TURBOPROP FUEL STOP

SHELL NEWS

OCTOBER 1956

Q: What's in the new white pump?

A: SUPER SHELL

THE gleaming white pump standing in Shell service stations throughout Eastern and Southern states is the new package for a new product—Super Shell with TCP*, "the most powerful gasoline the most powerful cars can use."

Super Shell gasoline and the white pump are newcomers to customers, but before they made their debut both were thoroughly proven in make-or-break tests developed by experts.

The tests which proved the new gasoline were started in laboratories and finished on the road. They showed that Super Shell was a seven-league step forward in fuel development. But such steps aren't made from a standing start—at least, not in the gasoline business. Shell and other companies have been steadily packing more power into gasoline for many years as automobile motors improved. But the accelerated rise of automotive horsepower in the

with TCP*

*Trademark Shell Oil Company

SHELL NEWS

VOL. 24—No. 10 OCTOBER, 1956

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

Employee Communications Department
New York, N. Y.

contents

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TURBOPROP FUEL STOP

Last year Capital Airlines introduced the American public to the turboprop Viscount airliner, powered by special fuel made by Shell Oil Company. This month's front cover shows one of the sleek, smooth-riding Viscounts being refuelled at Chicago. Drawing on its experiences in manufacturing and supplying fuel for these turbine-engined aircraft, Shell is now conducting fuel tests for manufacturers who are constructing turboprop planes and engines for delivery to airlines in late 1958 or early 1959. A story about the new planes and the fuel tests begins on page 12.

—Photo courtesy of CLUES, Ford Truck dealers' magazine

New automobiles used in the road tests of Super Shell and three other experimental gasolines were checked before, during and after road tests at the Southwest Research Institute at San Antonio, Texas, to evaluate changes in engine performance. Here Institute Technician O. W. Thompson checks an engine's performance with a dynamometer.

J. E. Cox, left, and C. R. Johnson, both Shell Products Application Department Engineers, translate the results of engine acceleration tests into data which revealed the outstanding performance of Super Shell.

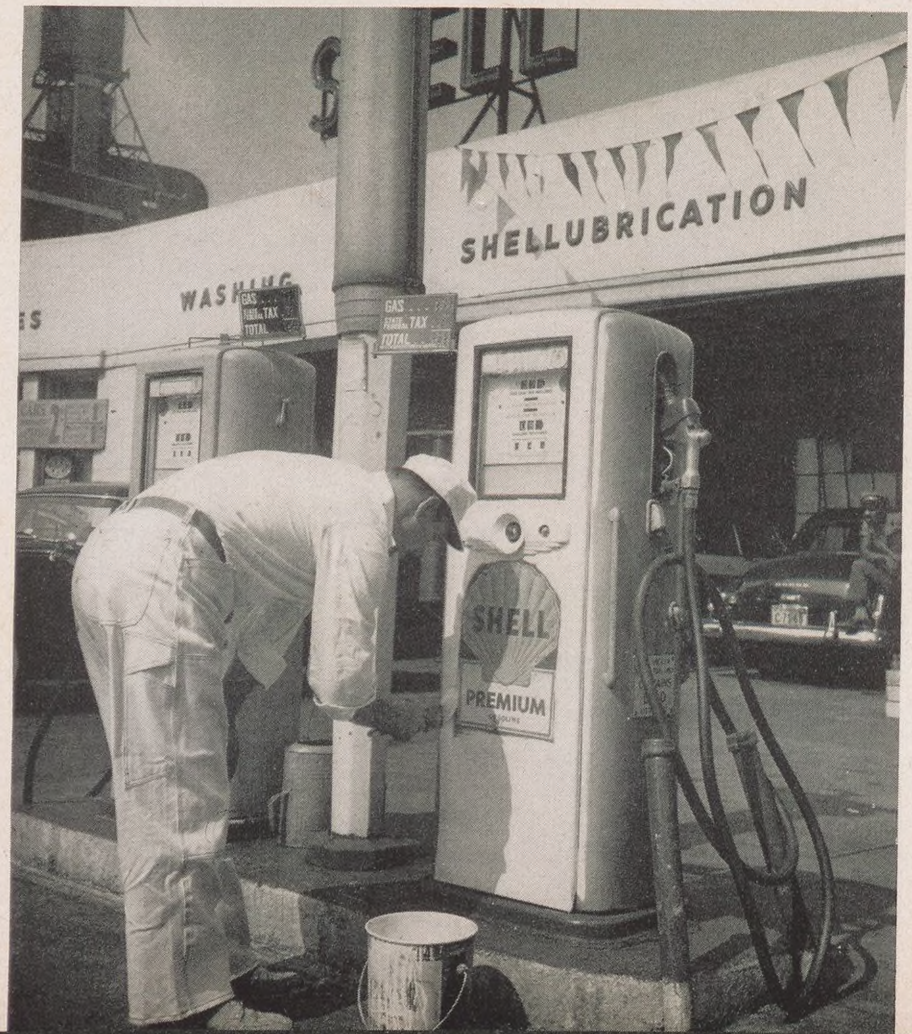
last decade—a trend that shows no sign of slowing—meant gasolines had to improve even faster to keep up with current and anticipated needs of modern engines. Ten years ago, for example, only aircraft such as military fighter planes had to have the high-octane gasoline which today is required by several makes of high-powered automobiles. More new models will need top octane fuel in the years to come.

Here is what led to the introduction of Super Shell: After months of laboratory trials, four experimental fuels for the future were developed by Shell scientists and were tested in field trials earlier this year at the Southwest Research Institute, San Antonio, Texas. The new gasolines were tested after engineers had finished comparing performances of Shell Premium and Shell Regular with competing brands of gasoline. The same testing methods were used to gauge the performances of the four experimental gasolines—one of which was Super Shell. Each new gasoline was tried in the tanks of four different makes of car, all with high-compression engines. Professional drivers drove each car 12,000 miles through highway and city traffic, and engineers checked the engines every 400 miles to keep a running performance score.

The final results showed, in the words of one Shell engineer:

"Super Shell stood out head and shoulders over the rest."

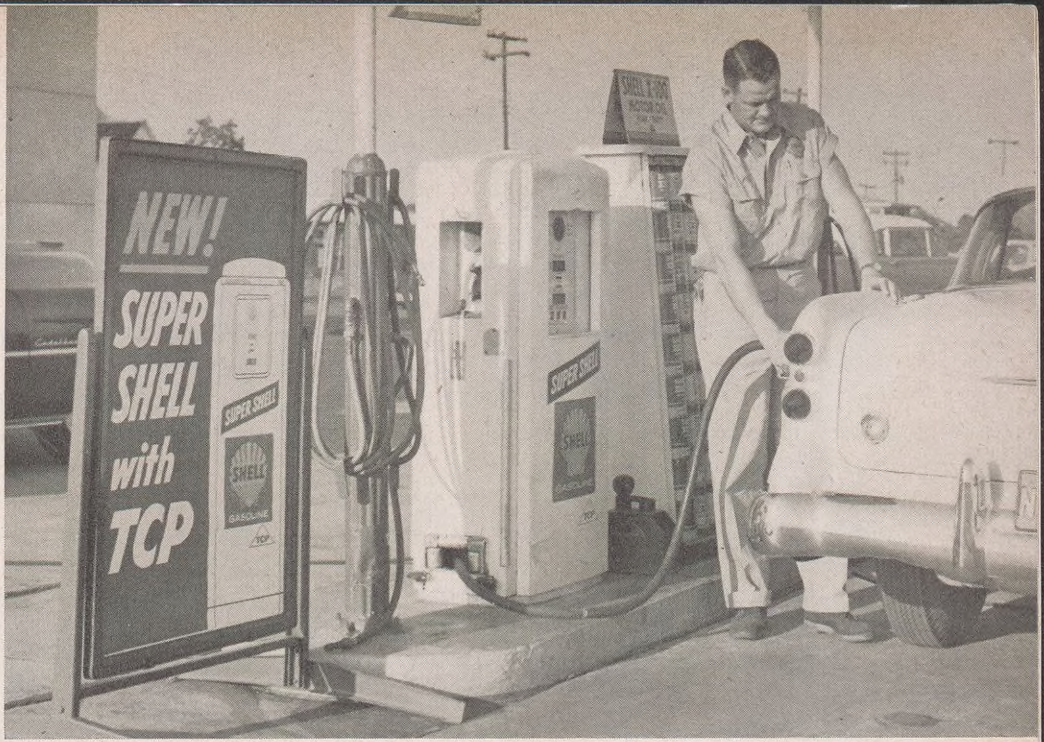
All four of the new fuels gave more power than the premium gasolines tested earlier, but acceleration tests (to measure the time needed to speed from 20 to 70 miles per hour) showed Super Shell packed the most power. And the test winner did not give more power at the cost of more engine de-



This scene in New York City was repeated throughout the Gulf Coast and Atlantic seaboard Marketing territories as former red and yellow Shell Premium pumps were painted white to dispense Super Shell.

posits. Such deposits, along with engine wear and other factors, gradually boost the octane needs of modern high-compression engines. Super Shell with TCP held engine deposits to a minimum; that meant the octane needs of engines using Super Shell were kept lower. Because of TCP, Super Shell restored power to engines which had been using other gasolines.

Super Shell has a high percentage of aromatics — benzene, xylene and toluene. This means controlled, more effective combustion — and the aromatics in Super Shell come from special refining steps previously used in making aviation gasolines. Super Shell is also designed to vaporize at the optimum rate in the engine system and to give fast engine warm-up.



Super Shell in its new white pump makes an eye-catching display, such as shown here at the Sewell Service Station at Pasadena, Texas, not far from the Houston Refinery.

Within two months after the information gained in the San Antonio tests had been studied and evaluated, Shell refineries at Norco and Houston were making the new Super Shell for sale along the Gulf Coast and Atlantic seaboard. It will be marketed to Midwest and West Coast customers as it becomes available from other Shell refineries.

With the new gasoline tested and ready for customers in the South and East, Shell had to decide how to put it on the market. The first decision to make was whether Super Shell should join Shell Regular and Shell Premium to form a power trio, or whether it should replace one of the two older brands. Shell decided to market only two grades of gasoline —Shell Regular to fill the fuel needs of all old and many new automobiles, and Super Shell. It was decided to replace Shell Premium because both it and Super Shell were designed for high-powered automobiles, Super Shell filling the bill better. Also, replacing Shell Premium allowed Shell to offer the new gasoline at only one cent more per gallon. Adding a third gasoline would have meant a higher price, for it would require new storage tanks at refineries and bulk terminals and new underground tanks and more pumps at service stations. Some stations would have to be changed to provide larger pump islands.

An easier decision was that of naming the new gasoline. More than 25 years ago Shell introduced a premium gasoline named "Super-Shell," a name changed to "Super-Shell Ethyl" a few years later when tetra-ethyl lead was added. But that name, and variations of it, were dropped shortly before World War II and the brand names Shell Premium and Shell Regular were adopted. Shell decided to return to the name Super Shell (without the hyphen) because it best describes the new gasoline, is easy to say and also easy to remember.

Along with the new name for the new gasoline came ideas for the best way to catch the eye of the customer with a pump that would stand out and give a visual announcement that something new is on the market. Consultations among representatives of Shell Marketing's retail, sales promotion, advertising and marketing engineering staffs and Shell's advertising agency first led to an idea for a shiny black pump. Shell actually installed a black pump in a Connecticut service station to get customer reaction, but the results weren't good enough. The idea for the new white pump stemmed from a suggestion from a New York firm of industrial designers. Drawings were made, and later models of stations with the white pump standing beside the red-and-yellow Shell Regular pump. The white color met approval from all hands.

Departing from Shell's traditional red and yellow colors was a hard decision to make, but, as Shell's Marketing Organization points out, "the new white pump will sell more gasoline." Changing the pump color also created an ideal advertising idea to launch Super Shell by capitalizing on the "mystery" of what was in the new white pump before it was introduced in each area.

Throughout the nation-wide Marketing territories more than 40 per cent of Shell gasoline sold is of premium grade. That percentage is expected to increase as automobile horsepower goes up, though many cars still will perform satisfactorily with Shell Regular. Today, the service station team of Super Shell and Shell Regular, both with TCP, meet all modern automobile fuel requirements.

You, Too, Belong In

OIL PROGRESS

As the oil industry celebrates its ninety-seventh year of progress during Oil Progress Week (October 14 through 20) Shell is in the midst of a campaign to persuade oil industry employees to speak up in behalf of their industry.

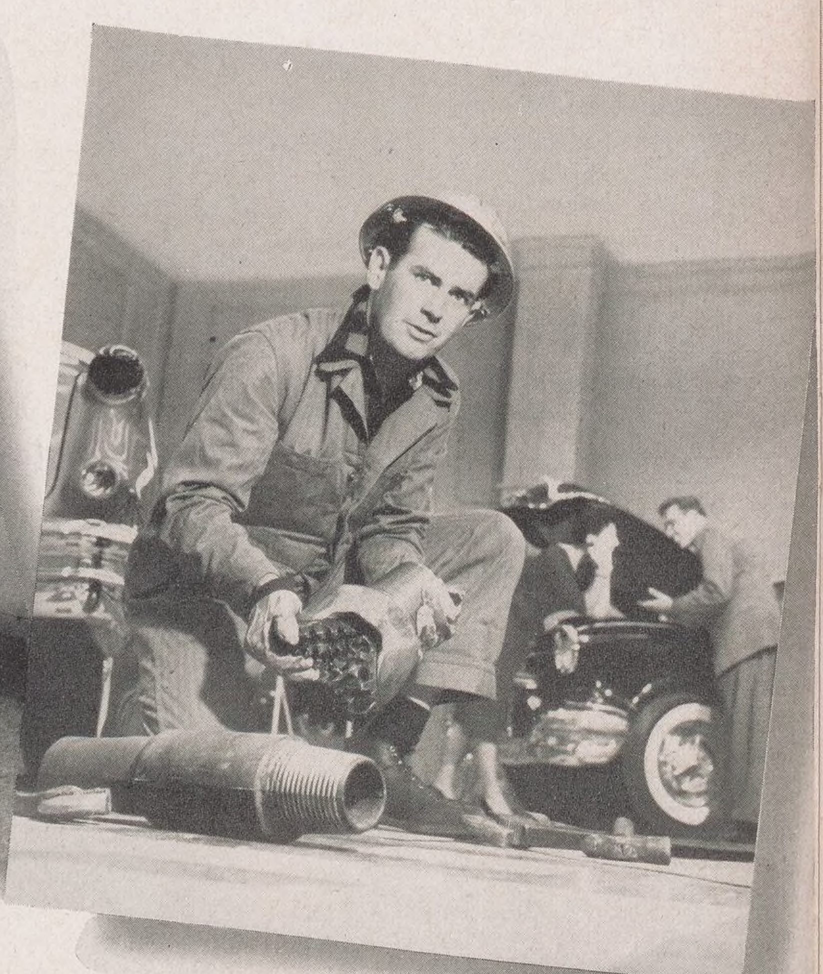
In a series of four advertisements, being published in oil industry trade magazines, Shell is pointing out to all oil men and women "from driller to board chairman" that each contributes to oil progress and to the general welfare of the nation.

