

Bill Pretzer in his truck.

## ENERGY for the farmer

SACRAMENTO

**B**ILL PRETZER is a tank truck salesman who calls on farmers in the Sacramento area, and he says he believes there isn't a better job anywhere.

"I'm doing the work I like," he said. "I've been offered other jobs, but I wouldn't take them."

In a typical day Bill will sell 4,000 gallons of Union Oil products—largely gasoline and diesel fuel—by calling on the highly mechanized three- and four-thousand-acre farms northwest of Sacramento. Petroleum power provides about 99 per cent of the energy used on these farms and it is no strange sight on any farm to see five or even ten crawler tractors that may have cost up to \$40,000 each.

By no means the largest account Bill calls on—it was the first of the day—was the 800-acre tomato, safflower and beet farm of Edgar Jang in Broderick, 10 miles northwest of Sacramento. Jang says his crawler tractor, pictured on this page, cost \$36,000 (it would cost \$47,000 today), and he spends another \$35,000 each year to operate it. "It burns 60 gallons of Unifuel every eight hours," Jang said, "but we take 35 tons of tomatoes per acre, so the machine makes us a profit."

Another of Bill's accounts—100 per cent Union Oil—is the 3,500-acre E. R. Boekenoogen spread 15 miles northwest of Sacramento. When their eight tractors are plowing, harrowing, seeding or harvesting, the Boekenoogens use 7,000 gallons of petroleum products a month.

Pretzer credits his success as a tank truck salesman to the fact he is selling a good product and he knows his customers as friends as well as business acquaintances. He attends many of their weddings and christenings, and often stops by for lunch and a chat about the weather, harvests, prices and other farm problems.

Another reason Bill's customers like and rely on him is that he has an uncanny knack of ferreting out trap wagons scattered over a 3,000-acre spread. Central California farmers place these 550-gallon wagons at strategic spots near diesel crawler tractors. Each day the trap wagons are hauled to new plowing or planting areas, which might be miles from yesterday's operations.

"If you can keep their trap wagons filled with a good product, like Unifuel, you've won the battle," Bill says. ☺



This sign is a symbol of Union Oil Company of California. The trademark, 76, also symbolizes the American freedoms won in 1776 that make possible this nation's industrial development and abundance. SEVENTY-SIX magazine mirrors industrial freedom through the thoughts, skills, accomplishments and appreciations of Union Oil people. We invite your participation in an exchange of ideas and information. Address: Editor, Seventy-Six, Union Oil Center, Los Angeles, California 90017

# SEVENTY SIX

UNION OIL COMPANY OF CALIFORNIA

## FRED L. HARTLEY APPOINTED COMPANY CHIEF EXECUTIVE

Fred L. Hartley, president of Union Oil Company, has been named chief executive officer of the company. The appointment, to succeed A. C. Rubel in that position was made at the December 28 board of directors meeting.

Rubel continues as chairman of the board.

Hartley was elected president of the company last August after serving as executive vice president. He joined the company in 1939 as an engineering trainee, and after progressing through a number of executive positions in the refining and research departments was elected vice president for research in 1956. Four years later he was named senior vice president for marketing and in 1962 assumed responsibility for both refining and marketing. His appointment as executive vice president came in November, 1963.

Rubel was president from July, 1956, to April, 1960, and from June, 1962, until last August. He continues as chairman of the board and of the executive committee.

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JANUARY 1965

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# The inside story of

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## SECONDARY RECOVERY

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*Employing modern technology  
to recover crude oil, we:*

- Make a profit for the company
- Increase job security for employees
- Help pay dividends to stockholders
- Strengthen the economic base of our nation



*Secondary recovery builds profits, helps assure jobs. Here is George R. Cheyney, inspecting a South Cowden field well.*

**FIFTY YEARS AGO** the oil fields of North-Central Texas exploded into one of the most spectacular oil booms ever recorded. New discoveries were reported daily; one historian reports the area was "slopping over with oil." At one field, 289 operators were competing for the black gold. The bonanza was short-lived, however.

During World War I, the Ranger field came in with a roar. It peaked at 73,000 barrels a day, then "blew its top," meaning it depleted its underground reservoir energy and began a swift decline. The nearby city of Ranger deflated as quickly as the field. Local banks failed; the city government groaned under a heavy bonded indebtedness, dramatizing for all that healthy industry is fundamental to a community's well being.

The problem at Ranger was a lack of reservoir engineering. But in those days no one knew any more about reservoirs and underground oil formations than they knew about space flight. Gas wells were allowed to flow for weeks in the hope that they might blow into oil producers. Gushers were allowed to spray the countryside with oil, not only to promote oil stock sales, but merely to satisfy curious spectators. At the Desdemona field in North-Central Texas, the Payne gasser spewed millions of cubic feet of natural gas a day—with a roar heard 25 miles away.

Gas venting assured Desdemona's decline, too. Natural gas that provided reservoir energy for the flowing wells was allowed to escape; when the gas was gone the fields stopped flowing. Fifty years ago people regarded this as natural.

Today, for all practical purposes, gushers and flared gas wells are relics of the past, seen only in old museum photographs. We now know that natural gas in an oil reservoir keeps oil fields alive, healthy and producing. The gas acts much like the carbon dioxide that pressurizes your home soda bottle dispenser. Let the gas escape and the soda won't come out; let the gas escape from an oil field, and the crude quits flowing.

Petroleum engineers today carefully maintain production at the most efficient level, assuring the proper ratio of gas pressure to production. If pressure drops, the engineers frown and get to work. The know-how they have developed to restore natural energy in an oil formation is called secondary recovery.

In a secondary recovery project, natural gas may be pumped back into the oil trapped below ground to restore the original formation pressure. More often, water is pumped down to increase declining energy and displace the oil being taken out.

With ordinary recovery techniques, the amount of oil that can be taken from an oil formation may be as low as 10 per cent. By paying careful attention to reservoir energy and gas-oil ratios, engineers often could increase primary oil recovery to 25 per cent or more—even 50 per cent under favorable circumstances.

That still left half to three-fourths of the oil trapped underground. Obviously, if some way could be found to increase the ultimate recovery, this knowledge would be

widely beneficial. Crude oil is an important natural resource. Increasing our recovery of crude oil would be tantamount to conserving other reserves. Keeping old oil fields alive would assure better job security for employees. Increasing production would promote a stronger economic base for nearby communities. It would increase and prolong royalty payments to landowners. If the job could be done profitably, it would be an obvious advantage to oil operators.

The Orcutt field, 190 miles northwest of Los Angeles, provides examples of these benefits. Orcutt was discovered on December 2, 1904, when Old Maud (officially known as Hartnell No. 1) blew in at 12,000 barrels a day. At the time it was the largest oil producer on record.

Thirteen years after Old Maud touched off a California oil boom, Hartley Billington sought work at the Orcutt field, despite a warning that the job might be only temporary.

"The field will be depleted by 1927 or '28—surely by 1930," the superintendent said. (This was only three years after Ranger and Desdemona in Texas.) Billington, ignoring the warning, took the job and worked at Orcutt until

*continued*



**OUR COVER:** The men on our front cover are, top to bottom, Ed Billington of Orcutt, Johnnie Wilson of South Caprock Queen unit, Doug Henley of Dominguez, and George Cheyney of Odessa. The 50-foot high pumper shown here and on the cover is one of three such units required at our Dominguez field waterflood project.

## SECONDARY RECOVERY

*continued*

his retirement in 1948; meanwhile, he reared six children, and saw three of them become Union Oilers.

Good primary recovery engineering kept the Orcutt field alive during Hartley Billington's 31-year career. But when his son, Ed Billington, was transferred to Orcutt ten years ago, the field was declining fast.<sup>(1)</sup> In fact, the decline rate was so certain that engineers predicted Orcutt would be producing only 1,600 barrels a day by 1965.

Today Ed Billington is senior production foreman at Orcutt, and one of the busiest men in the business. Orcutt is producing 5,000 barrels a day and output is increasing rapidly. The field is producing more oil right now than at any time since 1922—when Old Maud was still a major producer—and people are saying the field will be good for another 25 years.

What is responsible for the startling return to life at

<sup>(1)</sup> Lester Billington is mechanical equipment supervisor at Santa Fee Springs, and Franklin (Bink) Billington is field operator at Rosecrans field.

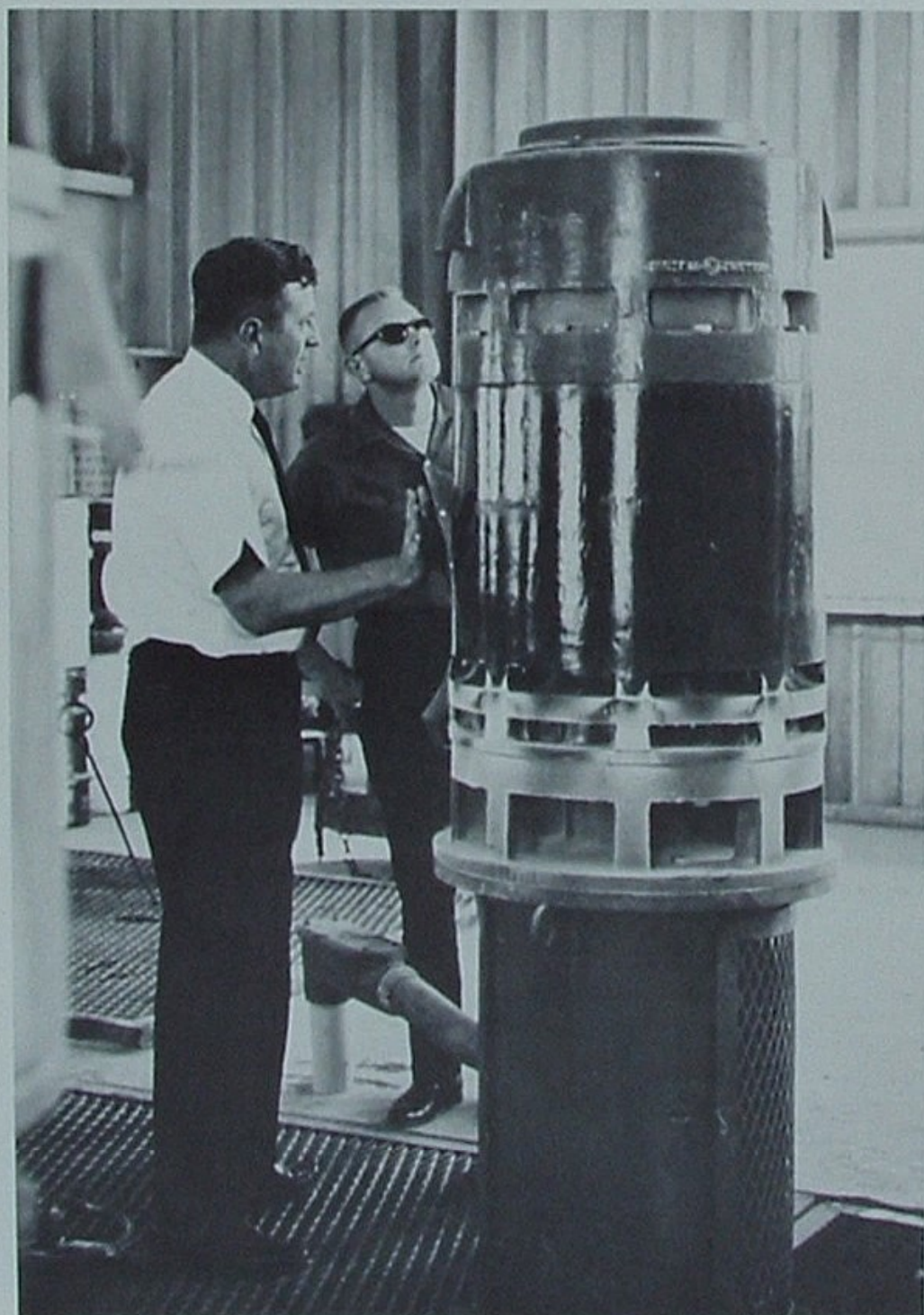
Orcutt? Secondary recovery is the answer.

