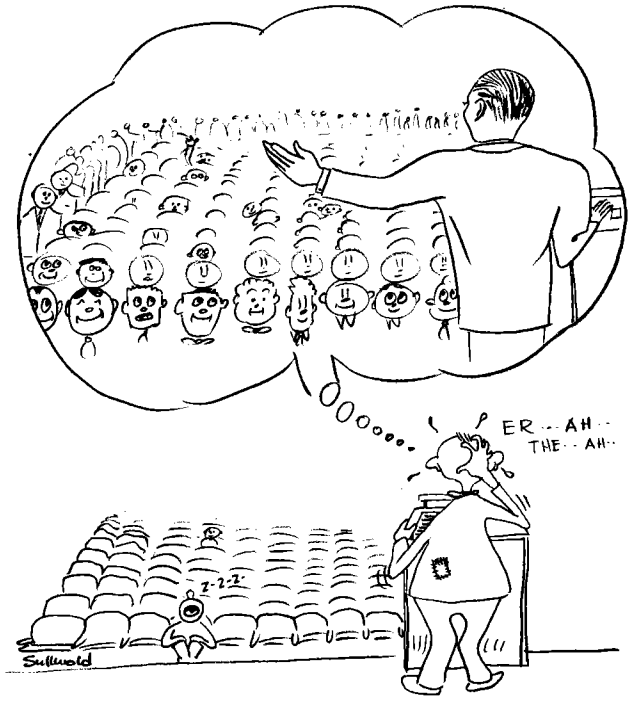
A.A.P.G. ELECTION RESULTS

The following officers were elected by ballot to head the Pacific Section of the American Association of Petroleum Geologists:

President -- U. S. Grant, IV
Vice-President -- Thomas A. Baldwin
Secretary -- George Y. Wheatley
Treasurer -- Robert R. Knapp

Mr. Grant is Professor for the department of Geological Sciences at the University of California, Los Angeles; Mr. Baldwin is Senior Geologist for the Monterey Oil Company, Los Angeles; Mr. Wheatley is District Geologist for the Superior Oil Company, Los Angeles, and Mr. Knapp is Development Geologist for the Standard Oil Company at Los Angeles.

Their term of office will begin immediately following the A.A.P.G., S.E.G. and S.E.P.M. Convention at the Ambassador Hotel, Los Angeles, California, November 7 and 8, 1957.



FALL CONVENTION NOV. 7-8

GEOLOGICAL HAZARDS COMMITTEE

The Building and Safety Code of the City of Los Angeles may require that contractors erecting buildings and retaining walls within the City seek the advice of a geologist who is qualified to report on the soil stabilization involved in the project. To protect the public interest the City Council has deemed it necessary to establish a list of geologists who are qualified by formal training and experience to do the work. The City Council has therefore established a Geological Hazards Committee which will pass on the qualifications of any geologist who wishes to engage in this type of work. Included among the prominent members of this committee are George Schroeter of Schroeter and Lockwood, Consultants Dr. Ulysees S. Grant, Professor of Geology U.C.L.A., Dr. Thomas Clements, Head, Department of Geology, U.S.C.

Members of the Pacific Section of the A.A.P.G. who wish to be included on the list should indicate their desire to George Schoeter, 3515 Sunset Boulevard, Hollywood or contact other members of the committee. The Legislative Committee of the Pacific Section has been informed that licenses will not be issued, nor fees collected and that the Committee's only interest is to pass on the qualifications of applicants.

PERSONAL ITEMS

George La Perle and Neal Hurley, Richfield in Bakersfield, have returned from a vacation in Mexico City. Both made money on the races at "El Hapadrome". Neal soaked up Mexican sunshine for his coming trip to Alaska.

Al Hopkins and George Clark, geologists for Richfield in Bakersfield, are working out at Strelich Gym playing handball for orange juice. Clark won one game by a close margin and then overwhelmed Hopkins on the second game. Clark has boosted the odds by granting no return match for six months.

Jim Lamb, paleotologist for Richfield in Bakersfield, organized his 2nd annual Mt. Whitney climb. This year Bob Hickernell stayed home to the immense relief of everyone including Bob Hickernell.

Hal Reade, Richfield in Bakersfield moved his wife to a new home on the "rock pile" at College Heights. His maps now bear a striking resembalnce to horticultural layouts and his sections look like picket fences.

Bill Horsley, Richfield scout in Bakersfield, has returned from his vacation at Twin Lakes with a new car and no fish. His wife caught two more than he did.

Boy Scout Geology Month got off to a rousing start in the Bakersfield area with two field trips and an evening meeting and exhibit at the East Bakersfield High auditorium on Tuesday, October 8. Cutler Webster of Honolulu Oil Company was in charge of the Bakersfield area program.

The evening meeting was attended by over 650 Boy Scouts and parents. Bob Herron of Hancock gave a talk on "Basic Geological Structures and Erosional Features", illustrated with colored slides. Bill Classen, Standard Oil Company, gave a brief talk on paleontology, also illus-

trated with colored slides, this was followed by the General Petroleum Corporation motion pictures "In the Beginning". Chuck Champion, Richfield, demonstrated Richfield's oil field model. Dick Atchisen, Ohio and Bert Marier, Tidewater, organized exhibits which included a geophysical exhibit by Bob Brace, Standard; a fluorescent mineral, air photo and map exhibit by Wayne Shaw and Bert Marier, Tidewater; a microfossil exhibit by Bill Binkley. Superior: a megafossil exhibit by Standard; A geological tools of the trade exhibit by Bill Winters, Superior; a model drilling rig loaned by Richfield; drilling bits loaned by Security Bit Company, and a rock cycle display by John Zimmerman and students from Bakersfield College.