Theme of the series of advertisements is:

"When you hear someone who doesn't know the facts criticize our

SECRETARY — "You and I BOTH belong here!"

DRILLER — "ALL oilmen make this auto sale possible."



industry, speak up. Tell how oil helps keep our strong economy rolling in high gear. Be proud you're an oilman. And tell the world!"

First of the series, published last August, points up progress in agriculture. Under a photograph of a chemist at work with test tubes in the middle of a wheat field, the advertisement declares, "YOU belong here, too! You may be anything from refinery chemist to driller. But as an oilman, you help the farmer feed himself and 18 others—triple his great-grandfather's production. Oil provides energy for horsepower to replace manpower. Oil helps keep farm crops and stock thriving, farm families comfortable."

A secretary, seated at her typewriter in the middle of a busy street, says, "You and I BOTH belong here!" She adds that "between us we helped keep over 50 million cars on the road last year."

In a related advertisement published this month, a driller, picking up a drilling bit in the middle of an automobile display room, states that ALL oilmen make the big sales in automobiles possible. "Americans bought 7,169,908 new cars last year," he says, "filled 'em up with gasoline and oil and set out for fun or business. The ready availability of gas and oil helps close every car sale, keeps the automobile industry moving. In fact, we oilmen—from drillers to pipe line men —help keep millions working at everything from agriculture to zoology."

From the center of a hospital operating room, a surveyor reminds us that oilmen played an important part in the 9,131,545 surgical operations performed last year. "We helped supply the doctors with germicides, anesthetics, antibiotics and many of the surgical accessories that help save lives."

SURVEYOR — "You have a place at every operation, too."

CHEMIST — "YOU belong here, too!"

NON-STOP CROP

Pineapples, Hawaii's Year-Round Bounty, Have Been Saved From Unfavorable Growing Conditions With the Aid of Agricultural Chemicals

A YEAR before the bombing of Pearl Harbor in 1941, the Hawaiian Islands had already been hit by an enemy. Although this earlier and less publicized enemy did not drop bombs, its forces caused damage which seriously threatened the livelihood of the islands.

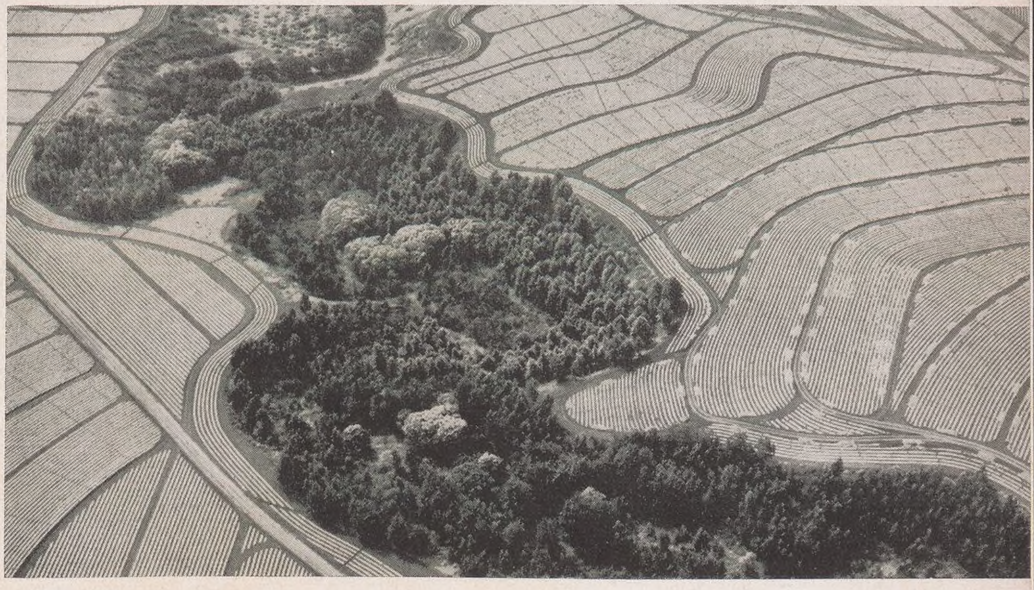
The enemy was a general plant decline, probably due in part to the invasion of nematodes and other microscopic parasitic plant organisms which concentrated their attack on the pineapple fields—the source of an important Hawaiian industry which is second only to sugar cane in the revenue it brings to the islands. These organisms, or perhaps other unknown factors, reduced the size of the fruit, causing a rapid decline in the profits of the pineapple growers and threatening the jobs of thousands of men and women who work in the fields and canneries.

Of course, the conditions that infested the pineapple plantations did not arrive suddenly in Hawaii like the Pearl Harbor raiders. Many of them probably had been there for a number of years, but by 1940, they had multiplied until their presence was felt.

The pineapple growers asked for aid from the Pineapple Research Institute, a cooperative agricultural research organization supported by Hawaii's nine major pineapple com-

Before pineapples are planted, D-D soil fumigant is loaded onto a machine which injects it into the soil, where the chemical starts its job of killing pineapple pests.

The shape of pineapple field plots in Hawaii is dictated by the need for mobile watering and spraying equipment. The plots are about 100 feet wide and separated by roads which are used by trucks for treating the plants.



panies. Dr. Walter Carter, head of the Institute's entomology department, then called on Shell for assistance.

At the request of Dr. Carter, Shell Development Company's Emeryville Research Center sent a variety of by-products to Hawaii to be tested in the entomology laboratory of the Pineapple Research Institute. The results of these tests showed that a by-product of synthetic glycerine might improve the vigor of Hawaii's pineapple plants. In 1943, a pilot plant at Emeryville manufactured enough of the product for tests to be made on the pineapple plantations. The new chemical, a dark brown liquid with a garlic smell, was successful in halting the devastation of the pineapple fields and, as a result, was soon in commercial production at Shell Chemical Corporation's Houston Plant under the name of D-D® soil fumigant.

The fact that D-D soil fumigant kills nematodes has been proven, but it is not known whether this control of nematodes is solely responsible for the vigorous growth of D-D-treated pineapples in Hawaii. Some agricultural scientists claim the growth is a direct result of the nematode control, while others say it is caused simply by D-D "stimulating" the plants. Despite the divergent views, the fact remains that the pineapple industry has been thriving since the fields were treated with D-D.

Pineapple planters now guard their crops with regular applications of D-D soil fumigant. The chemical actually does its work before the pineapple is planted. After the fields are plowed and harrowed, the dark liquid is injected into the ground where it turns into a gas and penetrates the surrounding soil.

Tests are now being conducted on Hawaiian pineapple plantations to determine the effectiveness of Nemagon,* Shell Chemical Corporation's newest

* Trademark Shell Chemical Corp.

Long strips of paper which hold moisture and chemicals in the soil and slow weed growth are laid across the fields before planting starts. Pineapple "slips" are inserted through holes punched in the paper.

Non-Stop Crop (cont'd)

soil fumigant. An important feature of the new chemical—especially since the pineapple growing period is extra long—is that it can be applied to the soil around living pineapple plants. Indications are that the two soil fumigants—D-D for treating the soil before planting and Nemagon for use around living plants—will form a team that will assure good pineapple crops.

It is a common belief that pineapples are as native to Hawaii as hula girls—but there was a time when they were as rare as poi in Brooklyn. In fact, the fruit was imported to the islands. Christopher Columbus found a wild variety of pineapple growing in the West Indies and experts believe the plant originated in tropical Brazil. Since the "slips" of pineapple (from which new plants are grown) can survive long dry spells, traders probably carried the fruit to many parts of the world.

The exact date when pineapples were introduced to Hawaii is not known, but they were growing there as early as 1813. In that year, a Spaniard living in the islands wrote in his diary that he planted pineapples in his garden.

Commercial pineapple growing started in Hawaii in about 1885 on a very small scale. The variety of pineapple grown, "Wild Kailua," produced a poor quality of fruit. Captain John Kidwell, an English horticulturist who came to Honolulu in 1882, is credited with laying the foundation for the present pineapple industry by importing 1,000 plants of the "Smooth Cayenne" variety from Jamaica. This is the variety which is grown commercially in Hawaii today.

The ripe Smooth Cayenne fruit would not keep on long voyages, so Captain Kidwell started the first pineapple cannery in 1892, but it did not succeed commercially. However, at the turn of the century, pineapple canneries became important factors in steadying violent ups and downs in an economy dependent on sugar cane prices. Today, nine canneries in Hawaii supply 75 per cent of the world's canned pineapple. A large percentage of the canned fruit is shipped to the United States. Handling and shipping costs prevent sending fresh pineapple to the "mainland." Fresh pineapples sold in the United States come from Mexico or the West Indies.

The many problems of growing pineapples in Hawaii make it surprising that the crop was ever grown commercially. In the first place, the normal Hawaiian temperatures are almost too low for growing the tropical fruit. For this reason, it takes the pineapple much longer to mature in Hawaii than in climates nearer the equator.

Another problem is the porous volcanic rock of the islands, which makes it impractical to build water reservoirs in the mountains. In most cases, water must be pumped up from the lowlands to the mountain valleys where the fruit is grown.

The scarcity of farm land adds to the problems of the pineapple producer. The islands have only 600 square miles of land suitable for both sugar cane and pineapple crops (less than half the area under cultivation in the state of Delaware). Most of the pineapples are grown on the island of Oahu and the rest on Maui, Kauai, Molokai and Lanai. None is grown commercially on the largest island, Hawaii, where land is so scarce that coffee trees are planted in holes blasted out of the volcanic rock and filled

Here a planter punches a hole in the paper with a steel trowel and inserts a "slip." As many as 18,000 plants are grown on one acre.

Spraying trucks with 50-foot booms on each side are almost continually moving through the fields, watering them and treating the plants for insects, weeds and fertilizer deficiency.

with fertile soil.

One big factor favors the pineapple—the weather, though not tropical, does allow the fruit to be planted and harvested at any time during the year. When one crop is harvested, another is planted from "slips" or the old plants are left to grow another crop. Hence, pineapple is a non-stop crop, providing year-round employment for field hands and cannery workers.

Each new pineapple plant is started from a "slip" or "sucker" taken from the plant or from the crown on top of the fruit. Before it is planted, long strips of paper, much like roofing paper, are laid across the fields. The machine that lays the paper throws dirt over both edges to hold it down. The paper holds moisture, fertilizer and D-D soil fumigant in the soil. It also increases soil temperature and keeps weed growth at a minimum. Planters punch holes in the paper with steel trowels and insert the slips. From 15,000 to 18,000 slips are planted on each acre. Each slip produces one ripe pineapple 18 to 22 months later.

The original plants are utilized for as many as four crops over a period which lasts up to four years. During this time, the fields must have constant care. The plants are sprayed regularly to protect them from insects. (Shell Chemical's aldrin and dieldrin insecticides are sometimes used.) Several different types of fertilizers are used, some applied to the soil and others sprayed on the pineapple leaves. Weeds are kept down mainly by spraying.

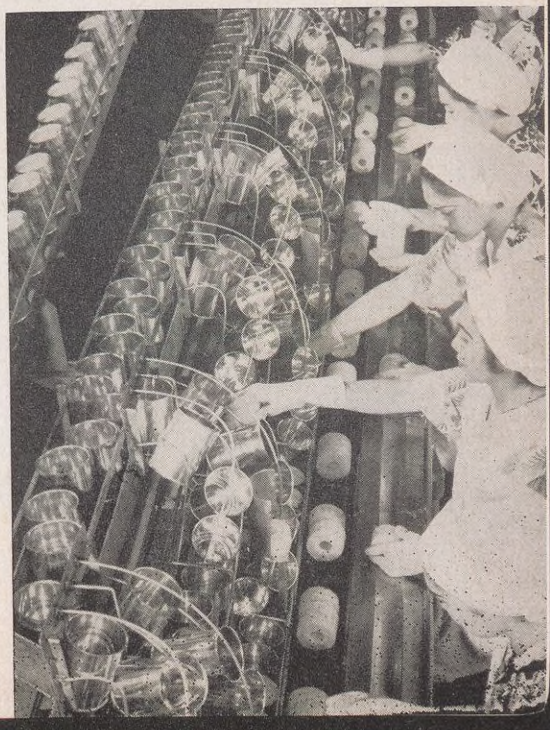
Not all the fruit ripens in the field at the same time. Trained pickers walk along the rows snapping only the fully ripe fruit from the stalk, chopping off the top leaves or crown and placing the pineapples on long portable conveyor belts which carry them to waiting trucks.

Soon after the first crop is harvested, preparations are made for a second crop to be grown from the same plants. One or more slips are left on each plant, which develop into ripe pineapples in about 8 months. Often the plants are plowed under after the second or third crop because each successive crop produces smaller pineapples.

At the cannery, the pineapples are washed, graded and placed in "Ginaca" or "miracle" machines. These machines cut the rough shell and inedible core from the fruit and at the same time cut the familiar rings. Each machine can handle 100 pineapples a minute.

The cored cylinders of pineapple are again graded and cut into the style desired—discs, chunks, tidbits or crushed. After canning and sealing, the pineapple is pasteurized by heating for periods from five to fifteen minutes. When cool, the cans are labeled and boxed.

The exotic pineapple was once grown in European greenhouses and served as a delicacy in the homes of the wealthy. Today it can be found on grocery shelves throughout the world—most of it supplied by the Hawaiian pineapple plantations, which produce the fruit with the aid of Shell agricultural chemicals.



Cannery workers wearing rubber gloves check and grade sliced pineapple before it is canned. At upper left, filled cans leave machine to be sealed and pasteurized.

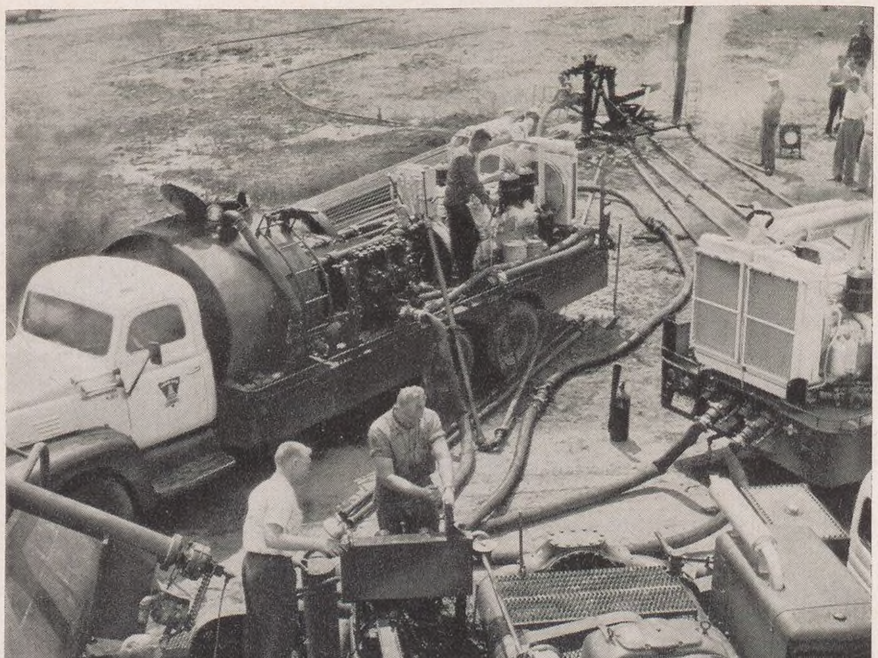
Big BREAK at Healdton

Shell Engineers Crack Open Old Formations to Give New Life to Leases Which Have Been Producing Oil Near Healdton, Oklahoma, Since 1913

As age overtakes an oil field, its arteries begin to harden. The pumps keep pumping, but less and less oil is brought out of the ground. In some cases, wells quit producing altogether and the pumps must be shut down—though it is known that much oil still remains deep in the ground.