"Thanks to that waterflood," Ed Billington said, "this field will be producing long after I've retired."

Here is what happened. Fifty of Orcutt's 201 wells were taken off production and converted into water injection wells. Heavy-duty, gas-engine pumps force 52,000 barrels of water a day into the Orcutt oil formation. As the water built up pressure in the formation, the oil was pushed toward the remaining 151 producing wells.

The result was a spectacular increase in crude. Despite the field's 60 years, several wells increased production from 20 barrels of oil a day to 300. The Squires No. 23 well jumped from 30 to 360 barrels a day. Newlove 16 had been producing a marginal three barrels a day, but after waterflood stimulation, it increased to 165. Squires 17, which hadn't produced in years, came in again for 230 barrels a day.

If you visit the Orcutt field now, you will see dozens of new, heavy-duty pumping units, installed to replace older and smaller units that can no longer carry the burden. Men are busy maintaining water injection systems and taking readings on production that didn't exist before.



Big pumps are tipoff of secondary recovery operations. George Coombes and Lon Pardue visit South Caprock Queen unit.

UNION OIL COMPANY'S first venture into secondary recovery took place in 1943 at the Richfield field near Los Angeles; the project was termed successful from the start.

Many of California's producing reservoirs derived their natural producing energy from gas in solution, like the gas bubbles in a soda dispenser. This source generally resulted in early periods of flush production and then a long period of decline. Recovery was generally low and large amounts of oil were left in the reservoir as the natural energy was depleted.

It is this set of conditions — lots of oil in place and low levels of reservoir energy — that give secondary recovery such a bright future in California.

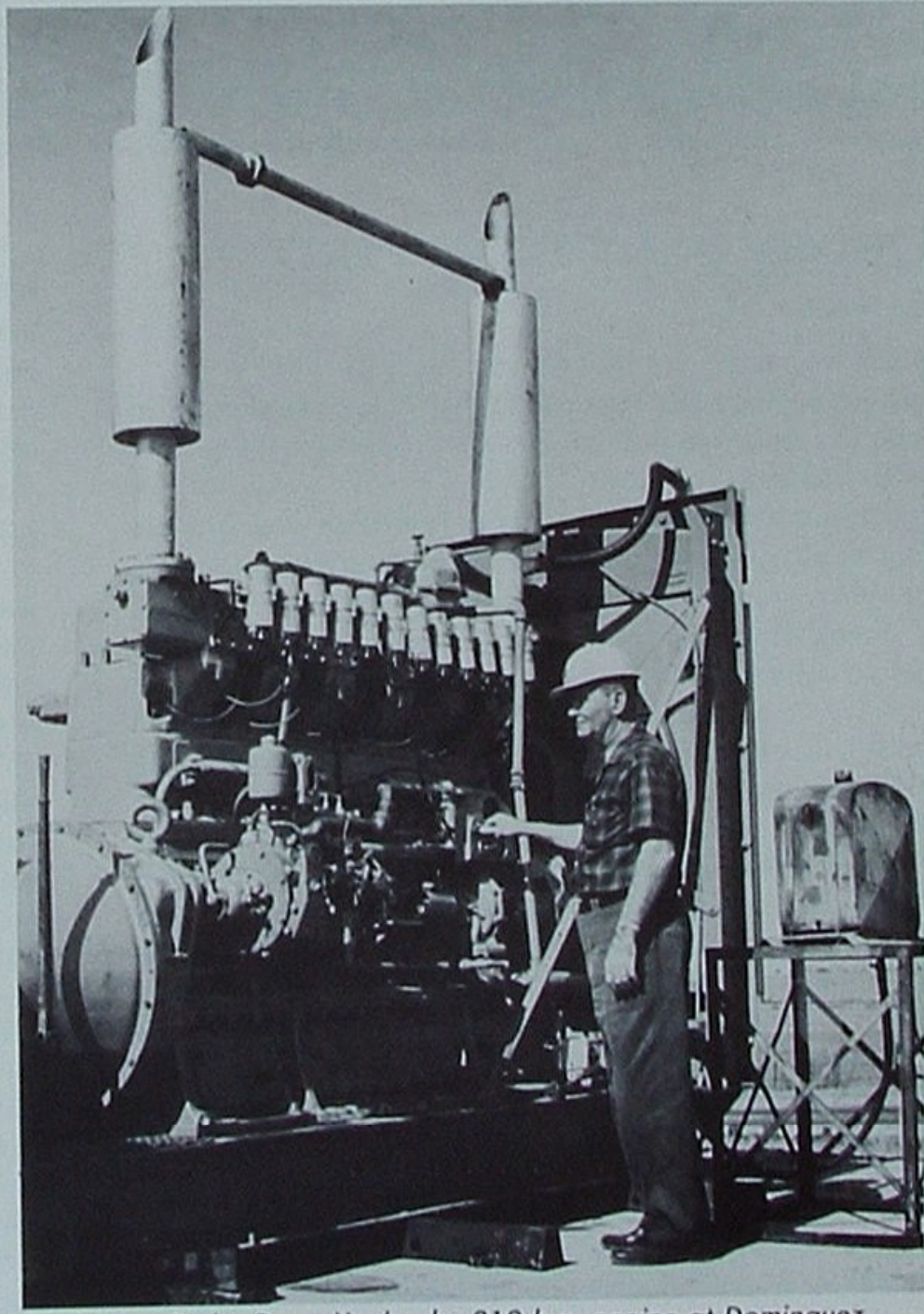
Waterflooding can give engineers their share of headaches, too. The Dominguez field south of Los Angeles was a special challenge. The field has eight separate oil-producing zones, one on top of the other—or more properly, one below the other. After solving a maze of knotty problems, all eight zones of the Dominguez field have been waterflooded.

Senior production foreman Doug Henley explained the operation at Dominguez. To get the oil out of the ground, Henley's men are pumping 40,000 barrels of brine into the field every day. They are lifting 4,000 barrels of oil, along with 15,000 barrels of water. Many zones at Dominguez are deep, meaning that huge pumping units are needed to lift the oil and water to the surface. An example is the 50-foot tall pump pictured in this article, one of three such behemoths at Dominguez. These 20-foot-stroke pumping units each lift 900 barrels of liquid a day from the 7,400-foot level. About 75 per cent of this is brine water which is later re-injected.

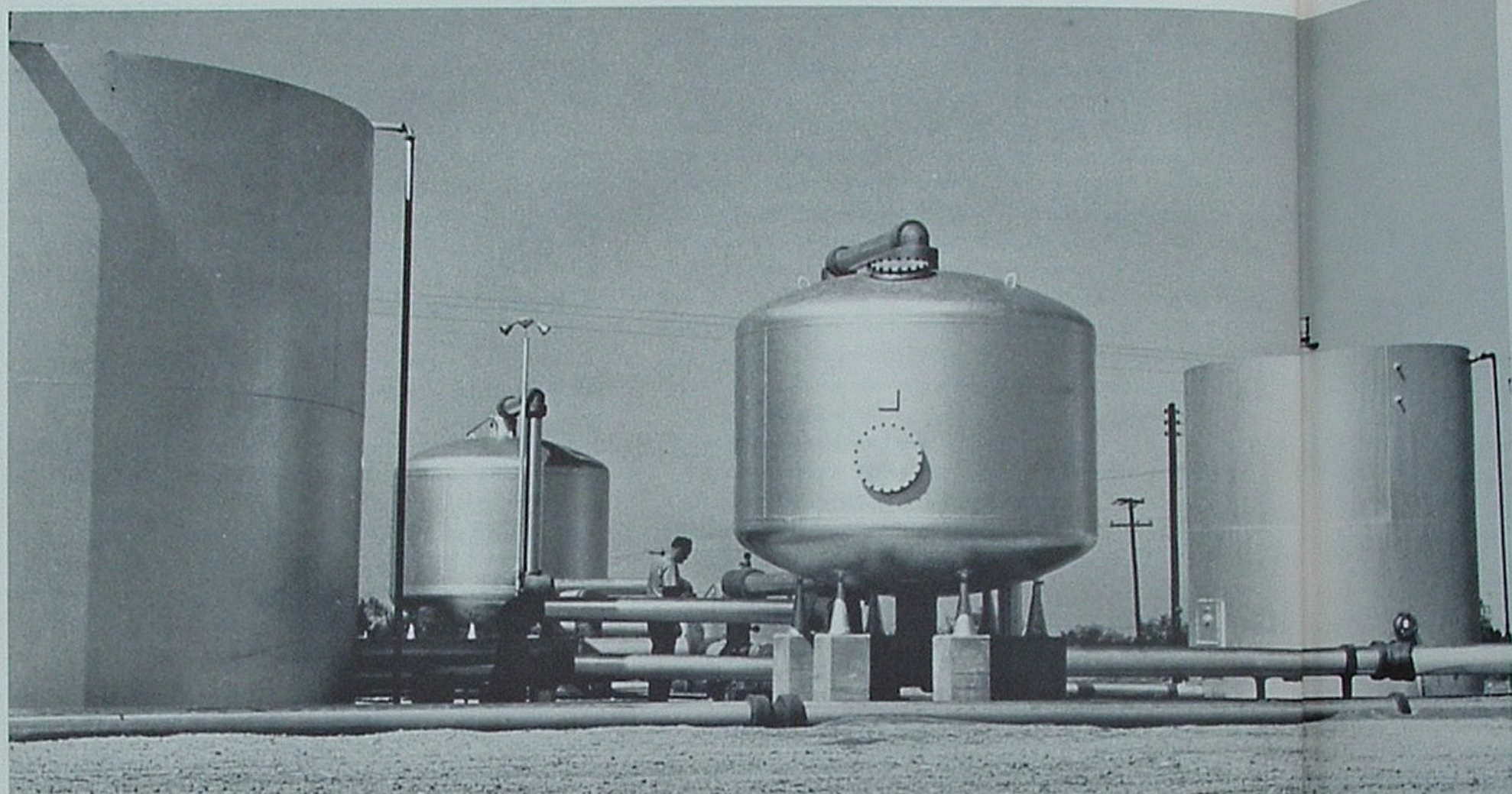
Statistics for a successful secondary recovery project can be impressive. For example, the South Caprock Queen Unit in Chaves County, New Mexico, is one of Union's most successful floods. Johnnie Wilson, assistant production foreman, detailed some of the mechanical apparatus needed to operate this waterflood project.

"We have 16 water-supply wells here," he said. "They supply us with 25,000 barrels of water a day. In addition, we can recover about 15,000 barrels of water a day from

*continued*



Left: Steam is entering picture. Operator is Richard Penny, Guadalupe. Right: Doug Henley by 210 h.p. engine at Dominguez.



Tipoff that secondary recovery is profitable: This is part of a new tank battery at the Moss Unit, a waterflood near Odessa, Texas.

## SECONDARY RECOVERY

*continued*

the producing wells. These 40,000 barrels a day are pumped into the formation through 73 water-injection wells to stimulate reservoir pressure.

"At our lowest ebb in December, 1960, we were producing 650 barrels of oil a day. As a result of the waterflood, we are now recovering 6,600 barrels a day."

Secondary recovery is no get-rich-quick scheme. The initial costs are heavy and seldom can returns be expected for a year or two. But once the investment in time and money has been made, the technology can be made to pay off handsomely. The Moss Unit near Odessa, Texas, is one example.

The Moss Unit is part of the South Cowden field, one of Union Oil's principal holdings in the Central Division. It is situated little more than a stone's throw south of Odessa, county seat of oil-rich Ector County, Texas. (Odessa is 20 miles west of Midland, home of our Central Division headquarters.)

George R. Cheyney, production foreman for the Odessa area, said Union Oil began waterflooding the Moss Unit in 1961. At that time there were 36 wells producing a total of 590 barrels a day. Today, with 89 producing wells, the Moss Unit is recovering 2,550 barrels a day—for an average per-well increase of something like 45 per cent.