Field trips on October 12 and 19 to the Round Mountain Oil Field and Barker Ranch fossil locality were attended by 165 Boy Scouts on each trip. They had a picnic lunch at the Shell Oil Company park where ice cream and milk were furnished courtesy of Intex Oil Company, Oceanic Oil Company, Gene Reid Drilling and Schlumberger. Otto Hackel of Intex led the first trip and Tennant Brooks of Ferguson and Bosworth the second. Dana Detrick, Shell Oil Company assisted on the trips. Shell mimeographed the road logs. Ed Marks, Union demonstrated washing samples in the field for microfossils.

The attendance at the meeting and field trips attests to the interest in Geology instilled in the Boy Scouts by the men and companies who furnished the time and material to make Geology Month a success in the Bakersfield area. This is the first of several similar programs which will be presented in other cities in Kern County under the direction of Make Reetor, County Chairman for Boy Scout Geology Month.

At the October 7th dinner meeting of the San Joaquin Geological Society, the following men were nominated for offices of the Society:

President - Tennant Brooks and Bob Herron
Vice President - Cutler Webster and Ken Lautenschlager
Secretary - Treasurer - Jim O'Neil and Jess Parsons

As the meeting progressed it became apparent that the campaigns were well under way. A rumor was prevalent that Bob Herron was paying for the drinks of everyone that cast their vote his way. When Herron publically squelched this rumor he lost many votes, temporarily, until the source of the rumor was traced to his crafty opponent for the presidence. The Vice Presidential candidates were gentlemen. In the race for Secretary-Treasurer, however, a political tempest developed when O'Neil and Parsons were asked to assist Jack Clare in collecting for the cocktails. For the first time in recent years too much money was collected. A subsequent check revealed that Parsons had collected from himself twice. Outraged at being politically outmanoeuvred O'Neil announced that he has engaged Jean D. Senteur de Boue to manage his campaign.

Joe Floyd, Carl Helms and Bob Lindblom are closing the Sacramento Exploration Office of the Standard Oil Company. In the future they will operate from Oildale. Hans van den Berg will remain in Sacramento to handle the scouting.

Jim Alkire with General Petroleum, his wife and daughter are the newest commers to the Sacremento Valley. Jim had recently been transferred from Los Angeles to replace Don Barrett.

Following are the new officers of the Northwest Geological Society for the year ending September 1958:

President - Charles V. Fulmer, Standard Oil Company
Secretary - John Richards, U. S. Corps of Engineers
Treasurer - Robert Deacon, The Texas Company

John Griffiths, geologist, Shell, has moved into his new lakefront home in Olympia. It has a full basement which would lend itself most admirably to parties for John's colleagues - - - well, John?

Floyd Johnson, geologist, Western Gulf, Olympia, is on a two-week vacation in the New England States.

Bob Scott, Tidewater, took a group of Boy Scounts into the San Gabriel Mountains on October 19. Nick Nixon, Tidewater, took a group into the Santa Monica Mountains, also on October 19, and another group to visit one of Standard's wells on October 26. Dick Valentine, General Exploration, Bob Kelly, Continental, accompanied by Harry Jamison and Jack Billings, Richfield, took a group out to the Bandini field on October 12.

Herb Johnson, geologist for Humble, was recently transferred to the Los Angeles staff from Louisiana via Alaska.

John Loofbourow and Bill Mathews, Richfield, have just returned from an inspection trip of Dhofar. The inspection included London, Paris, Rome and Denmark! They were quite amazed in Rome at the maintenance methods of the buildings. Some of them are in ruins that are only a couple thousand years old! Pure evidence of negligence.

Irv Schwade, Richfield, has just returned from Peru where he speared a 500 lb. swordfish!

W. Walter Scott, Richfield in Colombia, was married on July 5 in Panama. Congratulations, Walt!

Frank Exum, graduate student of U.C.L.A., was hired by Ohio on October 16, as a geologist.

Tex Leverett, Union, is recuperating very speedily from a recent operation. Glad you are up and around again, Tex.

Harry Jamison, Richfield, and Howard Samsel, Union, were seen recently dodging the "rain" in Washington.

Hal Fothergill, Union, has been transferred from Orcutt to Los Angeles.

Kenny Myron, Texas Co., has been transferred from Santa Maria to Bakersfield as Division Geologist.

Warren Gillies, junior geologist for Texaco, has been transferred from Santa Maria to the Bakersfield District Office.

The Santa Paula District Geological Office of Texaco expects to move in early December to its new headquarters building now under construction in Ventura.

Willis R. Brown has been employed by Texaco as a junior geologist at Santa Maria. He holds a B.A. degree from Wesleyan University and a M.S. degree, 1957, from Stanford.

Manley Natland and Mel Swinney, Richfield.

have just returned from Gallup, New Mexico, where they attended the Four Corners Geological Society Second Field Conference. Nat was seen there hobnobbing with Joel McCrea and wife, Frances Dee. Nice going, Nat.

Chet Baker, geologist for Continental, was recently transferred to Ardmore, Oklahoma.

Ed Johnson, geologist for Continental, was transferred to Los Angeles from Elko.

All who said their goodbyes to Bill Corey may now retract them. Bill's transfer to Continental's Venezuelan operation has been cancelled! He will remain in Los Angeles.

Dick Hester, geologist for Signal, who was transferred from Bakersfield to Guatemala, spent a few days recently in Los Angeles. Dick's tour in Guatemala seems to agree with him. He looks fine.

Ron Heck, M.A., Brigham Young, who has joined the geological staff of Sunray Mid-Continent, recently made a trip to Santa Barbara. He accomplished the job but forgot an important item -- the boss who wanted to go along!

Walter Stokesbary, Shell, found a formula to kill Bermuda grass at his new home in San Marino. Walt advises to use it sparingly in that it killed the rest of his lawn. He reports that he has the only black lawn in town.

Jim LaFevers, Shell, Salt Lake City, will be working in the Los Angeles Office for several weeks. Jim is trying to get bets against U.S.C. - - - no odds.

