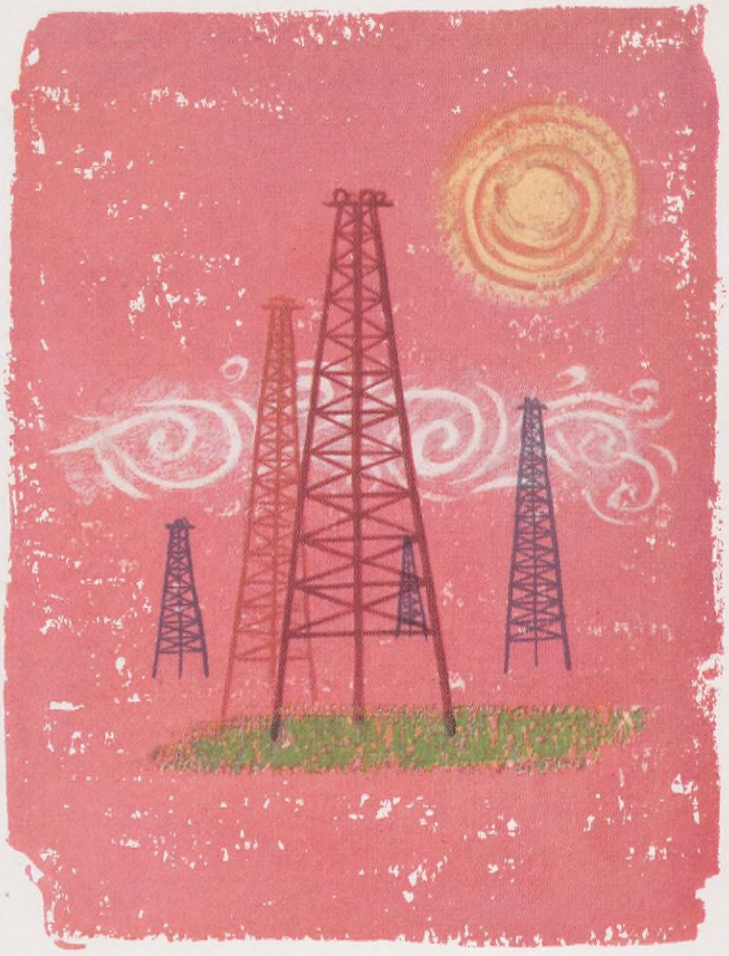
SHELL NEWS

JANUARY 1957

QUIET BUSINESS



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SHELL NEWS

VOL. 25—No. 1 **JANUARY, 1957**

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.

Oil and agriculture are the industries that have made Bakersfield, California, prosperous. Oil derricks rising from flat, fertile potato fields are familiar sights in Kern County.

Oil and Agriculture Have Brought A Century of Prosperity to This California City

RSFIELD

A 320-foot well dug by two brothers with a pick, shovel and windlass near Bakersfield started an oil boom 57 years ago that has made the California city the center of one of the nation's leading petroleum-producing counties.

Since the Elwood brothers' hand-dug well started oil production in Kern County, the region has become the site of more than 50 oil and gas fields—of which Shell has interests in 10. Today more than one-fourth of California's oil comes from this one county.

But oil is only one of the natural resources that have made Bakersfield prosperous. Irrigation has turned the semi-arid region into fertile farmland; minerals such as gypsum and borax have attracted mining interests and manufacturing plants; and, more recently, uranium strikes have started a fresh boom at Bakersfield.

The lure of another metal—gold—attracted the first stampede

QUIET BUSINESS

To the untrained eye, the quiet serenity of the catalytic cracking unit at Shell's Norco Refinery (shown on this month's front cover) gives the appearance that very little is going on there. No furnaces belch fire, no giant machines rattle and clang. There is only a quiet hum of pumps and compressors and an occasional hiss of steam.

Despite its outward appearance of calm, a refinery is one of the busiest places in the nation—turning out scores of products to fill the energy requirements and raise the living standard of the world. And as the twilight fades at Norco, the lights will come on, the refinery will hum on through the night and the next day and the next . . .

Bakersfield's "main street," Chester Avenue, has bounced back from two disasters. A fire in 1889 destroyed most of the section, and a shattering earthquake four years ago necessitated almost complete rebuilding of the business district. No scars of damage remain.

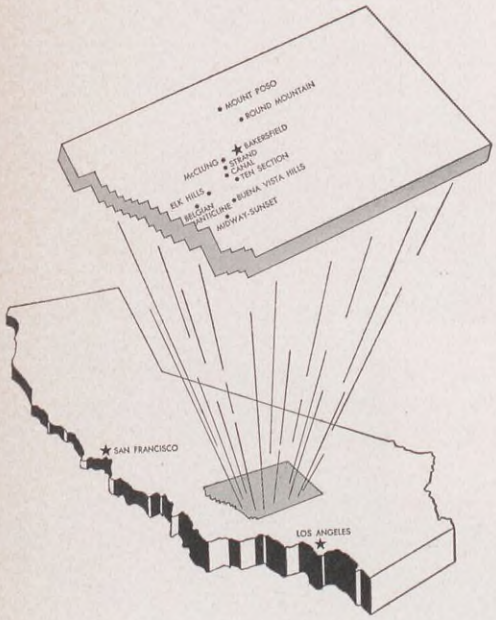
Shell's wells in the Midway-Sunset Field were drilled among the arid, rolling hills of the county's southwestern corner. The old wooden derricks shown here were later removed and pumping units now mark the sites of the wells. The county's terrain varies from flat desert to rugged foothills.

of settlers into the area in 1851, when it was discovered in the Kern River. A year later the U. S. Army built Fort Tejon in the southern end of the county, and within a few years the discoveries of silver, borax and other minerals brought rapid settlement.

Bakersfield, now a city of 150,000, began as the adobe house of hospitable Colonel Thomas Baker, who offered shelter to travelers through the area in the 1860's. The travelers' horses were tethered for the night in "Colonel Baker's field" behind his house. By usage, the field gradually became known as "Bakersfield," and the name was chosen for the town that developed there.

Though gold was the first treasure found in the county, petroleum wasn't far behind. In 1854 the first Kern County asphalt was produced from open pits, and 45 years later the county's first commercial oil well was completed. That was the well dug by

When Shell bought the Coalinga oil fields from California Oilfields, Ltd., the oil town of Oilfields, shown as it looked 20 years ago, was included in the purchase. This was Shell's first oil field in the United States, and many of the original wells still are producing oil.



Bakersfield, center of Kern County, is located in the San Joaquin Valley in south central California, about two hours' drive from Los Angeles. Shell has interests in the 10 fields located in this map of the county.

hand by the Elwood brothers five miles northeast of Bakersfield. Their pick-and-shovel search uncovered apparent traces of oil as shallow as 70 feet; their final 320-foot well opened up the Kern River Oil Field.

The county's oil history since its first well is full of firsts. In 1910 the greatest gusher ever seen in the United States blew out at Lakeview No. 1 in the Midway-Sunset Field. It flowed more than 8,500,000 barrels in nine months. A well 21,484 feet deep (dry) in the Paloma Field once was the deepest in the world, and another — 17,895 feet deep—in the North Coles Levee Field, was the deepest producing well in the world. Also, the Ten Section Field—brought in by Shell—was the first major California oil field whose discovery was based solely on seismic exploration.

Second to oil in economic importance in Kern County is agriculture. Of the more than 200 kinds of crops grown there, cotton is king. State law limits cotton cultivation in the county to the Acala strain only, because cotton varieties cross-breed easily by contact. The Acala strain is highly prized by cotton mills as a toughener in blending fabrics.

Agricultural resources have been developed for generations, but a newly-discovered natural resource — uranium—may prove another source of wealth overnight.

Competition to file claims on possible uranium-bearing land resembles the gold-rush days of 1849. In this boom, the prospectors have the active help of the Atomic Energy Commission. It publicized the results of airplane surveys made with radioactive detectors to map potential uranium areas, and also it gives free testing and assaying services to uranium hunters. So far, few mines have brought wealth to their finders, but the search goes on enthusiastically.

The search for oil in the county and the rest of the San Joaquin Valley also continues. Shell Oil Company's activities in the area are handled by the San Joaquin Division of the Pacific Coast Exploration and Production Area. The Division is divided into five Districts that conform roughly with the different types of terrain found in California's central valley. The West Side District is hilly and rugged. The Ten Section District covers flat, dry valley land. The East Side District includes both flat and hilly land. The Sacramento District is in fertile farmland, and the East Coalinga District is located in foothills.

The East Coalinga District includes the Coalinga oil fields, which Shell bought from California Oilfields, Limited, in 1913. The purchase added not only the wells and their 1913 production of 10,000 barrels per day, but also a complete town—the work camp of Oilfields—to Shell's already-established marketing operations on the Pacific Coast. Less than three years later, the Martinez Refinery was constructed and went on stream using Coalinga crude oil brought to the refinery by the Valley Pipe Line.

The story of oil activities at Bakersfield is a continuing one. One of the most recent steps to find still more oil reserves in the area was Shell's entry into an oil and gas exploration option agreement with the Kern County Land Company. The agreement covers about 15,000 acres starting 12 miles west of Bakersfield, near producing wells at Posuncula.

William Buker, Pacific Coast Area P. & I.R. Department, looks at the statue of Francisco Garces, the first white man to visit the area.

Enterprise In Oil

The New Book Which Tells the Story of Shell in the United States Features Significant Events in the Company's History in Pictures

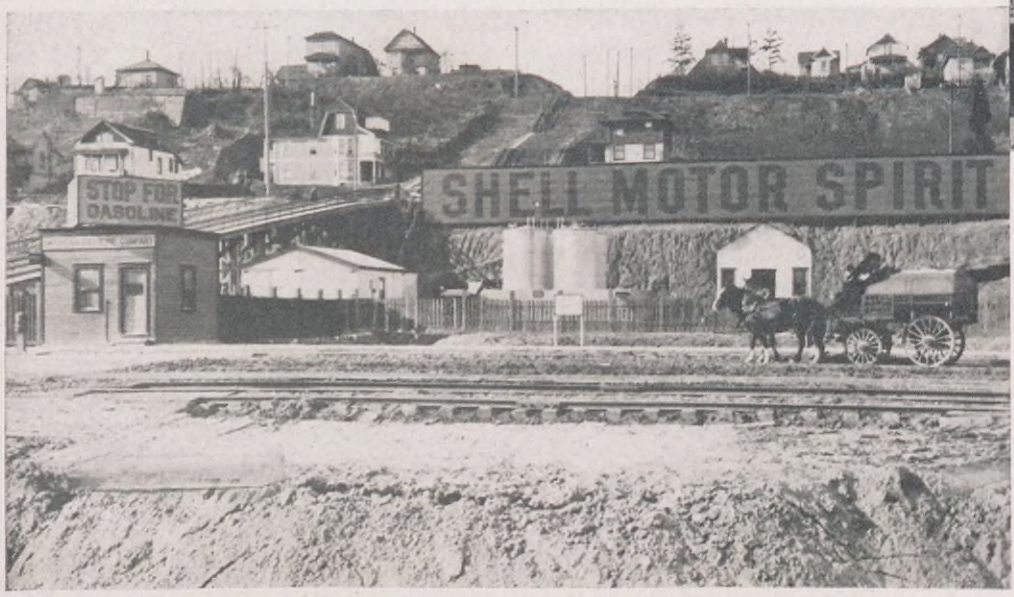
IN September, 1912, a tanker unloaded about 1,800,000 gallons of gasoline from Sumatra and Burma at Richmond Beach terminal 15 miles north of Seattle, Washington. A short time later, a newly organized firm, the American Gasoline Company, sold the first Shell gasoline in the United States.

During the same month, about 2,000 miles away in Tulsa, Oklahoma, a new oil producing firm was organized. It was called the Roxana Petroleum Company of Oklahoma.

These were the beginnings of the Shell companies in the United States. The complete history of Shell in the United States—from its start through its growth into a billion-dollar corporation—is told in Kendall Beaton's new book, "Enterprise in Oil," published this month by Appleton-Century-Crofts, Inc., New York.

The book will sell in bookstores for $7.50. However, the publisher has made copies available to Shell employees for $3. A pamphlet and order form have been mailed to employees' homes; extras are available at each payroll center.

In addition to 690 pages of text, the book features 56 pages of historical pictures. Some of these pictures —showing milestones in Shell's rapid growth in the United States—appear on this and the following pages.



First Bulk Depot

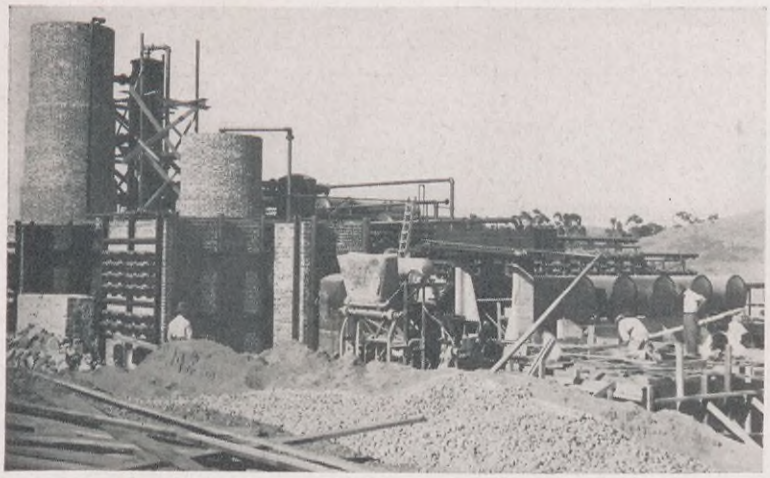
The American Gasoline Company was organized in 1912 to distribute Shell "Motor Spirit" imported from Burma and Sumatra. The picture at left shows the first bulk depot located in Seattle, Washington. Above is D. G. Fisher who was Shell's Division Manager for the Northwest for more than 20 years. In 1913 when this photograph was taken, he was the company's sole sales force.

