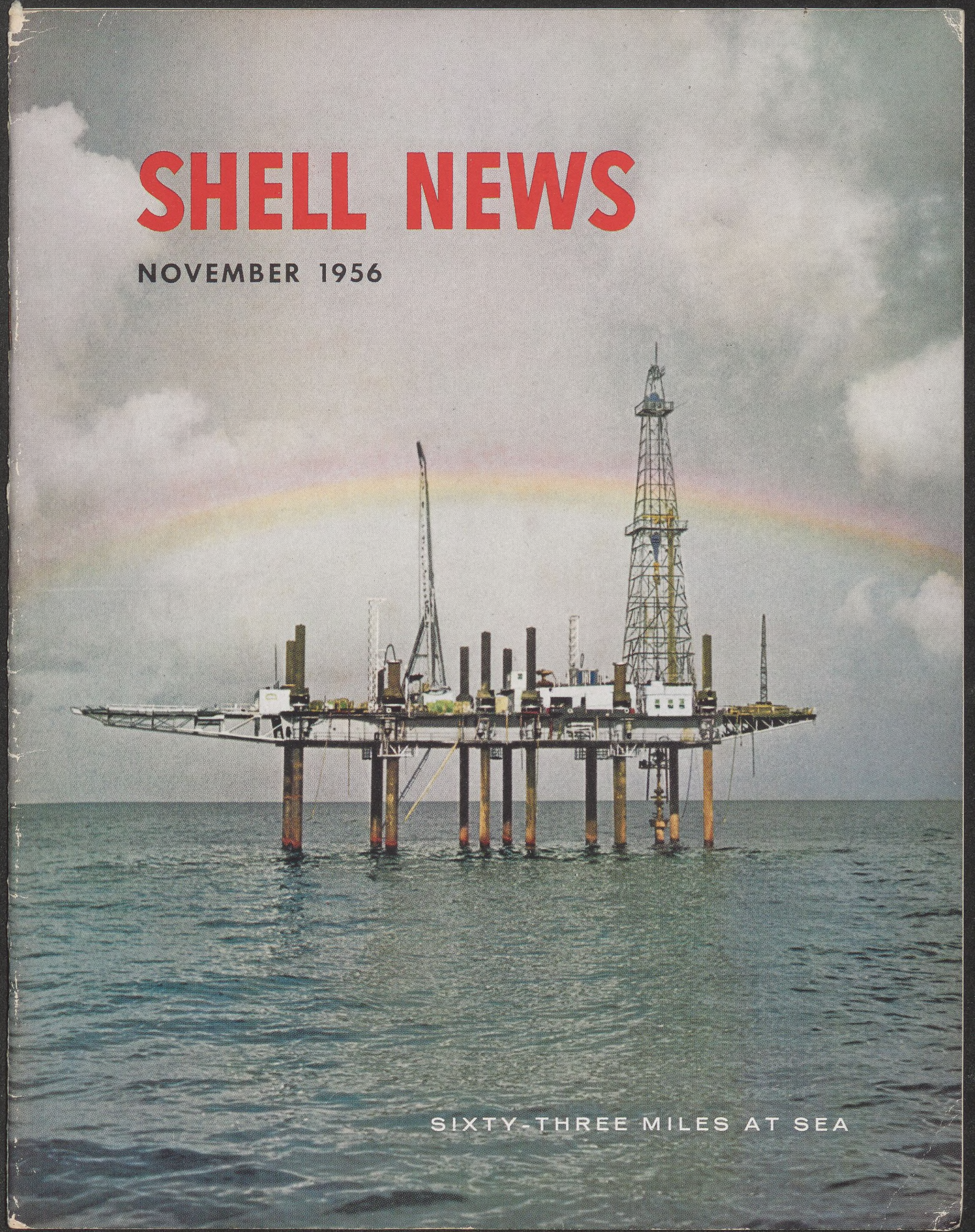
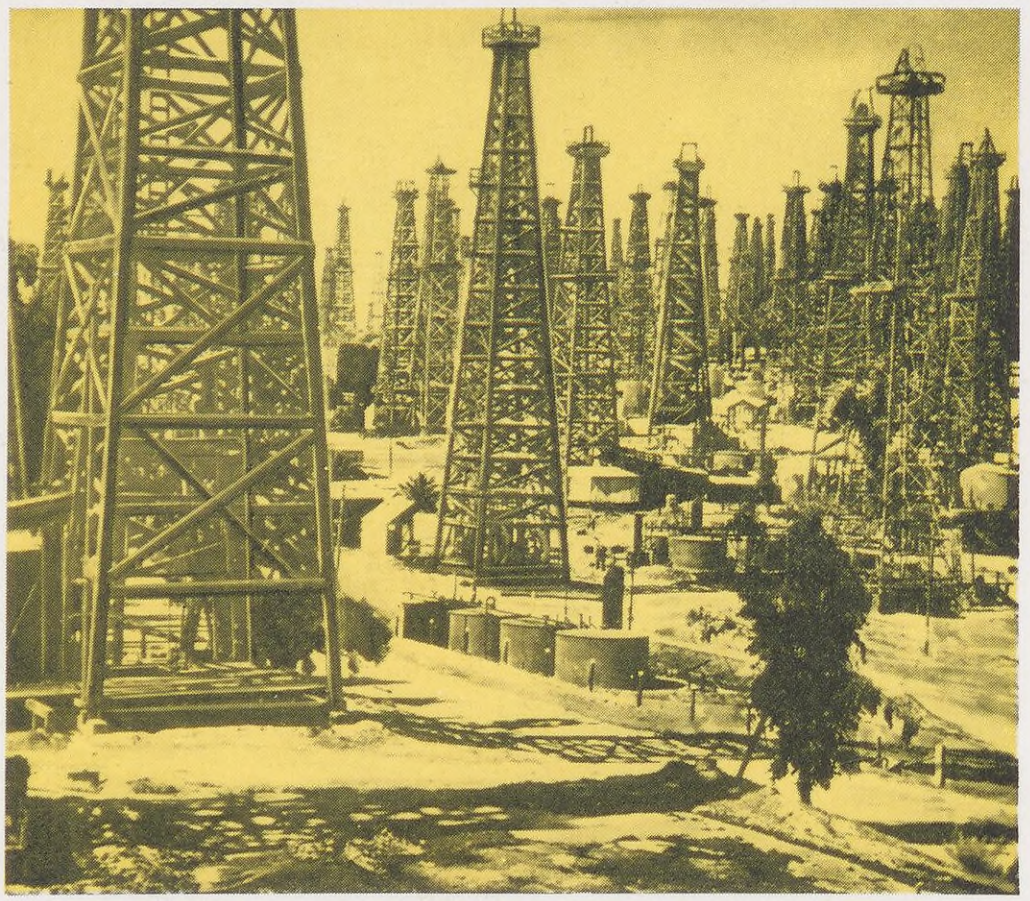
SHELL NEWS

NOVEMBER 1956



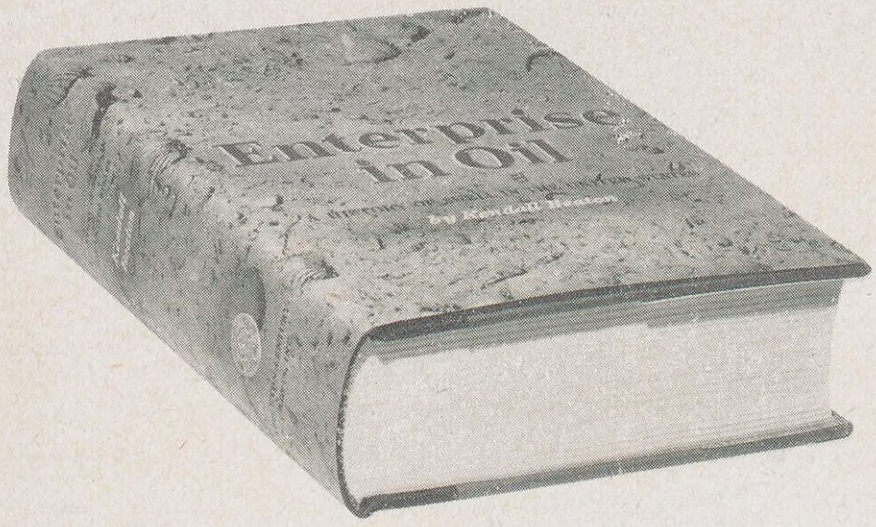
SIXTY-THREE MILES AT SEA

SIGNAL HILL . . .



Signal Hill was a fascinating sideshow to thousands of people, because many of them invested in it. Here a crowd collects to watch Shell's Andrew No. 3 "run wild."

"Town lot" drilling soon made a close-packed pin cushion of Signal Hill. Many of the derricks shown here belonged to Shell.



an excerpt from "Enterprise in Oil," a History of Shell in the United States

(NOTE: As this excerpt makes clear, the Signal Hill Field in California was not only Shell's first major drilling venture in the United States, it was one of the most exciting and successful oil discoveries in the history of the entire industry. The significant thing about the story told here is that it points up certain "boom or bust" aspects of early oil operations that have long since been eliminated by safer, more efficient drilling and the conservation of oil resources.

"Enterprise in Oil," from which this portion of Shell's American saga is taken, is the first complete history of the Shell Companies in this country. Written by Kendall Beaton, and to be published by Appleton-Century-Crofts, Inc., New York, the book represents several years of extensive research at virtually every Shell installation in this country. The 690 pages of text are supplemented by 56 pages of historical Shell pictures, seven maps, eight drawings and useful appendices containing a detailed chronology, lists of officers, and financial and operating statistics.

"Enterprise in Oil" will go on sale in bookstores early in January for $7.50. However, the publisher has made it possible for Shell to offer the book to employees for $3. These copies will be available early in December and order forms will be mailed to employees' homes by that time. A copy of the book will be mailed without charge to each pensioner.)

BEHIND the then-small city of Long Beach, Signal Hill rose sharply, its 365 feet of elevation making it a prominent feature of the local landscape. In Indian days, it was said, the local red men had used its pinnacle as a point for signalling their brethren on Catalina Island, some 35 miles out to sea. Later, in Spanish times, the hill had occasionally served as a beacon for ships. The whole of Signal Hill and much of the surround-

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

Employee Communications Department
New York, N. Y.

contents

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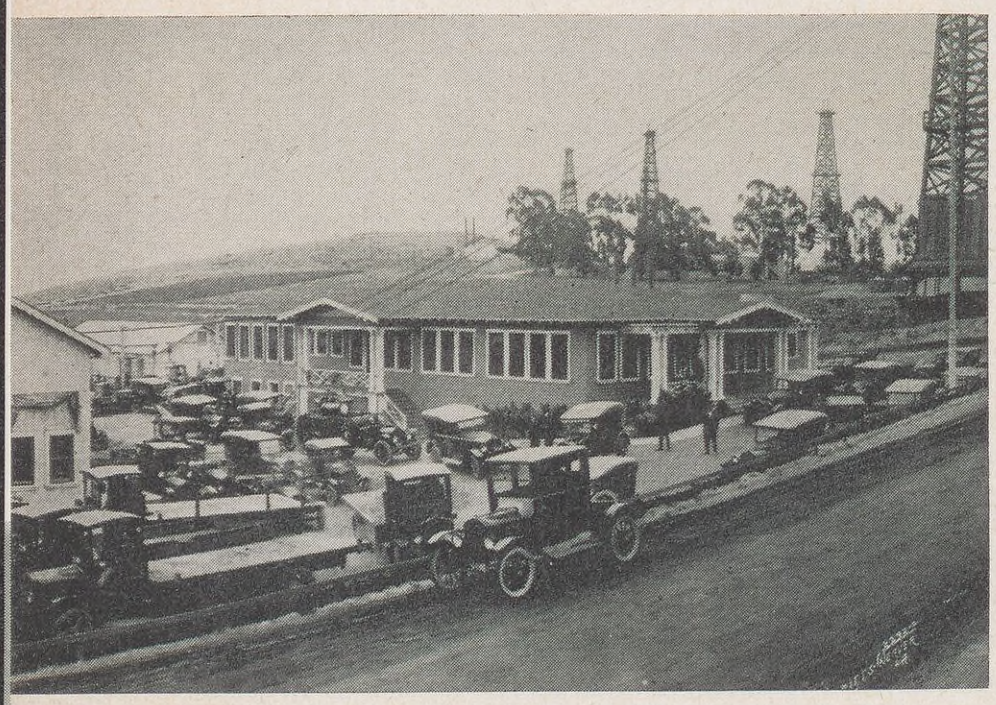
SIXTY-THREE MILES AT SEA

There was no pot of gold—black gold—at either end of the rainbow on this month's front cover. After 51 days of drilling, at a cost of almost $20,000 a day, a pioneering wildcat drilling venture of Shell Oil Company and Continental Oil Company was abandoned as a dry hole. If it had been successful, the wildcat would have been the world's farthest offshore well.

The dry hole was not a total loss, however. Banking on geological information learned during its drilling, "Mr. Gus," the big mobile platform shown on the cover, has been moved to another location and is currently drilling a second wildcat in the offshore acreage held by Shell and Continental. Some hard economic facts pointed up by these joint ventures are told in an article beginning on page 18.

Crowds watched the drilling of Alamitos No. 1 with avid interest. Five hundred saw the first production on June 25, 1921.

By May, 1923, Shell's office in the Signal Hill Field looked like this. Big warehouses stood nearby. Later on, as the drilling program raced on, wells completely surrounded the buildings.



ing territory had for two centuries been included in two Spanish ranchos, Los Cerritos and Los Alamitos, both of which had continued as cattle ranches through most of the Nineteenth Century. In the late 1880's, a settlement called Long Beach was started on a part of this land; but in 1920 it was still a relatively small city. Several of the more arable parts of the hill had been given to truck farming, and then in the building boom following World War I, an ambitious residential real estate development had been laid out and a great many small lots on the scenic front side of the hill had been sold. Late in 1919 Shell began mapping some of the more promising structures. D. H. Thornburg, a Shell geologist who had grown up in Long Beach and who remembered seeing marine fossils and tilted beds when he had played on Signal Hill as a boy, mapped the Hill and his surface geology confirmed the findings of earlier workers who had suspected that Signal Hill was the crest of a large, possibly oil-bearing anticline. Whether or not the underlying formations contained oil, and at depths which could be reached by drilling methods of that time, could be determined only by drilling a wildcat well. This the company decided to do, going as deep as 5,000 feet if necessary. Following this decision, Shell of California spent $60,000 to lease 240 acres on Signal Hill. Much of it was a single large tract, which had not yet been subdivided, leased from the Alamitos Land Company. Not long before (1917) Union Oil Company had drilled an unsuccessful well on Signal Hill at what is now the junction of Wardlow Road and American Avenue. For Shell's well location, Thornburg and J. W. Paulsen, another Shell geologist, selected a site just back of the brow of the hill, on the edge of a tract of the Alamitos Land Company.

Following the practice then current, the Alamitos No. 1 well was drilled with rotary tools to a depth at which good oil showings were obtained. Then, lest the action of the rotary drill and its circulating mud seal off the oil-producing sands, the well was finished with old-fashioned cable tools. On March 23, a Shell rotary crew from Oilfields moved in and started drilling. By May 2, they had reached 2,765 feet and a core was taken, revealing oil sand. Cheered by this news, Shell of California appropriated another $50,000 to lease additional acreage. A casing to shut off upper waters was run to the bottom of the hole and cemented, and then a cable-tool crew arrived to finish the well. On May 23, while making a test for water shut-off, the cable-tool crew found 70 feet of oil standing in the hole, along with a substantial amount of gas. This good news got around Long Beach in no time, and during the final month of drilling the crew spent much of their time keeping interested sight-seers off the derrick platform.

Drilling had proceeded to 3,114 feet by June 23, when oil blew out over the crown block 114 feet in the air. The

well soon choked up and stopped flowing. During the two days ensuing, crews worked around the clock to get the hole cleaned out and the well into production. Excitement ran high and when the clean-out job was finally finished and oil from Alamitos No. 1 started flowing to tanks at four o'clock in the morning on June 25, 1921, five hundred spectators were gathered to witness the sight. During its first twenty-four hours, the new well made 590 barrels of 22° gravity oil, and soon it produced 1,200 barrels a day.

From the moment of the completion of the Alamitos well early that June morning, Signal Hill became an uproar of activity, activity which increased with ever-mounting intensity for the next two years. Only a few houses, such as the one belonging to Andrew Pala on the crest of Signal Hill, had actually been built; but most of the more desirable lots had been sold. These individual landowners naturally wished to join in the bonanza resulting from Shell's discovery well, and they were to be helped in this desire by the usual boom-town aggregation which overnight descended on Long Beach: speculators, promoters, and a large selection of reputable and experienced oil men. They came in such numbers, and the excitement was so intense, that soon the bidding for leases forced royalty percentages above customary levels.