Rats Rathwell of Paradise, California, wants to notify Roy Barnes and other domino players that he will be in town for the Convention, November 7 and 8. Rats said that he did not want to pay for his trip.

Guy E. Miller has been on an extended trip to the Rocky Mountains where he visited his brother and other relatives.

The newly elected Coast Geological Society officers for the year 1958 are as follows:

President - Roy Turner, Intex Oil Company
Vice-Pres - Vern Crackle, Western Gulf Oil Co.
Secretary - Jack Kappeler, Tidewater Oil Co.
Treasurer - Frank Yule, General Petroleum

The Associates of the School of Mineral Sciences of Stanford University announces the publication of the 24th edition of the Directory of Stanford Mineral Scientists. This volume lists all Stanford Mineral Sciences graduates with their current addresses, complete professional records and indicates those men available as consultants. The book is on sale at the office of the Associates, 621 So. Hope Street, Los Angeles, 17, California.

Contrary to the listing in the new directory The Texas Company's Los Angeles office will remain at 929 So. Broadway until next spring.

Max Greene, paleontologist, Shell, Olympia, has finally discovered the gas economy of his Volkswagen. Apparently it is just a matter of releasing the brakes while driving.

Jim Tanner has faith in the continued production from his well at Ocean City, Washington; he recently purchased a 32-foot yacht.

The Boy Scout monthly activities have been progressing quite satisfactorily in the Coastal District. The following geologists have given evening talks to the troops indicated:

Art Weller, Shell Oil Co., Troop 109, Ventura; Lowell Garrison, Western Gulf, Troop 2202, Oxnard; Dale Duley, Richfield Oil Co., Troops 504 and 508, Ojai; Bob Paschall, Hancock Oil Co., Troop 103, Ventura; Tom McCroden, Standard Oil Co., Troop 216, Oxnard; Hal Lian, Union Oil Co., Troop 224, El Rio.

A number of field trips are planned and requests for additional geologists to assist in this program are being received.

Word has been received from Bill Lee, Petrobras in Brazil that life is rough and rugged in the jungle. His current recreational interest is fishing for the "man-eating" Piranha. Just use your toe (intact) for bait Bill, the results will be amazing.

Wayne Estill was observed wearing colored glasses to examine cores at a recent core party, probably oil stained lenses. He will rent them to any enterprising rock hounds.

Spence Fine, Division Geologist for Richfield Oil Corp., Ojai, is at long last moving into his new home. Spence and his family have invested a great deal of time and hard work in completing this project.

Pete Hall, Richfield, Ojai, has just purchased a beautiful sailboat. There's no telling to what end he will go to find peace and quiet.

Is it true that Bob Patterson, Bert Numm and Bob Burns took butterfly nets to be used as sample catchers on the air drilling rig Sunray has in the Santa Maria Basin?

Mahlon Kirk, paleontologist, Shell, will have to fight the Seattle traffic into town everyday now. Shell is moving its stratigraphic lab to 112 Cherry Street.

Oleta Jones, paleontologist, Shell, has taken leave of absence to accept a commission with the Women's Air Force. She leaves Olympia this week to spend the next few months at Lackland Air Force Base, San Antonio.

The Seattle and Olympia offices of Shell are noisy once again; the Alaska geologists. Howard Barnes, Pete Grimstad, Bill Johnson, Kay Molenaar, Maury Price, Ralph Rudeen, Stan Schindler and Bob Smith, are home. It is reported that Barnes had only to shoot a bear to fulfill the requirements for sourdough.

Jack Shaughnessy, geologist, El Paso Natural Gas, Salt Lake City, is on a two-weeks reconnaissance tour of the Northwest.

NURSERY ITEMS

Dean Morgridge, Geologist for Humble, and wife, Pat., announced the birth of a baby girl, Linda Pattison, weight 8 lbs., on October 23.

Jim Saunders, geologist for Tidewater, is the proud father of a new son, Tod Russell, born October 19, - weight 7 pounds plus. This makes three for the Saunders.

Ernie Lian, geologist for Ohio, announced the birth of his first child, a boy, Carl Elling, born October 7, - weight 7 pounds 6 ozs.

Bob Deacon, geologist, The Texas Company, Olympia, announces the arrival of a baby girl, Jennifer Louise, 6 lbs. 9 ozs., born October 5.

Dee Molenaar, geologist, Washington State Division of Water Resources, Olympia, proudly announces the arrival of a boy, Peter Cornelius weight 7 lbs. 13 ozs., born October 12.

BIBLIOGRAPHY OF RECENT PUBLICATIONS

U.S. Geological Survey

Bulletin 1019-G "Bibliography of Titanium Deposits of the World" by R. Lowthers & H.R. Mark.

Bulletin 1036-M "Model '54 Transmission and Reflection & Fluorimeter for Determination of Uranium with Adaptation to Field Use" by E.E. Parschall and L.S. Rader.

Bulletin 1046-D "Uranium Resources of San Rafael District, Emery County, Utah - a Regional Synthesis", by H.S. Johnson Jr.

Bulletin 1074-A "Mineralogic Classification of Uranium-Vanadium Deposits of Colorado Plateau", by T. Botinelly & A.D. Weeks.

I-255 Photogeologic Map of Shinarump N.E. Quadrangle, Coconino County, Arizona, by K. McQueen.

OM-190 Preliminary Geologic Map of Western San Juan Basin, San Juan and McKinley Counties, New Mexico, compiled by R.B. O'Sullivan and E.C. Beaumont

MF-135 Preliminary Geologic Map of Part of the Turtle Lake Quadrangle, Lincoln and Stevens Counties, Washington. by G.E. Becraft & P.L. Weis.

CALENDAR

NOVEMBER 5, 1957: Tuesday, Coast Geological Society, Montecito Country Club, Santa Barbara. "The Fillmore Oil Field" by Don Henriksen, Richfield Oil Corporation.