This was almost the case at Healdton, Oklahoma. After 43 years of producing oil, the Healdton Field was showing its age. Production was declining steadily, so exploitation engineers in the Tulsa Exploration and Production Area decided to give Shell's old wells a "tonic"—which saved many wells from an untimely death and boosted production in others to give the Healdton Field a new lease on life.

The "tonic" is usually some mixture of crude oil, acids and sand which is forced into the wells under pressure —a technique called hydraulic fracturing. The mixture ruptures the oil-bearing formation, opening new crevices and enlarging old ones. The sand that is carried into the formation remains after the fluid is removed and serves as a propping agent to keep the fractures open after the pressure is released. Oil in the formation thus can



A contract crew is on the job to complete Shell's hydraulic fracturing program in the Healdton Field. This view shows a truck-mounted blender (foreground) which mixes sand and oil. The other trucks are equipped with pumps to force the mixture into the well's producing formations. The well is near the pole at the top of the picture.

travel more freely to the well, increasing the production.

Although a type of hydraulic fracturing was used experimentally by individual oil producers as early as 1925, it was not introduced commercially to the oil and gas industry until 1949. During the last seven years, the process has set a remarkable record in rejuvenating thousands of old wells. It also has been used to increase production in new wells immediately after they were brought in. Of the wells that have been fractured, 75 per cent have responded to the treatment, substantially increasing estimates of recoverable oil reserves.

Fracturing was first tried in the Healdton Field last year on a relatively young well—the L. Tubbee No. 42, completed in 1939. This well's production had slipped to only two barrels a day. Immediately after the fracturing, it jumped to 30 barrels daily, which was 10 barrels more than the well had produced when it was first drilled. To make certain this was not a fluke, the engineers chose another "young" well, the Wirt Franklin No. 45, also completed in 1939. After fracturing, this well's production jumped from 13 to 63 barrels of oil per day.

The next well to be fractured was a real old timer, the K. A. Hapgood No. 3, completed in 1914. Again the treatment was successful, increasing the well's production from three-quarters of a barrel to 21 barrels of oil daily.

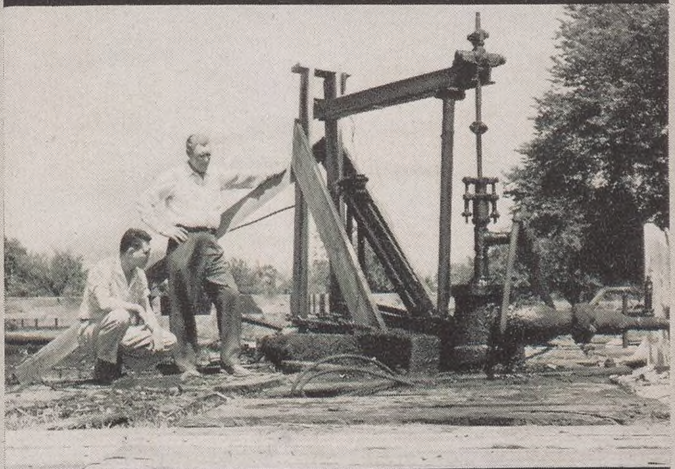
The success achieved with these wells prompted Shell to inaugurate a field-wide fracturing program at Healdton where the Company has an interest in 268 wells. During the first year, 23 out of 28 wells fractured responded to the treatment and their total daily production of oil increased from 53½ to 703 barrels. Although the increased production of the fractured wells starts declining immediately after treatment, Shell engineers are confident that the wells which have been treated will produce more oil than would have been possible without fracturing.

Shell entered the Healdton Field by purchasing several leases two years after the discovery well was drilled in 1913. The field grew rapidly until 1919, when the initial drilling campaign ended. The peak production year was 1916, when 22,000,000 barrels of oil were produced. Although more than 2,000 wells are still producing in the field for several companies, production last year had declined to 2,307,000 barrels.

Today Shell's wells at Healdton don't show their age on the surface. A modernization program was completed in 1953 which replaced the old central pump houses (powered by gas engines) with new electrically-operated pumps for each well.

With the fracturing program under way, production at Healdton is again on the upswing, although it will never again reach the peak of its early days. Still, there's plenty of life in the old field, for now it is expected to produce oil for at least 40 years more.

On hand to watch the "new-fangled" ways to rejuvenate old wells, W. F. Craft, left, who worked for the wildcatter who drilled the first oil well at Healdton, explains how it was done in the "good old days" to D. D. Stokes, Shell Exploitation Engineer in the Ardmore District.



Above, Senior Clerk J. C. Livingston, left, and District Production Foreman C. H. Shrader examine one of the old wooden-supported pumps in the Healdton Field. Below, Pumper R. N. Withers admires a modern electric-powered pump helping give the field new life.

New Develop-
ments in
Aircraft and
Aviation Fuels
Are Catapulting
Air Travelers
Into . . .

THE AGE

VICKERS VISCOUNT (inset above) a 44-passenger turboprop built by Vickers-Armstrong, Ltd., of England, is already being used in the U. S. by Capital Airlines. Capital will start flying the de Havilland Comet (large picture above) early in 1959. Built by de Havilland Aircraft Co., Ltd., of England, the Comet will be the first straight jet airliner operating on domestic routes in the U. S.

DOUGLAS DC-8 (above left) a straight jet manufactured by Douglas Aircraft Company, will go into service in the U. S. in mid-1959. It will carry up to 144 passengers.

BOEING 707, a 125-passenger jetliner is being built by Boeing Airplane Company and is scheduled to be placed on international routes of U. S. airlines early in 1959.

FAIRCHILD F-27, a Dutch-designed turboprop plane built in the U. S. by the Fairchild Engine and Airplane Corporation, is scheduled to be ready for service in 1957.

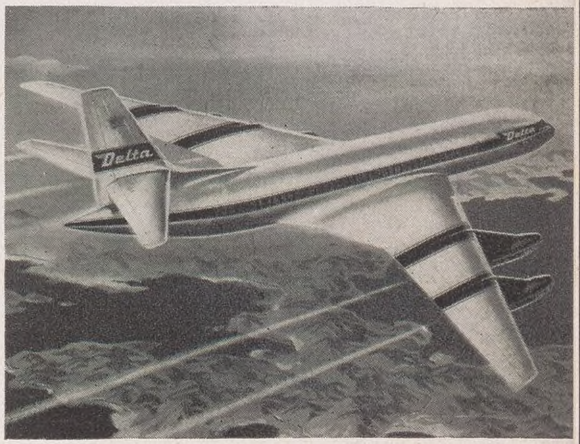
OF THE JETLINER

SLEEK new jet-powered airliners will be "swooshing" in and out of United States air terminals in increasing numbers during the next few years, cutting the flying time between major cities and providing more airborne comfort for travelers. Forerunners of this fast fleet of turboprop (turbine plus propeller) and straight jet-engined airplanes have already ushered in a new era in commercial aviation, and a new era in the manufacture and supply of aviation fuels.

The first of these new planes, now making scheduled passenger flights in the United States, is the Viscount—an English-built turboprop plane which was introduced here by Capital Airlines. Shell provides the special fuel for Capital's Viscounts, as well as for the Viscounts operated by the British West Indian Airways and Compania Cubana de Aviacion which arrive and depart from Miami and New York air terminals. With the knowledge gained in servicing these turboprop planes and its long experience as the nation's largest supplier of commercial aviation fuel, Shell expects to remain in the forefront as a fuel supplier in the coming jet age.

By 1961, United States airlines will be operating more than 500 turboprop and jet passenger planes, Shell's Aviation Department reports. On order now are 197 turboprops and 213 jets and these figures will probably increase before the airlines' current jet expansion programs are complete.

The turboprops that will be flying America's skyways and the number of passengers each will carry are: The Fairchild F-27, 40; Lockheed Electra, 85, and the Vickers Viscount, 44. The straight jets now on order and the number of passengers each will carry include: The Convair 880, 80; the English-made de Havilland Comet, 60; the Douglas DC-8, 144, and the Boeing 707, 125. The turboprops will cruise at speeds ranging from 280 miles per hour of the Fairchild F-27 to 412 miles per hour of the Lockheed Electra. The straight jets will cruise at speeds ranging from 500 to 609 miles an hour. The Convair 880 will fly at the latter speed at high altitudes, thus approaching the speed of sound.



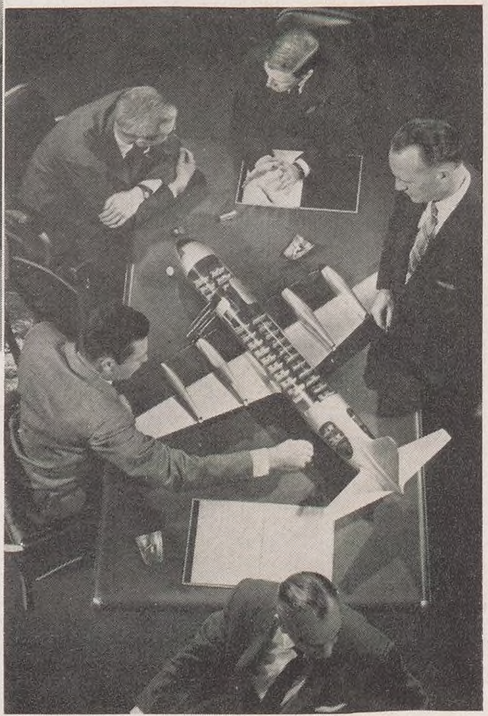
CONVAIR 880 (above), built by the Convair Division of General Dynamics Corporation, is billed as the fastest jet airliner and will be ready for delivery in late 1959.

LOCKHEED ELECTRA (below), the first U. S. designed turboprop airliner to go into production, is being built by Lockheed Aircraft Corporation to be delivered in 1958.

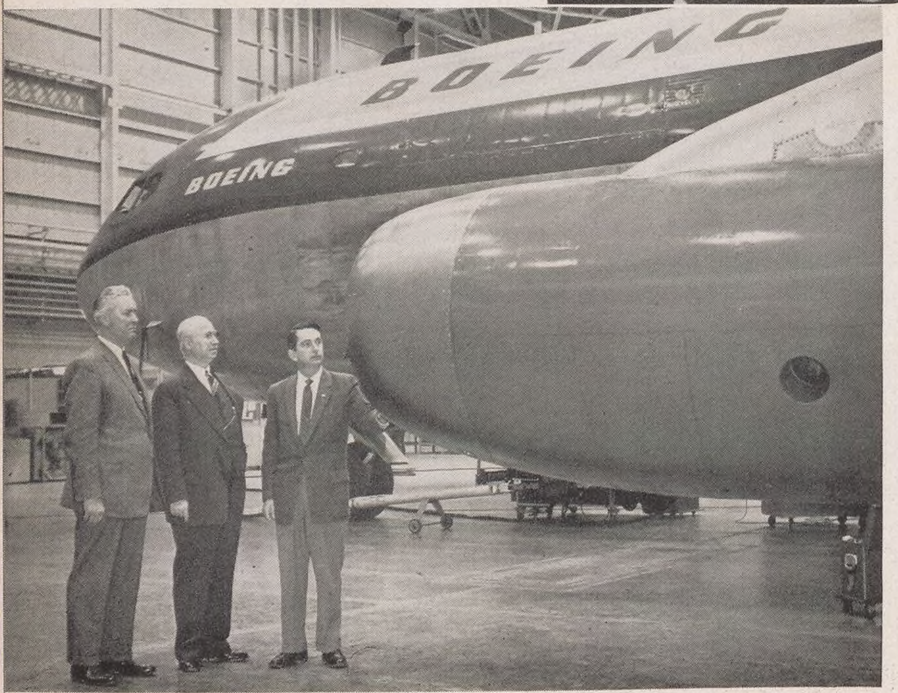
The Age Of The Jetliner (cont'd)

Lockheed reports that the seats in the Electra will "satisfy engineers and orthopedic specialists" — and the customers.

Using a model, Lockheed executives discuss plans for the Electra, which will carry 85 passengers at a speed of over 400 miles an hour.



Looking over the prototype of the huge Boeing 707 at Seattle, left to right, are: H. E. Miller, Seattle Marketing District Salesman; W. H. Hagans, Seattle Marketing Division Aviation and Special Products Manager, and a Boeing engineer.



Generally, the smaller turboprop jets and the 40- to 60-passenger jets will be used on most of the short-range U. S. air routes, while the larger planes probably will be used on transcontinental and overseas routes.

In addition to speed, turboprop and jet airliners offer passengers smooth flight without vibration. The airlines also are in a fierce contest to offer future passengers the ultimate in colorful and luxurious plane interiors.

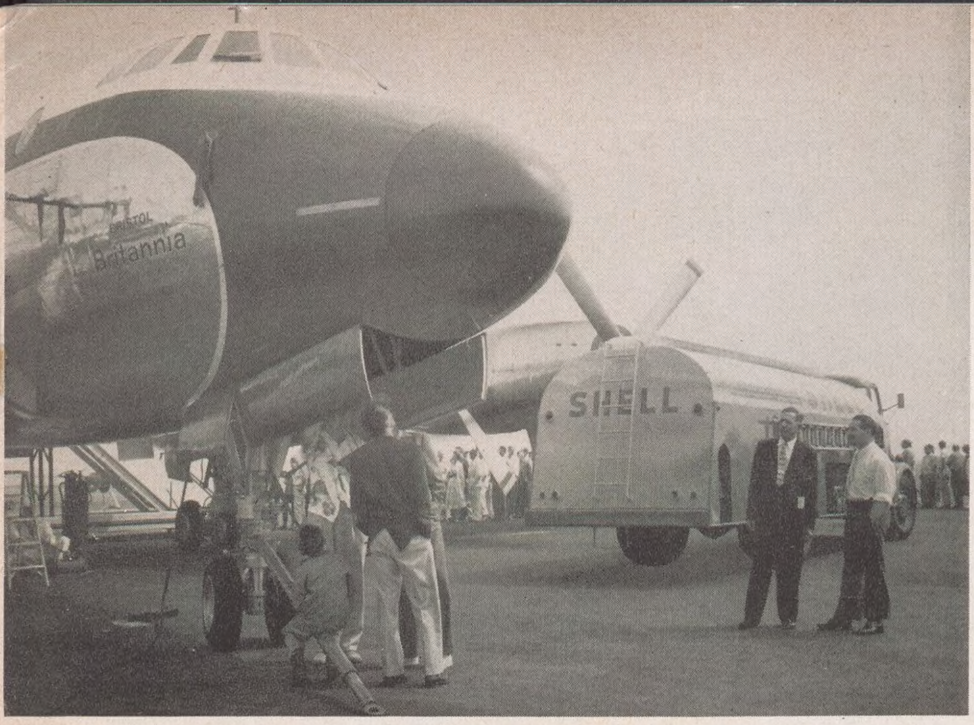
The jet plane gets its power by discharging high velocity streams of hot gas, giving the plane a forward thrust. A simple example of jet propulsion is the flight of a released toy balloon when the compressed air in it is allowed to escape through the neck.

