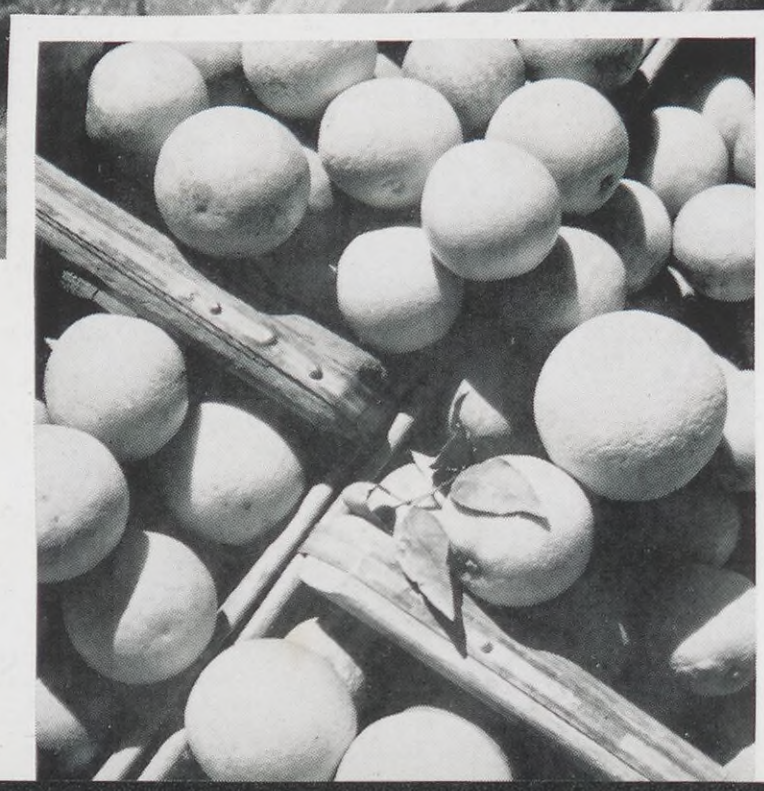
SHELL NEWS

SEPTEMBER 1958

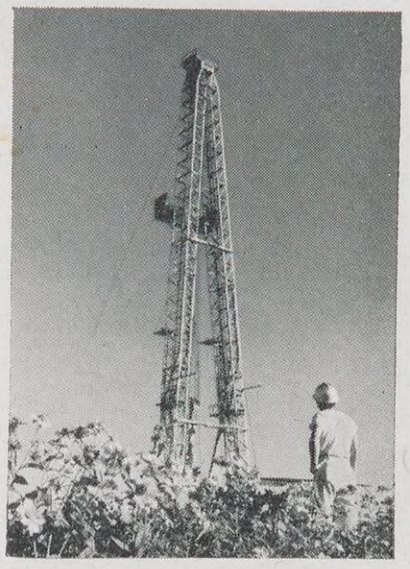
NEW ERA FOR AIRLINES



Orange groves beside Texas-U. S. Highway 83 in the Lower Rio Grande Valley make a bold pattern when seen from the air. The Valley's four counties bring in an annual farm harvest worth more than $130 million, which might be one reason Texans call it the "Golden Valley." The freshly-picked oranges at the left are washed, graded, and polished before they are crated for shipping.

DOWN in the VALLEY

. . . along the Lower Rio Grande, Shell is active in four Texas counties rich in agriculture and oil.



Shell's discovery well in the Javalina Field of Hidalgo County seems surrounded by flowers. It was completed in October, 1956.

TEXANS call it "the Valley"—among themselves. But to out-of-staters they refer to it as the "Border Metropolis," "The City Called a Valley," "Magic Valley" or "Golden Valley." Its real name is the Lower Rio Grande Valley and the superlatives Texans use in describing it cannot be dismissed as only Texas pride.

The Valley embraces the four southernmost counties of Texas—Cameron, Hidalgo, Willacy and Starr. The region is called a city or metropolis because of its 70 closely-knit communities—all bearing the stamp of a largely agricultural economy. Most of the towns have packing sheds (for preparing fresh fruits and vegetables for shipment), ice factories, canneries, dehydrating or quick-freeze plants, cotton gins and cotton oil mills.

The word "Magic" is used to describe the Valley probably because its fertile acres—in the midst of parched scrubland—do appear to be contrary to the laws of nature. The Valley's soil is rich from silt deposited when the Rio Grande River used to overflow. But up until about 50 years ago the soil lacked one important ingredient—a *steady* supply of water. At that time, the first experiments

SHELL NEWS

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Dedicated to the principle that the interests of employees and employer are mutual and inseparable

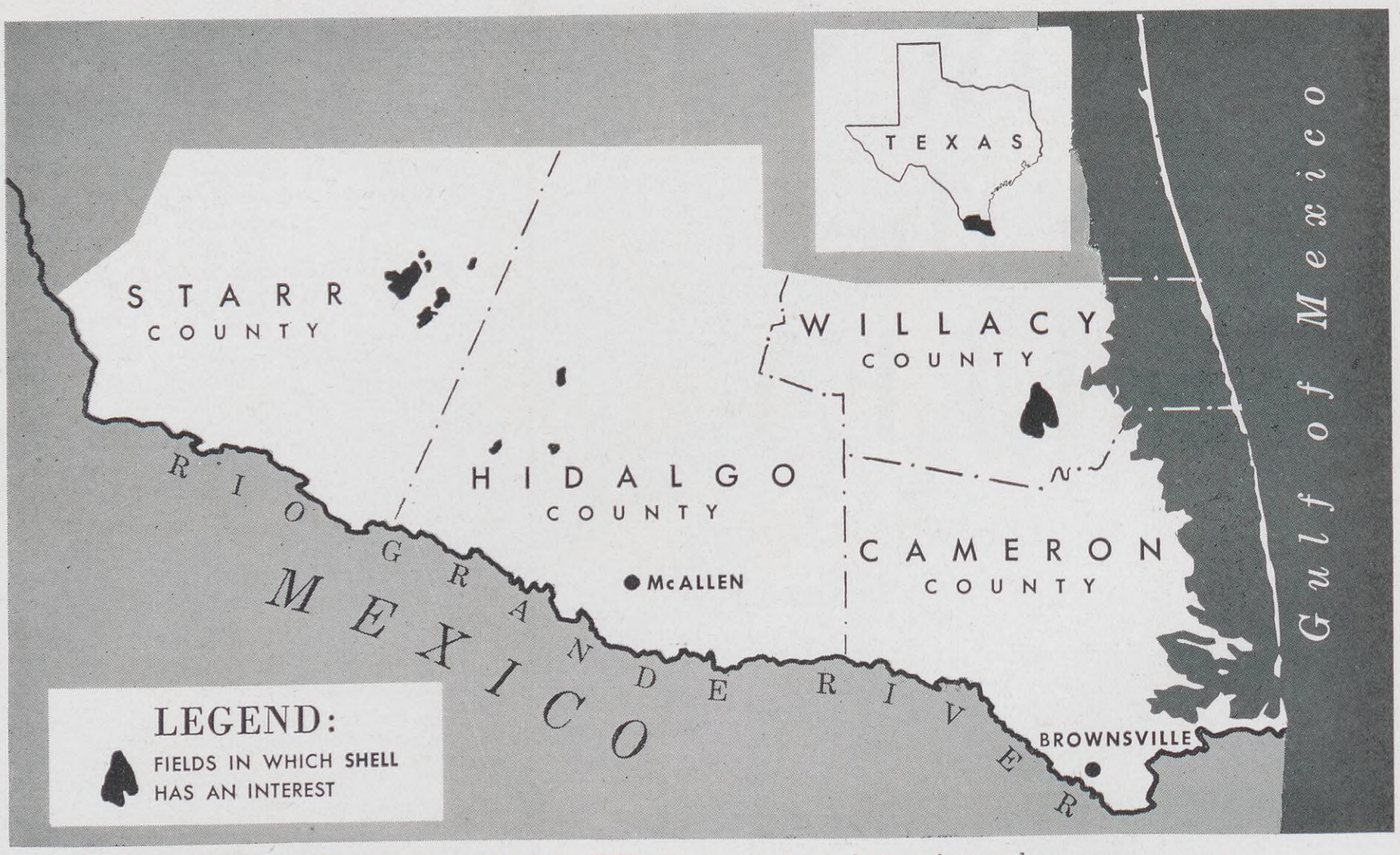
Employee Communications Department
New York, N. Y.

contents

Published by Shell Oil Company (H. S. M. Burns, President; C. C. Combs, Treasurer; J. A. Horner, Secretary) for its employees and those of Shell Chemical Corporation, Shell Development Company and Shell Pipe Line Corporation. Address communications to Employee Communications Department, Shell Oil Company, 50 W. 50th St., New York 20, N. Y.

ABOUT THE COVER

The photograph on the front cover shows a Shell turbine fuel truck with a Douglas DC-8 jet airliner, which will go into service next year. In cooperation with aircraft manufacturers, Shell is conducting a program of testing fueling procedures for the new turbine-powered aircraft. An article about the jet-age airliners begins on page 12.



The Rio Grande Valley—The four counties of the Valley have a total population of more than 375,000. The black area in the small map of Texas, inset above, shows the size of the valley counties in relation to the whole state. McAllen is the Valley's oil capital and Brownsville is a deepwater port, 25 miles up the Rio Grande River from the Gulf of Mexico.

in irrigation were made in the Valley.

Today, the Rio Grande is controlled by the Falcon Dam, completed in 1953 by the United States and Mexico, and the muddy waters of America's third largest river are used to irrigate land in both countries. On the U. S. side, the irrigated area is almost as large as Rhode Island. This year this area is expected to produce about 350,000 bales of cotton, more than 7,000,000 boxes of citrus fruit and enough vegetables for Valley canners to fill 5,000,000 cases (in addition to the region's regular shipments of fresh vegetables to points throughout the United States). Climate and soil conditions make it possible to grow three crops each year on the same acreage—citrus, cotton and some vegetables.

During recent years, Shell has played an increasingly important role in the production of the Valley's bumper crops. Shell Chemical Corporation's insecticides and soil fumigants, sold by formulators in the Valley, protect thousands of acres from all types of insects and nematodes. Shell Chemical's aldrin is used on vegetables to kill soil insects; PHOSDRIN® insecticide, endrin and dieldrin fight foliage insects on fruit, vegetables and cotton crops; D-D® and NEMAGON® soil fumigants are pitted against nematodes which attack the roots of many vegetables and fruits. Shell Chemical's new PHOSDRIN insecticide, introduced early last year, has gained wide acceptance among Valley farmers because it can be used against many insects on fruit and vegetable crops up to one day before harvest.

The Valley's annual farm income exceeds $130,000,000 which might be one reason why Texans call it the "Golden Valley." And this name is emphasized when the annual income of its other major industries is listed: manufacturing and processing, $100,000,000; oil and gas production, $60,000,000; national defense, $40,500,000; tourists, $40,000,000; shrimp and commercial fishing, $25,000,000.

Oil was discovered in Starr County in 1929 and is now the Valley's third-ranking industry. Shell became a Valley oil producer in March, 1941, when its first well was completed in the Willamar Field in Willacy County. Shell did not expand its activities in the Valley beyond the Willamar Field until 1953, when the Company purchased an interest in the La Copita Field in Starr County. Since then, Shell has discovered three fields in the Valley—Javalina and Oblate in Hidalgo County and Arkansas City in Starr

County—and has been active in five others.

Shell now has 33 oil and gas wells in the Valley, not including those in the Willamar Field, which was unitized in 1950. This is not a large number compared to the Valley's hundreds of producing wells. However, the Company is stepping up its activities in the region. Nine wells have already been completed this year and 11 more are scheduled for completion before January 1, 1959. To help coordinate Shell's expanding operations, the Premont District of the Houston Exploration and Production Area's Corpus Christi Division was moved in July to McAllen, the Valley's oil capital, and became the McAllen District.

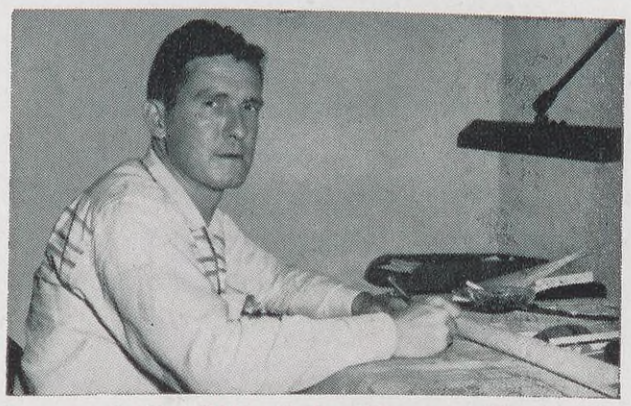
Shell's average monthly production in the Valley is 30,000 barrels of oil, 165,000,000 cubic feet of gas and 6,455 barrels of condensate. A shortage of pipe lines has slowed gas production there.

The formations beneath the surface seem to be as rich as the Valley's topsoil and some day may prove to be worth much more to the region's economy. Many different oil and gas producing zones have been found, ranging in depth from 500 feet to 14,000 feet. Some fields have as many as 10 different pay zones. Six of Shell's 33 wells have been completed as dual producers, all located in the North Rincon Field in Starr County. Four are dual oil producers, one is a dual gas well and one is a dual oil and gas well. The dual gas well has one of the highest open-flow gas potentials in the Valley—205 million cubic feet of gas daily from the upper zone (7,480-7,500 feet) and 6.8 million cubic feet from the lower zone (7,684-7,712 feet).

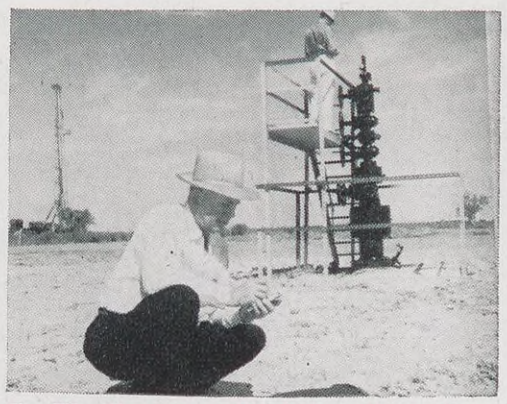
With new pipe lines for natural gas being planned and companies expanding their activities—as Shell is doing—the Valley's economy is destined for an even bigger boost from the oil industry. And, of course, with its warm winters, rich soil and steady water supply, the Valley will continue to gain fame from its bumper crops of cotton, fruits and vegetables. The future of the Valley looks bright indeed—and more than likely, new superlatives will be coined to describe it ●

Shell Chemical Corporation's dieldrin insecticide is mixed to field strength here in a formulating company's plant.

SOME SHELL MEN IN THE VALLEY



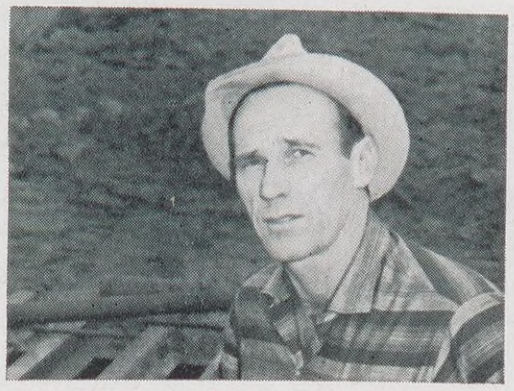
Scout J. D. Gill of the Houston Exploration and Production Area's Corpus Christi Division, works on a Valley lease map.



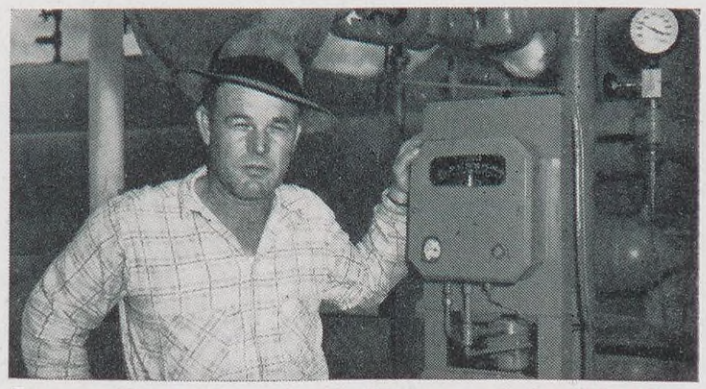
G. H. Embry, McAllen Dist. Production Superintendent, studies notes beside one of Shell's gas producers.

