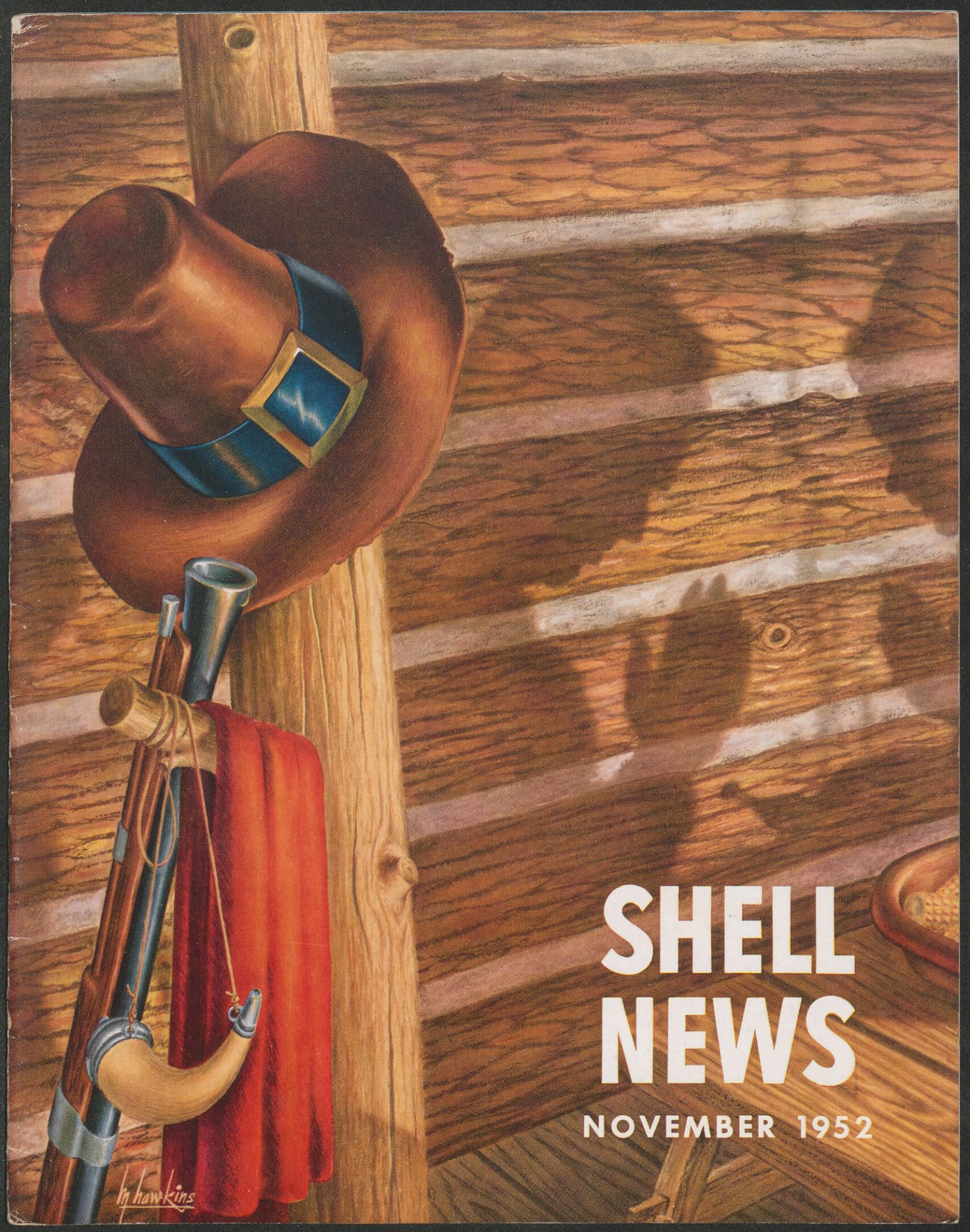
SHELL
NEWS
NOVEMBER 1952
h hawkins

NATURAL

A One-Time Oil Field Nuisance

Today Supplies One-Fifth Of All

The Energy Used In The United States

GAS: *the* NEW COLOSSUS

THE United States has proved natural gas reserves of something like 200,000,000,000,000 cubic feet, with an estimated 300,000,000,000,000 more waiting to be found!

The nation's appetite for this versatile buried energy is phenomenal. More than five times as much natural gas was consumed in 1950 as in 1925. Consumption, close to eight trillion cubic feet this year, is expected to pass twelve trillion by 1960 and reach twice its present level by 1970.

Most of us, when we think of Shell's exploration activities, unconsciously visualize underground reservoirs of oil as the single goal. Actually, with both oil and gas inhabiting the same type of underground structures, Company drilling crews are as likely to find gas as they are oil. They can't tell which it will be until they drill and often end up with both because gas, when it's not dissolved in the oil, frequently shares the underground reservoir with liquid petroleum. For this reason, most of the natural gas produced each year is produced by oil companies.

Considering the fact that it was known and used by the Chinese centuries before the Christian era, natural gas got a rather slow start. Its value as a fuel was known for years, but the tremendous problems involved in transporting and storing it slowed its widespread usage. Demand was satisfied on a local basis—California demand was supplied by California fields, New York and New Jersey by Pennsylvania fields, and so on.

Two developments led to the recent meteoric growth of the natural gas industry. On the supply side, great new reserves of gas were uncovered as the by-product of the continuing, intensive search for oil. The war, with its endless demand for fuel in every form, provided the demand outlet for these vast new supplies of relatively cheap energy. Increasing use of natural gas as a raw material by numerous war-born industries intensified the demand.

Along with the increased demand came the development of the high pressure pipe line techniques and the giant new compressors essential to large volume gas transmission.

The installation of new gas lines from the Gulf Coast to the Northeast and the Mid West and from West Texas to the Far West and the conversion of the Big Inch and Little Big Inch pipe lines from oil to gas, gave the industry for the first time the lines it needed to handle huge quantities of gas. More recently, development of substantial underground storage has improved the industry's ability to meet the seasonal demands of major consuming centers.

Although millions of Americans have switched to natural gas for convenience and economy in heating, cooking and refrigeration within the last decade, by far the greatest demand for natural gas today, close to 70 per cent, comes from industry. Its principal use by industry is for heat and power, of course, but it is also a vital raw material in the manufacture of carbon black, nitrogen fertilizer, synthetic rubber, plastics, explosives, inks, fabrics, drugs and many other products. And the list of chemicals derived from natural gas is growing larger every day.

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

Employee Publications Department
New York, N. Y.

contents

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DAY OF THANKS

With humility and thankfulness, the Pilgrim Fathers set aside one day each year for prayer and thanksgiving to celebrate the plentiful harvest and to give thanks for the material and spiritual bounties which were theirs. On this month's cover, artist E. Meredith Hawkins has evoked a memory of this colorful day as it was observed in an earlier time and as it set a pattern for the American Thanksgiving tradition.

Louisiana's Largest

WORKING in the storybook setting of Louisiana's Iberia Parish, Shell Exploration and Production engineers and drilling crews are currently making the "earn while you learn" principle a reality. They are not only tapping the rich oil reservoir which lies beneath Weeks Island, but in the process are gathering an immense amount of knowledge about deep hole drilling.

Weeks Island became the state's largest producing field in June of 1952, with a daily allowable of more than 29,500 barrels. Shell Oil Company, the field's principal developer, brought up 24,336 barrels of this amount from its 64 wholly-owned wells.

Weeks Island is most unusual because of the extreme depth at which oil and gas are found. The deepest well to date, for instance, is Shell's Gonsoulin-Minvielle State Unit No. 1 at 16,648 feet. There are a few comparatively shallow wells in the area, but the average depth is more than 14,000 feet.

To explore these formations, Shell and two other operators had drilled 102 wells by January of this year. Of these, 84 were producers and 18 were dry holes. And the footage drilled by these companies added up to more than 242 miles.

Deep Hole Drilling Has Become Routine at the Weeks Island Field Which is Now the State's Largest Producer

The gauger shown in the picture above is taking one of his periodic pressure readings at the Weeks Island discovery well drilled by Shell Oil Company in 1945. Weeks Island, in Louisiana's romantic Iberia Parish, is one of five salt domes known as the "Five-Island" chain. Salt rises to within 100 feet of the surface at one part of the island, but hydrocarbon accumulations are found only on the flanks of the salt dome.

Encyclopedia for Drillers

Probing three-mile depths at Weeks Island, which is a salt dome formation, Shell crews have amassed a bookful of drilling lore about bits, straight hole drilling, casing and mud. Three types of wells contributed to this knowledge. Comparatively shallow wells, averaging 12,400 feet and located high on the island and close to the salt plug, have been the most difficult and costly. These proved educational but troublesome as drilling bits sometimes encountered and left the salt three times before reaching objective sands.

Drilling through salt can be a costly and time-consuming operation. Chemicals in the drilling mud react with the salt, changing the composition of the mud. Liquid components in the mud tend to wash salt away, making drill pipe wobble and change direction in the hole. And in the early days at Weeks Island, drill pipe often stuck in the hole and broke. This necessitated "fishing" in the well—groping for broken tools, drill pipe or drilling bits—with delays in drilling and increases in cost.

There was less trouble with the 13,800 foot wells which were some distance from the salt formation, but the deep wells at 15,000 feet brought their own particular type of misfortune because temperatures rise rapidly as drill pipe bores through subsurface formations. Temperatures between 285 and 300 degrees Fahrenheit played

Logging equipment is poised for its descent into the hole at Weeks Island Rig No. 3 as the crew looks on. This rig is drilling the first well on the field's eastern flank.

havoc with drilling mud, solidifying it at 16,000 feet. Slow-setting cement, used to hold casing in place, set too fast under the intense heat.

Gradually, however, as drilling continued, Shell found answers to these problems. Oil emulsion muds prevented drill pipe from sticking in holes. Protective casing, set at the 11,000-foot mark, prevented hole enlargement and cave-ins. Drilling muds were treated with a chemical thinner to prevent their solidifying. A special retarder was mixed with the cement to make it set more slowly. The slow accumulation of data over months of drilling built up a fund of information applicable to each new well drilled in the area—and valuable for future operations in similar areas.

The net result was an impressive cut in the drilling time for deep hole wells. In 1945-46, drilling to a depth of 12,000 feet was a formidable task requiring an average of 200 days. Currently, at Weeks Island, completions for wells averaging 13,800 feet are made in 65 days. The fastest drilling time to date was made on Smith State Unit "B" No. 12 at 13,900 feet.

Gas, produced at Weeks Island was once used to operate the rigs. Since a pipe line was built into the field, the gas has been sold. Here, a reading is taken of the amount entering the transmission company's outlet.