Like the jet, the turboprop (also called prop-jet) plane gets its power from the high velocity gas produced in its engines. However, the escaping gas turns a turbine which powers conventional propellers.

Both types of airliners use a fuel which is different from the high octane gasolines required in present-day aircraft reciprocating engines. Two general types of jet fuel have been developed—a fuel first designed for military aircraft, which is a combination of regular motor gasoline and kerosene, and a straight kerosene-type fuel. Both fuels work satisfactorily in jet and turboprop engines.

Several problems in perfecting a single jet fuel which will meet the specifications of all types of turboprop and jet aircraft are being worked out with the cooperative research of the airline operators, engine and aircraft manufacturers and fuel suppliers through the American Society for Testing Materials. The latter is a non-profit organization supported by industry to establish standard test methods for products. Shell participates in the meetings of this group.

Shell also supplies engine manufacturers with its regular jet fuel and experimental fuels so that various proposed specification items can be tested.



Shell furnished jet fuel for a new British turboprop airliner, the Bristol Britannia, during the plane's recent tour of the United States. Standing at right, in dark suit, is W. W. Stillman, Industrial Salesman for the Santa Monica District of the Los Angeles Marketing Division, and Colin Butt, Service Representative for Bristol Aeroplane Company, Ltd.

For example, the Allison Division of General Motors Corporation, manufacturer of jet engines for the Lockheed Electra, used about 100,000 gallons of Shell jet fuel per month during tests of the Allison turboprop engine. The engine was run on a test stand under conditions approximating actual flight. In testing the Boeing Airplane Company's prototype of the Boeing 707 (powered by engines manufactured by the Pratt & Whitney Aircraft Division of the United Aircraft Corporation) Shell jet fuel was used under actual flight conditions.

In addition to its work with the aircraft industry and the American Society for Testing Materials, Shell is studying jet fuel problems in Shell Oil Company laboratories and at Shell Development Company's Emeryville Research Center.

Among the major problems concerning the aircraft industry and fuel suppliers are:

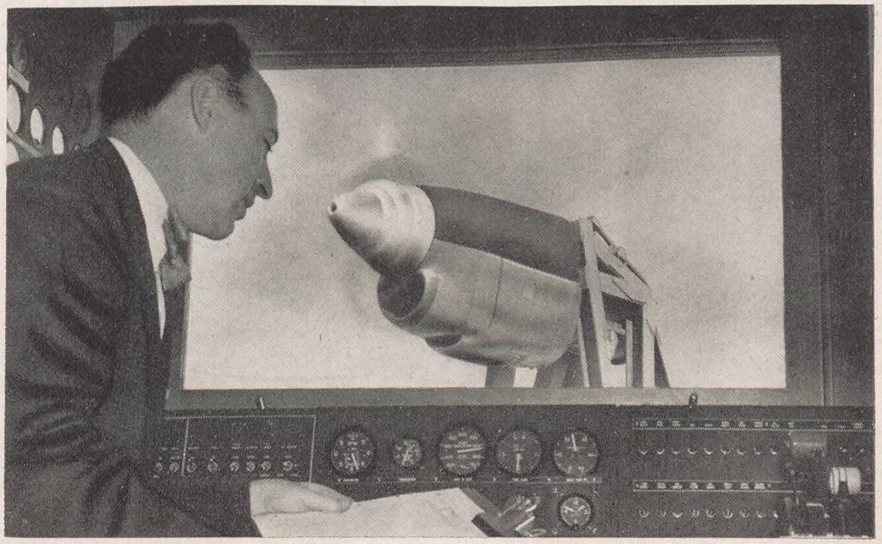
- The freezing point of the fuel—its ability to remain fluid at low temperatures. (To get the best mileage from the fuel, the new airliners will fly at high altitudes, up to 40,000 feet, where the temperature may get as low as 100 degrees below zero.)
- Thermal stability—how the fuel stands up under heat.
- Burnability—the effects of fuel properties on engine operation and maintenance and exhaust smoke.

For efficient operation of jet and turboprop engines it is necessary for the fuel to be absolutely clean and free of water. Minute amounts of dirt and water (which might freeze) can clog the planes' fuel systems. Water gets into the fuel mainly by condensation in storage tanks and while the fuel is being transported.

To provide clean, dry fuel for the Viscounts, Shell has installed filter and water separator systems at airports where the turboprops are serviced. First, the fuel is filtered as it is pumped into underground storage tanks at the airports. Since water settles to the bottom, the fuel is taken from the top of the tanks and is run through another filter and water separator unit as it is pumped aboard a refueling truck. The truck also has filters through which the fuel is pumped as a plane's tanks are filled.

At Shell's Sewaren (New Jersey) Terminal, an unlikely place for an "airport," the Company is planning a full-scale jet refueling installation, complete with refueling truck. It will be used to study various filters and water separators for improving methods of refueling jet aircraft.

This and other jet fuel research will help Shell maintain a leading position as a supplier to the aviation industry during the age of the jetliner—an age which will see the need for jet fuel increased in 1961 to more than 20 times present-day requirements.



A flight test engineer of the Allison Division of General Motors Corporation, tests a turboprop engine powered by Shell jet fuel under simulated flight conditions. The tests check various fuel specifications for the Allison 501, which will be used by the Lockheed Electra.

The nineteenth and twentieth in a series of organization charts

Shell Oil Company

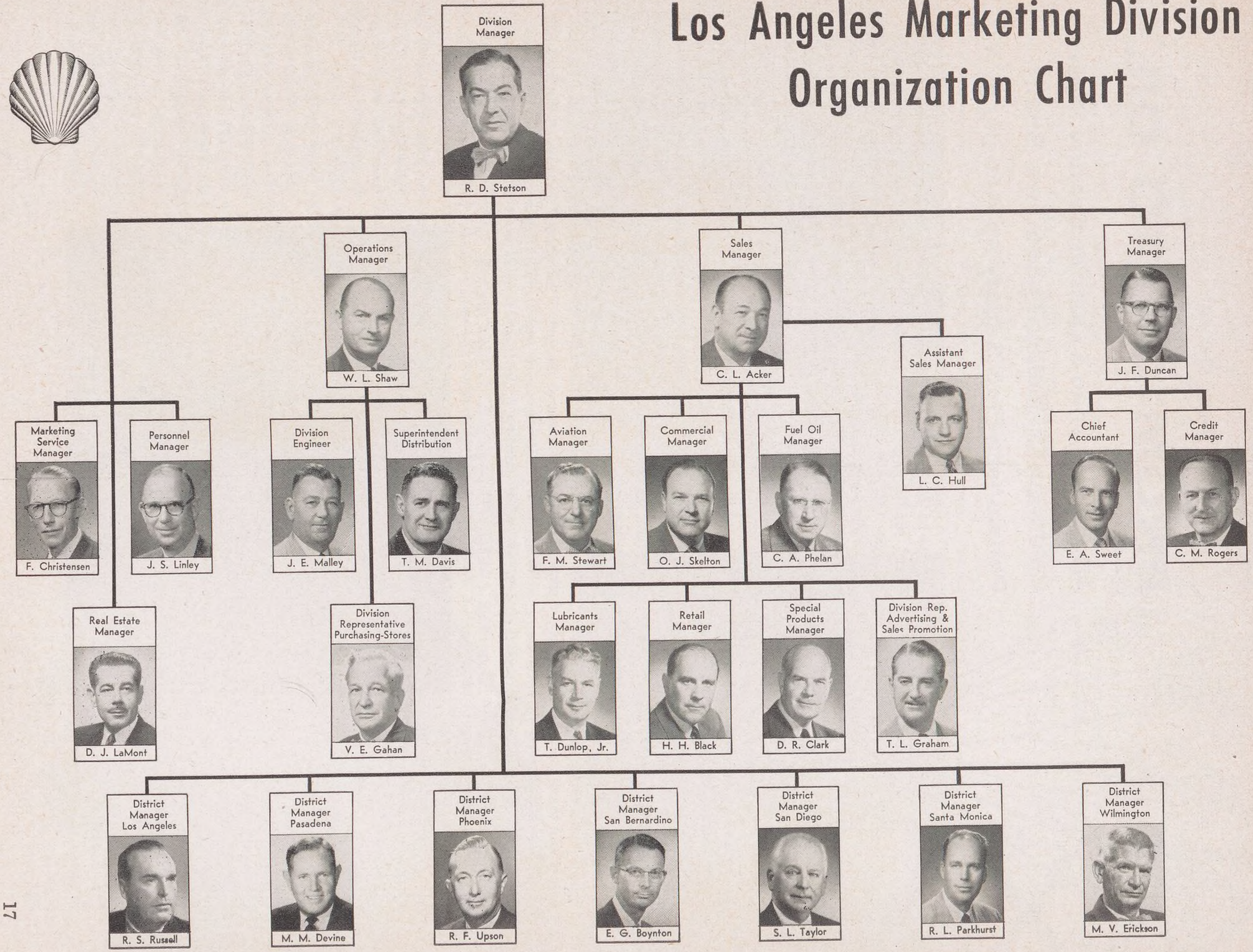
October—1956

Cleveland Marketing Division Organization Chart

*Serves Cleveland and Detroit Divisions

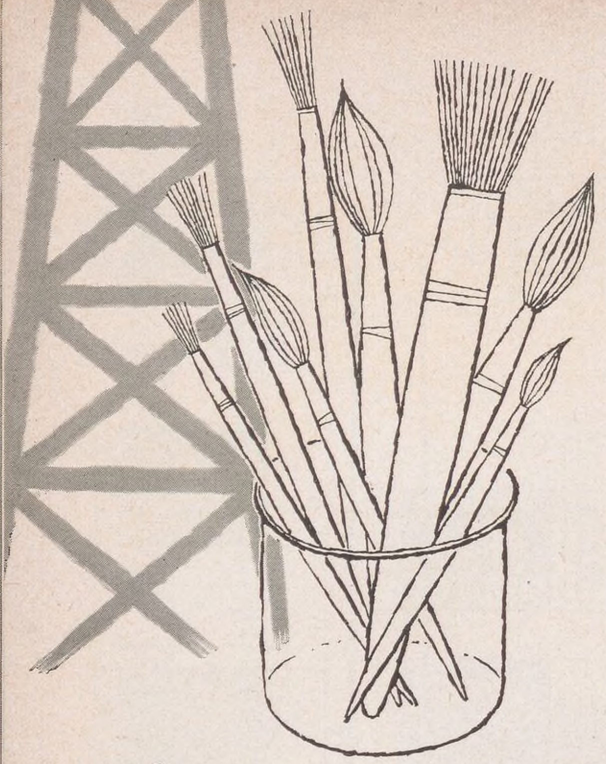
*Serves Cleveland and Detroit Divisions

Los Angeles Marketing Division Organization Chart



FROM OIL TO OILS

After More Than a Quarter Century in the California Oil Fields, These Two Shell Pensioners Find Satisfying Activity in Art



SOONER or later, many people get an urge to paint pictures. Few, of course, do anything about the urge; but those who take up brush and canvas are compensated by a great deal of personal satisfaction — and a few gain a degree of fame and fortune.

Take the cases of two Shell pensioners who took up oil painting; one sooner and the other later. Both Carl R. Walline and Eugene M. Robinson find in art a satisfying and successful retirement activity. Walline has been painting since he was a young man; Robinson never picked up a palette until after he retired.

Both men now make their homes in Long Beach. Each had more than a quarter century of Shell service in the California oil fields.

Art has played an important role in the life of Walline — a life filled with enough adventure to satisfy two ordinary men. Born in The Bronx of New York City, he went to sea as a cabin boy at the age of 11, sailing on a square-rigged windjammer out of Mobile, Alabama. In his ten years as a seaman, Walline saw the great ports of the world and learned to know and love the sea that is the subject of many of his paintings.

Another recurring subject in his art is the rolling prairieland of the West. In 1910, at the age of 22, he left the sea long enough to homestead 160 acres of cattle range in Montana. He still has the 6 Bar Lazy A branding iron which was assigned to the ranch at that time.

Though he painted in his spare time wherever he went, Walline's first profit from his skill came at the end of World War I in a way which was not altogether "artistic." He had joined the Navy during the war and was serving on a transport returning troops from Europe. To lend authenticity to their war stories, soldiers paid Walline a dollar each to have their helmets camouflaged. He recalls that he made $450 in nine days before his oil paints ran out.

Later serving on a merchant ship, Walline came ashore at Los Angeles one December day in 1922 and joined a sight-seeing group touring the new Signal Hill Field where Shell had discovered oil in June of the year before. He was so impressed by what he saw, that Walline decided to give up the sea and go into the oil business. He applied for a job at the Shell field office the next morning and went to work as a roustabout in the afternoon. He continued to work at Signal Hill until he retired as a Pumper in 1948. During 12 of those Shell years, he attended evening art classes to perfect his painting skill.

Now in his comfortable Long Beach studio, where he lives with his wife, Walline depicts the scenes of a full and eventful life in his pictures—scenes of the sea, the open range, and the oil fields. His paintings hang in many parts of the United States and as far away as Cairo, Egypt.

Carl R. Walline worked on Shell leases in the Signal Hill Field for 27 years. Now retired, he paints Signal Hill scenes from memory.

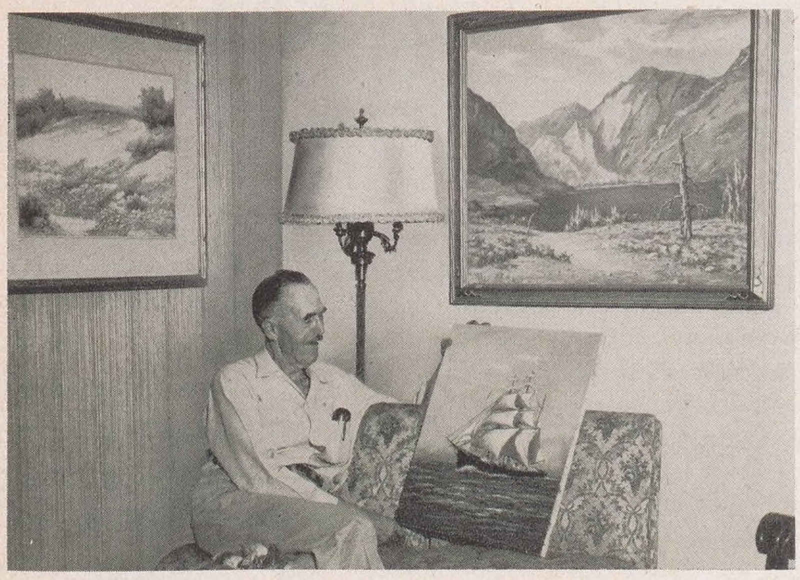
They are on sale at several Southern California art galleries, and Walline adds to his income by teaching a small group of students in two painting classes each week.

