SHELL NEWS

OCTOBER 1949

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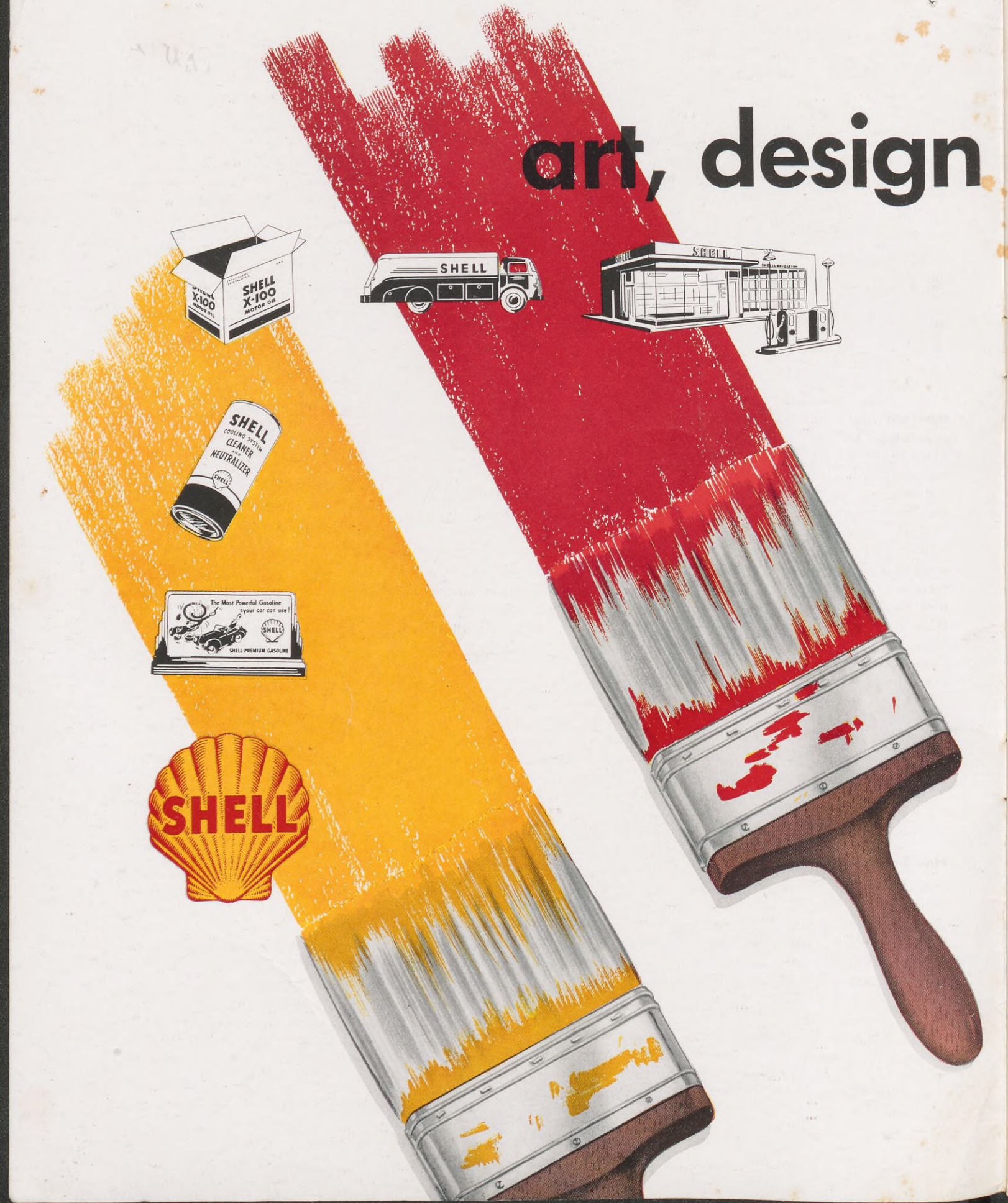
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SHELL NEWS

VOL. 17 — No. 10 OCTOBER, 1949

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

Employee Publications Division
Personnel Department, New York

and color

Uniform Painting, Lettering and Trademark on Company Products and Installations Are Causing More and More People to Pull In at the Sign of the Yellow Scallop Shell

A MAN named Smith, in this country where there are several hundred thousands of them, would have a tough time making his name stand out short of inventing an atomic mousetrap. Yet two hirsute brothers made the grade. So well, in fact, that you can't think of cough drops without thinking of the gentlemen with the flowing beards.

What helped crystallize their name in the public mind? The Smith Brothers had a trademark. Their bearded picture symbol became so familiar that the sight of a beard made people think of cough drops and, conversely, when people went looking for cough drops they looked for a package bearing a bearded symbol.

The same idea applies to petroleum products. If every person seeing a scallop shell immediately thought of gasoline, lubricants, or a host of other dependable products, when he needed any of these things he would be inclined to look for the sign or package bearing a shell.

How To Develop Customers

But customers are made, not born. They don't recognize—and want—a product, unless frequently exposed to an easily recognizable symbol for it. And each time they see the symbol, it must be attractive and exactly the same.

That is why for the last three years Shell has been working toward standardizing the Company's emblem and its use and improving and standardizing everything connected with easy recognition and attractive appearance of Shell products and facilities. The changes so far made are proving so beneficial that they will soon be incorporated into an official manual.

At the first blush it would seem that there was little standardization to be done. Weren't the Shell colors red and yellow and the emblem a scallop shell? What's so variable about that?

There is, in fact, a great deal of variance possible. Scallop shells are multi-shaped. If several shapes are used, a trademark—one of 500,000 in the U. S.—can't be registered and sole rights to it obtained. Consider the hundreds of lettering styles in which the word SHELL can be written. Consider, too, the many shades of red and yellow possible.

Such are examples of the problems involved in standardizing art, design and color. Some few still remain to be solved, but the major solutions are down in black and white—or red and yellow—and, whether you consciously are aware of it or not, they are making Shell products and installations more easily recognized and easier on the eye.

Shell's emblem is a simple one (an advantage in trademarks), but it wasn't always that way. Ever since the start of the Shell organization in the petroleum business before the turn of the century, its trademark has been a scallop shell. With the passing years this trademark has changed in format to meet the changing ideas of the times; just as styles

contents

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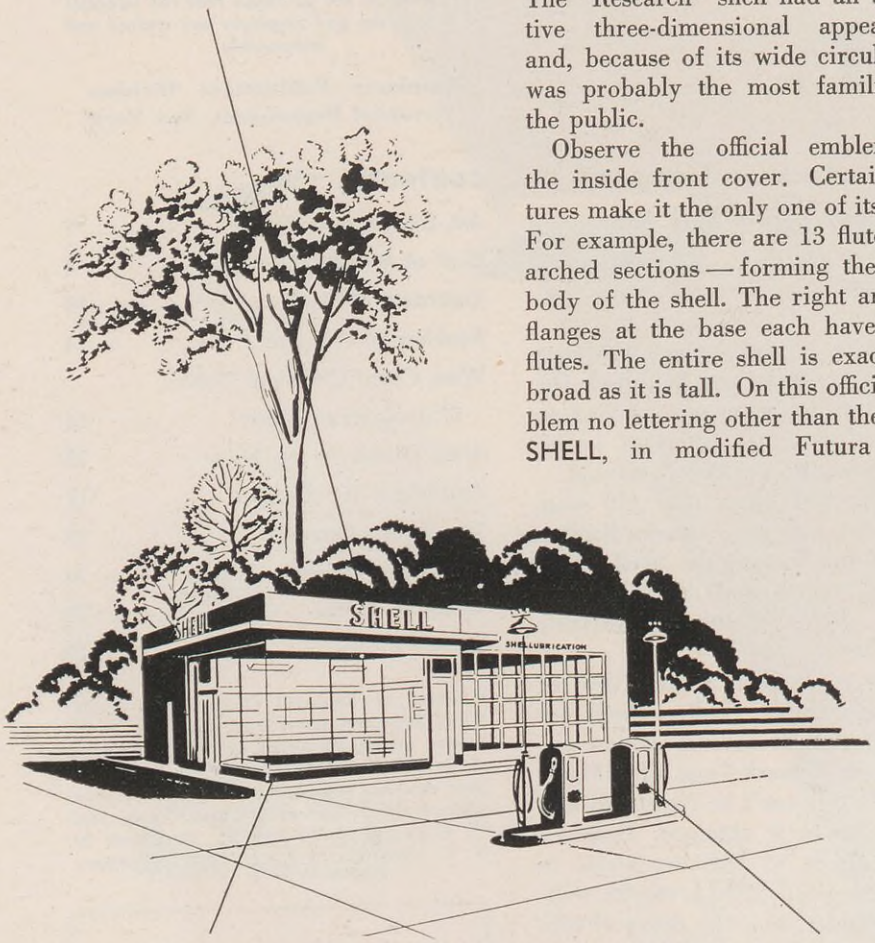
OIL ON THE WATERS

Big drilling barges like the one on this month's front cover are helping Shell tap rich oil reserves beneath the waters of the Gulf of Mexico. The rig is a mile and a half at sea—though in comparatively shallow water — and near the delta coast of Louisiana. Drilling equipment is much the same as that used on shore, but seaplanes, cabin cruisers and supply barges replace jeeps and trucks for running errands.

The exciting Gulf oil play and the work of seagoing exploration and production crews are related in the article, "Gulf of Mexico Oil Play," beginning on Page 4.

Three-dimensional, free-standing letters are replacing old painted signs.



Service stations are now painted cream. Three color stripes —red, yellow and red—appear only at the building base.

Decals for gasoline pumps and other equipment have been standardized.

Of the several versions of the shell considered for the official design, the one adopted was the "Research" shell, so called because it was the one appearing in a series of magazine advertisements about Shell research. The "Research" shell had an attractive three-dimensional appearance and, because of its wide circulation, was probably the most familiar to the public.

Observe the official emblem on the inside front cover. Certain features make it the only one of its kind. For example, there are 13 flutes—or arched sections — forming the main body of the shell. The right and left flanges at the base each have three flutes. The entire shell is exactly as broad as it is tall. On this official emblem no lettering other than the word SHELL, in modified Futura Bold capital letters, is permitted. In the two-color reproduction, the background of the scallop shell is always in yellow. Lettering, the outline and shading of the flutes always are in red.

As a trademark, the emblem has been registered both with and without the word SHELL in black and white, and in red and yellow. Regulations are so exacting that to date registration has been effected only as a trademark for gasoline, kerosene, diesel motor fuel oil, oil for heating purposes, and for lubricating oils and greases. Hence the registry mark, an encircled **R** at the lower right side, appears with the emblem only when the emblem is used in direct reference with a Shell product—as on gasoline pumps and motor oil cans. The encircled **R** is omitted in institutional advertising, letterheads and other materials where the emblem is used but specific products are not named.

Applications are pending for registration of the official shell as a trademark for various other classes of Shell products.

The Simplified Emblems

There are times when physical or mechanical limitations make exact reproduction of the official emblem impossible. For example, reduction of the emblem to, say, a half-inch square may cause the fine shading lines to blur or disappear. For such cases the design has been simplified —but always with care to retain the basic features.

A simplified version (shown on page 3) is currently being used on painted highway signs and large storage tanks. It is being utilized in printing on certain surfaces that do not lend themselves to ordinary mechanical methods of reproduction—as in stencilling on Shellane cylinders, on novelties and business cards where the emblem is extremely small, and in printing on leather and wood. It

in other things change, so do styles in trademarks. Through the years "the set-up" and detail of the Shell trademark (maintaining, of course, the basic Shell motif) has been periodically modernized.

With the growth of the organization, it became apparent that uniform treatment of the trademark would be desirable. Beginning in mid-1946, therefore, Shell formulated the rigid specifications which now govern the emblem's design. Not only were an official Shell emblem and Shell aviation emblem (same shell with wings added) designated and registered as trademarks, but simplified versions for special uses were outlined.

SHELL LETTERING

Modified Futura Bold letters are the established standard for all Shell signs in the United States. The trade name, SHELL, is all in capital letters when appearing on products, signs and installations.

A B C D E F G H I J K L M
S T U V W X Y Z . , - ; :
a b c d e f g h i j k l m n o
w x y z ff fi 1 2 3 4 5

is in the watermark of Shell letterhead stationery.

For the same reasons which motivated uniformity of the Shell emblem, the Company has standardized presentation of the trade name, SHELL. The type face adopted is the Futura family, a modern, highly legible and forceful alphabet, readily available in most printing plants and easily copied in hand painting. Futura Bold, which appears on the official emblem and trademark, is used most widely. Futura Bold Condensed, Futura Light, Medium and Demi-Bold are used on a more limited scale.

The Shell Colors

Red and yellow were selected as Shell colors years ago because of their impelling brilliance and because they could be quickly identified. In the early days little consideration was given to their aesthetic effect upon the public. But, by the middle 1930's, it was felt that this clashing color combination had served its hard-hitting and eye-catching purpose. It was time for a subdued, yet more attractive approach to the consumer. Accordingly, the vividness of the red and yellow was toned down and later a third color, cream, was introduced. Broad areas once emblazoned with bright red and yellow were considerably reduced, using the soothing cream tone as a chaperone.

After considerable discussion and field testing—which involved such factors as varying paint availability and color psychology in individual countries — world-wide standardization of Shell colors was agreed upon.

With emblem, lettering and colors uniformly established, there were still the myriad problems of applying them to all forms of Shell usage. There were decals for gasoline pumps and lube dispensers, painting of service stations, designs for product packages and containers, painting of rolling stock, and even standardization of the cloth emblem for uniforms and the metal badge for drivers' caps. Rules for all of them had to be established. Attractive emblems for Shell's Touring Service, Heating Service and Shellubrication were approved, as were standards for stationery, service station signs, refinery and plant yard signs, installation interior and exterior painting, and airport and aircraft painting. Throughout them all the emblem, lettering and colors are uniform.

