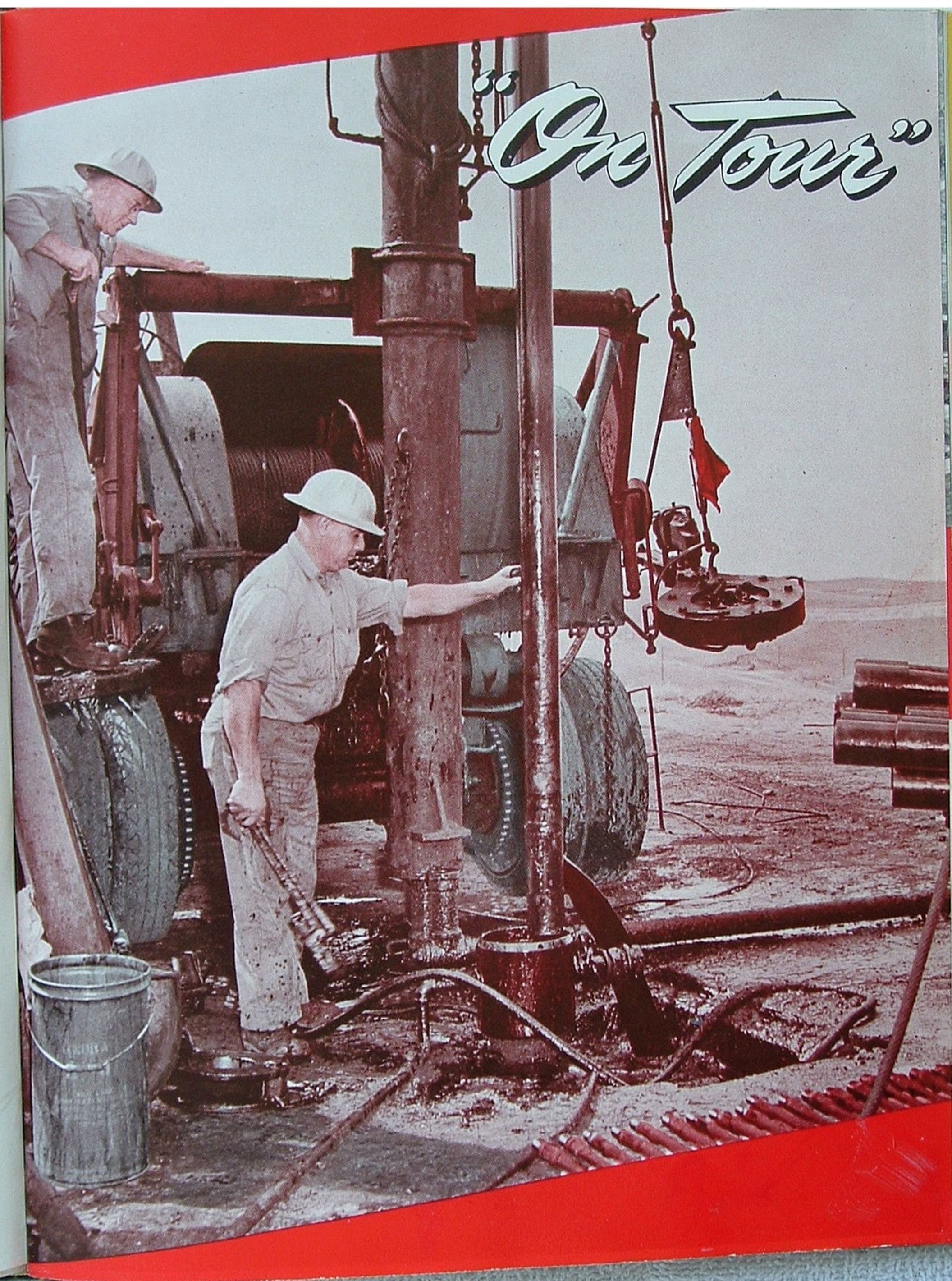


# "One Tower"



# On Tour

VOL. 10, No. 9  
SEPTEMBER 1948

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ON TOUR is published monthly by Union Oil Company of California for the purpose of keeping Union Oil people informed regarding their company's plans and operations. Reader participation is invited. Address communications to ON TOUR, 617 West 7th Street, Los Angeles 14, California.

### THE COVER

Well Pullers Tom Isaacs (above) and Otto Pedro give us an unposed demonstration of how sand is ousted from an oil well. The tubular tool disgorging oil and sediment is a bailer. This service is performed on some wells in the Mt. Poso field as often as every 25 days. For other interesting facts about crude oil production, read Vaughn Moyer's "Adventures of Poso Crude," this issue.



**H**omes burned at rate of 720 a day during 1947 in the U. S.

**E**very two minutes a dwelling fire occurred.

**L**oss of human life from fires happened every 65 minutes.

**P**ublic forests were ravaged by 172,000 fires.

**Y**our forest fire bill was far in excess of \$32,694,000.

**O**ver 20,691,000 acres of forest land were burned over.

**U**nderwriters paid no insurance on forest fire damage.

**R**ural fires claimed 3500 human victims.

**S**moking carelessly was the worst cause of disaster.

**E**xplosion at Texas City killed 468 persons.

**L**ightning was a lesser evil than lighted matches.

**F**ire robbed Americans of at least \$188,200,000.

**T**hat is why the President has proclaimed

**O**ctober 3 to 9 as "Fire Prevention Week."

**F**irst, put out lighted matches and cigarettes.

**I**nspect frequently all places where fire may occur.

**R**eplace inflammable roofs with fire-retardant roofings.

**E**xamine and maintain all fire appliances.

**P**lace combustibles away from heating equipment.

**R**eplace electric cords when worn or frayed.

**E**liminate rubbish and unnecessary combustibles.

**V**acate condemned or unsafe premises.

**E**ducate children in simple fire prevention.

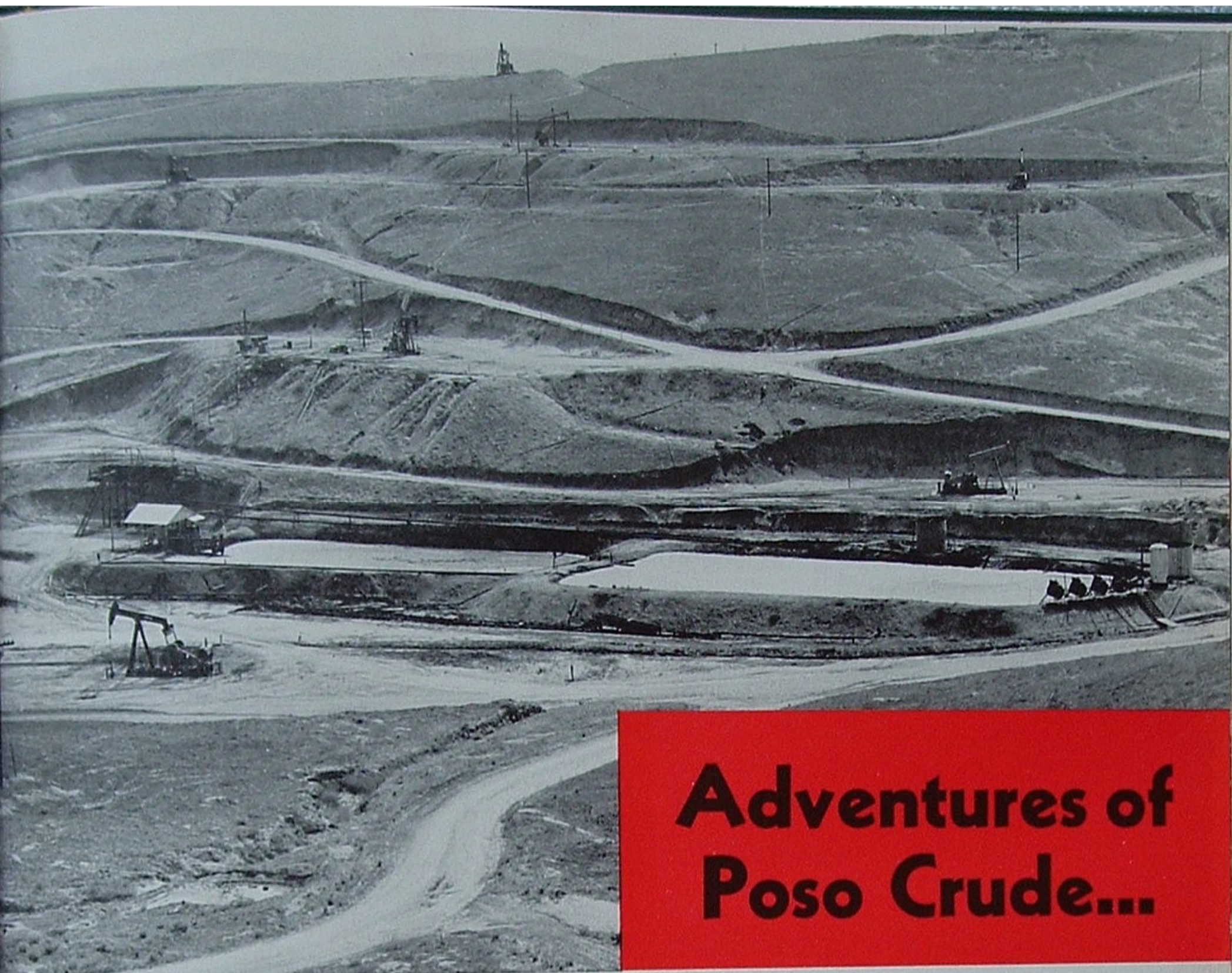
**N**ever smoke in "No Smoking" areas.

**T**rain everyone on what to do when fire breaks out.

**I**ncrease your distrust of flammable liquids.

**O**bligate yourself to safeguard others.

**N**ever share your bed with a cigarette.



## Adventures of Poso Crude...

**T**he petroleum industry is such a whopping big one that many of us work a lifetime in its highly specialized departments without obtaining more than an average outsider's concept of the industry as a whole. The field man knows production of crude from A to Z. The transportation man carries oil anywhere via truck, tanker, barge, tankship or pipe line. The refiner converts it into hundreds of highly varied and useful products. The salesman keeps those products moving through marketing plants and out to consumers. Often, however, each branch of the industry is a world unto itself and the right hand knoweth not what the left hand doeth.

For the purposes of introducing Union Oil people to each other and explaining how our widespread operations are geared into a working unit, ON TOUR is this month beginning an adventure. Starting 25 miles north of Bakersfield in the Mt. Poso oil field, we are going to follow a shipment of petroleum from the wells

where it is produced to the marketing areas where it is consumed.

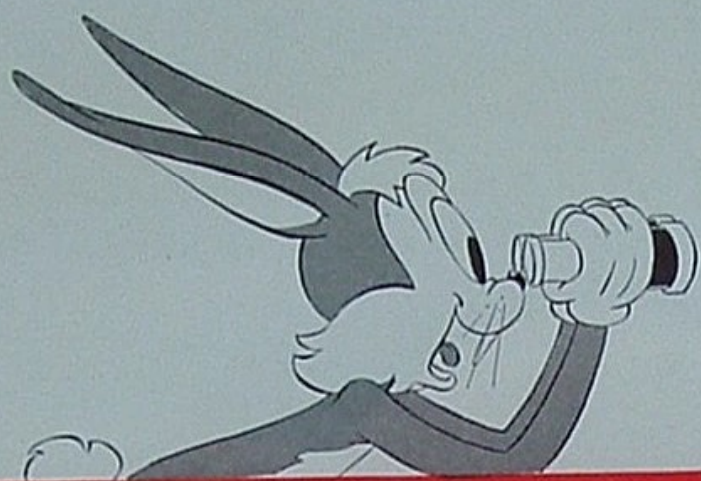
We have chosen to follow Mt. Poso crude because it is one of our oils that, for reasons to be explained later, retains its original identity throughout transportation systems and refinery.