Early Transportation

The expression "tank wagon" meant just that in 1913. The wagon above, photographed at the Oakland, California, bulk depot, is typical of early Shell transportation facilities.

Coalinga Field

Shell's first important oil field on the Pacific Coast was at Coalinga, California, purchased in 1913. The Coalinga Field's production enabled the company to get started in petroleum refining. The picture above shows a Coalinga crew cementing casing the old-fashioned way.



Martinez Refinery

Two years after the acquisition of the Coalinga Field, Shell of California entered the refining business by building a refinery at Martinez, California. The photo above shows the first Trumble unit under construction in 1915.


"SHELL"
GASOLINE
Clean and Powerful
NEW CARGO GASOLINE PRICES
ON SALE
AT GARAGES
AND
Delivered to Your Home
AMERICAN GASOLINE CO.
Westlake Ave. at Highland Drive
SEATTLE

Newspaper Ad

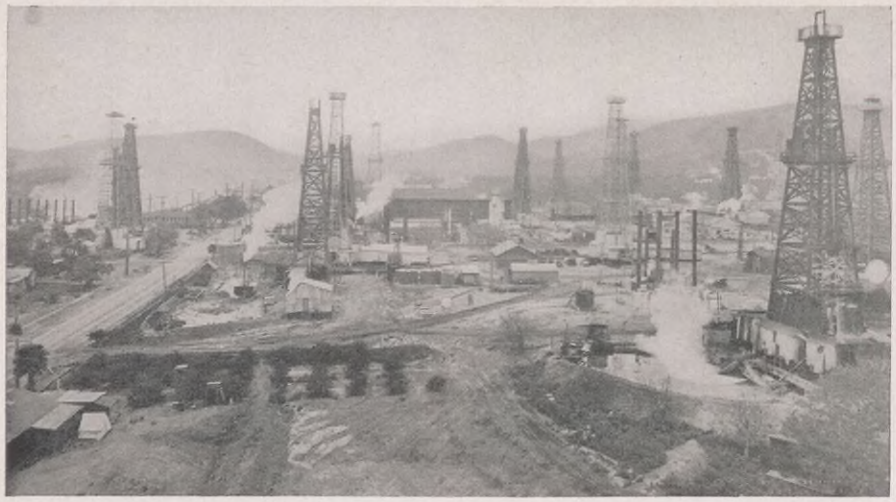
The first newspaper advertisement for the American Gasoline Company (above) was published in the Seattle (Washington) POST-INTELLIGENCER on June 15, 1913.

World's Fair Exhibit

Shell of California (American Gasoline's new name) erected service stations at the gates of the 1915 San Francisco World's Fair.

Refinery Laboratory

The 1916 photo above shows Martinez Refinery's first laboratory. It consisted of two small buildings and the apparatus shown in the foreground—experimental stills and agitators.



Ventura Field

Beginning in 1916, Shell of California spent five years and about $2,500,000 before drilling the discovery well at Ventura, California, a field which has since proven to be one of Shell's most prolific. The picture at left shows the central section of the field in 1925.

Cable Tool Drilling

The photo at right was taken during drilling of Gosnell No. 1 in the Ventura Field in 1919, when old-style cable tools were used.

Wood River Refinery

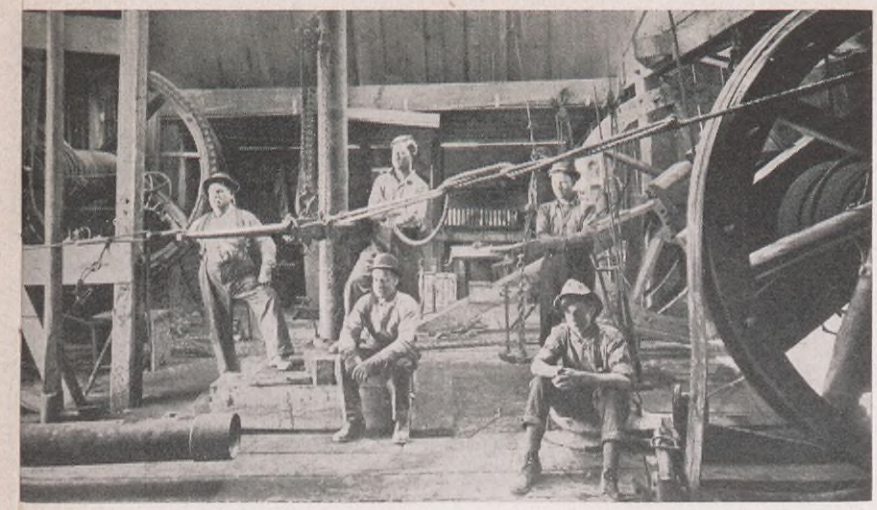
At left is a photo of the Wood River, Illinois, Refinery taken in February, 1920 when the third Trumble unit, center, was being built. Wood River is now Shell's largest U. S. refinery, processing 175,000 barrels of oil daily.

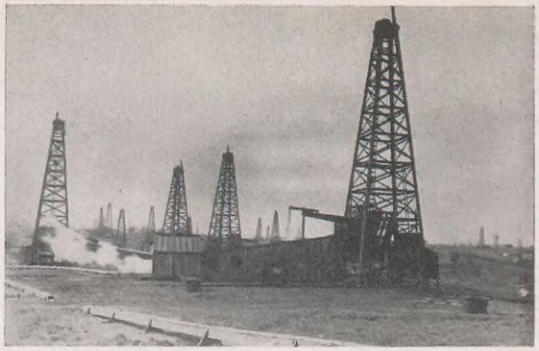
First Drive-In Stations

Above is one of the drive-in service stations operated by the Automobile Gasoline Company of St. Louis. The stations were successful and Shell purchased the company and its 40 outlets in 1929.

Shell in the East

April 19, 1929, is an important day in Shell Marketing history. Above Shell executives pose in front of the service station in Boston where the first Shell gasoline in the East was sold on that date.





Oklahoma Beginnings

As Shell was getting started on the West Coast, another Shell company was organized in Oklahoma—the Roxana Petroleum Company. Above is a 1916 photograph of the Cushing, Okla., Field, where Roxana had production.

Emeryville Laboratory

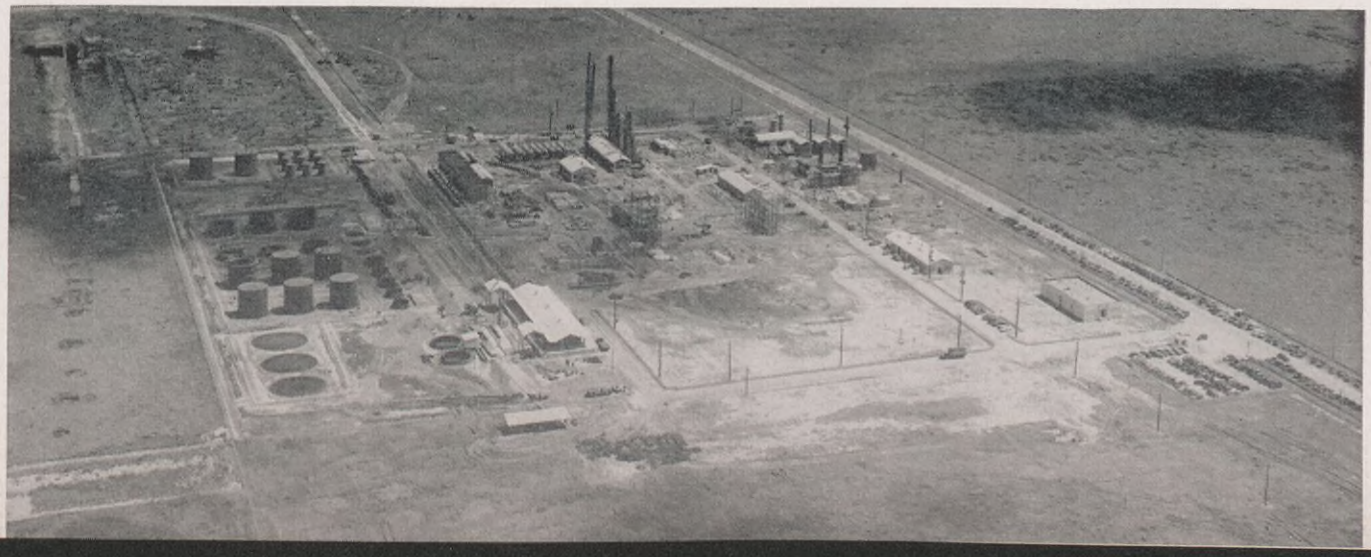
The photograph above shows Shell Development Company's first laboratory at Emeryville, California, as it looked in 1928. The building, with a third story added, is still in use as a part of the complex of laboratory facilities at the present-day Emeryville Research Center.

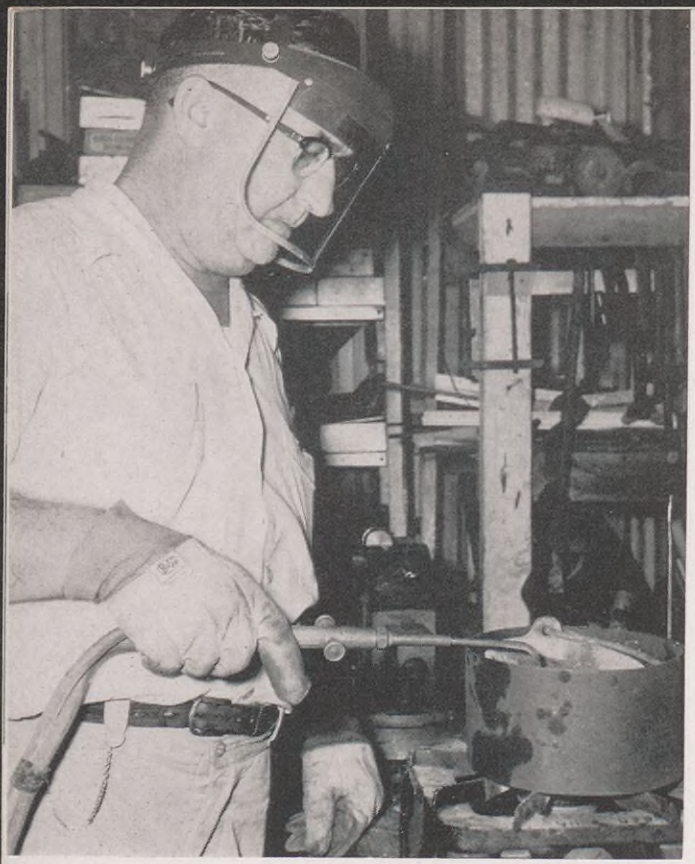
Fueling the Airplanes

One of the first Shell aviation trucks is shown in the photograph below fueling a Fokker monoplane for a flight from San Francisco to Los Angeles in 1928. Shell is now the largest supplier of aviation fuels for commercial airlines in the United States.

Shell Chemical

Below is a photograph of Shell Chemical Corporation's first plant east of the Rocky Mountains under construction at Houston, Texas, in 1941. The plant, which was built adjacent to the Houston Refinery near the Houston Ship Channel, was the first commercial-scale plant to make butadiene from petroleum and was very important to the synthetic rubber program during the early days of World War II.





J. C. Rivers, Shell pensioner in Houston, melts lead to make sinkers in his fishing tackle shop.

A Retired Houston Refinery Foreman Has Turned His Hobby of Fishing Into A Profitable Business

Full-Time Fisherman

WHEN J. C. Rivers retired after 25 years at Shell Oil Company's Houston Refinery, he turned his favorite leisure activity into a profitable business in his back yard.

While he was with Shell, Rivers spent many hours of his free time fishing in the Gulf of Mexico and other nearby waters. Fishing was one of several of his hobbies, all of which made use of his special ability to work with his hands. He also put that special ability to work for Shell.

He joined Shell as an Automotive Mechanic in 1929, when the Houston Refinery went on stream, and was named night Automotive Foreman in 1937. Ten years later he became Craft Foreman of the Automotive Department, and in 1948 was transferred to the Stores Department as Salvage Foreman, a post he held until his retirement in July, 1954. While he was with the Stores Department, he designed a tube beveling machine that enabled Shell to reclaim many flanges which would have been discarded.

During his years as a spare-time fisherman, Rivers noted that Houston had no tackle shop which repaired broken angling equipment as well as sold new tackle. Rivers made up his mind to fill that gap.

After he retired from Shell, he spent about a year enlarging and remodeling a garage in his back yard into shop space, then opened for business.

Rivers not only repairs damaged tackle, but he also makes most of the new equipment he sells. The equipment includes everything needed for every kind of fishing from fly-casting to deep-sea hunts. Since fishing in the Gulf Coast region around Houston is a year-round sport, Rivers gets many bulk orders from fishing camps and companies as well as from individual anglers throughout the year. His repair work increases noticeably, however, when a spell of bad weather shuts down fishing activities for a few days.

In his well-equipped shop Rivers makes about 200 different kinds of leaders, ranging from a 15-pound-test nylon one to a 1,500-pound-test stainless steel one. He also makes swivels and sinkers matching the range of the leaders.