Exploit. Eng. E. G. Jackson, Div. Exploit. Eng. B. I. Schwartz, and Div. Prod. Geol. D. E. Perriman (l. to r.), study maps.

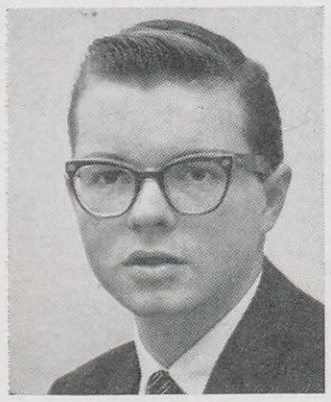
Production Foreman H. S. Winston of the McAllen Dist. at a location being cleared on a Shell lease.



Head Roustabout P. J. Higgins of McAllen Dist. at a drilling site. Oil is the Valley's third largest industry.

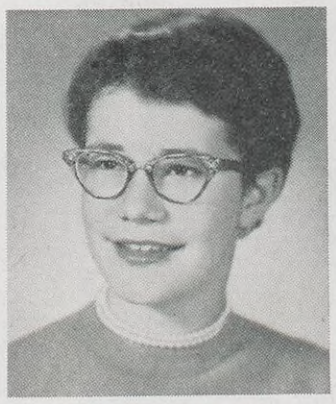


Lease Operator A. C. Horton of the McAllen District looks over the dehydration unit at the La Copita Field in eastern Starr County, Texas.



GARY BURKE

PATRICIA A. CURRAN



LINDA DAY

JOAN HAEFELE

ELSA HILMER

MARY R. MAGRUDER

NANC

TEN AT THE TOP

These Shell Sons and Daughters Won High Academic Honors

ARCHAEOLOGIST, bilingual secretary, chemist, diplomat, scientist, physician, physicist, writer and two teachers.

These are the careers 10 sons and daughters of Shell people head toward this month as college freshmen. Many other Shell sons and daughters start college this year. But these 10 have a special distinction—they have been honored as among the top high school seniors in the United States.

They competed in special examinations with 256,000 high school students from nearly 14,000 schools in the National Merit Scholarship program and all were among the 7,400 finalists who won scholarships or Certificates of Merit. (See box on next page.) Three of the Shell sons and daughters won scholarships under the program and the other seven received Certificates of Merit; two of the Certificate winners won other scholarships. The National Merit Scholarships provide stipends for four college years according to a scholar's individual need.

The 10 Shell freshmen have many things in common besides Shell. They could put together a small orchestra including piano, violin, flute and clarinet. They could put out a newspaper or magazine—six of them were either editors or writers on school publications. They could stage a play—four have taken part in school dramatics. And, like most young people, they have many other interests in common ranging from sports to church work.

Here are the details about them as individuals:

GARY BURKE, son of the late W. H. Burke, former Production Manager, Tulsa Exploration and Production Area. Gary won a California State Scholarship to the California Institute of Technology where he will study physics. He enjoys rebuilding things, including autos, radios, television sets and tape recorders. Other hobbies include art and singing. He was a member of the high school science, radio, chess and Great Books clubs. In sports, he was a discus thrower and shot putter.

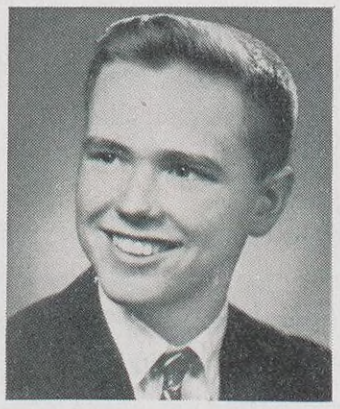
PATRICIA ANNE CURRAN, daughter of P. F. Curran, Manager, Purchasing-Stores Department, Wood River Refinery. Patricia Anne will study English literature and journalism at St. Mary-of-the-Woods College, Terre Haute, Indiana. She started early in her chosen profession of writer by doing articles for the Indianapolis Star. She won awards in state-wide contests in French and English. In her spare time she teaches religion to deaf children.

LINDA DAY, daughter of W. H. Day, Manager, Industrial Products, Chicago Marketing Division. Linda will take chemistry at Cornell University. She won high school prizes in art, violin, speech and Spanish. Sculpture and dramatics are among her hobbies.

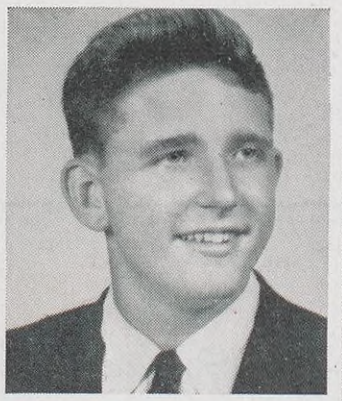
JOAN HAEFELE, daughter of W. R. Haefele, Chemist, Shell Development Company, Emeryville. Joan will enroll in the pre-medical course at Stanford University as the first step toward a career as a physician. During high school she took part in Girl Scouts, 4-H Club, dramatics, newspaper, church work—and baton twirling.

MAGRUDER

NANCY NAGELKIRK



RICHARD PARKER



HOMER SHEFFIELD

BARBARA SUNDLOF

ELSA HILMER, daughter of F. B. Hilmer, Department Head, Product Development, Shell Development Company, Emeryville. Elsa will study archaeology at the University of California. She was editor of her high school paper and wrote a column for three local newspapers. She has already had some experience in one phase of her chosen profession—she has climbed mountains as a member of the Sierra Club.

MARY RUTH MAGRUDER, daughter of R. B. Magruder, Senior Analyst in the Houston Exploration and Production Area Land Department. Mary Ruth will take history and Latin-American studies at the University of Texas in preparation for a career as a bilingual secretary. In high school, she was active in dramatics, Girl Scouts and church work.

NANCY NAGELKIRK, daughter of K. J. Nagelkirk, Manager, Marketing Service, Detroit Marketing Division. Nancy, who won a National Merit Scholarship, will study mathematics and science during her first year at the University of Michigan before she chooses her college major. She plans a scientific career in industry. A pianist and flutist, she also was active in debating, school newspaper and church choir. In picking algebra as her favorite subject, she follows in the footsteps of her mother, who teaches high school mathematics.

RICHARD B. PARKER, son of T. S. Parker, Attorney, Head Office, Shell Oil Company. Richard, who won a National Merit Scholarship, will attend Haverford College where he will major in the social sciences which he later plans to teach. In high school, he worked on the newspaper, and was president of the Nassau County Scholastic Press Association. He has some teaching experience behind him—as a summer tutor in algebra.

HOMER SHEFFIELD, JR., son of H. G. Sheffield, District Manager, Columbia, S. C., Atlanta Marketing Division. Homer will study political science at Duke University to prepare for a career in the Foreign Service of the U. S. Department of State. He was one of 15 students to win an Angier B. Duke Memorial Prize Scholarship to Duke. His high school activities included Boy Scouts, Ground Observer Corps and sports editor of the newspaper. A pianist, he was director of the school orchestra. In the Students' Council and Social Cabinet he learned something of diplomacy.

BARBARA SUNDLOF, daughter of the late E. A. Sundlof, a former Shell pensioner who lived in San Francisco. Barbara, who won a National Merit Scholarship, will attend Stanford University where she will major in education as preparation for a teaching career. She was treasurer of her high school class and took part in student government, church work and community service. Her artistic hobbies include painting, jewelry-making and silk-screen printing. This last summer Barbara worked in the San Francisco Marketing Division's Treasury Department ●

Merit Scholarship Program

Eighty companies, foundations, and other groups provide Merit Scholarships in conjunction with the National Merit Scholarship Corporation, which conducts the annual competition. Each sponsored Merit Scholarship is named after the company or foundation which provided it. Those provided entirely by the Merit Scholarship Corporation are known as National Merit Scholarships. On the average, each sponsored four-year scholarship represents a commitment of $5,000 by the sponsor.

The National Merit Scholarship Corporation was established in 1955 as an independent, non-profit corporation. Under the National Merit Scholarship program, a total of 556 scholarships were granted in 1956, 830 in 1957 and more than 1,000 this year, representing about $12 million in scholarships. The program is the largest private scholarship activity in the history of U. S. education.

The Shell Companies Foundation, Incorporated, this year provided 25 Merit Scholarships through the Merit Scholarship Corporation to qualifiers who intend to teach chemistry, physics, general science or mathematics at the high school level. The Foundation intends to add 25 four-year scholarships each year. By 1961, there will be 100 Shell Merit Scholars attending schools and colleges of their choice. The annual cost of this Foundation program will then be $125,000.

news and views

SCIENTISTS AND EXPLORERS


R. C. McCURDY

R. C. McCurdy, President of Shell Chemical Corporation, has suggested that the role research is playing in bettering our way of life should be more fully explained to the American people.

Mr. McCurdy made the suggestion last month before 50 high school teachers who were at Cornell University for a six week seminar as recipients of Shell Merit Fellowships for High School Science and Mathematics Teachers. The main objectives of the seminar are to give the teachers fresh inspiration and to stimulate recognition of them in their own communities. The teachers were selected by Cornell through a grant made by the Shell Companies Foundation, Inc. A similar seminar was held at Stanford University. Both programs are in their third year.

"Modern scientists are today's explorers, just as men who opened the American West were the explorers of 200 years ago," Mr. McCurdy said.

"By describing research as a kind of exploration, we might be able to make an unfamiliar thing have reality and even identification with pleasant legend. . . . Our people are explorers at heart and they will delight in it if we give them a chance, but we have to take the veil away a little. After all, when we opened up the West, it was pretty evident to all concerned that the West was there to explore and that the exploration of it would be a good thing for everybody, as well as a satisfying thing to do, and a potentially rewarding thing for those who would work and take risks."

Mr. McCurdy deplored the idea that "one gets either a scientific or liberal education, but somehow cannot have both."

This idea leads, he said, to "the public images of the scientific egghead and the mad scientist."

"Such caricatures, no doubt, owe their great comic book success to fear and suspicion of something that is unknown but should not be—namely, the nature of real natural science and of the people who pursue it. We have to cure this, and if we cannot give most people first-hand experience in science and mathematics, they must be given enough second hand to know something of what goes on. We tell our students about law and civics, literature and music, without expecting them all to be lawyers, politicians, writers or musicians. So it should be with science. In the words of the recent 'Rockefeller Report' on education—'just as we must insist that every scientist be broadly educated, so we must see to it that every educated person be literate in science.' "

SHELL DRILLING ITS DEEPEST WELL

A Shell Oil Company well in the Elk City Field in Oklahoma was drilling below 22,127 feet August 11, the deepest drilling depth in Oklahoma's and Shell Oil Company's history.

R. W. Bond, Vice President Tulsa Exploration and Production Area, said of the well:

"While the event is newsworthy, it has not put any oil in the tanks to date. So far, the well is just a gamble of better than a million and a half dollars. What is significant is that the venture does typify the risks oilmen take to maintain a healthy and, we hope, profitable industry, and to increase our country's petroleum reserves."

The Shell deep well, Rumberger #5, was started in July, 1957, to explore formations below the current producing levels in the Elk City Field of the Anadarko Basin in the Tulsa Area. Shell discovered Elk City in 1947 and it has become one of Oklahoma's best fields.

Shell's previous drilling depth record was held by the Shell Antill #1, Humphries Field, Louisiana, drilled by the New Orleans Exploration and Production Area to 19,000 feet early in 1957 and completed as a producer at 10,621-10,626 feet. Oklahoma's previous depth record was held by the Magnolia Petroleum Company in the Cement Field at 20,426 feet.

The deepest producer in Shell's history was the Shell Patout #1, Weeks Island Field, Louisiana, which was completed at 17,584-17,588 feet in 1955, but is no longer producing.

The world's drilling depth record is held by Phillips Petroleum Company with a well in Pecos County, Texas, which was drilling below 24,350 feet early in August. The world's deepest producing well is the Richardson and Bass #1 L.L. & E.-Humble "L" State Lease 2414 in Louisiana, producing at 20,741-20,745 feet.

SHELL PEOPLE in the news

W. M. JOHNSON

SHELL OIL COMPANY EXPLORATION AND PRODUCTION ORGANIZATION

W. M. JOHNSON has been named Special Assistant to the Vice President in the New Orleans Exploration and Production Area. In his new assignment, Mr. Johnson will devote much of his time to the several elective offices which he holds in oil industry activities, and will also complete special phases of important gas, gas cycling, and water flood projects now under way in the Area. Mr. Johnson joined Shell Oil Company in 1925 as a Leaseman in the former Texas-Gulf Area. After serving in various Land Department positions of increasing responsibility, he was appointed Land Manager of the New Orleans Area in 1946. He was appointed Executive Assistant to the Vice President, New Orleans Area, in 1954.

F. W. OUDT

F. W. OUDT has been named Executive Assistant to the Vice President, New Orleans Area, succeeding W. M. Johnson. Mr. Oudt, who holds a Ph.D. degree in Physics from the University of Utrecht, the Netherlands, joined Shell Oil Company in 1928 as a Seismologist in the former Gulf Coast Division. After serving in various positions of increasing responsibility in the Southwest and Midwest, he was named Senior Geophysicist in the former Texas-Gulf Area in 1945. He has been Exploration Manager in the New Orleans Area since 1946.

G. A. BURTON

G. A. BURTON has been named Exploration Manager of the New Orleans Area, succeeding F. W. Oudt. Mr. Burton, who holds a degree in physics from the University of California at Los Angeles, joined Shell Oil Company in 1938 as an Assistant Seismologist at Los Angeles. In 1943 he became a Seismologist and worked at both Los Angeles and Casper, Wyo. After serving in positions of increasing responsibility he was named Area Geophysicist for the New Orleans Area in 1950. He was appointed Marine Exploration Manager there in 1954 and Area Geologist in 1957. He went on an assignment with B.P.M. in January, 1958.

SHELL OIL COMPANY MANUFACTURING ORGANIZATION

R. W. McOMIE

R. W. McOMIE has accepted a position with B.P.M. as head of a refinery operating efficiency team which will be headquartered in The Hague and visit Group refineries around the world. Mr. McOmie, who holds a Bachelor's degree in chemistry from Stanford University, joined Shell Oil Company in 1927 as a Chemist at the Martinez Refinery. He was named Manager of the Distilling Department at Martinez in 1932 and in 1937 was appointed Chief Technologist. He became Assistant Manager of the Wilmington Refinery in 1943, Superintendent in 1945 and Refinery Manager the following year. In 1954, he was appointed Refinery Manager at Anacortes. He was transferred to Head Office in 1956 as General Manager-Refineries.

SHELL PEOPLE in the news *continued*

R. H. DOURSON

P. C. BRADFORD

D. C. LEHWALDER

SHELL OIL COMPANY MANUFACTURING ORGANIZATION *continued*

The following personnel changes have been announced at refineries:

WOOD RIVER REFINERY	NEW POSITION	FORMER POSITION
R. H. DOURSON	Special Technologist	Manager, Catalytic Cracking Department
P. C. BRADFORD	Manager, Catalytic Cracking Department	Assistant Manager, Catalytic Cracking Department
D. C. LEHWALDER	Manager, Gas Department	Assistant Manager, Lubricating Oils Department
J. A. MARSHALL	Assistant Chief Technologist	Manager, Gas Department
E. W. REILEY	Manager, Alkylation Department	Assistant Chief Technologist
J. G. PRATT, JR.	Manager, Aromatics Department	Senior Technologist, Technological Department, Head Office
WILMINGTON REFINERY		
S. G. ABBOTT	Assistant Chief Engineer	Senior Engineer, Engineering Department, Anacortes Refinery
L. C. AUSTILL	Assistant Chief Engineer	Engineer, Engineering Department, Head Office
T. C. GRAHAM	Assistant Chief Technologist	Assistant Manager, Alkylation Department
MARTINEZ REFINERY		
C. R. WHITE	Manager, Distilling Department	Assistant Manager, Lubricating Oils Department
ANACORTES REFINERY		
E. A. HENKE	Assistant Chief Engineer	Senior Engineer, Engineering Department, Head Office

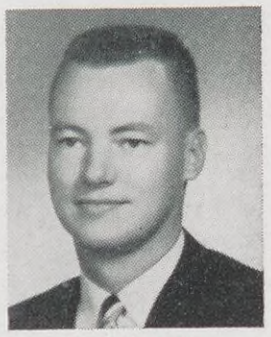
J. A. MARSHALL

J. G. PRATT, JR.

S. G. ABBOTT

L. C. AUSTILL

E. W. REILEY



T. C. GRAHAM

C. R. WHITE

E. A. HENKE

SHELL CHEMICAL CORPORATION

MARTIN BUCK

MARTIN BUCK has been named Assistant to the President of Shell Chemical Corporation, effective September 1. In his new position he will be concerned with special studies concerning the Corporation's economic well-being.

