

**SEVENTY** **76** JUNE 1957

Union Oil Company of California

**SIX**



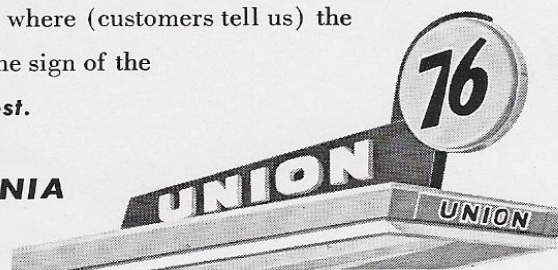
A  
TRILLION  
BARRELS  
OF  
SHALE  
OIL



**Wherever you are, wherever you go,  
consider this: New Royal 76  
is the West's most powerful premium**

**Doesn't new Royal 76 belong in your picture, too?** It's the West's most powerful premium gasoline. It makes driving there almost as enjoyable as what you do after you arrive. You get it at your Union Oil station where (customers tell us) the Minute Man's service is as good as his gasoline. At the sign of the big 76 where — **you know you always get the finest.**

**UNION OIL COMPANY OF CALIFORNIA**



*America's  
Finest  
Service Station  
System*

JUNE 1957

**THE COVER** In the snow-mantled Rocky Mountains of Colorado, Union Oil is tapping an estimated one trillion barrels of shale oil. The piles of shale seen on this month's cover bear up to 70 gallons of oil per ton and are the pioneers of America's first commercial shale-oil venture.

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**76** is a Union Oil Company of California trademark. It also symbolizes the American freedoms won in 1776, which made possible this nation's industrial development and abundance. Our SEVENTY-SIX magazine, published monthly, mirrors industrial freedom through the thoughts, skills, accomplishments and appreciations of Union Oil people. We invite readers to participate with us in an exchange of ideas and information. Address correspondence to The Editors, SEVENTY-SIX, Union Oil Building, 617 West Seventh Street, Los Angeles 17, California.

**EDITORIAL BOARD:**

- C. Haines Finnell, Jerry Lubovski,  
 Fritz Springmann and Earl M. Welty.
- Thiel D. Collett.....Editor  
 Robert C. Hagen.....Assistant Editor

*Seventy-Six will continue*

**36 YEARS OF REPORTING**

From out of old fields, as men saith, comes all this new grain from year to year. And from out of old books, in good faith, comes all this new knowledge that men here.

*Quoted in substance from one of the oldest writings in English literature.*

**T**HIS is the first issue of SEVENTY-SIX, a publication designed to serve the interests of employees, dealers and other people closely identified with Union Oil Company of California.

Some things about the magazine are new. The title, we feel, needs no explanation; it is unique, appropriate, and symbolic of the enterprising spirit that has always been manifested by Union Oil people. The type face is new and, we hope, easily read. The pictures, art and layout seek to be worthy of your approval.

But in purpose, SEVENTY-SIX is not new. Thirty-six years ago—in March 1921—our Comptroller's Department published "Bulletin No. 1," first of a series that continued quarterly until 1941. One of the outstanding industrial magazines of its day, it offered a most authentic record of Company progress.

The Company's first publication for dealers, called "Dealer News," was started in 1929 and continued as "The Minute Man" in 1946. Until the final issue in May 1957, it aided substantially in the development of America's finest service station system.

"On Tour" was published monthly from 1939 to May 1957. Through its pages employees were given probably the most comprehensive business reports in the history of industrial publications.

SEVENTY-SIX will not abandon any of the worthwhile objectives. Rather, its aim is to build anew on the solid foundation of past editorial experience.

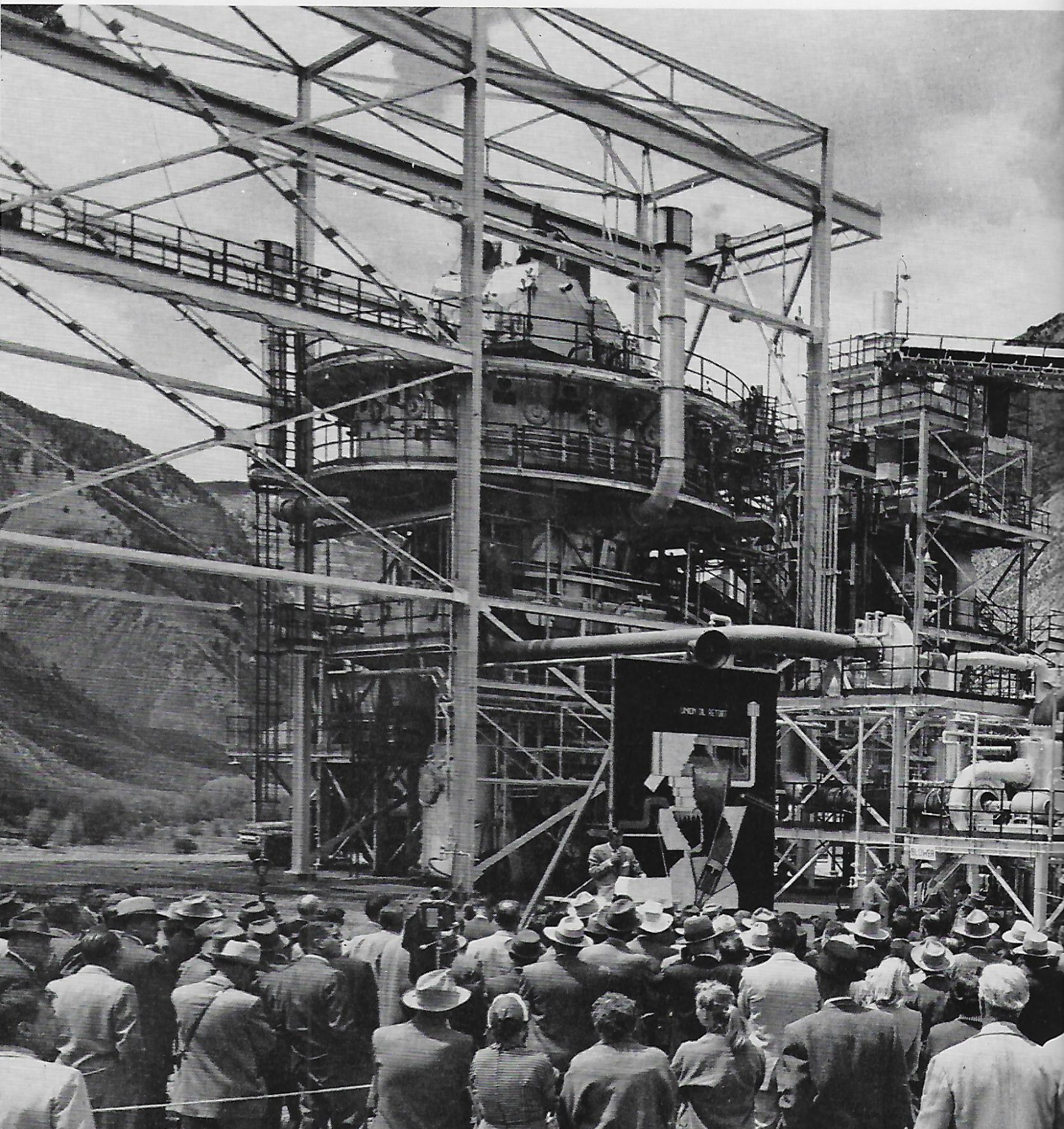
Even more so than during the past 36 years, reader participation is invited. If you have questions, ask them. If you have constructive criticism to offer, express it. If you have a report or a suggestion, volunteer it. Effective industrial journalism is a two-way street, paved with freedom of speech and freedom of the press.

*from The Editors*

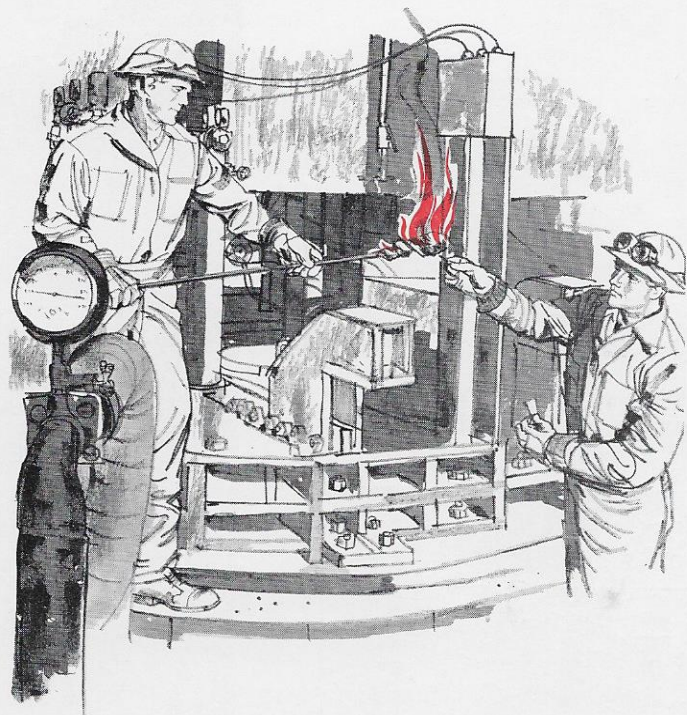


Reporting for work together are newcomer Joan Aitchison of the Comptroller's Department and your new publication Seventy-Six.

a trillion barrels



# SHALE OIL



IT WAS a symbolically beautiful day for a beginning. Rain clouds were following an unseasonable snow storm toward the Great Plains. Through a few lingering puffs of sky cotton, the sun brought warmth and majestic mountain shadows. The dirt road to the shale site was drying nicely. The state highway patrol and the caterer's staff were responding to cue. Confidence had replaced anxiety. May 18th, 1957, had finally come to the Rocky Mountains of Colorado.