For rods, Rivers buys fiber glass poles from manufacturers and fits his own handles and connecting socket to them. The poles must be individually tailored for pressure and balance (particularly important for accurate fly-casting), and then he makes a wooden handle of ash, mulberry or black walnut for each rod.

When he is not busy with fishing equipment, Rivers builds boats, overhauls and repairs outboard motors and even paints signs for fishing camps.

"All my life I've worked with my hands — building, repairing, experimenting," he says. "The man who has learned to use his hands need never worry about having time on them when he retires."

Rivers, who opened his fishing tackle shop a year after his retirement, shows an assortment of his custom-made leader units. He also repairs fishing tackle and boat motors.

Shell People in the News

Financial Organization

J. H. WHITE

J. H. WHITE, Vice President-Finance, Shell Oil Company, retired on December 31 after 31 years of service.

Mr. White, a graduate of the University of Southern California, joined Shell Oil Company in 1925 as a Clerk in the Treasury Department of the Los Angeles Marketing Division. He moved to San Francisco two years later and in 1933 became Assistant Manager of the Auditing Department. Mr. White held positions of increasing responsibility in the Financial Organization in both Los Angeles and San Francisco, and was appointed Assistant Treasurer in 1940. He was elected Vice President-Treasury in 1944, and in 1949 moved to Head Office in New York as Vice President and Controller. In 1954, he was elected Vice President-Finance.

A. G. SCHEI

A. G. SCHEI has been elected Vice President-Finance, succeeding Mr. White. Mr. Schei joined Shell Oil Company in 1924 as a Clerk in the Treasury Department in Seattle, Washington. He moved to San Francisco in 1930 as an Accountant and in 1935 became Assistant Manager of the Auditing Department. In 1938, Mr. Schei was appointed Manager of the Head Office Treasury Department in New York and a year later became Assistant Treasurer of Shell Oil Company. He became Treasurer of Shell Chemical Corporation in 1948. The following year he was named Treasurer of Shell Oil Company.

C. C. COMBS has succeeded Mr. Schei as Treasurer of Shell Oil Company. Mr. Combs joined Shell Oil Company in 1923 as a service station attendant in California. After holding various positions in the Financial Organization, Mr. Combs was named Assistant Secretary and Assistant Treasurer in the New York Head Office in 1940. From 1950 to 1955, Mr. Combs served on special assignments, including three years as Controller of Shell Oil Company of Canada, Ltd. He was elected Vice President and Treasurer of Shell Pipe Line Corporation in 1955.

C. C. COMBS

A. F. HAGEN has been elected Vice President and Treasurer of Shell Pipe Line Corporation, succeeding Mr. Combs. Mr. Hagen joined Shell Oil Company in 1923 as a clerk at Oilfields, California. After serving in various capacities in the Long Beach, Ventura, San Francisco and Los Angeles offices, he was made Manager of the Los Angeles Treasury Department in 1944. He moved to San Francisco the following year as Assistant General Auditor in the Auditing Department. In 1949, Mr. Hagen was appointed Treasury Manager in the Houston Exploration and Production Area.

A. F. HAGEN

Financial Organization (Cont'd)


R. N. KNOTT

R. N. KNOTT has been named Treasury Manager of Shell Oil Company's Houston Exploration and Production Area. A graduate of the University of Iowa and the South Texas School of Law, Mr. Knott joined Shell Oil Company in 1937 as a Tabulating Machine Operator in Houston. In 1950, he was appointed Auditor in the Head Office Financial Organization and, two years later, was transferred to the Pacific Coast Exploration and Production Area as Chief Accountant in the Treasury Department.

Shell Oil Company Manufacturing Organization


J. L. MILLER


L. T. WILSON

J. L. MILLER has been named Manager of the Montreal Refinery of Shell Oil Company of Canada, Ltd., succeeding L. T. WILSON who has accepted a special assignment with the Shell Company of Venezuela. Mr. Miller joined Shell Oil Company in 1920 as a Gauger at the Wood River Refinery. He held positions of increasing responsibility at the Wood River, Arkansas City and East Chicago Refineries until he was appointed Superintendent-Operations at the Houston Refinery in 1946.


A. J. WOOD

A. J. WOOD has been named Superintendent-Operations at Shell Oil Company's Houston Refinery, succeeding Mr. Miller. Mr. Wood joined Shell Oil Company in 1938 as a Technical Assistant in the Technological Department of the Wood River Refinery. He served in various capacities at Wood River before being named Manager of the Gas Department in 1947. Mr. Wood also served as Manager of the Alkylation Department before being appointed Chief Technologist at Wood River in 1955.


J. W. SHEEHAN

J. W. SHEEHAN has been named Chief Technologist at Shell Oil Company's Wood River Refinery, succeeding Mr. Wood. Mr Sheehan joined Shell Oil Company in 1947 as a Senior Technologist at the Houston Refinery. In 1952 he was named Assistant Manager of the Houston Refinery Gas Department and in 1954 he was appointed Senior Technologist in the Head Office Manufacturing Organization.

Shell Development Company

JAMES TODOROVIC has been named Department Head—Exploration and Production Department in the Patent Division at Shell Development Company's Emeryville Research Center. Mr. Todorovic, who holds a B.S. degree in civil

engineering from the University of California and a J.D. degree in law from the Los Angeles College of Law, joined Shell Development Company in San Francisco in 1939 as Patent Attorney. In 1951, he was appointed Department Head—Petroleum Department in the Patent Division at Emeryville.


J. TODOROVIC

J. H. COLVIN has been named Department Head—Petroleum Department in the Patent Division at Shell Development Company's Emeryville Research Center. Mr. Colvin, who holds a Bachelor's degree in chemistry and mathematics from Louisiana College, a Master's degree in chemistry from Louisiana State University, a Ph.D. from Harvard University, and an LL.B. degree in law from Golden Gate College in San Francisco, joined Shell Development Company at Emeryville in 1945 as a Patent Agent in the Patent Department.


J. H. COLVIN

Shell Oil Company Purchasing-Stores Organization

J. E. BREWER has been named Stores Department Manager at Shell Oil Company's Wood River Refinery. Mr. Brewer joined Shell Oil Company as a Fireman Helper at the Wood River Refinery in 1939. He held positions of increasing responsibility and in 1951 was named Assistant Manager of the Stores Department. In 1955, Mr Brewer was appointed Stores Department Manager at the Anacortes Refinery.


J. E. BREWER

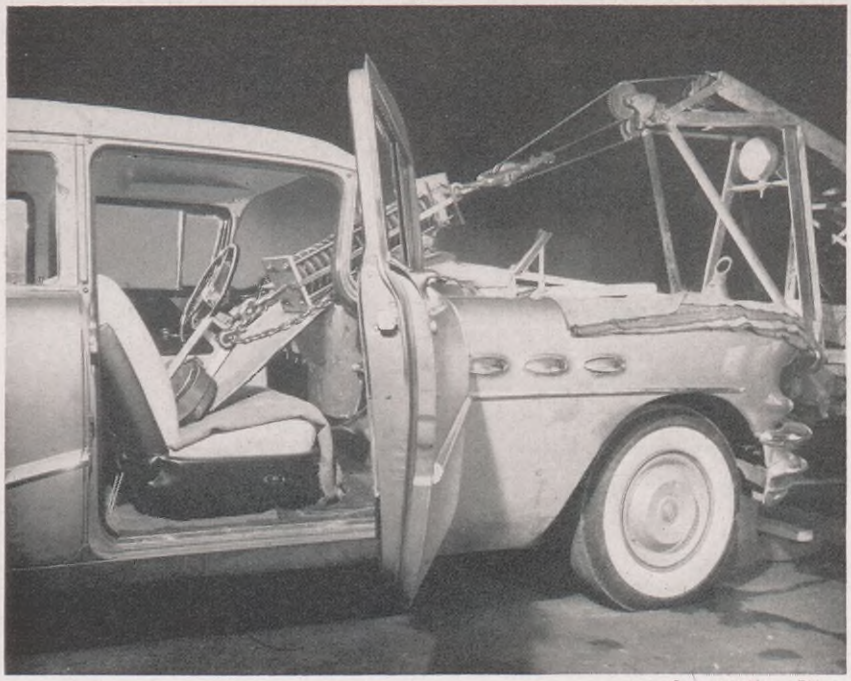
G. A. SHAHAN has been named Stores Department Manager at Shell Oil Company's Anacortes Refinery. Mr. Shahan joined Shell Chemical Corporation in 1941 as a Laborer in the Engineering Department at the Shell Point (California) Chemical Plant. He held positions of increasing responsibility at both Shell Point and Houston and in 1952 was appointed Storekeeper at the Ventura Plant. In 1954, Mr. Shahan was transferred to Shell Oil Company's Wood River Refinery as Assistant Manager of the Stores Department.


G. A. SHAHAN

A. A. Buzzi Heads API Division

A. A. BUZZI, Controller of Shell Oil Company, has been appointed Vice President of the American Petroleum Institute in charge of the Finance and Accounting Division. He is the first Vice President to serve in this capacity for the Institute and also is chairman of the general committee which acts as a governing and policy-making body for 24 committees in the division.


A. A. BUZZI



Consumer Union Photo

Seat belts, recommended by many safety experts to keep passengers from being thrown out in a crash, are tested by machines such as this. Experts say a seat belt should withstand at least 3,000 pounds' loop strength.

Crash-Proofing Your Car

Safety Experts and Automobile Makers Have Joined in Research to Find Whether "Packaging the Passenger" Will Reduce Accident Injuries

A FALL off a building never hurt anyone, the vaudeville comics used to say. It was the sudden stop that did the damage.

The joke antedates the automobile, but only within the last five years has its truth—along with other facts supplied by research – been applied to prevent injuries in auto accidents.

In a car crash, there are two impacts: the car hitting an object, and the car passengers hitting against the automobile interior—or being thrown out. If the passengers could be prevented from striking hard surfaces within the car, research shows the number of injuries in car accidents would be greatly reduced. With those findings has come a new approach to injury prevention, by both safety experts and the automotive industry, to "package the passenger." It's already in evidence in latest model cars.

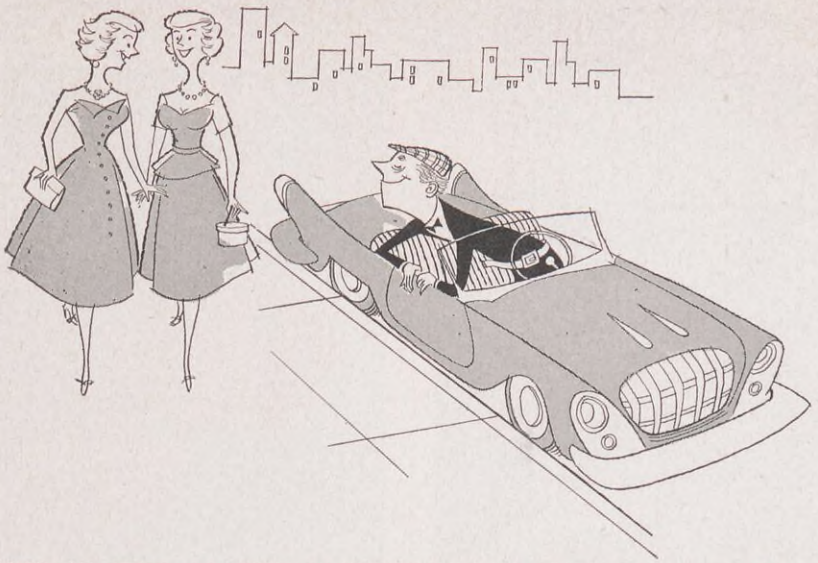
In former years, automobile manufacturers concentrated on safety features, such as power brakes, power steering and passing gears, designed to help the driver avoid accidents. But now car-makers, facing the fact that the "imperfect human element," the rising number of vehicles on the roads, bad weather and other factors, mean accidents in spite of all such efforts, are aiming to eliminate or minimize injuries in crackups.

Eggs can be packed in crates to prevent breakage in shipment; safety experts now are trying to find out whether packaging car passengers actually would result in less accident injuries.

This new approach does not mean any less emphasis on efforts to reduce accidents by safety campaigns. Nationwide campaigns, such as Shell's recent series of driving test advertisements, have proved effective in making motorists safety-conscious. Researchers in the automotive field also are seeking ways to weed out unsafe drivers and make safe drivers even more conscious of road hazards. Shell recently gave a grant to the Center for Safety Education at New York University to study licensing tests and to develop driver education programs.

In the opinion of safety authorities, added emphasis on injury prevention is arriving none too soon. Every year in the U. S. more than one million persons are hurt in highway accidents; almost 40,000 are killed.

The first ideas on how to reduce the injury toll among cars in crashes stemmed from research in airplane safety. In 1942, Hugh DeHaven of the Cornell University Medical School disclosed that his studies of why some persons survived falls that killed others boiled down to two factors: Those who survived landed in positions that spread the impact over a



"HE'S ALL RIGHT—AS LONG AS YOU'RE SURE HIS SEAT BELT IS BUCKLED."

The automobile below was smashed into scrap metal in a head-on collision at 75 miles per hour, but the driver, who was wearing a seat belt, suffered only a bruised abdomen. Safety experts point to such examples in urging motorists to use seat belts in cars to avoid injury.

Consumer Union Photo

Padding on car seats, shown here, and on dashboards and sun visors has been found helpful in absorbing impact when a passenger is thrown from his seat in a collision.

large body area, and their fall ended on soft ground or some other substance that yielded to impact. The U. S. Government believed these principles could be used to reduce injuries suffered by American pilots, and it set up the Cornell Crash Injury Research program to find out.

The program's subsequent recommendations for "packaging" pilots reduced injuries in military aircraft by 80 per cent.

