

SHELL NEWS

APRIL 1952

REVIEW OF 1951

the OIL business: competition and cooperation

by H. S. M. Burns, President, Shell Oil Company

ALL of us who work for Shell are part of a great industry which contributes much to the welfare of our country, helps maintain our high standard of living, and is a major factor in our expanding national defense effort.

The Oil Industry long since discovered that service to the public is the one sure road to success. On a basis of price, quality and diversification of products, convenience of supply or any other standard of service, the Oil Industry invites comparison. It has achieved its position by running its business efficiently and making the frequent adjustments necessary to keep pace with the changes in our industrial life.

The past 50 years have called for continuous petroleum progress. The mushrooming growth of the automobile demanded more and better fuels and lubricants. Oil now heats more than 5½ million homes. The diesel has become the standard railroad locomotive. Farm mechanization and chemical crop control are increasing the nation's food production. And the tremendous requirements of two world wars were met rapidly and efficiently.

The "spark plug" of the Oil Industry has always been vigorous competition between the thousands of companies within it. Yet, strange as it may seem, the very companies that compete with each other are essential

units of an integrated structure. If one part of it breaks down, the others are vitally affected. There are, of course, integrated companies—Shell among them. But there are many companies and individuals who confine their activities to exploration for and production of crude oil; some produce and refine; others refine but do not produce; and there are those who engage only in transportation and marketing. These are all essential links in a chain which reaches, in many cases for thousands of miles, from a hidden natural resource to a service station.

To maintain its service to the public, the Oil Industry has been engaged in a tremendous expansion program which started five years ago and which is continuing at an accelerated rate.

At the end of the second World War, oil men anticipated an increase in demand but had no way of accurately measuring it. Nevertheless, an ambitious expansion program was planned. To date it has cost in excess of 15 billion dollars—an amount far greater than that spent by any other industry for expansion in the same period.

The Industry's foresight and courage in this undertaking has been completely vindicated. The post-war development brought more automobiles, oil heaters and other petroleum consuming units and the public called

for more petroleum products. These have been supplied in abundant quantities.

Today, the Industry is faced with a civilian demand that is still increasing, in addition to which it must be geared to meet current and future military requirements.

Thousands of oil companies have reacted to this situation in characteristic fashion. Last year more than 3 billion dollars were spent on expansion and it is likely that an even larger amount will be used for this purpose in 1952. One rarely picks up the newspaper without noting some new or expanded oil company facility going into operation.

The major portion of the Industry's capital outlay has been expended in the search for more crude oil. Important new discoveries have been made both in the United States and Canada. At the same time, there have been many bitter disappointments. The men who were responsible for Shell's Richey #1 discovery well in Montana experienced the thrill of success. Those who labored on the Shell well at Big Muddy Lake, Saskatchewan, in temperatures which dropped as low as 40° below zero were not so fortunate. After months of hard work under the most heart breaking conditions, they were forced to abandon the hole at 10,000 feet. The cost of drilling that dry hole was \$330,000.

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

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BIG PLAYER IN BIG PLAY

Rotary Driller Russell Alberts on this month's cover, photographed against the rugged backdrop of the Ventura Avenue Field of California, stands as a symbol of the thousands of employees who figured in the activities of Shell's biggest year in the search for new oil production and reserves. Accelerated exploration, and an expanded drilling program that saw the completion of 481 new wells in 1951, were part of an over-all program to meet anticipated increases in petroleum demand.

Photo by Thomas Hollyman
from "THE OILMEN"

And so it goes. Crude oil is becoming more difficult and more expensive to find. But oil companies, both big and little, are finding it. Today the United States has proved reserves of crude oil in excess of 27 billion barrels as against 7.5 billion barrels in 1925—this despite the fact that 35 billion barrels of petroleum products have been consumed since 1925.

The Industry has also made large capital investments in new pipe lines, refineries, water terminals, bulk depots, service stations and other links in the chain from well to consumer.

Shell Pipe Line Corporation, for example, is engaged in building a large capacity line from West Texas to the Houston Ship Channel Area, a multiple ownership project which it will operate for all the owners, and the second such major project it has undertaken in less than four years. A program to enlarge Shell's over-all refinery capacity by 100 thousand barrels daily is well along but will not be completed until

1953. Important additions to Shell's products pipe lines have been approved and are now getting started. Last year Shell's Marketing Department completed the largest annual building program in its history. Other companies in the Oil Industry can tell similar stories.

Hundreds of millions of dollars have gone into research facilities which have made petroleum technology outstanding in this age of scientific wonders. Significant among the results of

petroleum research is a comparatively new industry—petrochemicals. This industry, in which Shell is a pioneer, has become an important supplier of basic materials that go into the making of thousands of products totally unrelated to the Oil Industry and its normal markets. Large capital investments have been made in petrochemical plants.

Even to those of us who have grown up in the Oil Industry and who are accustomed to seeing big jobs tackled with skill and imagination, the events of the past five years have been somewhat staggering. Our Industry has moved forward in seven-league boots.

An important aspect of any expansion program is its financing. It is no exaggeration to say that much of the Oil Industry's growth, particularly in the past five years, would not have been possible except for the traditional practice of reinvesting in the business the *major* portion of the Industry's earnings.

Shell is a case in point. Year after year we have consistently put back into the business more than half of our annual earnings. Last year it was 59 per cent. There is no apparent reason why the story should be any different in 1952 or '53 because many of the new facilities now under construction or on the drawing-boards will not be completed until 1953 or later. Consequently, they will necessitate a large outlay of cash in both those years.

We of the Oil Industry have no crystal ball to help us scan the future any more than has anyone else, but we do have faith in the United States and its capacity for growth. Herein lies the reason why the Oil Industry has never hesitated to expand in anticipation of future markets. And this we will continue to do—so long as there remains a reward for success in a free economy.

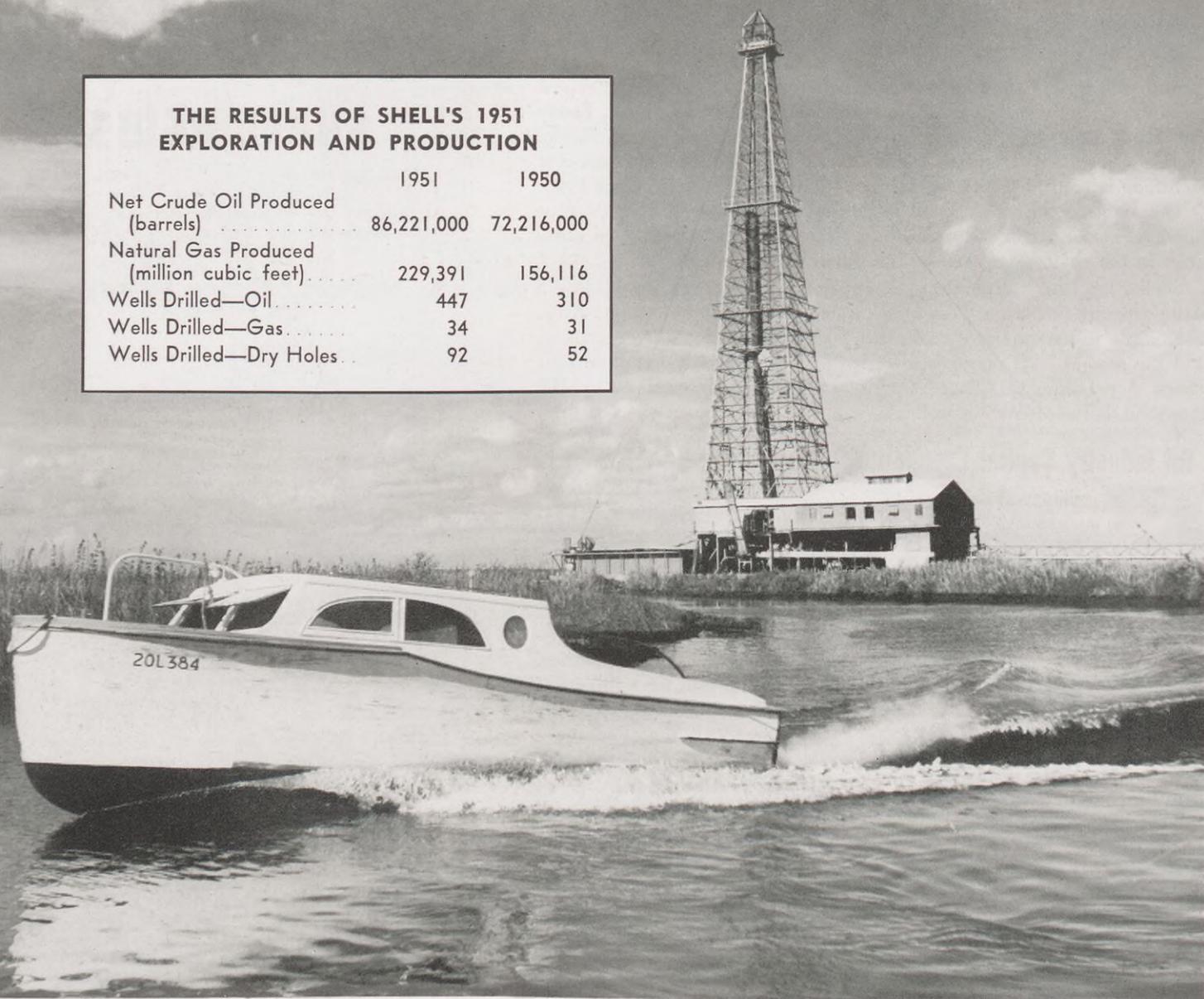
Oil Industry Capital Expenditures

millions of dollars

1946	\$1,750
1947	2,500
1948	2,950
1949	2,650
1950	2,500
1951	3,100
TOTAL	15,450

**THE RESULTS OF SHELL'S 1951
EXPLORATION AND PRODUCTION**

	1951	1950
Net Crude Oil Produced (barrels)	86,221,000	72,216,000
Natural Gas Produced (million cubic feet)	229,391	156,116
Wells Drilled—Oil	447	310
Wells Drilled—Gas	34	31
Wells Drilled—Dry Holes ..	92	52



The Weeks Island Field in Louisiana is typical of Shell's accelerated production program in 1951. With six to seven drilling strings operating continuously, 18 wells were completed, the field's productive limits extended, and the average daily net production increased to more than 20,000 barrels.

66 Cents of Shell's 1951 Expansion Dollar Went for Exploration and Production

ONE way to meet rising petroleum demands is to open new oil frontiers, and in this endeavor Shell topped several of its previous records during the past year and achieved some highly satisfactory results. Company directed exploration crews ranged the North American continent from the off-shore tidal benches of the Gulf of Mexico to the Yukon border in Canada. There were 12 seismic crews and four surface mapping parties operating in Canada alone.

The leads they obtained, along with information from other sources, resulted in wildcat drilling ventures spread out over terrain almost as vast as the area that was explored. The northernmost drilling operation was 450 miles north of Calgary in Alberta; the southernmost not far from Corpus Christi, Texas. By year's end 92 exploratory wells had been drilled—a dozen more than in 1950—and these had resulted in 30 oil and gas discoveries.

All this activity in search of new oil reserves cost money, big money. The average bill for an exploratory well was \$180,000, with the cost of some ranging up to a half-million, which explains in part why



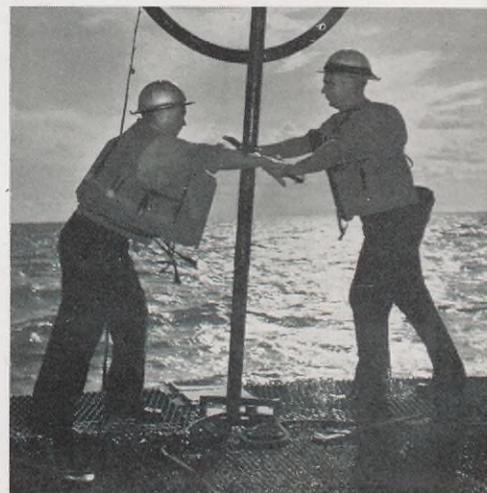
The stepped pace of exploration, ranging from the Gulf of Mexico to northern Canada, helped establish new oil producing provinces in areas where Shell has extensive holdings. Every type of exploration vehicle was used. The helicopter, above, rests in the tracks of a swamp buggy.



To insure skilled men for the future Shell trained new geologists in the field. Those above are in California.



At the same time many seasoned crews were ranging the frozen ground of Canada in snow vehicles.



Others were removing shot hole casing from shallow Louisiana bays.

66 cents out of every dollar of Shell's capital expenditures went for exploration and production.

One of the reasons why the cost of exploratory drilling was so high also points up the most significant feature of the whole 1951 drilling program. Never before has the Company pioneered to such a great extent in the opening of oil frontiers far removed from established productive areas. In a number of cases the venture didn't pay off; the holes were abandoned as dry or unproductive. But in some notable instances it did, proving again that great potential U. S. and Canadian reserves still remain to be tapped in areas almost untouched by the Oil

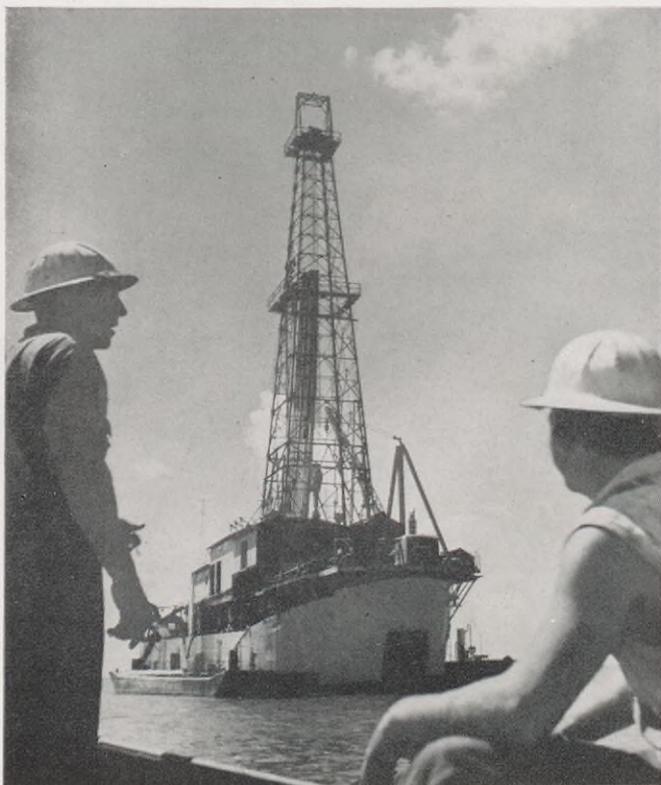
Industry.

One of the most important wildcats of the year, Shell's Northern Pacific No. 1 in northeastern Montana, keynoted this trend to new and untried areas. On an initial production test, the well flowed 1,656 barrels of high gravity oil in 24 hours, but the most significant fact was that it was located a hundred miles from the nearest production and was the first well in the Montana part of the Williston Basin.

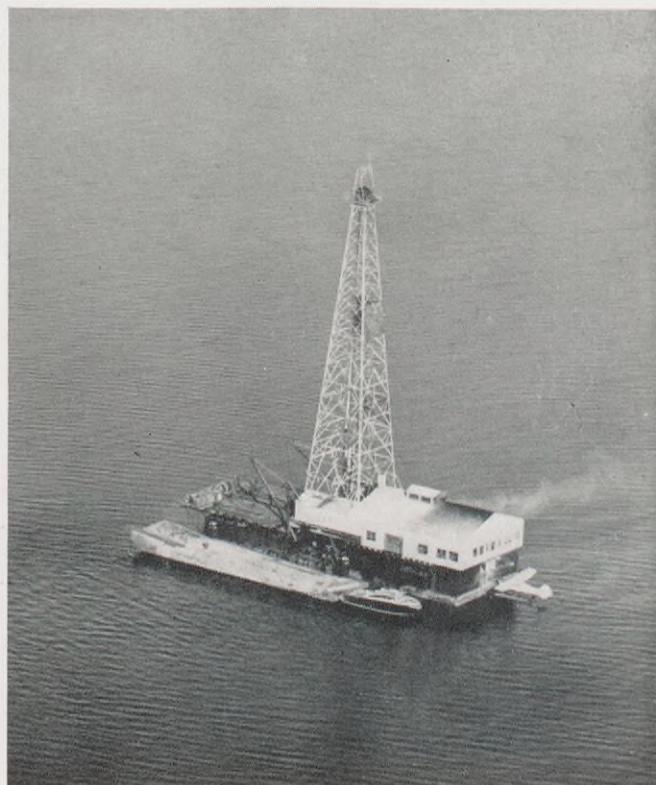
The broad pattern of tests turned up some other interesting results. Shell added Wyoming and Nebraska to the list of states in which it now has production. As widely separated as eastern Texas and

INTERESTING SHELL DISCOVERIES IN 1951

Calgary Area—Mackid No. 1 in the Okotoks area. **Pacific Coast Area**—Northern Pacific No. 1 and Pine Unit No. 1 in Montana. **Houston Area**—Caraway, Puckett No. 1 sulfur-gas well in eastern Texas. **New Orleans Area**—Battledore Reef in Main Pass, Block 35; Atchafalaya Bay, and Lake Maurepas. **Midland Area**—Sterling No. 2 at Reineke, West Texas, and Hightower, New Mexico. **Tulsa Area**—Three discoveries in the Denver Basin.



