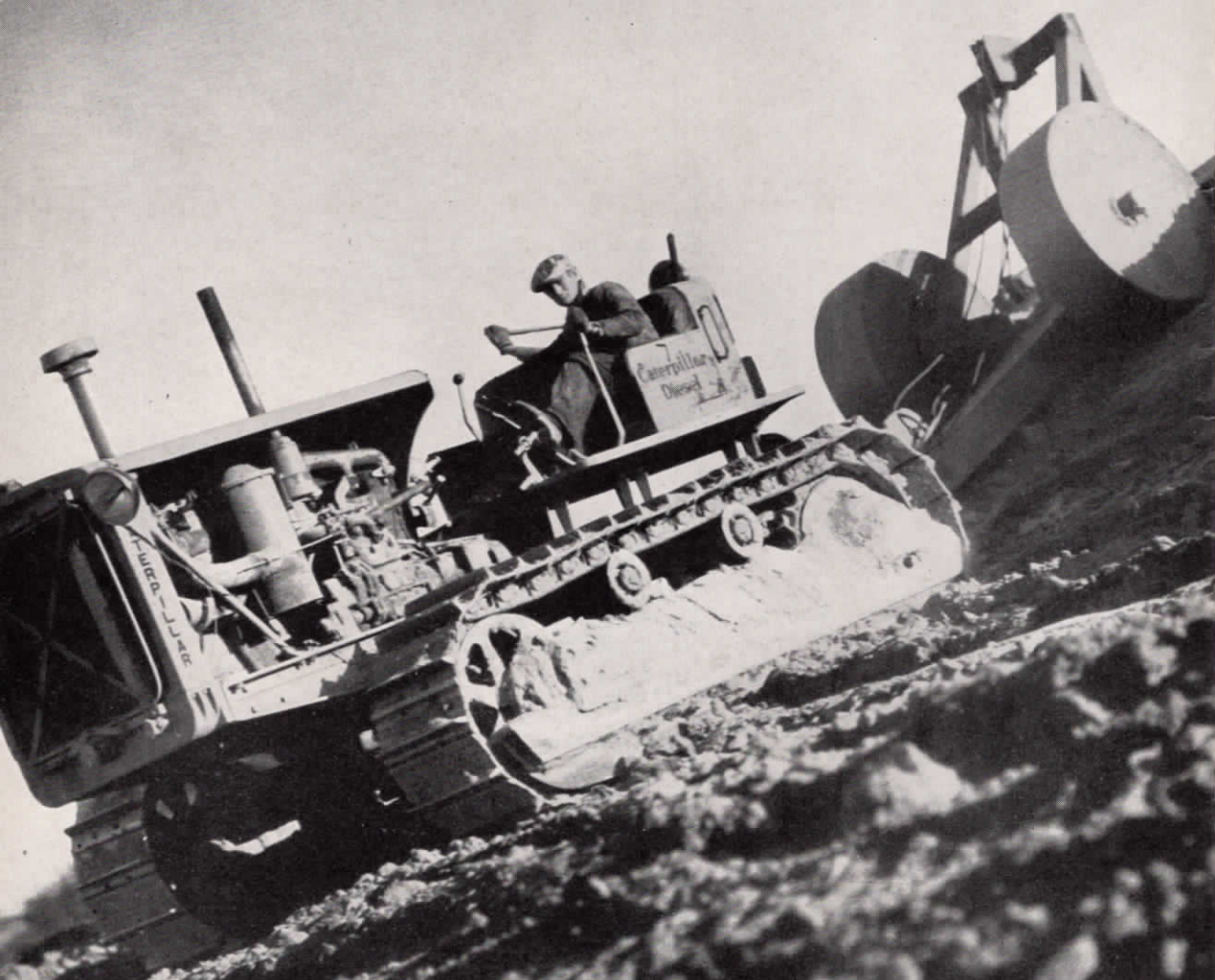


★ UNION OIL BULLETIN ★

April
1935



ROADBUILDER

Some of the heaviest grading and filling work ever performed in the West is in progress on the new Jackrabbit Trail which will join Riverside and Beaumont, Calif. Crow Brothers, which is using Union fuels and lubricants throughout its equipment, is grading subcontractor on the job awarded Mittry Brothers.



UNION OIL BULLETIN

EXECUTIVE COMMITTEE* AND OFFICIALS

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VOLUME XVI

MARCH-APRIL

BULLETIN No. 2

Union Oil Company Quarterly Report

NET profit of the Union Oil Company of California for the three months ended March 31, last, after all charges including general expenses, taxes, interest charges, etc., and provision for depletion and depreciation, amounted to \$1,350,000, equivalent to 31 cents a share on the 4,386,070 shares outstanding. This compares with net profit of \$500,000, or 11 cents a share, in the first quarter of 1934.

The increase in profits for the first quarter, over the corresponding period of 1934, is due principally to better prices prevailing for products, larger sales volume and increased production.

Profit, subject to depreciation, etc., was \$3,100,000, or 71 cents a share, in the first three months this year, as compared with \$2,100,000, or 47 cents a share, in the comparable 1934 quarter. Provision for depletion and depreciation was \$1,750,000 and \$1,600,000, or 40 cents and 36 cents a share, respectively.

Production, subject to royalty, of crude oil and natural gasoline for the three months approximated 4,150,000 barrels, as compared with 3,400,000 barrels for the same period in 1934.

Sales for the three months amounted to \$15,700,000, an increase of \$2,850,000 over the corresponding period last year, and the quantity sold increased 1,050,000 barrels to 8,025,000 barrels.

Capital outlay approximated \$1,550,000, consisting mainly of expenditures for field development necessitated by lease requirements and for additional marketing facilities.

Current assets, consisting of cash resources, accounts and notes receivable, oil inventories and materials and supplies, approximated \$41,700,000, an increase of about \$100,000 from December 31, 1934. Cash resources approximated \$11,400,000. At March 31, last, current assets were about 8 to 1 of current liabilities, which were \$5,300,000, a decrease of about \$300,000 from December 31, last. There was no change in funded indebtedness during the quarter.

A cash dividend of 25 cents a share was declared on April 9, to be distributed May 10 to stockholders of record April 19.

On March 5, the 45th annual meeting of stockholders was held at the offices of the company in Los Angeles. The same Board of Directors and officers were reelected for the ensuing year.



Top left, W. W. Orcutt, vice-president in charge of exploration and production; F. F. Hill, director of production; and A. C. Rubel, manager field operations, present when Belridge No. 18 well was brought in March 6. Rig of well is shown at right. Center left, watching initial flow in mud trough, with Rubel and Orcutt shown in foreground, and below, production crew gathering around run-down tank as well cleans up.

Notable Union Oil Wells Completed

DURING the first three months of this year, the Union Oil Company's field department completed several excellent producing wells, among which were five in the Kettleman Hills (north dome), Mountain View, Belridge, and Playa del Rey oil fields, which not only increased producible oil reserves by several million barrels, but placed the company to better advantage in the respective fields.

On the company's 160-acre Amerada lease on the north dome of Kettleman Hills, King No. 8 well was completed on January 21, 1935, at a depth of 8,525 feet. In the one-day test given wells in this area, the well produced over 12,200 barrels of 35.8 degrees gravity oil, thereby proving to be one of the best producers completed in the field during the past year. King No. 8 completes the drilling program on the Amerada lease.

In the Mountain View field, Kernco No. 3 and Wible No. 3 were completed within a few days of each other, and yielded important information as to the direction in which the oil sands lie, in relation to the company's property.

Kernco No. 3's history requires the recounting of other facts to gain its significance. Early last year Kernco No. 1 was drilled down to the Hogan sands—from which most wells in the field produce—but, although considerable oil showings were encountered, due to the presence of water, it was plugged back to a first zone—named the Kernco zone—which had been previously drilled through. The well was completed at a depth of 5,338 feet, 271 feet above the Hogan sands, for approximately 700 barrels a day of 21 degrees gravity oil. Kernco No. 2, located 1,000 feet north of the first well, subsequently was completed in the lower zone at 5,546 feet, and was found capable of producing about 4,000 barrels a day. These wells, together with the company's Wible No. 1, located to the southeast and completed shortly after Kernco No. 1, proved the company's acreage actually was on a northwestern extension of the Mountain View field, and extended the field nearly three miles in that direction.

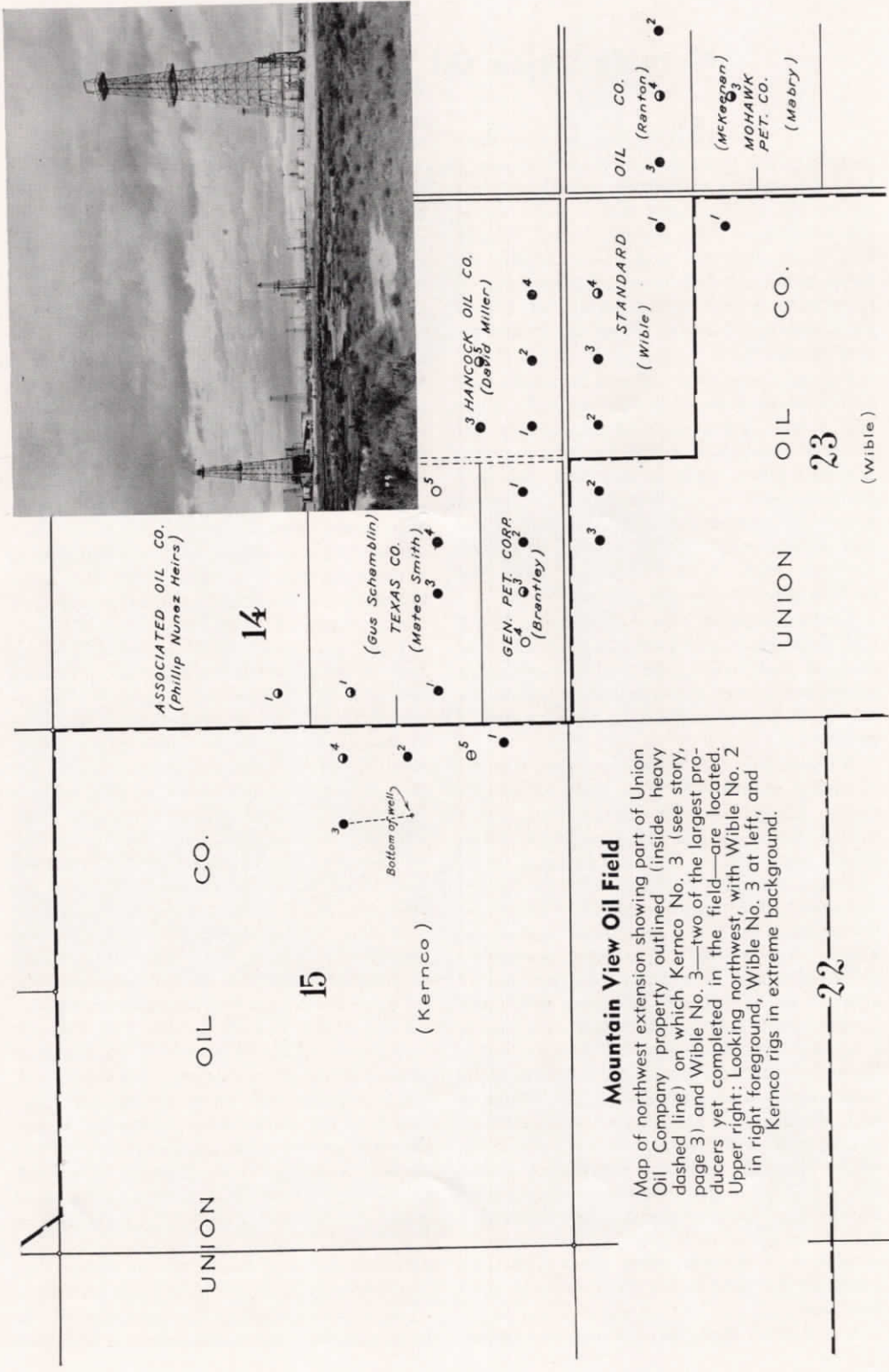
In October, last year, drilling was begun

