

# ON TOUR

with Union Oil Company of California

MAY 1957









THE COVER portrays the last long mile or two of Union Oil's new pipeline from Junction to Oleum.

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"ON TOUR" pronounced "on tower," is an oil field expression meaning at work or on duty. Our magazine by that title is published monthly by Union Oil Company of California as a means of keeping Union Oil people informed regarding their company's plans and operations. We invite communications from our readers, whose 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, California.

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The Automotive Department's Les Billington (at left and in the photos below with Supt. Bob Thompson and Foreman John Miller) uses a sound meter to measure noise level of transports.

## SOUNDPROOFING THE TRUCKS

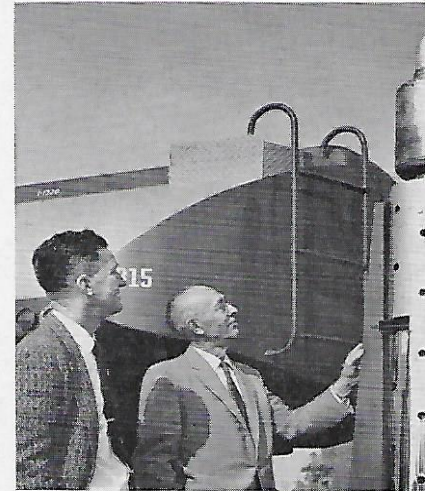
"It sounds like a truck" may become a rather archaic expression, considering the progress being made by our Automotive Department.

Recent tests made with several large units of rolling equipment indicate that conventional truck mufflers, even when new, hardly do a perfect job of silencing the engine exhaust. As an improvement, our automotive engineers are testing a silencer for truck exhaust pipes—a muffler for the muffler, that is. The device reduces combustion noise appreciably.

Fans for truck cooling systems were also found guilty at high speeds of setting up a disturbing whine. Our mechanics are countering with a mechanism for limiting fans to a noiseless speed regardless of how fast the engine is running. Cooling system efficiency is not impaired by the slow-down.

Another study is now being made of noises traced to the shifting of transmission gears. From this study may come another important advance in soundproofing—as well as improved public relations.

"Quiet as a '76' truck," is what we'd like to hear 'em say, and that's one end toward which the Automotive Department is working.



A muffler added to the exhaust pipe, above, and a speed governor for the fan, below, are making "76" trucks the quietest on public roads.



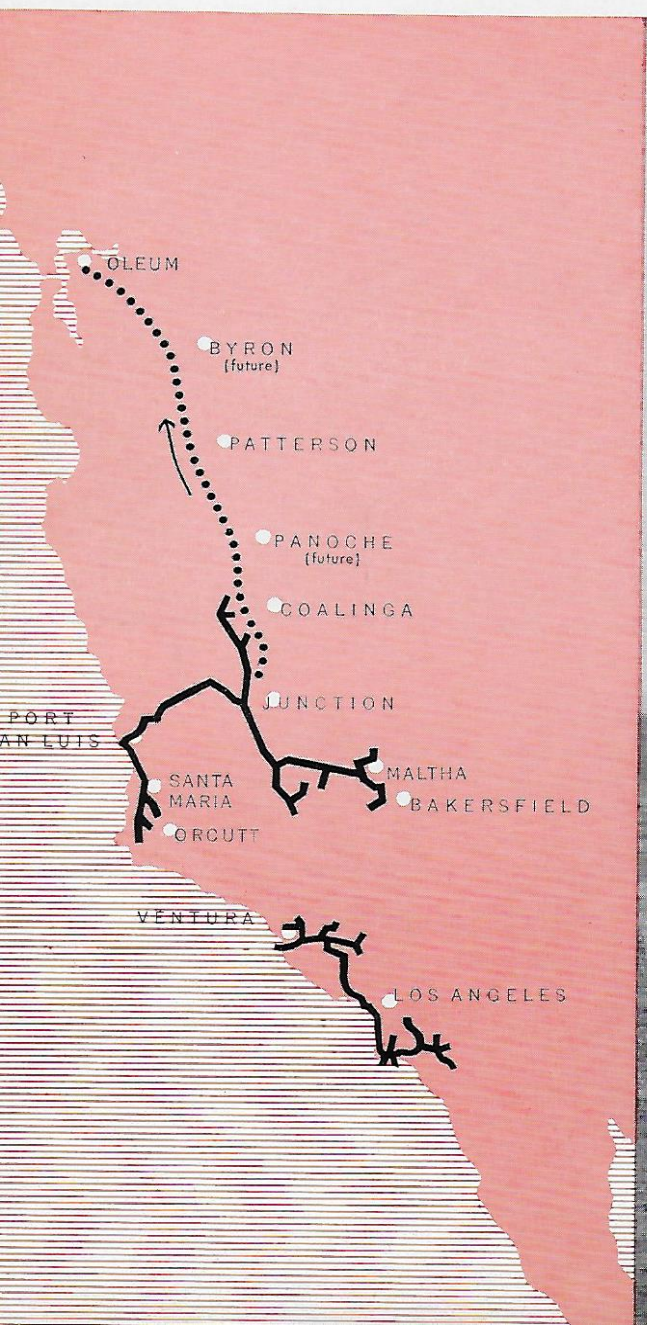
Hills, fences, highways, streams and a thousand other obstacles are taken in stride by the pioneering men who have put over 170,000 miles of pipeline "to bed" in the U. S.



We've put the pipe

# TO BED

NEW JUNCTION-OLEUM PIPELINE COMPLETES  
FINEST CRUDE OIL SYSTEM IN CALIFORNIA





The dream of a pipeline from Southern California's oil fields to the refineries and markets of San Francisco Bay probably occurred to Union Oil Company's founders in 1886. Financially hard pressed, Stewart and Hardison were searching desperately for a way to beat the railroad's \$1 a barrel transportation charge. But they could little more than dream of such a lengthy artery. There was hardly 200 miles of oil pipeline operating in the entire world at that time. A 110-mile line in Pennsylvania, completed in 1879, was regarded as an engineering marvel. And California's most ambitious achievement was five miles of two-inch pipe from Pico Canyon to a Newhall refinery.

So, the two partners did very well indeed to build the world's first pipeline from the oil fields to tidewater. Forty miles of four-inch pipe, shipped round Cape Horn to California, was moved by wagon to the rugged job site. Late in

1886, crude oil moved through the line from Newhall to Ventura. The project initiated the Pacific Coast's first tankship operations and succeeded in reducing crude oil transportation costs by half.

Practically ever since the Company's founding in 1890, Union Oil has supplied our Oleum Refinery on San Francisco Bay with crude via the pipeline-tankship route. "U"-stacked tankers have appeared as regularly as day and night on the coastwise shipping lane between Port San Luis and the Golden Gate. They have taken part in countless sea dramas and rescues. One was torpedoed by enemy submarine in 1941. Throughout these 67 years, our ships have completed thousands of voyages, moved millions of barrels of oil, and made a mighty contribution to the West's development.

Today by no means signals the end of this colorful ocean-continued



Junction Pump Station, above, is the San Joaquin Valley starting point of Union Oil's new 225-mile pipeline to Oleum Refinery.

Among Union Oilers on the job were, from left, Inspector George Goranson, Manager Howard Robinson and Supt. Bill Conley.



Clearing the pipeline right-of-way was equivalent to building a new road for oncoming pipe spreads.

"Putting of the 12-inch pipe to bed" near Junction demanded the coordination of several side-boom tractor operators.





going saga. Tankers in Union Oil service will continue to ply the coast—maybe oftener than formerly. However, most of them will carry refined or semi-refined products. Nearly all crude oil from San Joaquin Valley and the coast to Oleum Refinery will move henceforth via pipeline.

As in 1886, transportation economies are dictating the change. Tankships, though among the world's most economical transportation devices, are no longer a match for pipelines on this particular haul. It is estimated that the Company's new Junction-Oleum Pipeline will justify its construction by a savings margin of several thousand dollars a day over tankship handling. The pipe will pay for itself in approximately eight years.

### *Built in jig time*

An oil company may take years making up its mind to

build a pipeline. But once the decision is made and millions of dollars are set aside, nobody on the job takes it easy.

Exactly one year ago—in May, 1956—all that existed of the project were a few aerial maps and the authority to proceed. Next on the docket was to find who owned properties along the proposed route, and to get them to sign right-of-way agreements. The task was huge. It involved hundreds of properties, thousands of signatures. But by November, Union Oil held signed permission to lay pipe across 376 privately owned tracts—a total distance of 244 miles including options on several alternate routes.