Escorting us on our journey, answering our questions, and introducing us to employees along the way will be several Union Oilers, each a specialist in his field. First among our hosts is Vaughn Moyer, production engineer for the Company's Valley Division. Vaughn, a graduate chemical engineer from University of Washington, has been working for Union Oil since 1939. He started as a tester at Santa Fe Springs, and in 1943 was appointed to his present Bakersfield assignment. His responsibilities include the estimating and analysis of oil reserves, the valuation of properties, and the study and control of oil well completion processes, drilling fluids and rates of production.

**H**OW-DO-YOU-DO and welcome to the Valley Division! Understand you're looking for a few facts about crude production in the Mt. Poso field. Very well, if you'll ask the questions I'll try to provide the right answers. Where shall we start?

**Tell us something about the field itself. Who discovered it and when? How many wells are there? Does Union Oil own all of them?**

The Mt. Poso field was discovered July 21, 1926, when Shell Oil Company's wildcat well, Vedder No. 1, was brought in making 300 barrels per day of 15.6



## ...Mt. Poso Field

*By Vaughn S. Moyer*

gravity clean oil. As with nearly all new oil fields, Mt. Poso did not remain the monopoly of a single company. Competitors watched progress of the wildcat closely and no doubt obtained leaseholds on adjoining areas by date of discovery or soon thereafter.

Union Oil, one of the interested companies, was prompt to acquire two pieces of Poso property, known as the Tribe Lease and the S. & M. (Sarret & Mack) Lease. The latter is a fee property, meaning that is owned outright by the Company. However, the Tribe property is leased from its owner, Mr. Tribe, and Union Oil has agreed to pay him for a definite percentage of all oil produced on his property.

As our S. & M. Lease adjoined Shell's discovery well, we were prompt to drill an offset well. This is always done by competing companies, where their properties join, in order to assure that both will obtain their share from oil reservoirs extending under both parcels of land. Accordingly, our first well in the field, S. &

M. No. 1, was spudded—which is to say drilling was started—August 5, 1926 and was brought in as a producer the following September 19. Incidentally, we could drill the same well today in less than a week.

At the present time there are approximately 316 producing wells in the entire Mt. Poso field. Of these Union Oil has 54 producers, 42 on the S. & M. property and 12 on the Tribe Lease. As drilling of the field is practically completed, our present concern is to produce the wells at a rate that will assure maximum recovery of oil.

**That's interesting. But we're not certain what you meant a moment ago by saying that the discovery well produced clean oil.**

By clean oil we mean oil that is free from water, sand, sediment and other such foreign substances. In contrast to early Poso conditions, we are today producing very little if any clean oil. So much water has entered the producing oil sands in recent years that some wells produce no more than one barrel of clean oil from each 100 barrels of oil-and-water mixture pumped out. Also, some wells produce bothersome quantities of sand with the crude. This sediment drops out when the oil stands for a while in a sump, but it causes severe abrasive wear on oil field pumping equipment.

**How much clean oil are we getting, then, from our 54 Mt. Poso wells?**

During 1938 these 54 wells have been producing about 44,000 barrels per day of oil and water. From this gross production we are recovering approximately 1350 barrels of clean oil daily, or an average of about 25 barrels per well.

**Can you tell us now how Poso crude is produced and made ready for shipment?**

Surely. These pumping units you see scattered through the hills are powered either by gas engines or electric motors. You see, the field does not produce enough natural gas to power all units. Hanging from the "horsehead" of each unit you will notice a slender steel rod that disappears into the ground. Many lengths of these rods, called sucker rods, are connected end to end and extend some 1800 feet down the well bore. There they attach to a tubular pump and exert an up-and-down pumping action when the surface engine or motor is operating. Encasing the sucker rods are connected sections of three-inch pipe we call tubing. Each stroke or revolution of the pumping unit moves the mixture of oil and water about four feet up this tubing. On reaching the well head or ground surface, the mixture is then pumped on to a sump.

**And in the sump, of course, the lighter oil rises to the top like cream rises in a bottle of milk?**

To a certain extent, yes; but much of the mixture



From 42 wells on the S & M Lease, oil and water mixtures flow through these four weigh meters into the open sump;



from the first sump, oil skimmings flow into a second sump for further settling and dehydration;

behaves more like homogenized milk. In other words, some of the oil and water does not separate; it remains in a variety of mixed states we refer to as emulsions. We partially break up these emulsions by treating the crude with chemicals.

We are rather fortunate here because of the fact that Poso wells, unlike most other oil wells, produce fresh water instead of salt water. Therefore, this fresh water can be turned down the canyons without fear of killing vegetation or harming fish in the valley streams. Salt water would have to be disposed of at considerably greater expense.

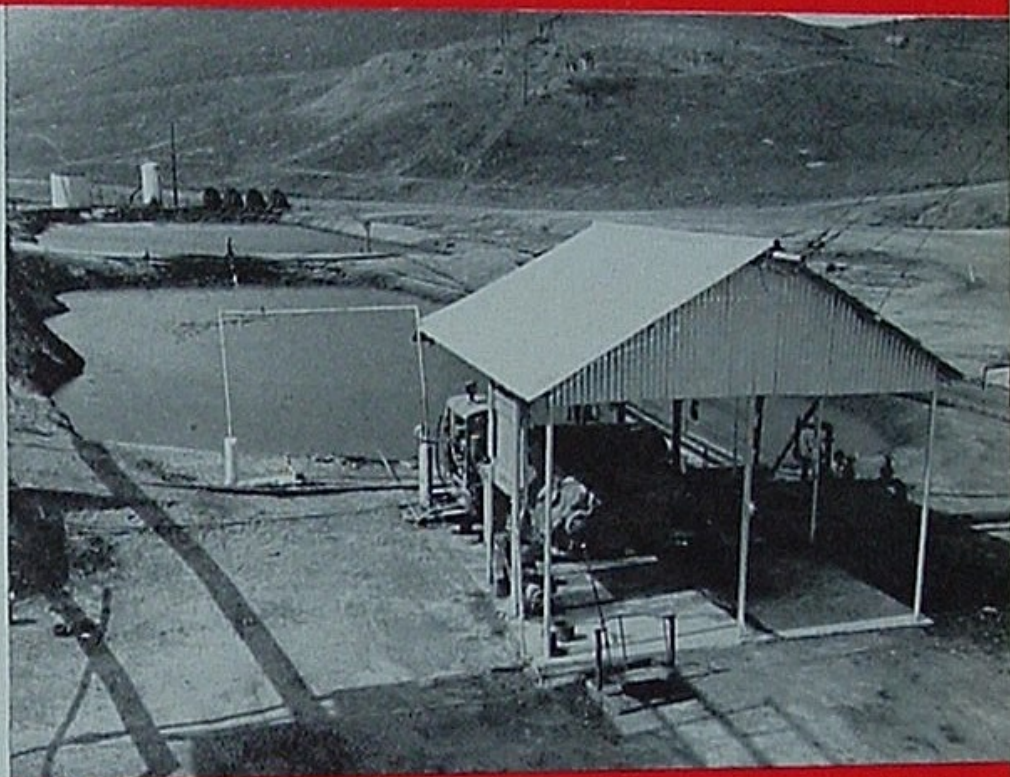
**Then, when crude leaves this field, it still has a 20 per cent water content?**

No. An emulsion of that kind would create a refining problem. For that reason we have installed a heating plant over the hill and about one mile from here. Picked up by this transfer pump at the sump outlet, the crude is pumped to the heating plant, where its temperature is raised to 170 degrees F. When this heated mixture next flows into a field storage tank, most of the remaining water settles to the tank bottom and is drained off through a bottom outlet. The water content is thereby reduced to about one per cent prior to shipment.

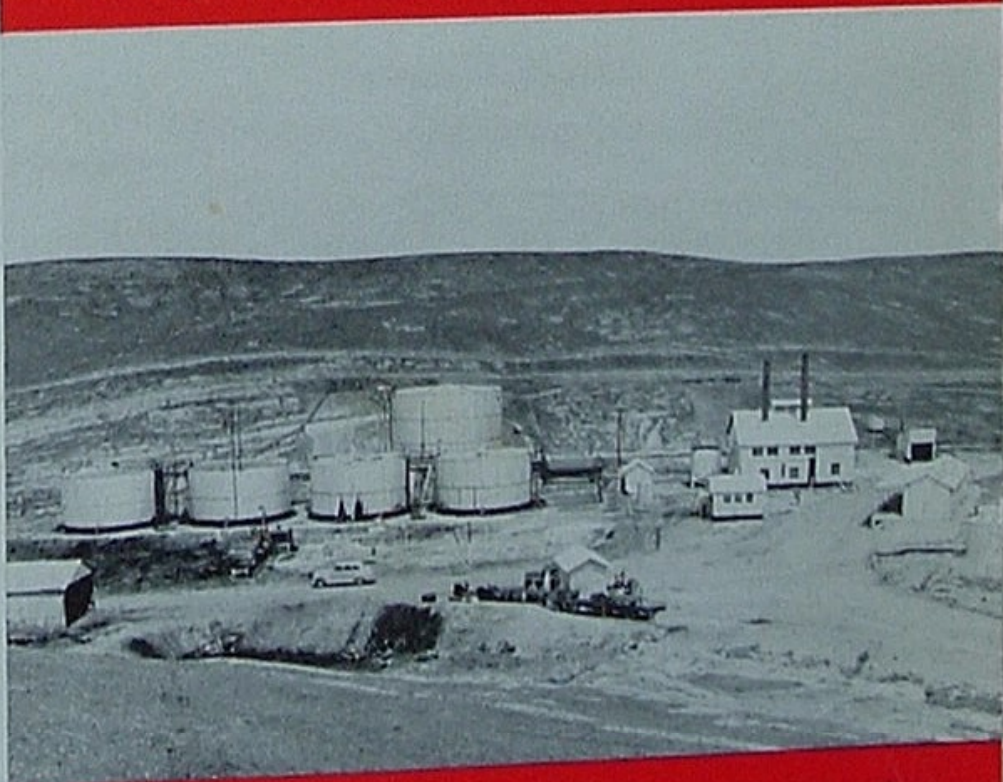
This heating plant also serves a second useful purpose. Heat, as you know, lowers the viscosity of oil and causes it to flow much more readily. Therefore, hot water coils are installed in our Poso shipping tanks. By this means the oil is heated to approximately 160 degrees before being dispatched through the shipping lines.

However, when Poso crude reaches the shipping tanks, it also reaches the limits of Field Department jurisdiction. For information about the transportation of oil, I'd suggest that you consult our Pipe Line Department.

ON TOUR



next, the transfer pump, foreground, pumps the skimmings, now reduced to a 20 per cent water content, over the hill to



a heating plant where, after being heated to about 170 degrees, the crude becomes practically water-free and is ready for shipment.



Production Engineer Vaughn Moyer, the author, spends much of his time determining how to coax maximum yield from each oil well.



Superintendent Ralph A. McGoey of the Valley Division is responsible for field operations in Taft, Coalinga and Mt. Poso districts.

## Valley Division People

Thanks sincerely, Vaughn, and as a parting question will you tell us something about Union Oil people who operate the Poso field?

Gladly. Our Valley Division headquarters are at Bakersfield, where the Company is just beginning construction of a fine new office building. Under the division setup are three district offices located at Taft, Avenal and Mt. Poso.

In charge of the entire Valley Division is Ralph A. McGoey, superintendent. His staff of assistants includes Charles A. Brown, drilling foreman; Ralph Rampton, petroleum engineer; Frances Barker, assistant petroleum engineer; William P. Geissinger, head clerk; and yours truly, the production engineer. Production foremen for the three districts are Harry Martin at Taft, William P. Knick at Coalinga, and Harold L. McCarty at Mt.

Poso. Of the several other employees in our Division office, you're sure to want photographs of two stenographers, one telephone operator, and a fourth young lady who is serving as junior clerk and microfilm operator.