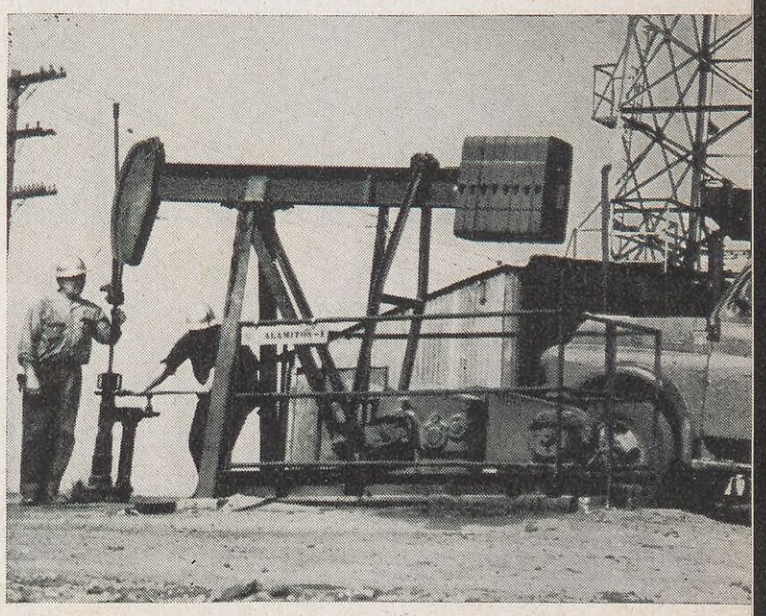
Established operators with capital and equipment could offer a landowner the advantage of being able to begin drilling immediately. The speculators and lease-hounds were, of course, unable to make such commitments, but they could offer increased royalty rates. Even established operators had begun by offering royalty rates of 1/6 rather than the conventional 1/8 prevalent in most other oilfield areas. In the face of the competition generated by the lease traders, this 1/6 rate soon jumped to 1/4, 1/3, and a few months later some landowners in the western part of the field obtained the fantastic royalty of 50 per cent. It goes without saying that cash "bonuses for signing" also reached high levels. In other cases promoters offered to buy the landowner's royalty interest outright, for cash sums so large that they were difficult to refuse.

The concerns who offered the high royalty fractions were ones who, while in no position to begin drilling immediately, knew that they would have little difficulty in raising the necessary capital once they had in hand a signed lease covering acreage near producing property. The stock promoters, on the other hand, were only remotely interested in drilling for oil. Generally, they would buy the landowner's royalty interest and then capitalize it as a company with thousands of shares of stocks which could be sold to a gullible public unfamiliar with oil royalties but eager to "get in on something big." The promoters ran free bus trips from Los Angeles to Signal Hill, set up eating tents where they served free lunches to their guests, and followed that with a lecture by a so-called expert and a trip to look at Shell's new well, the only thing of interest which could be shown the prospective investor. There is no record of just what the promoters told these would-be shareholders, but it is a safe bet that the purchaser usually came away thinking he had bought a lot more than one five-hundred-thousandth of a one-sixth interest in an oil well which had yet to be drilled. (And yet the field was so prolific that some of these victims actually profited from their unlikely investments.)

Keeping the guests of the promoters and the other swarms of the curious off the derrick platform, where they might be injured or cause injury, was a full-time job in the early weeks of the Alamitos well. The men who worked on it remember many a weekend when they were forced to brandish axe-handles to drive the spectators back out of harm's way. These interruptions became so annoying that eventually the crew built a barbed-wire fence around the well location.

With all this fever-pitch excitement and confusion, with high cash bonuses and high royalty percentages being offered, with dozens upon dozens of small plots overlying the probable area of the new oil field, it was clear to the Shell men on the spot that they were headed straight into a period of intensive town-lot drilling, which might very well be more hotly competitive than anything seen up to that time. Shell held about one-quarter of the new field, and would therefore be obliged to join in this fast-and-furious activity if it hoped to recover its proportionate share of the oil. The company had the initial advantage: it was there first, with drilling equipment and a few crews of men.

W. C. McDuffie, who by 1921 had become general production superintendent, lost no time in following up this initial advantage. He had arrived during the days when the Alamitos well was still drilling. With its successful completion, he laid out plans for moving in drilling crews, rigs, materials, and supplies as rapidly as possible. Clearly foreseeing the break-neck drilling race ahead, McDuffie outlined a drilling program under which Shell immediately undertook to



Alamitos No. 1 still produces oil for Shell. Here, 35 years after the discovery, two Shell maintenance men work on the pump.

Derricks were so closely packed on Signal Hill that drilling foremen often gave orders to or tongue-lashed the wrong derrick crews.

drill three more wells on the outer boundaries of its leases. The second well started was Nesa No. 1 on the crest of the hill some 800 feet east of Cherry Avenue; the third was Horsch No. 1 farther back on the hill and just east of Cherry Avenue; and the fourth, Stakemiller No. 1, was down the face of the hill from the Alamitos well. For drillers, crew members and roustabouts, McDuffie drew on the ready-made labor force at Coalinga, and men arrived from Oilfields at the rate of about thirty a day, day after day, all during the summer of 1921. . . .

In an atmosphere reminiscent of fighting a fire, men still managed to keep their heads and get their work done amidst frenzied hurry and "never enough" — never enough material, never enough labor, never enough room (some of the office force operated without desks for months), never enough drilling mud (drivers went miles away to dig it from abandoned sumps), and never, of course, enough time. Crews often worked around the clock as a well neared completion, and foremen and field superintendents lost all track of time as they sped hither and yon, overseeing a dozen jobs at once. Work proceeded with such alacrity that there were a great many humorous incidents, as might be expected, such as foreman appearing on the scene and bawling out a drilling or construction crew, only to realize next day that the crew belonged to a competitor.

In October, the Horsch well drilled by Shell just east of Cherry Avenue came in a producer, and resulted in the scene of intense activity being shifted from the southeast to the northwest of the field. Soon after, General Petroleum's Black & Drake No. 1 some 1,500 feet west of the Horsch well blew in out of control, giving the first indication of the really prolific production which lay beneath Signal Hill. It was then that royalties rose as high as one-half. Because of these steep prices and because of its heavy commitments in the eastern end of the field, Shell did not join in the lease "play" in the western part of the field. The company did, however, own a half-dozen leases in that section which had been taken earlier. Possibly it might have taken more, even at high prices, had it not been for Shell's conviction, based on surface "dips" exposed on the back of Signal Hill, that "there is no oil west of Cherry Avenue." However, this area west of Cherry Avenue has proved to be the major part of the Signal Hill, or Long Beach, field, as it now is called.

By the end of April 1922, ten months after Shell's Alamitos No. 1 had first gone into regular production, there were 108 completed oil wells on Signal Hill, with a daily production of 14,000 barrels divided among 37 competing companies. Of this number, Shell of California had 28 wells, or approximately 25 per cent of the total, and 6,000 barrels a day, or about 42 per cent of the total production.

This was just the beginning. Signal Hill was already crowded with derricks but by the time another year had passed it would be literally bristling with them, some built so close together that their feet interlocked. The hill itself on windless days was shrouded in a fog of steam issuing from the boilers that drove the drilling rigs. All during 1922, drilling kept on at an ever-mounting pace, with the peak of activity coming in July 1923, when there were 270 drilling rigs (about 75 were Shell's) all running at once. This resulted in the field's reaching a peak production of more than 7,500,000 barrels during the month of October 1923. In the rush, the "combination" style of drilling—part with rotary, part with cable tools—was discarded as being too time-consuming, and thus it was on Signal Hill that the rotary first came into its own in California fields.

With all this hurry and the carelessness which haste brings, with so many men working at such close quarters, with open fires blazing in more than 200 boilers, it is a marvel (and one which continues to impress most of the men who lived through it) that Signal Hill did not become the scene of calamitous accidents. There were, to be sure, several accidents in the course of the first two years which might have developed into first-class tragedies. Fortunately, they did not. Most of these accidents involved fires; probably the most spectacular was the first, on Shell's Nesa No. 1.

The Nesa well had been drilled as far as it was scheduled to be drilled with the rotary tools, the casing had been run and cemented, and after the cement had hardened the cable tool drillers had started late in the day of September 1, 1921, to drill through the cement plug at the bottom of the casing. During the two weeks the cement had been hardening, a pocket

of gas had collected. When the drill penetrated the cement plug, a jet of gas shot upwards with a roar and soon afterward caught fire. This roaring torch, 125 feet high, could be seen twelve miles away by land and thirty miles out to sea. It burned two days before McDuffie, O. P. Yowell, drilling superintendent, and their men could bring enough equipment into place to attempt to extinguish it.

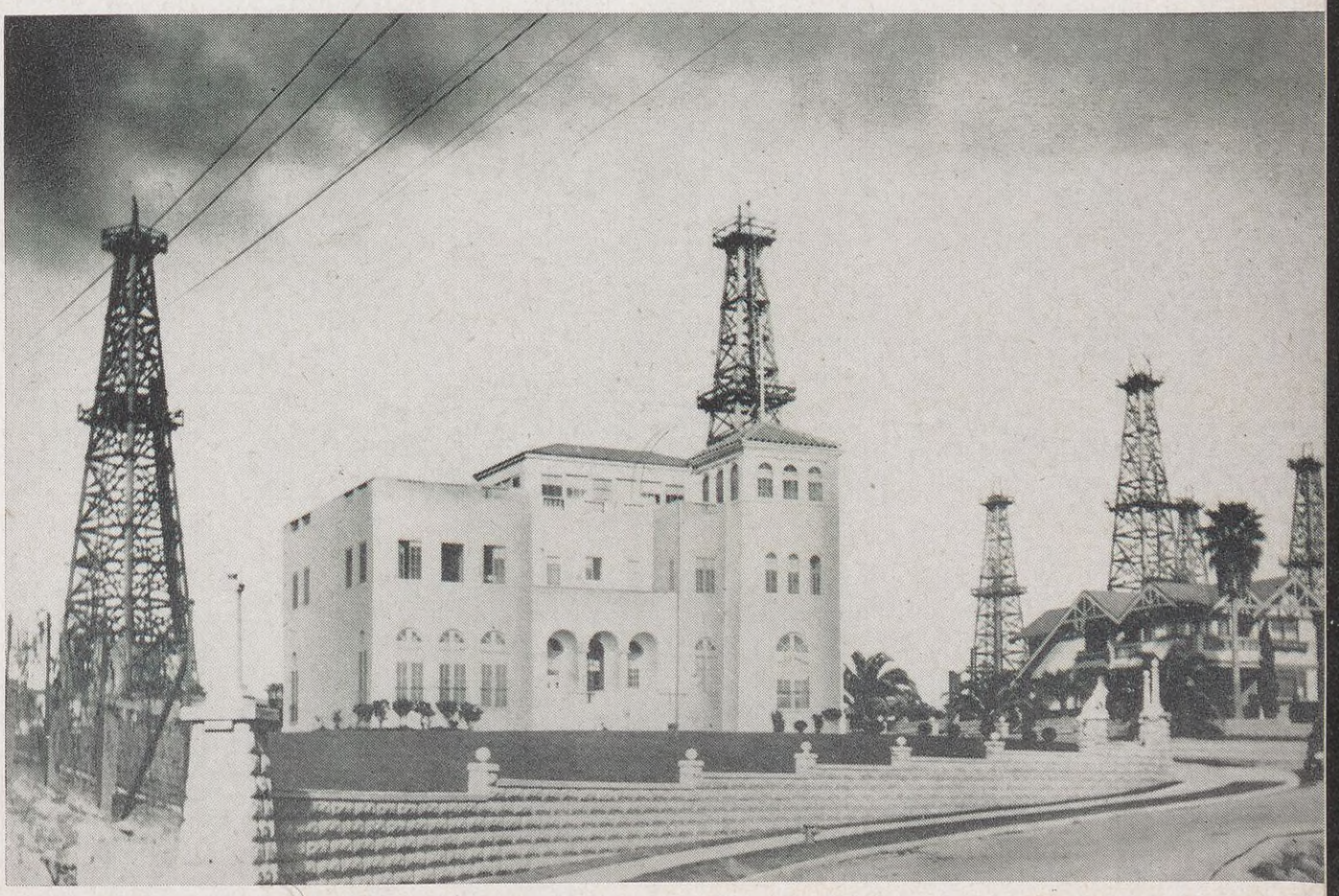
They brought into position a large number of boilers, Shell's and competitors', and prepared to extinguish the flame by smothering it with streams of mud and steam poured in from every side. These preparations were too interesting and dramatic not to draw a tremendous crowd, and W. E. Feistner, construction superintendent, became hero of the day by donning an asbestos suit and going in as far as he could to see whether drilling machinery lay over the burning hole. It didn't; so the jets of mud and steam were applied, and the blazing torch snuffed out, although the escaping gas continued to roar. It was at this juncture that the fire-fighters looked up to see one of their spectators calmly smoking a cigarette only a few feet away—an illustration, if one were needed, of the necessity of keeping sightseers away. The Nesa well was completed shortly afterwards and 30 years later was still producing.

Within the next six months three other Shell wells on Signal Hill—Martin No. 1, Andrews No. 3, and Wilbur No. 1—blew in out of control, took fire, and were successfully extinguished by Yowell and his crew who soon acquired an enviable reputation as fire-fighters and well-cappers. A crew consisting of Yowell and nine drilling foremen set a record in February 1923 when they successfully capped a competitor's gusher in four hours, and were paid $10,000 for the job, $1,000 per man. A chief cause of these accidents had been lack of sufficiently heavy drilling mud. When new and heavier mud made its appearance, along with improved blow-out preventers (large valves under the drilling platform anchored in concrete) accidents such as these blow-outs and fires were largely eliminated.

Signal Hill would have been a memorable oil field on the basis of the tremendous activity of 1921-23. But there was still more to come. No sooner had the production of some of the original wells begun to decline than a new area in the northwest part of the field, called Los Cerritos, opened up in 1925. This was but the first of several extensions which followed during the 1920's and 1930's; some were extensions in area, others were extensions through discovery of deeper horizons in the old parts of the field. Because of these extensions, production at Signal Hill was remarkably sustained in spite of town-lot drilling: the operators were sitting on one of the most productive fields in the world. By the end of 1950, the Long Beach field, as it is now generally called, had produced more than 750,000,000 barrels of oil—more than a half million barrels per acre—making it the richest field in terms of production per acre that the world had ever seen. And in all-time rank, it stood third among American oil fields, exceeded in total production only by the East Texas and Midway-Sunset fields. With about 25 per cent of the total acreage, Shell had between 20 and 25 per cent of the total number of wells and the same fraction of the total production.

Some of Shell's 270 wells proved spectacularly good producers. Shell No. 5, on a piece of fee property, had by the end of 1950 produced in excess of 2½ million barrels. Babb & Tucker No. 4 had yielded considerably more than 2 million barrels. The discovery well, Alamitos No. 1, had nearly reached the 700,000-barrel mark. For Shell, this splendid find could not have come at a more opportune moment. It gave the Company, hitherto unrepresented in Southern California, the production needed to build a refinery and begin the retail sale of gasoline and other products in the West Coast's largest consuming area.

Signal Hill was destined to be a fashionable residential development until oil was discovered there. This palatial home of Andrew Pala was already built when Shell brought in Alamitos No. 1. The Company later purchased the house for use as a drilling staff dormitory.



Rivals for Survival

The tsetse fly, above, and the aëdes mosquito, right, are two villains of "The Rival World." The tsetse fly spreads sleeping sickness, and this mosquito carries yellow fever.

Shell's New Award-Winning Film, "The Rival World," Tells the Story of Man's Unending War With Insects

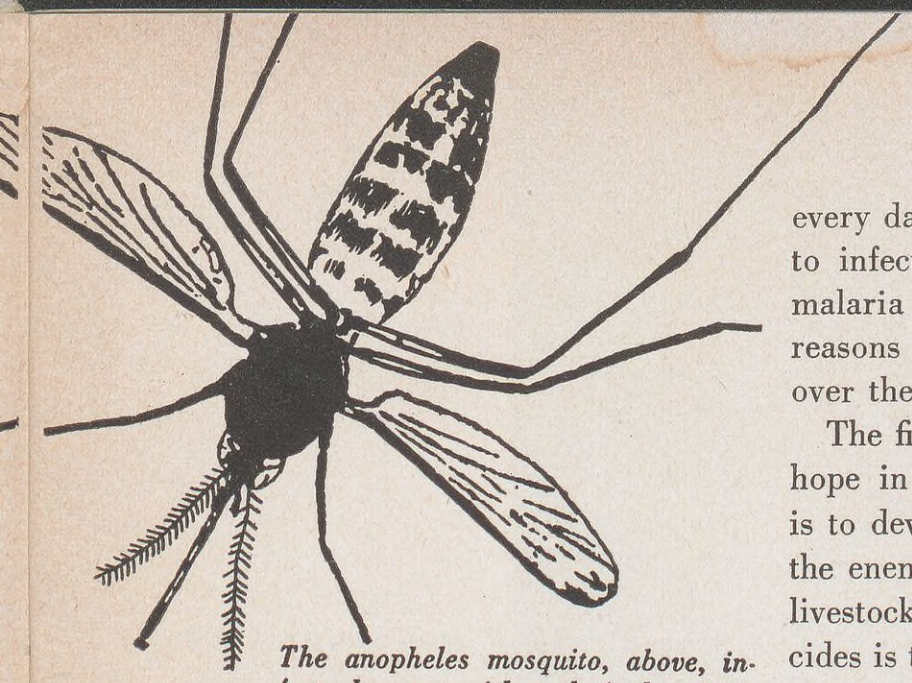
MAN and insects are waging a war for the world. Both constantly want the same thing at the same time—food.