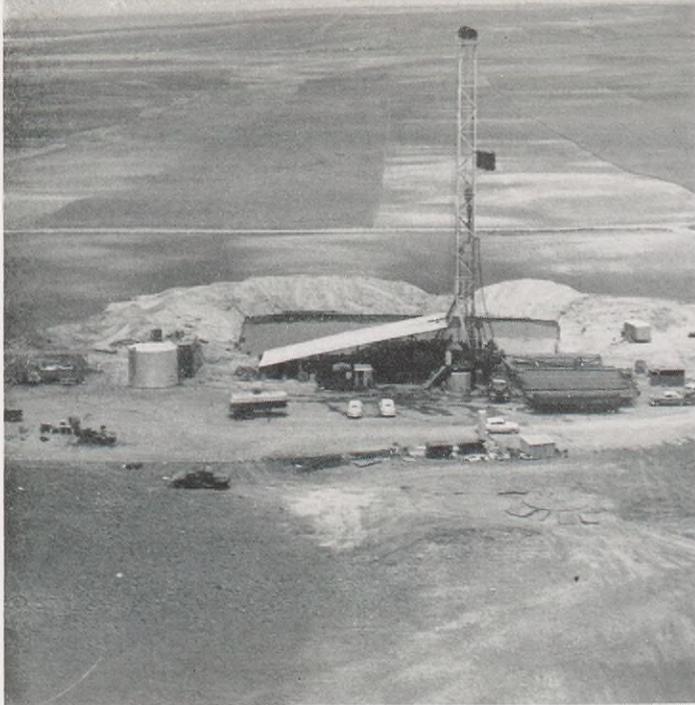
Shell's Marine Rig No. 10, a converted LST which is operated in the New Orleans Area, drilled the initial test in Caillou Bay, Louisiana.



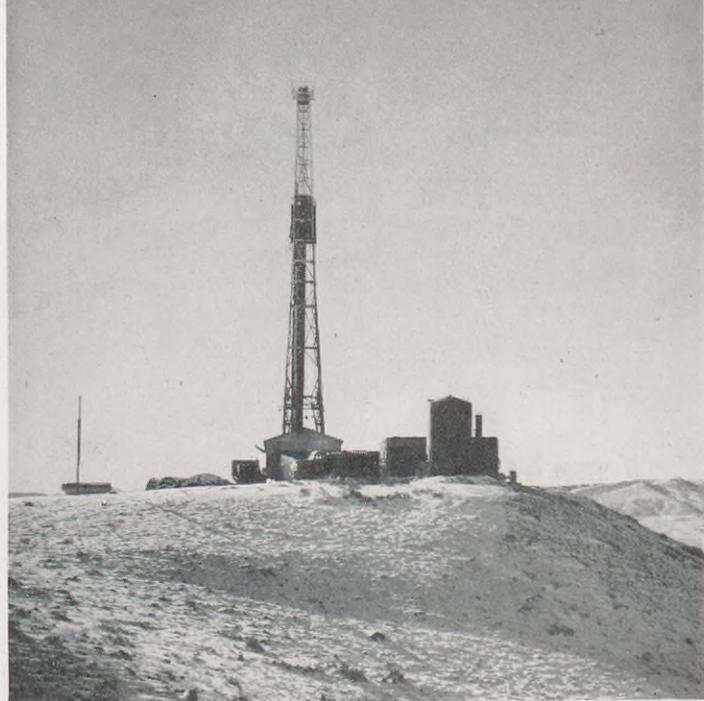
Aerial view of one of three Shell wells drilled at Lake Maurepas, Louisiana, in 1951. A competitor drilled the initial test on a Shell farm-out.

southern Alberta, two successful wildcats brought in gas containing high quantities of sulfur—a vital material presently in short supply for civilian and military needs. The Texas well, drilled in Rains County by an independent oil company with Shell support, tested 42.4 per cent hydrogen sulfide. Shell has 3,000 acres under lease around it and has followed the discovery with development drilling. The other sulfur discovery is 18 miles southeast of Calgary, not far from Shell Oil Company of Canada's new sulfur extraction plant in the Jumping Pound Field. The gas tested 32 per cent hydrogen sulfide, and this well, too, is being followed by step-out drilling.

Though drilling in new areas during the year played a big part in Shell's expansion program, development of established fields still held its position as the most important method of increasing production. In this exploitation activity, Shell brought in 451 new producers, thus expanding the areas and increasing the output of its fields. While development work progressed in scores of fields too numerous to mention, in some cases the results obtained were almost as spectacular as Shell's wildcat discoveries. An idea of the extent of development drilling can be drawn from a partial list of the fields where activity occurred. It covers all six Ex-



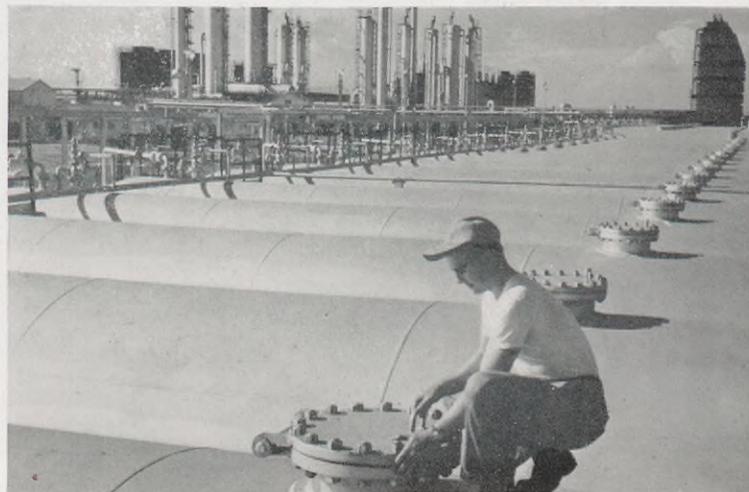
Shell's Northern Pacific No. 1 discovered the first oil in the Montana part of the Williston Basin and spurred exploratory drilling in the area.



Government No. 1, 20 miles east of Casper, gave Shell its first production in Wyoming; well was completed in sub-freezing weather.

GAS

Sparked by several new discoveries and completion of 34 gas wells in 1951, Shell's net production of natural gas was up more than 46 per cent from 1950. The result was capacity operations in all gas plants and plans for expansion of the TXL, Wasson and Elk City plants. In some areas—like Colorado, southern Oklahoma, southern and eastern Texas, and Louisiana—surveys were under way to evaluate the need for additional plants. Increased gas production considerably boosted Shell's income from the sale of gas.



Wasson Gas Plant operated at capacity to handle increasing production. This plant and two others are scheduled for expansion.

ploration and Production Areas and includes the following fields:

Calgary Area—Okotoks and Shell of Canada's Jumping Pound Field.

Pacific Coast Area—Brea Canyon, Ventura Avenue, North Antelope Hills, and South Mountain.

New Orleans Area—Weeks Island, St. Gabriel, Burtville, South Pass, Main Pass, Clovelly, Lake Maurepas, and LaPice.

Tulsa Area—Elk City, Fox-Graham, Sholem-Alecham, Big Mineral, Sandusky, Rusmag, and Mount Hope.

Houston Area—Red Fish Bay, Helen Gohlke, Big

Foot, Clam Lake, Nome, and Ginger.

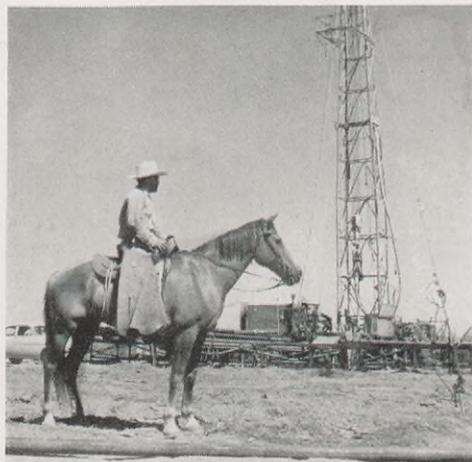
Midland Area—Brunson-Hare, TXL, Benedum, Denton, Jordon, Von Roeder, and Wasson.

In several instances development drilling confirmed the belief that not all the oil frontiers yet unconquered are spread out horizontally on the map. Pioneering can be done vertically, too. For example, Shell did just that in the Nome Field of southeast Texas, where an old depleted well was deepened below previously known oil accumulations and new oil-bearing formations were discovered. These finds led to renewed drilling activity at Nome. At Weeks Island, Louisiana, long famed for its deep wells and

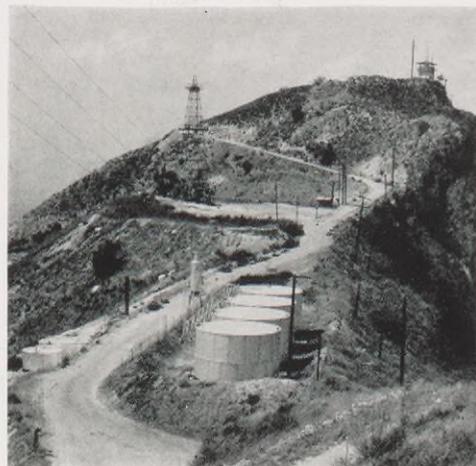
Accelerated Development Drilling Boosted Oil and Gas Production



In the Ventura Avenue Field in California, further extension and development of the highly complex structures raised the field's average daily production by more than 10,000 barrels.



At Big Foot, Texas, Shell added 47 development wells to bring its total up to 74 in this shallow field.



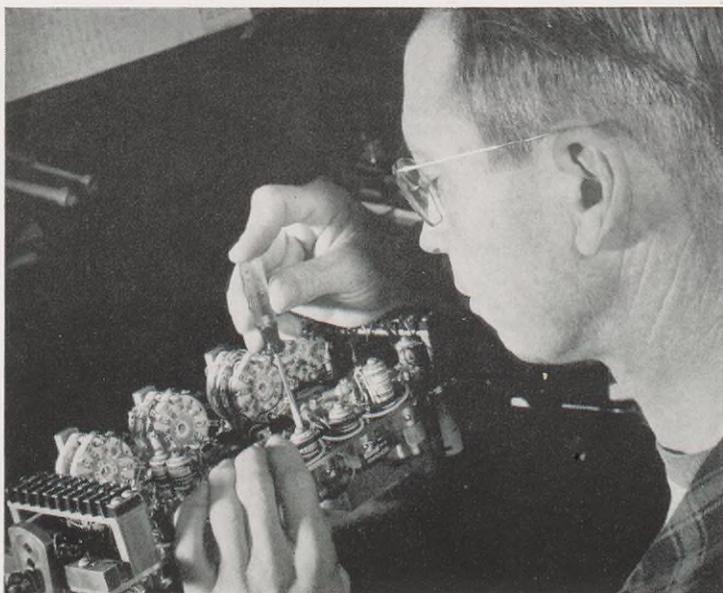
South Mountain Field, California, was the site of one of two large oil property purchases in 1951.

numerous producing zones, Shell's Gonsoulin No. 1 not only extended the field's productive limits laterally, but also discovered a new gas sand extending from 16,571 to 16,600 feet.

The latent possibilities of established fields were also demonstrated in the Brea Canyon Field, one of the oldest in the Los Angeles Basin of California. For a field that was discovered in 1886 and considered by many to be fully developed in 1928, the pumping field turned out to be a lively oldster when two flowing wells were brought in, both producing more than a thousand barrels a day. Continued development and extension of the field doubled

its production during the year. Similarly, the drilling of four new wells and reworking of seven old ones in the Clam Lake Field, one of Shell's older fields on the Texas Gulf Coast, increased the rate of oil production there from 20,000 barrels per month to 40,000 barrels.

Taking another route to improve its crude oil position, Shell made outright purchases of two major producing properties. The properties of an independent producer in the South Mountain Field near Santa Paula, California, were acquired in one of the biggest purchases by the Company for some time. These properties, which run along the ridge and



An improved amplifier for seismic exploration was developed and is now being manufactured by the Exploration and Production Technical Division at Houston.



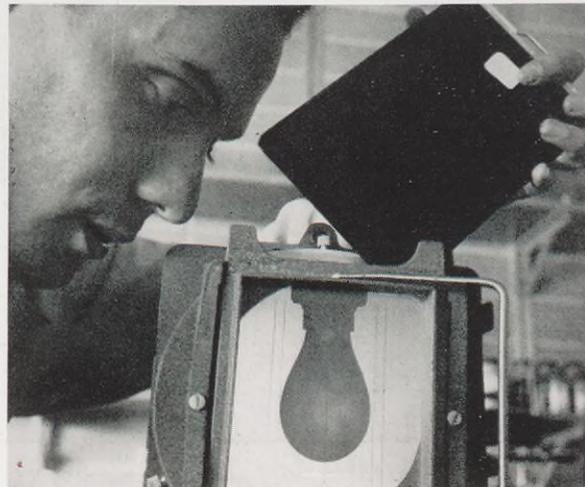
An analogue computer, variation of the "electronic brain," was developed by the Technical Div. to solve special problems.

EXPLORATION AND PRODUCTION TECHNICAL DIVISION

Under an organizational change that brought together under one head both research and operating technical staff, the Exploration and Production Technical Division worked in two general fields:

Technical Services were performed by experts acting as consultants to the operating areas and working on special problems of applied research. The group serves as a liaison between research and the field.

Research concentrated on studies of new and better ways to find oil, and methods to produce more oil from fields already in existence.

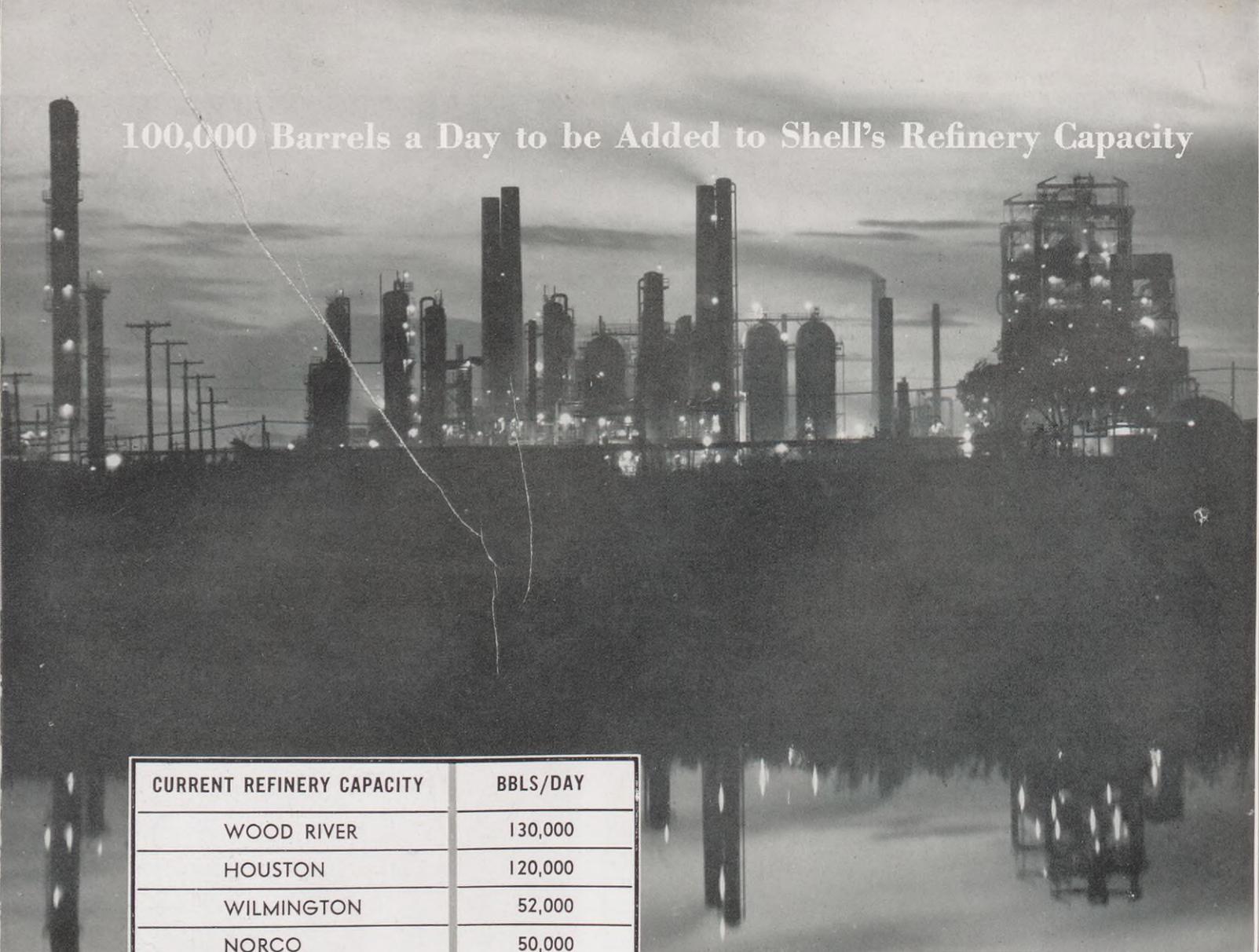


Not a light bulb, but a drop of oil magnified 10 times for the purpose of basic research into the behavior of petroleum.

slopes of a 2,200-foot mountain, consist of 940 acres and 30 producing wells, and Shell immediately set out to develop them further. Thirty miles from the Norco Refinery in Louisiana, the Company purchased the Lillian LaPice Lease in the LaPice Field, thus acquiring 320 acres and five producing wells in a field where Shell already has substantial facilities and production.

