



means

Manufacturing **P**rogram 30
More **P**owerful 76



On Tour

WITH UNION OIL COMPANY OF CALIFORNIA



April 1955

On Tour



Volume 17, Number 4

APRIL 1955

In This Issue

- page 3
**MANUFACTURING PROGRAM 30
MEANS MORE POWERFUL 76**
- page 13
**THE PAYROLL SAVINGS
PLAN OPPORTUNITY**
- page 14
INDUSTRIAL SUMMARY
- page 16
LOUISIANA TWISTER
- page 18
WHAT'S NEW
- page 20
UNION OILERS
- page 23
**SERVICE BIRTHDAY AWARDS
RETIREMENTS—IN MEMORIAM**
- page 24
RUTH RANDALL

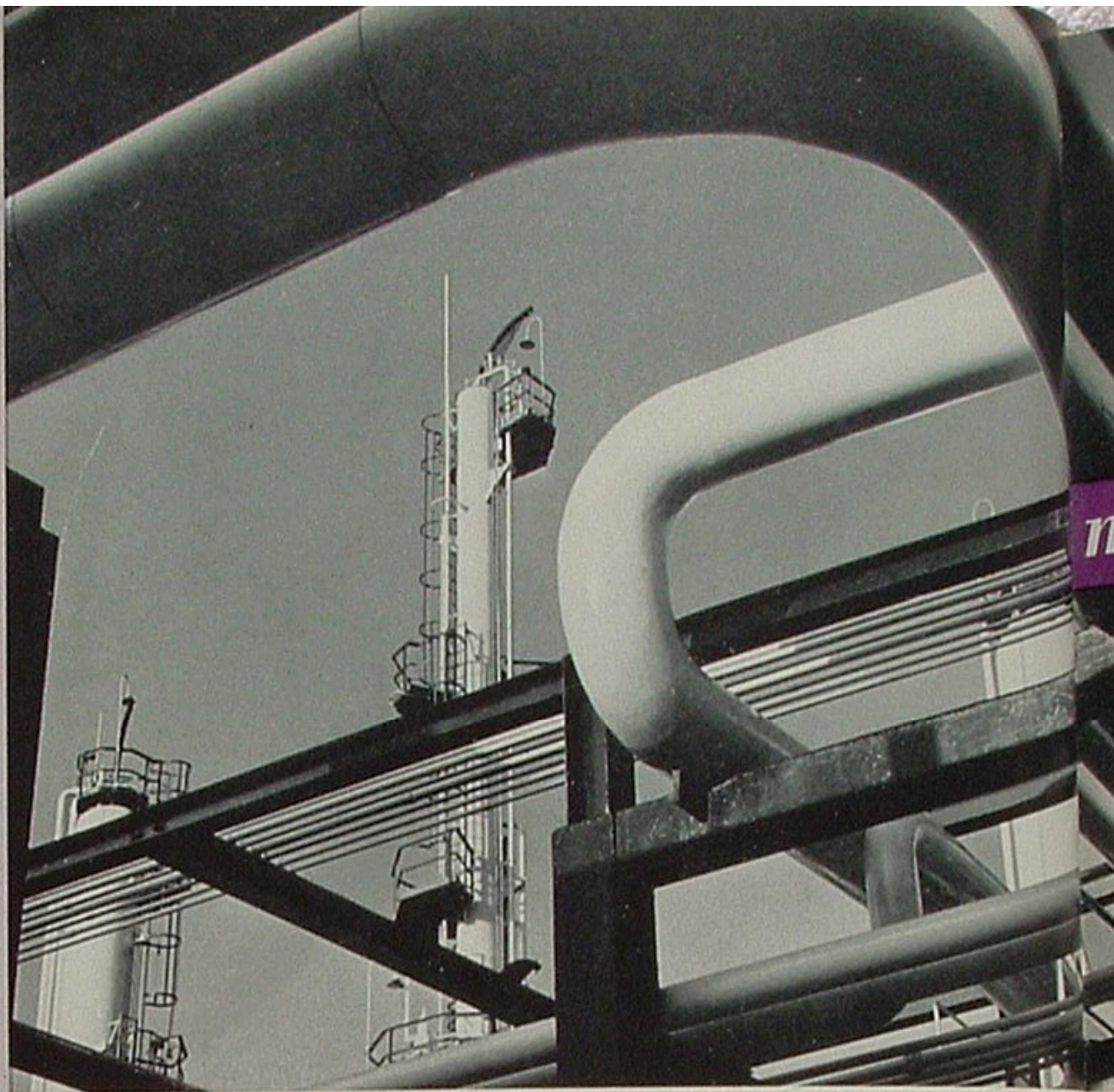
THE COVER

Going "on stream" at Oleum Refinery is this combination Unifining and Platforming Unit, through which the Company's production of high-octane gasolines has been greatly increased. In the lower photograph, Union Oilers Robert Emch, Mary Ellen Potter and Gloria Macomber of Los Angeles make an introductory inspection of Royal 76, "the champion of premium gasolines."

"ON TOUR"

pronounced "on tower," is an oil field expression meaning "on duty." Our magazine by that title is published monthly by Union Oil Company of California for the purposes (1) of keeping Union Oil people informed regarding their Company's operations and progress, and (2) of recognizing and encouraging the fine accomplishments of employee groups and individuals. We invite communications from our employee readers, whose thoughts, interests and opinions are carefully weighed in determining editorial policy. Address correspondence to ON TOUR, Union Oil Building, 617 West Seventh Street, Los Angeles 17, Calif.

T. D. Collett, Editor
R. C. Hogen, Assistant Editor



NEARLY completed and already in operation is one of the most significant refining accomplishments ever achieved by Union Oil Company. To the designers who conceived it—to the executives and directors who approved it—and to the engineers and craftsmen who built it—the series of new refinery units has been referred to as "MP 30," meaning Manufacturing Program 30. But by coincidence, to hundreds of thousands of motorists in the West, "MP" could more appropriately stand for More Powerful, for that is exactly what the program has meant to our two gasolines. Always quality leaders in their respective fields, these products have now climbed several octane steps above competition. Each is not only the *finest* gasoline in its competitive field but the *finest by far*.

Manufacturing Program 30, however, has done more than provide us with two of the best gasolines ever marketed. It also has made possible the quadrupling of our gasoline yield from Santa Maria-type crude, thereby adding over 7,000 barrels per day to our gasoline production, and this additional gasoline is obtained by the new processes in place of high sulfur fuel oil formerly produced.

The \$70 million refinery development program—of which the \$40 million "MP 30" is an important part—began four years ago. It was foreseen at that time that gasoline engines being designed by the automotive industry would by 1958 require greatly improved fuels. Eager to be in the market first with the finest, Union Oil management authorized the immediate construction of Los Angeles Refinery's Fluid Catalytic Cracking Unit, and the new Crude and Vacuum Distillation Units there. These, in conjunction with our then existing facilities, gave us the largest total cracking capacity

ON TOUR

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Manufacturing Program 30 More Powerful 76

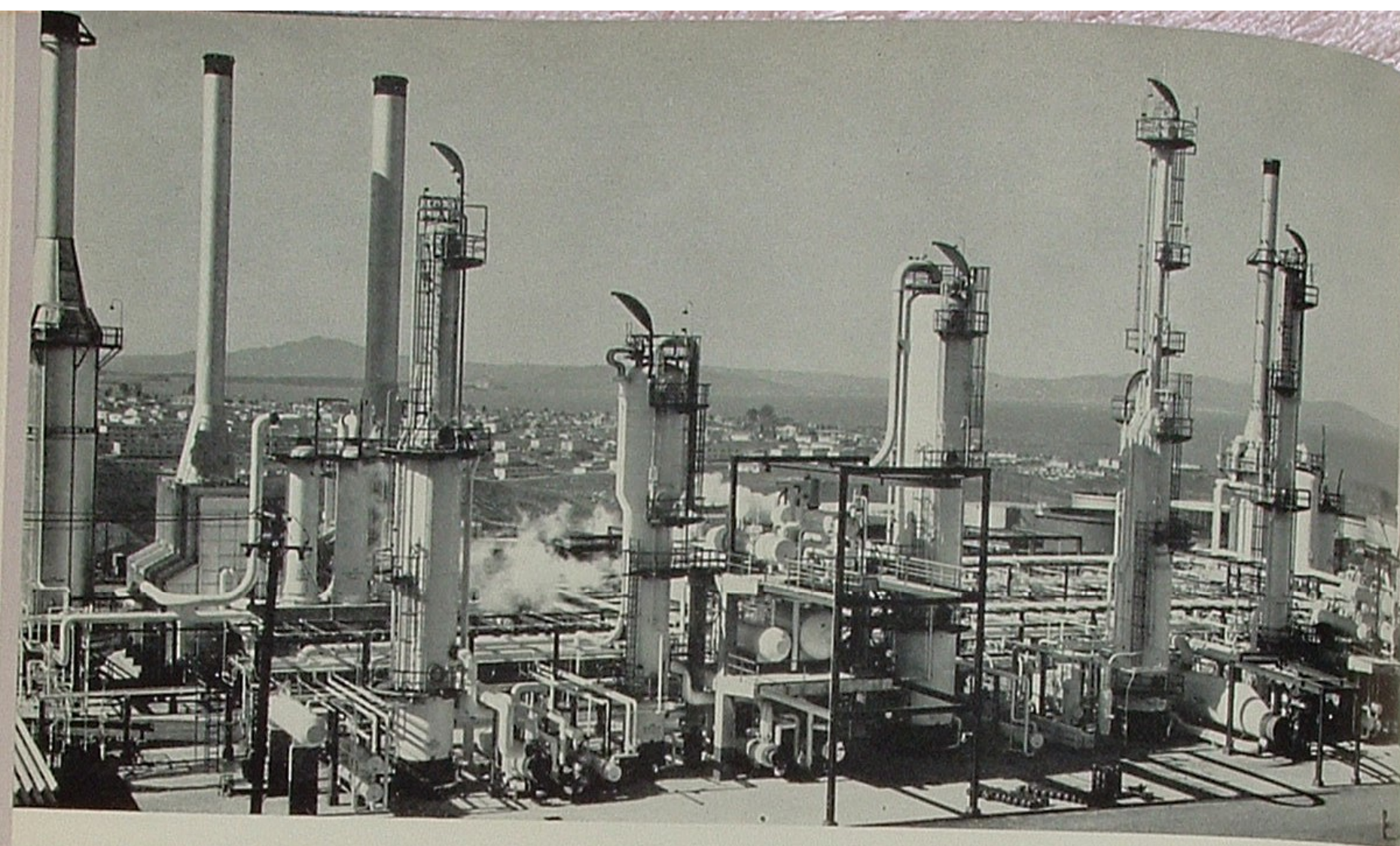
From R. H. Bungay

in the West and provided us with a much higher yield of high-value gasoline. However, this was not the full answer to the problem. It necessitated large shipments by tanker of high-quality components to Oleum Refinery for blending into finished gasolines, and did nothing to improve the gasoline being manufactured from Santa Maria-type crude at Oleum.

The "MP 30" project was then instituted and has been in the process of design and construction for the past two years. It includes a new coking plant, called our Santa Maria Refinery, whose operations and personnel will be introduced in ON TOUR as soon as the plant is fully *on stream*. Here, Santa Maria-type crude is processed into high-sulfur gasoline stocks, heavy gas oil and coke. The two first-named products are sent to Oleum for further refining. Then at Oleum, "MP 30" has provided us with a complete new series of gasoline processing units, including a Unifiner, a Platformer, a Unisol Plant, a Hydrogen Sulfide Recovery Plant and Sulfur Unit, and a host of new auxiliary facilities.