The battle for survival started when man began trying to tame the earth for his own needs 500,000 years ago. But man was a relative newcomer to a world in which insects had a 50-million-year head start, and he started a conflict both inevitable and apparently endless.

The story of this war is told in Shell's new full-color film, "The Rival World." It traces the course of the struggle between instinct and intellect and shows that the insects are more than holding their own.

To get the 27 minutes of "The Rival World" on film required more than three years of work by the Shell Film Unit of London. Much of the film was shot on location in East Africa, the Sudan, Egypt and other tropical countries. Close-ups of insects in action—stripping a leaf with untiring jaws, changing from larvae to adult—were filmed in laboratories with special equipment and techniques.

The results have been recognized by honors from six separate international film festivals in which "The Rival World" was competing against the best short films made since 1955.



The anopheles mosquito, above, infects humans with malaria by piercing the skin with its sharp stinger. Malaria kills one person every 10 seconds of every day. One-half of all human deaths are caused by insects.

Last year the Shell film won honors at the Arnheim, Venice and Edinburgh Film Festivals, and this year at the Cork, Montevideo and Melbourne Film Festivals.

Its showing in the United States began in mid-September with a series of special screenings held by Shell Chemical Corporation in New York City and Washington, D. C., for officials of the United Nations, U. S. Department of Agriculture, U. S. Food and Drug Administration, the chemical industry and the press. More screenings now are being conducted in Shell Chemical's five Agricultural Chemical Sales Divisions for agricultural college representatives, county agents and other farm specialists.

When the series of previews is completed about the first of December, "The Rival World" will be available for general distribution from Shell film libraries in New York, San Francisco, Chicago and Houston.

The audiences will not see a film with a happy ending, or even an overly-optimistic one. It points out that insects outnumber man by 50 million to one—there are as many insects in one square mile of land as there are men in the world—and their rapid reproduction adds millions more every day. Their appetites and ability to infect man with diseases such as malaria and typhus are additional reasons why insects might yet take over the earth.

The film points out that man's best hope in the kill-or-be-killed struggle is to develop insecticides to wipe out the enemies without damaging crops, livestock or men. The use of insecticides is the most recent application of man's intellect to fight insects' instincts. For while insects have been operating on instinct for 50 million years, man's knowledge of them and their weaknesses is relatively recent. When plagues swept Europe in the Middle Ages, no one knew they were caused by insects. As late as the turn of the century, it was a startling discovery to find that yellow fever was caused by mosquitoes.

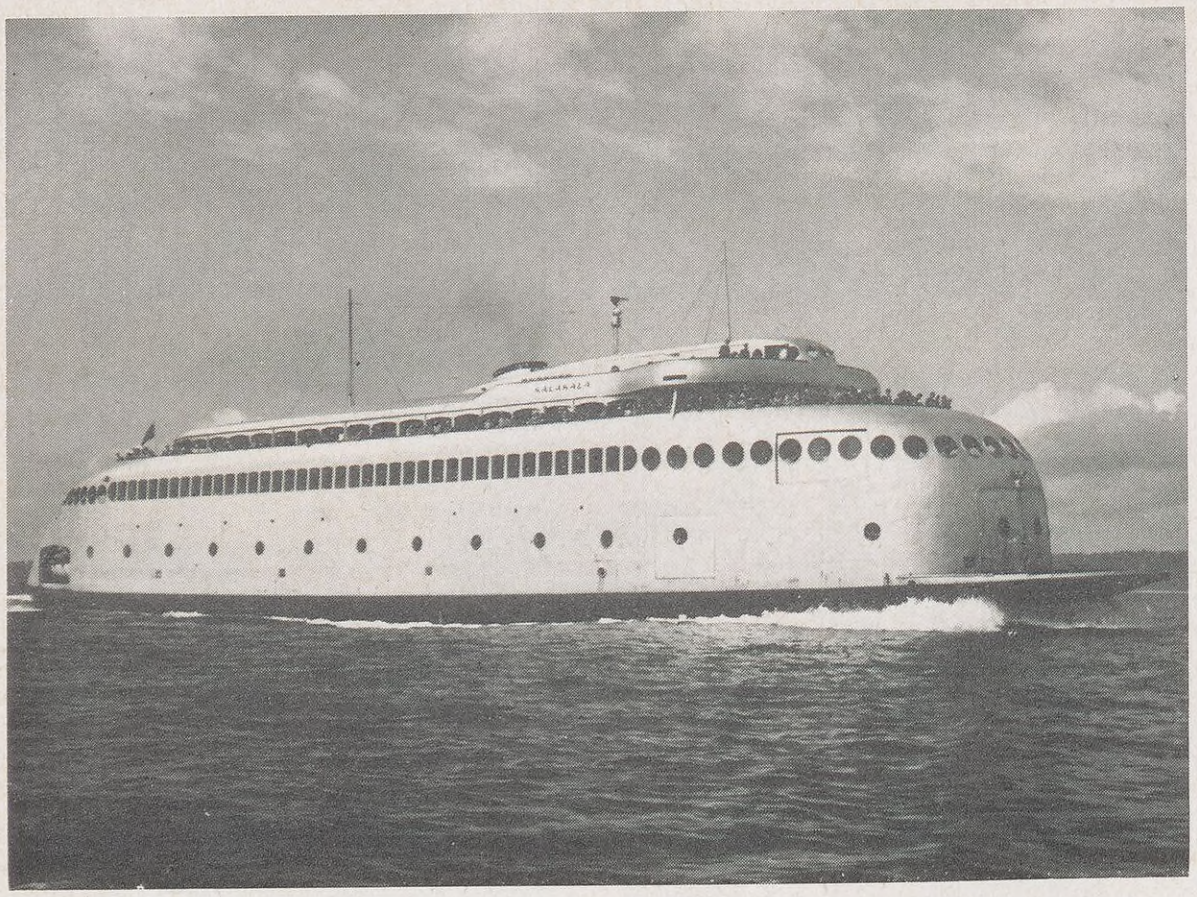
Since science entered the battle, however, man has made progress once impossible because he didn't know how to fight back. The Panama Canal, for example, was built only after scientists traced yellow fever to the mosquito, then systematically wiped out local mosquito breeding places.

But disease-bearing insects still deny thousands of square miles of the earth from man, and cause one-half of all human deaths. Malaria alone kills someone every 10 seconds; thousands of others die from typhus or sleeping sickness, or are blinded or crippled by insects. Ways of wiping out the disease-carriers still are being sought in laboratories all over the world. Eradication of a single insect species, even in limited areas, is a monumental task, but it may not be an impossible one. World Health authorities now have decided, for example, to try to eliminate malaria by eliminating the mosquitoes which carry it. Shell Chemical's insecticide, dieldrin, is playing a major role in the campaign as the most deadly mosquito-killer developed so far.

Such examples of the effectiveness of insecticides teamed with quick action are hopeful signs that man may yet prove superior to the insect—a view once summed up by Mrs. Patrick Campbell, an English actress, during a discussion about ants taking over the world. An admirer of ants, giving a long-winded description of ants' abilities, said, "Why, they even have armies."

To which Mrs. Campbell replied: "No navy, I suppose?"

F. W. Hatch, standing, Manager of Shell Chemical Corporation's Agricultural Chemical Sales Division, introduces "The Rival World" film at a recent screening for federal officials in Washington, D. C. Advance showings of the film also were held in New York City.



Queen of the Washington State Ferry Fleet, the "Kalakala" (an Indian name meaning "flying birds") is claimed to be the world's first streamlined ferry boat. It operates between Port Angeles, Washington, and Victoria, Canada.

FLOATING HIGHWAYS

Washington State Ferries, Providing a Vital Transportation Link Across the Busy Waters of Puget Sound, Are Serviced at Shell's Harbor Island Terminal

Jack Lindseth, kneeling left, and H. W. Williams, both of Shell's Harbor Island Terminal, pump a mixture of diesel oil and light fuel oil aboard a Puget Sound ferry boat.

PUGET SOUND, a long arm of the Pacific Ocean which reaches into the State of Washington, has played an important role in the growth and development of the great Northwest. It is one of the busiest waterways in America, surrounded by long-established and still-growing industrial centers.

The development of the area started in the horse and buggy days when ferry boats first sailed the salty waters of the Sound. And modern versions of the early ferries are still providing vital links in the commerce, suburban life and recreation of the region.

The city of Seattle and other communities on the Sound were first served by steam "side-wheelers." With the passing of the side-wheeler era, a "mosquito fleet" of small freight and passenger boats took over—seeking out every inlet and cove where a few crates of berries or baskets of eggs could be found for the market. Finally, the mosquito fleet was replaced by today's large diesel-powered automobile and passenger ferries.

The Puget Sound ferry fleet is managed by the Washington Toll Bridge Authority, which owns and operates 20 modern green and white boats. The routes of these floating highways—

Shell's Harbor Island Terminal (outlined at lower left) is in the busiest part of Seattle's harbor. The main terminal of the Washington State Ferries (circled) serves 20 ferries carrying automobiles, passengers and freight across Puget Sound.

which carry a steady flow of automobiles, freight and passengers—form a web of crossings to the islands and peninsula headlands of the Sound. Last year the ferries carried almost two and a half million vehicles and more than five million passengers.

Shell supplies the fuel for the ferries from its Harbor Island Marine Terminal, located on a small island in the Seattle harbor. Since the boats keep to tight shuttling schedules during the day, most of the refueling takes place at night.

The approximate time the ferries expect to refuel is usually known, but unscheduled visits at Harbor Island are not uncommon. Like motorists driving up to a gasoline pump and honking for service, the skippers of the ferry boats give a blast or two on their whistles as they round the bend for the Shell terminal. The blast brings the foreman and yardmen to the terminal's ferry slip to help tie up and service the boat. Employees are on duty for this service around the clock.

The slip has outlets for the different types of fuel required by the ferries. Most of the boats use Shell diesel oil and light fuel oil, as well as several lubricating oils and greases. Some use diesel oil for starting the engines and then switch to a combination of light oil and diesel oil.

The required fuels are pumped aboard the ferry boats through large hoses and the packaged products are hoisted aboard by a crane. Within 20 minutes after its arrival, a boat can be serviced and on its way.

The fuels for the ferries, as well as other Shell products distributed from the Harbor Island Terminal (operated by the Seattle Marketing Division), arrive at the terminal aboard tankers and barges from Shell's Anacortes, Wilmington and Martinez Refineries. The terminal has a bulk storage capacity of 1,100,000 barrels. In addition to supplying fuel for the ferry boats, some bunker oil is sold to ships which stop at Harbor Island. Other products —including gasoline, motor oil, solvents, kerosene, aviation gasoline, fuel oils, diesel oil, asphalt and packaged goods—are shipped out of the terminal by barge and truck.

During a typical recent month, the terminal employees loaded more than 2,300 tank trucks with Shell products and filled the orders for 1,700 jobber pickups. During the same period, 80 ferries were refueled, 36 barges were loaded and 10 tankers from Shell refineries arrived and departed.

H. J. Williamson, Gauger-Dockman, adjusts a valve on the tanker berth at the Harbor Island Terminal. Lines from tankers are connected here and products are pumped through the valves to storage tanks ashore.

TRIAL RUNS

A New Unit at the Houston Chemical Plant Provides Experimental Products in Sufficient Quantities for Large-Scale Tests

Senior Engineer R. B. Hastings, left, discusses a portion of Shell Chemical Corporation's Product Development Unit at Houston with Assistant Chief Chemist J. T. Robson, Jr., who is in charge of the new unit's over-all operation

To satisfy the demands of a growing number of industrial users, Shell Chemical Corporation is continually searching for new chemical products. To aid in the development of these products, a new manufacturing facility—known officially as the Product Development Unit—has been put on stream at the Houston Chemical Plant.

The unit provides a vital link between basic research and commercial production and forms the third of four important steps in the birth of a new product. The first is the laboratory period in which basic research theorizes and confirms the potentialities of a new chemical. The second is the development of the process for its manufacture. The third is the actual manufacture of the product in sufficient quantities to make possible the fourth step—the development of the market in which the new chemical is given actual performance tests under commercial conditions.

The extensive commercial tests require substantial quantities of the test products, which the Product Development Unit is designed to produce. Not only are large quantities of the new products used in commercial tests, but they are often used over long periods of time. For example, testing new resins for paints and other surface coatings takes several years, because they are judged by their long-term performance and durability.

The Product Development Unit manufactures a wide variety of chemical products, with special emphasis on resins and related materials. It will continue to manufacture a product until trials prove it successful or increased quantity demand justifies construction of a full-scale unit to manufacture it—or until the product is replaced by a better one developed in the research laboratory.

Prior to the completion of the new unit at Houston, the sizeable quantities of similar experimental products needed for field trials were manufactured at Shell Chemical's Denver Plant and Union (New Jersey) Technical Service Laboratory, and at Shell Development Company's Emeryville Research Center. Most of the market development products formerly manufactured at these locations are now to be produced by the Product Development Unit at Houston.

Although products manufactured by the Product Development Unit are beyond the small-quantity laboratory test stage, they are not yet ready for full-scale production. Hence, market development quantities are produced so customers can evaluate the products. Here Operator H. W. Smith fills a drum with a product for shipment to a Shell Chemical customer.

Retired Martinez Refinery Yardmaster G. C. "Curt" Archibald stands in front of the San Benito County Courthouse in Hollister, California, where he spends much of his working retirement days as chairman of the county's important governing body, the Board of Supervisors.

MISTER SUPERVISOR

A Martinez Refinery Yardmaster Retires to an Active Life as Chairman of His County's Chief Governing Body

A BUSY life as a public servant was not in the plans of G. C. "Curt" Archibald when he retired from Shell in 1948 to enjoy a quiet life on a farm in California's San Juan Valley.

After almost 28 years at the Martinez Refinery, Curt left his job as Yardmaster to settle in the 100-year-old farm house where his wife was born. The 65-acre farm which surrounds the house is located about one mile from historic San Juan Bautista, a community of 1,200 inhabitants — most of whom Curt can call by their first names. Since the farm's fertile land had been leased for many years, Curt planned to live a life of leisure during his retirement.

"I'm too old for that farming business," he says and then with a smile adds, "and besides now I don't have time for it."

Curt's leisure time was suddenly cut short by the San Benito County Board of Supervisors. He became a member of that governing body four years ago and has been chairman for the last two years.

"I just sort of got shoved into it," he explains. "The former supervisor

The Board of Supervisors listen to an engineer, right, describe a creek-widening project. They are, left to right, William Renz, Bob Grant, Ralph Towle, Archibald, Claire Schmidt and Henry Berg.

The Sheriff's office must have its budget approved each year by the County Board of Supervisors. Here Curt stops Sheriff John A. Lucchetti for a short discussion about some of the budget problems.

just didn't have the time needed for the job. I did."

However, no "shoving" was necessary to make him seek reelection this year. He was unopposed on the ballot for his second term of office.

During the last four years Curt has been working hard on the five-member board which guides the government of a primarily agricultural county. Although San Benito is a small county with a population of about 15,500, the job of board chairman is just about as time-consuming as the chairman wants to make it.

"You have lots of top-level problems to thrash out and meetings of all sorts to attend," Curt says.