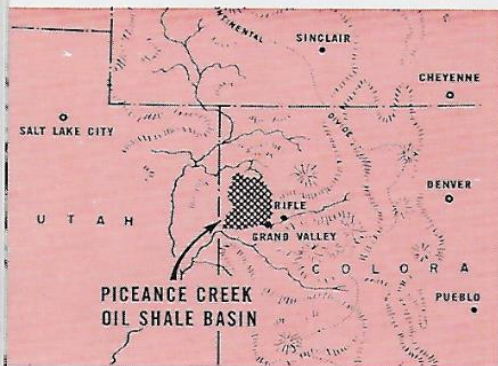
This was the scenic setting for an historic event at Parachute Creek, 12 miles up a one-way dirt road from Grand Valley, a wide spot on Highway 6 in northwestern Colorado. The governor of that state and the president of Union Oil Company joined hands to turn a shiny, chrome-plated valve. From the valve issued an unhurried flow of oil whose rapid development, Governor Steve McNichols said, "will contribute materially to the welfare of the nation, help to alleviate want, and contribute to the cause of peace throughout the world."

For this oil was shale oil, and its initial flow into a freshly painted orange and blue barrel represented scarcely a sample of the more than a trillion barrels of recoverable oil contained within the towering mountains of the area—probably the greatest concentration of potential energy to be found anywhere in the world.

*continued*

Through the use of a large diagrammatic sketch of the pilot plant, features of the Company's six-story shale oil retort are pointed out to Governor's Day visitors by Plant Superintendent John Pownall.

Across the stern Rockies from Denver are the Company's oil shale holdings (map, below), 12 miles up a one-way dirt road (right) from Grand Valley, a wide spot on Highway 6 in northwestern Colorado.



## SHALE OIL *continued*

This was the beginning. Shale oil flowed in the first demonstration by Union Oil of what may be the forerunner of the first commercial retort capable of extracting oil from shale rock.

"What you see here today," Union's President Cy Rubel said, "is one of the petroleum industry's answers to the increasing dependence of our country upon foreign sources of crude."

More than 400 persons, including Governors McNichols, Robert Smylie of Idaho and Charles Russell of Nevada, attended the demonstration. They listened as Plant Superintendent John Pownall proudly explained the operation of the six-story pipe maze of a retort, so dwarfed by encircling cliffs that it looked, as one observer put it, like a moonshiner's dream.

Said Pownall: Shale for the experimental plant is mined from a rich vein high on the mountain, called the Mahogany Ledge. It is crushed, carried to the valley floor on an aerial tramway, and then enters the bottom of the retort via a roller-coaster sequence of conveyors. Forced upward by a piston, the shale meets hot gases resulting from the burning of residual carbon

in the oil shale ash. The heat from these gases changes the organic material in the rock into oil and gas, which are extracted from the bottom of the retort. The ash continues upward, is removed from the top of the retort, and dumped into deep nearby canyons. Since oil vapors condense on the cool, incoming shale, the process needs no cooling water—an important feature in an area where water is scarce.

Recovering oil from shale is essentially a three-step process—mining—retorting, or heating the rock to temperatures in excess of 700° to force out the oil—and refining. The answers to mining and refining are comparatively simple and in hand.

But, as Cy Rubel later told the gathering, "We do not know how to recover the crude shale oil from the rock in large volumes and at a cost which would make the entire process of mining, retorting and refining competitive with that of natural crude.

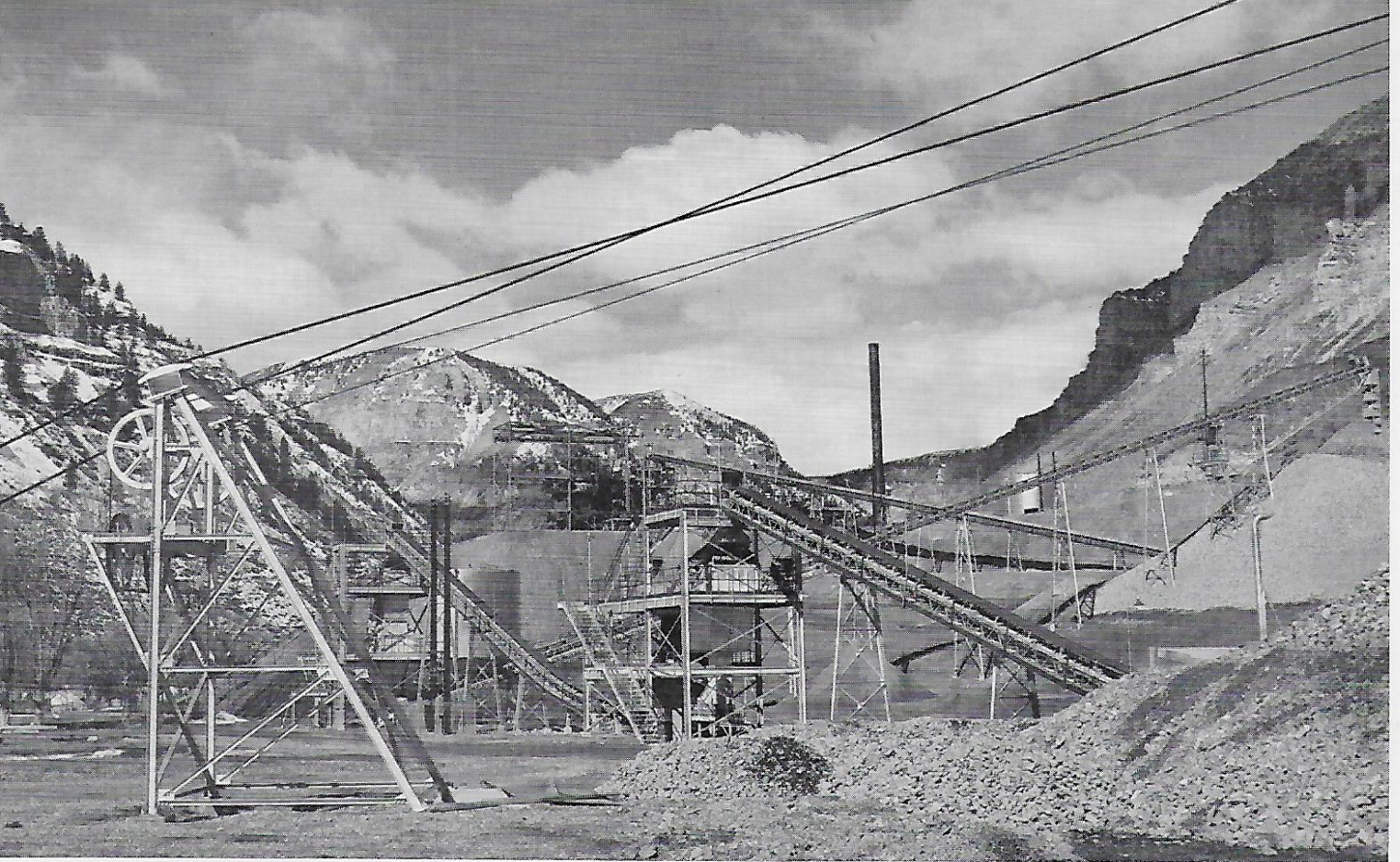
"It is to accomplish this purpose that the retort you see here in operation was built. The retort, as it now functions, is a large-scale research tool."

In two months of experimental operation, the plant

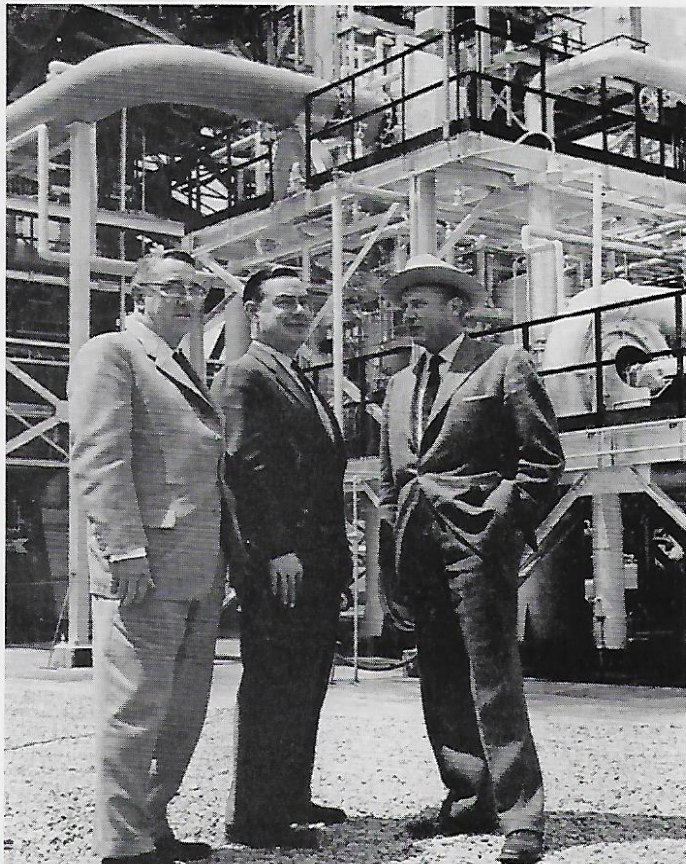
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Colorado's Governor Steve McNichols and Union Oil's President Cy Rubel join in the ceremonial valve turning to release a flow of shale oil in the first demonstration of the Company's retort. Arthur Nevins of Kansas governor's staff looks on.





