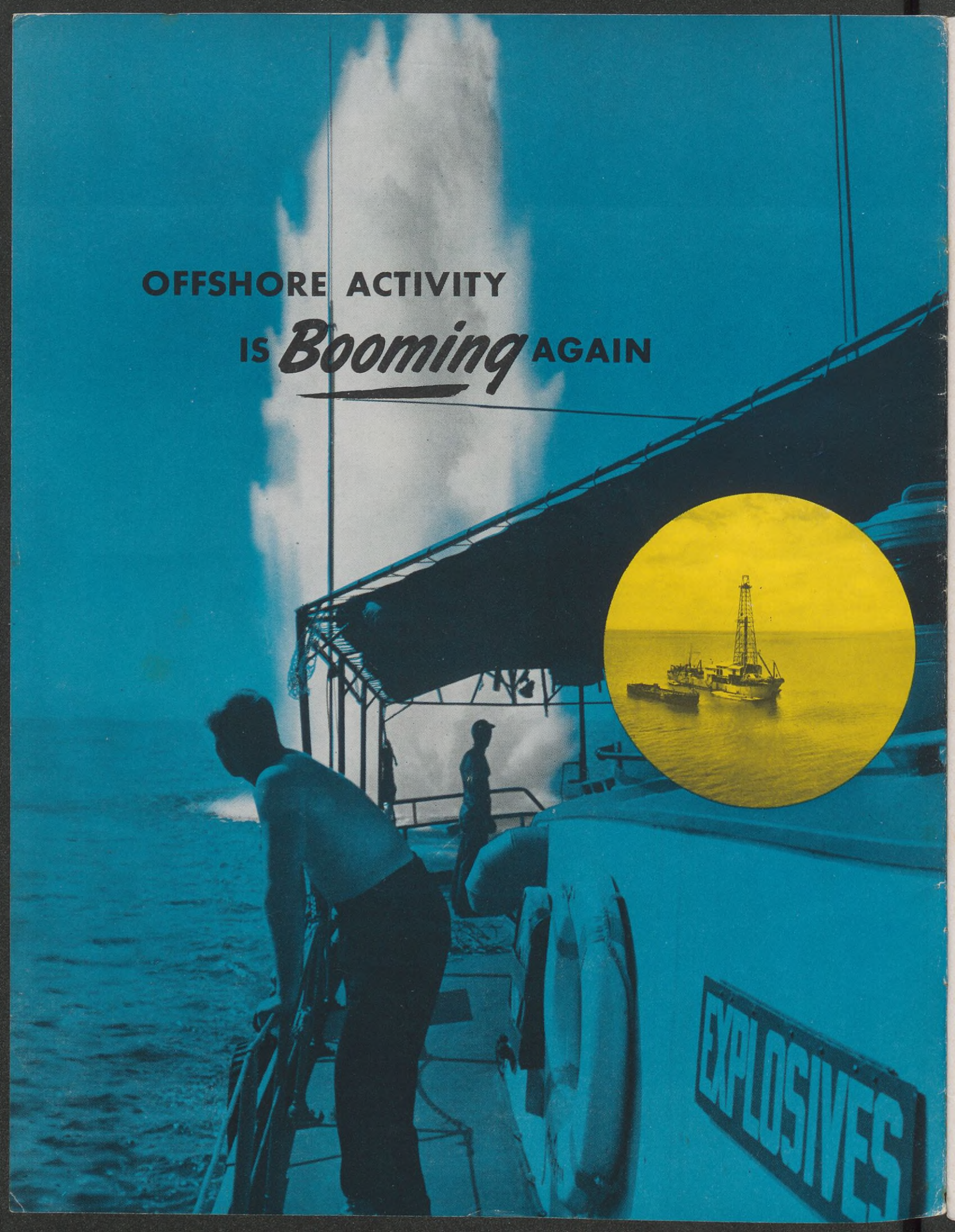
SHELL NEWS

NOVEMBER 1953

OFFSHORE ACTIVITY IS *Booming* AGAIN



After a Two Year Recess, Drilling Rigs Are Once More Pushing Out Into the Gulf of Mexico—and With Some Impressive Results

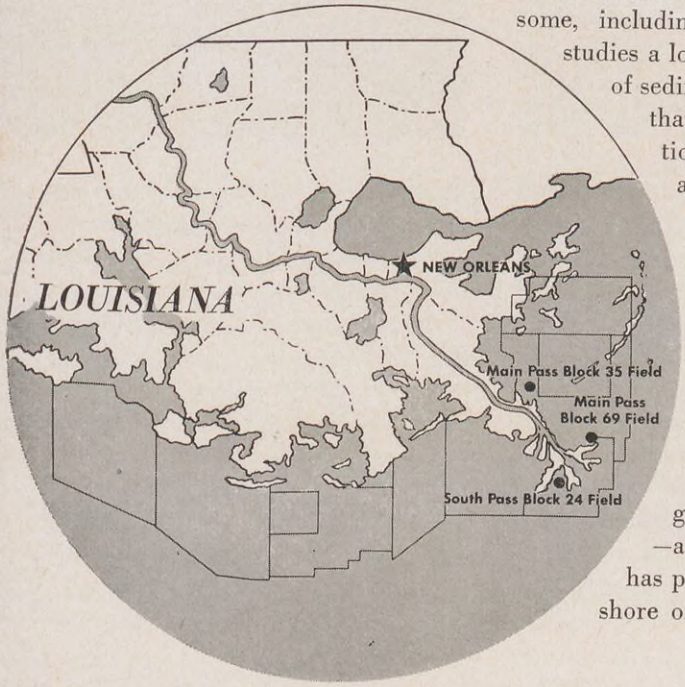
THERE is a boil of activity these days in the shallow waters of the Gulf of Mexico along the coasts of Louisiana and Texas. Now that Congress has shoved the question of so-called "tidelands" ownership off the high center where exploratory drilling was temporarily stalled, oil companies have accelerated the search for oil and gas to make up for lost time. Seismic fleets are out in force "shooting" the Gulf bottom and more offshore drilling rigs are making hole than ever before.

Oil was first discovered in the submerged lands of the Gulf only six years ago this month. Since then, even discounting the tidelands stalemate which ate up more than a third of that time, the progress of offshore exploration and development has been impressive. To date there have been no truly "offshore" discoveries along the coast of Texas, but Louisiana's offshore production by the middle of this year had totalled almost 26 million barrels of oil and distillate from more than 220 wells. There were also 23 gas wells, but most of these were shut in for lack of a market.

Shell, one of 14 companies with offshore operations, is credited with two of some 30 oil and gas fields brought in thus far off the Louisiana coast. By mid-September, all interests had drilled about 370 wells, including 130 dry holes.

Actually, Shell and a few other companies never did entirely cease operations during the period that the tidelands questions were under scrutiny. While court proceedings and Congressional debate curtailed drilling, seismic work—after a period of quiet—picked up and has been going on at a feverish pace with the several interested companies seeking to be prepared for competitive leasing that will ensue. Shell has gone further than some, including in its exploratory studies a long-range investigation of sediments on the Gulf floor that would reveal information helpful in finding oil ashore as well as under the water.

To date, offshore discoveries in the Gulf of Mexico have been made only off the coast of Louisiana. The three fields in which Shell has producing wells are shown on the map below.



Shell has been drilling off the shore of Louisiana since 1948—even to a limited extent under special permits from the Federal Government during the lag in general offshore activity—and today the Company has production in three offshore oil fields. One of these

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Employee Publications Department
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contents

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STEEL FOR STRENGTH

The welders shown on the cover of this month's SHELL NEWS are finishing the seams on the top section of a catalyst hopper before it is hoisted into position. This vessel will function as part of the new catalytic cracking unit at the Norco Refinery. The steel framework in the background will support the reactor of the unit, which will tower to the height of a 16-story building. The Norco expansion and modernization program, to be completed in 1954, will increase the refinery's crude intake capacity by 50 per cent and enable Norco to handle Shell's expanding crude oil production in Louisiana.

fields, Main Pass Block 69 (formerly called Pass a L'Outre), and a portion of another, South Pass Block 24 (formerly called East Bay), have been involved in the tidelands controversy. The third field, Main Pass Block 35 (formerly called Battledore Reef), presents most of the operating problems of offshore work, but was not involved in the tidelands question. The field is actually in Breton Sound, recognized by the Federal Government as inland water. All three fields are in the comparatively shallow waters bordering on the Mississippi River delta, and portions of these fields range out to almost three miles from land.

Of the three offshore fields, the Shell-discovered Main Pass Block 35 is the newest. And yet, with 49 wells already producing at mid-year, it has seen more activity than any offshore field in the Gulf. Shell now has 16 wells there, with five more scheduled for completion before the end of 1953. Shell's production in the field now averages about 67,000 barrels a month.

At South Pass Block 24, also discovered by Shell, the Company has drilled 19 wells with no dry holes. Under a proposed drilling program for 1954, 26 more wells are planned —three of them exploratory wells which will search for new pay sands in untested fault blocks. Current Shell production averages 4,600 barrels a day.

The Main Pass Block 69 field ranks next to Block 35 in the number of producing wells, but Shell has only three—and a hard luck story to boot. It was there in March 1949, while Shell was drilling its second well in the field, that the well blew out, caught fire and raged out of control for three weeks. It finally cratered and put itself out, but it took the drilling rig, an assortment of barges, and the first well along with it. The three wells drilled since then produce a total of 713 barrels of oil and 1,851,000 cubic feet of gas per day. A very active exploration program is planned here by Shell in 1954.

All things considered, it isn't surprising that many companies hesitate to tackle the multitudinous problems of offshore exploration and development. But for those who have ventured out into the open water—and have struck oil or gas or both—rapid development of known producing areas has made it possible to foresee a good return on investments. What's more, each success has spurred operators to get deeper into the Gulf oil play, both literally and figuratively.

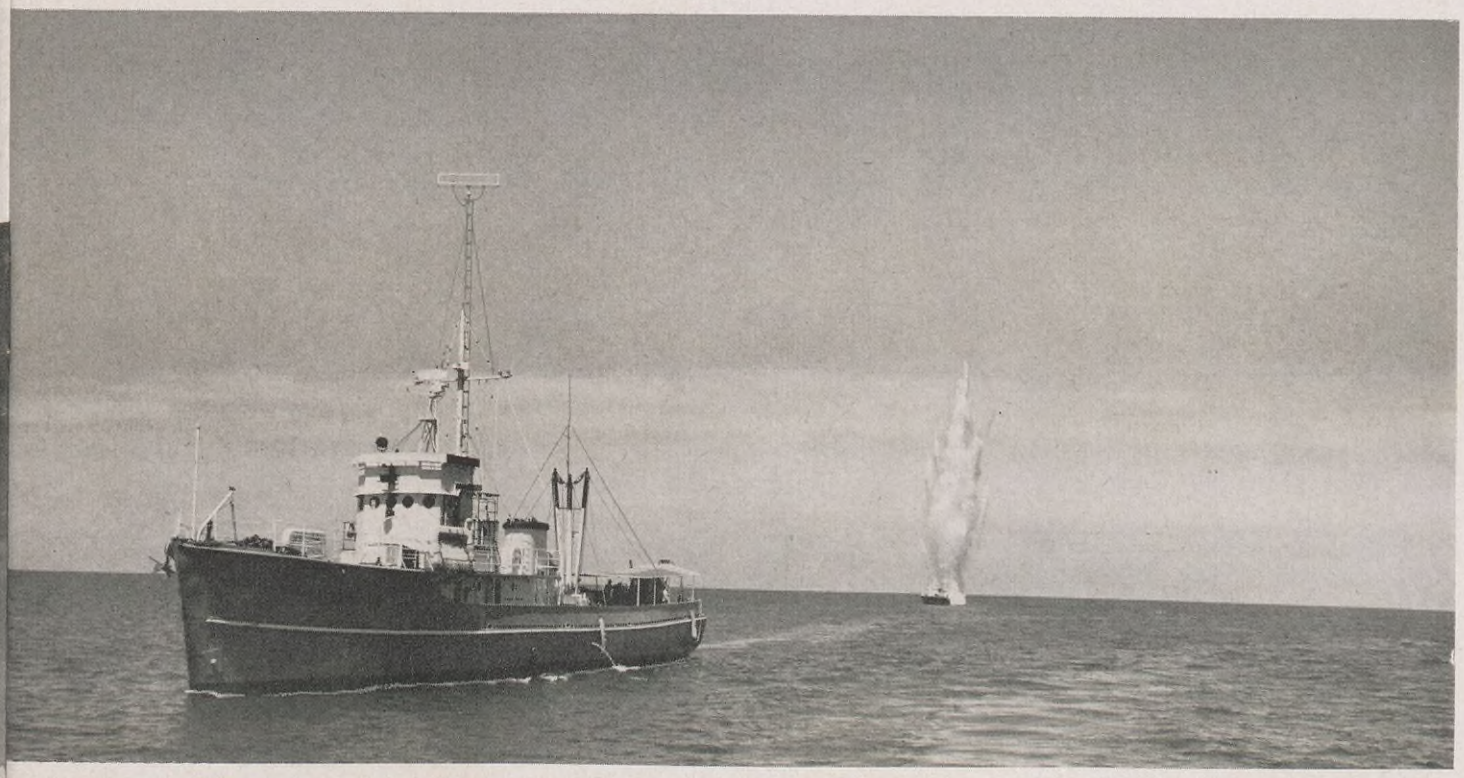
The first consideration, of course, is money. It takes plenty, for it costs two to three times as much to find and produce oil and gas in the submerged lands of the Gulf as it does to conduct comparable operations ashore.