Conservation of oil reserves also came in for considerable attention in 1951. At Benton, Illinois, scene of a unitized water flooding project, a "Millionth Barrel" celebration was held in the field to mark the recovery of 1,000,000 barrels more oil

than would have been produced in the same period without the flooding project. The fact that the producing rate reached 8,000 barrels per day during the year (compared to an estimated normal rate of 1,400 barrels per day) indicates that there are several million barrels of additional oil to be recovered as a result of this secondary recovery venture. The unitized gas repressuring project in the Elk City Field of western Oklahoma was formally dedicated, but even as the ceremonies were held plans were under way to increase the capacity of the gas processing plant by 50 per cent. Daily crude oil production in the field increased from 18,000 to 21,500



100,000 Barrels a Day to be Added to Shell's Refinery Capacity

CURRENT REFINERY CAPACITY	BBLS/DAY
WOOD RIVER	130,000
HOUSTON	120,000
WILMINGTON	52,000
NORCO	50,000
MARTINEZ	45,000

During 1951 the Wood River Refinery worked virtually at capacity. Planned modernization and replacement include a large distillation unit and facilities for manufacture of aviation gasoline.

barrels, of which Shell's interests represent about 75 per cent.

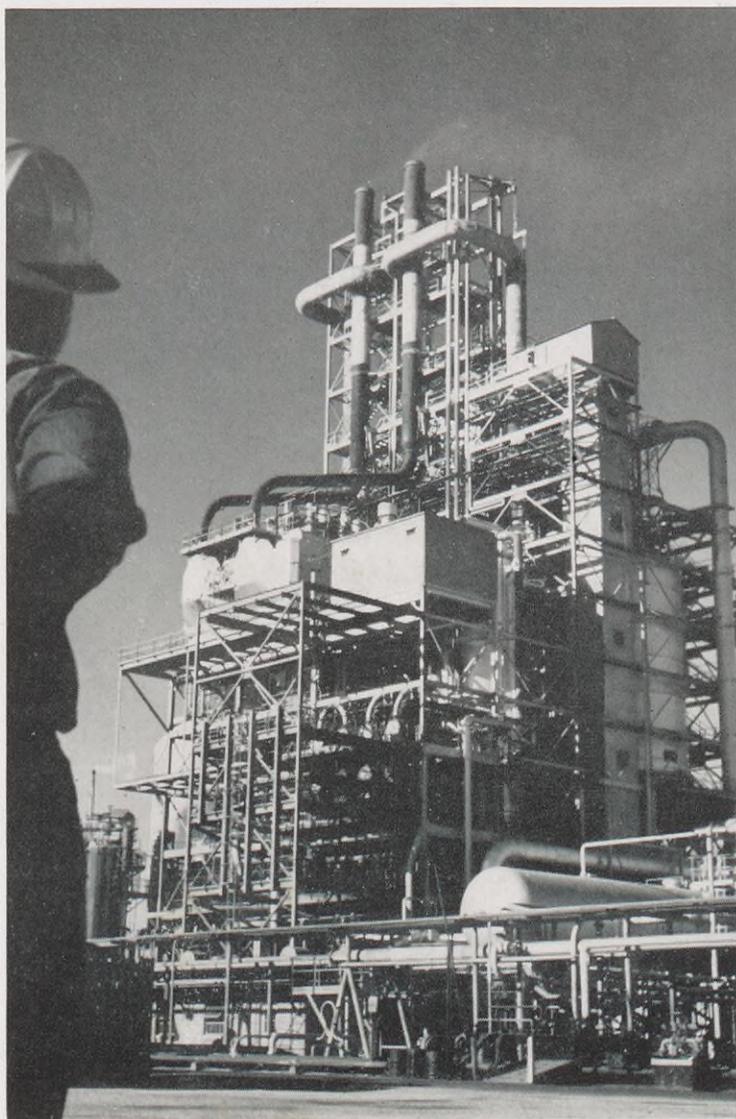
A high pressure gas distribution system was inaugurated in cooperation with other companies in the TXL Field of West Texas to gas-lift production from the Ellenburger Reservoir. And in another facet of conservation, Shell began a program to control casing corrosion in the Wasson Field of West Texas. All 237 Shell wells in the field are involved, and it is estimated that the program will effect savings amounting to 2½ to 3½ million dollars during the remaining 30-year life of the field.

The unitized conservation projects are examples

of the good that can result from the paradox of cooperation in a highly competitive industry. Close attention to conservation, combined with intensified exploratory drilling and development of established fields, make up the major contributions of Shell's Exploration and Production Department in the current program to meet anticipated petroleum demands.

Refineries Work at Capacity

THE Company's five refineries worked at virtual capacity all year. This resulted in a 13 per cent increase in crude oil processing over 1950—and established an all-time high.



The 175-foot-high catalytic cracking unit at the Wilmington Refinery, above, will require additional feed stock to be supplied by improved crude oil distillation facilities.



At the Houston Refinery, new benzene and toluene units are expected to be ready late in 1952. Above, construction goes on against a background of existing crude oil distillation units.

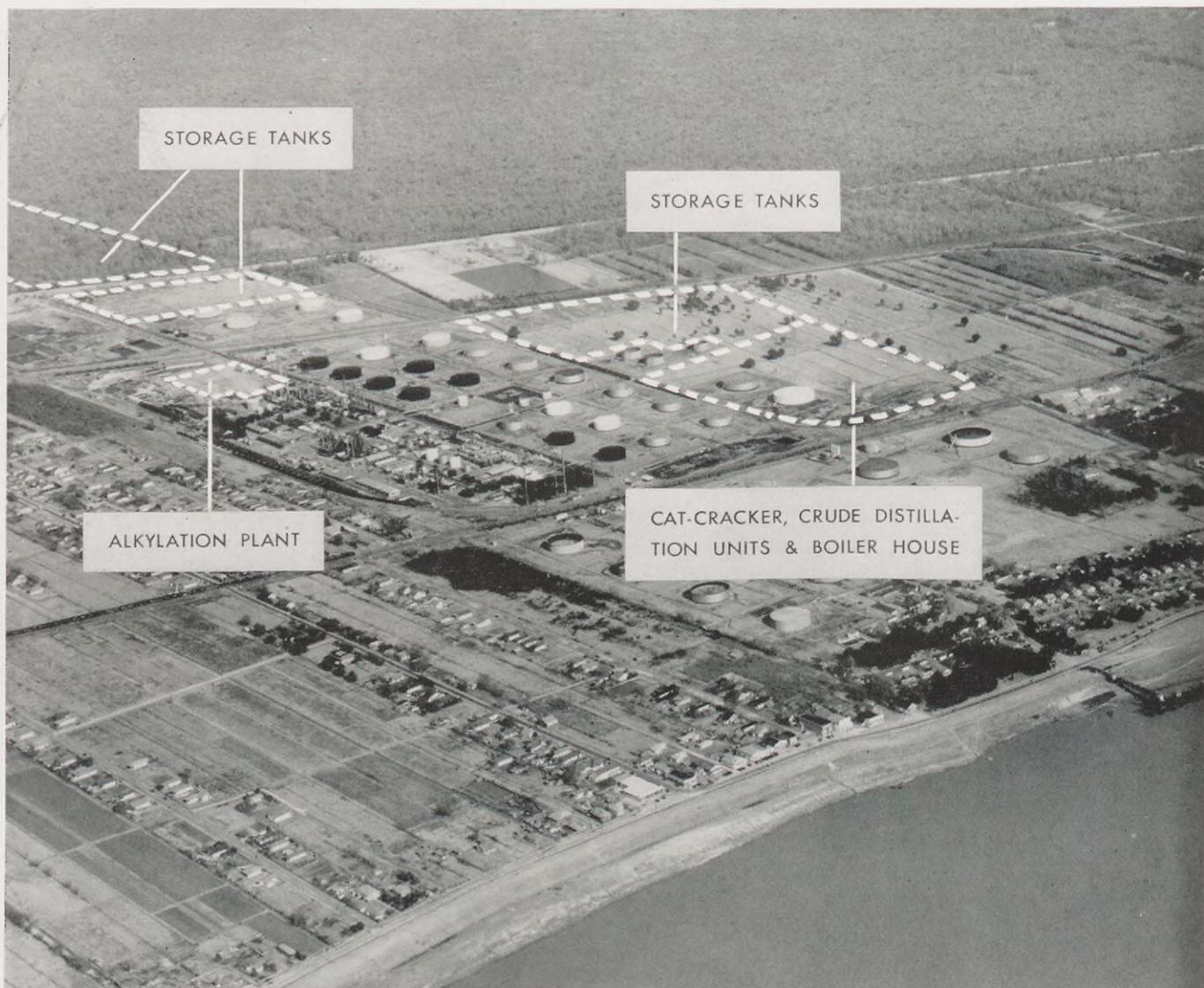
During the year, plans were announced for a new plant at Houston and for additional capacity at Wood River and Norco. Last month, plans for a modernization and replacement program were announced for Wilmington and Martinez. When the program is completed the Company's refining capacity will have been increased by about 25 per cent or 100,000 barrels a day.

First of the new units to be finished will be the one at Houston which is expected to go on stream late in 1952. It will manufacture benzene and toluene, both products in great demand by national defense industries. 1,250 barrels per day of pure

benzene and 2,500 of pure toluene will be produced when the unit is ready late in the year.

The new construction at Wood River will take about two years for completion since it involves replacements and additions to practically all the basic units of the refinery. As each particular project is completed, however, it will be placed in operation so that the output and product range of the refinery will increase gradually beginning at the end of 1952. Among the plants under construction are a distillation unit and improved facilities for the manufacture of aviation gasoline.

During the last few years Shell's crude oil pro-



This aerial view of the Norco Refinery shows existing facilities and the location of major new construction expected to be completed during the next two years. The addition of a catalytic cracking unit, a new crude oil distillation unit and extensions to the alkylation plant will increase present capacity by 50% and permit Norco to manufacture a substantial quantity of aviation gasoline. Additional tank storage is also planned.

duction in Louisiana, particularly at Weeks Island, has been mounting at a rapid rate and is expected to continue. The Norco Refinery, easily reached by water from most of the Louisiana fields, is the logical receiving point for Shell's production in the area. This is the principal reason why Norco is to undergo a major "face lifting" operation during the next two years. When the job is done, Norco will have increased its present capacity by 50 per cent. It will have a "cat-cracker" (the fifth in Shell—the first at Norco), a gas recovery unit and expanded facilities in all departments to help handle the increased refinery throughput. Like Wood River, Norco will

be able to manufacture sizable quantities of aviation gasoline.

Replacement and expansion of facilities at Wilmington Refinery will begin later this year. Principal feature of the program is to be an enlargement of crude oil distillation facilities which will enable Wilmington to handle the increasing demands for major products being made on it by Pacific Coast consumers—both civilian and military.

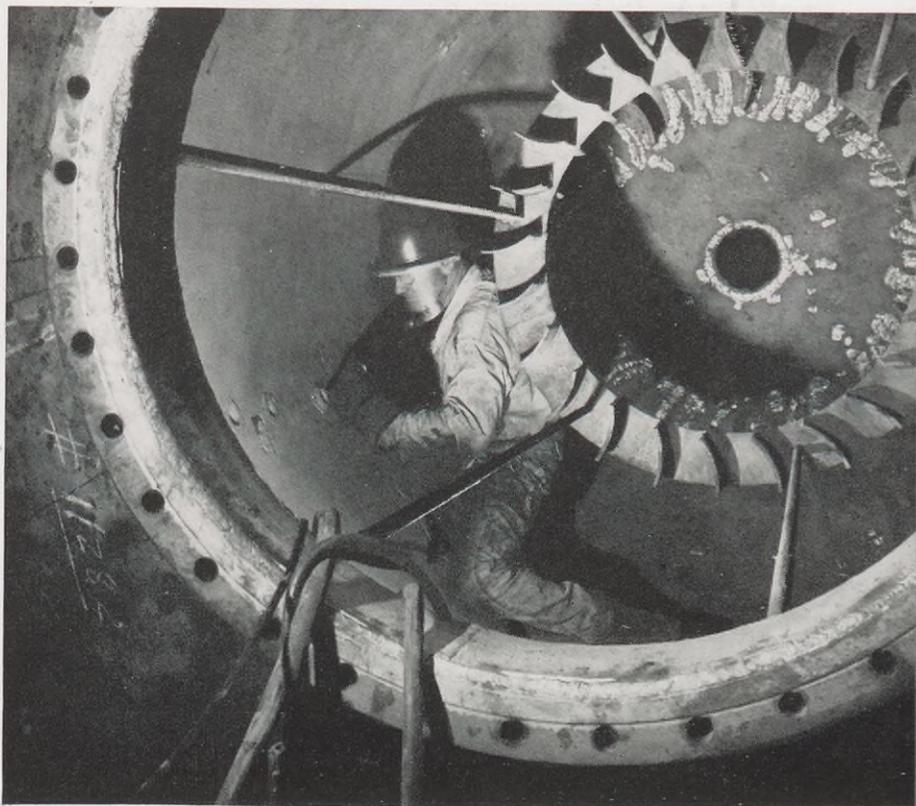
At Martinez, the output of the sulfonates plant was doubled during 1951. Sulfonates are in great demand as an important ingredient for heavy duty lubricating oils. Work will commence shortly on



At the Martinez Refinery modifications will increase present crude oil capacity as part of the expansion program.



The titration being run, above, at the Wood River Research Laboratory helps determine amounts of chlorides in engine deposits. At Wood River and Houston research is carried on to improve products and manufacturing processes.



The Boilermaker, above, is chipping the inside of a reactor mixer in the toluene plant at the Wilmington Refinery. This is one of thousands of relatively small but necessary maintenance jobs in which approximately half of the employees at each Shell refinery are engaged. Without constant repair and overhaul of existing facilities it would not be possible to keep refinery operations at peak efficiency. The combined effects of efficient utilization of present plant capacity and the new expansion program, now getting under way, should enable Shell to meet increased product demand and to maintain its competitive position in the oil industry.

modifications in equipment to increase the crude distillation capacity—the net result will be to increase considerably the refinery output of most products manufactured at Martinez.