"The Moss Unit is in a tight formation," Cheyney said. "Our oil zones are composed of much harder rock than you find in California or Louisiana, so the oil and water move more slowly through the reservoir. Yet at the rate we're going, we expect this field to continue producing for another 40 years."

Because of the new investment in equipment and services, a secondary recovery project can be a shot in the arm to a local economy. This is happening at the Cymric field, west of Bakersfield, California. At Union's 80-acre Wellport lease on the Cymric field, a secondary recovery project has attracted a flood of new workers to the scene to install new equipment.

"We've turned a dying field into a living, growing thing," said Bud Knick, area production superintendent. "Today you can see big pumping units replacing smaller ones. There is a new tank battery, installed recently to handle the increased production. We've even drilled a new well—something we haven't done for years—and are drilling a second."

In recent months, contractors have been bustling around the Cymric field installing pumping units, building tanks, drilling wells and cleaning up old ones. Each of these tasks has resulted in jobs for people in the Cymric area. Together they have also increased our production from 200 to 1,000 barrels a day.

Oil production today, in contrast to the days of Ranger and Desdemona, requires skilled engineering talent, the

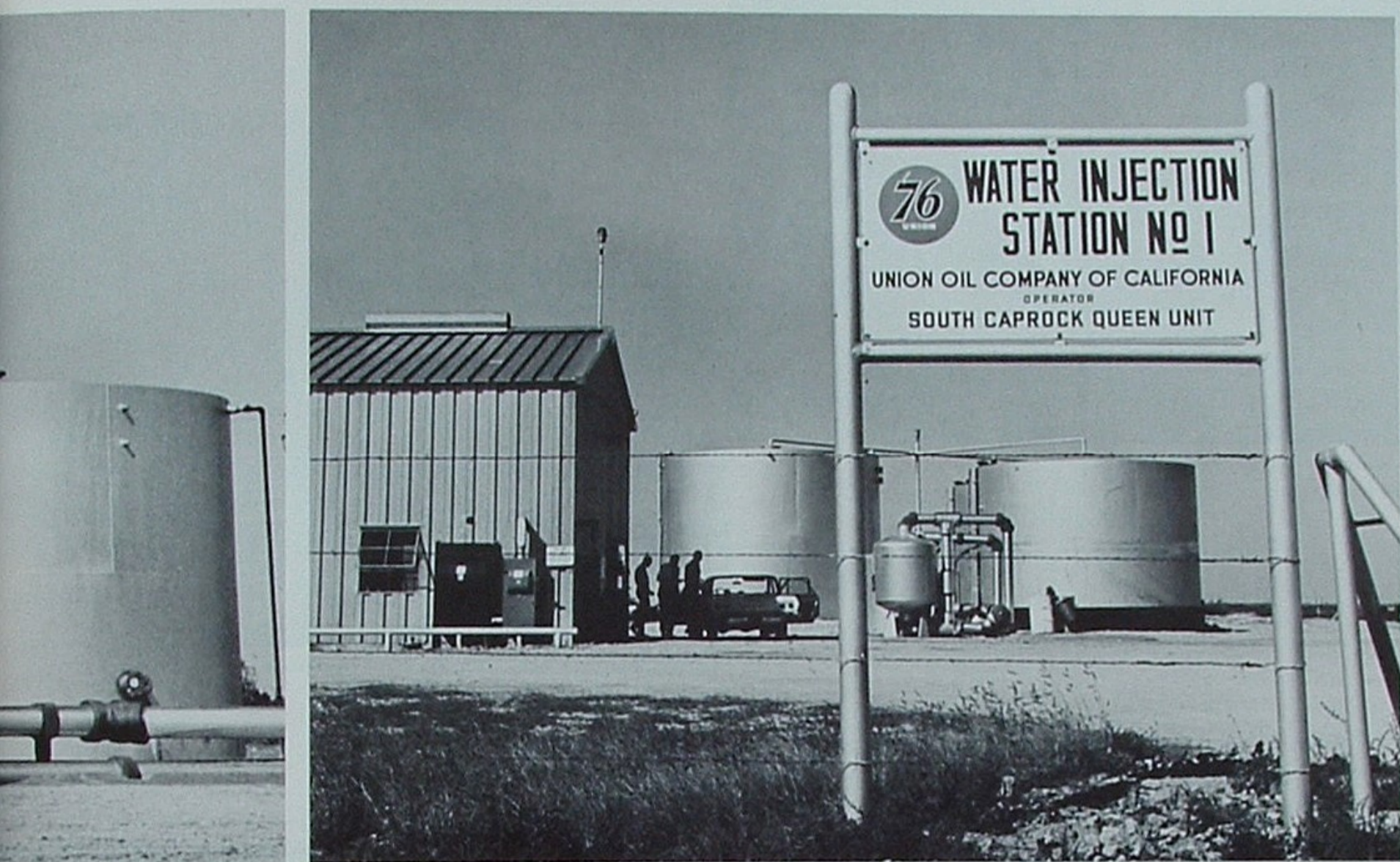
Biggest installation at the

willingness to take risks. For example, a convent Cymric. The oil was to nique, designed for heat Called thermal recovery December 1964), this pr oil wells to melt the heav After a couple of weeks erator was removed, and Thermal recovery—oft and puff method—is still but it is proving itself in field, near Orcutt, the difficult to pump. Since weighs 355 pounds a bar the value is about one-fif "You can't spend very stuff at a profit," said E Casmalia, too. "The steam however."

Before Casmalia was 1 year, the field had decline ing, one well jumped from skyrocketed from 3 to 175 barrels a day.

This is the good side o several wells stopped pro from the steam expanded





Biggest installation at the South Caprock Queen unit is the water-tank battery and pump house. Recovery increased ten-fold.

willingness to take risks, and the persistency to stick with it. For example, a conventional waterflood wouldn't work at Cymric. The oil was too thick and tarry. A newer technique, designed for heavy oil formations, was employed. Called thermal recovery (See SEVENTY-SIX, November-December 1964), this project saw live steam pumped into oil wells to melt the heavy formations of thick, viscous oil. After a couple of weeks of "steam soaking," the steam generator was removed, and the well put to the pump.

Thermal recovery—often called the steam soak or huff and puff method—is still largely an experimental technique, but it is proving itself in the field today. At the Casmalia field, near Orcutt, the crude oil is thick and tarry, very difficult to pump. Since Casmalia's 8° API gravity crude weighs 355 pounds a barrel and sells for 72 cents a barrel, the value is about one-fifth of a cent a pound.

"You can't spend very much money and bring up this stuff at a profit," said Ed Billington, who is foreman at Casmalia, too. "The steaming process is showing promise, however."

Before Casmalia was put to the steam soak earlier this year, the field had declined to marginal levels. After steaming, one well jumped from 2 to 100 barrels a day; another skyrocketed from 3 to 175; a third increased from 4 to 170 barrels a day.

This is the good side of the picture. On the other side, several wells stopped producing entirely. The intense heat from the steam expanded well casings and they collapsed.

Despite the lost wells, however, Casmalia has increased from 450 barrels to something in excess of 1,000 barrels a day.

The steam soak and waterflood have made a striking impact on Union Oil Company's crude oil production. Today 17 out of every 100 barrels of the company's net production come from secondary recovery. Each year the amount grows. From the record depicted below, it's becoming apparent that we soon will be producing 20,000 barrels a day from secondary recovery.

| MONTH AND YEAR | NET BARRELS A DAY |
|----------------|-------------------|
| September 1962 | 11,600            |
| September 1963 | 14,100            |
| September 1964 | 17,500            |

W. D. Owens, Union's director of secondary recovery, summed up the company's program like this, "As of last September, we were producing 123,000 barrels of oil a week from secondary recovery. On an annual basis, we are talking about an extra 6.4 million barrels of oil.

"We have seen a lot of action in secondary recovery in the last year," Owens continued, "and we will see more in the future.

"Secondary recovery is our way of making the most of what we have. This applies to old fields like Orcutt and to new ones like Santa Susanna. In either case, our objective is the same: increased profit through increased recovery."

It's also our assurance that we will never see a repeat of what happened at Ranger and Desdemona 50 years ago.®



*"The Unoco office at 408-9 Takshing House.  
In the foreground is Anna Mae Galinis."*



*"Cathy Martin and I shopping for magazines."*



*"This is"*

*"On weekends, my husband, Ronnie, and I often go swimming at Repulse Bay Beach."*



PHOTOS BY INGER ABRAHAMSEN



"This is Bryan, our son. He's learning to talk now."

"Bananas are cheap and weighed by the ounce."



# Joss Sticks, Dragon Dances and Firecrackers

With apologies  
to NOELLIE MINHINNETT

HONG KONG

AT 408-9 TAKSHING HOUSE in Hong Kong, the Sign of the A76 is as well known and highly regarded as the Minute Man service on your local street corner. This address is the headquarters of Unoco Limited, our overseas subsidiary.

The other day, SEVENTY-SIX magazine wrote to Noellie Minhinnett, secretary to Unoco president F. K. (Kem) Cadwell, asking her to describe her life working in the midst of joss sticks, dragon dances and firecrackers. Mrs. Minhinnett's impassioned reply is worth quoting, for it reveals much of the character and insight of people—fellow employees—living in an area that we tend to regard as remote and exotic.

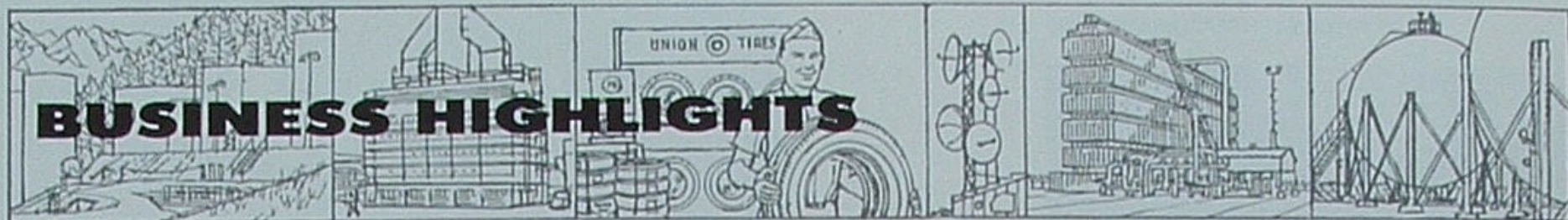
"Hong Kong," Mrs. Minhinnett declared, "is not a remote corner of the old Eastern world. It is one of the most modern cities on earth, with up-to-date facilities that will match any highly industrialized city anywhere. We do have our unique enterprises that are monuments to the ancient Chinese civilization, but right next door to these may stand super-modern, luxurious skyscrapers equipped with the latest installations that the machinery world can provide.

"What infuriates me," Mrs. Minhinnett goes on to say, "is the picture you describe of joss sticks, dragon dances and firecrackers. Yes, we do have them. But far too many persons believe we are half-witted, struggling morons in this 'backward' part of the world. I can assure you that we rank ourselves along with the top-flight employees of any top-flight organization anywhere.

"I hope I haven't given you the impression that we are all be-spectacled, straight-backed statues of efficiency, because Mr. Cadwell can tell you we have our dumb moments, but not any more than people any place else."

So intriguing was Mrs. Minhinnett's fiery reply that we assigned photographer Inger Abrahamsen to record a day in the life of Noellie Minhinnett. Here are the pictures, as captioned by Noellie herself.

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### SNOW, RAIN STORMS DEVASTATE OREGON, NORTH CALIFORNIA

The year 1964 roared out as one of the worst years on record. Early in the year a huge earthquake shook Alaska causing millions in damage and destroying homes and Union Oil equipment and terminals. Later in the year Hurricane Hilda smashed into the shores of Louisiana, also wreaking mass destruction to personal and industrial property.

