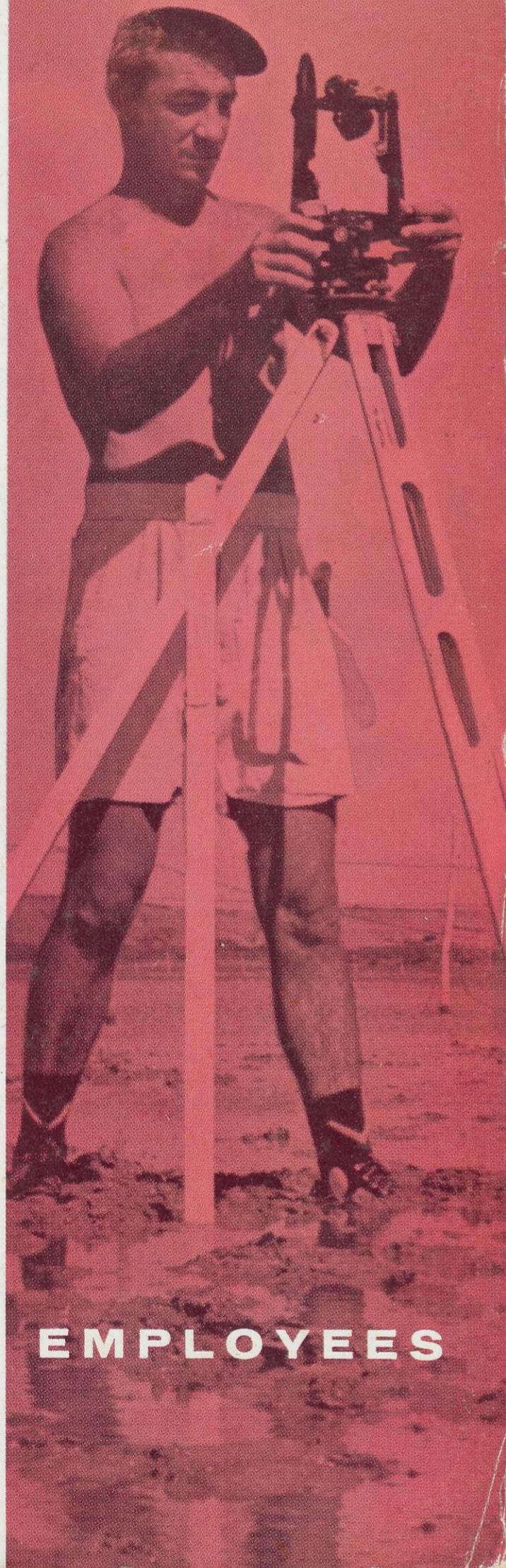
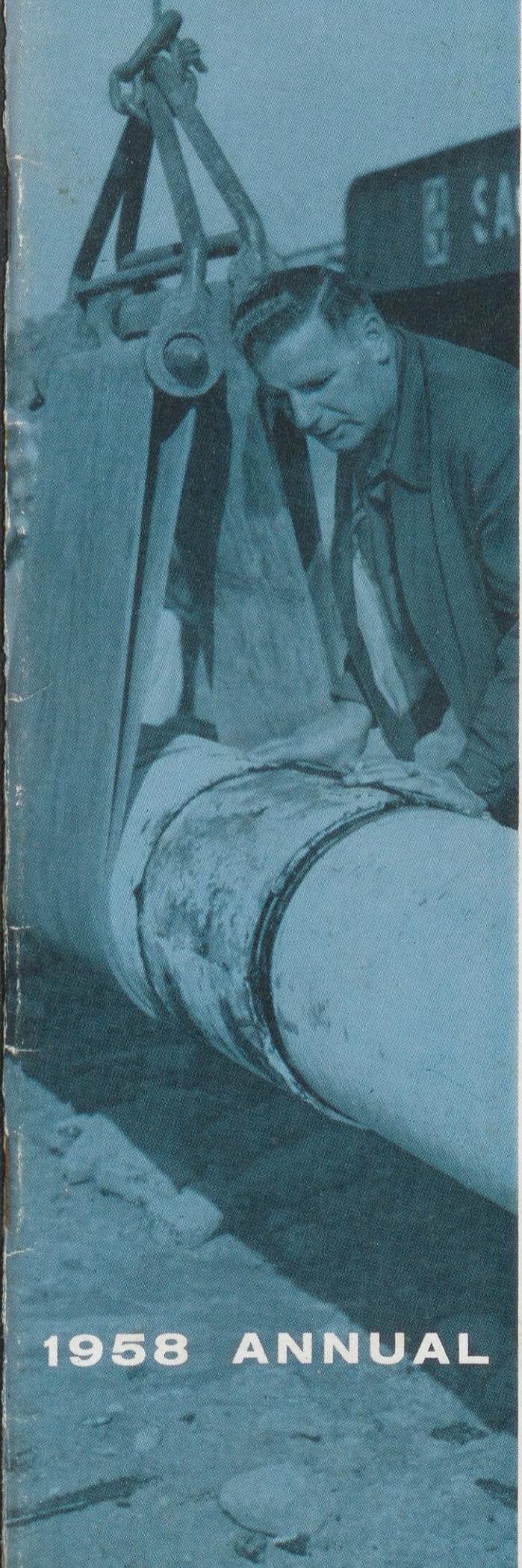


SHELL NEWS

APRIL 1959



1958 ANNUAL

REPORT TO

EMPLOYEES

1958: From Pause to Progress



**By H. S. M. Burns
President, Shell Oil Company**

WHEN commenting on 1957 business in SHELL NEWS a year ago, I mentioned that we were feeling the effects of the general pause in economic growth. You will recall that the upward curve of oil demand flattened out in 1957. It did not resume its upward climb until late in 1958. In recent months, however, business has been good and we expect to see an increase in total demand for products of about five per cent in 1959.

The year 1958 opened poorly for us in the petroleum industry, not alone because business activity as a whole had fallen off but also because storage tanks were brimming with oil stocks built up because of the Suez affair. Stocks of our bread-and-butter product, gasoline, were at an all-time high.

Reflecting this unbalanced supply position, severe competition among oil marketers drove service station gasoline prices away down. They have recovered a little since then but the average service station price is still almost two cents a gallon below that of two years ago. Inventories of gasolines and other major products, however, have now been reduced to more normal levels.

ALL things considered, Shell's performance in 1958 did not show up too badly. Our net income for the year was down 14 per cent from 1957 compared with an average decline of about 20 per cent for 21 major oil companies. Our product sales were within two per cent of the 1957 figure, thanks, in part, to a bulge in heating oil sales in December when we experienced unusually cold weather. Our crude oil production, however, was cut an average of 20,000 barrels a day because of necessary, but severe, state government proration limitations, particularly in Texas.

WE started to reduce inventories of all products early in the year even more sharply than the industry as a whole, so that at year end, we were in good shape, and have remained so. Capital expenditures—the amount we spent for expansion and replacement—were reduced about \$42 million and, in general, we intensified our normal good business practices—cutting costs while improving the way we work. Efficiency and know-how, which I like to think of as characteristics of Shell people, enabled us to hold expenses to manageable levels. However,

the insidious influence of inflation, in forcing up the costs of doing business, just as it forces up the cost of living, is something we all have to reckon with.

WE are in a growth industry and, long-term, can expect demand for our products to keep rising. To be in a position to hold our share of oil demand, we must continually find more oil than we take out of the ground. Over the years, good and bad, we have been able to do so. In 1954 our crude oil reserves were 1¼ billion barrels. Since then we have produced about 439 million barrels. But at the end of 1958, our oil and gas reserves had risen — through new discoveries and development of old fields—to more than 1½ billion barrels of crude oil and 6.7 trillion cubic feet of natural

gas. Shell's experience during this period has been considerably better than that of the industry as a whole.

There was no let-up in our research effort. Progress was made in the development of new tools and techniques for exploration and production; and new and improved products were introduced both in the oil and chemical fields.

THE petroleum industry carries a tremendous responsibility to support the economic and social well-being of our country. For this reason alone, it is both necessary and proper that the industry's activities be made known to the public on a continuing basis. There are many ways to do this, but none is so effective as the testimony of the men and women who make up our industry. It is to our own

self-interest, both yours and mine, to see that our friends and neighbors are informed about our company and our industry.

To help you inform yourself—and thus be prepared to speak up with knowledge and confidence, we regularly provide information on company and industry progress and problems. This is done through the many employee communications media with which you are familiar. I should particularly like to call your attention to the articles in this issue of SHELL NEWS in which the heads of our various departments and companies review the activities of their organizations during 1958 and discuss some of their prospects and problems. After you have read this issue, I hope you will agree with me that the future of our business is bright, but challenging ●

SHELL NEWS

VOLUME 27—No. 4

APRIL, 1959

ABOUT THE COVER

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



These Shell people shown at work in various phases of our business are representative of all employees—for whom this Annual Report of 1958 has been especially prepared.

Employee Communications Department
New York, N. Y.

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By **D. B. KEMBALL-COOK**
Executive Vice President
Exploration and Production



'The Challenge Today of Finding and Producing'

*By the end of 1958 we had accumulated a total
of about 1½ billion barrels of crude oil reserves*

OUR exploration and production activities were especially affected by the oversupply situation which existed throughout 1958.

Sharp cuts in allowable production by Louisiana, Texas and New Mexico regulatory agencies limited crude oil production in three of our most important producing areas. For three months in 1958, oil producers in Texas were allowed to produce their wells the equivalent of only eight days per month. These cutbacks forced a reduction in our total crude oil production in 1958. Nevertheless, our net production for the year amounted to 110 million barrels, or a reduction of 5.2 per cent from the amount we pro-

duced in our record year of 1957.

We drilled a total of 950 exploratory and development wells last year, compared to 1,274 in 1957. Despite this decrease in drilling, we substantially increased our crude oil and natural gas reserves by new discoveries and extensions of established fields. As Mr. Burns points out in the beginning of this Report, our net crude oil reserves were estimated at 1½ billion barrels at the end of 1958, compared

Shell's first deep water gas field off the coast of Louisiana was developed in East Cameron Block 82. Company Rig No. 10, shown at right, drilled nine directional wells in a record time of eight months.



to 1¼ billion barrels in 1954. And when you add natural gas and condensate, our total net reserves are equivalent to more than two billion barrels. By the term "net" I mean oil and gas owned by us after deducting the portion for which we are accountable to the landowners or others as royalty or operating interests.

Capital expenditures by the Exploration and Production Organization amounted to about \$150 million in 1958, or 67 per cent of our Company's total capital expenditures. We used this money to acquire oil and gas leases, to drill exploratory and development wells and to install production facilities.

We also spent more than \$60 million, not counted as capital expenditures, on exploration efforts other than drilling. This is a part of our long-range exploration program, which was continued with full vigor during 1958.

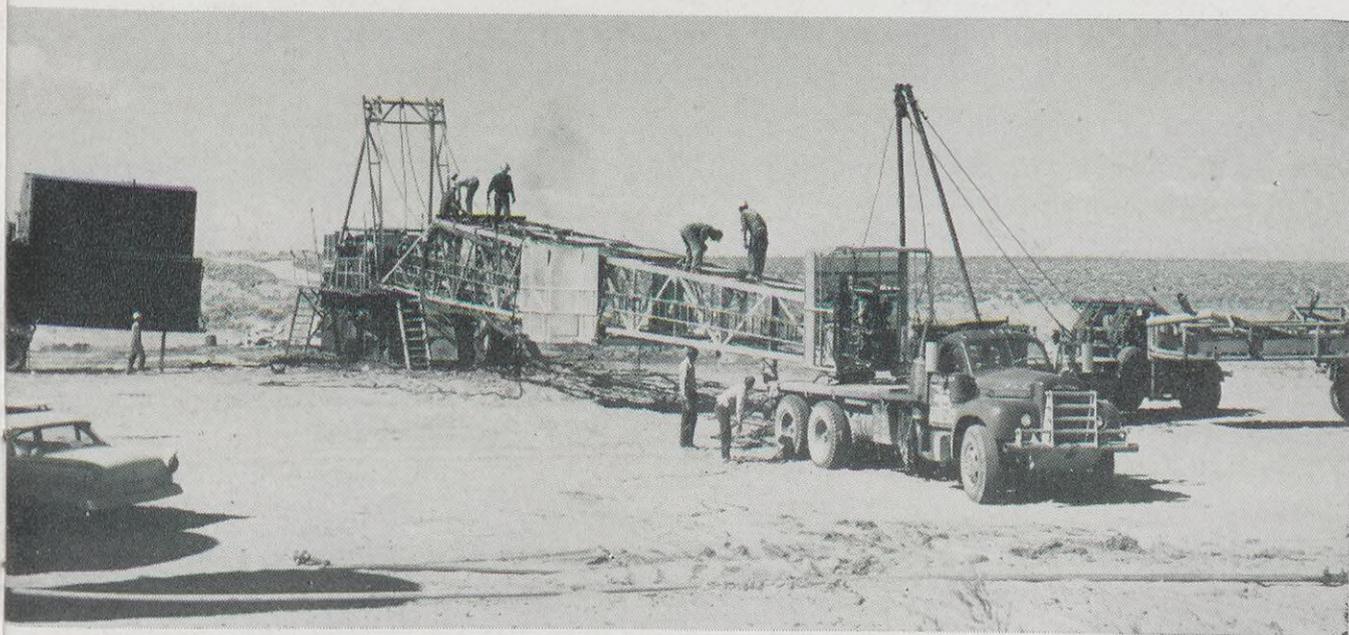
From Alaska to the Gulf of Mexico we have men working to determine where new oil and gas accumulations may be found. Surface geologists map vast areas in order to elucidate the geology as a guide to further ex-

ploration. Seismograph parties (an average of 32 Shell and contract seismic crews were working during 1958) seek places where oil might be trapped in underground rock. These and other studies help us choose the most favorable places to drill.

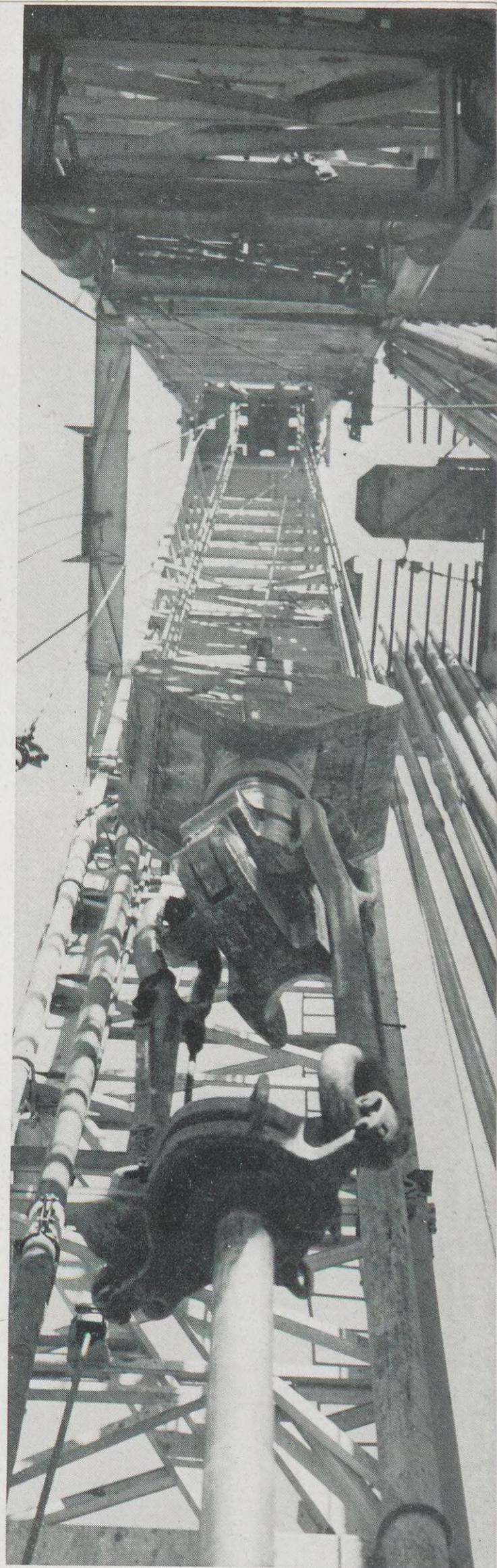
But even with our extensive studies and what we believe are "favorable" places to drill, the odds are against our finding oil or gas. Industry experience shows that the odds are nine to one against a wildcat resulting in a discovery well. The odds against finding a small field with about one million barrels reserve — which is just about enough to break even — are 50 to 1, while the odds against finding a big field with more than 50 million barrels are 1,000 to 1.