If you are interested in understanding how several of these new important Oleum units function to produce the *finest*, please turn to the following pages. We have tried to make our explanation as brief and non-technical as possible:

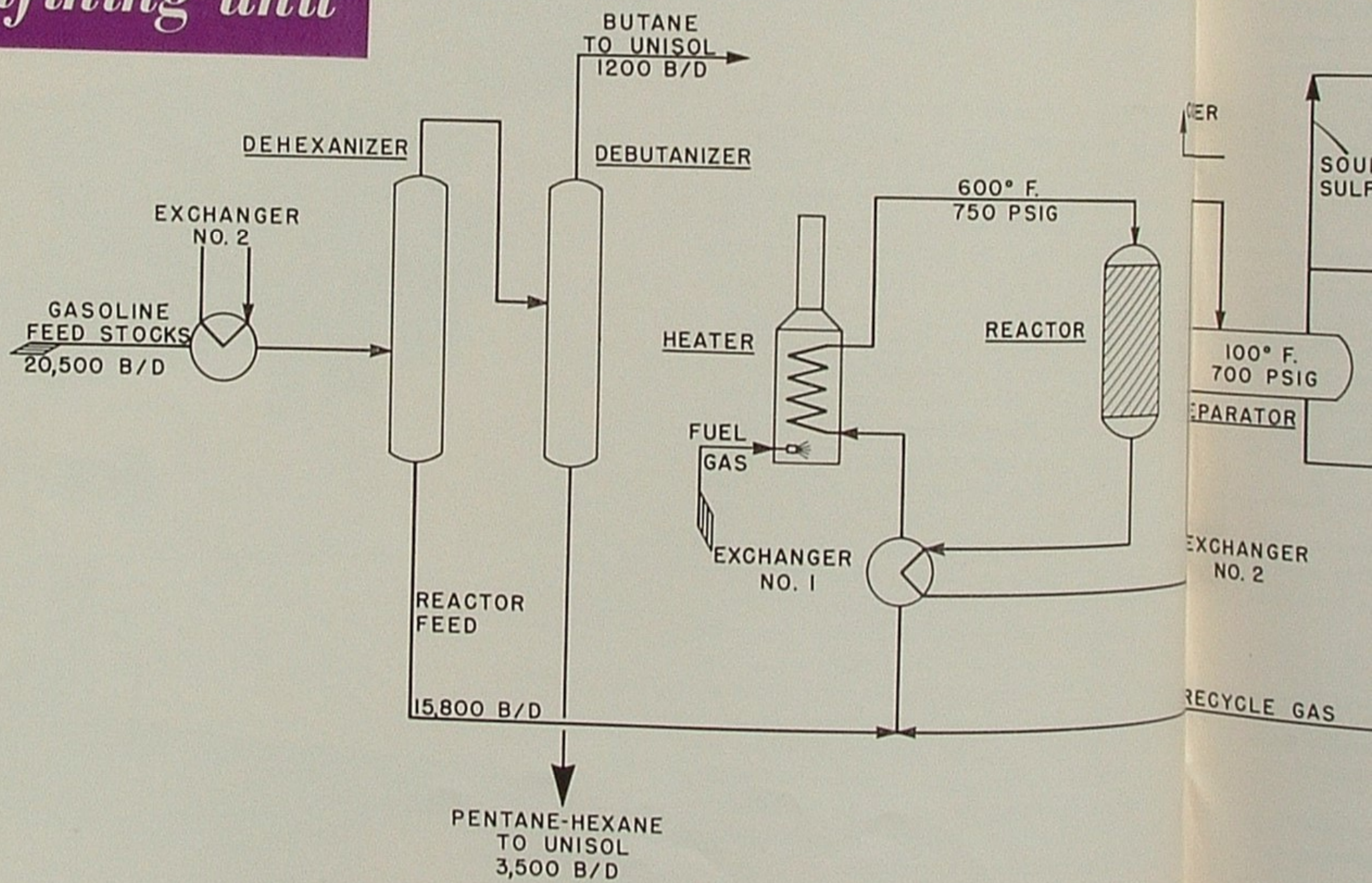




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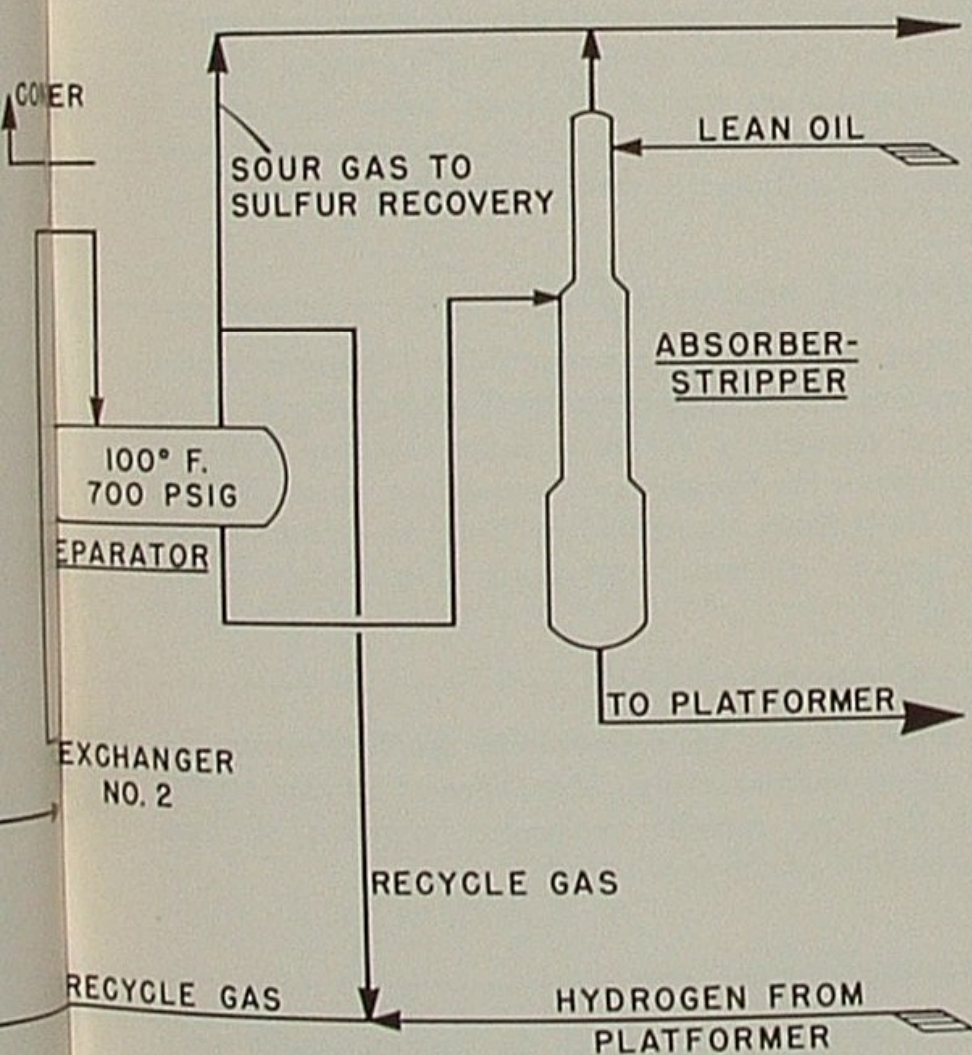
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THE handsome and impressive refining unit shown at left (AND ON THE COVER) overlooks a portion of San Francisco Bay from our Oleum Refinery. It is actually a combination of two units—a Unifining Unit, our own Union Oil Company process, whose chemical wizardry was described in the October, 1954 issue of ON TOUR, and a Platforming Unit. For now, let's concentrate our attention on Unifining facilities, the three large columns and heater shown at the extreme right. What happens to the gasoline as it proceeds through the unit can be understood by following the flow-chart:

Feed stocks entering the plant, left, consist of gasolines from our Santa Maria Coker, Oleum Coker and Oleum's Gas Oil Cracking Unit 70, along with several other low-octane gasoline stocks. Mixed together and



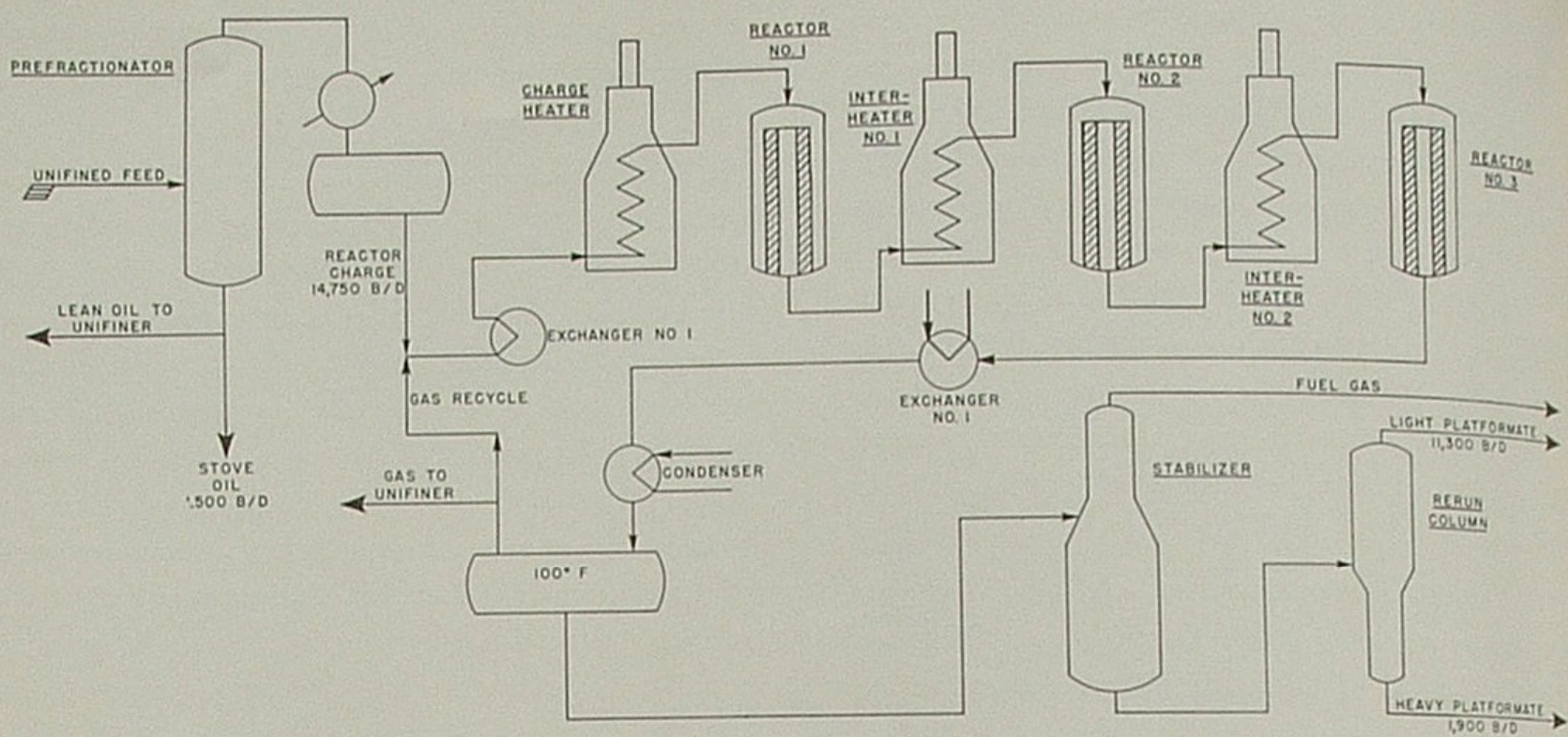
preheated by an *exchange* with material coming out of the reaction system, these are fed to a *dehexanizer* column.