on Kernco No. 3, located 660 feet north and 660 feet west of Kernco No. 2. The well was drilled to a depth of 5,521 feet, but was found to be off structure to the northeast. It was then plugged back to a depth of approximately 1,218 feet and, by the use of drilling technique developed in the past two or three years, was redrilled in a general southeasterly direction at a deviation averaging about 10 degrees. On February 23 of this year the well was completed in the Hogan sands, at a point several hundred feet southerly from the bottom of the original hole, for an initial production of 4,430 barrels a day, and built up to 4,600 barrels a day of 29 degrees gravity oil during the five-day test period. The knowledge gained from the drilling of Kernco No. 3 definitely places the oil sands as extending in a more westerly direction than previously believed, and directly through the middle of the company's Kernco lease.

Four days later, on February 27, Wible No. 3 was completed at a depth of 5,602 feet, for an initial production of about 4,600 barrels daily of 29.4 degrees gravity oil. This production increased to 4,900 barrels a day, when tested to determine the potential. The well is located some 580 feet due west of Wible No. 2, which was completed at 5,560 feet for an initial production of a little over 900 barrels a day of 31.3 degrees gravity oil. This latter well, under test, built up to the daily rate of 3,000 barrels.

A few hours before Wible No. 3 was brought in, about 95 miles south in the recent southeastern extension of the Playa del Rey oil field, the Union Oil Company completed its Vidor No. 7 well. In the first day, the well produced 3,550 barrels of 22.6 degrees gravity crude oil from a depth of 6,217 feet, but it rapidly built up to the rate of 8,425 barrels a day to become the second largest potential producer yet completed in the Playa del Rey field since it was discovered in 1929. Incidentally, Vidor No. 6, 300 feet west of Vidor No. 8, was completed in January at 6,152 feet. Initial production was 1,060 barrels a day, and could get no higher than 1,600 barrels daily during its test period.

As in the northwestern extension of the Mountain View field, the Union Oil Company



Mountain View Oil Field

Map of northwest extension showing part of Union Oil Company property outlined (inside heavy dashed line) on which Kernco No. 3 (see story, page 3) and Wible No. 3—two of the largest producers yet completed in the field—are located. Upper right: Looking northwest, with Wible No. 2 in right foreground, Wible No. 3 at left, and Kernco rigs in extreme background.



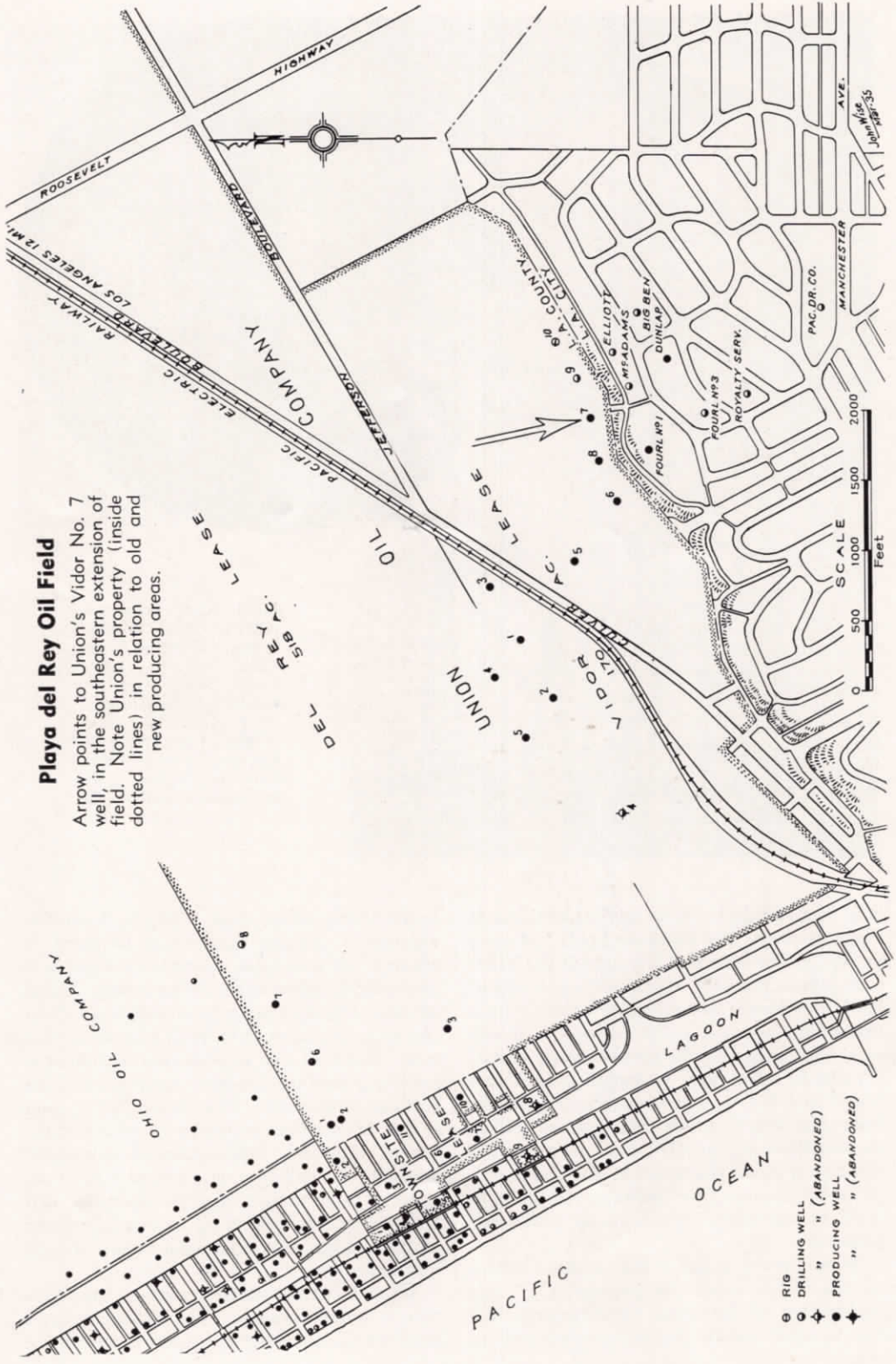
Field office crew on Kernco and Wible leases, Mountain View field. Left to right, Frank Gess, superintendent, Lloyd Kinney, H. F. Keans, Jack Shields, field contractor, and Ed McMillian. Left, Wible No. 2 in foreground and No. 3 in distance.

is in a particularly advantageous position at Playa del Rey. The company holds 518 acres in the Del Rey lease and 170 acres in the Vidor lease which, together, form one large block of land. In addition, the company holds 25 acres under lease situated in the "town lot" developed area, adjoining the northwesterly end of the Del Rey property. Completion of Vidors No. 7 and No. 8, when considered with the Fourl No. 1 well, which extended the field to the southeast late in 1934, and other completions directly to the south of the company's property, tend to prove between 300 and 400 acres of the company's leases as producing property.

With the exception of the southern border of the Vidor lease, the producing acreage under lease to the Union Oil Company will not be subjected to the necessity of drilling

innumerable offset wells. The bulk of the company's present producing property is about a half mile from the overdeveloped area of the field, where the wells have been drilled so close together as to have dissipated fully the natural gas pressure, with the result that most, if not all, the wells in that section now are being pumped for what small production remains recoverable. The "town lot" section is one of the best examples of how uncontrolled, disorderly exploitation of an oil field through the splitting of acreage into small parcels, each with a separate operator, can reduce the recovery of oil to but a fraction of that originally obtainable under better circumstances.

Over in the southeastern section, the situation is quite different. The producing area south of the company's property is within the



Playa del Rey Oil Field

Arrow points to Union's Vidor No. 7 well, in the southeastern extension of field. Note Union's property (inside dotted lines) in relation to old and new producing areas.

- RIG DRILLING WELL
- " (ABANDONED)
- ◆ PRODUCING WELL
- ◆ " (ABANDONED)



View of part of company property at Playa del Rey oil field, looking west from southeastern extension, with (left to right) Union's Vidor wells Nos. 6, 8, 5 and 7 in foreground, and "town lot" section of field, bordering the Pacific Ocean, in background. Right, drilling crew at Vidor No. 8, which also drilled Vidor No. 7. Left to right: Fred Stratton, H. W. Hancock, W. P. Gerlich, L. A. Welch, driller, and R. Downs.



city limits of Los Angeles, and, therefore, must be leased in parcels of not less than one full acre. All of the company's property, as well as the "town lot" section of the field, is in the county of Los Angeles where no such city restrictions prevail. With city restrictions improving the situation south of company property, and the fact that the company's leases form one large block apparently over the newly discovered oil sands in the main, the Union Oil Company can proceed in an orderly, economical manner to develop the Del Rey and Vidor leases. This will result in raising a much higher percentage of recoverable oil during the ensuing years.

The fifth notable producer completed in the first quarter of the year was the Belridge No. 18 well in the North Belridge field, several miles northwest of Bakersfield. The well was difficult to drill for some time, until the

company's research department, through a series of tests, determined that the excessive heat at lower depths was dehydrating the mud which must be kept constantly circulating up and down the hole while drilling is carried on. When a different type of mud was used, drilling no longer was interrupted by stuck drills, and the well was completed on March 6 for an initial production of 3,000 barrels a day of 29.3 degrees gravity oil. During the test period, production increased to the daily rate of 5,350 barrels. The bottom of the hole is 8,490 feet down.