Rig No. 7 at Weeks Island is completing a well as pilings are being driven for the next drilling location. Shell has pioneered advances in deep drilling techniques in the area and records in drilling time, depth and production have continually been made and broken. Shell's gross share of oil from the Weeks Island field averaged more than 24,000 barrels per day for June, 1952.

It was turned into the storage tanks in 59 days.

Evangeline Country

The Weeks Island area, rich in history, was settled in the early 18th century by the French. It was here that Longfellow set his romantic poem "Evangeline," patterned on the lives of two Acadian lovers who were exiled from their homes in Nova Scotia and who came to Louisiana to find sanctuary in Iberia Parish.

The Acadians, French and Spanish who colonized this bayou country were skillful farmers and the soil repaid them with bountiful crops. Today, the area yields sugar cane, rice, cayenne and tabasco peppers, cotton, sweet potatoes, truck crops and corn. Salt mines produce 750,000 tons annually. Bayous, lakes and bays abound with fish and shrimp. And the discovery of oil gave further proof of nature's richness in this section.

The Weeks Island field is part of the "Five-Island" chain of salt domes on the Louisiana coast. Roughly circular in shape, the island is about two miles in diameter and is one of the highest points in the state. On the high portion, one of the country's largest salt companies has salt mining and processing facilities. The land gradually slopes away to salt marshes and bayous and the majority of the oil wells are in this area. Bayous lead to the Gulf of Mexico and the Intracoastal Canal. From a transportation standpoint, Weeks Island is excellently situated for the movement of crude by barge to Shell's Norco and Houston refineries.

Shell began its Weeks Island activities in 1935 by acquiring leases—most of them wholly-owned—on about 75 per cent of this salt dome area. The Company sank its first well in 1941 but John Smith No. 1 was abandoned in early 1942 after failing to reach oil sands at 11,500 feet. Operations were suspended until 1945 at which time the first oil production for the field was established.

Record-breaking performances began with this first producing well and have continued over the last seven years. Currently, a four-rig program is in effect. With each passing year, since this discovery, the Weeks Island proven reserves have been increased. This school for drillers has rewarded their perseverance by becoming one of Shell's richest producing fields.

The Farmer's Friend

LATE in June, 1950, frost settled in Oregon's Klamath Basin, striking what appeared to be a death blow to the half-grown potato plants bearing the season's crop. There was no time to replant and mature a new crop. Watching the near-disaster in his neighborhood, a Shell dealer had an idea.

Placing a call to Shell Chemical Corporation's Western Division office at San Francisco, he rapidly sketched the situation. Was there any hope in the "wonder gas" which made crops grow when nothing else would? The Shell Chemical people could give no assurance that the agricultural ammonia could revive the dying vegetables. There was no precedent. But in view of the desperate situation, they would give it a try.

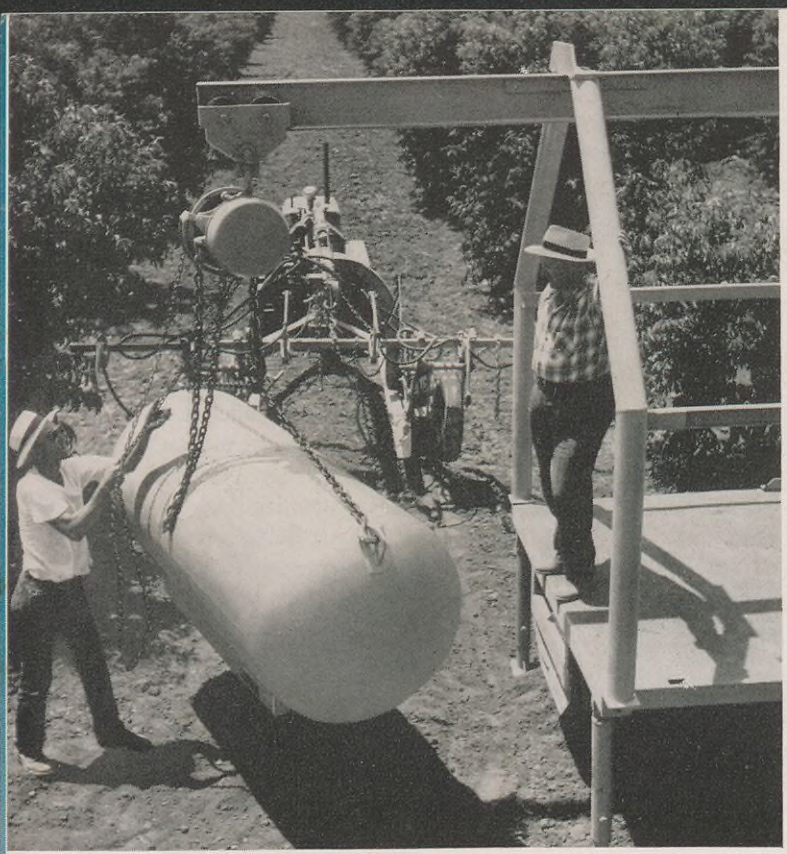
Speedily, they sent trucks and service men north while a supply of ammonia was dispatched from the Shell Point Plant at Pittsburgh. Despairing farmers—more than willing to gamble—stopped the trucks along the Oregon countryside and pleaded that the experiment be made on their land.

Into the fields went the service men. Applications were completed in record time, by August 1, and when the growing season was over in early September, the crop had been saved. In many instances, yield had actually exceeded the normal crop by 100 sacks per acre.

"That's one way to win friends . . . and open up new territory," says soft-spoken Frank Durbin, Shell Chemical's Ammonia Supervisor for Northern California. For more than 15 years, Frank has been preaching the virtues of Shell ammonia and showing farmers how to utilize it to best advantage.

It's Frank Durbin's job to assist distributors and help growers by getting ammonia to the right place at the right time. Through Frank, and others like him, Shell Chemical can bring the varied skills of its technical staff into the local community and out into the farmer's grain field, if necessary. On Frank's request, the engineering staff will design or build special equipment to solve difficult ammonia application problems, or

Agricultural Expert Frank Durbin Spreads the Word on Shell's Agricultural Ammonia Along the Pacific Coast

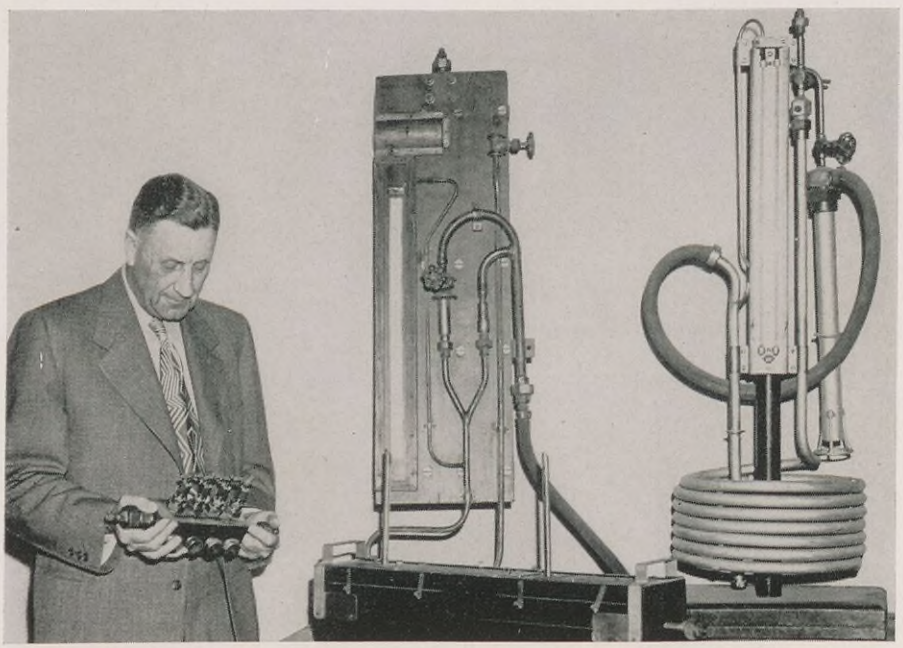


In the course of Nitrojection Service*, ammonia is often carried in large 1,700-pound bulk tanks, above, mounted on a cultivator which is towed by a tractor. When empty, these vessels may be removed and refilled from a nearby railroad tank car or returned to Shell Point.

George M. Hughes, seated, Shell Chemical distributor at Lodi, California, and David H. Walbolt, Shell's Northwestern Area Supervisor, discuss the growing demand for ammonia by Sacramento Valley farmers for their vineyards, fruit orchards and grain fields.

Technical Service specialists will go into the field on trouble-shooting missions. In the course of his travels, Frank has garnered the title of "the farmer's friend" and a bagful of stories as well.

"I remember the time my wife admired a hedge six feet tall, of strange tropical-appearing plants with sturdy red stalks and huge green leaves," he recalls. "It was nothing but rhubarb, livened up with a shot of Shell's ammonia. Belonged to a chap who ran a roadside bakery and grew his own fruit for pies. He'd never had enough rhubarb until he tried our NH_3. That licked the shortage all right—with rhubarb in six-foot sections."



Frank Durbin, Northern California Area Supervisor examines the early metering instruments developed by Shell Chemical Agricultural Engineers to measure the flow of ammonia.

His genial disposition and farm background have helped Frank make friends in rural areas. He was reared on the Durbin family ranch near Salem, Oregon, and studied agriculture at Oregon State College following service in World War I. Frank joined Shell Chemical as a laborer in 1930. In 1935, transferred to Marketing to learn the ammonia business.

It was in that year that Frank helped F. H. Leavitt, Western Division Senior Agricultural Technologist, in a big acreage experiment with ammonia in Northern California's rice fields. Like old Chinese farmers, they waded barelegged, day after day, checking results during the growing period. At harvest time, they rode the combines stripped to the waist. When the season ended, Frank returned to his home in Pittsburgh, lean, hard, heavily tanned and laden with produce from the harvest.

* Registered Trademark U. S. Patent Office

In 1936, Frank opened a "pilot" ammonia sales territory in the Sacramento Valley and in the following years worked in country areas compiling facts and figures on his product and getting acquainted with his farmer friends. The start of World War II found ammonia for agriculture in short supply as were men to sell the many other Shell Chemical products. Frank turned, temporarily, to selling commercial ammonia to the refrigeration, water purification and papermaking trades. During part of this period, until 1945, he handled Shell Chemical's solvents and also carbon (a by-product in the manufacture of ammonia) in addition to the commercial NH_3. In 1946, when ammonia for agriculture was again available, Durbin resumed his work as Area Supervisor for Northern California. In 1949, the Northwest was added to his territory.