Mr. Buck, who holds a Bachelor's degree in chemical engineering from the University of Illinois, joined Shell Oil Company in 1930 as a Chemist at the Wood River Refinery. After serving in positions of increasing responsibility, he transferred to Shell Development Company as a Technologist in 1940. In 1942 he joined Shell Chemical Corporation as Manager of Development and Engineering at San Francisco. He became Manager of Development-Manufacturing at San Francisco in 1946. He was transferred to New York in 1948 and the following year became Assistant to the Vice President Manufacturing. In 1955 he accepted employment with BPM in the Netherlands where he became Manager of the Chemical Plants Department in The Hague office.

G. S. WILLIAMSON

G. S. WILLIAMSON has been named to succeed Maarten Voogd as Manager of Shell Chemical Corporation's Torrance Plant. Mr. Williamson will take over his new duties about mid-October, when Mr. Voogd goes abroad to handle a special European assignment. Upon his return, Mr. Voogd plans to retire at Ojai, Calif.

Mr. Williamson, who holds a Bachelor's degree in chemical engineering from the University of British Columbia, joined Shell Oil Company of Canada, Limited, in 1936 as a Laboratory Helper at the Shellburn Refinery. He was named Assistant Refinery Manager at Shellburn in May, 1951 and was appointed Superintendent of the Montreal Refinery Chemical Plant in October, 1951. He joined Shell Chemical Corporation in 1955 as Superintendent of the Torrance Plant and was appointed Plant Manager of the Shell Point Plant in 1957.

F. G. WATSON

F. G. WATSON has been appointed to succeed G. S. Williamson as Plant Manager of the Shell Point Plant. Mr. Watson, who holds a Bachelor's degree in chemistry from Princeton University, joined Shell Chemical Corporation in 1942 as a Chemist at the Dominguez Plant. After serving in positions of increasing responsibility, he was named an Assistant Department Manager at the Houston Chemical Plant in 1945 and two years later he was promoted to Department Manager. He was named Assistant Plant Superintendent at Houston in 1951 and in 1954 he became Plant Superintendent there. In 1955 he was appointed Assistant to the Vice President, Head Office Manufacturing, and in 1956 he was named Assistant Manager, Head Office Manufacturing Development.

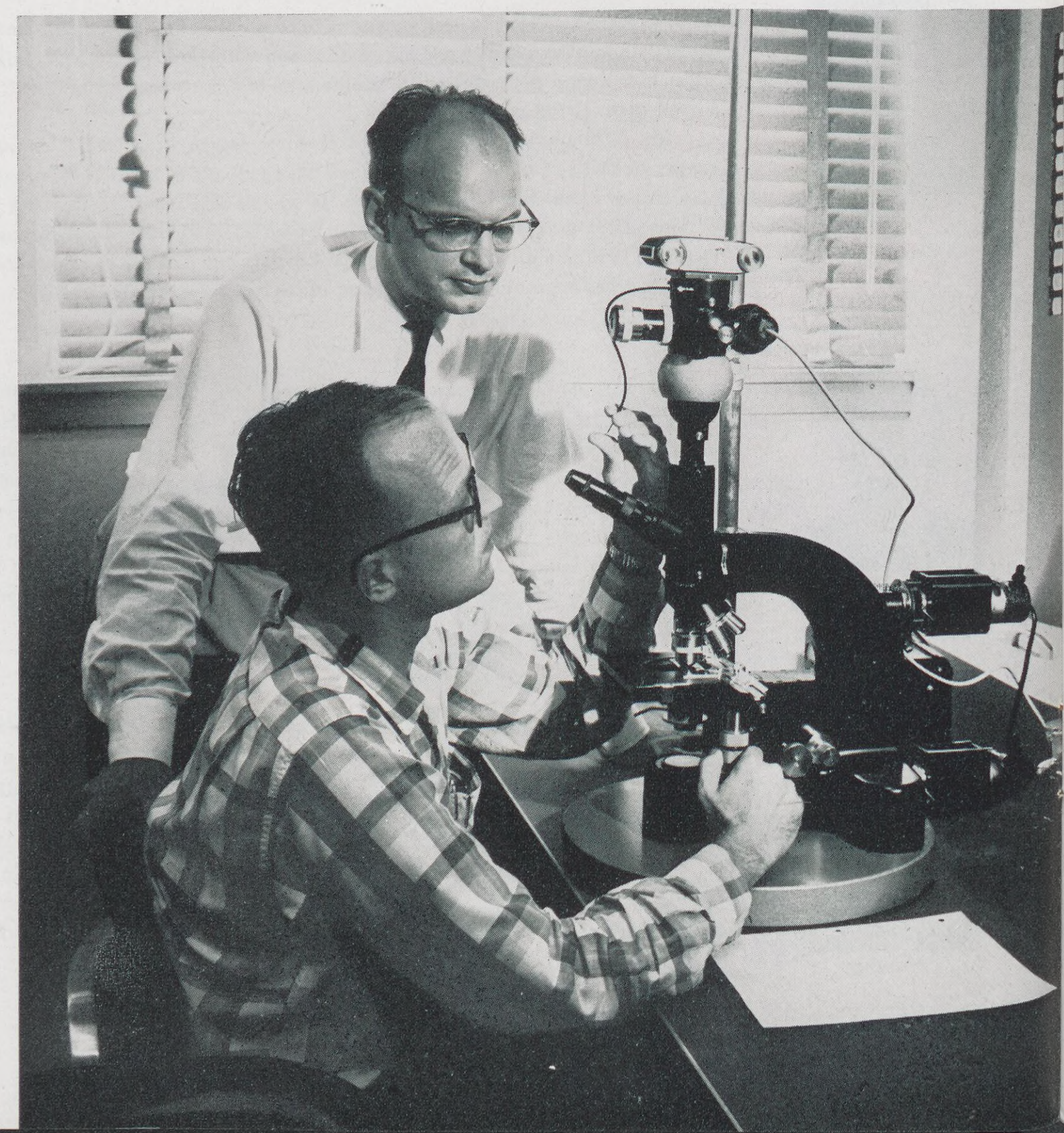
V. L. KELDSEN

V. L. KELDSEN has been named Assistant Manager of the Head Office Manufacturing Development Department, succeeding F. G. Watson. Mr. Keldsen, who holds a Bachelor's degree in chemistry from the University of California, joined Shell Chemical Corporation in 1934 as a Chemist at the Shell Point Plant. He was named Assistant Manager of the Alcohol Plant of the Martinez Chemical Plant in 1946. Later that same year he became Manager of the Operations Department at the Houston Chemical Plant. He was transferred in the same capacity to the Ventura Plant in 1953, and the following year moved to San Francisco as Manager-Production in the Ammonia Division. He was named Section Leader in the Head Office Manufacturing Development Department in 1955.

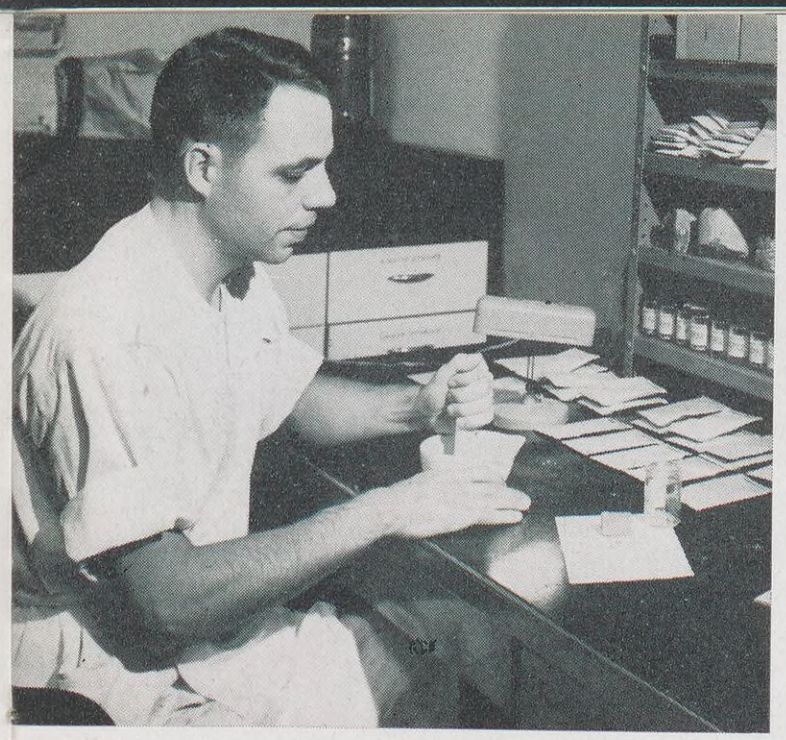
A fossilized grain of pollen, shown here 1,000 times its natural size, takes on a strange appearance.

Microscopic grains of pollen help Shell scientists point the way to possible oil reserves

POLLEN COUNT at 10,000 F

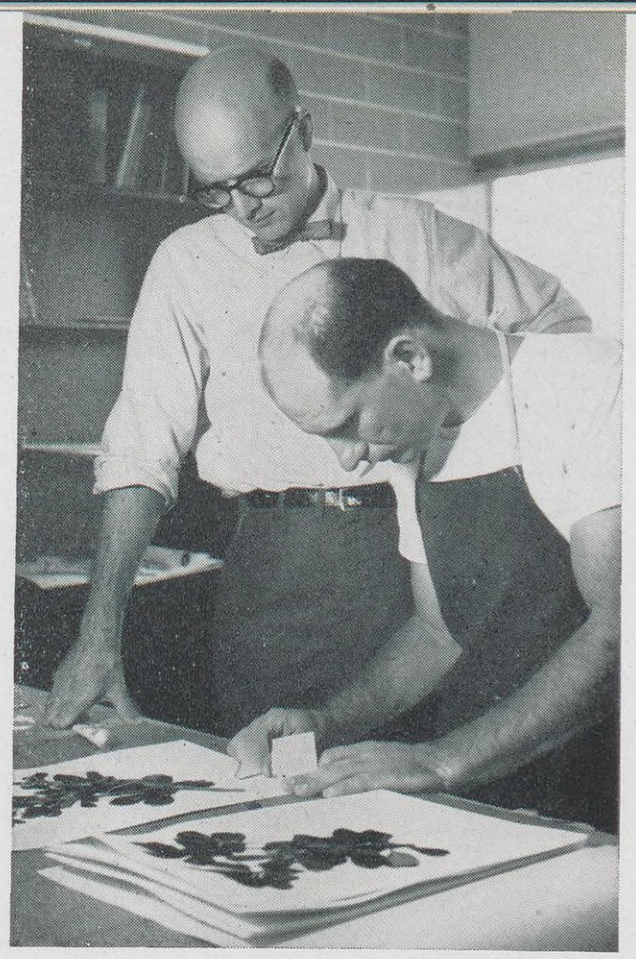


Photographing a pollen sample at Shell Development's Exploration and Production Research Division at Houston are Geologists M. P. Schemel, seated, and C. C. M. Gutjahr. The micro-photographs are used to catalogue various types of pollen for quick identification.



Preparing a core sample in which pollen grains are embedded, Laboratory Assistant S. T. Barton crushes the sample in a mortar for chemical treatment before it is analyzed.

Geologist A. F. Traverse, left, and Senior Laboratory Assistant Lawrence Hinton, Jr., study plant specimen as part of basic pollen studies done at Houston.



000 FEET—DOWN

THE flowers that bloomed millions of springs ago help in the search for oil today.

By studying fossilized pollen grains and spores from flowers and other vegetation embedded in rock ages ago, Shell scientists find clues to new oil reserves.

Fossil palynology—the study of preserved pollen and spores—gives information similar to that obtained from paleontology—the study of fossil shells. Pollen and spores are generally better preserved than any other parts of plants and trees. Here's how the pollen study works:

A rock core containing fossil pollen is sent to a Shell pollen laboratory for identification of the pollen. If, for example, the assortment of pollen turns out to be the same as in previously-analyzed cores which were taken from a known formation, the chances are high that the new core is also in a formation of the same age.

Palynology has long been used in archaeology, climatology, geography and medicine. But only in recent years has it been applied to geology in the oil industry. Shell is one of the pioneers in this application of palynology, having started work on it in 1947.

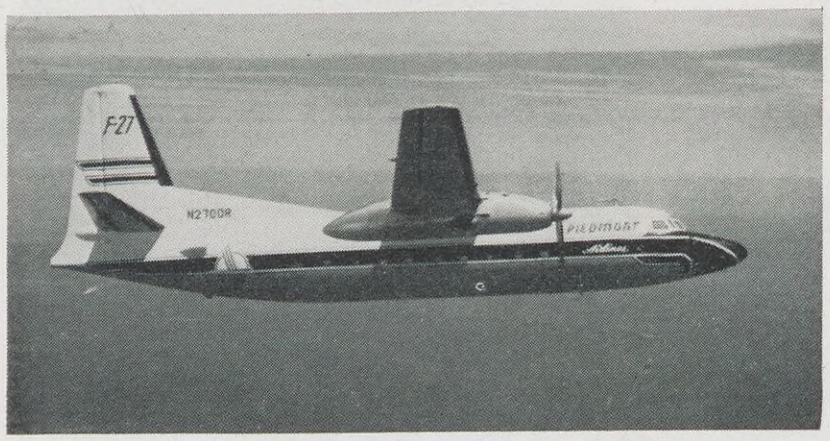
As an outgrowth of the success of early efforts, pollen laboratories were established in the Pacific Coast and Midland Exploration and Production Areas, where regular application of this knowledge could be made. Since 1955 Shell Development Company's Exploration and Production Research Division at Houston has been engaged in basic studies in palynology. In 1956, a group was established to handle problems from E&P Areas where the need for a full-scale laboratory operation had not yet been confirmed. In July of this year, the New Orleans Area began establishing its own laboratory.

In the laboratories, Shell scientists study pollen samples under a microscope that can magnify them 2,000 times—the normal diameter of a pollen grain is .0009 inches, slightly smaller than the diameter of a human hair. The pollen is identified and, in some cases, photographed for a catalogue of types of fossil pollen.

After a laboratory has identified the pollen samples and matched them with previous ones, the information can be used with other clues to help make a decision whether to drill, and if so, where and how deep ●

A Slide of a pollen sample is prepared by Geologist C. L. Trotter who will later study it under a powerful microscope to determine its contents for correlation with other samples.

Boeing 707. Pan American's first jet airliner, the Boeing 707, is scheduled to begin passenger service in November. Passengers will fly higher (up to 40,000 feet) and faster (about 600 m.p.h.) than ever before in airline history.



Fairchild F-27. The smallest of the new prop-jet planes, the Fairchild F-27 is being introduced by Piedmont and West Coast Airlines this year. This high-wing plane was designed for local service airlines and will travel at 290 m.p.h.

Lockheed Electra. The first of Eastern Air Line's fleet of 40 prop-jet Electras will be introduced in December. The plane carries 66 passengers. American Airlines also will use the 400-plus m.p.h. Electra starting late this year.

Vickers Viscount. Built by Vickers-Armstrong, Ltd., of England, the Viscount was the first prop-jet plane to serve the U. S. Introduced in 1955 by Capital Airlines, the 320-m.p.h. Viscount starts service this month for Northeast.