We have to do the best we can in the face of odds like these, and this is where we believe high standards of technological skills in our E & P Organization pay off.

Last year we drilled 166 exploratory wells and 39 were successful discoveries — about one producer for every three dry holes. This is a good record because, in spite of the cut-back in number of wells drilled last



In the Bisti Field, located in the New Mexico section of the Four Corners area, 38 wells were drilled last year by using small mast-type rigs similar to the one shown above being prepared for moving. A well is completed in this field in approximately 12 days. The drilling rigs are moved by trucks between locations.

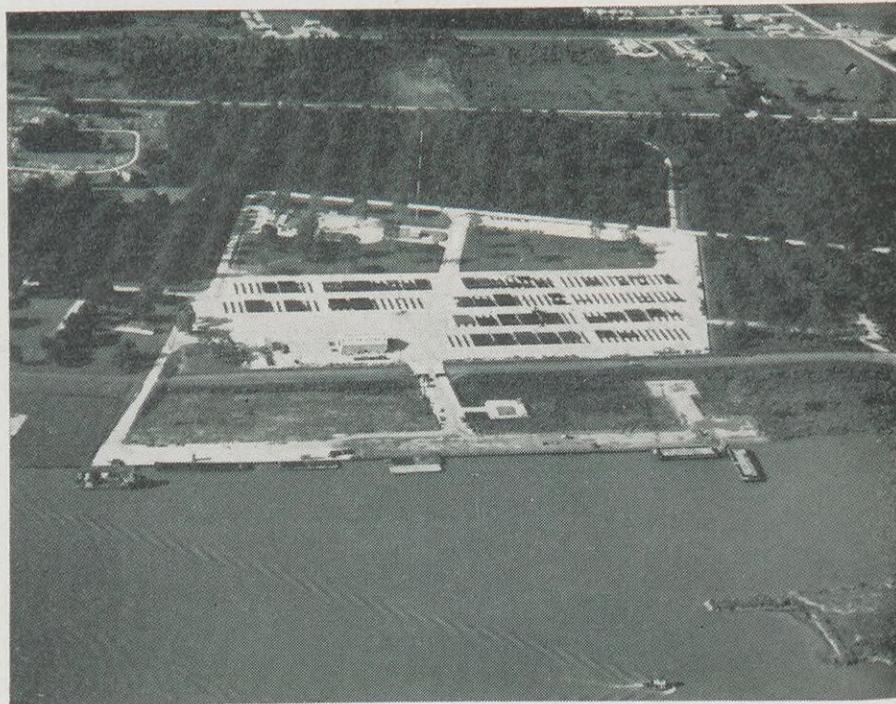


A stand of drill pipe is brought out of the hole on Shell's Rig No. 5, which drilled development wells last year in California's Saticoy Field.



Water flooding is being used to increase production in old oil fields. Above, Chemist R. H. Wilson, left, and Laboratory Assistant D. M. McPike of the Tulsa E & P Area test filters which remove undesirable solids from water. Water which is pumped underground must be clean so it won't clog the pores in oil-bearing rock.

This new terminal was completed at Morgan City, La., last year. It supplies equipment for three production divisions of the New Orleans E & P Area. The installation includes an office building, warehouse, pipe yard and docks.



'The Challenge Today of Finding and Producing' continued

Important discoveries made in Mississippi and West Texas

year, our level of drilling remained high. And, I should add, our experience in finding oil deposits has been consistently better than the average for the industry.

Of course, we must always be prepared to accept failures, and oddly enough we look on the drilling of dry wildcats as a very necessary part of our business. If we tightened up our activities and tried to be so selective as to make every wildcat a sure thing, we would improve our success ratio—the number of producers to dry holes. But in so doing, by refusing to take the essential risks of exploration, we would miss out on good discoveries, and in the long run find too few barrels of oil to stay in business.

Among our most significant discoveries last year were those at Little Creek in Mississippi and the Lazy S Ranch in West Texas.

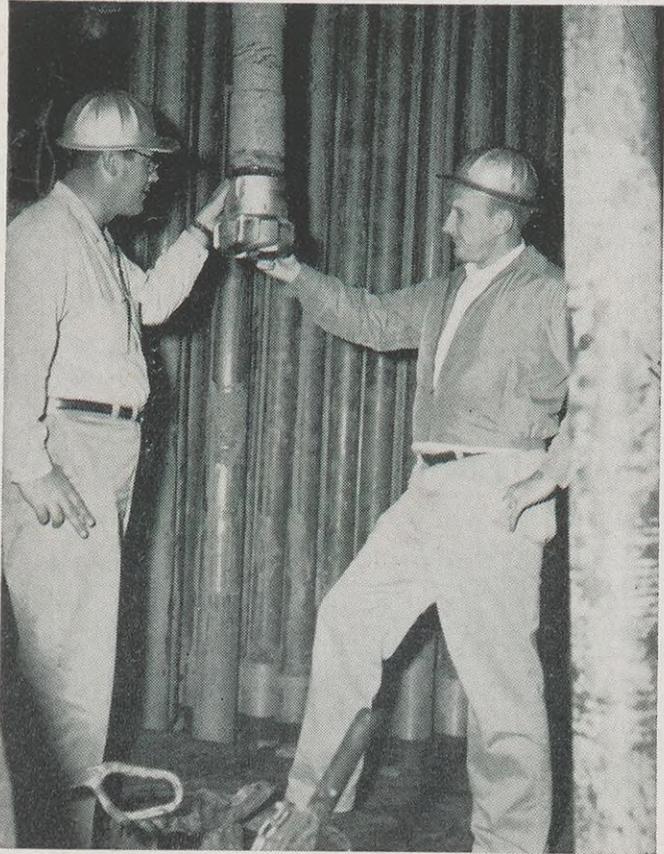
The Little Creek Field was discovered by the New Orleans Exploration and Production Area in January of 1958. This discovery was important for us since we had spent several years and a great deal of money grappling with complicated geology and geophysical problems in our search for oil in Mississippi. By the end of the year we had 23 full interest wells at Little Creek and part interest in eight others, and our gross daily production from the field was 5,100 barrels of oil. This production, plus development in other fields, boosted our total daily production in Mississippi to 7,200 barrels compared to 1,000 barrels at the end of 1957.

The Lazy S Ranch region of West Texas, in the Midland Exploration and Production Area, is another location in which exploration has been faced with complex problems to resolve.

Thus, it was most gratifying that six of the eight wildcats drilled there last year were discoveries. We have extensive holdings in this general area, and we are continuing a program of active exploratory and development drilling.

Two other important discoveries were made in the Midland Area in 1958—the Union-Shell Vacuum Unit No. 1 in southeastern New Mexico, completed at a restricted flow of 1,733 barrels of oil per day; and a wildcat in Block 9, West Texas, completed with a flow of 402 barrels a day.

Other drilling in 1958 led to significant extension and development of many fields. We continued to develop our large holdings in the Four Corners region where Utah, New Mexico, Arizona and Colorado meet. We completed 56 producing wells there in 1958, adding greatly to both our production capacity and proved reserves.



The turbodrill was tested by Shell at several locations last year. Above, Drilling Engineers B. J. Bullard, left, of the Houston Area, and W. E. Bingman, of the Midland Area, inspect a bit mounted on a turbodrill.

A rig was moved by overland transport through Canada's muskeg country last summer. This was the first time such a move over muskeg, soft during the summer, was successful. Tractors with giant tracks, like the one below, hauled altogether about 300 tons of equipment to Shell of Canada's Steen River site in Alberta.



When the Four Corners Pipe Line started operation in April, and thus provided a means of transportation, we were able to increase our production in this area sharply—from 2,000 to 19,500 gross barrels per day.

In Louisiana we continued to maintain a leading position. We made major extensions at South Pass Block 27 in the Mississippi River Delta and we developed significant gas reserves at East Cameron Block 82. Also, eight producing wells were completed at Eugene Island Block 188, located about 40 miles offshore in 67 feet of water—the farthest offshore of any of our fields.

The Calgary, Canada, E & P Organization of our associate company, Shell Oil Company of Canada, Limited, made several important discoveries in 1958. As you know, our E & P Organization provides them with technical advice and counsel.

The most significant discoveries were made in the Province of Alberta.

A joint discovery by British American and Shell at Berland River was completed as, we believe, the largest gas well in Canada. About 28 miles northwest of this gas discovery, the Shell-Petrol-Central Explorers well at Simonette River was completed with a restricted flow of 528 barrels of oil per day. In all, 10 discoveries of oil and gas resulted from a total of 64 exploratory wells drilled.

We drilled 733 successful oil and gas wells in the United States in 1958. Aside from additions to our reserves resulting from new discoveries and extensions to known fields, we also increased our reserves in a less spectacular way by flooding old producing reservoirs with water to boost dwindling pressure and increase ultimate oil production. In some fields natural pressure and pumping combined may get only 25 per cent or less of the oil out of the ground. Secondary recovery methods, such as water flooding, can sometimes more than double

the recovery. An illustration of the importance of secondary recovery is that 31 per cent of the total crude oil produced in the Tulsa Exploration and Production Area last year came from water flood projects.

Looking to the future, we are faced with an inescapable fact—the cost of finding and producing oil has been increasing at a rapid rate and will continue to rise. The reasons for the increase in discovery costs are these:

1. Oil is harder to find. The ratio of dry holes to the total number of both wildcat and development wells drilled is increasing. In 1948, the industry average of dry holes was about 32 per cent. In 1958, the average had increased to about 39 per cent.

2. The average size of new oil fields has been decreasing. Hence, an increasing number of discoveries must be made each year to replace the oil now being produced. In addition, the number of barrels discovered per foot drilled is declining. In domestic pro-

We must apply technological skills boldly and efficiently

duction in 1948, 28 barrels of additional oil reserves were found per foot drilled. In 1958, the figure was about 13 barrels per foot.

3. The search for crude oil now requires the drilling of deeper wells. In 1950 in the U. S., 1,125 wells were drilled deeper than 10,000 feet. In 1958, there were 2,575 wells drilled 10,000 feet and over—more than double the 1950 record. The cost of drilling goes up geometrically as the drill bit goes down. In 1958, the cost of wells drilled by the industry below 15,000 feet averaged about \$700,000 each.

4. More and more exploration and production is taking place in locations where solutions to physical and technical problems are expensive. For example, in the offshore waters of the

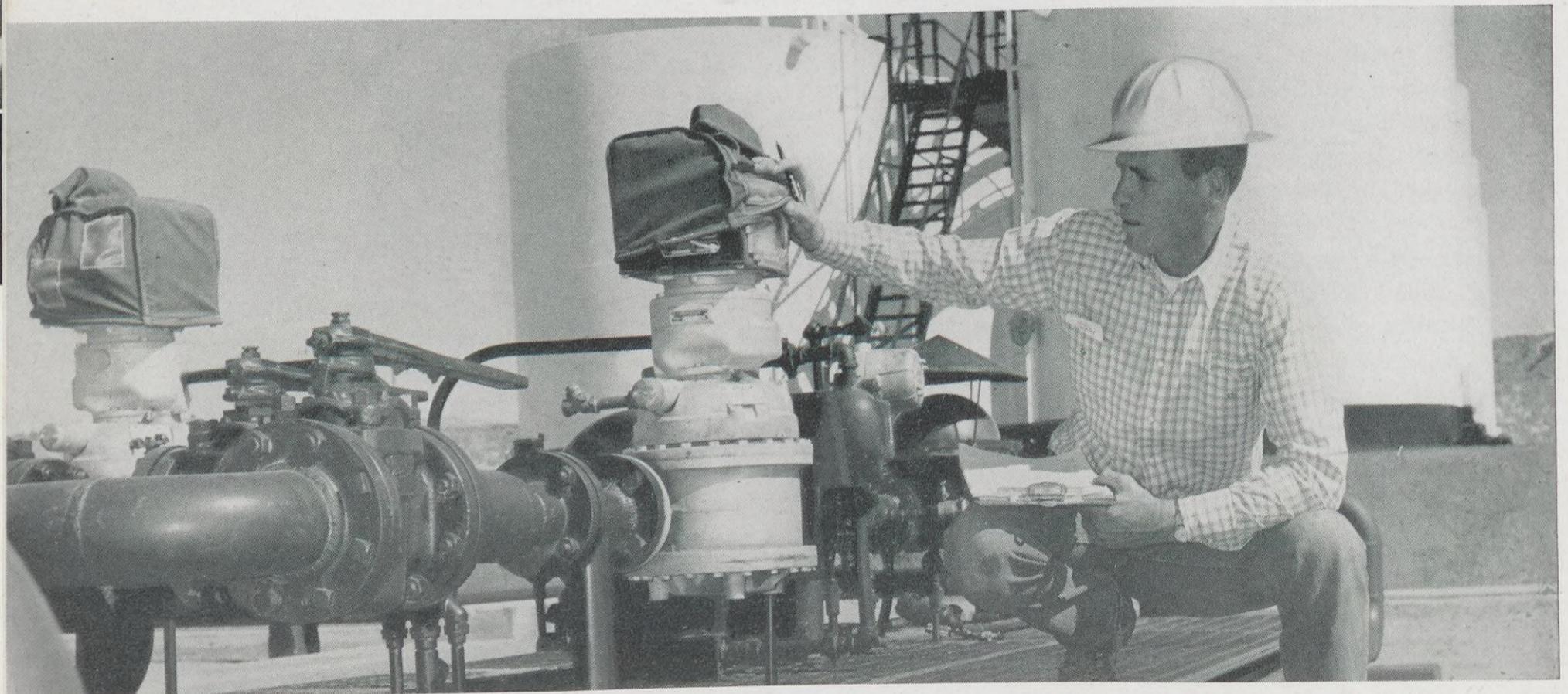
Gulf of Mexico, special marine drilling equipment and operating problems at sea make our ventures there extremely costly. Also, in Alaska, facilities have to be established in wilderness areas under severe weather conditions even before exploration and drilling can take place. The cost of such operations is many times more than in most other places in the U. S.

The principal solution to this matter of costs seems to lie in better technology and increased efficiency. One good example of improved technology is the automatic system by which producing wells can be operated and the oil transferred from the well head through the treating facilities and into storage, and thence into the pipe line, in a fully automatic operation, including metering and recording the

amount of oil which enters the line.

Much of our improved technology in the fields of exploration and exploitation comes from research done by Shell Development Company's Exploration and Production Research Division at Houston. We work together closely to develop better ways of finding oil, and, having found it, of developing the oil fields.

The challenge which the Exploration and Production Organization faces today in finding and producing at a profit the oil and gas we need is a serious one indeed. The extent to which we can succeed, and stay at the forefront of the industry in doing so, will depend most of all on how well we can improve our technological skills and apply them boldly and efficiently ●



A meter on automatic custody transfer equipment, which is being used to gauge oil on a Shell lease in the North Desert Creek Field in Utah, is checked by Lease Operator H. M. Donahoo of the Pacific Coast Exploration and Production Area.



By M. P. L. LOVE
Vice President
Manufacturing

'Units to Boost Product Quality'

Refinery throughput decreased in 1958, but planned improvements in facilities were continued

IN 1958 the total intake of our refineries was cut to 177 million barrels of diluted crude oil, or about eight per cent less than was processed in the peak year of 1957.

Although the operations of the Manufacturing Organization were curtailed, we continued to make previously planned large investments in new and improved facilities. A large share of the \$33 million in 1958 capital expenditures was spent for facilities to improve product quality. Since the beginning of 1956, we have spent more money on product improvements than in any other area. Out of a total of about \$90 million in capital expenditures during these three years, more than \$38 million, or about 42 per cent, was spent on units to boost product quality. (See chart on page 8.)