Recently, Frank's former understudy in Northern California, David Walbolt, was named to handle the Oregon and Washington territory, for Frank Durbin is planning his retirement in the not-too-distant future. It will mean more time for him to spend with Mrs. Durbin and their two sons, Frank, Jr. and Dan. Frank, Jr. served three years in the Pacific in World War II and has just completed a second tour of duty with the Navy Air Corps, night flying over Korea. Dan is a marine aboard the Navy Carrier Philippine Sea in Korean waters.

In his 22 years with Shell, Frank has seen—and played an important part in—the development and application of the agricultural ammonia which today is working near-miracles with crops. He has watched the product conquer new markets throughout the entire Pacific Coast area.

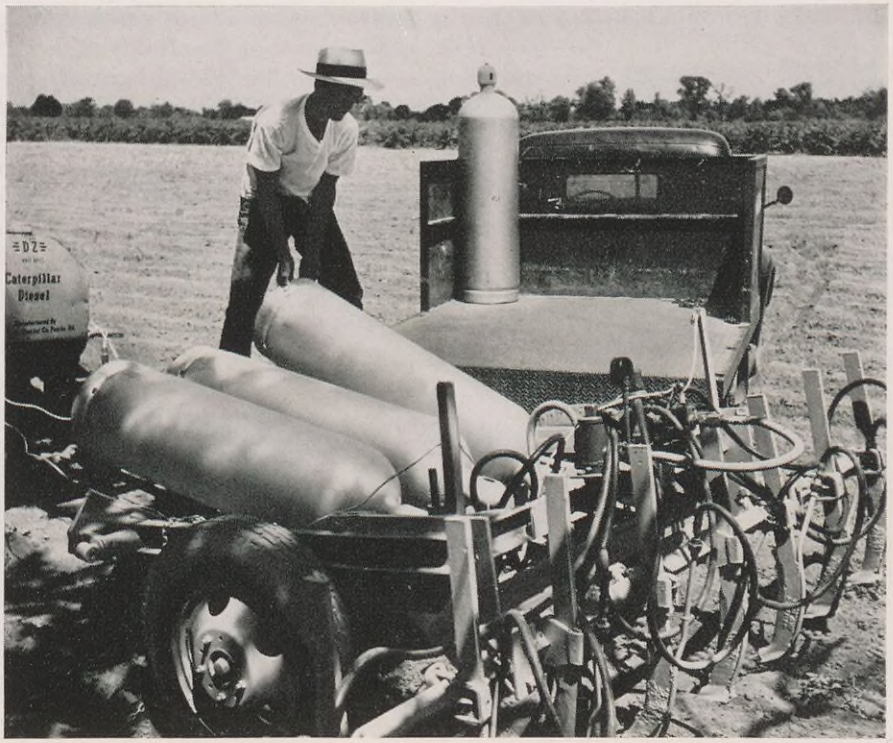
The tremendous demand for NH_3 as a fertilizer more than justifies construction of Shell Chemical's new plant at Ventura in Southern California, in Frank's opinion. Most of the production from this plant will be distributed in the Southwest, permitting production from Shell Point (in Northern California) to be used in that area and for expansion in the new Washington and Oregon territory.

^

Hughes holds aloft six-week-old sugar beets to illustrate the effect of fertilization with ammonia. The beet at right is from a field which is undergoing the six-week Nitrogation Service*.

Agricultural ammonia can be supplied in 150-pound cylinders which can be handled by one man, below. In this picture, four of them are being mounted upon a tractor-drawn trailer.

v



Shell People In The News

J. H. HALL

P. W. ENGELS

J. S. MORSE

THORNTON BEALL

Reorganization of Marketing-Operations Department

AS a further step in completing the consolidation of the East of Rockies and West Coast Marketing organizations of Shell Oil Company, the Operations Department has announced the following realignment of functions and responsibilities:

J. H. HALL has been appointed Manager of the Operations Department. He will be responsible for all marketing operations activities coast-to-coast. The position, Assistant to the Vice President-Operations, formerly held by Mr. Hall, has been eliminated.

P. W. ENGELS has been appointed Assistant Manager of the Operations Department, also functioning on a coast-to-coast basis, but with a direct responsibility for operations activities in the East of Rockies territory.

J. S. MORSE remains as Operations Manager (West Coast), with the additional duties of assisting in the coordination of coast-to-coast marketing operations.

The work of the Operations Department has been divided into two functions, Distribution and Engineering. Head Office staff appointments to fit the new set-up have been made as follows:

THORNTON BEALL is Distribution Manager. Reporting to Mr. Beall are C. B. WHEELER, Manager of the Plant Division, having responsibility for development of policies and procedures related to the efficient operation of terminals, depots and other fixed distribution facilities, and J. M. McGINNIS, Manager of the Motor Fleet Division, having responsibility for policies and procedures related to the efficient operation of the motor transport fleet.

C. J. NOBMANN is Engineering Manager. Reporting to Mr. Nobmann are HARRY WEARNE, Manager of the Construction Division, having responsibility for engineering, architectural designs and construction projects covering all fixed Marketing facilities, and E. F. ZIMMERMAN, Manager of the Equipment Division, having responsibility for design, standards and specifications for all Marketing equipment, both mobile and stationary.

C. B. WHEELER

J. M. McGINNIS

C. J. NOBMANN

HARRY WEARNE

E. F. ZIMMERMAN

Personnel Changes at Shell Development

R. W. MILLAR

C. L. DUNN

R. W. MILLAR has been appointed Department Head of the Chemical Engineering Department at Shell Development Company's Laboratories in Emeryville, California. This appointment leaves Mott Souders, Jr., who has been Head of the department, free to devote his attention to his principal duties as an Associate Director of Development.

C. L. DUNN replaces Dr. Millar as Department Head of the Physical Chemistry Department.

Dr. Millar came to Emeryville in 1928 and has served as Department Head of the Physical Chemistry Department since its formation. Prior to joining Shell Development he was on the faculty at the University of California, Los Angeles, and spent several years with the U. S. Bureau of Mines. Dr. Millar received his B.S. and M.S. degrees from the University of Illinois and his Doctorate from the University of California.

Dr. Dunn joined Shell Development Company in 1937 and has been assigned continuously to the Physical Chemistry Department. He was appointed Assistant Department Head in 1946. He received his B.S. and M.S. degrees from the University of Washington and his Doctorate from the California Institute of Technology.

Creation of Personnel Staff Division in Head Office

The steady increase in administrative detail involved in handling personnel matters for the New York Head Office staff has made it desirable to bring these together under a new division of the Head Office Personnel Department known as the Staff Division. Effective October 1st, the new Division became the "Personnel Department" for Head Office staff. It will handle all phases of the Personnel Department's functions having to do with employment, transfers, application of policies, benefit plans, and recreational activities. Part of the Personnel Department's responsibility for salary administration as it affects Head Office staff will also be handled by the new Division.

H. D. KAMMERLOHR

H. H. MURR

Mr. **H. D. KAMMERLOHR**, formerly Assistant Manager of the Head Office Wage and Salary Division, has been made Manager of the new Staff Division.

Mr. **H. H. MURR**, who was formerly Assistant Manager, Personnel and Industrial Relations, San Francisco, has succeeded Mr. Kammerlohr as Assistant Manager of the Head Office Wage and Salary Division.

Other Changes

O. W. HEYDEN has been appointed Acting Chief Engineer of Shell Pipe Line Corporation. Mr. Heyden received a B.E. degree in Mechanical and Electrical Engineering from Tulane University in 1931 and joined Shell Oil Company that same year at the Norco Refinery as a Pipefitter Helper. After holding various positions in the Refinery, he became Assistant Chief Engineer there in 1938. Three years later he was transferred to Shell Pipe Line Corporation as Assistant Chief Engineer. Mr. Heyden was serving in this capacity at the time of his recent assignment.

H. V. STEADMAN has been appointed Production Manager of the Calgary Exploration and Production Area. A Petroleum Engineering and Refining graduate of Birmingham University, England, Mr. Steadman started with Shell in 1927 as a Roustabout at Oxford, Kansas.

During his 25 years of Shell service, Mr. Steadman has held numerous positions in the Production Department in Oklahoma, Texas and Louisiana. In 1947, he was appointed Division Production Manager in the Kansas Division of the Tulsa Exploration and Production Area. Three years later he became Division Production Manager of the Oklahoma Division, the position he now leaves to take up his new assignment.

O. W. HEYDEN

H. V. STEADMAN

A DRILLER'S AT

Home on the Rig

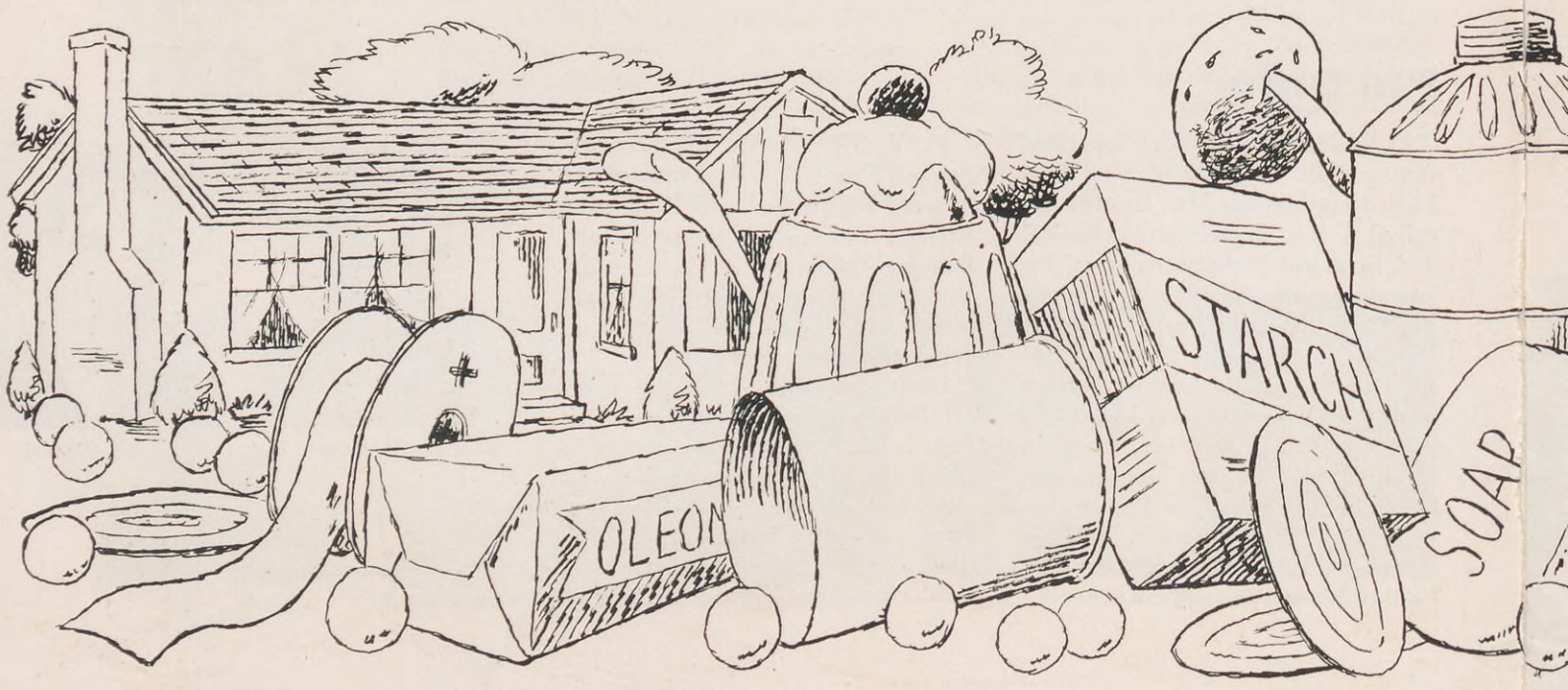
ABOUT the fifth time the wife of a certain rotary driller complained that he spent the day on a cool rig while she slaved over a hot stove, the swivel-necked gentleman countered with an equally time-worn suggestion that maybe she'd like to swap jobs. This is a domestic debate which has been going on ever since Helen of Troy took a job launching ships.