While offshore seismic exploration with fleets of boats can be done cheaper "per shooting mile" than in most land-based operations, the huge areas that must be covered to obtain accurate information make offshore exploration an expensive and time-consuming proposition. An average month of offshore shooting will cost a company with a single crew at least $85,000. If one well-organized crew were to explore all the Gulf bottom off the coasts of Louisiana and Texas out to the depth where companies are now able to drill, it would cost an estimated $7¼ million and would take more than four years of continuous shooting. Even then the seismic coverage would be adequate only for the purpose of bidding for leases and would not necessarily be sufficiently detailed for drilling.

Cost considerations for drilling equipment and production facilities

The desert-like scene below is really a part of the booming offshore activity in the Gulf. One of two shore-based "Shoran" stations, it helps the seismic boats, right, locate shot points (by triangulation) for exploration far out in the Gulf.

Everything in the Gulf, from the smallest piling to the largest drilling platform, must be clearly marked for shipping. At left, a roustabout checks the red marker light on a Shell well.



Below, a crew on a special barge lays gathering lines from Shell's underwater wells.

A well is serviced, below, by men who travel by boat. Another well is being drilled nearby.

Routine orders and daily weather reports are received by radio and marine telephone.

adapted for operation in the open water are even more awe inspiring. Some elements of drilling operations cost 10 times as much as comparable shore-based ones doing the same job. In order to venture out into fairly deep water, it is necessary to erect elaborate drilling platforms which will withstand the onslaughts of wind, waves, and tides. In the shallow waters where Shell has done most of its drilling, the Company has found it more practical to build up a foundation of sea shells, then sink a drilling barge on top of this firm base. Even so, a series of pilings must be driven to anchor the barge and keep it from shifting.

Since much of the area is used by ships approaching and departing from the various entrances to the Mississippi River, and by the fishing and shrimp fleets, specific permission must be obtained to erect any sort of obstruction from the smallest piling to the largest drilling platform. These in turn must be adequately marked with lights, reflectors, and even fog horns. Flow lines from wells to production gathering facilities and thence to shore must be buried at least three feet beneath the Gulf bottom to avoid the possibility of snagging fishermen's nets.

For some time now, Shell has had a Y-shaped production platform two miles offshore in the South Pass Block 24 field. A second one, shaped like a huge T, has just been completed in the Main Pass Block 35 field. Both platforms serve as bases for such things as separators, heater-treaters, storage

tanks, and crew quarters. They gather and handle the crude oil from all of Shell's wells in their respective fields.

The significant thing about the production platforms is that they were specifically designed for offshore operation. Both are literally islands on stilts—the stilts being salt water-resistant, pre-stressed concrete pilings driven into the Gulf floor. From the floor, the pilings go up through the water, then tower high above it to place the platforms safely above the level of the tallest waves. For example, the platform at Main Pass Block 35 is 34 feet above water level, because storm waves sometimes reach a height of 26½ feet in this area.

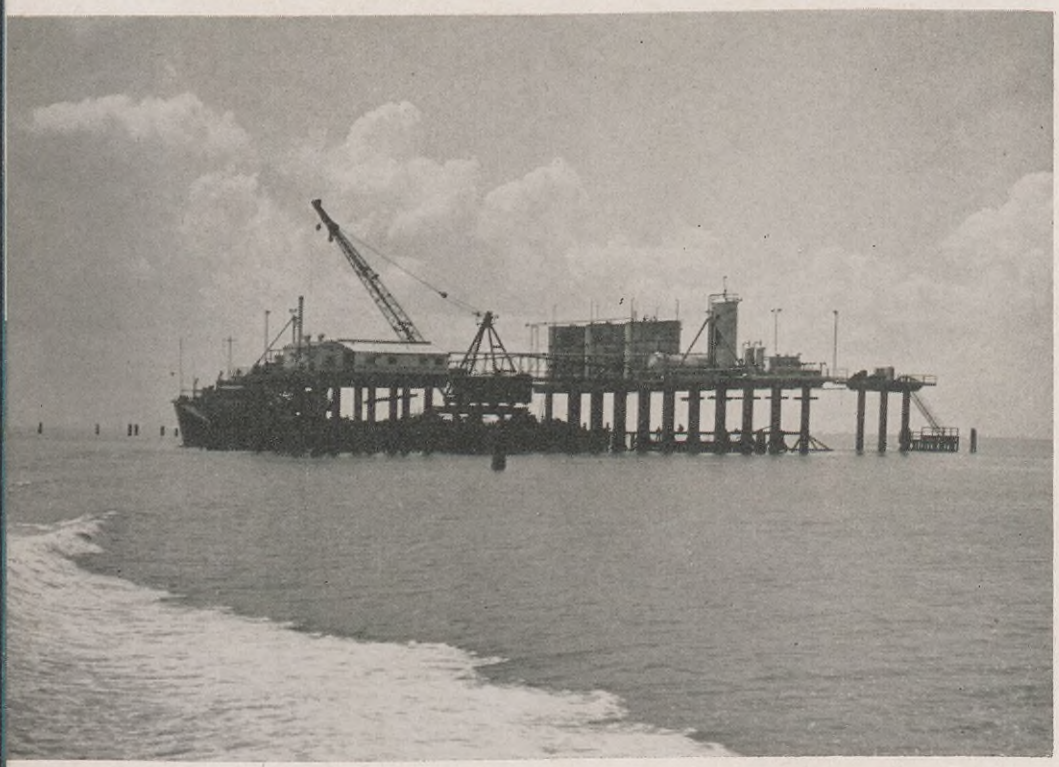
However feverish the activities in the Gulf, drilling virtually grinds to a halt at least once a year for a reason not even remotely connected with tidelands debates. This is the hurricane season, which lasts from about July 15 to mid-October, and during the season practically all drilling in the open water is suspended. Only a few rigs, in the most protected bays remain in operation.

Always with a weather eye on the sky and sea, Shell personnel rely on a daily weather reporting service to keep abreast of storm warnings and other developments. Each morning all drilling rigs, production platforms, and other installations receive a weather report by radio or marine telephone from a central reporting center operated by a firm set up for this specific purpose. If hurricanes or other storms warrant, the reports are received hourly, giving crews ample time to shut down operations and get ashore. The rigs and platforms of all the companies subscribing to the service, report local weather and water conditions to the central station, each day, making the reporting system accurate and complete. So accurate, in fact, that shrimp fishermen putting out to sea sometimes stop by the drilling rigs to inquire what sort of weather is making up.

Oilmen—using different barometers—sometimes come up with varying forecasts as to the future of the Gulf oil play. The conservative viewpoint holds that, in the face of the high costs involved, only the discovery of huge reserves and their large-scale development can make offshore operations practical. More optimistic predictions point out that only a tiny portion of the potential offshore producing area has yet been tested and even in the fields already discovered the extent of reserves is still unknown. The limits of only a handful of the fields have been defined. What's more, they point out, the submerged lands beneath the Gulf have an unusually high number of producing or potentially producing zones. Eleven producing sands have been discovered in the Main Pass Block 35 field alone, and the number in any one well ranges from one to seven.

Barring some unforeseen cloud over the horizon, the consensus of forecasts for offshore operations seems to be "fair and warmer." In fact, at least one authoritative group predicts the Gulf may soon make up one of the major producing provinces. This was set out in a recent report of the National Petroleum Council's Committee on Submerged Lands Productive Capacity (of which Shell's President H. S. M. Burns is a member). The Committee believes that the continental shelf of the Gulf, together with that of the California coast, could become within five years the source of 200,000 barrels of oil per day and 600 to 800 million cubic feet of gas daily.

However, that won't be the end of it. "Exploration and drilling within five years," says the committee, "will be more important in locating major oil and gas fields for future development than in providing immediate availability." In other words, offshore activity is only at the beginning of the beginning.



This T-shaped production platform, being constructed for Shell offshore in the Main Pass Block 35 field, puts production facilities and crew quarters safely above damage by tide and waves.

WOLVERINE!

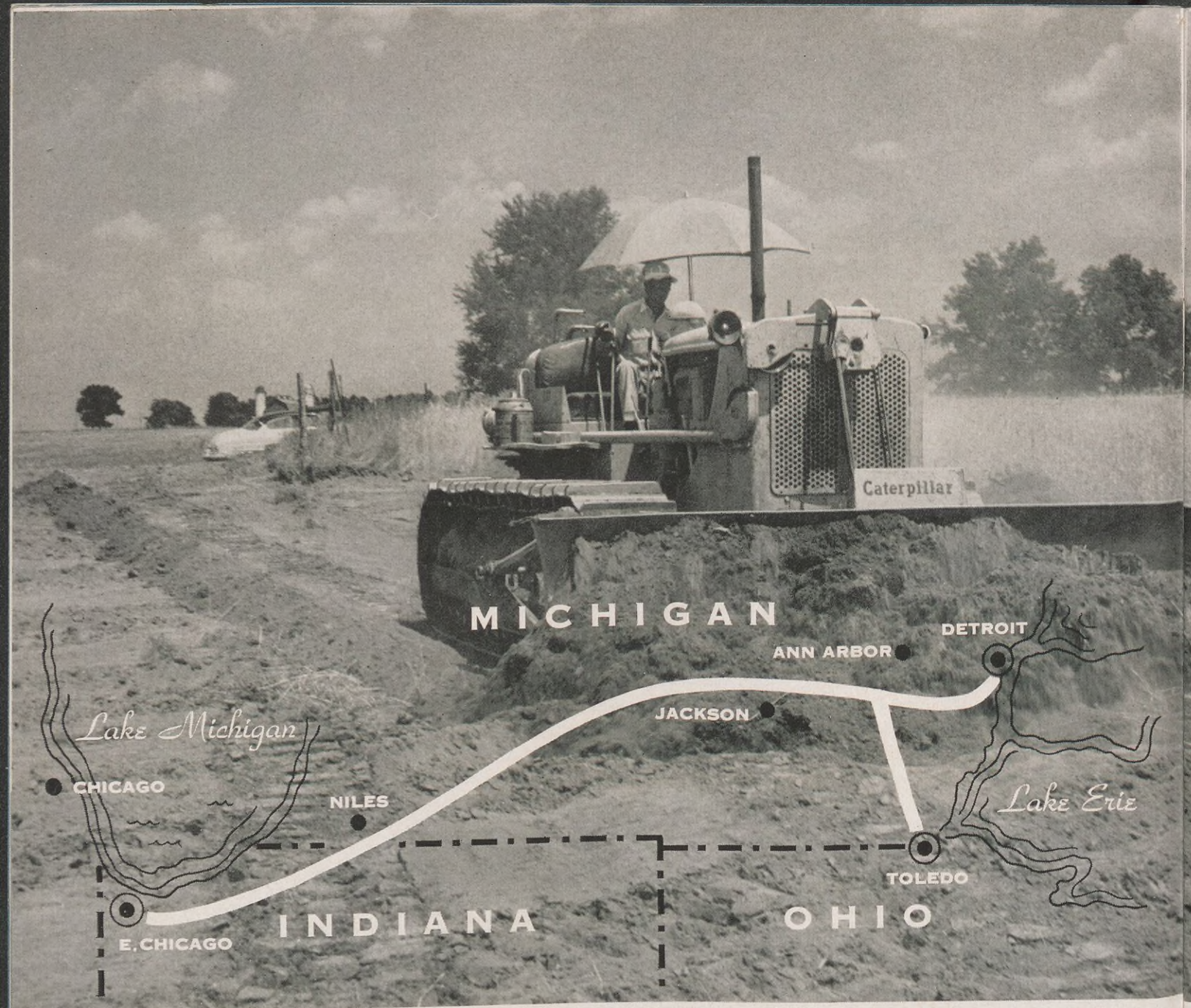
A New Shell-Built Pipe Line Will Soon Carry Oil Products From East Chicago Across Southern Michigan Into Detroit And Toledo

SHELL, Cities Service Oil Company and The Texas Company last year formed the Wolverine Pipe Line Company to build an important new common carrier pipe line across southern Michigan. The new 300-mile Wolverine Pipe Line, named in honor of the state it crosses, is a 16-inch diameter line that runs from East Chicago, Indiana to a junction southwest of Ann Arbor, from where separate lines go on to Detroit and Toledo, Ohio. Under construction since late June, it is expected to begin its initial flow of 95,000 barrels a day about the first of 1954.