Meanwhile, with perfect optimism toward the right-of-way quest, other phases of the enterprise were moving ahead. Pump station sites were being selected and bought. Government permits and licenses were applied for. Train-

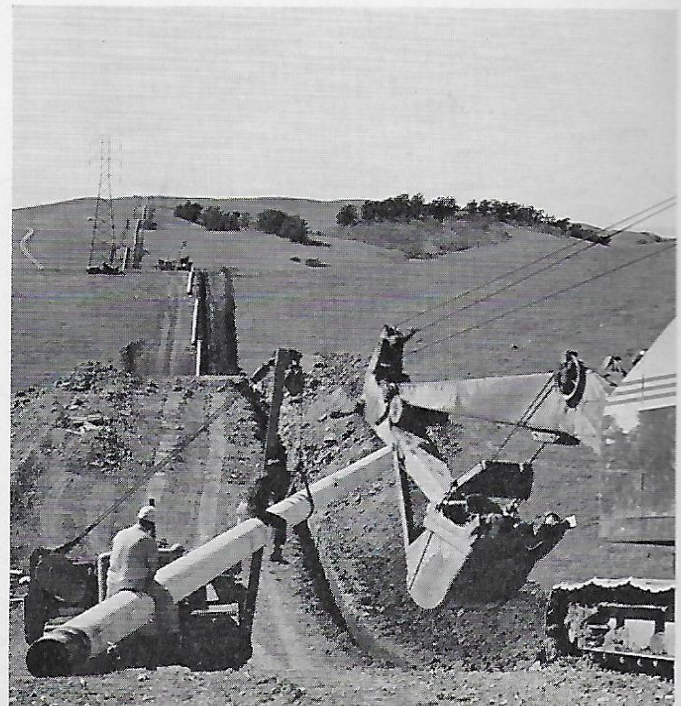


Most of the 225-mile trench was dug by "ditching machines" of this type, which often will bite their way through a mile or more of soil per shift.



From left are Surveyor Jim Scott, Project Engineer "Dutch" Van Harreveld and Chief Inspector Leo Anderson. Project Supervisor Sam Taber appears on this month's cover ad.

Tough going through rocky terrain calls for the back-hoe, extreme right, or in the worst cases for charges of dynamite.





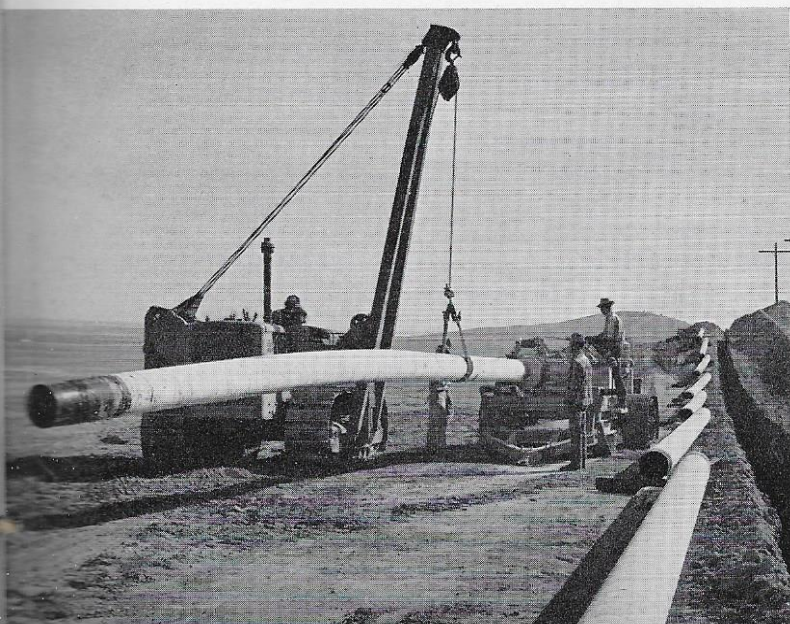
loads of pipe were ordered. The job was shown to qualified contractors. Contracts were let even before all engineering studies were completed. Everything bore the stamp or implication of "Expedite!"

Successful bidder for the pipe-laying job was Roy Price, veteran pipeliner with an outstanding record of service to the petroleum industry and Union Oil in particular. Notified of his low bid during the last few days of December, he immediately rounded up men and equipment and by January 2 was clearing the right-of-way and *cutting ditch*. Within a month, Price had four *spreads*—each spread consisting of complete pipe-laying equipment and up to 150 men—working at various points along the route. The *stringing*—delivery to the ditch—of wrapped 16-inch pipe began the first week in January. A month later, 12-inch pipe started arriving from the Kaiser mills near Los Angeles. The

prodigious task of welding, wrapping, testing, lowering and covering this pipe (better described in the accompanying pictures) was completed in about four months. By early May—even as you read this report—a steady tide of crude oil is moving through the line from Junction to Oleum.

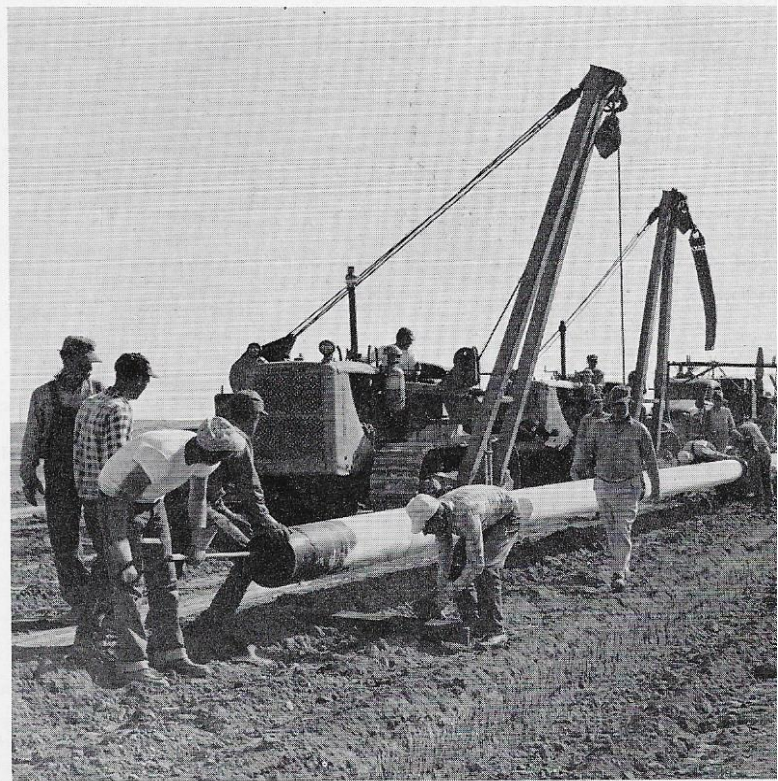
Many things remain to be done before the project is complete. Pumping equipment is being added at Junction. A new tank farm and pump station at Coalinga and a pump station at Patterson will be completed by August. Other new pumping facilities will reverse the flow of crude in our older line to tidewater, soon bringing coast shipments over the mountain range to Junction. A microwave communications system is being installed. Provision is being made for future *booster* stations, if required to speed up the pumping rate. But in the words of the pipeliners who built it, "We've put the pipe to bed."

continued



Through rolling country, lengths of pipe are shaped to the terrain by bending machine.

Below, a clampman, turning crank at near end of pipe, is aligning with a long handled line-up clamp two sections of pipe so welders may run the "stringer bead."



Meet Jack Cheeves, a supervisor for Pacific Pipeline, contractors who wrapped the 16-inch pipe at Los Banos.





The building of modern pipelines calls for the highest skills of the welding trade. Five or more perfect "beads" seal each joint. Many welders fail to qualify for the job.

### Statistically

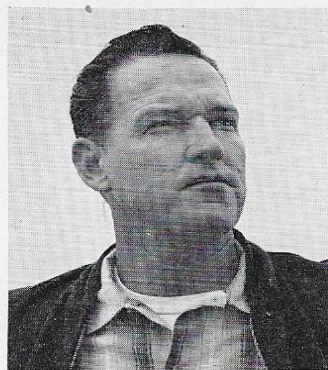
The Junction-Oleum Pipeline is 225 miles in length. Throughout the first 45 miles from Junction to Coalinga, 12-inch diameter pipe has been installed; from Coalinga northward there is 180 miles of 16-inch pipe. Exterior coating and wrapping throughout gives the steel maximum protection against corrosion.

The initial pumping rate, using only the facilities at Junction, is around 50,000 barrels a day. When pumps at Coalinga and Patterson are in operation, the oil will move at a rate of 80,000 barrels a day. The latter pumping rate, adequate at present, can be increased further by the construction of booster stations. No heating of the oil is planned to speed its flow; instead, heavy oils will be mixed with lighter ones to maintain a fairly uniform viscosity.