Most of the money spent on product

quality has been used to improve our gasoline octane rating, which is a measure of its anti-knock quality.

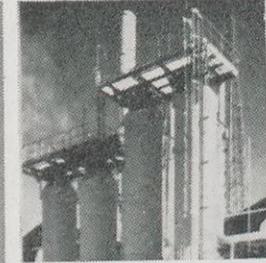
Our latest octane improvement program, started more than three years ago, is still in progress. It is based on three major factors:

1. The limits to which car makers will go in increasing the compression ratio of their engines.

In planning our program over three years ago, we had to estimate how much octane requirements of new cars would increase each succeeding year. Engine manufacturers have been increasing compression ratios steadily over the last few years to improve the performance and efficiency of their engines. This, of course, requires higher octane gasolines. However, at

An octane improvement project added to the skyline of the Norco Refinery last year. At right, Operator R. J. Carmouche inspects the Platformer feed surge drum. The tower in the background is the project's stabilizer column.



				Total
Expansion 16.3 Million	Quality Improvement 38.2 Million	Other Process Items 5.1 Million	Non-Process Items 31.2 Million	90.8 Million
MANUFACTURING CAPITAL EXPENDITURES 1956—1958				

'Units to Boost Product Quality' continued

New units were added to improve gasoline quality and increase lubricating oil capacity

compression ratios higher than the current average of about 10 to 1, new problems arise which interfere with proper combustion. TCP* was developed by Shell to help handle these problems. However, I feel that these new problems are becoming so serious with compression ratios above 10 to 1 that they will retard the rate of compression ratio increase from this point on.

2. Our competitors' capacity to make high octane gasoline.

The automobile industry's horsepower race has been matched by the oil industry's octane race. Obviously, a refiner can boost the octane ratings of his gasoline only as much as his manufacturing facilities permit. We have kept a close eye on the construction programs of each of our competitors in an attempt to anticipate his moves in the gasoline mar-

ket — all the better to plan our own.

3. Determination of the rate at which we should increase our high octane capacity.

It was decided as a matter of sound economics that we should increase our high octane capacity gradually as demand increased. The trick is to have new units ready at the right time and place. Units that come on stream before they are needed tie up capital which could have been used elsewhere to advantage. Units which lag behind market demand lose business for Shell.

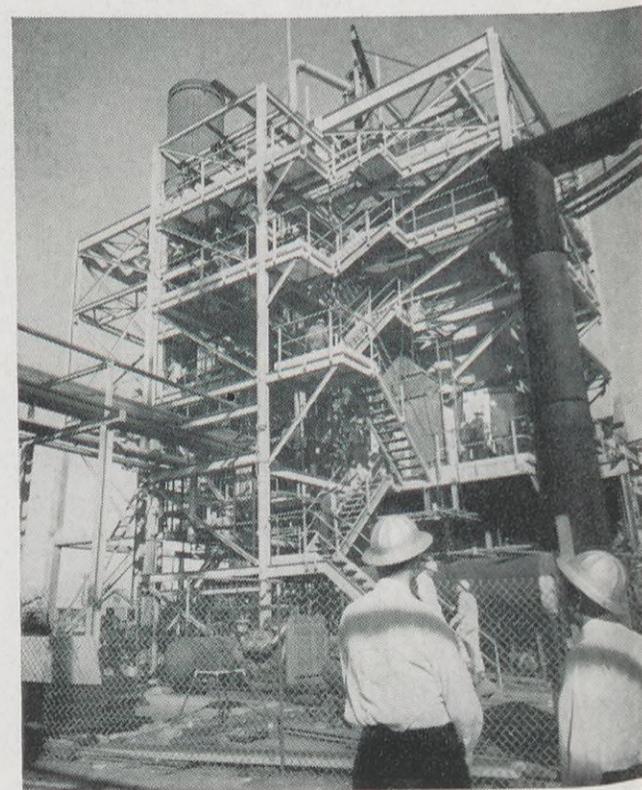
Last year, two octane improvement projects started in 1957 were completed at our Wilmington and Norco Refineries at a total cost of \$21 million. Since the 1958 cars had lower compression ratios than anticipated, we postponed the start of a similar \$20 million project at the Wood River Refinery. Our plans now are to start con-

struction on the project late this year.

As you can see, the business of increasing our high octane gasoline capacity is expensive. Although the octane rating of gasoline will probably level off in the next few years, as I mentioned earlier, it still will be necessary for us to continue spending large sums of money for manufacturing units, because as more new cars go into service, the demand for premium gasoline will increase.

Although not a part of our octane improvement program, among other quality improvement projects last year were major revisions in alkylation plants at Norco and Houston to improve operation and product quality. These plants manufacture alkylate, a major component of aviation gasoline. Also, a new alkylation plant was completed which enabled our Anacortes Refinery to manufacture its first aviation gasoline for the growing market in the Pacific Northwest.

Construction started last year on a boiler for the Wilmington-Dominguez Refinery. It will burn gas produced by the cat cracker to help control atmospheric pollution and provide steam for refinery units.



*Trademark Shell Oil Company

Gasoline quality is not our only concern. Major quality improvements have been made in our other products in order to meet competition and the demands of improved technology in many fields.

During the last 10 years, phenomenal advances have been made in lubricant quality. We have perfected new lubricants for complicated machinery, supersonic jets, atomic power plants and other military and industrial requirements. Also, we have made outstanding improvements in engine lubricants for automobiles and piston-engine aircraft.

One of the most important lubricant developments in recent years is Shell's IRUS® Fluid 902. For many years, a mineral oil fluid has been used in hydraulically-operated industrial equipment in the nation's factories. While there was increasing desire for fire-resistant hydraulic fluids, those available were extremely

expensive and their use required extensive changes in machine design.

This problem was solved when our Martinez Research Laboratory developed IRUS® Fluid 902, a fire-resistant hydraulic water-in-oil emulsion which can be used in existing machines at a very reasonable cost. This fluid is revolutionizing its sector of the industry and is finding wider acceptance each year by manufacturers and users of machine tools.

Last year a new formula lubricant designed to meet demands for a high quality automatic transmission fluid was developed at our Wood River Refinery Research Laboratory. The product, Shell DONAX® T-6, contains a special base stock manufactured at Martinez and new additives to give it greater stability than the product it replaces.

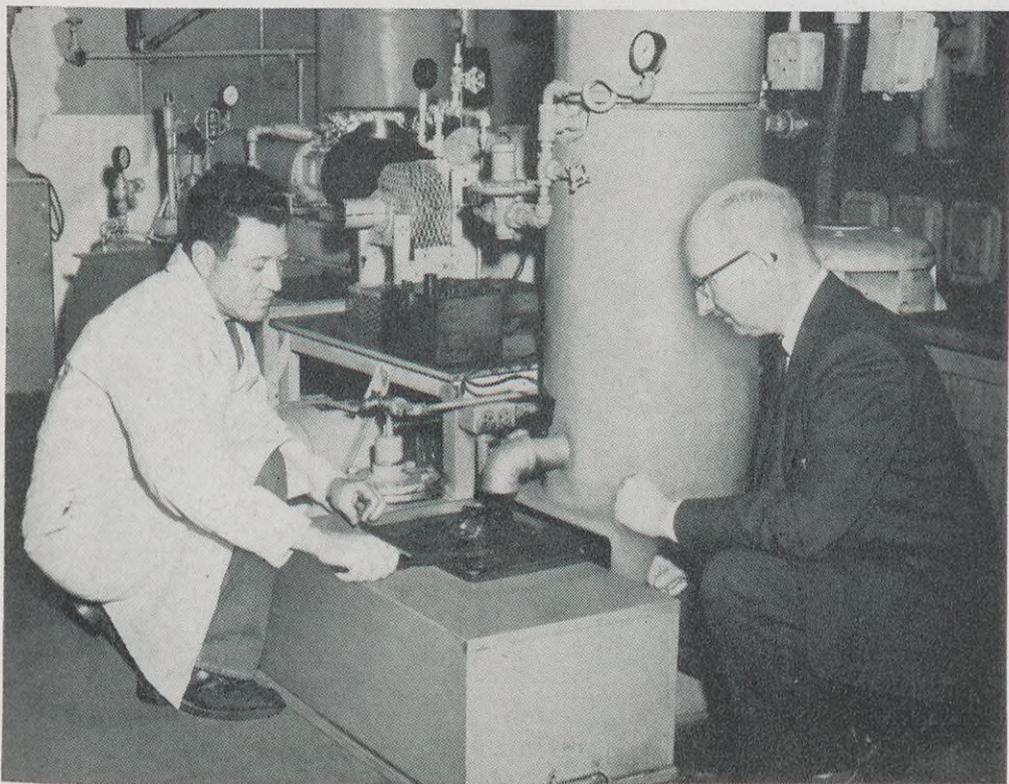
The Wood River Research Laboratory also developed a revolutionary lubricant for piston-engine aircraft.

Called AEROSHELL® Oil W, it reduces oil consumption and engine wear and makes engines easier to start and faster to warm up. It has already received wide acceptance for use in light aircraft and is now being flight-tested in large aircraft engines.

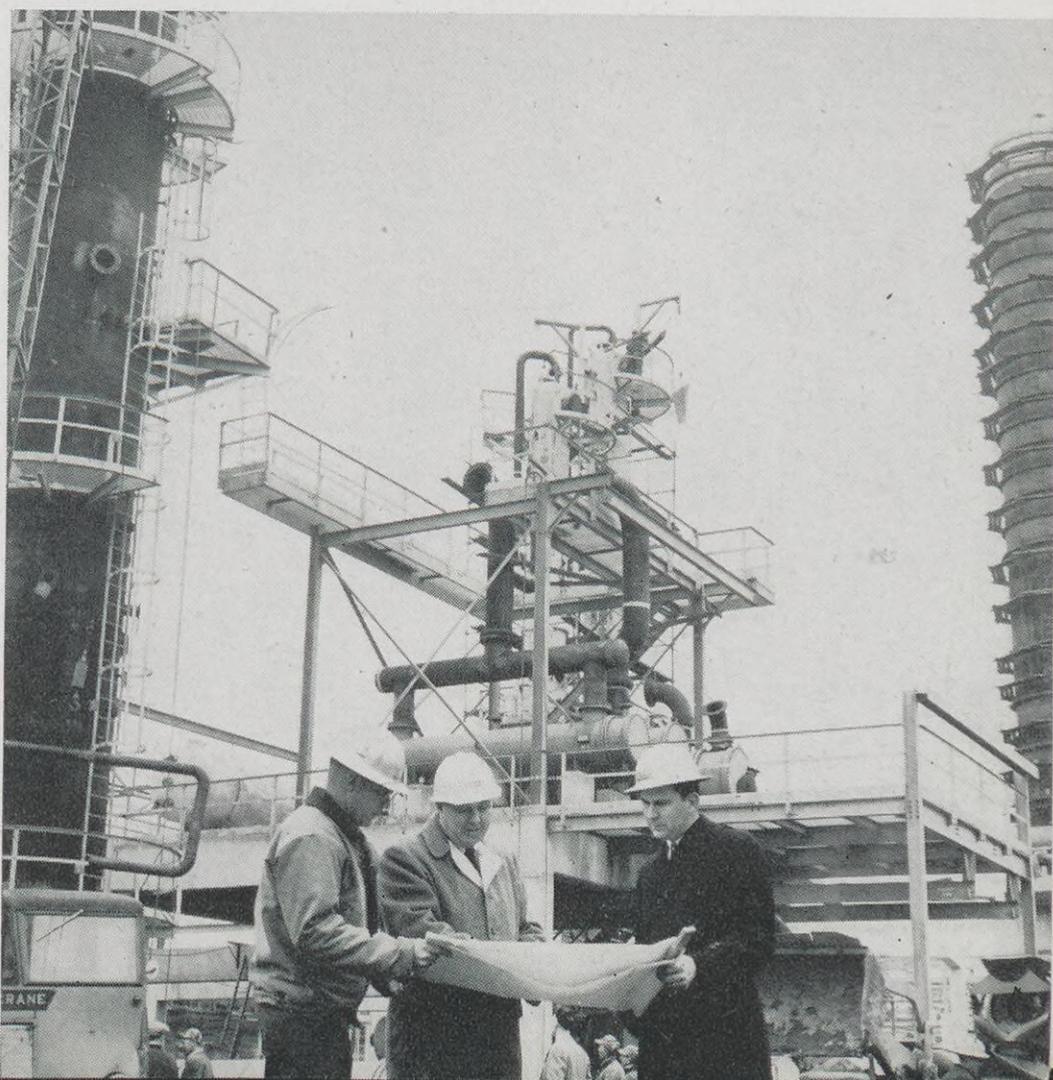
Also at Wood River last year, construction was started on a \$10 million expansion to increase the manufacturing facilities of high viscosity index lubricating oil, used in Shell motor oils and other high quality lubricants. These facilities, scheduled for completion this August, will double the present capacity at Wood River for manufacturing HVI lubricating oil.

At Houston, the installation of a wax molding machine was started in 1958. The machine will improve our wax by molding it in a closed system, eliminating moisture condensation and keeping out dirt and other foreign matter. The capacity of the unit will be 10,000 pounds of wax an hour.

An order for 11,328 pounds of Shell's ETR (Extreme Temperature Range) Grease D was manufactured by the Martinez Refinery Research Laboratory for use in missiles and jet aircraft. Below, Group Leader H. A. Woods, right, inspects the grease as Senior Inspector C. J. Bartolomei spreads it in a shallow pan.



Expansion of Wood River Refinery's lubricating oil facilities was started in 1958. Looking over plans near units under construction are, left to right, Engineer E. H. V. Mohme, Construction Manager M. L. Lambert and Senior Engineer J. W. Davis.



Refineries' safety record remains better than industry average

Also, with respect to wax, the Houston Refinery Research Laboratory developed an improved SHELLWAX® 125 for coating peaked-top milk cartons. Because the cartons are formed, waxed and filled with cold milk in a series of quick operations, the wax is made specifically to withstand the sudden drop in temperature.

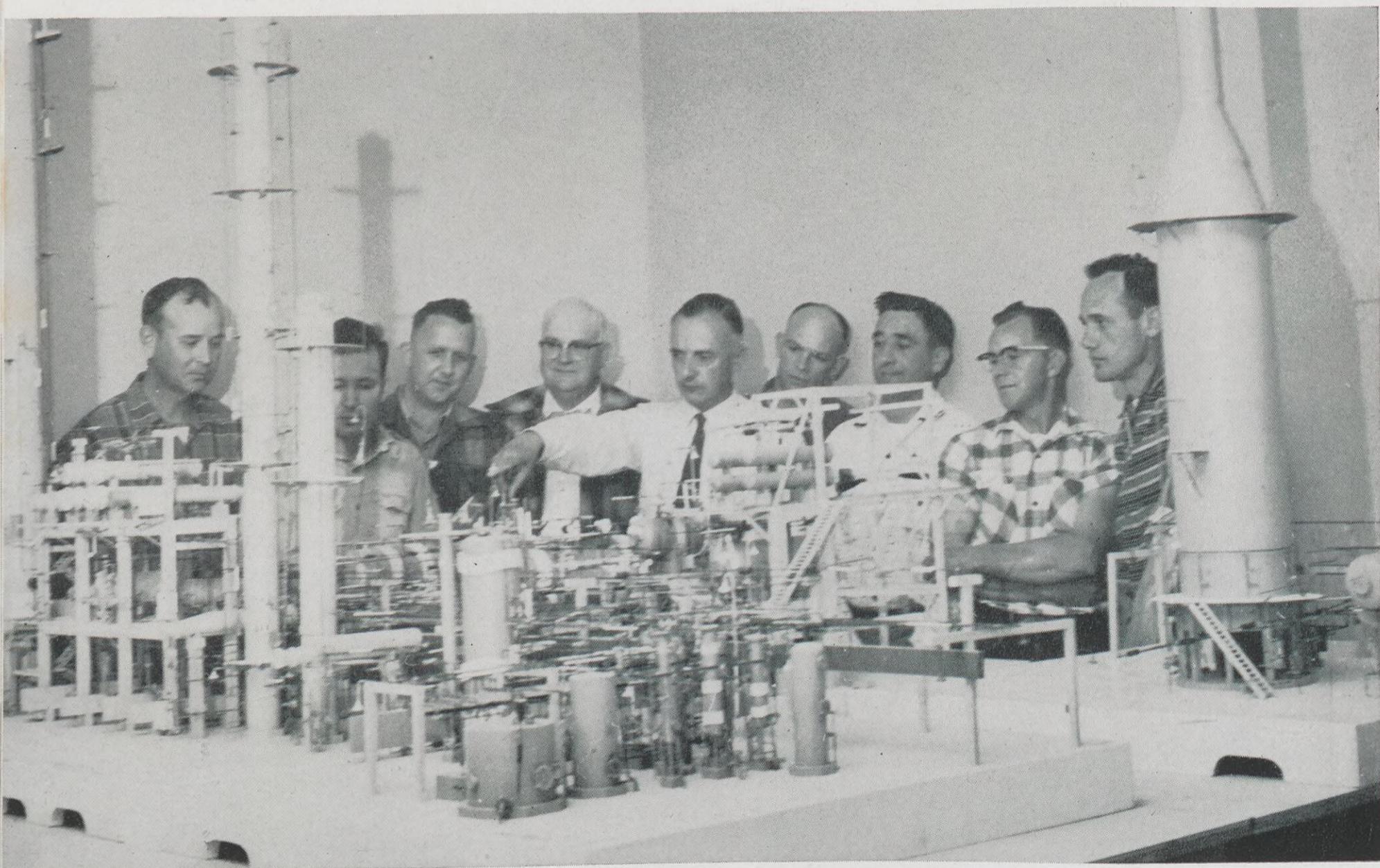
Another quality improvement project will be completed at Wood River

in 1959—a hydrodesulfurizer for improving our distillate fuel. The unit removes sulfur from distillate and has a capacity of 25,000 barrels a day.