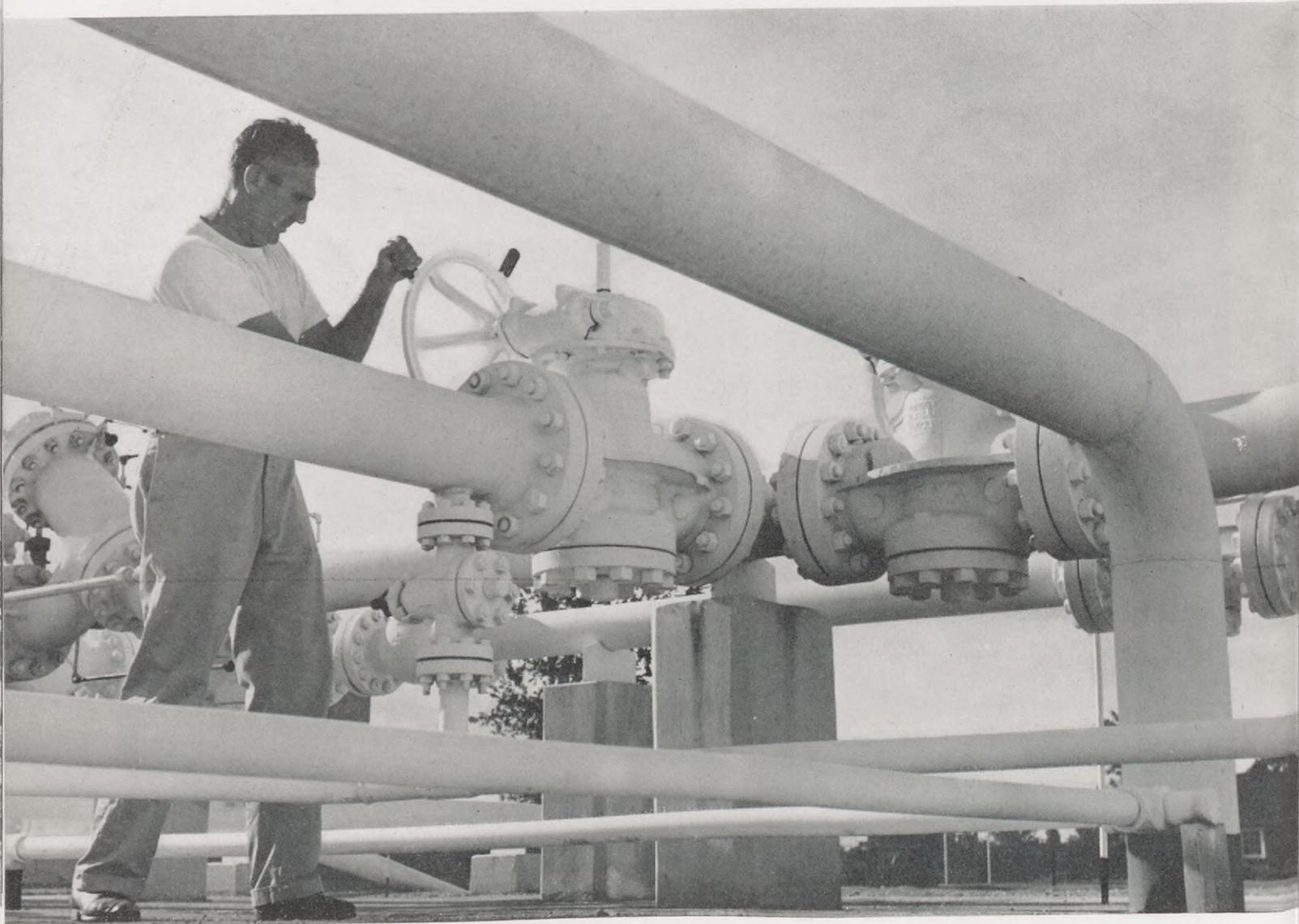
Product Development

More and more American industries are finding need for lubricating oils which will perform well at high temperatures. Last year Shell research came up with several top-quality chemically inhibited industrial oils. Among them is an insulating oil which retards oxidation. This has been adopted by the electrical utility industry. A new turbine oil with

improved film strength has been introduced on an experimental basis, and a new circulating oil designed for high-temperature machinery is being used in the paper industry. Shell has also taken the lead in the development of a product for high-temperature oil quenching of steel parts.

There is also Talona R, a new lubricating oil for railroad diesel locomotives. Its performance in service during 1951 showed that engine wear was exceptionally low and the degree of engine cleanliness was outstanding.

A special additive for aviation gasoline was developed by the Wood River Research Laboratory



A valve adjustment is made on an 8-inch line by the Chief Operator at the Vandalia, Illinois pump station on Shell Oil Company's East Products Pipe Line. In May 1951, the East Line established a new throughput record by moving a total of 1,089,000 barrels of products during the month. Altogether, products pipe lines moved an average of approximately 125,000 barrels of products a day for Shell during the year.

to prevent spark plug fouling in aircraft engines. Now undergoing field tests, this additive is expected to result in a substantial increase in spark plug life.

Weather Complicates Supply Problem

THE increasing demands made on the country's transportation and storage facilities in 1951 complicated the job of supplying Shell refineries and marketing terminals. And weather, an annual headache, once again added its unpredictable hazards.

In spite of the increasing requirements of national defense, which led to spot shortages of crude oil notably on the Pacific Coast, Shell's crude supply

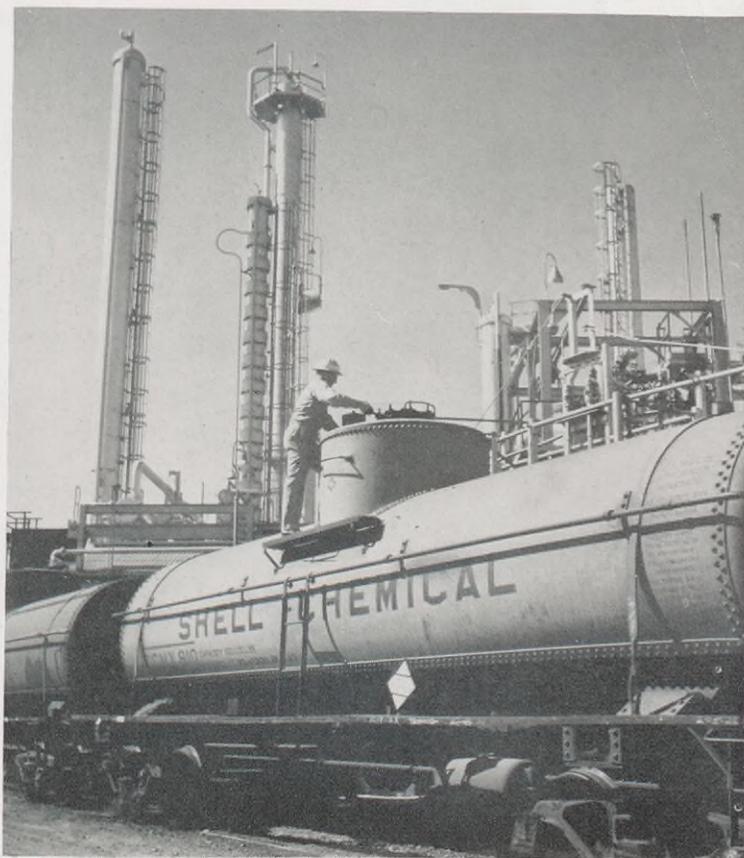
position continued strong throughout the year. There was a considerable increase in the Company's own production and additional crude was purchased from outside sources.

The ever-present weather problem made it difficult at times to supply the increased demand for refined products. In the Midwest, very cold weather hit earlier than usual and stayed longer. The effects of the premature cold were two-fold. Demand for home-heating oil in the area, rising rapidly, devoured the available stocks at an exceptional pace. Unfortunately, the freezing weather at the same time curtailed the shipping season on both the Upper Missis-

Shell had to expand its storage capacity as well as its transportation facilities in 1951 to keep its steadily rising refinery output flowing into the hands of Shell customers. More than two million barrels of new tankage were added during the year. Of this, approximately three-quarters was constructed for seasonal storage to assure product availability during periods of peak demand for heating fuel in winter and for gasoline in summer. The Company installed the remaining 500,000 barrels at various terminals across the country as working storage to facilitate day-to-day supply operations.



Ocean-going tankers like the Cherry Valley, shown here at the Company's Sewaren Terminal in New Jersey, moved approximately 80 million barrels of crude oil and refined products on the high seas for Shell during the year.



Tank cars and tank trucks were in short supply in 1951, because of the increased demand for overland transportation and the difficulty in obtaining new equipment for this purpose.

sippi and Ohio River systems so that the depleted heating oil stocks in northern terminals could not be adequately replaced. Ice breakers were used to maintain traffic along the waterways, but oil traffic at times was brought to a complete halt during periods when it should have been moving normally.

The East and West Coast, on the other hand, experienced exceptionally mild weather in these early winter months, for the third straight year. Since people drive more in good weather, there was abnormal consumption of gasoline in the coastal areas. At the same time and for the same weather reason, vast quantities of heating oils began to accumulate in

the coastal terminals. A late March cold snap in the Pacific Northwest, however, did reduce stocks in that area to normal levels.

The effects of an extremely cold winter are generally carried over into the spring. Last year was no exception. The spring thaw brought floods as severe as any on record to obstruct shipping on the Upper Mississippi and on the New York State Barge Canal. During June and July record rainfalls raised the already high level of the Missouri River. Kansas City, bearing the brunt of the Missouri flood, suffered the worst disaster in its history. As the crest flowed down the Missouri to the Mississippi River,



The picture above shows the Delta Cities barge tow carrying Shell products on the Mississippi River south of St. Louis in mid-December 1951. More than 100 barges and lake tankers were used in 1951 to deliver some 71 million barrels of Shell's crude oil and refined products.

it destroyed or damaged numerous Industry plants and terminals and disrupted product distribution throughout the area. Barge loading operations at the Wood River Refinery had to be stopped temporarily.

The National Defense Program caused a shortage of tanker transportation throughout the year, and for this reason, Shell and other companies participated in a voluntary shipping plan sponsored by the Maritime Administration. Under the plan, tanker transportation is provided for Military Sea Transportation Service . . . in capacities proportionate to each company's normal share of the total available shipping. Shell is continuing to participate in the

plan during 1952.

In anticipation of a steadily increasing demand, Shell added to its marine commitments and pipe line facilities during the year. Existing arrangements with ship owners for marine transportation equal to the carrying capacity of six T-2 tankers were extended and new contracts were made for transportation requiring the equivalent of two new modern 18,000 ton tankers beginning in 1953 for a term of 20 years. Contracts with ship owners who operate on Inland Waterways and the Great Lakes were also extended for 15 years. Under this arrangement Shell products are now being carried on a new modern ex-



Cargo is sampled, above, during loading operations at the Wilmington Refinery's Marine Loading Station. Thousands of similar checks at Company terminals across the country assured Shell customers of continuing product quality throughout 1951.

The Okatibbee Creek, right, in Mississippi was one of a score of water crossings made for the Plantation Pipe Line Company's new products line. To handle the line's increased throughput, facilities were added at several Shell take-off terminals.



press tow which has a carrying capacity of 100,000 barrels of cargo. This tow was recently placed in service on the Mississippi River.

At few places in the United States is the demand for petroleum products increasing as rapidly as in the southeastern states. This demand, of course, is a direct outgrowth of the industrial boom which has developed in that region during the last few years. To keep pace with the demand, the Plantation Pipe Line Company, owned partly by Shell, completed a major expansion program in 1951. New 14 and 18-inch products lines increased Plantation's throughput capacity to 167,000 barrels a day. Even greater

capacity will become available in mid-1952 through the construction of additional pump stations. After these stations go into operation, Plantation's throughput is expected to exceed 240,000 barrels a day. To take care of Shell's increased share of the throughput, new connecting facilities were made to the Shell terminals at Meridian, Mississippi; Doraville, Georgia; Spartanburg, South Carolina; and Charlotte, North Carolina.

Expanding markets in the Midwest have placed an increasing burden on Shell's own products pipe lines. The 8-inch North Line running from Wood River to East Chicago, Indiana is now being replaced

Sales Increased Substantially Over the 1950 Total



Close attention to the individual problems of customers was one reason why the Marketing Department boosted Shell sales in 1951. Above, for example, a Railroad Sales Representative talks with two railroad officials, using a viscosity gauge to check the Shell lubricants in one of their diesel engines. In the center picture, another Sales Representative discusses a machine lubricating problem at a zipper manufacturing plant.

by a new 14-inch line which will eventually have a capacity of 114,000 barrels a day.

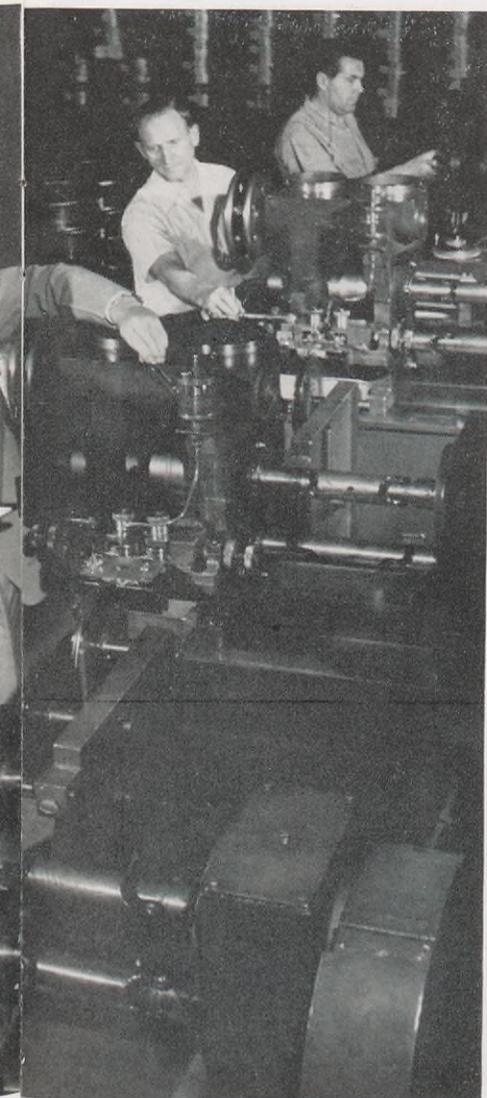
An extension to the new line is under construction from East Chicago to Argo, Illinois—a distance of 35 miles. Shell recently completed a large marine terminal at the Argo location, to handle both oil and chemical products.

Highest Sales In History

ALONG with its effects on Transportation and Supplies operations, the weather also had varying influences on Shell's Marketing activities in 1951. Unseasonably warm winter months in some areas of

normally high heating oil consumption cut sales of these oils, but boosted the demand for gasoline and automotive lubricants. In the long run, the effects were good. As general business activity continued upward in the most prolonged boom in United States history, and as defense production offset cutbacks in the output of some civilian goods, higher product demands sustained the general volume of petroleum sales. Shell's sales of refined products were well over the 1950 total and the highest in the Company's history.

As for sales revenue, the introduction of price controls in January, 1951 had a stabilizing effect through-



As a big passenger plane is refueled at LaGuardia Airport, New York, above, a Shell Aviation Representative chats with an airline official (holding clip-board). Aviation fuel sales to airlines, the military, and aircraft manufacturers increased in 1951. Shell now supplies 29 per cent of the fuel used by airlines in the U. S. and has direct or dealer outlets at approximately 550 airports throughout the U. S. and Canada.

out the whole year. Unit revenue showed very slight increases over 1950 in major product categories.

As sales rose, with predictions of more increases to come, a continuing program of expansion and improvement in bulk terminal facilities was carried out within the limits allowed for new construction by the current defense program. During the year five new terminals were completed, all of them on navigable waterways, and storage capacity was expanded at 11 others.

Marketing Distribution Improved

The pattern of Marketing distribution during the

year was improved in other phases as well. Shell activities in several areas of direct operations were converted to jobber operations. In the field of individual reseller outlets, the trend was toward construction and development of efficient, high-volume multi-pump service stations, though smaller units were not neglected in areas where circumstances favor them. Several of the latter were modernized to conform with Shell architectural standards and a program was instituted to encourage improved operating practices in service stations. High-volume units were also the trend in new delivery vehicles and a number of old, small tank trucks were replaced by



The Searsport, Maine, Terminal, above, is a fine example of the new bulk handling facilities opened by Shell during the year. It is located with an eye for the potential market it will serve as well as for economies in the transportation of products. The Searsport Terminal receives most of the products it handles from tankers routed from Shell's Houston Refinery.



Sales training was given to groups of Marketing personnel throughout the country. The conference at the right, held at Chicago, was typical of a series of five short training courses attended by all Shell salesmen during the year.

new ones with greater capacities. Economies in the transportation of special products were also attained during the year.

Training of Marketing personnel increased in importance as plans were completed for an Employee Development Department in New York Head Office to prepare material for training personnel in Marketing Divisions. Meanwhile, training conferences were held for reseller salesmen, District Managers, and other employee groups. All Shell salesmen attended at least five conferences, at which specially prepared sales training films were shown and discussed.

Exceeds Industry Sales Trend

The combination of expanded facilities, improved operations and better trained personnel produced improved results. Shell sales exceeded Industry-wide total demand trends in both volume and revenue. It was the second consecutive year for such a record on the Pacific Coast. Individually, product sales went like this:

Automotive Gasolines—In 1951 Shell kept pace with the average Industry increase in total automotive gasoline sales. However, the Company continued to sell a higher percentage of premium grade gasoline than the average percentage for the Industry

1951 MARKETING EXPANSION

New Terminals:

Searsport, Maine; Akron, Ohio; Memphis, Tennessee; Colusa, California, and Kaunakakai, Hawaii.

Increased Storage:

Harbor Island (Seattle), Washington; Willbridge (Portland), Oregon; North Bend, Oregon; Eureka, California; St. Paul, Minnesota; Bettendorf, Iowa; Milwaukee, Wisconsin; Rensselaer, New York; Wagners Point (Baltimore), Maryland; Wilmington, North Carolina; and Louisville, Kentucky.



Service station development tended toward high-volume outlets like the one being planned in the Boston office, above. Pump arrangement, below, and improved lighting also received attention.

**The Most Powerful Gasoline
Your Car Can Use!**

SHELL PREMIUM GASOLINE



Activated Shell Premium Gasoline was featured in the Shell advertising program for the third straight year. The acid neutralizing agents in Shell X-100 Motor Oil were also stressed. More than 6,500 outdoor signs were posted each month, radio and television time was purchased on more than 60 stations, and advertisements were placed in over 500 newspapers and magazines.