The case of the rotary driller and the housewife is not as improbable as it would seem, however. Admittedly the driller's wife is about as experienced at handling a ten-ton string of tools as he is at making chicken patties for the bridge club, but if they got down to taking inventory both would find quite a few items on her pantry shelf which are used almost every day around a drilling rig and vice versa. Not all these housekeeping items are handled directly by the driller, but by the time the roughnecks and mud engineers and geologists have taken a hand, the drilling of an oil well has almost become a household word.

Take the special drilling muds used, for example. These muds must have a certain weight and fluidity for each specific condition encountered in the hole. When a mud has to be thinned down without adding to its weight, small quantities of ordinary *water softener* are mixed in. It's not uncommon to see several bottles of water softener in the mud storage shack at a rig. When the mud tends to flocculate, that is to clabber up like cottage cheese, ordinary *starch*, like women use in laundry, is sometimes added to reduce the lumpiness. As any housewife knows, starch will sometimes turn sour, and other chemicals have to be added to prevent a pungent situation.

Sometimes an oil-base mud is used in drilling instead of mud mixed with water. Special types of oil-base muds have *soap* as one of their ingredients. Soap has also been used, along with *kerosene*, by oil companies in West Texas to loosen the sands of troublesome formations and make the oil flow.

A few years ago in California, Shell production engineers were having trouble with a spinner, a delicate instrument which is lowered in the hole to determine the depth at which water



enters a completed well. Oil and sand clogged the spinner before it reached the proper depth. They hit on the idea of packing the instrument with *gelatin*—any delicious flavor would do—but chunks of the tasty dessert broke off, allowing sand to get in. *Ice Cream* was substituted and it worked fine! When the spinner reached the lower level of the hole, heat melted the ice cream and the instrument was free to operate. Now the engineers have improved on their trick, again drawing on the kitchen pantry, and are using *oleomargarine*. It's easier to transport and store in hot weather.

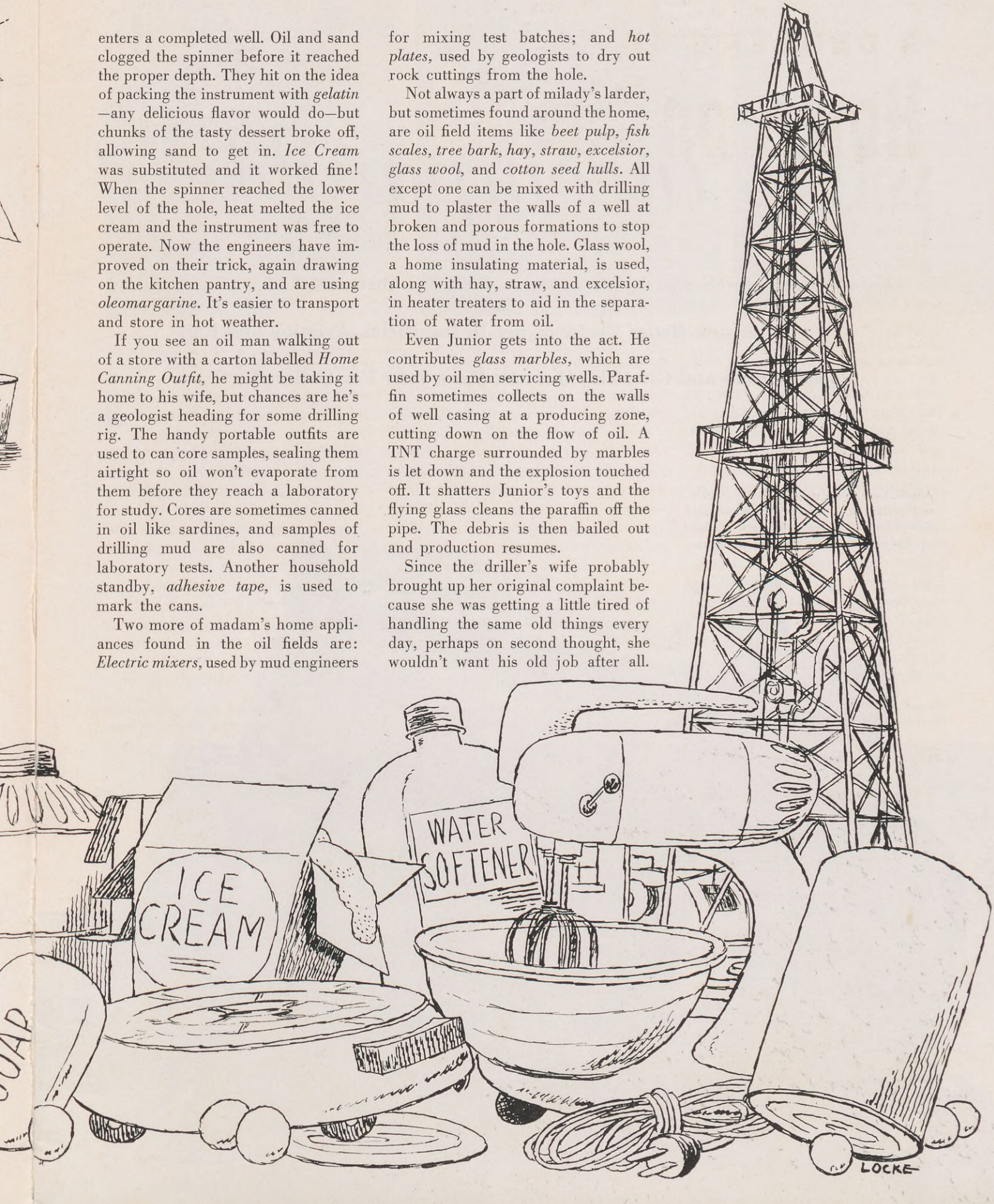
If you see an oil man walking out of a store with a carton labelled *Home Canning Outfit*, he might be taking it home to his wife, but chances are he's a geologist heading for some drilling rig. The handy portable outfits are used to can core samples, sealing them airtight so oil won't evaporate from them before they reach a laboratory for study. Cores are sometimes canned in oil like sardines, and samples of drilling mud are also canned for laboratory tests. Another household standby, *adhesive tape*, is used to mark the cans.

Two more of madam's home appliances found in the oil fields are: *Electric mixers*, used by mud engineers for mixing test batches; and *hot plates*, used by geologists to dry out rock cuttings from the hole.

Not always a part of milady's larder, but sometimes found around the home, are oil field items like *beet pulp*, *fish scales*, *tree bark*, *hay*, *straw*, *excelsior*, *glass wool*, and *cotton seed hulls*. All except one can be mixed with drilling mud to plaster the walls of a well at broken and porous formations to stop the loss of mud in the hole. Glass wool, a home insulating material, is used, along with hay, straw, and excelsior, in heater treaters to aid in the separation of water from oil.

Even Junior gets into the act. He contributes *glass marbles*, which are used by oil men servicing wells. Paraffin sometimes collects on the walls of well casing at a producing zone, cutting down on the flow of oil. A TNT charge surrounded by marbles is let down and the explosion touched off. It shatters Junior's toys and the flying glass cleans the paraffin off the pipe. The debris is then bailed out and production resumes.

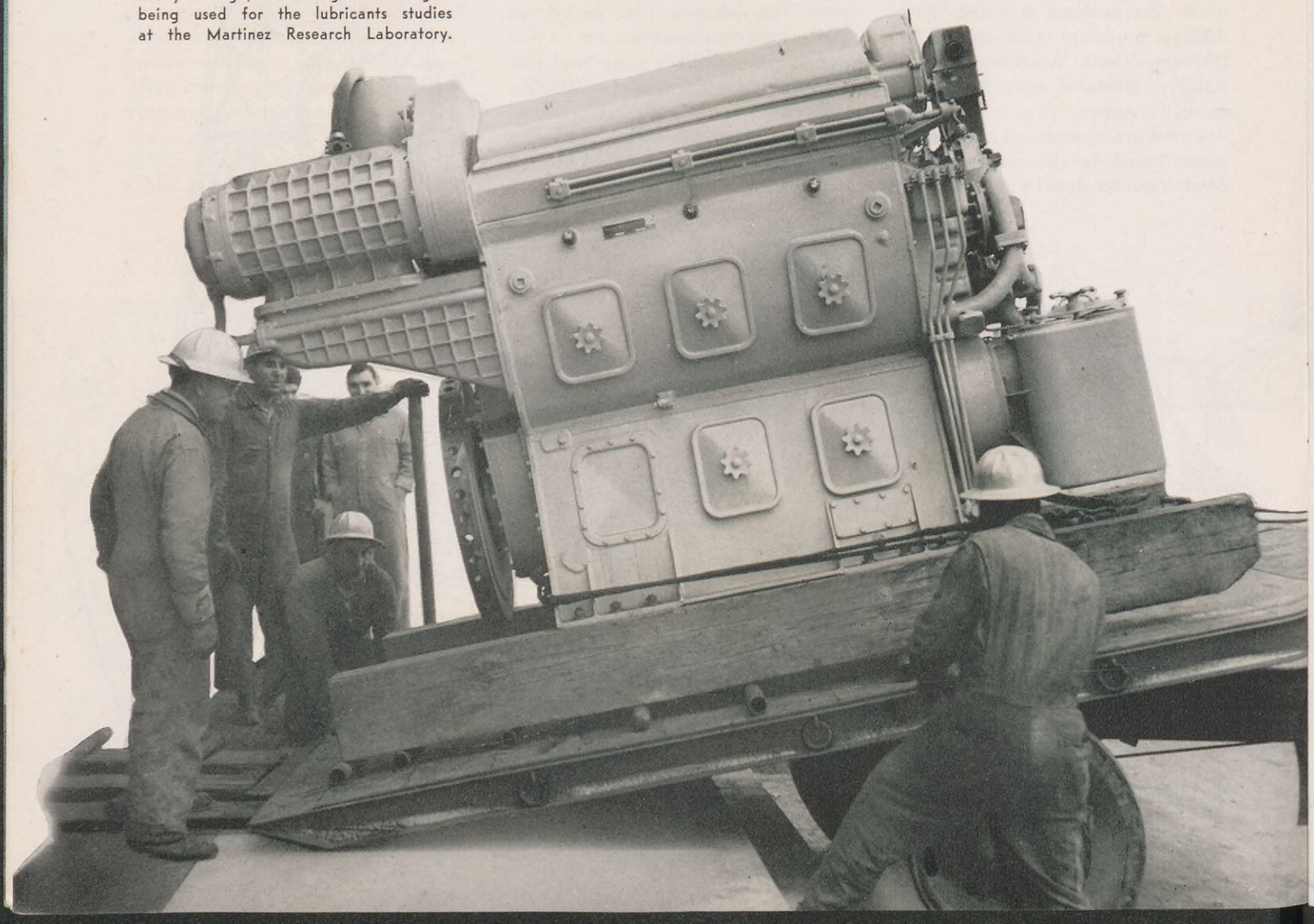
Since the driller's wife probably brought up her original complaint because she was getting a little tired of handling the same old things every day, perhaps on second thought, she wouldn't want his old job after all.