Taken collectively, the initial production of the five wells was at the rate of 27,780 barrels a day, with the built up production, established during the test periods, going as high as 35,475 barrels a day. These wells have since been cut back to the allowable production permitted by the State oil umpire.

Propane—A Valuable Petroleum By-product

Dr. Ulric B. Bray

Research Supervisor



Dr. Ulric B. Bray

THE prominence to which propane has risen in lubricating oil refining has aroused considerable curiosity concerning this now valuable material, particularly as regards its source, nature, and other uses. Briefly, the source of propane is petroleum or natural gas; its properties are those of a gas until it is compressed with sufficient pressure to cause it to take on the character of a liquid; and its uses, aside from lubricating oil refining, appear interesting along several lines.

Propane is obtained mostly from natural gas by absorption along with the gasoline vapors contained in the natural gas. As the natural gas comes from the well, it generally has commingled in it the vapors of several gallons of gasoline for each thousand cubic feet of gas. These gasoline vapors are analogous to the moisture or humidity in the atmosphere, and since they represent some of the most valuable fractions of gasoline, very efficient means have been developed throughout the petroleum industry for recovering these gasoline vapors in liquid form. Gasoline recovered from natural gas has been called "casinghead," "absorption," or "natural" gasoline; the most commonly used name today is "natural gasoline."

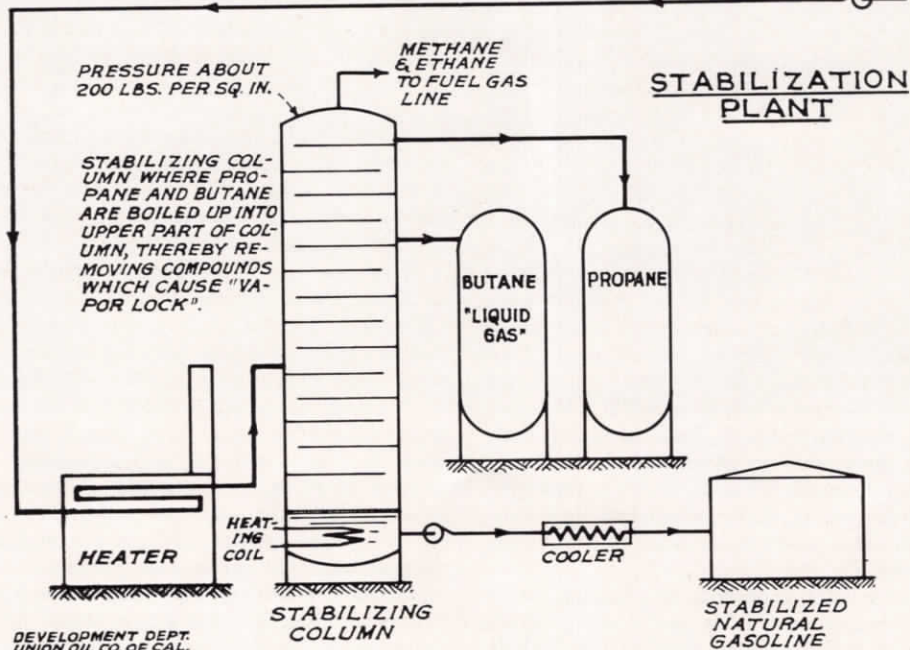
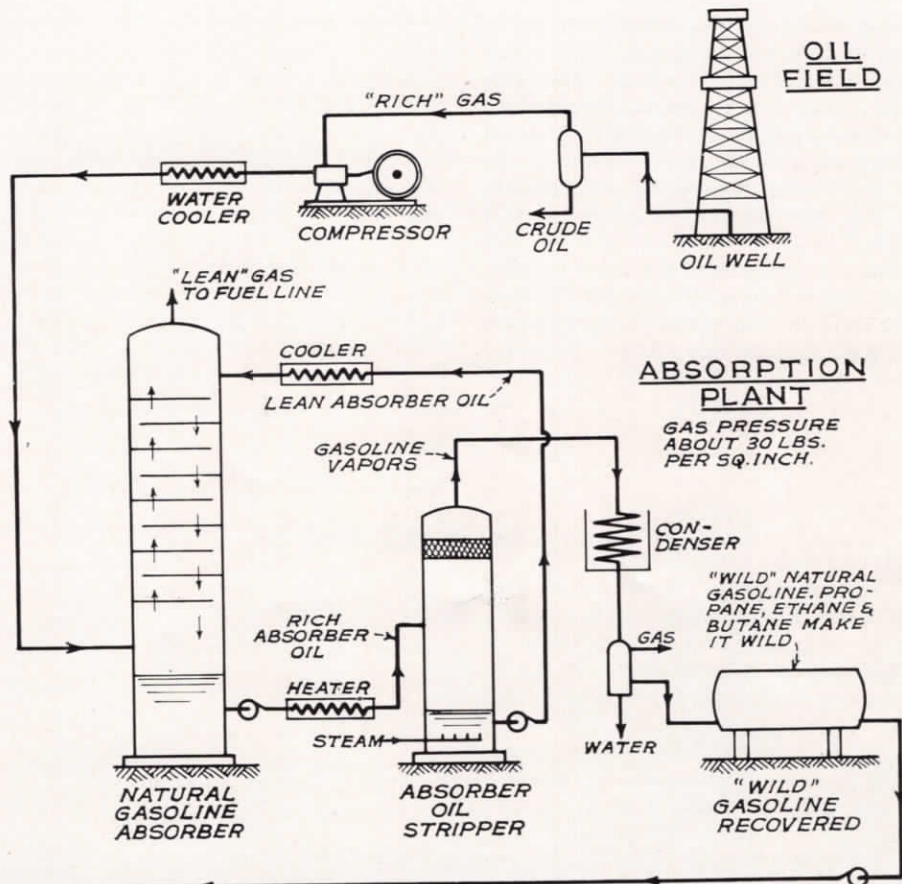
The process of recovering natural gasoline generally consists of absorbing the gasoline vapors in an absorption oil of about the same physical properties as kerosene. Low temperature and high pressure improve the efficiency of the absorption of the gasoline vapors in the absorption oil. After the absorption oil has removed the gasoline vapors from the gas, converting it from "wet" or "rich" gas into "dry" or "lean" gas, the "rich" absorption

oil is made to give up the gasoline vapors by heating, thereby being converted back into "lean" absorption oil which is made to repeat the cycle on a fresh supply of rich gas.

In order to insure practically complete absorption of all the gasoline vapors, the temperatures and pressures employed are such as to cause a large portion of the propane and butane present to be absorbed also. These latter materials cannot be permitted to any considerable extent in the gasoline used in everyday service because they vaporize too readily even when dissolved in the remainder of the gasoline, causing the annoying and sometimes embarrassing phenomenon of "vapor locking" in the carburetor float chamber or gasoline feed line to the carburetor. Consequently, after absorbing them from the natural gas, we must now remove them from the remainder of the gasoline recovered. The process of removing propane and butane is called stabilization, and before stabilization, the gasoline is "wild," whereas afterwards, it is well-behaved and is said to be stabilized. Thus propane is recovered from the gasoline as a by-product in the elimination of vapor lock.

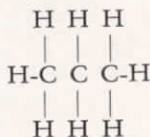
The removal and recovery of propane from the wild gasoline is accomplished by heating and boiling off the most easily vaporized components in somewhat the same manner as might take place in our automobile fuel system ahead of the carburetor jets. The process is carried out in the refinery under sufficient pressure to cause the propane and butane vapors to liquefy when they reach a colder portion of the system where they can be drawn off, as liquids, into storage.

The diagrammatic sketch on page 9 will illustrate the important steps in the recovery of propane. The rich gas coming from the gas trap at the oil well is compressed and then washed with cold, lean absorption oil which dissolves the gasoline vapors carried by the gas. The rich oil carrying the dissolved gasoline is stripped by heating, which causes the dissolved gasoline to distill away and be con-



densed as wild natural gasoline, containing propane and butane along with very small amounts of methane and ethane. The wild gasoline is then sent to the stabilizing plant where it is heated alone sufficiently to cause the propane and butane to boil away to the upper and cooler portion of the column, where they are recovered as relatively pure products.

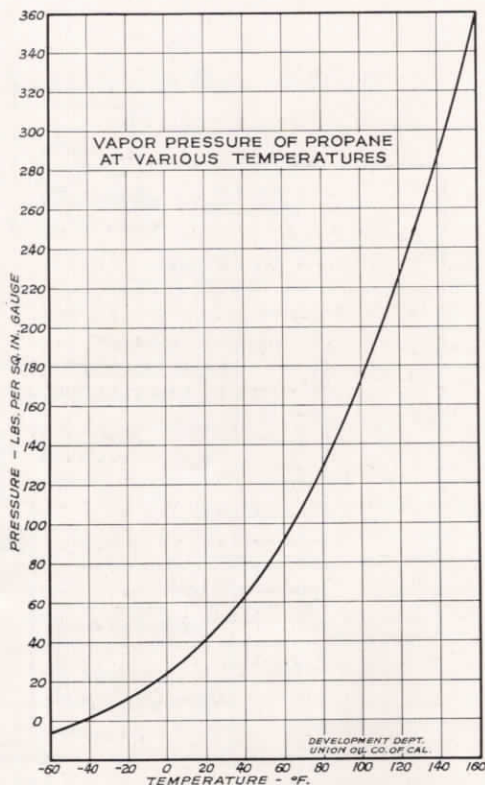
Chemically, propane is the third member in the saturated or paraffinic hydrocarbon family, methane and ethane being the first and second members, respectively. Its formula is



and it is very stable towards heat, oxygen and most chemical reagents. When mixed with air in the proper proportions, propane is very explosive, but the ignition temperature is quite high and the range of explosibility in air fairly narrow, being only from 2.1 to 7.5 per cent by volume.

The physical properties of propane constitute the major source of usefulness to date. While propane is ordinarily a gas at all temperatures above -42°F ., it can be liquefied at any temperature up to about 209°F . by the application of pressure. When liquefied, the propane then exerts a vapor pressure exactly equal to the pressure required to liquefy it at that temperature. Consequently, we have what is known as a vapor pressure curve, or boiling point curve, as shown on this page. From the curve it is seen that on a warm day of, say, 85°F ., it requires 140 pounds per square inch to keep propane a liquid, and on a cold day of, say, 35°F ., it requires only 57 pounds. As another way of looking at the curve, if our propane is at 85°F ., it will exert a pressure of 140 pounds per square inch against the walls of the container, and if we open a valve to make the pressure drop to, say, 30 pounds per square inch, the propane will "boil" and cool itself until the remaining liquid and the container are at a temperature of 9°F . This is what we mean by automatic or internal refrigeration, utilized in Union's new process of lubricating oil refining.