Like Walline, Robinson has been interested in art all his life. But he waited until after he retired from Shell in 1950 to paint his first picture.

on wheels becomes a rolling home for him and Mrs. Robinson as they take long trips throughout California, particularly in the High Sierras and the Mother Lode country of gold rush fame. When they find a spot of unusual beauty, they make camp and stay as long as they like. Robinson paints and they both hunt and fish.

kits of all the basic necessities can be obtained from art supply stores for around $15 to $20. The stores also sell a selection of good instruction books designed for beginners, but both Walline and Robinson recommend lessons under a professional art instructor for anyone who wishes to take up painting seriously.

Walline's paintings reflect a sea-faring, cattle ranching and oil field worker background. He also teaches classes in art at his home studio two evenings each week.



Eugene M. Robinson, shown here with his wife, turned to painting after he retired from Shell in 1950.

He, too, is a veteran of Signal Hill and of other California oil fields. He is also a veteran of both World Wars (he served as a Navy cook in the second one), and took advantage of "G.I. Bill" assistance to attend art classes full-time for three years at the Chouinard Art Institute in Los Angeles. He has exhibited his work at the Los Angeles Exposition Park Art Museum, the Long Beach Art Center and in one-man shows.

Although he has sold several of his paintings, Robinson feels that personal satisfaction in creating his own concepts of scenes, persons, and objects gives him the greatest "profit" from his art.

Robinson's studio is a house trailer—fully equipped for living—which he parks in the back yard of his home in Long Beach. Frequently this studio

Many of Robinson's best paintings are seascapes and mountain scenes stemming from these nomadic tours. Others are studies of interesting persons they met along the way.

Both Robinson and Walline agree that it is not necessary to have an inborn talent to paint. Anyone, they say, with an inquiring mind, normal eyesight and a strong desire to paint can produce competent pictures, provided he is willing to spend the time and effort to learn.

Competence does not come easily or quickly. The interested beginner may be encouraged, however, by the fact that oil painting does not require a lot of expensive equipment. Complete

A house trailer serves as Robinson's studio, and also as a rolling home when he and Mrs. Robinson take nomadic, picture-hunting tours throughout scenic California.

Shell People in the News

J. H. Loudon Elected Director of Shell Oil Company

J. H. LOUDON

H. BLOEMGARTEN

J. H. LOUDON has been elected a Director of Shell Oil Company, succeeding H. BLOEMGARTEN who retired recently after 36 years of service with the Royal Dutch/Shell Group. Mr. Loudon is General Managing Director of the Royal Dutch Petroleum Company and Chairman of the Board of Shell Caribbean Petroleum Company. Internationally known in the oil industry, Mr. Loudon has served Shell interests in the United States, Venezuela and The Hague during the last 27 years.

Mr. Bloemgarten, a Managing Director of the Royal Dutch/Shell Group since 1948, retired June 30, 1956, but retained his directorship in the Royal Dutch Petroleum Company, B.P.M. and The Shell Petroleum Company, Limited. He is well known in the United States, having served as a Vice President of Shell Oil Company from 1935 to 1947 and as a Director since 1949.

Shell Oil Company Marketing Organization

J. H. HALL

J. H. HALL has been named to the new position of General Manager-Head Office Marketing Departments. In this capacity, he will guide and coordinate the management of Head Office and San Francisco Office Marketing Departments. Mr. Hall, who holds a degree in electrical engineering from Washington University, joined Shell in 1932 as an electrical engineer at St. Louis. He held various engineering positions in the Marketing and Transportation and Supplies Organizations; in 1939 he was named Superintendent of the Zionsville (Indiana) Products Pipe Line Station and in 1945 was made Division Superintendent of the East Line. In 1946, he was named Manager of the Head Office Marketing Engineering Department. He became Assistant to the Marketing Vice President in 1949 and three years later was appointed Manager of the Head Office Marketing Operations Department. He was named Manager of the Cleveland Marketing Division in May, 1954.

N. H. MILES

N. H. MILES has been named Manager of the Cleveland Marketing Division, succeeding Mr. Hall. Mr. Miles, who holds a degree in business administration from Indiana University, joined Shell at Boston in 1929. After serving in various sales positions in Head Office and District managerial positions in Richmond, Virginia, and Baltimore, Maryland, he was named Sales Manager of the Detroit Division in 1948. He moved to the Cleveland Division as Sales Manager the following year. In 1953, Mr. Miles was named Assistant Sales Manager, East Coast, with headquarters in New York and in July, 1955, was named Assistant Sales Manager, Midwest.

P. G. DREW

P. G. DREW has been named Assistant Sales Manager, Midwest, succeeding Mr. Miles. Mr. Drew, who holds a degree in civil engineering from Oregon State College, joined Shell at Junction City, Oregon, in 1928. He served in various sales and supervisory positions in the Pacific Northwest and California, and in 1939 was appointed Sales Manager in the Portland Marketing Division. He was named to a similar position in the Boston Division in 1949. In June, 1955, Mr. Drew was appointed Assistant Sales Manager, Head Office.

H. S. EUSTIS has been named Assistant Sales Manager, East Coast, succeeding F. H. Staub, now on special assignment. Mr. Eustis, who holds a degree in foreign trade from the University of Washington, joined Shell Oil Company in Portland, Oregon, in 1933. He served in sales and supervisory positions in Oregon and Washington, and was named District Manager at Detroit in 1948. In 1951, he was appointed Long Island District Manager in the New York Division, and later that year was named Sales Manager of the Albany Division. Mr. Eustis was named Sales Manager of the Baltimore Division in April, 1954.

H. S. EUSTIS

G. W. HART has been named Sales Manager of the Baltimore Marketing Division, succeeding Mr. Eustis. Mr. Hart joined Shell at Cleveland in 1933. After serving in various sales and supervisory positions there, he was named District Manager in 1950 at Peoria and later at Rockford, Illinois, and was appointed to a similar position at Wilmington, California, in 1951. In July, 1954, Mr. Hart was named Sales Manager of the Albany Division.

G. W. HART

E. J. COWING has been named Sales Manager of the Albany Division, succeeding Mr. Hart. Mr. Cowing, who holds a degree in business administration from Stanford University, joined Shell at Oakland, California, in 1933. He served in sales positions there and at Redwood City; and from 1935 to 1937 he served in various operating positions at the Martinez Refinery and in the Bakersfield Exploration and Production Division. Returning to the Marketing Organization as a Salesman at Ogden, Utah, in 1937, he progressed through sales and supervisory positions to become Manager of the San Bernardino District of the Los Angeles Division in 1948. In 1951, Mr. Cowing was appointed Retail Manager in the Seattle Division. He moved to the New York Division in June, 1955, as Assistant Sales Manager.

E. J. COWING

Shell Oil Company Transportation and Supplies Organization

F. F. DEAVER has been named Manager of the Crude Oil Department at Houston, succeeding O. D. Crites, who will retire at the end of the year. Mr. Deaver joined Shell in 1927 as a Sample Boy at the former Arkansas City Refinery. He served in various operating and staff assignments there and in 1939 moved to St. Louis, as a Senior Clerk in the Refinery Accounting Department. He transferred to the Transportation and Supplies Organization in 1941 and served in supervisory positions in Head Office in New York. In 1951, Mr. Deaver was named Assistant Manager of the Head Office Supplies Department, and in September, 1954, was appointed Assistant Manager of the Head Office Crude Oil and Volatiles Department.

F. F. DEAVER

E. L. BLINN has been named Assistant Manager of the Head Office Crude Oil and Volatiles Department, succeeding Mr. Deaver. Mr. Blinn joined Shell in 1934 as a Title and Lease Clerk at Houston. He became an Assistant Crude Oil Representative in 1940 and was named Assistant Manager of the Crude Oil Department at Houston two years later. Mr. Blinn served most of 1952 as Assistant Manager of the Head Office Crude Oil Department and returned to Houston as Assistant Crude Oil Manager in December of that year.

E. L. BLINN

Shell Chemical Corporation Marketing Organization

W. C. LOWREY

W. C. LOWREY has been named Assistant Manager of Shell Chemical Corporation's Head Office Market Development Department. Mr. Lowrey, who holds a degree in chemical engineering and chemistry from the University of Alabama, joined Shell Chemical in 1948 as a Technical Salesman at Cleveland, Ohio. He moved to New York in 1950 as a Technologist and was named Manager of the Head Office Solvents Department in 1952. In 1953, Mr. Lowrey was named District Manager at St. Louis. He transferred to a similar position at Newark, New Jersey, in February, 1956.

Shell Development Company

W. L. J. De NIE

W. L. J. De NIE has been named Assistant Manager of the Licensing Division in Shell Development Company's Head Office. Mr. De Nie, who holds a Ph.D. in chemistry from the University of Leiden, Holland, began his Shell career in 1935 with B.P.M. in The Hague and later joined Shell Petroleum Company, Limited, in London. In 1950, he joined Shell Chemical Corporation as a Senior Technologist in New York. In June, 1952, Mr. De Nie was appointed Assistant Manager of Shell Chemical's Head Office Market Development Department.

THOMAS BARON

THOMAS BARON has been named Head of the Chemical Engineering Department at Shell Development Company's Emeryville Research Center. Mr. Baron holds Bachelor of Science and Ph.D. degrees in chemical engineering from the University of Illinois and in 1952 was a co-recipient of the Junior Award in Chemical Engineering from the American Institute of Chemical Engineers. He joined Shell Development in 1951 as an Engineer at Emeryville. He served in the Chemical Engineering and Process Engineering Departments and was named Assistant Head of the Chemical Engineering Department in September, 1955.

Purchasing and Stores Organization

J. E. CONDON

J. E. CONDON has been named Manager of Purchasing and Stores for Shell Pipe Line Corporation with his headquarters in Houston. Mr. Condon joined Shell Oil Company in 1937 as a Treasury Department Clerk in the Exploration and Production Organization at Avant, Oklahoma. He held various Treasury positions in Oklahoma and moved to New York in 1950 as a Representative in the Head Office Purchasing and Stores Organization. In 1953, Mr. Condon joined Shell Chemical Corporation as Assistant Manager of the Stores Department at the Houston Plant. He transferred to Shell Development Company in December, 1954, as Manager of Purchasing and Stores at the Emeryville Research Center.

R. H. CHASE

R. H. CHASE has been named Manager of Purchasing and Stores at Shell Development Company's Emeryville Research Center, replacing Mr. Condon. Mr. Chase joined Shell Oil Company in 1926 as a Clerk at the Wilmington Refinery. He served in various positions at Oakland, California, and in the San Francisco Office, and in 1943 joined Shell Development as Manager of Purchasing and Stores at Emeryville. He rejoined Shell Oil Company in December, 1954, moving to New York as a Senior Representative in the Head Office Purchasing and Stores Organization.

Salt Water Solution

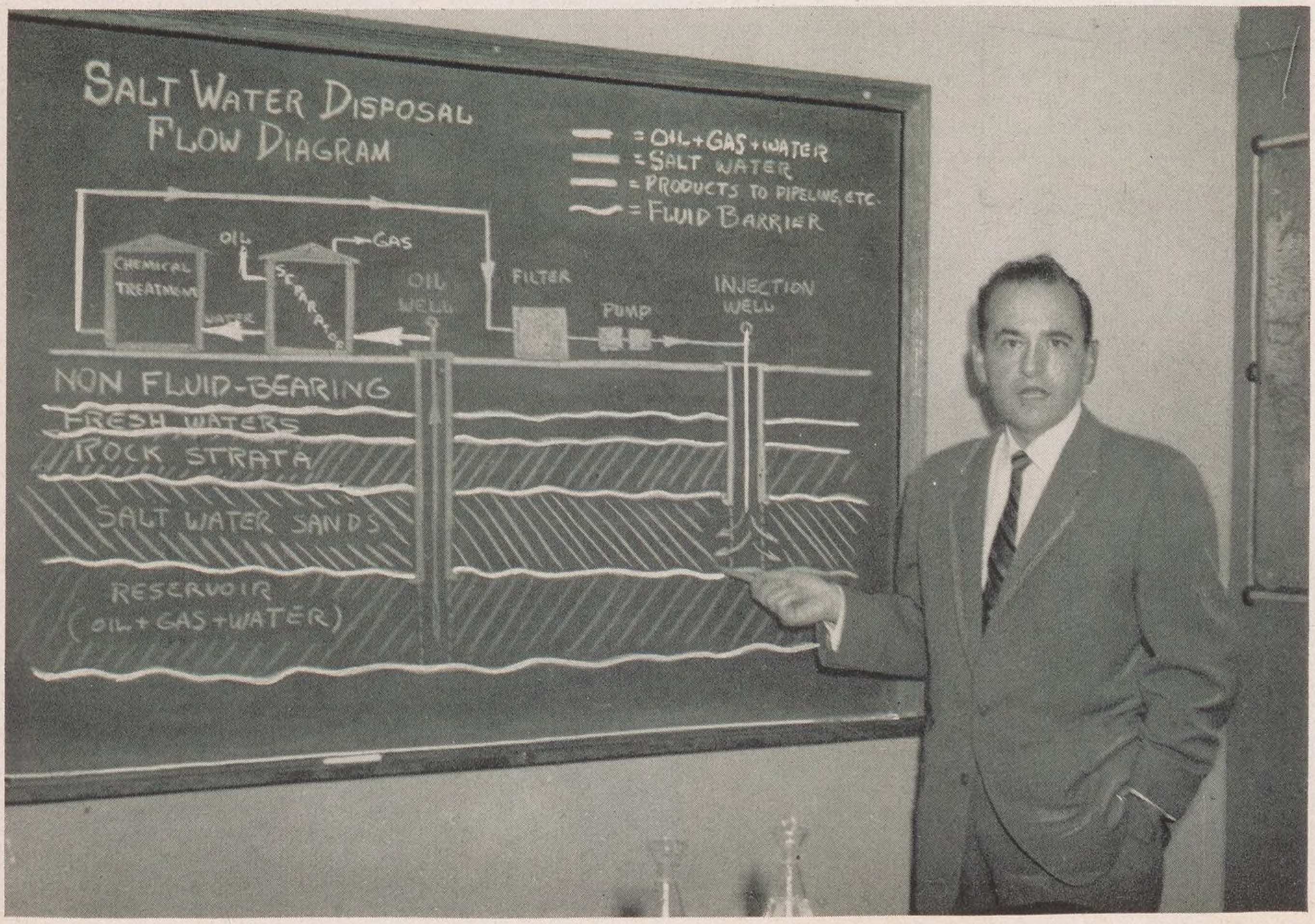
How would you dispose of thousands of barrels of brine every day?
Shell engineers in California tackle the problem in three ways.