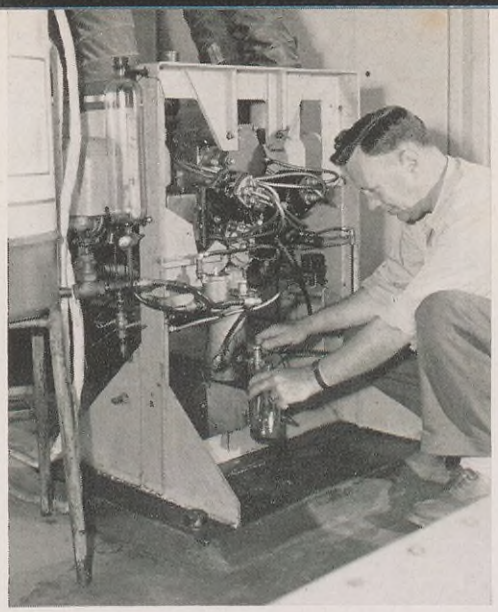


why "*incomparable*"?

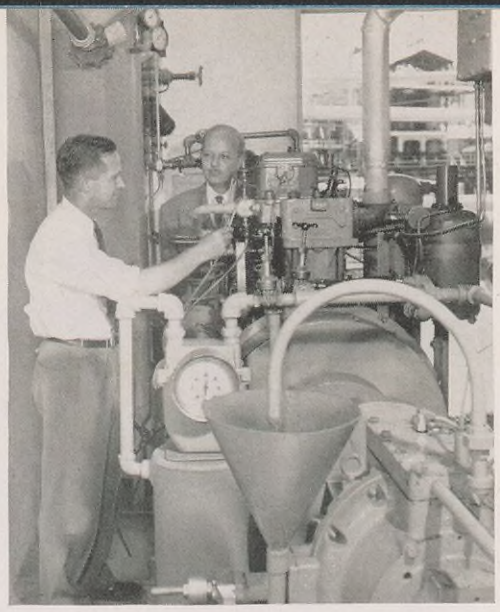
Extensive Research and Rigid Testing of Shell Lubricants Insure Better Performance In Industrial, Aviation and Railroad Engines and Give The Motorist More Purr Per Gallon

A multi-ton railroad diesel engine, installed two years ago, is the largest test engine being used for the lubricants studies at the Martinez Research Laboratory.

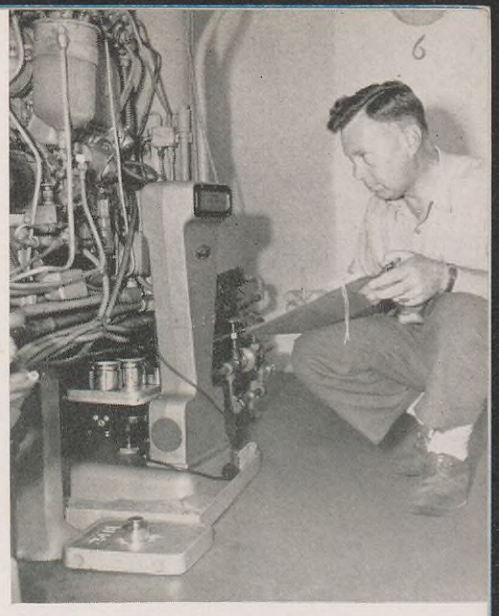




Anti-wear and oil consumption studies are made in this mounted aircraft engine, above. It is a type of engine commonly used in small private planes.



Discussing a test on heavy diesel oils at Martinez are Chief Research Engineer John Edgar, above left, and Dr. William Bailey, Jr., Research Director.



The scale attached to this diesel engine automatically weighs the experimental oil being tested in it.

ON today's super highways and in congested city traffic the engines of passenger autos, trucks and buses are put through gruelling high speed and stop-and-go tests. But, despite the fact that engines are smaller than they were a few years back, they have more power and operate longer and more smoothly than ever before. Modern drivers expect—and are getting—more purr per gallon.

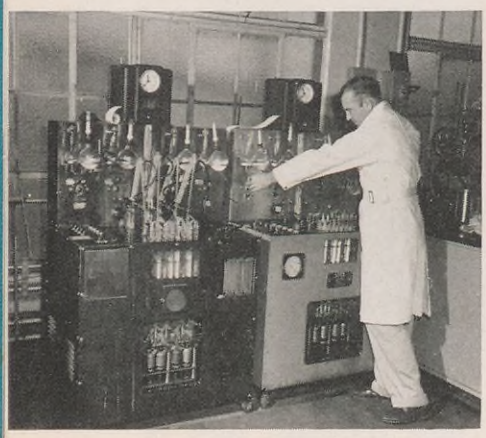
Why? You can find an answer on the drawing boards of automobile manufacturers. You can also find an answer in research and testing laboratories like the ones that Shell operates at several points across the nation. Through continuous experimentation, oils, fuels and greases are being developed to match the exacting requirements of modern engines, giving them more power and longer life.

Each Shell laboratory has special fields in which it concentrates, but the major portion of the practical research on lubricants for all types of machinery is done in the product development laboratories located at the Martinez and Wood River Refineries. These two laboratories conduct highly coordinated programs on additive type motor oils and each has an important role when a new Shell lubricant runs the gauntlet of extreme tests of temperature, stress and longevity before it can be released for general use.

The Martinez Research Laboratory specializes in heavy duty lubricants, aircraft greases and railroad diesel oils, in addition to its very important contributions to automotive lubricants research. From the engine testing blocks and the "rig rooms" filled with amazing "killer" testing machines come Shell lubricants capable of handling extreme temperatures, loads, and speeds. The men who operate the test equipment are recognized authori-

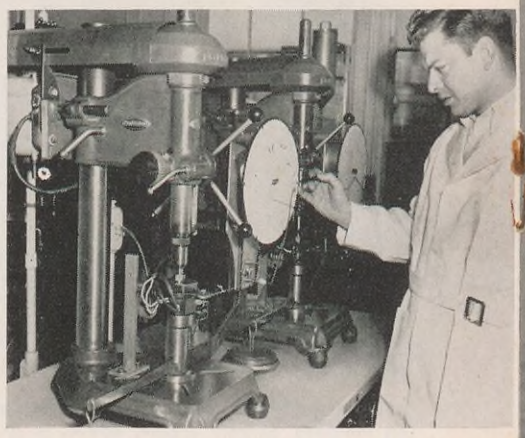
Lubricants get both hot and cold treatment. In the low temperature pressure viscometer, left below, greases can be tested at 100 degrees below zero. In the high temperature wheel bearing tester, below right, greases are subjected to temperatures as high as 275 degrees Fahrenheit.

The apparatus below determines how much oxygen an oil can absorb and still retain its lubricating qualities.



After several hundred hours of high temperature exposure in a grease rolling tester, a grease is given a "penetration" test, below, to see if it breaks down.

Friction and wear are measured on the battery of Shell four-ball testing machines, below. The charts record the amount of friction.



ties on all types of engines and lubricants. They use the internal combustion engine like a medical researcher uses a guinea pig, and the improvements they have created make yesteryear's axle grease and mineral oil as outdated as the Model "T" Ford.

New Shell X-100

Some of the "incomparable" components in the new Shell X-100 Motor Oil, now being featured in the Company's national advertising, were developed as a result of studies at Martinez. The purpose of the experiments was to determine the anti-wear properties of various heavy duty oils. Laboratory tests included many hundreds of hours of controlled testing on four single-cylinder and other heavy duty Caterpillar engines. In addition, field tests were made in cooperation with the Caterpillar Tractor Company on huge earth moving equipment, and also on seagoing vessels, and on pumping and electrical generator engines in widely separated locations in California, Arizona and Nevada.

The results of this cooperative study, published in a paper presented before the Society of Automotive Engineers, showed that Shell's specially prepared heavy duty engine oils were superior products. The anti-wear and cleaning additives insured increased engine life with resultant savings in the cost of operation. Shell Rimula Oil, a revolutionary new lubricant developed from this research, has become a standard of quality necessary for successful operation of high output diesel engines which could not be lubricated satisfactorily by other oils.

The research had other happy results. Additional studies on convential automotive engines converted this new-found lubricating knowledge to everyday use for automobile owners by adapting the additives for motor oils. Laboratory men estimate that one-half of the 700 tons of iron worn away from the cylinder walls of United States passenger car engines each year is needless waste. And Shell scientists say much of this expensive wear load could be prevented by use of the Company's new anti-wear lubricants.

Some of the equipment being used at the Martinez research laboratory for testing is "incomparable" too. Take the General Motors 3-71, 2-cycle, diesel engine or the Continental 85, 4-cylinder, air-cooled aircraft engine as examples. Both have been set up to test engine oil consumption, and the ability of the oil to prevent cylinder wear. Ingenious instrumentation enables the operator to tell from minute to minute just how much oil is being consumed in either engine. By the use of radioisotope tracers or by chemically measuring the amount of iron in drained samples, the wear of the engine and the condition of the oil are determined.