The solvent properties of propane change with temperature in a useful manner, the propane being able to dissolve less asphalt,



wax, and low grade oils at extremely low temperatures than at ordinary temperatures. However, as the temperature is raised above about 125°F ., propane seems to lose more and more of its properties as a liquid, and to behave rather as a compressed gas, even though it is still a liquid as judged by ordinary methods. This peculiar property of propane makes it, in reality, not merely one solvent, but a number of different solvents depending upon the temperature and pressure.

Since the uses of propane in lubricating oil refining were explained at some length in a preceding issue of the "Bulletin," we shall discuss at this time only some interesting uses for propane aside from lubricating oil refining.

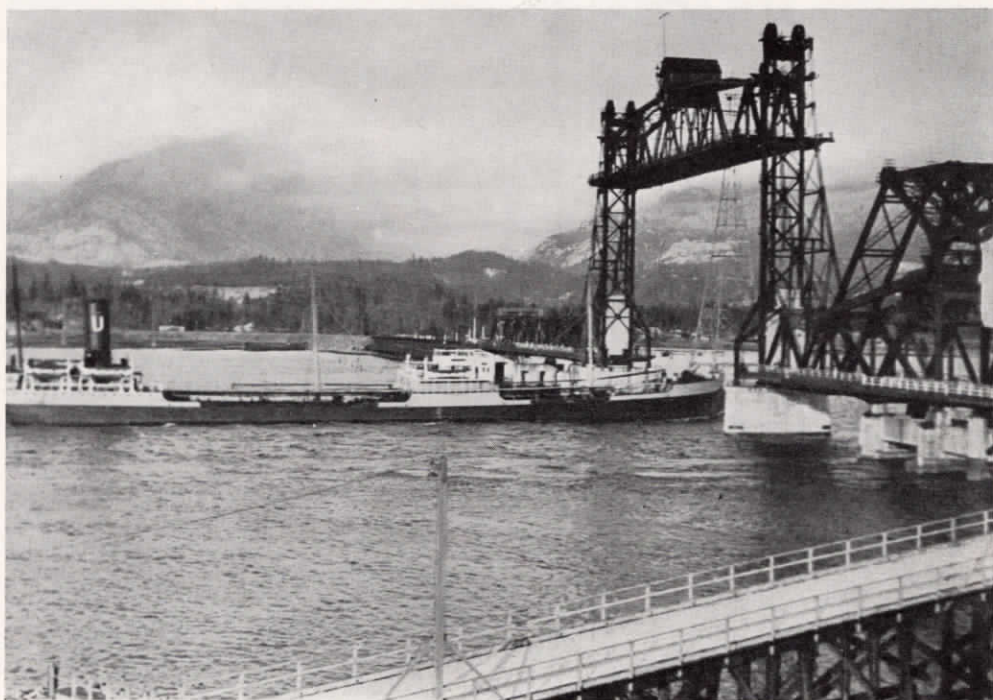
Until recent years, propane and its next larger brother, butane, were mixed back in with the lean fuel gas and consumed or thrown away in that manner. Nowadays, considerable quantities of propane and butane are being used as "bottled" gas for domestic purposes and for automotive purposes. Remarkable progress has been made in the utilization as spark ignition engine fuel. Some investigators proclaim propane and butane as

the ideal motor fuel because of extremely high anti-knock properties, freedom from dilution of the crankcase oil, and perfect carburetion.

While propane is very stable to most chemical reagents, it can be made to react under the proper condition, and hence it constitutes a source of raw materials for chemical synthesis. The most important developments along this line, to date, depend upon cracking the propane at very high temperatures, many hundred degrees higher than for heavier oils, to produce the reactive compound ethylene which is then utilized to make a large number of organic chemicals.

In conclusion, we may state that until recent years propane was considered mainly as a nuisance which had to be removed from gasoline to prevent vapor locking, whereas, now, we take especial pains to obtain it in practically pure form and use it for a number of purposes. The most important use, however, is believed to be in lubricating oil refining, and there is a lesson in noting that petroleum refiners searched for several decades for chemical reagents, more or less expensive, to enable the production of high grade lubricating oils, while throwing away to fuel gas the propane key to the lubricating problem.

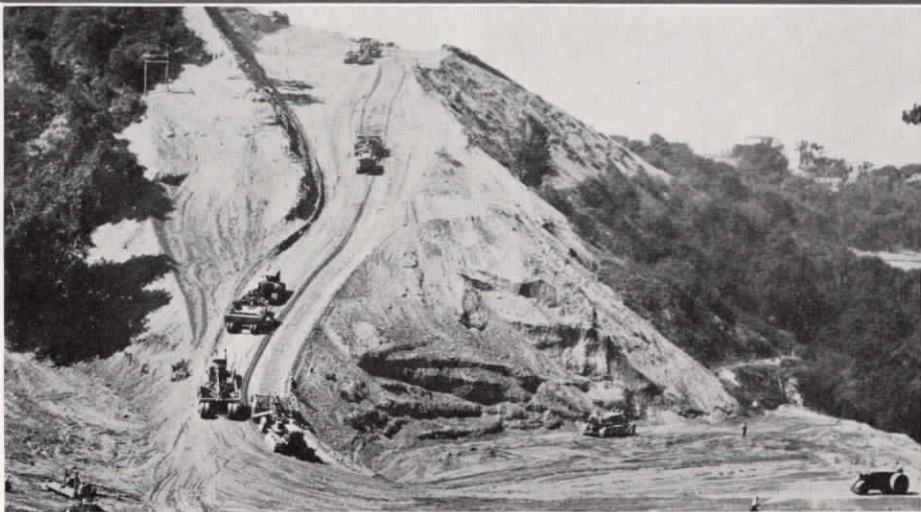
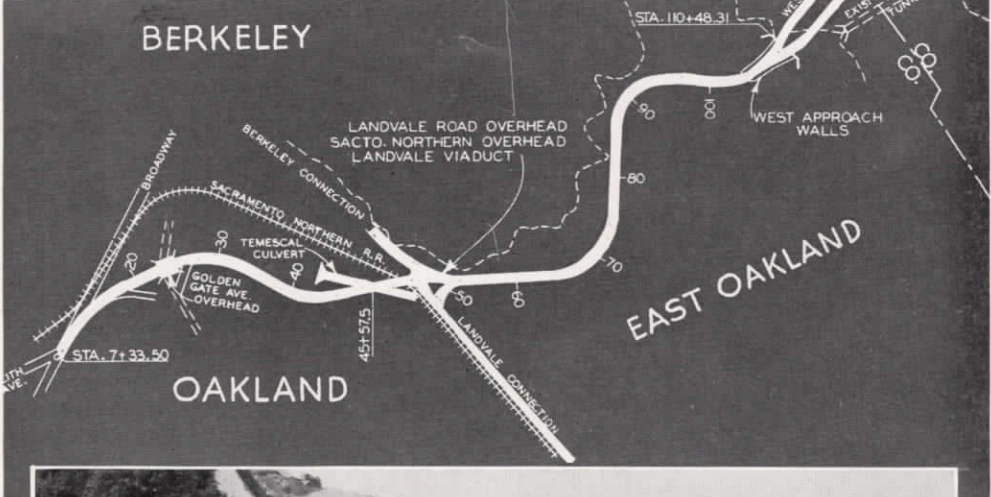
S. S. La Brea Enters Vancouver Harbor

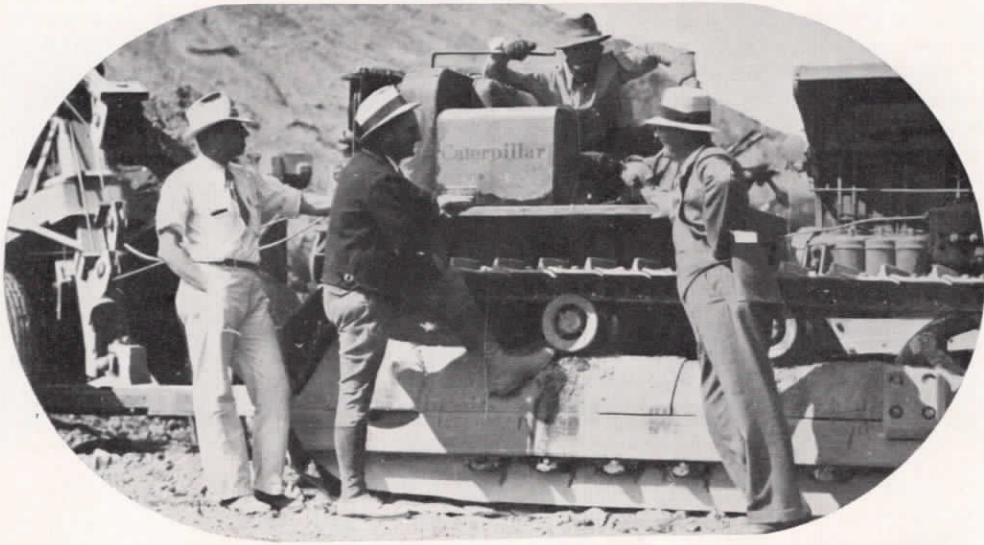


This picture of the Union Oil Company's tanker, S. S. La Brea, passing through "Second Narrows" Bridge in Vancouver, B. C., harbor was taken by Paul J. Zuest, representative of the Surrey Dairy, New Westminster, consumer of Union Oil products.



Compressors, tool sheds, and preliminary forms for ventilating equipment at west approach are shown at left. The diagram shows new tunnels, highway, and entrances from Bay cities. Below, grading west approach with ten Caterpillar "75's."





Here you see, left to right, E. Turre, office manager; H. W. McKinley, grading subcontractor to Six Companies Inc.; Harry Hicks, tractor operator; and L. A. Kimball, Union Oil representative. This is one of many Caterpillar "75's" and twelve cubic yard LeTourneau trailers at work on grading portion of Broadway Low Level tunnel.

Progress on Oakland Tunnel Project

DWARFED in magnitude only by the San Francisco Bay and Golden Gate bridges, contemporary undertakings in the San Francisco area, the Broadway Low Level tunnel project which will establish faster and more direct traffic lines between Oakland and East Bay cities and Contra Costa County points is nearing the first year of construction with work well ahead of schedule.

The job, contracted for by Six Companies Inc., at a cost of \$3,684,000, is the culmination of years of planning by Alameda and Contra Costa County communities. When completed it will carry traffic into the Contra Costa areas now only served by the hazardous Claremont Canyon and Tunnel Road route. It will provide a direct boulevard from San Francisco via the San Francisco Bay bridge, now under construction, and all East Bay cities into the San Joaquin Valley and High Sierra mountain recreational resorts. It will shorten by approximately two miles the present precipitous route and materially reduce driving time

between waterfront locations and valley points.