All of the field work at Mt. Poso is handled by about 12 men under Foreman McCarty's direction. The "day-light tour" is comprised of two field operators, who are responsible for such tasks as inspecting each of the 54 producing wells, lubricating all pumping units, and "bleeding" water from field shipping tanks. They are relieved on "afternoon tour" by one field operator, who keeps an eye on things and reports any mechanical failures. During "graveyard tour" the field is left to function without human assistance.

In addition to the operators, two crews of men are needed for maintenance and repair purposes. One of these, the maintenance crew, attends to the repair of



Production Foreman Harold L. McCarty, here checking a new pump, is directly in charge of Mt. Poso production and field operations.



Occupying interest of (l-r) Patricia Milloy, Lois Jennings and Corene Stoner is a microfilm projector used in Bakersfield office.



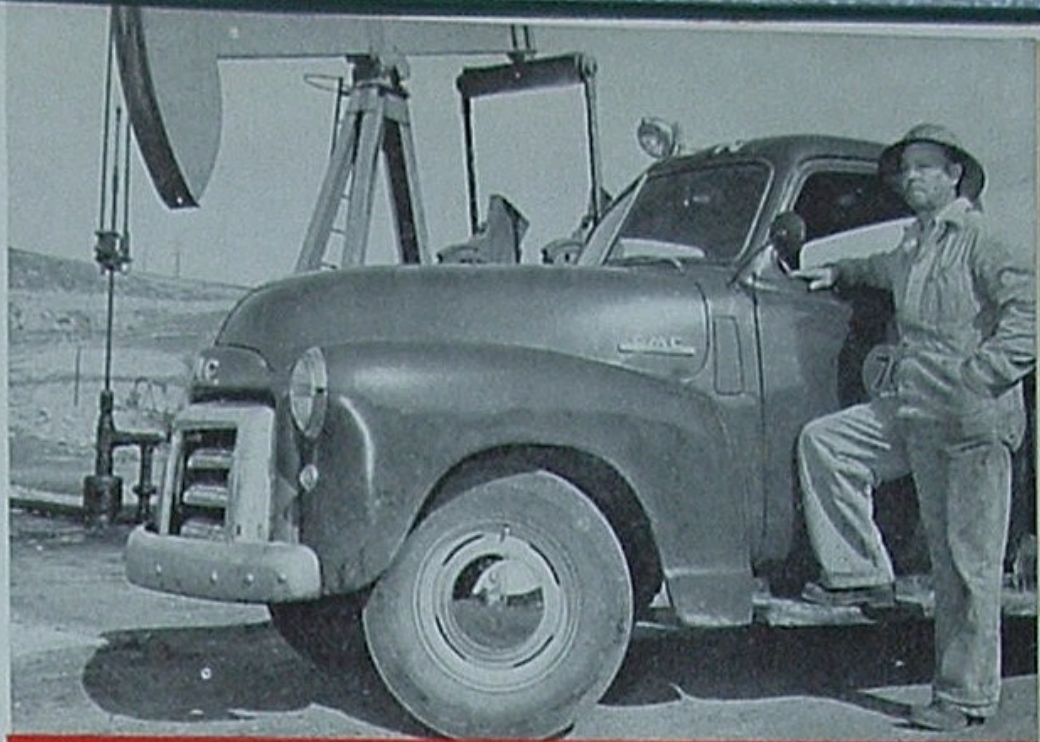
In case you're interested, our long-eared cottontail mascot is Poso Pete, whose interest in oil is based largely on carrot royalties. He is thinking of hopping along with us next month on a tour of Northern Division Pipe Lines.

all above-ground facilities such as motors, tanks and pumping units.

The other, called the rod crew, is concerned principally with underground repairs. For instance, when sand slows down a well's rate of production, they bring in portable well cleaning equipment, pull rods, tubing and pump from the well, and proceed to bail sand from the bore. Many Poso wells demand this type of service as often as every 25 days. Frequently sand will cause heavy wear on sucker rods and pump in this short length of time, requiring their replacement.

In a general sort of way, I believe that about sums up the Field Department's handling of Poso crude. Thanks for paying us a visit and come again sometime.

(To be continued next month)



Field Operator Chauncey Shaup rides herd with his pick-up mount on the 54 producing wells of Union Oil's Tribe and S & M Leases.



Drilling Foreman Charles A. Brown responds to the oil field title of "tool pusher." He has 33 years of Company drilling experience.



Head Clerk William P. Geissinger's work is essential to the production of Valley crude. He is aided by three field clerks.



Telephone Operator Lorraine Cosner is known to hundreds of Union Oilers principally as a pleasant voice. May we introduce her?

# The Northwest Prepares For a Buyers' Market

By Gudrun M. Larsen

Ever attend an annual Territory sales meeting?

Well, whether you have or haven't, let's peak in for a moment at one held recently by Northwest Territory in Seattle.

In attendance at the two-day session are about 24 men, mostly district sales managers and department heads. Lee Spencer, manager of Sales Services, is on hand from Head Office. Roy Linden, Territory manager, presides.

A somewhat cautious note is struck to begin with when spokesmen for the Credit Department point to an increase in the number of 120-day accounts. The list of past-due accounts long has been a barometer of credit weather in marketing. Today it points to a need for increased collection effort and tighter credit control.

Other department representatives make their reports. For example, J. W. White of Sales Services now produces a series of charts revealing comparative sales accomplishments during 1947 and 1948, and calling attention to Territory expenditures as compared with the annual budget. R. S. Bond, construction supervisor, outlines the progress being made in building new terminals and service stations. Personnel's Howard Webb, with the aid of a projector, presents statistics covering employee benefits.

The second day of planning is concerned largely with Company products and how to sell them. Following Lee Spencer's summary of the petroleum supply situation, C. J. Bode, assistant manager of Sales Services,



Says Customer Tobey:—"No, I always drive with the oil level a little low. I use less oil that way."

Replies Salesman Webb—"That may seem to be true. However, oil acts as a cooling agent as well as a lubricant. Therefore, it's important to keep the oil level near the full mark as recommended by the car manufacturer."

tells why Triton Premium and Royal Triton are growing to leading stature in Pacific Coast markets. With portable laboratory equipment, he presents a convincing demonstration of how Triton additives reduce sludge, wash the engine, retard rust and corrosion, and resist foaming tendencies of competitive oils.

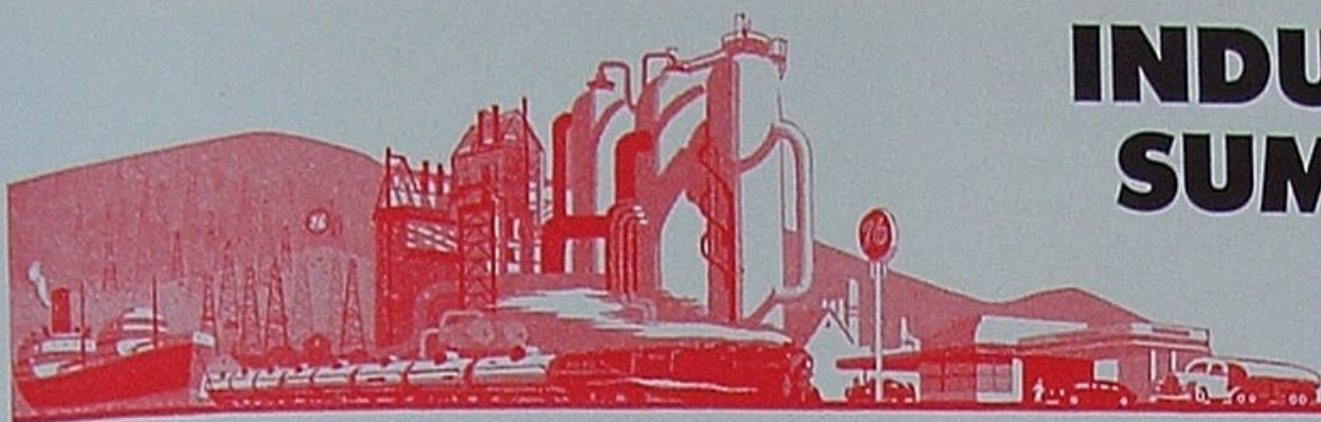
Climaxing the meetings, H. A. Tobey, chief Territory auditor, and Howard Webb present two amusing but educational one-act skits on the don'ts and do's of retail selling.

All in all, you leave the meetings with an increased appreciation of good salesmanship. Without it petroleum grapes would rot on the vine in the developing buyers' market.

From this sales meeting at the Washington Athletic Club, Seattle, district sales managers relayed marketing instructions and information to all marketing employees, consignees and dealers in Northwest Territory. Speaker C. J. Bode, left, demonstrated how Triton additives perform.







# INDUSTRIAL SUMMARY

## ● INDUSTRIAL RELATIONS

### Strike of O. W. I. U. Closes Company Refineries

At Friday midnight, September 3, operations came to a halt at our Los Angeles and Oleum refineries. More than 2,000 Company employees were idled by a strike, which affected most major oil producers and refiners on the Pacific Coast and was the most widespread action ever undertaken by a union against the oil industry in this area. It came as a surprise to Union Oil Company because of our traditionally high standard of labor-management relations.

The only issue at stake in this major strike appeared to be wage rates. Oil Workers International Union originally asked an increase of 30 cents an hour for their members; during negotiations their demand was reduced to 21 cents. Union Oil Company, after first suggesting an increase of 10 cents per hour effective September 1, offered 12½ cents per hour increase retroactive to July 3.

In offering 12½ cents, Company management recognized, among other factors, the increase in cost of living since present wages were established January 1, 1948. Latest available Department of Labor figures show that the cost of living has gone up 72 per cent since 1941. The offer, amounting to \$1.00 a day, would have raised wages 83 per cent above the 1941 level. It would have given our refinery workers a total wage increase since the end of the war of 65.3 cents per hour, which amounts to over \$112.00 a month.

It is a well-established fact that any major change in basic wage rates of one industry is inevitably followed by similar changes in other industries. Therefore, to have accepted the O. W. I. U. (C.

I. O.) requests would have made the Pacific Coast oil industry responsible, in all probability, for setting off another round of wage increases all over the country.

Everyone is well aware by this time that a general round of wage increases is followed immediately by a corresponding round of price increases. In fact, it is doubtful if any wage increase is possible without an increase in prices. Therefore, the oil industry is extremely unwilling to take the responsibility of further increasing the spiral of inflation.

As the strike progressed, there was some evidence of selfish and ulterior motives on the part of certain union leaders. Picketing at Standard Oil's Richmond Refinery flared into fighting when non-striking A. F. of L. employees continued working. It has been reported that members of Harry Bridges' striking longshoremen participated in the riotous skirmish with Contra Costa County authorities.

Since nobody wins a strike and everybody loses, Company management is hoping and working for a quick and fair settlement. Honest differences of opinion may exist, but no ill will should be harbored by anyone. For soon we are going to have to start working together again.

## ● MANUFACTURING

The 50-ton pilot plant for processing oil shale is being assembled and some cold operation has been started; the unit so far gives promise of working very well. The pilot plant for production of detergents has been completed and initial operations were started near the end

*(Continued on next page)*

of August. No product has been produced to date, but production was expected to begin early in September. Studies are continuing of possible pilot plant programs for processing facilities to treat residuums by means of the iron-coking technic. It appears probable that an existing pilot plant can be made over for this purpose. Union Oil is particularly interested in such a program, since it offers a means of correcting problems associated with processing shale oils and Santa Maria crudes and also represents a process for converting fuel oil into middle-of-the-barrel fractions.

Many requests for Hypersorber proposals continue and the engineering group has a section engaged in working up answers to these requests. Standard Oil Company of California recently asked for design information and has indicated almost certain need for a large Hypersorber unit.

Decision was reached during the month to produce ethyl alcohol from ethylene produced at Los Angeles Refinery. Arrangements are being made for construction of the ethylene plant, and proposals are being reviewed with several contractors for the ethyl alcohol plant. Now that it has been definitely decided to produce ethyl alcohol, a better definition of ethylene facilities can be reached. With ethyl alcohol production, it is probable that lower quality, lower purity ethylene can be tolerated. These questions are being resolved.