When they saw the results, the armed forces thought it was logical to assume that the same techniques might be applied to preventing automobile accident injuries to military personnel. Late in 1951, the services found that auto injuries cost more casualties than the Korean fighting did; they asked Cornell University Medical College to tackle the task of finding ways to reduce the toll.

Cornell's approach to injury prevention followed the classic method of fighting an epidemic. First came fact-finding, then analysis. The facts were sent in by police, who investigated accidents, and hospital physicians, who gave detailed injury descriptions. Specialists at Cornell then analyzed the data to pinpoint causes of injury and the order of their frequency. The information was then passed on to car makers.

The researchers found that, in general, today's automobile is a relatively safe structure, says J. O. Moore, now director of the Automotive Crash Injury Research. About three-fourths of the persons involved in an auto crash are injured, but only about 5 per cent of them fatally. The most important finding was that a person thrown from a car in an injury-causing crash has twice the chance of being seriously hurt as one who stays in the vehicle. That finding destroyed the myth that "being thrown clear" of the crash was safer than staying in the car.

Two devices developed to keep passengers from being thrown out are seat belts and safety door locks. The seat belts used now are about the same as those found aboard airliners. Fastened to the car structure, they not only hold the rider in, but also lessen the force of impact against the steering wheel, dashboard or windshield in case of a smashing stop. One driver, for example, wearing a seat belt, was in a head-on crash at 75 miles per hour, yet suffered only a bruised abdomen. But the belt's effectiveness still has not been proved, and many persons in the automotive field do not believe they will come into general use.

The force-absorbent steering wheel on this car saved the driver from possible fatal injuries in a crash by yielding under impact.

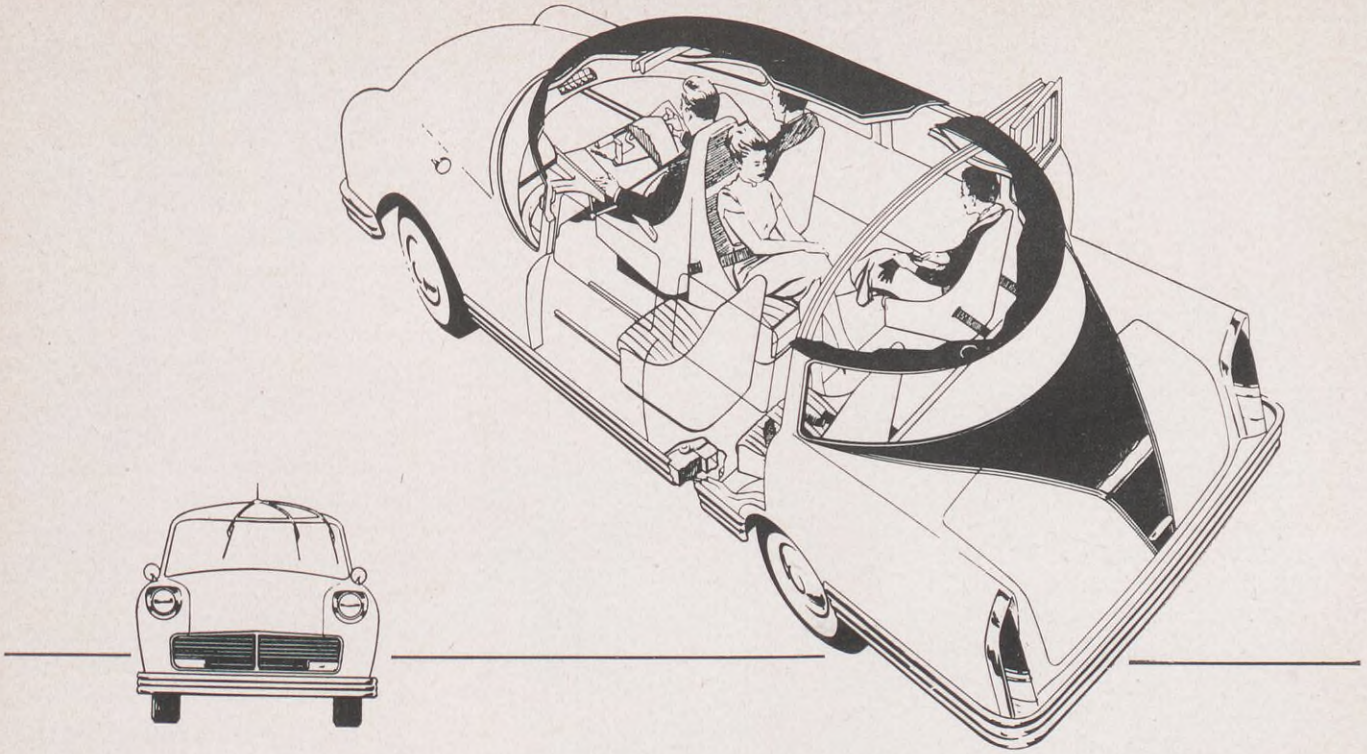
V. J. Ryan, left, and R. S. L. Brown analyze accidents for the Cornell University Medical College Automotive Crash Injury Research.

Safety door locks which will not pop open under a severe jolt are another step—a very recent one—taken by automotive engineers to keep the rider inside. The Governors Conference on Highway Safety has recommended laws to make them standard equipment on all cars. The Automotive Crash Injury Research now is compiling data on the effectiveness of both seat belts and safety locks, but has not published enough data for definite conclusions on the effectiveness of either.

The Cornell research pointed out the parts of a car interior which needed changes to make them less lethal. Automotive manufacturers now are conducting their own tests to get information needed to re-design such potentially deadly features as windshield structures, instrument panels and steering wheel assemblies.

Safety experts now recommend that the instrument panels and sun visors be padded with a type of plastic which yields to impact and does not spring back into its original shape.

Engineers have designed new steering wheels which yield slowly under impact, spread the blow over a large area of the chest, and help keep the driver from smashing into the steering column. A collapsible steering column is another idea to reduce driver injuries, but engineers have not



A prototype of an automobile including many safety design principles is being built by the Cornell Aeronautical Laboratory and an insurance company for exhibition purposes. The cutaway shows the radically different seating arrangement, each seat with a safety belt, and a lever steering mechanism. The car front, at left, features recessed headlights.

yet been able to develop a telescoping column which also is practical for precision steering.

However, the steering wheel may be on its way out. It has been replaced by levers in a full-scale prototype of a "crash-resistant" automobile being made at the Cornell Aeronautical Laboratory in Buffalo, New York, which incorporates advanced ideas in safety design. The car is not intended to be a model for future mass production; it is intended only to show the public and auto manufacturers the most recent safety ideas in automotive design.

The substitution of levers for the steering wheel is a good example of safety design without loss of any mechanical advantages. The steering mechanism is covered with a chest cushion to protect the driver in case of an accident, and passengers in the front also are protected by padding.

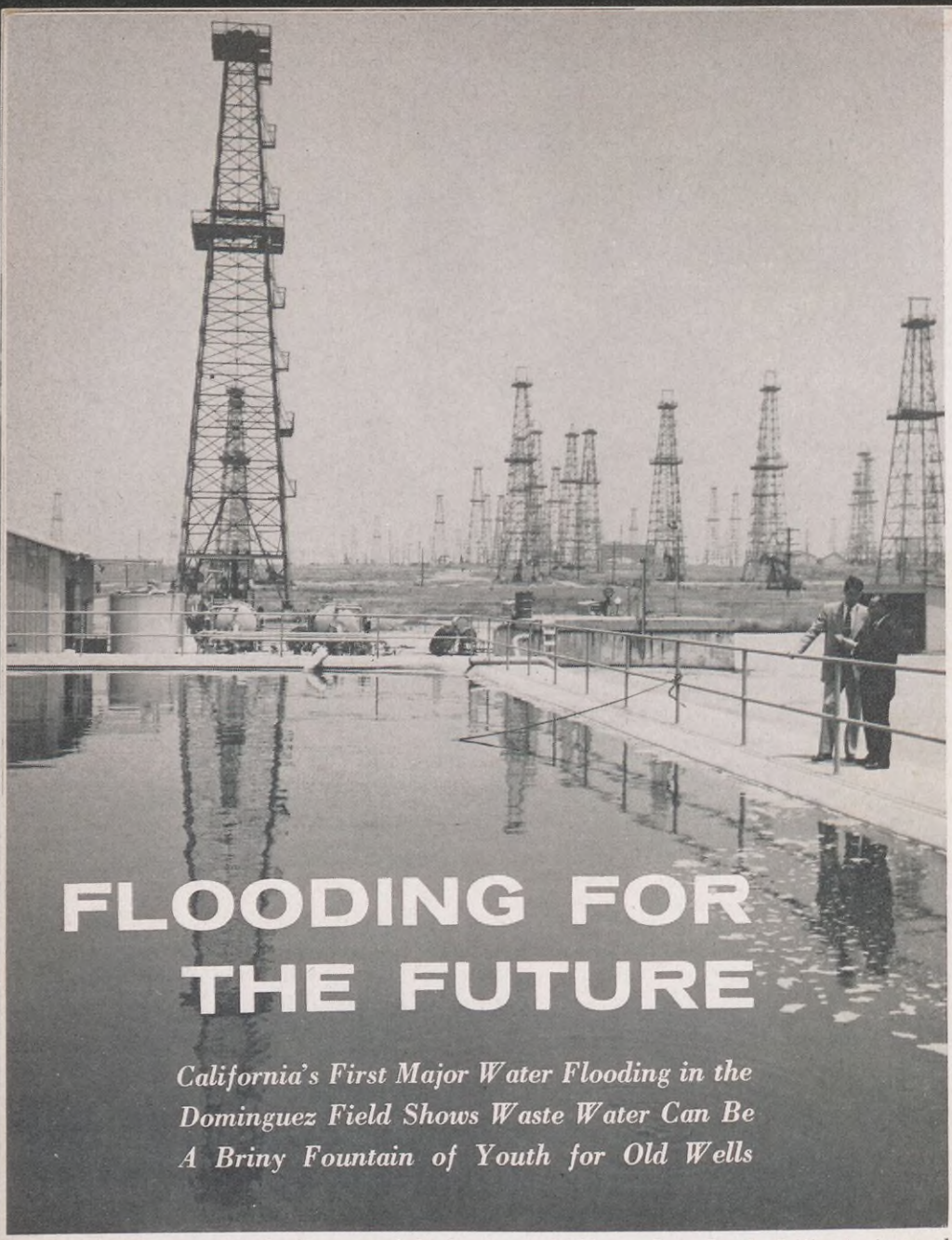
The entire seating arrangement in the prototype also has been drastically altered. All seats are of the "bucket" type found in aircraft, and all are equipped with seat belts. The seats are arranged in a manner resembling a railroad parlor car.

The doors on each side of the car are hinged like a telephone booth door and open on rollers at the top and bottom. Safety locks keep them closed even under terrific impact. The entire roof is padded, and reinforced to withstand one and one-half times the car's weight, in case of overturning.

The automobile is expected to be ready for exhibition next fall, and some of its safety features may appear in commercial cars in the near future.

But even if features such as the seat belt and safety locks are proved to be helpful in preventing injuries, safety specialists still must solve two other major problems before the new devices would become widely effective. One is educating the public to take advantage of the devices. Many persons are not convinced, for example, that seat belts are worth the extra time and trouble they require for daily use, particularly in city driving. The other problem is lack of standardization of safety equipment. Experts say a seat belt, for example, should be able to withstand a minimum of 3,000 pounds' loop strength, and a 45-pound pull should unlatch the buckle with the belt under 125-pound pressure. But one testing firm found 26 of 39 seat belts on the market unable to withstand a 3,000-pound pull. A defective belt would be of little help.

Safety experts are optimistic about the future. E. R. Dye, head of the Cornell Aeronautical Laboratory's Safety Design Research Department, says "If proper attention is paid to alleviating the effects of an auto crash, the injury and death rate might be decreased by as much as 50 per cent." That would mean saving 20,000 lives every year. But no safety device will eliminate accidents. The best safety guarantee still is the man behind the wheel who realizes he has his life in his hands.



FLOODING FOR THE FUTURE

California's First Major Water Flooding in the Dominguez Field Shows Waste Water Can Be A Briny Fountain of Youth for Old Wells

Water used in flooding part of the Dominguez Field near Long Beach, California, is stored in open pits such as this one before being injected into the formation to recover more oil.

IN the land of the Golden Gate and Silver Screen, where salt water's usual use is for lapping on beaches, Shell and two other companies are using the once-troublesome brine produced with oil from some wells to get more oil out of the ground.

The scene of the operation is two leases in the Dominguez Field near Long Beach, California. The three operating companies involved are Shell Oil Company, Union Oil Company and the Dominguez Oil Fields Company. Though production from one of the field's eight producing zones was still quite profitable, it had been declining for years; so when research indicated water flooding would get even more oil out, the three companies joined in the venture. It was California's first major water flood project, and it is a success.

Production from the Dominguez Field's flooded zone now is averaging 2,400 barrels per day. Engineers estimate production would have been only 700 barrels without flooding. Since flooding was started in July, 1954, more than 1,400,000 barrels have been pushed from the pool—about 800,000 barrels more to date than would have been recovered without flooding. This greater production is expected to continue from the flooded zone in the future.

Water flooding is one of several ways of putting pep back into weary wells to get the maximum amount of oil. Nature usually deposits oil with a layer of gas above it or water beneath it, or both. The pressure of the gas or water forces oil to the surface when a well is first opened, but in most cases natural pressure eventually dissipates and oil men then must rely on pumping to get the oil out. But the day comes when even pumping won't produce. When that happens secondary recovery methods, such as water flooding, come into play.