As we go to press, one of the worst series of snow and rain storms in Pacific Northwest history was just abating. Early reports indicate five marketing stations and seven retail outlets in Oregon were either under water or isolated by floods.

In Northern California, damage to company facilities was less extensive than to the area in general. Union Oilers, working under virtually hopeless conditions, delivered gasoline and heating oil to regular customers and to others where regular suppliers were unable to do so. Full details won't be available until a full assessment of damages can be made.

### CALIFORNIA OIL PICTURE TAKES TURN FOR THE BETTER

A year ago, this column predicted that the year 1964 would see a reversal in the downtrend of our California crude oil production which had been lagging for several years.

It's interesting to review these predictions. Although final figures for 1964 weren't available at the time of this writing, the picture is clear. When the prediction was made, our daily net production in California was approximately 58,500 barrels a day; today it is at 64,000 barrels a day and still pointing up.

A number of factors have contributed to this situation. Among these are increased secondary oil production from water flood and thermal recovery operations (see page 2), an aggressive program of production stimulation and well repairs,



Repairing a well

and several successful development drilling programs.

A typical example of the latter is our Block 14 lease, offshore from Huntington Beach, California, south

of Los Angeles. Our first extension well in this field was drilled late in 1963, and Platform Eva was completed in March of this year (SEVENTY-SIX, July-August, 1964).

Since that time a continuous drilling program has been in effect, and late in December there were 11 wells producing 4,100 barrels a day. Development of this 2,100-acre, 100-per cent-owned tract, is scheduled to continue throughout the year.

### MILLION BARRELS OF BUNKER OIL AT L.A. TERMINAL

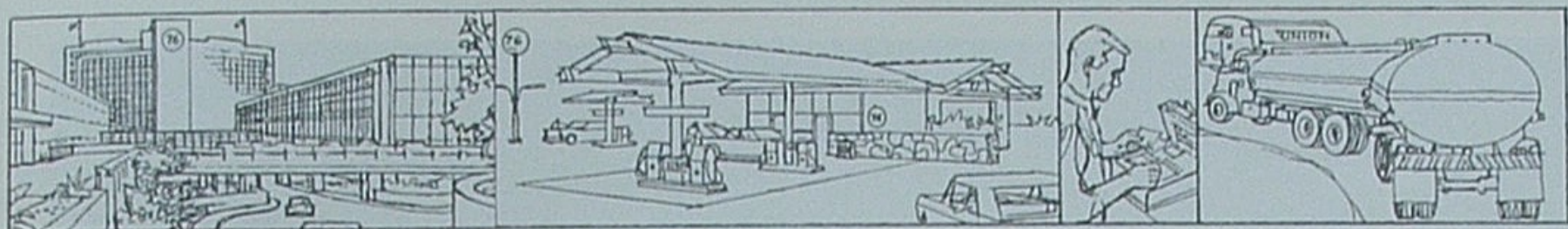
During the early part of last year, facilities were completed at the Los Angeles Marine Terminal enabling us to bunker ships at Harbor Berths 90-93 through a new L. A. Harbor Department fuel oil pipeline.

Although the first delivery was made as recently as May, we had by early November pumped one million barrels of bunker fuel oil through this 12-inch line.

Thanks to the efficiency of the new equipment, we are able to give our customers better service than previously available by barge. Our two largest deliveries to date have been to the passenger liner *Oriana*. We have bunkered this ship twice, with about 38,000 barrels each time, at rates in excess of 5,000 barrels an hour. Bunkering is no longer the bottleneck that determines the *Oriana's* time in port at Los Angeles.

### SULLY-MILLER COMPANY JOINS LIST OF UNION SUBSIDIARIES

The Sully-Miller Contracting Company was incorporated in Long Beach in 1923, and in the past four decades has grown into a business with \$20 million a year in sales. The company is one of the largest paving contractors and manufacturers of asphaltic paving in Southern Califor-



nia. Sully-Miller is active in Los Angeles, Orange, San Bernardino, San Diego and Ventura Counties.

Acquisition of Sully-Miller by Union Oil Company was announced late in November. The acquisition involved the exchange of 159,911 shares of Union Oil stock for all the outstanding Sully-Miller stock. At the time of the exchange, the market value of the Union Oil stock involved was about \$15 million.

The new subsidiary's present management, including Chairman of the Board E. B. Miller and President R. C. Sully, will continue to operate the company through its own Executive Committee.



*Almost hidden by the forest of fishing boat masts is the 76 target sign of our consignee at Morro Bay Yacht Anchorage, Edward V. Doyle. Whenever storms blow up at sea, fishermen take to shelter, and our anchorages become the center of quite a traffic jam. Boat operators use this occasion to stock up on supplies and make needed repairs before taking off to sea again in quest of far-ranging albacore.*

#### COMPANY ACQUIRES McKALES 44 SERVICE STATION CHAIN

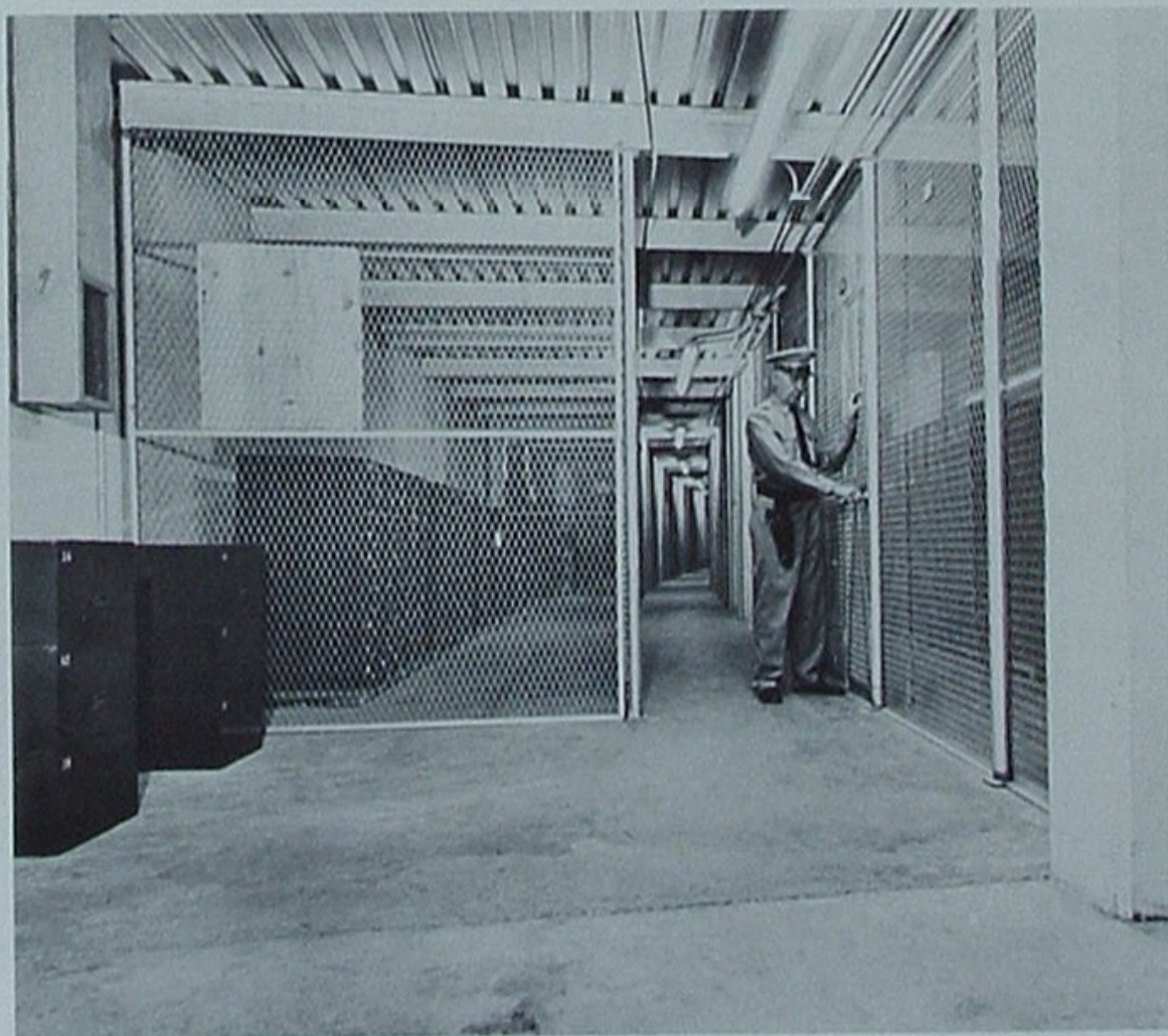
In 1922 the McKales Corporation opened its first service station in Seattle. Since then it has sold Union gasoline exclusively and the company prospered until it counted 44 stations located in Seattle, Portland and San Francisco.

On November 17, Union Oil Company acquired the assets of McKales Corporation for about \$4.5 million. This purchase assures Union of continued station representation at many key and irreplaceable locations.

#### STATE OF CALIFORNIA WILL TRAVEL ON THE FINEST IN '65

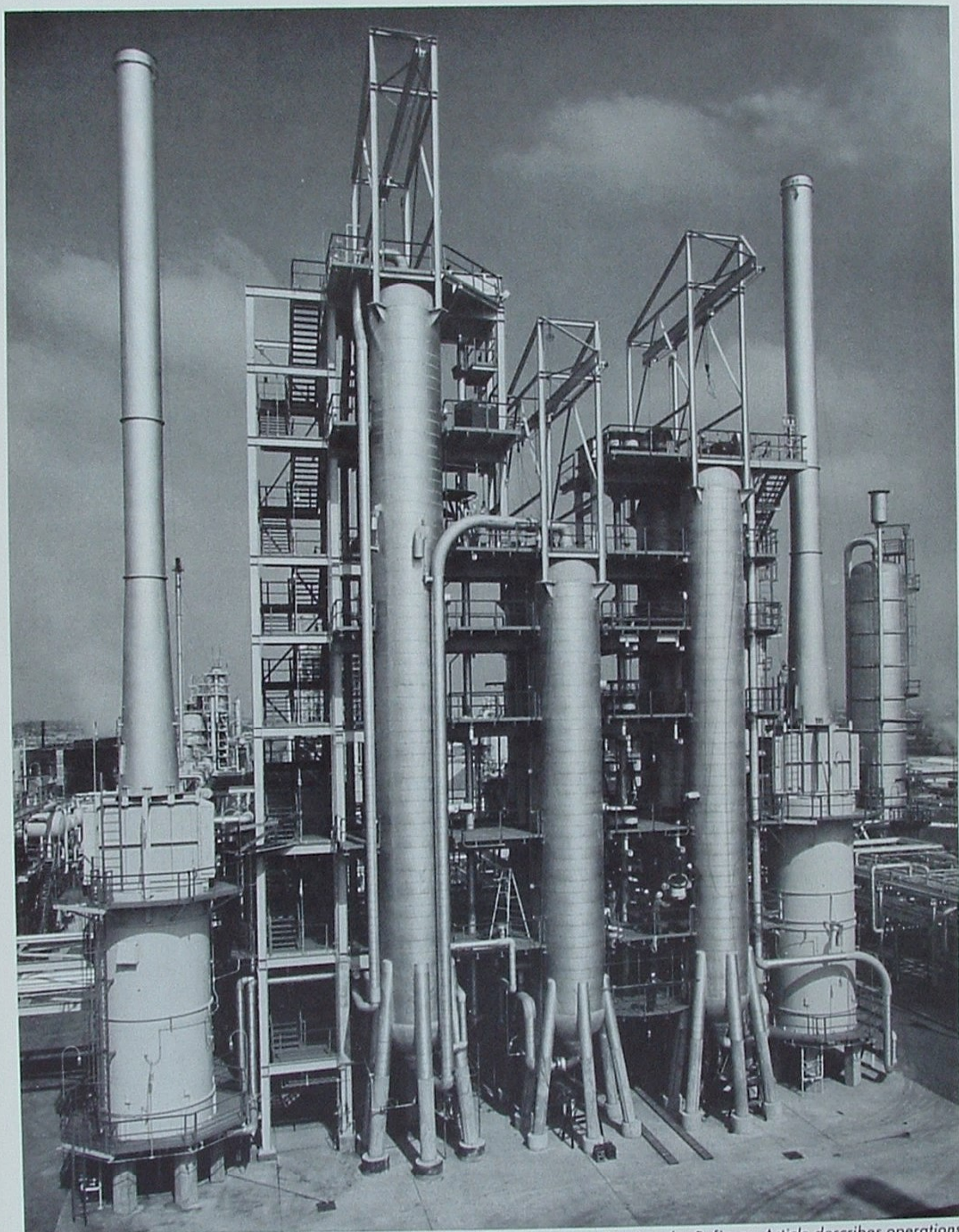
Union Oil gained 26,000 credit card customers in one account this year when it obtained by competitive bidding the retail credit card business for the state of California in 1965.