A review of 1958 manufacturing activities must include our progress in safety and training. As in the past, the frequency of injuries at our refineries remained well below the average for the oil industry. And we are particularly proud of the 1,200 employees at

our Norco Refinery, who completed 1958 without a single lost-time accident. The National Safety Council recognized this as the best safety record of any refinery in the petroleum industry during the 12-month period.

All refineries continued their training programs last year with a view toward improving job performance and helping our people further their self-improvement ●



A scale model of the new alkylation plant at the Anacortes Refinery is used to train operators and supervisors. Above are, left to right, Operators H. D. Jones, W. E. Lauderback, D. J. Forbes; Operating Assistant R. E. Draper; H. W. Swyter, Assistant Manager—Zone "B"; Operator W. T. Morgan; Shift Foreman R. A. Racanello; and Operators C. R. Peterson and L. C. Bushey.

By J. G. JORDAN
Vice President, Marketing



'The Part of the Business Closest to Customers'

Price reductions and decreased volume caused a six-per-cent drop in Shell's 1958 marketing revenues

SHELL'S Marketing Organization, the part of the business closest to customers, is the first to feel the effects of a drop in expected demand or oversupply.

Both these factors occurred in 1958, as is explained on page 18 by D. B. Hodges, Vice President, Transportation and Supplies. The effect on our sales was a decline of about six per cent in revenue from refined products as compared to our record high of 1957.

The reasons for this drop were depressed prices and intensified competition among the many oil marketers battling for customers. The effect on our major product groups is reflected in the following facts.

Total marketing decline in revenue was \$73 million, of which \$67 million was due to price reduction and the rest to decreased sales. In automotive

gasoline, the decline in round numbers was \$30 million, of which \$27 million was caused by depressed prices. In light and heavy oils, income was down \$43.5 million, \$30 million due to price while the rest reflected the general recession in industrial activity. In aviation fuels, our revenue was up \$1 million, although prices

were lower. There was a \$500,000 drop among our other product groups.

As we moved into 1959, demand and prices for gasoline, our major product, strengthened slightly. But the average price of gasoline at service stations was still almost two cents a gallon below the high of 1957. And despite the upturn in the economy,

Improved service station design is discussed by, left to right, Draftsman H. H. Roerden, Architect T. L. Jones and Senior Engineer M. H. Deutzman of the Marketing Engineering Department at Head Office. Designing better service stations is part of Shell's continuing program to attract more retail customers.





A new refueling truck pumps Shell's jet fuel into an American Airlines 707 Jet Flagship at the rate of 1,200 gallons a minute. As the country's leading supplier of both aviation gasoline and jet fuels to airlines, Shell has developed an 8,000-gallon refueler which efficiently removes contaminants from fuel. Shell is also building jet fuel storage facilities at key points around the country to meet the expected increase in demand that expanding pure-jet and prop-jet travel is bringing this year.

'The Part of the Business Closest to Customers' continued

Service station improvements and better products help our dealers

competition seems more intense than ever.

In the front line of competitors' fire are the 23,000 service stations operated by independent jobbers and dealers under the Shell sign. Improvement of automotive gasoline sales—which account for more than 40 per cent of our refined products volume—depends ultimately on satisfying old customers and attracting new ones. Since the public obtains its most lasting impression of Shell in our dealers' service stations, we have stepped up our efforts to help dealers to become better merchandisers.

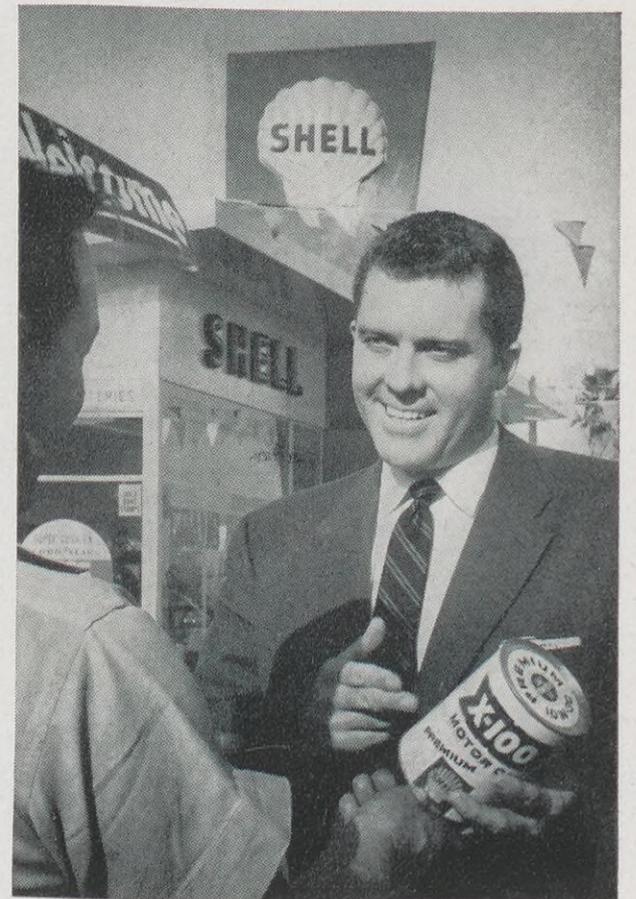
During 1958, our aid to dealers included these developments, which are continuing:

- Introduction of Super Shell with TCP* to the West Coast, thus making it available at every Shell station in the country.
- Increased training opportunities

for dealers, including how to select and train their driveway salesmen.

- New two-tone brown uniforms made available to dealers to improve and standardize the appearance of driveway salesmen.
- New 48-inch-high streamlined pumps, about eight inches shorter than the previous ones. The new pumps are less expensive and also give customers an unblocked view of showroom windows.
- A motor oil sales promotion campaign.

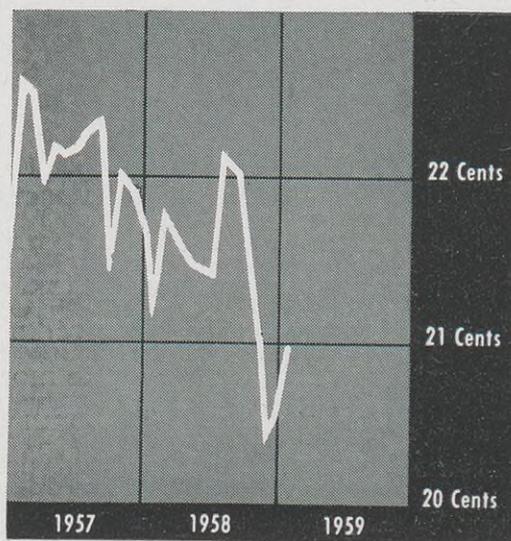
The background on the motor oil campaign illustrates how we go about solving a sales problem. During recent years, the ratio of motor oil sales compared to gasoline sales has declined. The reasons for the drop: better motor oils, more efficient engines, and recommendations by some automobile manufacturers for longer intervals between motor oil changes.



The sales message on a can of X-100® Premium Motor Oil is explained to a Shell dealer by Salesman H. J. Conroy, Los Angeles Division.

*Trademark Shell Oil Company

AVERAGE GASOLINE PRICES
(Before Taxes) At Service Stations
In 55 U. S. Cities



Decreased prices, from a high of 22.66 cents in 1957 to a low of 20.36 in 1958, show why revenues dropped.

Since our engine lubrication research, and that of other oil companies, contradict the auto manufacturers' recommendations, our Lubricants Department conducted an extensive survey of motor oil used by cars on the road. They found that more than half of the cars examined were being driven with contaminated oil which was resulting in reduced engine life. As a result, we began a campaign stressing the importance of prolonging engine life with more frequent oil changes. The campaign increased our motor oil sales, particularly in SHELL X-100® Premium Motor Oil.

In another of our major product groups—aviation fuels, both gasoline and turbine fuel—we continued as the leading supplier to airlines and our sales volume reached a record high. With the advent of the jet age, demand for turbine fuel is expanding rapidly and we are building storage

facilities for it at various points around the country. Also, we have put into service newly-developed, 8,000-gallon refueler trucks which are capable of pumping 1,200 gallons a minute. Speed of pumping is an important consideration because jet air-

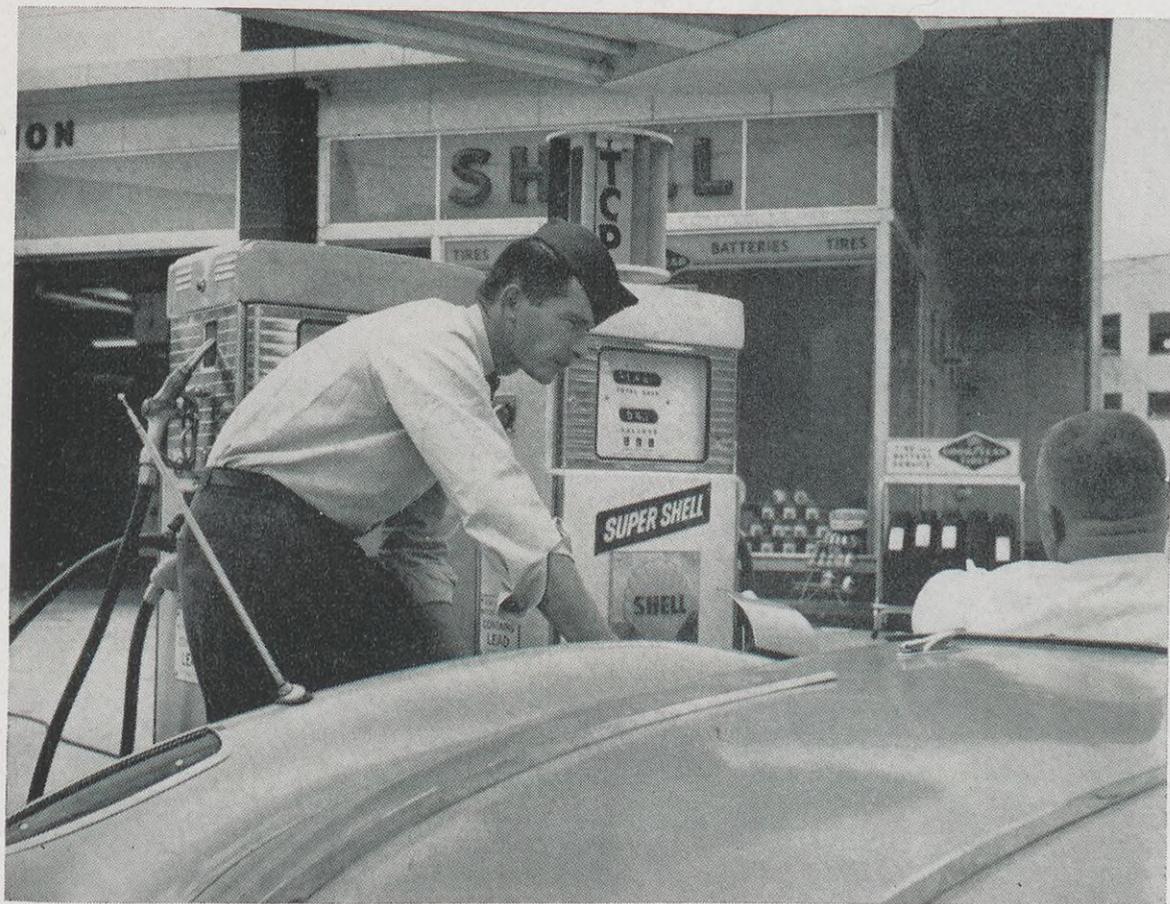
liners, to be economic, must spend less time on the ground than piston-powered types.

In the asphalt field, our 1958 sales increased at twice the pace of the industry's. We expect another considerable increase in demand in 1959 as a result of more work on Federal and State highways. Thereafter, demand is expected to expand steadily for the foreseeable future.

A 10-per-cent increase in our heating oil sales in 1958 showed the effect of weather on our business. This increase was largely the result of the colder-than-usual winter. However, the use of natural gas for heating homes continued to make inroads into this market. To meet this competition, we aim to encourage the development of new oil heating equipment to make the use of oil even more economical.

1958 events illustrate that we have many problems that arise from the competitive nature of our business. But on top of these, we are faced with political ones. Although there are many such issues, two are of particular concern to us at present—1) attempts to control prices by restriction of competitive practices and by direct regulation; and 2) higher gasoline taxes.

Price regulation of gasoline, similar to governmental establishment of prices a public utility can charge, has been suggested by some critics of the oil industry. This suggestion is unrealistic since the public utility concept involves granting one company a monopoly in a guaranteed market in exchange for a fixed price based on cost. The oil industry, however, has dozens of companies competing in the same markets—and no one has ever determined a satisfactory way of establishing separate basic costs for each of the products refined from a barrel of crude oil.



A Shell customer is introduced to Super Shell Gasoline with TCP in San Francisco, Calif., by Dealer Tom Dietz. Shell began marketing Super Shell on the West Coast in January, 1958, making it available coast-to-coast. Dietz is wearing the new uniform being offered to Shell dealers and their salesmen.

Excessive gasoline taxes could reduce sales and tax revenues

Another price regulation problem concerns charges that oil companies conspire to fix prices. Those who charge price fixing are not aware that the oil business has the sharpest kind of competition; they fail to understand that razor-sharp competition tends to bring identity, or near-identity, of prices.

The problem of gasoline taxes, long a burden to our industry, is threatened with new aggravation as a result of current proposals to increase both Federal and State gasoline taxes. The

national average of combined Federal and State taxes now stands at nine cents, which adds an average tax of 42 per cent to the price of the product. This results in an excise tax rate more than four times that on such "luxury" items as jewelry, fur coats and perfume.

The oil industry does not oppose taxes on gasoline, provided that: 1) the tax revenue is used for highway purposes and 2) the tax level does not become so high that it cuts gasoline use. However, some states

use large amounts of gasoline tax revenue for general expenditures not in any way concerned with highways. And if proposed State and Federal taxes are passed, the average motorist will pay tax equal to half—or more—of the retail price of gasoline.

At what point will increased gasoline taxes start to reduce the use of gasoline? No one knows exactly, but in my judgment we are near this point. And when it's reached, decreased sales can reduce the total gasoline tax revenue to less than what would have been raised by a lower tax on a larger volume of sales. This is not speculation—it has happened in many countries.

Gasoline taxes and price regulation proposals are only two of our political problems. And even these cannot be covered fully here. However, since the jobs of all employees—regardless of department—are affected by these issues, we provide you with information to inform yourself so you will be prepared to speak up on them.