Consumer Acceptance

On the whole Shell's standardization of art, design and color has made great strides throughout the world during the past few years. The greatest uniformity has been achieved in the United States, though it will be yet some time before all old installations and existing signs and equipment are revamped to meet the new specifications. What uniformity has already been achieved has experienced a growing consumer acceptance as more and more people recognize the red and yellow scallop Shell as a symbol of dependable products.

MODIFIED EMBLEM

This simplified design, without shaded fluting as in the one below and at the right, facilitates reproduction in special cases.

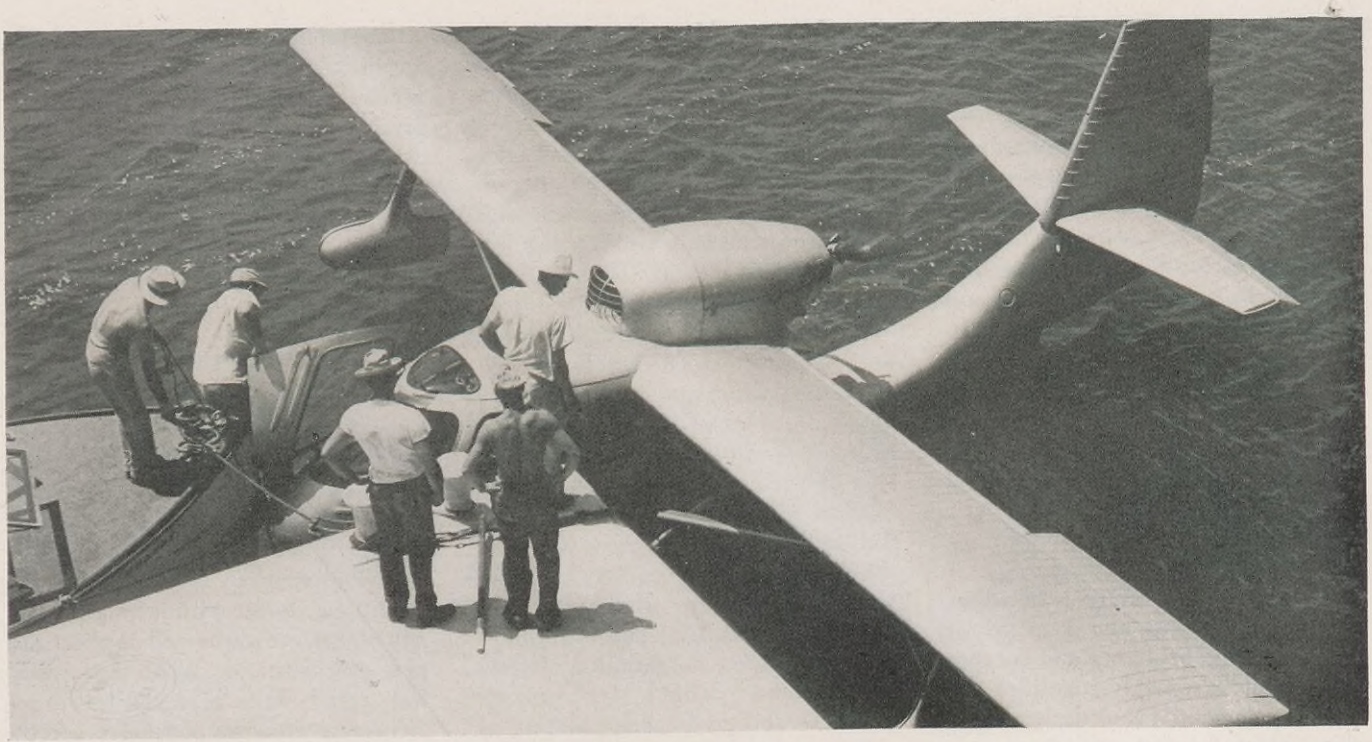
SERVICE EMBLEMS

Shell's Touring Service, Heating Service and Shellubrication Service now have standard, three-color emblems.

CONTAINER

The proportions of cream, red and yellow on the can above are the same on all containers and packages.

Shell's aviation emblem is the standard Shell emblem with wings added. This trademark bears a circled R when used directly with a product.



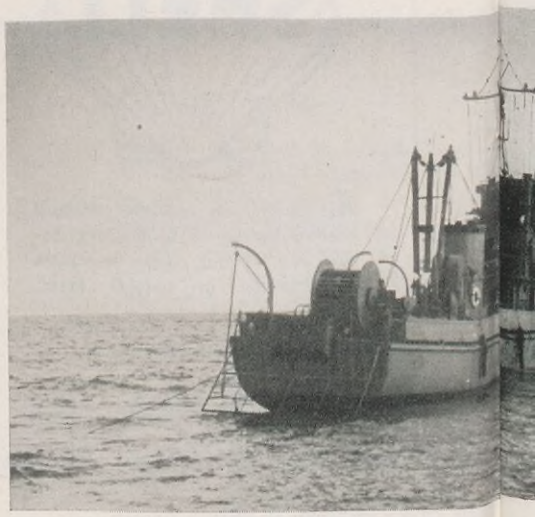
Gulf of Mexico Oil Play

New Petroleum Reserves Lie Submerged Off the Coasts of Louisiana and Texas —But Tapping Them Has Proved a Costly and Hazardous Operation

ONE of the most exciting phases of the oil industry today is the rapidly expanding and highly competitive search for oil in the earth underlying the Gulf of Mexico. As early as 1896, primitive exploration stretched out into the ocean to probe submerged lands off the coast of California, and during the 1930's tentative work began in the Gulf, only to be chased ashore during the war. For the past four years, however, American oil companies have been conducting an intensive exploration and drilling program in the Gulf. It has already proved itself one of the most costly operations the industry has undertaken. In some ways it has also been the most hazardous.

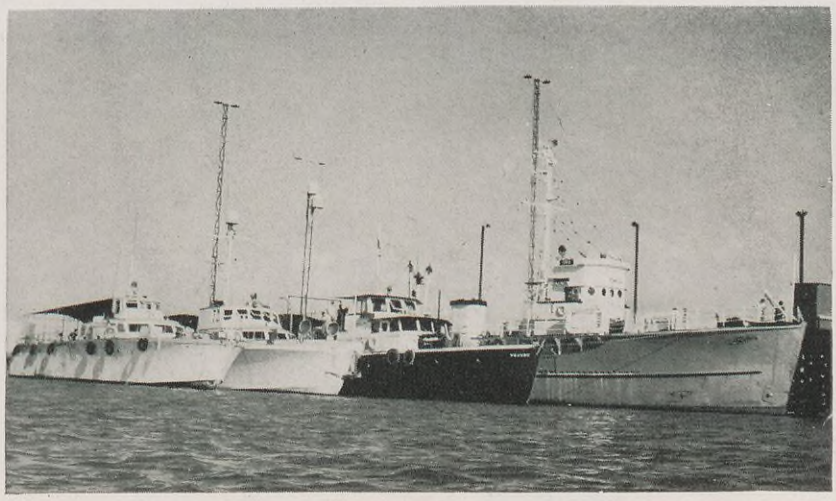
There is a good reason to take these risks. The Gulf's Continental Shelf—that is, out to a depth of 100 fathoms, or 600 feet — covers over 66,000 square miles off the coasts of Louisiana and Texas alone. Favorable conditions for the accumulation of oil may occur even as far out as the edge of the shelf . . . but to determine whether and where oil is actually present will require a great amount of additional and costly exploration and drilling.

As yet, no accurate estimates can be made of the amount of oil present in the rocks beneath the Continental Shelf area of the Gulf of Mexico. Various estimates—which today must be considered more in the nature of

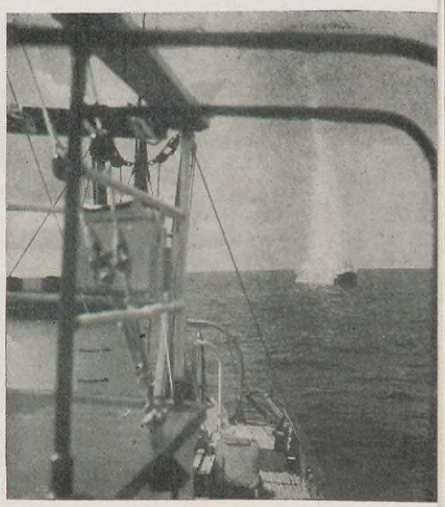


The *Edna S*, above, a converted Navy surplus minesweeper now used by Shell, is reputedly the largest oil exploration boat operating in the Gulf.

How to drill a well a mile and a half at sea. Shell's Well No. 3 in the Gulf of Mexico is shown here nestled amid its sunken LSM breakwaters, while the drilling site for Well No. 4 is prepared in the background. The breakwaters also hold mud tanks and supplies. Drilling crews are shuttled to and from quarters in cabin cruisers, get their mail by seaplane (opposite, above).



Many war surplus and air-sea rescue craft have been recruited to explore oil bearing potentials of the Gulf's Continental Shelf. Four units of Shell's exploration fleet are: above, left to right, the *Wilma*, *Ruth*, *Mary G* and *Ora*. At sea they operate as speedy, highly mobile surveying and recording teams. Seismic instruments in the instrument boats are similar to those housed in recording trucks for land exploration.



The *Mary G*, seen from the *Ora*'s deck, races ahead of a "shot" that looks like a Navy depth charge.

"guesses"—are in the range of 4 to 10 billion barrels of oil to be recovered over the productive life of the fields, about 20 years. In addition to the problem of whether oil is present and in what amounts, there is the equally important one of economics. The cost of every exploration, drilling, production, and transportation item is much greater than on land. Visualize the problems faced by the oil company which drills a well in water, say, 100 feet deep, at a point 30 miles out at sea, exposed to the full blast and fury of tropical storms and hurricanes which are well known in the Gulf of Mexico. Add to this the difficulties of transportation and safety of personnel, and the problems of moving the oil to land. Yet oil from under the Gulf of Mexico will go to the same market and sell for the same price per barrel as the equivalent grade of oil produced on land.

Leases to offshore acreage have been granted by the states, whose claim to title of the submerged lands is disputed by the Federal government. This much ballyhooed dispute, it should be made clear, is not one in which the oil companies have any direct part, but is really a question of whether lease rentals and royalties from any oil produced shall be paid to the U. S. or to the states on whose borders the Continental Shelf lies.

Uncertainty Deters Progress

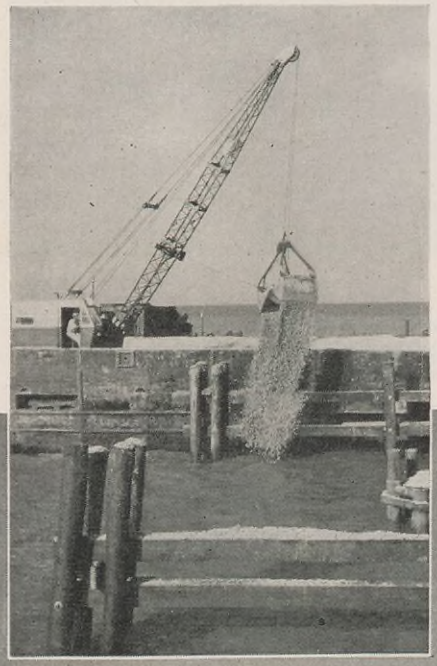
Nevertheless, the uncertainty as to validity of leases is an obvious deterrent to the expenditure of great sums of money for exploration and production activities. The decision to proceed represents a declaration of faith that an equitable settlement will eventually be made, and one fair to those who are willing to so commit themselves in extending the known reserves of a vital commodity.

In all, more than 100 million dollars have now gone into "the Gulf oil play" to cover exploration, leasing, drilling and production operations. Thus far, 9 oil fields and 9 gas-distillate fields have been discovered off the coast of Louisiana, one being 30 miles out in the Gulf. In Texas, the first offshore discovery (gas-distillate) was recently completed about 15 miles southwest of Galveston. It is evident that the return to date has been very small; the amount of oil actually produced is insignificant.