SALT, though reputed to aid digestion, is a chronic headache to the oil producer. It comes up, as salt water, from deep in the earth along with the crude oil he produces and floods him with perplexing problems of what to do with it.

Imagine having to get rid of several thousands of barrels of salt water every day! It can't simply be spilled out to soak back into the earth; the salt would soon make the surrounding area unfit for agriculture. It can't be dumped into a nearby stream; the brine would kill fish and pollute sources of drinking water. The flow of salt water from the earth can't be stopped—for so would the flow of oil be shut off and you'd be out of business.

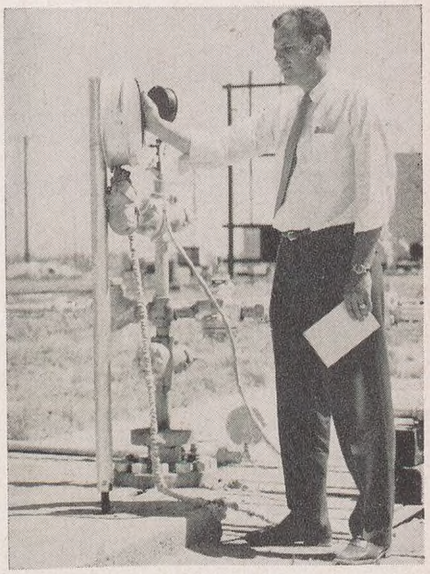
Oil men have worked out their salty problems in several ways—depending on the area and conditions where they occur. The ideal solution is to put salt water to work helping produce more oil. But in most oil fields this is not practical, and, the

With this diagram, R. M. Jorda, Mechanical Engineer in the Pacific Coast Area, shows how unwanted salt water is disposed of in the Ten Section Field of California. Note that the salt water, after chemical treatment and filtering, is pumped down to a formation (where Jorda is pointing) which is below the local source of fresh water. An impermeable layer of rock forms a barrier separating the two.



Engineer J. A. Pryor, left, and Gas Engine Mechanic E. M. Hoskyn look at the Dominguez injection well through which salt water is returned to the underground oil-bearing formation to help push up more oil.

Mechanical Engineer L. W. Abel inspects the water injection well of the Ten Section Field where the waste brine is "put away" underground.

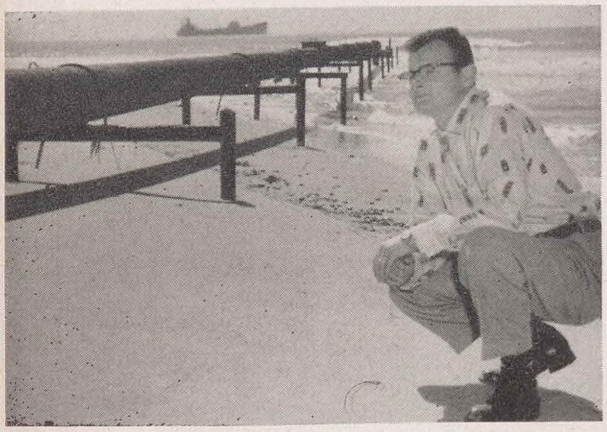


salt water being worthless, the solutions are found in outright disposal. In California, for example, salt water disposal on Shell leases follows three commonly-used patterns:

- Put it to work—Salt water produced in the Dominguez Field is treated and pumped back into producing formations to become a "water drive" forcing more crude oil out of the ground.
- Dump it in the sea—Salt water produced in the Ventura Field is pumped through a 16-inch pipe line to the Pacific Ocean—a distance of a little more than a mile at the closest point. Few oil fields, however, are so conveniently near great bodies of salt water so that their unwanted briny by-product can be disposed of in this way.
- Put it back in the ground—Salt water produced in fields like Ten Section and Raisin City is pumped down through special injection wells to porous formations below and sealed off from fresh water-bearing strata.

The latter method is quite often the only practical solution to salt water disposal in oil fields. It is gaining in popularity because it both solves the oil producer's problem and satisfies the property owner whose land might otherwise be damaged. Shell is using the injection well method of salt water disposal in numerous fields ranging throughout all of its producing areas.

Take, for example, the Ten Section and Raisin City Fields in California's San Joaquin Valley. The once-arid land surrounding them is now being irrigated to increase agricultural yields, hence salt water cannot be turned loose on the land. It is too far to the sea to build a salt water pipe line and, besides, a range of mountains bars the way. Salt water, therefore, must be pumped far underground—and this is no small chore considering the amount of it produced in the two fields. At Raisin City, some of the wells produce 92 per cent salt water and only 8 per cent oil.



Salt water from the Ventura Field, which lies near the coast, is dumped in the Pacific Ocean. Here, Mechanical Engineer J. T. Billings looks at the pipe line that carries it.

As the inter-mixed oil and salt water come out of the ground, they are separated in heater-treaters and the crude oil moves on to more profitable destinations. From the heater-treaters it would be a simple matter to filter the salt water, to take out sand and scale, and to pump it back into the earth — except for a voracious, microscopic bacteria (most active in

California fields) which also must be put out of action.

Officially labeled desulfovibrio desulfuricans, a "sulphate reducing" bacteria, this constantly-wiggling bit of life is so small that 5,000 of them lined up end to end would scarcely span an inch. This bacteria multiplies at a rate sufficient to double its population every hour—and if allowed to do so could bring the whole process of pumping salt water back into the ground to a soggy, choking halt. The tiny bodies could clog equipment and the underground formations themselves. What's more, the waste products of the bacteria can cause extensive corrosion in pipes and equipment.

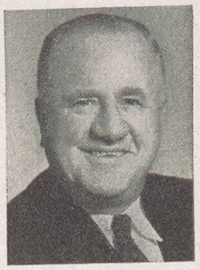
To combat the corrosive activities of this minute menace, and to inhibit the growth of other bacteria, engineers add chemical bactericides to the salt water after it is separated from the crude oil. It is believed that some chemicals form a coating around the bacteria, preventing the intake of food. Others are more direct—they poison the bacteria.

All of the treated salt water in the Ten Section Field—which amounts to about 3,500 barrels per day—is pumped to a single well which once was a commercial oil producer. In 1950, it was converted to be the field's injection well and through it salt water is "put away" in formations from 3,200 to 5,600 feet down. Salt water from Shell's 13 wells in the Raisin City Field is also injected back into the earth through a single well—at a rate averaging 2,500 barrels per day.

The salty tale of these two fields would seem to imply that salt water disposal is an acute problem in the oil fields of the San Joaquin Valley. Actually, much of the water produced there is fresh and, after the removal of all oil, can be released for irrigation purposes. Shell's wells in the Mt. Poso, Round Mountain and Coffee Canyon Fields, for example, produce large quantities of fresh water.

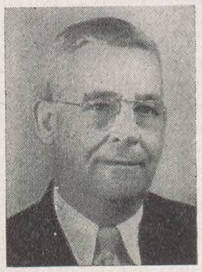
They Have Retired

G. A. CLARK
Tulsa Area
Treasury



F. C. GOFTON
Boston Division
Operations

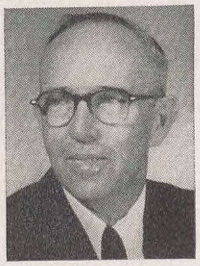
C. G. McDONALD
Houston Area
Production



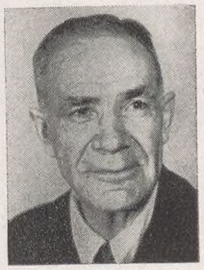
R. G. PETIT
Norco Refinery
Dispatching

A. J. PFAFFLIN
Wood River Refinery
Engineering

A. R. POWERS
Pacific Coast Area
Exploration



C. E. PROVOW
Wood River Refinery
Engineering

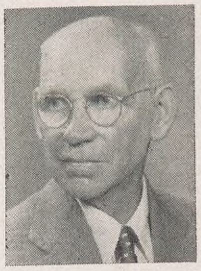


H. L. ROLLI
Wood River Refinery
Thermal Cracking

F. D. SCOTT
Tulsa Area
Production

S. E. SIEBERT
Pipe Line Department
East Chicago, Indiana

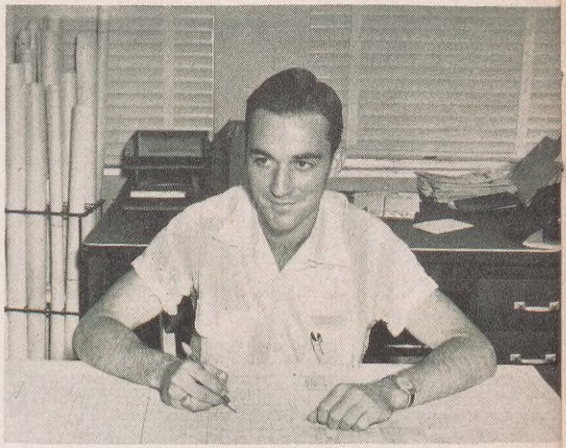
H. M. TAYLOR, JR.
Chicago Division
Operations



F. E. WILSBERG
Detroit Division
Operations

SHELL COAST TO COAST

Dash Flash



AT 21, track star Don Conder's racing days are over, but he has more than 100 medals, watches and trophies — plus several mentions in record books — as tangible memories of his prowess as a track star.

Don, now a Clerk in the Abilene (Texas) District office of the Midland Exploration and Production Area, was a star sprinter for Abilene Christian College for four years. His biggest thrill came last May at the California Relays, when his team tied the 880-yard world relay record of 84 seconds. His accomplishments include winning high-point honors in the 1954 Texas Conference meet and setting a Border Olympics record of 41.7 seconds in the 440-yard dash last year.

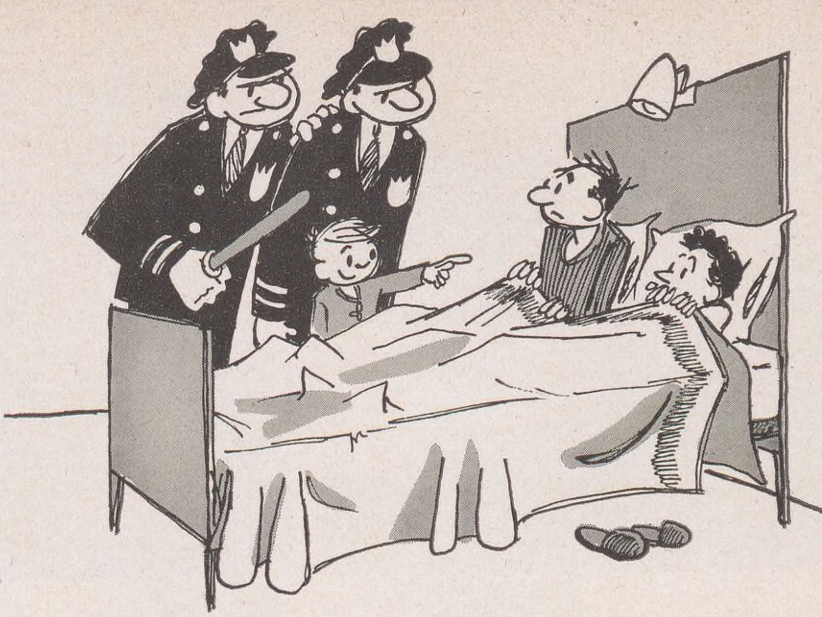
Don worked at Midland Area locations during the last three summers. When he got his degree last spring, he joined Shell full-time.

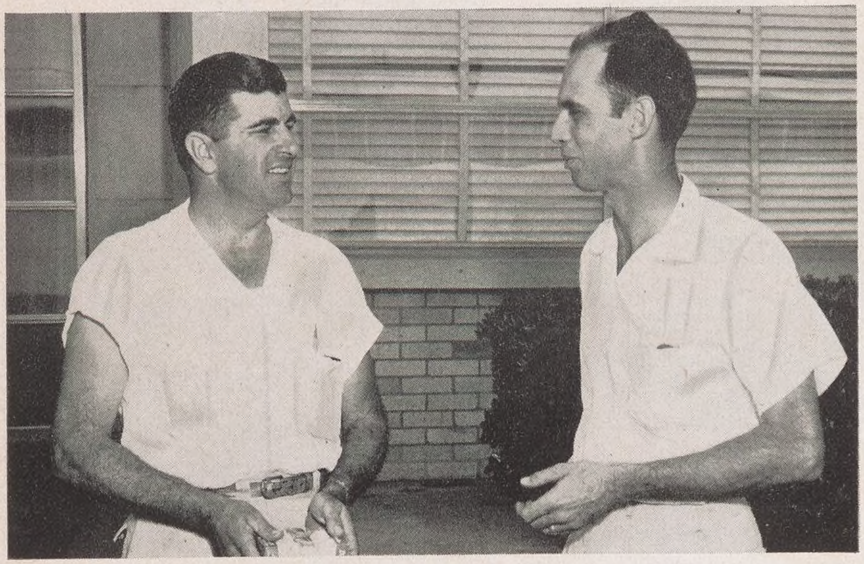
Festival Floats

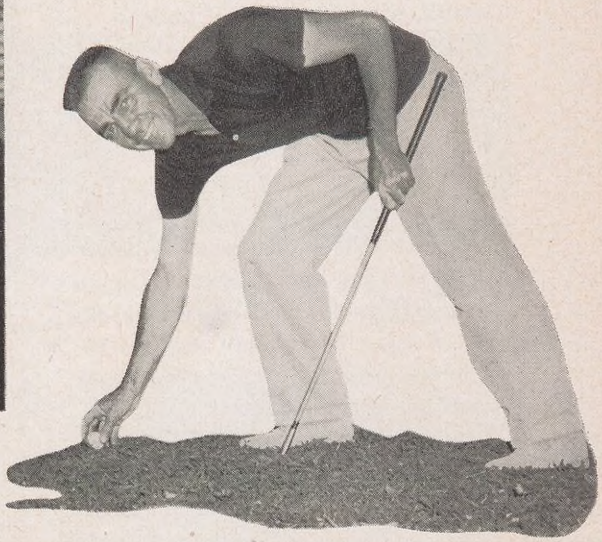
Two Shell-sponsored floats were eye-filling spectacles in recent parades. At left, Susi Seley, of the Portland Marketing Division Treasury Department, accepts the blue ribbon for the Shell float's being the best in its class at the Portland Rose Festival. The winning float's theme was "Disneyland in Flowers." Below, eight Calgary Exploration and Production Area employees decorate Shell's float in the Calgary Stampede Parade. The girls are, left to right: Barbara Hart, Sonya Parama, Elvira Kiss, Marion Davis, Noreen Chivers, Lil Gordica, Fran Adams and Pierrette Jutras.