Oil men know that natural pressure and pumping combined may get only 25 to 30 per cent of the oil out of any pool. Engineers know that secondary recovery can get as much as another 25 per cent out of the pool.

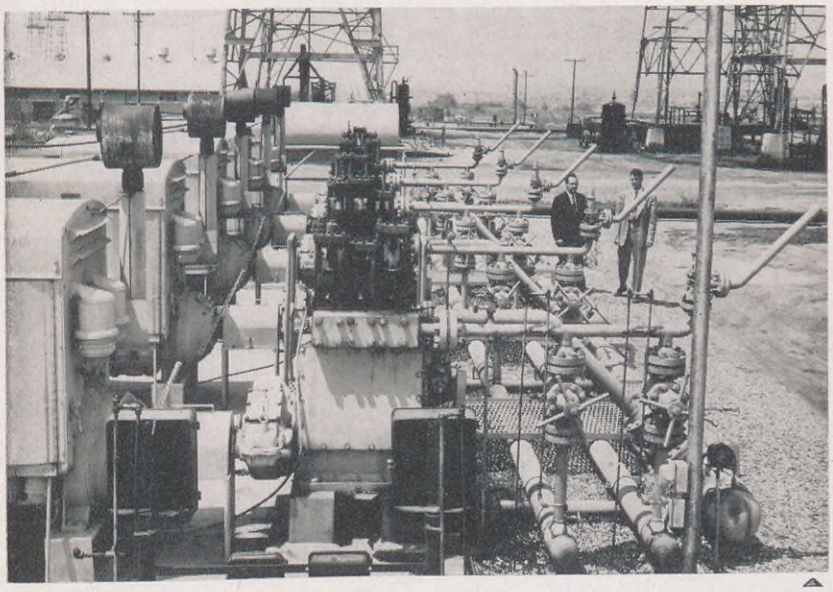
To put the punch back into an oil pool with secondary recovery, engineers try to duplicate nature by putting pressure on the oil that is still in the ground. Sometimes gas is pumped back down into the formation to force out the oil. In water flooding, water (usually produced previously with the crude oil) is returned under pressure to shove out more oil.

The use of the salt water that came from the wells also helps solve the problem of disposing of the brine. Using it to bring in more oil is the ideal solution.

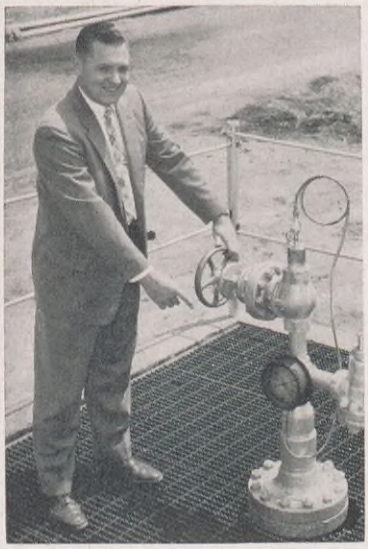
But even field-produced salt water must first be treated chemically and run through filters before it is used, to remove impurities such as sand, scale and microscopic plant and animal life that could clog the formation or equipment. So far almost eight million barrels of water have been treated and injected at Dominguez, and more is going underground at

A pumper tightens a well packing in the Pacific Coast Exploration and Production Area's Dominguez Field at California's first big water flood project.

The 17 Dominguez Field injection wells, such as the one being inspected here by District Production Foreman M. S. Eubanks, left, and Pumper A. I. Fouchaux, are placed to force oil toward the field's 16 recovery wells.



This high-pressure, multi-pump unit injects 10,000 barrels of water each day into the Dominguez Field. Union Oil Company, which participates with Shell and the Dominguez Oil Fields Company, Limited, in the project, operates the unit.



W. M. Marshall, Exploitation Engineer of the Pacific Coast Exploration and Production Area, points out the pressure gauge on a Dominguez Field injection well.

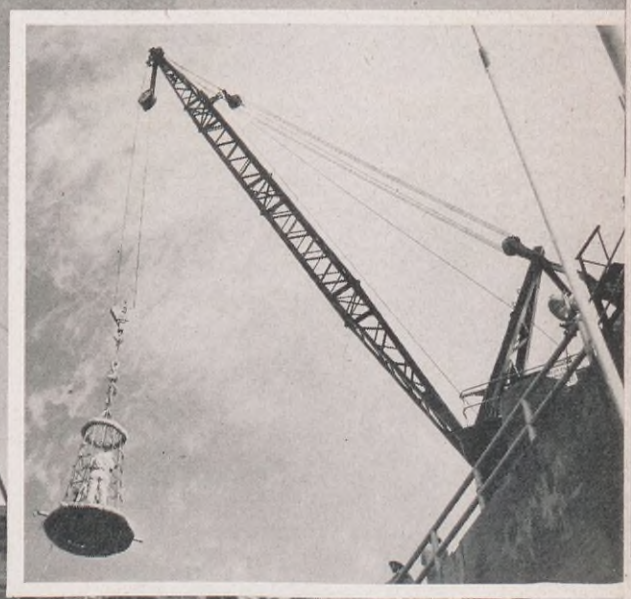
the rate of 10,000 barrels per day.

First Shell and Union engineers built a water barrier between the two companies' leases by injecting water through four wells drilled along the property line. This assures them that no oil belonging to one company migrates to the wells of the other. Then engineers decided to set up 16 producing wells and 17 water injection wells over the 120 acres covered by the two leases. Thirteen of the 17 injection wells were oil producers that were converted; four new injection wells were drilled. Taking 13 wells out of production saved the cost of drilling that many injection wells, but it also meant losing production that wouldn't be made up unless the water flooding were successful.

The producing and injection wells were set up to form a "five-spot" plan — four injection wells surrounding each producer. The water pumped more than 4,000 feet underground into the oil sand through the injection wells forms a wave front that washes the oil off the sand and forces it toward the producing wells.

The total cost of the Dominguez water flooding was $1,500,000, including the cost of the new wells, pumping equipment and other facilities. The stepped-up oil recovery is proving this to be a good investment, and the profitable results have led Shell to consider more flooding in deeper zones at Dominguez and other West Coast fields.

life on an Offshore Rig



THE OFFSHORE CO. NO.54

The Crew of Offshore Rig No. 54 Say That Working in the Gulf is As Pleasant As on Land Because of Modern Conveniences, Good Food and Extended Time Off

As the boat approaches the rig which is standing on "stilts" in the murky water of the Gulf of Mexico, shiny helmets of men working on the decks are seen reflecting the afternoon sun. For as long as 10 days at a time, the massive structure serves as the home, the place of work and the club for 30 men, all working toward a single goal—to find oil in the land below the sea.

After an eight hour trip from the New Orleans Exploration and Production Area's Marine Division Landing on the Atchafalaya River at Morgan City, Louisiana, the crew boat, loaded with supplies and a relief crew, ties up to the "legs" of the offshore drilling rig which are firmly anchored in the ocean floor—65 feet below the surface of the water.

The men climb into a rope cage, three and four at a time, and are hoisted aboard the rig by a crane. When supplies are being hauled aboard at the same time, the men ride the outside perimeter of the cage with their safety belts fastened to the rope.

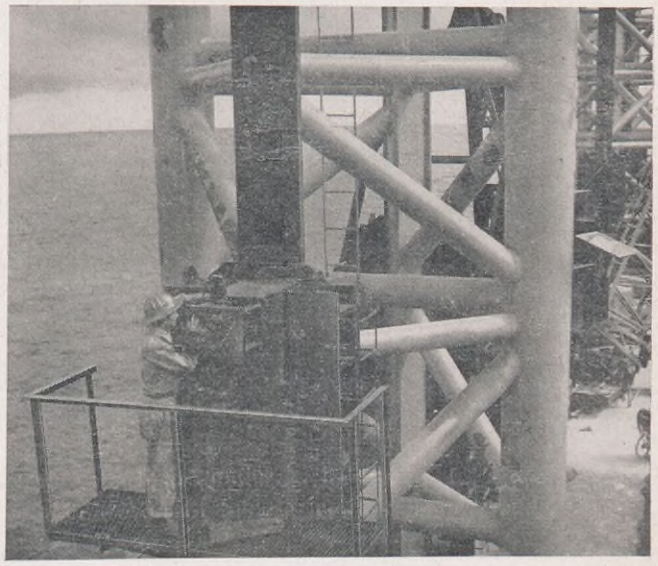
The relief crew is going on duty for a 10-day stretch away from home, but no one seems to mind it. Several reasons make work aboard the offshore drilling rig inviting. First, the men can walk a few feet from where they work, throw a line over the side and catch a few fish. Also during leisure hours, they can watch television, play cards or write letters in a comfortable lounge. Then the cooks on board serve good food — including plenty of chicken and steak. The eating, sleeping and recreation quarters are air conditioned. But best of all, after 10 days on the rig, they get five full days off at home.

Offshore Drilling Rig No. 54—that's the official title of the steel giant—is owned and operated by the Offshore Company and has drilled two producing wells on a federal lease in Block 188, jointly owned by Shell and the Humble Oil and Refining Company. The wells are located 45 miles south of Eugene Island, the nearest land. They are Shell's farthest offshore producers.

The Offshore Company crew for each 10-day period includes a toolpusher, two six-man drilling crews, two roustabouts, a crane operator, a welder, an electrician, a five-man jack crew (which operates the huge hydraulic jacks that hold the rig in drilling position) and seven stewards, including four cooks. The drilling crews and cooks work around the clock on 12-hour shifts, from 6 a.m. to 6 p.m. and 6 p.m. to 6 a.m. The rest work regular day shifts.

Since Shell is the operator on the jointly-owned lease, three Shell employees are on the rig at all times—a toolpusher, an exploitation engineer and a clerk. They work seven days and are off seven days.

Men and supplies are loaded and unloaded in a rope cage by a crane on the offshore rig. When supplies are loaded, such as the pipe shown in the right picture, the men attach safety belts to the rope and ride outside the cage.



A jack crew member adjusts a hydraulic jack on one of the rig's eight "stilts" or pilings, each 223 feet long and 12 feet wide.

Standing beneath the derrick on Rig 54 above are, left to right, Shell Toolpushers I. D. Calk, Eli Trahan and Offshore Company Toolpusher C. V. Harris.

Production Clerk P. H. Lyons points out the distance between Morgan City, Louisiana, and Rig No. 54. It is approximately 30 miles from Morgan City down the Atchafalaya River to the Gulf and an additional 45 miles of open water to the rig.

The men enjoy watching television during leisure hours in the rig's air conditioned recreation quarters.

Life on an offshore rig is similar in many ways to life aboard ship. Although there are no bells to signal the time, the clock plays an important part in the daily schedule. Both the work and the meals are always on time. The driller is responsible for his men and must see that they are awakened in time to be on the job.

Like sailors, the crew is hummed to sleep by the muffled sound of engines. Their sleeping quarters are located on the upper deck of a structure built over the engine room at the forward end of the barge (the end opposite the derrick). The mess hall, recreation room and offices are on the lower deck of the structure.

Some of the men grow beards while working on Rig No. 54—a custom typical of sea life. But the beards only last for six or seven days, for seldom do the men leave the rig for home without shaving.

Also like sailors, the men wash their own work clothes. But they use a modern automatic washer to do the job and dry their clothes in a special laundry room.

The rust and corrosion of the sea must be fought constantly on Rig No. 54, as it is on sea-going vessels. The scraping and painting of the steel decks and superstructure are never-ending jobs. The roustabouts do most of this maintenance work, but the roughnecks help when not busy otherwise.

In addition to safety precautions observed on all drilling rigs, Rig No. 54 has a monthly fire and abandon ship drill. A general alarm, similar to ones used on ships, signals the drills. Only once has the crew had to abandon the rig, and that was when Hurricane Flossie roared through the area last September. But they had ample time to secure the rig and get ashore before the big wind hit. The only loss was a radio aerial. A stand-by boat is tied to the rig at all times to pick up any men who fall overboard. So far no one has accidentally fallen into the water, but one man jumped in to avoid

At the end of a day's work, crew members, at left, read and write letters before retiring in their air conditioned sleeping quarters.

Crew members, above, unload fresh milk from a delivery boat. The men on Rig No. 54 drink about 80 gallons of milk weekly.

The cooks, left, are preparing one of their most popular dishes — fried chicken.

Meals are the most popular periods aboard Rig No. 54 and the men always arrive in the mess hall on time with hearty appetites.

being hit by a piece of equipment. The boat picked him up and he was unhurt.

Despite the similarities to life aboard ship, the men can't get what sailors call "sea legs" by working on Rig No. 54. When the rig is being moved from one location to another, its heavy weight keeps it from being buffeted by waves and the motion is hardly noticeable. And when the rig is hoisted on its piling in drilling position the waves pass freely under it and there's no movement at all.