NOVEMBER 18, 1957: Monday, 7:00 p.m., A.A.P.G. Forum Meeting, General Petroleum Auditorium, Los Angeles. "Offshore Exploration and Development in the Gulf Coast" by Sheridan A. Thompson, Director, Vice-President, and Manager of Exploration, Magnolia Petroleum Co., Dallas, Texas. "Statistics of Oilfield Accumulation" by Al Woodward, Senior Engineer, Union Oil Co. Both talks will be illustrated with color slides.

NOVEMBER 19, 1957: Tuesday, 8:00 p.m., A.P.I., Los Angeles Basin Chapter, Shell Recreation Hall. Offshore program by the Standard Oil Co. Speaker to be announced.

NOVEMBER 25, 1957: Monday, 12:00 Noon, A.I.M.E. Petroleum Forum Meeting, Roger Young Auditorium, 936 West Washington Blvd., Los Angeles. "Natural Gas Production After Three Years of Federal Regulation" by K.C. Vaughan, Manager, Natural Gas Department, Union Oil Co., $2.50 including tax, tip, and parking. Late reservations call Dick Crippen, TR 9271.

DECEMBER 4, 1957: Wednesday, Coast Geological Society, Distinguished Lecturer, Montecito Country Club, Santa Barbara. "Ancient Beaches in Oil Exploration" by Dr. W.O. Thompson, University of Colorado.

DECEMBER 10, 1957: Tuesday, 7:30 p.m., Sacramento Geological Society, Boardroom of Public Works Building, 1120 "N" St., Sacramento. "Glaciers" by Oliver Kehrlein, Retired, formerly with U.S.G.S..

MARCH 10-13, 1958: A.A.P.G.-S.E.P.M. Annual Meeting, Biltmore Hotel, Los Angeles.

PACIFIC PETROLEUM GEOLOGIST
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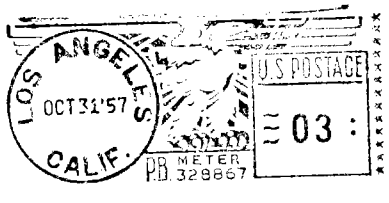
Vol. 11 No. 11

First Class



Fred R. Neumann
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Chico, California

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PACIFIC PETROLEUM GEOLOGIST

NEWS LETTER OF THE PACIFIC SECTION
AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

Vol. 11 December 1957 No. 12

ASSOCIATION ACTIVITIES

A.A.P.G. OFFICERS

New officers elected by the Pacific Section, for 1958 are left to right: George Y. Wheatley, Superior Oil Co., Secretary; U. S. Grant, IV, U.C.L.A., President; Thomas A. Baldwin, Monterey Oil Co., Vice President; and Robert R. Knapp, Standard Oil Co., Treasurer.

DISTINGUISHED TRIO

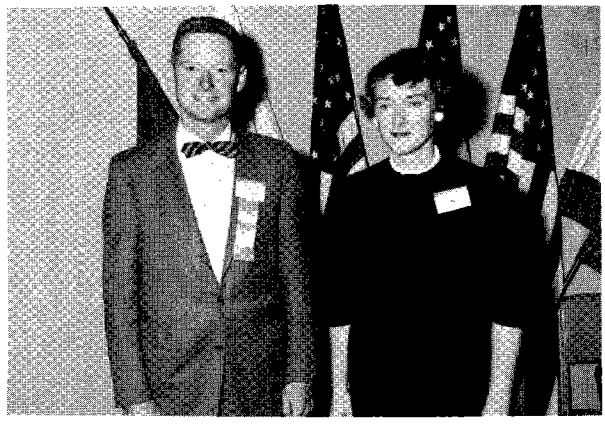
Left to right are: Robert R. Dott, Executive Director of the American Association of Petroleum Geologists; Leo R. Newfarmer, Chairman of National Convention to be held in Los Angeles, and J. D. Bainton, Past President of the Pacific Section of S.E.P.M.

HOLIDAY DINNER DANCE

The Annual A.A.P.G. - S.E.G. - S.E.P.M. Holiday Dinner-Dance will again be held at the Oakmont Country Club in Glendale on Saturday, December 28. Dinner will be served at 8:30 p.m. with dancing to Bruce Hudson's music starting at 9:00 p.m. The affair will be preceded by a complimentary cocktail party which will commence at 7:00 p.m. Reservation cards will be mailed about December 10. Ken Fuller, Humble, and Joe Hatheway are handling the arrangements, and Louis Simon, The Texas Co., will manage the reservations. Please save this date, as this affair should have more Holiday Spirit than those in the past, and at $13.00 per couple, is a real bargain.

S.E.G. OFFICERS

Newly elected officers of the S.E.G., for 1958 are left to right: R. D. (Bob) Brace, Standard Oil Co., Secretary-Treasurer elect; J. A. (Jim) Kurfess, Tidewater Oil Co., Northern Vice President elect; Dean Walling, Western Geophysical Co., President elect; R. B. Moran, Jr., Moran Instrument Corp., Southern Vice President elect; W. P. (Woody) Wilson, Western Gulf Oil Co., Editor elect, Geophysical Digest.



S.E.P.M. OFFICERS

S.E.P.M. Officers for 1958 are: Edward L. Winterer, U.C.L.A., President Elect; Ann V. Whitton, Standard Oil Co., Secretary Elect.

FORUM MEETING

Mr. Sheridan A. Thompson, Director, Vice-President, and Manager of Exploration, Magnolia Petroleum Corporation, Dallas, Texas, and Mr. Albert F. Woodward, Chief Exploitation Engineer, Union Oil Company, Whittier, California were the featured speakers for the Los Angeles Forum Meeting held at the General Petroleum Auditorium on Monday evening, November 18, 1957. Mr. Thompson spoke on "Offshore Exploration and Development in the Gulf of Mexico".