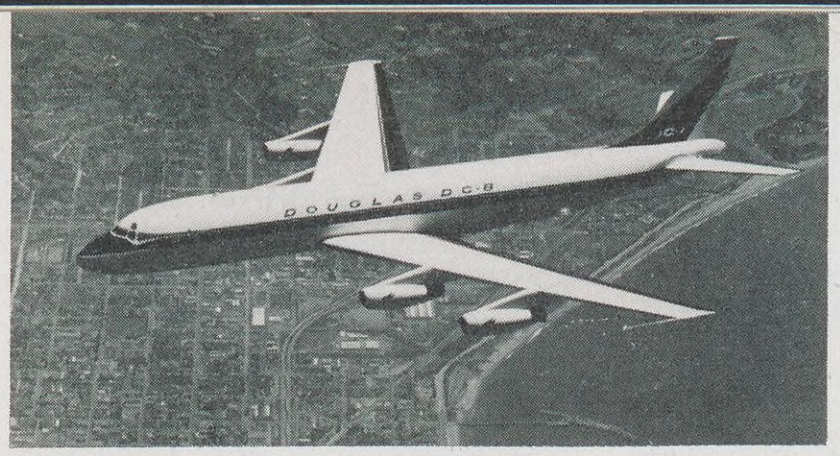
de Havilland Comet 4. This will be the first British-made pure jet on regularly-scheduled flights to and from the U. S. BOAC will introduce the 500 m.p.h. plane on its London-to-New York flights the latter part of this year.

NEW ERA FOR AIRLINES

THE jet age in air travel will get a big boost before the end of the year as new prop-jet and pure jet airliners start streaking across the skyways in increasing numbers.

The first of the prop-jets to be built in America is the F-27—a replacement for the DC-3—which is being built by the Fairchild Engine and Aircraft Corporation from a design developed by a Dutch manufacturer. It will be introduced shortly by West Coast Airlines, Inc. The high-winged F-27, which seats 40 passengers, is the smallest of the new prop-jet (turbine plus propeller) planes. But its sponsors expect to do a booming business on the shorter air routes where it will provide local

The Caravelle. This French-built jet is unique in that the engines are located on either side of the fuselage near the tail. Varig Airlines will use the 460-mile-an-hour plane between New York and Brazil starting sometime next year.



Douglas DC-8. To be introduced next year, this pure jet airliner is similar to the Boeing 707 in size and speed. It has the largest passenger capacity of the new transports — 176. Deliveries of the plane will start in late 1959.

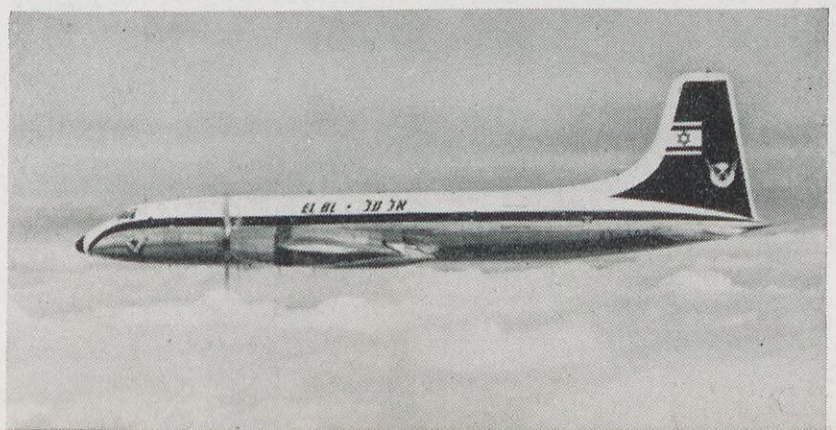
The jet age has arrived and commercial jet aircraft will be in regular service within a few months. Shell is prepared to serve the new sky giants.

service and will channel traffic to the major lines.

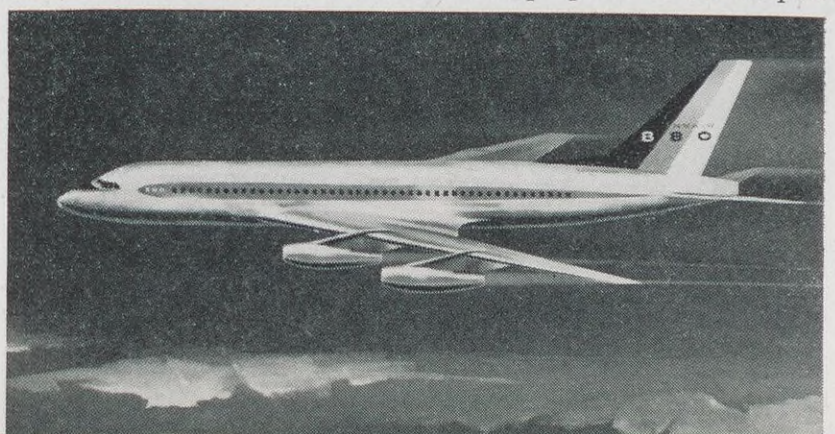
The first of the new generation of jet transports is the Boeing 707, built by the Boeing Airplane Company in Seattle to carry up to 162 passengers at a cruising speed of close to 600 miles an hour. The plane will be introduced in November by Pan American World Airways, Inc., on its New York-to-London and New York-to-Paris runs. This jetliner will make it possible to cut the travel time to and from Europe by about 40 per cent. For example, the trip to London will take 6½ hours, compared with 11 hours for planes powered by piston engines. The first transatlantic flight by the Boeing 707 will be followed by the introduction of the

These Boeing 707's dwarf one of Shell's refueling trucks designed to deliver clean, dry turbine fuel for the big planes.

Bristol Britannia. The prop-jet Britannia is now in service across the Atlantic and between New York and Mexico. The plane is built by the Bristol Aeroplane Company of England. Its cruising speed is more than 400 miles an hour.



Convair 880. This plane, which will have a cruising speed of 615 m.p.h., is to go into regular service in the spring of 1960. Convair has also announced a larger version of the 880, the Convair 600, which has a top speed of 635 m.p.h.



plane by American Airlines, Inc., between New York and the West Coast.

In December, Eastern Air Lines, Inc., will start using the Lockheed Electra on its scheduled domestic routes. The Electra is a four-engine prop-jet plane that will carry 66 passengers at a cruising speed of better than 400 miles an hour.

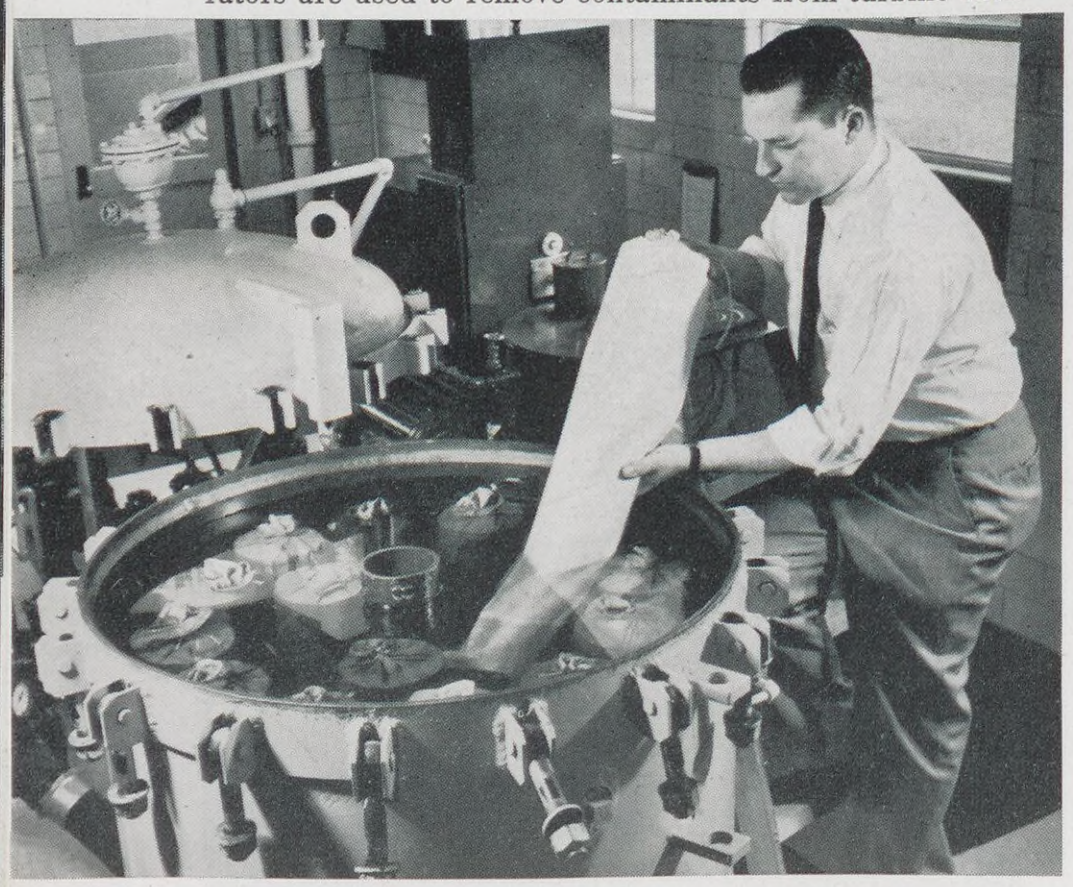
Also in December, British Overseas Airways Corporation will introduce the British de Havilland 4, a pure jet airliner, on its flights between London and New York. The Comet seats 76 and cruises at 500 miles an hour. Already in regular scheduled service are the British-built Viscount and Britannia, both prop-jet planes. The Viscount was introduced in this country by Capital Airlines, Inc., in 1955, and the larger Britannia started service across the Atlantic and to Mexico last spring. Northeast Airlines, Inc., is the latest carrier to buy Viscounts and is now using them on its system.

Next summer, deliveries are expected to start on the Douglas DC-8. With the largest passenger capacity of the new transports, the DC-8 will carry up to 176 passengers and cruise in the neighborhood of 600 miles an hour; it is scheduled to begin service on the routes of United Airlines and Delta Airlines in 1959. The Convair 880, which is being built by Convair Division of General Dynamics Corporation, will carry between 88 and 109 passengers and have a top cruising speed of 615 miles an hour. It has been ordered by five carriers to date. Next year, Varig Airlines plans to start jet service between New York and Brazil using French-built Caravelles, which will also be in service in Europe. An even more advanced jet transport, the Convair 600 was recently announced and American Airlines placed an order for 25, delivery to begin in 1961.

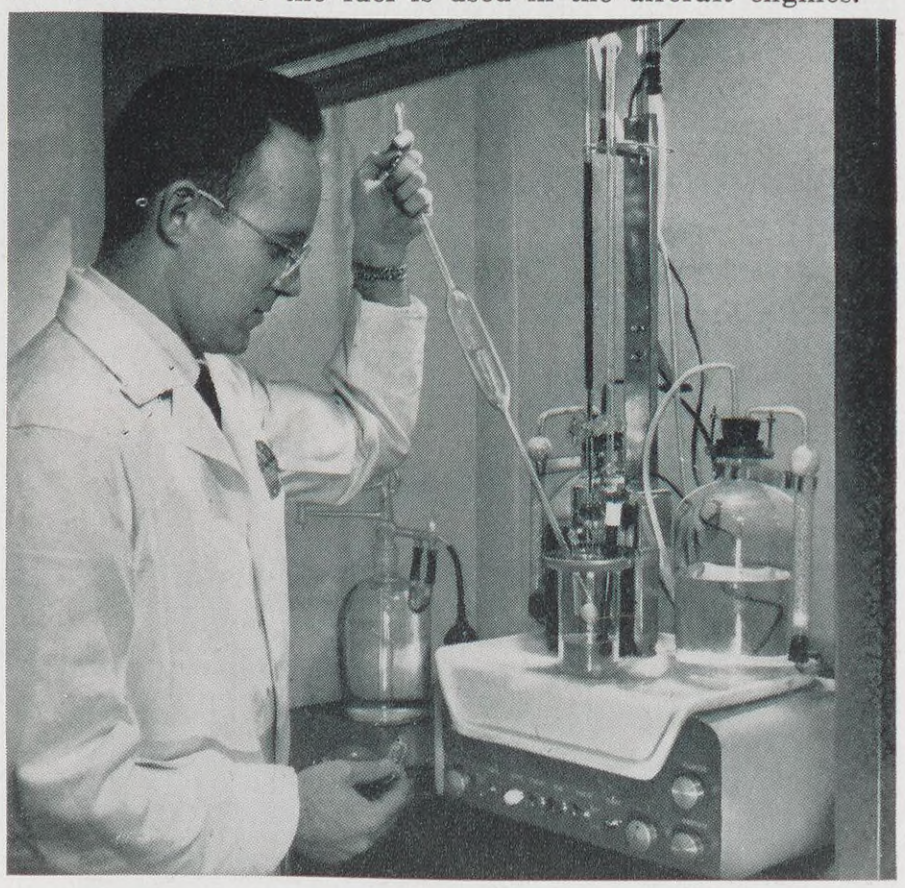
By the end of 1959, about 200 prop-jet and pure jet airliners will be serving U. S. airports and the number will grow rapidly. The new aircraft will increase passenger comfort with silent, vibration-free flights. Along with these advantages the new jets pose problems for airports and airlines. Most of the problems center around the huge pure jet transports. Among them are:

- *Financing*—The new jets cost between $4 and $6 million each. The airline industry already has committed itself to more than $2.5 billion worth of contracts for jet aircraft. The question is "How are they to be paid for?" Airlines hope to meet a portion of the purchase price through the sale of existing piston-engine aircraft. Already the used airplane market is depressed and prices will decline further. The airlines are also seeking permission to increase their passenger fares to help offset the cost of the new jet fleet.
- *Noise*—This problem has received wide publicity but most airline officials agree that the newly-developed noise suppressors for the jet engines will be adequate.
- *Runway Facilities* — Only a few airports in the U. S. have runways long enough to accommodate giant jets such as the Boeing 707's and Douglas DC-8's. It takes about two

Products Application Engineer R. J. Miller, assembles a filter/water separator element being evaluated at the AEROSHELL Turbine Fuel Equipment Laboratory. Separators are used to remove contaminants from turbine fuel.



R. C. Nelson, Products Application Engineer at Sewaren, is testing the water content in a sample of turbine fuel. Water can get into the fuel during storage and transport and must be removed before the fuel is used in the aircraft engines.



miles of runway for a fully-loaded jet airliner to take off.

• *Traffic Control* — The jets will travel at altitudes between 30,000 and 40,000 feet and at speeds just below that of sound. To solve the problem of keeping these high-speed aircraft safely separated, government and industry are seeking new and improved methods of traffic control.

The jet age also has produced problems relating to fuel for the prop-jets and pure jets. Most airlines have chosen a straight kerosene type fuel to power their new planes, such as AEROSHELL® Turbine Fuel 640. The fuel itself can be readily manufactured, but the major problem is to deliver it free of even minute amounts of water and other contaminants.

Shell became the nation's first supplier of turbine fuel for commercial aircraft when Capital Airlines introduced the Viscount in 1955. To provide clean, dry fuel, Shell has installed filter and water separator systems adjacent to storage areas and on fuel trucks at airports where turbine powered aircraft are operating.

Also, the Company has constructed a special laboratory at the Sewaren, N. J., Plant to evaluate filters and water separators used on fueling equipment. It is called the AEROSHELL Turbine Fuel Equipment Laboratory. This program, conducted by the Products Application Department, is expected to further reduce the maintenance cost of turbine engines and increase their reliability.

In addition to the studies at Sewaren, Shell is continuing research on important characteristics of turbine fuel at the Wood River Research Laboratory and Shell Development Company's Emeryville Research Center. Among the problems being studied are: The fuel's ability to remain fluid at extreme low temperatures found at high altitudes; how the fuel stands up under heat; and the effects of fuel properties on engine operation and exhaust smoke.

Shell Oil Company engineers have designed special fuel trucks for use in jet-age fueling operations. The trucks have a capacity of 5,000 to 8,000 gallons and are equipped with special filters and dehydrators to keep the turbine fuel free from contaminants. The trucks will pump fuel at rates up to 600 gallons per minute.

Shell also has developed a new truck for quick fueling of the jet-age planes. Designed by Shell engineers in the Motor Fleet Division of the Head Office Marketing Department, the truck will pump fuel aboard the planes at the rate of 600 gallons a minute, compared to a top of 325 gallons a minute for previous aviation fuel trucks. The trucks also are equipped with special filters and dehydrators, as well as pressure control devices to prevent damage to the hoses or aircraft during the high-speed pumping operation.