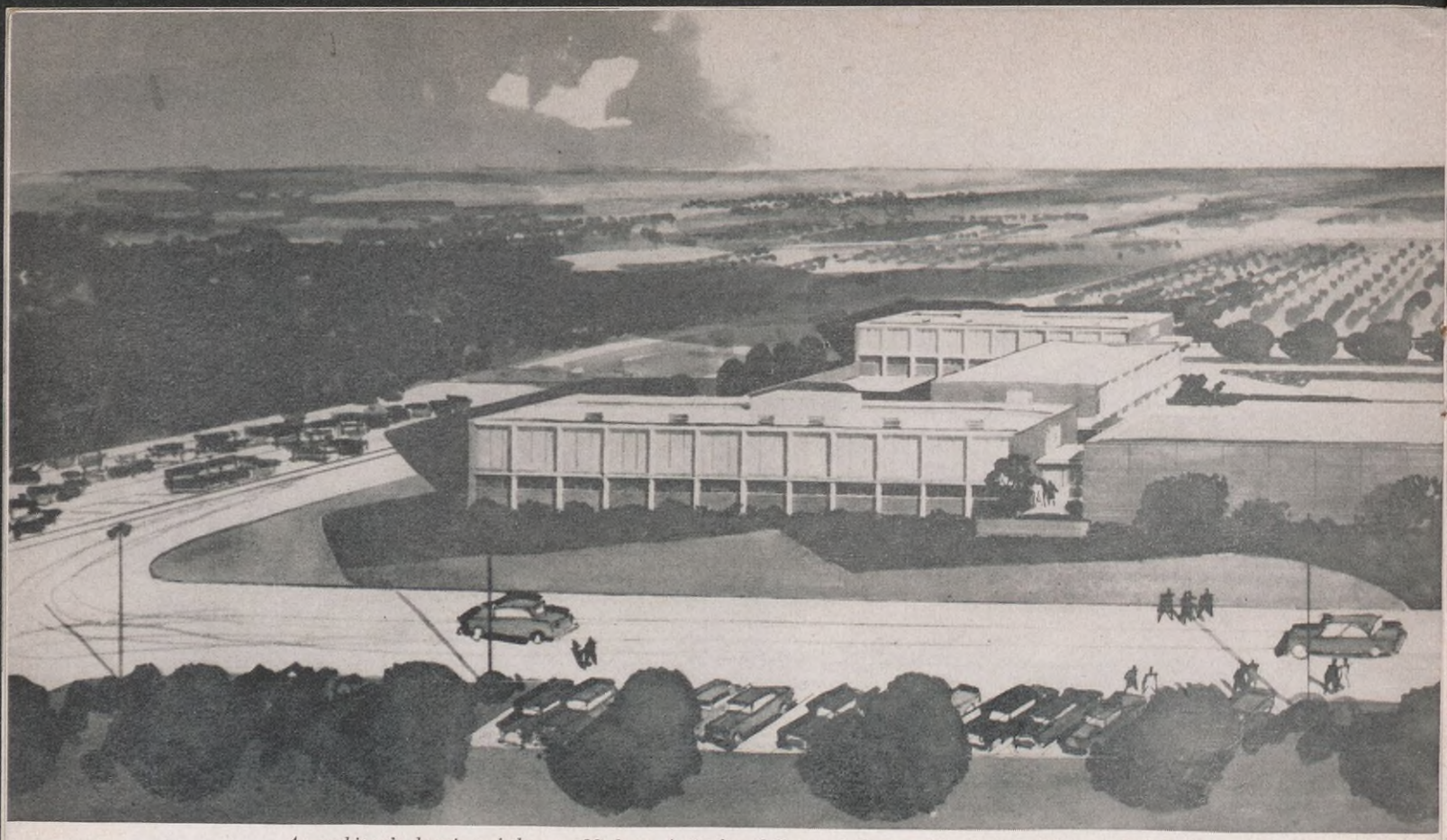
Hard work and the sea air whip up hearty appetities, so meals are the most popular periods of the day aboard the rig. The chief steward makes up the menus, keeping in mind the likes and dislikes of the men. At the top of the list of favorite foods are steak and chicken, which are served often. Milk is also a favored item on the menu. Each week the crew drinks 80 gallons of homogenized milk and 36 quarts of buttermilk.

Each month the men aboard Rig No. 54 consume more than $2,500 worth of food. It is supplied by a supermarket in Berwick, Louisiana, which makes deliveries by boat twice a week. A 10-day reserve supply of food is always kept on board in case of bad weather.

Four meals are served daily on the rig—breakfast, lunch and supper, plus a midnight lunch for the men working the night shift. Except for brief periods when it is being cleaned after meals, the mess hall is open so that the men can come in for coffee, milk, soft drinks, fruit and doughnuts.

The arrival of the mail in mid-afternoon is another popular time of day. The crew boat leaves Morgan City at 6 a.m. daily with the mail and whatever supplies might be needed.

Although the offshore rig surrounded by miles of Gulf water might look from a distance like an isolated and uncomfortable place to work, the crew says life on Rig No. 54 is far from disagreeable. As one crew member said, "It's almost like working at home."



An architect's drawing of the new Modesto Agricultural Research Center. The three buildings and the greenhouses outlined on the

MODESTO

New Office and Laboratory Buildings Are Being

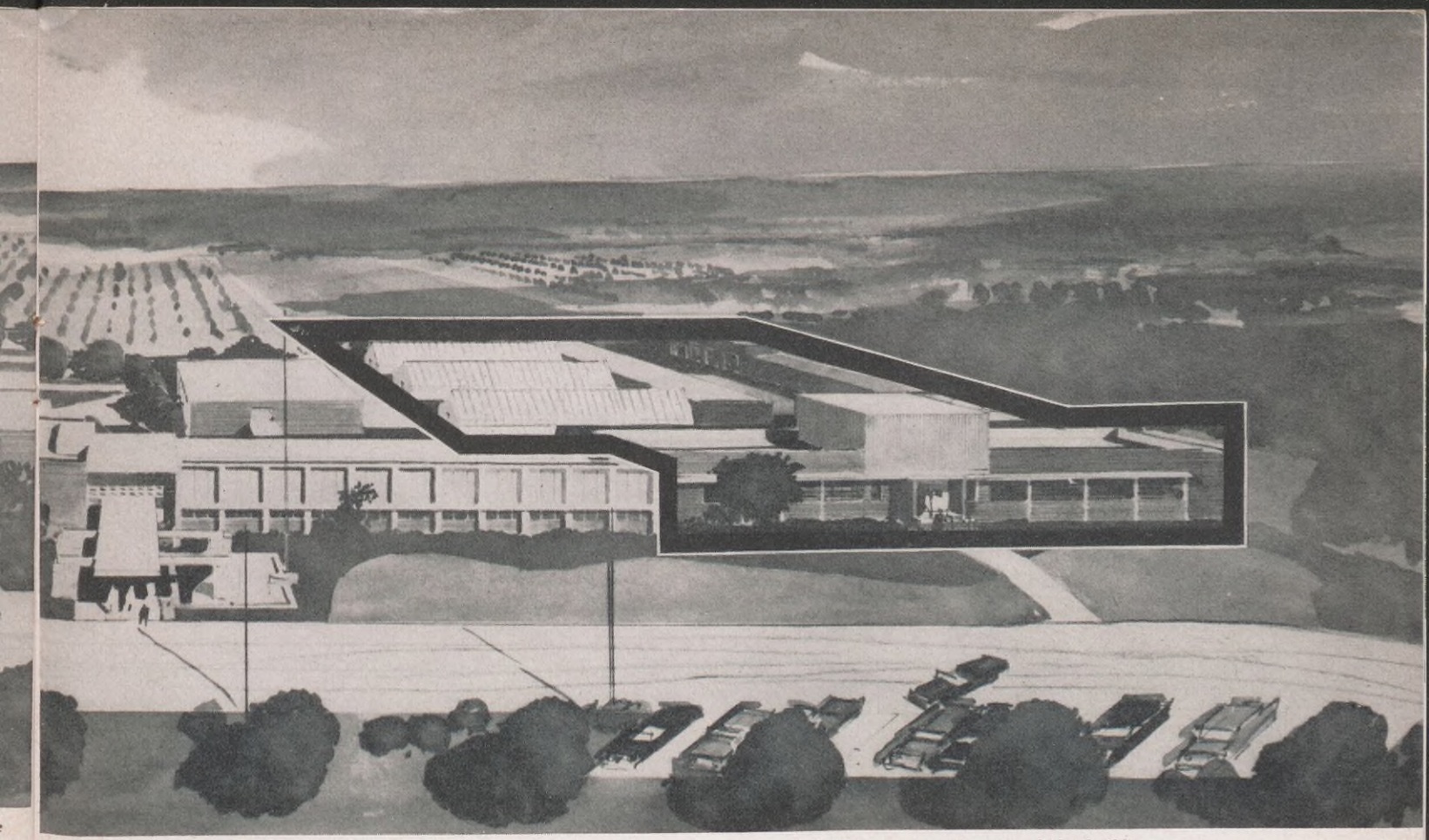
SHELL Development Company will move its Denver Agricultural Research Laboratory to Modesto, California, late this year to consolidate its agricultural research activities. A million dollar construction program has been started at Modesto for laboratories and office buildings to house personnel being transferred from Denver. Six new buildings will be added to the present group at the Modesto Agricultural Research Center.

When the buildings are completed this fall, more than 50 Shell families will be moved into the Modesto area from Denver and other Shell laboratories. A staff of more than 100 people will work at the combined research center which will rank among the best-equipped and most extensive industrial agricultural laboratories in the world.

At the present time, Shell Development Company's agricultural research is divided between the Modesto and Denver laboratories. Denver is responsible for the synthesis of all biocides, residue and analytical control, entomology and over-all administration. Modesto is responsible for research on plant physiology, plant pathology and nematology; for agricultural engineering and the operation of a 142-acre experimental farm.

Administration of the new facilities at Modesto will be under S. H. McAllister, Director of the Agricultural Research Division of Shell Development Company, now located at Denver. T. R. Hansberry, Manager of the Modesto Laboratory, will direct biological research. K. E. Marple, Manager of the Denver Laboratory, will direct the chemical research group and F. E. Feichtmeir, Manager of Product Application Research at Denver, will direct this work at Modesto.

The Modesto consolidation is another step for Shell in a long series of pioneering efforts in the agricultural field. The first Shell agricultural products were fruit tree spray oils for orchards on the West Coast. One of the earliest manufacturers of these products, Shell put them on the mar-



right are the present structures at Modesto. Shell's experimental farm is located on both sides and to the rear of the buildings.

EXPANSION

Constructed in California to Consolidate Shell's Agricultural Research

ket in 1915.

The first high-pressure synthetic ammonia plant west of the Mississippi was built by Shell Chemical Corporation in 1929 near Pittsburg, California. The output of this plant was first sold as industrial ammonia and ammonium sulphate fertilizer.

Shell started experimental work on the direct application of anhydrous ammonia into irrigation water in 1932. This process, known as Shell Nitrogation Service®, was introduced commerically in 1934. In 1942, the Company introduced the direct injection of ammonia into the soil—Shell Nitrojection Service®.

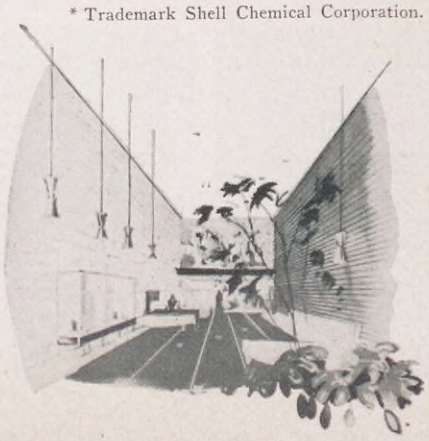
In 1938, Shell started distributing insecticides and spray oils under its own label. At the same time, research was initiated at the Martinez Refinery and Shell Development Company's Emeryville Research Center to seek new products and applications in the agricultural field.

Plans were initiated in 1944 for the purchase of an experimental farm and the construction of the present agricultural research laboratory at Modesto. During the same year, Shell introduced the first effective nematocidal soil fumigant, D-D®.

Eight years later, Shell acquired the facilities of Julius Hyman Company at Denver, including chemical and entomological research laboratories and manufacturing facilities for production of the chlorinated insecticides—aldrin and dieldrin. Subsequently, Shell developed endrin and PHOSDRIN* insecticides and NEMAGON* soil fumigant.

In 1953, a second Shell ammonia plant went on stream at Ventura, California. Last November a new plant was completed for the production of urea, the first on the West Coast. The urea will be added to Shell's line of ammonia fertilizers.

* Trademark Shell Chemical Corporation.



They

H. JACOBS

HARRY JACOBS, Executive Assistant to the Vice President, Marketing, retired December 31st after 46 years of service with Shell.

Mr. Jacobs had more years of service than any other Shell employee. He was born in London, England, and started his Shell career in the United States in 1923 with the former Roxana Petroleum Company at Tonkawa, Oklahoma. He became Manager of Shell's Marketing Division in Tulsa, Oklahoma, in 1928, Assistant Manager of St. Louis General Sales District in 1931, and Assistant Sales Manager, Marketing-Head Office in 1940. Mr. Jacobs became Sales Manager in 1948 and later that same year was appointed to the position he held at his retirement.

Harry Jacobs has earned an outstanding reputation throughout the Shell organization in the field of petroleum products pricing—a field which requires an encyclopedic knowledge of the petroleum market and the competitive forces which govern it. Harry's many friends in Shell wish for him many years of successful retirement.

P. H. ("BULL") DURHAM retired on December 31st after 33 years of Shell service.

Mr. Durham joined the Shell American Petroleum Company in 1923 as Sales Manager at Kokomo, Indiana. In 1929 he was named Manager and Assistant Treasurer, and in 1934 he became Manager and Vice President of Shell American. Mr. Durham had been Division Manager of the Shell American Division at Kokomo since Shell's acquisition of that Company.

"Bull" Durham provided much of the inspiration and leadership which enabled Shell American to become an important marketing factor in the northwest counties of Indiana. His many friends in Shell wish him health and happiness for many years to come.