The search for oil in the Gulf of Mexico began thirteen years ago. The type of exploration thinking which triggered it originated in a district geological

office. Difficulties had to be overcome and methods determined to acquire, drill and operate leases in deep waters out of sight of land. Eighty-six fields have been discovered off the coast of Louisiana; twenty-eight have produced oil, forty-one gas, and sixteen both oil and gas. Block 126 field, Eugene Island area, a shallow salt dome twenty-five miles off the coast of Louisiana, is an example of the better type of field found.

To date there are thirty-three known pay sands in various parts of the field, with a total net thickness of 1704 feet. There are forty-six producing wells in the field, most of which are dual-completed, all connected into one central gathering and separator system, with a daily allowable for the field of 8000 barrels.

Mr. Woodward discussed "Geological Classification of California Oil Pools".

The statistical classification of oil pools as to the type of trap involved the study of almost one thousand separate pools in over two hundred and sixty California oil fields.

Four basic types of traps were used in this classification:

1. Anticlinal Dome - this includes faulted anticlines where fault traps are of secondary importance to the original accumulation.

2. Fault Traps - where block faulting forms the basic trap.

3. Stratigraphic Traps - this refers to simple stratigraphic or permeability barriers where local folding is not involved.

4. Combination Traps - this includes faulted folds, stratigraphic traps on folds, or any other combination of folding, faulting or pinch-out.

The State has been divided into four major provinces:

(a) San Joaquin Valley Province;

(b) Santa Maria Basin - Interior Coastal Range Province (includes Cuyama, Vallecitos, San Ardo, Oil Creek, etc.);

(c) Transverse Range Province (includes Santa Barbara, Ventura, Santa Clara Valley, and Simi-San Fernando);

and

(d) Los Angeles Basin.

Eighty-six per cent of California's Oil has been found on folded structures:

Anticlinal Dome	60°/o
Stratigraphic Trap on Fold	16°/o
Fault Trap on Fold	10°/o

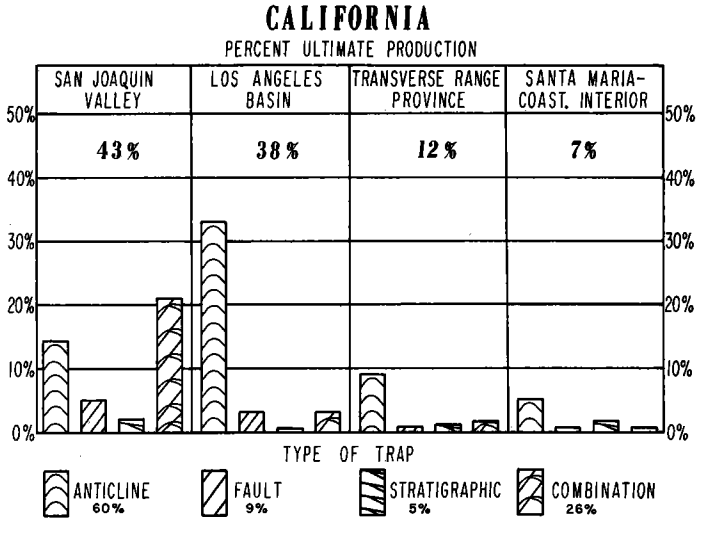
Over fifty-five per cent of the oil accumulations in the State are associated either directly or indirectly with faulting. This includes post-accumulation faulting in many of the large anticlinal fields.

A detailed study of the type of traps found in each province may indicate what areas hold the most promise of future exploration.

The following tabulation shows this break-down.

	Anticlinal Dome	Fault	Stratigraphic	Combination
San Joaquin Valley	33°/o	11°/o	5°/o	51°/o
Santa Maria Interior-Coast	66	8	23	3
Transverse Range	75	5	9	11
Los Angeles Basin	85	7	1	7
State Aver.	60	9	5	26

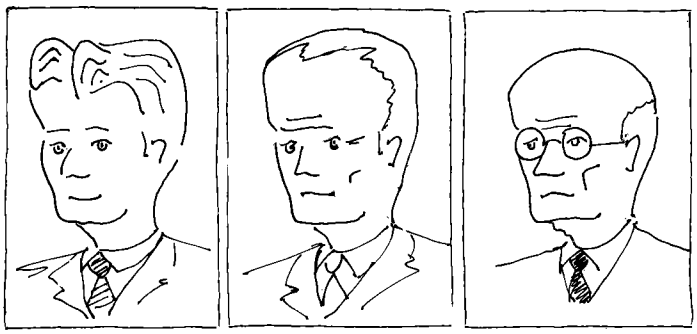
The chart below shows a detail of the State Summary:



The percentages refer to the ultimate barrels of oil assigned to the different types of traps.

AAPG - SEG - SEPM DIRECTORY

1953 1955 1958



NORTHWEST GEOLOGICAL SOCIETY

Dr. Warren O. Thompson, Chairman of the Department of Geology and Geography, University of Colorado, was guest speaker at the monthly dinner meeting of the Northwest Geological Society in Tacoma on November 22. Dr. Thompson is a distinguished lecturer for the A.A.P.G.; The subject of his talk was "Ancient Beaches in Oil Finding".

The observed original structures in modern beaches, bars, and dunes may be used as criteria to identify ancient sediments, now a part of the geologic column, as ancient beaches, bars, and dunes. Ancient beaches, like their modern counterparts, are limited in vertical and areal extent, and occupy only a very small part of the sedimentary record. They have definite relationships with surrounding deposits, and may be interstratified with windblown sand, estuarine, lagoon, and fluvial deposits. While the dominant material is sand, size of particles may range from very fine sand to large boulders. Silt and clay are rare, and flakes of mica and other platy minerals are not common.