Total cost of the entire new project will be approximately \$16 million. The new line increases Union Oil's California pipeline system to a total length of 1,425 miles—probably the longest and certainly the finest in this state.

/THE END

First testing of a pipeline is done by filling a sealed section with compressed air. Any loss of pressure starts a quest for leaks.



The responsibility of Company inspectors such as Cal Newton, left, was to see that contractors did their work well.

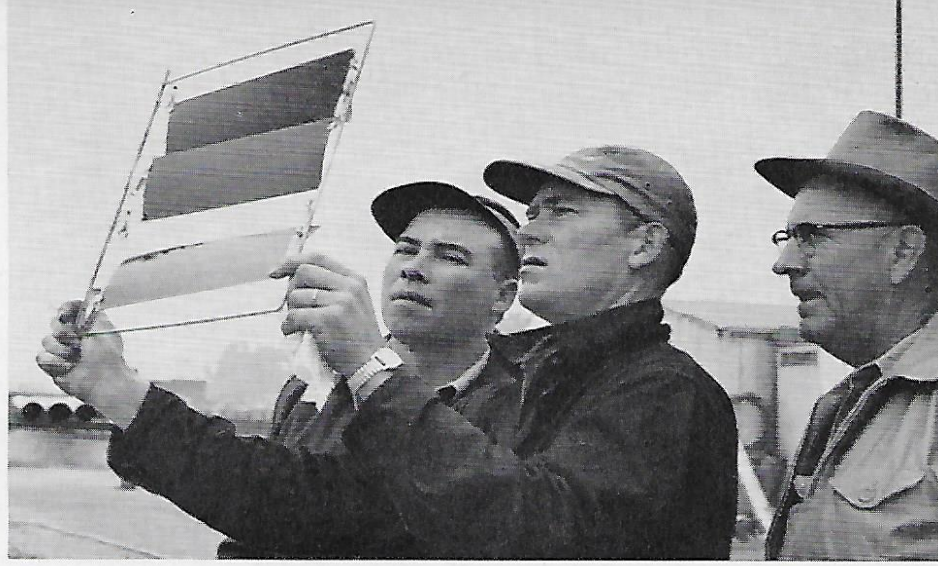


Though most wrapping of the Junction-Oleum line was done in pipe yards, welded joints had to be coated and wrapped at the ditch site. Here hot asphalt and wrap are applied.





Welds also are X-rayed for imperfections. Union Inspectors Corwin Logan, left, and Eddie Hazzlet, right, here check the X-ray man's pictures.



Pipeliner seldom have lunch in the same place twice. They are here today, gone tomorrow—leaving one of civilization's most valuable facilities in their wake.

The "idiot stick" (slang for shovel) has been replaced by this "yo-yo" as a means of back-filling the ditch. Soon, hardly a scar will mark the crude oil artery to Oleum.







# FLEEING

A sample survey recently conducted in the University of Cambridge revealed a remarkable and disturbing state of affairs. Of the students questioned, 38 per cent said either that they were seriously thinking of emigrating as soon as they had completed their course, or else had already firmly decided to do so. Among the women students the proportion was very much higher.

These figures must be taken very much more seriously than the figures for a survey among the mass of the population, which showed that much the same percentage would like to emigrate "if they could." This can be taken as no more than an expression of vague dissatisfaction. The great majority of those who said they would like to leave knew very well that there was not the faintest chance of the opportunity coming their way, and more than likely they would turn it down if it did come. When they said they would like to leave "if they could," they meant if some benevolent authority did everything for them, including paying their fares and settling them comfortably and securely on the other side. This is not the stuff from which pioneers are made.

But the response of the Cambridge students was something quite different. These young people are among the most intelligent, the most highly educated and the most enterprising in the land. They are perfectly willing to make their own arrangements and take their own risks, and they are under no illusions about life in a strange land. Many of them on the scientific and engineering side have worked in Canada during their long vacations and they are familiar with the disadvantages and possible hardships that emigration might entail. Nevertheless they will go, and go on an informed and realistic decision. (It may interest Americans to know that most of them believe Canada offers better opportunity than the U.S.A.)

The position is serious. Britain is spending large sums on providing the best education for the best brains, and the service of the best brains is urgently and increasingly needed at home. There is a great deal of anxious talk about Britain's lagging behind Russia and the U.S.A. in technical education, and ambitious plans are being put into effect to increase the supply of highly trained scientists and technicians. However, it will be of small advantage to Britain if nearly half of those trained at the public expense immediately take themselves somewhere else and add to the prosperity and progress of some other country.

These young people are different from the mass of the discontented, not only in the fact that they know clearly what emigration means, but also in the fact that they know clearly why they want to emigrate. They are flying from the Welfare State.

They are flying because they feel sure that the Welfare State is here in Britain for good. There might be 30 prosperous constituencies in Britain where a Conservative candidate who declared himself boldly against the Welfare State could still secure election to Parliament, but in every other constituency his opposition would be the equivalent of political suicide. That is why the young people have "voted with their feet," as Lenin put it.

They have strong practical objections to the Welfare State, which is, of course, financed out of crushing taxation. They know from the experience of their fathers that the weight of tax comes most heavily on people like themselves. For example, the level of income at which surtax begins to be paid is the same as it was when the pound was worth three times what it is worth today. As soon as any man begins to make a real advance in his profession, the tax collector steps in to skim off his earnings. At the same time, millions of man-



# THE WELFARE STATE



ual workers have been progressively exempted from paying any income tax at all.

The cost of education is a special grievance. Most students in Britain now go to universities on grants made by the State or a local authority on the basis either of high performance at school or of success in a competitive examination for the number of scholarships available. But there is a means test. If a boy wins a State scholarship worth, say 300 pounds a year, he will get no more than 30 pounds if his father's income exceeds a certain level.

By contrast, the mass of voters regard a means test on Council housing as an outrage against themselves. There is now a large population living in houses built by the local Councils and subsidized both from local rates and from taxes. When a Council decides to pay the subsidy only to those tenants who have a low income, there is an immediate and angry outcry.

The leading Socialist spokesman in Parliament has openly said that subsidies should be paid to all house tenants, whether they are in need or not. If this is the philosophy that the Labour Party expounds, it is scarcely surprising that one Council tenant refuses to seek accommodation at an economic rent, even though he can afford to run his own aeroplane.

The system of taxation, rebates and subsidies works against the educated and enterprising middle class. Worse still, it is meant to work that way. Although the job of every man in Britain is becoming increasingly dependent on the skill, the training and the willingness to accept responsibility of the vital elite, they receive no sympathy at all from those whose own skill is primitive, if they have any skill at all. One informed journalist who wrote about the difficulties of the educated middle class was startled to get a flood of letters

from manual workers. Some of these men expressed themselves as completely indifferent to the woes of the middle class, while many more expressed great pleasure that these superior people with their high and mighty airs were having a hard time.

In the heyday of Victoria's reign, the man who forged ahead and made a great name and perhaps a great fortune for himself was admired and regarded as one who had made a great personal contribution to the strength and prosperity of all. Today he is regarded with envy and resentment, and it is widely accepted that he has become wealthy only by exploiting the toiling masses.

Much more than the monetary penalties of our fiscal system, it is this envy, this assertion of the superiority of the mediocre, which is driving young people of talent and vigour abroad. They want to go to a country where they can forge ahead without provoking sulky hostility. They want to feel that a life's work of exceptional quality and usefulness will not be held against them. They want to escape from a socially stifling atmosphere, to get away from a country where no exceptional talent is gladly recognized, except the talent of comedians and crooners, boxers and football players. If the draining away of our best brains and training continues to increase, then the mass of the British people will be brought in the end to recognize that while they cannot do without the direction and the services of the elite, the elite can do very well without them. The elite can always move out to some country where envy is not self-righteously disguised as egalitarianism or democracy, or some other scant word which makes a vice a virtue.

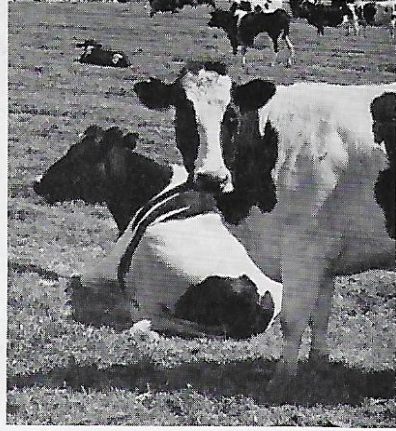
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Reprinted through courtesy of HUMAN EVENTS



A 125,000—

Cows



Tale

by BOB HAGEN



Joanne knows the milkman, Bill, by name—where he lives—even where he keeps his cows.