Under this contract, Union dealers will supply more than 17 million gallons of gasoline, plus motor oil and other automotive products to state-operated motor vehicles.



**UNDERGROUND STORAGE:** *In the event of earthquake, nuclear attack or other catastrophe, how does the company assure safety of its state charters, business licenses and other records vital to continued operation? One answer is to send the original document or photo copy to a nuclear-age vault. Union Oil has done just this, storing vital records in a fortress-like railroad tunnel converted into an earthquake- and bomb-proof vault.*

PHOTO BY RUSS HALFORD



*A decade's research and development went into this \$22 million Unicracker at Los Angeles Refinery. Article describes operations.*

# UNICRACKER

## GOES ON STREAM

PROFIT  
QUALITY  
TEAMWORK

### LOS ANGELES REFINERY

A \$22 MILLION Unicracker, employing Union Oil Company's own advanced hydrogen and catalytic cracking process, went on stream at Los Angeles Refinery on November 30.

The new plant, situated on a 3.5-acre site, can completely convert heavy, low-value oils into high-quality gasoline. This is the first commercial application of the Unicracking-JHC process as developed by Union's Research Center.

During early runs, the Unicracker was making more than 120 barrels of product from every 100 barrels of feed stock. (Note: The actual weight of the product is approximately the same as the weight of the feed stock. Since the gasoline being produced weighs less per gallon than does the heavier oil that goes into the plant, there is a "volume swell.")

In the Unicracking-JHC process, the heavy oils are cracked at relatively high pressures in the presence of hydrogen and catalyst. The reactors in which the reaction takes place (see picture opposite) have steel walls nearly six inches thick and weigh from 180 to 330 tons. There is a computer in the control room for data logging; the computer also has the potential for closed-loop control for an essentially automatic operation.

The Unicracker is rated at 16,000 barrels a day, and early indications were the plant would exceed its design capacity as it reached maximum efficiency.

"In contrast to existing catalytic and thermal cracking processes," said Union Oil President Fred L. Hartley, "the Unicracker produces no by-product fuel oil. This ability to

reduce fuel oil yield is especially important here on the Pacific Coast where the gasoline market has a high growth rate and fuel oil markets are shrinking.

"Union's automotive gasolines containing components from the Unicracker will be of superior quality," Hartley said, "because of the high octane performance of hydrocarbons produced by the new process.

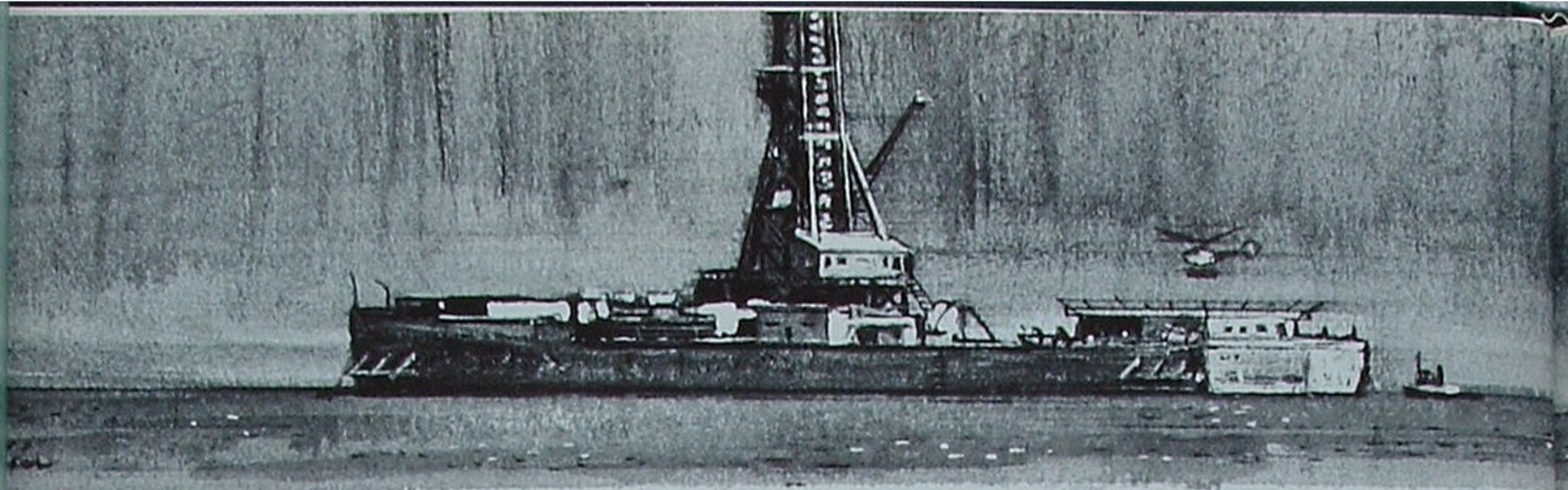
"Moreover, the new unit will have a significantly favorable impact on profits in the future," Hartley said.

"The on-stream condition and smooth-running plant are real tributes to the many people associated with the project," Hartley said. "The teamwork of everyone from design conception to start-up was outstanding. My personal congratulations to all those in Research, Engineering and Construction, Refinery Planning and Refinery Operations who worked with such diligence, enthusiasm and skill to bring about this tremendously successful endeavor."

For nearly two years the people working on engineering, design and construction of the Unicracker have been devoting full time to the task. Many worked evenings and weekends; they delayed vacations as the project drew to completion. When the Unicracker went on stream late in November, these engineers, planners, specialists and technicians began taking their long-deserved vacations. Within a week, many had scattered to the four winds.

Consequently, it was impossible to secure photographs of all the people involved for publication in SEVENTY-SIX magazine. Many were fishing in Mexico, vacationing in the East or simply getting re-acquainted with their families and neighbors. After two years, these people are richly deserving of their new-found leisure. When they return, photographs will be scheduled and SEVENTY-SIX magazine will publish a comprehensive report on the project from conception to completion.

Meanwhile, the Unicracker is busy converting gas-oil feed stocks into the *finest* gasoline products. 76



**Will we have**

## **A PACIFIC NORTHWEST OIL PATCH?**

Ten oil companies have spent \$35 million for oil leases in Oregon and Washington. This raises questions about a new industry in the Pacific Northwest. Two Union Oil officials reply to them and discuss some prospects for the future.

**A**T A U.S. GOVERNMENT land sale held in Los Angeles on October 1, ten American oil companies put up \$35 million for the right to explore for oil on 900 square miles of ocean bottom off the coast of Oregon and Washington.

Because neither Oregon nor Washington has any oil production, people in the Pacific Northwest began wondering why these companies spent so much money on unproved lands. Others asked when the refineries would be built.

To explain these transactions, John Fraser, manager of our Pacific Coast Division, and Dana Braislin, district geologist for the Pacific Northwest, visited Portland and Seattle in December. There they met with members of the press and with fellow Union Oilers in the Marketing Department to outline a timetable of future events. Here are the highlights of the questions and their answers:

**Q. Why did you bid on the offshore lands?**

A. We are looking for oil. Oil reserves are the life blood of an integrated oil company. The West Coast is an oil deficient area. At present, the West Coast produces about 850,000 barrels of oil a day, largely from California. Demand is about 1,600,000 barrels a day and growing every year.

**Q. Why don't you drill on shore in Washington and Oregon?**

A. Geological conditions are better out at sea. The further away you get from these young mountains (the Cascade Range), the more chance you have of finding undisturbed marine sedimentary deposits where oil may be found.

**Q. What did Union Oil acquire in the land sales?**

A. Off the Oregon coast, we and Standard of California bid jointly on 51 blocks, and were successful in winning 26 of these. Off the coast of Washington, we and Standard bid on nine blocks and were awarded three. Bidding alone, Union was the successful bidder on one block. This block, incidentally, brought the highest price of the sale, \$2,165,760.

The \$35 million in high bids for all 10 companies was nearly three times the value of the winning bids in the only other federal offshore sale ever held on the West Coast. That's an indication of the significance of the sale.

**Q. What size are the blocks?**

A. They are 5,670 acres each.

**Q. How long are the leases good for?**

A. Initially, for five years; but if we strike oil in commercial quantities, the leases automatically extend for the life of the field.

**Q. Where are the lands?**

A. All are beyond the three mile limit. They are in ocean waters ranging from 280 to 480 feet deep. By way of comparison, most of the offshore oil lands in the Gulf of Mexico are in waters ranging from 50 to 125 feet deep.

**Q. How did Union Oil come out in the bidding?**

A. Right where we want to be. Either alone or with Standard, we won 30 of the 103 blocks offered. We hold a commanding land position in every place we really want to be. If the lands prove to be oil country, we should be a major producer in these areas.

*continued*





## **OIL PATCH** *continued*

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**Q. You are in solid then?**

A. Remember the word *if*. If oil is found, the size of the structures out there indicates the reserves could be truly significant. This is blue chip country . . . strictly a gamble, but a blue chip gamble. If we hit at all, we hit big.

**Q. What assurance do you have that you will find oil?**

A. Right now, none. Until wells are drilled into the structures, we have no way of knowing whether or not they contain oil. Only the drill can tell us if there is oil down there.

**Q. Who will do the drilling?**

A. South of Newport, Oregon, Union Oil will be the operator and handle the drilling operations. North of Newport, Standard will be the operator.

**Q. Will you build a refinery here?**

A. Let's wait until we find some oil. We plan to bring a drilling vessel to the area this spring. We probably will have a vessel operating through the spring and summer. Right now, we don't even know where we will drill first.

Looking ahead just a little, we will drill into one or more of the structures on our lands this year. Assuming we find oil, we may drill more than one hole from a floating vessel. The cost of these exploratory holes will be from \$750,000 to \$1,000,000 each.

**Q. Isn't that a lot of money?**

A. Yes, but it's by no means all we may spend. Remember, it costs three to four times more to drill offshore than it does to drill on dry land. So far we have spent more than \$2 million on preliminary exploration. In round figures, our bids for the offshore leases came to \$7 million. By the time we drill one hole offshore, we will have spent nearly \$10 million. At this point, we will have a hole on one structure. We may have to drill many holes to evaluate the entire area.

**Q. What happens if you find oil?**

A. Assuming we find oil in quantity, we will install permanent drilling platforms from which several wells can be drilled. These platforms will be mammoth structures . . . nothing like them presently exists. Before bidding, however, we had feasibility studies made, and found the large platforms are practical from an economic and engineering standpoint.

**Q. What will these platforms cost?**

A. We figure they will cost from \$6 to \$7.5 million each, depending on size and depth of water.

**Q. Will they be unsightly?**

A. From a practical standpoint, I don't think so. Our closest ones will be six to ten miles out from shore. You probably wouldn't see them unless you were up on a hill.