Materials of upper foreshore beaches are arranged in extensive laminae. Particles in a single lamina are of uniform size, but sizes change abruptly from one lamina to another. Angle of primary dip of laminae seldom exceeds ten degrees. In uncusped beaches, laminae may dip in one general direction or oppositely, and are often extensively truncated. The parallelism of strike and smallness of angular dip of both truncating surfaces and adjacent laminae in upper foreshore beaches are particularly diagnostic.

In cusped beaches, the direction of dip of laminae and the less extensive truncating surfaces corresponds to that of a row of shallow interjacent synclines with almost parallel axes plunging gently in one direction.

Deposts of upper foreshore beaches may contain swash marks, backwash marks, and swirl structures. In places, they display buried scarps parallel to the general strike of the involved laminae.

Materials of lower foreshore beaches are arranged in nearly horizontal, discontinuous layers of rather uniformly sorted, steeply inclined, foreset laminae which are much shorter than those of upper foreshore beaches. The short, foreset laminae dip in all directions with a steep angle of dip approaching a maximum of thirty degrees in some places. These foreset laminae show extreme diversity in direction and angle of dip, and are interstratified with shallow, filled basins containing laminated, micaceous sediments of low dip.

No single characteristic of a beach is sufficiently distinctive to permit identification of an ancient beach. However, ancient beach deposits may often be recognized by careful study of all characteristics of the sediments, giving proper weight to the various criteria. These criteria may be applied to the petroliferous Lyons sandstone of the Colorado Front Range, to sandstones of the petroliferous Dakota group in the Denver Basin, and to certain terrace deposits along the California coast.

BOY SCOUT GEOLOGY MONTH
OCTOBER, 1957

ORANGE EMPIRE COUNCIL	-	LONG BEACH AREA COUNCIL
Co-Chairmen:	John B. Sansone	Shell Oil Company
	Don S. Hare	Monterey Oil Company
Helpers:	Louis A. Canut	The Texas Company
	Frank Della Rose	Shell Oil Company
	E. G. Heath	Shell Oil Company
	J. E. Joujon-Roche	Shell Oil Company
	E. H. Mayer	Monterey Oil Company
	A. F. Marsau	Shell Oil Company
	H. W. McClellan	Continental Oil Company
	R. E. McGraw	Monterey Oil Company
	P. D. See	Shell Oil Company
	M. K. Scribner	Shell Oil Company
	R. D. Schupp	Shell Oil Company

During the month of August, a map of the Los Angeles Basin area with points of special geologic interest noted thereon, was prepared by the Boy Scout Committee.

During the month of September, the unit leaders of the Orange Empire and Long Beach area Councils (comprising about 400 units), were contacted in a series of ten meetings (District Roundtables for Scout Leaders). Approximately three Hundred leaders attended these meetings, at which time the Geology Month program was outlined, and the map with data for suggested trips was distributed to each unit leader, together with a roster of geologists willing to assist them.

During the month of October, Committeemen appeared before Scout groups at their troop meetings, gave a short talk on "Geology in the Scouting Program", "Prospecting for Petroleum", "Birth of an Oilfield", etc.).

The highlight of the program was an escorted geologic field trip each Saturday in October and the first Saturday in November. These five trips were conducted under the leadership of John Sansone, with various members of the Committee assisting; about six hundred scouts and their leaders from forty-two units participated in this activity.

The assembly area for the trip was Dana Point, where after a short layman's talk on geology, the boys were given the opportunity to collect a variety of rocks and minerals from the San Onofre Breccia, which is well exposed at Dana Point.

The caravan then travelled about fifteen miles to Upper Newport Bay to visit a salt mining operation. After a few comments on the occurrence, mining and uses of salt, the boys were given a tour of the operation where salt is produced from sea water by the solar evaporation method, and each boy was able to add some crystals of Halite to his collection.

The next stop was also in the Upper Newport Bay area at a locality which is a fossil collector's paradise. Here, in loose Pleistocene sediments, picks and shovels were busily engaged for an hour, with prize specimens of Gastropods, Pelecypods, "sand-dollars", shark's teeth and mammal bones dug up to the delight of the masquerading geologists.

Following the fossil collecting experience, the boys were assembled for the last time before disbanding. A suite of core samples (oil sand, shale, limestone, etc.) were exhibited and described to them, and as a parting message they were given a short talk on "The Importance of Oil - the Geologist's Role - in the Oil Industry".

Other special events included: an illustrated talk on Submarine Geology to a group of thirty-five Sea Scout leaders by a Committeeman, and an escorted field trip to the Pala gem stone area where a troop collected minerals and "staked out a claim" under the supervision of a Committeeman.

PERSONAL ITEMS

Henry Clark, General Petroleum in Bakersfield, is now scouting his area disguised as a "Volkswagon." Henry recently sold his 1956 model and bought a 1957.

Dan Flynn, Geologist for General Petroleum, has been transferred from Ventura to the Bakersfield office.

Ernie Hoskins, Shell geologist, has been transferred from Bakersfield to Durango, Colorado, and promoted to District Geologist.

Dick Stites and Rick Shoemaker, Ohio in Bakersfield, attended the S.E.G. Convention in Dallas, Texas, November 11 - 14, 1957.

Bruce Brooks and Don Sorgenfried, of Superior, and Dave Calloway, of Oceanic in Bakersfield, completed a successful duck hunt last week. The final score: Sorgenfried - 3, Brooks and Calloway - 1 each. According to Calloway, these figures are misleading, as Sorgenfried shot at ducks over the water and consequently had considerable exercise in retreiving, whereas, Calloway and Brooks shot only at ducks directly overhead and then stepped back as it dropped at their feet in the blind.

Bill Gardner, Seismologist for Shell, has been transferred from Bakersfield to Durango, Colorado.

Dave Shoemaker, Shell in Bakersfield, has just returned to work after seven weeks at home with Valley fever.