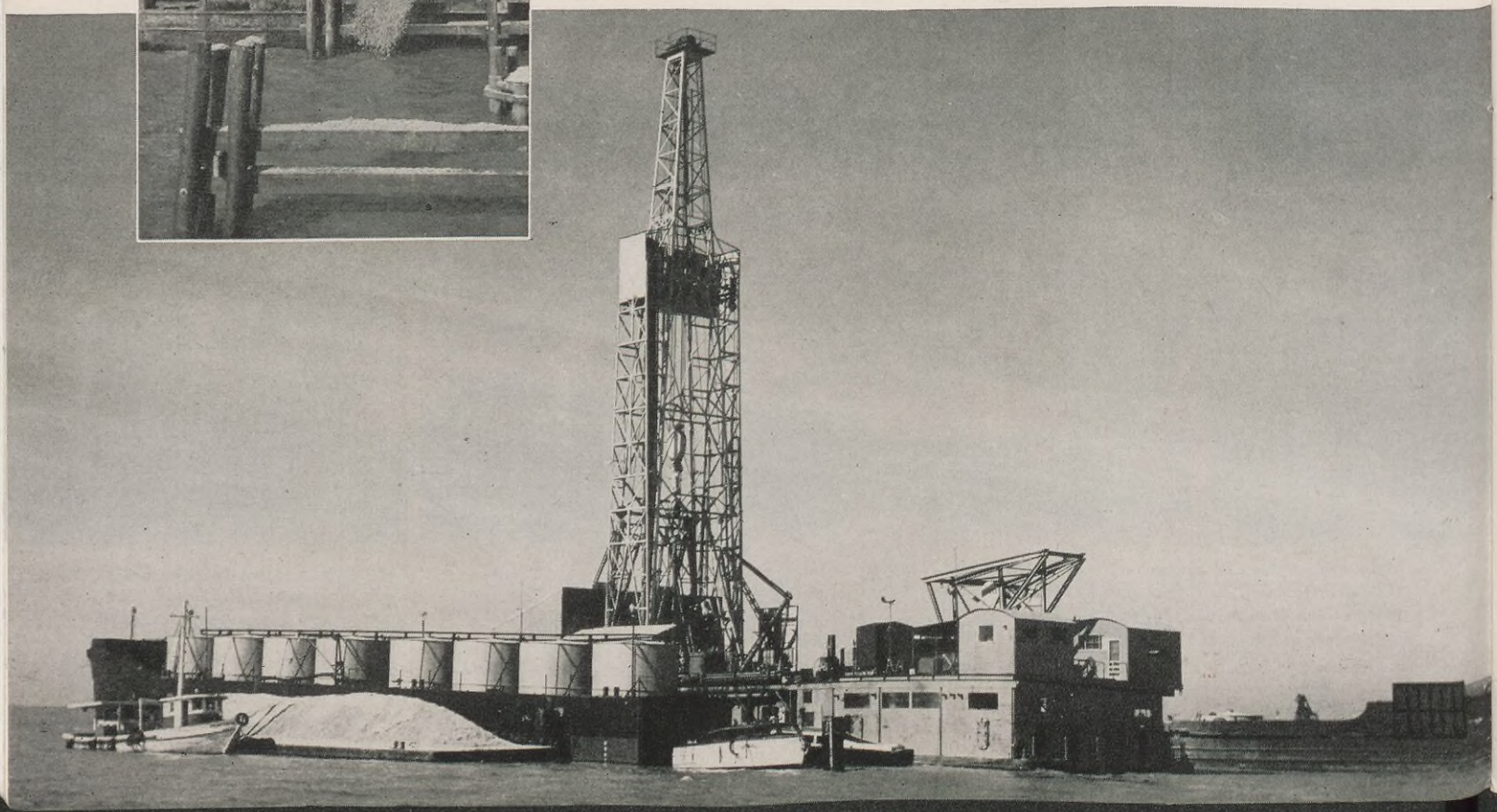
Shell's part in this great program has involved all of the principal phases: costly exploratory work over large areas, expensive leasing, and the drilling of seven wells. Of those wells, three were dry holes, two were destroyed by blow-out and fire, and two are producers.

Salt Domes Exist Off Coast

In the Louisiana Bayou Country and the Texas coastal fields, oil is produced in large measure from salt dome structures, or those associated with salt domes. Throughout large areas of the Gulf Coast, these structures average about one to every 40 square miles although, of course, not



To date Shell has not drilled in Gulf water deeper than 9 feet. Barge loads of oyster shell are dumped at the well site to make a fill on which the drilling barge is sunk. When the well is completed, the barge is refloated or skidded a few feet for a second directionally-drilled well. A barge-mounted tank battery, shown below, receives production from the first well.



all are productive. For many years geologists have reasoned that the area of salt domes, and other geologic structures favorable for the accumulation of oil, extends into the Gulf of Mexico under at least part of the Continental Shelf. Now drilling operations have proved that salt domes similar to those on land actually exist at least 30 miles off the coast of Louisiana, and gravimetric data recently released by the U. S. Navy suggest the presence of domes 75 miles out in the Gulf of Mexico.

Shoran, Radar Aid in Search

The widespread marine geophysical exploration conducted in the Gulf of Mexico by many companies, including Shell, during the past four years is necessarily complex. Offshore seismographic exploration involves constant checking of locations through triangulation or by the use of Shoran and radar equipment. Locations must be marked by buoys, which may drift or blow away.

When operating close to shore, survey boats can use antennae located at two points on land—atop a convenient derrick or a lighthouse—for the triangulation needed to plot accurately their shooting points. In clear weather, this can be done visually when operating close to shore. As the search moves farther to sea, additional boats are utilized to carry Shoran and radar devices developed during the war. Thus the whole business of marine surveying becomes a highly mobile operation capable of spotting locations with uncanny accuracy up to 22 miles from base points, be it fair weather or foul.

The Oil Man's "Navy"

The marine exploration boats are models of efficient operation. Most of them have been obtained from war surplus sources, and with slight modification they provide the necessary speed, ample deck space and equipment room for operation, together with complete galleys, refrigeration, showers and living quarters. A 60-foot boat is about the minimum size to insure enough space for equipment and provide for the crew's comfort and safety. The *Edna S*, one of several boats being used by Shell, is a 136-foot converted mine sweeper and the largest of the exploration boats now being operated in the Gulf.

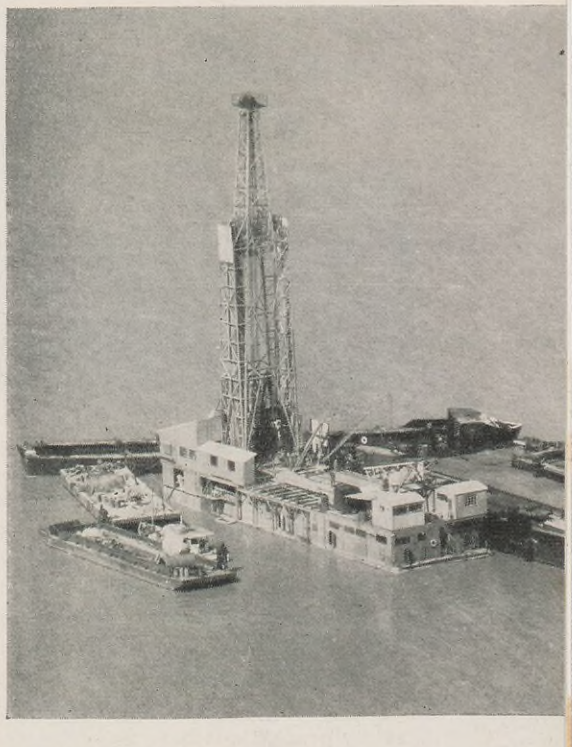
Naturally, marine exploration crews are close-mouthed about their work. Leases in the Gulf are obtained by submitting sealed bids on tracts offered, and if seismic crews show undue interest in a particular location, the bidding prices soar. Most of the leases now held are off the coast of Louisiana, where by mid-1949 some 2,600,000 acres had been leased. There the Gulf bottom shelves off so gradually that even 30 miles out the water is often less than 65 feet deep. Until recently, a state law considerably restricted seismic work off the Texas coast, and up to the present time there has been only one large state sale of leases amounting to about 386,000 acres.

Most of the leases held by Shell are close to shore, in relatively shallow water—a prime economic consideration. Several are clustered about the Mississippi River delta not far from Shell operations in the Bayou Country. None of the wells drilled thus far by the Company in the Gulf has been in more than nine feet of water.

So far Shell has done all of its drilling with barge-mounted rigs, first filling in around the well locations with oyster shells and sinking the drilling barges on these fills. Converted LSM's are anchored to serve both as breakwaters and as locations for mud tanks and other equipment. When wells thus drilled are completed, the barges are refloated and moved to the next location.

Platform Rigs Used

Two other types of drilling rigs are being used in the Gulf oil play. In some cases a small platform is erected to hold the derrick and a floating barge drilling tender anchored to it. By far the most costly method in terms of initial investment is the building of a large platform on which is located the derrick, all necessary drilling equipment and crew quarters. One such platform cost the company which built it over a million dollars. Located in water 50 feet deep, with an upper deck 48 feet above the water, it was designed to withstand 40-foot waves and 150-mile winds.



The calm water in the Gulf, when this picture of Shell's ill-fated Well No. 1 was taken, gives little indication of the natural difficulties which hamper operations. Hurricanes and rough seas are encountered.

One of the many problems arising from drilling in open water is that of handling the produced oil. The final solution of this problem has not been determined, since before extensive underwater pipelines and storage facilities can be justified more information must be obtained on the amount of oil to be handled. One operator has built a short pipe line to shore, but most of the wells now producing transfer the crude to separator tanks on the platform or an anchored barge, thence to barges for the trip inshore. The handling of gas-distillate is more difficult, and to the present time no company has even attempted to achieve regular production.

Methods and equipment employed in all phases of the Gulf oil play are undergoing constant change, and some observers believe that it will

soon be practicable to drill in waters as much as 150 feet deep. But something revolutionary in the way of equipment will be necessary to overcome the biggest obstacle of offshore drilling—the turbulent weather that periodically churns up the Gulf waters. One-hundred-and-twenty-five-mile-an-hour hurricanes, waterspouts, swift currents and 25-foot waves can demolish even the sturdiest rig. This, of course, is a problem which is of serious concern in many of Shell's operations in the Louisiana bayou and Texas coastal fields. When storms brew trouble in open water, drilling has to be shut down to wait it out, and barges may have to be detached from drilling platforms and towed to safety. Fortunately, Shell has only once encountered conditions rough enough to halt drilling operations.

The Oil Man's Enemy

But, Shell *has* encountered the most dread hazard of the industry—fire. Long the enemy of oil men, and by tradition the awesome foe of seafaring men, fire is doubly catastrophic on an offshore drilling rig because it is so inaccessible to effective firefighting efforts. With this in mind, safety precautions have been doubled and tripled; Main Pass Well No. 2, which made headlines last spring when it blew out and caught fire, was equipped with the most modern safety devices, even including three blow-out preventers, any one of which should have been able to withstand extremely high subsurface pressures should any be encountered during the drilling.

Huge waterspouts, like the twins shown here, form an awesome hazard to crews at work on isolated offshore drilling rigs.

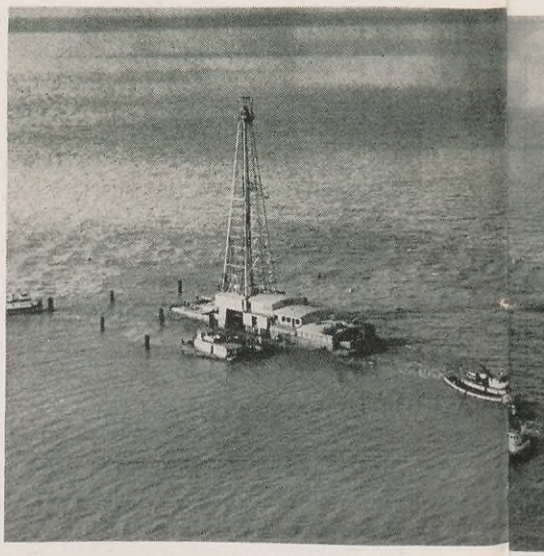
In spite of these efforts, excitement broke loose last March 12. When the No. 2 hole had reached 2,462 feet, the driller started pulling pipe to change his drilling bit. Suddenly the well started kicking mud over the derrick floor.

The Blow-Out Begins

At this ominous sign, the principal blow-out preventer below the derrick floor, a massive combination of two hydraulic rams to shut off the space between the drilling pipe and surface casing, was closed. This was effective for only about 10 seconds, when with a rattling roar, mud and water broke out around the casing and chunks of solid mud as big as a man were catapulted on the deck. It still has not been determined whether the gas was escaping through the casing or whether the casing itself failed below the blow-out preventers. It should be remembered that sand-laden gas once started moving through a restricted opening under 1,000 pounds of pressure can cut a pipe or a valve to pieces in a few seconds.

As the derrick man clambered from aloft and the engineman raced to stop the engines, mud, sand and water erupted from the rat hole beside the well casing. High pressure gas was forcing everything to the surface before it. It is estimated that gas first appeared, roaring out of the well, three minutes after the blow-out began. A minute or so later it caught fire and a plume of flame roared into the air. Gulf winds whipped fiery fronds through the derrick girders as the drilling crew hastily abandoned ship; fortunately, only one man was injured, receiving second-degree burns. With its base melted by the intense heat, the derrick collapsed across a crude oil tank storage barge moored alongside to receive the oil production of Well No. 1. Blazing crude oil then flashed through the decks of the massive steel drilling barge.

Within hours, Shell production experts and professional firefighters had begun to gather from far and near, and plans were laid to tame the wild well. Two methods were decided upon: mud and cement were to be pumped into the gas-bearing sand through nearby Well No. 1, which at that depth was only some 57 feet from No. 2; and a relief well to reduce the pressure in the formation was to be drilled by directional methods from a surface location 500 feet away.



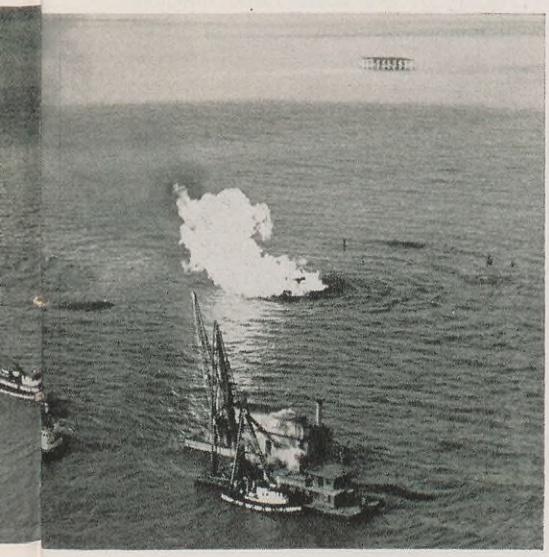
Heroic efforts by Shell crews established connections to Well No. 1 in spite of cramped space, twisted wreckage and the constant menace of fire, but when a sudden squall threatened to completely dislodge the drilling barge and snap off the Christmas tree, pumping had to be started before all mixing and pumping facilities were assembled. Well No. 2 continued to blaze.