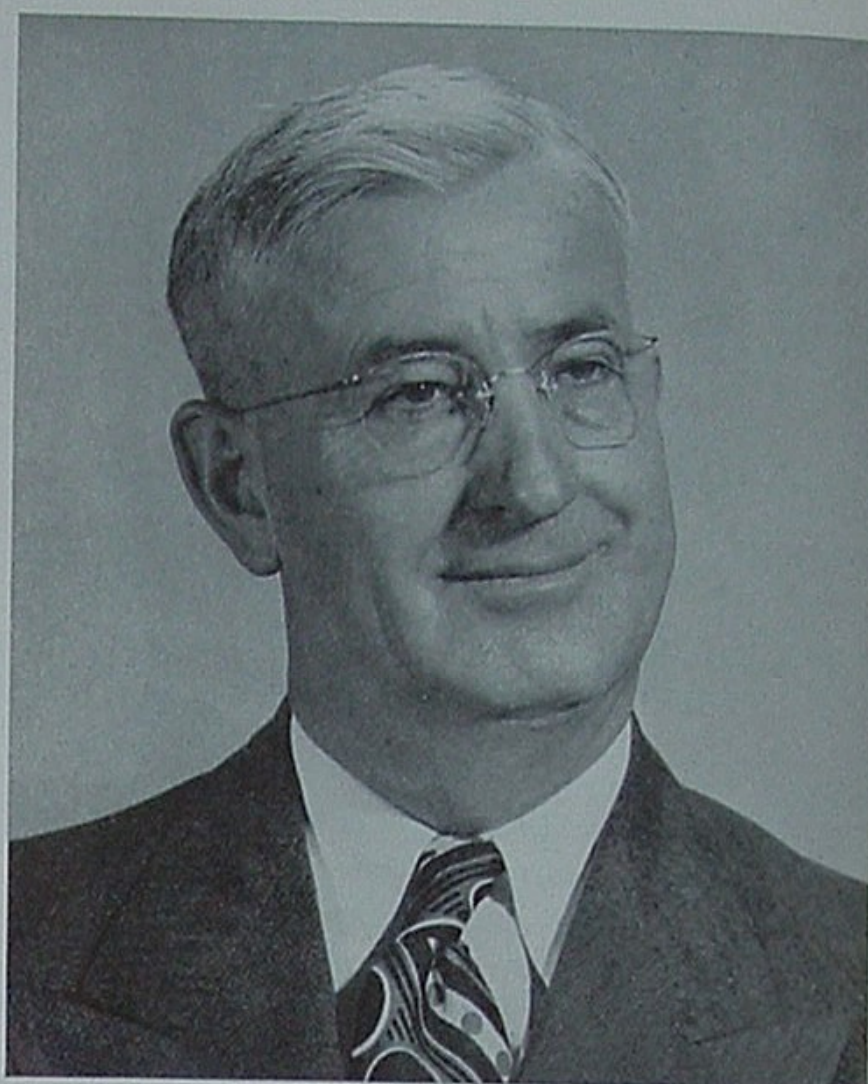
All refineries met operating schedules during August. Over-all gasoline production was slightly in excess of 44,000 barrels per day, which is a new record.

The Triton project at Oleum is proceeding according to program and erection is well underway. Material shortages are cropping up from time to time because of the failure of vendors to meet schedules. In general, these difficulties are being solved and the planned completion by July 1, 1949 has not yet been affected.

#### ● COMPANY-OWNED TRUCKS MOVE LARGE VOLUME

Company-owned transport trucks have recently been moving an average of 20,000,000 gallons of gasoline monthly to marketing stations and service stations from refineries and terminals. Transports deliver 90 per cent of this volume directly into service stations, thereby eliminating expensive rehandling costs through marketing stations.

Three "new design" truck tractor-semitrailer transports of 5,700 gallon capacity were completed and placed in service in the Marketing Department last month. Because of a reduction in deadweight, these new transports have permitted a payload increase of approximately 8 per cent. Operation of the new transports has proved satisfactory.



#### ● C. E. SWIFT NOW VICE-PRESIDENT

The Board of Directors at a meeting held August 30th at Los Angeles Refinery elected Claude E. Swift as

vice president in charge of Research and Patents.

Mr. Swift, who was educated at Huntington Beach Union High School and the University of Southern California, joined Union Oil Company in 1926 as a senior inspector in the Research Department at Wilmington. He became a junior chemist in 1927 and an assistant chemist in 1930. He was appointed chemical engineer in the Patent Division in 1930; patent engineer in 1934, patent attorney in 1935, assistant patent counsel in 1938, and patent counsel from 1939 to 1947. On June 1, 1947 he was appointed manager of Research and patent counsel.

#### ● MARKETING

Volume of sales during July increased 4.8 per cent over July, 1947, all classifications of products contributing to this increase except Technical Products, fuel oil and asphalt. Gasoline sales increased 17 per cent, with gains being reported in all classes of trade. Over 5,000,000 gallons of gasoline were sold to the U.S. Government, principally for aviation purposes.

Since the advent of Royal Triton a year ago, sales of this product have more than tripled. Total motor oil sales have increased 22 percent. Grease sales increased 11 per cent and sales of Unoba were the largest on record.

## ● FIELD

Union L. L. & E. No. 1 on the Lake Hatch block in Terrebonne Parish, Louisiana, was drilled to a depth of 11,203 feet and completed for production from a 26-foot oil sand through perforations at 7,896-7,902 feet. The well had a potential of 235 barrels per day of 35.1 gravity oil through 9/64" choke. The Lake Hatch block consists of a total of 9,240 acres.

Union State L. L. & E. No. 1-9 on the Bay Junop Salt Dome, Louisiana, was completed in the top of a 50-foot saturated zone through perforations from 4,012-4,020 feet. Initial production was 135 barrels per day of 37.7 gravity oil through 9/64" choke. The Bay Junop block comprises a total of 10,529 acres.

Each of these wells constitutes a new discovery in the Coastal Area. Further drilling will be started immediately to evaluate the fields.

In the Glacier Division, summer activity has centered principally in the Tribal 194 wells at North Regan on the Blackfoot Indian Reservation in Montana. Three wells have been completed for a total production in excess of 300 barrels per day. A fourth well is nearing completion and a fifth is drilling below 3,500 feet. Work is progressing toward the drilling of a well north of Church Buttes on the Moxa block in Wyoming.

Thirty per cent of the Company's efforts in California drilling operations is devoted to exploratory and semi-exploratory drilling in order to maintain our reserve position and meet future refining requirements. Our first development well on the Graham & Loftus property, purchased in fee a few years ago, has been drilled. This well, G & L No. 58, was completed for approximately 150 barrels per day instead of the 50 barrels anticipated. Development of the Canada de la Brea property is progressing with the recompletion of C. D. L. B. No. 14 for 50 barrels per day. This area warrants future drilling due to increased crude prices. In the Cat Canyon area a series of shallow wells has been drilled and completions of 125 to 150 barrels per day have been obtained.

## ● HIGHER COMPRESSION ENGINES ON THE WAY

Present indications are that the General Motors Corporation will place higher compression engines in the Oldsmobile and Cadillac automobiles in the near future. Oldsmobile is expected to come out with an 8 to 1 compression ratio engine during the current year and Cadillac with an engine of the same compression ratio in 1949. These higher compression engines are expected to show a substantial saving in fuel. Experiments are being conducted in the development of engines with 10 to 1 and 12½ to 1 compression ratios. The indicated gasoline knock rating requirement for satisfactory operation of an 8 to 1 compression ratio engine will be about 93 research method.

## ● CRUDE OIL AND PRODUCT SUPPLIES

The following is a comparison of the Company-owned inventory of crude oil and products as of July 31st with the economic seasonal inventory on that date. Crude oil stocks declined 57,000 barrels, whereas stocks of finished and unfinished products increased 522,000 barrels at inventory points normally supplied from California. Stocks of finished gasolines increased 142,000 barrels, but stocks of unfinished gasoline declined 239,000 barrels, leaving a net decline in gasoline stocks of 97,000 barrels, which approximates anticipated seasonal demand fluctuation. Additions of 46,000 barrels and 29,000 barrels were made to stove oil and Diesel inventories, which is in keeping with seasonal demands. However, the volumes added were below those estimated as being necessary to provide adequate seasonal reserves. Fuel oil, cutter stock, and straight-run residuum inventories show a net increase of 450,000 barrels, which is more than the estimated provision for seasonal reserves and is due to the high level of refinery production maintained throughout July.

## ● NEW BAKERFIELD OFFICE BUILDING

Construction on Union Oil Company's Valley Division office building in Bakersfield has begun. The "L"-shaped building, located on the northeast corner of 27th and F Streets, will contain approximately 12,000 square feet of floor space.

Completely incombustible material will be used for exterior construction. The walls are to be concrete blocks, the first floor concrete on fill, the second floor concrete and steel joists, and the roof steel decking. Interior walls will be lath and plaster with built-in closets and bookshelves. The building will have mechanical ventilation and refrigerated air-conditioning. Exterior adjustable metal venetian blinds will be used to keep the sun from striking window glass and thus reduce the cooling load.

When completed, the new building will provide office space for members of the Production, Geological, Geophysical, Land, Marketing, and Purchasing Departments.





### Union Oil Company Telecasts of Los Angeles Rams' 1948 Games via KFI-TV Transmitter

Date	Rams vs.	Time	
Sept. 18	Philadelphia Eagles	8:00 p.m.*	Oct. 31—Chicago Cardinals.....1:45 p.m.
Sept. 22	Detroit Lions	8:15 p.m.	Nov. 7—Chicago Bears.....1:45 p.m.
Oct. 3	Philadelphia Eagles	1:45 p.m.	Nov. 18—New York Giants.....8:00 p.m.*
Oct. 14	Chicago Bears	8:00 p.m.	Nov. 25—Chicago Cardinals.....8:00 p.m.*
Oct. 21	Green Bay Packers	8:00 p.m.	Nov. 28—Green Bay Packers.....1:45 p.m.
Oct. 28	Detroit Lions	8:00 p.m.	Dec. 9—Washington Redskins.....8:00 p.m.*
			Dec. 12—Pittsburgh Steelers.....1:45 p.m.

Kickoff time—2:00 p.m. for Sunday games and 8:30 p.m. for night games.

\*These "transcriptions" are subject to last minute change. Consult your newspaper television program.

"Good afternoon, ladies and gentlemen. Your announcer is Tom Harmon. Through the television facilities of KFI-TV, Union Oil Company of California is bringing professional football to your living room. Presently you will see such famous stars as UCLA's Bob Waterfield, in jersey No. 7, throwing his bullet passes; USC's Jim Hardy, No. 21, showing his heels to the opposition; Gil Bouley, No. 66, of Boston College slamming 235 pounds of muscular dynamite at the ball carrier; St. Mary's Dante Magnani, No. 3, greeting some tackler with an unfriendly straight-arm; and the Rams heading for pay-dirt to thrill a crowd of 80,000 excited fans . . . But first, let's look at another star performer of the 1948 season—Royal Triton."