Ground was broken on the Broadway Low Level tunnel June 14, 1934. The enterprise consists of 3.73 miles of new highway, in which is included the new tunnels. Approaches, from the west end, are being built from Berkeley via the old Tunnel Road, from Oakland proper near the northern extremity of Broadway, and from East Oakland via the Landvale road near Temescal reservoir.

Approaches and the main boulevard are being built 65 feet wide with 40-foot paving. Grades of 5 per cent will permit high gear travel for most vehicles. Curvature has been reduced to about one-tenth of that encountered on the old road. The actual tunnels split at both approaches, one being for eastbound traffic and one for westbound traffic. The tunnels are to have a roadway 22 feet wide, sufficient to permit two lines of fast moving traffic in each direction, with no opposing movement. The tunnels are approximately 3,200 feet in length.

Progress to date has been rapid. Most of

the incidental concrete structures are up, highway grading is virtually complete, and ventilation building—the tunnels will be air conditioned to prevent an accumulation of exhaust gases—and portal retaining walls are under construction.

Broadway Low Level tunnel project is under the direct supervision of California Highway District No. 13. Six Companies Inc., contractors for the work, have attacked the job with the same resourcefulness and dispatch displayed on Boulder Dam and Met-

ropolitan Water District. Grading of the tunnel approaches, a phase of the work involving the displacement of 850,000 cubic yards of materials, has been subcontracted to W. H. McKinley organization and the Weymouth Crowell Company. In leveling the approach to the west approach, a small mountain was brushed aside to form the largest fill on the job, 387,000 cubic yards of dirt.

Union Oil Company products are being exclusively used throughout the Broadway Low Level tunnel project.

Bonneville Project in Second Year

FORTY-TWO miles east of Portland, Oregon, on the Columbia River, the Bonneville power and navigation project, which when completed will provide cheaper power to Washington and Oregon cities in the area and make the Columbia River navigable to sea-going vessels as far as The Dalles, Oregon, 187 miles inland, is now in the second year of construction.

Authorized as Federal Project No. 28 under the Administrator of Public Works in September, 1933, the Bonneville Power-Navigation job was launched two months later with an allotment of \$32,450,000 set aside to complete the undertaking. The Corps of Engineers, United States Army, was delegated to handle actual construction. Thus, the enterprise takes prominence among other current western projects such as Boulder Dam on the Colorado River, now nearing completion, the Metropolitan Water District of Southern California aqueduct, and the Grand Coulee dam in eastern Washington.

Within a week after the expenditure for the project was approved, Army engineers had moved to location and preliminary survey work was begun with a staff of 20 men. The Columbia River at Bonneville had two channels separated by Bradford Island. It was decided to locate the spillway dam on the north or main channel and the powerhouse and navigation lock on the south channel, with the lock along the Oregon shore. A levee on Bradford Island is to connect the dam and powerhouse. An interesting sidelight to

the enterprise, and one highly important to commercial fisheries and sportsmen alike, is the provisions made for the habits of the famous Columbia River salmon. Fishways are to be provided for the spawning salmon going upstream, and for fingerling salmon downstream in both channels.

The dam proper is to be a concrete, gravity-type structure 1,250 feet long with 18 steel vertical lift gates, each 50 by 50 feet, to give a spillway crest of 900 feet. The dam, when completed, will rise 170 feet above lowest foundation. It will back up water a minimum depth of 30 feet for 48 miles to The Dalles, Oregon. Provisions have been made by the government to compensate for flooding and damage to property adjoining the project.

Initial powerhouse construction provides for the installation of two hydro-electric units of 60,000 horsepower each and the erecting of foundations for four additional units. Total output from the 10 units ultimately planned will be 600,000 horsepower.

The navigation lock will have a single chamber 76 feet wide and 500 feet long with a depth of 27 feet over the lower sills at low water. The elevation of normal low water below the lock will be about 13 feet above sea-level, and the normal pool-level above the lock will be 72 feet, giving a lift within the lock of 59 feet, the greatest of any similar project in the world.

Ocean-going ships may now navigate from the mouth of the Columbia inland to Vancouver, Washington, 40 miles below Bonne-



The first shore cribs on the Bonneville Dam work are shown under construction in the picture at the top; mid-river cribs are shown in center; and below, preliminary forms for the largest lift locks in the world—a rise of 59 feet will be accomplished.



Foundation forms for the powerhouse at Bonneville Dam are shown in the top picture. A Monighan drag, with one of largest booms ever used, at work on river bed in the lower photograph.

ville. As the needs of commerce develop, the channel connecting Vancouver and Bonneville, which now has available depth at low water of at least 9 feet, will be dredged to provide for deep draft navigation to Bonneville Dam. Passage through the navigation lock may be continued inland to The Dalles through backwater from Bonneville Dam.

With nearly 18 months of progress tabulated on the job record sheets, the Bonneville project now requires approximately 2,300 men to carry on the work. A total of more than 25 contracts for various phases of the

work has been assigned, aggregating some \$18,000,000.

Concrete work on the lock is scheduled for completion during the year, excavation for the powerhouse, between the cofferdams which were built to divert the flow of the river, has been finished and pouring of the foundations is well under way. Highlines, telephone controlled similar to those utilized at Boulder Dam, are being used in pouring the powerhouse and dam proper. Huge buckets carry concrete from the mixer via highline to the pouring location.

Equipment and methods of operation on the job are characteristic of those used on other current West Coast undertakings. In some instances it's another case of building the equipment to meet the job to be done. A Bucyrus Monighan dredger at work in the river operates with a 175-foot boom and 10-cubic-yard bucket. Of 800 horsepower, its working weight is 788,000 pounds. It alone represents an investment of \$150,000. Incidentally, the entire piece of equipment is lubricated with Union Oil products. Muck carriers, tractor-powered, form a continuous procession along the banks of the river.

Contractors at work on Bonneville Dam are concerns personneled with men accus-

tomed to doing bid jobs without much ado. Work carried on by such organizations as Columbia Construction Company, General Construction Company and J. F. Shea, Swigert and Hart, D. A. Whitley, White Trucking Company, and Parker-Schram Company, progresses rapidly under general supervision of the Army engineers. Erection of the dam proper is under contract to Columbia Construction Company, with concreting to be done by General Construction Company and J. F. Shea Company. At Bonneville, as at other major and minor reclamation projects now in progress in various parts of the Pacific Coast, Union Oil Company products are being widely used.



H. B. Weller

H. B. Weller Retires

CULMINATING thirty years' fine service with the Union Oil Company, H. B. Weller, district manager in Honolulu, tendered his resignation from active duty, effective March 1, last.

First employed by the company on October 1, 1905, Mr. Weller began as agent in Honolulu. He remained in that capacity until January, 1914, when he was made special agent. On October 10, 1929, he was advanced to the position of district manager, working in that capacity until the date of his retirement.

J. G. Zabriskie has been advanced to the position left open by Mr. Weller's retirement. Beginning as salesman in Honolulu on November 1, 1930, Mr. Zabriskie was appointed

assistant district manager on December 1, 1932, and assumed the position of district manager on March 1, this year.

Advancing to the position of assistant district manager in Honolulu as of April 1, W. S. Grant follows Mr. Zabriskie. First employed in 1918 in the sales department, Mr. Grant transferred to the comptroller's office in 1920, and, after a year, was transferred to the insurance and personnel department. The next year, he was appointed a traveling auditor. In 1924, he was named field auditor, but, two years later, returned to the insurance and personnel department. From January 1, 1930, to April 1, this year, he was export sales representative at Manila, Philippine Islands.

Triton Motor Oil Sales Climb



This pyramid of empty containers represents the sale of Triton Motor Oil at one Union station, and picturizes the mounting sales throughout the Coast since the introduction of the new oil November 22, last.

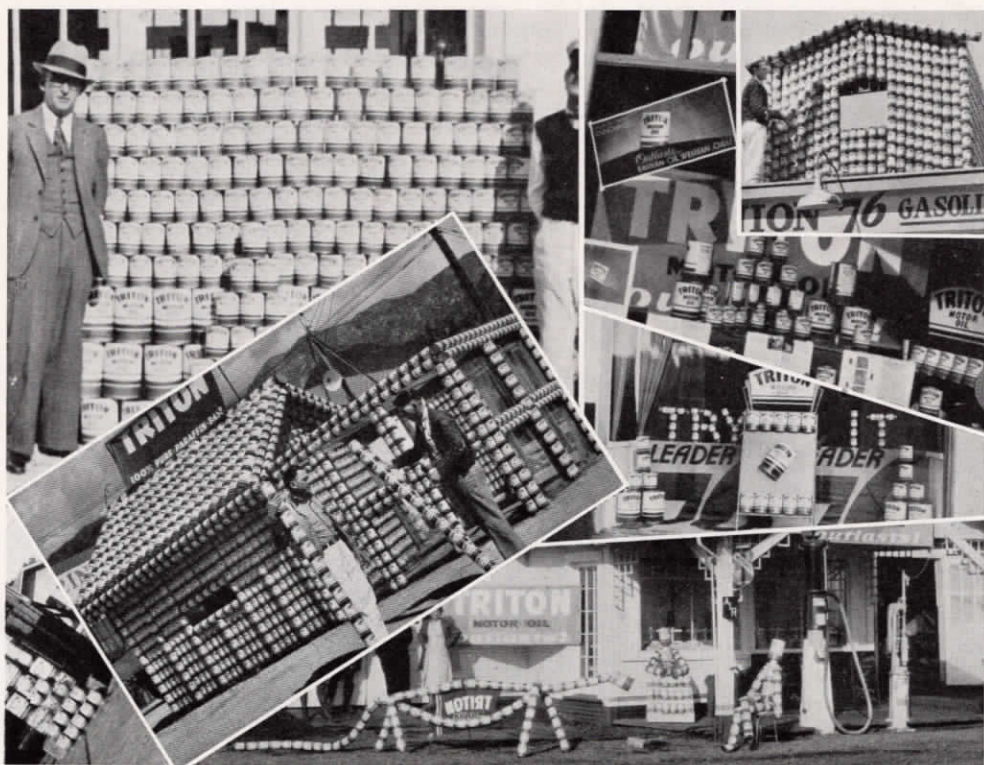
350,000 Users in 4 Months

SINCE its introduction, November 22, 1934, sales of Triton motor oil have been made to more than 350,000 Pacific Coast motorists by over 8,600 service stations, garages and new-car dealers. The dealers now handling Triton exceed by more than 2,000 the largest number of outlets through which any Union Oil Company product has previously been marketed in the six coastal states—California, Oregon, Washington, Arizona, Nevada and Idaho.