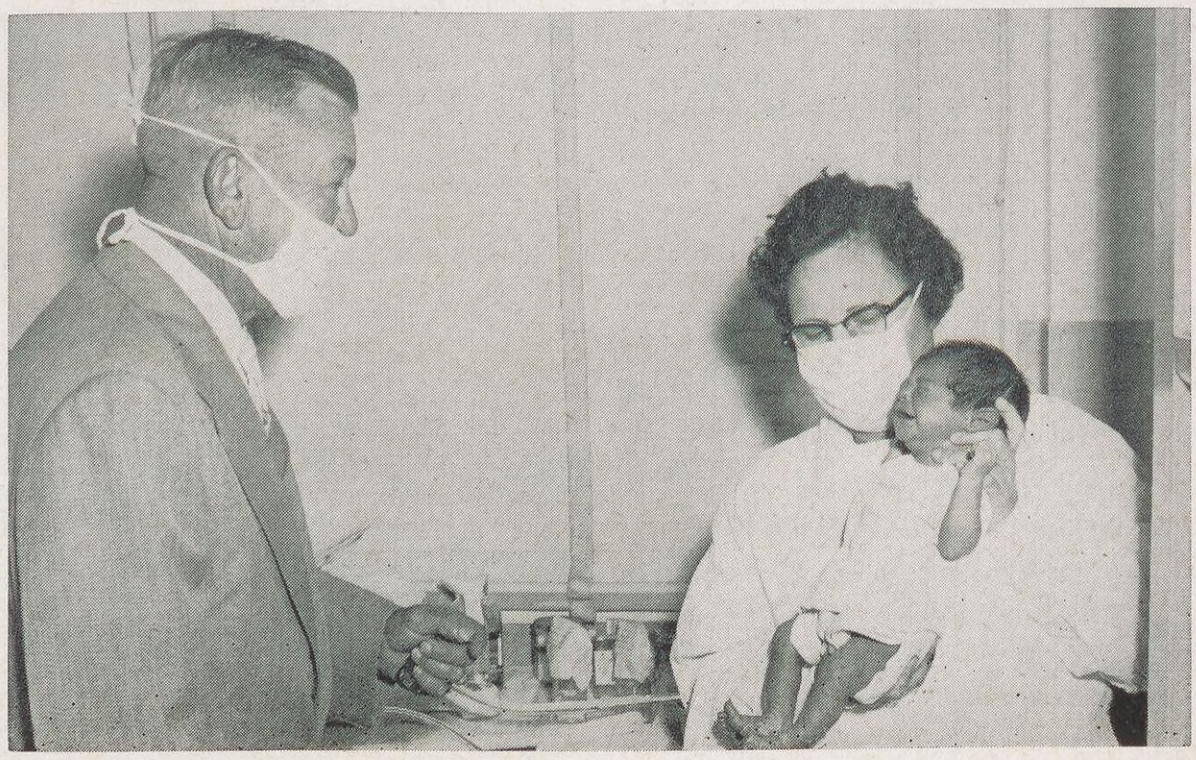
Among other things, the supervisors set wage scales for county employees, budget money for departments and set the county tax rate.

But, with all his public service work, Curt finds time for his favorite hobby—fishing. He fishes for trout at Coyote Dam and for salmon off the coast near the town of Watsonville.

He also is active in several organizations. He is past master of the Texas Lodge No. 46 in San Juan, and a member of the San Juan Service Club, Elks, Order of Eastern Star, the Grange and Farm Bureau. He is also past master

Since his county is largely agricultural, Curt must keep in touch with farmers and their problems. Here he talks with Frank Wyrick, a sugar beet farmer.

Calling at the San Benito County Hospital to discuss the merits of a new incubator (the funds for which are approved by the Board of Supervisors), Curt finds the "new arrivals" ward a most interesting place to visit. Below he meets a newcomer who is being introduced by Nurse Josephine Valdez.



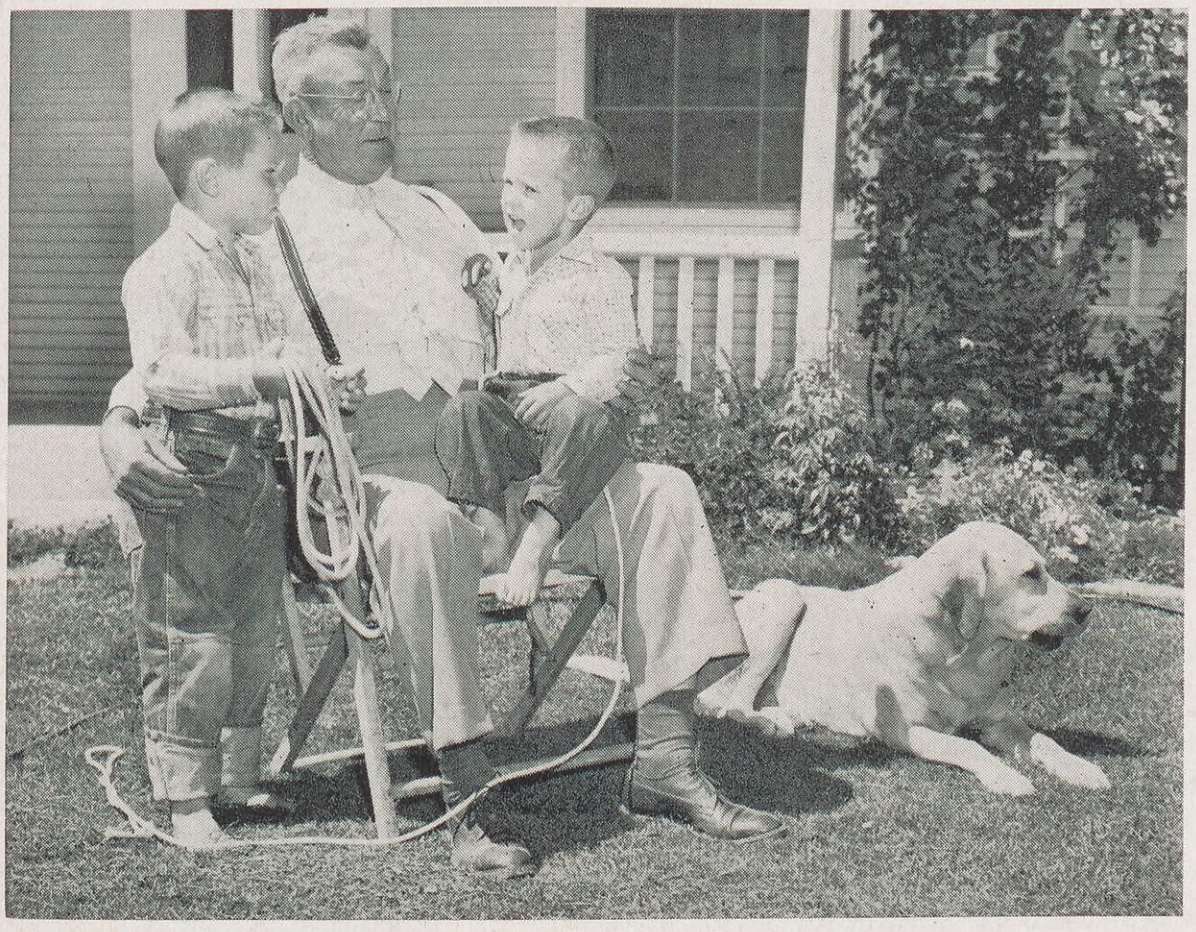
of the Masonic Lodge in Martinez, where he and Mrs. Archibald lived in the years he worked at the refinery.

The Archibalds have three daughters, all of them married, and six grandchildren. The pictures here and on the preceding pages show some of Curt's activities during his busy and satisfying retirement days.

Curt discusses one of the many road maintenance problems with Cliff De Roza, a road grader operator for San Benito County.

A farmer with a problem catches the busy county supervisor when and where he can. Here, Fred Penna stops Curt on the steps of the County Courthouse.

Enjoying time off from his civic interests, Curt helps his wife gather flowers from their back yard.

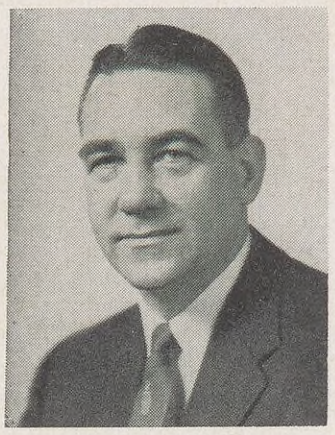


Curt has found that the job as chairman of the County Board of Supervisors takes up the majority of his daylight hours. However, he manages to find time for frequent visits to a daughter's walnut ranch near his own home to swap stories with two of his grandchildren.

Curt checks the tools of his favorite hobby before taking a day off to visit nearby Coyote Dam and try his luck at trout fishing.

Shell People in the News

Shell Oil Company Financial Organization Changes



J. E. PECK

J. E. PECK has been named Manager of Shell Oil Company's Head Office Refinery Accounting Department, succeeding H. W. Egliht, who is on special assignment abroad. Mr. Peck, who holds a Bachelor's degree in commerce from the University of Iowa and a Master's degree in accounting from Oklahoma A&M, joined Shell Oil Company in 1935 as a Production Clerk at Lucien, Oklahoma. He served in various Treasury positions in the Tulsa Exploration and Production Area and in 1947 was named Chief Accountant of the Midland Area. After subsequent assignments in Head Office and the Houston Area, he returned to Midland in 1952 as Area Treasury Manager. Mr. Peck was named Assistant Manager of the Head Office Auditing Department in January, 1956.

F. R. HUMMERT

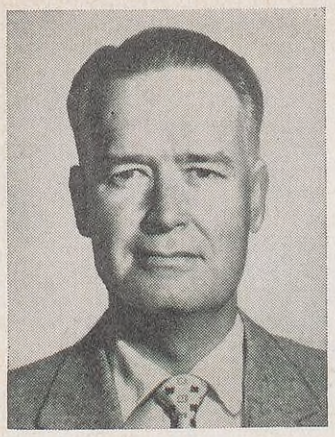
F. R. HUMMERT has been named Assistant Manager of the Head Office Auditing Department, succeeding Mr. Peck. Mr. Hummert, who holds a degree in business administration and accounting from Valparaiso (Indiana) University, joined Shell Oil Company in 1933 as a Clerk in the St. Louis Office. He served in financial positions in St. Louis and Jacksonville, Florida, and in 1940 was named Assistant Treasury Manager of Shell American Petroleum Company, a Shell marketing affiliate in Kokomo, Indiana. Mr. Hummert served in various Shell American positions, more recently as Treasurer, Assistant Secretary and Assistant Manager of the Company. In January, 1956, when Shell American became a Division of Shell Oil Company, he was appointed Division Sales Manager.

P. T. VOCKEL

P. T. VOCKEL has been named an Assistant Manager of the Head Office Financial Accounting Department. Mr. Vockel joined Shell Oil Company in 1929 as a Clerk in the San Francisco Office. He transferred to Shell Chemical Corporation in 1935 and in 1941 was named Treasury Manager of the Dominguez Chemical Plant. He served in a similar position at Houston and in Shell Chemical's Eastern Division in New York City. In 1947, he was named Assistant Treasury Manager at San Francisco and was named Assistant Head Office Treasury Manager in New York the following year. In June, 1953, Mr. Vockel rejoined Shell Oil Company as Assistant Manager of the Head Office Refinery Accounting Department.

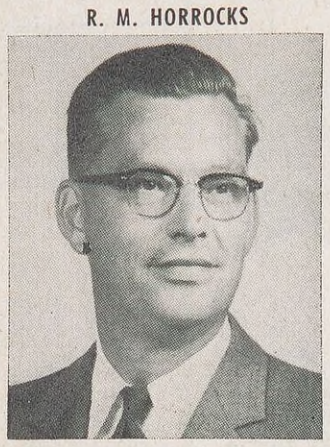
G. M. McCAWLEY

G. M. McCAWLEY has been named Assistant Manager of the Head Office Refinery Accounting Department, succeeding Mr. Vockel. Mr. McCawley, who holds a degree in commerce from the University of Dayton, joined Shell Oil Company in 1933 as a Clerk in Head Office, then in St. Louis. In 1936, he transferred to the Houston Refinery and was named Chief Accountant there in 1946. A year later he moved to New York as a Supervisor in the Head Office Treasury Accounting Department and was named an Auditor in 1948. Mr. McCawley was appointed Treasury Manager of the Norco Refinery in 1950. In recent months he has been on special assignment in Head Office.



R. M. HORROCKS

R. M. HORROCKS has been named Treasury Manager of the Wood River Refinery. Mr. Horrocks joined Shell Oil Company in 1929 as an Office Boy at the Houston Refinery. After serving in positions of increasing importance there, he was named Assistant Chief Accountant in 1945 and the following year moved to New York as an Accountant in Head Office. He was appointed an Auditor in 1947 and two years later was named Chief Accountant at the Wood River Refinery. In October, 1955, Mr. Horrocks was named Treasury Manager of the Shellburn Refinery (Vancouver) or Shell Oil Company of Canada, Limited.



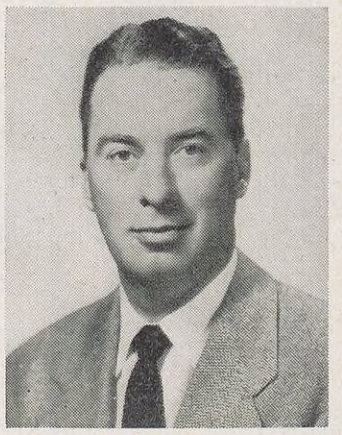
R. L. SPRAGUE

R. L. SPRAGUE has been named Treasury Manager of the Shellburn Refinery, succeeding Mr. Horrocks. Mr. Sprague joined Shell Oil Company in 1935 as a Clerk in the San Francisco Office. He served there and at the Martinez Refinery and in 1949 moved to New York as an Auditor in Head Office. He was named Chief Accountant at the Norco Refinery the following year. Mr. Sprague was appointed Chief Accountant of the new Anacortes Refinery in November, 1954.

Shell Oil Company Marketing Organization Changes

W. T. BROWN

W. T. BROWN has been named Manager of the Structural Division in Shell Oil Company's Head Office Marketing Engineering Department. Mr. Brown, who holds a degree in civil engineering from Georgia Technological Institute, joined Shell Oil Company in 1944 as a Field Engineer in the Boston Marketing Division. He transferred to New York in 1950 as a Senior Engineer in Head Office Marketing Operations. In 1954, Mr. Brown was named Manager of the Equipment Division and became Manager of the Mechanical Division in December of that year.



J. F. WEILER

J. F. WEILER has been named Manager of the Mechanical Division, succeeding Mr. Brown. Mr. Weiler, who holds a degree in civil engineering from the University of Notre Dame, joined Shell Oil Company in 1939 as a construction employee and became a Field Construction Engineer in the St. Louis Marketing Division in 1941. He transferred to the Boston Division in 1949 and was named Division Engineer there in 1952. In March, 1955, Mr. Weiler was appointed Superintendent of Distribution in the Boston Division.

E. D. MAXFIELD

E. D. MAXFIELD has been named to the new position of Manager of the Commercial Sales Division in the Shell Oil Company Marketing Organization's Head Office Aviation Department. Mr. Maxfield joined Shell Oil Company in 1938 as a Salesman in the New York Division. He served in various sales positions and in 1945 was named District Manager at New York's LaGuardia Field. Mr. Maxfield was named a Head Office Aviation Representative in 1946 and in April of this year was appointed a Supervisor in the Aviation Department's Commercial Sales Division.

The twenty-first and twenty-second in a series of organization charts

Shell Oil Company

November—1956

Indianapolis Marketing Division Organization Chart

Division Manager — R. C. Mueller

- Marketing Service Manager — E. R. Stauber
  - Real Estate Manager — J. H. Hamilton
  - Division Representative Public Relations — H. L. Irish
- Personnel Manager — J. H. Barrie
- Operations Manager — R. H. Cowan
  - Division Engineer — L. Garn
  - Superintendent Distribution — W. G. Murphy
  - Div. Rep. Purchasing-Stores — C. C. Harmening
- Sales Manager — C. L. Towers
  - Aviation Manager — F. H. Sipe
  - Fuel Oil—LPG Manager — W. C. Smith
  - Industrial Products Manager — E. J. Young
  - Retail Manager — J. B. Jackson
  - Division Rep. Advertising & Sales Promotion — P. A. Ebbs, Jr.
  - Div. Rep. Asphalt — C. B. Huntoon
  - Div. Rep. Commercial — A. C. Pavey
- Treasury Manager — R. M. Conlon
  - Chief Accountant — F. S. Deming
  - Credit Manager — J. D. Keller
- District Manager Evansville — E. L. Davis
- District Manager Fort Wayne — N. L. Barnard
- District Manager Indianapolis — B. A. Gwynn
- District Manager Louisville — L. D. Haisley
- District Manager Kokomo — W. H. Sosh
- District Manager South Bend — L. J. Weston

Minneapolis Marketing Division Organization Chart

Division Manager
R. T. Seidel

Operations Manager
D. T. Gilman

Sales Manager
J. R. Lynden, Jr.