**Q. Will oil contaminate the coastline?**

A. No. We have completely closed systems which are under constant supervision.

**Q. Will you be making explosions for seismic work?**

A. We should have less seismic work in the future. We have so much drilling to do for the next couple of years that there will be a marked reduction in seismic work. May I point out, however, that the land we have covered so far does not include all the potential oil reserves out there. But for the next two years while we evaluate what we already have, we will have little or no seismic work. Remember this too: No one would have bid on the areas off Oregon and Washington if it had not been for the seismic information we have gotten.

**Q. How long will it be before you know whether or not you have oil?**

A. Let's put it this way: It will take at least until 1966 before we get a negative answer. If we get a positive answer, we will start producing oil right away . . . as soon as we can build platforms.

**Q. What happens if you don't find oil?**

A. If such comes to pass, we'd accept our loss and search elsewhere. On the other hand, if we do find significant oil reserves, we will have to be prepared to spend large amounts of money on developing an offshore oil field . . . beginning with at least \$6 million for one deep-water platform.

**Q. What will be your base of operations?**

A. That's too early to say yet. But if this turns out to be a big oil play, every available facility on the coast could be needed by one operator or another.

**Q. Will storms or rough weather shut you down?**

A. We don't think so. Based on weather records going back 100 years, we believe we can handle any weather. During storms, of course, the people would be evacuated. After we find production and build platforms, the weather should be no problem.

**Q. What economic effects will we see?**

A. This will depend on whether or not we find oil, how much we find, and where. The effect will be relatively slight if we don't find oil.

**Q. What if you really hit it big?**

A. If oil is found in substantial quantities, it could mean tremendous new industry for the Northwest. In the long run, the discovery of oil reserves could result in construction of shore installations, pipelines, refineries—all of which employ people. There would be need for tugs, helicopters, barges, housing. The steel, construction, marine and service industries would benefit. But all that is still in the future. Right now, we are still looking for the oil. 78

## OIL SLANGUAGE

*The logging industry in the Pacific Northwest, with its donkey engines, whistle punks, spar climbers and cat skinners, has a unique and colorful jargon. The oil industry also boasts its own slanguage. Here are some terms:*

**BLOWOUT:** The sudden, violent escape of gas, oil, mud and water from a well when high pressure gas is encountered. It occurs when control measures fail to contain the pressure.

**BOAR'S NEST:** Any complicated arrangement of pipes and equipment.

**BOLL-WEEVIL:** An inexperienced oil field worker.

**CEMENTING:** Forcing cement slurry through and around the casing of a well; when the cement dries it supports the casing and provides a seal that prevents migration of underground fluids.

**CHRISTMAS TREE:** A cluster of valves and piping fitted to the top of a well to control pressure and regulate the flow of gas or oil.

**CHOKE:** A steel nipple with a small hole inserted in a pipeline to regulate the flow of oil or gas.

**COMING OUT OF THE HOLE:** Withdrawing drill pipe from well bore to change drilling bits.

**DERRICKMAN:** Crew member whose work station is on the platform atop a drilling derrick. His duties include attaching "stands" of drill pipe to the traveling block when lowering pipe into the hole. He is next in line authority to the driller.

**DOG HOUSE:** A small building near the drilling rig used as an office for the driller, as a dressing room for the crew and as a storeroom for small items.

**DOUBLE:** Two joints (sections) of drill pipe. Hence, thribble and fourble.

**DRESSING:** Sharpening or repairing drilling tools.

**DRILLER:** Crewman in charge of a rig and its crew. He operates drilling and hoisting equipment.

**DRY HOLE:** Also duster. Any well that does not produce oil or gas in commercial quantities. If an oil man encounters water, it is a dry hole.

**FISHING:** Retrieving sections of pipe, casing or tools accidentally dropped into a hole.

**FLANGE-UP:** Making the final connection on a piping system. Also, completion of any task; quitting one's job.

**FLARE:** An open flame to dispose of gas from a completed well; necessary to prevent an explosion if pipelines are not available to carry away the gas.

**GUSHER:** A well in which powerful underground pres-

ures force the oil into the air. Blowout preventers and mud systems make gushers extremely rare today.

**KILLING A WELL:** Bringing under control any well that is blowing wild.

**KNOWLEDGE BOX:** The desk where the driller keeps his records.

**MONKEY BOARD:** Platform on which the derrickman works while the crew is lowering or raising pipe. Also called a fourble board (see double).

**MUD:** A heavy, mud-like fluid of clay, chemical additives and water pumped through the drill pipe to flush cuttings from the hole, cool and lubricate the bit and carry rock cuttings to the surface. The weight of the mud also counteracts underground pressure from gas pockets, preventing blowouts.

**OPERATOR:** A person or company engaged in drilling oil and gas wells.

**PIG:** A brush-laden plug that keeps inner walls of a pipeline free of deposits. Pigs are pushed through pipelines by pressure of crude oil or petroleum products.

**RAM:** Blowouts are prevented by devices known as blowout preventers, which seal a well below ground-level by employing parts called rams. The steel rams, with rubber seals, close around the drill pipe.

**ROCK HOUND:** A geologist.

**ROUGHNECK:** A driller's assistant and general worker on a drilling rig; next in line to the derrickman.

**ROUSTABOUT:** A laborer in a producing oil field; he is a semi-skilled worker with considerable training.

**SAND:** Literally, sandstone, a type of rock where oil and gas is frequently found. Loosely, any form of sedimentary rock where oil is encountered.

**SPUDDING-IN:** Actual beginning of drilling operations.

**STRIPPER:** An oil well which produces only small quantities of oil, and which may or may not be profitable.

**STRUCTURE:** Underground geological feature capable of forming an oil or gas reservoir or trap.

**TOOLPUSHER:** Foreman in charge of one or more drilling rigs; supervises the driller.

**TOUR:** (pronounced tower.) A work shift, usually eight hours.

**WILDCAT:** A well drilled in unproved territory, as opposed to a development well which is drilled on proved oil lands.

**WILDCATTER:** One who drills in unproved oil territory. It is a term of approbation. 76

PHOTOS BY MAYNARD FRANK WOLFE



Galicano Virata says jeepney drivers believe Triton is the best.

INTRODUCING

## THE JEEPNEY

It Thrives on Triton

**T**HE JEEPNEY, brightly decorated offshoot of the World War II jeep, is the main source of transportation in the Philippines. Given a face lift, made taller and longer, the jeepney is no longer salvaged from parts of the wartime jeep. Today chassis, pistons, wheels and bodies — everything but the block — are made in the Philippines.

The jeepney can go anywhere, over country roads, through barrios and fields, in wet weather or dry, up and down mountains and through the fords that take the place of bridges over rivers and streams. The Filipino family is another point in favor of the jeepney. Since the typical family numbers upwards of 10, the jeepney is about the



Today everything but the block is fabricated in the Philippines.



*In the Philippines, the 10-passenger jeepney is the best way to get around.*

only vehicle that can accommodate everyone.

As a bus — the fare is about a nickle — the jeepney seems destined to take over the streets of Manila. Officials say that there are 60,000 jeepneys registered in the Philippines, and when the mayor of Manila banned them from the main thoroughfares recently, the entire city transportation system bogged down.

Jeepneys are assembled in Manila to the tune of about 70 a month, many at Sarao Motors which Leonardo Sarao founded 10 years ago out of a tin and welding shop. The Sarao jeepneys leave the factory decorated as perhaps no other vehicles in the world, as these pictures testify.

Jeepney drivers are a proud clan, given to naming their vehicles and lavishing as much care on them as any American hotrodder might. When it comes to engine care, jeepney drivers are almost unanimous in insisting on Triton motor oil. Theo H. Davies Co., the distributor of Union Oil products in the Philippines, reports many thousands of gallons of Union lubricants are sold exclusively to jeepney drivers each month.

The future for jeepneys is bright. Their fame and reliability have become known far and wide, and an export market is developing throughout Southeast Asia. When they reach the mainland, Triton will be there. 76



*A new jeepney from Sarao Motor Co. looks like this. Riding are the Sarao brothers, (L-R) Leonardo, Eddie, Ernesto and Rafael.*



## H. W. Bragg Is Elected To Head Pasadena Merchants

H. W. (HOOT) Bragg, commercial manager in the California Mid-Coastal Division, has been elected president of the Merchants Association, a credit bureau for the Pasadena area. Hoot takes his civic and business duties seriously: He recently was elected to the board of directors of the Citizens Commercial Trust and Savings Bank of Pasadena and served as secretary and member of the executive committee of the Pasadena Tournament of Roses.



Charles Stone presents UGN scroll to Bill Martin.

## 76 in Seattle Honor Union's W. I. Martin

WHEN W. I. (Bill) Martin, our division sales manager in Seattle, accepted the position as chairman of the Seattle-King County United Good Neighbor fund-raising campaign, he did so with the same lively interest that he always puts into a worthy cause.

As a result of the enthusiasm he sparked among 18,000 volunteer workers, the UGN campaign collected \$5.4 million, nearly 103 per cent of the goal, and the largest amount ever collected in the 13 years of United Good Neighbor service. This was termed especially significant in view of reduced employment in the Seattle area in the wake of reductions in defense spending.

In recognition of Martin's leadership, Charles I. Stone, UGN president, recently presented a scroll of appreciation to Martin. Appropriately, the document was signed by 76 fellow UGN workers.

## Union Oiler Demonstrates Undercoat; 'No Stain on Shirt,' McCarthy Says

SPRAYING A CAR with undercoat is usually a messy business. The people at Francis For Fords in Harrisburg, Pennsylvania, agreed, and they began casting around for a better undercoating product. When Sunbury Auto Parts Company introduced 76 Undercoating, the Francis For people discovered it spread easily, evenly and with complete cleanliness. Moreover, 76 Undercoat is durable, rust-proof and sound-proof.

In fact, after a few trials, the people from Francis For, Sunbury and Union Oil all got together one day to demonstrate that undercoating need not be messy. As shown in the accompanying photo, owner Lee Douglas (L) of Francis For, and John Mullin, Harrisburg manager of Sunbury Auto, wore business suits into the garage during an



application of 76 Undercoat. So sure was Union Oiler Frank McCarthy of his product and applicator Robert Crebbs's (R) skill that he removed his coat.

"I sprayed one section of the car myself," McCarthy says, "and my white shirt came out without a stain. Now how's that?"



We ran out of space in the last issue of Seventy-Six in which to publish a picture of the Refining and Marketing Division 30-year anniversary party October 21 for employees in the Los Angeles area. Here are those attending the event at the Beverly Wilshire Hotel, front row, left to right: Ivan Coffman, Harry Hill, Karl Raines, Mickey Williams, Verlin Robinson, Randle White, Howard Reeve, Herb In-

man, Sam Sabella and A. J. Turner. Back row, left to right: Ronald Wright, William Harbert, Ray Davis, Robert Haire, William Bergvelt, John Norton, Alvin Bixler, Michael Lemucchi, Charles Bradley, Gil Brown, Vic Criddle, Al Van Nest, Harold Wilson, John Roberts, Arthur Hamblin, George Phillips, Harold Martinson, Clayton Berg and Reg Brenchley. Next: a photo of the San Francisco group.

## Message to Parents of High School Students

**I**F YOU HAVE children in high school who are second semester juniors or first semester seniors, here is a message of importance to you. To qualify for the Union Oil Company of California Foundation merit scholarship program, your son or daughter must take a National Merit Scholarship qualifying test.

These tests will be administered on Tuesday, March 9, 1965. As an alternate date (at the option of the high school principal), the test may be administered on Saturday, March 15.

Students who are second semester juniors or first semester seniors this spring are eligible, as are any students planning to leave high school and enter college in 1966.

The National Merit Scholarship Corporation has suggested that any student who wishes to take the test should see his high school principal now to arrange for the tests in March.