This phenomenal success is evidence of the fact that Union's propane solvent refined oil is being accepted as the quality leader among motor oils, and that the public is appreciative

of the real contribution the company has made to petroleum refining in the development of the new process. Testimonials from thousands of users bear out facts disclosed in nearly 500,000 miles of test driving under the supervision of the company's research department.

In marketing Triton as a quality oil it has been necessary to overcome a prejudice in favor of Eastern oils built up over the past ten years. In accomplishing this the company has been successful in correcting many erroneous beliefs that have grown up about motor oils, and establishing a new and higher standard of specifications for premium lubricants.



Dealers in all sections of the coast have, of their own initiative, undertaken the building of novel displays from empty Triton containers. Above are shown a few of them. On Wilshire Boulevard in Los Angeles one may see a giant pyramid of cans (see adjoining page); in Glendale, Calif., a full-sized log cabin fabricated by the Leasa Brothers; and in Woodburn, Oregon, a Triton-made skeleton of a dinosaur with a Triton-made robot as curator, both constructed by imaginative Mrs. O'Neil, proprietor of the Horseshoe Park Garage.

Build Uniquely with Empty Triton Cans

CLASSES in metal craft in Bret Harte School in East Oakland have adopted the used Triton motor oil container as base material from which to fashion and shape the novel myriad articles which talented fingers of the youngsters turn out each year.

The school is composed of 120 students between the ages of 13 and 16 years. C. R. Vorheis is principal and V. B. Evans instructor in metal craft. The fine work that is being done by the students has been the subject of much publicity and favorable comment. Students are enthusiastic over the introduction of Triton, since for the first time they are able to secure adequate empty cans for their purposes.

Funnels, scoops, lamps, sand toys, candle holders, dust pans, match boxes, and innumerable other articles have been made by the students from used Triton containers. A



Some of novel articles made from empty Triton cans by students of Bret Hart School, East Oakland, California.

canteen, made by a student who is a Boy Scout, was competely made from a Triton can and then made serviceable by pouring in hot paraffine to prevent rust.

Features Triton Exhibit in Shows, Fairs



Triton exhibit, built around jumbo-sized revolving Triton can, which company has featured in outstanding fairs and exhibitions. Displays at sides of exhibit are "gadgets" to demonstrate Triton superiority.

Industrial Relations and Personnel Department



Wm. K. Hopkins
Manager



J. P. Rockfellow
Assistant Manager

ON February 27, the Industrial Relations and Personnel Department—an outgrowth of the Insurance and Personnel Department—was designed to supervise the company's industrial relations, personnel, employees' benefit fund and workmen's compensation plan. Wm. K. ("Bill") Hopkins was named manager of the department, and J. P. ("John D.") Rockfellow was appointed assistant manager. Mr. Hopkins reports directly to L. P. St. Clair, president of the company.

Both "Bill" and "John D." have had years of experience with the company in various capacities. Mr. Hopkins first became associated with the company on August 4, 1922, in the drum and barrel department, Los Angeles. After eight months, he was transferred to the gas department at Santa Fe Springs, then to the Stearns absorption plant late in 1924. In the next year, he transferred to the field department and was stationed at Brea, and, in 1926, went to the field office at Maricopa.

In February, 1927, he became insurance and personnel supervisor of the operating departments of the southern division, with offices at Santa Fe Springs. On January 1,

1931, Mr. Hopkins was appointed insurance and personnel supervisor of both northern and southern divisions. Then, on February 27, last, he assumed his present position, with offices in Los Angeles.

First becoming associated with the Union Oil Company on February 1, 1924, Mr. Rockfellow worked in various capacities in the Dominguez field department. Exactly four years later, he was transferred to Brea as personnel supervisor. In 1929, the Brea and Santa Fe Springs districts were consolidated, with headquarters at Santa Fe Springs, where he became assistant supervisor under Mr. Hopkins. In September, 1930, Mr. Rockfellow was appointed personnel supervisor of the manufacturing department, Los Angeles refinery, with offices at the refinery until January, 1933, when he transferred to Los Angeles, continuing in the same capacity.

Mr. Ray Judy, formerly assistant personnel supervisor of field operations, succeeded Mr. Hopkins at Santa Fe Springs.

These men are conversant with all phases of personnel work, are exceptionally understanding of personal problems which employees might have, and each welcomes all employees under his respective jurisdiction to his office, either for a personal or business chat.

San Jose Wins Bowling Championship



Above is San Jose's championship bowling team with Major Burnham trophy, won for 1935 in Ninth Annual Union Oil Telegraphic Playoff held March 15. Left to right, Lee Dampier, N. Malstrom, H. Williard, Wm. Rebella and L. E. Keahy, captain. Below are bowlers who participated in playoff at Los Angeles, snapped just before A. C. Galbraith (right center) started the show.

SHOWING surprising accuracy just when such a quality was most needed, the San Jose bowling team won the ninth annual Union Oil Company telegraphic bowling playoff on March 15, to capture the Major Burnham trophy for 1935. This is the first time San Jose has won the championship,

and, at that, it was extremely close, with the L. A. Refinery team crowding all the way to end the three-game series only seventy-three pins behind the champions.

As a team, San Jose went well the last two games, after finishing the first game in fourth place. But, after forging ahead in the second

Telegraphic

We started out a-bowling
The telegraphic league.
The photographers held us up
Until we got fatigued.

We finally got 'em started—
The balls began to roll;
The audience then decided
Just which of them could bowl.

The Service Stations not so good;
Head Office just as bad—
Dominguez Hill and Santa Fe
Were giving all they had.

The Refinery team was going fine,
The cup it was in sight
'Til came the score from San Jose—
Their team did win the fight.

But next year is another date,
We'll still be in the race;
We hope that our position then
Will not be second place.

C. L. ("Mac") McCreary,
L. A. Refinery.

game, the team was never headed. For the three games, scores of 900, 987 and 997 were made. L. A. Refinery was rather consistent throughout, marking up scores of 915, 961 and 935. With an aggregate score of 2,884, San Jose came within seven pins of tying the all-time record established by the Oleum Refinery team when it won the championship in 1934.

A. Micoli, captain of the Oleum Refinery five, made a clean sweep of the individual trophies. His individual high series of 684 pins won him the bowling ball presented by W. L. Stewart, Jr., and his individual high game of 256 won the bowling shoes presented by A. C. Galbraith. Wm. Robella, of the San Jose winners, was a close second, with scores of 674 and 246, respectively.

Triplets!

In a Los Angeles Sunday morning paper, dated February 17, there was found the headline, "Twins Expected; Triplets Arrive." This happened to Mrs. Nettie Schmidt who, with her husband, Irvin Schmidt, reside in Los Angeles. Mr. Schmidt is an employee of the Union Oil Company, and is manager of the company's service station at Sixth and Commonwealth.

Considerable interest was shown by more than 150 Union Oil contestants up and down the Pacific Coast, in the bowling season just closed. This enthusiasm has placed the annual bowling contest as one of the major sports sponsored by the Industrial Relations and Personnel Department. At the last telegraphic playoff, Mr. Galbraith officially started the first game in Los Angeles by rolling the first ball—which ball seemed definitely inclined toward somebody else's alley, rather than its own.

Following is how the twelve teams which competed in the playoff finished the evening:

Team	Pins
San Jose	2,884
L. A. Refinery	2,811
Oleum Refinery	2,711
Los Angeles	2,573
Santa Fe Springs	2,507
Service Stations	2,498
San Francisco	2,457
Seattle	2,312
Dominguez	2,289
Spokane	2,281
Eureka	2,068
Walla Walla	2,008

Complete list of annual company champions:

First Burnham Trophy

Year	Team	Pins
1927	Phoenix	2,721
1928	Dominguez	2,779
1929	Orange Dist. (Field)	2,830
1930	Head Office	2,675
1931	Dominguez	2,661
1932	Dominguez (winner)	2,732

Second Burnham Trophy

1933	Spokane	2,853
1934	Oleum Refinery	2,891
1935	San Jose	2,884

Dance Held

What proved to be a very entertaining event was the dance held on the evening of March 15 in Long Beach. It was sponsored by the L. A. Refinery Girls' Social Club, and was well attended. For those who didn't care to dance, card playing was undertaken. No fatalities were reported from among the latter group.

Rewarded for "Most Beautiful Station"



On behalf of Union Service Stations, J. H. Dasteel, general manager, accepts trophy presented by Mrs. Queen Walker Boardman, chairman of the Division of Women's Community Service Auxiliary, Los Angeles Chamber of Commerce, for most beautiful service station in Southern California. E. E. Sanders, manager of the station at Crescent Drive and Benton Way, Beverly Hills, which won the prize, is shown in the background with Mrs. M. E. Ridenour, who assisted Mrs. Boardman in the judging.



"Miss Triton" Enters Service

TRIM and commodious, the new Stinson "Reliant" four-place cabin monoplane just purchased is by far the finest, both from standpoint of utility and beauty, ever placed in company service.

The Stinson, christened Miss Triton, and "A-11" in the line of ships used by the company, is powered with a 245-horsepower radial-type Lycoming motor and has a cruising speed of 120 miles per hour. Top speed is 145 miles per hour.

Latest type instruments, set in attractive panel, luxuriously upholstered interior and new-type parachute chairs for each of the four seats are features of Miss Triton. The

two front seats are arranged for dual control. The ship is equipped with all facilities for night flying, the motor has new type cowling, and the squat, flat low pressure air balloon wheels are provided with appropriate "pants."

W. E. Carey, popular Union Oil Company pilot who is known the length of the Pacific Coast among aviation enthusiasts, took delivery of the ship last month at the factory, Wayne, Michigan. Carey recently deserted the ranks of company bachelors when he married Wilma Smith, well-known Union Oil employee in San Francisco, where she served as secretary to C. S. Myer, division operating manager.



W. E. Carey, Union Oil Company pilot, and "Miss Triton," the new Stinson "Reliant."



Roaster Performs Novel Operation



The unique pimiento "oven" where cellophane-like skins are literally seared off the delectable fruit, above; and right, home of the Old Mission Packing Corporation, San Diego, where the skinned pimientos are canned.



TO SOLVE the problem of removing pimiento skins before canning, the Old Mission Packing Corporation of San Diego, California, has constructed and placed in operation one of the most unique ovens found anywhere in the world.

The pimiento is the original "wrapped-in-cellophane" product. Nature gave this member of the bell pepper family a skin of just about the same texture and toughness of the familiar transparent wrapping material. The canners have to get the "wrapper" off before packing the fruit, yet the skin is such a close-fitting coat that trying to peel it by hand would just be a waste of time.

The San Diego concern's oven cooks the

skins off on the wing, sears them to a crisp as the fruit virtually flies through the oven.