The Touring Bureau was decentralized to permit more efficient handling of route requests by individual Marketing Divisions.



as a whole.

Lubricants—Emphasis on Shell's brand name lubricants increased sales and improved revenue. Improvements in the quality of Shell X-100 and several industrial lubricants spurred consumer acceptance.

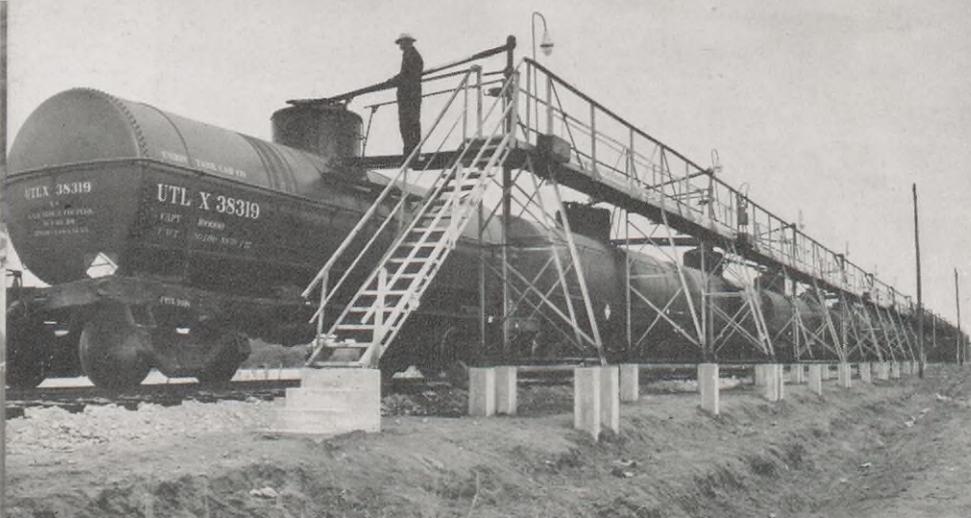
Light Fuel Oils—Sales of heating oils remained at a high-post-war level despite defense cutbacks that dropped oil burner sales 18 per cent below the record year of 1950. Sales of diesel oils continued to climb.

Special Products—Led by liquified petroleum gases, and by Xylol and Toluol, the 1951 sales of

special products showed large increases over the previous year.

Asphalts—Sales of asphalts for roofing materials were off because of a decline in building. However, gains were noted in the use of asphalt for highways and other projects, and total asphalt sales showed satisfactory gains.

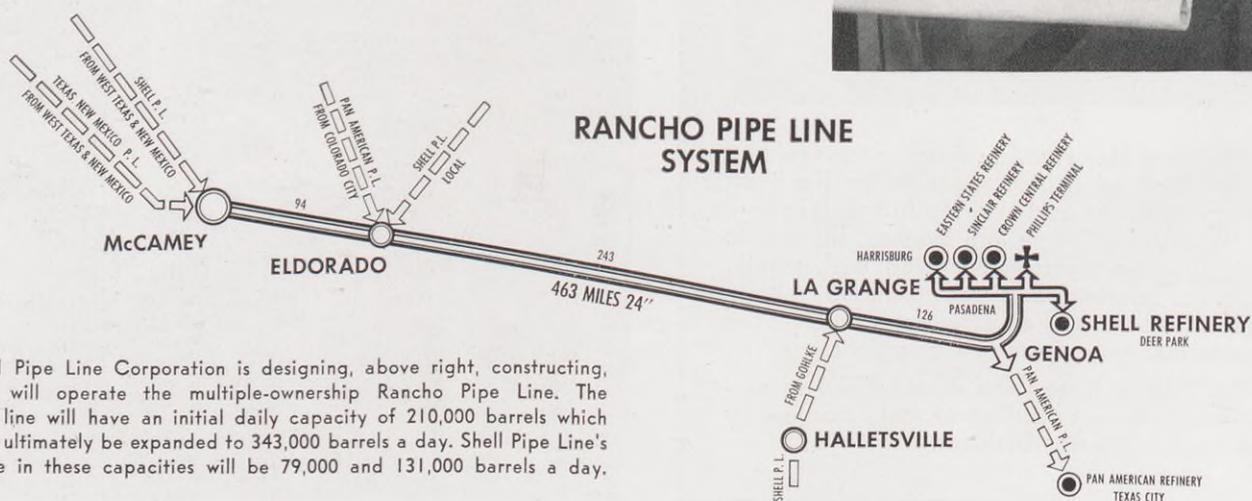
Aviation Fuels—Aviation sales volume and revenue were both up, with the largest gains in sales to the military and to aircraft manufacturers. Sales to airline companies, big-volume consumers, also increased. Sales of jet fuels almost doubled during the year.



The new loading rack at Hallettsville, Texas, left, is the receiving point for crude oil coming in by gathering line from Gohlke Field. This line will be extended later to Shell Pipe Line's present 10-inch McCamey-Houston trunk line. After the Rancho System goes into operation, the 10-inch trunk line will be discontinued westward from LaGrange. To the east it will parallel the Rancho Line as far as the Houston Refinery.



New Line and Loading Facilities in Texas



Shell Pipe Line Corporation is designing, above right, constructing, and will operate the multiple-ownership Rancho Pipe Line. The new line will have an initial daily capacity of 210,000 barrels which may ultimately be expanded to 343,000 barrels a day. Shell Pipe Line's share in these capacities will be 79,000 and 131,000 barrels a day.

Shell Pipe Line Corporation

AS Shell's principal carrier of crude oil, Shell Pipe Line Corporation last year worked its lines to capacity. A record 138 million barrels of liquids were transported through the Company's system—20 per cent more than in any previous year.

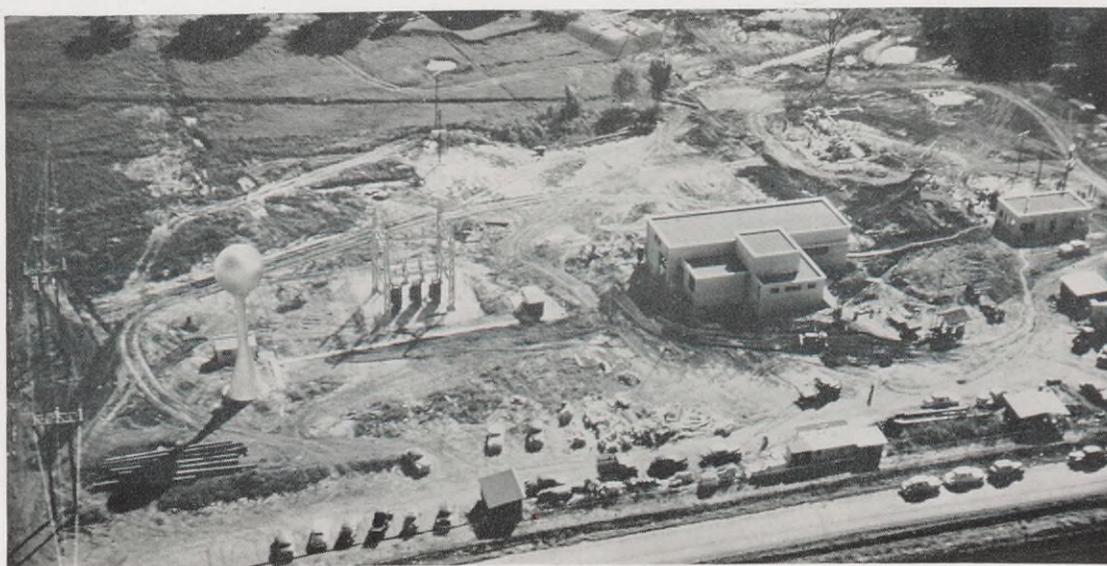
Several projects were completed or in the process of construction at the year-end which will add considerably to the Company's throughput capacity.

It was an active year for expanding gathering systems and for laying new feeder lines to handle production from new fields in South and West Texas.

Early in 1951, it was apparent that the trunk line capacity from the general West Texas area to Houston was inadequate to transport the increasingly large volumes of oil produced there. To help correct this situation, early in the year a new multiple-ownership line—The Rancho Pipe Line System—was approved by seven participating companies, to be designed, constructed and operated by Shell Pipe Line. The Rancho line will run for 455 miles across Texas from McCamey to the Houston Ship Channel. It will use 24-inch pipe and will have an initial throughput capacity of 210,000 barrels daily which, if necessary, can later be increased to 345,000 bar-



The Cushing, Oklahoma, Tank Farm, above, is the hub of the Basin-Ozark System. Shell Pipe Line's share is 130,977 barrels daily in the Basin Line and 154,000 barrels daily in the Ozark Line. Shell Pipe Line personnel directed construction of the Lawrence station, right, and of four other Ozark Line stations during the year.



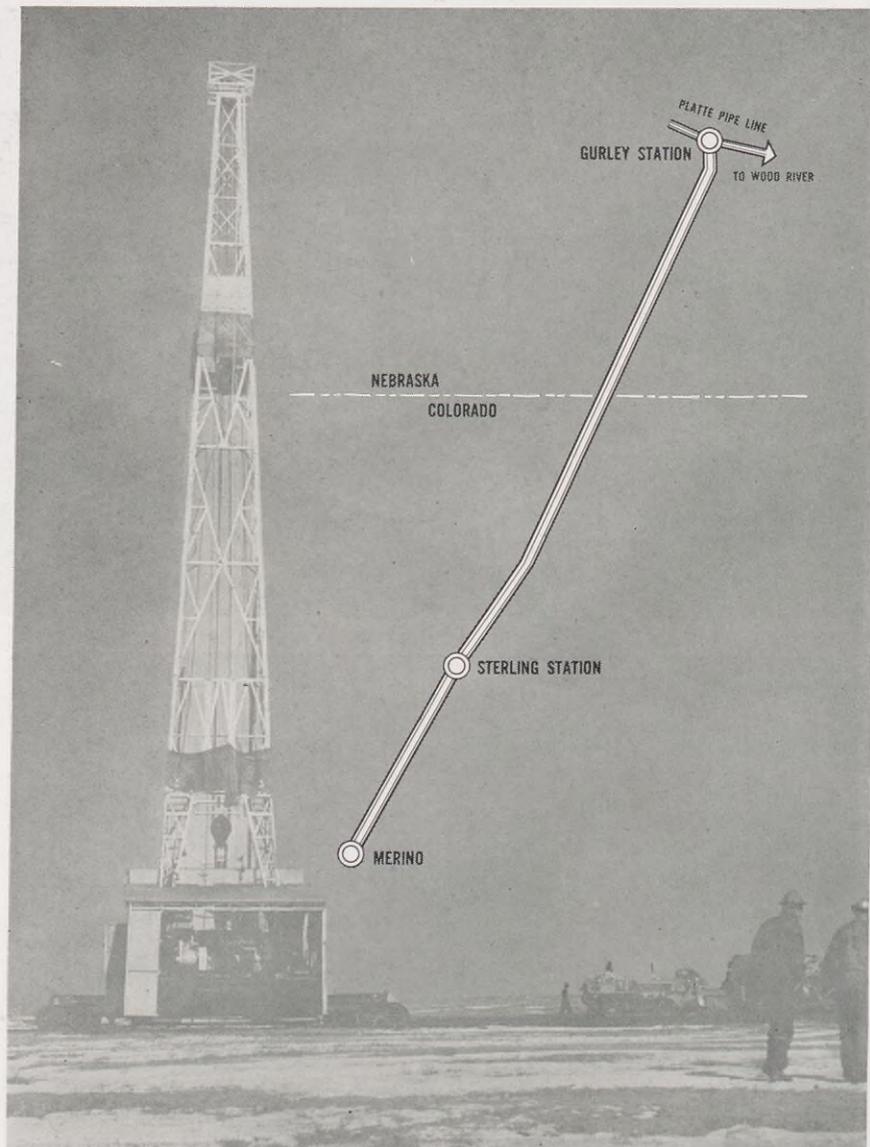
rels daily. Construction of the line has now started and is expected to be finished in December of 1952.

Most of Shell Pipe Line's 1951 increased throughput was made possible by the continuing expansion during the year of the Basin-Ozark System which Shell owns jointly with other companies. In the Basin Line, which transports West Texas and New Mexico crude as far as Cushing, Oklahoma, four new pump stations were erected and five older ones were expanded. Several of the largest pumps in oil pipe line service today were installed in the line.

Also added were five new stations on the Shell Pipe Line-operated Ozark Line which carries crude

oil from Cushing to Wood River, Illinois, and on 54 miles to Patoka, Illinois. Included in each of these new Ozark stations are pumps to increase the capacity of Shell Pipe Line's wholly-owned 10-inch crude line that parallels the Ozark line from Cushing to Wood River.

To help Shell Oil make the most of its discoveries in the Denver-Julesburg Basin, Shell Pipe Line arranged to participate in the projected Sterling Pipe Line System. When it is completed, this new trunk line will transport crude from fields in northeastern Colorado to Gurley, Nebraska, on the new Platte Pipe Line Company line leading to Wood River.



The new Sterling System will have an initial capacity of 42,000 barrels a day. It will consist of 53 miles of 12-inch line from Sterling to Gurley, Nebraska, 20 miles of 10-inch line from Merino to Sterling and miscellaneous feeder lines. Each participating company will build separate gathering systems in the oil fields. Shell crude production will flow via the Sterling System into the Platte Pipe Line Company line at Gurley, Nebraska, for subsequent reshipment to Wood River, Illinois.

THE OPERATING YEAR IN REVIEW

Throughput: The trunk lines of Shell Pipe Line Corporation carried an average of 355,000 barrels a day in 1951 for the 18 different shippers served by the Corporation.

Pipe Line Mileage: At the end of 1951 Shell Pipe Line Corporation operated 5,886 miles of trunk and gathering lines, of which 4,617 were wholly-owned by Shell.

In another expansion move the Corporation purchased increased capacity in the Bayou Pipe Line System. Shell uses this multiple-ownership line, which Shell Pipe Line built in 1943 and has operated ever since, to move products from the Houston Refinery to the Plantation Pipe Line terminal at Baton Rouge, Louisiana, for subsequent reshipment to consumers in the southeastern states.

In 1951 Shell Pipe Line repaired the spare 22-inch Missouri River crossing in the Ozark System and completely reconditioned 54 miles of its own 10-inch Cushing-Wood River welded line. Oil handling losses for the year were the second lowest in

the past 11 years of operation. Though slightly under 1950's record performance, Corporation safety was better than in any other recent year.

Shell Pipe Line, which is a common carrier regulated by the Interstate Commerce Commission, during the year furnished transportation services to seventeen crude oil shippers other than Shell Oil.

Shell Pipe Line employees continued on loan to associates in Venezuela through 1951. At year end, 32 staff members were supervising construction of an important 30-inch, 165-mile oil trunk line in that country. The first oil was moved through the line from Maracaibo to Cardon in March of this year.



While new construction projects were under way, Shell Chemical's other facilities were kept at top operating efficiency. Employees, above, clean and repair bubble trays from a distillation column during a maintenance shutdown of the methyl isobutyl ketone unit at Houston.

SHELL CHEMICAL CORPORATION

SHELL Chemical Corporation last year played an important part in the general expansion program carried out by the oil and petrochemical industries since the end of World War II. Several Shell Chemical installations were expanded to meet rising demands for critical materials. Important new products were introduced. Customer relations were strengthened by the enlargement of marketing facilities and by the widening of laboratory test services.

The end of 1951 found Shell Chemical going forward with plans to build two new plants, both

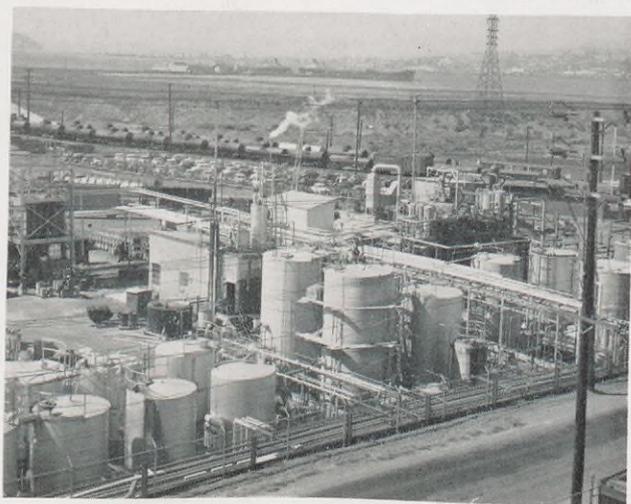
certified by the government as necessary defense projects. An installation under construction at Ventura, California, will produce anhydrous ammonia, one of the most widely used fertilizers in California, Arizona, Oregon and Washington. The new plant will complement Shell Chemical's ammonia facilities at Shell Point, California, the largest west of the Rockies. The expected results from this ammonia increase are better and more grain, cotton, vegetables, pastures and fruits from the farms of the Western states.