Shell has long been the nation's leading supplier of aviation fuel for commercial aircraft and its experience with jet-age fuel will help the Company maintain this leading position. To date, Shell Oil Company has been awarded contracts to supply AeroShell Turbine Fuel 640 to many airlines at U. S. airports. Other contracts still are to be negotiated. Shell's turbine fuel is manufactured at the Norco, Wood River and Anacortes Refineries. To meet increased demands, the Wilmington Refinery will start producing the fuel soon.

A new jet-age lubricant also has been developed by Shell and is being blended at the Sewaren Plant. It is called AEROSHELL® Turbine Oil 300 and recently received full commercial approval for use in the jet engines that power the Douglas DC-8, Boeing 707 and Convair 880 airliners.

Even though the age of the jetliner is just getting into full swing, the airlines are looking ahead to their passenger fleets of the future. One aviation executive believes that 2,000-mile-an-hour jet transports are feasible by 1963. Another says that commercial aircraft may attain speeds 10 times that of today's 600-mile-an-hour jet airliners.

Many qualified experts say that the supersonic transports will be a reality in the not-too-distant future. And when these faster aircraft go into service, Shell's aviation research and experience will be able to provide the products needed to power the new planes ●

Shell Oil Company

September—1958


Vice President
W. A. Alexander

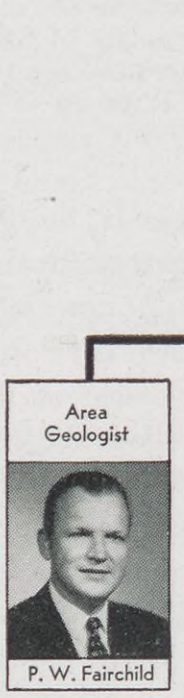

Manager Exploration
C. C. Ludwick

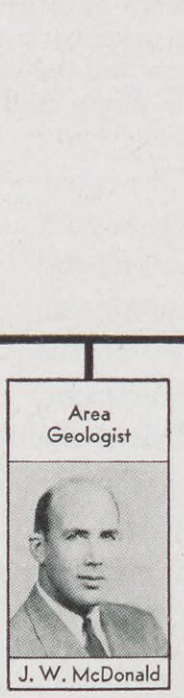

Manager Pers. & Ind. Relations
A. A. McLeod

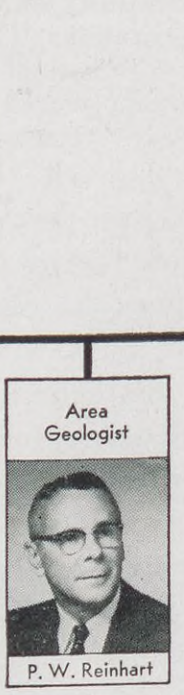

Assistant to Vice President
A. S. Gilles

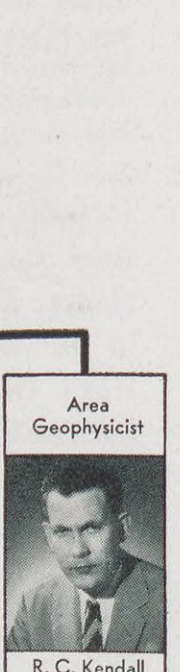

Manager Purchasing-Stores
R. F. Martin

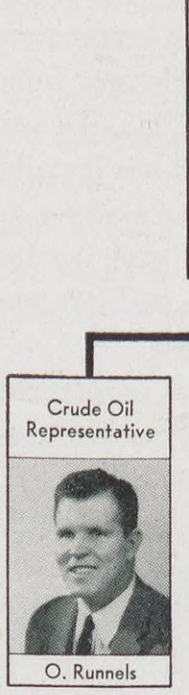

Manager Transport
L. L. Leonhardt


Area Geologist
P. W. Fairchild


Area Geologist
J. W. McDonald


Area Geologist
P. W. Reinhart


Area Geophysicist
R. C. Kendall


Crude Oil Representative
O. Runnels

Area Public Relations Representative
J. R. Richards

Area Survey & Drafting Supv.
F. I. Richardson


Senior Geologist
W. C. Finch


Senior Geologist
M. L. Irwin


Area Stratigrapher
W. C. Gibson

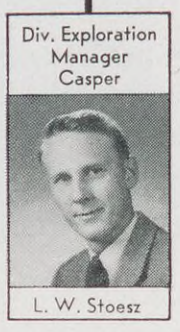

Area Paleontologist
A. B. Shaw


Senior Stratigrapher
J. R. McGehee


Senior Geophysicist
J. M. Nash


Senior Geophysicist
F. R. Versaw


Div. Exploration Manager Billings
H. L. Thomsen


Div. Exploration Manager Casper
L. W. Stoesz


Div. Exploration Manager Denver
P. N. Glover

Denver Exploration and Production Area Organization

Manager Transport

L. L. Leonhardt

Area Survey & Drafting Supv.

F. I. Richardson

Manager Land

W. S. Henry

Manager Treasury

D. H. Filbert

Legal Manager General Attorney

J. T. Lamb

Manager Production

O. L. Odale

Manager Gas

M. R. Church

Chief Exploitation Engineer

E. G. Christianson

Area Production Superintendent

F. J. Toth

Area Drilling Superintendent

W. M. Cheney

Chief Mechanical Engineer

R. J. Bauer

Area Land Agent

F. J. Nicholson

Area Gas Engineer

L. E. Rinker

Senior Exploitation Engineer

A. E. Cordray

Area Production Geologist

J. R. Gollnick

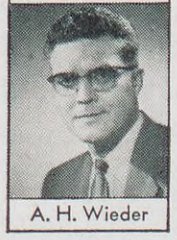
Area Petrophysical Engineer

J. J. Pickell

Area Reservoir Engineer

A. Hols

Senior Exploitation Engineer

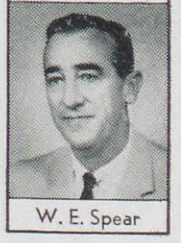


A. H. Wieder

Senior Mechanical Engineer

A. B. Neely

Senior Mechanical Engineer



W. E. Spear

Div. Land Manager Billings

D. L. Black

Div. Land Manager Casper

R. Floyd

Div. Land Manager Denver

G. W. Kasserman

Div. Production Manager Billings

E. A. Davenport

Div. Production Manager Denver

A. T. Rylands

the IMPORTANCE of MIDDLE EAST OIL

World Attention Focuses On An Area Of International Oil Operations

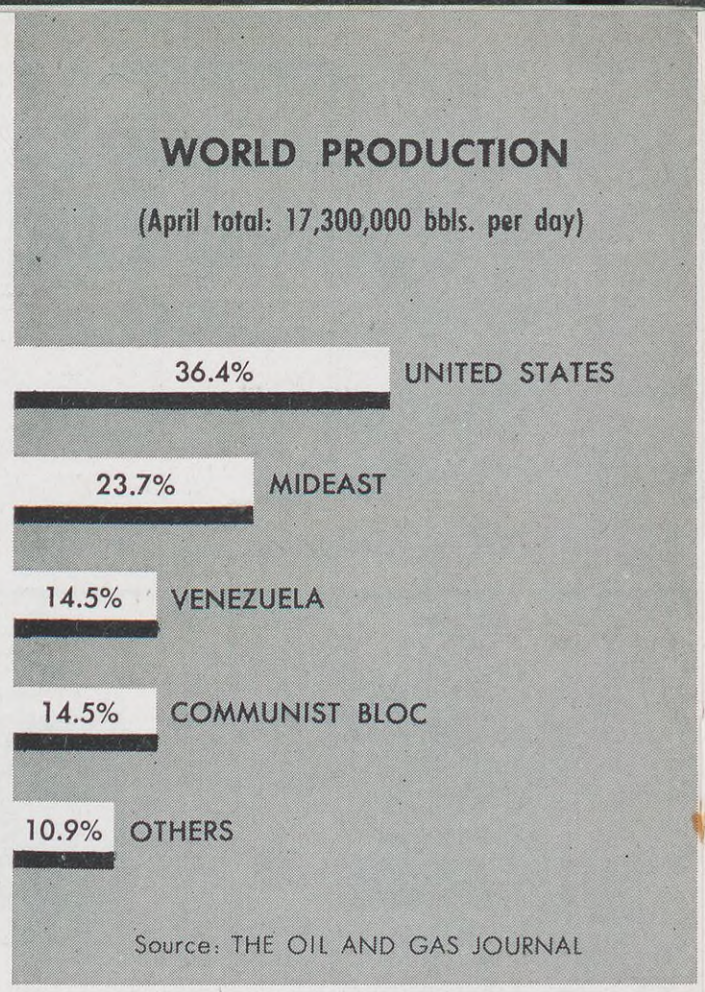
THE Middle East, legendary cradle of the human race, is today's center of world attention. One reason for the present intense interest in the Middle East is the vast quantities of oil lying beneath its desert sands, fertile farmlands and offshore waters.

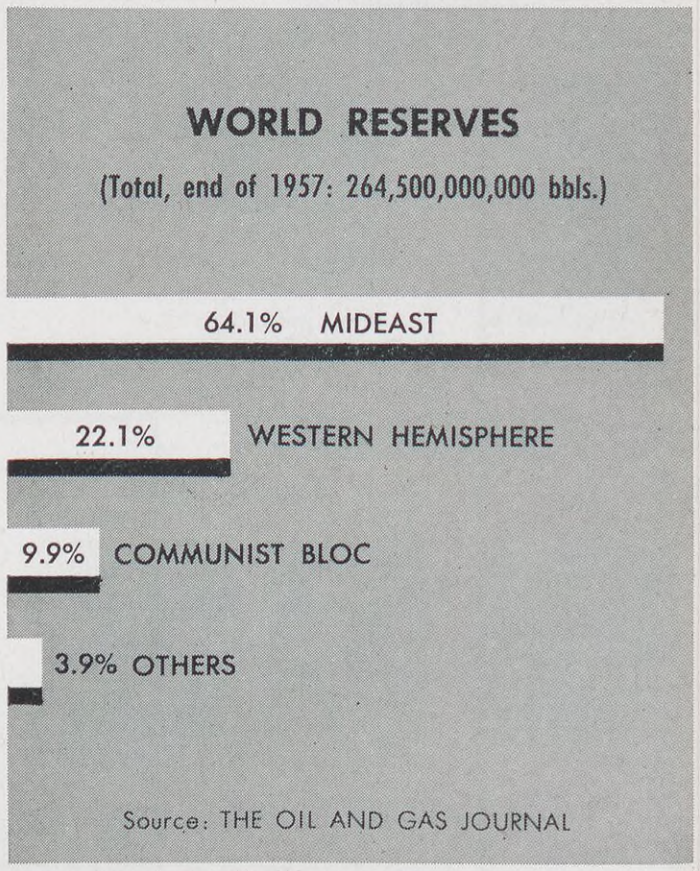
How important is Middle East oil and how do the Royal Dutch/Shell Group's interests fit into the international oil operations in these countries?*

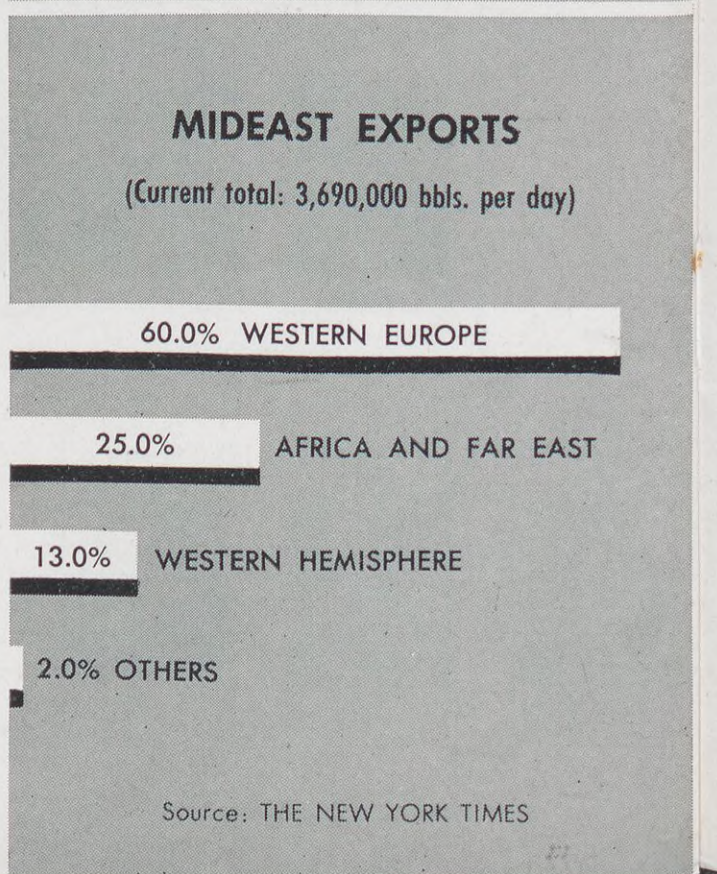
With an area only a little more than half that of the continental United States, the Middle East has 64 per cent of the world's proved crude oil reserves and produces 20 per cent of the world's oil. Most of this oil is produced in Kuwait, Saudi Arabia, Iran, Iraq, the Neutral Zone (between Kuwait and Saudi Arabia) and Qatar. Small producing fields have been developed in Egypt, Bahrein and Israel, while Syria, Lebanon and Jordan remain, at least for the present, non-producers.

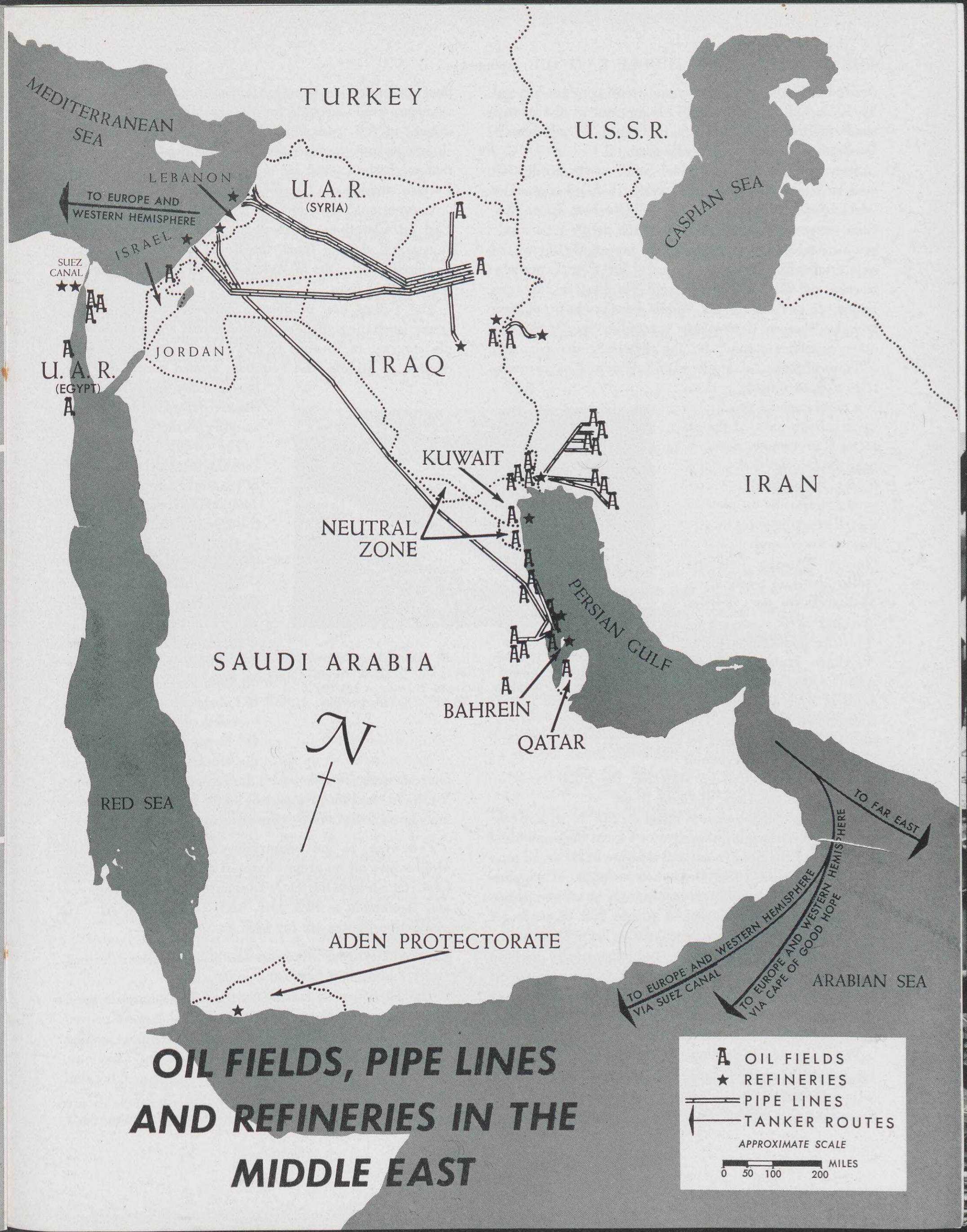
A steady flow of Middle East oil is of vital importance to European countries, and to a lesser degree to the Western Hemisphere, Africa and the Far East. Even a brief interruption of this supply affects the industrial structure of many countries in Europe, whose needs for oil are growing. At present, 16 per cent of Europe's energy is