Shale from the Mahogany Ledge is carried to the valley floor by aerial tramway and enters the bottom of the retort via a roller-coaster sequence of conveyors.



Plant Superintendent John Pownall is leading Union's research venture at the shale oil site.

Governors Charles Russell of Nevada, Robert Smylie of Idaho and Steve McNichols of Colorado top dignitary list at Governor's Day.



has produced more than 4000 barrels of oil, Rubel said, and works "quite successfully."

"From its performance under all sorts and varied conditions to which it will be subjected during the next few months, we expect to obtain the operating, engineering and cost data which will enable us to design a full-scale plant suitable for commercial production."

Anticipating the "when?," Rubel continued:

"We would be less than honest with you and less than fair to ourselves if we did not say in all frankness—we do not know . . .

"Optimistically let us say that IF the retort is successful—IF we receive a reasonable tax treatment—IF world conditions and our domestic market remain stable—and IF water is available—the next five years may see the start of an oil shale industry."

The Company has invested more than \$15 million in the plant, other research facilities, and land. Should commercial production be contemplated, it would require an investment 10 to 20 times as large.

A sense of urgency about the immediate creation of an oil shale industry was expressed by Governor McNichols.

"As I see it, the substantial production of oil from shale is vital to the security of the United States. It is equally essential for the security and welfare of Europe," the governor said.

"A substantial oil shale industry, capable of rapid expansion, would greatly increase our national security and would strengthen the bargaining power of the United States in the great game of international politics."

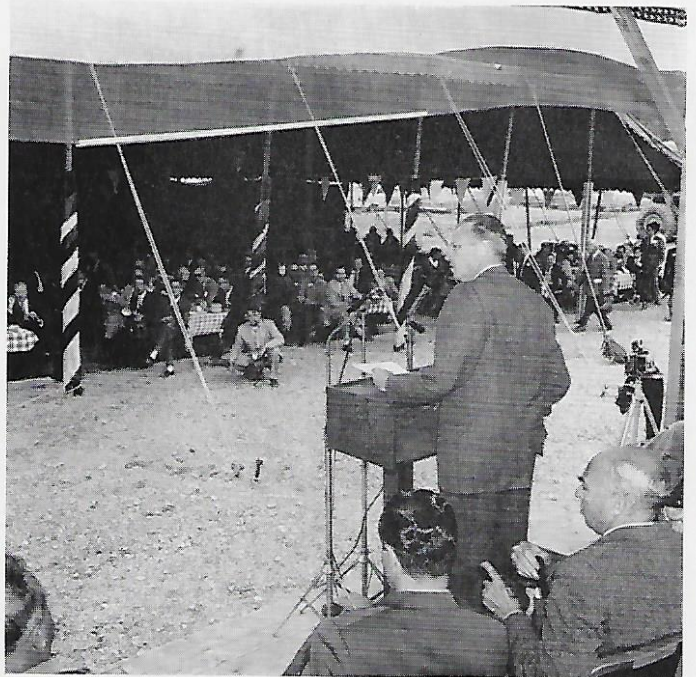
To develop the industry, he said, government at all levels should offer incentives, such as the 27½ per cent depletion allowance and income tax treatment now accorded petroleum.

The thoughtful comments of McNichols and Rubel were thoughtfully received by the hunger-satisfied audience. For their brief remarks followed a festive western barbecue of beef and chicken, salads and strawberry shortcake, served on gingham covered tables under a 115-foot tent.

Congressmen from three states, representatives of the Administration and various government agencies, and just plain American citizens attended the program, characterized by Governor McNichols as an event destined to far surpass the significance of the discovery of gold in California.

It was a symbolically beautiful day for a beginning. The end has yet to be written.

Seated at gingham-covered tables under a 115-foot tent, visitors listen to Governor Steve McNichols.



Everybody gets in line for full plates at the festive western barbecue of beef and chicken, salads and strawberry shortcake.



I'VE been in the U. S. Senate 24 years. I've survived the New Deal, the Fair Deal, and the present deal. But the budget that this Administration has just sent to Congress is by far the most dangerous that I've ever seen.

I have three good reasons for saying that:

**1. This country is mortgaged to the hilt at this moment.**

The \$275 billion Federal debt—that you and I owe—equals the full assessed value of all the land, all the buildings, all the mines, all the machinery, all the factories, all the livestock, everything of tangible value—in the United States.

In addition we have another \$250 billion of “contingent liabilities.” These are obligations which you and I have guaranteed in case they materialize, such as \$40 billion worth of possible losses on Federal housing.

**Local taxes**—the kind levied by 48 states, 3,000 counties, 16,000 towns and cities, 17,000 townships and 79,000 school districts—come to \$25 billion, and are headed higher. (Local taxes are about 25% of the total.)

Thirty-three cents out of every dollar that the people of the United States earn now goes for taxes of some kind.

We owe so much money that it takes 10% of our taxes just to pay the interest.

*There's a limit beyond which even a country as great and rich as ours cannot go. I think we've reached it.*

**2. In the face of all this, the President has sent Congress the biggest peace-time budget in history.**

The budget is \$3 billion bigger than last year, which in itself was a record-breaker. And this \$3 billion doesn't include another \$2 billion set aside as a special fund for the new national highway program.

Many people assume that the size of this budget is accounted for largely by military needs. Actually it calls for spending \$2 billion less than in fiscal 1954 on the military, but asks for about \$7 billion more in domestic, civilian expenditures.

This 1958 budget asks for 13 new state aid programs. *That would make 73 in all.*

This represents a change in policy—a change from a policy of frugality in government on the part of this Administration to a policy of big government with power concentrated in Washington.

If continued, it means that both political parties are pledged to big government and big spending. Whom does that leave to be the watchdog for the people?

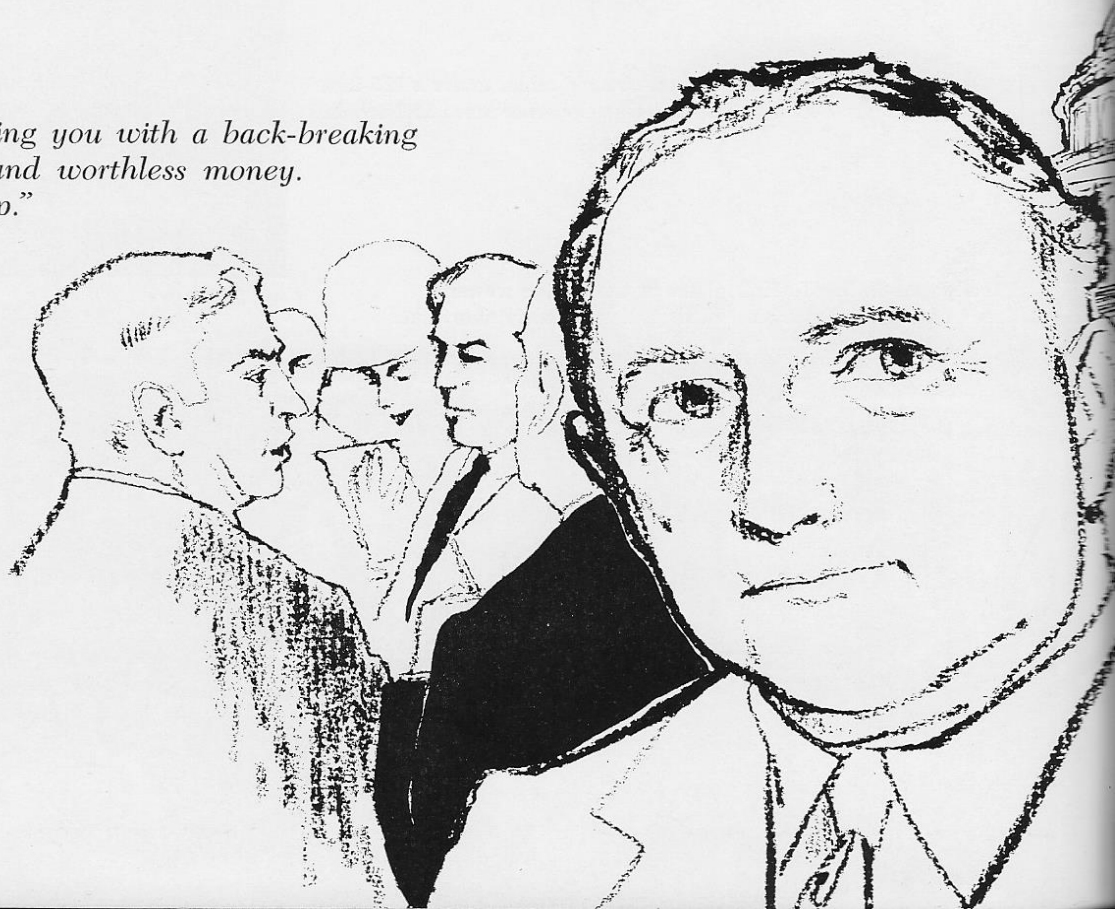
**3. I believe that taxes are so burdensome that if continued at present and proposed levels they will lead to serious consequences:**

They will take the money this nation's economy needs for growth to provide jobs and markets for farm goods.