Treasury Manager
C. S. Sims

Marketing Service Manager
S. E. Shoberg

Personnel Manager
W. D. Kerr

Division Engineer
I. B. Hart

Superintendent Distribution
W. L. Lindsley

Aviation Manager
R. H. Bartlett

Commercial Manager
V. C. Elmquist

Fuel Oil Manager
R. C. Hartmann

Chief Accountant
K. J. Larson

Credit Manager
L. T. Ritzel

Real Estate Manager
W. C. Dowell

Division Rep. Pub. Rel., Advtg. & Sales Prom.
F. J. Rodney

Division Rep. Purchasing-Stores
R. K. Lepinski

Lubricants Manager
R. O. Erickson

Retail Manager
J. C. Anderson

Special Products Manager
G. E. Carnahan

Division Rep. Fuel Oil-LPG
J. E. Mulherin

District Manager Duluth
E. S. Lowrey

District Manager Winona
R. E. Jones

District Manager Twin Cities
G. C. Adams

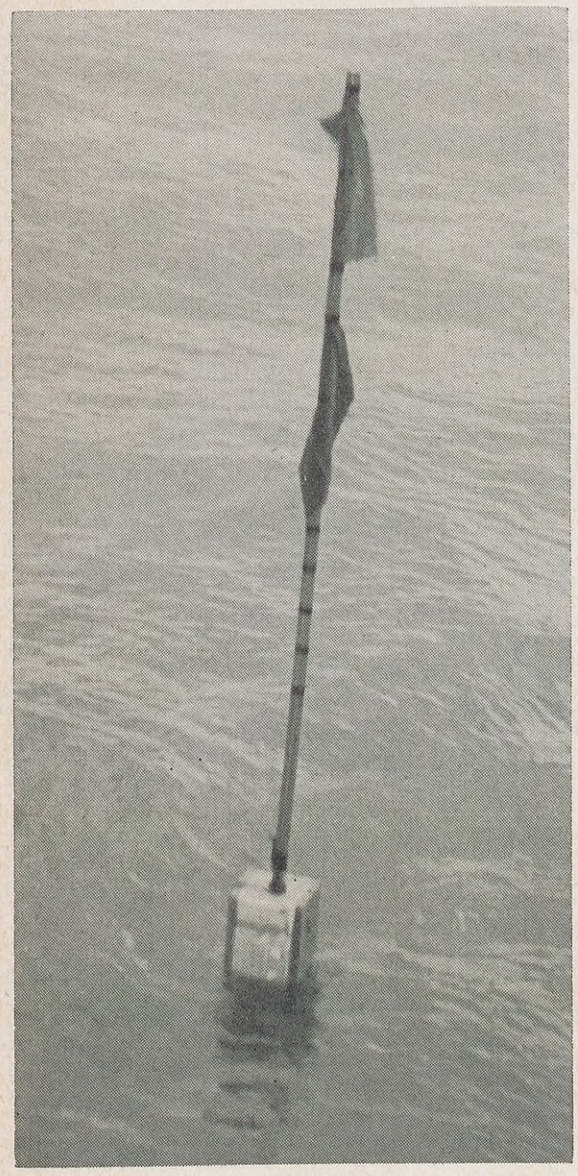
District Manager Tri-Cities
F. C. Barhoover

District Manager Des Moines
A. J. Houlihan

Dry Hole in Deep Water

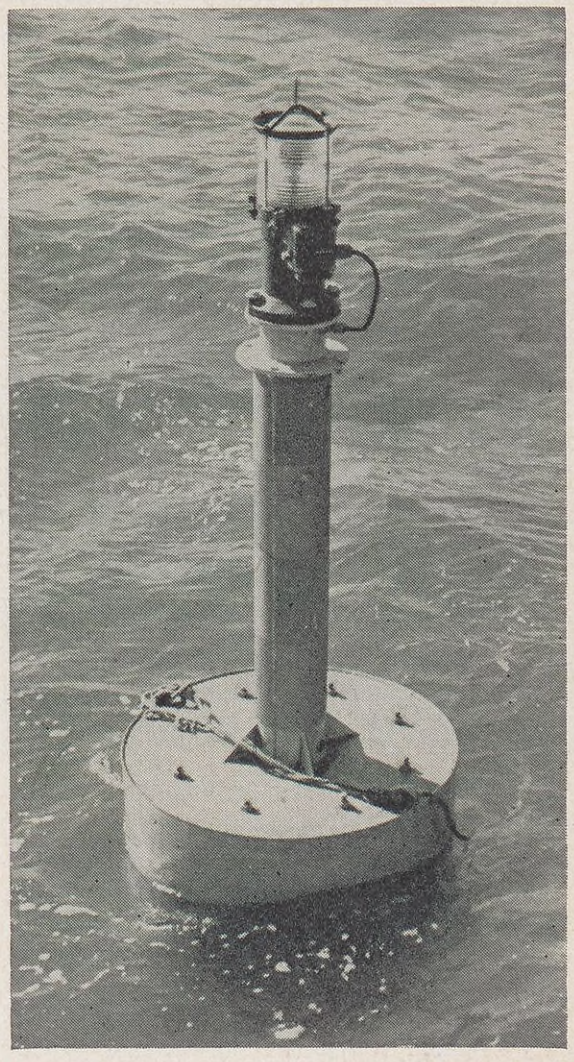
An Unsuccessful Offshore Wildcat Points Up an Economic Characteristic of the Oil Industry—the Calculated Risk

No one had ever ventured to drill for oil so far out at sea when the big mobile offshore drilling platform, "Mr. Gus," went on location to drill the Neptune wildcat for Shell Oil Company and Continental Oil Company on a federal lease obtained earlier by Shell.



With equipment on this vessel, core samples were drilled from the Gulf floor to determine the best way to firmly anchor the drilling platform.

Sixty-three miles out in the Gulf of Mexico, this small buoy marked the site of the pioneering venture until the platform arrived.



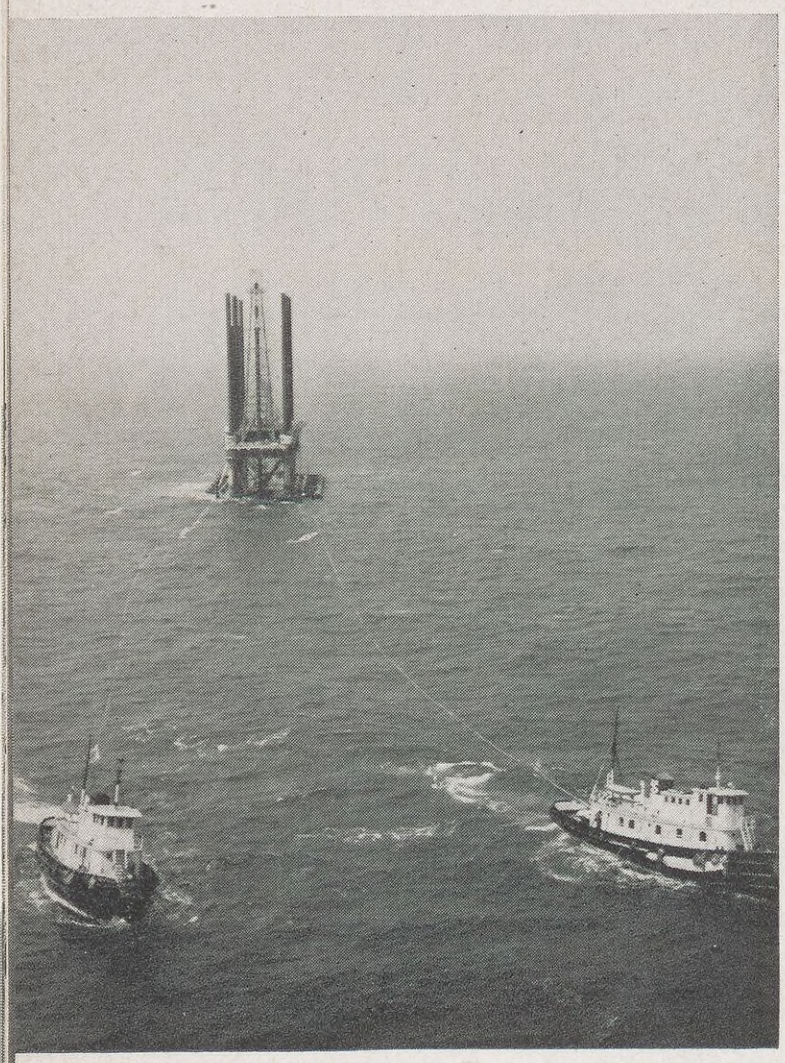
This buoy was anchored near the drilling site to serve as a surveying marker. The light atop the six-foot aluminum post fulfills Coast Guard navigational requirements.

SIXTY-THREE miles out in the Gulf of Mexico—farther offshore than man has ever drilled for oil before—Shell Oil Company and Continental Oil Company have abandoned a wildcat test which points up the high costs involved in the risky search for oil.

Drilled at a point southeast of Galveston, Texas, in 93 feet of water by the big mobile drilling platform, "Mr. Gus," the unsuccessful well was taken to a total depth of 13,386 feet—two and one-third miles. The well, Shell-Continental Federal Block A-104, Number 1, was the first test on a 103,680-acre block leased by Shell from the federal government in 1955. Continental Oil Company later acquired a half interest in the block, which has been named the "Neptune" area.

The companies shared the cost of the dry hole, amounting to nearly $1,000,000, which figures out to almost $20,000 per day during the 51 days Mr. Gus spent in drilling.

This figure does not include the cost of the lease—for which Shell paid a bonus price of nearly $5½ million at a federal lease auction in 1955. Nor does it include advance exploration expenses. Some idea of the cost of marine exploration can be derived from the fact that the expense of operating an offshore seismic party, with its boats and special equipment, can



The Shell-Continental wildcat produced no oil, but yielded geological information. Mr. Gus has already been moved (above) to drill a second test seven miles nearer shore.

Before Mr. Gus was stationed at the "farthest offshore" drilling site, a commercial diver searched the Gulf bottom for rocks or other possible obstructions. Standing, third and fourth from left, are Shell's R. W. Armstrong and L. P. Carr of the Houston Exploration and Production Area.

Operating so far from land, the best way to commute to Mr. Gus is by air. Here a helicopter is refueled on the big drilling platform's built-in helicopter landing apron.

run to more than $2,000 daily. In addition, Shell and Continental spent $30,000 for surveying, soil boring in the Gulf floor and several other operations incident to staking this pioneering location before drilling ever was begun.

A major factor in this unusually high cost for preparations was the necessity of locating the drilling site by elaborate electronic means rather than by the usual visual surveying methods. The position was fixed by the intersecting radio beams from two shore stations, a method which is coming into common usage in the Gulf as drilling moves farther out to sea beyond points visible from towers on the shore. In fact, up until the time that the Neptune test was spudded in, no one had drilled more than 47 miles offshore. Only one well had been drilled in deeper water — 97 feet — though at a location much nearer to land.

The $1 million drilling cost on the Neptune wildcat represents the cost of a dry hole only. Had the test proved productive, necessitating completing the well, providing flow lines, lease tanks and other facilities, the cost would probably have gone up another half-million dollars.

Here is another hard fact of oil industry economics: Had the well been completed as an excellent oil producer, it would have required a production allowable higher than any on the Gulf Coast for Shell and Continental to have recovered their investment in a reasonable number of years.

The wildcat failure is not considered a total loss, however. Cores, cuttings and electric logs from the hole yielded geological information which should prove valuable in future exploration in the area. In fact, Mr. Gus drilled a second dry hole to 17,020 feet on the Neptune lease, in Federal Block A-72 seven miles closer to shore, from which additional information was obtained.

Thus, another characteristic of oil economics is demonstrated. That is, despite million-dollar costs for some exploratory tests, and a chance that only one in nine will produce oil, the industry must continue its search for additional oil reserves to offset increasing demands for petroleum prod-

ucts. Even the one well in nine that discovers oil is not a complete answer to the explorer's need, for such a successful wildcat has but one chance in 44 of locating a profitable field.

Despite these staggering odds, oil companies have not relaxed their hunt for new oil — especially in the new offshore frontier. Industry estimates indicate that through 1955 oil companies had invested a total of more than $1¼ billion in all phases of offshore oil exploration and development. It is estimated further that revenue derived from these operations amounted to about $250 million—leaving the industry still with a deficit of a billion dollars.

Oil companies waded into this rough economic sea when the first offshore well was drilled in the Gulf of Mexico in 1939. But activity only recently has become intense. Of the more than 1,000 offshore wells drilled in the Gulf (including dry holes), about half were started in the last two years. Shell has drilled more than 200 of them since it first dipped into the Gulf in 1949. The oil and condensate produced from all offshore wells at present represents only about one per cent of total national production.

While all this activity is based on strong evidences of oil, no one predicts exactly when the enormous and swelling investments necessary for offshore exploration and development will produce a profit. Predictions are numerous, however, that the current rate of exploration will continue for at least a decade. Already, rigs are being designed to drill in water as much as 200 feet deep. For example, the Continental Shelf, which holds the promise of oil, stretches seaward as many as 300 miles in places and slopes off to water depths of 600 feet.

With this promise as a lure, it is likely that Shell's and Continental's history-making drilling venture 63 miles from shore is only one among many giant steps the oil industry will take in the Gulf.

Why We Have A Depletion Allowance

By A. J. GALLOWAY
Vice President, Exploration and Production
Shell Oil Company

As has been demonstrated on the Neptune lease, oil exploration requires a great deal of risk capital invested against unfavorable odds. It is for this and several other good reasons that Congress saw fit as far back as 1926 to grant the oil industry a "percentage depletion allowance" on its taxes.

The depletion allowance is not a special privilege, as some of its critics claim; nor is it a complicated, abstract law. It simply grants the oil producer a right to deduct not more than 27½ per cent of his income from each producing field or leasehold before computing taxes. The oil industry could not very well exist without it.

Consider the very valid reasons why Congress instituted this tax regulation and repeatedly confirmed its wisdom through the years:

First, it was recognized that petroleum is a wasting asset. That is, oil cannot be re-planted and re-harvested every year. Every oil well eventually goes dry, and every field eventually reaches a point when it can no longer be operated economically.

Secondly, the depletion allowance was granted in recognition of the high financial risks involved. One exploratory well often costs $1,000,000 and has but one chance in nine of striking oil. A successful wildcat has but one chance in 44 of locating a profitable field. Millions of dollars are required to develop a major field. Few businessmen would care to risk their capital against such odds.

Yet, with the demand for petroleum products growing year by year—for a better standard of living and for the national defense—it should be obvious that the search for new oil reserves must continue uninterrupted. It must, in fact, be accelerated constantly so that proved reserves will stay ahead of production. There is no chance to "take a breather" and enjoy current profits without the expense of a growing exploration program.

Recognizing this, Congress granted the depletion allowance not only to help offset the using up of the oil industry's only asset, but as an incentive to carry out a constant, vigorous search for new sources of oil.

There is one more point to consider: The depletion allowance was set in 1926, when oil exploration was relatively less expensive and the chances of success relatively greater than they are today. Now that the oil-hunter must look harder, drill deeper, use heavier and more expensive equipment requiring more men and more time—the depletion allowance has remained unchanged.

It has helped, however, to accomplish its primary aim: To assure the nation an adequate oil supply. That the depletion incentive is justifiable and works as Congress planned, is shown by the fact that the United States has been steadily adding to its oil reserves despite record demands.

HELP
for the Handicapped

California Communities Work Together To Support a Therapy Center Designed to Meet the Needs of All Physically Impaired Persons

Mrs. Richard L. Woodruff, a Shell wife, and Mrs. Ken Alexander, Secretary to the Shell Point Chemical Plant Manager, watch with delight the progress of a quadruple amputee at the Therapy Center.

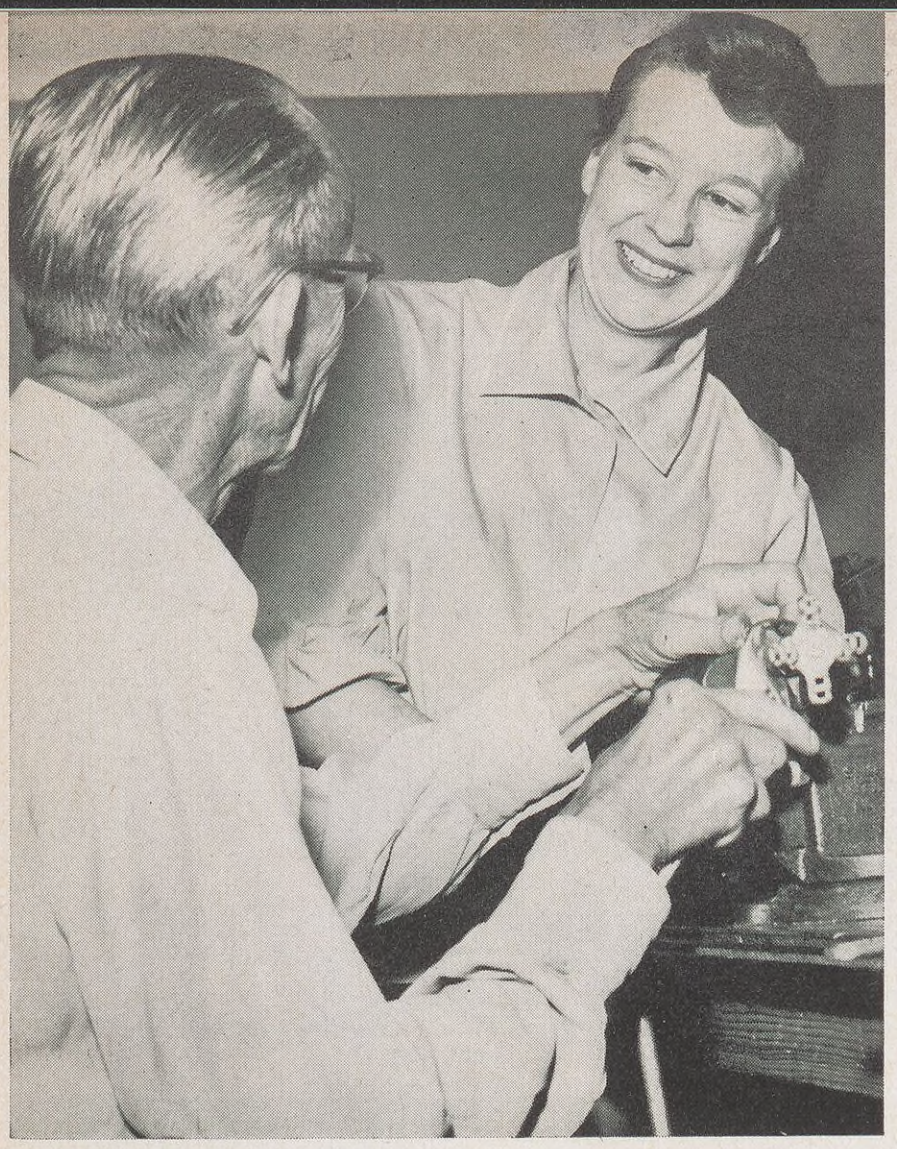
IN the rear of a church in Walnut Creek, California, a woman worked over a crude massage table made of a board supported by saw horses. Gently she kneaded life back into the stricken muscles of a polio victim.