Continued high demand for critical materials meant that Chemical products had to move briskly from plant to consumer in 1951. Because of the nature of its business, Shell Chemical packages many of its products in drums such as those shown here at the Dominguez Plant in California.



The growth of Shell Chemical Corporation in 1951 reflects the increasing importance of the petrochemical industry as a supplier of organic chemicals such as ethyl alcohol. In the picture above, alcohol weight is being checked in a rundown tank at Houston, under the watchful eye of a government Storekeeper-Gauger.



New petroleum additives installations at Shell Chemical Corporation's Martinez, California, plant are shown among the facilities above. These additives installations have been expanded several times since they were opened approximately three years ago.

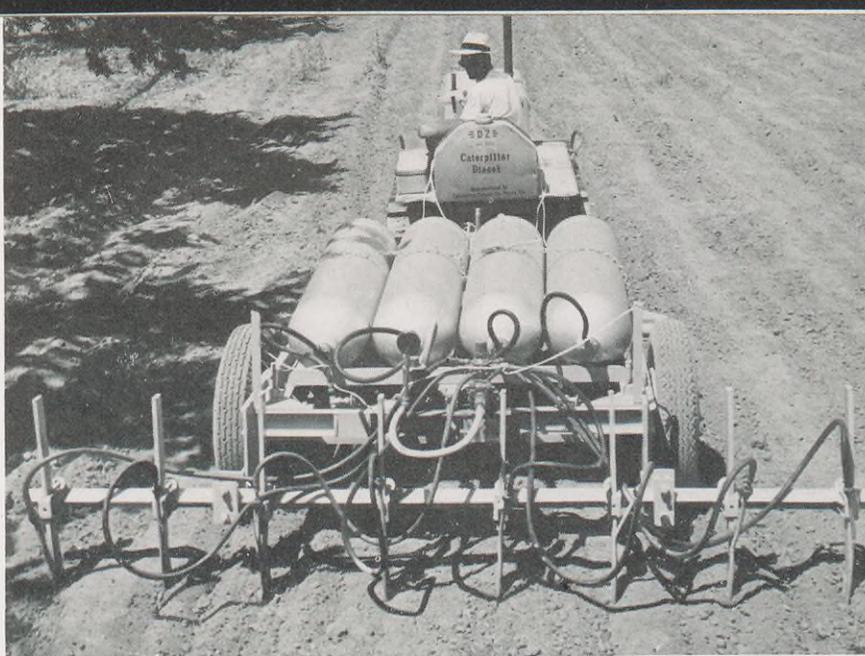
Sulfur Plant

At Houston, ground was broken for a new unit to recover sulfur from waste refinery gases. Slated to begin operations in mid-1952, the unit will help relieve the world-wide shortage of this strategic material. Sulfur's chief compound, sulfuric acid, has so many commercial uses that its total consumption is a reliable measure of a nation's industrial activity.

Houston saw expansion of other installations completed on schedule in 1951. There was a 50 per cent increase in the production of synthetic glycerine, to meet increasing demands for such uses as commercial and military explosives, cellophane, synthetic

resins and pharmaceuticals. The production of ethyl chloride was boosted. The latter is needed in increasingly large quantities for tetraethyl lead (the important anti-knock fluid) and ethyl cellulose (a plastic used for water proofing compounds and transparent wrapping films).

Shell Chemical last year marketed several products manufactured at Shell Oil Company facilities, among them oil-soluble sodium sulfonates, dodecyl benzene and Ionad 17. Sulfonates, made at the Martinez Refinery, are lubricating oil additives which prevent deposits from forming in motor engines, valves and pistons. Manufacture of these products



Last year saw Shell Chemical Corp. going ahead with plans for increasing its output of anhydrous ammonia through the construction of a new plant at Ventura, California. Successful application techniques for anhydrous ammonia, left, enrich the soil and help farmers get more and better produce.

Shell Chemical continued to operate the plant owned by the Reconstruction Finance Corporation at Torrance, California, below. Reactivated in 1951, the Torrance plant's primary product, butadiene, is one of the chief raw materials for synthetic rubber. The Hortonspheres pictured are used principally for the receiving and storage of crude butadiene.



at Martinez was upped last year to satisfy a strong demand.

Dodecyl benzene, from Wood River Refinery, is a raw material for certain types of synthetic detergents used in making "soapless soaps." These not only make cleaning easier for the housewife but are also used in industry for cleaning and textile processing operations.

Ionad 17 is a new fuel oil additive which eliminates clogging of filter screens in domestic fuel oil burners. Laboratory and field tested for years before a general announcement of its availability, it has also proved of value to diesel engine operators by

cutting maintenance costs.

Shell Chemical's agricultural products such as D-D* and aldrin continued to be a boon to farmers last year, while a new agricultural chemical, CBP-55, was released for experimental sales. A relative of D-D, CBP is a triple-threat pest-destroyer. Results on fungi, nematodes and weeds are encouraging enough to indicate that CBP may be, in 1952, a factor of importance in curbing the damage done by such pests.

New District Sales Office

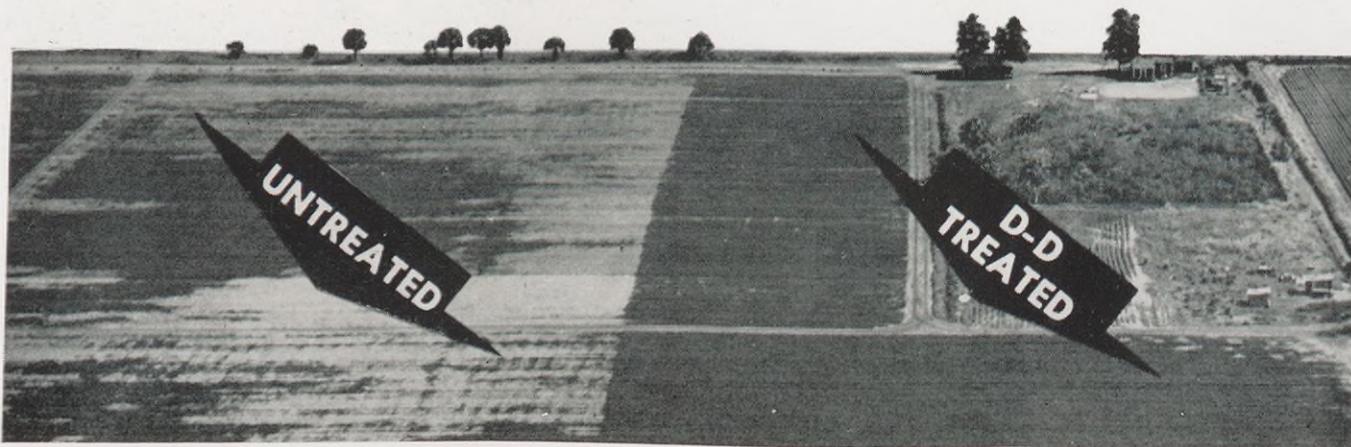
In addition to expanding manufacturing facili-

*Registered Trademark, U. S. Patent Office.



Last April, Shell Chemical working with Julius Hyman & Company and the U. S. Departments of State and Agriculture, acted to help avert a major disaster in Iran. The speedy shipment of a large supply of aldrin by air, left, was instrumental in saving 53,000 acres of wheat, barley, sugar beets and date palms from a plague of locusts.

D-D, a Shell Chemical product, continued to find an expanding market for protection of crops against nematode damage during 1951. D-D helped promote record tobacco yields and as a result, demand for it is now stronger than ever before.



ties, Shell Chemical last year also further improved its marketing organization to give better service to customers. A new district sales office was created and the activities of the Technical Service Laboratory were enlarged.

The new office, opened in Atlanta, Georgia, on November 1 of last year, is necessary because of the rapidly growing industrial and agricultural might of the South. The market for Shell Chemical's products has been expanding rapidly throughout that region.

At Union, New Jersey, the Technical Service Laboratory continued to seek new and improved appli-

*Registered Trademark, U. S. Patent Office.

cations for Shell Chemical products. As a part of the program to make new products more widely known, the Laboratory sent its demonstration of EPON* resins on a national tour. This show, prepared in cooperation with Shell Chemical's Sales personnel, has done much to familiarize the surface coatings industry with the properties of these new versatile resins. EPON research at the Laboratory is currently being expanded to include potting, casting and laminating applications. Other laboratory facilities have been increased to allow more research into hydraulic brake fluids and Ionad 17, the new fuel oil additive.



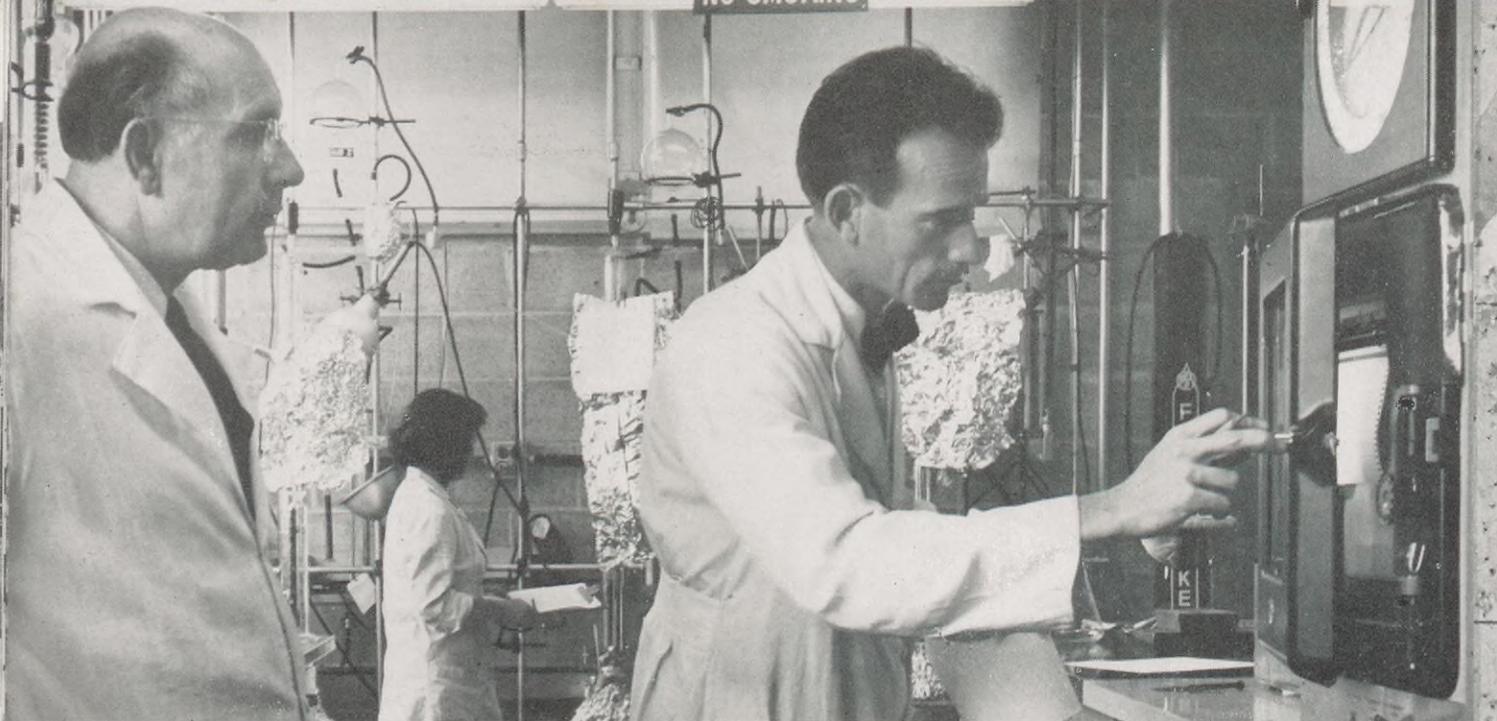
Scenes like this at Emeryville were common in 1951 as scientists and specialists contributed to industry progress. By devising new and better uses of oil products, they not only helped increase demands, they also worked out new manufacturing processes to help supply those demands.

SHELL DEVELOPMENT COMPANY

THE Oil Industry itself is partly responsible for rising petroleum demands, because each year it develops a variety of new products and shows the public new ways to use established ones. This is a principal function of research organizations like Shell Development Company—and in 1951 Shell Development continued its progress in both the oil and chemical fields, advancing a number of projects into or closer to commercial use.

For example, the Company unveiled a new surface coating application for EPON resins, when it

developed an enamel compounded with EPON to prevent corrosion on large storage tanks. The new enamel is under trial at Houston. For the farmer, there were new developments and applications of fungicides, insecticides, and soil fumigants, carried out in cooperation with Shell Oil Company's Agricultural Laboratory, near Modesto, California. For the housewife, there was the prospect of a better supply of synthetic detergents when the Wood River Refinery began commercial production of a new material for manufacturing these improved washing



In a section of the Emeryville Laboratories devoted to petroleum waxes, two chemists watch the operation of an automatic thermal analysis unit, one of many instruments designed by Shell Development to facilitate its studies.



From buttons to be-bop, the products of science turn up in many forms. Here a chemist shows some results of his studies—foams, laminates, and other compounds.

PLASTICS AND PERFECTION

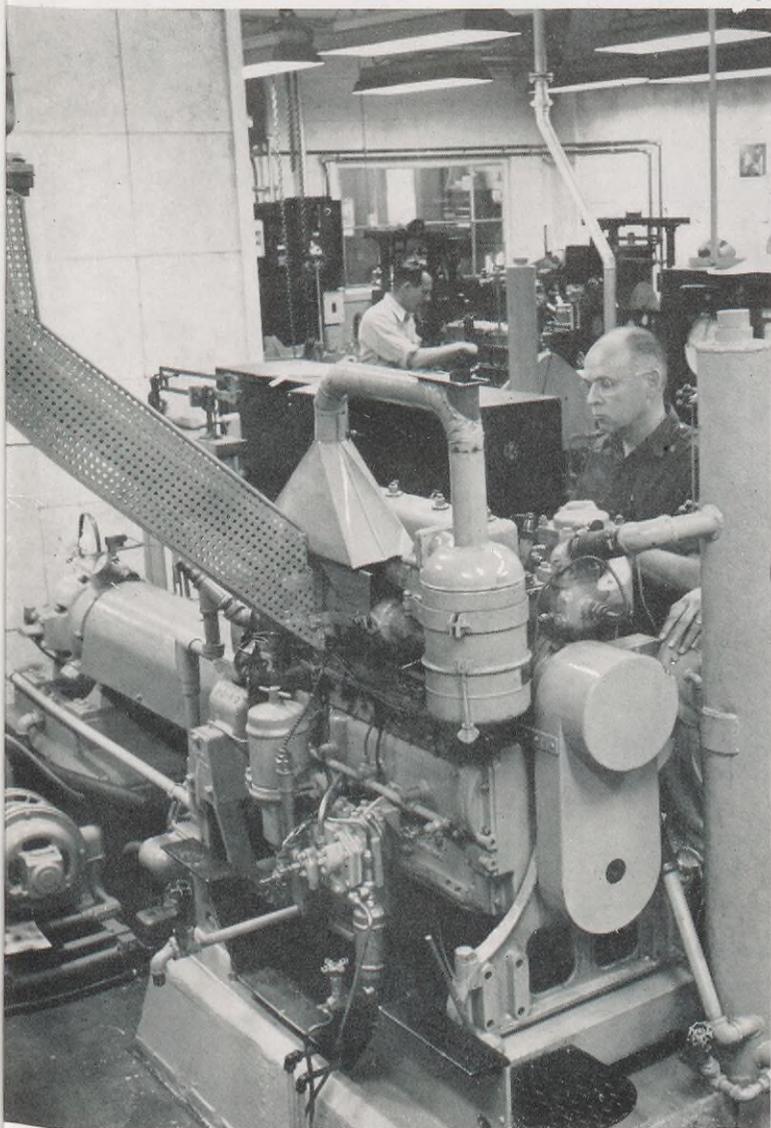
It is not enough for Shell to produce an ingredient of a commercial plastic and tell its customers "this is it." First, exhaustive tests must be made to determine the behavior of the ingredient in the final mixture for which it is destined and the best method for compounding it. The plastics testing field is highly specialized, so that when Shell became interested in synthetic rubber during World War II a special group was organized just to handle this sort of work. While rubber testing has slacked off, other materials used in plastics, surface coatings and adhesives have kept the group busy.

agents. Again Shell Development did the supporting research. At the Company's Emeryville Laboratories, studies continued on the behavior of anti-corrosive and detergent additives in motor lubricants and led to the adoption of a still better formula for the premium motor oil, Shell X-100.