These problems are reviewed in SHELL NEWS and in local employee newspapers. Various aspects of gasoline pricing problems are discussed in the booklet, "Old MacDriver Had a Car," which has been made available to employees.* Also, meetings to discuss gasoline prices are being held for marketing employees and others.

Our problems won't evaporate in 1959. As noted, oil demand and prices have strengthened only slightly so far this year, and thus we must not become complacent. Marketing people must continue to be increasingly efficient in the best Shell tradition so that we will meet and exceed the keen sales competition we face ●



Shell gasoline and furnace oil from the Norco Refinery are tested by Plant Superintendent R. F. Anderson, center, and Yardmen J. J. Matamaza, left, and K. Weston at the new dock of the Albany Division's Milton, N. Y., Plant. It was enlarged in 1958 to receive such large tankers as the one above.

*If you would like a copy, send a card to Employee Communications Department, 50 West 50th Street, New York 20, N. Y.



By A. G. SCHEI
Vice President, Finance

'Funds to Carry on the business'

Net income for Shell in 1958 was \$116 million—\$19 million below 1957

AS indicated throughout this Report, the expected growth in demand for petroleum products requires that Shell pursue an extensive search for new reserves of crude oil and gas and continue to improve and expand our plants and facilities.

The oil business, more than any other, requires large amounts of new capital to be invested annually. Shell is no exception to this rule and it is a major function of the Financial Organization to make sure that there is sufficient cash available to provide for this need.

For the most part, funds to carry on the business come from the Company's operations. However, we must also see to it that the Company's financial condition remains sound so that if we wish to borrow additional funds, our credit standing will be unimpaired.

The year 1958 was less profitable for the Company than 1957, due to the general decline in all business. Net income for the Company was \$116 million or \$19 million below 1957. The chart of Income and Outgo on the following pages gives a good summarization of how we received and spent our cash during the year.

An important item of Outgo is the amount available for Replacement and Expansion each year. In 1958 this was \$263 million, a large part of which represents our investment in the future of Shell Oil Company. The major item in this group is \$223 million for capital expenditures. This was \$43 million less than 1957, mainly due to a substantial reduction in the drilling of wells. The reduction was in line with the industry trend as the incentive to drill was adversely affected by a more than ample supply of crude,

high inventories and restricted production. At year end, in spite of curtailed drilling, Shell's share of industry production had risen.

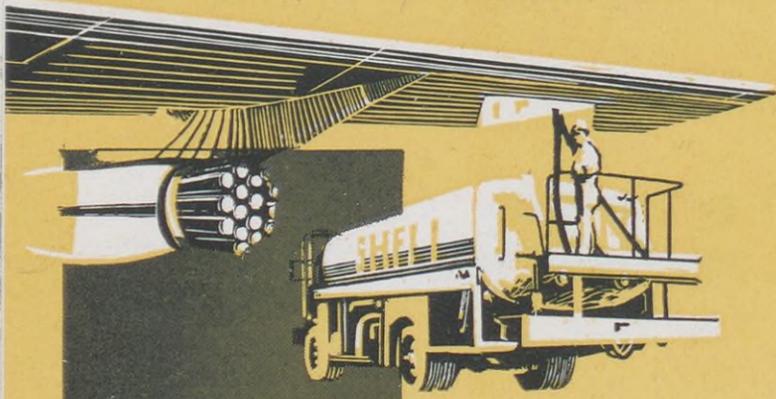
As our operations grow, we need additional amounts of working capital such as cash in banks and accounts receivable to carry on the business. In 1958 working capital requirements increased \$6 million.

To augment the expansion of Shell Oil Company of Canada, Limited, in which we have a 50 per cent interest, we advanced them \$12 million which they added to their own funds for capital expenditures and working capital.

Also during the year, we reduced long-term debt by \$22 million representing money we had borrowed in prior years to meet expansion needs that required more cash than we had available from our own operations at the time.

At year end we were in a sound financial position, and should the improvement in general business conditions continue, we expect to have adequate cash resources to meet our 1959 program. If you wish fuller information on our Company's financial position in addition to what is covered on this and the next two pages, you may obtain a copy of the Shell Oil Company Annual Report to Shareholders through your supervisor ●

**REFINED PRODUCTS SALES
AND OTHER OPERATING REVENUE**



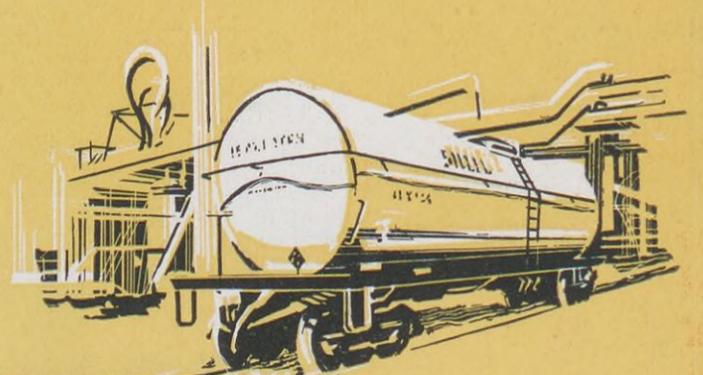
\$1,177

CRUDE OIL SALES



\$301

CHEMICAL SALES



\$188

income

in millions of dollars

financial aspects of S

outgo

\$954



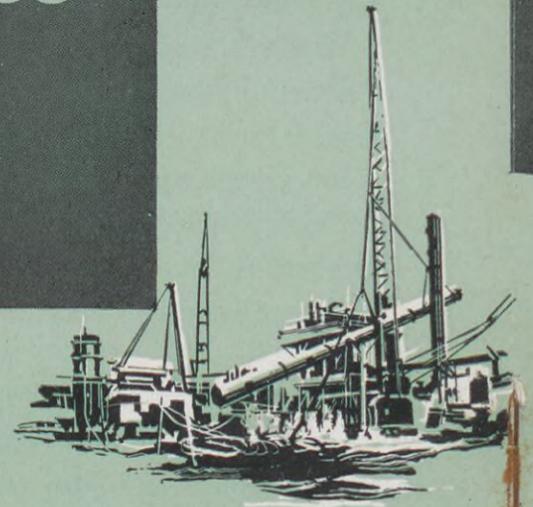
**SUPPLIERS
FOR GOODS AND SERVICES**

\$325



**EMPLOYEES
WAGES, SALARIES AND
EMPLOYEE BENEFITS**

\$263



**REPLACEMENT AND
EXPANSION
PLANT, EQUIPMENT AND OTHER ITEMS**

Major financial aspects of Shell's activities are summarized on these pages. This Income and Outgo Statement is a summary of the year's business. Receipts from customers and others, shown under Income at the left, totalled \$1,674 million in 1958 and the items under Outgo at the bottom add up to the same figure.

Total revenue was down \$99 million from 1957 and net earnings were down \$19 million. This was due mainly to lower prices for oil and chemical products.

OTHER INCOME



\$8



of Shell's activities in 1958

\$66



DIRECT TAXES
FEDERAL, STATE AND LOCAL

\$61

DIVIDENDS
TO SHAREHOLDERS



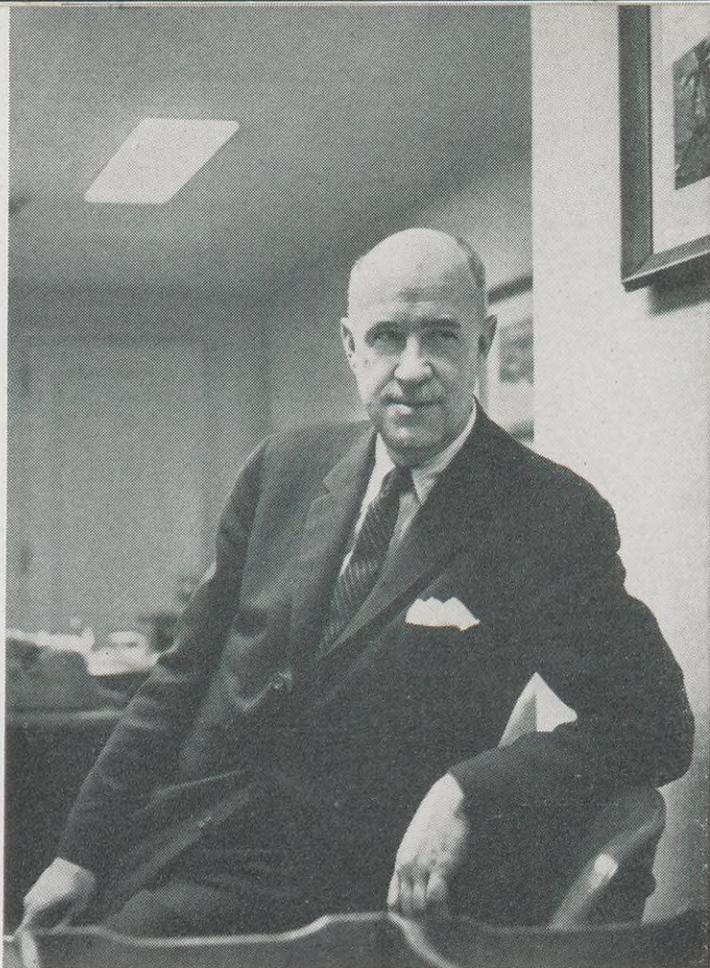
\$5



INTEREST
ON BORROWED MONEY



ITEMS



By D. B. HODGES

Vice President, Transportation and Supplies

'The Forces of Supply and Demand'

The major problem faced by Transportation and Supplies in 1958 was to adjust to oversupply and to a drop in expected demand for oil

THE basic responsibility of the Transportation and Supplies Organization is to balance our supply of petroleum with demand and to maintain efficient flow of crude oil and Shell products from origin to point of need.

The ideal situation is to keep a continuous flow of crude oil from wells to refineries and products from refineries to marketing terminals—never too much or too little. But there are many factors, outside as well as inside the industry, which affect the forces of supply and demand to which we gear our operations. Changes in the general economy, in international affairs or even in weather can alter plans all along the supply system.

All these factors were at work in 1958. But our major problem was to adjust to the decreasing oil demand and the resulting oversupply—which was aggravated by the build-up of large stocks of oil as an aftermath of

the Suez crisis in 1957. This was not a simple matter.

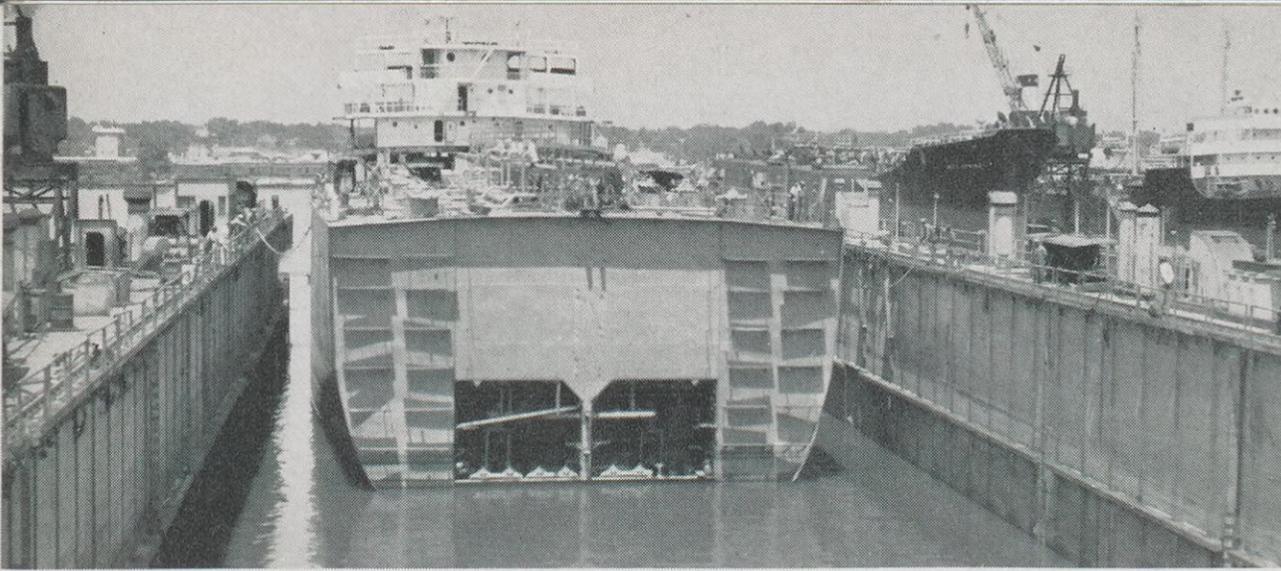
One of the major complications was caused by the increasingly closer relationships between what were previously three independent oil markets in the United States—the East Coast, the Midwest and the West Coast. Now the three markets are inter-related in oil economics for two major reasons: 1) the two new pipe lines from the Four Corners region—one to the West Coast and the other to New Mexico, where it joins a line to Texas; and 2) oil imports into all three of the formerly independent oil markets. Consequently, when we wish to make a major change in our supply situation, we must consider the whole country as a unit. (This is the principal reason we established in 1958 a Supply Programming Department in Head Office to analyze supply problems and to formulate and integrate

our handling of crude oil, volatiles and products on a coast-to-coast basis.)

In adjusting to the 1958 situation of high inventories and oversupply, we carried through a program which cut our 1958 average refinery runs by about eight per cent below 1957. This percentage was twice the industry rate of reduction.

In addition, we made month-to-month adjustments of our products supply so that at the end of the major fuel oil season in April and at the end of the major gasoline season in November, our stocks of these products were at economic levels. In other words, we had enough to meet demand, but not an oversupply which would cost us money to keep on hand. In all, we reduced our inventories of finished products by 12 per cent. As in the case of refinery runs, this was twice the industry's rate of reduction.

The importance of keeping inven-



New mid-section of a T-2 tanker enters drydock to be attached to an existing bow and stern. Two such jumboized ships, their tonnage increased from 16,750 to 19,890, entered Shell service in 1958 under long-term contracts of affreightment to carry products from our Norco and Houston Refineries to the East Coast.

tories of crude oil and products at an economic level is emphasized by the fact that about \$10 million was freed for use elsewhere in our business.

While our over-all inventories were reduced, our year-end stocks of crude oil were higher by about 1½ million barrels in 1958 than 1957. This was due largely to reductions in refinery runs and to opening, in April, of the Four Corners Pipe Line which took ½ million barrels just to fill.

Despite the flow of crude from the Four Corners region, our pipe line movement of crude and products dropped 11 per cent in 1958. Only tanker movements went up slightly because of transportation of Four Corners crude from the end of the pipe line at Los Angeles to the Anacortes Refinery in Washington.

Although 1958 was a year of recession, we prepared for future growth in oil demand by expanding and modernizing storage and transportation facilities. During the year, we constructed 718,000 barrels of storage and leased 338,000 additional barrels.

On the transportation side, pipe line facilities were extended and, in

some cases, extensive modernization was begun on existing lines. To improve our crude position on the West Coast, T&S constructed the Vallecitos Pipe Line from Vallecitos Field, across California's San Joaquin Valley to the Valley Pipe Line for serving the Martinez Refinery. In the Delta region of Louisiana, an eight-inch crude line from the Horstal Field to the Southwest Pass Terminal was completed. From Southwest Pass, the crude will be shipped via the Delta Pipe Line to the Norco Refinery.

As for modernizing the operation of existing lines, we began using elastic spheres for better separation of the various products running through the North Line. These spheres can also be used to test the calibration of meters — as tests at the Marshall, Mich., pumping station on the Wolverine Line are proving.