In the *dehexanizer* a separation is made between materials containing six carbon atoms or less and those materials containing over six carbon atoms. The lighter stock separated is fed to a *debutanizer* column, where further separation takes place between the butanes (or four-carbon-atom molecules) and pentane and hexane (containing five and six carbon-atom molecules respectively). Both the butane and pentane-hexane fractions have been found to be excellent gasoline blending stocks and are high in octane number. Inasmuch as the sulfurs and other impurities they contain are readily removed by solvents, the two streams are treated separately in the Unisol Plant, and there is no need for *Unifining* or reforming this material.

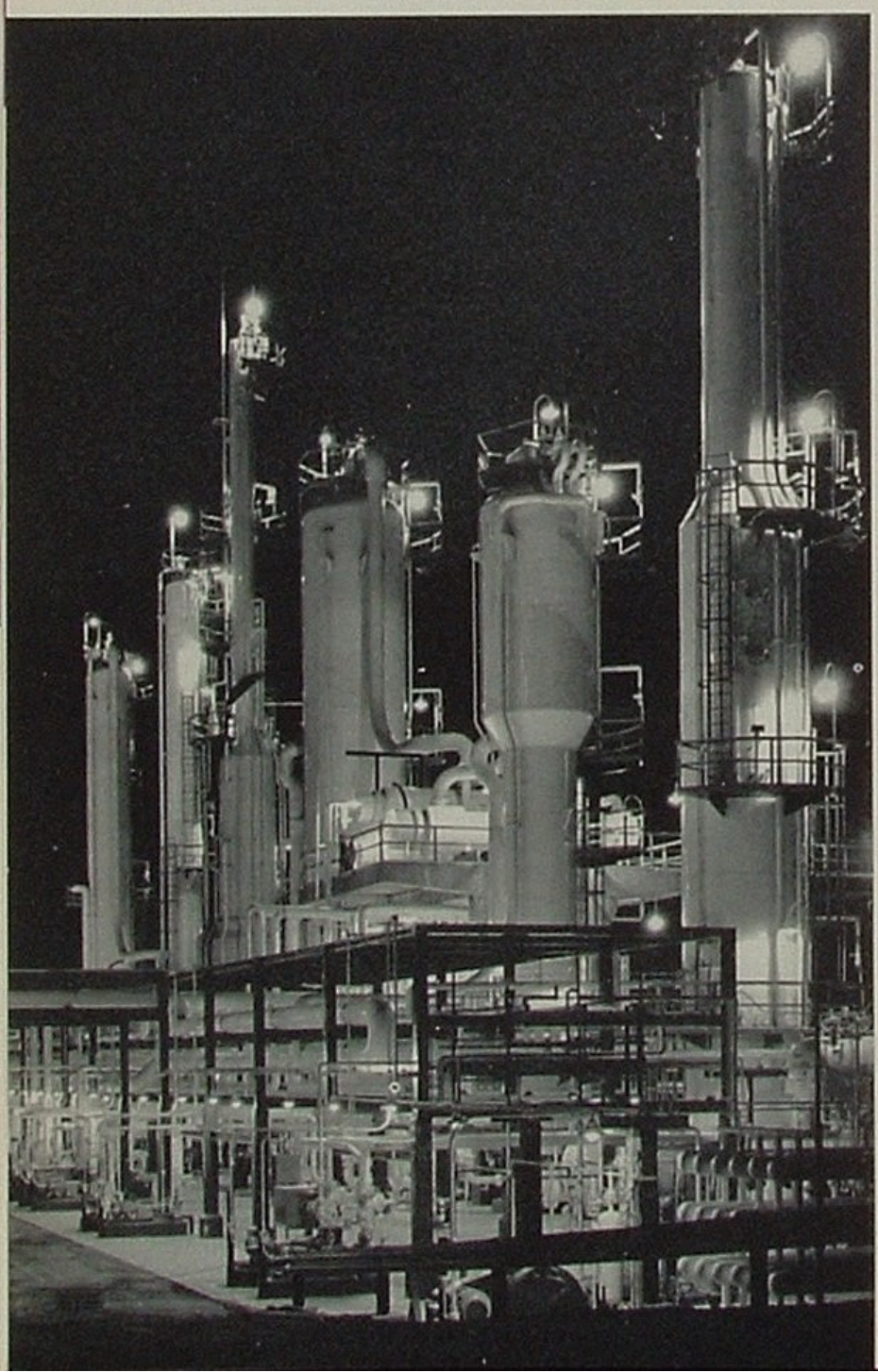
Bottoms from the *dehexanizer*, which material contains seven or more carbon atoms per molecule, is mixed with a hydrogen-rich recycle gas supplied in part from the Platforming Unit but principally from the Unifining Unit. The mixture is preheated by *exchange* and a fired *heater*; then enters the *reactor* where, upon coming in contact with a bed of our own cobalt-molybdate catalyst, its sulfur and other impurities are broken out of chemical union with the gasoline and some of the latter is reformed into higher quality fuel.

Leaving the *reactor* at a higher temperature than when it entered, the *Unifined* material imparts its heat to incoming feed through *exchangers*; then proceeds through a *condenser* to a *separator*, where the gas and liquid streams take leave of each other. Most of this gas is compressed and recycled to contact more fresh feed, while the remaining surplus is used in the refinery's fuel gas system.

Hydrocarbon liquid containing dissolved light hydrocarbons and hydrogen sulfide gas leaves the *separator* and enters an *absorber-stripper* column. The temperature maintained in this column is sufficiently high so that no hydrogen sulfide can leave the bottom of the column with the liquid. Instead, it is removed overhead along with some propane, methane and ethane. Butanes and heavier liquids from the bottom of the column now become feed for the Platforming Unit.



platforming unit



OUR night view, at left, of this combination Unifining and Platforming Unit reveals the three Platforming columns, at right, to good advantage. This is essentially a *reforming* facility, which serves to rearrange the molecules of hydrocarbons in the *Unifined* feed, producing from relatively low-octane stock the high-octane gasolines we desire. Of numerous chemical reactions that take place in the Platforming Unit, we are showing as typical examples below only three of the principal ones. In each case, the reformed product has a markedly better octane rating than the feed:

dehydrogenation

Most of the hydrogen required for Platforming's other reactions and to supplement the Unifining supply is produced through a dehydrogenation reaction. That is, naphthenic hydrocarbons (comprising about 35% of the feed) from the Unifining Unit are dehydrogenated to become aromatic compounds plus hydrogen.

hydrocracking

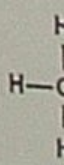
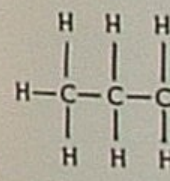
A second reaction occurring in the Platforming Unit is called *hydrocracking*. Most affected by this reaction are the long paraffin molecules; paraffins constitute about 54% of the unit's feed.

isomerization

A third reaction, in which the shorter paraffin molecules tend to isomerize, or change their structural pattern, is known as isomerization.

Close regulation of such reactor operating conditions as temperature, pressure, velocity, and hydrogen con-

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centration makes possible the desired product distribution and selection between dehydrogenation, hydrocracking and isomerization as well as many other side reactions constantly occurring.

In our flow-chart of the Platforming Unit, Unifined feed is seen entering the *prefractionator*. Here about 10% of the feed, or the portion that will not vaporize under 380 degrees F., leaves the bottom of the column partly as a high-quality stove oil and in part as a *lean oil* which is cycled back to the Unifining Unit to make the absorber-stripper column function properly.

Most of the feed moves overhead from the *prefractionator*; is picked up from an overhead *accumulator* by a multi-stage reactor charge pump; is mixed with recycle gas (almost pure hydrogen); moves through a *heat exchanger* and *heater*; and enters *reactor* No. 1.

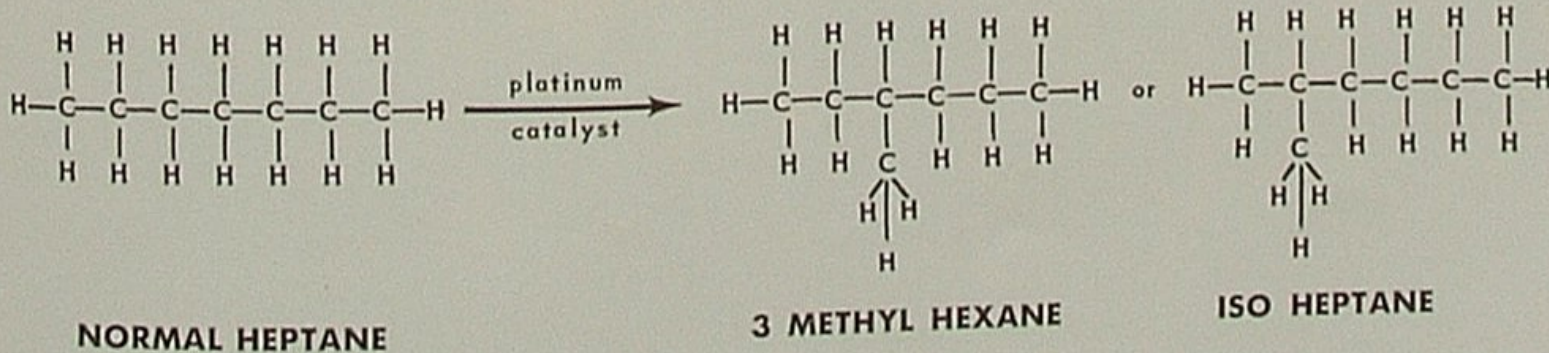
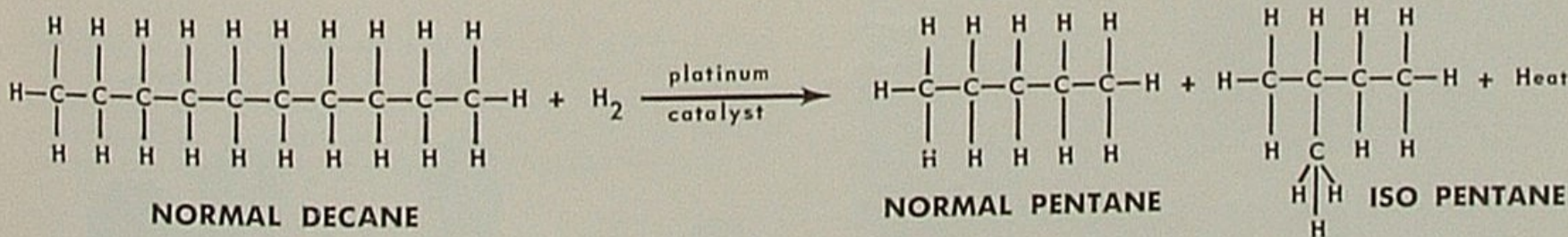
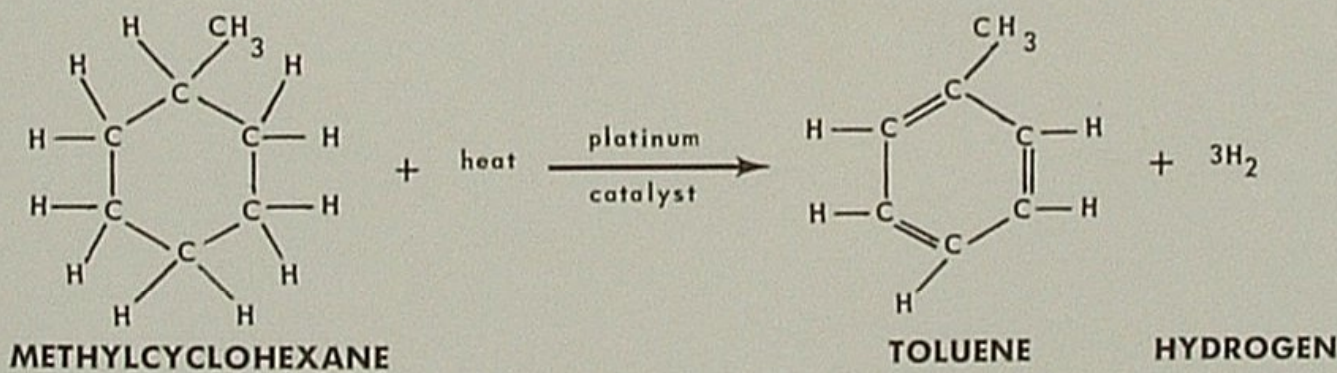
The three *reactors* contain an equal amount of platinum-impregnated catalyst (from which Platforming gets its name); operate at the same average pressure of about 500 pounds per square inch; and perform the chemical reactions previously described. A heater is required between each reactor to keep the inlet temperature where desired, as the reaction is endothermic (consumes heat).