Shell, which designed the new $15 million line and is supervising its construction, will operate Wolverine for itself and its co-owners under an agency agreement. Shell has a 40 per cent interest in the project.

The Wolverine line is important to Shell and to other oil companies

Construction scenes: A bevelling machine is used, above, to cut a pipe joint to the proper angle. Below: an inside line-up clamp aligns two joints for the welding shown, left, below.



The new Wolverine Pipe Line is almost 300 miles long, extending from East Chicago to a junction southwest of Ann Arbor from where separate lines then go on to Detroit and Toledo. When the line goes on stream early in 1954, it will have a throughput capacity of about 95,000 barrels a day.

which have refining or storage capacity in the Chicago area. Its immediate benefit is that it provides new oil transportation capacity into the rapidly growing oil markets around Detroit and Toledo. No less important, however, is the fact that it makes possible year-round movement of oil products to these cities. Heretofore, oil men marketing in the Detroit-Toledo area were dependent on Great Lakes shipping and had to rely on storage build-up, a tremendous annual headache, to take care of demand during the long winter freeze on the lakes.

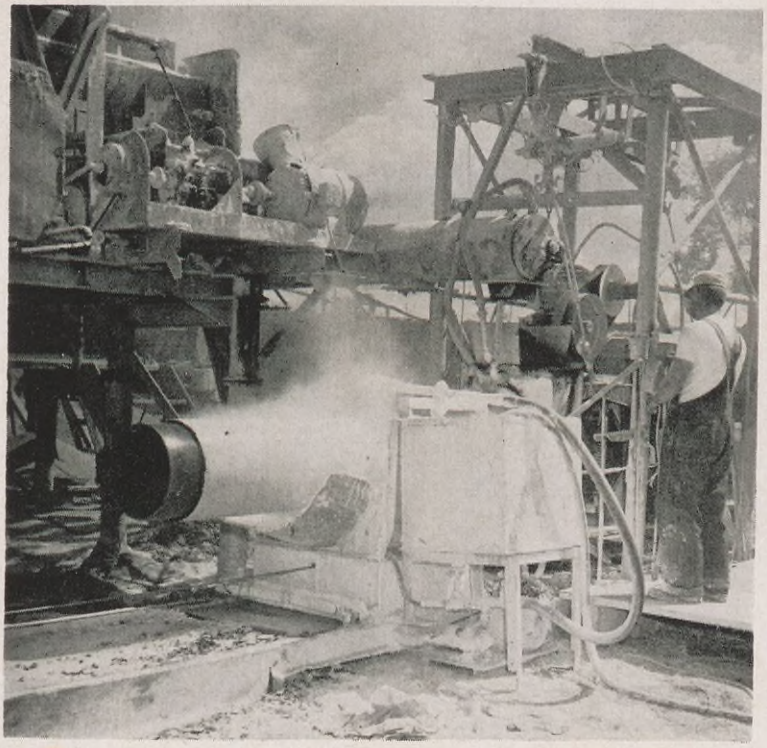
Although the Wolverine line itself is jointly owned, each company will build its own take-off terminals. In addition to its present terminals at Detroit and Toledo, Shell plans other terminals along the Wolverine Line at Niles, Michigan, and at Jackson, Michigan.

Capacity Can Be Increased

Should the need arise, the line's initial throughput capacity of 95,000 barrels a day can be increased to an estimated 170,000 barrels daily with the construction of intermediate pump stations.

Wolverine construction has been undertaken in separate sections. The first, that part of the line lying west of the Kalamazoo River, was begun on June 22. A second section, slanting east from the same river, was begun on July 7. Contracts for two short sections leading into the Detroit and Toledo city areas were awarded recently and construction on these sections is now underway.

The land along the path of the new products pipe line is generally fairly level. But large oak trees have had to be felled (as at left) and brush burned through forest areas (as above) to clear the right-of-way for bulldozers and other necessary pipe line construction equipment.



A ditching machine, above, cuts a trench for the pipe along the cleared right-of-way. Before it is laid, the pipe is coated with tar to protect it from the corroding action of the soil. Whitewash is added later, left, to reduce the pipe's absorption of solar heat. In swampy areas, a coating of cement is added to protect the pipe and anchor it firmly in position.

Shell People

C. W. Humphreys

C. W. HUMPHREYS has been elected Vice President—Manufacturing of Shell Chemical Corporation. He previously had held the positions of General Manager, Manager-Development and Manager-Operations in the Manufacturing Department, Head Office. Mr. Humphreys is a graduate of College of the Pacific and received a Ph.D. in chemistry and engineering from Stanford University. He joined Shell Chemical in 1931 at the Shell Point Plant in Pittsburg, California. After serving at the Martinez Plant, he became Assistant Superintendent at Dominguez. He moved to Houston, Texas, in 1941 and was in charge of the Chemical Plant there until his transfer to Head Office in 1946.

R. K. Walters

R. K. WALTERS has been appointed Senior Engineer in Shell Chemical Corporation's Head Office. Mr. Walters, a graduate of the University of Texas with a B.S. degree in architectural engineering and of the University of Houston with a M.S. degree in social science and engineering, joined Shell Oil Company in 1936 at the Houston Refinery. After progressing through various engineering positions, he was made Senior Engineer there in 1945. The following year he moved to Shell Chemical Corporation as Assistant Chief Engineer at the Houston Plant. In 1951, he was made Chief Engineer at that same location, a position he held until his recent appointment.

H. E. Hughes

H. E. HUGHES has been made Chief Engineer at Shell Chemical Corporation's Houston Plant. A graduate of the University of California (Berkeley) with a B.S. degree in mechanical engineering, Mr. Hughes joined Shell Oil Company in 1934 at Martinez, California. He moved to Shell Chemical Corporation's Martinez Plant in 1936 and seven years later was transferred to the Torrance Plant, serving first as a Junior Engineer and later as Engineer. Mr. Hughes went to the Dominguez Plant in 1944 as Office Engineer and was appointed Chief Engineer there in 1946. After returning to Dominguez in 1949 from a foreign assignment, he was transferred to the Houston Plant as Assistant Chief Engineer.

F. H. Rathjen

F. H. RATHJEN has been appointed Gas Manager of the Tulsa Exploration and Production Area. A graduate of the University of Minnesota with a B.S. degree in chemical engineering, Mr. Rathjen joined Shell in 1937 at the Norco Refinery and served there in various technological capacities. On Military Leave of Absence from 1942 to 1946, he spent more than three years with the Petroleum Administration for War, where he headed up the Appraisal Group of the Facilities Section. Upon his return to Shell, Mr. Rathjen was made Assistant Manager of the Alkylation Department at the Wood River Refinery and in 1948 began a two-year assignment in

In The News

Venezuela. In 1950, Mr. Rathjen was appointed Superintendent of the Elk City Cycling Plant in the Tulsa Area.

T. R. BARNES, District Geologist at Billings, Montana, in the Pacific Coast Exploration and Production Area, has been named "Oil Man of the Year" by the editors of the *Rocky Mountain Oil Reporter.* Mr. Barnes, a graduate of Stanford University with an A.B. degree in mining and geology, is a Shell veteran with 18 years of Company service. During his Shell career, Mr. Barnes has served as Roustabout, Rotary Helper, Exploitation Engineer and Geologist at various Shell oil fields in California. He is a member and a vice-chairman of the Montana Oil and Industry Gas Conservation Commission and a member of the Montana Oil Industry Information Committee.

T. R. Barnes

Personnel Changes — Public Relations

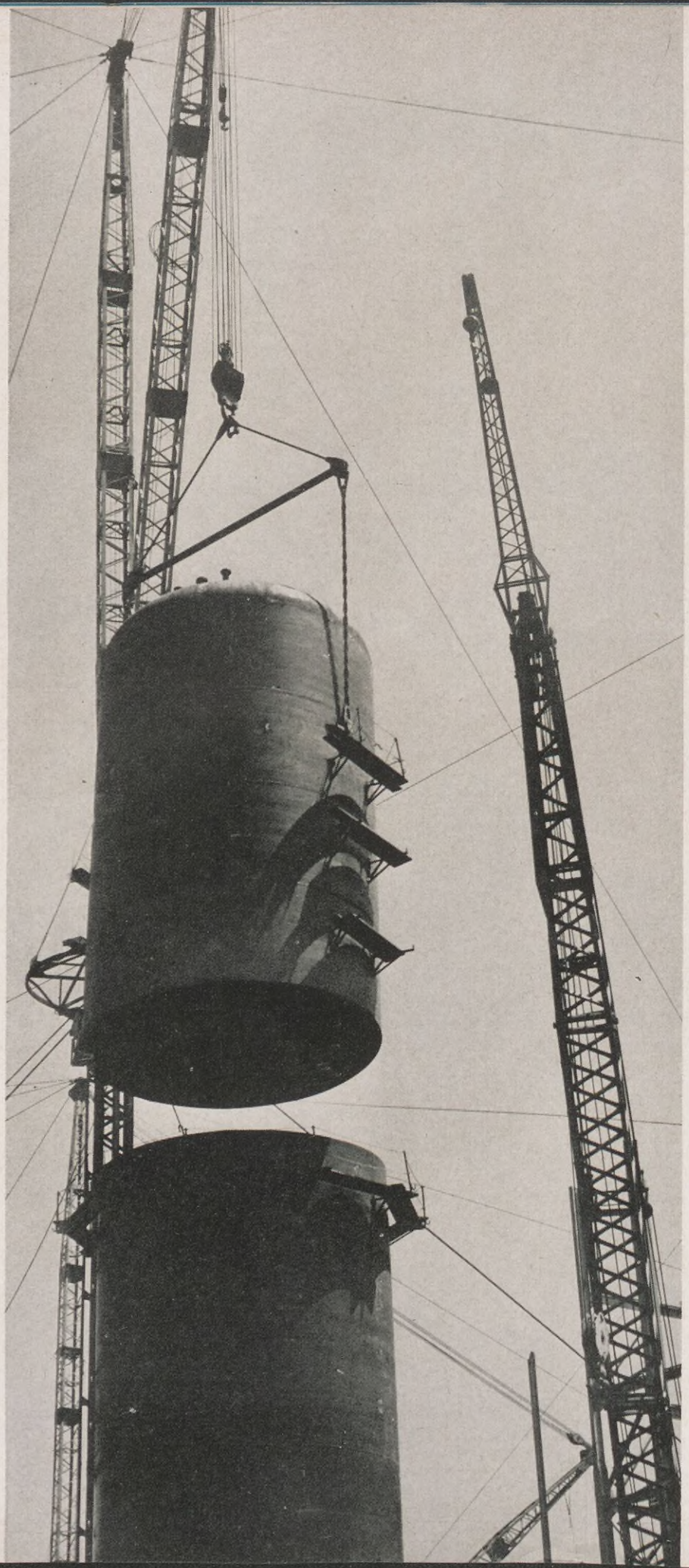
C. E. Totten

In a series of personnel changes recently announced, **C. E. TOTTEN,** formerly Public Relations Field Representative in Los Angeles, has been transferred to Head Office as Manager of the Special Projects Division. **P. W. HARVEY** has moved from Public Relations Field Representative, San Francisco, to succeed Mr. Totten in Los Angeles. **W. L. GORDON,** currently of the St. Louis Marketing Division, will replace Mr. Harvey in San Francisco. In addition, **G. F. CAULFIELD,** formerly of the Public Relations staff in San Francisco, has been transferred to the Midland Exploration and Production Area as Public Relations Field Representative.