A typical Artesia dairy farm includes the immaculate store-front barn, left, facing a semi-circular concrete drive; a spacious lawn with well-tended shrubs and flowers; and a suburban residence that is well above city average.

We seldom see the Arden milkman when he comes. We drink the milk and pay the bill—that's about all. But our younger daughter makes up for her parents' oversight. She knows him by name, Bill—where he lives—even where he keeps his cows. Their friendship—a daily half-moment conversation at the door—has solved at least one problem in raising children. Joanne doesn't have to be coaxed to drink her milk—especially if it's Arden.

Just a couple of Saturdays ago, my wife and I were debating where to enjoy the day's bright sunshine. I was partial to either our backyard or Pasadena's nearby mountains. She preferred the ocean. During negotiations Joanne suggested, "Mommy, let's go to Artesia and see the milkman's cows." So we compromised—toward the ocean by way of Artesia. We didn't reach the ocean. For Artesia is unique among dairying communities; its methods are undoubtedly the world's most efficient and most modern.

In the state of California there are 927,000 milk cows. Nearly a quarter-million of this number are residents of Southern California. Of the quarter-million, more than half are kept and milked in Artesia, practically in the heart of densely-populated Los Angeles County. Dairying is second only to oil as California's leading industry, and Los Angeles is the nation's leading county in milk production.

Being an ex-resident of Wisconsin, the nation's foremost dairying state, I questioned these California statistics. But an afternoon spent in the Los Angeles milkshed was convincing proof.

A typical Artesia dairy farm is from 10 to 20 acres in size—fenced into rectangular corrals—and flanked by a series of stilted roofs over stacks of baled hay. An immaculate cow barn with store-front faces a semi-circular concrete drive connecting with the public highway. Next to the barn is a spacious lawn with well-tended shrubs and flowers. The residence gracing this suburban setting is well above city average—spotlessly maintained—and in many instances worth \$25,000 or more. We picked a cow barn bearing a "Producer for Arden Farms Co." sign, and wondered whether the owner would welcome visitors.

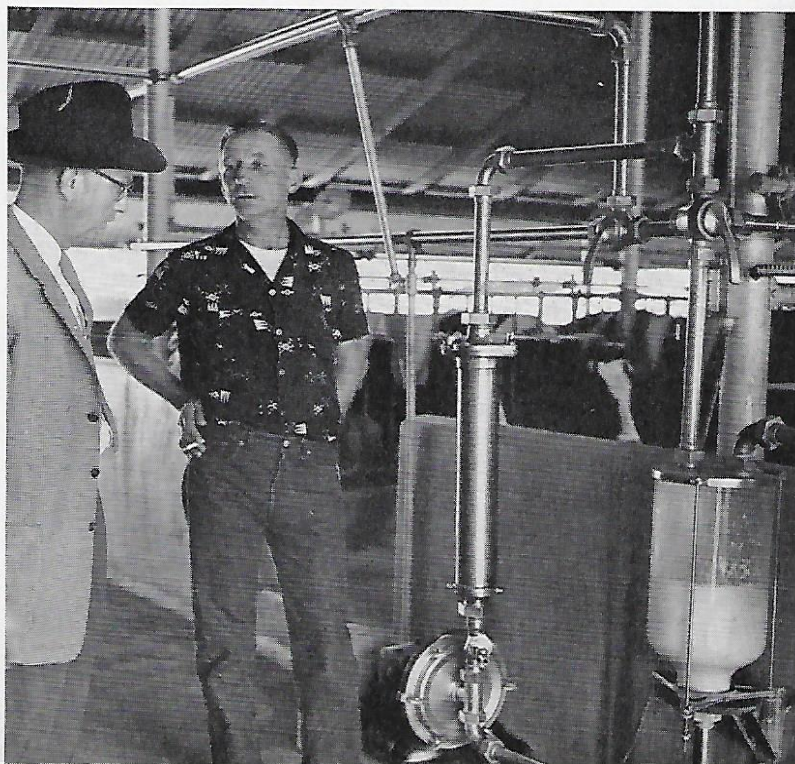
It turned out to be a lucky selection. Two men were conversing in the barn as I entered. One introduced himself as George Morton, a field man for Arden Farms. The other,

Leonard Zylstra, was owner of the farm. Despite a "no visitors" sign, Mr. Zylstra announced it was close to the 2 p.m. milking time and we were welcome to see how the chore is done. While the cows were being brought into the barn, 80 at a time, Mr. Morton answered the dozens of questions arising in my mind. To the first one, regarding the preponderance of Dutch names in Artesia, he answered:

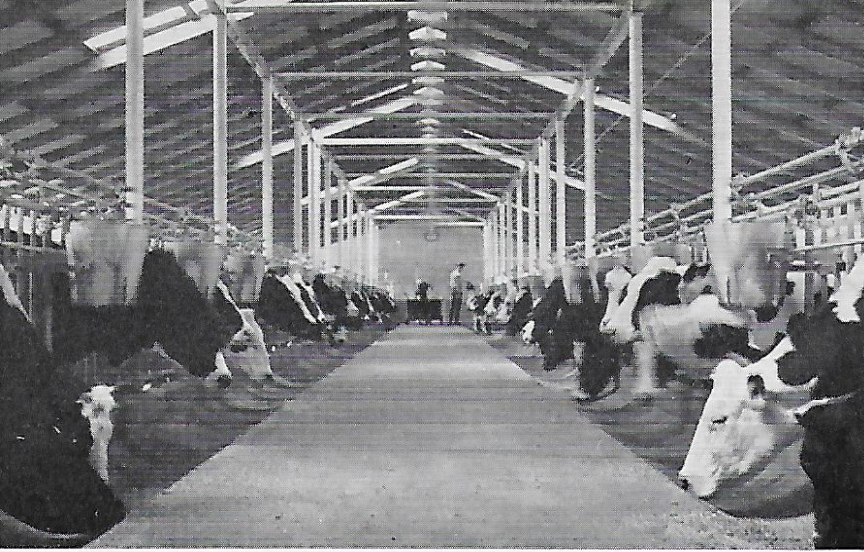
"During the rapid population influx of the 1920's, there was a serious milk shortage in Los Angeles. In response to appeals for experienced dairymen, quite a large number of Holland Dutch farmers migrated to California. They came here as wage-earning dairyhands, saved their earnings, and in time started their own dairies. Through hard work, excellent management and dairying skills of many kinds, most have become highly prosperous American citizens.

continued

Two men—George Morton, left, of Arden Farms and Leonard Zylstra, owner of the farm—were conversing as I entered.







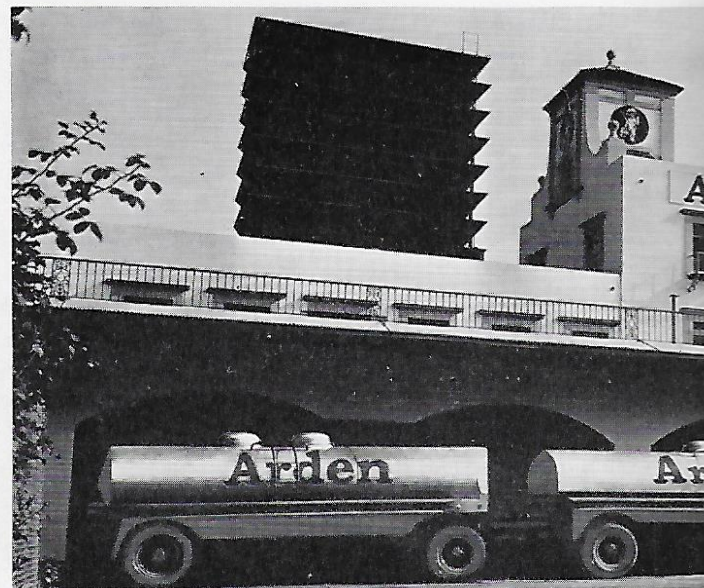
Eighty Holsteins at a time occupy the Zylstra barn; containers by each stall hold a special feed mixture; stainless steel piping takes milk directly to coolers.



Mr. Zylstra's son wisecracked that it takes plenty of "pull" to make a success of the milk business.



Hay for the 10-to-20 acre city farms is brought long distances from San Joaquin and other California valleys.



"However, Artesia is not a Dutch monopoly. There are many successful Danes, Swiss and Portugese here. And one of the community's most prosperous members is a colored man who makes his living buying stale bread from the bakeries and selling it to the dairymen as cow feed. The secret of success in Artesia is not nationality, but good management and hard work.