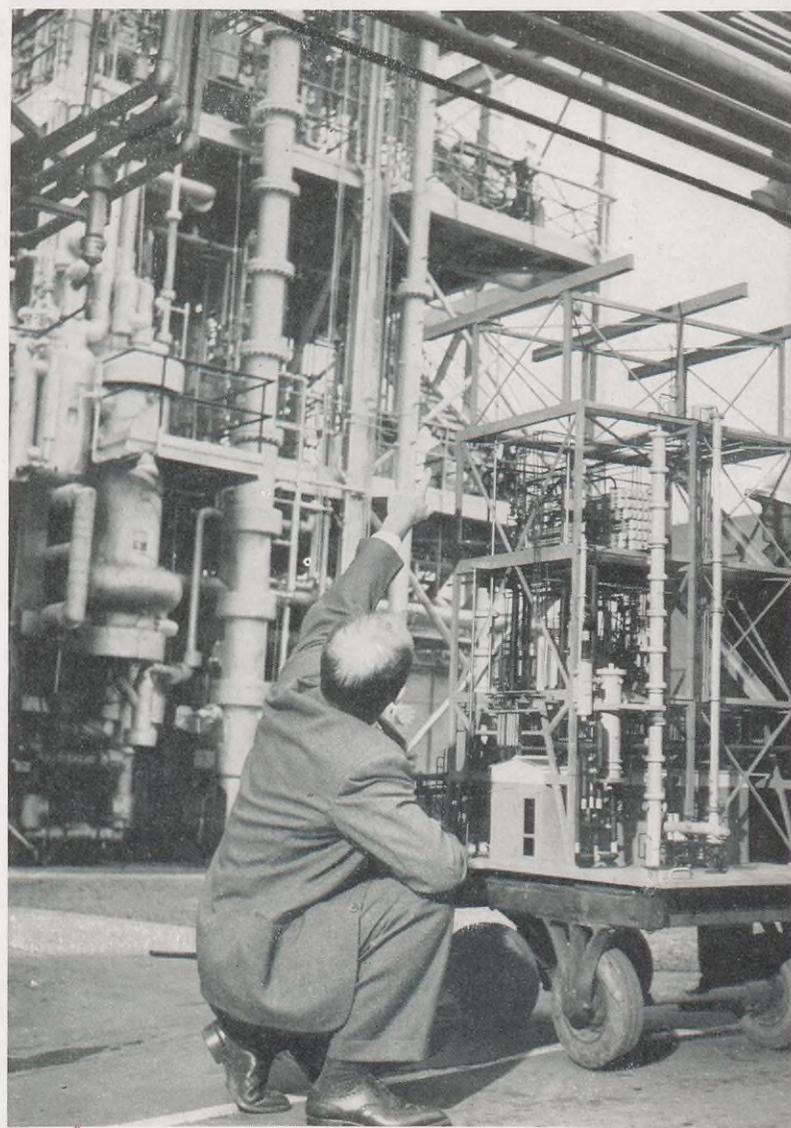
While the emergence of new uses for petroleum was paving the way for greater consumption, Shell Development was at the same time making it easier to supply the rising demand and to supply it with better quality products. In keeping with the pattern of Shell Development's operations, when theory advanced to the point of applied research the Com-

pany's scientists and engineers then worked in collaboration with the technologists in the operating companies where the new processes would ultimately be used.

"Platforming" studies, for example, were continued in support of Shell Oil Company's plan to install improved platforming units for increased production of much-needed aromatics at the Houston Refinery and for improved motor gasoline quality at Wood River. Successful full-scale operation of an improved distillation tray led to its widespread adoption in Shell plants during 1951, and its availability, under license, to outside firms. A much better under-



In addition to improvements in Shell X-100, evaluation tests were started on several specialty lubricants and a new all-purpose grease. Above is a scene in the Fuels and Lubricants Engineering Department.

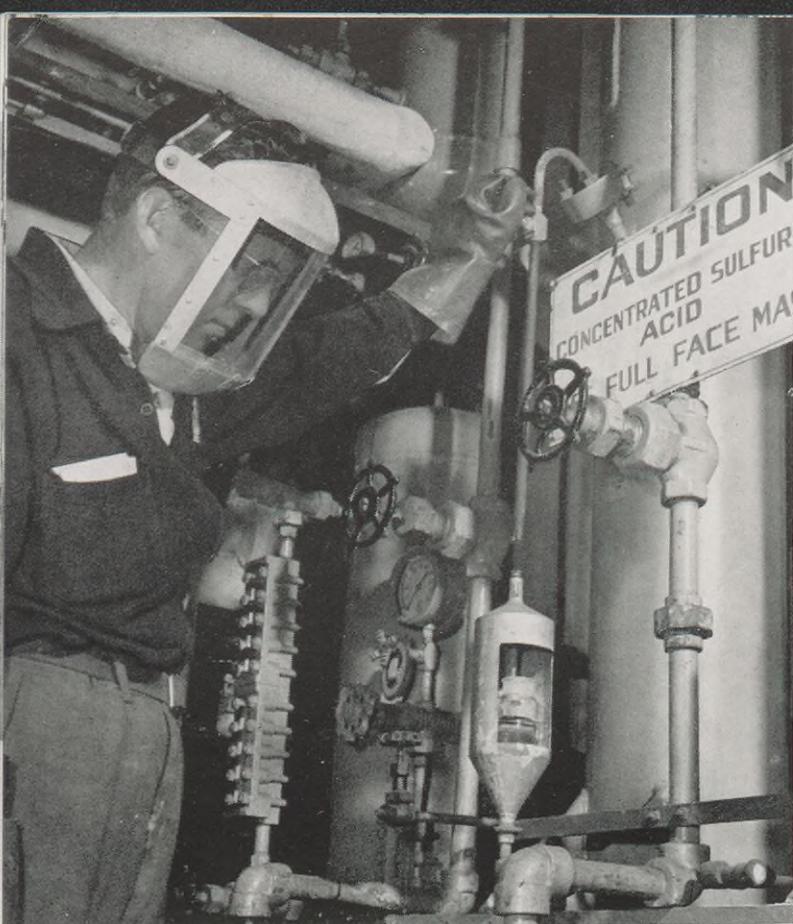


Often the design and layout of a particularly complex plant can be simplified by first designing and building a small scale model to study. Above, a model of a plant at Emeryville is compared with the real thing.

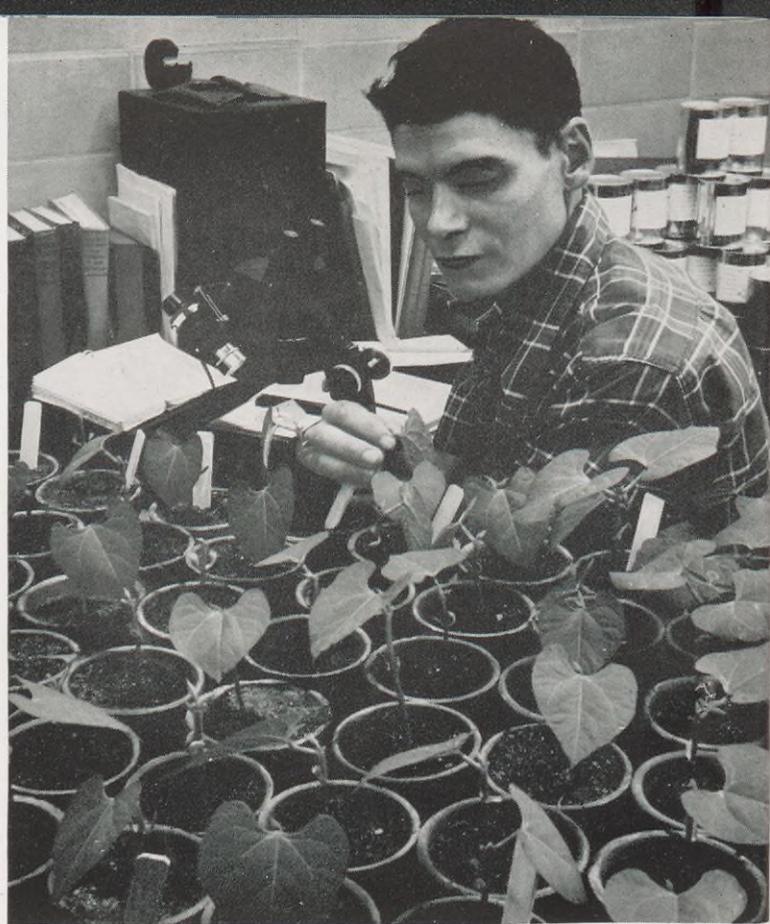
standing of the fundamentals involved in hydrogen attack on steel in refinery equipment was achieved in cooperation with Shell Oil researchers. A process was worked out for greater and more efficient production of an additive used in X-100 and other heavy-duty oils. The first full year of study was completed in a new pilot plant for experiments in cracking processes aimed at obtaining larger proportions of lighter, more valuable products from heavy West Coast crudes. A high-alumina catalyst, developed earlier by Shell Development, moved one step nearer full-scale trial at Houston Refinery as production problems of the company which will manufacture

the catalyst were solved.

There was also considerable progress on several chemical processes which are expected to reach the commercial stage and provide a basis for further expansion by Shell Chemical Corporation within the next few years. These projects included both processes for making new chemicals and improvements in the processes now being used. Also, in the chemical field, Shell engineers went to Scotland to supervise the start-up of a large synthetic alcohol plant which uses the Shell manufacturing process under license. Another chemical plant based on Shell's process and design is under construction in England.



The nature of the materials handled in many Shell Development experiments, as the sign above indicates, makes safety precautions a prime consideration. Employees set a new safety record in 1951.



New products must prove effective in actual use. Above, a researcher at Shell Oil Company's Modesto Agricultural Laboratory uses a Microscope to count the mites that survived an insecticide sprayed on bean leaves.

SHELL'S AGRICULTURAL RESEARCH

An agricultural product which destroys marauding insects or improves the quality and yield of crops often has its origin far removed from fields or orchards. It may originate with a Shell Development chemist, working in cooperation with Shell's Agricultural Laboratory at Modesto, California, who has noted the action of certain chemical structures and related them to the continuing search for new and improved insecticides, fungicides, soil fumigants and growth regulators. After synthesis at Emeryville, his new chemicals go to Modesto, for actual tests on growing plants. On the other hand, the suggestion may originate at Modesto and be sent to Shell Development's Emeryville Laboratories for chemical studies. There are expert researchers at Emeryville who specialize in agricultural chemistry and work closely with the specialists at Modesto.

In the field of basic and scouting research, Shell Development continued to study catalysts, asphalts, cracking stocks and lube oil base stocks. Quite often it became necessary for the researchers at Emeryville to devise entirely new techniques and laboratory methods for investigating the chemical composition of the materials under study before follow-up investigations carried the research to more advanced stages. In this connection, a number of laboratory instruments of entirely new design were developed. They not only expedited and improved the accuracy of the particular studies for which they were designed, they are now serving the same purpose in

other research, enabling Shell Development to raise the level of effectiveness of its work in several fields of investigation.

Though there were no major changes in plant or organization during 1951, Shell Development took note of the increasing importance of the electrical engineer in modern industry and research and formed a new Department of Mechanical and Electrical Engineering.

In many fields of the Shell Development program, the Company cooperated with agencies of the Federal Government on projects in the interest of national defense.

Shell Oil Company and Subsidiary Companies

STATEMENT OF FINANCIAL CONDITION — December 31, 1951

WE OWN

CURRENT ASSETS

Money in offices and banks.....	\$ 48 million
U. S. Government securities (less those set aside to pay federal income taxes).....	37 million
Due from customers and affiliated companies.....	101 million
Inventories—crude oil, refined products, materials and supplies.....	132 million
TOTAL CURRENT ASSETS.....	318 million

PROPERTIES, PLANT AND EQUIPMENT

Drilling and Production.....	613 million
Refineries and plants.....	379 million
Transportation.....	149 million
Marketing and other.....	168 million

TOTAL PROPERTIES, PLANT AND EQUIPMENT.....	1,309 million
Less depreciation, depletion and amortization.....	879 million

NET PROPERTIES, PLANT AND EQUIPMENT.....	430 million
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OTHER ASSETS.....	44 million
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TOTAL ASSETS.....	\$792 million
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WE OWE

CURRENT LIABILITIES

Owed to suppliers and others.....	\$ 99 million
Owed for taxes.....	\$122 million
Less U. S. Government securities held for payment of federal income taxes.....	107 million 15 million

TOTAL CURRENT LIABILITIES.....	114 million
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BORROWED MONEY.....	132 million
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TOTAL LIABILITIES.....	246 million
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SHAREHOLDERS' INVESTMENT

Capital.....	\$216 million
Earnings employed in the business.....	330 million
TOTAL.....	546 million

TOTAL LIABILITIES AND SHAREHOLDERS' INVESTMENT.....	\$792 million
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FOR YOUR INFORMATION: Copies of the Shell Oil Company Annual Report for 1951 are available for employees. If you would like a copy, ask your supervisor for one and he will arrange to get it for you.

Shell's Financial Statements

ALL that has been said on the preceding pages is summarized by the Company's financial statements in the Annual Report to Shareholders. The most important of these, which are reproduced above and on the next page in abbreviated form, are the Statement of Financial Condition and the Income Statement.

The former shows what the Company *owned* and what it *owed* at December 31, 1951, while the latter is a *summing up* of the year's business.

The Statement of Financial Condition contains

several items of particular interest for 1951. Notice that money has been set aside for payment of federal income and excess profits taxes which is shown as a deduction from the amount owed for taxes. This special handling was adopted because of the substantial size of the Company's taxes for 1951 and because 70% of the tax must be paid in the first 6 months of 1952. A part of the Company's revenue was set aside each month to pay these taxes in much the same way as were income taxes withheld from each employee's pay check during the year. Meeting the 1951 tax payments from the same year's income was, in effect, a pay-as-you-go plan.

INCOME STATEMENT

WHAT CAME IN

From customers and others **\$1,083** million

Over a billion dollars—the first time in Shell's History.

WHAT WENT OUT

To suppliers for goods and services **559** million

To more than 30,000 Shell employees for wages, salaries and benefits **175** million

Employee benefits were expanded to include a *Survivor Benefits* program, partial *Group Life Insurance* coverage after retirement and important changes in the *Shell Pension Plan*.

Towards replacement of plant, equipment and crude oil underground **108** million

Direct taxes—Federal, state and local **141** million

This included an increase of 108% in federal income taxes over those in 1950.

Interest on borrowed money **3** million

WHAT WAS LEFT

Profits from the year's business **97** million

DIVIDED AS FOLLOWS

Dividends to the more than 17,700 shareholders who invested their money in the Company **40** million

Retained earnings employed in the business **57** million

Shell retained 59% of the year's profits for the expansion of its business. This policy of retaining a substantial portion of earnings helps to maintain Shell's competitive position in the Oil Industry and to protect the future job security of Shell employees.

\$145 million of additions to properties, plant and equipment resulting from the expansion program brought their gross value to over 1.3 billion dollars.

The Income Statement, above, shows that sales and operating revenues exceeded one billion dollars for the first time. It may be of interest to note that Shell is among the first 50 industrial companies in the United States both in volume of business and in total assets.

The cost of doing business in 1951 was greater than ever and direct taxes amounted to \$141 million. This included \$107 million for federal income taxes, up \$56 million from 1950. Earnings from the year's business after all expenses were \$97 million as com-

pared to \$94 million the previous year.

1951 earnings were divided as follows: Dividend payments to shareholders were the same as the year before—\$3.00 per share. The remaining \$57 million, or 59% of earnings, was retained in the business to help finance Company expansion.

For the more than 30,000 Shell employees, \$175 million was paid as wages, salaries and benefits. Service and family allowances as applicable were continued for 743 employees on military leave. There were 15,100 employees with ten or more years of service, while 319 employees retiring on pension brought the total of active pensioners to 2,058.