P. W. Harvey

W. L. Gordon

G. F. Caulfield



Cajun Cat Cracker

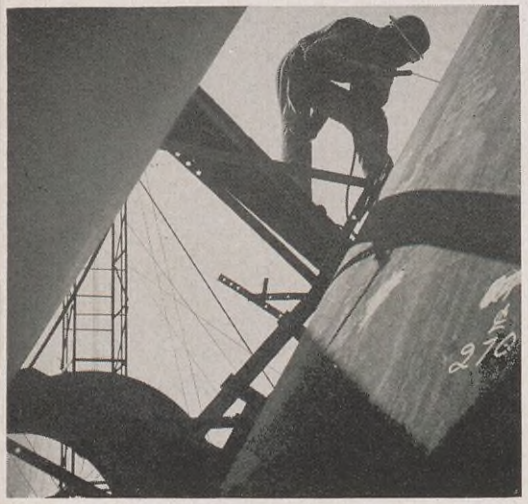
OF major importance to the expanding Norco Refinery is the new catalytic cracking unit, an enormous structure which, when completed, will "crack" or break down heavy oils into light components such as gasoline. The process is carried out by the application of heat in the presence of finely-powdered catalyst, and utilizes a series of huge vessels weighing hundreds of tons.

Construction of these vessels—the reactor, regenerator, main fractionator and catalyst hoppers—as well as the variety of units which help keep them in operation is currently occupying a sizeable group of workmen at Shell's Louisiana refinery. The large vessels are being fabricated at Norco; smaller ones, or ones that can be broken down into several sections, are prefabricated and shipped in to the construction site.

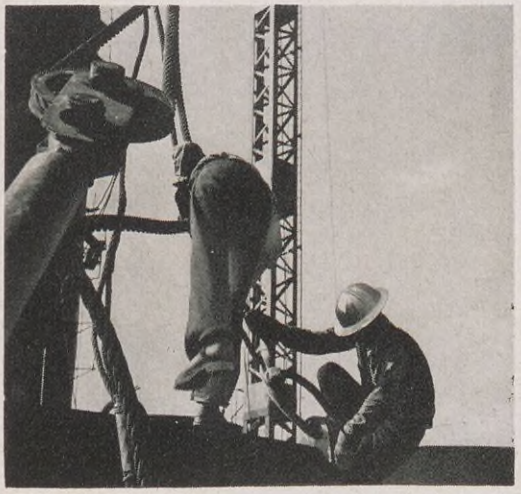
Assembling the gigantic vessels of the cracking unit is an exacting task. On this and the following pages, SHELL NEWS shows a few of the many steps currently being undertaken so the project may reach completion in 1954.

Planning pays off as this unit, part of a catalyst hopper, is swung into position. The operation, which involved swinging the section 65 feet into the air, was completed in 15 minutes.

One of the Most Impressive Units in the Norco Refinery Expansion Program is Rapidly Taking Shape



Among the busiest men at work on the Norco Refinery expansion project are the welders who work both on the ground and in the air.

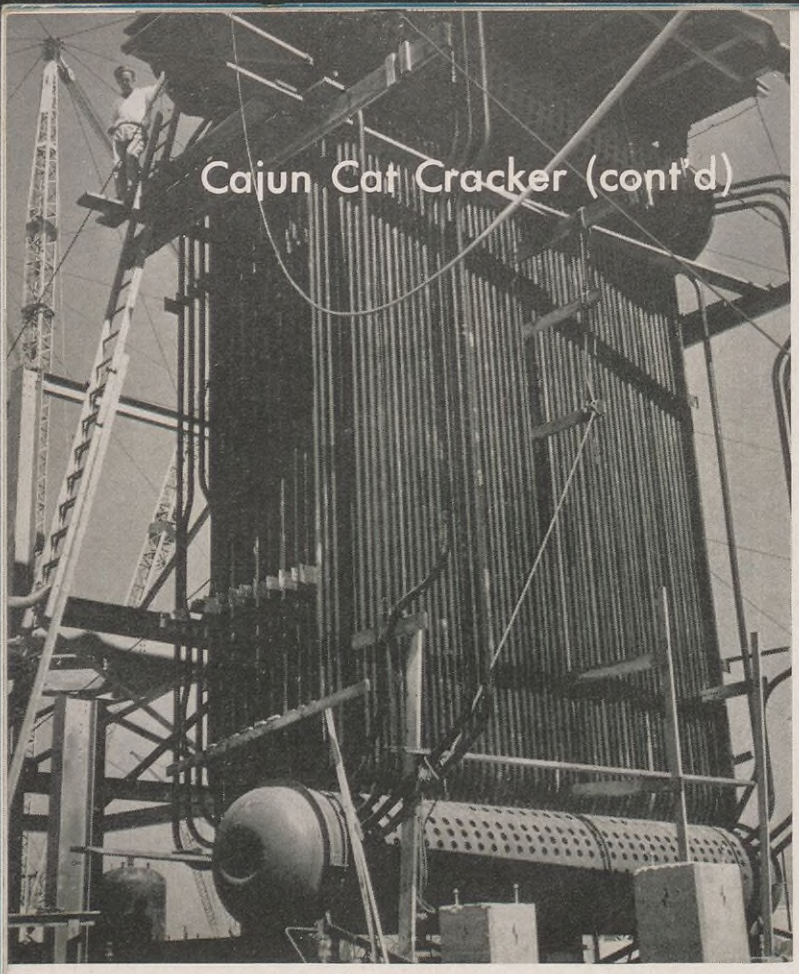


Sections of major vessels are fabricated, then swung into position and joined. Here, a clamp is fastened into the top of a section for lifting.

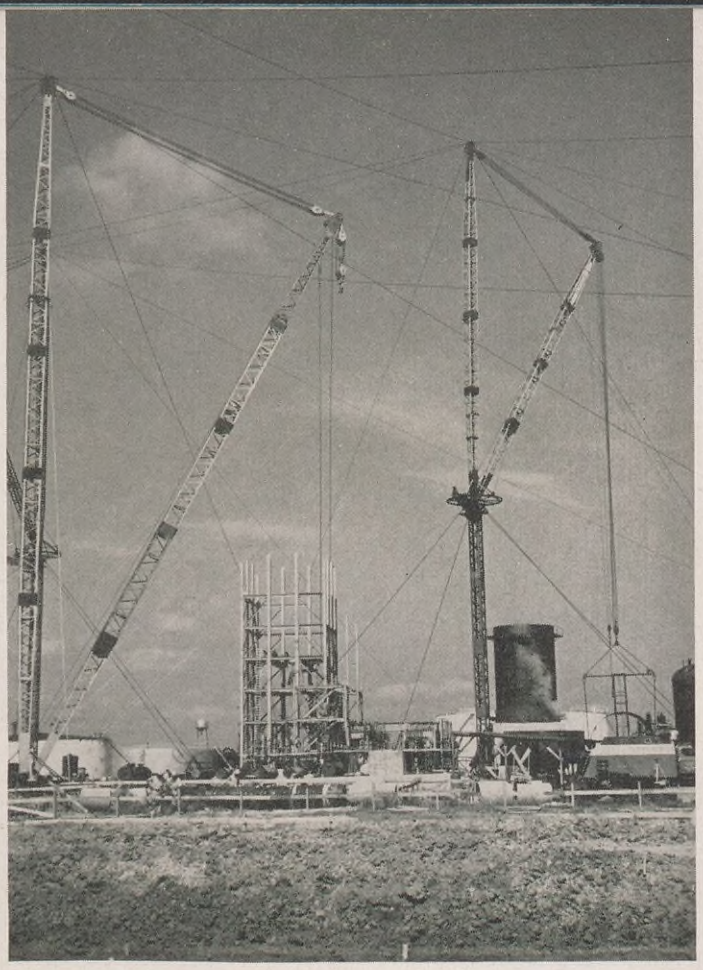
This man is inserting "chucks," or metal clamps which hold metal sections together until the welders come along to make the final joint.

Shell personnel constantly check construction progress as Norco continues to grow. Here, Dwight Pfaehler and Earl Crochet look over the forms being erected to facilitate building a concrete column. Steel columns and cross beams are sometimes encased in concrete as a fireproofing measure.

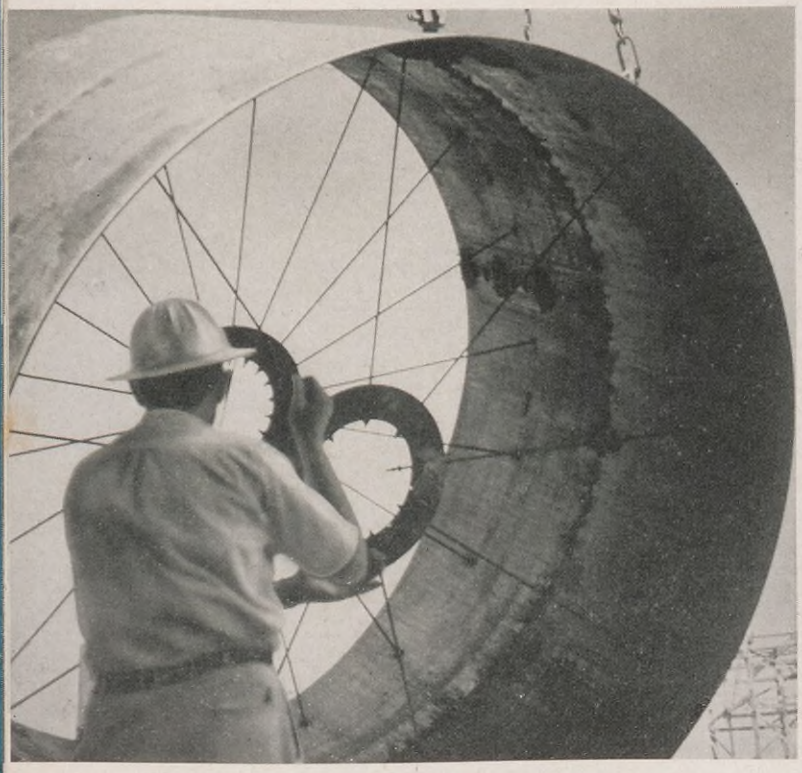
Cajun Cat Cracker (cont'd)



This structure will generate steam after being enclosed. Water will flow through the tubes; heat applied to them will change the water to steam.



Two derricks, each 245 feet in height, and a third one of 175 feet, held in position by 1,000-foot cables, helped lift the 50-ton vessel sections into place.



"Spiders," metal rods radiating from a spool, are placed in vessels as they are made, to help maintain their shape until final welding.

Maida Botts, Clerk in Shell's construction office, helps keep order among the blueprints. Over 1,000 prints are being used for the cat cracker alone.

This is the Smiths' Wonderland Toy Shop in Dallas, a thriving post-retirement venture financed by Bill's Provident Fund and other savings.

He Retired to Wonderland

This Shell Pipe Liner Made a Happy Transition From Pump Stations to Space Helmets

THERE is a children's wonderland in Dallas, Texas—literally so because of the fascinating array of 2,000 different toys, games and other items that crowd its shelves. It has everything from teething rings to space helmets. Figuratively, it is also a wonderland for two adults. For, as the happy proprietors of the Wonderland Toy Shop, Mr. and Mrs. W. A. Smith have been finding pleasant diversion, added income and security there ever since Mr. Smith retired from Shell Pipe Line Corporation last year after 27 years of service.

It's not a common thing for a pipe line maintenance foreman to turn to dispensing dolls and child psychology. The story behind Bill Smith's retirement transition has some of the elements of a wonderland about it, too. The decision to go into business for one's self is difficult at best, particularly if the man who makes it has had no previous experience in running

What do you do when two young customers insist on having the same doll? Mrs. Smith, the arbiter, hopes she has a duplicate in stock.

his own business. But in Bill's case, his plans were further complicated by the fact that two doctors told him he was losing his sight. He had lost the sight of one eye 12 years before and, as he approached retirement, the other was reported failing.