"No, the dairy business is not a cinch. You have to know everything about milk cows—how to choose good producers, how to feed and care for them, and when to replace them with better producers. You've got to be a sanitation expert, a shrewd buyer, and a pretty sharp financier. The difference between profit and loss can sometimes be figured in what the producer pays for a year's hay. It's not an easy business. Besides, those cows have to be milked starting at two o'clock in the morning and two in the afternoon—twice a day, every day, including Christmas and the Fourth of July.

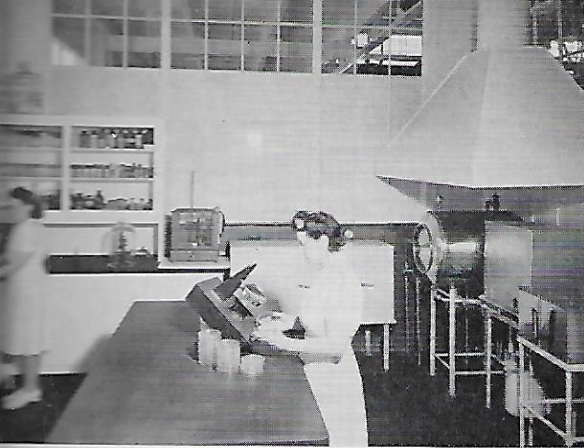
"Most of the cows you see here are of Holland origin

also—Holsteins. They were first imported to the United States in 1857 and, because of their higher milk yield, have become the dominant dairy breed.

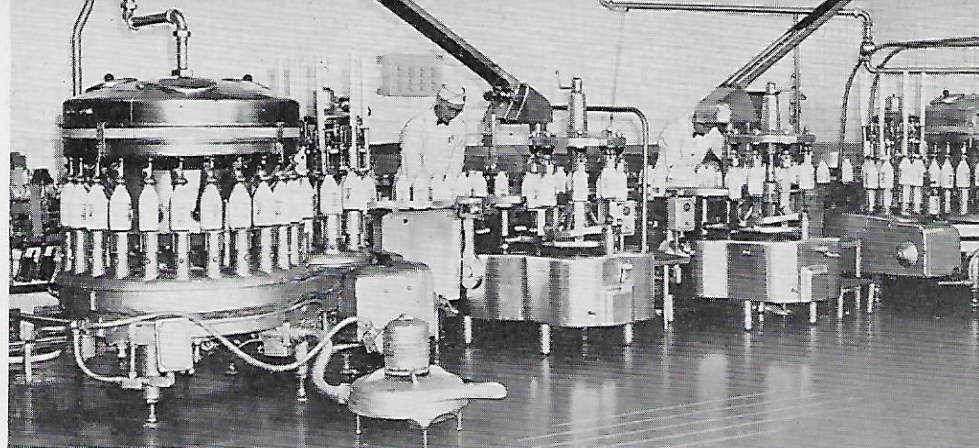
"The amount of milk a cow will produce, however, is influenced by other factors—careful selection within the breed, scientific care and feeding, and so forth. The average U. S. cow produces 1.8 gallons per day. In Los Angeles County this average jumps to 3.3 gallons per day. But Mr. Zylstra here, who keeps only top-notch producers on hand, realizes close to 5 gallons per day per animal. If a cow falls much below this average, he sells her. In fact, there is a complete turnover of cows in the Los Angeles milkshed about every two years."

Our attention was turned now to the milking chore. Two men—one the son of Mr. Zylstra—had given the cows an undercarriage wash and measured a special mixture of feed into containers attached to each stall. The feed—a blend of grains, pulp, cottonseed meal, copra, molasses, etc.—is not

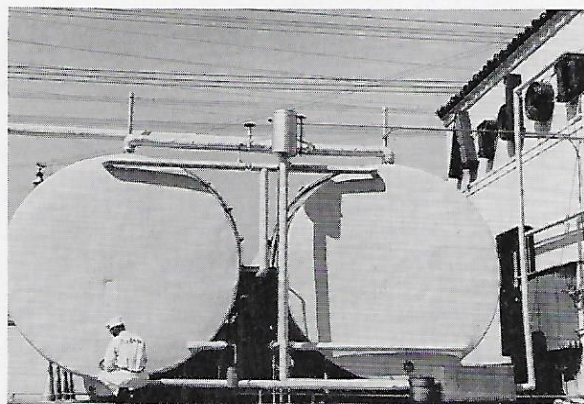




Diligent laboratory watch over milk from cow to consumer assures Los Angeles the world's most wholesome dairy products—over 100 varieties.



Arden's main bottling plant in Los Angeles is believed to be the largest of its kind anywhere. Its clean, highly-mechanized facilities process the daily volume of an oil refinery.



Molten petroleum wax is stored in these two tanks for use in coating some of the dairy's paper containers. Wax consumption is 4,200 gallons a week.

Even the petroleum industry's tank truck has been adapted to the big job of moving milk from farm to processing plant. The two major industries have much in common.



Rapid distribution of dairy products to stores, homes, etc., is handled by hundreds of trucks.

only a source of good milk but bribes the cow to cooperate in the milking process. While contentedly eating this dessert, she better responds to the milking machine. Two men, each operating a pair of milking machines, are able to account for 500 gallons each milking from the Zylstra farms 200 cows. Working four hours on and eight hours off, round the clock, they far surpass the hand-milking accomplishments of yesterday.

Unlike any dairy operation we had ever seen, this one guarded against every source of contamination. Milk flowed from the milking machines through stainless steel tubing directly into a stainless steel 1,500-gallon tank, where it was cooled to a temperature of about 40 degrees. Immediately following the 2 a.m. milking, the Zylstra farm's daily yield of around 1,000 gallons is pumped into a 2,500-gallon milk transport and speeded to an Arden plant. Rapid pasteurization, packaging and delivery place it on Los Angeles doorsteps invariably within a few hours. Thus, residents of one

of America's largest cities enjoy the best, cleanest and freshest dairy products developed during the history of mankind.

Incidentally, cow's milk is one of mankind's oldest known foods. It is mentioned in Sanskrit writings of 6,000 years ago—frequently in the Bible. Columbus brought milk cows to the West Indies on his second voyage. Cows came to the U. S. in 1611 with the settlers of Jamestown Colony. Americans are among the world's largest milk consumers, and the average Californian consumes about 50 gallons of dairy products a year.

These few facts about a great American industry were gleaned through George Morton and Leonard Zylstra, right in the middle of Los Angeles County and a Saturday afternoon. We were amazed, not only to find 125,000 Holsteins thriving in the city's milkshed, but to discover the cleanliness and efficiency that rule modern dairying. And of course we now better appreciate Joanne's high regard for the milkman!

/THE END



departmental reports  
bring you...

## **BUSINESS HIGHLIGHTS OF THE MONTH**

- Shale plant on shakedown run
- Microwave system inaugurated
- Waterflooding expansion in Orange County
- Our "town lot" exploration program
- "On Tour" is off tour

### **OFF TOUR**

"On Tour" since 1938 and "The Minute Man" since 1946 have chronicled a host of changes within Union Oil—most of them changes linked with progress.

Now the magazines themselves are subjects of change. Following the current May issues, both will cease to be published under those titles. Taking their places, starting in June, will be a new Company magazine entitled "Seventy-Six"!

We rather hate to see the old *Mags* go. Yet, "Seventy-Six" offers a bright opportunity to build a community of interest and understanding among all the people who represent and are Union Oil Company.

Please give the new magazine your studious appraisal. Write us regarding any likes, dislikes, commissions or omissions. Your interests are our staff of life.

*The Editors*

### **EXPLORATION**

Rising demands for oil and gas production on the Pacific Coast during recent months have resulted in the rapid expansion in exploration and leasing of many residential "town lot" areas in Southern California. These geologic prospects, in close proximity to existing pipelines and refining facilities, have for many years been by-passed by the industry, due to the difficulty and cost involved in acquiring leases and solving numerous other problems common to congested areas. However, the know-how gained by Union in our Sansinena, Los Angeles Basin, operations, plus the application of modern business techniques to leasing activity, have made such operations economically feasible.

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*Excerpt from Ed C. Loyd's Los Angeles Examiner column of April 3, 1957:*

#### **Union Leasing Kern Oil City Urban Property**

"There is nothing new in the leasing of prospective oil lands in Los Angeles and the actual drilling of wells within the city limits, but such related operations have come to Bakersfield for the first time.

"Developments in the Kern County oil city's residential district were set in motion by Union Oil Company on more than 2500 acres south of Bakersfield and involving thousands of land owners.

"Union is an old hand at city drilling and, in conformity with its work in this category elsewhere in California, any wells eventually put down will be from remote locations and offer no blemish to residential districts.