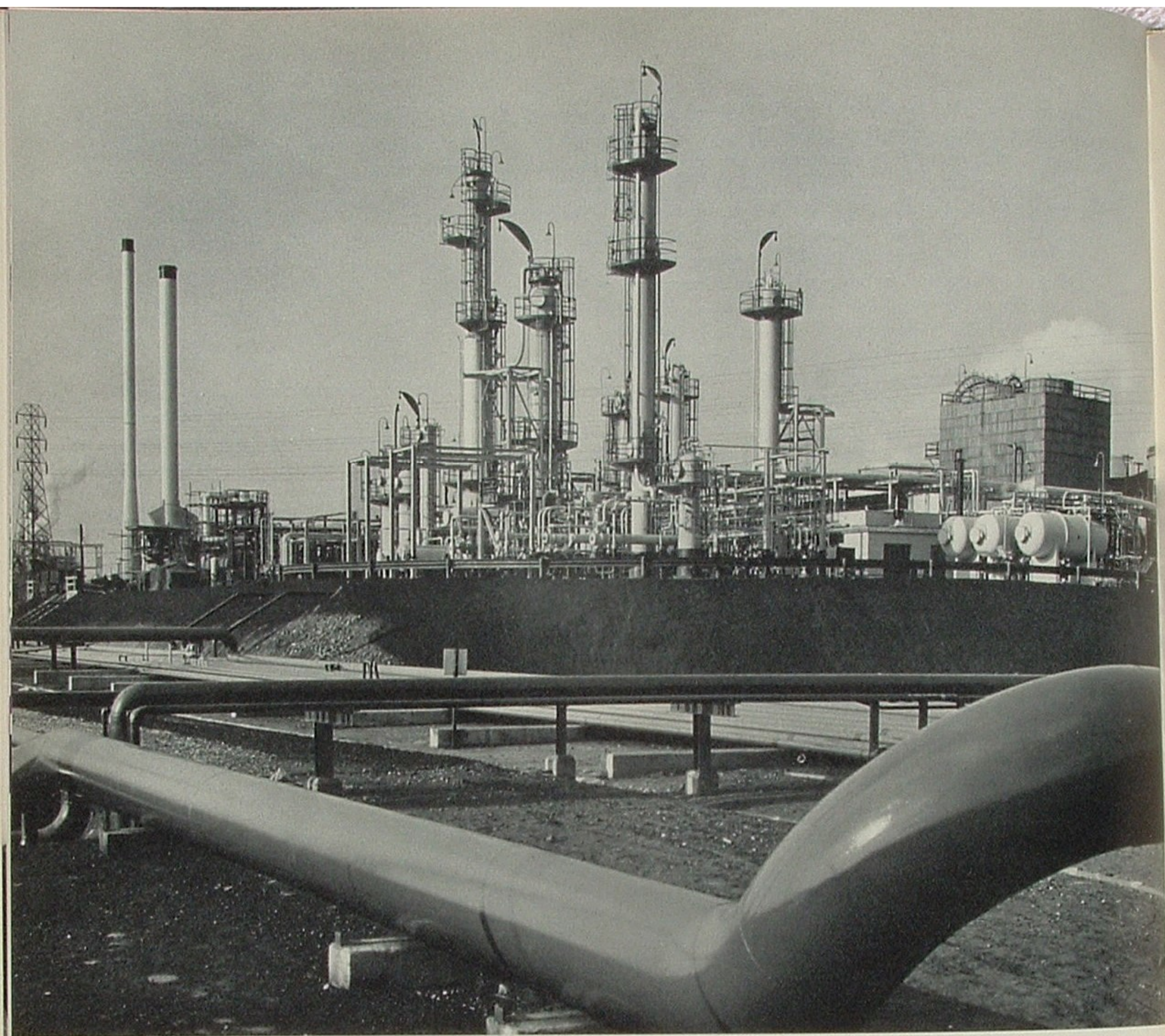
Leaving the *reactors*, the product passes through an *exchanger* and *condenser* into a *separator drum*. Here

recycle gas is removed, after which the remaining liquid passes to a *stabilizer* column where propane and lighter materials are stripped out and sent to the refinery's fuel gas system.

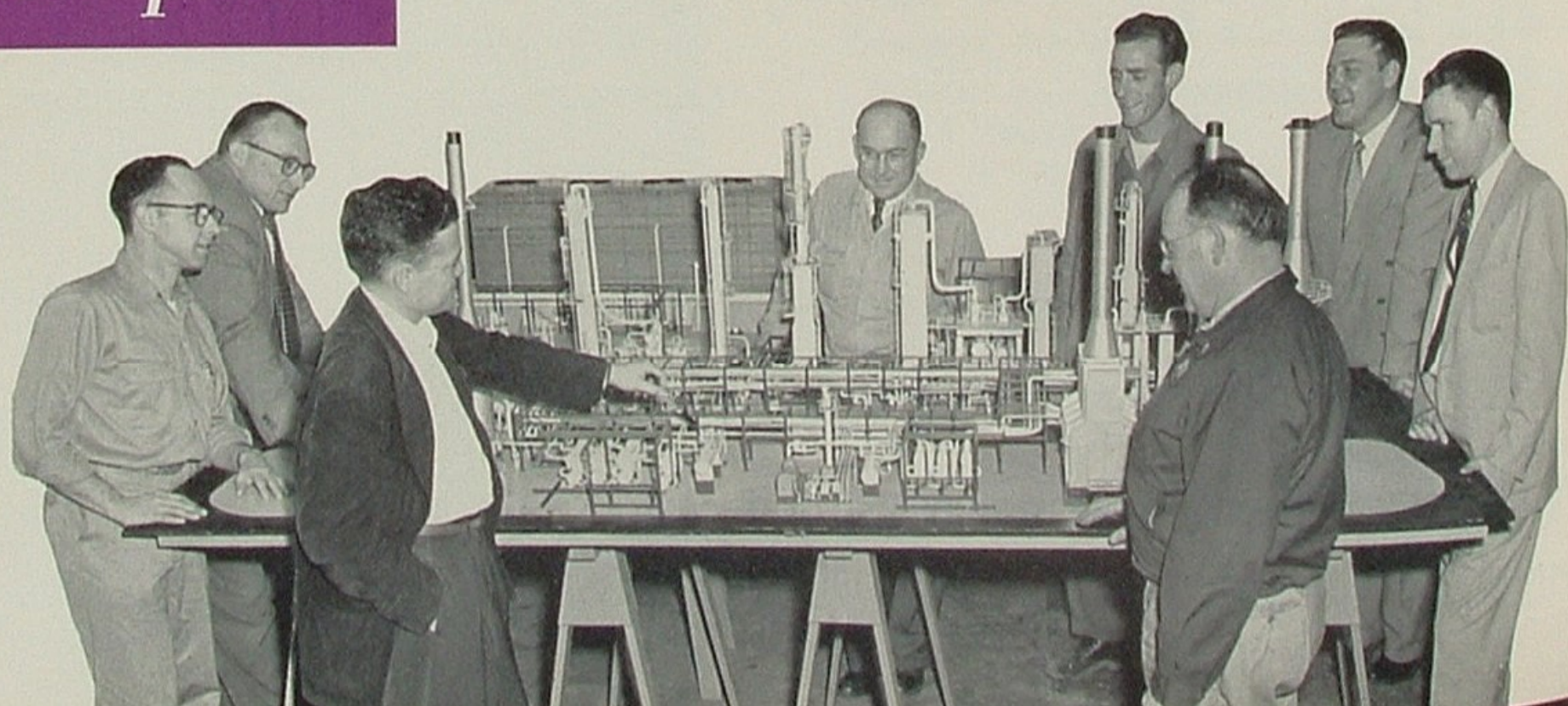
The *stabilizer* column is designed to retain more than 98% of the butanes entering it, because of their value as gasoline blending stocks. They therefore leave the *stabilizer* along with the liquid products and enter a *rerun* column. Here the feed is split into light and heavy *platformates* both of which are exceptionally fine gasoline blending stocks, high in octane value and practically free of sulfur, nitrogen and other impurities. The quantity of each produced may be varied within certain limits, but normally Oleum will make approximately 11,300 barrels per day of *light platformate* and 1,900 barrels of *heavy*.

Contrary to what you might expect, the *heavy platformate*, because of its proportionately larger content of aromatic hydrocarbons, has an even higher octane rating than the *light* product. Octane range of the total *platformate* can be varied by proper control selection between 90 and 100. But the higher the octane, the lower the yield; so the demands of the market will to a great degree govern the octane characteristics of this gasoline blending stock.





unisol plant



OF the other new gasoline facilities at Oleum Refinery we shall present at this time a brief review of only the Unisol Unit, left. It is here that the butane and pentane-hexane streams produced from the Unifining Unit, as well as light gasolines from other units in the refinery, are treated prior to becoming finished gasoline blending stocks. The Unisol Plant also is a combination of two facilities—a section for processing butane and a separate section for the light gasoline streams. The principal impurity removed in the Unisol process is a mercaptan, which is a gasoline-boiling-range material with a single sulfur atom and a very foul odor. Any hydrogen sulfide gas dissolved in the gasoline feed to the Unifining Unit shows up as an impurity in the butane stream and is also removed.

Though we do not have the space to present a third flow-chart, the following explanation may help you understand Unisol Plant operations:

In the gasoline section, the sour (mercaptan-laden) gasoline feed, at a rate of 5,000 barrels per day, is contacted progressively with dilute caustic, water, and a mixture of 95% methanol ("wood" alcohol) and strong caustic solution. The methanol acts as a solutizer and increases the ability of the caustic to absorb mercaptans. The fortified caustic then does such a thorough job that essentially all of the mercaptan is removed from the gasoline and the product is then sent to storage.

In the butane section of the Unisol Plant, a butane-

butylene stream, containing both hydrogen sulfide and mercaptans, is similarly purified by contacting it with a very dilute caustic solution to remove the hydrogen sulfide; with water to remove any entrained caustic and its load of contaminants; and with a medium strength caustic to remove the mercaptans. The solutizing action of methanol is not required to remove the light mercaptans accompanying the butane stream. The purified butane is stored in large spherical-shaped vessels for use as a gasoline blending stock.