Rather than sit out his retirement—perhaps in darkness—Bill decided to set up a small business with his Provident Fund and other savings and to make it the type of business which Mrs. Smith could carry on alone, if necessary.

The idea for a toy shop was not arrived at overnight. In fact, it was thought out so carefully in advance of Bill's retirement that the Wonderland Toy Shop opened its doors just ten days after Bill left Shell. Other types of businesses were investigated—a book shop, for example—but all were discarded in turn. Even when the idea for a toy shop came along, it didn't stick until Bill and Mrs. Smith had first thoroughly investigated its possibilities.

The choice of a location was made with great care. On week-ends and vacation the Smiths toured Texas, Oklahoma and Missouri. They finally selected Dallas when they learned of an available location in a new shopping center. It turned out to be an excellent choice. The center—and the Smiths' shop—was successful from the start and has since expanded. Planners of the center anticipated drawing 55,000 customers from the surrounding area. A recent survey showed they had, in fact, more than 80,000.

In preparation for their opening, the Smiths read everything they could find concerning toys and the toy business. They went to other toy retailers, to toy jobbers, and directly to the manufacturers for advice. And they learned quickly from their customers once the shop was open.

Though the two of them worked long hours and ran the shop by themselves for a time, in less than a year there were four full-time employees and another who came in part-time. From the very first, the Smiths got more than the 7,000 customers a month they estimated it would take to make a toy shop pay.

The development of the Wonderland Toy Shop paralleled the development of the Smiths as progressive business people. They established a Birthday Club and a Charge-It Plan to promote sales. They now sponsor two local radio programs and run regular advertisements in three newspapers. Other promotional ideas are

Bill Smith could keep busy just marking prices on the space toys. In keeping with a popular current fad, there is a wide assortment.

in the planning stage.

Along with the growth of their business experience has come a knowledge of child psychology, necessary in a toy shop. As a result, the Smiths and their employees, all members of the Toy Guidance Council, can answer such paternal queries as:

"What do you recommend for a 4-year-old boy who has been ill and is confined to the house?" or "What do you have that will teach a 5-year-old girl to count?"

Toys can be classified in four main categories: Physical, social, mental and vocational. These, in turn, are progressively simple or intricate, according to different age levels. The trick is to advise the adult as to the proper toy for a child according to its age and sex—and it sometimes means recommending a cheap toy in preference to an expensive one.

Adult psychology is also a part of the toy business. It takes tact and persuasion to convince proud fathers that large frilly dolls are not yet the proper toys for their 2-year-old daughters. At that age, Bill says, a little girl can't appreciate a big doll and she'll usually damage it. He recommends educational toys that will afford hours of play and at the same time develop the child's coordination.

Adult psychology helps in other facets of the business, too. Mrs. Smith recalls the day when two women brought five active children into the store and did nothing to control them.

Mrs. Smith was aghast when one youngster climbed atop a counter and started tossing toy trucks on the floor. Quickly she lifted the youngster down and smiled at him as she said:

"Careful, sonny, anything you break mommy will have to buy."

Control was immediately achieved.

The Smiths are alert to changing fads in toys. In keeping with the times, their stock reflects the trend toward "space" toys and the Wonderland Toy Shop can supply the pint-size Captain Video with anything he might need for outer space travel. There are even feminine space suits and helmets for the rocketing auxiliary. However, as far as the girls are concerned, no passing fad will ever outlive the universal appeal of dolls—and the toy shop is well supplied with them.

Dolls remain an all-time favorite of girls, but boys are more inclined to go along with the trend of the times. Above, Bill discusses take-offs and 9-G power dives with a prospective jet pilot. At left, Mrs. Smith, the shop's principal toy assembler, adds a final wheel to a doll carriage.

The struggle to establish their business as a going concern is now over for the Smiths. Due to their competence and drive, it is growing all the time. But the success they are enjoying in their wonderland is far overshadowed by the fact that Bill Smith's eyesight has not failed as predicted two years ago!

The thirtieth in a new series of organization charts

November—1953

SHELL DEVELOPMENT COMPANY

Oil & Chemical Research Division
Emeryville Research Center

Vice President & Director

T. W. Evans

Assoc. Dir. Fundamental Research

M. W. Tamele

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  - **Assistant Manager Treasury** — H. A. Hamilton
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  - **Assistant Personnel Director** — R. A. Pratt
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  - **Assistant to the Director (Expl. & Prod.)** — A. W. Alexander
  - **Assistant to the Director** — H. D. Birch
  - **Interference Attorney** — H. L. Shepard

IPANY

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ssistant t. Head — G. Bollo

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  - Head Plant Physiology — J. van Overbeek
  - Head Plant Pathology — W. A. Kreutzer
  - Head Nematology — C. W. McBeth

ference torney — Shepard

Exploration & Production Research Division (Houston)

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- Dept. Head Geological — R. J. LeBlanc
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Electronic Handyman

A "Brain" That Never Gets a Headache Is Doing Some Fantastically Fast Figuring For the Midland Area Treasury Department—and More Are On the Way

EVER figure you'd like some help figuring up the monthly bills? Then drop in at Shell's Midland Area office. They have a mathematical machine that makes figuring out what is owed in monthly royalty payments about as easy as falling off a logarithm. In fact, this brainy marvel is so fast with the figures that the Company is installing machines just like it in other Area offices.

This doesn't mean the Exploration and Production people are looking forward to spending oil money like water. Far from it. It simply means the thousands of payments which must be made every month for oil and gas royalties can now be calculated by machines. While the amounts of the payments will be no more than customary, the checks can go out with greater speed and accuracy. What's more, the electronic calculators, as the machines are called, can help out with other chores around the place—like computing production on leases, figuring sales and transportation volumes and making out the payroll.

Midland's electronic calculator, which is leased from the International Business Machines Corporation, stands about five feet tall and looks like an ordinary piece of office equipment until it goes to work. Then, a panel of flashing lights gives an indication of the cerebral machinations going on in its 1,400 vacuum tubes. The "brain" can make up to 6,000 calculations a minute and transmit them to an adjoining machine which punches the answers on cards. In the case of royalty payments, the answers are the amounts of the individual checks which must be made out and mailed every month.

The calculator comes in handy because of the volume of work that goes into making royalty payments. In oil operations, the lessor of a producing property generally is entitled to one-eighth of the oil produced. A growing pile of barrels on his front lawn might eventually get out of hand, so the oil

Harry H. Wagner of the Midland Area Treasury Department puts a stack of cards into the Electronic Calculating Punch machine which will feed information to the "mathematical brain" at its right. The "brain" works out problems and returns the answers to the first machine for punching on the cards.

company sends him a monthly royalty check instead. The lessor, in turn, may split his one-eighth interest as many ways as he wants—selling off a one-sixteenth interest here, a one-thirty-second there, or dividing it among several heirs who, in turn, can . . . Get the idea? On the approximately 1,700 leases in the Midland Area, the royalty interests are broken down 42,000 times. The Company is expected to keep track of these multitudinous divisions of royalty interest and to make out checks in the right amounts for all the individuals involved.

Since one individual often has an interest in several leases, the Midland Area Treasury Department already had been able to combine many payments and reduce the number of checks. But it took the electronic calculator to consolidate the payments even more and to cut down the number of monthly royalty checks from 10,000 to about 3,500. Because its meticulously mathematical tubes can handle more numbers than an Irish Sweepstake, a man with interests in ten leases no longer gets ten checks. He gets one for the total amount. It saves licking envelopes, too!

Another major chore Midland's calculator has taken over with ease is the computing of "run tickets," the daily reports that indicate the amount of oil removed from lease storage facilities. The "brain" takes the run tickets and in seconds comes up with the volume of crude removed from each tank, after taking into account such factors as temperature, specific gravity, basic sediment and water content. The "brain" can then determine the value of the crude and applicable taxes as easy as adding 2 and 2.

The current program of making electronic calculators available to Area offices is a result of careful studies made by Shell's Methods and Statistics Department, which is engaged in long-range research on the subject. The Department spent a year and a half exploring what several models of "electronic brains" would do before the one now in the Midland office was recommended. It was installed last February and, after a trial period of several months, orders were placed for more like it. They will be installed as they become available. All Areas may be using them by the end of 1954.

In the meantime Midland may again become a testing ground for an even brainier mental marvel. This will include two more units: one which can actually write the checks simultaneously with the calculation of the amounts, and another which will serve as a memory for the brain. This latter unit can store up facts and figures in a long and intricate mathematical problem and turn them back into the brain when they are needed. With its installation, Midland's electronic calculator can also be used in solving many intricate problems in connection with production engineering.

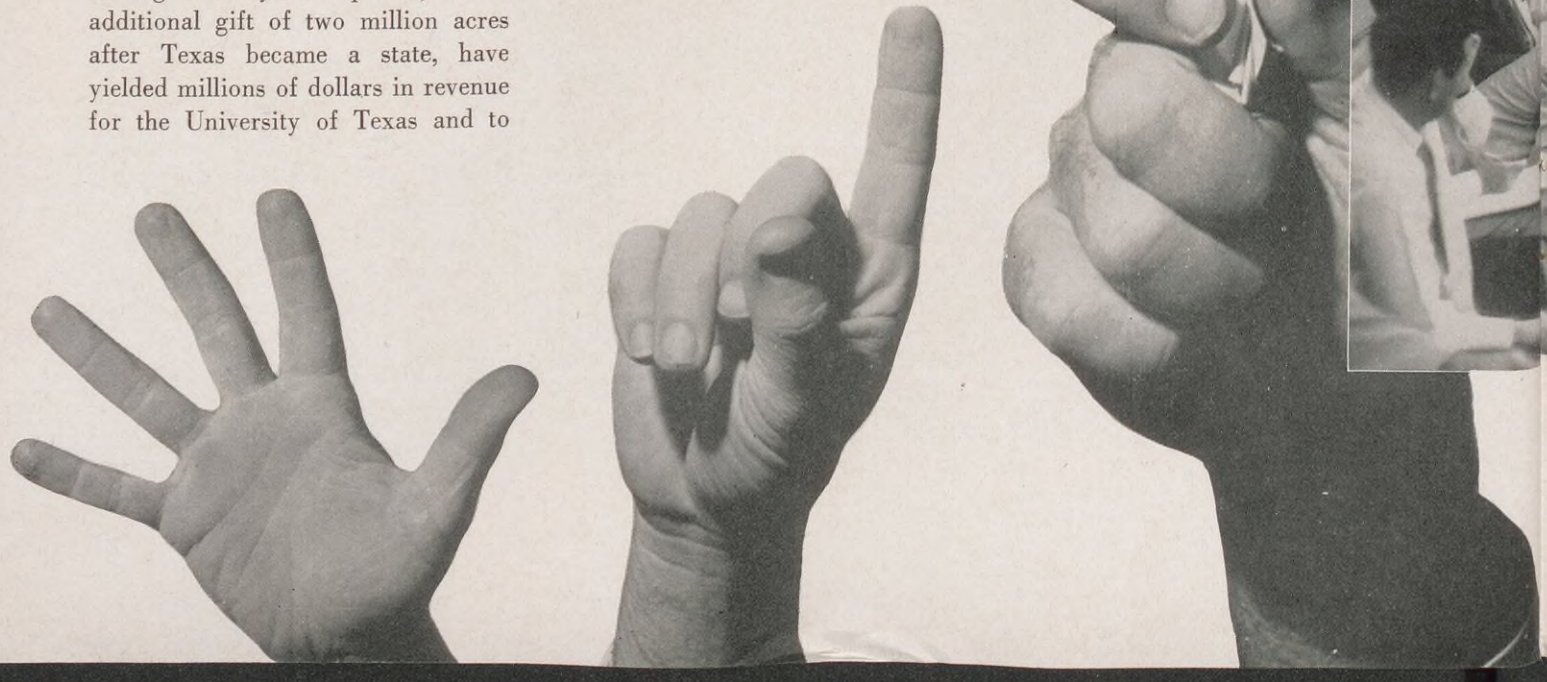
Oilmen in Texas Hark to the Cry of the Auctioneer for a Chance to Drill on University Lands and Higher Education Gets the Profit

Do I Hear A Million?