ON TOUR

# Pro Football A la Triton

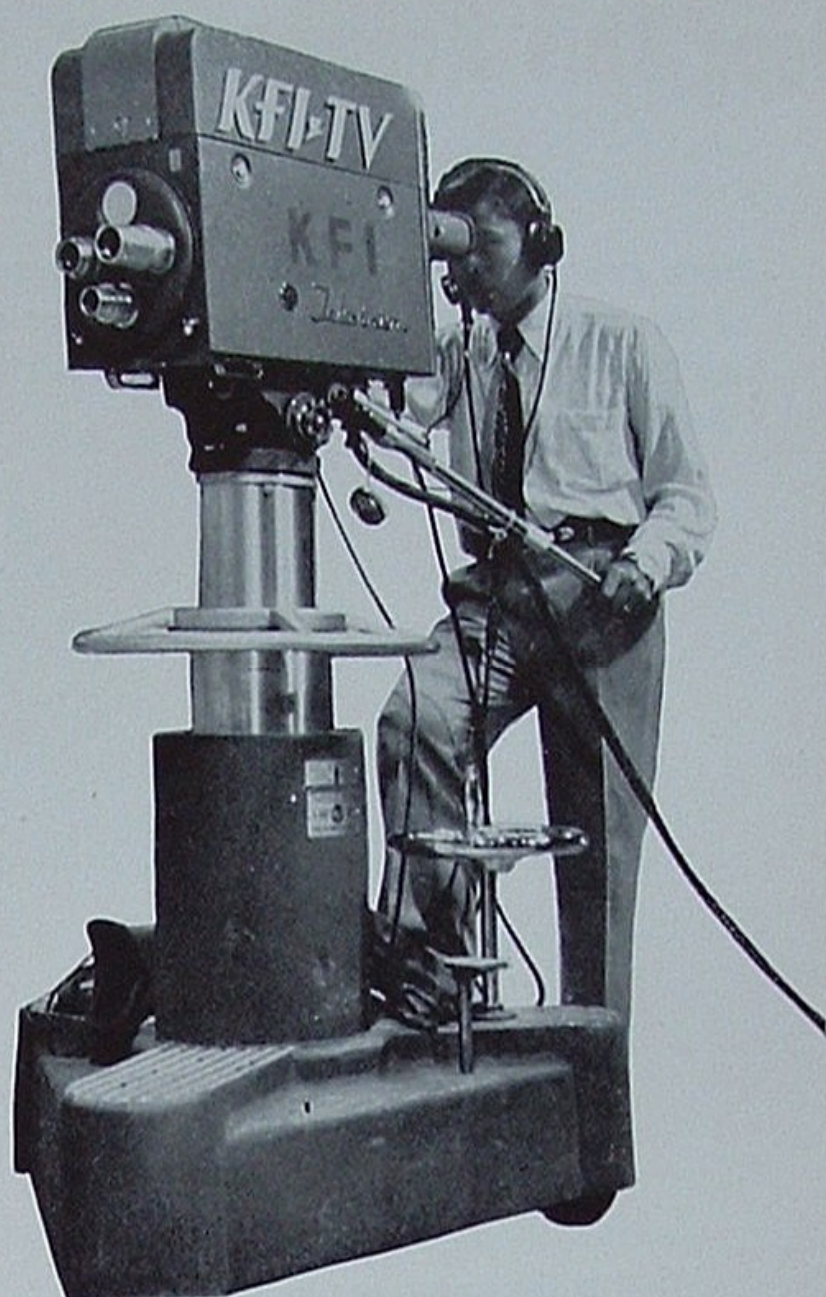
Professional football, already grown into a popular national attraction, is certain to multiply its audience during the 1948 season. Television is already bringing the rough and spectacular sport into the living rooms of millions who have never before seen a professional game. And Union Oil Company has recognized the advertising advantages of being the leading sponsor in Los Angeles area.

Beginning with the professional kickoff on September 15, the Company, through facilities of KFI-TV, plans to present every home game played by Los Angeles Rams during the season. Away-from-home games played by the Rams will be recorded on movie film and later televised through Company-KFI-TV arrangement.

Announcing the games will be Tom Harmon, KFI sports director and formerly a nationally famous Michigan gridiron star.

Union Oil Company, currently the largest single television advertiser west of Chicago, plans to employ this new advertising medium in many novel ways to herald such products as Royal Triton.

One step nearer to on-the-air operations of television station, KFI-TV, Ron Oxford, executive television producer of the station, lends a helping hand to Alma Carroll on a tour of KFI-TV's new remote pickup truck to be used for special events television coverage. Equipped with the latest and finest developments in television research, the truck can televise activities in any part of greater Los Angeles direct to its Mt. Wilson Transmitter.

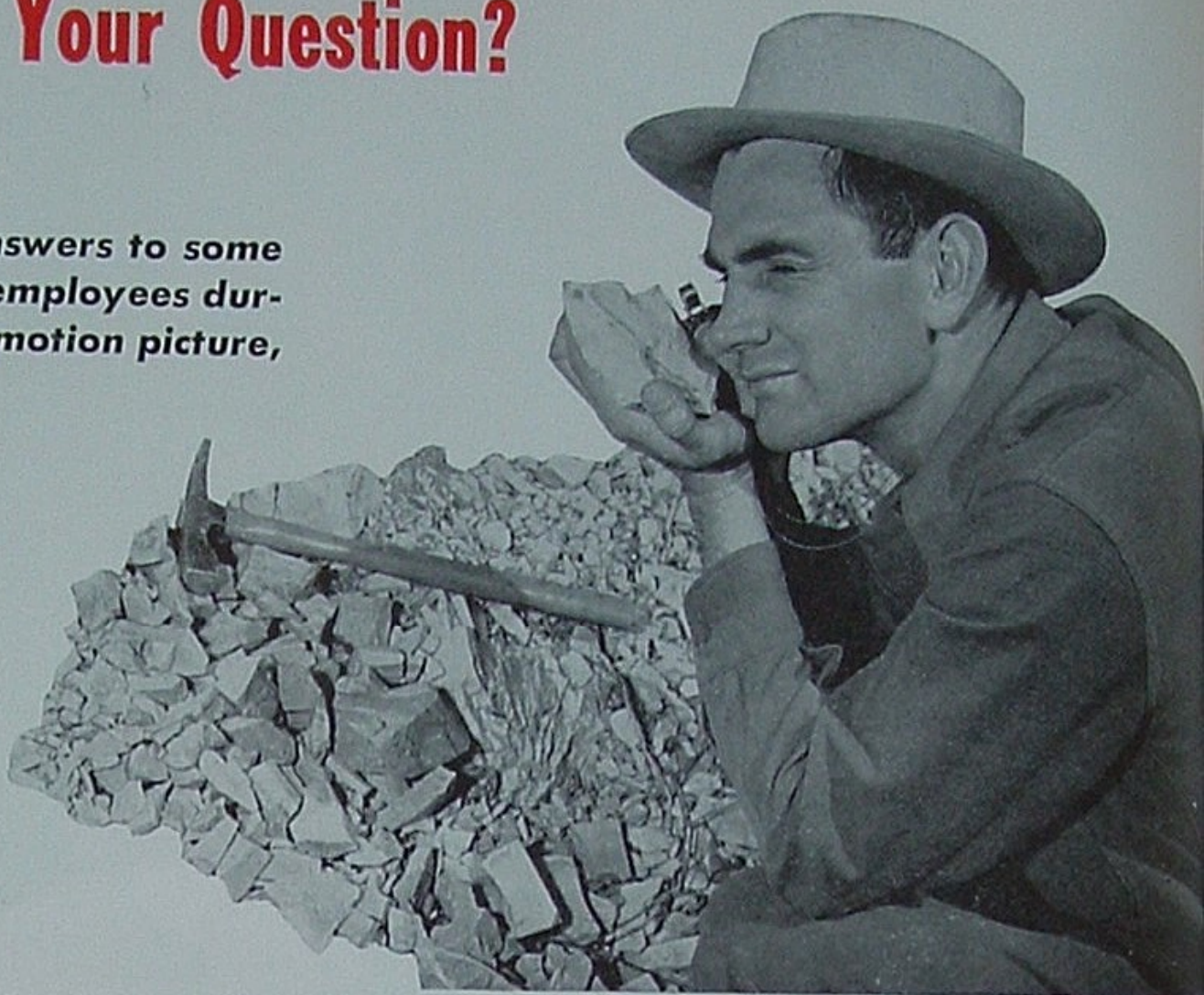


(above) KFI-TV television camera trained on field of action.



## Does This Answer Your Question?

*Here are management's answers to some of the questions asked by employees during recent showings of the motion picture, "Report for '47".*



A geologist, Edward A. Hall, examines rock for "bugs" or fossil evidence. The presence of fossils is a good omen to oil seekers.

### **What is the difference between a geologist and a geophysicist?**

Geology is a science that treats of the constitution and structure of the earth and the operation of its physical forces. Geophysics is a study of the application of physical laws to the measurement of earth characteristics. Thus, the geologist studies rocks and rock formations for possible evidences of oil deposits. And the geophysicist uses instruments which either weigh the mass of the earth or measure the velocity of shock or sound through it, thereby determining where it is most advisable to explore for oil.

### **What is the difference in meaning between exploration, drilling and development?**

Fundamentally, exploration is prospecting; it can be done either by surface geological work or by drilling. The term "drilling and development" refers to the drilling of a known oil field and bringing the oil into possession at the surface; this is also sometimes

referred to as exploitation. Most oil companies have two departments to perform these functions—exploration and exploitation. The Geological Department is charged with the responsibility of exploring for oil, and the Field or Production Department is charged with exploitation responsibilities.

### **How effective are geophysical operations in locating crude sources?**

The actual crude sources are not located by geophysical means. Geophysics, in some measure, make it possible to locate structures in which crude oil may be present. Such fields in California as Ten Sections, Rio Bravo, Greeley, Strand, Coles Levee, Paloma, and Canal were all located by geophysical means.

### **In which 13 states is the Company exploring for oil?**

Union Oil Company has lands under lease and is exploring for oil in Washington, California, Montana,

Wyoming, Utah, Colorado, New Mexico, Texas, Louisiana, Florida, Mississippi, and Arkansas. In addition, the Company has holdings in Alberta, Canada, which are being explored, and in Paraguay and Alaska.

**Who decides how much money should be spent for such items as exploration, drilling, development, replacement, and expansion?**

This duty or function is decided by the management of an oil company acting, as a general rule, through an executive committee. The committee makes this decision by acting on the recommendation of the vice president in charge of the Production Department. In turn, various other key men are delegated certain portions of this responsibility.

**Did we realize any returns from the \$10,000,000 spent during 1947 in exploration?**

Money spent for exploration cannot be accounted for during the year it is spent. The results of such expenditures can be counted only over a period of years. It is the duty of the Exploration Department to find oil at least as rapidly as it is produced. However, a number of years may go by before important discoveries are made. A fat year can easily make up for several lean ones.

**What is the cost of drilling a well?**

The cost of drilling in California varies from about \$16,000 or \$18,000 to over \$250,000, depending upon the depth of the hole and conditions under which it is drilled. Costs per foot vary from approximately \$12 to \$20.

**Does the Company operate its own drilling crews?**

No, with the exception of one cable tool outfit operating in Montana, Union Oil contracts all of its drilling.

**Does the Company transfer its employees to operations in Paraguay, Alaska,**

**and other such areas where we have exploration activities?**

Yes, the Company does transfer employees to jobs outside of California and in foreign countries when such operations are being carried on.

**Is the Company doing its own work in other states and in foreign countries, or is this work being done by contractors?**

The Company does its own geological work and manages its own affairs; however, drilling work is done by contractors.

**How can an employee lease property to the Company for exploration purposes?**

An employee can lease property to the Company in the same manner as any other landowner; that is, by granting a lease to either explore for or produce crude oil. For details, contact our Land Department.

**Are there any new fields in Alberta, Canada?**

Yes. The Leduc and Pincher Creek oil fields have recently been discovered. The Pakowki Lake and Mayberries area is a recent gas discovery.

Using explosives, a geophysical crew makes recordings of reflected shock waves to determine nature and position of rock formations.



**Why are we investing money in Canadian properties when we can't take money out of Canada?**

Money can be taken out of Canada; however, at a penalty. Or beneficial exchanges of crude oil can be made.

**Have any other companies ever drilled for oil in Paraguay?**

No. Prospecting is being carried on for the first time by Union Oil Company in Paraguay.

**Are any other companies besides Union Oil drilling in Paraguay now?**

No.

**What are our results in Paraguay to date?**

No oil as yet has been discovered in Paraguay. The Chaco area, consisting of 54,000,000 acres, is a great sedimentary basin similar to the great interior basin of California. It will take a number of wells drilled in this area to determine whether or not petroleum occurs.