The caustic-methanol-mercaptan streams are regenerated for further use in other portions of the Unisol unit, and the impurities removed are burned to prevent the creation of a hazard and nuisance.

Thus, briefly, you may have gleaned some idea of the significance of the latest refinery plant additions. It has been a costly four year program—\$70 million in refining units alone. It has been a pioneering program—calling for the invention by our own company of an economical method through which our high-sulfur crudes could be converted into low-sulfur, high-octane gasolines—via the Unifining Process. It has been a challenging program—demanding commendable foresight on the part of management—outstanding judgment, skill and enterprise on the part of hundreds of Union Oil people and their co-workers in the engineering and construction industry.

Dearfing a model of Oleum's new Unifining-Platforming Unit are, from left, Don Probst, Ray Damskey, Joe Byrnes, Harvey Eye, Don Jennings, "Rosie" Smith, Keith Wahl, and John Hopkins, engineers who mastered the plant's technicalities and were responsible for its successful start-up.

At right, in one of the "MP 30" control rooms, Operator Glenn Heller joins Engineers John Severa, Harvey Eye, and Joe Byrnes in keeping a close instrumentation watch over the labyrinth of new facilities as units go on stream.



introducing

IN this day and age you don't simply build a better mousetrap and then expect the world to beat a path to your door. An important part of the invention is to publicize your mousetrap from the housetops—advertise its merits through the best mediums and vantage points—and then beat a path to your potential customer's door!

That's how Union Oil introduced our two new and brand-new gasolines—Royal 76, champagne of premium gasolines—and 7600 Regular, the West's most powerful regular gasoline.

Utilizing the impressionistic advantage of surprise, a small handful of Union Oil people who were responsible for naming and announcing the new products kept their secret so well that no one else guessed what was brewing. Refinery men knew they were blending some highly potent gasoline ingredients but couldn't learn exactly why. Service station banners and pump signs were being manufactured like contraband and stored in unsuspected hideouts. A special issue of *THE MINUTE MAN* came off the press without dropping a single hint to *ON TOUR*. Even one of the "MP 30" engineers, when queried on February 24th about the gasoline to be announced on February 25th, answered, "What gasoline?"

2

powerful

new

gasolines

So the West, including most Union Oil people, awakened Friday, February 25, 1955 to a genuine gasoline surprise. The morning paper carried a two-page Union Oil announcement. Newscaster Frank Goss drooled over the high-octane products during his morning broadcast, then *Jaguard* over to a Hollywood service station to fill 'er up with Royal 76. Every Union Oil station under the sun blossomed out overnight with colorful banners and new pump signs; even most of the dealers came to work surprised. And at scores of dealer meetings held in all areas where our gasolines are sold retail, we literally began beating a path to the customer's door.

Any way you look at 'em—refinery-wise, quality-wise, advertising-wise, marketing-wise—the two new gasolines are all that they profess to be, the most powerful of regulars, the champagne of premiums. Also they are a worthwhile tribute to the workmanship of every Union Oiler who had a hand in their creation.



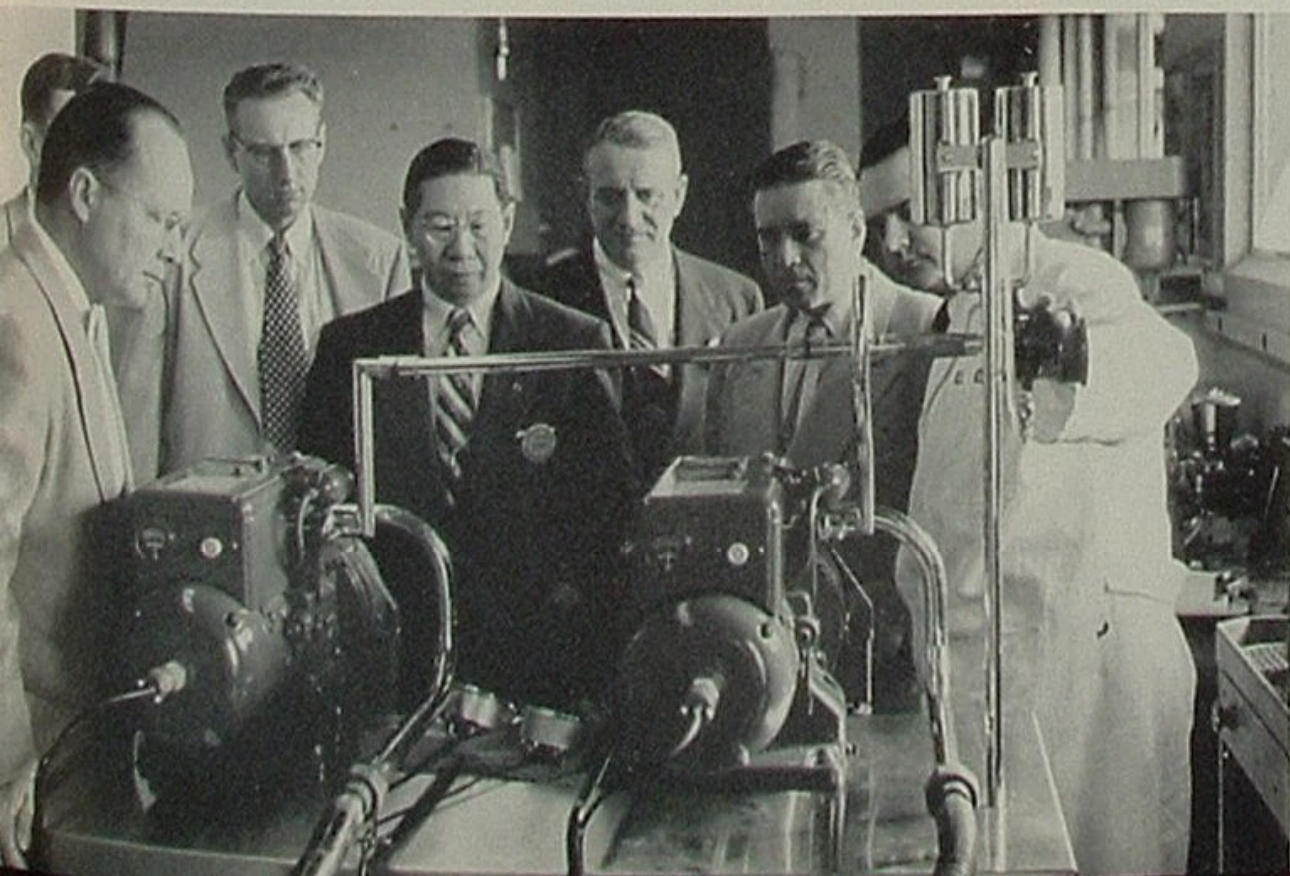


On opposite page, Leon Petr of Comptrollers and Kay Ruhberg of Manufacturing, Home Office, reflect the impact of Union Oil's two-page newspaper announcement.

Above, in conference following an early preview of "The big picture for 1955" are, from left, Vice President A. C. Stewart, President Reese H. Taylor, Sales Promotion Supervisor W. A. Sopher, Manager Sales Services George S. Smith, and Vice President Roy Linden. Their earnest counsel resulted in a hard-hitting retail sales campaign.

At right are three of 18 accomplished entertainment artists employed to "set the stage" at dealer meetings.

Recognizable below are, from left, Howard Emerson and Dr. R. W. Mattson of Research; Gil Wey and Ellis Locher of the Ethyl Corporation; W. M. Sopher and our Dr. Robert Haas testing one of the "V-2" engines used to demonstrate the manifold distribution qualities of our gasolines.





Upper left, District Sales Manager R. H. Rockwell extolls the gospel of high-octane gasolines at one of our retail dealer sales meetings in Los Angeles.

Above, David A. Wilson of Marketing uses old and new gasolines to demonstrate with a "V-2" research engine the superior manifold distribution qualities of the new.

At left, Union Oil people from every department and subsidiary were enthusiastic guests at the Statler Hotel meeting in Los Angeles, and elsewhere on the Union map.

Lower left, our retail dealers for whom "The Big Picture for 1955" was especially prepared pronounced it a great show, a delicious meal, and a whale of a sales opportunity.

Below, Radio Newsman-Announcer Frank Goss was so impressed by his own announcement of the new products that he "Jagured" from studio to station for a 76 fill.



THE PAYROLL SAVINGS PLAN OPPORTUNITY

by H. W. Sanders, Vice-President

SECRETARY of the Treasury Humphrey has requested the support of Union Oil Company employees in furthering his sound dollar, stable money policy.

We of Union Oil can measurably aid achievement of his goal, Secretary Humphrey states, by participation in the U.S. Savings Bond Payroll Savings Plan. With the support of men and women of industry, the Treasury Department believes it can bring to reality the goal of a broad, stable base for government fiscal operations. Their objective in this nationwide drive is the placement of fifty billion dollars in small bonds in the hands of individual investors.

Sound fiscal management by our government is an objective we all will applaud, I'm sure. And there are, of course, many other immediate advantages to be realized from our support of this program. Not the least of these is the fact that the Payroll Savings Plan takes the "if" out of "thrift." Regular purchase of bonds, with their compound interest features, will speed accomplishment of any personal savings goal, whether it be home ownership, proper education for your children, or simply a "rainy day" fund. A reserve of Savings Bonds makes for more substantial, self-reliant citizens.

Your monthly or semi-monthly payroll deductions can be as large or small as you wish, and the speed with which bonds will be accumulated on this basis is gratifying. For example, if you set aside just \$6.25 per payroll period, your payroll office will present you with a \$50 bond after every sixth payday. To look at this another way, suppose you had set aside the equivalent of \$3.75 per week for bond purchase, starting in 1945—today you would have bonds worth more than \$2000!

Several hundred Union Oil employees have been following this simple, systematic method of saving and investing for several years, but our record nonetheless compares rather poorly with the participation registered by other oil industry employees. I know we *can* do much better, and I know that we *will*. This month you will receive, at your home, a folder explaining the advantages of the payroll savings plan and an application form. Discuss this opportunity with your family. Give the matter serious thought, because small regular savings increase rapidly. If you decide you wish to participate, complete the application form and submit it to your payroll office.

There is still one more vitally important reason why I urge your consideration of this program. Savings Bond purchases are a fine way for us, as citizens, to show our support of Uncle Sam in these times of international tensions and ideological conflicts. Regular purchase of savings bonds will benefit you, your family, and your country.

The U. S. Savings Bonds exhibited by Fran Riggs and Marilyn McDougall of our Marketing Department, Home Office, are one of our best guarantees against inflation.