Service Birthdays

Forty Years



A. E. COLLINS
Pacific Coast Area
Purchasing-Stores

Thirty-Five Years



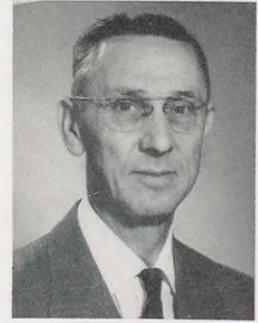
R. H. Cosby
Houston Area
Gas



C. E. DAVIS
Head Office
Vice Pres.-Refining



C. H. JENKINS
Pacific Coast Area
Production



W. L. RUGEL
Wilmington Refinery
Thermal Cracking

Thirty Years



J. N. BILLINGER
Pacific Coast Area
Purchasing-Stores



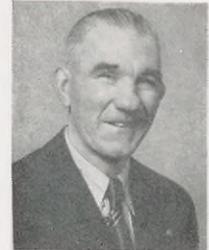
E. F. EADS
Tulsa Area
Production



H. B. GIVEN
Pacific Coast Area
Production



F. G. HICKS
Wilmington Refinery
Alkylation



HARRY JEWELL
Seattle Division
Operations



C. C. KOEHNE
Tulsa Area
Production



R. L. REEVES
Pacific Coast Area
Production



P. J. RUPLE
Seattle Division
Operations



E. O. SCHOENEWEIS
Wood River Refinery
Gas



H. H. SINGLETON
San Francisco Division
Operations

Twenty-Five Years



JOHN ADEMINO
Portland Division
Real Estate



L. L. ARMES
Portland Division
Operations



O. F. BENNETT
Tulsa Area
Production



A. H. BENSON
Chicago Division
Operations



F. J. CABRAL
Martinez Refinery
Engineering



O. F. DeWITT
Wilmington Refinery
Dispatching



J. W. FORD
Wood River Refinery
Personnel & Ind. Relations



W. H. GREENE
Los Angeles Division
Treasury



R. E. GROW
Shell Chemical Corp.
Torrance Plant



M. L. HARTZ
Martinez Refinery
Engineering



E. J. HEIGHT
Sacramento Division
Treasury



D. C. HULL
Wilmington Refinery
Engineering



H. H. KIPER
Wilmington Refinery
Alkylation



S. F. LONGAVA
Products Pipe Line
East Chicago, Ind.



J. L. MOONEY
Shell Pipe Line Corp.
Mid-Continent Area



C. W. NELSEN
San Francisco Division
Marketing Service



E. D. RAMSLAND
Pacific Coast Area
Production



J. V. ROSE
Shell Chemical Corp.
Martinez Plant



K. E. SIMONSON
Los Angeles Division
Treasury



N. W. SMITH
Indianapolis Division
Operations



FLOYD SPILLMAN
Tulsa Area
Production



R. L. SUMMERS
Tulsa Area
Treasury



CLAY TATE
Wood River Refinery
Engineering



E. H. THOMAS
Products Pipe Line
East Chicago, Ind.



H. R. VOSE
Martinez Refinery
Treasury



H. S. WHITE
Norco Refinery
Gas



A. H. WILLIAMS
Midland Area
Land



C. J. YAZZOLINO
Portland Division
Operations

SHELL OIL COMPANY

Head Office

20 Years

E. J. McCracken.....Trans. & Supplies
L. Schetzer.....Marketing

15 Years

R. N. Knott.....Treasury
A. L. MacCool.....Treasury
O. L. Stone.....Legal

10 Years

R. H. Firth.....Trans. & Supplies
Ruth E. Jervis.....Trans. & Supplies
Emma F. Sepp.....Marketing
Jean M. Thacker.....Treasury

SAN FRANCISCO OFFICE

20 Years

Laura E. Crosby.....Treasury
J. S. Morse.....Marketing

15 Years

V. A. Endersby.....Manufacturing

10 Years

H. C. Nelson.....Purchasing-Stores

Exploration and Production

HOUSTON OFFICE

15 Years

F. F. Adrian.....Public Relations

TECHNICAL DIVISION (HOUSTON)

20 Years

F. E. Davis.....Physical

15 Years

R. G. Bortchen.....Service
L. T. McKissack.....Physical

CALGARY AREA

10 Years

F. A. Kidd.....Exploration

HOUSTON AREA

20 Years

R. B. Nelson.....Production

15 Years

W. A. Behrman.....Purchasing-Stores
K. Carpenter.....Production
T. A. Gumert.....Production
E. W. Kenney.....Production
G. A. Koerner.....Production
J. C. Winchester.....Production

10 Years

A. M. Krauel.....Treasury
M. O. McCauley.....Production
E. M. Pardue.....Land

MIDLAND AREA

20 Years

M. C. Graham.....Exploration

15 Years

J. W. Benn.....Purchasing-Stores
L. N. Shorck.....Treasury

10 Years

A. C. Cloninger.....Production
G. W. Cogburn.....Exploration

NEW ORLEANS AREA

20 Years

G. F. Warren.....Land

15 Years

W. V. Alleman.....Gas
G. J. Estay.....Production
H. P. Guidry.....Production
E. L. Henry.....Production
J. W. Peebles.....Production
D. E. Prouty.....Production
W. H. Shattuck, Jr.....Production
A. W. Spencer.....Production

10 Years

Clara E. Ayers.....Treasury
E. Touchette.....Production

PACIFIC COAST AREA

20 Years

R. J. Glascock.....Production
W. H. Hitchcock.....Production
J. R. Weir.....Production

15 Years

L. M. Chambers.....Production
H. Lamothe.....Production
A. P. Stockstill.....Production

10 Years

T. J. Farrell.....Production
D. J. Jones.....Exploration
R. D. Ohrensall.....Exploration
G. S. Sadorus.....Production

TULSA AREA

20 Years

G. C. Caulfield.....Exploration

15 Years

F. L. Fenton.....Land
C. D. Holloway, Jr.....Gas
J. L. Lott.....Production
R. E. Stimatze.....Exploration

10 Years

G. L. Cross, Jr.....Treasury

Manufacturing

HOUSTON REFINERY

20 Years

C. A. Clements.....Dispatching
M. P. Marrie.....Utilities

15 Years

F. G. Sager.....Engineering

10 Years

N. W. Alexander.....Research Laboratory
C. M. Cunningham.....Engineering
D. W. Dial.....Engineering
J. L. Laird.....Catalytic Cracking
W. L. McCarley.....Engineering
W. I. Peppers.....Engineering

MARTINEZ REFINERY

20 Years

J. D. Buckmann.....Lubricating Oils

15 Years

L. L. Cadenasso.....Control Laboratory
C. F. Clark.....Engineering
K. E. Hahn.....Control Laboratory
C. R. Kilgore.....Distilling

10 Years

S. G. Lujan.....Engineering
A. J. Mitnacht.....Research Laboratory
H. J. Morgan.....Compounding
W. J. Murray.....Engineering
V. P. Parks.....Engineering
E. L. Ripple.....Compounding
F. W. Souza.....Engineering

NORCO REFINERY

15 Years

G. H. Peters..... Laboratory
S. J. Vitranio..... Laboratory

10 Years

F. E. Donley..... Engineering
E. J. Millet..... Gas

WILMINGTON REFINERY

10 Years

J. Barger..... Laboratory
C. E. Bergman..... Alkylation
D. E. Bosworth..... Engineering
M. E. Briggs..... Dispatching
R. W. Dudley..... Thermal Cracking
H. A. Estep..... Engineering
W. O. Monroe..... Treasury
H. G. Osburn..... Alkylation
W. J. Puckett..... Dispatching

WOOD RIVER REFINERY

20 Years

S. A. Bourland..... Utilities

15 Years

L. W. Griffith..... Research Laboratory
P. L. Teasley..... Engineering
V. E. Yust..... Research Laboratory

10 Years

R. E. Alexander..... Engineering
C. Arnold..... Engineering
C. R. Arnold..... Control Laboratory
D. K. Ball..... Alkylation
J. I. Boulch..... Engineering
R. C. Brown..... Engineering
G. W. Buckles..... Distilling
C. L. Casey..... Alkylation
C. L. Chesnut..... Engineering
M. G. Dresch..... Engineering
J. V. Drum..... Utilities
R. F. Drury..... Engineering
F. L. Durbin..... Engineering
L. Evans..... Engineering
V. F. Fasol..... Engineering
L. D. Felton..... Engineering
S. Ferrari..... Engineering
L. E. Fischer..... Distilling
J. J. Fitzgerald..... Control Laboratory
R. L. Flanders..... Engineering
T. J. Frazier..... Dispatching
J. H. Glass..... Engineering
E. J. Groppe..... Cracking
F. W. Hagerman..... Engineering
F. Haluch..... Engineering
J. J. Haufe..... Engineering
H. E. Hosto..... Engineering
K. E. Howard..... Engineering
L. W. Howard..... Engineering
J. R. Jackson..... Engineering
B. D. Jones..... Utilities
K. C. Joslen..... Dispatching
E. C. Keister..... Dispatching
W. R. Kendrick..... Engineering
J. D. Kessler..... Cracking
W. J. Krome..... Engineering
R. Kunz..... Engineering
*C. E. Langham..... Dispatching

*On Military Leave

W. H. Lehr..... Engineering
E. E. Liebler..... Engineering
J. Maltimore..... Engineering
W. L. Manning..... Control Laboratory
I. L. Martin..... Cracking
E. T. Massander..... Engineering
F. G. Meier..... Engineering
F. W. Miller..... Engineering
L. J. Motz..... Engineering
J. M. Nash..... Lubricating Oils
E. J. Neuman..... Engineering
F. L. Pfeiffer..... Control Laboratory
T. F. Phillips..... Engineering
J. H. A. Pressly..... Engineering
A. H. Rahn..... Control Laboratory
W. H. Reese..... Engineering
R. S. Reynolds..... Engineering
J. T. Ryan..... Engineering
R. W. Salsman..... Cracking
J. H. Sauerwein..... Cracking
E. W. Schmid..... Cracking
E. P. Schuette..... Engineering
H. F. Seaton..... Compounding
D. F. Sherman..... Engineering
J. E. Shroud..... Engineering
J. Slaby..... Utilities
T. Stipcak..... Engineering
W. C. Walker..... Dispatching
C. F. Waymoth..... Engineering
W. J. Wojtkiewicz..... Utilities

Marketing

MARKETING DIVISIONS

20 Years

F. N. Curran..... Albany, Operations
P. C. Doran..... Albany, Treasury
C. A. Heilman..... Atlanta, Operations
F. L. Bullard..... Baltimore, Treasury
J. W. Hasenzahl..... New York, Operations
G. L. Larsen..... New York, Operations
D. F. Sutton..... Sacramento, Operations
M. Bogstahl..... St. Louis, Operations

15 Years

C. J. Heburn..... Albany, Operations
C. E. Murdock..... Albany, Sales
J. F. Sokolis..... Baltimore, Operations
J. L. Campbell..... Boston, Operations
H. W. Dalton..... Boston, Operations
N. A. Paulitsky..... Cleveland, Marketing Service
E. E. Jones..... Indianapolis, Sales
A. F. Monk..... Indianapolis, Operations
L. L. Graves..... Los Angeles, Sales
E. P. Harker..... Los Angeles, Sales
V. D. Lane..... New York, Sales
C. A. Morrill..... Sacramento, Sales
H. O. Adams..... St. Louis, Operations
J. M. Deering..... San Francisco, Treasury
J. M. Johnson..... San Francisco, Treasury

10 Years

D. L. Desilets..... Boston, Operations
M. H. Gagne..... Boston, Operations
Irene A. Proch..... Cleveland, Operations
S. J. Medeiros..... Honolulu, Operations
G. C. Roth..... Indianapolis, Operations
R. A. Warner..... Los Angeles, Operations
H. J. Whitehead..... Los Angeles, Operations
H. N. Pothen..... Minneapolis, Operations
Laura M. Tubbesing..... Minneapolis, Operations
Virginia L. Peekema..... Sacramento, Treasury
E. J. Bittencourt..... San Francisco, Operations

SEWAREN PLANT

15 Years

T. F. Morris..... Depot
S. E. Weller..... Depot

10 Years

M. M. Hansen..... Treasury
J. C. Kerly..... Depot
D. E. Pockleambo..... Laboratory

Products Pipe Line

15 Years

K. L. Davis..... Effingham, Ill.
E. E. Selvidge..... Springfield, Ohio

10 Years

W. G. Barrow..... Greensboro, N. C.
J. W. Pearce..... Greensboro, N. C.

SHELL CHEMICAL CORPORATION

20 Years

R. D. Ward..... Head Office

15 Years

S. A. Ayres..... Dominguez
P. P. Mauro..... Dominguez
D. N. Gaither..... Houston
J. R. Lakeman..... Martinez
J. C. Kraft..... Shell Point
J. J. Leonard..... Torrance

10 Years

R. E. Anderson..... Dominguez
T. W. Hobbs..... Dominguez
G. L. Wilkes..... Head Office
J. R. Duty..... Houston
R. E. Hughes..... Houston
L. C. Hull..... Houston
C. L. Martin..... Houston
G. W. Tuttle..... Shell Point

SHELL DEVELOPMENT COMPANY

15 Years

V. V. Cox..... Service Engineering
D. C. Waldman..... Physical Chemistry

10 Years

M. L. Courter..... Process Engineering
R. T. Holm..... Organic Synthesis
L. S. Price..... Experimental Plants
T. Solomon..... Fuels & Lub. Engr.
G. M. Wright..... Service Engineering

SHELL PIPE LINE CORPORATION

20 Years

W. R. Simmons..... Bayou System

15 Years

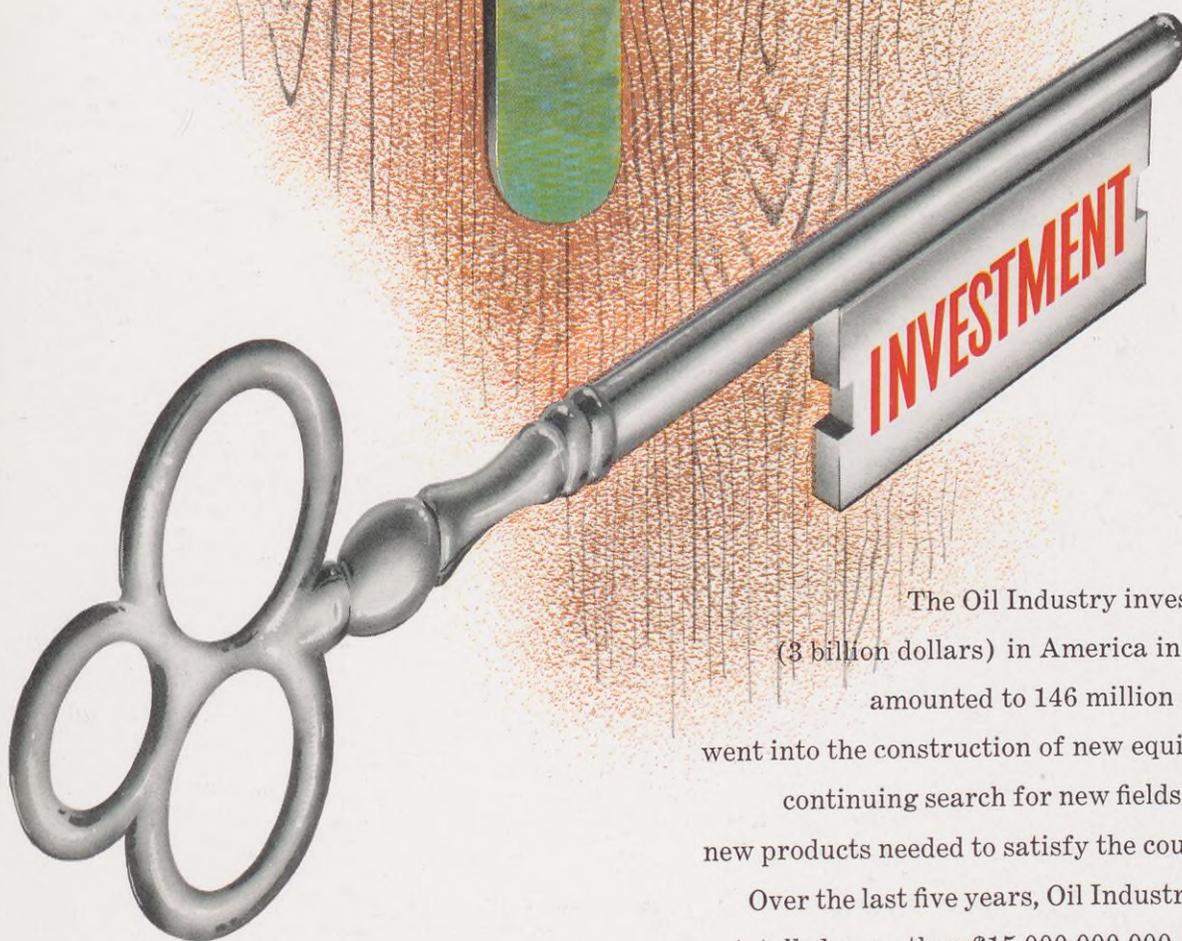
J. D. Carter..... West Texas Area

10 Years

M. B. Maze..... Mid-Continent Area
J. E. Mims..... Mid-Continent Area
E. R. Taylor, Jr..... Head Office
W. I. Thomas..... West Texas Area

matters of *Fact*

key to a stronger america



The Oil Industry invested \$3,000,000,000 (3 billion dollars) in America in 1951. Shell's share amounted to 146 million dollars. The money went into the construction of new equipment and into the continuing search for new fields, new processes and new products needed to satisfy the country's oil demands.

Over the last five years, Oil Industry investments have totalled more than \$15,000,000,000 (15 billion dollars).

This tremendous sum represents an investment in the future job security of the men and women who work in the Oil Industry.

SHELL OIL COMPANY
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NEW YORK, N. Y.
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Tacoma, Wash.

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G



one
billion
plus

In 1951, Shell sales topped the billion dollar
mark — a first-rate testimonial to the

excellence of Shell products and service.