**If we find oil in Paraguay, will the oil be refined there or shipped to the U. S.?**

If oil in sufficient quantities is found, a large portion of it will undoubtedly be refined in Paraguay. This

is the trend in South American countries. In addition, this would be the most economical means of handling the crude.

**How much production of crude do we have in Alaska?**

None. Our activities there are exploratory.

**Does the Company own any coal deposits?**

No. The reason that an oil company would acquire coal deposits would probably be for the purpose of providing for a future when coal can be used economically as the source of material for oil products. For a number of years Union Oil has held vast deposits of oil shales located in Colorado, which we believe have better possibilities for the immediate future in supplying a substitute for liquid crude oil than does coal.

**What is the value of the Company's oil reserves?**

As of January 1, 1948, our estimated recoverable gross reserves totaled 507,000,000 barrels. Union Oil's net share of this reserve was nearly 419,000,000 barrels. At a theoretical value of \$1.25 a barrel, these underground reserves would be worth about \$520,000,000.

**Are the crude oil reserves actually produced and in storage above ground?**

No portion of the crude oil reserves as reported is in storage above ground. The crude oil reserves referred to in "Report for 1947" have yet to be produced.

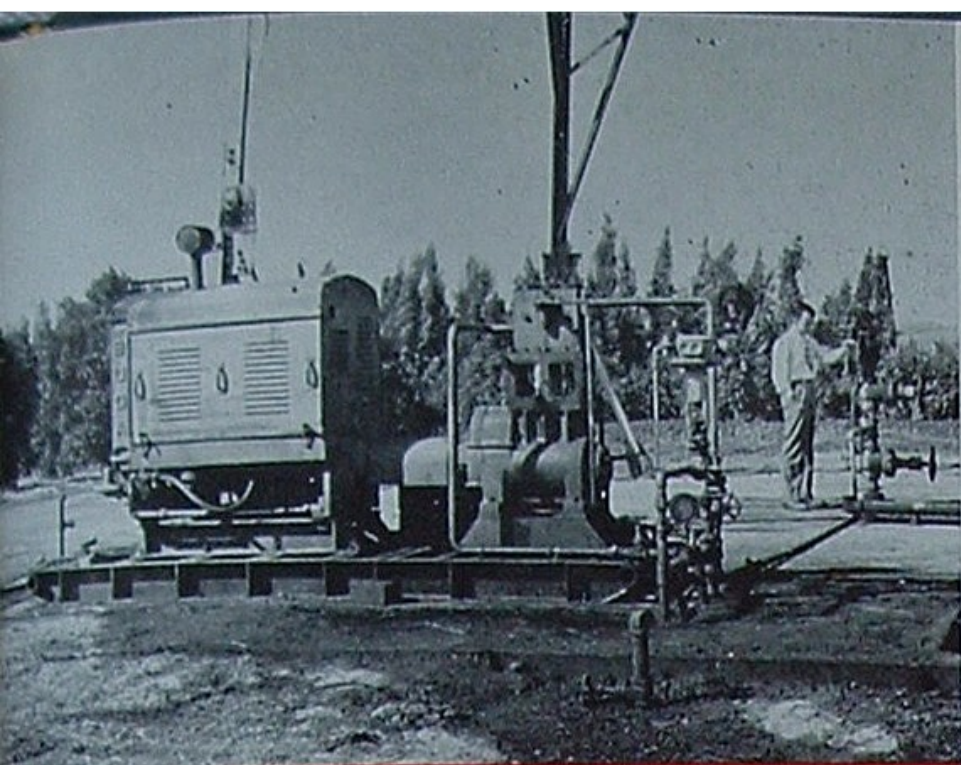
**In 1947 the Company showed an increase of about 8,000,000 barrels in crude oil reserves. Is the money value of this increase shown in our assets? Or where in the annual report is the value of crude reserves shown?**

The value of crude oil reserves as such is not included in the annual report. It does not appear anywhere in the financial statement.

This unit in the Lompoc area pumps gas underground as a secondary-recovery method of holding back water and increasing the oil yield.







On the Company's Richfield property, water injection is being tried as a secondary-recovery means of driving more oil to producing wells.

### **In what locations did our oil reserves increase most?**

Oil reserves increased in Louisiana, Texas, Northern Santa Barbara County, and Orange County. There was also some increase in Ventura County.

### **What percentage of underground crude deposits do you estimate is being recovered by existing methods?**

The percentage of recovery of oil in place underground varies from about 18 per cent to an estimated 60 or 70 per cent. It is only in oil fields having edge-water and other favorable conditions that the percentage of recovery runs as high as 60 per cent. A fair average estimate would probably be between 30 and 35 per cent.

### **What are the most common (secondary) recovery methods now in use?**

Water flooding first; gas drive second.

### **What is meant by the term "proved crude reserves"?**

Proved crude reserves include only oil and natural gas liquids recoverable under existing economic conditions. Proved reserves are both drilled and undrilled. The proved drilled reserves in any pool include the oil estimated to be recoverable by the production systems now in operation, whether primary or secondary, and from the area actually drilled up on the spacing pattern in vogue in that pool. The proved undrilled reserves in any

pool include reserves under undrilled spacing units which are so close and so related to the drilled units that there is every reasonable probability that they will produce when drilled.

### **In proportion to the size of our Company, how do Union Oil's crude reserves compare with those of other oil companies?**

Union Oil Company's crude reserve position is quite favorable when compared with that of other oil companies. Based upon our present rate of total gross production and our total gross reserves, we now have approximately a 14.6 years' supply in sight. This figure should be considered as an index only, since it will be impossible to extract this amount of oil at a constant rate. Undoubtedly, some of the oil will be produced 50 years in the future; however, this index has been used to indicate crude reserves position in the industry. California as a whole has between 10 and 11 years' supply in sight. Therefore, Union Oil holds a more favorable position than the industry as a unit.

### **What per cent of the crude we refine is produced by us?**

Union Oil Company produces about 75 per cent of our requirements.

### **What happens to the crude produced in Louisiana and Texas by our Company?**

It is sold to crude oil buyers in Louisiana. With the money obtained, we can then buy crude produced in California and thus save transportation expense.

Oil produced by the Company along coastal Louisiana is transported by barge through extensive bayous and canals to waiting buyers.



# 58 Million Barrels Without a Spill

During a recent analysis of our marine accomplishments, it was found that Wilmington Union Oilers have established one of the best, or perhaps the best, loading records known. The past six months showed the handling of 111 vessels and 14,000,000 barrels of oil without a single spill. Digging deeper into the record, statisticians found that loadings in Los Angeles-Long Beach harbors by Company personnel have now reached a total of 58,000,000 barrels handled without a stock spill.

Considering the speed of marine loading operations, this performance is all the more remarkable. Within minutes after a tanker docks, as many as four heavy loading lines are hoisted aboard. Bolted to the tanker's elaborate system of pipe lines, these begin filling some 24 cargo tanks at rates varying from 500 to 15,000 barrels per hour. Only careful and attentive handling can prevent faulty connections, overflows, broken lines and imperfect valve control.

The transportation of oil via water presents many loading problems. At present more than 20 different Company crudes and refined products, each having different weight, color and flash characteristics, are borne by water. To avoid contamination, each product must be handled in lines and compartments that are clean or have just previously carried commodities of the same flash and color. A tanker cannot be loaded promiscuously as we might load a boxcar; this could easily result in capsizing the vessel or breaking her in two midship. She must be "kept in trim" constantly by a balanced loading of center, port and starboard tanks from bow to

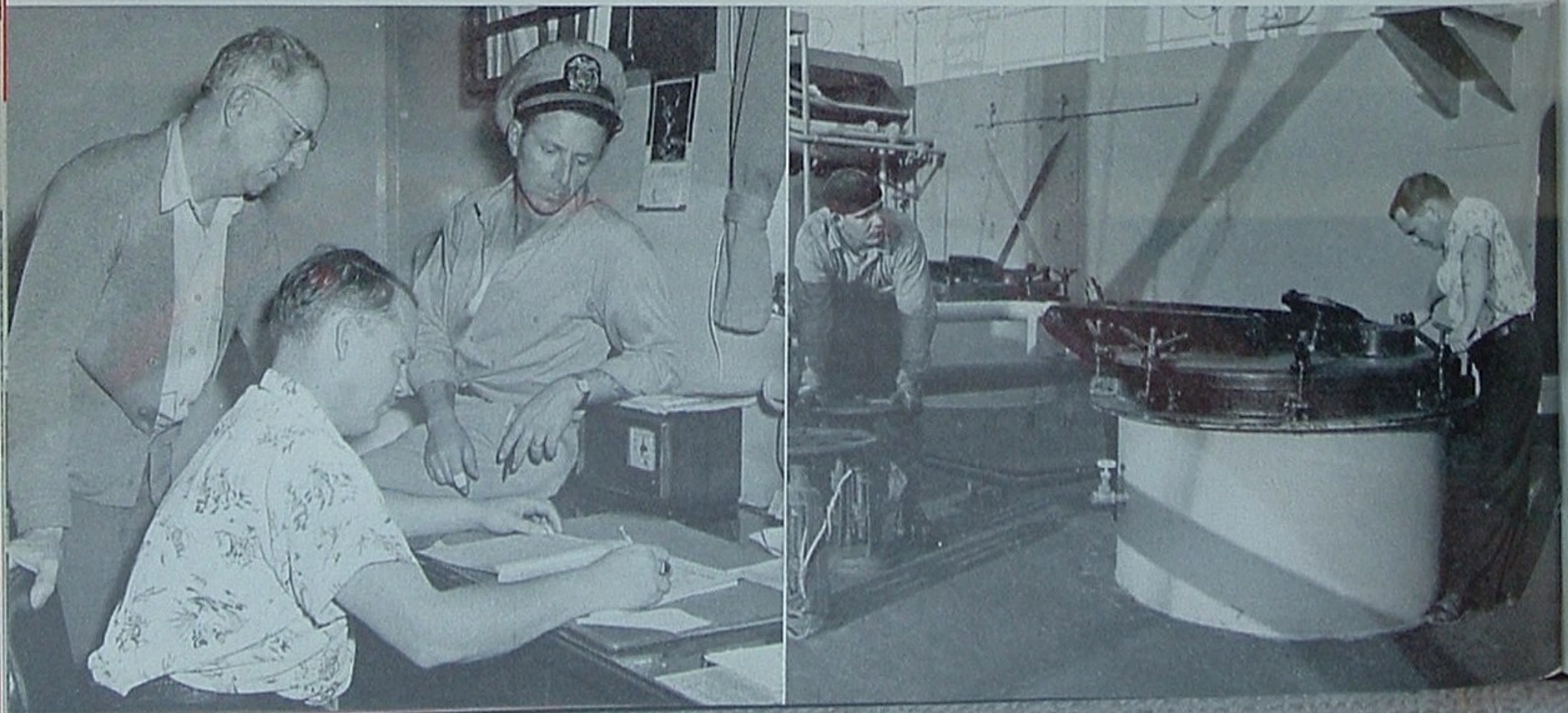


John Gordon opens the final valve preparatory to loading tanker oil compartments at pumping speeds up to 15,000 barrels an hour.

stern; and light oils must be balanced to offset smaller quantities of heavy oils. Finally, the unloading problem must always be solved in advance. For instance, a cargo of several commodities going to more than one receiving terminal must be loaded so that each partial discharge of oil will not cause the ship to list or lose balance. It requires the combined planning of many good heads to perform such a job.

And when 58,000,000 barrels are moved without spilling a drop, that is a commendable performance indeed!

Before starting cargo aboard the OLEUM, Maurice V. Ring (seated), loading master, discusses loading diagram with Captain Louis Seipel (left) and First Mate H. H. Weidenhammer. At right, Ring inspects a tank prior to opening of valve by Seaman Abraham Diaz.



# Backbone of the Industry

A Five Minute Speech Delivered by C. Morton to Oleum Speakers Club, June 23, 1948.

As I was searching for a suitable topic for this evening, it suddenly occurred to me that since I was the only non-supervisory clerk in this group, a short discourse on the manners and markings of a clerk would be of advantage to all of us. After all, we clerks believe we know all about the refinery and it is high time the refinery knew something about us.