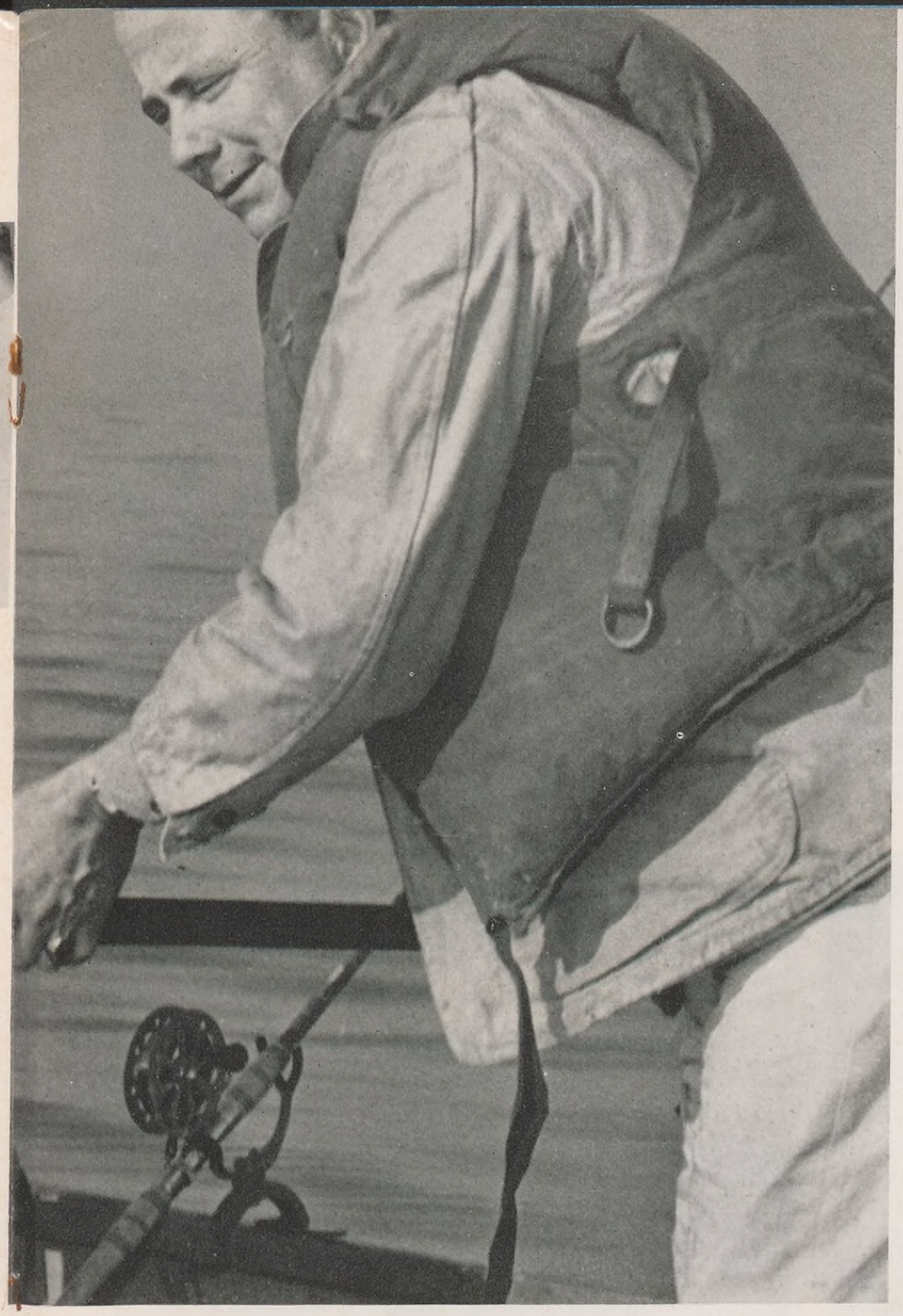
On the diesel engine, a separate oil pan rests on a scale under the engine, and the oil consumption is measured by weight. A separate oil pump circulates the oil, controlling the volume and rate of flow. A thermostatically controlled unit heats and cools the oil according to the type of test being made. By a slightly different technique, similar tests are run on the aircraft engine of the type used in light sports planes. Other controllable factors include the engine speed and engine load as well as fuel consumption.

Both engines are equipped so that oil changes can be made by successive flushings without shutting down. In this way different oils can be tested during the initial "high use" period of the new engine, when it is consuming the most lubricating oil. Or the tests can be made when the engine has settled down to a "low use" period. As the engine wears out, a second "high use" period develops.

Better Oils

Better oils are judged by their ability to delay the approach of the second "high use" phase of the engine's life span. If only one oil is being tested, a complete history is obtained through all three periods—the complete life of the engine. A series of tests may last for more than 1,000 operating hours. In mileage, that compares to 50,000 miles or more. In severe short-time tests the engine is run night and day and data comparing one oil with another can be compiled in as little as 48 hours.

Testing products is continuous work.



ONCE a year the Pacific salmon come churning out of the sea on their way upstream to spawning grounds in West Coast rivers. And once a year a horde of eager anglers come churning out of their offices and plants to meet the challenge. From Oregon to Alaska the annual salmon run is a mecca for fishermen who like to catch the big ones, and the sport has grown world-famous for its Salmon Derbies . . . large and small.

Employees of Shell's two Marketing Divisions in the Northwest—Seattle and Portland—are not immune to the lure of salmon fishing. Each year they hold their own Company Salmon Derbies, offering prizes for the best—or luckiest—anglers and pleasure for all. The Seattle Marketing Division has staged its annual salmon outing for the past 20 years.

This year Shell's salmon fishermen in the two Divisions tried their luck only 24 hours apart. On a recent Saturday more than 100 Portland Division employees and their guests boarded six chartered cruisers for a full day of fishing eight miles off the Oregon coast. They caught a total of 250 pounds of fighting fish. No records were broken, but Leonard King of the Salem District was the champion of the day, hooking a 10-pound silver salmon.

The next day at Seattle, 70 employees and their guests shoved off at dawn in skiffs and dinghies to fish the waters of Puget Sound off Tacoma. Their incentive was an outboard motor, offered as a prize for the largest salmon. It went to D. R. Winans of the Harbor Island Terminal, who boated a 14-pounder.

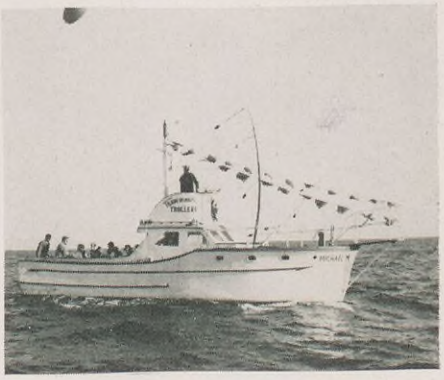
Back from the long but exciting day of salmon fishing in Puget Sound, the Seattle fishermen gathered on the boat landing after the Derby to pack their fishing gear and swap stories about the "big ones." Conjecture ran high and most of the talk centered around the possible outcome of the Derby.

Two attractive Seattle Division Office anglers, Helen Cameron, left, and Lorraine Eves, right, took time out from the story-telling to admire the prize-winning salmon of their more fortunate fishing companions who displayed and recorded their catch when the day of fishing was over.

Salmon Fishing continued

The first Portland Anglers to drop lines over the side are shown waiting for their first bite. Those in front are (l. to r.), Terrie Chesak, Jerry Evans, Marcie Reese and Arthur Johnson.

More than 50 pounds of silver salmon is represented as some of the Portland Division anglers hold up their catch. They are (l. to r.): R. G. Weber, Wayne Smith, Arthur Johnson, W. Van Den Berg, Mrs. Wayne Smith and George Birkinshaw.



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The "Michael M," one of the fishing cruisers, is shown trolling eight miles out, while the 16 Portland employees aboard test their lines and bait.

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Shortly after dawn six large fishing cruisers were boarded by nearly 100 Portland Marketing Division employees and their guests and the boats headed out to deep waters off the Oregon coast.

<

A picture of a perfectly contented angler, George Birkinshaw, of the Portland "crew," sits on the bow of the "Kingfisher" and waits for a bite.

Phyllis Blackstead of the Portland Division Office tells Leonard King of the Eugene District about the inevitable "big one that got away."

>

fill 'er up, big boy

DID you ever watch a big four-engine airliner taxi up to an airport terminal building and discharge its passengers? Chances are you were meeting someone on the plane and, intent on scanning the passengers' faces, you didn't notice the sudden boil of activity around the plane itself. Like ants to a picnic basket, a small army of vehicles converged on the airliner; one to unload baggage, another to load more on, one to stock the plane with food, another to clean or air-condition it. Biggest of the lot was a refueling truck intent on servicing the plane in the few minutes' lapse between arrival and the next scheduled departure.

This business of jockeying for space in the traffic under a plane's wing, then refueling as quickly as possible, has been the subject of a major post-war project in Shell's Marketing Operations Department. As a result, they've developed *Big Boy*, a highly maneuverable refueler big enough to carry 4,400 gallons of aviation fuel —enough for a transcontinental flight.

Big Boy has been around since 1948, but he's grown some since then. His story really goes back to the post-war return of peace-time passenger flights. Heeding predictions of a rapid expansion in civil aviation, Shell's aviation experts set out to develop a refueler to fill the bill. They studied all the passenger planes on the drawing boards at the time and decided to concentrate on a refueler that would go with four-engined, tricycle landing gear planes. This meant the ideal truck could be 10 to 11 feet high and still get under a plane's wing. It would also have a short chassis to make it maneuverable in cramped areas.

In 1948 the first Big Boy, a 4,000-gallon experimental model was built and lent consecutively to several air lines to get their reactions and opinions. Shell men sat in on air line conferences and revamped Big Boy as new suggestions came up. In 1950 they added a working platform atop the truck. They also installed an improved pump to replace two previously carried and added 200 gallons of capacity as a result of the weight saved. This year they simplified the design even more and added another 200 gallons of capacity. Big Boy had started out as a six-wheeler, but a newly perfected heavy duty rear axle has made it possible to cut the number to four, thus decreasing required turning space.

With these improvements, eight of the refuelers were built and put into service this year. Twenty more are on order for 1953. Up-to-the-minute improvements will be made in these 20 as they develop.

Big Boy is used far and wide. So far the new type refueler has seen service at the air terminals of New York, Houston, St. Louis, Dayton, Chicago, Cincinnati, San Francisco, and at Charlotte, N. C., where most of the experimental trials were run.

At present Shell leases the refuelers to Eastern Air Lines, Colonial Airlines, United Air Lines, and TWA. Eastern Air Lines reports that where they've used Big Boy they've cut down fueling time by 45 per cent.