They will cause a down-turn in business and in personal incomes, which in turn will reduce the tax intake.

**“help us cut these high taxes”**

*“The spenders are threatening you with a back-breaking mortgage, ruined markets and worthless money. It's time for you to speak up.”*



They will unleash a tremendous inflationary force.

*Look what has happened* since 1940. By 1952 your dollar, yes, *your dollar*, had lost 48 cents of its value. When President Eisenhower—newly elected on economy promises—cut \$9 billion from the proposed Truman budget, this stabilized the dollar. But under last year's record budget, another two cents of the dollar's value was lost. The new budget would chip off more.

*The loss of half the purchasing power of its money should be a serious warning to any nation.*

It is no exaggeration to say that there is nothing on earth more important than to preserve the fiscal integrity of the United States of America and the freedoms upon which our Republic is founded.

Public debt is not like private debt. If private debt is not paid off, it can be ended by bankruptcy proceedings, and maybe not too many people are hurt. But if public debt is not paid off—and *paid off with taxes*—the end can only be disastrous inflation or repudiation. *Either would destroy our form of government.*

If we become insolvent, we cannot even defend ourselves militarily, nor can we preserve our freedom.

*"But we have an emergency need for schools and roads and more health services,"* some argue.

I admit that it seems so. Some may think that a good case can be made for the 13 new state aid programs asked for in this budget. They come to only \$400 million

the first year—but like foreign aid expenditures, these would grow and grow.

The original Marshall Plan was set up for \$15 billion and had a time limit of four years. Since then we have spent \$40 billion *more* in foreign aid. And today Congress has been asked to open up vast new spending in the Middle East.

It is an interesting fact, I think, that the debt of the United States is two and one-half times as great as the combined debt of 12 European nations that we have been helping. They have a smaller per-person debt than we have, but we're still contributing to them.

*We need to drive home the point* that the Federal government does not have a magic, ever-flowing spring from which gushes "Federal aid for states." This money must *first* come from the states and communities themselves in taxes.

And only some of it ever gets back! Washington takes out a slice for administration—and then tells you how to use the part it sends back. This weakens the ability and freedom of states and communities to help themselves.

Certainly, it is difficult to oppose specific money-spending proposals. But the point is—we must stop somewhere. We must deal in principles. As an individual family, you can't do all the things you want, or need to do, and still stay out of court or the poor house.

Naturally, I favor spending whatever it takes for an adequate military establishment.

But I maintain that we can cut \$5 billion off our Federal budget without any real harm.

I personally will advocate that the President send a special message to Congress asking that the tax-saving Hoover Commission recommendations be adopted.

I will urge that President Eisenhower suggest cuts in this budget, just as he did when he cut \$9 billion from the Truman budget when he came into office, and not just pass the buck to Congress with a pious hope that it can do something.

I will urge that we eliminate some of these new expenses, such as the 13 new aids to the states.

It might be necessary to end up cutting the budget by a flat percentage across the board. It is an almost impossible task to cut item by item in the 1,165-page budget.

*Actually, we should be reducing* the public debt at this time, not increasing it. If we can't balance the Federal budget and reduce the debt in peacetime and with better than normal prosperity, when can it be done?

There is one principle that we must always preserve if our democracy is to survive: "It is the duty of the people to support the government and not the government to support the people."

Say what you will, *we can't afford to pay out a third of our income for taxes!*

/THE END

SENATOR BYRD, Virginia orchardist, is chairman of the Senate Finance Committee—and the best known authority on government budgets and taxes.



by Senator Harry F. Byrd

majoring in

# S Service at S tanford



*Bob Gallagher, at left, claims he has the West's best location: in the fabulous new Stanford Shopping Center*

**D**REAMS do come true. Ask Bob Gallagher. When he talks about his new station, he sounds as though he has a dream right there in his hands—one that needs only the right kind of handling to turn it into reality.

"After I heard they were going to build a station here, I was almost sick for fear I wouldn't be able to get it," he told us. "I knew that, potentially, it would be one of the best located stations on the Coast..."

"Best" is a strong word; but picture this:

Less than an hour's drive from San Francisco, right in the center of the densely populated Peninsula, Stanford University is building a model city. The city is no

academic experiment; it is already a mortar-and-brick reality. Soon, more than 20,000 people will play, work, sleep, and shop on what has been a closed sanctuary: the University's oak-studded, rolling hill lands.

Ordinary community developments are dwarfed by the undertaking. Stanford's acres—9,000 of them—cover an area one-sixth the size of San Francisco itself. This is one of the choicest large pieces of virgin land close to a metropolitan area in the United States.

During the past 15 years, the population of the suburban Peninsula has tripled. But the Stanford lands have been sylvan oasis, almost unchanged from the days

Car-jammed Stanford University contributes business—and men: graduate student John Holden (facing camera) is one of Gallagher's part-timers. Background: Hoover Tower and the Law School.



when they were Senator Leland Stanford's Palo Alto Stock Farm. For the Senator, in his founding grant to the University, prohibited the sale of a single acre.

Recently, through the device of 99-year leases, a way was found to unleash a modern—and very strictly controlled—land rush.

At the southerly end of a broad, horseshoe-shaped piece surrounding the campus proper, light industries are already operating in the highly restricted Industrial Park.

On the sweeping curve, families are moving into homes costing from \$20,000 to \$50,000.

And anchoring the northerly tip of the horseshoe is the \$15,000,000 Stanford Shopping Center. Its 50 stores include branches of most major San Francisco shops—the Emporium, Roos Brothers, I. Magnin—and Bob Gallagher's station.

For most people, his would be a dream location, as-is. Bob opened the station last December. Within three months, he had it up over a thousand gallons a day. The Center and the University itself bring him a steady, lucrative volume of service work. Traffic streams past his station on a busy secondary highway.

But for Gallagher, today's dream will come true tomorrow.

"We've just scratched the surface here," he says. "With a hospital and professional buildings going in right across the street from us, and with thousands of people living near us within a year-and-a-half..." Gallagher, normally a quiet man, gets excited when he talks about his prospects.

"You can't figure the worth of this station on what it's doing today. So, I'm not trying to take money out of it now. Instead, I'm planning forward, a year, two years ahead."

Gallagher's planning involves three things: manpower, service, and freeing himself from the routine work. (His plans are based on experience: Bob has been a Dealer since 1948, with two years out while the family lived in New Mexico for his wife's health. His brother John, has a station in Oakland; brother-in-law Spence Britton operates another in Berkeley.)

*continued*

Gallagher's station—with white canopies, blue lettering, brick and glass—is designed to match the architecture of shopping center.



## SERVICE AT STANFORD *continued*

Bob says, "As far as I'm concerned, capable manpower is the most important part of my plan. You can't do it—make a station successful—without good manpower. I hope we can build the business to a point where I can hire the best men and pay them so well that no other job will look attractive to them.

"I've gotten together a crew I can trust, men who can work without constant supervision. I run the place, and they do things *my* way; but I try to stay away from the actual work: lubrication, tire repairs and so on.

"There are good reasons for keeping myself free:

"First, if I'm away from the station for a while, the work goes on without a break. I try to train my men so they know what's to be done and do it. They don't have to be told all the time.

"Then, I feel I should be out in front at the islands where people can see me and where I can talk to the customers. I can't make friends or sell either if I'm nailed to the lube room."

As for service: "We try to give service in such a way

that it pays the customer to trade with us—and pays us too." Gallagher has an ample crew, and the men swarm on cars when they can; but, he says, "We go a step further: we make sure people notice what we do.

"For instance, when we check the oil, we tell them what the level is. We get all the tires, and tell the driver the pressure. We clean all the glass on every car; and we'll even ask the driver to roll up his window just to be sure he realizes that we're cleaning it.

"We expect people to get used to our service. We know that after a while they'll accept it as routine. We also know that if they go elsewhere, they'll miss us.