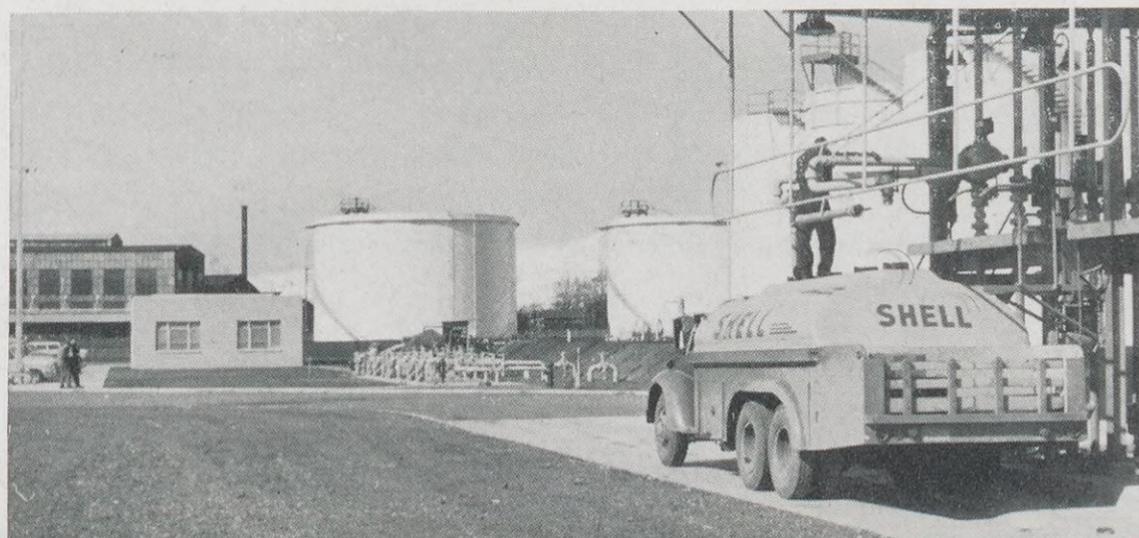
As part of Shell's marine transportation improvement program designed to decrease freight expenses, two jumboized T-2 tankers began service under long-term contracts of affreightment. Each ship had its mid-body tank section replaced, raising

its capacity 3,140 tons to 19,890 tons.

For moving chemicals between the Houston and Norco Chemical Plants, two 8,000-barrel, double-skin barges began operation. On the Mississippi River System, a fourth 14,500-barrel barge began moving asphalt from the Wood River Refinery to Chicago.

So far in 1959, demand for oil products shows an increase over 1958. However, we must continue to keep a close watch on our inventories to avoid a recurrence of oversupply problems. Also, we must continue to achieve economies in our various forms of transportation if we are to compete successfully. How well we do these jobs—as always—will depend not only on the efforts of T&S employees but also on the many other Shell people we work with every day ●

A Shell tank wagon is loaded by Truck Driver C. L. Evans of the Sacramento Division, at the new Shell gasoline terminal at Sparks, Nev. This terminal is part of 1,056,000 barrels of storage which Shell either constructed or leased in 1958.



A rubber sphere is placed in a scraper trap by Station Engineer C. G. Simmons at the Sibley (Ill.) Station on the North Line, operated by Shell's Pipe Line Department. The spheres are being used for product separation in the line.

By R. C. McCURDY
President
Shell Chemical Corporation



'A Difficult Year Despite Some Promising Developments'

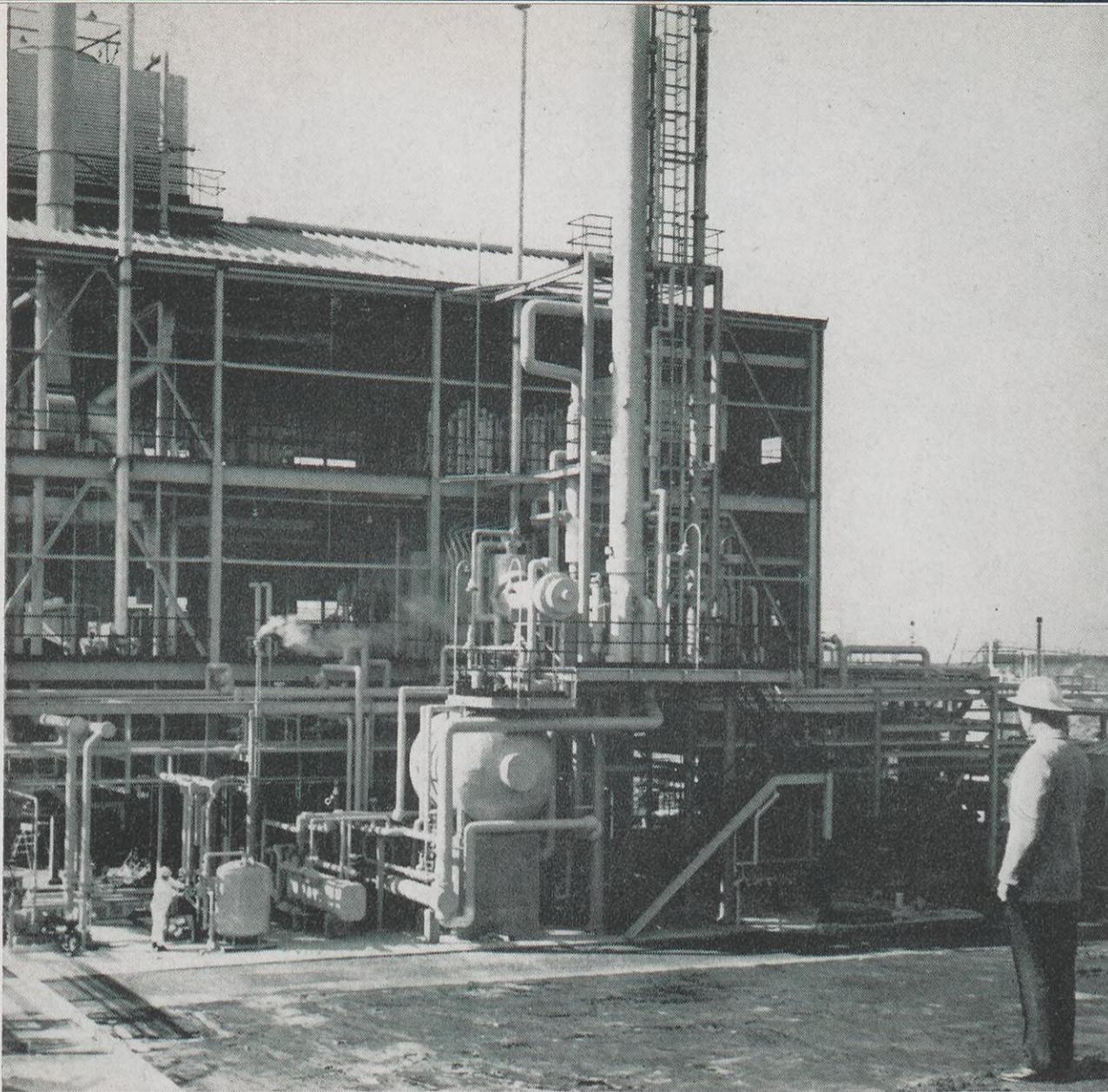
Over-all chemical sales declined with general 1958 economy but insect infestations bo



Grasshopper plagues in the Midwest were effectively combated by Shell insecticides, including aldrin, shown above being sprayed from an airplane on an infested farm. A farmer, in the photograph at the left, examines the bodies of dead grasshoppers that could have ruined his crop.

THE chemical business is highly sensitive to the state of business in general. Consequently, for Shell Chemical, 1958 was a difficult year despite some promising developments. When the recession started in the third quarter of 1957, demand for most chemicals dropped and competition forced prices down. When the upturn came in the middle of 1958, chemical sales responded immediately. However, even though our sales were much improved in the last half of the year, total sales volume in 1958 was 10 per cent below the previous year.

Sales of our products for agriculture, however, ran contrary to the over-all trend. They increased 20 per cent, due in part to a heavy insect infestation in the Midwest. There, Shell Chemical insecticides, including aldrin



Put into operation in 1958 was the new Marketing Development Unit at the Martinez Chemical Plant. The unit, one of three now operated by Shell Chemical Corporation, is used to manufacture products in semi-commercial quantities for introduction into new markets. Assistant Chief Chemist Billy Rush is in the foreground.

CS'

ons boosted volume of agricultural chemicals

and dieldrin, were used to treat more than one million acres of wheatland during the summer. Besides, dieldrin was used more extensively for pest control around homes and gardens and for termite control in new home construction.

Our experience in ammonia, on the other hand, was different. The level of sales volume was maintained but revenues were down because we had to cut prices drastically to meet intense competition. We supply ammonia, principally in the form of fertilizer, to the West Coast market. This market is plagued with oversupply because competitors have, and are building, many new fertilizer plants.

The volume of sales in resins and plastics held up and we produced about the same amount in this product

group as in 1957. But we lowered prices for various grades of EPON® resins during 1958 to stimulate their use in a wider variety of end products. Construction was started on a phenol unit to be completed late this year at the Houston Plant. Phenol is the principal ingredient in bisphenol-A, which in turn is the principal ingredient in EPON® resins. Since our Houston Plant is one of the largest consumers of phenol, manufacturing this product ourselves will result in considerable savings.

Industrial chemicals and synthetic rubber were hit hardest by the general decline in business. These two groups of Shell products have their outlets largely in consumer products fields such as automobiles, refrigerators, television sets and radios.



Lighter and richer cakes are in store for Assistant Department Manager C. H. Rivers of the Houston Chemical Plant as his wife mixes Snowdrift shortening, containing Shell glycerine, into the batter. Shell Chemical is one of the largest glycerine manufacturers in the country.



Shell Isoprene Rubber, synthetic counterpart of natural rubber, is tested for tensile strength by Research Assistant C. H. Brown at the Torrance Laboratory. Shell Chemical, now producing commercial quantities, is the first to manufacture such a product.



'A Difficult Year Despite Some Promising Developments' continued

Manufacture of new synthetic rubber in commercial quantities is a major accomplishment

In spite of lower sales of industrial chemicals such as glycerine and ketones, we went ahead with construction of an acrolein-glycerine unit at the Norco Plant to cost about \$18 million, as the acrolein will be used with hydrogen peroxide to produce glycerine by a new and improved process invented by Shell Development Company. This investment is expected to pay its way by virtue of savings in cost rather than by added business. Also, we expect to find many new uses for acrolein in the manufacture of

pharmaceuticals, dyestuffs, plastics and other products.

The decline in automobile sales last year has been well publicized. Since automobile manufacturers are the largest consumers of synthetic rubber, our sales suffered. This situation was made even more severe because of excess producing capacity in the rubber industry. However, sales improved late in the year, and looking toward future opportunities, we started building new facilities for the manufacture of rubber-carbon black mixtures.

These mixtures allow customers to eliminate the first processing steps in manufacturing finished products.

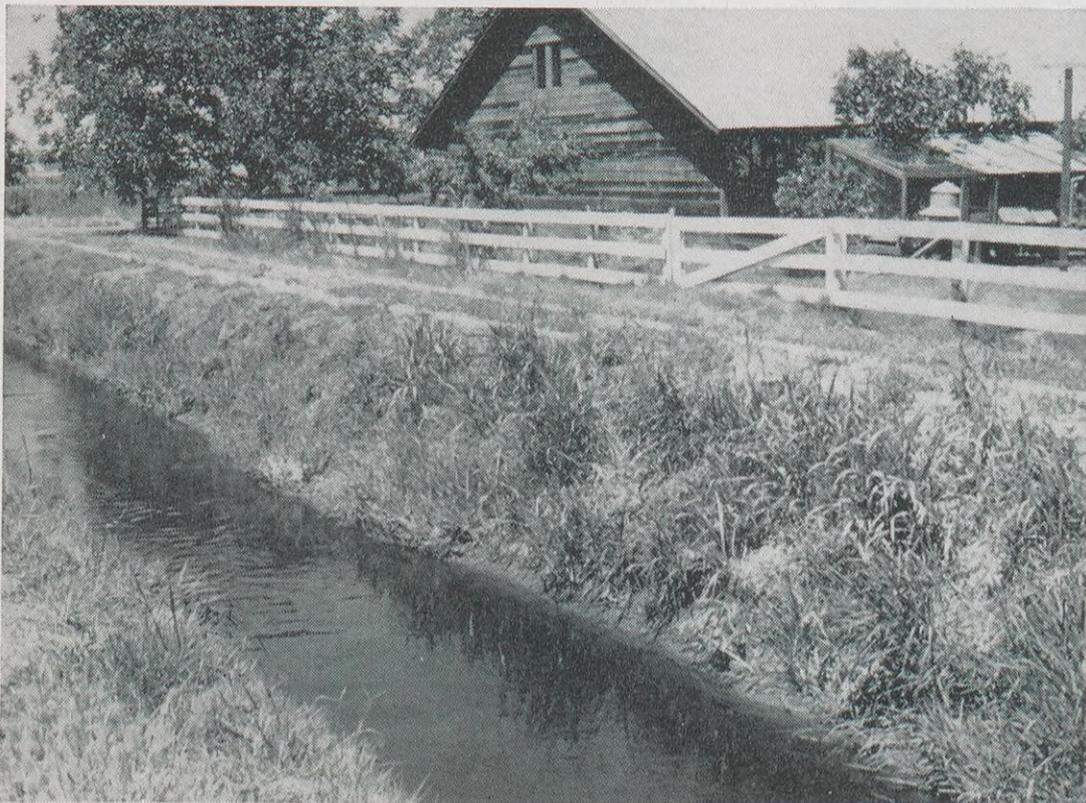
Shell Isoprene Rubber

We now have gone into manufacture on a commercial scale of a new type of synthetic rubber that is the chemical and physical equal of natural rubber.

This development is significant, first because of the strategic value of this material in time of emergency, and second because concern has often been expressed over the long-term adequacy of the supply of tree rubber in the face of growing demand.

Scientists have known for some years that polyisoprene could be made, and its commercial availability at a competitive price has been a research goal. Consequently, our researchers, like those of several other companies, have been looking for an economical way to make the material,

Weeds, such as shown growing in water at left, choke irrigation ditches. Through the introduction of Shell Chemical's AQUALIN* herbicide, farmers now can keep their irrigation canals and drainage ditches clear through an entire season with only three applications. The photograph below shows the same ditch after being treated only once with the new aquatic weed killer.



and, in the course of this research, a promising chain of processes was worked out by Shell Development.

In 1958, when some of our facilities were rendered idle by the recession in the rubber industry, we began trying out these processes in full-scale equipment, suitably modified for the purpose. This work indicated production for commercial sale was feasible, and furnished material for testing.

Present production of the material, called Shell Isoprene Rubber, is being carried out by utilizing commercial equipment, located at various Shell Chemical and Shell Oil Company installations in the Los Angeles area on a part-time basis. For the present, the throughput will be maintained at a modest rate, averaging about five tons per day, sufficient to furnish an adequate supply for customer evaluations. As installations of various plant additions progress during the year, our effective capacity is expected to in-

crease to between 15,000 to 20,000 tons per year.

If the availability of our isoprene rubber has the effect of reducing some of the unpredictable fluctuations in the rubber market, as it may, then rubber fabricators may be able to plan for its use with more confidence, thus broadening the market for both grower and synthetic producer.

New Organization

At the beginning of this year our corporate organization was realigned to meet the rapidly-changing needs of our business.

Since its founding in 1929, Shell Chemical has grown on the average about 20 per cent a year, compared to an average rate of about 10 per cent for the chemical industry as a whole and about three to four per cent for all industry. This has been accomplished by hard work and willingness to take risks in new and strange fields.

We started with one product, ammonia, and then branched out into a group of industrial chemicals including alcohol, ketones and glycerine. Later additions included insecticides, synthetic rubber, and plastics and resins. We entered these new fields not because of any particular fixation on growth or diversity, but because we saw opportunities where technical know-how and initiative might get us ahead of competitors. The know-how and initiative of our staff is the basis on which our company has grown to be the 10th largest in the chemical industry, and the new organization will help our people to utilize better and to improve their talents by preventing their becoming "jacks of all trades." It is based on the five current major product groups — ammonia, agricultural chemicals, synthetic rubber, plastics and resins, and industrial chemicals. Each operates as a separate division responsible for its research and development, manufacturing and marketing activities.

I will not attempt to foretell the future for Shell Chemical because the peculiar characteristics of the chemical industry make it difficult to predict the size and direction of our growth. Change, both in products and processes, is the rule rather than the exception in the industry. About one-half of our business is in products less than seven years old. The product that dominates its market today may be insignificant tomorrow; and some products become obsolete before they have paid for their development. We must beat our competitors to market with new and better products. And to get a good return on our investments our products must continue to be improved in performance and cost.