From this meager beginning in 1949 grew the nation's first community-sponsored rehabilitation center for the physically handicapped. Word spread quickly of the physical therapist's work in the church and citizens of Walnut Creek and surrounding communities joined, in January, 1950, to incorporate the Mt. Diablo Therapy Center as a non-profit community project. Several Shell employees and family members pitched in to help and Shell Chemical Corporation gave direct aid in other ways.

New quarters were soon provided for the center in a small house in the nearby community of Lafayette, but it rapidly outgrew this location and was moved to a medical building back in Walnut Creek. Now, six years after its founding, a new $150,000 building is being completed for the center in the community of Pleasant Hill.

The communities which sponsor the Mt. Diablo Therapy Center are located about 30 miles northeast of San Francisco. They are the homes of many employees at Shell's Martinez Refinery and Chemical Plant, Shell Point Chemical Plant and Shell Development Company's Emeryville Research Center. Fourteen Shell wives, daughters and women employees are actively participating in fund raising programs and other activities as members of some of the 10 auxiliary units organized to aid the therapy center.

The operation of the center is



The therapy center's Sheltered Workshop trains patients to do specific jobs under contracts with local industries. Here a trainee-patient repairs a broken valve as Mrs. Lorraine Olsen, formerly a Stenographer at the Shell Point Chemical Plant, looks on.

Mrs. John J. Bell, left, and Mrs. John B. Anderson, both Stenographers at the Shell Point Chemical Plant and members of a therapy center auxiliary unit, visit with patients who are working to develop muscular skills in the center's physical therapy room.

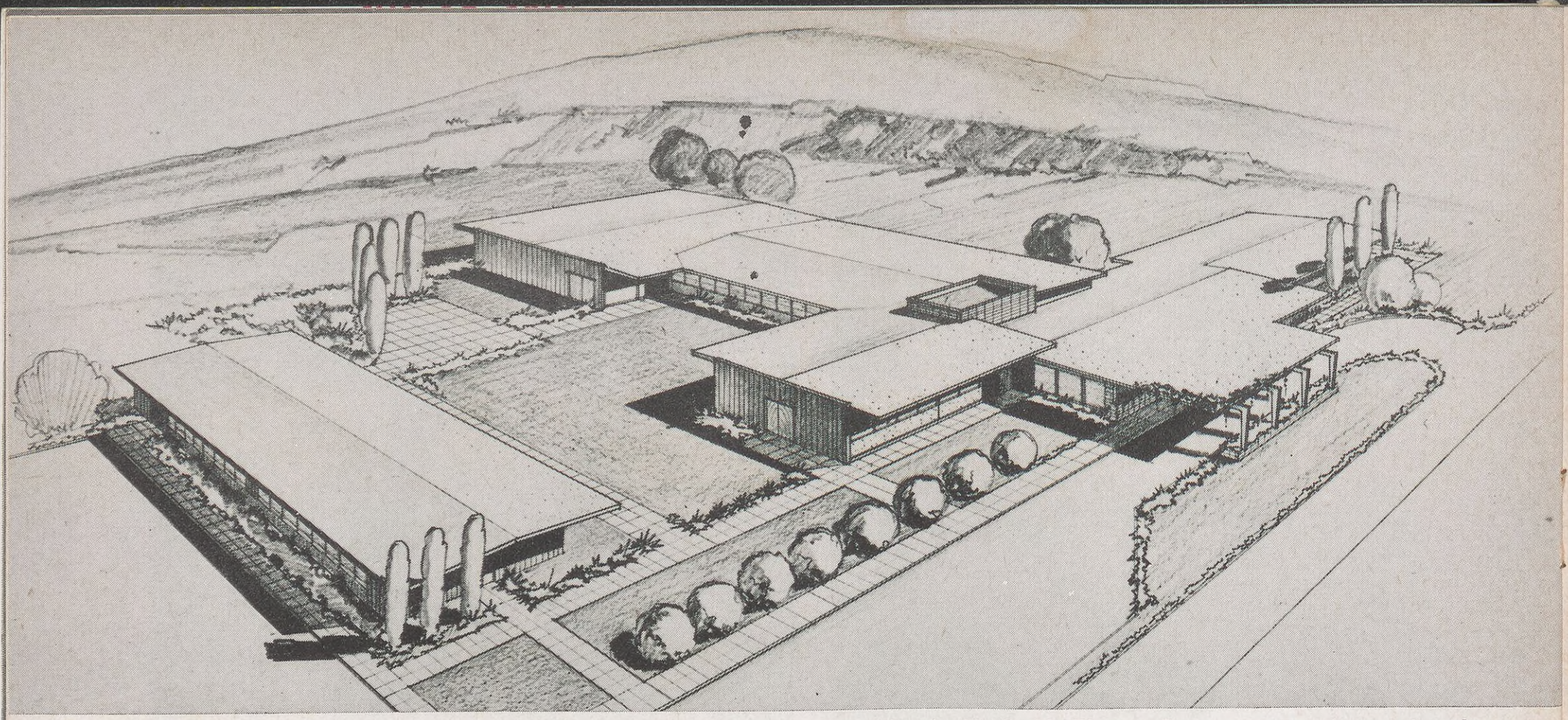
guided by 15 elected directors, selected geographically, one director from each of the 10 auxiliary units, and a medical advisory board. Anyone with a doctor's prescription, regardless of age or crippling condition or his ability to pay, can receive treatment at the center.

During its first six years, the center has treated 1,531 patients on a full-pay, part-pay and free-care basis. About 75 per cent of the Mt. Diablo Therapy Center's income comes from patients who pay for all or part of their treatment and the rest is donated. Much of the voluntary portion of the income is collected by the auxiliary units which sponsor fund-raising fashion shows, gift sales, parties, picnics and other activities.

The four services which the center offers the physically handicapped are:

- Physical Therapy — Using such agents as heat, light, electricity, water and exercise, a full-time physical therapist teaches the polio patient to walk again; the cerebral palsied child to

Auxiliary members meeting to discuss fund-raising plans are, left to right, Mrs. S. O. Eleuterius, whose husband is an Inspector at the Martinez Refinery; Mrs. J. G. Croad, wife of a Zone Supervisor at the refinery; Mrs. G. E. Warren, wife of the late Grant Warren who worked at the refinery; Mrs. G. C. Ralls, whose husband is Draftsman at the refinery, and Mrs. Alexander, Mrs. Woodruff, Mrs. Bell, Mrs. Anderson and Mrs. Olsen.



This architect's drawing shows new buildings which are being constructed for the Mt. Diablo Therapy Center at a cost of approximately $150,000. The project will be in Pleasant Hill, California, one of the communities which has supported the center since its founding in 1950.

coordinate his movements, and the hemiplegic to regain the use of an arm or leg. To aid the therapist, employees at the Shell Point Chemical Plant built a staircase apparatus for patients to use in their exercises.

● Occupational Therapy — Medically prescribed and professionally guided, this type of therapy teaches patients to "do again by doing." The occupational therapist may start by teaching a patient to tie his shoe or comb his hair. Finger painting, weaving and other activities are used to restore the patient's physical abilities as well as to develop his social and economic independence.

● Speech Therapy — The thrill of the spoken word is brought to the inarticulate patient by the speech therapist. Many hours of training might be required to result in one word from the patient, but this leads to other words until a deaf person, a polio victim or a cerebral palsied child can speak once again—and sometimes for the first time.

● Sheltered Workshop — This program provides advance treatment for the patient, continuing physical and occupational therapy and helping the patient become psychologically adjusted to his disability. The shop does not offer permanent employment, but trains the patient to do specific jobs, builds work tolerance and teaches work patterns so the patient can eventually secure gainful employment.

Contracts from local industry have enabled the Sheltered Workshop to be self-supporting. For example, the patients assemble machinery for a pump manufacturer, sharpen hypodermic needles for a medical supply company and do sewing work for hospitals.

Shell women who have been active in therapy center work get a briefing on new building plans by Mrs. Juanita M. Benoy (dark dress), the center's executive director. Left to right, are: Mrs. Alexander, Mrs. Olsen, Mrs. Woodruff, Mrs. Benoy, Mrs. Anderson and Mrs. Bell.

Shell Voluntary Aids

The Shell women active in the auxiliary units of the therapy center are Mrs. Gordon C. Ralls, Mrs. Sherman O. Eleuterius, Mrs. John G. Croad, Mrs. Grant E. Warren, Mrs. Melvin Peccianti, Mrs. Francis J. Cabral, Mrs. Bruce Fraxer, Mrs. John J. Bell, Mrs. John B. Anderson, Mrs. Ken Alexander, Mrs. Richard L. Olsen, Mrs. Richard L. Woodruff and Mrs. John H. Raley.

They Have Retired

W. H. BAER
Seattle Division
Operations

E. L BARRON
Martinez Refinery
Dispatching

J. R. CARROLL
Cleveland Division
Operations

W. C. DONNAL
Tulsa Area
Production

W. A. DOPKINS
New York Division
Operations

G. C. GRANGE
Wood River Refinery
Engineering

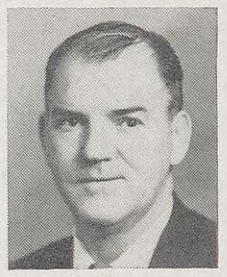
C. O. KEMP
Tulsa Area
Production

W. D. MILLER
San Francisco Divison
Treasury

R. L. MORISSET
Wilmington Refinery
Dispatching

F. SHAW
Wood River Refinery
Utilities

R. SMITH
Wood River Refinery
Engineering



J. THOMSON
Wood River Refinery
Utilities

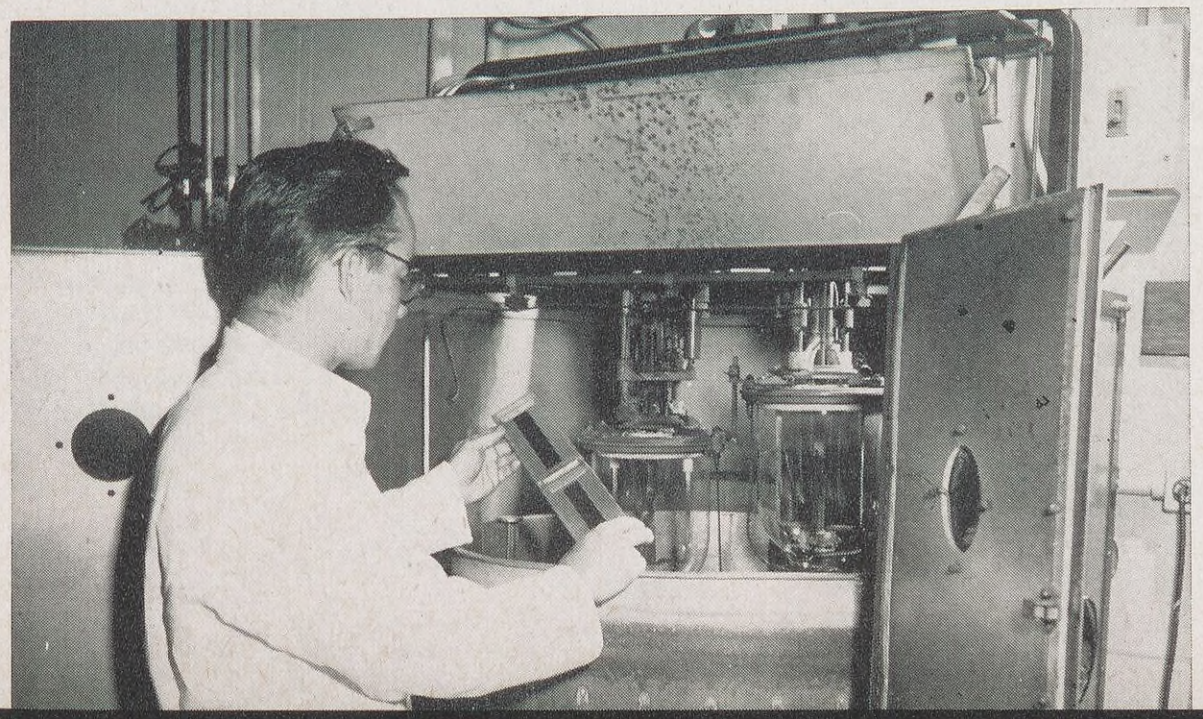
Man-Made Weather

SINCE man has not been able to conquer the weather, his products must be made to withstand its punishment. With this in mind, Shell Development Company's Emeryville Research Center operates two machines called "Weather-ometers" for testing the weather's influence on Shell products.

The box-like machines produce the heat of "summer" with carbon arc lamps and the cold of "winter" with a deep freeze unit. "Rainstorms" are produced with a water spray.

In the Research Center's Bitumen Laboratory, the Weather-ometer is used mainly to test the durability of roofing-type asphalts. About .025 of an inch of asphalt is spread on a thin strip of aluminum. As the material is exposed to the chosen "weather" cycles (as one and one-half hours of sun, two hours of rain, sixteen and one-half hours of sun and two hours of extreme cold), tiny cracks begin to appear in it after the cold cycle. When the temperature goes up, the cracks reseal themselves. As it goes down, they reopen. Eventually, as cracks increase in size and number, some do not reseal.

D. G. Whiteley, Laboratory Assistant in the Emeryville Research Center's Bitumen Laboratory, places an aluminum strip covered with a thin coating of asphalt into a "Weather-ometer" for testing the asphalt's resistance to various types of weather conditions.



At this point, the asphalt has "failed" under the accelerated conditions of the test. A test strip may withstand from one to as many as 100 test cycles, depending upon the type of asphalt used, thus indicating in a general way the variations in durability under normal service.

The Plastics and Resins Department at the Research Center also has a Weather-ometer for testing various rubber compounds, paints and plastics. The weather machine is also used in the Products Research Laboratories at the Wood River and Martinez Refineries. The conditions of the tests vary with the material being tested, but the results give some indication of how Shell's new products may be expected to react in service.