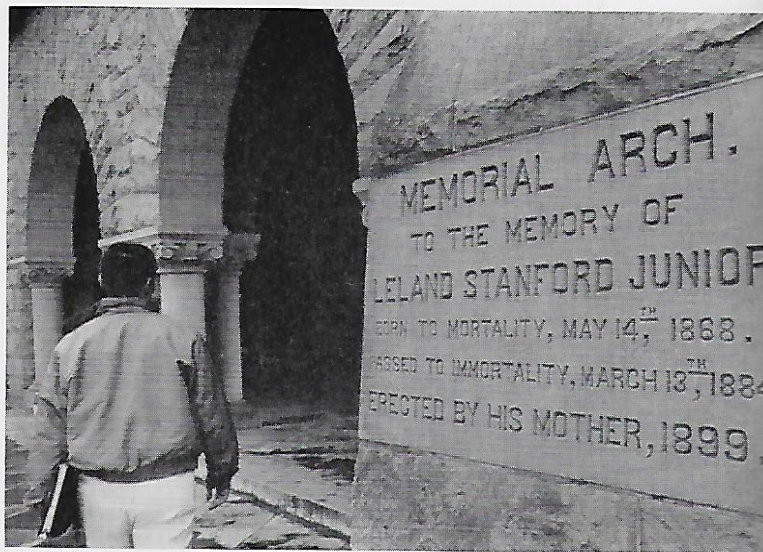
"And that's what we want: to run this station in such a way that our customers aren't happy any place else.

"I tell you this: within a couple of years, we'll be pumping 50 to 75 thousand gallons a month. All of the stations here at the Center—there'll be four of them—will get business. But the best station will get most of it.

**"We're going to be the best station!"**

**And there's no doubt in his mind about it.**

/THE END 1



Holden walks past stone commemorating Leland Stanford, Jr., for whom the University is a memorial.

The station's busy—four cars at once—but note that service still goes on: Bob, checking oil in foreground, Irv Mott at tire, Jud Thurston cleaning windshield in background.



Many of Gallagher's customers—such as camera store man R. K. Leps—come from the Shopping Center.

The Gallaghers—Bob, Linda Lee, Mrs. Estelle, Ronnie and Bob, Jr., live about six miles from station.



There's plenty of room to grow: Corral where bulls graze across from station is future site of professional buildings.



# Business Highlights of the Month

## RESEARCH *a look at fuel injection*

Fuel needs for future cars are always of top interest to the Company. Future cars may be equipped with fuel injection because of its possible advantages over present carburetion methods. Those claimed are higher horsepower output for given octane fuel, less sensitivity to high vapor pressure, more rapid warmup, and greater flexibility in styling. Because of fuel cutoff during deceleration, less air pollution from exhaust may be a consideration. To evaluate engine performance and future fuels in respect to the above claims, Research has obtained a 250 h.p. Chevrolet equipped with fuel injection. This car is considered reasonably typical of what might be sold generally in the future. The car is currently being tested with Royal 76.

Seven new licenses for Unifining have been executed during the past several months.

*from Fred L. Hartley*

## MARKETING *more asphalt, fewer grades*

Five Pacific Coast states, the Bureau of Public Roads, and the U. S. Corps of Engineers have adopted new uniform Premium Paving Asphalt specifications recommended by the Asphalt Institute. As a member of the Institute and a major producer of asphalt, Union Oil will benefit through the reduced number of grades and simplification in inventory.

Washington's Lake Chelan, the nation's newest unlimited hydroplane racing course, was the scene of the Apple Cup Races during early May. Much credit for the event, which attracted 100,000 visitors, goes to Union Oil Consignee W. H. Worden.

*from Roy Linden*

## INDUSTRIAL RELATIONS *let's beat the record!*

For the first quarter of 1957, the industrial injury frequency for the Company has maintained its 1956

record low of 5.4 disabling injuries per million manhours worked. The Automotive Department has an exceptional no-injury record, having accumulated 940,000 employee hours without a disabling injury.

Various departments have been hosts during the past few months to Commander Ira Dye, U. S. Navy, who was assigned for a tour of duty with Union Oil to learn various producing, refining and transportation operations.

*from W. C. Stevenson*

## COMPROLLER'S *bills, bills, bills!*

During 1956 the Head Office Disbursements Division processed 262,000 vendor invoices (bills), an average of 1,000 per work day. Covering materials and services purchased by the Company, but excluding such expenditures as rentals and crude oil purchases, these invoices totaled about \$120 million last year. The Division sees to it that the expenditures are properly authorized by responsible Company representatives. The prompt and proper payment of bills is also of prime importance. Vendors are either customers or potential customers of Union Oil; they appreciate prompt payments and are inclined to reciprocate in kind. In addition, many vendors offer cash discounts if their invoices are honored within a stipulated time. During 1956 Union Oil saved \$445,000 in discounts by paying promptly.

*from H. A. Lapham*

## PURCHASING *five million barrels of tankage*

The Excess Seasonal Inventory Plan, involving approximately five million barrels of new tankage for Los Angeles, Oleum and Torrance tank farms, calls for about 20,000 tons of steel costing around \$6,500,000. Because of the continuing critical supply of tank plate, Purchasing placed commitments for the tankage well ahead of final engineering studies and expense authorizations. This enabled the tank manufacturers to place their orders with the mills and assure us of completion about eight months earlier than would otherwise have been expected. The orders were spread among five tank fabricators.

*from C. S. Perkins*

## MANUFACTURING *thinking ahead*

The Manufacturing Department's Technical Review, held April 10 and 11, brought representatives from all Company refineries into conference with the staff group. During the first day, a review of 1956 operations was followed by a discussion of objectives for 1957. A highlight of the conference was to give those present the benefit of the "other fellow's" experience.

A second day's session, attended also by representatives of other departments, was concerned with operating policies, manufacturing objectives, long range projection of supply and demand for raw materials and products, new and improved processing methods, and product quality trends.

The Review permitted close communication between



refinery representatives from our widely separated locations and illustrated the interdependence and coordination of all groups for efficient operations.

*from J. W. Towler*

### PRODUCTION *they call it "sandfrac"*

A process called *sandfrac* (fracturing with sand) has been developed during recent years into a very successful means of increasing certain types of oil production and reserves, notably in some of the West Texas fields. The technique consists of mixing sand with a carrying agent such as oil or water and injecting the mixture at a high rate and at high pressure. The force creates cracks or fractures extending from the well bore out into the reservoir rock. The sand props the fractures open when the carrying fluid has been removed, thus providing a series of channels through which crude can drain into the well bore.

Union Oil has been applying the *sandfrac* process with considerable success in our West Texas fields. As an example, one of our wells in the South Cowden Field, Ector County, had declined in production to 18 barrels a day. Last October, the well was *sandfraced* with 40,000 pounds of sand and 20,000 gallons of fluid, injected at 2,500 pounds pressure. Since then, the well has produced at the top allowable rate of 93 barrels a day and paid out the cost of the *sandfrac* job in less than four months. In this field, Union's 1956 oil production was increased 119,000 barrels and reserves were increased 1,400,000 barrels as a direct result of *sandfrac* treatment on 18 wells.

*Sandfrac* treatment in certain fields has been so successful as to justify the drilling of additional development wells at inside locations. With proper consideration

given to well spacing, some reservoirs considered non-commercial now may be developed profitably by drilling.

*from Dudley Tower*

### EXPLORATION *hunters study to be "finders"*

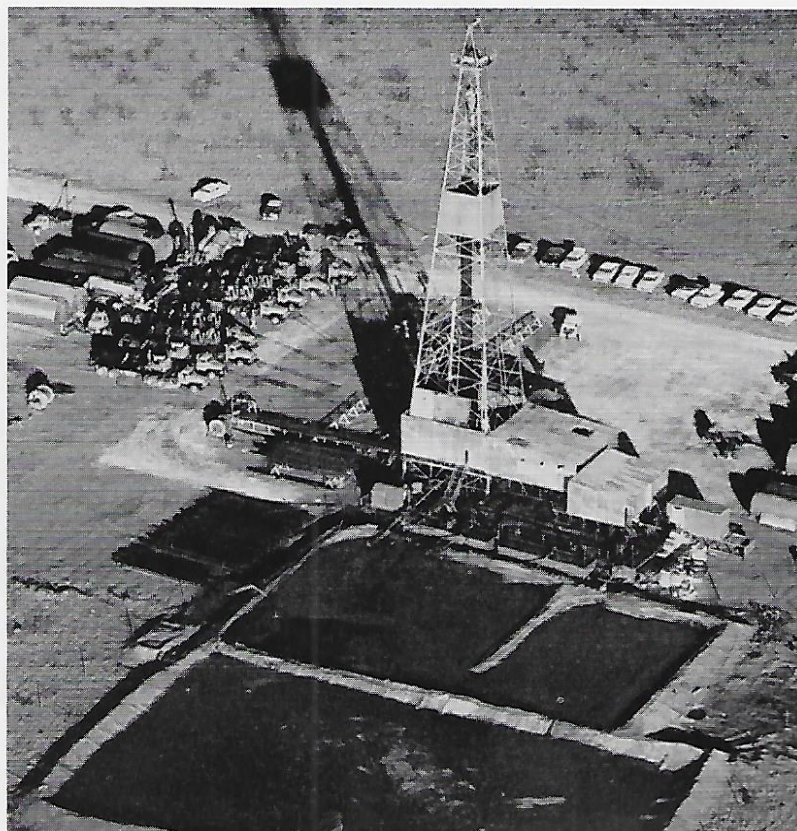
Eight Exploration Department employees—one each from Foreign Exploration, Special Exploration and our six operating Divisions—recently completed six weeks' intensive training in the basic principles and practical application of exploratory techniques. The first three weeks of the course, presented at Brea Research Center, were devoted to electric log interpretation, core analysis, calculations of reserves, reservoir studies, and secondary recovery methods. Then came a two-day tour through Southern California oil fields and areas where typical California geology is exposed. Next, using Bakersfield as their headquarters, the group concentrated for two weeks on applied geophysics, both with a field party and with office interpreters. Finally, one week was devoted to field engineering and current oil practices, also at Bakersfield. The instructors were Research, Exploration and Production employees specifically trained in the specialized fields. The objective was to make better "oil finders" of field employees by acquainting them with some techniques not available to them in their regular assignments.