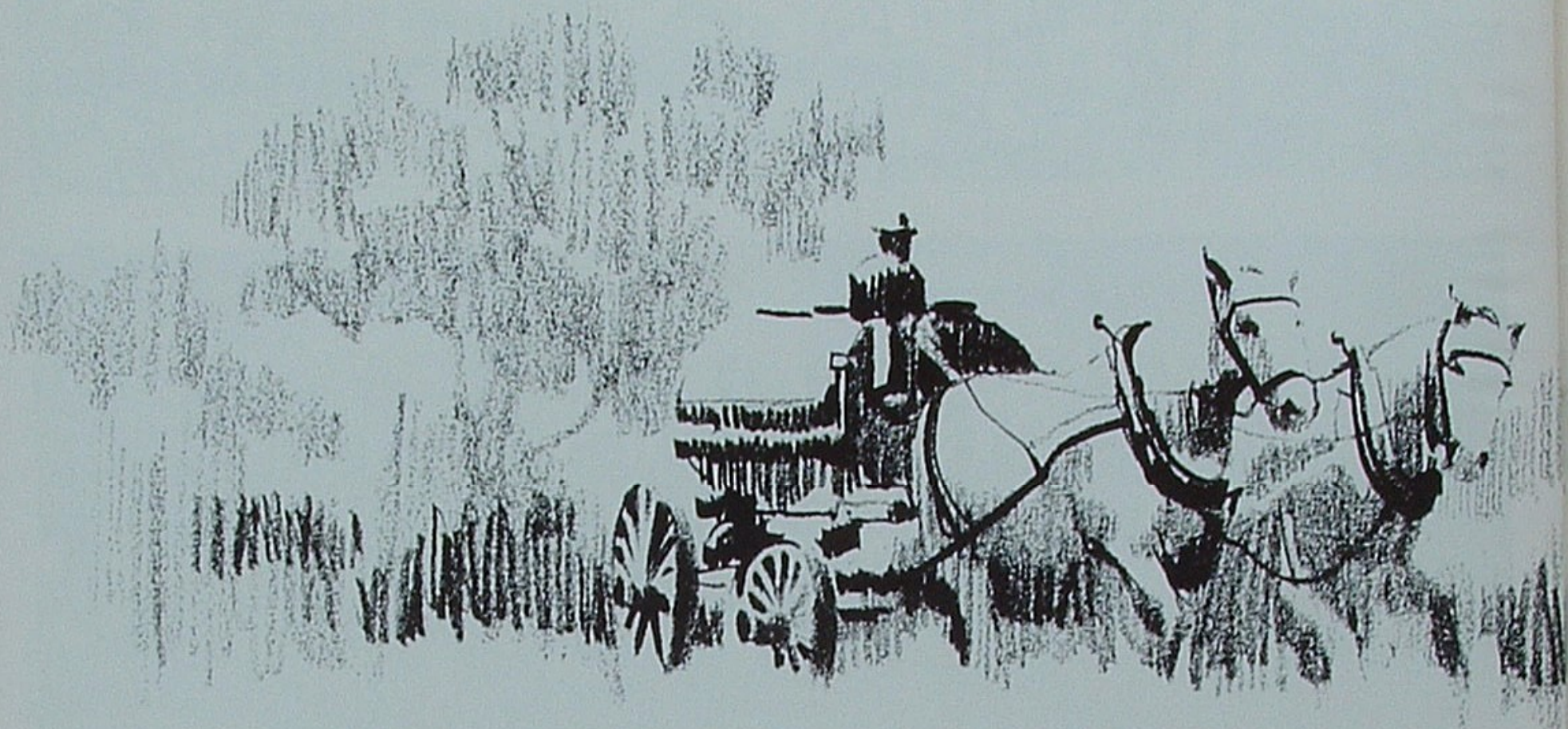
The Union Oil Foundation will sponsor four 1966

Merit Scholarships for qualifying sons and daughters of employees, consignees, distributors and dealers of Union Oil Company and its majority-owned subsidiaries operating in the United States.

Recipients of the scholarships will be selected by the National Merit Scholarship Corporation; in no instance will any Union Oil Company officer or employee play any part in the selection of recipients.

Each scholarship will be a four-year award, covering undergraduate years. The amount will be based on the individual's needs in attending any accredited college anywhere in the United States. The maximum amount awarded to any student is \$1,500 a year for four years; the minimum will be \$250 a year.

Students who plan to take the qualifying test in March should obtain an enrollment form from the Secretary of the Foundation, Union Oil Center, Los Angeles, 90017. The completed form must be returned by April 1 to qualify for competition. (2)



## A Durable Union Oiler: TOM HARRISON

SANTA PAULA, CALIF.

**T**OM HARRISON and Union Oil Company have a lot in common. For instance:

- Both are in their 75th year.
- Both were born in Santa Paula.
- Both are still going strong, selling Union Oil products.

Harrison is our consignee in Santa Paula and he has been selling Union Oil products for more than 50 years. The durable Harrison has three abiding interests in life: his family, Union Oil and the outdoors. He is a man who prefers wearing overalls to a business suit and loading a gasoline truck to keeping the accounts up to date — a chore he frequently delegates to his partner, co-consignee and son-in-law Aubrey Bright.

Actually, Tom Harrison is 36 days older than Union Oil Company, but despite his rich store of years he has no intention of retiring. He chuckles today to recall that he almost retired in the early 1940's.

Harrison was born on September 11, 1890, appropriately, on Orcutt Road in Santa Paula. His service with the company dates back about 52 years, but there were several periods of broken service in the first couple of years. He began work as a pipefitter in the Pipeline Department in 1912.

"When the work got slack, I got laid off and spent some time drilling water wells," he explains, "but a year later, in March of 1913, I was back firing boilers at the then-new Santa Paula Refinery."

The refinery, long since dismantled, was situated on precisely the same spot where Harrison now operates his

bulk plant in Santa Paula; it's only a few blocks north of the old building in Santa Paula where Union Oil Company was founded on October 17, 1890.

"The refinery crew consisted of 11 men," Harrison recalls, "they worked two 12 hour shifts, seven days a week and we earned \$90 a month. There was a waiting list to get hired."

During his early days with the company, Harrison met many of the principals of the company. His first encounter with Lyman Stewart, founder and president, was probably the most embarrassing moment in his life.

"The refinery manager had just issued orders to keep outsiders away from the refinery," Harrison said. "A lot of men had been bringing their relatives around in hopes of learning the business and getting a job. The refinery manager had pointedly forbidden this on pain of dismissal."

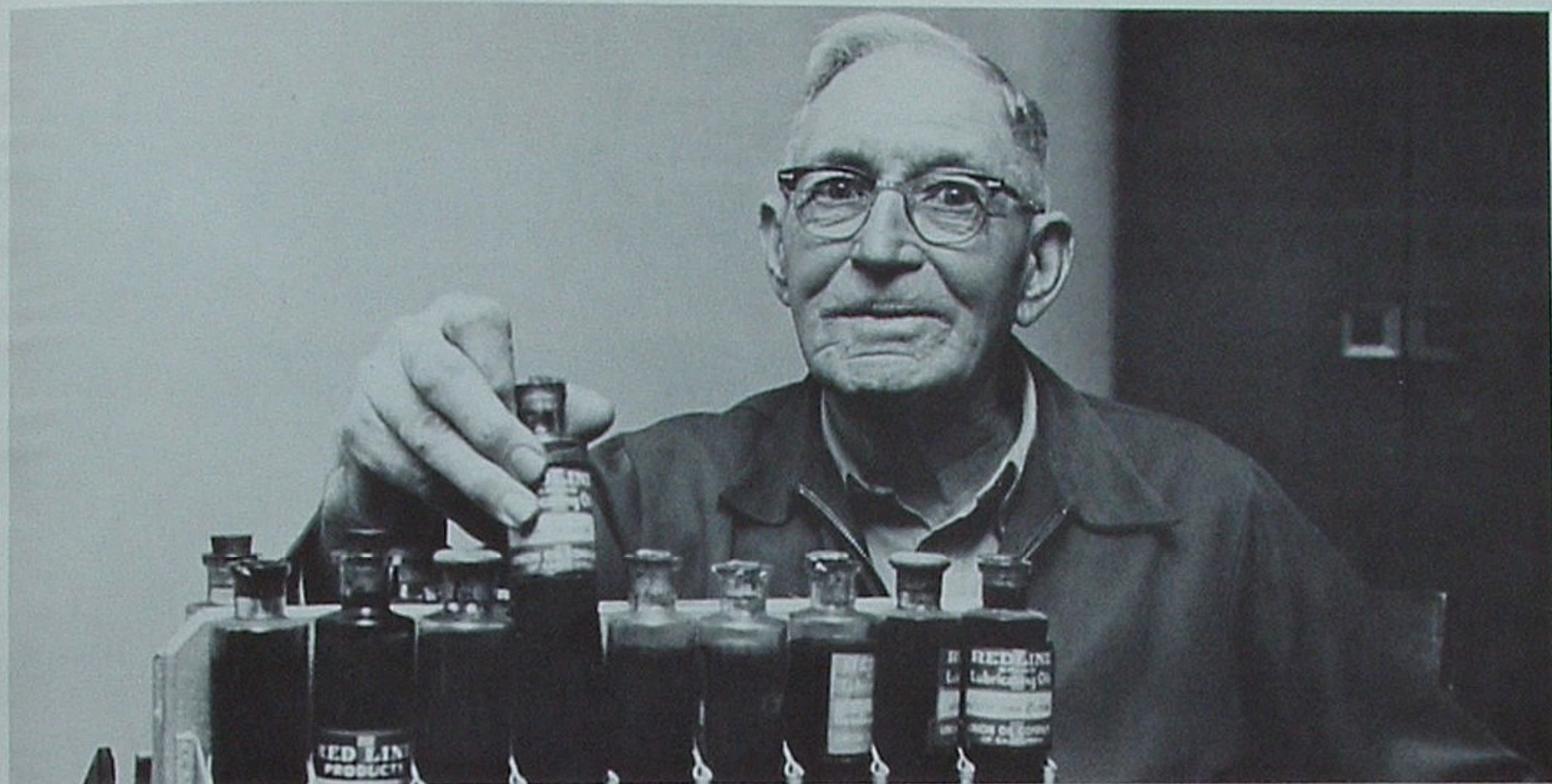
"One day in the spring of 1913, a strange man wearing a grey business suit entered the refinery compound and began inspecting the stills. I walked up to him and said, 'I'm going to have to ask you to leave the refinery. Only employees are permitted inside.'"

"The man said, 'Would it make any difference if I told you I am Lyman Stewart, the president of Union Oil Company?'"

"I replied, 'You may be, but I don't recognize you, so you will have to get a written pass from the refinery manager.'"

The man's expression never changed. He nodded solemnly and walked over to the refinery office, which wasn't much more than a six by eight foot shack. Minutes later





In the 'twenties, Tom Harrison used this salesman's kit containing samples of Union Oil products.

the man returned with a note saying, "Please admit the bearer, Mr. Lyman Stewart, president of Union Oil Company."

Harrison began apologizing, but Stewart interrupted, saying, "You are all right, son. You will never get into trouble by following instructions."

AFTER TWO YEARS working at a variety of jobs in Pipeline, Refining and the Field Department, Harrison was recruited as a tankwagon salesman.

"They gave me a set of Percheron horses, a harness and Wagon No. 144, the first one in Ventura County. It held 440 gallons of product," Harrison said. He rolled out of bed at 4 a.m., fed and curried his team, loaded the tankwagon with kerosine, distillate, grease and oil and began his rounds. He usually wasn't home until after dark.

In those days, a man's job was his life. During a four-year stint at Camarillo, the Harrisons lived in a three-room house in the Union Oil compound.

"We raised chickens in the yard. My wife cooked on a wood stove that had been converted to burn engine distillate," Harrison said. "My salary was \$75 a month. In 1915, I bought a Ford for \$500, paying \$250 down and the balance at \$37.50 a month — half my salary."

Until about 1920, there were few cars in the area. "It used to seem like heavy traffic," he said, "if you met four cars at night from Hollywood to Camarillo, a distance of about 35 miles." Today this route, the Ventura Freeway beyond the Los Angeles city limits, carries 135,000 autos a day.