Frederic F. White, president, and his fellow workers of the Old Mission Packing Corp. in Old Town, devised the oven, known as a "pimiento roaster."

White explained that removal of the skins has depended upon cooking the pimientos at a scorching hot temperature, but doing it so quickly that the "meat" would not be harmed, or even cooked. Previous devices for doing this have been expensive and unsatisfactory.

The new roaster is a brick oven 60 feet long, elevated 26 feet above the ground at one end and slanting to the earth at the other. In

each of its sides are three burners, arranged in staggered formation along its length. They heat the oven to a temperature of 2,400 degrees, Fahrenheit.

Pimientos go tumbling up to the top of the oven on a conveyor and drop into it, then go scooting down the chute-like interior by force of gravity. Two tons of them shoot through per hour, each one making the trip in about nine seconds.

The searing, 2,400-degree temperature burns the objectionable skin to a black crisp. At the bottom, another conveyor picks the peppers up and carries them into a revolving washer, where a stream of water plays over them continuously and the charred remains of the "wrapper" are removed. Then they go on for packing and the final cooking.

Union fuel oil supplies the heat for searing the pimiento, and other Union products are used throughout the packing plant.

Sneddon Joins Adv. Staff

Richard Sneddon, chief gauger of the company's pipe line department since 1927, the author of "Refined and Crude" in the Union Oil Bulletin for the past eight years, and a free-lance writer after office hours, joined the company's advertising department April 1.

"Dick" is a chemist by training and a native of Scotland where he received his initial schooling in the Glasgow Technical College. He went to Canada as chemist for the Canadian Pacific in 1910 and was later elected to a fellowship in the Canadian Institute of Chemists. In 1923 he decided to trade the sub-zero temperatures of Canada for milder California winters, and in November of that year secured a position in the company's newly-formed research laboratory at Los Angeles refinery.

The necessity of preparing technical reports started Dick on a journalistic career. Since joining the company he has been a contributor to local publications and magazines and while stationed at the refinery was called upon to publicize the local activities of the company and its personnel in the harbor publications. Since taking over the duties of chief gauger and his transfer to the head office he has written "Refined and Crude" and a number of general articles.

In Memoriam

The deaths of eight Union Oil Company employees, Claude C. Earnhart, George Oakes, Harry L. Foster, John Critton, John J. Thomas, Sr., John F. Westman, Frank R. Hennion, and Albert D. Sinclair, occurred during the first two months of this year.

Mr. Earnhart died on January 17, at the age of 36. Originally employed on December 31, 1919, as a roustabout at Brea, he worked in different capacities during the ensuing years. At the time of his death he was touring engineer for the Los Angeles Pipe Line.

First becoming associated with the company on August 16, 1919, in the northern division of the field department, Mr. Oakes began as a pumper, and later became a field repairman. At the time of his death, January 18, he was 53 years old and was employed as a pumper at Maricopa.

Mr. Foster died February 20 at the age of 78, a retired company employee. First employed October 19, 1911, as tax agent at the head office, he remained in similar work until his retirement on February 1, 1929.

On January 22, Mr. Critton passed away at the age of 69 years. He was a retired Union Oil Company employee. Originally employed on May 1, 1914, in the southern division of the field department, Mr. Critton was first a well puller, and later a watchman.

On January 25, Mr. Thomas died. He, also, was a retired company employee. First employed at Oleum on January 3, 1911, Mr. Thomas was a boiler cleaner, then a gate-man. He was 57 years old.

Mr. Westman died from injuries received in an automobile accident on February 9. Employed at Oleum on September 19, 1930, he had filled various capacities, and was working as a fitter at the time of his death. He was 37 years old.

Sixty-eight years old, Mr. Hennion passed away February 15, having been retired since the end of 1928. He first began work with the company on August 13, 1897, in the transportation department, Ventura, but, later, transferred to L. A. Sales.

First employed on October 2, 1918, as fireman, Producers Pipe Line, Mr. Sinclair, who died February 25 at the age of 63, was a retired Union Oil Company employee since September 23, 1931.

Service Emblem Awards



25 Years



W. A. Clark



John Douglas



B. F. Blanchard, Sr.



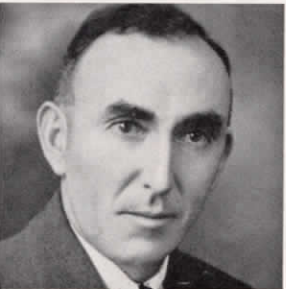
C. H. Rouse



G. G. Anderson



W. J. Chase



J. E. Harrington



C. A. Gaskell



C. C. Ireland

152 Receive Service Awards

DURING the first three months of this year, 10 employees completed 25 years' service with the Union Oil Company. They are C. H. Rouse, C. G. Coggeshall, C. A. Gaskell, W. J. Chase, G. G. Anderson, B. F. Blanchard, Sr., Wm. A. Clark, John Douglas, C. C. Ireland, and J. E. Harrington. In the same period, 14 others completed 20 years' service.

Chester H. Rouse began work with the company on January 1, 1910, in the asphalt shed of the Oleum Refinery. About a year later he was transferred to the asphalt stills as fireman, holding that position for the next two years before becoming a gauger in the main pump house. Excepting in 1918 and 1919 when with the United States Army, Mr. Rouse has been dispatcher in the main pump house for the past twenty years.

As a stillman in the refinery on the Narajai lease, Clyde G. Coggeshall entered the employ of the company on January 5, 1910. From there he was transferred to the Morris Camp and pumped oil wells for the next two years, after which he returned to Narajai lease and remained there for the next ten years. During his entire 25 years of service, Mr. Coggeshall has spent all of his time working in Southern California oil fields. At present he is employed on the Stearns lease in the Brea oil field.

On January 12, 1910, Charles S. Gaskell was employed by the company at the Oleum Refinery, and has been employed continuously from that date in the main pump house, with the exception of about 18 months in 1918 and 1919 when he was in the United States Army. During the past 15 years, Mr. Gaskell has been a dispatcher.

W. J. Chase came with the company on January 25, 1910, in the drum and barrel division, but in 1917 was transferred to the insurance division. Two years later he joined the Accountants' Department and was made field auditor in 1923. He was sent to Colorado in 1925 as an assistant accountant, where he remained for the next four years, when he was transferred to Santa Fe Springs. Mr. Chase was then made assistant accountant at

San Luis Obispo in 1930, and in 1934 was promoted to division accountant at Bakersfield, in which position he is at present employed.

Starting work with the company on February 1, 1910, Gust G. Anderson began as a boilermaker located on the Stearns lease in the Brea oil field. He remained in that location until October, 1929. At that time, several districts were consolidated, and he was transferred to Santa Fe Springs as boilermaker foreman for the Southern Division. At the present time he is stationed at Santa Fe Springs. Mr. Anderson is credited with having built one of the first traps for separation of oil and water.

Beginning his 25-year service on February 2, 1910, B. F. Blanchard, Sr., started work at the Stearns shop. During the first 20 years of service, he remained at that location, and was in the capacity of shop foreman for the last 15 years. Five years ago, when several of the company's districts were merged, he was transferred to the Santa Fe Springs shop, where he is now located. Mr. Blanchard is credited with a number of oil tools, one of which is the U. S. hydraulic underreamer.

First employed on February 24, 1910, Wm. A. Clark began as a blacksmith's helper in the Central Division at Maricopa. His first experience in the oil rigs was changing a drilling line in the Lakeview No. 1 well a few days before the well blew out and became established as the greatest producer in California oil history. He worked in drilling operations for only a short time and was then transferred to the production department, subsequently to be named production foreman at Maricopa for ten years. For the last four years Mr. Clark has been at Poso Creek, where he now is employed.

On March 1, 1910, John Douglas entered the employ of the company. His first work was setting gas engines. During the ensuing 25 years, Mr. Douglas has been doing the installation and maintenance work of all the gas engines used in Orcutt field.

C. C. Ireland first became associated with the Union Oil Company on March 11, 1910, as bookkeeper in the Portland district office.



Julia T. Campbell

**20
Years**



T. W. Bryant



D. Stockall



E. C. Stevens



W. R. Edwards



L. Olivotti



H. H. Elkins



R. J. Wood



E. L. Nance



L. G. Stats

After filling various capacities, he became a salesman in 1916 and in June, 1917, was appointed agent at Corvallis. In August, 1922, he became assistant district manager at Portland and in May, 1924, was advanced to the position of district manager in Spokane. In April, 1930, he became assistant district manager of the Los Angeles district, and on December 1, 1933, was promoted to the position of district sales manager in Los Angeles, which position he now holds.

J. E. Harrington, who came with the company on March 28, 1910, has held a variety of positions with the transportation department, having served as gauger at Santa Margarita, fireman at the Antelope station, and pumper at several different stations. In 1925, he was made senior engineer at Santa Margarita, which position he still holds. Incidentally, he was on the crew which 25 years ago built that station.

Starting his service with the Union Oil Company January 7, 1915, Elmer C. Stevens was employed as truck mechanic at the Willbridge Plant, Portland, Oregon. In July, 1924, he was appointed as the first traveling mechanic in the northwest, but a year later he returned to the garage at Willbridge as garage foreman and remained at that location until March, 1930. For the last five years, he has again been assigned a traveling position, which he now holds.

On January 11, 1915, Douglas Stockall was employed by the company in the disbursements division of the comptroller's office. In 1917, he was made a dispatcher for the Producers Pipe Line, but two years later returned to the payroll division. In 1922, he was made chief clerk of Southern Division garage, and remained there until this year, when he was transferred to the automotive division at the Head Office.

W. R. Edwards became associated with the company on January 13, 1915, as a member of the comptroller's staff. On April 28, 1922, he was elected assistant secretary and served in that capacity until his election on June 20, 1934, as secretary of the company. At the Board of Directors' meeting following its re-election at the annual stockholders' meeting on March 5, Mr. Edwards was re-elected to that official position.

Beginning at the Oleum Refinery as a messenger on January 14, 1915, Luby G. Stats was transferred in the next year to the job as barrel weigher. After a few months in this capacity, he was made clerk in the drum department. In 1918, he was transferred to the shipping department as clerk, and a year later was transferred to his present position of clerk in the production office.

Thomas W. Bryant started work with the company in the yard of the Oleum Refinery January 15, 1915, but after a few days was transferred to the pipe fitting department. He remained in that department until August, 1916, after which he joined the United States Army and went overseas. Returning in 1919, he was made a fireman in the crude stills, later qualifying as tubular stillman and rerun stillman. In December, 1923, he became a lube oil stillman, and in 1929 was promoted to head asphalt stillman, which position he held until recently, when he was transferred to stillman at the vacuum still.