INDUSTRIAL SUMMARY

● INDUSTRIAL RELATIONS

The question has been asked as to whether the Company's excellent retirement program has accelerated the rate of early retirements. We believe not, in view of a recent study of this subject indicating that our retirement rate is well balanced. About one per cent of the Company work force retires each year. Of these, about 55 per cent are early retirements and 45 per cent are normal retirements. The average age at retirement is 62 years for men and 58 years for women. The average length of service at retirement is a little more than 29 years. All of these figures appear to be consistent with established patterns.

from W. C. Stevenson

● FIELD

Since completing the discovery well, Williams Inc. 1, early last year at East Lake Palourde in Assumption Parish, Louisiana, the Company has conducted a continuous development drilling program in that field, and still has not defined the productive limits of the field in any direction from the original well. To date, seven oil wells and one gas well have been completed, and two strings of tools are currently engaged in development operations. All of the seven wells, which are producing approximately 1,600 barrels per day, have highly productive gas-condensate sands behind pipe. The very substantial gas reserves already proven will mean important revenues to the Company when a market for gas has been established in the area. Looking forward to that time, the Company has entered into a preliminary contract with the Texas Gas Transmission Company, which in turn has applied to the Federal Power Commission for authority to install gas delivery facilities from East Lake Palourde Field to the eastern market. It is expected that this authority will be granted in the near future. Present indications are that East Lake Palourde will become one of our most successful operations in the Gulf Division.

from Sam Grinsfelder

● PURCHASING

The successful marketing of our new gasolines, 7600 Regular and Royal 76, called for close interdepartmental cooperation. To meet Manufacturing Department schedules for the distinctive colored Royal 76 gasoline, Purchasing was obligated to obtain a satisfactory new dye and tetraethyl lead of a different color. Manufacturers of these products were alerted, tank cars of special T. E. L. were shipped to arrive at our refineries in time for blending, and arrangements were made for a continuing supply of these products. The Marketing Department needed banners and signs for every sales outlet advertising the improved gasolines. A representative from Purchasing spent a month in the East placing orders and expediting shipments. Also needed were new printed forms for sales and accounting. Through the cooperation of Office Services, these forms were made available and shipped by the Stationery Warehouse to every marketing station just before the campaign got under way. Purchasing was proud to be a part of this outstanding accomplishment.

from C. S. Perkins

● TRANSPORTATION & DISTRIBUTION

Pipeline installations which connect the Santa Maria Refinery with our Northern Division Pipeline System have been completed. Crude oil will be delivered from Summit Pump Station to the Refinery through a new 10 inch line five miles in length. A 6 inch gas line was laid in the same right-of-way for delivery of fuel gas to the Refinery. Naphtha distillate and gas oil cracking stock produced at the Refinery will be shipped to Avila through a new 8 inch products line 18 miles in length. From Avila these products will move by tanker to Oleum Refinery for processing into finished products.

Distribution of the new Royal 76 and 7600 Regular gasolines was successfully accomplished in over 5,000 terminals, marketing stations, and service stations

throughout our marketing area within a period of one week prior to February 25, 1955. Without exception, the new gasoline was available for sale at all points on the scheduled date.

from E. L. Hiatt

● RESEARCH

Cooperative investigation by Research and Manufacturing personnel has resulted in improvements in the operation of the new wax deoiling unit at Oleum. The changes have resulted not only in a simplification of the equipment and a reduction in operating costs, but also have led to an improvement in the quality and variety of waxes which can be manufactured at this location.

"Design and Control Techniques in Solids Moving Bed Systems" was the title of a paper delivered in New York by our Dr. Clyde Berg at the centennial celebration of the Polytechnic Institute of Brooklyn.

The McNutt Oil and Refinery Company of El Paso, Texas, and the Gewerkschaft Deutsche Erdol-Raffinerie in Germany have signed license agreements to construct Unifining units.

from F. L. Hartley

● MANUFACTURING

With the Sulfur Plant Producing sulfur, all process units are in operation at the new Santa Maria Refinery. The operating personnel number about 75 employees, some of whom are skilled personnel transferred from other refineries. Santa Maria Refinery has a unique process control system that includes a data recording and calculating unit. The temperatures, pressures, flow rates and volumetric data are continuously recorded throughout a daily 24-hour period. Minor calculations and abnormal operations are recorded automatically. Called a Data Reduction System, this is in addition to the hundreds of different recording, indicating and control instruments normally required in the operation of refinery process units. The equipment will permit closer scrutiny of operating conditions, permitting more uniform operations; and it will eliminate the recording and correlation of data normally made by operating staffs.

Oleum Refinery is in the process of dismantling the old wooden wharf structure, which is one of the few remaining landmarks dating back to Oleum's early days.

Maltha, Los Angeles and Oleum Refineries are now producing jet fuels under government contract.

from K. E. Kingman

● MARKETING

The big news from the Marketing Department has already been disclosed, namely, the introduction of the two new gasolines, Royal 76 and 7600 Regular. In addition to our dealer meetings in which the new products were announced, Forde L. Johnson, our distributor in Idaho, conducted a meeting in Idaho Falls for the benefit of his dealers. This was the first meeting of its type held in this area with the new distributor as host.

The Northwest Territory will receive its first bulk lubrication oil transport which will be put into operation about the middle of April.

The Company has been awarded contracts to supply approximately 67,000,000 gallons of jet fuel during the six months beginning the first of April. Both JP-3 and JP-4 will be supplied and deliveries will be made at Wilmington, Maltha and Oleum Refineries. Value of this contract is in excess of \$6,500,000. We have also been awarded a contract to supply approximately 1,200,000 gallons of various grades of military heavy-duty motor oils during the twelve months, March 1955 through February 1956.

MAKE A
CUSTOMER
OUT OF
A FRIEND!



ROY LINDEN

Many of you Union Oilers have friends who are entitled to the convenience of a Credit Card. We know they will appreciate your consideration for them when you offer the enclosed self-mailing application. Here's a real opportunity to do a favor for a friend and at the same time do a service for your Company. Remember that a customer of Union Oil is your customer too.

from Roy Linden

Louisiana Twister

LEVELS DRILLING DERRICK, SENDING GAS WELL ON WILD RAMPAGE

From E. E. Sands, Jr.



AT 2:15 a.m. on Saturday, February 5, 1955, Union Oil Pumpers Emile Dugas and Louis Falgout noticed a decrease in gas output while checking the field master sales meter. That night, our Tigre Lagoon Field in South Louisiana was experiencing wind velocities approaching 80 miles per hour accompanied by rain and hail. They immediately went to the meter house, containing individual well meters, and found the Eves LeBlanc No. 13-2 well to be off production.

Proceeding by pick-up truck to the well, which is about one mile by road from the meter house, the men found that catastrophe had struck Tigre Lagoon. A *twister* had passed through the field, leveling several barns. Victim also of the whirling force was a 136-foot drilling derrick which had been standing over the *Christmas tree* of Eves LeBlanc No. 13-2 since the well was reworked in March, 1954. The derrick had been snapped from its steel guy lines, lifted completely clear of its foundation sills, and smashed flat in the adjoining field. In departing, the sub-structure of the derrick had struck and broken the high-pressure flow line through which gas, under full well pressure of 4,000 pounds, normally proceeds to our central separator battery. Also broken was a chemical lubricator extending upward from the flow-cross on the *Christmas tree*, and the latter was twisted to a 30-degree angle from the vertical.

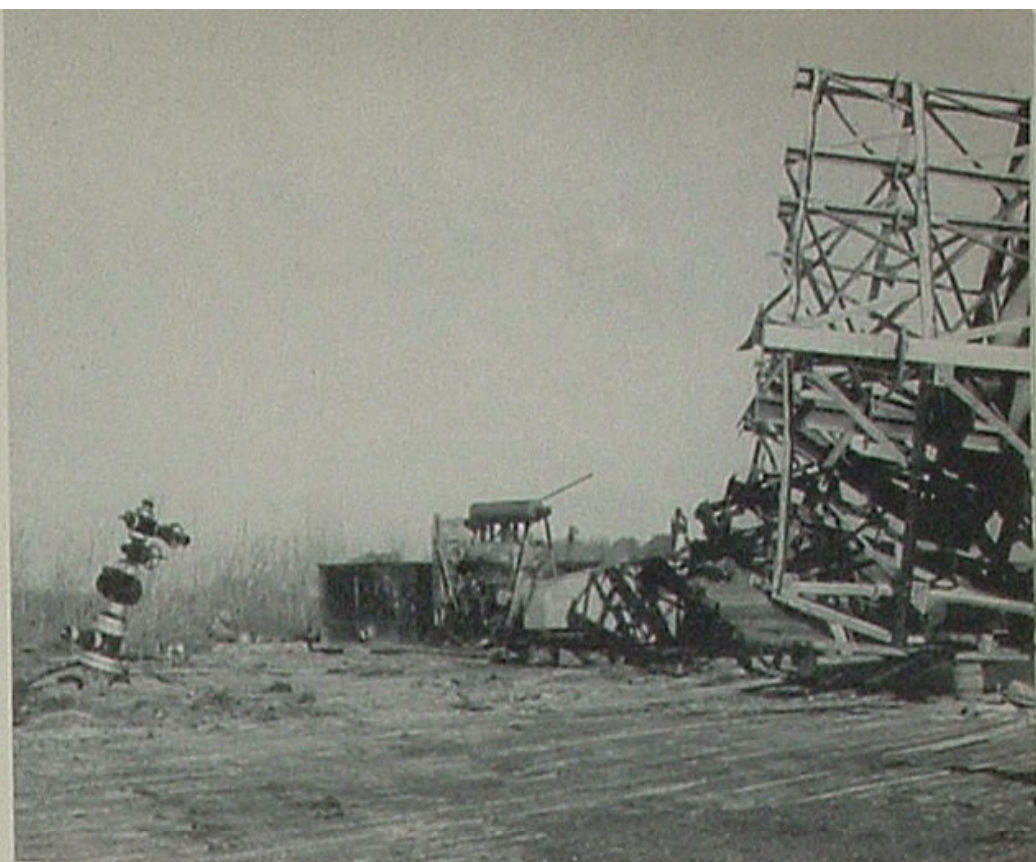
Greeting our two pumpers in the stormy night were the sight and roar of a wild well, discharging into the atmosphere some 30 to 40 million cubic feet per day of gas through the two openings.

Despite storm damage to telephone communications, the pumpers managed to locate an operating telephone and get word through to Foreman H. E. Megison in Abbeville. He arrived at Tigre Lagoon about 4 a.m.

Disregarding personal safety, Megison moved in close to the well head and attempted to close the top master valve. But when the valve was about half closed, he noticed a very bad leak between flanges of the master valve and tubing. Realizing such a leak might cut out the steel ring gasket between the flanges and cause further complications, Megison reopened the valve. A few minutes later he had Foreman George Veazey out of bed and on the telephone.

After a 5 a.m. conference at the well site, Veazey and Megison instructed all personnel to remain clear of the danger area and established every possible safeguard against igniting the escaping gas. They were aware that any attempt to repair the damaged *Christmas tree* with conventional tools might produce a spark and add a tremendous fire to their troubles. With roadblocks established to divert traffic and curious observers, they telephoned Houston for assistance.

An early morning strategical conference was improvised in Houston between District Superintendent J. S. Buchanan, there on Company business, Division Super-



intendent E. E. Sands and Vice President Dudley Tower. It was decided to contact the famous petroleum fire fighter and blowout expert M. M. Kinley, who in turn dispatched "Red" Adair and an assistant to Tigre Lagoon to get the well under control. These men had to drive from Houston to Tigre Lagoon by car, as inclement weather had grounded planes throughout the Gulf Coast.

At 4:45 that afternoon, "Red" Adair and his assistant walked up to the wild well and casually started to work. They were accompanied by Union Oil Company's engineer, Irion Lafargue, whose interest in new techniques is not easily discouraged. Leaning over "Red's" shoulder, Lafargue watched with admiration while special tools held by steady hands proceeded to tighten bolts holding the leaking flanges. In a few minutes the master valve was closed and a wild well had been successfully shut in.

Then came a hardly less difficult problem—that of getting Eves LeBlanc No. 13-2 back on production:

First, gauges were placed on the casing valve of the *Christmas tree* to make certain that no explosive leak would break the 5½-inch casing. Then at daylight the next morning, Company personnel with extra assistants were busy preparing to *kill* the well. A 200-barrel mud tank and mud-mixing pump were set up. Pipe lines were connected with the well. Then 20 barrels of water and 65 barrels of mud weighing 11.3 pounds per gallon were pumped underground by Halliburton equipment, rendering the well completely dead and ready for repair.