Wes Bruer, Geologist for Superior in Bakersfield, has just returned from three month's duty in the cool, invigorating climate of Eastern Washington. Wes' only comment on his trip was that apple pickers make up to $50.00 a day in the Yakima Valley.

Adrian Nelson, Geologist for Tidewater in Bakersfield, recently lost his car in the fog while doing some field work on the West side.

A Tidewater District Geologist was seen asleep at a strip show in Los Angeles during a convention---undoubtedly dreaming up geologic plays!

Vern Crackle, of Western Gulf, has been transferred from Ventura to Los Angeles.

Due to the recent transfer of Vern Crackle, duly elected Vice President of the Coastal Geologic Society, he will be unable to fulfill his duties, therefore, Jack Kappeler, of Tidewater, present Secretary, will automatically assume the duties of Vice President. A new election will be held for the office of Secretary.

The Texas Company has transferred Bob Deacon, Geologist, from the Olympia office to Los Angeles.

The newly elected officers of the Northwest Geological Society are:

President - - - - - -Charles V. Fulmer
Secretary - - - - - -John C. Richards
Treasurer - - - - - -Ralph Rudeen

Officers for the Northern California Geological Society are:

President - - - - - -Ben H. Burma
Vice President - - -Tom Llewelyn
Secretary-Treasurer -S. L. Rose

Les Roth, Amerada Petroleum Corporation in Ventura, has been transferred to Los Angeles as Assistant to the Chief Geologist.

Dan Flynn, of General Petroleum Corporation in Ventura, was transferred to Bakersfield.

According to a reliable source, Al Hopkins, Geologist for Richfield in Bakersfield, is going to cancel his subscription to the P.P.G. newsletter.

Jess Parsons, Geologist for Texaco in Bakersfield, is really getting in the Christmas spirit. Jess was mistaken for "Rudolph the Red Nosed Reindeer" when he arrived at work with a red spot on the end of his nose. Further examination revealed a blister on his upper lip. Jess's cigar finally got him!

Al Scouler won the Standard Oil Company (Oildale) fishing contest with a 17-3/4 inch trout caught in the Kern River. Jealous contestants have accused Al of using cheese for bait.

Standard has moved their Sacramento Geological office to Oildale lock, stock, files, and geologists. As a result of this move, Standard is installing rubber walls at Oildale.

Alex Tarbet, Standard Oil in Salinas, has been transferred to the office of the Chief Geologist in San Francisco. It is rumored that Alex had to obtain permission from the State Liquor Control Board to move to San Francisco.

Milt Zeni was promoted to District Geologist for Standard at Salinas.

Fred Flege, Ralph Kraetseh, Milt Zeni, and George Starke, of Standard, recently attended a French wine-tasting party in Monterey. They had to be reminded several times to taste and not guzzle!

Bob Lindblom, who is now returning to Bakersfield from Sacramento for Standard, left a trail of broken hearts along the route. The local ladies, however, are happy to have him back according to a reliable source.

Those readers who have studied mathematics concerning chances, look this over. . . . at a recent Coastal Geologic Society dinner, the usual chances on the liquid prizes were purchased. In order to complicate the mathematical possibilities of winning, John Curran, of Honolulu Oil, and Pete Hall, of Richfield, exchanged some tickets. You guessed it--Pete won a jug! But, that's not all--just to be a sport Pete handed John his remaining tickets and strangely enough one of the numbers in the remaining hand was called and John, too, was a winner! This probably will not happen again for the next 2000 years. Anyone care to wait and see????

Frank Yule, of General Petroleum Corporation in Ventura, has again proved his prowess at golf. He recently won the two-day Petroleum Club tournament in Santa Maria. The scores were 76 and 73.

Howard "Sammy" Samsel, Union geologist in Bakersfield, has just returned from a paid-vacation in Washington.

Ed Marks, Paleontologist for Union in Bakersfield, has returned from a busman's holidy vacation on the desert where he collected fossils.

New officers of the San Joaquin Geological Society for 1958 include:

President - T. J. Brooks
Vice President - Cutler Webster
Secretary - James O'Neil

Bob Johnson, California Well Logging in Bakersfield, married Rose Brown on November 16. After a week's honeymoon at Lake Tahoe, Bob and his bride will head for South America on "business."

Bob Nesbit, Geologist for Western Gulf, has been transferred from Bakersfield to Ventura and promoted to District Geologist. Gordon Bell, formerly District Geologist in Ventura, has been transferred to Olympia, Washington.

Bob Beatie, Geologist with General Petroleum, is now working in Sacramento. Bob is from U.C.L.A. and is working on his Master's Degree.

Larry Overman, Engineering Trainee with Schlumberger, has been transferred to the Sacramento Valley. Larry is from Tennessee and recently graduated from Georgia Tech.

Mike Tratesonian has recently been hired by Shell Oil Company as a Paleontologist. Mike is working in the Sacramento Valley, is married, and has two children. He has previously worked for Dr. Goudkoff, International Geophysics, and Union Oil Co.

Joe Harvey, Geologist with General Petroleum in Sacramento, is back in town again after an extensive tour of duty in the State of Washington. Joe made it back just in time for volleyball season.

Ed Joujon-Roche, of Shell, has just discovered a secret about taking geologic photographs. The hammers used to indicate scale are generally not left at the scene. We can forgive you the first time, Ed, but twice????

Glen Ledingham, Manager of Exploration for Western Gulf, will soon depart for London, England, and a new position with Gulf.

Dick Hester is on his way to Signal's office in Denver after conquering the jungles of Guatemala.

John Szatai, with Richfield in Los Angeles, after diligent research, discovered the following item of current interest in the A.G.I. glossary:

> "Cactolith: A quasi-horizontal chonolith composed of anastomosing ductoliths, whose distal ends curl like a harpolith, thin like a sphenolith, or bulge discordantly like an akmolith or ethmolith."