Burning Area Increases

By March 26, two weeks after the blow-out, the drilling barge for the relief well was in place, but on March 28 the blow-out well cratered badly, engulfing the remains of the old drilling rig and the two LSM breakwaters and increasing the burning area. The barge was quickly moved to a new location 1,000 feet from the site of Well No. 2. Soundings on March 30 indicated that the crater was about

Fire at Sea

Pictures on this page are representative of scenes when Well No. 2 blew out and caught fire, destroying Well No. 1 with it.



Barge-mounted airplane engines, above, stood by to blow flames away from fire fighters working on the sinking drilling barge. The relief rig, in the background above, was hastily towed away, left, when the well cratered and gas boils churned the surface (dark spots right and left of blaze). The fire went out shortly after and the boils gradually dissipated.

1,100 feet wide and 1,400 feet long.

On April 2, after 22 days of fury and the expenditure of countless hours of effort under the most adverse conditions, the gas flow suddenly decreased—so much that the fire went out. Apparently some shifting of the formations below had "bridged" the hole. The maximum depth of the crater near the center was found to be 120 feet. No sounding could find a trace of the drilling barge and derrick or the two LSM's. They had vanished completely.

It was an adventuresome and costly experience, but with stakes as high as they are in "the new oil play" in the Gulf of Mexico, with important new production and reserves indicated, American oil companies in the Gulf are thinking in terms of the future, and such mishaps of the past will have their positive value—from studies of the blow-out and fire may develop new and better techniques of marine drilling, new protective devices, and detailed safety measures to be added to the infinite precautions already taken to insure complete safety of personnel.

The melted derrick crashed across a tank battery, above, adding more fuel to the fire, which raged 22 days. At left a crew runs lines to seal Well No. 1 with cement. The drilling barge and two LSM's disappeared in the crater the fire caused.

GUARDED OIL

From the Time It Leaves the Well Until It Reaches the Ultimate Consumer, Oil Must Be Carefully Handled To Prevent Loss Through Leakage, Evaporation and Other Causes

WHEN a youngster empties an ice cream cone, he has a special technique to make sure he gets every last drop, despite the tendency of ice cream to melt and run away. A housewife, preparing a savory stew, seals the pot with a lid so the fragrant steam will condense and drop back instead of escaping into the air. Both these people are practicing loss control, and their homely actions, magnified thousands of times, find counterparts in major industries today.

Loss control is of special importance to the oil industry because of the very nature of petroleum, a substance which is constantly trying to escape. Being a liquid, it can seep through loose joints, leak from imperfect storage tanks, or spill on the ground when carelessly handled. Heavy, waxy oils tend to stick to tanks and pipes. Water, used in many refinery operations, often washes oil away in small quantities.

Further, oil is a volatile substance which tends to evaporate, especially under heat. The lighter fractions, such as gasolines, are the worst offenders in this respect and need the most careful guarding, but even relatively stable crudes release some of their valuable components into the air under certain conditions. When light fractions evaporate from a crude oil just out of the well, its gravity is often lowered and its market value decreased.

Petroleum products may also be lost through careless or inaccurate measuring, a drain on the industry which costs hundreds of thousands of dollars per year. Measurement itself is as basic to loss control as it is to engineering. And before there can be satisfactory buyer-seller agreements, both sides must agree on the measuring system to be used.

Most petroleum products are measured by volume, except for semi-solids such as asphalt, greases, and waxes which are often measured by weight. Such measurements are affected by the equipment used, by errors in visual readings, even by the atmosphere and prevailing temperature. Here, costly errors may creep in.

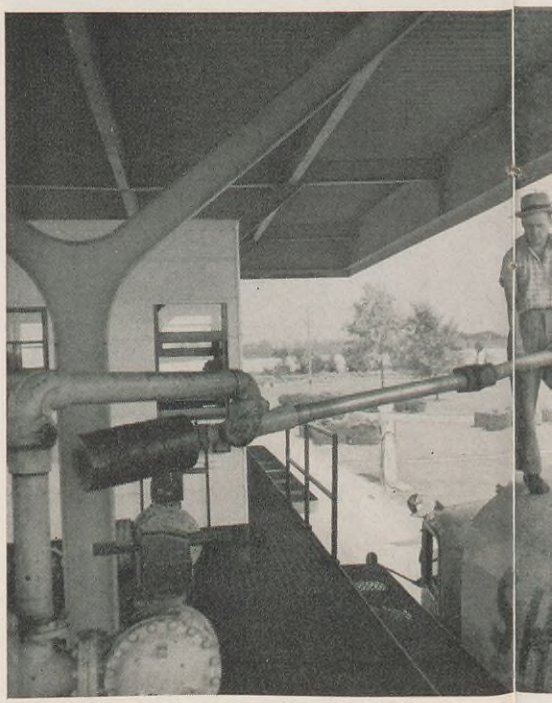
Products handled in bulk are commonly measured by *gauging*. This is done by determining the product level in storage tanks before and after product is added or withdrawn. As the dimensions of the tank are known, the quantity of product handled may be found mathematically. Product temperature is also figured in the calculations because most petroleum products increase in volume as their temperature rises.

Reducing Measurement Losses

One of the first steps in reducing measurement loss is to check storage tanks, making sure their exact measurements, within narrow limits, are known. This is called tank calibration and is important because calibration mistakes accumulate, often resulting in errors of sizable proportions.

The actual gauging of oil levels in the tanks is a painstaking operation calling for great care, for even an error as small as ⅛″ in gauging a 120,000-barrel tank can amount to about 1,250 gallons. Steel tapes of known accuracy, or sometimes gauge sticks, are used.

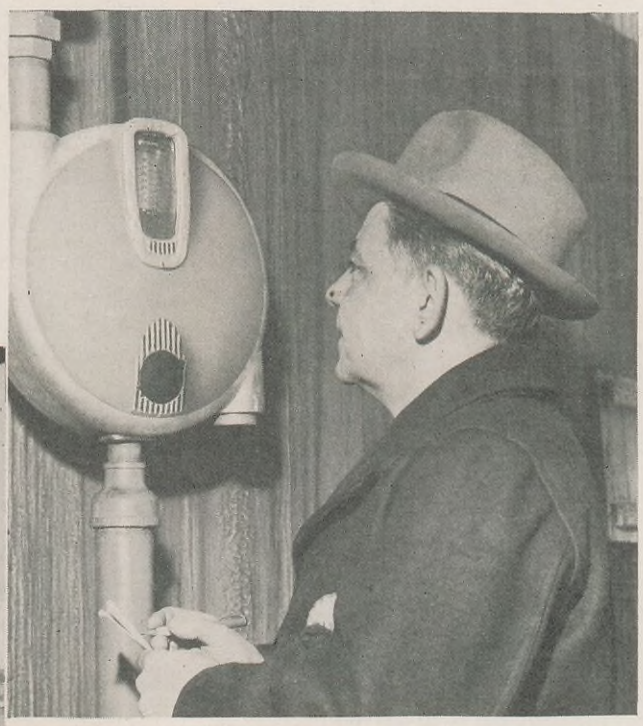
Equally, if not more important, is the determination of temperature, which must be measured with a thermometer of a specialized type at a point or points which will represent the average for the volume of oil in the tank. Temperature determination is probably the greatest source of error in oil volume measurement as accurate readings are difficult to obtain, even by skilled workers. Heated products, such as heavy fuel oils and asphalts, pose a particularly difficult problem.

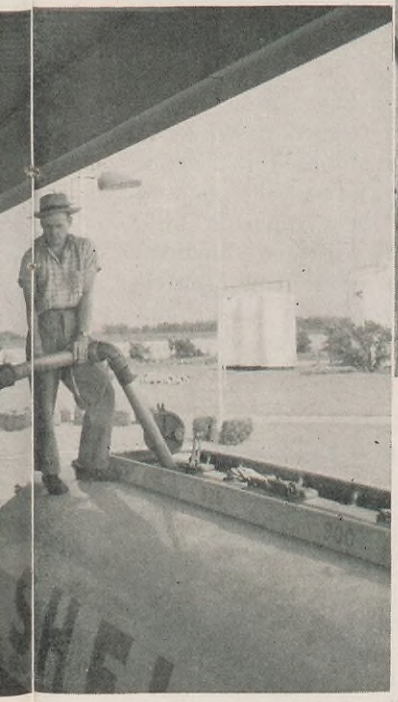


In loading tank cars and tank wagons, as well as at an increasing number of storage locations, and in products pipe lines, meters are becoming popular. By mechanical means, these measure the amount of product flowing through them and thus eliminate human error. They are, however, subject to mechanical error and are periodically checked against carefully calibrated master tanks.

Considerable work is underway to

Accurate measurement techniques are an absolute necessity in all integrated loss control programs.



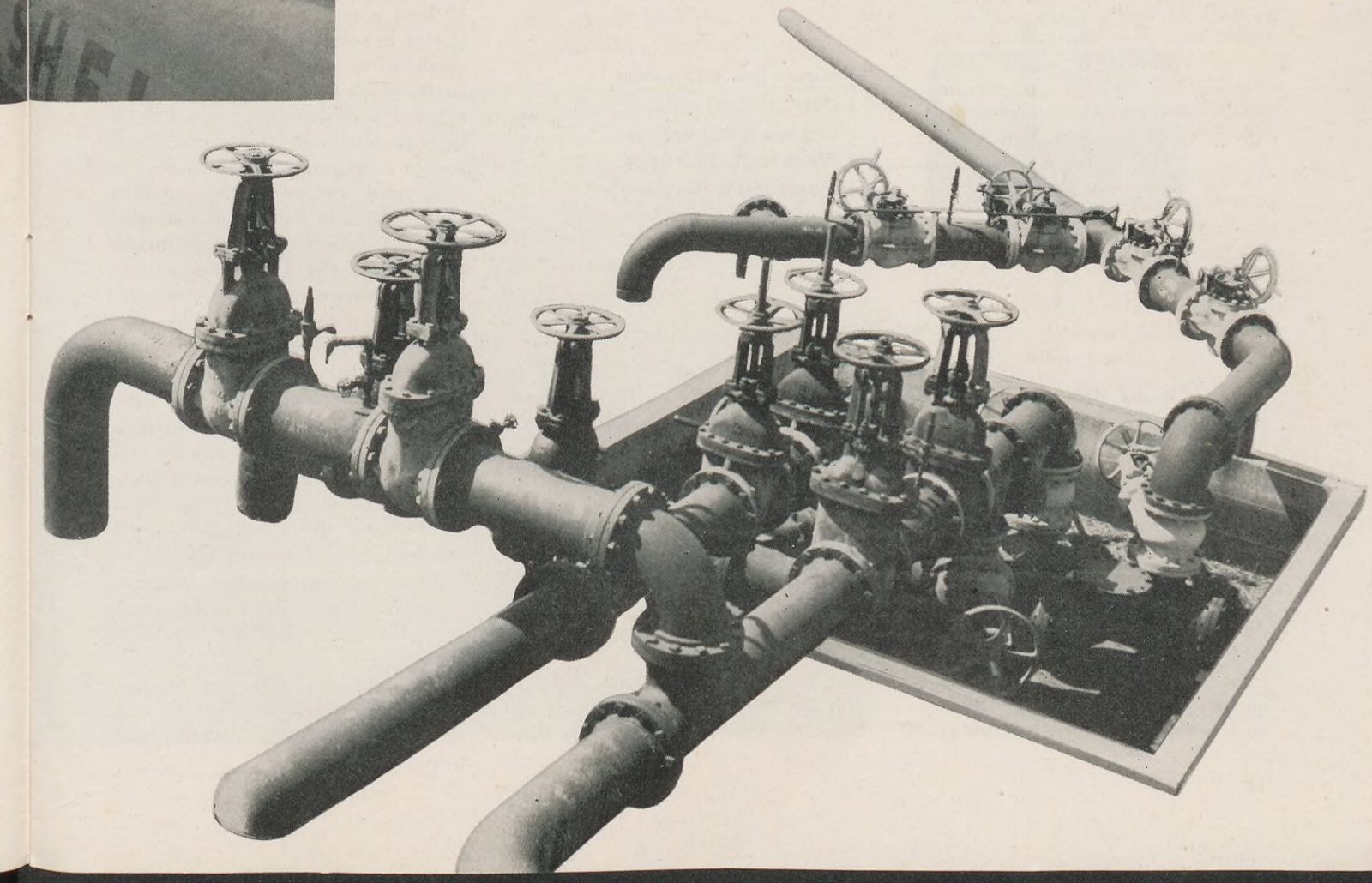


Although many of the man-made errors in measuring quantities can be eliminated by using mechanical gauges such as the one shown above, the human element, aside from facilities, is still of the greatest importance in preventing spillage losses during loading (left) and in checking complicated pipe manifold systems (below) for leakage.

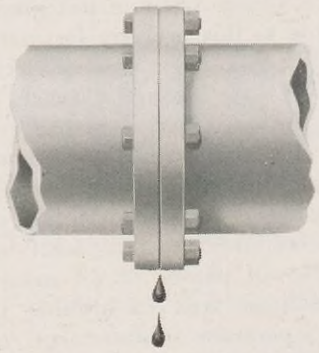
improve and standardize oil measurement practices. The American Petroleum Institute has given attention to this problem for many years and more recently the American Society for Testing Materials has become quite active in this regard.

In these industry committees, complete oil measurement codes are being drafted, describing standard procedures and equipment for virtually all phases of oil measurement such as tank calibration, gauging, temperature measurement, etc. The ASTM project is international in scope, working with England's Institute of Petroleum to produce complete oil measurement tables in the American, British and metric systems.