Regarding offshore exploration, there is considerable doubt whether any new state or Federal lands will be offered for leasing during the remainder of 1957, either off California or the Gulf Coast. This is due to state legislative action affecting the granting of California offshore leases and to the pending U. S. Supreme Court decision affecting Federal leases off the Gulf Coast.

*from Sam Grinsfelder*



"Sandfrac" equipment in West Texas is increasing this oil well's rate of production by sand-fracturing the producing rock. The photo above, actually taken at the bottom of a well, shows the type of fractures that are propped open with particles of sand.





## Too many

Starting point of this gallon-stretching derby is Jack Rogers' station north of Pasadena. It's the ghastly hour of 3 a.m. Forty cars of the Four Cylinder Club of America are competing. The race goes not to the fastest but to the engine that yields the most ton-miles per gallon of gasoline.

To keep everything on the up-and-up, each driver checks in at the starting wire; excess baggage, including the wife, is dutifully weighed; gasoline tanks are filled to the lip; and an untrusting soul battens down the fuel hatch with tape.



**E**VER hear the yarn about that 60-miles-to-the-gallon carburetor that some oil company allegedly is keeping hidden to save the oil business?

Well, after years of trying to de-bunk the ridiculous story, we've found the carburetor—in fact, a whole flock of 'em!

At the weird hour of 3 a.m. on April 13, 1957, dozens of cars convened at Jack Rogers' "76" station just north of Pasadena. They filled their tanks to the lip; sealed gas caps on with tape; and took off at an easy-to-follow 45 miles an hour. Curious, we outsped them several times and hid behind the rocks.

A few of the machines paused in Barstow three hours later for re-fueling. But their real destination turned out to be Las Vegas. There at Alan Post's fancy new Union Oil pumps, a crew of judges pulled off the tape, refilled the tanks, and calculated results.

Stupendous! The booby-prize winner had averaged only a little better than 32 ton-miles per gallon. Seventeen cars had a 40 to 50 mile average; seven hit 50 to

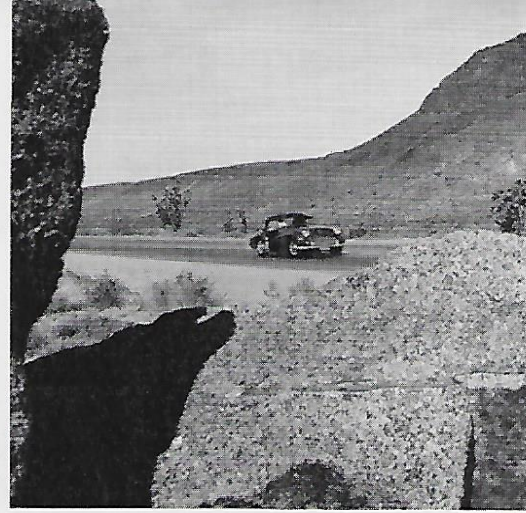
## miles per gallon?

55; four did better than 60; and the winner had a ton-mile average of slightly over 71 miles per gallon! Three diesel entries did 87, 92 and 92½ ton-miles per gallon to outclass the gasoline jobs.

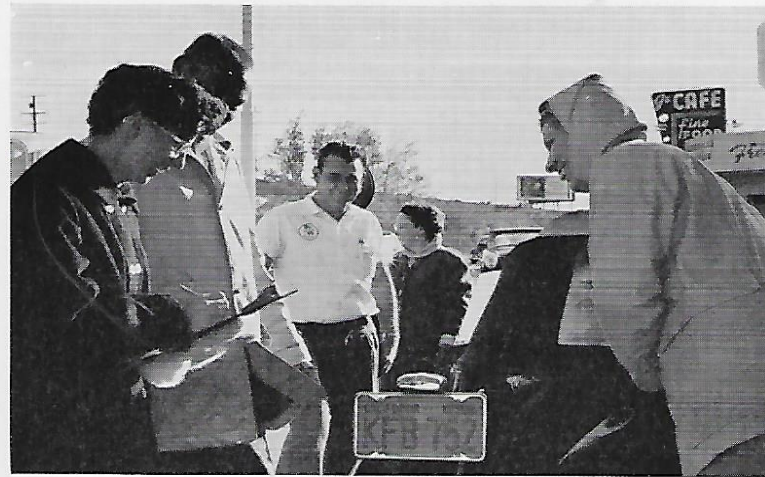
"This sort of thing will ruin the oil industry," we whispered to Alan Post.

"Don't be silly, boy," said he. "Pretty soon half of California will be coming to Las Vegas every weekend to beat the record. And the other half will come along to cheer. Business 'll be real good!"

/THE END



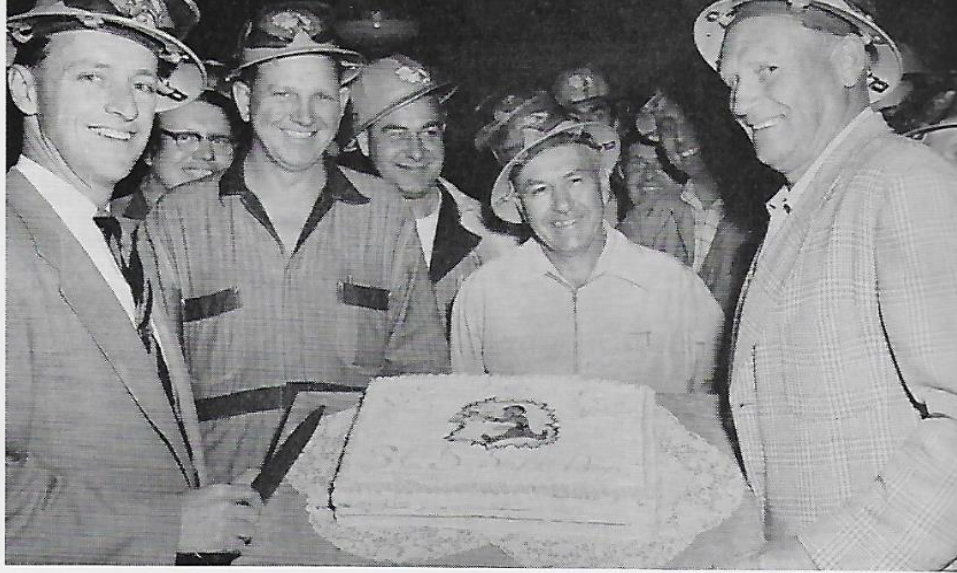
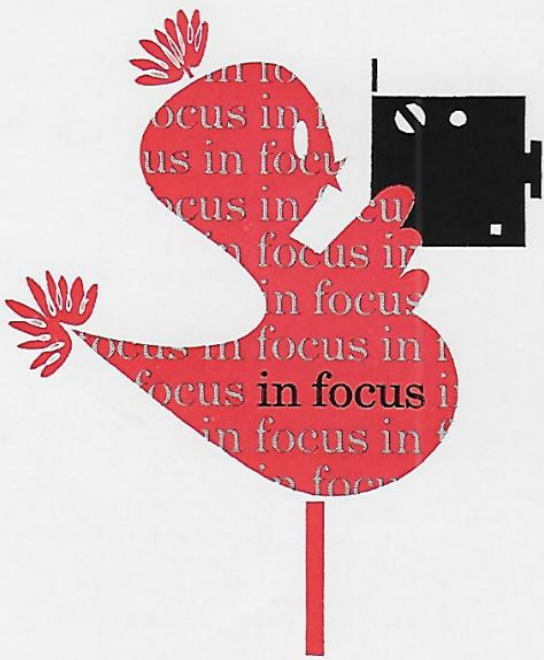
We outsped them and hid behind the rocks.



At Barstow, an arbitrary re-fueling point, there's a checker on hand to record fuel purchases and re-seal the tank cap.

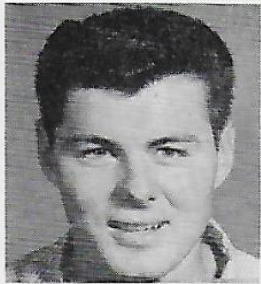
Having killed their motors at the finish line in Las Vegas, two drivers substitute manpower for horsepower. The race winner averaged 71.0618 ton-miles per gallon of gas (76)!