The chemical industry has not begun to fulfill its potential. There is room to grow and the people of Shell Chemical are pointed in that direction ●

* Trademark Shell Chemical Corporation

By **HAROLD GERSHINOWITZ**
President
Shell Development Company



'Our Continuing Search for Knowledge'

A Look at Shell Development Company's Progress in 1958

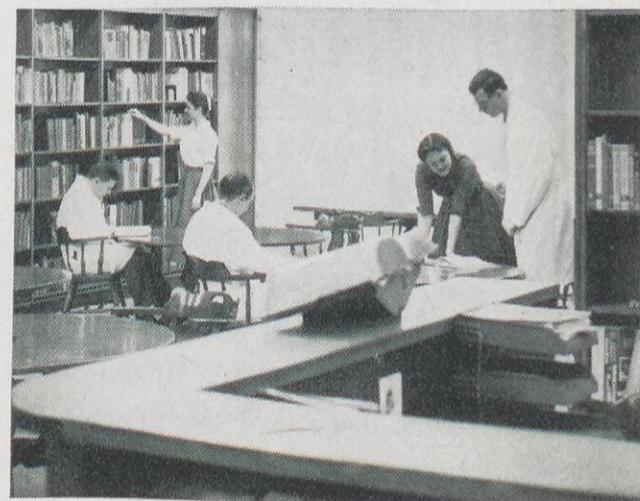
RESearch has helped place the oil and chemical industries among the most advanced in technological knowledge and its application.

But the needs of oil and chemical customers become more exacting and more complex with each passing year. This provides a spur to all of us in our continuing search for knowledge.

Our research job in Shell Development Company is to help the Shell operating companies satisfy their customers and gain new ones. In other words, our aim is to help Shell continue to make money and find ways to make more money. Our efforts are

directed in four major channels to: 1) find ways to keep Shell supplied with adequate amounts of raw material; 2) insure that manufacturing processes are competitive in efficiency and cost; 3) improve products and develop new ones which are superior to those of competitors; and 4) provide opportunities for growth in both new and established fields.

Most of our research is carried out on a long-range basis. Thus, our present accomplishments are generally the result of research started years ago. But each year we can look back at projects completed in the preceding 12 months and measure our progress.



The library is a busy section of the new facilities at Shell Development's Modesto Agricultural Research Division. Shown at work here are, left to right, Chemist K. E. Bean; Typist Jean Daley; Chemist W. B. Burton; June Ramey, Supervisor-Library; and Chemist J. A. Erikson.

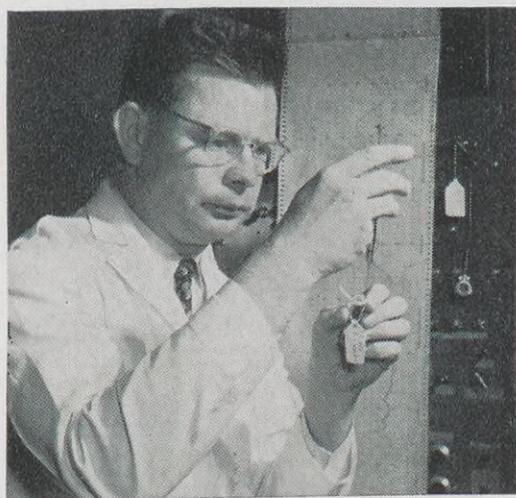
Last year we made several major advances—all the result of long periods of intensive research. They can be divided into three general categories—oil research, chemical research, and exploration and production research.

Oil Research

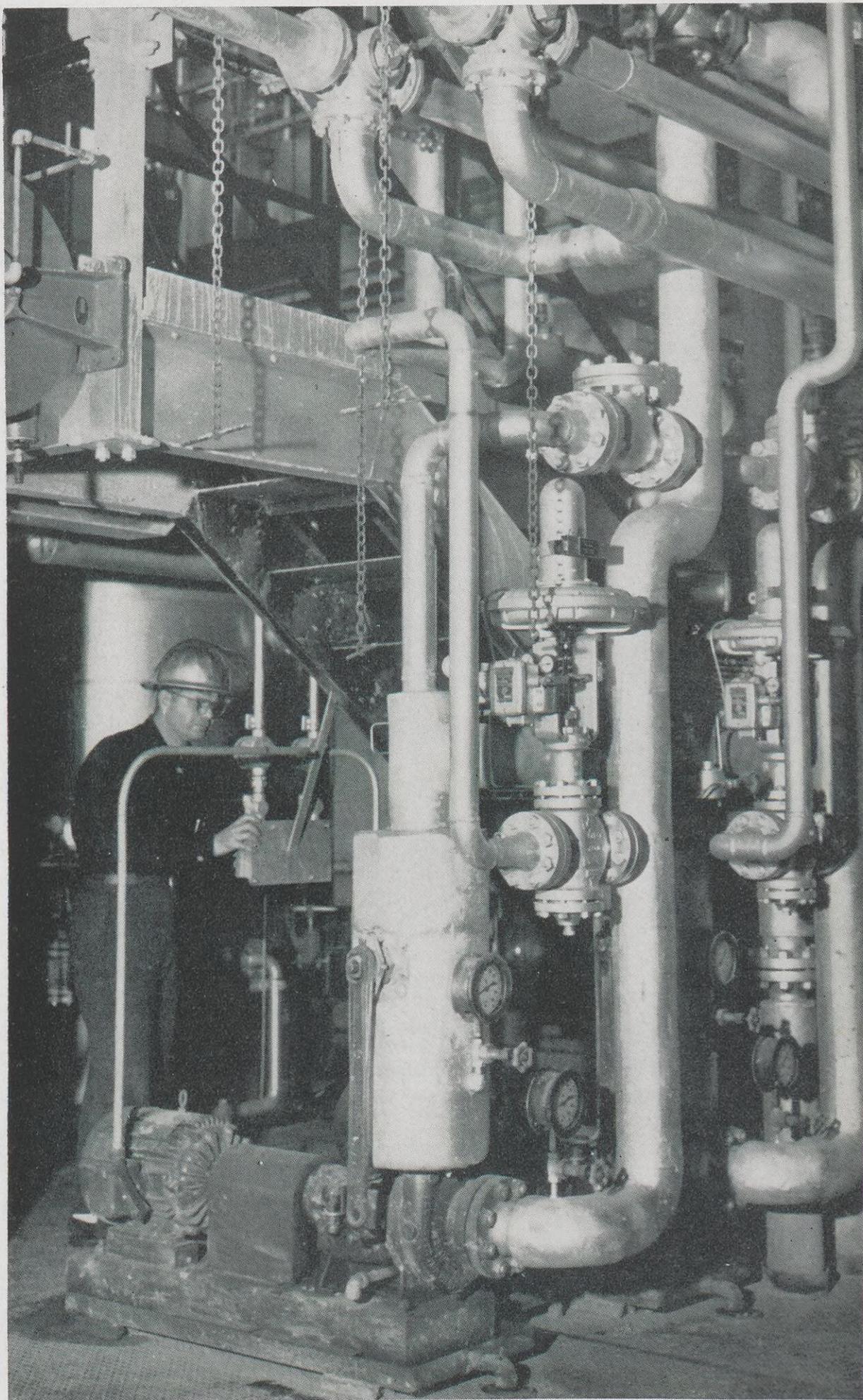
Oil research is concerned mainly with improving existing and developing new refinery processes and, at the same time, creating new and improved oil products.

We are constantly searching for ways to meet today's high octane requirements in automotive gasoline through more efficient and less costly refinery processes. Last year at the Emeryville Research Center, our scientists and engineers were successful in working out new—and more economical—process systems for increasing further the octane rating of gasoline. One of these is a process for extracting from feed stocks, aromatics which are important components of high octane gasoline.

Basic engineering research at Emeryville also resulted in a new design for catalytic reactors that reduces plant costs and increases operating efficiency.



In a laboratory at the Emeryville Research Center, R. E. Thorpe, Chemist in the Bitumen Department, prepares some irradiated jet fuel components to be injected into a chromatographic analyzer.



A motor valve in the pipe of a new product development unit, completed at Emeryville last year, is being checked by Pilot Plant Operator C. C. Larson. The unit, which stands five stories high, is one of the largest ever constructed at Emeryville. It produces experimental chemicals by both the batch and continuous process methods.

By **JOE T. DICKERSON**
President
Shell Pipe Line Corporation



'One of Our Largest Construction Programs'

Facilities grew in 1958 although throughputs dropped

DURING 1958, all of Shell's operations were geared to adjusting to economic recession and at the same time preparing for future increases in oil demand.

This somewhat paradoxical situation was pointed up by Shell Pipe Line Corporation operations. We experienced one of the few annual declines in the amount of crude oil we moved and simultaneously one of the largest construction programs in our history.

Movement of oil on Shell Pipe Line's trunk lines was down about 15 per cent from 1957, due to the general decline in oil industry operations.

On the other hand, we were kept busy putting into operation new facilities to transport crude oil of Shell Oil Company and other companies

which ship oil via our system. Shell Pipe Line during 1958 was involved in constructing the Four Corners Pipe Line from Utah and New Mexico to the West Coast, the Delta Pipe Line from Louisiana offshore production terminals to Shell Oil's Norco Refinery, and new gathering facilities in West Texas. Meanwhile, we also continued our program of modernizing

Coating and wrapping operations on the Four Corners Pipe Line are watched by Inspector R. L. Buscha near Kingman, Ariz. The line, which runs 750 miles from Utah to California, helps meet the demands of West Coast refineries, and enables Shell to increase production from the Four Corners. It brings three more states into Shell Pipe Line's sphere of work.



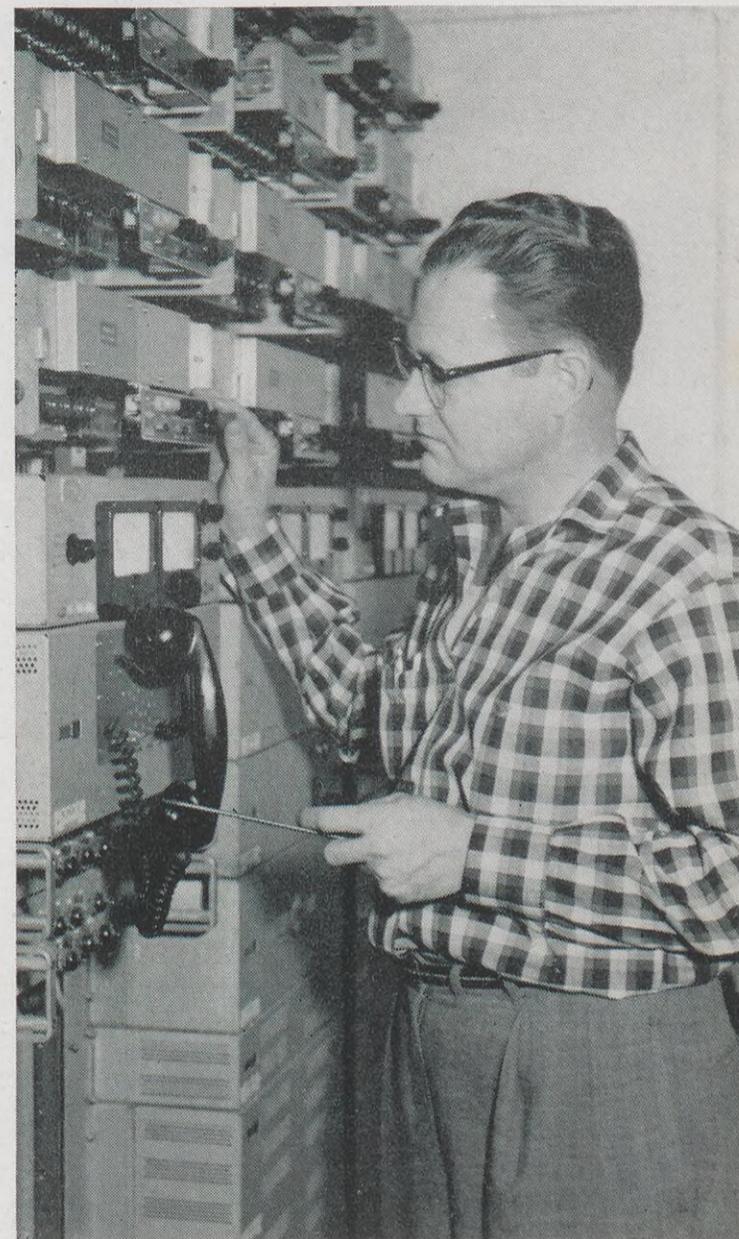
existing lines to improve the efficiency of our operations.

In construction, the 750-mile Four Corners Pipe Line, our biggest job, was completed last April after about a year's work and at a cost of about \$50 million. Shell Pipe Line designed, supervised construction, and is operating the line as agent for the Four Corners Pipe Line Company, in which Shell Oil Company has a 25-per-cent ownership. The system, which includes 150 miles of gathering lines, has a capacity of 72,000 barrels a day, which can be increased to 160,000 barrels a day by adding pump stations. The line brought Arizona, California and Utah into the sphere of Shell Pipe Line operations for the first time and raised the number of states where we operate to 13.

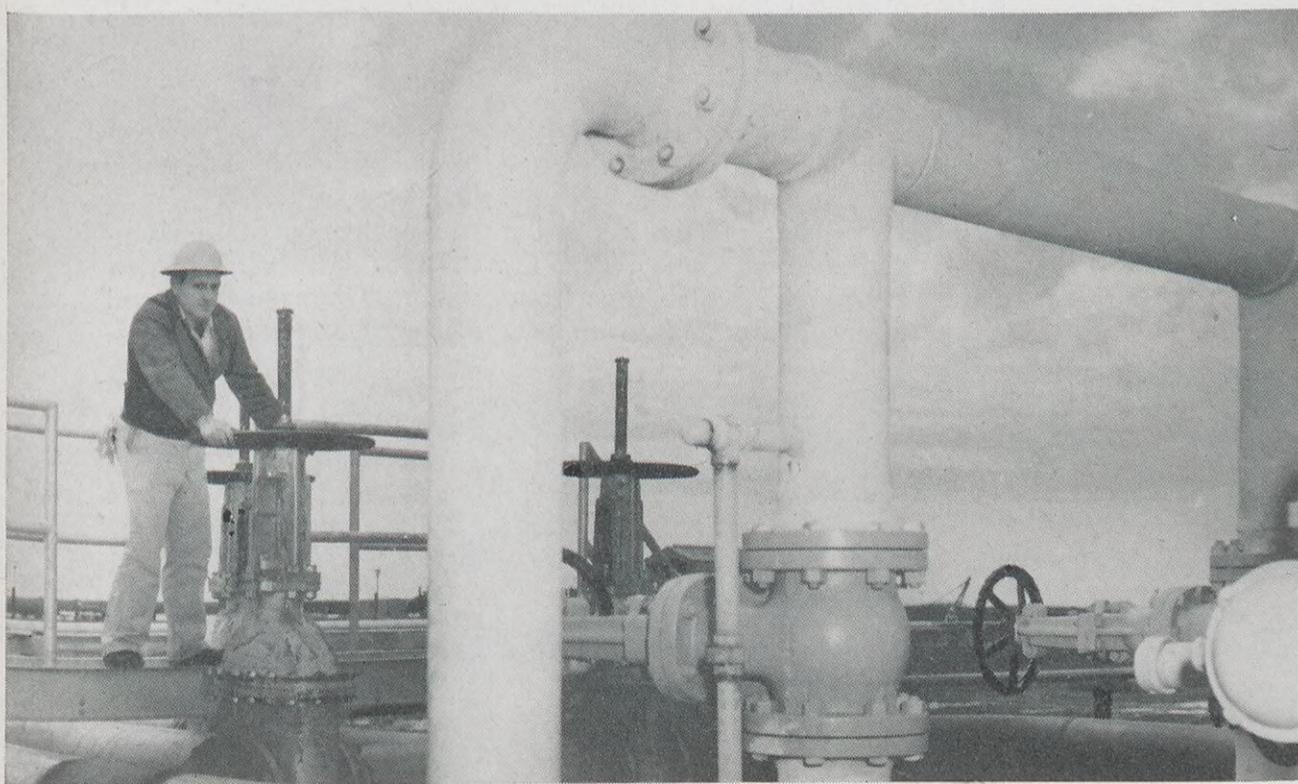
The problems of construction of this line were unique and varied. Mountainous terrain presented special difficulties, requiring the installation of two pressure-reducing stations.