Mayor Quigley

A Shell Pensioner Turns to Politics As an After-Retirement Career and Puts His Administrative Abilities To Work In a New Jersey Township

The name on the door of the mayor's office had not changed for 18 years until Hugh B. Quigley was elected. When he was sworn in last New Year's Day, below, his granddaughter, Kathryn Quigley, held the Bible.

—Photo by Independent-Leader, Woodbridge, N. J.

MAYOR Hugh B. Quigley of Woodbridge, New Jersey, is a Johnny-come-lately to the political scene. At a time in life when some men would be thinking of retiring to the peace and quiet of a hammock on the lawn, His Honor launched himself into a full-time career of public service. After nearly a quarter-century as a Shell employee, he is demonstrating in an outstanding way that the post-retirement period contains years of interesting and useful activity.

As a private citizen, Hugh B. Quigley had 20 years of accredited Shell service on the books. He retired on the last day of 1949 as Plant Superintendent of the Company's big compounding and distributing plant at Sewaren, New Jersey.

Nearly all of Mr. Quigley's Shell years were spent at Sewaren—which is a part of Woodbridge Township—and during that time he became widely known for his varied civic activities. He was an active participant, for example, in such things as the wartime U.S.O., Red Cross drives and Boy Scouts' activities. He is chairman of the Middlesex County Polio Chapter and he organized the township Civil Defense set-up and became its chairman.

This type of time-filling civic work alone would have been enough for the average man, but not for the energetic Mr. Quigley. Taking heed of the urgings of friends, he entered his name in the 1951 municipal election. Mayor Quigley won the election by a majority of about 2,000 votes—a big margin for an election in which only about 16,000 votes were cast.

When His Honor took over the mayor's gavel last New Year's Day he made it apparent that Woodbridge had elected a man with a detailed knowledge of the township's needs and problems. In his inaugural address Mayor Quigley stressed four major local problems needing solutions: Sewage and waste disposal, overcrowded school facilities, need for a 40-hour week for police, and need for parking facilities on overcrowded streets.

In reporting the speech, Woodbridge's newspaper, the Independent-

They Have Retired

C. ARZILLI
Wilmington Refinery
Engineering

E. C. DAVIS
Tulsa Area
Production

N. B. EAVES
Shell Pipe Line Corp.
Texas-Gulf Area

S. JOHN
Pacific Coast Area
Production

L. KELLER
Norco Refinery
Engineering

W. E. MARTIN
Tulsa Area
Production

A. McDONALD
Shell Chemical Corp.
Torrance Plant

F. M. MORGAN
Pacific Coast Area
Production

H. L. RICHMOND
Pacific Coast Area
Production

J. C. SMITH
Pacific Coast Area
Production

W. A. SMITH
Shell Pipe Line Corp.
Texas-Gulf Area

M. R. SNYDER
Portland Division
Operations

S. J. SORENSEN
Sewaren Plant
Engineering

H. L. TANNER
Martinez Refinery
Engineering

G. P. TAYLOR
Chicago Division
Operations

A. TURRIN
Martinez Refinery
Engineering

N. O. VOORHEIS
Sacramento Division
Sales

O. L. WILHOLD
Wood River Refinery
Operations

D. G. WOEHRMAN
St. Louis Division
Operations

coast to coast

D. C. Marschner, Advertising and Sales Promotion Manager, Head Office, has recently been named judge of the National Essay Contest for High School Students sponsored by the Advertising Federation of America.

Purchasing-Stores employees of the Houston Office were recent visitors to the Corpus Christi Office. During their visit they boarded a boat and were shown offshore drilling procedure. In the above picture, H. F. Letts explains a technical drilling point to Houston visitors Madalyn Hegar, Gladys Smith and Joan Varnon.

Members of the Calgary Area Fastball team, which won the "A" Division championship in the Calgary Petroleum Fastball Association League were (back row, left to right) J. Labuda, D. Craig, R. Jackson, L. Thorne, N. Dunne and A. Bancroft; (front row, left to right) L. Stevens, V. Brewer and J. Bray. The game of Fastball uses the regulations of Softball with modifications including the over-hand pitch.

Service Birthdays

Thirty-Five Years

W. C. DAVIS
Martinez Refinery
Distilling

G. J. VANNI
Martinez Refinery
Distilling

Thirty Years

F. H. BANGERT
Wood River Refinery
Dispatching

B. M. BASSHAM
Wilmington Refinery
Operations

W. F. BENSON
Los Angeles Division
Treasury

W. E. BLAKEMORE
Pacific Coast Area
Production

L. J. CHRISTEN
Martinez Refinery
Cracking

O. H. DAY
Products Pipe Line
Clinton, Ill.

C. S. DUCA
Martinez Refinery
Compounding

V. H. EGGEMAN
St. Louis Division
Purchasing-Stores

T. L. GROPPEL
Wood River Refinery
Dispatching

S. C. HAYES
Wood River Refinery
Dispatching

W. B. LEONARD
Wood River Refinery
Dispatching

J. LEVADA JR.
Shell Chemical Corp.
Torrance Plant

H. M. MATSON
Pacific Coast Area
Production

J. H. MAULE
Seattle Division
Operations

W. R. MITCHELL
Wood River Refinery
Engineering

C. J. NOBMANN
Head Office
Marketing

W. F. O'HAIR
Wood River Refinery
Engineering

M. A. ROGERS
Houston Refinery
Administration

A. E. ROSE
Wood River Refinery
Treasury

C. W. RYAN
Wood River Refinery
Lubricating Oils

F. H. SCHLAPPRIZZI
Head Office
Prov. Fund & Pen. Trust

JOSEPH SORSOLI
Martinez Refinery
Compounding

O. J. TINDELL
Los Angeles Division
Operations

C. J. VEALE
Sacramento Division
Treasury

G. E. WESTENRIDER
Martinez Refinery
Stores

Twenty-Five Years

H. ANDES
Products Pipe Line
DeWitt, Ill.

J. H. ANDREWS
Martinez Refinery
Dispatching

C. A. BEAR
Tulsa Area
Production

G. L. BAKER
Pacific Coast Area
Production

J. E. BERNOU
San Francisco Office
Transp. & Supplies

C. O. BLACKBURN
Wilmington Refinery
Control Laboratory

T. A. BOLSTER
Seattle Division
Operations

C. F. BUTCHER
Shell Pipe Line Corp.
West Texas Area

A. B. CRAIG
Pacific Coast Area
Production

R. V. DONNOHUE
Martinez Refinery
Lubricating Oils

L. L. DUNCAN
Head Office
Treasury

K. R. EDLUND
Shell Devel. Co.
Associate Director

H. H. FLETCHER
Wood River Refinery
Lubricating Oils

I. E. GAITHER
Shell Pipe Line Corp.
Texas-Gulf Area

R. C. GALENTINE
Houston Area
Automotive

J. E. GINN
Shell Pipe Line Corp.
Mid-Continent Area

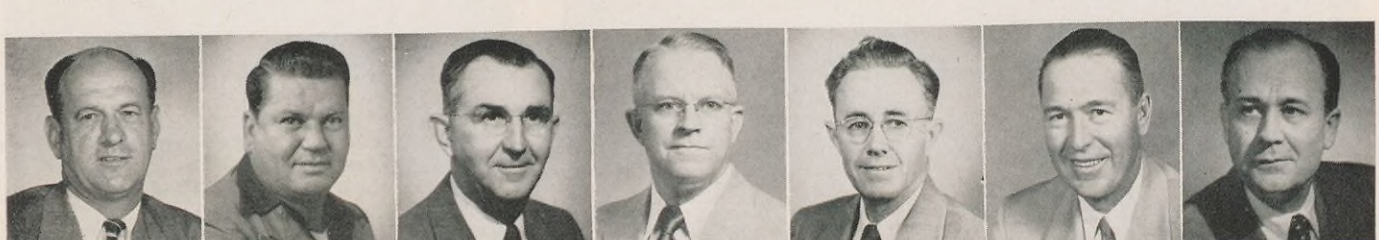
W. J. GRANLUND
Martinez Refinery
Engineering

F. J. HAHN
Cleveland Division
Operations

W. B. HECKLEY
San Francisco Div.
Operations

R. E. HICKMAN
Shell Pipe Line Corp.
Head Office

J. M. KEENAN
Indianapolis Div.
Operations



H. C. KINZEL
Wilmington Refinery
Dispatching

V. P. LAMOUETTE
Portland Div.
Operations

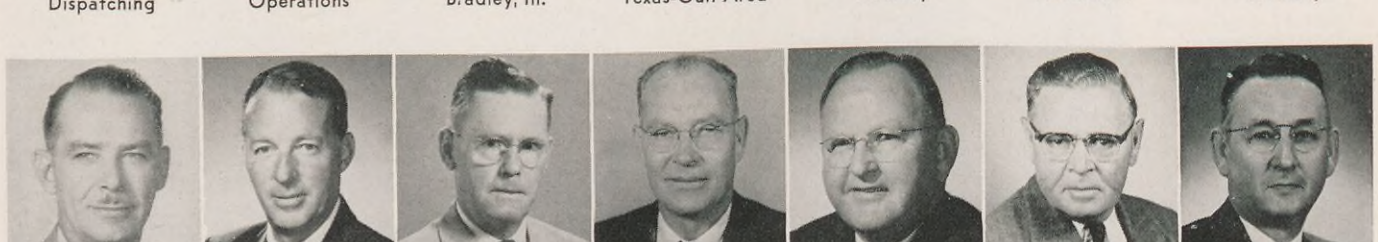
F. J. LEHMANN
Products Pipe Line
Bradley, Ill.