** In this article, the expression "Group" is used to denote the Royal Dutch/Shell Group of Companies. Shell Oil Company itself has no interests in the Middle East. Although associated with the Royal Dutch/Shell Group, Shell is independently established and sets its own operating policies. It is a balanced organization containing all the functions required for a profitable operation of its own business, and that of its subsidiaries.*







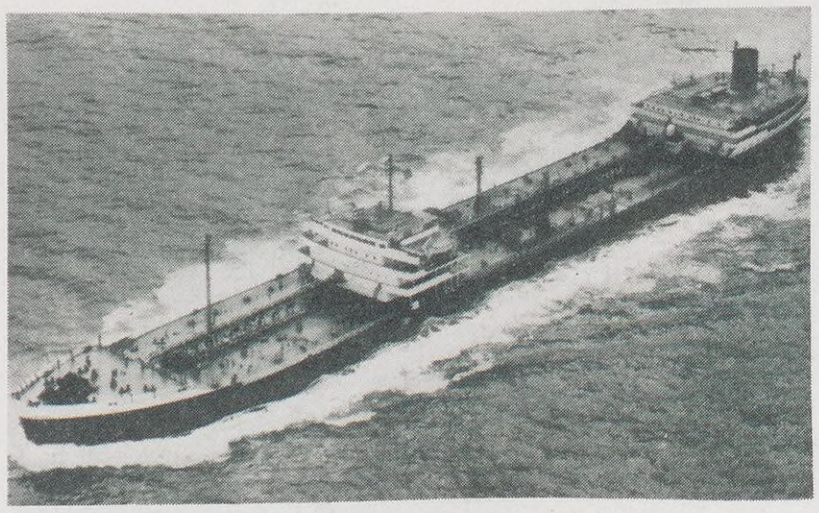


OIL FIELDS, PIPE LINES AND REFINERIES IN THE MIDDLE EAST

derived from oil, with an increase to 31 per cent forecast by 1975. Oil supplies about 14 per cent of the energy needs in Britain, 22 per cent in France, 37 per cent in Denmark and 44 per cent in Sweden.

Sixty per cent of the Middle East's crude production goes to Western Europe. In contrast, U. S. oil companies —which operate a large part of Middle East oil concessions—import only 10 per cent of the area's total crude production. (Shell Oil Company is not among these; the only crudes Shell imports at present are from Venezuela, Borneo and Canada.) Africa and Far Eastern countries import 25 per cent of the Middle East crude production and the Western Hemisphere (excluding the U. S.) and other countries account for the remaining five per cent.

Transportation of crude within Middle Eastern countries and to outside nations is a chief concern of oil producers. With most of the oil located in remote areas or near the Persian Gulf—which is far from the large consumer countries—oil must be moved great distances by pipe line systems and fleets of tankers. Principal long distance pipe lines terminate at Mediterranean ports in Lebanon and Syria, carrying oil from the bountiful fields of Northern Iraq and Saudi Arabia. Other systems link oil fields in Iran, southern Iraq, Kuwait and Qatar with Persian Gulf terminals and refining centers. Europe-bound tankers from the Persian Gulf use the Suez Canal or travel around the Cape of Good Hope.



More than 3.5 million barrels of crude oil are exported each day from the Middle East. One of the tankers in the fleet owned by Royal Dutch/Shell Group Companies is the Zaphon, pictured here on a voyage to a Persian Gulf port. It is 38,000 tons deadweight.

An example of the serious effect on Europe of a breakdown in this transportation system was in the temporary shutdown of the Suez Canal and damage of crude oil pipe lines in Syria in 1956. Drastically-reduced oil supplies produced a crisis which was met quickly by oil companies in many parts of the world. A steady flow of crude oil and products moved across the Atlantic from the Western Hemisphere, and fleets of tankers which normally used the Canal sailed nearly twice the distance to Europe around the Cape. The shattered supply picture was so well patched that affected areas received between 80 and 90 per cent of the pre-Suez normal crude shipments.

The crisis which developed in the Middle East during July, 1958 prompted consideration of a new plan of action in the U. S. to meet a possible cut-off of oil. Essentially the same as that for the Suez emergency, the program under consideration, supervised by the U. S. government, would provide for the establishment of a committee of oil companies to coordinate international shipments and overseas production to meet any shortage that might be caused by interruption of normal Middle Eastern supplies.

International oil companies play a major role in Middle East oil operations—as they did in solving the Suez oil emergency. Among them, the Royal Dutch/Shell Group has sizeable interests in Middle East oil production, refining and pipe lines.

The Group has production interests in Iran, Iraq, Qatar (including offshore development), and a crude supply contract in Kuwait. In 1957 the Group's gross production in Middle East countries totaled nearly 600,000 barrels a day, including quantities received under special supply contracts.

The Group has a 14-per-cent interest in the operation of the world's largest refinery (460,000 barrels a day) near the Persian Gulf at Abadan in Iran, and in a refinery at Tripoli in Lebanon.

Through its ownership interest in Iraq Petroleum Company, Limited, the Group has a share of the pipe line system which transports crude oil from northern Iraq fields to Lebanon and Syria.

Assets of Anglo-Egyptian Oil Fields, Limited, in which the Group has a 31-per-cent interest, were sequestered by the Egyptian government on November 1, 1956. Properties taken from the companies include oil fields and a refinery located at Suez.

Following is the country-by-country breakdown of Middle East oil, in order of size of proved reserves, which total 169.5 billion barrels. (The source for proved reserves and production is THE OIL AND GAS JOURNAL. All production figures are for 1957.):

KUWAIT (Proved Reserves—60 billion barrels; Production—1,110,000 barrels a day)

The Sheikdom of Kuwait, is the Middle East's biggest crude oil producer and has the world's largest proved crude oil reserves. Kuwait Oil Company, Limited, owned on a 50-50 basis by The British Petroleum Company, Limited, and Gulf Oil Corporation, holds the country's oil concession, including a refinery.

Although the Group has no ownership interest in

Kuwait operations, it has a long-term contract with Gulf Oil Corporation to buy large quantities of crude oil (about 300,000 barrels a day before the closing of the Suez Canal in 1956, the latest date for which figures are available.) Kuwait production assures the Group of a highly satisfactory position in the Middle East.

SAUDI ARABIA (Proved Reserves—45 billion barrels; Production—990,000 barrels a day)

The Arabian American Oil Company—Aramco—composed of Standard Oil Company of California, Standard Oil Company (New Jersey), The Texas Company and Socony Mobil Oil Company, Inc., has 100-per-cent oil rights in Saudi Arabia, where production and reserves are second only to Kuwait in the Mideast.

IRAN (Proved Reserves—32 billion barrels; Production —725,000 barrels a day)

Since 1954, a group of international oil companies known as the Consortium have operated Iran's oil fields and the Abadan Refinery. Under the 1954 agreement, the Consortium and the government share profits equally. Principal participants in the Consortium are The British Petroleum Company, Limited, 40 per cent, and the Group, 14 per cent. Fourteen U. S. oil companies also have interests, the major ones being Standard (New Jersey), Standard of California, The Texas Company, Gulf Oil and Socony Mobil, all having equal seven-per-cent shares.

Through participation in the Consortium, the Group has an interest in the Abadan Refinery and crude oil production of 96,000 barrels a day. In addition, small quantities of special products are marketed by the Group in Iran.

IRAQ (Proved Reserves—25 billion barrels; Production —440,000 barrels a day)

The Iraq Petroleum Company, Limited, and two subsidiary companies operate the country's most extensive concessions. The Group, The British Petroleum Company, Limited, Compagnie Francaise des Petroles, and the Near East Development Corporation—which is jointly owned by Standard (New Jersey) and Socony Mobil—each has a 23.75-per-cent interest in I.P.C. and its affiliated companies. The remaining five per cent is owned by the Participations and Explorations Corporation (the Gulbenkian Foundation).

Through its interest in I.P.C., the Group has crude production totaling 105,000 barrels a day and owns a share of the I.P.C. refinery at Tripoli in Lebanon. Small quantities of special products are marketed by the Group in Iraq.

NEUTRAL ZONE (Proved Reserves—5 billion barrels; Production—65,000 barrels a day)

Two American companies operate oil fields in the Neutral Zone between Kuwait and Saudi Arabia. One, the American Independent Oil Company, holds the concession over Kuwait's undivided half interest in the Zone. Principal owners of Aminoil are Phillips Petroleum Company, Hancock Oil Company, Signal Oil and Gas Company and Ashland Oil and Refining Company. Getty Oil Company, the other U. S. operator, has production rights in Saudi Arabia's undivided half interest in the Zone. This year Saudi Arabia and Kuwait granted the Japan Petroleum Export Company offshore oil concession rights beyond the six-mile territorial waters of the Neutral Zone.

QATAR (Proved Reserves—1.7 billion barrels; Production—136,000 barrels a day)

The oil concession in this sheikdom, is operated by Qatar Petroleum Company, Limited, an affiliate of I.P.C. with the same ownership interests. Qatar's total production is from the country's only oil field at Dukhan.

Shell Qatar, an exploration company wholly owned by the Group, has concession rights to offshore development. Two test wells had been drilled and a third was planned when the 1,900-ton mobile drilling platform was destroyed by a sudden storm during December, 1956. The Group has 33,000 barrels a day of crude production from its interests in Qatar Petroleum.

BAHREIN (Proved Reserves—200 million barrels; Production—32,000 barrels a day)

Standard of California and The Texas Company jointly hold the petroleum concession on Bahrein, an island in the Persian Gulf off the coast of Saudi Arabia.

EGYPT (Proved Reserves—275 million barrels; Production—42,500 barrels a day)

Egypt's principal exploration company is the Sahara Petroleum Company, owned by Continental Oil Company, The Ohio Oil Company, Cities Service Oil Company and Richfield Oil Corporation. At present, the country produces only about two-thirds of its domestic oil requirements. In 1956, the Egyptian Government sequestered a refinery and oil fields in which the Group has an interest. These oil fields produce the majority of Egyptian crude.

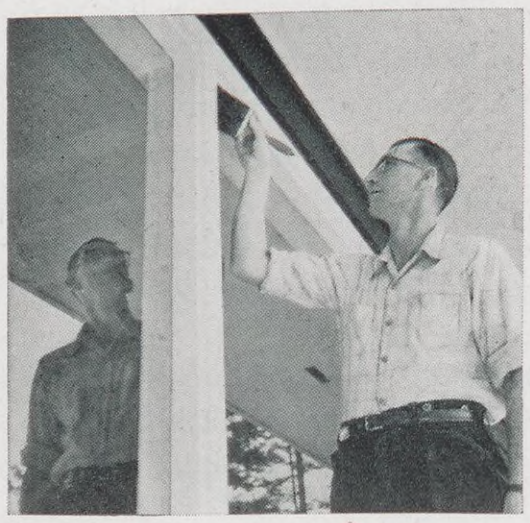
ISRAEL (Proved Reserves—8 million barrels; Production—1,600 barrels a day)

Production in Israel, as in Egypt, has been unable to keep up with domestic demand, with the country importing about 30,000 barrels of oil products a day. Israel's second oil discovery was made in 1957.

SYRIA - LEBANON - JORDAN — Syria, Lebanon and Jordan are the have-nots of Middle East oil, although they are important as transit countries for pipe lines and may have commercial production in the future. Trans-Arabian Pipe Line Company transports about 400,000 barrels a day through all three countries en route to Sidon, Lebanon. I.P.C. sends about 500,000 barrels a day through its pipe line to Banias, Syria and to Tripoli, Lebanon ●

LOOK

Carpenter E. C. Steinman trims picture window of his home which is shaded by tall trees (right) and overlooks Puget Sound.



...OK WHAT THEY BUILT!

When it came to building a house (or a large part of one) 20 employees of the Anacortes Refinery "did it themselves"

Pipefitter Helper M. E. Jones (left) stacks bricks left over from his home-building and (below) wipes down the fireplace made of stones he picked up around the countryside.

THE Anacortes Refinery has probably the highest percentage of homemakers – with their own hands, that is—among Shell refineries.

Twenty of Anacortes' 550 employees have taken the hammer by the handle and done at least a major part of the actual building of their houses since Shell started construction of the refinery in 1954.

Most began with the idea of saving money or building a bigger house than they could buy without the "do-it-yourself" idea. Their estimated savings have ranged from "not a dime" to about $10,000. But for some, the main purpose was not economy but satisfaction of accomplishment, good use of spare time or just plain "fun."

The fastest building job was six months and the longest has taken four years so far, with one or two to go. One man took 20 months, but he didn't pick up a tool for one eight-month stretch.

Their biggest problems included financing, lack of time, keeping enough material on hand, blasting out a rock foundation, and keeping construction plumb and square.

Most of the builders said they had a lot of help from their wives. The ladies painted, mixed mortar, finished plasterboard walls and bought materials. But one man had another view about his wife's aid. He said that they staked out their house three times before they began building. It seemed to him, he said, that every morning his wife would wake up and say "I think we should move the house."

Besides money-saving, satisfactions of the job were many. For one man, finishing the project gave "a lot more confidence in myself." Another said the effort of setting up a fireplace three times to get it right was "worth all the effort."

Senior Engineer A. S. Grundy put it this way: "The most interesting and enjoyable phase was designing the house in detail. Being able to conceive it just the way we

Electrician R. A. Rogerson, finishing details on his house, said his wife did all the painting and mixed mortar, too.

wanted and then seeing the physical manifestation of our ideas was educating and gratifying. I had a lot of fun designing the plumbing, electrical and heating systems. I recall spending a whole weekend working out 12 different bathroom arrangements."

Shop Supervisor L. I. Deal, still abuilding, summed up the answer most of the builders gave to the question "Was it worth it?" He said:

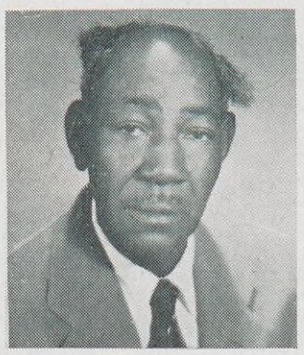
"Right now the answer is a sort of hesitating, slightly weary, 'Oh, I suppose so.' But when we are all finished and can enjoy the fruits of our labor, the answer will surely be 'yes'!"

Besides those pictured in this article, Anacortes people who have built their homes or have made extensive improvements on them, include: Engineer G. G. Brun, Shop Supervisor L. I. Deal, Shift Foreman D. D. Dittes, Machinist P. W. Entrikin, Senior Engineer A. S. Grundy, Machinist D. P. Hamill, Operator W. B. Lindberg, Pipefitter G. W. McKay, Machinist N. N. Melcher, Engineer E. D. Morris, Engineer T. G. Thompson, Material Expediter E. G. Englebright, Laboratory Inspector S. J. Porter, Senior Laboratory Inspector C. B. Byford and Engineer H. G. Wilson.

Carpenter A. W. Mansure (above) with his wife, Marion, lays hardwood floor blocks and (below) shows the house he built in 10 months. His biggest problem was "keeping materials on hand." He worked on it evenings, weekends and vacation time.

R. L. Schrimscher, Boilermaker Foreman, took 20 months to build his place. He had to move a lot of earth in landscaping his location.