"The resemblance to his ancestors becomes marked."

Webster defines a clerk as "a person who keeps records or accounts; in the Middle Ages, one who could read and write; a priest or student." This seems at first inadequate until it is recognized that the student was the playboy of those days. Observe the actions of a clerk in the vicinity of a new steno of impressive proportions and the resemblance to his ancestors becomes marked.

Clerks in general are easily recognized by their habit of carrying all of their working implements—pens, pencils, notebooks, etc., in their shirt pockets. Right here it is interesting to note that Bill Terry of our group is the undefeated world champion of this art, having been known to produce, on a minute's notice, first a midget abacus, then a crystal ball, complete with stand.

We are divided into three groups; senior, general and junior. The junior is recognized by the smudge of ditto on his finger, cheek or ear. Ditto is a type of indelible lead designed to write partly on paper and mostly on newly cleaned clothes. When a ditto master is imprinted on a glutinous roll, many copies can be made, no two of which will look alike.

Our refinery expert of the Ditto machine established the astounding record of running the carriage of his ditto machine, in one day, a distance equivalent to the space required to iron the week's wash for a family of seven. The expert, Eddie Miller, derives small consolation from this fact, however.



"... and that backbone is most always bent over some desk liberally supplied with working material."

A general clerk is at the awkward age, betwixt the peaks of seniorism and the depths of the junior grade. He has rightly been called the backbone of the Clerical Department, and that backbone is most always bent over some desk liberally supplied with working material.

The general clerk is best recognized by his "hope-it-balances" look. The company record for general clerk jobs filled in one day has been set at five by Fran Lansman. This is a feat comparable to conducting the Boston Philharmonic, flight testing a jet fighter plane and running a bookie joint, all in the space of eight hours.

Lowly origin is no bar to entrance to our most exalted, or senior, grade. Luby Stats drove a horse and and buggy round trip from Oleum to Pinole for the mail; Frank Faria used to hustle papers to tankers at all hours of the day or night, and even our chief clerk, "Pete" Pedersen attained the dizzy heights after starting as a boilermaker.



"Clerks are recognized by their habit of carrying all of their working implements."

A senior clerk is easily recognized, particularly if appointed, by a severe case of seniorclerkitis, a disease which causes a painful swelling of the hatband. It is quickly and efficiently cured by the application of a hot letter from Head Office regarding clerical errors on certain important reports.

Senior clerks are very positive creatures. Should you point out one one of us that the loss of Unit 67 for the last six months has been unreasonable, we will immediately make

(Continued on Page 22)

# Union

## NICE ERUPTING!

It's an exceedingly ill volcano that blows nobody good. As evidence, please examine closely the picture at left. This Union-Oil publicity-minded volcano is Mt. Shishaldin on Alaska's Unamax Island. The nearly perfect "76" on its snow-capped crown was not inscribed there by friendly Esquimaux with an advertising contract and ice picks.. It is entirely the work of Mother Nature, who recently displayed admirable writing ability with a pair of lava flows.

Unfortunately Shishaldin displays her volcanic talents only to a few seafaring men of the far North. Located a thousand miles or so farther south, she would be worth a fortune to the sponsors of "76" Gasoline.

The peculiar flow of lava was observed on April 16, 1948, by the master and crew of S.S. PACIFIC EX-

## JOHN E. SHERBORNE

To fill the important Field Department assignment made vacant July 9 when Basil Kantzer was appointed manager of California Field Operations, the Company named John E. Sherborne chief production engineer. John has 12 years of company experience in petroleum, process and production research engineering.



## PAUL E. MAYS

The Company's resident manager at Marysville, California, effective July 20, is Paul E. Mays. His first Company assignment was at nearby Oroville in 1929 as a clerk and relief tank truck salesman. Subsequent marketing promotions took him to Marysville, Redding, Reno, Auburn, San Francisco and Stockton.



# Oilers

PLORER operated by the I. A. C. Exploration Company for Reconstruction Finance Corporation. Although watching the erupting volcano across many miles of sea and terrain, the men were able to see the numerals distinctly. Our good friend Jack Gilbert of Pacific Exploration was aboard and suggested that the picture be taken, particularly as a gesture of good will toward Union Oil Company. Middleton Chism volunteered to attempt the photography.

The picture you see on this page is something of a wonder itself. Lacking a telescopic lens and knowing that the mountain was too far distant for good photographic results, Chism adjusted a pair of 7-50 power binoculars in front of his camera lens to obtain this remarkable result.

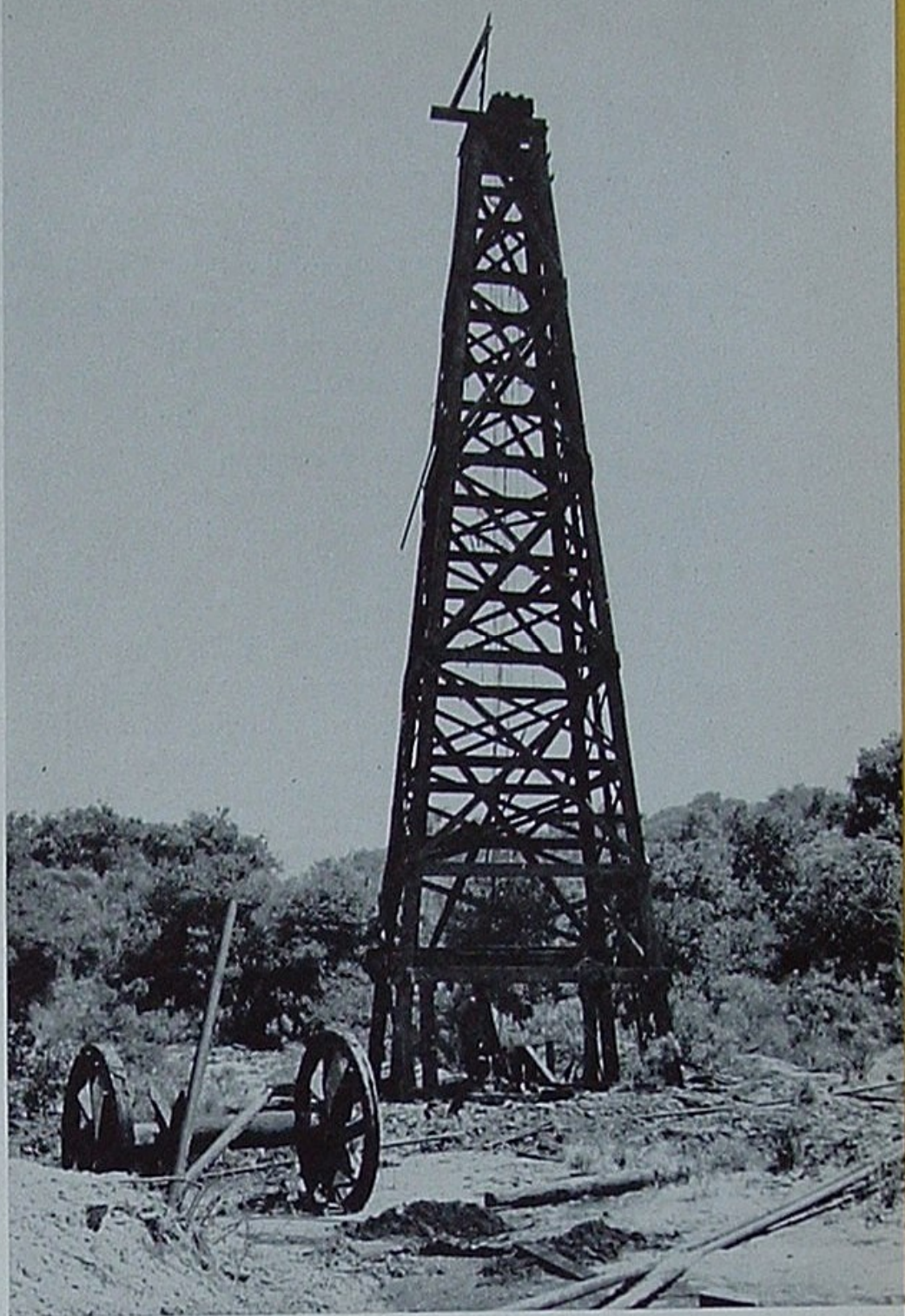
—Reported by Roy Linden.

## BUSY SKIPPER

Captain Austin Tomter went ashore for a well merited August vacation after captaining the SANTA PAULA to an impressive record. From January 3 to August 12, 1948, the ship carried more than a million barrels of crude per month to Oleum Refinery and was credited with a total cargo of 7,500,000 barrels for the seven months' period.



ON TOUR



## PALMER-STENDEL PATRIARCH

As bulldozers widen roads to make way for modern drilling methods, many a Union Oiler pauses to view the above scene, one of the few remaining relics of a bygone drilling era. The well, Palmer-Stendel No. 1, enjoyed considerable fame in its day, 1915, filled the ravine full of crude and made its owners prosperous. But time stopped the flow of oil and gradually produced a picture of quiet desertion. Miraculously, cables clung to the ancient crown and the old "bull wheel" remained like a faithful dog at its master's feet.

Today's fresh activity in the Palmer-Stendel field is inspired largely by scarce crude and attractive prices. Union Oil, long a neighbor, has now become a partner. New bits are boring again into the old Pliocene and Miocene formations. Soon modern pumping units will take up their labors in the brush-covered hills. Then even this aged veteran of yesterday will be seen no more —except in old file copies of ON TOUR.

# Union Oilers, Continued

**KNOW THEIR OIL** For several months Oleum Refinery has been turning out highly refined salesmen as well as highest quality lubricants. In groups of about 12, our Marketing personnel have been taking a two weeks' intensive course at Refinery laboratories on the manufacture, application and sale of Union oils and greases.

The most recent class of graduates to "bid adieu to old O. U." included (L-R), front row: Paul Goodwin, aviation representative, Southwest Territory; R. L. Winans, resident manager, Hemet; R. D. Kolts, salesman, Hoquiam; W. M. Daniels, resident manager, Yakima; Chuck Consiglia, salesman, San Francisco. Back row: M. K. Carter, salesman, Los Angeles; George A. Fish, retail representative, Oakland; H. A. Pfeiffer,



resident manager, Lodi; James R. Wakefield, salesman, Portland; M. K. Bachman, salesman, San Jose; Burt Smith, industrial service representative, Long Beach; J. E. Robertson, resident manager, Wenatchee.

**FAIR EXCHANGE** As the story was told to us, Consignee Herb Hunt, below right, of Chula Vista, decided to acquire a good car-dealer customer for Union Oil products. He chanced to single out as a likely prospect Dick Haas, left, of National City, not only a car dealer, but an excellent salesman in his own right.

"You have yourself another customer," agreed Dick, "but it seems to me you're going to need a new truck to handle the business. Now take this wonderful Dodge here, for instance . . ."

"It's a deal," replied Herb. "But I can't think of a nicer initiation than to load the truck tanks with Union gasoline, the package rack with Royal Triton, and deliver the entire first load to no one other than Dick Haas Motors."

"Fine!" concluded Dick. "Then we'll have our pictures taken and get some free advertising in Union Oil's magazine."

Meanwhile, ON TOUR was fairly aching for a good marketing story. Sometimes it's a most congenial world...

## The Backbone of the Industry

(Continued from Page 19)

disparaging remarks about the ability of the operator at Unit 67. Should you tell us your check is \$50 short, we will insist that the amount was owing to the Credit Union. One of our number once told the late Chris Stamm that he was all wet. We buried the poor lad with full military honors.

From my remarks I hope you can see we are human just like the rest of you. We have our ups and downs, our good and bad days. Unless you approach us with a question for which we should have the answer but don't, you will find us quite friendly. Come and see us often. Visiting hours are from 8 AM to 4:30 PM (except for the noon half-hour for feeding and exercise) and performances are likely to start at any time.