Along with constructive work on the measurement system, the petroleum industry today is digging into problems of loss through evaporation, a costly attribute of many products. If you were to place a pie-pan full of gasoline outdoors on a summer day, the liquid would soon disappear into the air in the form of vapor. If the temperature increased, the

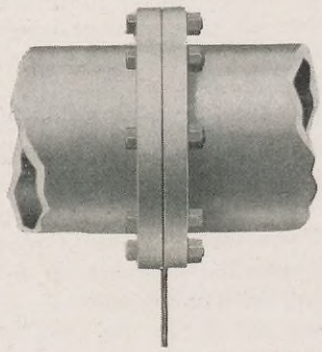


AMOUNT OF OIL LOST BECAUSE OF SMALL LEAKS



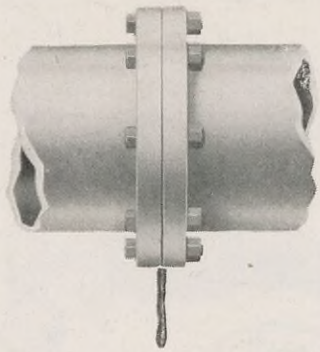
1 Minute loss is 1/3 ounce
1 Hour loss is 20 ounces
1 Day loss is 3 2/3 gallons
1 Week loss is 26 gallons
1 Month loss is 2 barrels

Two Drops Per Second



1 Minute loss is 7 1/2 ounces
1 Hour loss is 3 1/2 gallons
1 Day loss is 84 gallons
1 Week loss is 11 1/2 barrels
1 Month loss is 50 barrels

1/16 Inch Stream



1 Minute loss is 23 ounces
1 Hour loss is 11 gallons
1 Day loss is 260 gallons
1 Week loss is 36 barrels
1 Month loss is 156 barrels

1/8 Inch Stream

gasoline would disappear faster; if the temperature dropped, it would disappear more slowly, but eventually it would all be gone.

This volatility problem, on a huge scale, is a major headache for those responsible for storing or carrying the lighter petroleum products. The most common storage tanks—in production areas, at refineries, terminals and bulk depots—are huge, squat, cylindrical metal shells with conical, enclosed tops. As products stored in such tanks are constantly throwing off vapors, each tank has various vents plus a safety valve which opens automatically to relieve dangerous pressures when a certain vapor concentration is reached. Although these vents and valves serve to conserve product, tank evaporation losses remain of major concern.

Gasoline, and other fractions, are said to "breathe" in storage tanks. During the cool of the night, pressure drops inside the tanks and cool air is drawn in from the outside, becoming saturated with vapor from the product. In the heat of the day, pressure builds up in the tank, opening the relief valve and sending a stream of vapor-laden air out into the atmosphere. Much the same situation occurs during transfer of product, cool air being drawn in as the product is taken out, then the vapor-filled air being forced out through vents as new product is pumped in. In such situations, a barrel of vapor goes out into the air for every barrel of product pumped into the tank.

The industry is attacking the evaporation problem from several angles. One of these is based on reducing the heat absorbed by the tanks during the day and passed on to products, making them vaporize. Light paints, such as white or aluminum, reflect the sun's rays and drop the inside temperatures of tanks. Painting storage tanks in this manner is practiced generally throughout the industry.

One Solution: A Floating Roof

Another solution to the problem lies in eliminating the air space between the product level and tank roof. If there is no air space, vapors tend to stay in solution in the product and evaporation diminishes. Floating roofs, which lie directly on the product and move up and down with it, help to eliminate vapor space and reduce evaporation losses.

A third answer to the volatility problem lies in the use of gathering tanks to collect the vapor formed in storage tanks. Under this system, several storage tanks are connected by lines to a central tank. When they release vapor-filled air, it is collected in the central tank and later recondensed. A simpler version (one often used by Shell) involves two or more tanks joined by a pipe vapor manifold. As product is pumped into one tank, the vapors displaced are drawn off through the manifold into the second tank and stored.

There are many other means of conservation in addition to these main ones, but no one completely kills off the problems.

Evaporation losses are brought about by a physical action — the change from liquid to gas. But losses

through leakage, spilling and similar actions are man-made, or mechanical, and can be corrected more readily.

Leakage occurs from tanks, through valves and pumps, and occasionally from a corroded section of pipe. Mechanical improvements in both valves and pumps have gradually cut down losses from these units. Some pipe lines are patrolled, by men on foot and by spotters in light aircraft, and leaks seen in the course of these patrols are rapidly reported and fixed. In products and crude oil pipe lines run by automatic controls, a leak can be detected immediately because the pressure drops in that portion of the line where the leak occurs. Generally speaking, almost all leakage can be spotted and repaired by a series of inspections. Oil companies now schedule inspection tours of their facilities at frequent and regular intervals, and loss through leakage is steadily decreasing.

Product loss through spilling usually comes from equipment inadequate for the task it performs, or from careless handling on the part of the loader. When the troubles are mechanical, such devices as improved filling spouts on loading racks, more efficient valve and pipe connections, etc. remove the cause of the wastage. Where personnel are at fault, a careful training program usually is the answer.

Several of the larger integrated oil companies have worked out a plan of centralized loss control. At Shell, the Loss Control Committee was established in 1946. It consists of a permanent, full-time secretary and members representing various major departments concerned with the prevention of losses.

The committee is charged with isolating the causes of loss throughout the Company and devising means of reducing them to a practical minimum. In concrete terms, the goal is to save Shell from $1,000,000 to $1,500,000 per year by the conservation of our products.

Committee members meet at intervals to discuss current problems, to inspect installations where new ideas are being tried out, and to prepare recommendations for various departments. Between meetings, there are consultations in regard to field locations where spot troubles develop, work preparatory to general recommendations applicable to large areas, and on many other matters related to the program.

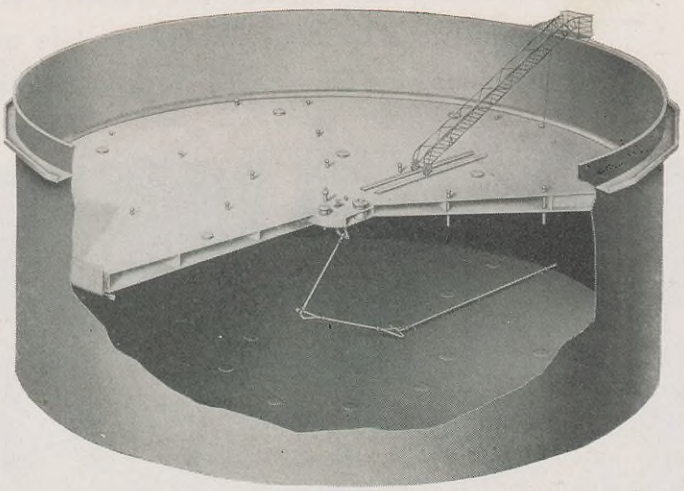
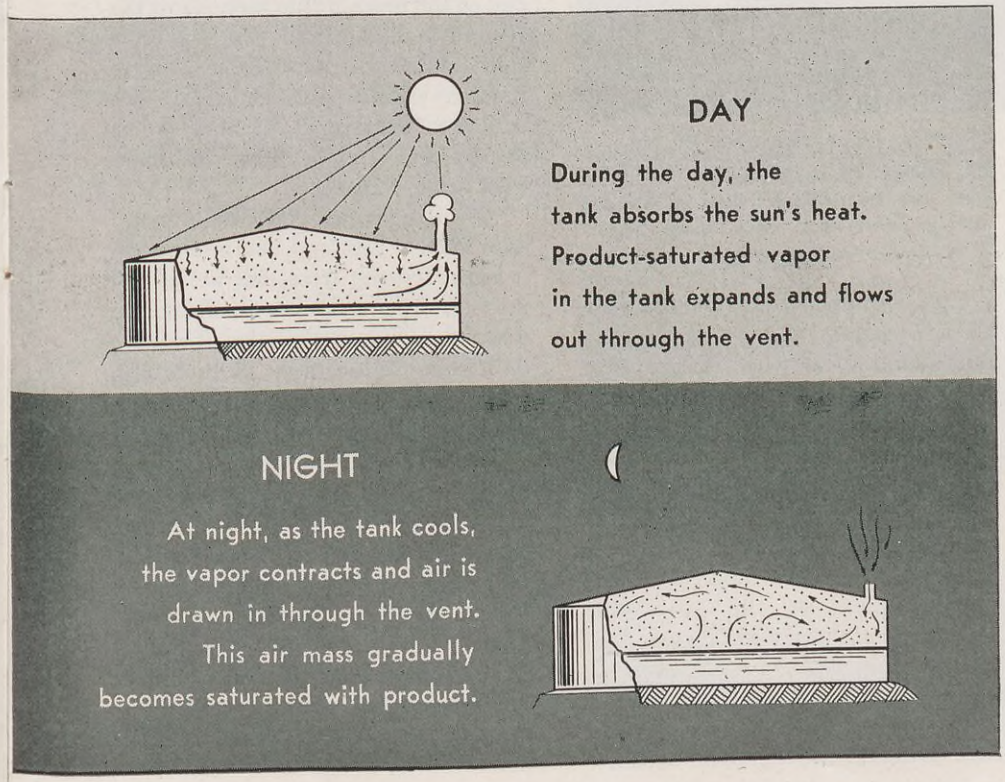


Photo courtesy of the Chicago Bridge & Iron Co.

Some storage tanks employ floating roofs which lie directly on the surface of the product, nearly eliminating the vapor space and reducing evaporation loss to small amounts.

< Normal changes in atmospheric temperature affect products stored in fixed-roof tanks, leading to losses through breathing (left).



Broadly speaking, the program encompasses improvements in measuring techniques and accounting procedures, educational material, the desirability of changing present measurement and conservation facilities and the improved design of future facilities. While certain loss troubles get immediate attention, the working policy of the committee is to study individual phases of Company activity consecutively until a thorough analysis of every possible loss situation has been made.

The Secretary and some of the members are also actively participating in the various industry committee efforts related to these matters.

The job is big, and will take time. It's a step by step progression, but the sum total of these individaul steps is the gradual elimination of waste.

PLANNED RETIREMENT:

Farming for Pleasure

After 27 Years at Martinez Refinery, a Dispatcher Retires to a Leisurely, Productive Life on the Small Farm He Had Specifically Prepared for That Purpose

Even farming for pleasure has some minor irritations. Mrs. McCormick wages war on moles in her garden with the assistance of grandson Stewart Glazier and his eager aides.

Family portrait. The McCormicks' daughter, Mrs. Robert Glazier, frequently visits the farm with her children. They play on a merry-go-round she once used herself.

JOHN S. McCORMICK'S first day as a retired Shell employee was a holiday for most everyone—it was New Year's Day. But for him, Mac says happily, "It's been just like a holiday ever since."

Among the hundreds who have retired to leisure with the aid of Shell pensions, Mac rates among the more successful. He credits this largely to the plans he and Mrs. McCormick made in advance of the day he gave up his job as oil dispatcher at Martinez Refinery. Even though he left the job after 27 years of service, there was no severe jolt in parting, for he continued living in the same place as before and began devoting full attention to what he had previously done for pleasure in his spare time and on days off.

"I planned long ago to farm and I have carried out that plan," Mac declares.

In fact, the McCormicks had been living on their ranch for 17 years before he retired Dec. 31, 1947. With prudence and foresight, they looked to the future back in 1930, after 10 years in the town of Martinez, and made removal to the country part of their program for the years ahead.

"There were no Shell pensions then," Mac recalls. "We were providing for our own security and as part of it we wanted our own home. We wanted it to be the kind of place where we could be independent." When the Shell Pension Plan was established in 1938, it made their independence a great deal easier to obtain.

The McCormicks found the kind of place they wanted near Concord, California — a neighborhood where many Shell people reside, and less than 10 miles from the refinery. In one of the more fertile sections of the state, its climate and soil are especially suited to truck gardens and to English walnuts and almonds. The nuts are "taxpayers" for many home owners and a money crop for those with large acreages.

"We bought two and a half acres," says Mac. "The land had nothing on it but a few nut trees, but we set out more in order to have a small income when they began to bear. Then we built our house and outbuildings, planning them for comfort and easy upkeep."

The McCormicks have a Spanish bungalow home, screened from the highway by trees and flowering shrubs. It is hard to imagine a happier environment for a retired couple. Old friends are all around them. Their married daughter, Mrs. Robert Glazier, who worked at the refinery for a time, lives in Concord. The three Glazier children are as much at home on the McCormick farm as in

town, soaking up sunshine and fresh air and helping their grandparents with chores. The miniature merry-go-round Mac built years ago for his daughter now serves another generation in the grass-carpeted patio under the trees.

"I think a man who retires ought to stay where he knows people," Mac believes. "It's hard to throw away old shoes."

The McCormick place is a model of compact completeness. One third is planted in walnuts and almonds. They paid the taxes "until the boys uptown got too strong on the taxes and the price of nuts went down." Peach, cherry, apricot, apple, plum and persimmon trees provide all the fresh fruit the family can eat plus enough for Mrs. McCormick to line pantry shelves with jars of preserves and jams for the winter. A small truck garden produces beans, peas, tomatoes and various greens, which go to the table garden fresh. Mrs. McCormick doesn't can any of the vegetables, since the garden produces all year 'round.

Steaks in the Making

The remainder of the farm is in pasture and grain for the stock. A Guernsey cow provides fresh milk and cream. A young steer is developing into juicy roasts and steaks which will be put into a freezing locker. A purebred Duroc sow more than pays her board and keep by producing pigs for sale as well as family needs. And, of course, there are chickens for eggs and for America's traditional Sunday dinner.

Part of the farm's success is due to "good housekeeping." Even the pigs are spotless! With a special pen to themselves, which contradicts the old idea of a pig sty, they are fed corn and other quality food. The pigs are clean enough to be pets.