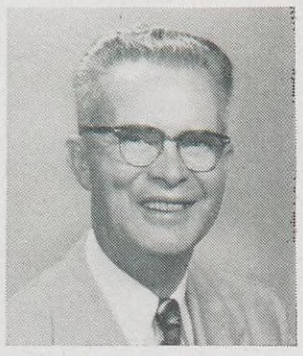
They have RETIRED



J. ALLEN
Houston Refinery
Engineering

ELIZABETH C. BULVANOSKI
Sewaren Plant
Laboratory

A. E. BUSSE
Pacific Coast Area
Production



W. R. CARBAUGH
Indianapolis Division
Operations

J. P. CARLUCCI
New York Division
Operations

MURIEL L. ELLIS
Cleveland Division
Treasury

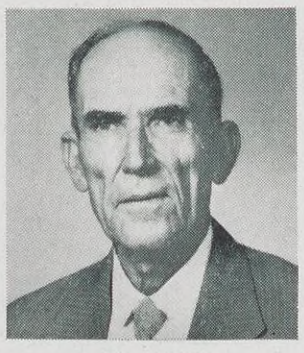
L. F. FALCON
Norco Refinery
Distilling

G. D. FIELDS
Shell Pipe Line Corp.
Mid-Continent Division

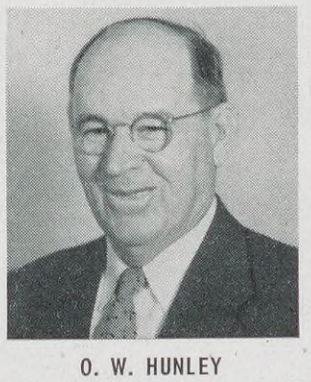
L. J. GRAY
Tulsa Area
Production

G. GREGOR
Wilmington Refinery
Distilling

C. W. HAYES
Wood River Refinery
Distilling

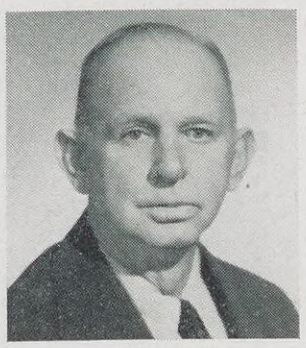


O. W. HOWARD
Houston Area
Production

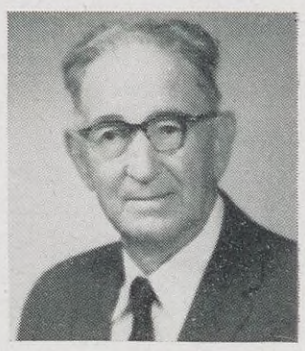


O. W. HUNLEY
Shell Chemical Corp.
Houston Plant

M. M. MENDIVIL
Shell Chemical Corp.
Shell Point Plant



W. C. MUND
Shell Pipe Line Corp.
Texas-Gulf Division



J. W. MYERS
Houston Area
Production

N. J. ROSENTHAL
Boston Division
Operations

L. F. STAYNER
Shell Chemical Corp.
Agr. Chem. Sales Div.

R. J. THORPE
Boston Division
Operations

J. C. TUCKER
Houston Area
Pers. & Ind. Rel.

C. N. WEBER
Indianapolis Division
Administration

R. W. WINGO
Pacific Coast Area
Land

SHELL Coast to Coast

SHOOTING THE RAPIDS

THE rapids of California's mountain rivers provide unusual weekend recreation for Barbara Tilden, left, Stenographer at Shell Development Company's Emeryville Research Center.

Miss Tilden is a member and former chairman of the River Touring Section of San Francisco's famed Sierra Club. During the spring and summer, she spends her weekends with members of the club shooting rapids on mountain streams. The picture below shows her in her kayak in the midst of roaring rapids.

"It takes a lot of practice to learn to handle your boat and 'read' the water," Miss Tilden said, "but it's not as dangerous as it appears on first sight."

A new adventure book for teen-age girls, "White Water," by Vivian Breck, has been dedicated to Miss Tilden who provided the details of kayaking for the book.

When she isn't riding the rapids on weekends, Miss Tilden goes trout fishing in the Sierra Mountains. She also has another favorite pastime — speleology, or cave exploring. She is a member of the National Speleological Society.

PORTABLE SPEAKER

J. A. Johnson, right, Photographic Laboratory Technician in the Houston Exploration and Production Area's Public Relations Department, checks the specifications on his new invention—a portable, self-powered, transistorized sound system. The unit, which weighs 21 ounces, is designed for use at meetings where groups are large enough to require some voice amplification, but not large enough to require large public address systems. Shell has given Johnson a release on the patent rights to the invention and several companies have shown an interest in manufacturing it. In the photo above, V. J. McCoy, Public Relations Manager, Houston Exploration and Production Area, demonstrates Johnson's apparatus.

YOUNG SCIENTIST

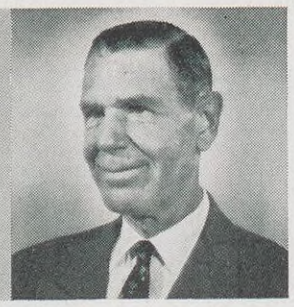
Greg Hutchinson, 12-year-old son of E. F. Hutchinson, Department Manager-Compounding at the Wood River Refinery, studies his petroleum display which won first place in the Junior Division of the Illinois Academy of Science Fair. Greg also wrote a paper on geology which was part of his entry.

STUDENT HONORS

In the photo below, David Hall, left, and J. D. Groves, both Analysts in the Tulsa Exploration and Production Area's Land Department, with the trophies they received recently. Hall received his for being the outstanding junior law student at the University of Tulsa and Groves won his for being the outstanding senior law student, both on votes by students. Hall also was named president of the Student Bar Association, succeeding Groves. Both attend the University's night classes.

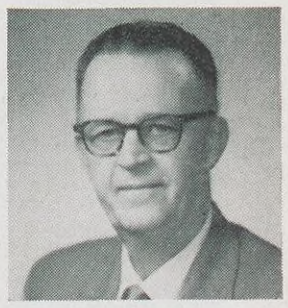
Service BIRTHDAYS

Forty Years



R. H. COOMBS
Houston Refinery
Treasury

M. M. LUKETICH
Wood River Refinery
Engineering



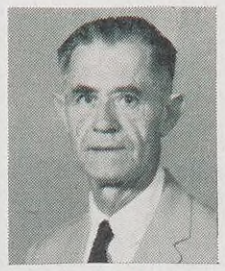
R. P. MARTIN
Sacramento Division
Sales

Thirty-Five Years

F. H. ARNOLD
Wilmington Refinery
Dispatching

C. M. BAILEY
Denver Area
Production

G. H. BARNES
Houston Area
Production



S. E. BERMES
Wood River Refinery
Dispatching

P. C. BLAIR
Albany Division
Operations

C. U. CHAMPAGNE
Norco Refinery
Purchasing-Stores

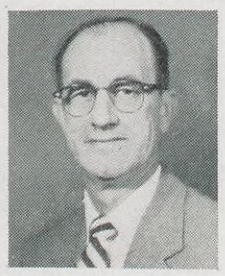
W. W. S. DANCE
San Francisco Office
Marketing Service

H. J. FISHER
Wilmington Refinery
Distilling

BERNICE G. FLOESCHER
Head Office
Financial

C. C. HALL
Wood River Refinery
Utilities

S. N. HALL
Shell Chemical Corp.
Martinez Plant



W. J. HAUN
Wood River Refinery
Dispatching

H. D. HOWARD
Martinez Refinery
Distilling

C. J. LASKOW
Wilmington Refinery
Treasury

C. B. PARIS, JR.
Houston Area
Production

W. H. SNEDEKER
Los Angeles Division
Operations

J. W. SOUTHWORTH
Detroit Division
Manager

F. M. STEWART
Los Angeles Division
Sales

R. G. WILKIN
Wilmington Refinery
Effl. Cont. & Util.

B. WILLIAMS
Wilmington Refinery
Engineering

W. J. WILLIAMS
Pacific Coast Area
Gas

O. E. WOLLAM
San Francisco Office
Manufacturing

J. C. WORDEN
Wilmington Refinery
Engineering

Thirty Years

E. ADRIAN
Houston Area
Treasury

R. I. ALBERTS
Pacific Coast Area
Production

W. A. ALEXANDER
Denver Area
Vice President

C. L. ANDREWS
Norco Refinery
Engineering

L. C. BOLLINGER
Martinez Refinery
Research Laboratory

W. D. BOST
Wood River Refinery
Catalytic Cracking

H. A. BOWLIN
Houston Area
Production

D. L. BRUSSARD
Shell Development Co.
Emeryville

D. J. A. CAMERON
Pipe Line Department
Los Angeles, Calif.

J. R. CANDOO
Los Angeles Division
Operations

C. L. CARTER
Los Angeles Division
Sales

S. P. CHAPMAN
New Orleans Area
Land

D. R. CLARK
Los Angeles Division
Sales

I. O. COTNER
Pipe Line Dept.
East Chicago, Ind.

J. T. DOUGHERTY
Wood River Refinery
Treasury

J. O. DUNLAP
Houston Area
Production

W. H. ESSER
Tulsa Area
Transport

ARTIN
Division
es

V. W. S. DANCE
n Francisco Office
arketing Service

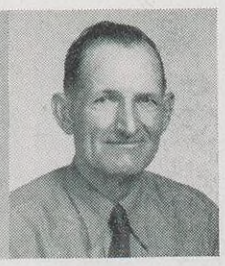
B. PARIS, JR.
Houston Area
Production

. C. WORDEN
nington Refinery
Engineering

L. BRUSSARD
Development Co.
Emeryville

V. H. ESSER
Tulsa Area
Transport

Thirty Years continued



B. EVANS
Houston Area
Production

W. B. FLYNN
Pacific Coast Area
Production

L. N. FOLSE
Norco Refinery
Catalytic Cracking

W. I. FRANKLIN
Wood River Refinery
Light Oil Treating

P. A. GOODMAN
New Orleans Division
Sales

W. H. GORE
Seattle Division
Treasury

A. HODGES
Tulsa Area
Production

M. E. HOPKINS
Tulsa Area
Production

F. W. KILLAM
Wood River Refinery
Utilities

C. L. LORY
Financial
(Employed Abroad)

R. H. LUEBKE
Pipe Line Dept.
Blue Mound, Ill.

J. MAIA
Martinez Refinery
Compounding

R. W. McBRIEN
Wood River Refinery
Refinery Laboratory

J. J. McKENZIE
Head Office
Purchasing-Stores

D. M. MONTZ
Norco Refinery
Engineering

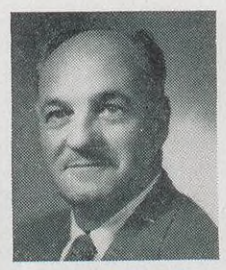
T. U. OLIVER
Houston Area
Production

F. W. OUDT
New Orleans Area
Administration

W. P. PAHL
San Francisco Division
Operations

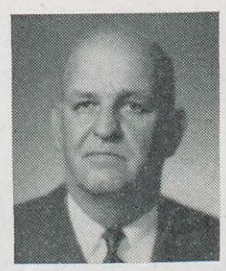
M. W. PAPE
Houston Area
Production

R. S. PARKER
Los Angeles Division
Sales

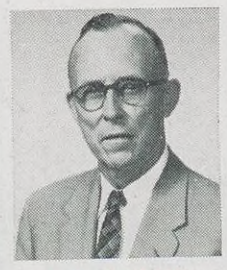


P. E. PERKINS
Wood River Refinery
Dispatching

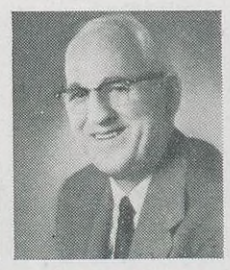
F. E. PRESCOTT
San Francisco Division
Operations



G. J. PRIBBLE
Houston Area
Production



H. D. SIMPSON
Houston Area
Production



R. A. SLAVENS
Seattle Division
Operations

H. A. STOLTZ
San Francisco Office
Financial

B. G. SYMON
Head Office
Marketing

J. A. TENCH
Houston Refinery
Manager

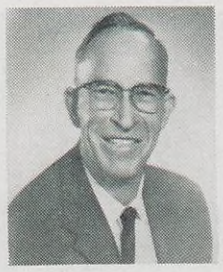
J. G. TUTTLE
Houston Area
Production

J. H. VOROUS
Shell Development Co.
Emeryville

J. A. WALKER
Wood River Refinery
Alkylation

W. J. WATILO
Pacific Coast Area
Gas

A. W. WATTS
Pipe Line Department
East Chicago, Ind.



H. R. WEBB
Pipe Line Department
Long Beach, Calif.

N. I. WHYTE
Shell Development Co.
Emeryville

Twenty-Five Years

J. F. ALFORD
Houston Refinery
Gas

H. V. ANDERSON
San Francisco Division
Treasury

E. J. ARMSTRONG
Detroit Division
Administration

B. D. ASHER
Sacramento Division
Sales

C. W. BAKER
Wood River Refinery
Engineering

H. A. BEARWALD
Minneapolis Division
Operations

D. M. BERGIN
Houston Refinery
Effl. Cont. & Util.

J. H. BOEHM
Pacific Coast Area
Production

A. H. BOULTBEE
Head Office
Manufacturing

E. J. BOURGEOIS
New Orleans Area
Production

C. J. BREEN
Shell Development Co.
Emeryville

H. S. BROOKSHIER
Houston Area
Production

M. A. BROUSSARD
Houston Area
Production

J. L. BROWN
Midland Area
Gas

W. C. BRUCE
Wood River Refinery
Refinery Laboratory

E. H. CAIN
Head Office
Marketing

W. C. CHILDERS
Shell Pipe Line Corp.
West Texas Division

Twenty-Five Years *continued*

W. C. CLAY
New Orleans Area
Production

C. E. COOK
Baltimore Division
Operations

A. P. CUPIT
Martinez Refinery
Engineering

E. L. DAVIS
Indianapolis Division
Sales

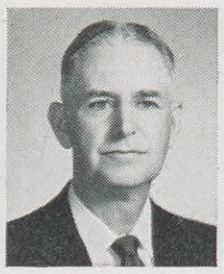
O. DEVILLE
New Orleans Area
Transport & Materials

H. B. DONNELL
St. Louis Division
Operations

A. DUMAS
New Orleans Area
Production

C. O. FARNSTROM
Wood River Refinery
Research Laboratory

C. D. GREELING
Wood River Refinery
Engineering



K. A. GRIGSBY
Sacramento Division
Marketing Service

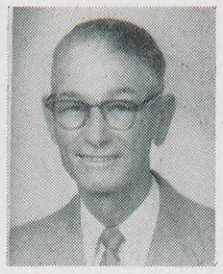
T. H. HAHN
Shell Chemical Corp.
Ventura Plant

M. E. HAMMOND
Cleveland Division
Operations

W. E. HANNOLD
Wood River Refinery
Gas

D. E. HAYES
Wood River Refinery
Engineering

L. H. HIBBERD
Wood River Refinery
Light Oil Treating



H. J. HOFFMAN
Houston Area
Transport

D. C. HOLLOWAY
Wood River Refinery
Utilities

W. T. HOPSON
Houston Area
Production

L. D. HUMPHREY
Wood River Refinery
Lubricating Oils

L. L. JAMES
Seattle Division
Sales

W. J. JONES
Houston Area
Production

F. A. KEMP
Martinez Refinery
Engineering

G. L. KENNEY
Shell Pipe Line Corp.
Mid-Continent Division

J. G. KERLEY
Head Office
Manufacturing

R. L. KING
Shell Pipe Line Corp.
Texas-Gulf Division

W. E. LEWIS
Pipe Line Department
Tracy, Calif.

L. O. LORD
Midland Area
Gas

A. J. LIZEE
Portland Division
Operations

E. C. MacINTYRE
Los Angeles Division
Sales

J. MANTUA
Wilmington Refinery
Distilling

J. E. MARSLAND
Gen'l Exec. Office
Administration

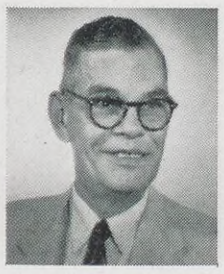
G. E. McCOY
Wood River Refinery
Catalytic Cracking

F. R. McGUIRE, JR.
Houston Refinery
Dispatching

W. MILLER
New Orleans Area
Production

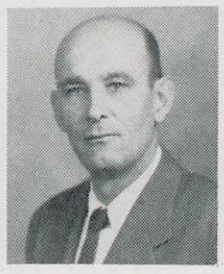
C. F. MORRIS
Indianapolis Division
Operations

P. E. MULHERN
New York Division
Operations



J. P. MURRAY
Houston Refinery
Engineering

J. W. MYERS
Shell Chemical Corp.
Denver Plant



G. O. NORVELL
Shell Pipe Line Corp.
Mid-Continent Division

F. J. RACZKO
New York Division
Operations

F. E. RIGGS
Shell Pipe Line Corp.
Mid-Continent Division

F. L. ROBINSON
Houston Refinery
Refinery Laboratory

A. J. ROUSSEL
Norco Refinery
Purchasing-Stores

A. C. SCHNACK
Shell Pipe Line Corp.
Mid-Continent Division

NELL E. SHAW
Midland Area
Land

M. W. SHEPPARD, JR.
Pacific Coast Area
Land

HELEN J. SHIREMAN
Indianapolis Division
Treasury

J. E. TALLEY
Houston Area
Production

L. S. TOMLINSON
New Orleans Area
Operations

W. M. VICE
Wood River Refinery
Engineering

J. M. von ALMEN
Head Office
Transp. & Supp.

O. P. WOMACK
Shell Pipe Line Corp.
West Texas Division

H. A. WOODS
Martinez Refinery
Research Laboratory

ARNSTROM
ver Refinery
Laboratory

OLLOWAY
er Refinery
lities

LEWIS
Department
, Calif.