B. J. LONGSHORE
Shell Pipe Line Corp.
Texas-Gulf Area

A. C. LYTLE
Martinez Refinery
Treasury

P. D. MARTIN
Pacific Coast Area
Production

I. R. MJOEN
Tulsa Area
Treasury



R. C. NICHOLSON
Shell Pipe Line Corp.
Head Office

R. A. NORTON
San Francisco Office
Transp. & Supplies

C. T. ORR
Shell Pipe Line Corp.
Texas-Gulf Area

W. S. PARKER
Pacific Coast Area
Production

D. H. PECK
Pacific Coast Area
Production

P. M. PHILLIPS
Martinez Refinery
Control Laboratory

E. POGUE
Indianapolis Div.
Sales

S. RANDALL
Martinez Refinery
Cracking

L. T. RASMUSSON
Pacific Coast Area
Production

J. T. REEVES
Midland Area
Production

G. M. ROSE
Wood River Refinery
Control Laboratory

W. SCHLESINGER
St. Louis Div.
Operations

M. F. SHAPPELL
Tulsa Area
Production

F. N. SHRIVER
Midland Area
Treasury

J. C. SINCLAIR
Shell Pipe Line Corp.
West Texas Area

A. SKIOLVIG
Head Office
Manufacturing

L. SPRAGIO
New Orleans Area
Production

E. V. STEPHENSON
Houston Area
Production

V. E. STURGEON
Wood River Refinery
Engineering

W. TEMPLAAR-LIETZ
Pacific Coast Area
Production

R. H. TUCKER
Wood River Refinery
Distilling

F. H. VASEL
St. Louis Division
Operations

I. L. WIGGER
Wood River Refinery
Engineering

L. T. WITTER
Wood River Refinery
Utilities

H. H. WOOD
San Francisco Office
Transp. & Supplies

SHELL OIL COMPANY

Head Office

20 Years

J. J. Davis . . . Provident Fund & Pension Trust

15 Years

G. R. Smith . . . . . Transportation & Supplies

10 Years

Elizabeth V. Andrews . . . . . Treasury
Myra F. Pollard . . . . . Marketing
B. F. Ruffin . . . . . Treasury
R. Q. Whidden . . . . . Treasury

San Francisco Office

15 Years

O. R. M. S. Montefiore . . . . . Trans. & Supplies

Exploration and Production

TECHNICAL DIVISION
(HOUSTON)

15 Years

C. L. Rabe . . . . . Technical Service

10 Years

M. Johnson . . . . . Research

HOUSTON AREA

20 Years

F. P. Cline . . . . . Production

15 Years

J. F. W. Jones . . . . . Production
L. J. Rains, Jr. . . . . Land
M. E. Toerck . . . . . Production

10 Years

E. A. Asher . . . . . Treasury
P. K. Lansdell . . . . . Exploration
B. S. Lewis . . . . . Production

MIDLAND AREA

15 Years

T. A. Abernathy . . . . . Treasury
C. W. Stephenson . . . . . Exploration

10 Years

R. D. Griggers . . . . . Production

NEW ORLEANS AREA

20 Years

L. S. Broussard . . . . . Production
V. L. Judice . . . . . Production

15 Years

E. C. Abell . . . . . Land
A. C. Blanchard . . . . . Production
C. Granger . . . . . Production

10 Years

R. A. Howard . . . . . Production

PACIFIC COAST AREA

20 Years

M. F. Laiblin . . . . . Production
C. E. Robinson . . . . . Production

15 Years

W. J. Chrisman . . . . . Production
H. L. Popenoe, Jr. . . . . Exploration
L. M. Wade . . . . . Production

10 Years

H. E. Blunk . . . . . Production
L. J. Fields . . . . . Production
Eleanor M. Halliwell . . . . . Production
Lois T. Martin . . . . . Exploration
D. A. Reese . . . . . Production
O. D. Robbins . . . . . Production
J. B. Sams . . . . . Production

TULSA AREA

15 Years

V. T. Gaines.....Gas
C. T. Gariepy.....Production
J. W. Sutton.....Production

10 Years

H. G. Moffat.....Treasury
H. E. Sherrow.....Production
V. P. Whitlock.....Exploration

Manufacturing

HOUSTON REFINERY

20 Years

W. O. Pinkston.....Treating

15 Years

J. B. Clarke.....Engineering
C. A. Wolfe.....Gas
R. W. Woods.....Engineering
C. D. Young, Jr.....Control Laboratory

10 Years

T. H. Cochran.....Catalytic Cracking
J. J. A. Criesmon.....Control Laboratory
C. L. Davis.....Engineering
B. T. Ferguson.....Control Laboratory
W. E. Guin.....Engineering
C. E. Henderson.....Lubricating Oils
C. W. Herren.....Engineering
P. N. Lowe.....Catalytic Cracking
W. L. Ovand.....Engineering
M. R. Schultz.....Cracking
E. L. R. Steck.....Cracking
W. H. Steil.....Distilling
D. Thomas.....Engineering
J. C. Valley.....Engineering
C. O. Warner, Jr.....Engineering
A. G. Woodland, Jr.....Lubricating Oils
R. Woodworth.....Engineering
H. C. Yackel.....Engineering

MARTINEZ REFINERY

15 Years

J. G. Chiappino.....Engineering
E. W. Johnson.....Distilling
J. E. Piel.....Cracking

10 Years

J. J. Macaluso, Jr.....Stores
A. Seibel.....Research Laboratory
L. E. W. Van Dyke.....Engineering

NORCO REFINERY

20 Years

F. J. Breaud.....Cracking

WILMINGTON REFINERY

20 Years

P. J. Albright.....Treasury

10 Years

C. T. Allen.....Engineering
T. E. Rutledge.....Engineering
C. Trombatore.....Dispatching

WOOD RIVER REFINERY

20 Years

J. R. Anderson.....Engineering
J. L. Coburn.....Engineering
W. Reed.....Engineering
R. J. Waterfall.....Engineering

15 Years

F. Bugg.....Engineering
V. J. Ellis.....Alkylation
C. O. Hendrick.....Engineering
W. C. Krupski.....Treasury
R. A. Reed.....Railroad Section
A. P. Texada, Jr.....Research Laboratory
E. H. Uhley.....Engineering

10 Years

J. L. Black.....Engineering
J. H. Cherry.....Utilities
F. B. Darr.....Fire & Safety
W. H. Dennis.....Compounding
C. L. Donahoo.....Distilling
R. B. Edwards.....Treasury
R. J. Frederick.....Engineering
A. W. Gobble.....Control Laboratory
E. P. Goss.....Engineering
V. A. Huber.....Utilities
A. R. Johnson.....Compounding
O. S. Johnson.....Engineering
H. E. Jones.....Engineering
L. P. Noeltner.....Engineering
L. L. Pieper.....Engineering
G. E. Ranek.....Control Laboratory
M. L. Roller.....Treasury
F. W. C. Schuette.....Engineering
A. H. Spaulding.....Gas
W. A. Stone.....Compounding
H. V. Tune.....Lubricating
S. Uhas.....Compounding
R. E. Weber.....Engineering

Marketing

MARKETING DIVISIONS

20 Years

E. L. Markle.....Albany, Sales
J. G. Cribbs.....Baltimore, Real Estate
J. J. Wright.....Boston, Operations
J. A. Waldie.....Chicago, Treasury
H. W. Campbell.....Cleveland, Operations
J. R. Kefgen.....Cleveland, Operations
A. M. Cowan.....Indianapolis, Sales
T. C. Shanley.....Indianapolis, Sales
A. X. Davis.....Los Angeles, Operations
G. W. Tanner.....Los Angeles, Treasury
I. D. Hubbard.....New York, Sales
J. S. Friedman.....Sacramento, Treasury
J. P. Broome.....St. Louis, Operations
L. H. Tomlinson.....Seattle, Sales

15 Years

R. E. Jones.....Chicago, Sales
M. W. Bryant.....Los Angeles, Sales
C. J. Kelly.....Los Angeles, Operations
C. H. Aust.....Portland, Operations
W. L. Gordon.....St. Louis, Sales

10 Years

M. T. Adams.....Atlanta, Administration
R. D. Curry.....Atlanta, Sales
V. Franks.....Atlanta, Treasury
G. L. Till.....Atlanta, Operations
P. F. Lord.....Boston, Operations
J. L. Reeves.....Boston, Operations
Adeline C. Hecksel.....Chicago, Treasury
Margaret L. Van Sickle..Chicago, Operations
Pauline H. McDermott...Cleveland, Treasury
Florence A. Curran....Los Angeles, Treasury
J. Ganes.....Los Angeles, Operations
R. L. Glover.....Los Angeles, Operations
A. H. Hansen.....Minneapolis, Operations
A. D. Paul.....Minneapolis, Operations
Marie E. Rose.....Minneapolis, Operations
F. P. Wasko.....Minneapolis, Operations
A. Di Pierro.....New York, Operations
A. R. Fahland.....New York, Treasury
H. J. Bailey.....Portland, Treasury
E. C. Thomson.....St. Louis, Operations
L. C. Graves.....Seattle, Operations

SEWAREN PLANT

20 Years

C. Serak.....Compounding

10 Years

J. Halas.....Engineering

Products Pipe Line

15 Years

O. K. Johnson.....Springfield, Ohio

10 Years

J. R. Bowman.....East Chicago, Ind.
L. D. Cantrell.....Spartanburg, S. C.
R. L. Latini.....West Boylston, Mass.
C. H. Wilson.....Greensboro, N. C.

SHELL CHEMICAL CORPORATION

20 Years

R. A. Nelson.....Shell Point

15 Years

M. A. Elledge.....Houston
F. Burton.....Shell Point

10 Years

H. A. Tarrant.....Dominguez
M. D. Ayers.....Houston
J. T. Blake.....Houston
W. E. Fulenwider, Jr.....Houston
A. L. Hall.....Houston
H. D. Hicks.....Houston
D. V. Jewell.....Houston
J. M. Moates.....Houston
C. D. Austin.....Martinez
E. C. Savage.....Shell Point
Jane M. Stillings.....Western Division

SHELL DEVELOPMENT COMPANY

20 Years

A. Wachter.....Corrosion

15 Years

W. W. Kerlin.....Lubricants & Fuels
D. D. Tunnicliff.....Spectroscopic

10 Years

G. A. Arel.....Market Development
S. G. Balestrieri.....Petroleum Refining
C. J. Forno...Fuels & Lubricants Engineering
E. E. Nyberg.....Photographic & Duplicating

SHELL PIPE LINE CORPORATION

15 Years

F. B. Estes.....West Texas Area
L. M. Weitzel.....Mid-Continent Area

10 Years

B. L. Burnett.....Mid-Continent Area
J. E. Byrd.....Bayou System
L. W. Fisher.....West Texas Area
J. B. Green.....West Texas Area
C. L. Menville.....Head Office
K. S. Miller.....Head Office
E. W. Perry.....Texas-Gulf Area
M. C. Reed.....Mid-Continent Area
E. R. Tooley.....Mid-Continent Area

matters of *Fact*

Some time has passed since most of us named beneficiaries for our Provident Funds. Has time altered the circumstances of *your* choice?

And while you are about it, why not check your Group Life Insurance beneficiary designation and re-examine the method you have chosen for the payment of these benefits?

Your supervisor will help you answer any questions you may have.

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6510 Brookside
Houston, Tex.

SCC

A NEW CROP COMES TO THE WILLISTON BASIN

Wheat used to be virtually the only crop in North and South Dakota and eastern Montana. But these lands — comprising the Williston Basin — are now one of the greatest potential oil areas in the United States. Various oil companies had been searching the Basin for years. Some wells had been drilled but without success. Then, about three years ago, Shell began to re-explore the area, obtained millions of acres under lease, and found the first oil in the Montana part of the Basin. It will take years of hard costly work to develop oil into a paying "crop". But all signs indicate that Shell has helped pioneer another big frontier in America's oil reserves.