Subsequently, a jackknife workover rig was installed; the *Christmas tree* was straightened to its vertical position; a bent joint of tubing in the well was replaced; the casing was repaired; and Eves LeBlanc No. 13-2 resumed producing gas into the Transcontinental Gas Pipe Line system.

Hardly a buckwheat cake in New England was delayed by that Louisiana twister.

What's New

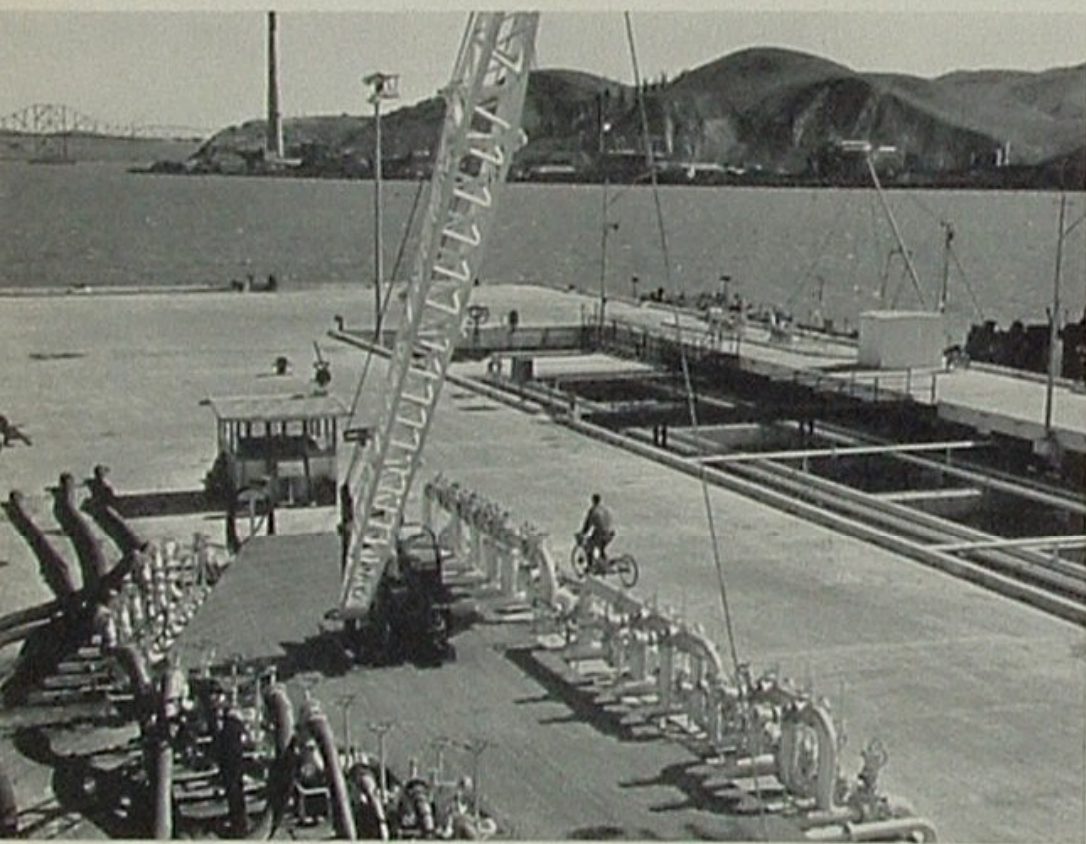
▶ **AT OLEUM REFINERY,** a speedup in packaged-goods freight handling has been inaugurated between Bay Area and Northwest terminals. Known as the piggy-back system of rail transportation, it eliminates the laborious loading and unloading of boxcars by simply running laden trailers aboard flatcars and shipping both trailer and freight to the destination. Besides the loading labor and time saved, there is a considerable reduction in cost of dunnage. Seen supervising one of the first piggy-back shipments from Oleum are Distribution Coordinator D. N. Keaton, Agent C. C. Fischer of Southern Pacific, and Shipping Foreman V. E. Cook of the refinery.

from L. C. Monroe



▼ **AT HOME OFFICE,** a new check processing machine was recently placed in operation which dates, numbers and signs checks while recording all necessary data on check register sheets. Its use in processing and recording checks has resulted in greater speed and accuracy, and a more systematic recording of pertinent information. Designed and constructed by the National Cash Register Company specifically for Union Oil Company needs, the machine is a good example of how technology is advancing in practically every phase of business and industry to increase human productivity. Seen operating the machine is Jack Harding of Disbursements, while in the other photograph Alice Barry illustrates the older pen-and-ink recording method.

from H. H. Hansen



▲ **AT OLEUM REFINERY,** the new steel and concrete marine terminal is of course the *last word* in petroleum handling and will be described soon in ON TOUR. At the moment, however, we call your attention to the approximate center of our picture where a Union Oiler is riding, of all things, a tricycle. Yessir, this three-wheeled contraption that dates back to everybody's childhood is more useful and modern than you'd imagine. A tray mounted between the two rear wheels is ideal for collecting and safely carrying bottled samples of petroleum products. And the chain drive gets a man from one end of the long wharf to the other in approximately half time.

from Clyde Morton





▶ **AT ROSECRANS TERMINAL,** a vapor recovery loading arm is being perfected with considerable satisfaction to its Union Oil inventors. The arm automatically vents hydrocarbon vapors from a transport compartment while the vehicle is being filled with gasoline. Eventually it is planned to pipe the vapors, which are rich in light gasoline components, into absorption facilities where they can be salvaged and later blended again into fuel. The experiment was undertaken primarily as a meticulous smog prevention measure but could very well develop into a fairly worthwhile conservation practice. Shown operating the arm is Al Kunkel.

from M. S. Imes



ON TOUR





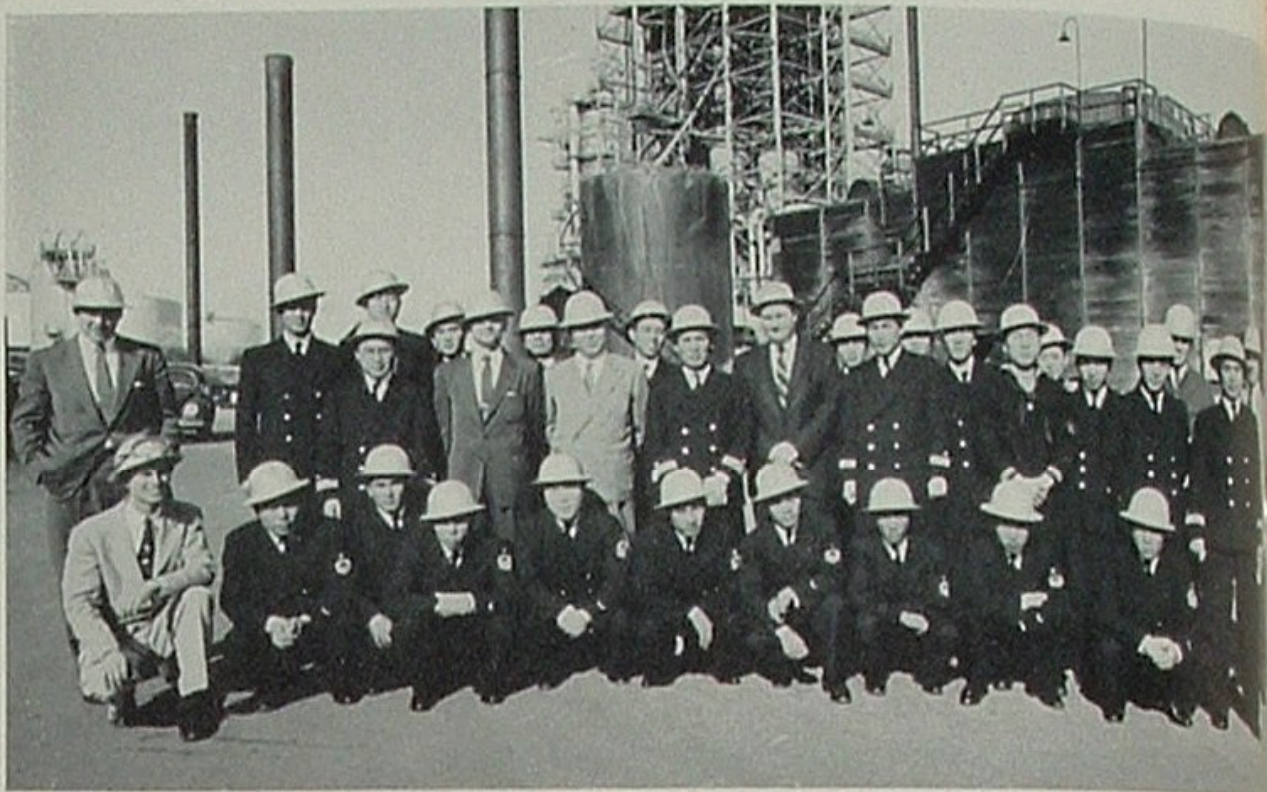
▲ **PROGRESS**

Nothing seems permanent in the the oil business except taxes. Even as we announce the completion of new refining units, others are being torn down and ground is being broken for the excellent facilities of tomorrow. Above, at Los Angeles Refinery, Foremen Scotty Fraser and Slim Crostic take a farewell look at Units 71 and 72, crude topping and viscosity units which they helped to put on stream 24 years ago. The units, not the men, are being retired and dismantled. Below, Jack Tielrooy of Brea, Vice President E. A. Pellegrin of Macco Corporation and President Homer Reed of Brea get things rolling on the construction of Brea Chemicals' new Ammonium Nitrate Plant.

from Herb Zirnite and Paul Foreman



Union Oilers



▲ **GOODWILL**

Helping to erase the scars of war and become allied rather than estranged, Union Oilers were hosts on February 18 to the Japanese naval officers and crew of the J. D. S. YASHIMA. Accompanied by our Phil Fell, Les Smith, Consul General S. Hogen and W. Posch of Maruzen, the visitors were shown through the Los Angeles Refinery.

from W. L. Theisen

▼ **DEFENSE**

At Seattle, Union Oilers L. H. Manning, Axel Kjallan and L. W. Lund inspect a cargo of Company products awaiting shipment to the arctic regions of Northern Canada. The products will be used in equipment constructing the D. E. W. (distant early warning) network of radar detectors for guarding against air attacks.

from R. J. Sandercock





▼ **PRESIDENT** Elected recently as president of the board of trustees of the King County (Seattle) Hospital System is Leslie C. Roberts, Union Oil consignee at Auburn, Washington. He has been a member of the board for eight years and was president in 1952 also. The King County Hospital, with two fine modern buildings and a \$4 million annual budget, represents a sizeable trusteeship. But Les handles the assignment with the same capabilities evidenced in his many other activities.

from R. J. Sandercock

◀ **ADMINISTRATORS** ▶

Elected to the Board of Administrators of the Employees' Benefit Plan are C. S. Perkins, left, manager of purchases, and J. W. Sinclair, right, manager automotive. Their three-year terms of office began March 8, 1955. Of 8,015 members of EBP, all of whom were eligible to vote, 3,276 or 40.8% participated in the balloting. At the March 8 regular meeting of the Board, J. T. Ledbetter was elected chairman to succeed B. T. Anderson, who has served in that capacity during the two years past.