**365 ACCIDENT-FREE DAYS** brought cake to the Treating and Catalytic Cracking group at Los Angeles Refinery. To Art Stribley, left, fell the lot of "cracking" the two-layer feed stock and "treating" everyone in view.

from H. F. Zirnite



**HENRY N. McCORMACK** of Research designed and molded the fibreglas body of this beautiful sports car. The 2000-pound car, equipped with a '56 V-8 motor, packs approximately 425 horsepower.

from Paul K. Doyle



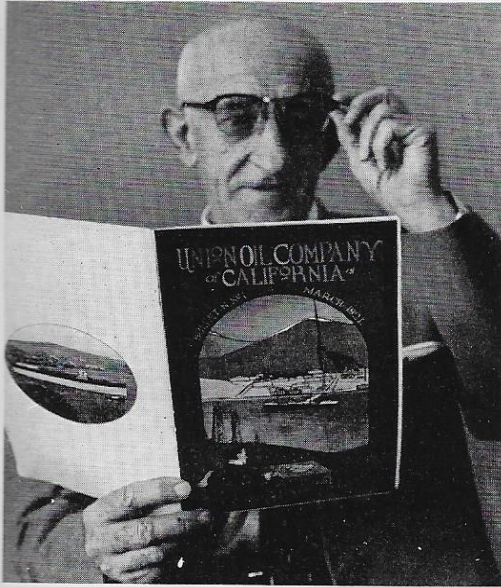
**HARRY SCHAFER** of Southwest Territory has been awarded a traditional gavel by the University Club of Los Angeles. He has served as a director and secretary of the club, and recently completed his term as president. Some 18 Union Oilers belong to this 1350-member organization.

from T. W. Proudfoot

**MARKSMEN**, from left, Vern Owen, Darrell Christenot and Harry Kays of Cut Bank Refinery were first-place winners in 1957 sectional rifle competition and took third place in an Inland Empire shoot attracting master teams from Alaska, Oregon, Washington, Idaho and Montana. The three have won many individual as well as team awards and are rated among top sharpshooters of the U. S.

from J. A. Christiansen





**HARRY KUENY**, who retired about one year ago, was a member of the Comptroller's group who started "Union Oil Bulletin," the Company's first industrial publication. While thumbing through the old March 1921 issue, he read: "Noah was 600 years old before he knew how to build an ark; don't lose your grip."



**ALVIN BIXLER** was the first Union Oiler to appear in the first issue of "On Tour" in February 1939. He won a national award for saving two boys from drowning. Al is now a foreman at Los Angeles Refinery. Linda Chambers, who interviewed Al for our current SEVENTY-SIX, is one of the newest refinery employees.

from H. F. Zirnite

**RETIREE S. L. BURGESS** and Mrs. Burgess of Newport Beach are owners of one of the world's finest mustache-cup collections. Their more than 200 cup-and-saucer sets are over 100 years old. Most are of European or Asiatic origin; no two are alike; and none can be matched, because the original molds were used once and destroyed.

from Bob Hagen



**VICE PRESIDENT FRED L. HARTLEY**, center, is seen with Rear Admiral O. P. Lattu, right, and Captain B. F. Bennett at Pensacola, Florida. As a member of the Navy Cooperative Fuels and Lubricants Committee, Fred took part in the group's annual meeting and was a guest aboard the U.S.S. SAIPAN during qualification tests of naval aviation cadets.

from Command Liaison Office  
U. S. Naval Air Station

## RETIREMENTS

June 1, 1957

	Service Date
MATHEW BRAYKOVICH, Oleum Refinery	October 23, 1925
JASPER FITZGERALD, Oleum Refinery	November 12, 1919
CLARE D. GARD, Gas & Gasoline Dept.	January 24, 1921
ARTHUR G. HARRIS, Central Territory	January 7, 1919
JAMES MONAY, Los Angeles Refinery	March 30, 1944
IRENE M. NEYLON, Oleum Refinery	August 3, 1920
CHARLES E. POLLOCK, Purchasing Dept.	June 1, 1922
ROBUSTIANO UGALDE, Los Angeles Refinery	March 18, 1923
JULIUS V. WENNERHOLM, Oleum Refinery	May 31, 1928



**SPRING ROUND-UP** in Northwest Territory, here dramatized by Charlotte Freeman and "Foreman" Bill Martin, is aimin' the lasso at higher sales. Name your brand o' the finest, podner, and we'll fill 'er up!

from J. W. White

## IN MEMORIAM

Employee

RAYMOND C. ZELL,  
Purchasing Department May 3, 1957

Retiree

GEORGE F. REILEY,  
Santa Paula Division April 14, 1957

# SERVICE Birthday

## AWARDS



### EMPLOYEES

#### June 1957

##### 40 YEARS

CHARLES A. BRUNDIGE.....Oleum Refinery  
FRANK G. FARIA.....Oleum Refinery  
ROY LEMMON.....So. Div. Field

##### 35 YEARS

BENJ. F. BLANCHARD, JR.....Ventura Div. Field  
JAMES C. BONNER.....Northwest Territory  
RAYMOND E. EDWARDS.....So. Div. Field  
EDWARD H. IRWIN.....Los Angeles Refinery  
GREGG B. MCBRIDE.....Los Angeles Refinery  
SOLOMON A. McLUCAS.....Valley Div. Field  
CHARLES E. POLLACK.....Purchasing  
HAROLD D. SEELEY.....Marketing  
JOHN S. SWANSON.....Comptroller's  
HAROLD V. WILSON.....Oleum Refinery

##### 30 YEARS

ROBERT AITA.....Oleum Refinery  
NORBERT R. CLINE.....Los Angeles Refinery  
OTHELL CROSTIC.....Los Angeles Refinery  
HARRY B. HUGHES.....Coast Div. Field  
WILLIAM D. McMILLAN.....Southwest Territory  
NICHOLAS MARTIN.....Oleum Refinery  
MAX GEO. MORLOCK.....Research Dept.  
LEONARD D. MURRAY.....Comptroller's  
LESTER E. NELSON.....Los Angeles Refinery  
HERBERT M. PARK.....Southwest Territory  
JUSTUS T. STUTTING.....Los Angeles Refinery

##### 25 YEARS

JOSEPH A. BERNARD.....Industrial Relations  
BENJ. F. BRESSLER.....So. Div. Automotive  
JAMES S. FOSTER.....Southwest Territory  
EDWARD M. HALIBURTON.....Coast Div. Field  
HOOPER LINFORD.....Research Dept.  
ALBIN MICOLI.....Oleum Refinery  
CHARLES F. PARKER.....Econ. & Planning  
WILMER E. RICH.....Southwest Territory  
WILLIAM L. SPENCER.....Marketing  
HERBERT W. ULLERICH.....Southwest Territory

##### 20 YEARS

WINIFRED S. BLAIR.....Comptroller's  
RUSSELL W. BURNS.....Exploration-Canada  
VERNON W. FREDERICKSON.....Oleum Refinery  
EDWARD F. MOUNT.....Research Dept.  
FRANK J. PICHLER.....Comptroller's

##### 15 YEARS

ERWIN W. ALVERSON.....Los Angeles Refinery  
FRED J. ANDREWS.....Oleum Refinery

JOSEPH M. BERNARDIN.....Oleum Refine  
JOHN G. BREMER.....Los Angeles Refine  
ROBERT M. BROWN.....Los Angeles Refine  
CHARLES G. CARLSON.....Production Dep  
ANDREW CHAK.....Oleum Refine  
JOHN M. DEAL.....Manufacturin  
GERTRUDE W. EATON.....Comptroller  
JACK R. GORDINIER.....Los Angeles Refine  
WILLIAM D. HALE.....Los Angeles Refine  
LEE C. HARVELL.....Oleum Refine  
JOHN M. HOPKINS.....Manufacturin  
VIRGIL A. JOSENDAL.....Research Dep  
JUDITH I. LaFORTUNE.....Research Dep  
HARRY P. LEAPER.....Los Angeles Refine  
EDWARD H. MESSENGER.....Los Angeles Refine  
GENE D. MOORE.....Northwest Territor  
JOSEPH O. NORTH.....Oleum Refine  
JOHN O. PEEK.....So. Div. Field  
JONAH QUICK, JR.....Coast Div. Field  
ROY O. SCHAEFFER.....Rocky Mtn. Terr  
JOSEPH D. SCHMIDT, JR.....Oleum Refine  
WINFIELD B. SNELSON.....Comptroller  
JOHN R. SNUFFER.....Los Angeles Refine  
HENRY L. STAVE.....Coast Div. Field

##### 10 YEARS

FRANCIS J. BARKER.....Valley Div. Field  
GEORGE W. BARKER.....No. Div. Pipelin  
FAUSTINO L. BARRANTES.....Central Americ  
GEORGE BOCK.....Central Territor  
RALPH E. BURR.....So. Div. Automotiv  
MANUEL M. CANTILLO.....Central Americ  
RUTH E. FISCHER.....Comptroller  
ORVAL K. FISHER.....Southwest Territor  
THOMAS V. HAMILTON.....Brea Chemicals, In  
CLAYTON H. HATHAWAY.....Oleum Refiner  
RUBY G. KENNEDY.....Comptroller  
HARRY J. LOVELESS.....No. Div. Pipelin  
OPAL G. MANNING.....Coast Div. Field  
GEORGE R. NEAMY.....Research Dep  
JAMES N. NIXON.....Del Valle-Field  
GEORGE A. OLMSTED.....So. Div. Automotiv  
EUGENE B. PEGG.....Valley Div. Field  
JOHN E. PETERSON.....Central Territor  
DOUGLAS G. VOLL.....Oleum Refiner  
DOROTHY E. WHALL.....Comptroller  
NICHOLAS W. WREN.....Rocky Mtn. Terr