"Union's success along this line is graphically attested to what has been done in the La Habra Area, where the company has drilled in excess of 140 wells. If anything, these operations together with landscaping and other improvements have beautified the terrain."

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During the past 15 months, Union's Land Department has acquired more than 8,200 subsurface "town lot" oil and gas leases, containing approximately 2,900 acres, within the communities of Whittier, La Habra, Southeast Santa Fe Springs and Hollywood. We are engaged presently in a leasing program in the Pico-Adams area of Los Angeles, and have already acquired more than 3,500 subsurface oil and gas leases, involving the signatures of approximately 7,000 individual property owners.

*from Sam Grinsfelder*

### **INDUSTRIAL RELATIONS**

A mutual-help training program, aimed toward developing better management methods, has been appraised by the the Northwest Territory supervisors who started it last October. Beginning with a series of conferences among



department heads and their assistants, the program defined some of the thorniest parts of a supervisor's job. The application of methods developed in these conferences brought first reports ranging from "No noticeable change, yet," and "Organization has always been good," to "Other people are commenting on the improvements in our department." Using a self-rating system, the supervisors now report definite improvement in management skills, better team spirit, and a general improvement in the amount and quality of work being done.

*from W. C. Stevenson*

## PRODUCTION

Union Oil Company is currently completing the development of a program to expand waterflooding operations in the Richfield oil field of Orange County, California, to include the entire Upper Chapman Zone underlying our Chapman lease. This expansion is the result of successful pilot waterflooding conducted on the property since 1948. It was on the Chapman lease that we started the first waterflooding tests in California in 1944.

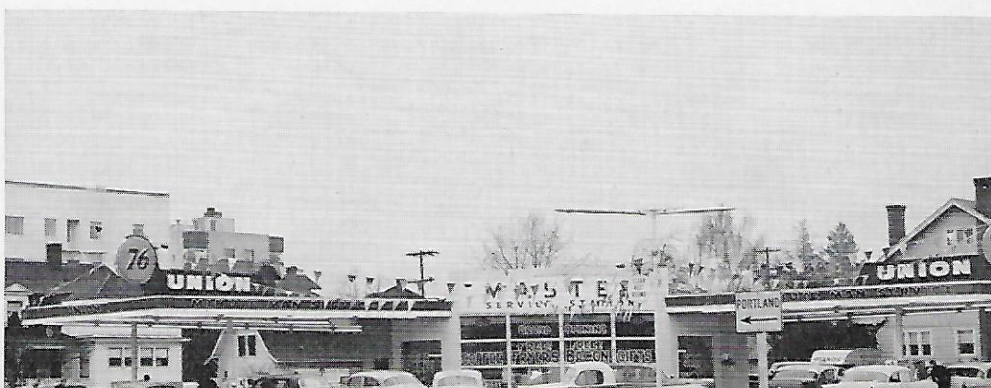
The new project will waterflood about 143 acres, using a novel injection pattern employing four injection wells to force produced salt water into the highest and thickest part of the subsurface reservoir. Crestal injection of about 10,000 barrels of water a day should force the remaining oil down-dip toward the "pinch-out" of the zone, where the porous and permeable oil sand tapers into impermeable shale.

Four additional producing wells have been drilled around the edge of the reservoir to assist existing wells in recovering oil forced into their drainage area by waterflooding. A total of 32 producing wells will be used to provide adequate outlets for the secondary oil production.

*from Dudley Tower*



The opening on February 22-23 of this new service station at Salem, near the state capitol buildings, attracted the congratulations of Oregon's Secretary of State Mark O. Hatfield. The unit pumped 17,359 gallons in two days.



## MARKETING

A new Company-built Type 140 service station has opened for business in downtown Juneau. Among Alaska officials welcoming the *finest* unit in Alaska's southeast were Governor Waino Hendrickson and Juneau Mayor M. L. MacSpadden.

Joseph C. Garvey has been appointed territory manager of Eastern Continental Territory with headquarters in Philadelphia.

Our credit card exchange program with Gulf, British American, Continental and Royalite is proving advantageous to all concerned. During 1956, over a half-million visits to our stations were made by customers of those companies, which almost exactly offset purchases made by Union Oil card holders outside of our marketing areas.

Union Oil Company was the successful bidder for leasing the city-owned fuel dock at new Alamitos Bay Marina, Long Beach, California. Wholesale Distributor G. R. Chrisman will sublease and operate the facilities.

Growth of military aviation in the West is indicated by a 25% increase in fuel demands for the western region. Total jet fuel requirements are now up to two million barrels a month, a volume equal to 15% of the Pacific Coast's gasoline demand.

*from Roy Linden*

## RESEARCH

Construction of the oil shale retort was completed late in February, and on March 7 our shale demonstration plant at Parachute Creek, Colorado, was started on its first shake-down run. Throughput was raised gradually to over 300 tons of oil shale per day, with only minor difficulties being encountered.

Because of increased automobile engine horsepower and the need to determine engine octane requirements at high-speeds, Research is having to install a new chassis dynamometer. Evaluating modern gasolines requires testing of cars at speeds of 70 miles or more per hour, which is neither

Making the first call over the Company's microwave communication system is Manager Howard Robinson. Foreman Ernie Cheatham, left, and Engineer Ed Messinger seem to manifest some of the tenseness that once gripped Alexander Graham Bell.



safe nor legal on available highways. A chassis dynamometer is a laboratory means of determining fuel requirements for cars when they are tested under controlled simulated driving conditions. Power generated from the rear wheels of the car tested is used as electricity or is dissipated as heat to a cooling system.

*from Fred L. Hartley*

## COMPTROLLER'S

The form of your pay check may have taken on a new look recently. If it hasn't, chances are it will before the year is over. The reason for the new appearance is that electronic data processing methods are being applied to the payroll. The processing of time reports and preparation of payroll checks for more than 5,300 of the Union Oil employees are now handled by a newly established Central Payroll Office. It is contemplated that by the end of 1957 substantially all 8,150 employees will be paid from this office.

Centralization of payroll handling—together with the ability to accomplish at electronic speed the computation of gross earnings, benefit plan and tax deductions, and net earnings, by one pass of an employee's basic payroll data through the machines—will result in a substantial reduction of payroll costs. Centralization will facilitate summarization by the Head Office Payroll Division of many reports and records now prepared in various payroll offices on an intermediate reporting basis. This will include record keeping attendant to our various benefit plans, U. S. savings bonds, and the multiplicity of reports required by city, county, state and Federal government agencies.

*from Max Lorimore*

## MANUFACTURING

Oleum Refinery facilities for receiving Junction-Oleum Pipeline deliveries of crude include two 150,000-barrel crude oil tanks, refinery pumps and pipeline, and an oil metering system. A crude topping unit is being provided to remove the diluent from San Joaquin Valley heavy crude. This

General Manager Alfredo Gruel, left, receives from DSM Frank Culling the Southwest Territory trophy won by our Mexicali distributor for excelling in direct sales of motor gasoline.

diluent—a gasoline stock normally moved from Santa Maria Refinery to Oleum Refinery—is used to reduce the viscosity of the heavy crude, thereby speeding its pipeline flow.

As part of the seasonal product storage program, Los Angeles Refinery will construct eight new 150,000-barrel tanks at the corner of Anaheim and Gaffey Streets. Oleum Refinery will build seven new 115,000-barrel tanks near the top of Torrey Hill, immediately east of the new freeway. All tanks will be equipped with floating roofs to reduce the emission of hydrocarbons to the atmosphere.

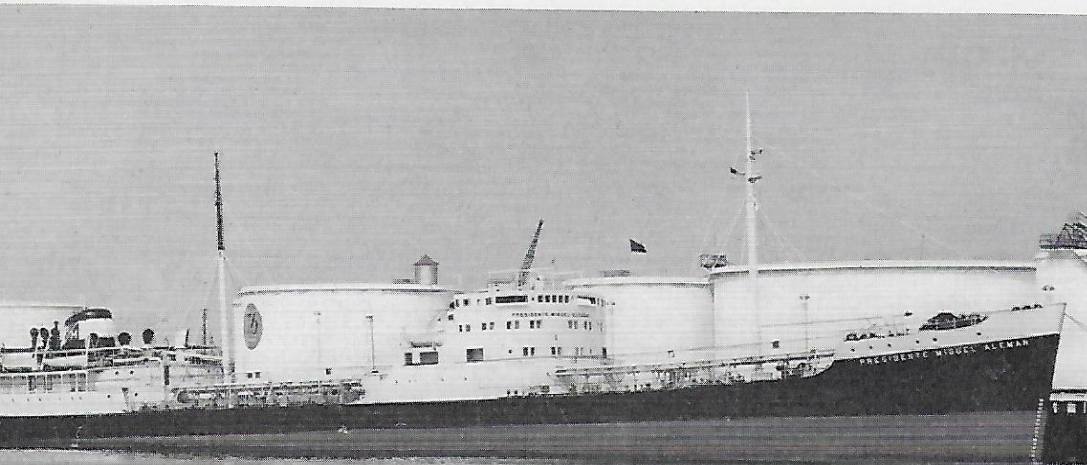
*from J. W. Towler*

## TRANSPORTATION & DISTRIBUTION

Another major link in the Company's communication system has been completed with the installation of equipment to provide voice communication via microwave between the Santa Maria, Bakersfield, Santa Paula and Los Angeles areas. By existing wire line connection from San Luis Obispo to Santa Maria, our San Luis Obispo office also has been tied into this microwave system. The system, which includes telemetering circuits for monitoring of pipeline operations, has growth capacity to provide telemetering and other special circuits for use by various departments of the Company.