from D. S. Povah

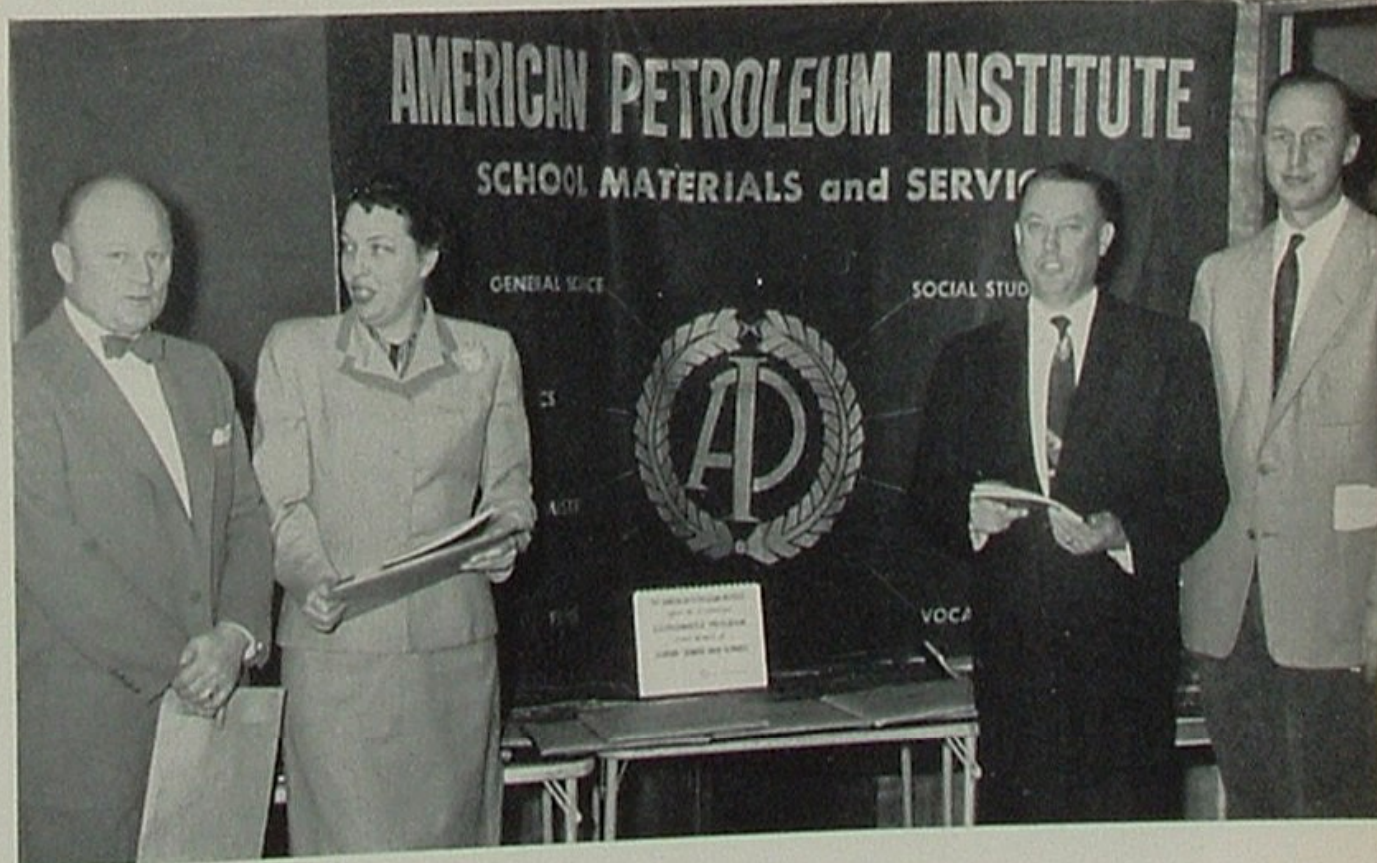


▶ **OFFICERS,** installed February 5, of the Oleum Refinery Supervisors' Association are, from left, President Chet Frisbey, Secretary Treasurer Dave Zenk and Vice President John Dalessi. The inaugural dinner was held at Angelo's in Oakland.

from Clyde Morton

▼ **CHAIRMAN** of the O.I.I.C. for Montana's Cascade County Schools was Union Oiler A. D. Adolphson, third from left. He appears with, from left, School Superintendents R. B. Farnsworth, Mary Condon and William Johnstone during presentation of the petroleum program to 180 Montana educators.

from R. R. Blakeslee





▲ **PRETTY,** talented and a straight-A student is Ann Cairney, daughter of Union Oiler R. L. Cairney of Portland. Recently she was named "Pretty Prepper" of Grant High School and received wide publicity throughout Oregon and the entire Northwest.

from R. J. Sandercock



▲ **REGAL** At the Annual Valentine Party sponsored by the Union Oil Girls' Club in Los Angeles, royal blood didn't help a bit in gaining you a crown. Instead, you had to be lucky. The rulers were figuratively pulled out of a hat. From left, Patricia Perry

makes ready to crown Queen Bonnie Williams of Comptrollers while King Owen Reynolds of Rosecrans Terminal accepts a congratulatory curtsy from Club President Jan Crowley. In addition to a tax-free job, the sovereigns received gifts fit for a king.

from Bob Hages

▼ **HELPING** Mrs. L. W. Williams, executive secretary of the Northern Orange County Chapter of the American Red Cross, organize this year's fund drive are, from left, Union Oilers W. M. Ketteringham and S. J. Boardman of our Research Department.

Mr. Ketteringham is fund-drive chairman for the town of Yorba Linda and a director of the County Red Cross organization. Mr. Boardman is fund-drive chairman for the town of Placentia. Their community service followed this year's fine AID campaign.

from Paul K. Doyle

▼ **SHARING** a retirement cake at San Francisco are Ethel Cline and Alan Lowrey, whose Union Oil associates, while wishing 'em well, hated to see them go. Miss Cline, who joined us in 1918, served as Mr. Lowrey's first Company secretary.

from Pat Clark





SERVICE BIRTHDAY AWARDS

APRIL 1955

MANUFACTURING

Cardoza, Henry, Oleum	35
Villa, Joseph O., Oleum	30
Wentworth, Francis P., Oleum	30
Sorrells, James C., Wilmington	25
Fitzgerald, Ruby M., Oleum	20
Ault, Fred T., Oleum	15
Parsons, Emmett H., Wilmington	15
Derby, Hugh C., Wilmington	10
Hood, Frank, Wilmington	10
Jordan, George T., Wilmington	10
Mackenzie, Douglas, Wilmington	10
Majors, George C., Wilmington	10
McCreery, Austin R., Home Office	10
Parker, Jasper R., Wilmington	10
Schaap, Edwin G., Wilmington	10

EXPLORATION & PRODUCTION

Skinner, William R., Bakersfield	35
Bledsoe, Charles C., Orcutt	20
Brandle, Otto, Santa Fe Springs	20
Grant, James A., Home Office	20
Sheldon, Adrian W., Orcutt	20
Wiemers, Henry G., Orcutt	20
Moore, Jerome J., Orcutt	15
Nabers, William A., Orcutt	15
Pedretti, Juan P., Whittier	10
Worsham, Glenn M., Orcutt	10

MARINE

Butler, Harry E., Home Office	35
Carpenter, Denzel R., Wilmington	20
Hesse, Charles E., Wilmington	20
Jones, William M., Wilmington	20

PURCHASES

Morrison, Harold R., San Francisco	30
McMullen, Frank, Home Office	25

COMPTROLLERS

Gjerde, Chester M., Home Office	30
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Askew, Lucille F., Home Office	20
Dalton, Harold H., Los Angeles	20
Crank, Wallace B., Home Office	10

PIPELINE

Vermillion, Forrest R., San Luis Obispo	30
Figueiredo, Antonio C., San Luis Obispo	20
Jones, Fay E., Santa Fe Springs	20

MARKETING

Bienert, Robert H., Santa Maria	25
Brennan, Mervin J., Oakland	20
Burrus, Jesse, Home Office	20
Coots, Laurence W., Rosecrans	20
Nyberg, Carl F., Tacoma	20
Cowing, Richard J., Beaverton	10
Fitzgerald, William H., Seattle	10
Kunkel, Alex P., Rosecrans	10
Roberts, William H., Rosecrans	10

BREA CHEMICALS, INC.

Kreutzen, Walter D., Brea	20
Foreman, Paul M., Brea	15

NATURAL GAS & GASOLINE

Smith, Charles E., Home Office	15
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AUTOMOTIVE

Osborne, Robert E., Home Office	10
Wylie, Earl E., Honolulu	10

EXECUTIVE

Page, James R., Home Office	10
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RESEARCH

Davis, Vera S., Brea	10
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Retirements



A grateful Company and a host of well-wishing employees are bidding farewell to the following Union Oilers who have concluded long careers of Company service and are retiring:

CLARENCE R. AUSTIN

Tax Department
Employed 8/18/09—Retired 4/1/55

WILLARD A. MONTEITH

Southwest Territory
Employed 2/15/21—Retired 4/1/55

JOHN H. CLARK

Central Territory
Employed 3/10/21—Retired 4/1/55

RONALD A. GRAHAM

Los Angeles Refinery
Employed 8/14/28—Retired 4/1/55

IRWIN H. ANSCHUTZ

Oleum Refinery
Employed 8/22/30—Retired 4/1/55

ARTHUR W. WEBB

Southwest Territory
Employed 8/9/37—Retired 4/1/55

ORIN D. CUNNINGHAM

Research Department
Employed 9/13/43—Retired 4/1/55

OSCAR C. NELSON

Field Department
Employed 8/6/45—Retired 4/1/55

In Memoriam

On February 14, 1955

ELI ROY BOWIE
Retired 9/1/43

On February 24, 1955

RAYMOND E. DANIEL
Los Angeles Refinery

On February 27, 1955

HENRY RABSCHER
Field Surveying & Drafting



◀ **'JUST GETTING WARMED UP!'** said these six Portland employees when presented with 125-years-worth of service pins on February 5. They are (in front) R. F. Enrich, Marguerite Kamfer, F. E. Brusseau; (back row) E. C. Stevens, T. S. Coulson and C. D. Hopfield. The awards were witnessed by 158 dinner-dance guests.

from J. W. White



Ruth Randall

The school teacher who owns an oil company

RUTH RANDALL teaches Latin at San Bernardino High School, San Bernardino, California.

In 1939 she invested part of her savings in 50 shares of Union Oil Stock. This makes her—along with some forty thousand other people—an owner of the 45th largest industrial company in the country.

And entitles her to examine the report card on our sixty-fifth year of business.

It was the largest in our history. Our customers paid us \$351,731,678. We didn't keep all of this, of course.

16.8% we paid to our 8700 employees as wages and benefits.

4.8% went for taxes. (This does *not* include \$60,000,000 additional in fuel taxes which we collected for the government.)

68.2%—by far the lion's share—we divided among more than fifteen thousand other companies and individuals with whom we do business.

This left us net earnings of 10.2%. From which we paid shareholders like Miss Randall 4.5% as dividends for the use of their money, and reinvested the remaining 5.7% in necessary expansion and modernization of facilities.

We hope Miss Randall is pleased with this report. We are certain she should be pleased with herself. For in wisely investing in American industry for her own security, she has helped to create a higher standard of living for everyone.

* * * * *
YOUR COMMENTS ARE INVITED. Write: The President, Union Oil Company of California, Union Oil Building, Los Angeles 17, California.

Union Oil Company OF CALIFORNIA

MANUFACTURERS OF ROYAL TRITON, THE AMAZING PURPLE MOTOR OIL