THE University of Texas is one of the richest educational institutions in the world—because Texas was once so poor it had no money for endowments.

This seeming paradox grew out of the fact that when Texas became a Republic the young government was so impoverished by war that it had nothing to give for education but land. And it wasn't the best land to be had, at that.

As time has revealed, however, higher education couldn't have gotten a better gift. More than 221 thousand acres granted by the Republic, and an additional gift of two million acres after Texas became a state, have yielded millions of dollars in revenue for the University of Texas and to Texas A&M College. Some of this vast sum came from the early sale of land in the original grant, mostly to ranchers. But since the state wisely retained a portion of the mineral rights, and has never sold a square foot of the subsequent grant, by far the greatest portion of the University of Texas' income for building purposes has been realized from oil and gas leases on its sprawling acres. Oil was first discovered on University land in 1923, and bonuses paid by oil operators to obtain leases, annual lease rentals, and royalties from oil and gas production



have brought close to $175 million into the University coffers. As endowments go, the present worth of the University's permanent fund is exceeded only by Harvard's $210 million in gifts.

This does not mean the University of Texas can use its permanent fund as it pleases—or even that it can use *all* of the fund. By law, the revenue of the University lands are invested by the Board of Regents in government and municipal bonds and *only the income on these investments may be spent by the University and certain of its branches for buildings, permanent improvements and operating expenses.* Even so, it's a tidy sum.

The estimated income from investment of the permanent fund for the fiscal year which began September 1, 1953, will be $3,329,847. Almost two-thirds of this has already been assigned for operating expenses, instead of new construction, because legislative appropriations and other income are insufficient to meet operating costs.

For many years oil companies acquired University leases by submitting sealed bids on selected tracts—a lease going to the highest bidder. But in 1936 a public auction was held as an experiment. It was so successful that the Texas Legislature made it an established procedure, and the auctions have been held at least twice a year in Austin, the state capital, ever since. They have come to be known as one of the country's best developed real estate markets, since all prospective buyers meet at one time and have equal opportunities to bid.

University leases are administered—and consequently the auctions are presided over—by the Board for Lease of University Lands. This is a three-man panel composed of two members of the University's Board of Regents and the state's Commissioner of the General Land Office. The present Commissioner, who acts as chairman of the Board, is Bascom Giles. A professional auctioneer and several clerks and runners also officiate at the auctions.

While the lease auctions have all the keyed-up animation of an old-fashioned cake sale, they differ widely on such fine points as the amounts involved and the items up for sale. The unfrosted wares at Austin are, in the long run, nothing more than a chance to take a chance. The leases are real enough. They are on tracts of

These men preside at the lease auction. Auctioneer George Apple, right, a jewelry salesman when not auctioneering, talks with the three members of the Board for Lease of University Lands, left to right: Lee Lockwood, Texas Land Commissioner Bascom Giles, and David Warren. Tom Sealy, Chairman of the University of Texas Board of Regents, fourth from left, listens in.

The two pictures above are the first ever allowed to be taken while an auction was actually in progress. They are dim because photo flash bulbs were barred to avoid distracting the bidders. At left, a runner takes down information from Shell's Jess Lindsey after he bid $255,000 for a lease in West Texas. At right, Auctioneer Apple urges the bidding on at a tense moment.

160 and 320 acres and on larger drilling blocks of four square miles. They run for five years and as long thereafter as oil or gas is produced in paying quantities. The annual rental is one dollar an acre, unless royalty payments during the preceding year equal or exceed that figure.

But what the bidders are essentially competing for at the auction is the chance of finding oil—always an unknown quantity.

The bid made by an oilman is the amount of cash "bonus" he will pay over and above the dollar-an-acre rental on the lease. Though the true value of the lease is not known, the minimum opening bid is $1,000 and

may be established at as high as $15,000 on large promising blocks. This sometimes proves an empty gesture, however, when the bidding soars to a million or more in a matter of minutes. To date, the highest bonus ever paid was $2,150,000 for a drilling block of four square miles.

There isn't much danger that anyone will be unable to back up his bid, however. The rules of the Board state that at any time during the auction a bidder may be required to show proof that he has funds on deposit in a solvent member bank of the Federal Reserve System to cover the amounts of his bids up to that time.

Another way in which the auctions differ from ordinary public sales is that a high and final bid accepted by the auctioneer doesn't close a deal. Each final bid is, instead, considered a "nomination" to buy the lease and must be approved by the Board. Acceptance or rejection of a final bid is done on the spot, and the result is posted on a board in the auction room (without revealing the name of the bidder) before the next tract is offered by the auctioneer.

As at any other auction, bidders pay cash on the line before leaving the salesroom. Above, oilmen write checks for their leases. Biggest single bonus: $2,150,000.

On the other hand, the Board doesn't ask anyone to buy a pig in a poke. Long before the date of the auction, the tracts that will be leased are advertised and oil companies are permitted to send their seismic crews and geophysicists over the ground to make their own evaluations. Copies of their findings must be turned over to the Board.

To the trained observer, the lease auction is a showcase for the rivalries among oil companies for leases and for the premium placed on secrecy. Like good poker players, each company tries to avoid tipping its hand and letting it be known that it is interested in certain tracts. Rival bidders, seeing someone display unusual interest in a particular lease, might reason that he "knows something" and run the bidding price up. Anonymous agents are often used to do the bidding, and no one knows just who has bought the leases until the list is posted during the noon recess and after the auction closes. Even then, the agents' purchases may not be revealing, since they are in the agents' names and are assigned to the companies later.

In this aura of mystery, Shell men attending the auctions make sure they leave their service emblems at home, and it's a rare day when they can spot the emblem of any other company. Even the writer and photographer compiling this story at the auction last June did not identify themselves as Shell employees and were careful not to show any recognition of three land men from Shell's Midland Area in the auction room. If land men from other companies had known Shell had a photographer present, they might have gotten the impression that Shell was planning some big, no-limit bidding and might have asked their companies to raise their own antes.

As it happened, Shell's representative at the sale, Jess Lindsey, Midland Area Land Manager, stuck to the Company's predetermined bidding limit. As a result, he was outbid on some property that he wanted, but he managed to come out top man on other tracts in Crane County, Texas, paying bonuses totalling $656,000 for them.

Spending that amount of money at the lease auction is easy, because it can be done with a mere flick of the wrist. Only the auctioneer speaks and the bidders make their bids by signal —a nod of the head, a raised finger or hand, a waggle of a program. A man whose nose starts itching can inadvertently spend a lot of money just by scratching it. This mute bidding cuts down confusion in the tense air of the sale and speeds things up at the same time. Speed is essential since about 145 tracts of land are offered in one day's sale.

Take, for example, one lease successfully bid on by Mr. Lindsey. After sitting through an hour of sales, a tract he wanted, No. 54, came up. Tract 53 had just been sold for $110,000 and a quiet murmur passed through the room as the men relaxed and discussed the next offering. Some of the 350 present consulted maps, checked their notes, or went into whispering huddles.

Then Auctioneer George Apple, a jewelry salesman when the auction is not in session, turned from the long table where the Board sat and drawled:

"All right, gentlemen, your program says the next tract is No. 54. Let's get started. Who'll give me a thousand?"

Someone raised his program and Apple quickly noted the bid. In less than a minute the bidding reached $150,000, Apple repeating the rising numbers over and over again.

"I've got 150,—who'll make it 175? I've got 150, who'll make it 175?"

By this time only two or three men were bidding and Apple's quick eye darted between them. One man raised a finger and met the bid.

Midland Area Land Manager Lindsey, center, looks over maps of the leases obtained at the June auction with J. R. Cantrell, left, and R. J. Oliver, who accompanied Lindsey to the auction.

"I've got 175, who'll make it 190?" drawled Apple, and on the bidding went, the tension mounting with it. At $250,000, Apple called:

"It's 250, who'll make it 260?"

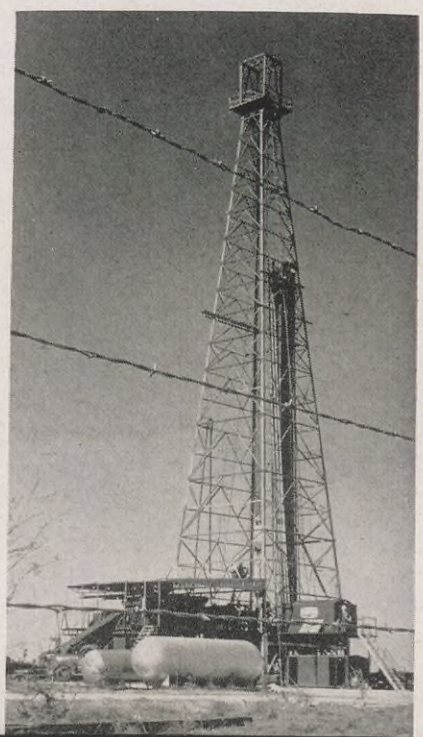
Not getting this figure, he backed down to $255,000. Mr. Lindsey raised his program to indicate he'd bid that amount.

"It's 255, worth 265," Apple called. "Do I hear 265? All right, gentlemen, it's going for the first time at 255, worth 265. Second time, going at 255, worth 265." He scanned the room watching for a signal. "Final and last call, 255. Do I hear 265? All done. Sold to the gentleman next to the wall."

Thus, in two minutes, Shell had successfully bid in a tract of University land. A runner jotted Mr. Lindsey's name, his company and his bid on a slip of paper and took it to the Board table. In a moment Tract 54 was posted on the "awarded" side of the board at the front of the room. Before leaving the auction room later in the day, Mr. Lindsey turned over a check for this and other lease purchases made at the sale.

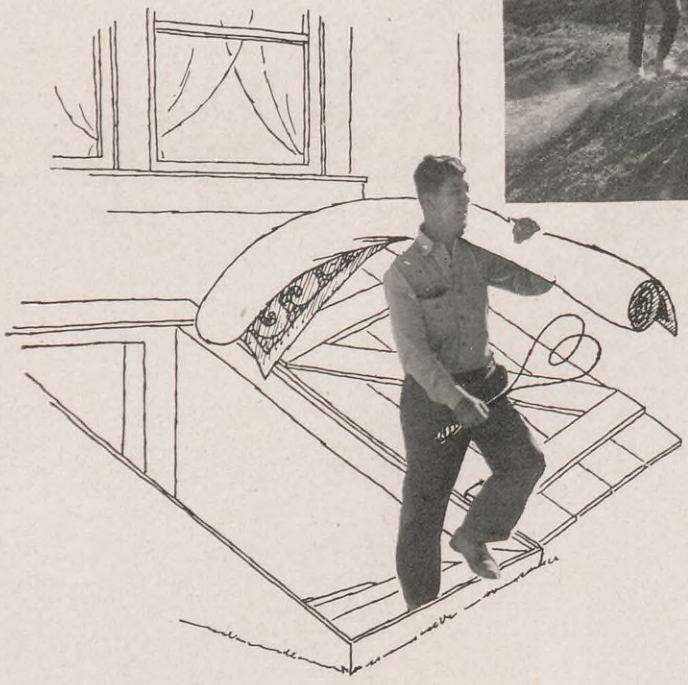
It had been a good day for the University of Texas. When all the bids were totalled, the University was $16 million richer—setting a new record for a single lease auction.

It had also been a reasonably good day for Shell, with a lot of new acreage ready and waiting for exploratory drilling. Some tracts of University land obtained in lease auctions in the past have turned out to be highly profitable producers, adding more reserves for Shell and more money in royalties to the University permanent building fund. Other tracts have not been so successful. In the long run, only the drilling bit can tell.



Some leases bought at previous auctions have been highly successful. Shell's University 1-A-1, right, is on a 2,610-acre drilling block acquired at the auction in June 1952 for a bonus of $1,025,000. It was completed at 12,609 feet with a daily potential production of over 400 barrels of oil—and discovered a new field. This means royalties will also go to the University.