From 1919 to 1931, he was Ventura County salesman, covering the county from Santa Paula. For the following decade, he was resident agent (manager) of the Santa Paula bulk plant.

In 1941 the company closed its office in Santa Paula as

part of a reorganization of its sales department. Harrison was asked to become a consignee.

"I was 51," he said, "and wondered about the idea of going into business for myself." After consulting with his wife, Mary, he decided to try it and he is still at it.

WHEN HARRISON is not loading a gasoline truck or wiping off a barrel of oil, he is likely to be found near his gun rack or tackle box. Harrison's love of hunting is legendary in the Santa Clara valley. His reputation as an outdoor sportsman was assured a few years back, right after he injured his knee.

The doctor put his leg in a cast from hip to toe, then warned, "Now, Tom. I don't want to see you out in the hills trout fishing. Promise me?"

Harrison acknowledged the medic's order, then limped home and asked his wife for his rifle.

"You plan to hunt in that condition?" Mary Harrison demanded.

"The doctor said I couldn't fish, but he didn't say anything about hunting," Harrison replied.

By dragging his injured leg, Harrison made it to the top of a mountain, shot a buck across the draw, then discovered he couldn't cross the ravine. Several friends heard the shot and came to his aid.

"They retrieved my deer," Harrison said, "but they wouldn't ever let me forget about it."

ON DECEMBER 4, 1964, the Union Oil Marketing Department and half the businessmen in Santa Paula held a party for Harrison to celebrate his 50th anniversary with the company. Asked if his plans called for retirement, Harrison said no.

"I can't wait until I'm two years older. Then I'll be old Union 76 himself." 76



# SERVICE EMBLEM AWARDS

## EXPLORATION & PRODUCTION

### January 1965

#### 40 YEARS

STANLEY G. WISSLER ..... Union Oil Center

#### 30 YEARS

CHARLES G. McGRORY ..... Dominguez, Calif.  
JOHN J. REDMAN ..... Bakersfield, Calif.

#### 20 YEARS

LEOPOLD LEMAIRE .. Forked Island Terminal, La.  
RENALDO J. NAJAR ..... Dominguez, Calif.

#### 15 YEARS

WILLIAM BROOKS ..... Dominguez, Calif.  
ARTHUR L. DITTRICK ..... Los Angeles  
DANIEL MITCHELL ..... Houston

#### 10 YEARS

THEODORE G. STERMER ..... Los Angeles  
BENJAMIN F. WINCH ..... Abbeville, La.

## CORPORATE

### January 1965

#### 35 YEARS

JAMES F. McGOWAN ..... Union Oil Center

#### 20 YEARS

GRACE J. LITTEER ..... Union Oil Center  
HOMER E. RATHBUN ..... Union Oil Center

#### 15 YEARS

JACK HOUGHTON ..... Union Oil Center

#### 10 YEARS

ROBERT K. KNIGHT ..... Research Center  
LUDMYLA NIMCIV ..... Union Oil Center

## REFINING AND MARKETING

### January 1965

#### 35 YEARS

CHARLES B. BROWN ..... Los Angeles  
HAROLD G. CLARK ..... Oleum Refinery  
HARVEY T. COLBY ..... Union Oil Center

CLARENCE HOPFIELD ..... Portland  
JOSEPH F. SANFORD ..... Union Oil Center  
JOHN C. WUNDERLICH ..... Oleum Refinery

#### 30 YEARS

ROBERT H. RATH ..... Honolulu

#### 25 YEARS

HARRY A. BOLEN, JR. .... Oleum Refinery  
JACK S. COWIE ..... Union Oil Center  
RAYMOND G. HUGHES .... Los Angeles Refinery

#### 20 YEARS

EDMUND C. ALLISON ..... Colton, Calif.  
WARREN G. DULIN ..... Seattle, Wash.  
ROBERT F. ENRICH ..... Richmond, Calif.  
MARY J. LEAR ..... Union Oil Center  
MARY E. MARCOS ..... Oleum Refinery  
JACK W. MOORE ..... Los Angeles Refinery

#### 15 YEARS

JOHN P. ENNIS ..... Union Oil Center

#### 10 YEARS

R. B. BRADSHAW, JR. .... Los Angeles Refinery  
WAYNE P. CARROLL ..... Avenal District, Calif.  
DAVID E. HOUCK ..... San Jose, Calif.  
LESTER L. MONROE ..... Los Angeles Refinery  
PAT O'MELIA ..... Union Oil Center  
HELEN M. WINKEL ..... Union Oil Center

## DEALERS

### January 1965

#### 40 YEARS

A. L. LEGNITTO dba  
CALIFORNIA GARAGE ..... San Francisco

#### 35 YEARS

B. LIBERTO ..... South San Francisco  
ROHRMAN MOTORS ..... Hermiston, Ore.

#### 30 YEARS

FIRESTONE  
STORE #7148 ..... San Bernardino, Calif.  
FRANK FOSSATI ..... Lancaster, Calif.  
A. MANGIGIAN ..... Los Angeles  
CHARLES H. McDANIEL ..... Los Angeles  
ULYSSES McDANIEL ..... Los Angeles  
LEO V. PENNEY ..... Phoenix

#### 25 YEARS

BOB CLINE ..... Hereford, Ariz.  
CARL P. DEAN ..... Coupeville, Wash.  
HICKS & HOWELL ..... Monterey, Calif.  
WILTON JONES ..... Huntington Park, Calif.

#### 20 YEARS

C. E. BALES ..... Los Nietos, Calif.  
TONY FARIA ..... Richmond, Calif.

#### 15 YEARS

WALTER BARKETT ..... San Francisco  
RAY BELLAH ..... Coos Bay, Ore.  
C. H. BENTZ ..... Snohomish, Wash.  
P. M. BERNHARDT ..... Tahoe Valley, Calif.  
R. A. FRISBEE ..... Winters, Calif.  
W. E. MCGEE ..... Polacca, Ariz.  
C. F. MCGEE ..... Polacca, Ariz.  
CURTISS PARCHMAN ..... Parker, Ariz.  
JAMES C. TRACY ..... San Francisco

#### 10 YEARS

ANGELINI BROTHERS ..... Nevada City, Calif.  
HELEN BRAHM ..... Norwalk, Calif.  
WALTER BRAHM ..... Norwalk, Calif.  
PETE PLUTARCO CHAVES ..... Lomita, Calif.  
ROBERT C. CLARK ..... Sacramento, Calif.  
H. J. KNIEFEL ..... Tonopah, Nev.

WILLIAM F. LEMOS ..... Carmel, Calif.  
SNOW FORD SALES ..... Lynden, Wash.  
T & T SERVICE ..... Los Angeles

#### 5 YEARS

WALTER ALVERT ..... Mill Creek, Calif.  
HARMAN J. ALLEN ..... Elko, Nev.  
GEORGE AOYAGI ..... Torrance, Calif.  
JOHN L. BARRETT ..... Santa Maria, Calif.  
CENTRAL AUTO PARK ..... Portland  
THOMAS FULLER ..... Eureka, Calif.  
BARRY S. HUDSON dba  
BARRY'S UNION SERVICE ..... Honolulu  
T. J. JESSEN ..... Redding, Calif.  
R. A. JOHNSON ..... Redding, Calif.  
ROBERT JORGENSEN ..... Portland  
JOHN C. MILLSPAUGH ..... Big Creek, Calif.  
CY PICKETT ..... Seattle  
F. A. WESTMAN ..... Astoria, Oreg.  
ROBERT I. WHEAT ..... Arroyo Grande, Calif.

## CONSIGNEES & DISTRIBUTORS

### January 1965

#### 30 YEARS

R. P. BRADLEY ..... Holbrook, Ariz.

#### 25 YEARS

HONOKAA SUGAR COMPANY ..... Haina, Hawaii

#### 15 YEARS

V. RAAHAUGE ..... Vallejo, Calif.

#### 10 YEARS

K. S. ELMER ..... Santa Barbara, Calif.  
M & L MOTOR SUPPLY ..... St. Paul, Minn.  
MRS. ROSE THOMPSON ..... Hoonah, Alaska

#### 5 YEARS

C. J. McTEER ..... Weaverville, Calif.

## RETIREMENTS

### December 1964

HOWARD L. GLENDENNING  
Colton, Calif. .... March 7, 1929  
WAYNE G. HAW  
Los Angeles Refinery ..... April 18, 1928  
EVERETT R. LOWE  
Phoenix ..... August 28, 1935  
ROY W. MUNCY  
Los Angeles Refinery ..... April 15, 1932

## IN MEMORIAM

### Employees:

JESS ELLIOTT  
Andrews, Tex. .... November 14, 1964  
NORMAN P. LANCHESTER  
Los Angeles, Calif. .... November 7, 1964  
LEONARD SUCH  
Long Beach, Calif. .... December 1, 1964

### Retirees:

WILLIAM J. ESPLIN  
San Luis Obispo, Calif. .... December 1, 1964  
CLARENCE A. DAVIS  
Long Beach, Calif. .... November 20, 1964  
JOHN D. SAUNDERS  
Garden Grove, Calif. .... November 4, 1964  
ELMER WEHNAU  
Orcutt, Calif. .... November 18, 1964



Union Oil powered Luxor Cab... no ping

## A TAXI DRIVER TELLS ALL

**I**N COSMOPOLITAN San Francisco, where vest and glove have displaced cowboy boot and Stetson, taxi driver Gerald T. Wheeler was surprised recently when a cowboy waved his broad-brimmed hat.

"Take me to a good men's store," the cowboy commanded. "I've just closed a million-dollar deal in Marysville, and I'm going to buy some clothes."

Wheeler accompanied the man into the store and was startled to see him buying everything in sight—including no less than 400 Stetson hats. When the shelves were nearly bare, the cowboy said, "Send all this to the Veterans' Hospital and wish them a Merry Christmas."

Wheeler, one of 54 owner-drivers working under the Luxor Cab banner in San Francisco, confesses astonishment every time he recounts the adventure. He is one of the first to admit that operating his own cab is a grueling job. Owner-drivers work long hours, and during bad weather tempers can flare, especially during the traffic jams. "But one day like that is worth a hundred ordinary days," Wheeler emphasizes. "It makes life a joy."

Riding in a driver-owned cab can be a joy, too, according to the Luxor people, who are convinced that owner-drivers provide better service, thanks to pride of ownership. "Our people take better care of their cabs, too," says a Luxor spokesman. "When we decided to operate our own garage, our drivers voted to use Union Oil products. Your gasoline gets us up the hills without engine knock. Our drivers like this, and so do our customers."

Taxi drivers are fond of their customers; they even have favorites. Benjamin Farber, for two decades a cab driver, says his favorite was a lady with two children.

"Several years ago during the holiday rush," he said, "I left a passenger at the bus depot. It was driving down rain. Mine was the only cab around, and more than a dozen people were waving."

"I saw a mother and her two children loaded down with Christmas gifts and getting drenched. I told the other people she had called by phone, then ordered her to get in."

During the trip across town, the woman questioned Farber as to why he had chosen her when he could have made more money driving several businessmen to a nearby hotel.

"I said I was married and the father of two children," Farber explained, "then I helped her into the house with her packages."

The woman asked Farber to wait while she went upstairs for the money. When she returned, she gave him the \$1.35 fare, a check for fifty dollars, and wished him a Merry Christmas.

"I still have that check framed," Farber grins. 70

UNION OIL COMPANY OF CALIFORNIA  
P. O. Box 7600  
Los Angeles, California 90054



## Where We Work...

No, this is not the Sahara Desert or a Middle East oil field. The pumping unit shown is situated in a desolate part of Union Oil Company's 90-well Fuhrman-Mascho (pronounced Mas-ko) field in Andrews County, Texas, not far from the New Mexico border. Sixty of the wells were acquired by Union Oil from Texas National Petroleum in 1962. The field is on the western edge of the Permian Basin; in places it is being overrun by wind-blown sand, giving the illusion of a desert. To inspect the well, operators plod through a quarter of a mile of sand.