## EDITORIAL BLUSHES

Please correct the outline on Page 12 of our August issue to read ". . .The six tallest columns are (L-R) a CO<sub>2</sub> stripper for separating carbon dioxide from amine solution; a CO<sub>2</sub> absorber for removing carbon dioxide from natural gas; etc." In the spirit of clairvoyance we also did Author Clare Gard mild injury by substituting several terms of questionable virtue for the lingo engineers insist upon and enjoy. However, we defy anyone except the author to catch us. Our apologies, Mr. Gard!

ON TOUR



## In my opinion ...

Dear Editor:

Congratulations on your publication of Charlie Perkin's accurate and interesting account of our operations in Paraguay. Tell him our warehouse is now covered with galvanized roofing and well prepared for the next rainy season.

We employees of Union Oil Paraguay look forward to receiving each issue of ON TOUR. It keeps us informed of the Company's rapidly expanding operations and keeps us posted on the activities of many of our far away but not forgotten friends in the States.

STAN MARTIN, Asuncion, Paraguay.

Dear Editor:

A great many employees feel that the late Henry C. McMaster, who, had he lived, would have completed his thirty-sixth year of Company service on September 10th, is deserving of mention in ON TOUR.

His 35 years of work was a monument of faithfulness and efficiency. His devotion to a fine family could

not have been exceeded. He was loved by everyone who knew him. In spite of the many honors and great praise conferred upon him, Mac remained humble and modest—a man among men.

May we commemorate the noble virtues of this man and strive to emulate his fine example.

A FELLOW WORKMAN.

Mr. M. L. Varner,  
101 Darlington,  
Buena Park, Calif.

Dear Mr. Varner:

Please pardon the delay in writing you to thank you sincerely for your kindness and honesty in returning my billfold which you found on the highway at a Santa Fe road crossing near Placentia and which you so readily delivered to our Agent at Placentia. I am very deeply appreciative of your prompt action and especially your honesty and am attaching hereto a check which I hope will be acceptable to you.

Am permitting a copy of this letter to reach the personnel director of Union Oil Company, by whom, I understand, you are employed, in order that they may know of your outstanding integrity.

A. B. COAKLEY,

The Atchison, Topeka and Santa Fe Railway Co.



## SERVICE BIRTHDAY AWARDS

SEPTEMBER, 1948

### Thirty-Five Years

Boyd, Frank C., Coast Div. Field  
Cattermole, Horace, H. O. Marine  
Farnum, Lucius L., Oleum Refinery Mfg.  
Sellers, Wm. D., Southwest Territory

### Thirty Years

Bewley, Henry W., Southwest Territory  
Cornelius, Wm. G., Central Territory  
Gordinier, James D., No. Div. P/L  
Smith, Ernest J., No. Div. P/L  
Woodford, Benj. A., Southwest Territory

### Twenty-Five Years

Calder, Ray H., No. Div. P/L  
Cooper, Harold G., H. O. Sales Service  
Deleree, Edwin G., L. A. Refinery Mfg.  
Humphrey, Edison A., Oleum Refinery Mfg.  
Morrison, Alfred E., H. O. Comptroller's  
Ruedy, M. Raymond, H. O. Comm.  
Sefton, Rushton H., H. O. Purchasing  
Spence, Wade A., Central Territory  
Stewart, W. L. Jr., H. O. Executive  
Wong, Albert H., Honolulu District

### Twenty Years

Barber, Theo. L., No. Div. P/L  
Cargile, James C., Oleum Refinery Mfg.  
Cox, Edward A., Central Territory  
Diehl, Robert C., Oleum Refinery Mfg.

Emerton, Benj. C., Oleum Refinery Mfg.  
Euston, John H., H. O. Comptroller's  
Goughnour, Chas. A., Southwest Territory  
Hamilton, McClellan, Coast Div. Field  
Harrington, Mark P., Research-Wilmington  
Joyce, E. Morley, H. O. Comptroller's  
Phillips, Fred C., No. Div. Automotive  
Richardson, Roy, Southwest Territory  
Smith, Everett M., Central Territory  
Welch, Bert, So. Div. Field

### Fifteen Years

Accomazzo, Louis D., Oleum Refinery Mfg.  
Anderson, Henry C., L. A. Refinery Mfg.  
Bemus, Earl H., L. A. Refinery Mfg.  
Billington, Edgar W., Coast Div. Field  
Bley, Wm. Albert, So. Div. P/L  
Bloom, James M., So. Div. Field  
Carr, Walter J., Oleum Refinery Mfg.  
Christiansen, Roy A., Central Territory  
Clark, Ira T., Oleum Refinery Mfg.  
Cook, Russell E., No. Div. P/L  
Cosner, Edward V., So. Div. Automotive  
Daggett, Forrest C., Oleum Refinery Mfg.  
Dailey, John L., Oleum Refinery Mfg.  
Duffield, Wm. P., So. Div. Field  
Forbes, Willard S., Coast Div. Field  
Gaub, Albert W., Oleum Refinery Mfg.  
Green, Robert A., Coast Div. Field  
Grisham, Lawrence T., L. A. Refinery Mfg.  
Hagan, Herbert H., Oleum Refinery Mfg.

Harnett, Maurice, Oleum Refinery Mfg.  
Harvey, Douglas C., Oleum Refinery Mfg.  
Herold, Angus D., Central Territory  
Killelea, Thomas E., Oleum Refinery Mfg.  
Kingsley, Harry V., Oleum Refinery Mfg.  
Kolb, Paul W., L. A. Refinery Mfg.  
LaGrafte, Lester, Coast Div. Field  
Leaf, Eric A., Oleum Refinery Mfg.  
Manning, Lynn H., Northwest Territory  
Massa, William, So. Div. Automotive  
McMahon, Uriah V., Oleum Refinery Mfg.  
Mill, Dorothy M., H. O. Secretarial  
Miller, Oliver D., So. Div. Automotive  
Morash, Thomas J., So. Div. Field  
Morgan, Carl L., Coast Div. Field  
Narry, Chas. L., Oleum Refinery Mfg.  
North, Joseph K., Oleum Refinery Mfg.  
North, William H., Oleum Refinery Mfg.  
Ratkovich, Dan, Oleum Refinery Mfg.  
Ruth, William A., L. A. Refinery Mfg.  
Smart, Elmer E., Oleum Refinery Mfg.  
Snyder, Lewis G., So. Div. Automotive  
Tomasini, Edwin A., Coast Div. Field  
Whitney, Joseph M., Oleum Refinery Mfg.  
Woods, Kenneth A., Research-Wilmington

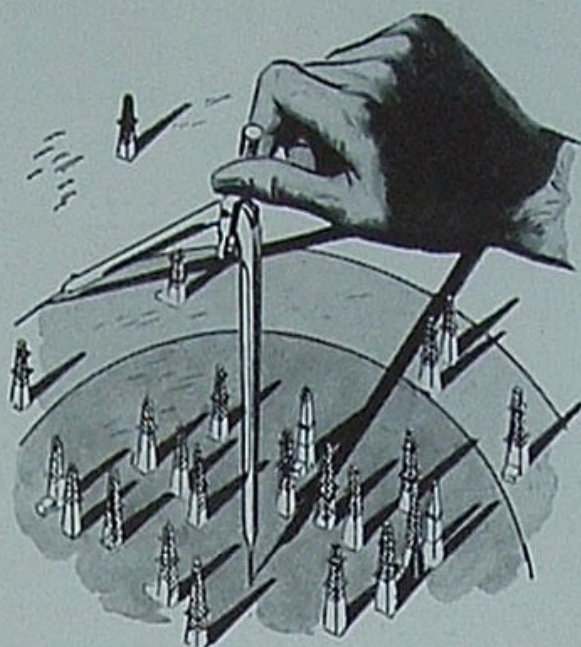
### Ten Years

Bryson, Arthur C., Southwest Territory  
Haga, John, Marine-Wilmington  
Tully, Annis, H. O. Purchasing  
Znamens, Peter S., Central Territory

# You can't dance without paying the piper



**1. Everyone today** is beefing about prices. But one aspect that's frequently overlooked is the relationship of prices to *production*. The pent-up demand for civilian goods that couldn't be produced during the war, plus the European Recovery Program, plus our many Government projects, has built up the greatest demand for production this country has ever known.



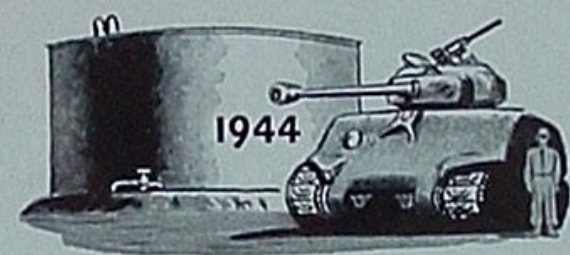
**2. In many of our basic industries**—such as mining, lumbering, agriculture and oil—the quickest way this demand can be met is by bringing our "marginal" producing facilities into production. And whether these "marginal" producing facilities are low-grade mines, back-country timber stands, poor farm acreage or low-producing oil wells, the only way you can get them into production is with higher prices.



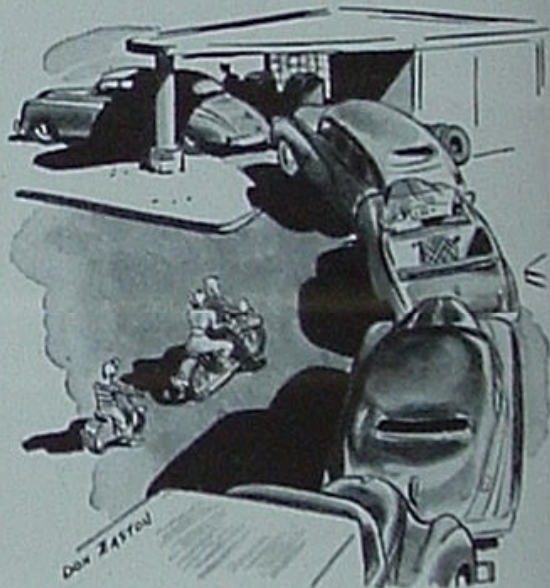
**3. For example,** we made a survey recently of several California oil fields where Union has substantial production. The findings at *Santa Fe Springs* field are typical. The January '46 price of *Santa Fe Springs* crude was \$1.15 per barrel. At that price you could keep a well in production until it dropped to a point where it was producing less than 6 3/10 barrels per day. Below that point it cost you more than the oil you recovered was worth. So you abandoned the well.



**4. Today,** *Santa Fe Springs* crude sells for \$2.50 per barrel. So now we can keep a well in production until its output drops below 3 1/5 barrels per day. As a result of keeping these "marginal" wells in operation the over-all rate of production for the field has increased 29%. And the ultimate gain of economically recoverable oil from *this one field* has increased by 8,500,000 barrels. What's true of *Santa Fe Springs* is true of oil fields all over the country.



**5. Thanks largely to these "marginal" wells** of different kinds, America is producing more oil than she did during the peak years of the war! But the only way we could get these wells into production was to have a high enough price structure to make such operations possible. Contrary to popular belief, this price structure *was not and is not set* by the oil companies. *It is set by the American people.* Each day they indicate what petroleum is worth to them by their *demand* for it.



**6. Since the demand** for petroleum has been unprecedented, the price has had to go up to the point where enough "marginal" production could be brought in to meet the demand.\* In other words, if we're going to fight wars and help Europe and have vast programs of Government expenditures we have to pay the piper. There's no use blaming the piper's fee on "business" or labor or the farmer or the politicians or anyone else. This is a democratic country and we're all in on the nation's projects together.

\*Incidentally, petroleum prices are still 25% below the Department of Labor's Commodity Index for all prices, so this is not an apology.

## UNION OIL COMPANY OF CALIFORNIA

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*This series, sponsored by the people of Union Oil Company, is dedicated to a discussion of how and why American business functions. We hope you'll feel free to send in any suggestions or criticisms you have to offer. Write: The President, Union Oil Company, Union Oil Building, Los Angeles 14, California.*