John feels this will be of inestimable value to the many geologists who have been hampered in their work by confusion about the exact definition of the term.

Carroll Hoyt, of General Petroleum, has been transferred from the Offshore Division in Los Angeles to Ventura.

Jim Moore, Paleontologist, Shell, Olympia, will be spending December and January in the Los Angeles office. Take care of our little boy while he is in the big city.

Les Schultz has been transferred from General Petroleum's Los Angeles office to Ventura where he will assume duties of Exploration Coordinator.

Donald W. Hagen is a new addition to The Texas Company's staff in Santa Paula. Don recently received his M.A. from U.C.L.A. and will be a Junior Geologist with Texas.

Dick Peryam, Los Angeles Basin Division Geologist with Union, is being transferred to Havana, Cuba in the foreign exploration group.

Marie Clark, Richfield in Los Angeles, recently vacationed for three weeks in Hawaii. Marie is a real sailor after the two-way voyage on the Matsonia.

A new arrival in the Northwest is Dick Vivion, District Scout, Humble, now residing in Olympia with an office in the Union Avenue Building.

With the departure of Bob Deacon, the Northwest Geological Society is losing its treasurer. Bob's unexpired term will be filled by Ralph Rudeen, Shell, Olympia.

NURSERY ITEMS

Bob Blocher, District Geologist, Shell, Seattle, is the proud papa of Nancy Anette, born October 30. This makes four for the Blochers.

Diz and Jo Deane, Standard of Bakersfield, are the proud parents of a baby girl, Abbie, born October 3, 1957.

Ivan Scherb, Texaco of Bakersfield, and his wife Gloria, announce the birth of their second child, Victor Ivan, 6 lbs. 5 oz., born November 10, 1957.

CALENDAR

December 3, 1957: Tuesday, Dinner Meeting, San Joaquin Geologic Society, El Tejon Hotel, Bakersfield. Warren O. Thompson, of the University of Colorado at Boulder, Colorado, will speak on "Ancient Beaches in Oil Exploration."

December 4, 1957: Wednesday, The Coastal Geologic Society will meet at the Montecito Country Club in Santa Barbara. Dr. Warren O. Thompson, Professor of Geology at the University of Colorado, will speak on "Ancient Beaches in Oil Exploration." This will be one of the distinguished lecturer series.

December 4, 1957: Wednesday, Noon, A.A.P.G. Luncheon, Rodger Young Auditorium, 936 West Washington Boulevard, Los Angeles. "Ancient Beaches in Oil Exploration" by Warren O. Thompson, University of Colorado.

December 10, 1957: Tuesday, 7:30 p.m., Sacramento Geological Society, Board Room of Public Works Building, 1120 N. Street, Sacramento. "Glaciers" by Oliver Kehrlein (Retd.) formerly with U.S.G.S.

December 11, 1957: Wednesday, 6:15 p.m., Branner Club Dinner Meeting, at the Athenaeun, California Institute of Technology, Pasadena. "Rock Climbing" by Mike Sherrick of U.C.L.A. - $3.10. Reservations required. Call Harold Sullwold at BRadshaw 2-6161, Extension 881.

January 14, 1958: Tuesday, 7:30 p.m., Sacramento Geological Society, Board Room of Public Works Building, 1120 N. Street, Sacramento. "Geological Investigations in the Development of the Mineral Resources of a Region" by George A. Kiersch with the Southern Pacific Railroad Company.

February 11, 1958: Tuesday, 7:30 p.m., Sacramento Geological Society, Board Room of Public Works Building, 1120 N. Street, Sacramento. "Earthquakes and Faulting in California" by Dr. V. L. Vanderhoof with Intex Oil Company.

March 10 - 13, 1958: A.A.P.G. - S.E.P.M. Annual Meeting, Biltmore Hotel, Los Angeles.

BIBLIOGRAPHY OF RECENT PUBLICATIONS

United States Geological Survey

Professional Paper 294-C	"Cenozoic megafossils of northern Alaska", by F. Stearns MacNeil
Professional Paper 306-A	"Geology and paleontolgy of Canal Zone and adjoining parts of Panama", by W. P. Woodring
Bulletin 1030-M	"Description of Indicator Plants and Methods of Botanical Prospecting for Uranium Deposits on the Colorado Plateau", by Helen L. Cannon
Bulletin 1046-E	"Reconnaissance for Uranium in Asphalt-bearing Rocks in the Western United States", by W. J. Hail, Jr.
Bulletin 1059-C	"Selected Annotated Bibliography of the Geology of Sandstone-Type Uranium Deposits in the United States", by Robert E. Melin
Water-Supply Paper 1366	"Water Resources of Southern California With Special Reference to the Drought of 1944-51", by Harold C. Troxell
Water-Supply Paper 1405	"Water Levels and Artesian Pressures in Observation Wells in the United States, 1955, Part 2, Southeastern States"
Oil and Gas Investigations Map OM 193	"Geologic Map of the San Joaquin Hills-- San Juan Capistrano Area, Orange County, California", by J. G. Vedder, R. F. Yerkes, and J. E. Schoellhamer
Miscellaneous Geologic Investigations Map I-223	"Geologic Reconnaissance in the Yukon-Kuskokwim Delta Region, Alaska", by Warren L. Coonrad
Circular 401	"Reports and Maps of the Geological Survey Released Only in the Open Files, 1956"
Open-file report California	"Simplified Geologic Map of the Western Mojave Desert, California", by T. W. Dibblee, Jr.
Open-file report Oregon	"Total Intensity Aeromagnetic Profiles of West-Central Oregon", by R. W. Bromery

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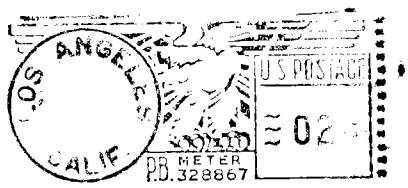

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