More than 200 miles of the northeast section of the line traverses solid rock, adding to the complexities of construction. Work on the Mojave Desert was delayed or done at night because of the intense heat. Mountain-top locations for microwave repeater stations, which are a part of the private communications system, required the use of helicopters in mid-winter, for the delivery of equipment. An interesting sidelight was the necessity of taking Navajo Indian archaeologists along with the work crews, to protect any discoveries of historic value which might be unearthed in the process of construction.

The Four Corners Line which will help meet the long-term demand for oil in the Far West made possible the more rapid development of the oil reserves in the Four Corners region. Shell Oil, which pioneered the successful search for oil in the Four Corners, last year was able to step up its drilling and production program



Equipment which boosts microwave signals from remotely-controlled pumping stations on the Ozark Pipe Line to the Mid-Continent Division Office at Tulsa, are checked by Communications Technician J. G. Thrasher at the Sand Spring, Okla., Repeater Station.



The new Delta Pipe Line is put on stream by Head Gauger B. E. Matthews as he opens the main valve. The 120-mile line, which has an initial capacity of 90,000 barrels, moves crude oil from offshore fields in the Gulf of Mexico to the Norco Refinery.

Three new pipe lines were started or finished during the year

there because the new line provides an economically feasible outlet for the oil. The line serves terminals at Los Angeles, including Shell's Wilmington-Dominguez Refinery. Crude is also transferred from the line to tankers at Los Angeles for shipment to the Anacortes Refinery in Washington.

The reasons for constructing the 120-mile Delta Pipe Line were somewhat different. Formerly, Shell Oil's considerable offshore production from the Southwest Pass and Main Pass areas of the Mississippi River delta was moved by barge to the Norco Refinery. But the problems of handling an increasing volume of crude oil efficiently, over an already-crowded waterway and in all kinds of weather, made a pipe line a physical as well as an economic necessity. The Delta line was built to overcome these problems and to cut transportation costs.

Construction was started in August, 1958, and the first delivery was made at Norco on February 16 this year. The line cost about \$11 million and has an initial capacity of 90,000 barrels a day which can be increased to 160,000 barrels. The terrain through which the line runs is among the most difficult our design engineers have

had to cope with. It is laid in what may be described as liquid mud for almost all its length.

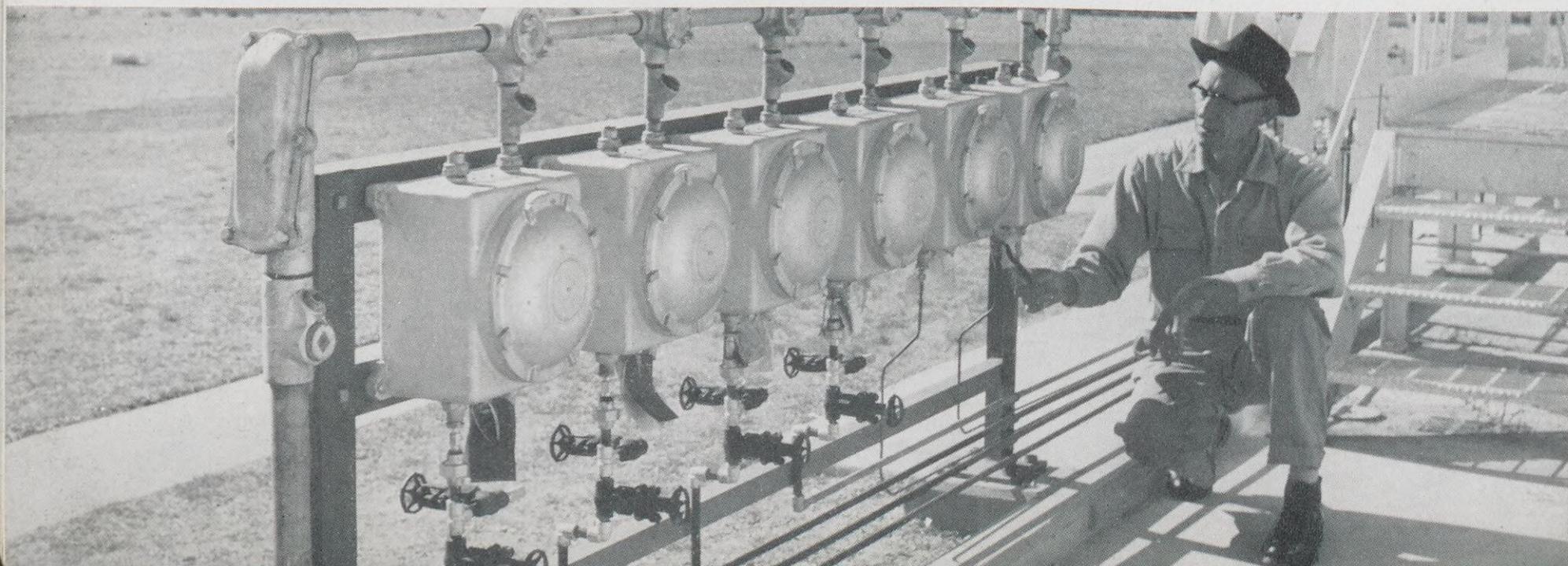
Another region where Shell Oil Company is a principal producer, Borden and Garza Counties in West Texas, was also the scene of Shell Pipe Line expansion in 1958. There we built gathering facilities including a 44-mile line to connect Shell's producing wells to the Basin Pipe Line System—in which we have substantial ownership — at Colorado City, Texas.

In a continuing effort to improve our efficiency and hold our operating costs to a reasonable level, we made technical improvements on two pipe line systems which we operate and of which we are the principal owner—the Ozark Pipe Line System which runs from Cushing, Okla., to the Wood River region; and the Rancho Pipe Line System which runs from McCamey, Texas, to Houston. On the Ozark system, five pump stations were converted to remotely-controlled operations directed from our Mid-Continent Division Office at Tulsa. On the Rancho line, two stations were converted to be controlled from our Texas-Gulf Division's Pasadena, Texas, Terminal.

Also part of our improvement program, was the rapid increase during 1958 in the use of automatic custody transfer of crude oil by positive displacement meter installations. Such installations, developed and perfected by Shell Pipe Line in cooperation with some producing companies, automatically measure, test for quality, and control the delivery of crude oil from production systems to pipe line carriers.

As we in Shell Pipe Line look to 1959 and beyond, I am impressed by the fact that over the last 30 years, pipe line rates have countered the general inflationary trend while most other transportation costs have been mounting year after year. Therein lies the reason why oil pipe lines are today moving 95 per cent of domestic crude oil all or part of the way to refineries, and 40 per cent of the products from refineries to markets. Against this background, I am confident the wealth of experience which our people possess in the economics, design, construction and operation of pipe lines will continue to contribute to the crude oil transportation needs of Shell Oil and other users of our pipe lines ●

Transmitters, which automatically shut off the flow of oil when vibrations become too intense, are inspected by Station Operator C. J. Almquist at the Mesa Station of the Rancho Pipe Line System near McCamey, Tex. Two stations on this line, which runs from McCamey to Houston, and five stations on the Ozark Pipe Line System, which runs from Cushing, Okla., to the Wood River Refinery in Illinois, were converted to remotely-controlled operation during 1958 to improve efficiency and reduce costs.



By E. H. WALKER
Vice President, Personnel
and Industrial Relations



Shell: 'A Continuing Organization of Individuals'

1958 events and their effects on employees

IN the preceding articles, you have read how our Company fared in 1958 and the nature of our foreseeable problems and prospects. Since Shell has been and must continue to be an organization of individuals, what has been reported is, in fact, the story of the combined efforts of all of us.

This Report to you would not be complete, however, without an interpretation of 1958 events and future prospects in terms of how they apply to us as employees. In fact these questions remain:

1. What effect did 1958 events have on individual employees?
2. What can individual employees do to strengthen and improve their positions and their futures with Shell?

Effect of 1958 events on employees

There is naturally a close link between the economic well-being of the Company and that of individual employees. But most employees were not

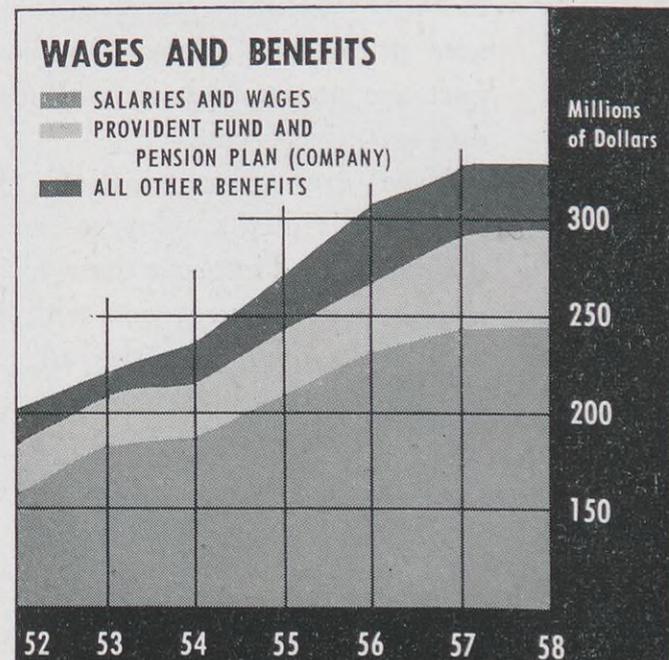
directly affected by the 1958 decline in our Company's profits.

There was, however, a decrease in the over-all number of employees, but a small one in relation to the reductions in our oil production, manufacturing throughput, sales and profits. This decrease largely resulted from not replacing employees who left our employment.

In 1958, salaries, wages and employee benefits totaled \$325,352,000, almost the same as in 1957. However, effective January 16, of this year a five-per-cent general increase was granted to all employees.

The cost of employee benefits in 1958 was \$79.1 million. In other words, for every dollar paid for time worked, Shell spent another 32 cents to provide benefits for employees both during working years and after retirement. The cost of employee benefits alone was considerably larger than the \$61 million paid in dividends to shareholders in 1958.

An important event was the announcement of the new Shell Pension Plan and the revised Shell Provident Fund, made available to employees generally at the end of 1958, and to employees represented by collective bargaining agents when they are accepted by such agents. This new Pension Plan grants pension credits for all years of service up to 40 rather than for only 20 years of service, and provides a normal retirement age of 65, rather than age 60, as heretofore.



While the Provident Fund still provides for the Company to match an employee's savings dollar for dollar up to 10 per cent of his salary, employees may direct the investment of part or all of their current contribution into a common stock portfolio. Provision is also made for employees to withdraw, starting January 1, 1960, from the Fund up to 50 per cent of their contributions made after January 1, 1959.

Despite the interruption of what we have come to expect as "normal growth" in our business, several hundred qualified people were promoted, and many opportunities were provided for training and self development. These results are in keeping with the determination of Shell management to exercise the utmost care in the selection of people for employment, and then to give them opportunities to train and develop themselves.

Strengthening One's Job and One's Future

Just as Shell accepts the obligation to provide fair wages, substantial employee benefits and good working conditions, so in turn employees accept the obligation—which is in their own self-interest—to help their Company solve some of its problems.

When I make this statement, I am often asked: "Yes, but other than doing a fair day's work, what can I do to help?" Actually, many of the business problems discussed in this Report are ones which individuals can do something about.

Here are some practical things which individual employees can do to strengthen and improve their positions and their future prospects with Shell:

1. Help overcome the effects of higher costs — Inflationary costs of

everything Shell buys or makes can have a destructive effect on our profits and thus reduce our ability to provide jobs and high standards of employment.

The plain fact is that to avoid the destructive effects of higher costs we must operate more efficiently. For example, to make up the additional business expense of more than \$16,000,000 per year resulting from the five-per cent general wage increase of January 16, we must continue to reduce costs through improved operations.

Every employee can help to do this by conserving the tools and materials he uses; by operating equipment carefully; by suggesting cost-cutting ideas; by working safely; and by setting high personal standards of dependability, diligence and teamwork. Imagine the effect on our Company if the 39,000 of us do these things better than our competitors' employees!

2. Sell Shell products — There is an obvious and direct relationship between a company's success in selling its products and its ability to keep employees on its payroll. This means, of course, that we strengthen our own jobs by buying our own products. Likewise, it is in the self-interest of every one of us to encourage our friends and associates to buy Shell products.

3. Speak up for your industry and Shell — As indicated earlier in this Report, we are increasingly concerned with economic and political problems which can have a direct effect on the success of our Company.

These problems may seem far removed when we read about them in the public press, but they can affect our jobs. We'll do our best to continue to inform you of pertinent political and economic problems by means of SHELL NEWS, employee newspapers,

bulletin boards and group meetings. In these ways you can learn how you and your Company are affected, and what our position is. Then, I hope you'll explain the facts to your friends and neighbors when occasions arise, and take other appropriate action to represent your own convictions.

4. Develop your abilities — One of the most important ways an employee can strengthen his job and improve his future prospects is by continuing the self-development of his abilities both on and off the job. One of the reasons Shell has been able to compete successfully against a host of strong oil and chemical companies is because of our many outstanding people in every line of work. In effect, the ability to compete comes right back to the quality of the people who make up a company. This is why each individual by continuing to develop himself can strengthen both his own future and the general competitive ability of his Company.

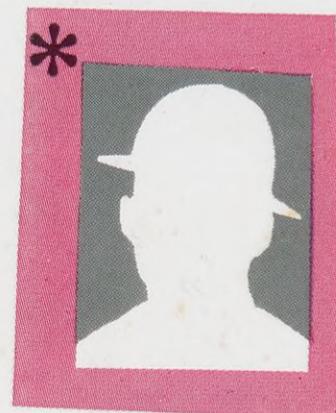
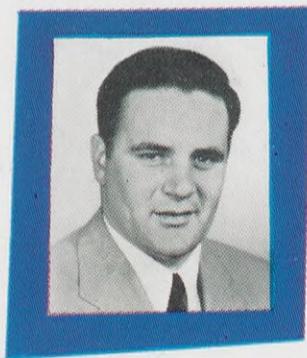
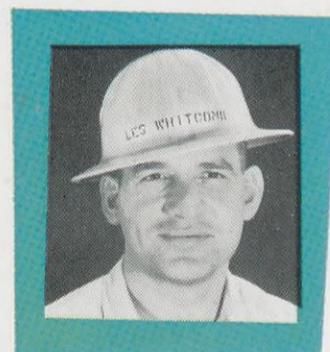
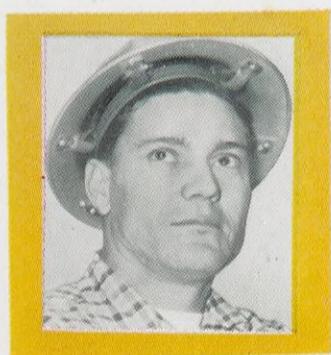
Shell management will continue to provide opportunities for individuals to develop themselves. And there will continue to be many opportunities to advance for those who are prepared and willing to move ahead.

How Shell employees fared in 1958 and what the future holds come right down to the fact that our Company is in business to make a profit through service to customers. If we fail—or even do less than our best—everybody loses, none of us gains. Therefore, we all must work together to make our Company and ourselves succeed. This is the practical operation of the following principle which long has been expressed in the masthead of SHELL NEWS: the interests of employees and employer are mutual and inseparable ●

matters of fact

As Shell continues to grow, so do opportunities for Shell employees. Pictured below are a few of the hundreds of employees promoted last year. A long-standing policy of promotion from within gives you an excellent chance to join their ranks. But promotion calls for the desire and perseverance to develop yourself for added responsibilities. So . . .

Help **YOURSELF** to
a better job *



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