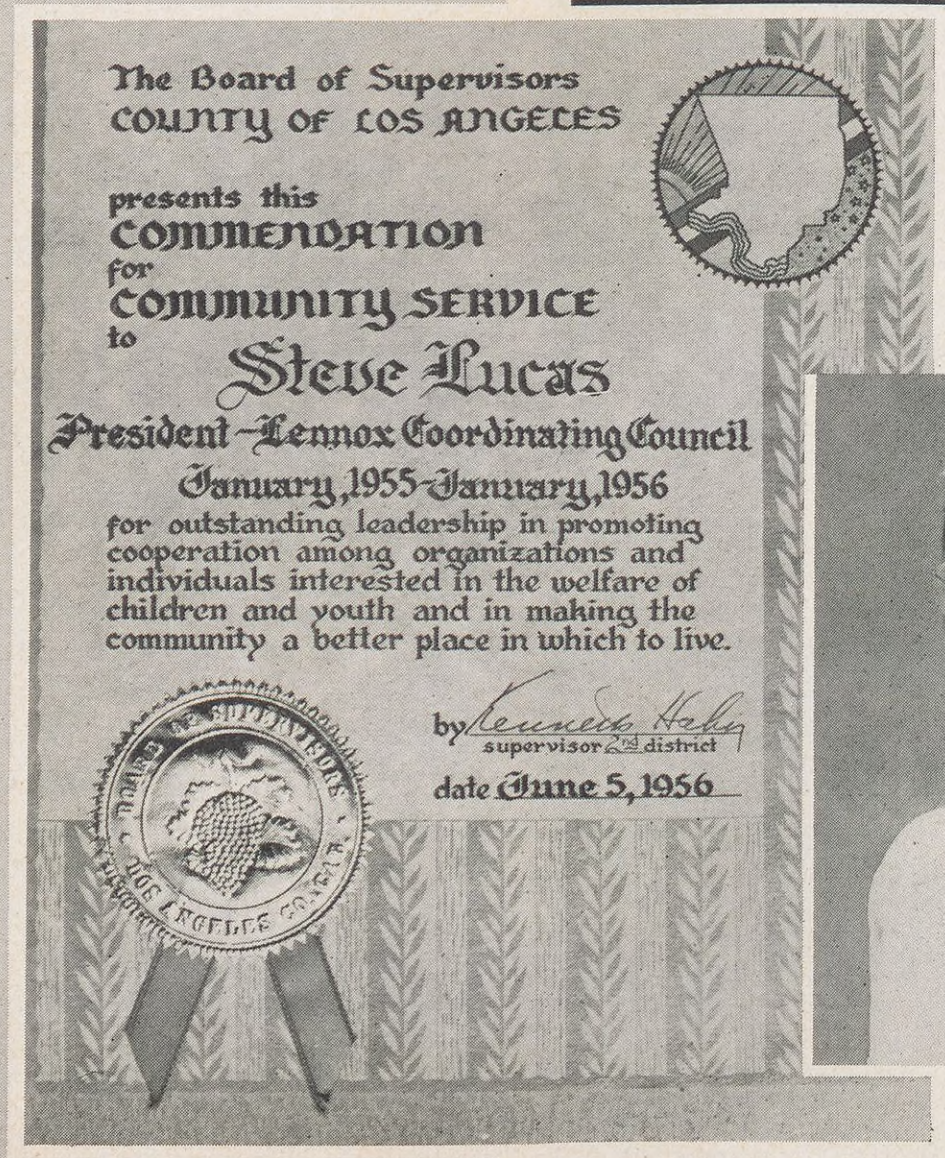
SHELL COAST TO COAST

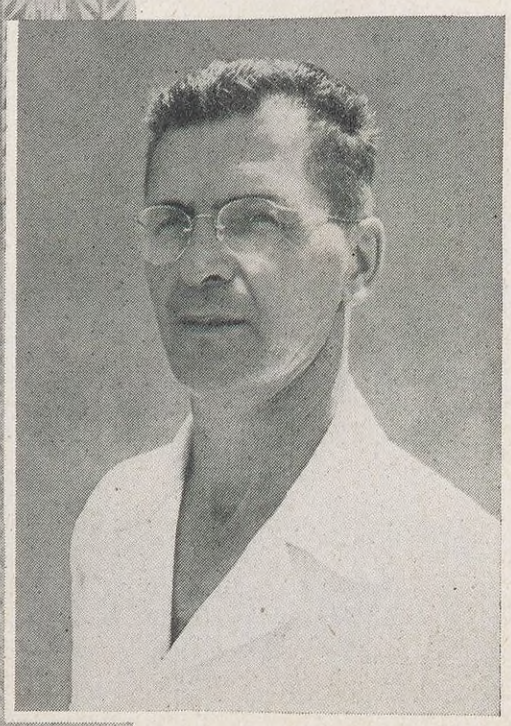
Rodeo Weekend

FOR two Shell men who spend their work days searching for oil in Wyoming, a weekend means riding and roping instead of relaxing.

Bernard McGillis, Instrument Crewman on one of the Denver Exploration and Production Area seismic crews, and B. E. Newman, a member of a drilling crew, are both former ranch hands who like to try their luck in one of several weekend rodeos held in Wyoming.

Winning the most points in a rodeo means money as well as a stiff workout—if the rider has the right combination of skill and luck. Occasionally a cowboy draws a broncho that runs instead of bucks, and that means no





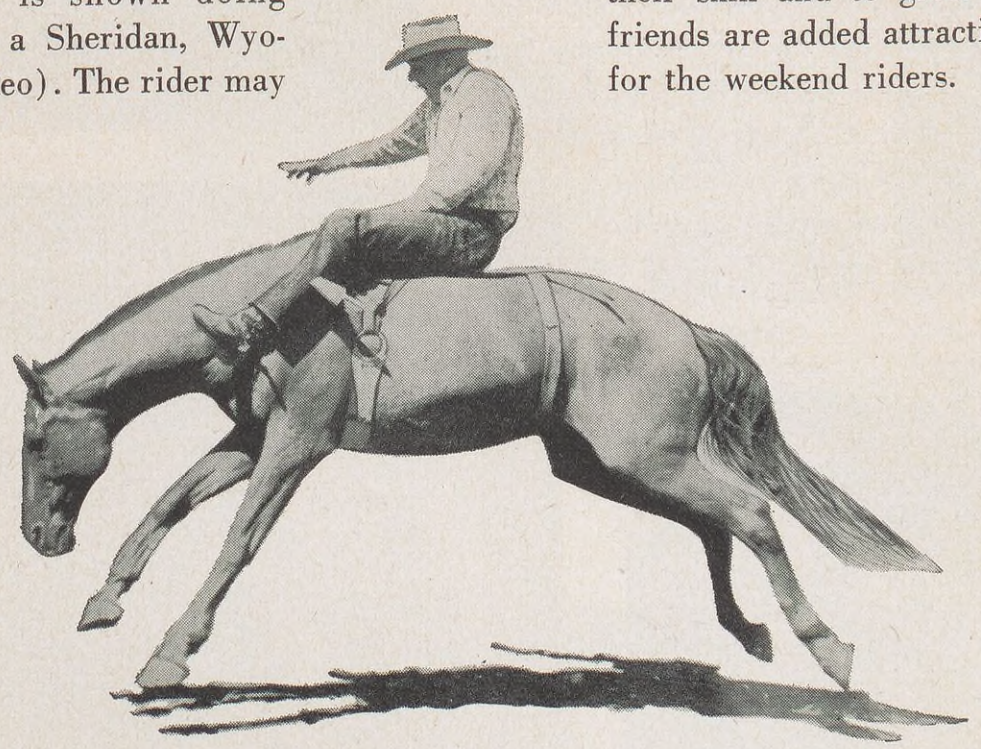
Solid Citizen

S. M. Lucas, Special Motor Mechanic at the Wilmington Refinery, recently received a special commendation from the Los Angeles County Board of Supervisors for his community services. Lucas was president of the Lennox Coordinating Council during 1955. This Council is made up of representatives from all civic organizations in Lennox, California, whose purpose is to prevent juvenile delinquency. The citation, signed by Kenneth Hahn, Supervisor of Los Angeles' Second District, reads: "For outstanding leadership in promoting cooperation among organizations and individuals interested in the welfare of children and youth and in making the community a better place in which to live."

points for the rider. Or sometimes the horse falls (as the one McGillis is shown riding, left, is about to do) and that again means no points.

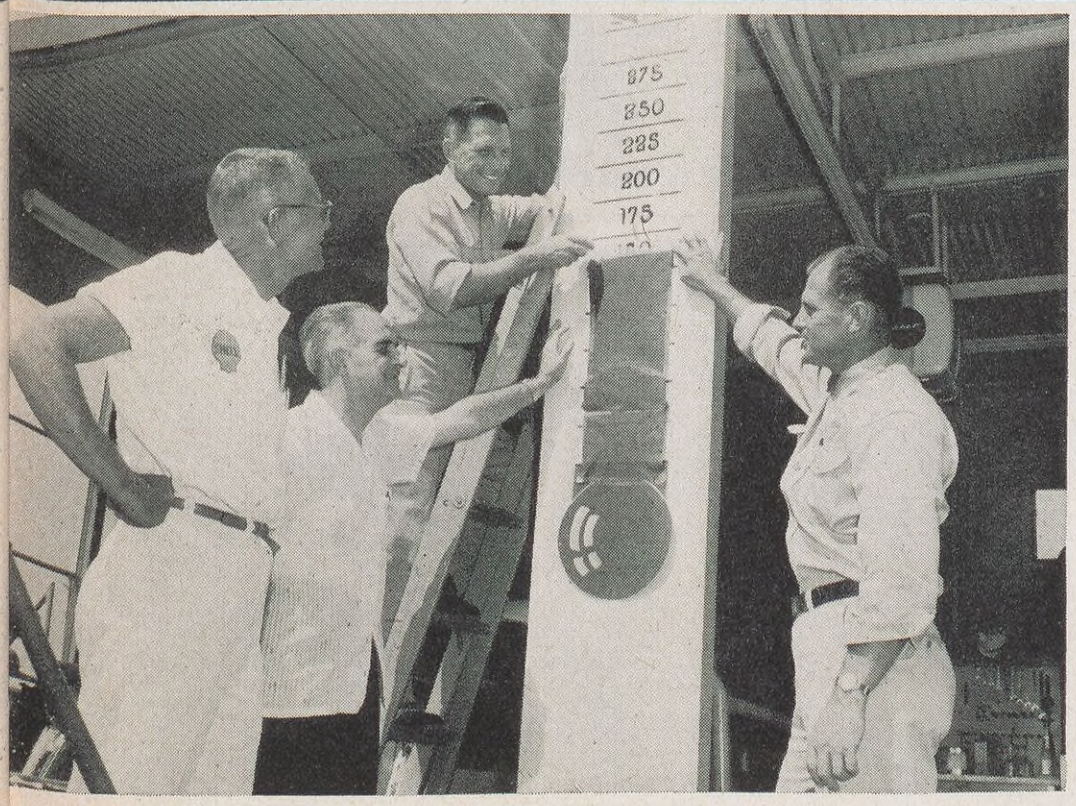
The best way to stay aboard a bare-backed broncho, the experts say, is to ride out of the chute with spurs digging into the horse's shoulders (as Newman is shown doing below at a Sheridan, Wyoming, rodeo). The rider may hold on to a short strap with only one hand. There is no saddle; the only padding provided is a blanket.

Besides broncho-busting, the Shell cowboys also go after points in bulldogging, calf roping and other corral capers. The prize money is the obvious goal. But getting a chance to display their skill and to greet old friends are added attractions for the weekend riders.



Olympic Drive

Hans Maciej, right, Statistical Section Analyst in the Calgary Exploration and Production Area Office, recently arranged a visit by Jesse Owens, left, during a Calgary drive to raise funds for Olympic-bound athletes. Owens, who won four gold medals in the 1936 Olympics, was introduced at speaking engagements by Maciej.

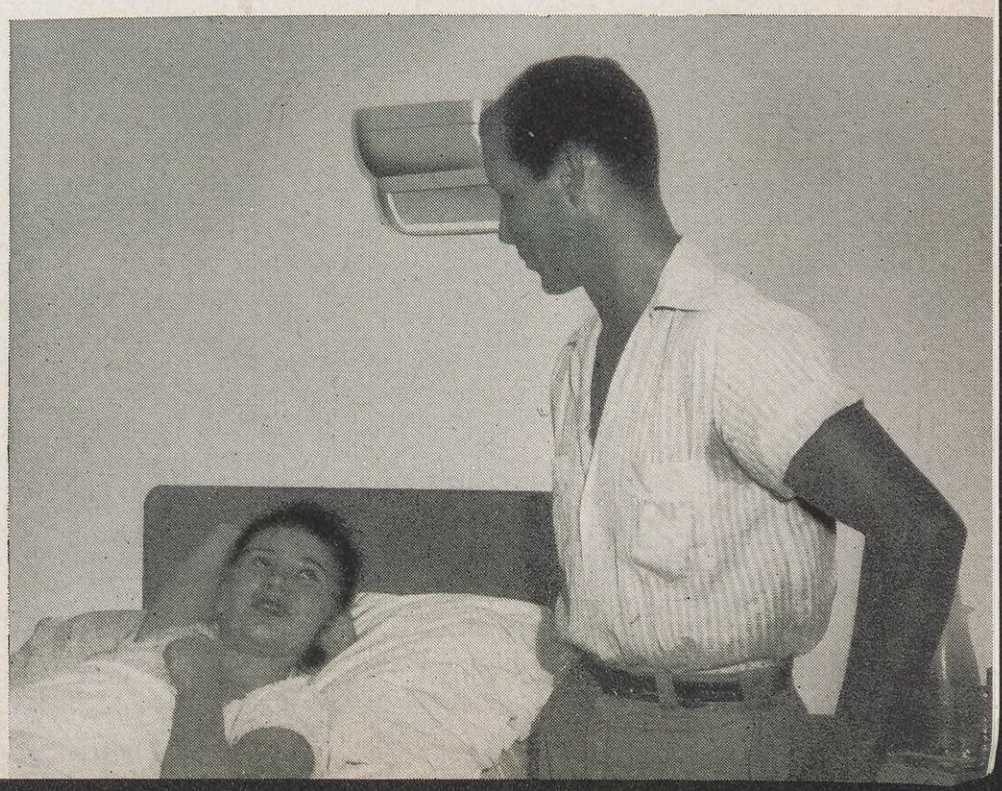


▲ **Susan's Day**

K. R. Wehinger, left, owner of a Shell Service Station in Long Beach, California, watches the dollar thermometer rise on "Susan Payette Benefit Day" at his station. Wehinger gave the day's gross profits to help pay medical expenses of the 15-year-old girl, who has been in a coma since undergoing a tonsillectomy last May. Second from left is Susan's father, L. G. Payette. Posting the profit score (which totaled $258) are R. F. Miller and T. J. Grieve, both Los Angeles Marketing Division District Salesmen, who helped at the station on Susan's day.

Life Saver

Finney Schoeneman, below, Roustabout in the Houston Area's Kilgore (Texas) Production District, visits the hospital room of Gail Laird, a 15-year-old Kilgore girl whose life he saved at a local swimming pool. For 35 minutes, Schoeneman administered artificial respiration to her after she collapsed while swimming. Schoeneman learned how to apply artificial respiration at a Shell-sponsored safety school.



Well-Bred Beagles

SOME of the finest beagles in the United States are being raised by three Wood River Refinery employees —one of whom started 20 years ago and has passed his enthusiasm on to the others.

G. E. Mallory, a Special Tester in the Refinery Control Laboratory, started breeding beagles in 1936 "for the love of the sport." Mallory, shown at lower right leading two of his dogs, trained some, won prizes with others in show competition, and sold others. Among his customers was W. E. Wasson, another Refinery Control Laboratory Tester, who bought two beagles in 1950 and began breeding them.

Wasson has since handled scores of dogs and has collected a houseful of trophies and prizes from beagle shows —some of which he and his wife, Betty, are shown with at upper right. Wasson has trained three dogs which won highest U. S. honors available in beagle competition, and in 1954 he was named the nation's best beagle breeder-trainer by the Beagle Journal.

Pipefitter F. O. Lorts, lower left, the third Wood River beagle specialist, is a neighbor of Wasson and started his hobby only last year. He's already trained the Winter Stake champion of the International Beagle Federation's Western Association.

Beagles, which outnumber all other types of dogs in registrations, are good hunters as well as pets. In field meets, they are judged on ability to trail, use of voice in tracking a rabbit, and staying close to the line of scent.

New Citizens

H. C. Lefkovits, left, and C. E. Weller, right, both Physicists in Shell Development Company's Houston Exploration and Production Research Laboratory, recently became American citizens. Here they talk with Mrs. P. D. Prestwood of the Houston chapter of the Daughters of the American Revolution. Weller was born in Hungary and came to the United States in 1949. Lefkovits, born in Austria, also came to this country in 1949.

Editor Honored

S. K. Talley, Chemist at Shell Development Company's Emeryville Research Center, has received a citation from the American Society of Lubrication Engineers for his four years of service as editor of the society's journal, *Lubrication Engineering*.