Actually, Mac grew up on a Michigan farm. With that and the part-time experience gained during his last 17 years with Shell, his thumb was pretty green when he retired. Nevertheless, he believes a man with no farming experience can make a success of his kind of life.

"He must have an open mind and be willing to learn," Mac points out. "The work is healthy and not too hard. An inexperienced man shouldn't attempt too much or rely entirely upon farming for cash income. But he can certainly live better on a farm for less money than anywhere else.

"Of course, a man on a pension can farm to make money, too. But, like any other business, he must have strength and ambition for the job and must know what he's doing or be able to learn.

"When a man is making a radical change in his occupation and place of residence, advance planning is more valuable than ever. An employee looking forward to retirement should not only know what he is going to do, but should try it out beforehand if possible. Then he won't find himself saddled with something he doesn't want permanently."

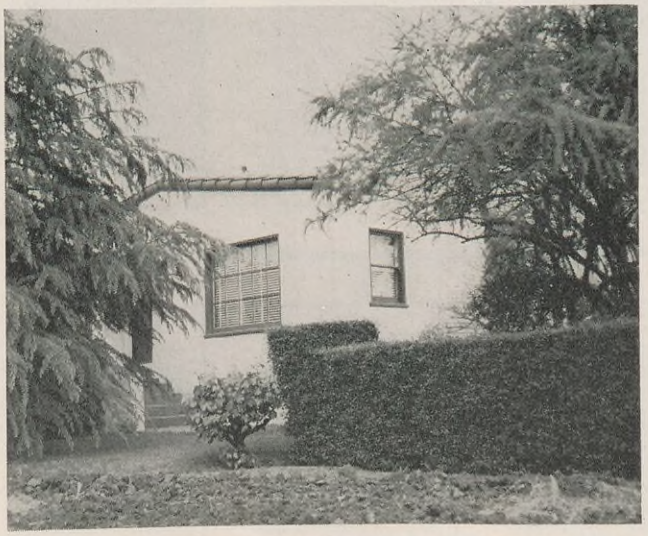
Mac, having tried out his plan a long time and found it to his liking, still didn't plunge into a big expansion program when retirement gave him more time at home. He improved his irrigation system. He also gave more attention to his nut trees, which undoubtedly will increase production.

". . . But actual expansion—no. We farm for pleasure and to enjoy better food, fresh from the garden," Mac says. "We could boost production to make more money—chickens and eggs, for instance—but it isn't necessary and we're happier the way it is."

The McCormicks said there was one feature of their retirement plan which has not yet worked out. They wanted to do some travelling, but farm animals require daily attention, keeping them close to home. That's an important thing in this era of high farm animal values. Later they may be able to tour the nation. Meanwhile, they do not regret this minor bottleneck in their program.

"After nearly two years of retirement, I enjoy life more than ever," Mac declares. "While watching a pig or a tree grow, we are not concerned about some other attraction or amusement for which we would have to shake out some of those valuable and not-so-big dollars. I have plenty of congenial work, but I can close my ears to the whistle and work only when I feel like it.

"Can you beat it?"



Refinery experience aided John when he laid an irrigation system at his small farm.

In a comfortable setting of trees and trim hedges, the McCormicks' make their sturdy home a place for fun and days full of companionship.

SHELL CHEMICAL CORPORAT

Shell Point Plant

Plant Manager

E. S. Bodine

Assistant to Plant Manager

D. B. Luckenbill

Plant Superintendent

F. D. Kuenzly

Manager Personnel & Ind. Relations

J. H. Prior

Office Manager

W. C. Hanson

Chief Engineer

A. M. Selvey

Chief Chemist

R. E. Wright

Manager Operations

P. Janssen

Chief Engineer

H. E. Hughes

Manager Ammonia

W. O. Geren

Manager Products

W. H. Dietz

Manager Agricultural Engineering

R. R. Renshaw

Chief Technologist

A. M. H. Dierl

Personnel & Industrial Relations

J. J. Lofy

Shipping

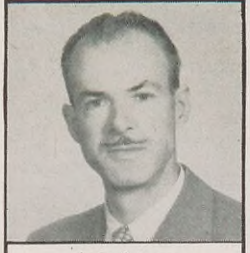
B. E. Gates

ATION – WEST COAST PLANTS

The ninth in a new series of organization charts

Dominguez Plant

Plant Manager



J. G. Bejarano

Assistant Plant Superintendent

E. W. Casagrande

Chief Chemist

E. M. Lando

Chief Technologist

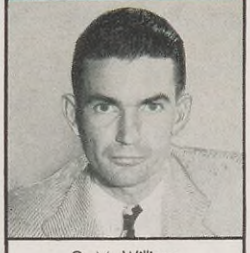
R. S. Ray, Jr.

Office Manager

D. Norton

Martinez Plant

Plant Manager



O. M. Williams

Assistant Plant Superintendent

F. A. Horsley

Manager Department "A"

G. A. White

Manager Department "B"

A. N. Holcombe

Chief Engineer

R. H. Elliott, Jr.

Chief Chemist

H. J. Thomas

Personnel & Industrial Relations

S. N. Hall

Office Manager

N. E. Larson

Chief Technologist

I. I. Shultz

C. L. KLUCK

C. A. JORDAN

N. H. MILES

J. C. HOPKINS

Shell People In The News

C. L. KLUCK has been appointed Manager of the Indianapolis Marketing Division replacing J. G. Sinclair, who has announced his intention to retire late this year. From October 1st until the date of his retirement, Mr. Sinclair will devote his time to special assignments and be available in an advisory capacity to the new Division Management.

Mr. Kluck, after graduating from the University of California, joined Shell Oil Company in 1927 as a service station attendant in Oakland, California. In the years that followed, he held numerous sales positions at various locations on the Pacific Coast before being transferred to the New York Marketing Division in 1937. He was appointed Sales Manager for the New York Division in 1940. After a short period in Albany, he moved to the St. Louis Marketing Division in the same capacity in 1941. The following year he moved to the Baltimore Marketing Division where he remained until early this year, when he became Sales Manager for the Indianapolis Marketing Division.

★ ★ ★

C. A. JORDAN has replaced C. L. Kluck as Sales Manager of the Indianapolis Marketing Division. Mr. Jordan began his Shell career in 1925 as a service station salesman in Columbus, Ohio. He subsequently served in various Midwest locations in a variety of sales positions until 1935 when he was appointed Service Station Representative for the Indianapolis Marketing Division. In 1938 he became District Manager in Cleveland and was appointed Sales Manager of the Cleveland Marketing Division in 1942.

N. H. MILES has replaced C. A. Jordan as Sales Manager of the Cleveland Marketing Division. Following his graduation from Indiana University where he received his B. S. degree in commerce and finance, Mr. Miles entered Shell's employ in the Boston Marketing Division. During the next decade he served there and at the New York Head Office in a variety of accounting and real estate positions. In 1939 he was appointed Sales Development Representative in the New York Head Office. Named District Manager in Richmond, Virginia, in 1940, he subsequently served at Baltimore in the same capacity until late 1946 when he became Acting Sales Manager of the Baltimore Marketing Division. Prior to his new assignment, Mr. Miles was Sales Manager of the Detroit Marketing Division.

★ ★ ★

J. C. HOPKINS has succeeded N. H. Miles as Sales Manager of the Detroit Marketing Division. A graduate of Ohio State University, Mr. Hopkins began his Shell career in 1931 as a credit clerk in the Cleveland Marketing Division. He held various credit positions there during the following 10 years before becoming Division Credit Manager in 1941. Named Assistant to the Manager of the Aviation Department in Head Office Marketing in 1943, Mr. Hopkins served there until 1947 when he was appointed Special Assistant to the Vice President-Marketing in charge of Employee Relations and Training. Since early 1949 he has served as Manager of the Manhattan-Queens District in the New York Marketing Division.

Apartment for Corky

Corky Kocher's father, F. A. Kocher, is District Engineer for the Santa Monica and Wilmington districts of the Los Angeles Marketing Division. A contractor before he joined Shell in 1928, Mr. Kocher has kept his old interests alive with such hobbies as carpentry, masonry and electrical work. He and Mrs. Kocher, who is a professional decorator, form a skilled team, equipped to have fun and make it pay.

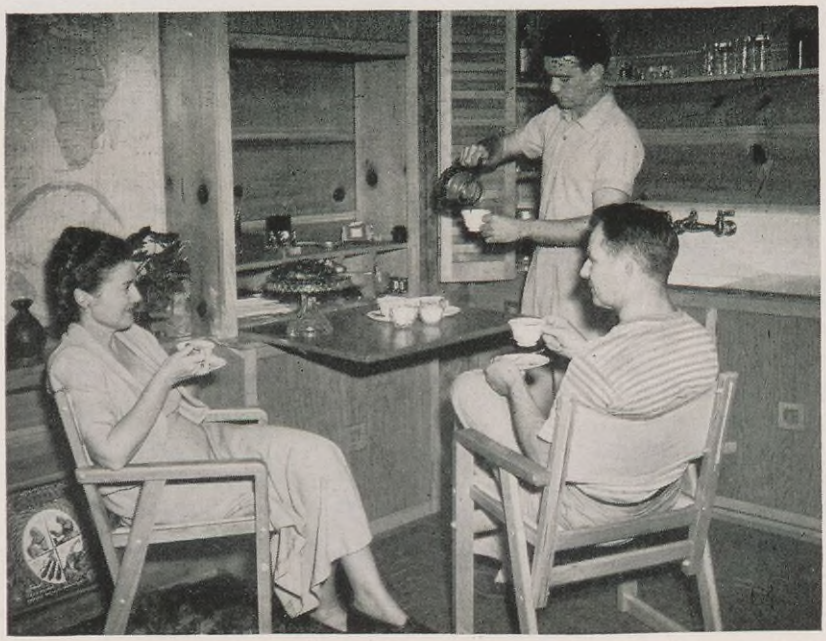
YOUNG Carter Kocher is a lucky guy. He has a private apartment of his own with his own bed-sitting room, bath, and kitchenette. Corky, as he is called, also has a couple of wise—and lucky—parents. They know how to keep a son at home, and have him love it.

The Kochers happen to think a great deal more of Corky than they do of their car. That's one reason Corky lives in a garage—but there's more to it.

Corky frequently brews late Sunday morning coffee in the apartment for Mom and Pop Kocher.

Some friends share the comics and listen to Corky's records while enjoying a light snack and coffee.

The breakfast table at the right of the two trophy-lined, built-in shelves doubles as a desk and writing table.



During the time Corky was away at war, the Kochers moved with their other child, Corky's sister, into a small house in Santa Monica, California. When Corky returned they saw that the youngster to whom they bid a goodbye had returned a young man.

They knew Corky would not be long content with the doubling-up they would have to do in the house. Parent-fashion, they wanted to keep their son with them just as long as they could. The garage was the answer: elbow room for Corky, plus privacy, independence, and comfort—a separate and modern apartment for a young bachelor, yet just a few steps away across the back yard from mom and pop.

Papa Kocher knows his way around with a hammer. Mother Kocher is a talented decorator. Doing much of the work themselves, the Kochers added a four-foot lean-to on the alley side of the garage to take care of bath and dressing room, broke through one wall of the structure to install a big glass window, built a "pullman" kitchenette into another wall of the room.

On Sundays Corky rises late, yahoos across the back yard, and Mr. and Mrs. Kocher come over to Corky's apartment for coffee which he brews. Later Corky's friends come by, read the funnies, play records, amble down the beach which is near by.

(Reprinted by permission of "The American Home" magazine)

Built-in cabinets are space savers . . . a kitchenette lies behind the louvered doors.

Corky occasionally cooks a meal in the kitchenette aided by his sister and her friends.

The Perfect Game

Like the "Caballos Morenos", champions of the San Francisco Office, Shell keglers all over the country are once again eagerly pursuing the elusive "300".

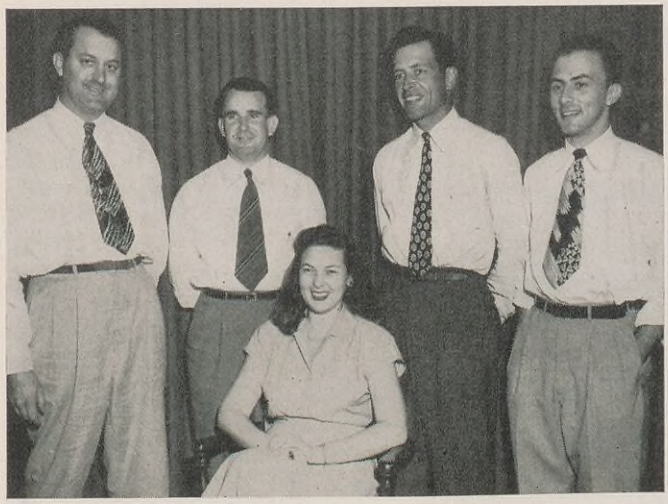
One of Shell's best, Houston Refinery's Berry Risinger averages 199, once posted a phenomenal 808 three game series.

THE 7,000-year-old sport of bowling over vertical sticks with a hard ball has come a long way from its ancient Egyptian antecedants. Its old "rolling stone" is now a smooth, perfectly balanced bowling ball of bakelite or mineral composition that may weigh as much as 16 pounds. Its early grass and hard clay alleys have given way to the leveled, lacquered and polished pine and maple indoor alleys of the modern bowling emporium. And today, numbering its participants in the millions, it even has a national "Congress" to regulate top-bracket tournament play.

Even before the recent war, bowling was far and away the leading participator sport in America. Then World War II gave it added impetus by providing a handy form of relaxation. Last year well over 16,500,000 men and women enjoyed themselves assaulting defenseless tenpins.