P. H. DURHAM

J. H. ANDREWS
Martinez Refinery
Dispatching

C. W. ARNOLD
Chicago Div.
Operations

H. BARNETT
Wood River Refinery
Engineering

A. M. BELDEN
Pacific Coast Area
Production

A. H. BENSON
Chicago Division
Operations

L. H. BRETT
Wood River Refinery
Compounding

S. E. DeVORE
Wilmington Refinery
Engineering

H. A. DOHRENWEND
Head Office
Personnel

L. E. FLEMING
New Orleans Area
Production

C. N. FREEMAN
Houston Area
Gas

P. J. GAUTHREAUX
New Orleans Area
Production

S. J. HAMBLY
Pacific Coast Area
Production

Have Retired

J. R. HARMAN
Pacific Coast Area
Production

H. D. JUNKENS
Tulsa Area
Production

W. M. KEELER
Pacific Coast Area
Production

R. E. LEE
Houston Refinery
Engineering

E. B. LIERMAN
Houston Refinery
Treating

V. J. MARASCO
Los Angeles Division
Operations

M. A. PERDUE
Wilmington Refinery
Dispatching

O. H. POSKEY
Tulsa Area
Production

G. QUALTERS
Wilmington Refinery
Dispatching

H. E. RANKIN
Midland Area
Exploration

E. W. RICHARDS
Albany Division
Operations

J. M. RIPKEN
Baltimore Division
Operations

I. F. ROBERTS
San Francisco Office
Purchasing

F. C. RUSSELL
Boston Division
Treasury

J. T. SCHWARZ
Indianapolis Division
Sales

S. SELLORS
Houston Area
Administrative

B. SIMON
Houston Refinery
Fire & Safety

H. G SMITHIES
Sewaren Plant
Chemical

H. L. THORNTON
Pipe Line Department
Indianapolis, Ind.

R. M. WALTER
Indianapolis Division
Treasury

G. K. WOOD
Wood River Refinery
Engineering

I. I. WOOD
Wood River Refinery
Aromatics

L. N. WRIGHT
Pacific Coast Area
Production

J. L. YOUNG
Wood River Refinery
Distilling

SHELL COAST TO COAST

Skimming the Surface

R. L. BRUSH's 30 trophies and 14 hydroplanes have proved he has mastered the art of racing over water.

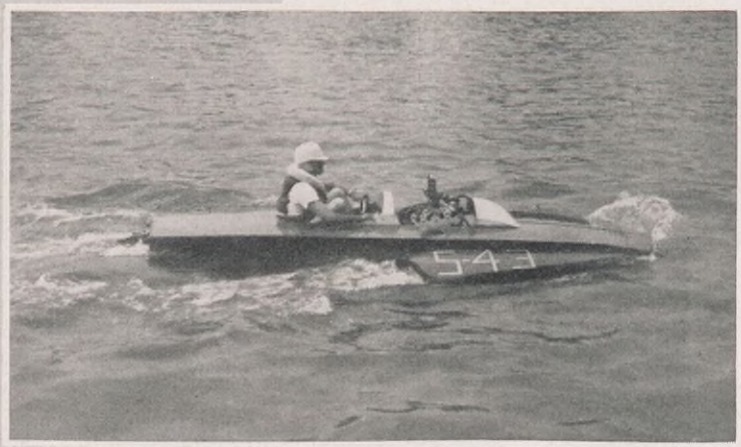
Brush, a Driver-Salesman in the Dayton District of the Shell Oil Company's Cleveland Marketing Division, designs, builds and races his own hydroplanes. A small, lightweight racing craft, a hydroplane is called a "skimmer" by boat-racing fans because it bounces over the top of the water and reaches higher speeds than other water craft because of less water resistance. Basically only a platform for the motor and driver, only a few inches of the hydroplane are in contact with the water when the craft is going at top speed.

Brush has been working with hydroplanes for 10 years. He first became interested in the sport as a high school boy watching races on the Miami River in his home town of Piqua, Ohio. Since then he has built 12 boats of his own design, plus two others from do-it-yourself kits, for himself and his friends. Each craft is made of plywood, with the motor either inboard or outboard, and takes about four months' work (about 150 hours) in his spare time to finish.

His present racing craft, the "Sneaky Pete II," represents all he has learned during the last decade in boat design. It is of a stock class which allows seating space only for the driver, has an eight-cylinder 60-horsepower motor, and has been clocked at speeds of more than 70 miles an hour.

The "Sneaky Pete II" placed third in the race Brush describes as his most exciting one so far, in the National Championship at New Martinsville, West Virginia, recently. Brush, entered in the 136-cubic-inch class, was the only racer to qualify for the race from the four-state region of Ohio, Michigan, Kentucky and Pennsylvania.

He is a member of the National American Power Boat Association and the Troy Boat Club, and races most weekends from early spring through late fall. So far he has brought home more than 30 trophies, which are creating a problem for his No. 1 fan, Mrs. Jess Brush, his mother. She says dusting all of them is becoming a major chore.



R. L. Brush, Driver-Salesman in the Dayton District of Shell Oil Company's Cleveland Marketing Division, is shown guiding his hydroplane "Sneaky Pete II" into dock. Below, he stands with some of the more than 30 trophies he has won racing.

Photographic Essay

Leo Lichtman, above, Engineer at Shell Development Company's Emeryville Research Center, recently had three of his photographs, including the one shown at left, shown in the Bay Area Photographers exhibit at San Francisco's deYoung Memorial Museum. Lichtman has been active in photography only one year. He does not use color and does not title his photographic studies; he says "a picture should be complete in itself without need for a title."

Contrast in Convoy

The old and the new in gasoline delivery were contrasted in a recent San Francisco parade. The San Francisco Oil Information Committee entry in the parade featured an old horse-drawn tank wagon, which Shell stopped using about 1920, with the latest model gasoline clipper truck. The OIC entry also included automobiles made before 1916 and latest model cars to show progress in petroleum needs as well as supply methods.

Single Stroke

Shell golfers who recently shot holes-in-one are J. K. Dixon, above, Special Products Manager of Shell Oil Company's St. Louis Marketing Division, and D. W. Williams, Operator at the Wood River Refinery.

Civil Defense

F. H. Colburn, Chief Engineer at Shell Chemical Corporation's Martinez Plant, has been appointed to the Committee on Facilities Protection Service of the U. S. Civil Defense Council. The committee promotes civil defense activities in industrial plants, schools and hospitals.

Good Scout

R. L. ANDERSON of Shell Oil Company's Baltimore Marketing Division office, is acting scoutmaster of a troop which has won many marching awards, honors in merit badge competition and first place in a recent camporee—though all the scouts are from the Maryland School for the Blind.

Only five of the 20 members of Troop No. 710 have even limited vision; the rest are totally blind. Yet they make up for their lack of sight with enthusiasm, energy and determination to be good scouts.

Anderson says the only real difference between Troop 710 and any other troop is that the blind boys have several scoutmasters instead of the usual one.

"The boys cannot do scout work by watching an instructor," he says. "So we have about 10 men, each of whom works with one or two of the boys helping them learn craft work and scouting procedures."

Anderson has been active in scout work for about 12 years, and formerly was scoutmaster of a troop in Parkville, Maryland. Since he has been with Troop 710, the boys took second place in competition with all Baltimore scout troops in a merit badge show, won first place in a camporee among blind scouts from five states. But the boys are proudest of their marching ability; they have won several marching parade awards.

Pigskin Prophet

J. D. Clark, Analyst in the Personnel and Industrial Relations Department at Shell Chemical Corporation's Denver Plant, and his wife Cleo plan their expense-paid trip to San Francisco which he won in a pick-the-winners football contest sponsored by a Denver newspaper. They flew to San Francisco to see the East-West all-star Shrine football game.

Television Personality

R. S. Winton, a member of the Treasury Department in Shell Oil Company's Indianapolis Division, interviews local football coaches R. L. Nipper and J. R. Brown on a TV program he moderates for the Indianapolis Junior Chamber of Commerce.

Submarine Skipper

L. T. Simmelink, left, Engineer in the Akron District of Shell Oil Company's Cleveland Marketing Division, accepts the post of commanding officer of the Naval Reserve Submarine Division in Cleveland from Commander Richard Freudlich. Simmelink is a U. S. Naval Academy graduate.

Service Birthdays

Forty Years

C. L. HART
Sacramento Div.
Marketing Service

Thirty-Five Years

H. B. BEST
Tulsa Area
Production

H. DeARMOND
Pacific Coast Area
Production

P. E. JOYCE
Shell Chemical Corp.
Head Office

N. D. McCOLLIM
Pacific Coast Area
Production

R. QUICK
Pacific Coast Area
Production

M. R. SIBLEY
Pacific Coast Area
Treasury

M. M. SKINNER
Tulsa Area
Production

C. C. STAATS
Tulsa Area
Production

H. WINTERS
Tulsa Area
Production

Thirty Years

W. R. ARMES
Wood River Refy.
Dispatching

C. E. BADLEY
Shell Pipe Line Corp.
Mid-Continent Area

J. E. BOOTH
Pacific Coast Area
Land

F. BRADLEY
Pacific Coast Area
Production

G. M. BROWN
Tulsa Area
Production

J. O. BROWN
Houston Area
Production

J. J. BURNS
Wilmington Refy.
Effluent Control & Util.

W. J. B. CURLESS
New Orleans Area
Production

R. D. CURTIS
Los Angeles Div.
Operations

S. D. DELLINGER
Portland Div.
Operations

S. J. DEROUEN
Norco Refinery
Engineering

B. DORMAN
Pacific Coast Area
Production

C. J. ELLWOOD
Los Angeles Div.
Operations

A. G. GORMAN
Martinez Refy.
Treasury

C. T. GRAY
Tulsa Area
Gas

M. W. GRAY
New Orleans Div.
Sales

A. H. HASENMUELLER
New Orleans Div.
Operations

J. L. HEMINGWAY
Pipe Line Dept.
East Chicago, Indiana

A. G. HENNA
Wood River Refy.
Distilling

J. JOHNSTON
Indianapolis Div.
Operations

Thirty Years (cont'd)

C. E. LEAHY
St. Louis Div.
Treasury

M. LIEBERSTEIN
St. Louis Div.
Sales

J. F. MANN
Wilmington Refy.
Catalytic Cracking

I. S. MARLIN
Tulsa Area
Gas

R. W. McOMIE
Head Office
Manufacturing

F. H. MOLLER
Tulsa Area
Production

R. O. NESS
Shell Development Co.
Emeryville

C. H. PEEK
Pipe Line Dept.
East Chicago, Ind.

E. H. POGUE
Pacific Coast Area
Production

E. C. REINHARDT
Shell Development Co.
Houston

L. H. SMITH
San Francisco Office
Marketing

C. R. TAYLOR
Wilmington Refy.
Engineering

E. A. WICK
Denver Area
Purchasing-Stores

Twenty-Five Years

E. AKERS
Shell Chemical Corp.
Shell Point Plant

R. B. BATTIN
San Francisco Div.
Operations

A. BENOIT
New Orleans Area
Production

P. J. BERTOLOTTI
Wilmington Refy.
Engineering

L. E. BORDER
Head Office
Manufacturing

R. L. BOUCHET
Wood River Refy.
Compounding

A. R. BOYER
Head Office
Marketing

C. E. CASSIDY
Houston Refy.
Control Laboratory

A. L. CROAN
Tulsa Area
Production

L. B. HARRINGTON
Detroit Div.
Operations

B. M. HYNES
San Francisco Office
Marketing

J. L. McGUIRE
Cleveland Div.
Operations

K. J. NAGELKIRK
Detroit Div.
Marketing Service

H. M. RANDELS
Wilmington Refy.
Catalytic Cracking

R. SCHEUER
Martinez Refy.
Lubricating Oils

W. F. STEINLICHT
Pipe Line Dept.
East Chicago, Ind.

N. TARLOW
Boston Div.
Operations

M. D. TAYLOR
Shell Development Co.
Emeryville

W. K. WILLIAMS
Shell Pipe Line Corp.
West Texas Area

A. H. WOLGAMOTT
Sacramento Div.
Treasury

SHELL OIL COMPANY

Head Office

20 Years

H. X. Cloud.....Financial
P. N. Dohrmann.....Marketing
W. P. Perrenoud.....Marketing

15 Years

J .E. Davis.....Marketing
B. L. Syer.....Financial
J. L. Thomas.....Financial

10 Years

Josephine M. DeMarco.....Financial
P. A. Kalb.....Financial
Harriet A. Kuver.....Manufacturing
R. T. Madsen.....Financial
A. Northwood, Jr.....Public Relations
Dorothy Shroder.....Financial
V. R. Simone.....Purchasing-Stores

San Francisco Office

20 Years

F. C. Hunt.....Trans. & Supplies

Exploration and Production

HOUSTON OFFICE

10 Years

D. G. Driver.....Trans. & Supplies

TECHNICAL SERVICES DIVISIONS (HOUSTON)

20 Years

E. L. Kennedy.....Production

10 Years

N. J. Ellis, Jr. .....Production
F. B. Melde.....Production

CALGARY AREA

20 Years

H. C. Maliphant.....Exploration

10 Years

D. O. Cole.....Land

DENVER AREA

15 Years

G. M. Meacham, Jr. .....Production
J. L. Teague.....Exploration

10 Years

G. W. Logue.....Purchasing-Stores
J. W. McEver.....Production
H. C. Stoneman.....Production

HOUSTON AREA

20 Years

C. A. Dauterive.....Land
J. A. Golasinski.....Gas
A. L. Hood.....Gas
M. S. Metz.....Exploration
W. G. Mutersbaugh.....Land
E. A. Sessums.....Production

15 Years

T. D. Brown.....Pers. & Indus. Rel.
Louise A. Crawford.....Administrative
A. J. Henderson.....Production
P. J. Higgins.....Production
K. J. Keith.....Production