Dawn Patrol

Mark, the four-year-old son of J. L. Radosevich, Computer in the Billings (Montana) Exploration Division, often wakes up at dawn with a hunger too sharp to wait for family breakfast. He's learned to fix himself a snack of cereal and milk from the icebox. But one recent morning, he couldn't find the milk. This, to Mark, was an emergency, and in emergencies he knew he should call a telephone operator. He dialed "O," explained his problem, and added, "I can't wake up my mummie and daddy." The operator connected him with the police, and Mark repeated his story. Within minutes, Mark—still hungry—was leading two policemen into his parents' bedroom at 6 a.m. Awakened by the arm of the law, Radosevich overcame his surprise and said: "With four children, you've got to develop a sense of humor."

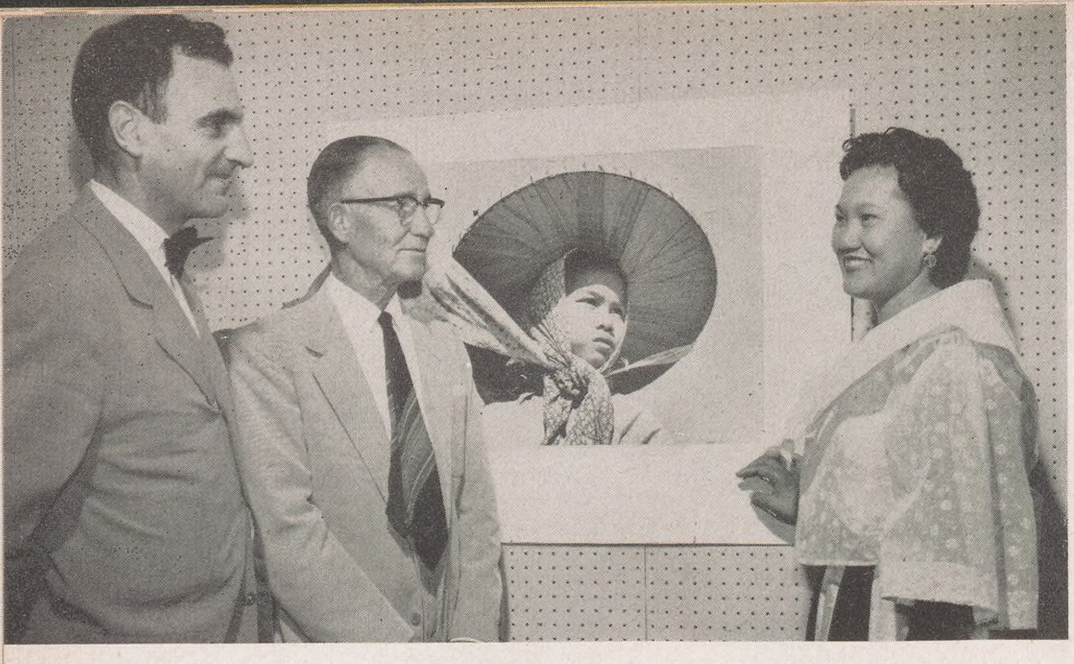






Four Aces

Four more Shell golfers, three of them at the same location, scored holes-in-one recently. At upper left, N. A. Carrier, Operator in Shell Chemical Corporation's Houston Plant, holds golf balls presented for his feat by L. T. Williams, Jr., Engineer in Shell Oil Company's Houston Refinery, official of the Shell Employees Recreation Association. Three Wood River Refinery employees who scored aces were: Operator H. J. Miller, above, Operator L. E. Purdy, far left, and Instrument Man J. L. Cuddy. Purdy and Miller sank their holes-in-one at the same hole of the same course, though on different days. It was the first hole-in-one to be scored by each of the four golfers.



Focus on the Philippines

Dr. Alexander Spoehr, left, Director of the Bishop Museum of Honolulu, W. C. McBain, Manager of Shell's Honolulu Marketing Division, and Mrs. J. B. Kramer of Honolulu stand before one of the 90 photographs illustrating life in the Philippine Islands which were featured at the museum's recent 10th anniversary celebration of Philippine independence. The photographs were made by Derrick Knight of the Shell Photographic Unit (London) and were flown from Singapore to Hawaii at McBain's request to be shown during the independence exhibit at the museum.

Knight of the Turntable

FOR three years R. W. Vanston, at right, Truck Driver at Shell Oil Company's Houston Refinery, has been a disc jockey on a closed circuit radio station serving only the patients in Houston's Veterans Administration Hospital. Mrs. Vanston, below, works on the receiving end of the line repairing and adjusting the patients' earphones.

Vanston and his wife, Virginia, became interested in their volunteer work through the American Legion post in Houston. Since Vanston works the 4 p.m. to midnight shift at the refinery, he is able to broadcast each morning from 9 a.m. until noon. Serving as his own announcer, engineer and program director, he offers six 30-minute musical programs every morning. The music varies from western to classical, and includes one segment which he calls "Vanston's Musical Pot Luck." The other programs are "Remember" (older popular and western records); "At Ease" (relaxing music); "Guest Star" (Armed Forces Radio production); "Morning Concert" (classical music), and "Show Time" (hit songs from musicals).

While her husband is sending out the music, Virginia makes sure each patient is able to tune in through the individual earphone set at the patient's bed. She says the headsets are usually easy to repair, and often require only replacement of broken plugs. She is able to spend more hours at the hospital than her husband. While there, she works with other members of the Legion Auxiliary.

E. B. Gray, top, Landman in the Baton Rouge (Louisiana) Division, climaxed four years of night school at Loyola University of the South by receiving his law degree and an award for excellence in Louisiana procedure. O. A. Miltner, immediately above, Clerk in the Detroit Marketing Division, received his law degree and an award at the Detroit College of Law for proficiency in practice and procedure of preparing cases.

Service Birthdays

Forty Years

C. HANSEN
Pacific Coast Area
Production

Thirty-Five Years

H. A. BROWN
Shell Pipe Line Corp.
Mid-Continent Area

F. E. ESTERLIN
Wilmington Refy.
Distilling

B. C. GIBSON
San Francisco Office
Marketing

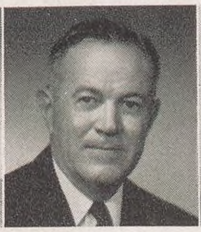
Thirty Years

R. N. BALES
New Orleans Area
Gas

W. R. BLAND
Martinez Refy.
Fire & Safety

E. S. BODINE
Shell Chemical Corp.
Shell Point—Mgr.

J. G. BURROUGHS
Pipe Line Dept.
East Chicago, Indiana



H. K. CARTER
St. Louis Div.
Operations

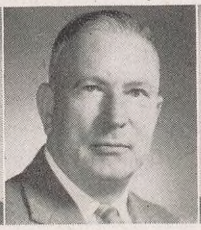
H. L. DANA
Sacramento Div.
Sales

A. I. DONOHUE
Head Office
Manufacturing

H. R. FRASER
Seattle Div.
Treasury

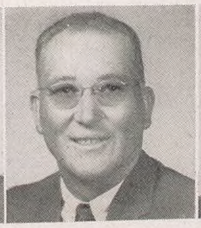
R. L. GASSEN
Norco Refy.
Engineering

R. GRANT
Shell Pipe Line Corp.
Mid-Continent Area

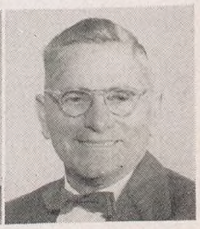


J. C. HERRON
Pacific Coast Area
Gas

J. B. IRVINE
Sacramento Div.
Operations



B. E. JENNINGS
Tulsa Area
Production



J. KELLER
Norco Refy.
Engineering

R. H. KNEER
Shell Pipe Line Corp.
West Texas Area

C. L. LOVITT
Wilmington Refy.
Engineering

G. MARSHALL
Martinez Refy.
Engineering

G. R. McMEEN
Wood River Refy.
Alkylation

F. L. MILLER
Pipe Line Dept.
Zionsville, Ind.

E. E. MITCHELL
Portland Div.
Sales

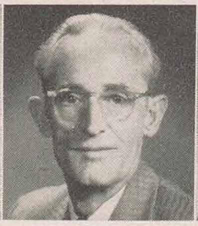
A. E. PHINNEY
San Francisco Div.
Sales

Thirty Years (cont'd)

E. C. REECE
Shell Pipe Line Corp.
West Texas Area

T. B. RENDEL
Head Office
Manufacturing

A. N. SIMONS
Los Angeles Div.
Operations



L. F. SMITH
Wood River Refy.
Compounding

W. H. SORRELL
Pipe Line Dept.
East Chicago, Ind.

C. G. TALLEY
Wood River Refy.
Control Laboratory

E. F. TEEL
Tulsa Area
Gas

Twenty-Five Years

R. H. BENEFIEL
Seattle Div.
Sales

A. O. FRECKLETON
Los Angeles Div.
Operations

A. V. GRAWE
Head Office
Financial

S. L. HOLSEY
New Orleans Area
Production

W. G. HUEBNER
Wood River Refy.
Treasury

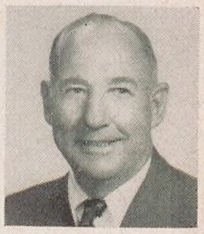
C. L. MARSHALL
Houston Refy.
Thermal Cracking

E. L. McGHEE
Pacific Coast Area
Production

A. J. MEYERS
Norco Refy.
Utilities

E. L. MICHAELSEN
Seattle Div.
Operations

M. E. MUELLER
Head Office
Personnel



H. W. NELSON
San Francisco Office
Purchasing

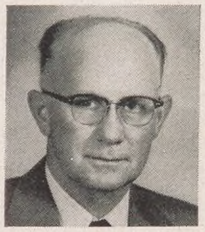
J. S. NETTLES
Shell Pipe Line Corp.
Texas Gulf Area

C. W. PULLEN
Wood River Refy.
Engineering

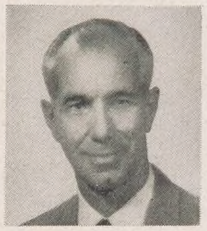
R. T. SEIDEL
Minneapolis Div.
Manager

R. H. SNELL
Wood River Refy.
Engineering

R. C. STAPLETON
Shell Pipe Line Corp.
Mid-Continent Area



M. G. TETRICK
Pipe Line Dept.
Casey, Illinois



W. H. THOMPSON
Minneapolis Div.
Operations

D. L. UNVERZAGT
Wood River Refy.
Engineering

T. W. VAN HOOSEAR
Shell Development Co.
Emeryville

R. D. WEDDING
Pipe Line Dept.
Los Angeles, Calif.

C. A. WOODFALL
Wood River Refy.
Catalytic Cracking

SHELL OIL COMPANY

Head Office

20 Years
H. Harvey....................Marketing

15 Years
P. E. Bacon....................Financial
R. M. Brackbill....................Expl. & Prod.
Florence E. Jones....................Legal
F. Larson....................Marketing

10 Years
S. K. Knox....................Trans. & Supplies
M. E. Lilley....................Financial
J. E. Slifer....................Manufacturing
Frances O. Smith....................Manufacturing
Leonora M. Summa....................Marketing

San Francisco Office

20 Years
A. J. Fabris....................Legal

Exploration and Production

CALGARY AREA

15 Years
W. L. Brady....................Purchasing-Stores

DENVER AREA

20 Years
O. D. Grant....................Production
A. E. Palmer....................Exploration
E. L. Shields....................Production
H. H. Smith....................Exploration

10 Years
B. A. Allen....................Production
E. W. Curran, Jr. ....Exploration
C. A. Davis....................Exploration
H. G. Flye....................Production

HOUSTON AREA

20 Years
R. E. Dobyns....................Crude Oil
A. H. Harwell....................Production
N. K. Maer....................Legal

15 Years
J. L. Franks....................Gas
H. J. Nelson....................Production

10 Years
C. H. Sowell....................Exploration
J. B. Watson....................Production
J. W. Willis....................Land

MIDLAND AREA

10 Years
M. G. Allen....................Gas
A. E. Eubanks....................Gas
E. E. Inman....................Treasury
C. H. Partney....................Production
A. M. Pitzer....................Land
E. C. Roach....................Production
D. B. Willis....................Production

NEW ORLEANS AREA

20 Years
F. H. Butler....................Exploration
T. E. Cornes....................Production
J. H. Jenkins....................Exploration
J. J. McGee....................Production
L. Sherrick....................Production

15 Years
J. C. Stoute....................Production

10 Years
M. V. Anderson....................Production
A. L. Decuir....................Production
P. P. Jolet....................Production
D. C. Meyers....................Production
C. W. Vines....................Production

PACIFIC COAST AREA

20 Years
S. G. Argain....................Gas
D. C. Edmondson....................Production
V. E. Malquist....................Production
A. T. Murphy....................Production

15 Years
H. W. Morris....................Purchasing-Stores
H. Munk....................Gas
C. O'Brien....................Gas
L. A. Swetnam....................Purchasing-Stores

10 Years
A. H. Bibby....................Production
H. F. Case....................Production
W. C. Deppe....................Production
P. C. Garvin....................Production
W. M. Hull....................Production
W. O. Jones....................Production
Y. E. Kemp....................Gas
G. W. McWilliams....................Production

TULSA AREA

20 Years
J. H. Buntz....................Production
B. Castleberry....................Production
J. H. Delay....................Production
G. S. Dowdy....................Production
O. J. Hansen....................Production
J. L. Okerson....................Production
J. P. Shannon....................Gas
F. R. Sutphin....................Production
B. H. Walls....................Production

15 Years
G. D. Ashabranner....................Legal
E. R. Hale....................Production
A. M. Hensley....................Production
I. J. Sparlin....................Production

10 Years
T. E. Anderson....................Gas
C. G. Cosper....................Gas
L. L. Killion....................Treasury

Manufacturing

ANACORTES REFINERY

10 Years
W. J. Barabash....................Engineering

HOUSTON REFINERY

20 Years
J. M. Alden....................Engineering
G. Atkinson....................Engineering
O. Bopp....................Aromatics
C. L. Braddy....................Engineering
M. J. Canuteson....................Engineering
A. F. Colburn....................Engineering
R. H. Diamond....................Aromatics
C. D. Elliott....................Engineering
R. H. Grasse....................Thermal Cracking
H. F. Koenig....................Catalytic Cracking
E. P. Logan....................Treasury
H. A. Maignaud....................Aromatics
O. H. Mendel....................Engineering
J. A. Nelson....................Aromatics
F. O. Roberts....................Lubricating Oils
J. H. Spiller....................Engineering
K. I. Stonequist....................Engineering
G. F. Tucker....................Engineering
L. W. Witt....................Catalytic Cracking

15 Years
J. L. Dykes....................Engineering
P. E. Fleming....................Automotive
G. T. Herren....................Treasury
R. D. Miller....................Engineering
J. W. Morrow....................Distilling
C. O'Toole....................Engineering
R. E. Phillips....................Engineering
W. H. Telschow....................Stores
P. S. Wells....................Engineering