Practice Makes Perfect

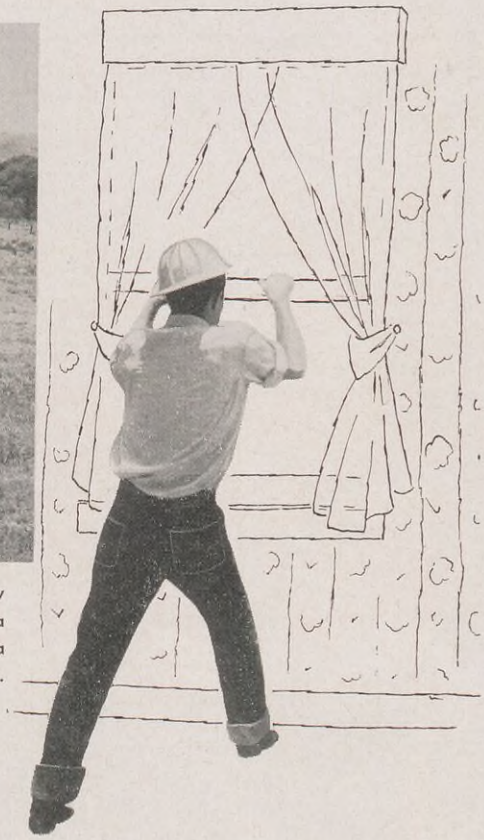


Rug beating? When this surveyor carries a rolled broadloom up the cellar stairs, he's duplicating his actions when he carries a transit in the California foothills. Sure-footedness is essential for safety.

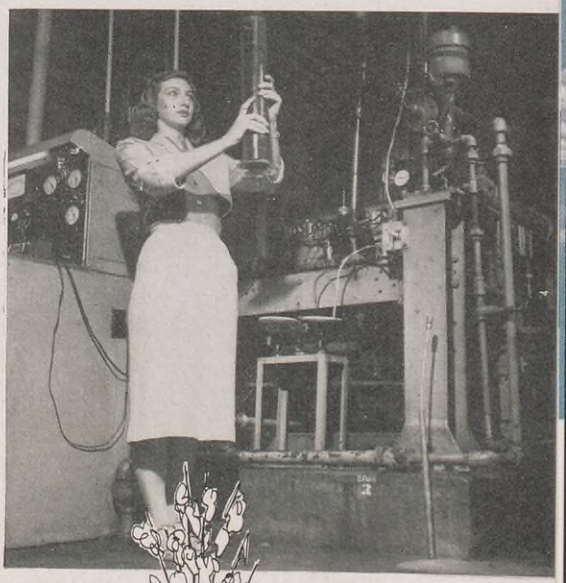
DID you ever realize, when doing the chores around home, that you go through some of the same motions on the job? The more carefully you make the motions at home, the better you do them on the job—and vice versa—and since careful movement is directly associated with accident prevention you're practicing to keep yourself safe. The roughneck who expertly manhandles drill pipe on a rotary rig won't be apt to strain his back moving furniture for his wife. The stenographer who thoughtfully soves the problem of a stuck file drawer can use the same technique, perhaps, on a stubborn ice cube tray. The pictures on these pages, all taken of Shell folks on the job, have been combined with sketches to give an idea of how it works.

Rug cutting? This man can whirl a cylinder across the floor of a Shell Chemical ammonia plant as smoothly as he waltzes his partner on the dance floor. No falls or bumping either place.

Here's another back-straining effort that can lay you low unless it's done correctly—lowering a window or lowering a drilling apparatus on a shot hole rig. Both are easy when done sofely.

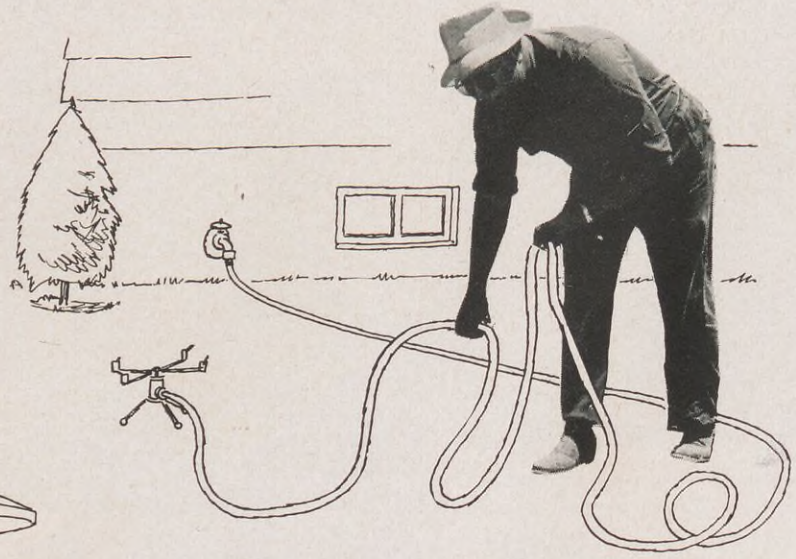


Even arranging flowers can be related to blending and measuring chemicals in a laboratory. Carefully done, there are no bad spills.



Golfiing or pipe fitting, it takes a sure eye to line things up correctly and hit the hole cleanly. A steady hand means a good job.

Keeping equipment in good condition means safety and less waste. That goes for the recording cables on a seismic truck and your own garden hose.

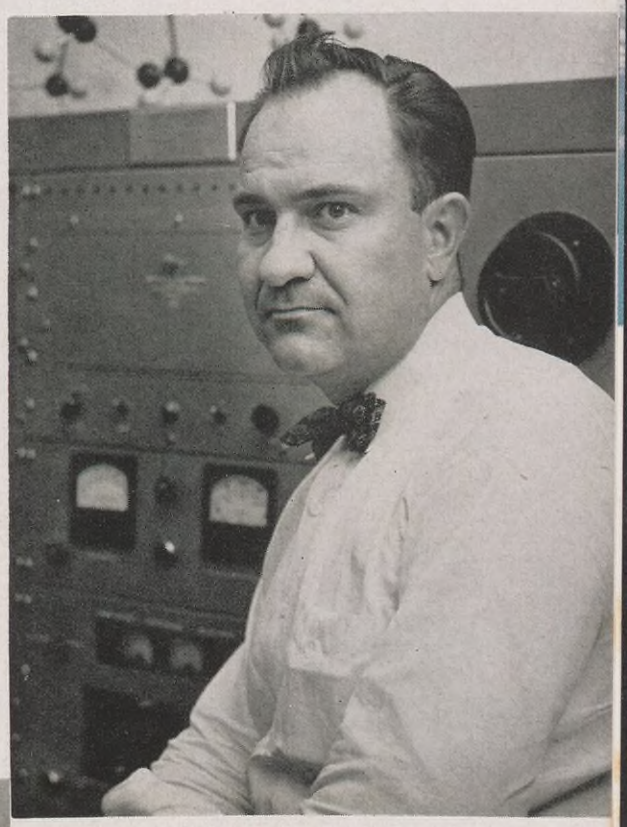


No spills or broken glass here. The man collecting samples for testing in a refinery laboratory probably never scatters trash when he empties it at home.

There's a difference between swinging drill pipe into position on a rig floor and swinging your favorite daughter in the back-yard. And yet, in some ways there's no difference at all. They both require a practiced hand, good judgment in speed and distances.

coast to coast

International Authority



M. J. O'Neal of the Houston Refinery was one of the two experts from the United States to address the Institute of Petroleum when its world symposium was held last month in London. "Application of High Molecular Weight Mass Spectrometry to Oil Constitutions" was the title of his paper. Speakers from Canada, France, Holland, Germany, United States and the United Kingdom presented 18 papers at the meeting.

For the uninitiated, Mr. O'Neal has explained that in mass spectrometry, electrons are shot at molecules. The different molecules fly apart in certain characteristic ways. By collecting the molecular fragments and separating them according to weight, the molecules can be reconstructed visually. To simplify it even further, Mr. O'Neal explained that "a mass spectrometer can be compared to a cannon shooting a house apart so that an architect can look at the pieces to see what the house was."

The newly-elected Shell Club officers of the Cleveland Marketing Division are shown at their first meeting, discussing the club's winter schedule. They are: (seated) John Walmsley, president; (standing, l. to r.) P. W. Wield, sergeant-at-arms; Frances Bevins, secretary; E. W. Barber, vice president and J. J. Mullaney, treasurer.

Seven-year-old angler, Eileen O'Toole, daughter of Cleve O'Toole of the Houston Refinery, recently hooked a five-foot tarpon. Because of its size, her grandfather had to help her land it.

C. I. Warren, Land Manager of the Calgary Exploration and Production Area, has captured the Alberta, Canada, skeet shooting championship with a score of 49 out of 50. It was not his first championship. He won the Kansas State championship in 1934 and the California State championship in 1939. The champion, a member of the Calgary Trapshooting Club, is shown above with his guns and a few of the trophies and shields won on the skeet range.

Shell Oil Company was represented at the Desk and Derrick Club's national convention this fall in Denver, Colo. Margaret Bertram, left, of Public Relations—Houston, is shown being greeted upon arrival by Vera Pennekamp and Helen Thomann, both of the Denver Exploration and Production Area.

Service Birthdays

Thirty-Five Years

C. R. FAUST
Pacific Coast Area
Production

E. E. JESSE
San Francisco Division
Operations

Thirty Years

P. E. ADAMS
Shell Pipe Line Corp.
Mid-Continent Area

E. AIKENS
Chicago Div.
Operations

W. B. BEWLEY
Tulsa Area
Production

P. C. BLAIR
Albany Div.
Operations

G. H. BORCHARD
Pacific Coast Area
Production

R. BOYES
Wilmington Refy.
Control Laboratory

H. E. BROWN
Wood River Refy.
Cracking

O. D. CALDWELL
Tulsa Area
Production

A. J. FAUCHEUX
Pacific Coast Area
Production

J. GRAY
Los Angeles Div.
Operations

J. H. HACKMAN
St. Louis Div.
Operations

A. F. HAGEN
Houston Area
Treasury

C. W. HARRIS
Shell Pipe Line Corp.
Mid-Continent Area

R. C. HICKS
Tulsa Area
Production

A. E. JAGO
Houston Office
Trans. & Supplies

F. H. MEHRTENS
Pacific Coast Area
Production

C. A. NYHOF
Tulsa Area
Crude Oil

W. G. REEDER
Shell Pipe Line Corp.
Texas-Gulf Area

Thirty Years (cont'd)

J. A. REID
New Orleans Div.
Treasury

O. V. RUBLE
Pacific Coast Area
Production

W. SILVA
Martinez Refy.
Engineering

R. STURGILL
Wood River Refy.
Engineering

T. E. THOMPSON
Pacific Coast Area
Production

V. E. VEAL
Pacific Coast Area
Production

A. J. WESTFALL
Portland Div.
Operations

Twenty-Five Years

C. J. ALEXANDER
New Orleans Div.
Sales

H. R. AYERS
Tulsa Area
Exploration

S. F. BALL
Martinez Refy.
Engineering

J. A. BRONSON
Shell Pipe Line Corp.
Mid-Continent Area

O. E. CARLSON
Tulsa Area
Gas

R. L. COLEMAN
Cleveland Div.
Sales

P. J. COLON
Norco Refy.
Cracking

L. N. COSTILOW
New Orleans Area
Production

A. W. CROCKER
Portland Div.
Operations

E. L. CRUTCHLEY
Wood River Refy.
Engineering

J. B. DUNLAP
Norco Refy.
Administration

R. J. EDMISTER
Martinez Refy.
Lubricating Oils

H. B. FAWLEY
Shell Pipe Line Corp.
Bayou System

V. L. FITZPATRICK
Pacific Coast Area
Production

L. C. FORBES
Tulsa Area
Production

E. J. FRAWLEY
Chicago Div.
Sales

R. G. FRIESE
Portland Div.
Operations

A. GAUBERT
Norco Refy.
Engineering

P. A. GOODMAN
New Orleans Div.
Sales

S. HARRISON
New Orleans Area
Land

S. J. HYMEL
Norco Refy.
Engineering

F. W. JONES
San Francisco Div.
Operations

M. W. LELAND
Shell Chemical Corp.
Head Office

I. J. LOUSTEAU
Norco Refy.
Engineering

R. C. McFARLANE
Houston Area
Exploration

E. T. McGARVEY
Wood River Refy.
Compounding

N. J. MITCHELL
Wood River Refy.
Gas

W. J. MONTZ
Norco Refy.
Treating

Twenty-Five Years (cont'd)