Service Birthdays

Thirty-Five Years

C. B. GRAY
Midland Area
Gas

O. W. HOLMES
Wilmington Refinery
Administration

L. LOMBARDI
Pacific Coast Area
Purchasing-Stores

M. S. MERGENS
Portland Divison
Treasury

P. H. SWINCHATT
Head Office
Gen'l. Exec. Office

Thirty Years

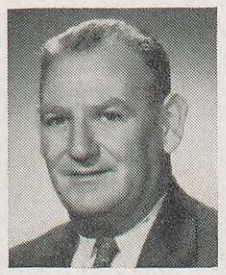
N. R. ALLISON
New Orleans Area
Exploration

A. P. ANDERSON
Head Office
Manufacturing

C. H. BATT
Tulsa Area
Production

D. M. BOREN
Wood River Refy.
Aromatics

N. J. CALICURA
Martinez Refy.
Treasury



R. L. COX
Pipe Line Dept.
East Chicago, Ind.

H. L. DAY, JR.
Wood River Refy.
Utilities

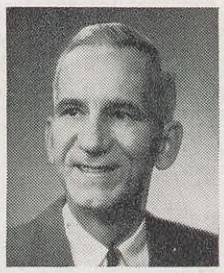
G. F. de RIDDER
Houston Refy.
Technological

F. R. EATON
Wilmington Refy.
Engineering

L. V. EVANS
Pacific Coast Area
Treasury

G. F. FORD
Houston Area
Production

L. L. FOSTER
Pipe Line Dept.
East Chicago, Ind.



L. D. FOX
Tulsa Area
Treasury

R. W. GABRIELSEN
Anacortes Refy.
Engineering

S. A. GERMANY
Houston Area
Land

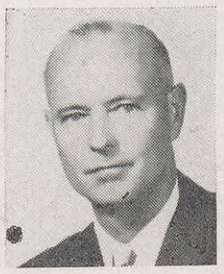
H. S. GOEDECKE
Seattle Div.
Sales

E. HAGEN
Wood River Refy.
Dispatching

B. F. HENDERMAN
Los Angeles Div.
Treasury

A. HOCK
Wood River Refy.
Dispatchng

J. W. HOPPLE
Pipe Line Dept.
East Chicago, Ind.



G. B. ISRAEL
Pacific Coast Area
Gas

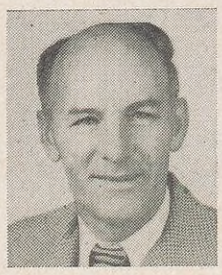
J. A. KELLY
Martinez Refy.
Dispatching

S. B. KENNEDY
Wood River Refy.
Utilities

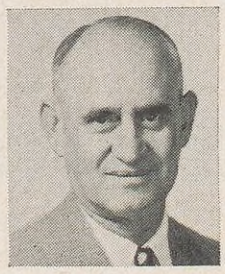
L. L. MANNING
Wilmington Refy.
Engineering

Thirty Years (cont'd)

P. S. McCLENDON
Pipe Line Dept.
Indianapolis, Ind.

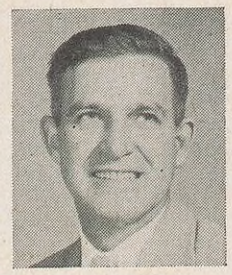


S. F. McDOW
Martinez Refy.
Fire & Safety



H. P. MITCHELL
Tulsa Area
Production

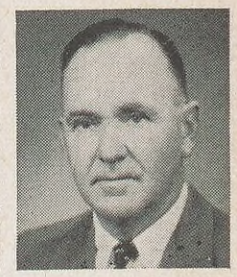
R. C. MUELLER
Indianapolis Div.
Manager



R. A. NEUHAUS
Wood River Refy.
Thermal Cracking

M. A. OLIVEIRA
Martinez Refy.
Engineering

M. E. OVERMAN
Head Office
Trans. & Supplies



L. A. PATRY
Tulsa Area
Production

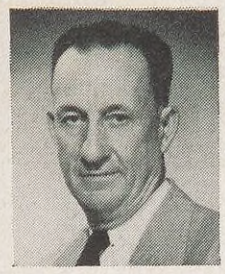
L. B. PELTON
Wilmington Refy.
Catalytic Cracking

B. G. POAG
Head Office
Manufacturing

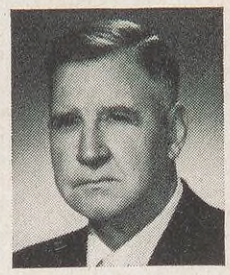
J. H. PRIOR
Pacific Coast Area
Pers. & Indus. Rel.

E. SCALES
Pacific Coast Area
Production

H. R. WAGNER
Pacific Coast Area
Treasury



V. A. WALKER
Pacific Coast Area
Gas



C. E. WHISTON
Pipe Line Dept.
East Chicago, Ind.

K. A. WOODWARD
Wilmington Refy.
Stores

Twenty-Five Years

N. ANGLIN
Pacific Coast Area
Production

E. F. AUGUSTINE
Shell Development Co.
Emeryville

W. H. CHANDLER
Wood River Refy.
Research Laboratory

J. CRISP
Tulsa Area
Production

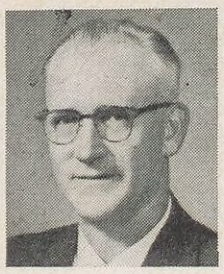
A. R. EIDT
New Orleans Area
Treasury

W. B. GEARY
Boston Div.
Operations

H. W. GUSTINE
Wood River Refy.
Thermal Cracking

G. M. HAMILTON
Pacific Coast Area
Production

E. O. HAYMOND
Portland Div.
Purchasing-Stores



F. M. HENRY
Portland Div.
Sales

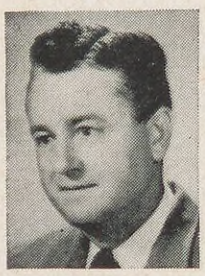
J. C. HOPKINS
Atlanta Div.
Sales

T. KITLEY
Pacific Coast Area
Production

F. LAPINSKI
New York Div.
Operations

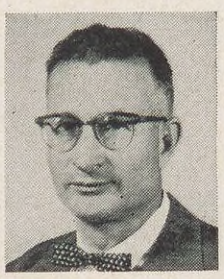
J. LAURENT
Norco Refinery
Pers. & Indus. Rel.

F. T. McDONNEL
Head Office
Marketing



L. W. PEARSAY
Houston Refy.
Central Laboratory

J. P. RONEY
Wilmington Refy.
Thermal Cracking

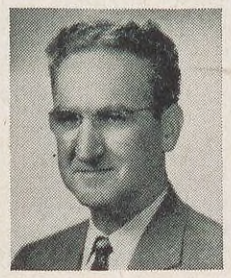


J. R. SCHEIBLI
Shell Development Co.
Emeryville

C. E. TOTTEN
Head Office
Public Relations

V. VITATOE
Wood River Refy.
Utilities

D. D. WALLER
Shell Pipe Line Corp.
Head Office



G. S. WHITE
Houston Area
Land

L. B. WRIGHT
Anacortes Refy.
Zone B

SHELL OIL COMPANY

Head Office

20 Years

E. J. Gamewell.....Purchasing-Stores
J. C. Pearson.....Marketing

15 Years

Agnes M. McVeigh.....Financial
W. M. Molloy, Jr.....Trans. & Supplies

10 Years

W. H. Benjamin, Jr.....Financial
D. J. Clowe.....Marketing
W. Nicol.....Marketing
W. D. Price.....Washington, D. C.

San Francisco Office

20 Years

Helen H. Lynch.....Marketing

10 Years

D. E. Rainier.....Marketing

Exploration and Production

TECHNICAL SERVICES DIVISIONS (Houston)

10 Years

R. L. Ransome.....Production

DENVER AREA

15 Years

E. O. Kirkland.....Production

10 Years

E. R. Duhig.....Treasury

HOUSTON AREA

20 Years

C. G. Calaway.....Production
E. T. Southard.....Treasury

15 Years

D. S. Cousins.....Production

10 Years

L. B. Blake.....Production
E. G. Goy.....Land
R. J. Louviere.....Production
V. M. McKinney.....Land
C. G. Pogue.....Production
J. B. Watts.....Production
A. B. White.....Production

MIDLAND AREA

10 Years

S. B. Hart.....Land
J. T. Perkins.....Production
C. L. Sanders.....Production
N. Swallow.....Exploration

NEW ORLEANS AREA

20 Years

W. B. Platt.....Exploration
L. J. Witherwax.....Production

15 Years

E. B. Van Saun.....Treasury

10 Years

K. Doig.....Production
R. H. Edwards.....Production
N. J. Laurent.....Production

PACIFIC COAST AREA

20 Years

Marion A. Brown.....Treasury

15 Years

L. W. Campbell.....Production
J. J. Carpenter.....Production
J. J. Stauffer.....Production

10 Years

D. D. Cooper.....Exploration
N. L. Couch, Jr.....Production
Dorothy M. Giblin.....Treasury
C. R. Killen.....Production
H. J. Krause.....Production

TULSA AREA

20 Years

F. C. Buckwalter.....Production
F. M. Carroll.....Production
R. R. Scott.....Production

15 Years

L. F. Hummel.....Gas
J. W. Weaver.....Production

10 Years

O. D. Green.....Gas
A. M. Wagner.....Exploration
V. E. Whitney.....Exploration

Manufacturing

HOUSTON REFINERY

20 Years

R. E. Antrobus.....Engineering
M. J. Babin.....Lubricating Oils
F. J. Brown, Jr.....Engineering
C. C. Bruce.....Engineering
K. E. Christensen.....Engineering
P. B. Dillon.....Engineering
C. C. Hardwick.....Gas
S. J. Laird.....Automotive
C. H. McMulin.....Distilling
R. B. Morelan.....Engineering
J. P. Rinehart.....Utilities
C. R. Smith.....Thermal Cracking

15 Years

S. P. Davis.....Distilling
J. Delaney, Jr.....Dispatching
J. M. Frye.....Automotive
L. F. Harvey.....Thermal Cracking
E. L. Hooey.....Engineering
R. W. Laramore.....Engineering
L. M. Neel.....Engineering
J. B. Reed.....Engineering
L. W. Sivil.....Lubricating Oils
D. J. Teer.....Engineering
D. A. Wagner.....Engineering
C. M. Wolters.....Engineering
T. W. Whitfield.....Engineering

10 Years

W. W. Amason, Jr.....Automotive
J. P. Balfoort.....Engineering
C. Bailey.....Engineering
C. V. Bednar.....Research Laboratory
E. O. Byrd.....Automotive
W. Conley.....Engineering
K. H. Cook.....Thermal Cracking
C. O. Coulter.....Engineering
A. G. Davenport.....Thermal Cracking
C. H. Fleming.....Gas
V. T. La Fitte.....Engineering
W. L. Loftin.....Dispatching
P. C. Moore.....Thermal Cracking
S. Simmons.....Engineering
G. W. Stanfield.....Engineering
C. D. Vestal.....Stores
V. R. Wilkersen.....Engineering
A. Williams.....Engineering

MARTINEZ REFINERY

20 Years

S. M. Clarke.....Control Laboratory
T. S. Nissen.....Engineering
E. G. Price.....Lubricating Oils

15 Years

D. J. Randall.....Compounding

10 Years

H. Albritton.....Distilling
R. W. Benedict.....Treasury
C. B. Coenen.....Research Laboratory
C. M. Duke.....Compounding
P. G. Ewing.....Treasury
A. M. Farmer.....Engineering
G. L. France.....Research Laboratory
M. W. Frye.....Engineering
H. R. Lewis.....Engineering
M. Minjack, Jr.....Distilling
J. Perez.....Compounding
C. O. Petree.....Engineering
J. A. Trent.....Engineering

NORCO REFINERY

20 Years

O. L. Brady.....Engineering

10 Years

D. S. Meaden, Jr.....Stores

WILMINGTON REFINERY

20 Years

A. Avis.....Engineering
W. M. Keller.....Engineering
J. M. Novotny.....Engineering

10 Years

G. W. Jones.....Econ. & Sched.
D. J. McKenna.....Engineering

WOOD RIVER REFINERY

20 Years

R. K. Bush.....Alkylation
R. E. Tjaden.....Engineering
A. M. Weiss.....Alkylation

15 Years

R. E. Anglin.....Catalytic Cracking
W. D. Campbell.....Engineering
V. B. Hammack.....Engineering
O. A. Hotuiz.....Catalytic Cracking
W. L. Howell.....Engineering
L. Jennings.....Compounding
P. E. Morrisey.....Lubricating Oils
S. W. Mueller.....Engineering
N. V. Voyles.....Research Laboratory

10 Years

W. K. Connell, Jr.....Dispatching
W. R. Johnson.....Compounding
M. E. Kennedy.....Engineering
M. J. Owens.....Engineering
J. F. Rickman.....Engineering
J. J. Skelly.....Technological

Marketing

MARKETING DIVISIONS

20 Years

E. T. Morrissey.....Boston, Operations
S. E. Pickering.....Boston, Operations
W. B. Howser.....Cleveland, Operations
T. G. Keeling.....Cleveland, Operations
H. N. Rojem.....Detroit, Operations
W. B. Ginther.....Los Angeles, Operations
H. M. Lundeen.....Minneapolis, Operations
R. J. Gildea.....New York, Operations
G. M. Bell.....Portland, Sales
G. S. Maxson.....St. Louis, Sales
B. E. Sumner.....Seattle, Operations
H. J. A. Williamson.....Seattle, Operations

15 Years

C. E. Crowley.....Albany, Operations
R. S. McDowell.....Albany, Sales
R. G. Parnau.....Chicago, Operations
A. G. Asch.....Cleveland, Operations
Y. Nishimura.....Honolulu, Treasury
A. M. Stone.....Los Angeles, Sales
W. S. Sullivan.....Los Angeles, Operations
E. E. Nelson.....Portland, Operations
A. L. Willaby.....Portland, Operations
R. G. Morgan.....Seattle, Operations

10 Years

C. C. Ariail, Jr.....Atlanta, Sales
H. K. Gibbs.....Atlanta, Sales
H. F. Rainey.....Atlanta, Operations
Gene L. Chappelle..Chicago, Administrative
J. A. Lokanc.....Chicago, Sales
E. J. Mayotte.....Chicago, Operations
J. V. Tabone.....Chicago, Operations
N. H. Tesch.....Chicago, Operations
J. E. Welch.....Chicago, Operations
J. J. Laffey.....Cleveland, Sales
J. S. Toth.....Detroit, Operations
T. R. Lloyd.....Indianapolis, Operations
E. E. Stark.....Indianapolis, Sales
G. C. Mathisen..Los Angeles, Marketing Serv.
V. L. Beckman.....Minneapolis, Sales
E. L. Carlson.....Minneapolis, Operations
L. L. Rasinski.....Minneapolis, Treasury
D. H. Rudolph.....Minneapolis, Operations
G. A. Chaffin.....New Orleans, Sales
B. G. Goertz.....New Orleans, Sales
W. J. Buckley.....New York, Operations
A. J. Cornelius.....New York, Sales
D. J. Durkin.....New York, Operations
C. T. Kahler....New York, Marketing Service
R. A. Meyers.....New York, Operations
J. A. Wright.....New York, Operations
E. M. Skinner.....Portland, Treasury
L. I. Tower.....Portland, Operations
S. E. Vetor.....Portland, Operations
G. E. Vick.....Portland, Treasury
J. C. Harvey.....Sacramento, Operations
A. C. Doutt.....St. Louis, Operations
F. E. Keplar.....St. Louis, Operations
A. J. Murphy.....St. Louis, Operations
F. W. Kingsbury.....Seattle, Operations

SEWAREN PLANT

20 Years

J. Toth.....Compound

10 Years

L. Trachuk.....Treasury
J. M. VanDecker.....General Plant

Pipe Line Department

20 Years

S. Bordes.....Tranquility, Calif.
T. A. Fountain.....Detroit, Mich.
T. O. Pistorius.....Hammond, Ind.

10 Years

C. A. Herring.....Argo, Ill.
F. C. Viner.....Argo, Ill.

SHELL CHEMICAL CORP.

20 Years

H. R. Bennik.....Dominguez
L. Petrovich.....Dominguez
H. E. Berry.....Houston
E. L. Coleman.....Houston
A. L. Fraser.....Houston
W. V. Graves.....Houston
O. W. Hunley.....Houston

15 Years

R. L. Cox.....Houston
E. J. Rusk.....Houston
C. V. Shelton.....Houston
O. A. Sublett.....Houston
C. E. Wallace.....Houston
F. J. Maher.....Shell Point

10 Years

C. A. Smith.....Dominguez
Natalie J. Carpenter.....Head Office
Teresa N. Iervolino.....Head Office
B. F. Bridges.....Houston
J. P. Britton.....Houston
J. Dillard.....Houston
J. D. Dillard.....Houston
W. L. Henry.....Houston
W. S. Mora.....Houston
H. I. Page.....Houston
E. Slanina.....Houston
E. R. Taylor.....Houston
J. B. Thrailkill.....Houston
J. H. Valcik.....Houston
E. C. Young.....Houston
R. R. Boyles.....Martinez
E. E. Thomas.....Martinez
J. M. Atanasu.....Shell Point
A. M. Furlong.....Shell Point
H. M. Noble.....Shell Point
D. Samarin.....Shell Point

SHELL DEVELOPMENT CO.

20 Years

P. Daro.....Emeryville
G. T. Philippi.....Houston

15 Years

J. H. Badley.....Emeryville
W. R. Edwards.....Emeryville
A. W. Hansen.....Emeryville
J. W. Mecorney.....Emeryville
E. P. Viscia.....Emeryville

10 Years

R. E. Harrison.....Emeryville
G. W. Jacobs.....Emeryville
M. Katow.....Emeryville
R. B. Willoughby.....Emeryville
Olga Kasperovich.....Head Office
J. A. Jolley.....Modesto

SHELL PIPE LINE CORP.

15 Years

C. J. Hogue.....Mid-Continent Area
J. Johnston.....West Texas Area
R. J. Northway.....Head Office
J. L. Rogers.....Texas Gulf Area
J. H. Singleton.....Head Office
J. L. West.....Mid-Continent Area

10 Years

R. M. Stell.....West Texas Area
D. H. Thompson.....Mid-Continent Area
Minnie M. Weaver.....Mid-Continent Area

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