10 Years
J. L. Bishop....................Engineering
H. L. Blackman....................Engineering
H. C. Chapman....................Treasury
J. D. Darbonne....................Engineering
C. A. Davenport....................Dispatching
G. Edwards....................Engineering
L. B. Gilbert....................Engineering
J. A. Hawkins....................Dispatching
E. Houston....................Engineering
J. H. Howard....................Automotive
N. Jenkins....................Engineering
D. E. Johnson....................Engineering
J. S. Laramore....................Lubricating Oils
T. H. Lee....................Utilities
C. S. Matney....................Engineering
J. J. Meigs....................Engineering
S. L. Richardson....................Engineering
V. L. Samford....................Engineering
H. M. Sims....................Economics & Scheduling
B. M. Sommerfeld....................Engineering
A. L. Taylor....................Engineering
L. J. Thibodeaux....................Engineering
E. R. Watson....................Lubricating Oils
R. White....................Engineering

MARTINEZ REFINERY

20 Years
W. B. Mullineaux....................Lubricating Oils
A. Palubicki....................Control Laboratory

15 Years
A. A. Cowell....................Engineering
J. C. Odom....................Compounding
J. G. Palmer....................Engineering

10 Years
G. Aiello....................Compounding
P. P. Aiello....................Engineering
C. E. Case....................Research Laboratory
A. Hillin....................Lubricating Oils
A. B. Hoffman....................Distilling
H. E. Minns....................Engineering
C. E. Roberts....................Engineering
C. L. Semon....................Dispatching
R. W. Smith....................Distilling

NORCO REFINERY

20 Years
A. C. Granier....................Utilities

15 Years
I. J. Humphries....................Engineering
M. L. Hurst....................Treasury
C. R. Landeche....................Engineering

10 Years

A. A. Lacroix .... Pers. & Indus. Rel.
R. L. Lukes .... Engineering
C. L. Monnot .... Engineering

WILMINGTON REFINERY

20 Years

E. J. Bruns .... Engineering

15 Years

W. E. Cobb .... Engineering
W. Covington .... Engineering
C. C. Marshall .... Dispatching
C. A. Rankard .... Engineering
C. Rogers .... Dispatching
A. W. Scammon .... Control Laboratory

10 Years

E. R. Allen .... Control Laboratory
J. Allen .... Thermal Cracking
R. S. Fennell .... Catalytic Cracking
I. J. Gennusa .... Engineering
R. R. Joiner .... Engineering
L. K. Kolander .... Engineering
L. C. Priddy .... Thermal Cracking
L. Ramos .... Engineering
R. O. Ries .... Engineering
B. M. Wade .... Dispatching
S. York .... Effluent Cont. & Util.

WOOD RIVER REFINERY

20 Years

H. J. Barnhorn .... Gas
R. Bierbaum .... Engineering
C. O. Brannan .... Engineering
P. Costanzo .... Catalytic Cracking
C. R. Ferguson .... Compounding
A. L. March .... Engineering
J. C. Mulville .... Engineering
C. M. Slaten .... Utilities
C. L. Slavik .... Compounding
L. E. Stubblefield .... Treasury
G. K. Wood .... Engineering

15 Years

H. M. Cleary .... Catalytic Cracking
G. Van Doren .... Engineering
J. E. Foster .... Engineering
Mary R. Holliday .... Engineering
C. B. Watson .... Engineering

10 Years

H. L. Franzel .... Engineering
W. L. Freer .... Distilling
R. F. Maurer .... Engineering
F. W. Millering .... Engineering
T. J. Parker .... Engineering
A. H. Townzen .... Engineering
J. H. Warford .... Engineering
A. L. Webb .... Compounding
H. E. Woehler .... Fire & Safety

Marketing

MARKETING DIVISIONS

20 Years

O. H. Hansbrough .... Baltimore, Operations
J. M. Ripken .... Baltimore, Operations
A. P. Hynes .... Boston, Sales
R. W. Pierce .... Boston, Operations
J. M. Roudebush .... Cleveland, Operations
C. L. Seelbach .... Cleveland, Sales
F. A. Thomas .... Honolulu, Sales
J. M. Dooley .... Indianapolis, Sales
P. G. Rice .... Indianapolis, Sales
J. B. Webster .... New York, Sales
E. F. Wiles .... New York, Operations
W. D. Hazel .... Portland, Operations
F. N. Evanhoe, Jr. .... Sacramento, Sales
B. R. Alexander .... St. Louis, Operations
L. R. Davis .... St. Louis, Treasury
W. H. Hunter .... St. Louis, Operations
R. M. McGee .... St. Louis, Operations

15 Years

N. J. Ganslen .... Albany, Real Estate
J. F. Mink .... Albany, Operations
Margaret C. McKenna .... Boston, Treasury
C. H. Wiley .... Indianapolis, Operations
O. K. Balcom .... Los Angeles, Operations
A. A. Reffelt .... New York, Sales
A. C. Jacobsen .... Portland, Operations
F. M. Stamper .... St. Louis, Operations
H. V. Campbell .... Seattle, Operations
J. Little .... Seattle, Operations

10 Years

E. F. Loveland .... Albany, Sales
G. M. Elliott .... Atlanta, Marketing Service
J. H. Coffey .... Baltimore, Operations
G. H. Swanson .... Baltimore, Treasury
R. J. Behm .... Boston, Operations
J. J. Healy .... Chicago, Operations
D. W. Babroski .... Cleveland, Operations
Sophie Bilecke .... Detroit, Sales
A. Correia .... Honolulu, Operations
R. K. H. Lee .... Honolulu, Operations
Violet L. Wong .... Honolulu, Treasury
O. R. Auer .... Indianapolis, Operations
L. A. Schammel .... Minneapolis, Treasury
J. R. Falco .... New York, Operations
H. F. King .... New York, Operations
T. J. O'Brien .... New York, Operations
C. R. Schoppmann .... New York, Operations
J. P. Schramm .... New York, Operations
C. P. Lamb .... Portland, Marketing Service
H. B. Lystrup .... Portland, Operations
R. F. Purcella .... Portland, Operations
J. F. Reusens .... Portland, Treasury
E. M. Watson .... Portland, Treasury
J. A. Fitton .... St. Louis, Operations
R. R. Yancey .... St. Louis, Operations
Alice E. Forster .... San Francisco, Treasury
N. R. Jones .... Seattle, Operations

SEWAREN PLANT

20 Years

J. F. Allgaier .... General Plant

10 Years

A. Nagy .... Treasury
W. L. Phillips .... Treasury
J. Terefenko .... Compound
W. J. Theophilakos .... Chemical

Pipe Line Department

20 Years

C. G. Ball .... Los Angeles, Calif.
E. P. Lawliss .... Indianapolis, Ind.

15 Years

J. R. Grant, Jr. .... Simi, California

10 Years

A. J. Fallert .... Zionsville, Ind.
C. L. Shea .... Indianapolis, Ind.

SHELL CHEMICAL CORP.

20 Years

O. A. Colten .... Head Office
W. R. Hightower .... Houston
J. G. Matthews .... Houston

15 Years

O. L. Brown .... Houston
P. R. Crockett .... Houston
W. S. Fruland .... Houston
D. A. Lucas .... Houston
G. G. Tabor .... Houston
C. Thompson .... Houston
W. E. Flood .... Martinez
D. A. Linhares .... Ventura

10 Years

R. M. Maybee .... Head Office
O. D. Walraven, Jr. .... Head Office
G. J. Gardemal .... Houston
L. C. Garrett .... Houston
M. H. Harrington .... Houston
H. L. Herrod .... Houston
E. N. Lary .... Houston
W. P. McNeill .... Houston
J. C. Mercier .... Houston
J. F. Robinson .... Houston
R. Stridic .... Houston
F. P. Thompson .... Houston
L. Worsham .... Houston
D. L. Cahoon .... Martinez
V. J. Heden .... Martinez
E. A. Boggess .... Shell Point
A. M. Fraser .... Shell Point
H. E. McNichols .... Shell Point
S. C. Polina .... Shell Point
R. H. Seaton .... Shell Point
C. W. Serbonich .... Shell Point
F. E. Thomas .... Shell Point
C. T. Dybdal .... Torrance
J. V. Petker .... Ventura
B. H. Pilorz .... Ventura
J. A. Stuart .... Ventura

SHELL DEVELOPMENT CO.

20 Years

C. J. Dias .... Emeryville
M. V. Long .... Emeryville
P. R. Van Ess .... Emeryville
F. R. Allcorn, Jr. .... Houston

15 Years

R. E. Bishop .... Emeryville
J. D. Cannon .... Emeryville
W. R. Webber .... Emeryville
Julia G. Breeding .... Houston

10 Years

C. W. Pagel .... Modesto
P. J. Dougherty .... Emeryville
S. D. Hall .... Emeryville
O. J. McCurdy .... Emeryville
Diane J. Mendoes .... Emeryville
E. J. Tittensor .... Emeryville

SHELL PIPE LINE CORP.

20 Years

R. O. McPherson .... Rocky Mt. Div.
H. J. Puckett .... Texas Gulf Area

15 Years

H. J. Butcher .... Mid-Continent Area
E. E. Everett .... West Texas Area
C. W. Galbraith .... Head Office
C. W. Hall .... Mid-Continent Area
G. A. Horton .... West Texas Area
B. R. Pennington .... Mid-Continent Area
Ella M. Riddle .... Mid-Continent Area
P. J. Rogers .... West Texas Area

10 Years

Johnnie M. Anderson .... Head Office
T. W. Smith .... West Texas Area

matters of *fact*

SOCIAL SECURITY
BENEFITS INCREASED

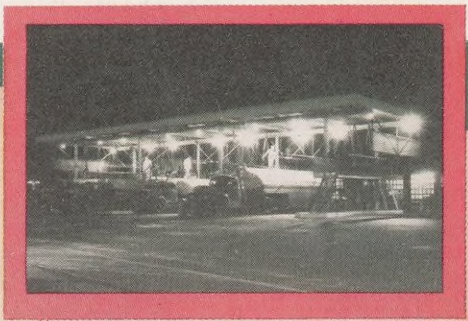
In 1954 and 1956 important changes were made in Social Security benefits. Do you know how these changes affect you and your family?

An outline of the current benefits is given in Shell's new "Program for Security" booklet now being distributed.

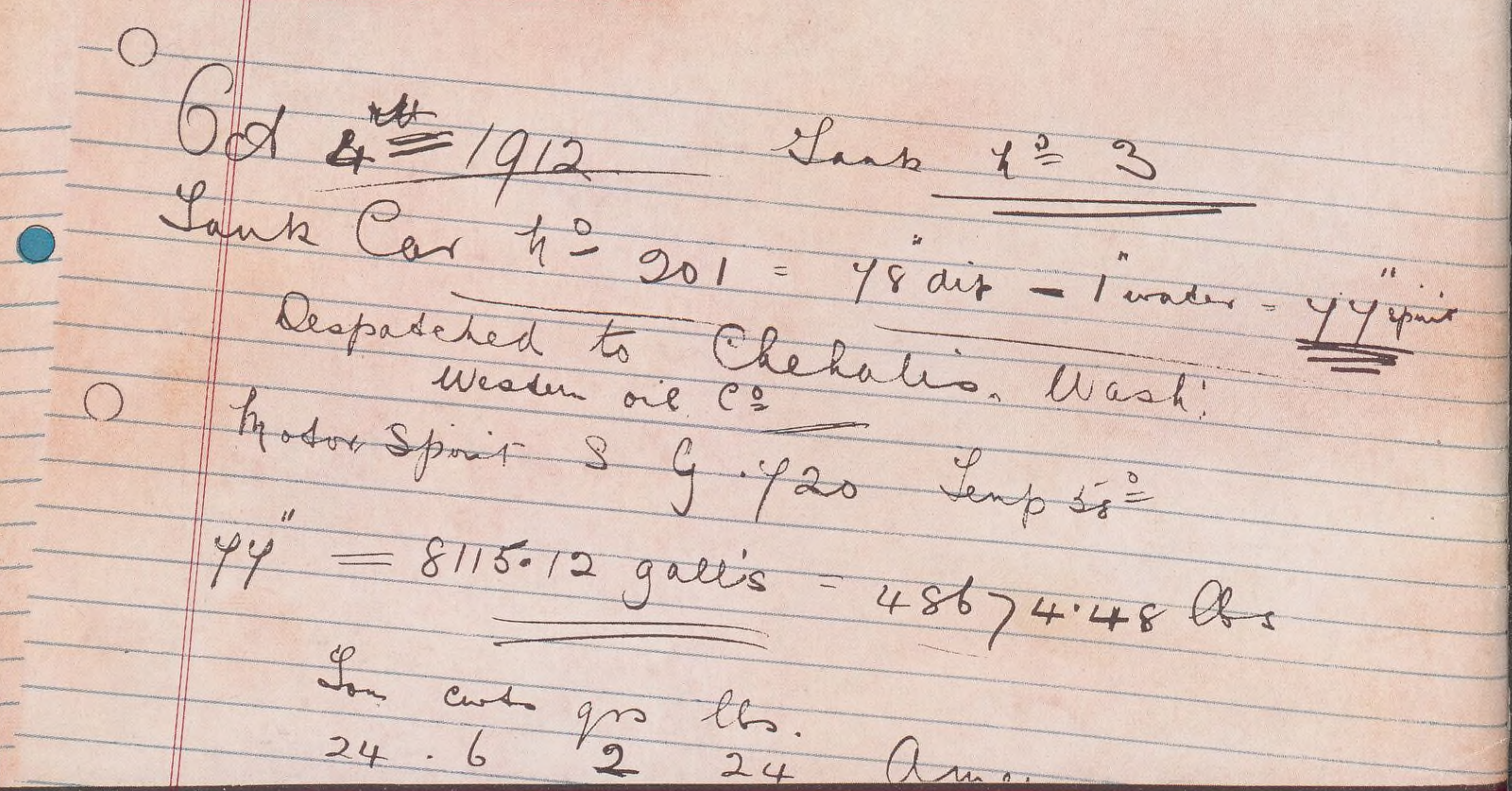
SHELL OIL COMPANY
50 West 50th Street
NEW YORK 20, N. Y.
RETURN POSTAGE GUARANTEED

E. J. Hittinger
4710 Bell
Houston, Texas

SCC



Night loading at Sewaren, New Jersey.


Oct 4th 1912 Tank No 3
Tank Car No 201 = 78" dip − 1" water = 77" spirit
Despatched to Chehalis, Wash:
Western Oil Co
Motor Spirit S G .720 Temp 58°
77" = 8115·12 galls = 48674·48 lbs
Tons cwts qrs lbs.
24 . 6 2 24

SHELL'S *beginnings*

MARKETING . . . "Oct. 4th, 1912 — Tank Car No. 201 despatched to Chehalis, Wash." Thus Shell was in business. The original ledger entry reproduced here is an historic document, for it marks the shipment of 8,115.2 gallons of "motor spirit" from Shell's first marketing installation in the United States, a marine terminal near Seattle, Washington.

In rapid succession, Shell acquired and developed its own producing properties, built refineries, and expanded marketing facilities. This year alone, as sales continue to rise, a long list of products totaling more than 200 million barrels will be distributed direct from refineries and from 155 Shell bulk plants and terminals.