H. H. Elkins became associated with the Union Oil Company on January 18, 1915, as agent at Reno, Nevada, and for the past 20 years traveled throughout Nevada in the interest of Union Oil Company. His knowledge of this district and his usual friendliness have built up a substantial volume of business. At present he is salesman at large covering the entire State of Nevada.

On February 1, 1915, Ernest L. Nance came with the company in the capacity of chief claim superintendent in the traffic department, located at the company's Head Office. At present he occupies the same position. Prior to 1915, Mr. Nance was employed by the Missouri Pacific Railroad and the St. Louis Merchants Exchange, where he gained considerable experience in traffic and transportation matters.

Fred H. Wall was employed on February 1, 1915, as fuel oil truck driver in the Seattle district. He drove a four mule team until 1917, at which time he was provided with the

first motorized fuel oil truck. Mr. Wall occupies the same position at the present time.

Julia T. Campbell was employed by the Union Oil Company on February 16, 1915, in the traffic department, where she remained for approximately the next seven years, at which time she was transferred to the transportation department, where she is now located.

On March 17, 1915, Robert J. Wood was first employed by the company as clerk in the sales department at San Francisco, where he held various positions for several years. In 1921 he was appointed cashier at Portland, where he remained until 1927, when he was named cashier at Sacramento. A short time later he was transferred to San Diego to be assistant district manager of sales. Mr. Wood was special agent at Santa Ana the first part of 1931, but was later advanced to sales promotion supervisor at Los Angeles, leaving that position in November, 1934, to become agent at Santa Barbara.

Charles A. Anderson entered the employ of the company on March 19, 1915, as wagon driver in the Seattle district. In March, 1916, Mr. Anderson was transferred to night dock foreman, and later that year he was again transferred to the main plant as driver of our first motorized equipment, which position he occupies at the present time.

Employed at the Oleum Refinery March 31, 1915, Leno Olivotti has spent practically all of his 20 years' service with the company in the paint shop at that refinery. Of this period, he spent approximately 22 months overseas in the United States Army in 1918 and 1919. His present classification is first class painter. Mr. Olivotti has taken active interest in local sports and was one of the organizers and original players of the Oleum baseball team and of the Oleum bowling team.

Fifteen Years—January

Barjas, F. P., Sales, Southern Division.
 Barrett, A. J., Sales, Northern Division.
 Beal, D. L., Field, Southern Division.
 Blankenship, A. W., Field, Southern Division.
 Bliley, A. W., Field, Southern Division.
 Bohannon, C. H., Transp., Prod. Pipe Line.
 Burchfield, B. S., Field, Southern Division.
 Burchfield, R. O., Field, Southern Division.
 Daniel, C. A., Mfg., Maltha Refinery.
 Drake, R. R., Const., Northern Sales.
 Gier, H. J., Field, Southern Division.
 Hathcock, E. W., Pipe Line, Southern Div.

Howard, Grace, Sec., Head Office.
 Hughes, Jesse M., Field, Northern Division.
 McEwen, Grover, Mfg., L. A. Refinery.
 Moser, T. A., Pipe Line, Southern Division.
 Murphy, G. W., Mfg., L. A. Refinery.
 Perry, W. C., Field, Southern Division.
 Pumphrey, J. M., Field, Southern Division.
 Robinson, J. H., Conf'd-P.L., Southern Div.
 Russell, W. E., Conf'd., Southern Division.
 Stevens, K. B., No. Sls. Const., Head Office.
 Stillson, Fred, Mfg., L. A. Refinery.
 Stull, Cyrus, Pipe Line, Southern Division.
 Warlick, J. E., Field, Southern Division.
 Whitney, G. A., Mfg., L. A. Refinery.

Ten Years—January

Adam, James, Transp., Head Office.
 Briggs, H. D., Const., Northern Sales.
 Francis, Herbert, Mfg., Maltha Refinery.
 Mowatt, S. T., Sales, Panama.
 Richards, C. F., Mfg., Oleum Refinery.
 Timmons, P. S., Sales, Central Division.
 Wissler, S. W., Geo., Head Office.
 Woolheater, M. I., Compt., Head Office.
 Smith, L. A., Mfg., L. A. Refinery.

Fifteen Years—February

Bailiff, B. W., Sales, Northern Division.
 Ball, A. W., Field, Northern Division.
 Barron, Joe, Mfg., Oleum Refinery.
 Bettinger, A. B., Mfg., L. A. Refinery.
 Cardoza, Alfonso, Mfg., Oleum Refinery.
 Critton, L. V., Field, Southern Division.
 DeBuxton, R. A., Field, Southern Division.
 Emery, R. B., Pur., Head Office.
 Humphrey, C. C., Sales, Central Division.
 Proctor, R. C., Compt., Head Office.
 Richardson, A. R., Sales, Southern Division.
 Summers, C. J., Sales, Southern Division.
 Thompson, H. V., Conf. Gas, Southern Div.
 Titus, G. I., Field, Southern Division.

Ten Years—February

Carpenter, C. L., Sales, Central Division.
 Coulson, T. S., No. Div. Garage.
 Cunningham, O. R., Sales, Central Division.
 Ferguson, Robert, Sales, Northern Division.
 Gooley, E. L., Field, Southern Division.
 Hunter, R. F., Field, Southern Division.
 Lorimore, Max, Compt., Head Office.
 McCulloch, Wm. H., Sales, Southern Div.
 Muse, F. E., Field, Southern Division.
 Pierce, C. S., Mfg., Oleum Refinery.
 Sanders, H. H., Transp., Prod. Pipe Line.
 Schinnerer, E. F., Mfg., L. A. Refinery.
 Shearer, J. A., Sales, Northern Division.
 White, R. B., Sales, Southern Division.
 Wilder, G. R., Sales, Southern Division.

Fifteen Years—March

Fliflet, L. S., Sales, Northern Division.
 Beck, E. C., Transp., Southern Division.
 Benedict, N. R., Sales, Southern Division.
 Brace, G. F., Field, Southern Division.
 Burleson, H. A., Mfg., Santa Paula Refinery.
 Frye, G. G., Purch., Head Office.
 Giblon, E. D., Field, Southern Division.
 Gragg, F. A., Legal, Head Office.
 Kirkham, C. L., Gas, Southern Division.
 Marston, F. W., Transp., Southern Division.
 Ojstedt, S. A., Marine, "S. S. Montebello."
 Olgiati, R., Transp., Prod. Pipe Line.
 O'Rorke, N., Sales, Head Office.
 Paul, W. E., Traffic, Head Office.
 Peck, C. R., Field, Southern Division.
 Riley, H. L., Field, Northern Division.
 Wilcox, Paul, Sales, Southern Division.
 Wright, I. E., Compt., Southern Division.

Ten Years—March

Bard, J. R., Mfg., Research.
 Bergstrom, John, Mfg., L. A. Refinery.
 Bland, Wm. A., Mfg., L. A. Refinery.
 Brennan, M., Sales, Northern Division.
 Cannon, L. H., Sales, Southern Division.
 Cargile, H. E., Mfg., Oleum Refinery.
 Catrino, John, Jr., Mfg., Oleum Refinery.
 Coe, G. L., Sales, Northern Division.
 Cox, W. J., Field, Southern Division.
 Cronin, Cornelius, Mfg., Oleum Refinery.
 Duval, R. A., Field, Southern Division.
 Henderson, A. C., Transp., Southern Div.
 Kelly, Wm., Mfg., Los Angeles Refinery.
 Kirby, J. Wm., Sales, Northern Division.
 Klem, A. J., Mfg., Oleum Refinery.
 Kohlenberger, Wm. D., Const., Southern Div.
 McClelland, S. R., Field, Southern Division.
 McIntosh, Wallace, Gas, Southern Division.
 McNesby, James, Sales, Northern Division.
 Melton, Marvin, Transp., Southern Division.
 Miller, C. E., Field Southern Division.
 Moellering, J. L., Mfg., Oleum Refinery.
 Olson, J. L., Gas, Southern Division.
 Petersen, Walter, U. S. S., Southern Region.
 Richard, H. H., Mfg., Oleum Refinery.
 Riggs, J. C., Sales, Central Division.
 Rosbotham, Thomas, U. S. S., Vancouver.
 Sadler, Wm. E., Mfg., Maltha Refinery.
 Smith, H. F., Gas, Southern Division.
 Spragg, D. J., Gas, Southern Division.
 Stauffacher, B. A., Mfg., L. A. Refinery.
 Taylor, H. P., Sales, Northern Division.
 Thomson, Richard D., U. S. S., Vancouver.
 Wilson, Alma L., Sales, Northern Division.
 Workman, Wm. W., Sales, Central Division.
 Wright, Lawrence A., Gas, Southern Div.

REFINED AND CRUDE

By RICHARD SNEDDON

Do you know that there is enough pollen in a bouquet of California poppies to kill ten people, if the pollen of California poppies were poisonous?

That there is untold wealth in income tax returns?

And that owing to the return of prosperity the dollar has reached a new low?

In addition to these unusual and astounding facts we have discovered that there are 230 joints in the human body—only four less than there are on Main Street, Los Angeles.

That the hunters of the Canadian Northwest rarely speak. They only open their traps once each winter.

And what we frequently mistake for mosquitoes are gnats to you.

It's astonishing really how much information of this sort you can dig up if you make a business of it. For instance, there are 3,000 known varieties of fish in the United States—including the ones who played a sure thing in the Santa Anita handicap.

The installment system was absolutely unnecessary in the days of the early settlers.

The panorama in certain parts of Mexico is said to be positively beautiful. Nevertheless, you can't beat the old gray felt for comfort.

The best looker in the world, however, without doubt is a Scotchman who has lost his golf ball.

And much to our astonishment, we have just learned that the lowest spot in the United States is Bad Water in Death Valley. Shucks! We always thought it was Washington, D. C.

On the subject of animal life, a well-known naturalist makes the statement that there is a high standard of morality among wild animals. Which is probably true; it is rarely that kangaroos have their pockets picked.

And regardless of the economic situation, the kangaroo is always supremely happy.

Animals are possessed of an intelligence with which they are seldom credited. A common mongrel dog can bring things home that you never dreamt of.

Another interesting fact in the realm of animal history is that certain birds can fly at a speed in excess of 100 miles an hour—almost as fast as the summer vacation.

While we are juggling numbers, have you ever noticed that if you sum up all the essential qualities of a first-class motor fuel, the answer is "76".

Or that radio managers invariably shy clear of singers with high-pitched trebles. They apparently have trebles enough already.

Despite the award of the Motion Picture Association we still contend that "Triton" makes the ideal film.

And, of course, you have heard of the little boy who told the guest they were going to have a swell meal, because pop was bringing home a big fish for dinner.

In conclusion, remember that frequently the fellow who claims to have a bunch is merely round shouldered.

And the preservation of Gorgonzola cheese still presents the same mold problem.