MORRIS
lis Division
ations

CHNACK
Line Corp.
ent Division

WOODS
Refinery
Laboratory

SHELL OIL COMPANY

Head Office

20 Years

H. L. Isham . . . . . Manufacturing
L. Noble . . . . . Marketing

15 Years

Corinne G. Gordon . . . . . Pers. & Ind. Rel.
Sheila E. Gorman . . . . . Financial

10 Years

F. D. Bollbach . . . . . Purchasing-Stores
Kathleen L. Brokaw . . . . . Marketing
D. F. Hart . . . . . Manufacturing
L. P. Long . . . . . Financial
Kathleen E. Raftery . . . . . Financial
L. T. Simmelink . . . . . Marketing
Nancy Tully . . . . . Pers. & Ind. Rel.

Houston Office

15 Years

M. M. Jaresh . . . . . Transp. & Supp.

San Francisco Office

20 Years

G. A. Durham . . . . . Industrial Products
L. Dowdell . . . . . Financial

Exploration and Production

DENVER AREA

15 Years

M. M. Durham . . . . . Production

10 Years

J. M. Derr . . . . . Exploration
R. G. Trumbly . . . . . Exploration

HOUSTON AREA

15 Years

H. O. Boase . . . . . Production
E. V. Davis . . . . . Production
L. M. Shamburger . . . . . Production

10 Years

T. J. Albritton . . . . . Production
C. L. Cater, Jr. . . . . Treasury
J. W. Hodges . . . . . Purchasing-Stores
F. L. Jones . . . . . Purchasing-Stores
W. J. McCrary . . . . . Pers. & Ind. Rel.
N. F. McIntosh . . . . . Production
C. C. Wahl . . . . . Exploration

MIDLAND AREA

15 Years

R. M. Johnson . . . . . Production
C. F. Lukens . . . . . Transport

10 Years

H. Coburn . . . . . Exploration
K. D. Huckabee . . . . . Exploration
B. D. King . . . . . Treasury
J. P. Quinn . . . . . Gas
J. G. Schuepbach, Jr. . . . . Gas
N. D. Shepard . . . . . Production
A. W. Snead . . . . . Production
T. V. Vessels . . . . . Production
I. M. White . . . . . Production

NEW ORLEANS AREA

20 Years

D. Benoit . . . . . Gas
R. R. Daniels . . . . . Transport & Materials
C. T. Williams . . . . . Production

15 Years

A. J. Chauvin . . . . . Production
R. E. Gilpin . . . . . Land
K. E. Reid, Jr. . . . . Exploration

10 Years

C. L. Barr . . . . . Production
A. J. Bassett, Jr. . . . . Exploration
F. S. Bell . . . . . Production
S. J. Boudreaux . . . . . Exploration
J. B. Brown . . . . . Production
C. W. Campbell, Jr. . . . Transport & Materials
G. E. Case, Jr. . . . . Production
J. P. Moore . . . . . Production
R. L. Patout . . . . . Production
O. J. Rutland . . . . . Land
R. W. Schutt . . . . . Gas
T. F. Scott . . . . . Production

PACIFIC COAST AREA

20 Years

P. D. Berg . . . . . Production
V. N. Thompson . . . . . Production

15 Years

F. Blair . . . . . Production
P. H. Carr . . . . . Production
O. Elliot . . . . . Production
E. E. Haney . . . . . Production
A. Lockareff . . . . . Production
Betty J. McComb . . . . . Treasury

10 Years

M. M. Camp . . . . . Production
A. L. Diehl . . . . . Production
G. L. Jemmott . . . . . Production
E. Stevens . . . . . Legal

TULSA AREA

20 Years

F. W. David . . . . . Production
R. E. Gearing . . . . . Gas
E. Lovell . . . . . Exploration
R. H. Wiseman . . . . . Exploration

15 Years

F. J. Hodges . . . . . Exploration
C. T. Nagreski, Jr. . . . . Production

10 Years

W. F. Kaiser . . . . . Purchasing-Stores
A. J. Orth, Jr. . . . . Production
B. J. Perry . . . . . Treasury
F. Poorman, Jr. . . . . Production
R. N. Tuttle . . . . . Production

Manufacturing

HOUSTON REFINERY

15 Years

R. J. Clerc . . . . . Research Laboratory
R. Dawson . . . . . Engineering
T. C. Dunagan . . . . . Engineering
C. Freeman . . . . . Engineering
A. J. Hayes . . . . . Engineering
J. T. Kennedy . . . . . Engineering
W. S. Kubircht . . . . . Engineering
R. D. Plaisance . . . . . Engineering
M. M. Wallace . . . . . Engineering
F. T. Wilks . . . . . Utilities

10 Years

B. G. Amerson . . . . . Refinery Laboratory
B. F. Ashmore . . . . . Engineering
B. Baggett, Jr. . . . . Engineering
H. E. Barfoot . . . . . Gas
F. H. Berg, Jr. . . . . Lubricating Oils
J. I. Cherry, Jr. . . . . Refinery Laboratory
E. A. Crawford . . . . . Engineering
G. M. Daniel . . . . . Gas
R. W. Errington . . . . . Engineering
J. A. Gannon, Jr. . . . . Engineering
R. H. Gorman . . . . . Stores
P. T. Hawthorne . . . . . Dispatching
C. H. Hay . . . . . Engineering
J. W. Henderson . . . . . Engineering
G. C. Horton . . . . . Aromatics
W. R. Hulett . . . . . Engineering
L. E. Jackson . . . . . Dispatching
O. B. Johnson . . . . . Stores
J. F. Landrum . . . . . Thermal Cracking
C. B. Maley . . . . . Aromatics
E. L. B. Matthews, Jr. . . . . Engineering
A. R. Middleton . . . . . Engineering
H. L. Mize . . . . . Engineering
F. R. Montgomery . . . . . Utilities
M. H. Muecke . . . . . Refinery Laboratory
C. R. Nobles . . . . . Engineering
P. J. Pendley . . . . . Engineering
J. C. Poole . . . . . Refinery Laboratory
W. H. Roberson . . . . . Dispatching
R. M. Shellabarger . . . . . Engineering
K. Sparks . . . . . Engineering
H. A. Thomas . . . . . Aromatics
J. A. Thomas . . . . . Engineering
D. W. Tibbs . . . . . Engineering
C. H. Welch, Jr. . . . . Refinery Laboratory
J. W. West . . . . . Engineering
H. D. Wilborn . . . . . Engineering
T. Williams . . . . . Thermal Cracking
C. J. Williford . . . . . Lubricating Oils
H. E. Willingham . . . . . Refinery Laboratory
R. B. Wimberly . . . . . Dispatching

MARTINEZ REFINERY

15 Years

F. L. Goddard . . . . . Compounding

10 Years

A. R. Schwartz . . . . . Research Laboratory

NORCO REFINERY

15 Years

T. G. Barreca . . . . . Engineering
F. L. Cambre . . . . . Purchasing-Stores
J. J. Chapman . . . . . Engineering
M. Ferraro . . . . . Engineering
H. D. Landeche . . . . . Engineering
C. J. Landry . . . . . Dispatching
S. J. Montegut . . . . . Engineering

10 Years

E. L. Clouatre . . . . . Engineering
H. P. Foret . . . . . Catalytic Cracking
T. B. Hatfield, Jr. . . . . Distilling
M. J. Landeche . . . . . Dispatching
A. A. Millet . . . . . Engineering

WILMINGTON REFINERY

20 Years

W. C. Maloney . . . . . Distilling
E. C. Sikes . . . . . Engineering
H. S. Taylor . . . . . Econ. & Sched.

15 Years

W. D. Crose . . . . . Engineering
A. H. Williamson . . . . . Engineering

WOOD RIVER REFINERY

20 Years

E. W. Bryant . . . . . Engineering
F. J. Carlin . . . . . Engineering
K. I. Stover . . . . . Engineering
D. P. Ufert . . . . . Experimental Laboratory

15 Years

C. E. Adams . . . . . Engineering
J. L. Cuddy . . . . . Engineering
I. E. Flagg . . . . . Engineering
C. L. Harper . . . . . Engineering
M. F. Jouett . . . . . Engineering
F. P. Kalous . . . . . Engineering
S. V. McClure . . . . . Engineering
J. H. Paine . . . . . Fire & Safety
P. J. Sido . . . . . Compounding
E. F. Suever . . . . . Engineering
L. W. Taylor . . . . . Research Laboratory
H. D. Wall . . . . . Engineering

10 Years

K. G. Blotevogel . . . . . Engineering
W. A. Britt . . . . . Engineering
R. E. Bushnell . . . . . Engineering
R. A. Fields . . . . . Engineering
J. B. Friederich . . . . . Engineering
L. J. Michael . . . . . Engineering
C. L. Taynor . . . . . Engineering
R. J. Warren . . . . . Engineering
C. O. Wooff . . . . . Engineering

Marketing

MARKETING DIVISIONS

20 Years

C. A. Spates . . . . . Baltimore, Sales
J. H. Mack . . . . . Boston, Operations
L. M. Leisinger . . . . . Detroit, Operations
C. R. Sharp . . . . . Los Angeles, Sales
Mary J. Poehler . . . . . Los Angeles, Treasury
G. S. Kester . . . . . Los Angeles, Sales
A. N. DeStefano . . . . . New York, Operations
G. R. Stevens . . . . . New York, Sales
W. W. Adams . . . . . San Francisco, Sales

15 Years

R. L. Bugsch . . . . . Baltimore, Operations
E. W. Beahm . . . . . Baltimore, Operations
J. L. Anderson . . . . . Boston, Operations
H. A. Connor . . . . . Boston, Sales
Agnes F. Farrar . . . . . Boston, Sales
C. George . . . . . Chicago, Operations
Doris E. Watson . . . . . Detroit, Administrative
D. W. Nolf . . . . . Detroit, Sales
D. L. Hart . . . . . Portland, Operations
C. D. Cox . . . . . St. Louis, Operations
C. A. Rosander . . . . . San Francisco, Treasury

10 Years

D. F. Koger . . . . . Atlanta, Operations
G. A. Kunnemann . . . . . Chicago, Treasury
R. H. May . . . . . Chicago, Sales
N. V. Starks . . . . . Chicago, Treasury
S. S. Schultz . . . . . Chicago, Sales
R. B. Nelson . . . . . Cleveland, Sales
H. K. Y. K. Chung . . . . . Honolulu, Operations
R. J. Hukill . . . . . Indianapolis, Operations
L. Heffron . . . . . New Orleans, Operations
J. J. Barry . . . . . New York, Operations
Mary R. DiBlasi . . . . . New York, Treasury
J. B. Wood . . . . . Seattle, Sales

SEWAREN PLANT

20 Years

T. A. Burns . . . . . Depot
P. C. Catano . . . . . Eng. & Maint.

15 Years

A. J. Pepchinski . . . . . Depot

10 Years

J. W. Devald . . . . . Depot
S. R. Higley . . . . . Eng. & Maint.

Pipe Line Department

20 Years

N. F. Coil . . . . . Toledo, Ohio
J. B. Rigg . . . . . Harristown, Ill.

15 Years

Beverly A. Holdcraft . . . . . Muncie, Ind.

10 Years

J. P. Dailey . . . . . East Chicago, Ind.
F. E. Dennison . . . . . East Chicago, Ind.
J. J. Cipolla . . . . . East Chicago, Ind.
S. Virga . . . . . East Chicago, Ind.

SHELL CHEMICAL CORPORATION

15 Years

K. W. Smith . . . . . Dominguez
Z. F. Baczewski . . . . . Head Office
L. E. Mongrue . . . . . Norco
S. J. Anuszkiewicz . . . . . Shell Point
N. M. Nelson . . . . . Torrance

10 Years

M. L. Brewster . . . . . Dominguez
Lillian A. Feiler . . . . . Head Office
G. B. Carter . . . . . Houston
R. T. Haydock . . . . . Houston
D. W. Nooner . . . . . Houston
F. Nunn . . . . . Houston
F. W. Silva . . . . . Houston
F. G. Speer . . . . . Houston
T. O. Talley . . . . . Houston
J. W. Weatherby . . . . . Houston
P. K. Hutchins . . . . . Martinez
J. W. McFarlane . . . . . Martinez
B. E. Tesch . . . . . Martinez
C. R. Simon . . . . . Norco
F. B. Gricius . . . . . Shell Point
J. I. Lee . . . . . Shell Point

SHELL DEVELOPMENT COMPANY

20 Years

A. J. Cherniavsky . . . . . Emeryville
S. V. Heino . . . . . Emeryville
R. C. Morris . . . . . Emeryville
C. L. Slover . . . . . Emeryville

15 Years

P. H. Deming . . . . . Emeryville
T. D. Goodman . . . . . Emeryville
Ann B. Pringle . . . . . Emeryville

10 Years

J. J. Holst . . . . . Emeryville
J. P. Smith . . . . . Emeryville
H. M. Cumming . . . . . Houston
W. A. McLaughlin . . . . . Houston
M. O. Thaemar . . . . . Houston

SHELL PIPE LINE CORPORATION

20 Years

L. E. Smith . . . . . Mid-Continent Division

15 Years

A. L. Cockrell . . . . . Four Corners Division

10 Years

R. A. Hevelka . . . . . Head Office

matters of fact

That's the investment Shell has in facilities such as refineries, chemical plants, oil wells, laboratories, storage tanks, pipe lines and service stations. These are the "tools" we use in research and to produce, manufacture, transport and market oil and chemical products.

Last year, Shell had to spend $266 million to replace and add to these tools. This investment came out of income from operations. Without adequate income, Shell cannot make the investments necessary for survival, let alone for growth. And greater job security and opportunity for all of us depend upon Shell's growth.

$68,000
PER EMPLOYEE

SHELL OIL COMPANY
50 West 50th Street
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4710 Bell
Houston 23, Texas

SPL

COMPETITION in the gasoline market is more vigorous than ever but Shell dealers have strong selling points in Super Shell with TCP*.

With Super Shell's higher octane, this Shell dealer points out, engine knock is no longer a problem. But today's engines need more than anti-knock alone. They also need protection against spark plug "miss."

TCP, a unique additive based upon a phosphorus compound, ends spark plug misfiring by neutralizing harmful deposits that form on the firing ends of spark plugs. Horsepower lost by misfiring can be restored by TCP.

Developed by Shell research, TCP also neutralizes the combustion deposits that can cause a brand-new phenomenon called "piston pounding" experienced in the newest highest-compression engines.

Super Shell with TCP is still the most powerful gasoline *any* car can use.

*Trademark Shell Oil Company

"Super Shell *with TCP*

Adds Anti-Miss to anti-knock"