W. P. PAUL
San Francisco Div.
Operations

W. C. PUTNAM
Shell Pipe Line Corp.
West Texas Area

A. J. RICHARD
Norco Refy.
Engineering

E. J. ROUSSEL
Norco Refy.
Engineering

H. C. SCHNEIDER
Shell Development Co.
Houston

C. R. SCHRIBER
New Orleans Area
Production

L. A. SHAW
Wilmington Refy.
Control Laboratory

C. E. SLATER
Shell Pipe Line Corp.
Texas-Gulf Area

O. L. SMITH
Pacific Coast Area
Production

E. B. SNYDER
Shell Pipe Line Corp.
Mid-Continent Area

C. K. STAMM
Wilmington Refy.
Dispatching

W. W. STILLMAN
Los Angeles Div.
Sales

J. M. SULLIVAN
Denver Area
Exploration

G. H. TASSIN
Norco Refy.
Laboratory

N. D. TROXCLAIR
Norco Refy.
Cracking

C. O. WHITE
Midland Area
Treasury

SHELL OIL COMPANY

Head Office

20 Years

R. B. Harbottle.....Economic Development

15 Years

R. G. Pearson.....Public Relations

10 Years

P. F. Curran.....Purchasing-Stores
C. F. Price.....Public Relations
Virginia B. Seinsoth.....Financial

San Francisco Office

10 Years

Margaret A. Burns.....Legal

Exploration and Production

CALGARY AREA

20 Years

B. M. Lauderdale.....Production

10 Years

D. F. Norris.....Administration

HOUSTON AREA

20 Years

H. C. Edge.....Production
W. W. Welch.....Land
H. S. Winston.....Production

15 Years

J. B. Franklin.....Gas

10 Years

M. M. Hegar.....Purchasing-Stores
J. S. Majors.....Production
J. E. Porter.....Production
M. D. Temple.....Exploration

MIDLAND AREA

20 Years

H. M. Duncan.....Production

15 Years

C. G. Gerber.....Production
M. M. McClintock.....Production
E. W. McVey.....Production
E. A. Vogler.....Exploration

10 Years

J. L. Orr.....Production

NEW ORLEANS AREA

20 Years

C. R. Lancaster.....Production
H. C. Lay.....Production
J. L. Marcantel.....Production
O. O. Olano.....Production
J. L. Sanders.....Production

15 Years

R. Elliott.....Production
P. Gros.....Production
J. E. Richard.....Production

10 Years

G. G. Gomes.....Production

PACIFIC COAST AREA

20 Years

H. R. Aten.....Production
S. F. Gray.....Production
M. R. Howells.....Land
M. A. Priest.....Treasury

10 Years

P. M. Bush.....Production
Dorothy L. Duggan.....Production
G. D. Hoopingarner.....Production

TULSA AREA

20 Years

G. A. Clark.....Treasury
J. W. Cole.....Production
J. O. Edwards.....Production

15 Years

O. D. McDaniel.....Production
F. W. Summers.....Production
C. L. Thomason.....Exploration

10 Years

E. W. Meadows.....Gas
C. Pryor.....Production

Manufacturing

HOUSTON REFINERY

20 Years

J. K. Lane.....Automotive
J. H. Weidig.....Engineering

15 Years

M. E. McNeil.....Control Laboratory

10 Years

B. J. Booker.....Fire & Safety
V. M. Calhoun.....Cracking
M. A. Christian.....Automotive
E. F. Coburn.....Dispatching
J. S. Morris.....Engineering
H. R. Pyle.....Control Laboratory
R. Tanner.....Engineering
E. A. Thomas.....Engineering
R. Van Matre.....Engineering

MARTINEZ REFINERY

20 Years

R. D. Ferrarini.....Dispatching

10 Years

G. E. Ackerman.....Compounding
R. J. Bartolomei.....Engineering

NORCO REFINERY

20 Years

Gertrude V. Gebs.....Personnel & Indus. Rel.
C. A. Mayhall, Jr.....Gas

10 Years

G. C. Andry.....Engineering
J. Cambre.....Personnel & Indus. Rel.
W. A. Clouatre, Sr.....Engineering
D. E. Falgout.....Engineering

WILMINGTON REFINERY

20 Years

J. J. Allen.....Cracking
H. Rothery.....Compounding

15 Years

R. J. Lampe.....Alkylation

10 Years

J. D. Burns.....Dispatching
R. G. Conklin.....Engineering
Claire L. Morris.....Catalytic Cracking
G. A. Ruggles.....Engineering

WOOD RIVER REFINERY

20 Years

L. Grammer.....Engineering
W. E. Hurley.....Dispatching
B. E. Jun.....Engineering
C. L. Kirby.....Compounding
C. C. Little.....Engineering
H. G. Neeman.....Gas
E. Schiber.....Engineering
E. Scott.....Lubricating Oils

15 Years

G. E. Jones.....Engineering
G. J. Kinnikin.....Engineering
C. A. Reynar.....Engineering

10 Years

W. E. Boyle.....Engineering
A. L. Brown.....Engineering
C. J. Curran.....Engineering
E. H. Doty.....Cracking
N. E. Lockett.....Engineering
R. W. Thrasher.....Engineering
C. Unger.....Engineering
T. M. Vonderheidt.....Engineering
E. A. Witis.....Technological

Marketing

MARKETING DIVISIONS

20 Years

H. E. Lamphere.....Albany, Operations
M. E. Kujala.....Cleveland, Operations
E. F. McCormick.....Indianapolis, Sales
J. V. Pyle.....New Orleans, Operations
G. W. Johnston.....New York, Operations
J. J. Shannahan.....St. Louis, Sales

15 Years

E. W. Hood.....Atlanta, Sales
W. D. Broadwell.....Boston, Sales
S. M. Loudon.....Boston, Sales
T. Dunlop, Jr.....Los Angeles, Sales
C. E. Regent.....New York, Operations
H. J. Goforth.....St. Louis, Operations
D. S. Ledford.....San Francisco, Operations
J. R. Elmer.....Seattle, Operations

10 Years

C. L. Tewksbury.....Boston, Operations
M. H. Bade.....Chicago, Operations
E. C. Engbring.....Chicago, Sales
J. J. Krenach.....Detroit, Sales
C. A. Walker.....Indianapolis, Operations
Alma R. Wagstaff.....Los Angeles, Operations
G. Choate.....St. Louis, Sales

SEWAREN PLANT

10 Years

R. Davis.....Engineering & Maintenance
E. A. Johnson.....Depot
R. J. Riley.....Asphalt
J. D. Wallace.....Engineering & Maintenance

SHELL CHEMICAL CORPORATION

20 Years

T. P. Hefter.....Dominguez
H. A. Dufresne.....Houston
G. E. Martin.....Houston
B. E. Piva.....Shell Point

15 Years

E. W. Minor.....Dominguez
D. A. Robbins.....Martinez

10 Years

R. H. Bunzl.....Dominguez
A. Brown.....Houston
D. B. Burns.....Houston
T. N. Butzke.....Houston
L. S. Dagg.....Houston
M. U. Fail.....Houston
G. M. Horton.....Houston
J. J. Jones.....Houston
J. R. McDonald.....Houston
R. L. Murdock.....Houston
Eunice L. Sampson.....Houston
H. L. Shores.....Houston
B. L. Stanley.....Houston
E. G. Wooley.....Houston
J. D. James.....Torrance
S. T. Raycraft.....Western Division

SHELL DEVELOPMENT COMPANY

20 Years

Fea T. Dean.....Emeryville
G. H. Hoffmann.....Houston

15 Years

E. A. Long.....Emeryville
P. K. Ustin.....Emeryville

10 Years

G. H. Ackerman.....Emeryville
B. G. Carbis.....Emeryville
J. P. Casey.....Emeryville
H. E. McKinney.....Houston

SHELL PIPE LINE CORPORATION

20 Years

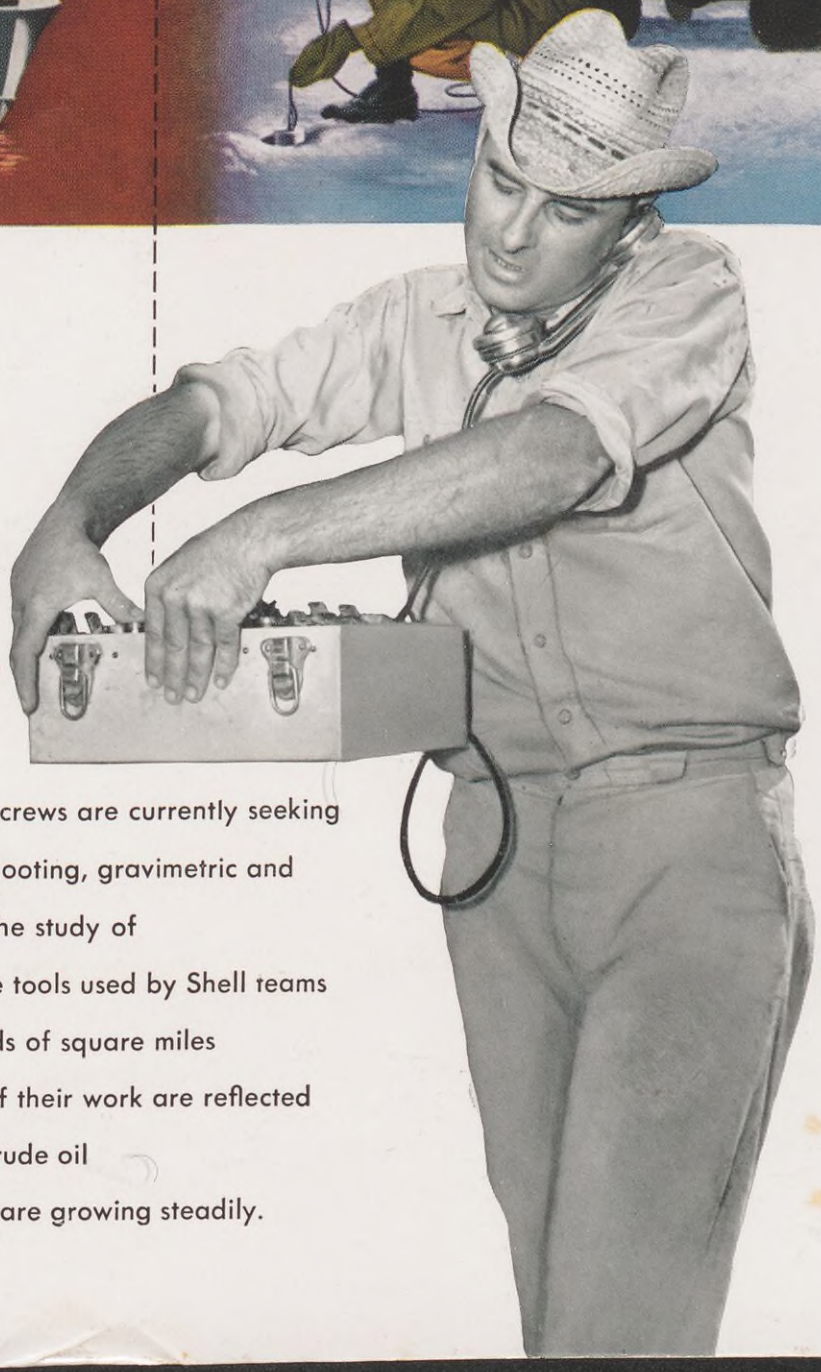
L. Moore.....West Texas Area
T. E. Suggs.....West Texas Area

10 Years

G. P. Drew.....Head Office
E. L. Garner.....Mid-Continent Area
S. W. Millard.....Head Office

matters of *Fact*

FROM THE GULF OF MEXICO TO THE ARCTIC CIRCLE...



. . . . more than 50 Shell geophysical crews are currently seeking new oil fields. Seismic shooting, gravimetric and magnetic surveys, core drilling and the study of surface outcrops are the tools used by Shell teams which cover hundreds of thousands of square miles each year. The results of their work are reflected in the size of Shell's all-important crude oil reserves which are growing steadily.

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SCC

High Wire.....

These men work in the sky.
W. B. Gillham, left, and B. G. Booth spend a good portion of their time well above ground level, working on high voltage lines. Rubber gloves, safety belts and pole climbers are symbols of their trade to these Electrical Linemen at Julius Hyman and Company, Denver. Their efforts help assure a steady supply of electrical power to operating units and other facilities at this location.