This fall, like the rest of their countrymen, Shell men and women are again taking aim at the head pin just 60 feet away down the 40-inch-wide alley. Wood River has seven different leagues, Houston four. The other refineries, area and division offices, San Francisco and New York, Sewaren Terminal are also multi-team locations and few Shell employees are really far from the sound of these alley reverberations.

Quota-crackers, Moly-Kules, Schmoos . . . several hundred gaudily-named Shell teams are already underway. Leading this year's teams are many of last year's stars, some of whom are pictured on these pages.



The winning bowling team from the New Orleans Area Office (pictured above at left) and the Sewaren (New Jersey) Terminal Big Five were among Shell's championship bowling groups in last year's lively campaign.

Outstanding Texas bowlers again this year are this pretty Midland Area girls' team and the perennially powerful Houston Refinery team. One of the Southwest's top teams, the Refinery five boasts three men averaging over 190.

The Machine Shop "Nut Splitters" (left) took top honors in Shell Point's 1949 Spring tournament. At right is Wood River Refinery's championship team, the Extraction Plant team of the Premium Shell League.

Probably Shell's top woman bowler, Marge Timmer of the St. Louis Division keeps her average up in the 180's.

< Peggy Wade is consistently one of the top women bowlers in the New York Head Office winter league.

Sewaren's Joe Hmielski bowls well over 200 and enjoys a 192 all-events average for his 14 years of participation in ABC competition.

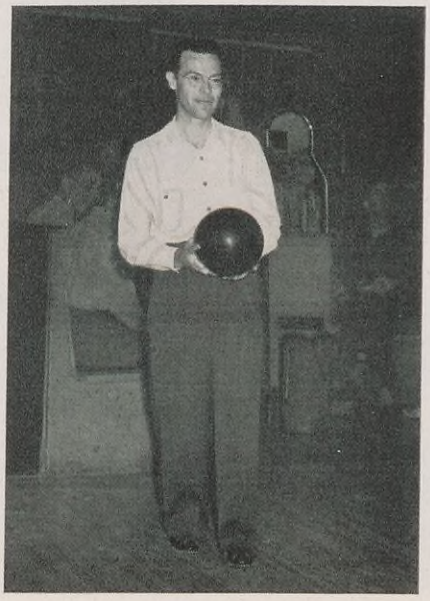
Averaging over 190 in his thirty-year assault on bowling titles, Arnold Jahns annually tops the Tulsa Area's bowlers. >

Birmingham's Shell bowlers of the Atlanta Division ran away with the local commercial league race, taking three straight in the play-offs.

< Another of Shell's leading lady bowlers is Mrs. Catherine Gable whose 165 plus average sets a fast pace at Houston Refinery.

Winter champion of the Norco Suburban Classic League for the 1948 season was the Norco Refinery Shell X-100 team shown above.

Frequently scoring in > the 180 class, Eleanor Milke is hanging on to her position as top woman bowler in the Detroit Marketing Division.



Joe Clark (left) of the Midland Area, Seattle Division's Urban E. Jones and Wilmington Refinery's R. A. Smale (right) are three more league-leading Shell bowlers averaging in the 180's.

They Have Retired

Marketing

B. H. BAKER
St. Louis Division
Operations

W. C. BOYNTON
Boston Division
Operations

P. E. BRISTOL
Seattle Division
Operations

R. C. ERICKSON
Seattle Division
Operations

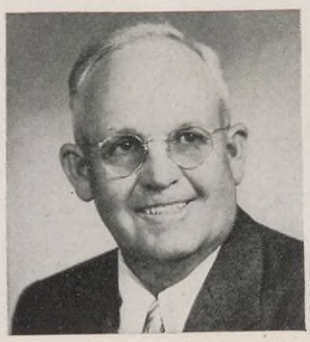
ALEX FORTENBOHER
Sewaren Plant
Compounding

GEORGE GYURINDAK
Sewaren Plant
Compounding

J. W. HANSON
St. Louis Division
Operations

L. B. LAFRANCHI
Portland Division
Operations

Shell Chemical Corporation



R. A. PAYNE
Sacramento Division
Operations

H. W. RUMLEY
Sacramento Division
Operations

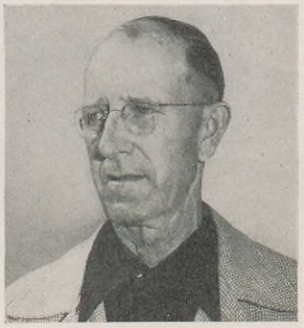
EMIL SONNENBERG
Sewaren Plant
Engineering

C. L. DE BENEDETTI
Martinez Plant
Engineering

Manufacturing

J. W. GANDSEY
Wilmington Refinery
Dispatching

L. M. HAMMAN
Martinez Refinery
Compounding

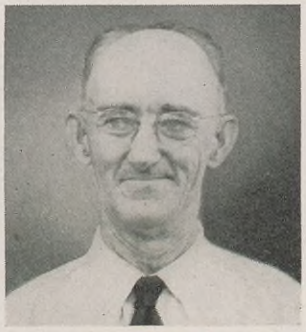


E. G. KATZORKE
Wilmington Refinery
Marine Loading

NICK KEULEN
Wilmington Refinery
Marine Loading

R. A. McFARLAND
Wilmington Refinery
Marine Loading

L. R. VAUGHN
Wood River Refinery
Engineering Field



E. H. WALTZ
Wood River Refinery
Engineering Feld

E. J. ZALOUDEK
Wilmington Refinery
Engineering Field

Exploration and Production

J. W. BIFFIN
San Joaquin Division
C. & M.

JOE CLINGAN
Midland Area
Production

J. R. HELDENBRAND
Tulsa Area
Production

W. B. KALKBRENNER
Los Angeles Basin Div.
C. & M.

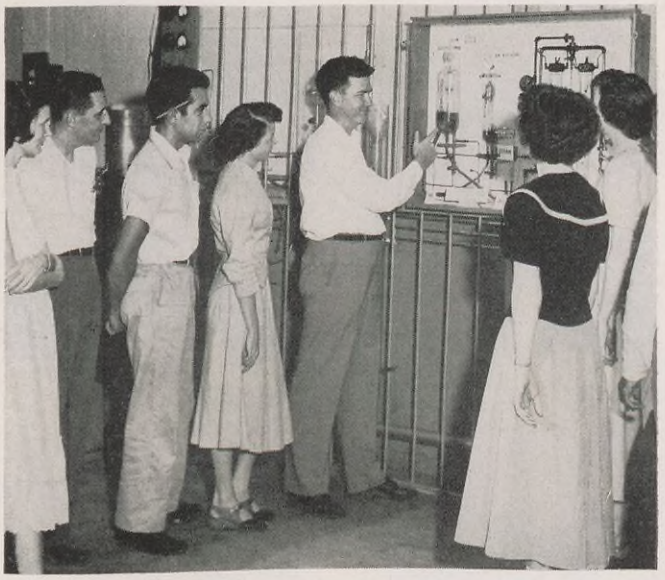
R. J. LAUDER
Tulsa Area
Personnel & Industrial Relations

C. L. PAYNE
Tulsa Area
Production

J. W. SWYGART
Tulsa Area
Production

coast to coast

Barbershop harmony entranced the recent costume party at Shell's Agricultural Laboratory in Modesto, California.



Houston Refinery's research laboratory staff held "open house" recently for approximately 400 friends and relatives.

Approximately 125 salesmen enjoyed a golf tournament and banquet when the New York Marketing Division held its annual sales meeting at the Montclair (N. J.) Golf Club on August 29.

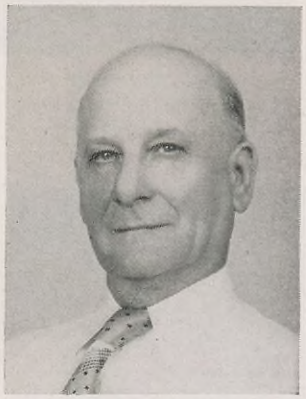
Service Birthdays

Thirty Years

W. R. BESTOSO
Norco Refinery
Engineering Field

K. J. BICKEL
Martinez Refinery
Engineering Field

H. V. DRESSLER
Martinez Refinery
Engineering Field



W. B. FISHER
Wood River Refinery
Railroad Section

F. H. SAUL
Seattle Division
Marketing Service

R. R. SHERWOOD
Wood River Refinery
Distilling

H. F. STATTON
Martinez Refinery
Engineering Office

THEODORE WEED
San Francisco Office
Marketing

Twenty-Five Years

C. E. BEASON
Wood River Refinery
Alkylation

G. C. CUNNINGHAM
Wood River Refinery
Administration

A. A. DART
San Francisco Office
Marketing

J. A. DUFFY
Chicago Division
Operations

TWENTY-FIVE YEARS—*Continued*

J. J. DVORAK
Los Angeles Basin Division
Production

E. W. FLICKINGER
Houston Area
Production

H. H. FLORENCE
Chicago Division
Operations

L. R. GARNETT
San Francisco Division
Marketing Service

C. T. HAGGARD
Wilmington Refinery
Effluent Control & Utilities

VICTOR HANSEN
San Joaquin Division
Production

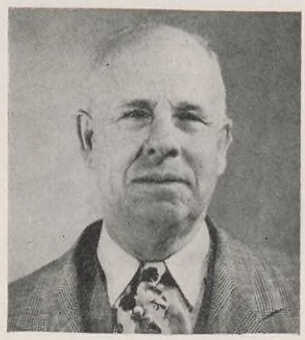
S. C. HARRIS
Norco Refinery
Engineering Field

B. F. HOLT
Atlanta Division
Treasury

OTTO JENSEN
Wilmington Refinery
Catalytic Cracking

F. A. KIRCHMER
St. Louis Division
Sales

G. J. LAUGEL
San Francisco Division
Operations



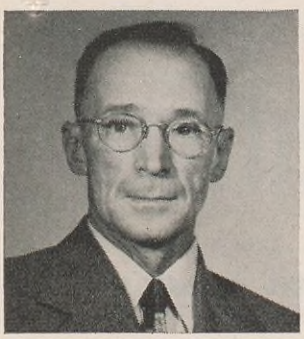
J. W. McKEEN
Wilmington Refinery
Engineering Field

W. R. MEYER
Portland Division
Sales

G. A. PRECHTL
San Joaquin Division
C. & M.

L. T. QUICK
Los Angeles Basin Division
Garage

P. A. SEAVERS
Los Angeles Office
Garage



ERVIN SINCLAIR
Tulsa Area
Production

J. E. SOWARD
Tulsa Area
Production

H. J. WOEHRMANN
Shell Pipe Line Corporation
Head Office

E. J. WOLLARD
Houston Refinery
Engineering Field

SHELL OIL COMPANY

Head Office

20 Years

A. K. Eaton.....*Marketing*
J. E. Harman.....*Treasury*
J. M. McGinnis.....*Marketing*
Anna L. McGrath.....*Marketing*
C. M. Mockler.....*Marketing*
J. C. Morris.....*Marketing*
A. V. Roche.....*Marketing*
G. L. Switzer.....*Marketing*
D. G. Ward.....*Transp. & Supplies*

15 Years

R. V. Miller.....*Treasury*

10 Years

D. H. Dean.....*Treasury*

San Francisco Office

15 Years

G. McCullough.....*Treasury*

Exploration and Production

HOUSTON REGIONAL OFFICE

15 Years

S. H. Rockwood.....*Production*

HOUSTON AREA

15 Years

A. F. Lofton.....*Production*

10 Years

W. W. Porter.....*Production*
K. F. Wainner.....*Exploration*

MIDLAND AREA

20 Years

T. L. Allison.....*Gas*

10 Years

M. M. Fairchild.....*Production*

NEW ORLEANS AREA

20 Years

J. C. Skains.....*Land*
D. J. Wilson.....*Production*

15 Years

G. J. Breaux.....*Exploration*
B. E. Leger.....*Production*
N. Pothier.....*Production*

10 Years

F. V. Thibodaux.....*Production*

TULSA AREA

20 Years

W. E. Edwards.....*Gas*
C. O. Harvey.....*Production*
M. B. Tucker.....*Production*

15 Years

H. Dickson.....*Land*
J. H. Griffin.....*Production*
R. B. Wing.....*Exploration*
H. R. Witte.....*Treasury*

10 Years

O. J. Hayes.....*Production*

LOS ANGELES REGIONAL OFFICE

15 Years

D. S. Coye.....*Legal*
Bessie I. Glenn.....*Exploration*

10 Years

C. F. Torrey.....*Pipe Line*

COASTAL DIVISION

20 Years

G. N. Mart.....*C. & M.*
R. K. Rogers.....*Gas-Gasoline*
L. D. Trunnell.....*Purchasing-Stores*

15 Years

A. L. Gardner.....*Garage*
G. Hungerford.....*Garage*
C. M. Hanline.....*Drilling*

LOS ANGELES BASIN DIVISION

15 Years

G. L. Sheely.....*Drilling*

SAN JOAQUIN DIVISION

20 Years

G. H. Cunin.....*Production*
E. H. Foster.....*C. & M.*

15 Years

M. J. Humecky.....*Production*
C. A. Ingram.....*C. & M.*
D. S. Nutter.....*Exploitation*

Manufacturing

HOUSTON REFINERY

20 Years

B. R. Burleson.....*Treating*
W. W. Coale.....*Catalytic Cracking*
N. F. Gilliam.....*Engineering*
E. B. Madden.....*Cracking*
J. B. May.....*Cracking*
J. N. Nail.....*Lubricating Oils*
A. E. Shafer.....*Engineering Field*
R. H. Theis.....*Cracking*