Installation of a third pump at our Norwalk pipeline booster station has increased to 53,000 barrels daily the pumping rate to either Torrance Tank Farm or Los Angeles Refinery. Norwalk is operated as a fully automatic unmanned station, wire line circuits being used to provide remote control of operations from Stewart Pump Station, 10 miles away.

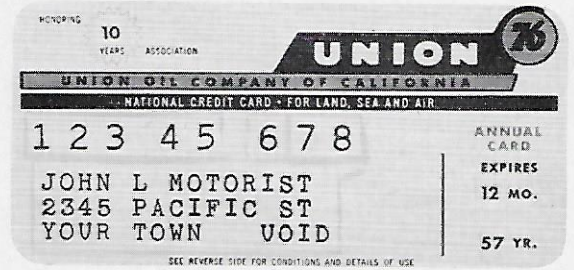
*from E. L. Hiatt*



A frequent visitor at Los Angeles Marine Terminal is Mexico's Presidente Miguel Aleman, sleek tanker used in transporting our refined products to Petroleros Mexicanos' west coast ports.



# New



## PLASTIC CREDIT CARD

First to try out the new plastic credit card and imprinter are, from left, Union Oilers Pat Wehl, Suzy Navarrete and Chuck Acuff.

Only gallonage, price and customer's signature have to be written in. Imprinting data saves time and accounting difficulties.



In the mail during June to more than a million Union Oil credit-card holders are going new, convenient, light-weight plastic credit cards. Colorfully identified with "76" trade symbols, the cards are embossed with customers' names, addresses and account numbers.

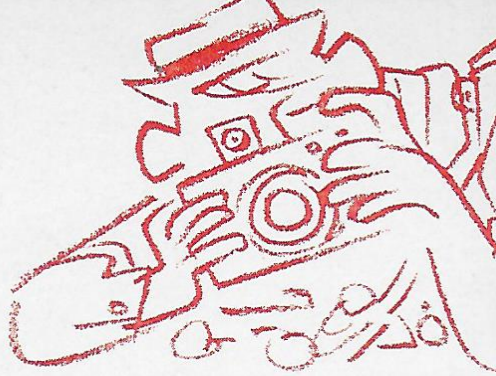
To record a sale, the service station salesman inserts card and credit order in an imprinting machine. A press of the machine's handle prints all essential customer and dealer identification on both copies of the credit order. Only the gallonage, price figures and customer's signature have to be written in.

Besides saving valuable time on the pump island, the imprinting procedure is expected to eliminate a vast amount of accounting difficulty occasioned by incorrect or illegible credit-order entries.

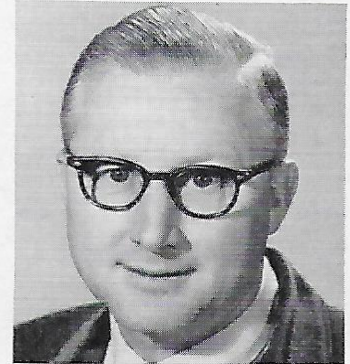
The new annual card will continue to honor a customer's years of association with Union Oil. Or employees may have their years of service shown instead by making request through their payroll office or supervisor.







**RESEARCH REPRESENTATIVES**, from left, M. W. Gould, B. T. Anderson and O. L. Whitfield, display the National Safety Council award presented to their department on March 20 at the Ambassador Hotel. Brea Chemicals and Union Oil's Transportation Department also were honored at the banquet.



**THOMAS H. BUSCH**, maintenance helper at Los Angeles Refinery, is setting a remarkable example to his four sons. Through night classes at Long Beach City College, he is studying for a degree in business administration. He's an officer of the Associated Student Body, and "A's" dominate his report card.

from H. F. Zirnite



**NORTHWEST TERRITORY ACCOUNTANTS**, 70 strong, have extended a parting farewell to Betty McDonald, left, and Freda Bailey. W. I. Martin, R. H. Clark and R. T. Carrington seem to express some doubt that the two, after 57 years of total service, are old enough to retire

from Oliver Leedy



**PRESIDENT LARRY DIPILLA**, left, of Motor-Kool, Inc., Union Oil distributor in Denver, suggested to David G. Zenk that their oil exhibit lacked one attractive touch. So they raided the Denver Auto Show chorus with this result. We don't know her name either!

from Robert F. Burns, Jr.

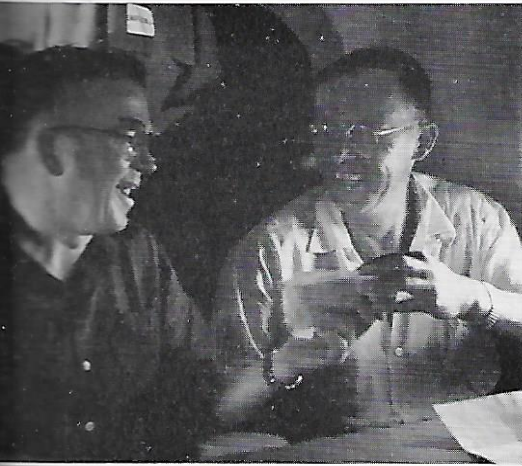


**HERBERT M. HALPREN**, distributor, left, and Mrs. Halpren of Holyoke, Mass. won Eastern Continental Territory's first "Trip to Anywhere" contest. Seeing them off to Europe is Regional Manager Tom Orecchio.



**FRANK B. FISHER**, chief chemist at Will-bridge Terminal, was the featured speaker at a Portland Industrial Chemists' Association meeting in February. He discussed petroleum blending, additives and octane numbers with a most attentive audience.

from R. L. Cairney



**SERVICE RECOGNITION** knows no bounds, if we may judge according to activities of President A. C. Rubel. Above, "Cy" is presenting a 10-year pin to Newell F. Williams as their plane flies over dense jungles in Guatemala. At right, he pays tribute to Clarence W. Froome (seated) during a Newhall retirement dinner attended by 200.



**ELECTED** as members of the Board of Administrators of the Employees' Medical Plan, to fill two-year terms, are Fred M. Anderson, left, and Franklin H. Billington. Each polled over 1700 votes in the Company-wide balloting. They replace J. W. Towler and J. T. Ledbetter.

## SERVICE BIRTHDAY AWARDS

**MAY 1957**

### 35 Years

A. Frank Everett	Ventura Div. Field
Harold A. Hall	Oleum Refinery
Homer W. Hancock	Southern Div. Field
Carl F. Madsen	Los Angeles Refinery
Everett Smith	Oleum Refinery
Claude H. Van Marter	Indus. Relations, H. O.

### 30 Years

Ernest M. Caswell	Oleum Refinery
Frederic H. Kellogg	Central Territory
Paul T. Lowrey	Oleum Refinery
Orin Myers	Northwest Territory
Max M. Nelson	Los Angeles Refinery
John C. Nisbet	Los Angeles Refinery

### 25 Years

Neil Brandenburg	Westway Petroleum
Conrad E. Denton	Direct Sales, N. Y.
William I. Hays	Oleum Refinery
Charles E. Keeler	Central Territory
Arsenio S. Massera	Northern Div. Pipeline
John T. Petersen	Northern Div. Pipeline
Harold J. Upchurch	Northern Div. Pipeline
Frederick W. Vidal	Coast Div. Field

### 20 Years

Anna E. Brown	Southwest Territory
Fred C. Cox	Southwest Territory
Margaret Denzin	Marketing Home Office
David E. Gray, Jr.	Northwest Territory
Donald E. Harden	Northwest Territory
Richard A. Mingst	Comptroller's
Hugh J. Mitchell	Central Territory
Lyle G. Sanderson	Northwest Territory

### 15 Years

Donald G. Andrews	Comptroller's
Henry P. Barba	Northern Div. Pipeline
Robert G. Blackwood	Oleum Refinery
Gertrude B. Carlson	Purchasing, Orcutt
Lawrence B. Dallas	Oleum Refinery
Allen C. Drydahl	Rocky Mountain Div.
Kenneth W. Fort	Research Department
Jack R. Hannaman	Manufacturing, H. O.
Charles A. Madison	Oleum Refinery
John F. Page	Oleum Refinery
William H. Page	Los Angeles Refinery
Andrew A. Ratto	Oleum Refinery
Antonio R. Villalobos	Oleum Refinery
Carl Ray Walden	Oleum Refinery
Michel A. Zuniga	Mfg. Economics, H. O.