10 Years

E. B. Armstrong, Jr. .....Exploration
A. S. Didner.....Production
F. L. Dornier, Jr. .....Land
B. E. Graham.....Land
F. W. Pell, Jr. .....Transport
J. D. Whitlock.....Land

MIDLAND AREA

20 Years

W. H. Brady.....Production
G. Chenoweth.....Production

10 Years

A. N. Brown.....Exploration
R. L. Dickey.....Exploration
R. Hamit.....Gas
E. J. Murphy.....Crude Oil
J. B. Vest.....Production

NEW ORLEANS AREA

20 Years

J. S. Guidry.....Production

15 Years

G. P. Knapp.....Production

10 Years

D. J. Cox.....Treasury
R. W. Donald.....Exploration
D. M. Hagemeyer.....Exploration
C. B. Iles.....Production
P. J. Markunas.....Transport
G. R. Methin.....Exploration
J. S. Patty.....Land
W. H. Phillips.....Exploration

PACIFIC COAST AREA

15 Years

D. F. Detrick.....Exploration
D. Hartman.....Production

10 Years

S. J. Hirsch.....Production

TULSA AREA

20 Years

O. K. Baker.....Treasury
F. O. Codding.....Production
E. R. Stephens.....Production

15 Years

H. E. Cory.....Exploration

Manufacturing

ANACORTES REFINERY

20 Years

E. Q. Whitney.....Zone C

15 Years

J. A. Hatton.....Technological
C. B. Kincannon.....Technological

10 Years

G. R. Lane.....Engineering

HOUSTON REFINERY

20 Years

M. D. Burgin.....Catalytic Cracking
C. P. Crawford.....Engineering
B. Dehoyos.....Effluent Control
V. T. Ellis, Jr. .....Treasury
E. Flores.....Engineering
L. Havard.....Gas
E. L. Martin.....Engineering
A. C. Rainey.....Engineering
H. A. Terry.....Treating
R. E. Tucker.....Gas
C. A. Williams.....Thermal Cracking
M. L. Wilson.....Treasury

15 Years

W. E. Bailey.....Dispatching
T. H. Bosse.....Catalytic Cracking
W. C. Burgess.....Dispatching
J. H. Clinton.....Engineering
H. G. Creed.....Engineering
J. A. Gentry.....Engineering
J. D. Hayslip.....Lubricating Oils
W. R. McClain.....Engineering
J. J. Morris.....Engineering
J. N. Parker.....Engineering
B. A. Risinger, Jr. .....Research Laboratory
W. B. Thames.....Engineering
H. H. Townsend.....Lubricating Oils
D. Urbanek, Jr. .....Technological
L. D. Wilkers.....Aromatics

10 Years

H. J. Cannon.....Engineering
R. W. Dunlap.....Engineering
P. W. Gudgell.....Control Laboratory
G. M. Neill.....Treasury
J. L. Robinson.....Research Laboratory
D. E. Van Pelt, Jr. .....Engineering

MARTINEZ REFINERY

10 Years

A. L. Adams.....Compounding
B. L. Allner.....Research Laboratory
T. S. Hodgson.....Research Laboratory
D. L. Loney.....Engineering

NORCO REFINERY

20 Years

E. J. Heurtin.....Engineering

15 Years

J. T. Lambert.....Stores
H. H. Rushing.....Engineering

10 Years

C. S. Barrett, Jr. .....Econ. & Sched.
G. L. Copponex, Jr. .....Control Laboratory

WILMINGTON REFINERY

20 Years

W. H. Croxson.....Fire & Safety
L. W. Strobele.....Catalytic Cracking
V. E. Yarno.....Engineering

15 Years

N. D. Douglass.....Catalytic Cracking
S. J. Fiala.....Dispatching
J. W. Harkins.....Dispatching
F. Muirhead.....Alkylation
K. H. Ryan.....Engineering

WOOD RIVER REFINERY

20 Years

E. R. Acord.....Compounding
G. C. Miles.....Compounding

15 Years

D. M. Brandel.....Engineering
H. L. Buettner.....Engineering
V. G. Christopher.....Engineering
A. H. Mikkelson.....Pers. & Indus. Rel.
F. J. Pinkas.....Engineering
J .E. Reynolds.....Engineering
J. R. Spahr.....Engineering
C. E. Stone.....Compounding
I. W. Westfall.....Engineering

10 Years

A. E. Bunt.....Engineering
R. A. Greger.....Experimental Lab.
J. R. Hogan.....Engineering
W. R. McKean.....Engineering

Marketing

MARKETING DIVISIONS

20 Years

J. W. Guin.....Baltimore, Operations
M. Anastasio.....Boston, Operations
R. E. Dwyer.....Boston, Treasury
W. P. Soraparu.....Chicago, Sales
C. N. Seifert.....Detroit, Sales
H. H. Countryman.....Indianapolis, Treasury
J. F. Richard.....New Orleans, Operations
J. A. Ohlert.....New York, Operations
W. F. Kammerer.....Portland, Operations
L. E. Nelson.....Portland, Operations
J. W. Rouse.....Portland, Operations
W. A. Scott.....Portland, Sales
J. W. Schaper.....St. Louis, Operations

15 Years

D. S. Blaisdell.....Boston, Operations
J. W. Curren.....Boston, Operations
M. B. Holdgraf.....Boston, Sales
E. D. Brown.....Detroit, Operations
H. Levenson.....Detroit, Operations
R. E. Hall.....Los Angeles, Sales
F. W. Wright.....New Orleans, Operations
J. F. Carter.....New York, Operations
J. W. Stapleton.....New York, Operations
Dolores K. Conrades....St. Louis, Purchasing
E. R. Shutz.....St. Louis, Marketing Service
E. F. Cooney.....San Francisco, Operations

10 Years

R. H. Knowe.....Albany, Sales
W. A. Whitmore.....Albany, Operations
A. D. Spiker.....Atlanta, Operations
R. L. Anderson.....Baltimore, Treasury
R. E. Jones.....Baltimore, Operations
S. M. Webb.....Baltimore, Treasury
H. J. Johnson.....Boston, Operations
V. C. Taulbee.....Boston, Operations
L. F. Wilson.....Boston, Sales
H. Black.....Chicago, Operations
J. C. Jaskoviak.....Chicago, Treasury
R. W. Niendorf.....Chicago, Operations
A. C. Ropke.....Chicago, Operations
T. R. Charlton.....Cleveland, Sales
J. Gurnish.....Cleveland, Operations
W. J. Bies.....Detroit, Operations
J. E. Crimmins.....Detroit, Operations
D. J. Randall.....Detroit, Operations
E. R. Shalda.....Detroit, Operations
W. G. Murphy, Jr. ..Indianapolis, Operations
T. C. Watkins, Jr. .....Indianapolis, Sales
Betty L. Connelly.....Los Angeles, Treasury
R. C. Dool.....Los Angeles, Operations
Viola E. Mudd.....Los Angeles, Treasury
J. T. Fitzgerald...Minneapolis, Mktg. Service
B. F. Buzan.....New York, Operations
O. D. Fippinger.....New York, Treasury
R. O. Severs.....New York, Sales
A. J. Zissler.....New York, Sales
W. E. Blake.....Portland, Operations
J. E. Rickards.....Portland, Operations
R. H. Richards.....Sacramento, Treasury
Hazel M. LaDieu.....San Francisco, Treasury
A. J. Roth.....Seattle, Operations

SEWAREN PLANT

15 Years

J. E. Murphy.....Compound

10 Years

C. J. Baker.....Engrg. & Maint.
R. H. Thorne.....General Plant

Pipe Line Department

20 Years

P. Halstead.....Los Banos, Calif.
C. B. Hartley.....Kettleman, Calif.
C. C. Peterson.....Byron, Calif.
J. R. Slaybaugh.....Bakersfield, Calif.

15 Years

V. D. Cash.....Springfield, Ohio
L. E. Gann.....Bakersfield, Calif.
J. Rogers.....Coalinga, Calif.

10 Years

B. F. Carroll.....Simi, Calif.
R. E. Davenport.....Ventura, Calif.
D. Jensen.....Los Angeles, Calif.
J. R. York.....Knoxville, Tenn.

SHELL CHEMICAL CORPORATION

20 Years

G. A. White.....Dominguez
S. A. Wilson.....Dominguez
J. O. Dowell.....Houston
G. A. Barton.....San Francisco
R. L. Kraft.....Shell Point

15 Years

F. G. Watson.....Head Office
J. V. McAnally.....Houston
J. W. Walker.....Houston
H. Mehlhaff.....Shell Point

10 Years

D. E. Birge.....Dominguez
R. W. Campbell.....Head Office
C. H. Daniels.....Head Office
Elizabeth F. Kurt.....Head Office
J. F. Brackman.....Houston
C. V. Ferguson.....Houston
M. L. Page.....Houston
R. E. Robb.....Houston
W. G. Robbins.....Houston
B. J. Waggoner.....Houston
J. H. Ware.....Houston
J. C. Brewton.....Norco
R. D. Buckley.....Shell Point
E. W. Smith.....Shell Point
P. M. Coffman.....Torrance
K. O. McDonald.....Torrance

SHELL DEVELOPMENT COMPANY

20 Years

G. A. Steffler.....Emeryville
L. van der Veen.....Emeryville
R. P. Gilmore.....Houston

15 Years

D. O. Collamer.....Emeryville
L. T. Holt.....Emeryville

10 Years

Lillian J. Gaillard.....Emeryville
Verda M. Hawkins.....Emeryville
J. J. Sutfin.....Emeryville

SHELL PIPE LINE CORPORATION

20 Years

J. H. Stinson.....Texas Gulf Area

15 Years

C. F. Combrink.....Mid-Continent Area
A. L. Lipscomb.....Texas Gulf Area
L. F. Mason.....Head Office
U. C. Ulmark.....Mid-Continent Area
A. Wright.....Texas Gulf Area

10 Years

G. D. Peace.....Head Office
V. L. Pressler.....Head Office
J. H. Williams.....Texas Gulf Area
R. I. Wintin.....Mid-Continent Area

matters of *fact*

a winning hand

Your Shell benefits help provide financial security both at retirement and in times of emergency. So that you and your family will know the extent of your coverage, you should complete your copy of the new booklet "Personal Audit and Ready Reference — My Shell Benefits". If you have not received your copy, please notify your supervisor.

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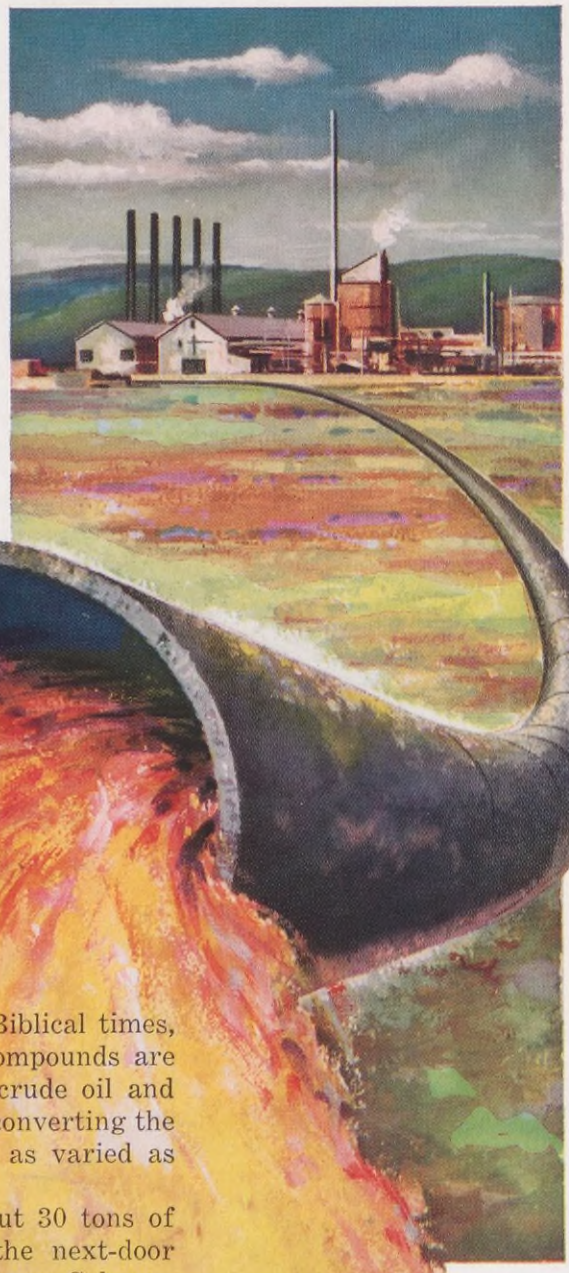
SULFUR



Oil men once thought of sulfur, the "brimstone" of Biblical times, only as a petroleum impurity, not a product. Sulfur compounds are corrosive; they must be removed from some types of crude oil and natural gas. Shell is not only removing them, but is also converting the compounds into yellow blocks of pure sulfur for uses as varied as paper-making and fertilizer manufacture.

At Shell Chemical Corporation's Houston Plant, about 30 tons of sulfur are removed daily from gas fractions from the next-door Houston Refinery. And at the Jumping Pound Field near Calgary, Canada, Shell Oil Company is operating a plant for Shell Oil Company of Canada, Limited, which can take 80 tons of sulfur daily out of natural gas from 11 Jumping Pound gas wells.

Though sulfur is seldom thought of as a petroleum product, its manufacture by Shell Oil and Shell Chemical is still another example of the diversity of the oil industry.