10 Years

F. H. Fox.....*Engineering Field*
L. O. Hay.....*Engineering Field*
F. E. Lee.....*Cracking*
P. P. Plovanich.....*Engineering*
W. P. Zuber.....*Fire & Safety*

MARTINEZ REFINERY

20 Years

E. Braaten.....*Engineering*
J. B. Roach.....*Cracking*
J. W. Sandusky....*Personnel & Ind. Relations*
F. X. Willer.....*Compounding*

15 Years

S. A. Costanza.....*Asphalt*
H. C. Duane.....*Engineering*
M. C. Sorensen.....*Engineering*

NORCO REFINERY

20 Years

R. F. Tregre ..... *Dispatching*

15 Years

G. V. Portier ..... *Utilities*

WILMINGTON REFINERY

20 Years

F. Vanden Beisen ..... *Alkylation*
R. A. Jones ..... *Engineering Field*
R. A. McFarland ..... *Marine Loading*
W. S. Wiebusch ..... *Engineering Field*

15 Years

M. W. Oostdam ..... *Laboratory*
W. J. Rupnik ..... *Laboratory*
J. A. Stroud ..... *Engineering Field*

10 Years

A. T. Crawford ..... *Cracking*

WOOD RIVER REFINERY

20 Years

K. A. Burge ..... *Technological*
P. C. Collins ..... *Control Laboratory*
H. A. Deem ..... *Personnel & Ind. Relations*
G. C. Farmer ..... *Engineering Field*
E. B. Gillis ..... *Research Laboratory*
M. L. Lambert ..... *Engineering Office*
J. H. Markham ..... *Engineering Field*
E. Whiting ..... *Gas*

15 Years

O. E. Berry ..... *Engineering Field*
L. M. Cochran ..... *Engineering Field*
P. E. Greene ..... *Engineering Field*
J. L. Jackson ..... *Research Laboratory*
L. D. Palmer ..... *Cracking*
L. B. Smith ..... *Treating-Light Oil*
G. T. Wulf ..... *Engineering Field*

10 Years

W. E. Ayers, Jr. ..... *Engineering Field*
T. A. Dodson ..... *Engineering Field*
L. S. Echols ..... *Research Laboratory*
A. A. Englar ..... *Engineering Field*
W. E. Hartung ..... *Lubricating Oils*
C. I. Kline ..... *Engineering Field*
W. E. Lyford ..... *Distilling*
H. E. Reed ..... *Engineering Field*
E. R. Riley ..... *Engineering Field*
H. R. Simmons ..... *Engineering Field*
C. L. Slavens ..... *Engineering Field*
C. Timpe ..... *Engineering Field*
T. H. Tonkinson ..... *Personnel & Ind. Relations*
H. D. Vester ..... *Engineering Field*
E. L. Webb ..... *Engineering Field*
R. E. Whyers ..... *Engineering Field*

Marketing Divisions

20 Years

L. E. Blanchard ..... *Albany, Sales*
L. S. Greene ..... *Albany, Operations*
H. M. Moore ..... *Albany, Treasury*
G. H. Natole ..... *Albany, Sales*
A. J. Carstens ..... *Atlanta, Operations*
R. P. Sievers ..... *Atlanta, Operations*
D. H. Thomas ..... *Atlanta, Operations*
L. C. Beresford ..... *Boston, Treasury*
N. L. Gain ..... *Boston, Operations*
D. M. Mahoney ..... *Boston, Sales*
N. J. Rosenthal ..... *Boston, Operations*
R. F. Tabeling ..... *Boston, Operations*
J. J. Berscheid ..... *Chicago, Real Estate & Devel.*
E. C. Kerker ..... *Chicago, Operations*
C. E. Betts ..... *Cleveland, Sales*
E. C. Bliss ..... *Cleveland, Operations*
K. T. Connor ..... *Cleveland, Sales*
F. W. Higgie ..... *Cleveland, Operations*
A. L. Valter ..... *Cleveland, Sales*
Gladys S. Kronson ..... *Detroit, Treasury*
T. W. Zemper ..... *Detroit, Real Estate & Devel.*
F. R. Hurt ..... *Indianapolis, Operations*
A. C. Pavey ..... *Indianapolis, Sales*
W. F. Scheiman ..... *Indianapolis, Operations*
A. A. Anglesea ..... *Los Angeles, Operations*
L. J. Dewart ..... *Los Angeles, Treasury*
R. S. Russell ..... *Los Angeles, Sales*
J. P. Carlucci ..... *New York, Operations*
C. A. Hovell ..... *New York, Sales*
F. J. Kiesecker ..... *New York, Operations*
A. Leonardo ..... *New York, Operations*
E. W. Nystrom ..... *New York, Operations*
E. V. Petrie ..... *New York, Operations*
H. S. Randall ..... *New York, Treasury*
H. J. Robrecht ..... *New York, Operations*
P. L. Schaaf ..... *New York, Operations*
T. J. Zurk ..... *New York, Operations*
H. E. Misgen ..... *Portland, Operations*
A. R. Olson ..... *Portland, Sales*
K. A. Voigt ..... *Portland, Treasury*
A. F. Caraffa ..... *St. Louis, Sales*
W. E. Kraus ..... *St. Louis, Operations*
R. Noll, Jr. ..... *St. Louis, Operations*
C. S. King ..... *San Francisco, Sales*
D. H. Nelson ..... *Seattle, Sales*

15 Years

T. E. Whitesides ..... *Atlanta, Sales*
F. A. Adkins ..... *Baltimore, Administration*
C. S. Gilbert ..... *Baltimore, Sales*
E. R. Threlkeld ..... *Chicago, Operations*
E. M. Kameda ..... *Honolulu, Operations*
J. W. Robinson ..... *Los Angeles, Operations*
J. W. Obenhoff ..... *New York, Treasury*
E. D. Dennis ..... *Portland, Operations*
R. C. Brackett ..... *St. Louis, Operations*
V. E. Speers ..... *San Francisco, Sales*
S. G. Colburn ..... *Seattle, Sales*
W. J. Paton ..... *Seattle, Sales*

10 Years

Ernestine Koehler ..... *Baltimore, Treasury*
R. J. Lynch ..... *Boston, Sales*
S. J. Vasques ..... *Boston, Operations*
R. J. Kass ..... *Chicago, Operations*
M. H. Beckhart ..... *Los Angeles, Operations*
M. R. McClain ..... *Los Angeles, Sales*
L. J. Gross ..... *Minneapolis, Sales*
E. L. Prizler ..... *Minneapolis, Operations*
G. A. Costello ..... *Seattle, Treasury*
M. Levin ..... *St. Louis, Operations*

Products Pipe Line

20 Years

F. B. Johns ..... *Charlotte, N. C.*
R. M. Smeltzer ..... *East Chicago, Ind.*
R. K. Stalcup ..... *East Chicago, Ind.*
E. Woodward ..... *Doraville, Ga.*

Sewaren Plant

20 Years

V. W. Kafton ..... *Terminal*

SHELL CHEMICAL CORPORATION

20 Years

E. R. Downing ..... *Houston*
W. Q. Mooney ..... *Eastern Division*
H. J. Ward ..... *Houston*

15 Years

H. Q. Duguid ..... *Houston*

10 Years

R. H. Conner ..... *Houston*
K. R. Fitzimmons ..... *Head Office*
J. J. Russo ..... *Shell Point*

SHELL DEVELOPMENT COMPANY

15 Years

J. H. Boyd ..... *Emeryville*
A. G. Cattaneo ..... *Emeryville*
L. T. Fogerty ..... *Emeryville*

10 Years

R. J. Crew ..... *Emeryville*
G. M. Hartwig ..... *Emeryville*
H. R. Luck ..... *Emeryville*
L. B. McKee ..... *Emeryville*
H. E. Randlett, Jr. ..... *San Francisco*

SHELL PIPE LINE CORPORATION

20 Years

F. P. Carnahan ..... *Mid-Continent Area*
W. J. Mathes ..... *West Texas Area*
D. A. Matlock ..... *Texas-Gulf Area*
A. H. Passmore ..... *Bayou System*
A. C. Simpson ..... *Mid-Continent Area*
D. Smith ..... *Texas-Gulf Area*

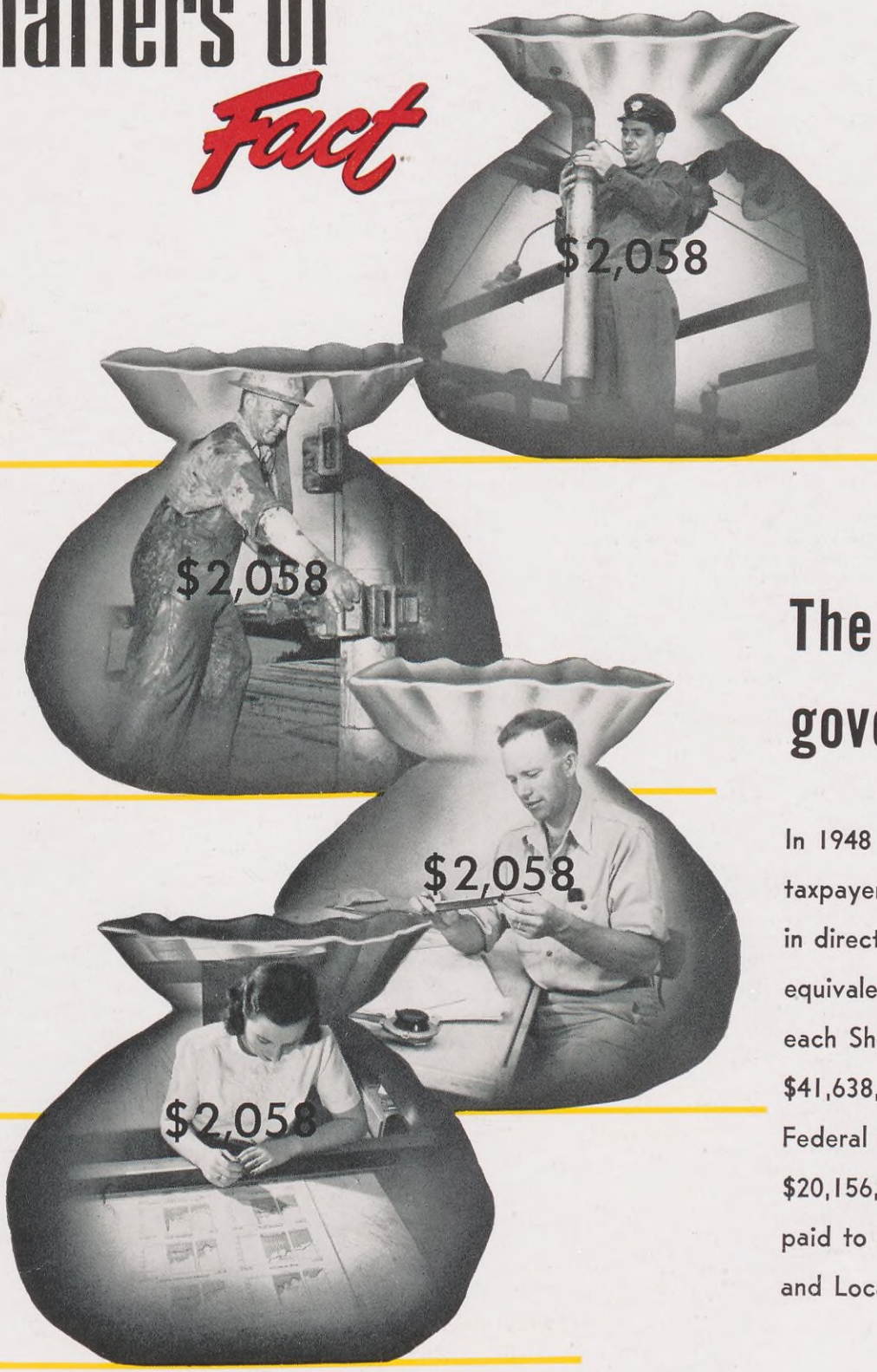
15 Years

W. B. Shipman ..... *West Texas Area*
D. R. Wisdom ..... *Texas-Gulf Area*

10 Years

A. E. Marshall ..... *Mid-Continent Area*
E. Roosevelt ..... *Mid-Continent Area*
R. R. Schultz ..... *Mid-Continent Area*

matters of *Fact*



The cost of government

In 1948 Shell as a taxpayer paid $61,794,000 in direct taxes, the equivalent of $2,058 for each Shell employee. $41,638,000 went to the Federal Government; $20,156,000 was paid to State and Local Governments.

FAMILY PORTRAIT

AUTO MECHANIC (Marketing)

EARL R. THRELKELD

The engine of a tank truck never consults the weather forecasts when it decides to develop a gimmick. That's why you'll find Shell Auto Mechanics doing the same emergency repair job on an airline refueler, while zero winds whistle across the airport ramp, that they may be doing months later, under a blistering summer sun. It's all part of getting products to the consumer, and the Auto Mechanics are important cogs in the Marketing machinery. Men like Earl R. Threlkeld at the Milwaukee Terminal service and maintain tank and stake trucks, keep tire and battery performance records, and see to regular washing, greasing and changes of oil. They also repair pumping and metering equipment on the trucks.

Earl, who is one of 167 Auto Mechanics and Helpers in Shell's Marketing Divisions, earned his 15-year service award the first day of this month. He first joined the Shell family as an Auto Mechanic at Chicago in 1934 and transferred to Milwaukee three years later. There, in the spacious garden of the home he and Mrs. Threlkeld own, Earl raises plenty of fresh vegetables and keeps the lawn borders bright with flowers. The rest of the time is devoted to the three Threlkeld children, Eugene, 11; Karen, 6; and Cheryl, 2.

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

Elliott W. Marsh
510 E. Union St.
Olympia, Wash.

G