### 10 Years

Eleanor A. Ansley	Southern Div. Field
Severin L. Broussard	Gulf Div. Louisiana
James R. Cassingham	Central Territory
John P. Crawford	Oleum Refinery
Edward Edwards	Los Angeles Refinery
Ida E. Harris	Southwest Territory
Donald Henry	Northern Div. Pipeline
Keith W. Holloway	Orcutt Refinery
Delbert G. Horn	Northern Div. Pipeline
Franklin K. Hull	Los Angeles Refinery
Helen G. Kemmerer	Prop. Administration
John C. Lum	Central Territory
James W. Marvin	Northern Div. Pipeline

Continued



## SERVICE BIRTHDAYS Continued

George R. Mosier	Northern Div. Pipeline
Marvin O. Newcom	South. Div. Automotive
Dandy Newcomb	Central Territory
Harold E. Rector	Cut Bank Refinery
Thomas A. Rossbottom	Los Angeles Refinery
Albert W. Schenken	Comptroller's
Ernest H. Shaw	Maltha Refinery
Otis Lee Tobey	Central Territory
Harold R. Vass	Northern Div. Pipeline
Joseph E. Warren	Los Angeles Refinery
Charles B. Woodland	Northern Div. Pipeline
Arthur C. Youman	Northern Div. Pipeline
Leo C. Zarn	Cut Bank Refinery



**TERRITORY MANAGER JOHN W. GRAHAM'S** 30th service anniversary prompted a surprise festival in Panama City. Fairest among the 37 Union Oilers present were, from left, Sara Azala, Tirsa Olceses, Martha Garrido, Mazra Garrido, Mrs. Graham, Jack, Rebecca Wong, Esparanza Mehlman, Kathleen Pretz and Gladys Sanchez.

from Frank L. Hooper



**MISS PHYLLIS LEPON**, honor-roll high school senior of Wilmington, was a recent guest of Los Angeles Refinery as part of the "Girl's Day in Business" program. Escorted by Kyle Piercy, left, and Ben Blossom, right, of the Wilmington Chamber of Commerce, she ponders a chemical engineer's career as described by Refinery Manager Walter T. Jameson.

from H. F. Zirnite

## IN MEMORIAM

### EMPLOYEES

Ralph W. Henderlong, Central Terr.	February 25, 1957
Marlene Stafford, Comptrollers	March 28, 1957
Owen Beirne, Northern Division Pipeline	April 6, 1957

### RETIREES

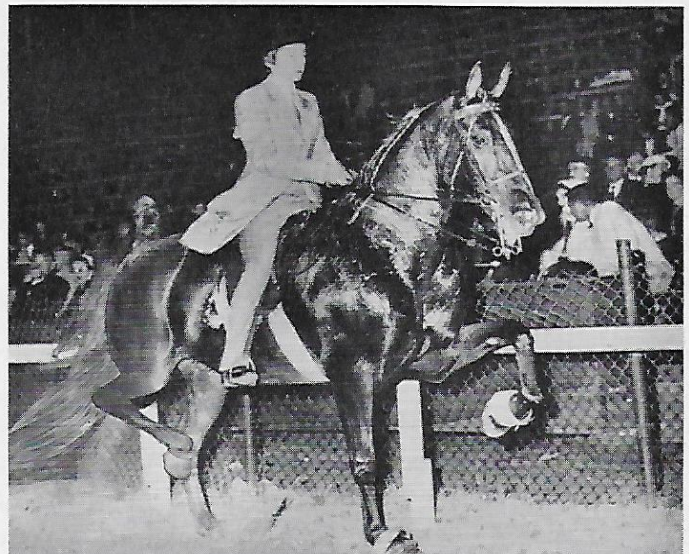
Thomas W. Normoyle, Northwest Terr.	March 8, 1957
John C. Grierson, Treasury Dept.	March 10, 1957
Harry W. Brown, Purchasing Dept.	March 15, 1957
Jesse Hindman Insko, Field Dept.	March 19, 1957
Homer C. Haynes, Nor. Div. Pipeline	March 20, 1957
Alfred M. Abbot, So. Div. Production	March 23, 1957
Frank M. Smith, No. Div. Pipeline	March 28, 1957

## RETIREMENTS

### MAY 1, 1957

### SERVICE DATE

Edward L. Brunot, Field Dept.	October 13, 1933
Clarence B. Caswell, Oleum Refinery	August 16, 1933
Randolph Copeland, Pipeline Dept.	June 11, 1923
Henry P. Fidel, Field Dept.	June 5, 1934
George Hurst, Southwest Territory	October 15, 1928
Roy W. Law, Field Dept.	February 8, 1921
John A. Lundin, Cut Bank Refinery	September 4, 1934
Willie B. Stephens, Field Dept.	November 18, 1921
Eugene Quintel, Oleum Refinery	April 20, 1926



**PATRICIA CADE** of our New Orleans office is "up" on Hi-Fidelity, her five-gaited horse named Reserve Champion in the Louisiana Dixie Jubilee Horseshow of last November.

**WATCH IT GROW**—Superintendents R. C. Nichols of Union Oil, left, and C. Drinkwater of Del E. Webb Construction Co. confer at the site of Union Oil Center's service station. As of mid-April, all steel was in place and aluminum facing was rapidly being installed to enclose Home Office Building.







# Sam Taber

— or why you don't pay more for gasoline

"The oil companies have come up with a lot of advances to meet competition and keep customers.

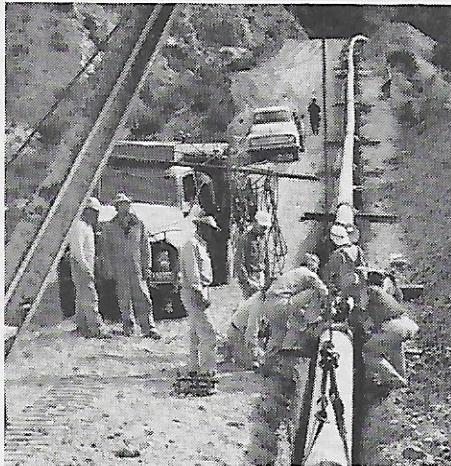
"Nothing, it seems to me, illustrates this better than the efficiency of the transportation system they've developed.



"If you were to mail a gallon of gasoline from Los Angeles to Seattle, for example, you'd pay 82c postage.

"For 59c less, Union Oil finds the oil in the ground, sinks a well and pumps it out, pipes it to a refinery, converts the crude oil into finished gasoline, pipes the gasoline from the refinery to the terminal, moves the gasoline by ship from one port to the other, where a truck picks it up and delivers it to your neighborhood service station.

"We then put it in your car, wash your



"WE TRANSPORT CRUDE OIL 665 MILES FOR ABOUT 1c A GALLON."

windshield, check your oil, tires, battery and radiator, brush out your car and carry your account for a month before sending you a bill.

"All for 23.1c, if you deduct the 9½c Washington tax on a gallon of gasoline which we collect to build roads.

"On the average, a barrel of Union Oil crude moves 665 miles between the time it leaves the ground and goes into your car as gasoline. Our cost for this trip is about 1c a gallon.

"That's the world's biggest transportation bargain. And one reason why gasoline doesn't cost more than it does."

\* \* \* \*

Sam Taber, our Senior Pipeline Engineer, estimates the petroleum companies move more than 4 billion barrels of crude oil and finished product a year by pipeline.

This unique method of moving goods to market was perfected by the oil industry. As was the tank car, the tank truck and the tank ship.

It is the lowest cost transportation system in the world, developed by an intensely competitive industry to keep its prices down.



YOUR COMMENTS ARE INVITED. Write: The Chairman of the Board, Union Oil Co., Union Oil Bldg., Los Angeles 17, Calif.

## Union Oil Company OF CALIFORNIA

MANUFACTURERS OF ROYAL TRITON, THE AMAZING PURPLE MOTOR OIL