### DEALERS

A. W. BERREYESA, Bridgeport, California  
(attained 25th year service April 1957)

#### May 1957

##### 20 YEARS

J. B. IRVING.....Los Angeles, Californi  
ADOLPH B. PILZER  
and PAUL TUGGLE.....Sheridan, Orego  
MORRIS PIVAROFF.....Huntington Park, Californi  
CHARLES TUCKER.....San Fernando, Californi  
CHARLES J. VOLPA.....Fresno, Californi

##### 15 YEARS

L. J. HAMILTON.....Porterville, Californi  
LESLIE JOHNSON.....Santa Ana, Californi  
E. L. MAKEY.....Harrington, Washington

##### 10 YEARS

MANUEL ALVES.....Santa Rosa, Californi  
WILLIAM AMENT.....San Pedro, Californi  
W. L. BRANSFIELD.....Forks, Orego  
A. W. DANKER.....Leggett, Californi

GEORGE DENTON.....Culver City, California  
 J. L. HOECK.....Sebastopol, California  
 ROY HOWARD.....Baker, Oregon  
 A. P. JIMENEZ.....Los Angeles, California  
 W. S. MATHEWS.....Los Angeles, California  
 H. D. MIXON.....Twentynine Palms, California  
 GEORGE OH.....Dinuba, California  
 ROBERTO PACHECO.....San Jose, Costa Rica  
 ROBERT RICHTER.....Roseburg, Oregon  
 KENNETH F. ROBERTS.....Campbell, California  
 CORNELIO SOLIS.....Moravia, Costa Rica

**5 YEARS**

BRUCE E. BALDRIDGE.....La Crescenta, California  
 D. W. BICKMORE.....Hermiston, Oregon  
 DAVID M. CAMPBELL.....San Leandro, California  
 CLIFFORD C. DAHLSTROM.....Poulsbo, Washington  
 HARLEY and JACK DUFFY.....Clallam Bay, Washington  
 S. M. FARRAR and  
 N. A. ALLRED.....Loma Linda, California  
 R. R. FULLETON.....Heppner, Oregon  
 D. W. MORTON.....Ephrata, Washington  
 L. G. NUMBERS and  
 R. W. RYEN.....Spokane, Washington  
 ALBERT PERKINS.....Oroville, California  
 WAYNE C. ROSS.....Kellogg, Idaho  
 R. L. THOMPSON.....Vernonia, Oregon

**June 1957**

**30 YEARS**

JOHN E. BERANEK.....San Francisco, California

**25 YEARS**

M. E. and E. F. DAVIS.....Healdsburg, California  
 FORD-NEWELL GARAGE.....Yerington, Nevada  
 C. R. MAYHEW.....Ventura, California

**20 YEARS**

R. EASTER.....Anacortes, Washington  
 F. L. MacKENSIE.....Pasadena, California  
 W. B. REED.....Fresno, California

**15 YEARS**

VIOLA and MARK PARKER.....Santa Ana, California

**10 YEARS**

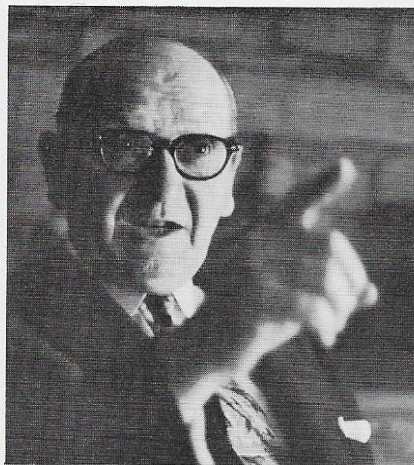
THEODORE K. H. AUYONG.....Honolulu, Hawaii  
 HAROLD BROUGHTEN, D. N. STEVENSON, SR.  
 and D. W. STEVENSON.....Cook, Washington  
 LESLIE G. CLARK.....Northport, Washington  
 COLUMBIA ELECTRIC and  
 MOTORS, INC.....Portland, Oregon  
 VINCENT E. DIMBERG.....Turlock, California  
 V. L. FAIR.....Winterhaven, California  
 B. W. FRAYSIER.....Pismo Beach, California  
 M. E. GROSSBLATT.....Los Angeles, California  
 C. E. HICKEY.....Chehalis, Washington  
 R. H. LYNCH.....San Diego, California  
 C. N. MELL.....The Dalles, Oregon  
 NORMAN SAHNOW.....Seattle, Washington  
 A. J. UTICK.....Helena, Montana

**5 YEARS**

HENRY J. BOYLE.....Moses Lake, Washington  
 EMMETT CROWLEY and  
 THOMAS TIBBALS.....San Carlos, California  
 JOHN FURTADO.....Hayward, California  
 MRS. J. HATHAWAY.....Vinton, California  
 E. A. THELANDER.....Port Orchard, California  
 J. C. WAGNER.....San Diego, California  
 DONALD B. WOLCOTT.....Sacramento, California

**A SHARE OWNER**

**SPEAKS HIS MIND**



A. Oliver Malmberg

Editor's note: The following is a condensation of the statement made by Mr. A. Oliver Malmberg at the Company's Annual Share Owners Meeting April 9, 1957

What I am concerned about is the 70 million people who vote in this country and not just the relatively few who own shares in oil companies. We share owners are just the tail of the dog. We don't wag the dog, and don't want to. But it seems to me our problem lies with the people who all too often are led by the nose by some politician whose middle name should be Demagogue.

Generally speaking, the people don't think about our industry problems because they don't recognize them as *their* problems. Since they don't own oil stocks, it makes practically no difference to them what is said about or happens to the oil industry. Yet *they* are the people who will suffer if the industry is not permitted to continue its job of serving them and the country.

All of us should know that it is not just *what* you do, but *when* you do it and how well it is understood that counts. Because I am interested in five different oil companies, I read just about everything I can get hold of about the oil industry. But I don't know when I have ever seen any statement which made a determined effort in an organized way to reach the mind and emotions of the individual citizen whose vote may well determine the course of this nation.

Why don't we endeavor to reach the people *before* the problem, and not *after* it? Not operate when the patient is dying, but analyze him, diagnose him, and operate, if necessary, in time to save his life. Our timing and our organization are wrong. Do we have any organization, any plan, anything that says to the people, to the Congress, and to the President, just what our industry is doing and how it serves our country? No—we do nothing that I know of. Certainly nothing effective.

What do we really do to tell the people about statutory depletion, about the need to free our natural gas resources from government control? What do we do to explain in advance so that when some rascal wants to cut our throats his efforts will go right straight to an informed public mind instead of to a public that is easily inflamed and therefore responds wrongly through ignorance?

Now I think it is all very well for us to grouch and complain about our problems and our headaches, but I wonder what leadership the Union Oil Company can give to some kind of an organization or organized plan to educate the people of America who *don't* own oil stocks, but whose vote is just as good as yours or mine? One of their votes can offset mine even if I owned all of the stock.

What do we do to stop these things from happening so that you, Mr. President and Mr. Chairman, will not have to report to your share owners the political and public relations problems that confront our industry? Where can we start now so that next year the comments of the industry will be more encouraging?

# Renee Reifel

She wants to know what we did with the \$401,518,000



**R**ENE E REIFEL is a secretary in the marketing department of Union Oil. She is also—through our Employees' Incentive Plan—one of our 5,906 employees who hold shares in the firm.

This entitles her (along with over 65,000 other people who own shares in Union Oil) to a report on the 66th year of business of the 47th largest industrial company in the country.

In 1956 our customers paid us \$401,518,000—a new record.

#### How we spent it

We spent 72.1% of this—or \$289,481,000—with over sixteen thousand other companies and individuals with whom we do business.

The more than 1000 tax collecting agencies took another 3.7%, or \$14,830,000. This does *not* include the \$74,120,000 we collected from our customers as fuel taxes and turned over to governmental agencies.

Wages and other benefits for our workers and their families amounted to 15.7%, or \$62,966,000 of our income.

This left 8.5%—or \$34,241,000—as net profit. Slightly more than half of these earnings—\$18,261,315—were paid in cash dividends to Renee Reifel and our other 65,000 share owners.

The balance of our net earnings—equal to 4.0% of our customers' dollars—we reinvested in the company in order to stay in business.

#### The new ownership

It seems to us this report does more than give an account of our stewardship to Renee Reifel and our other owners.

It points up the broader base of ownership of American business. In the last four years, for example, the shareholders of all companies listed on the New York Stock Exchange increased by 33%. Union Oil did even better—41%.

This could happen only in a freely competitive economy that encourages and rewards individual effort.

\* \* \* \*

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