

“On Tour”

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On Tour

VOL. 11, NO. 1
JANUARY 1949

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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

By taking the routine precaution of looking behind his truck before backing, Richard Simpson possibly saved the lives of two Oakland children. Through such conscientious observance of driving rules and etiquette, Eastbay Union Oilers established a no-accident record and received recognition by the National Safety Council.

In my opinion ...

This month ON TOUR directs its editorial spotlight on two problems that may be bothering a number of Union Oilers. The problems were presented in letter form by employees. Read the unedited letters and our management-endorsed reply. If the answers are not complete or satisfactory, give us the benefit of your own opinion. ON TOUR has no more important service to perform than that of providing Union Oil people with reliable two-way communication.

Dear Editor:

In response to your generous offer to publish labor's side of the present wage controversy, I submit the following. As a preamble, let me state that I am not a union official, but am referred to by the rather undignified phrase, "rank and filer." As such, this letter has no official sanction, but reflects my own earnest convictions.

(1) Men join unions and support them for reasons; here are mine. I believe in a union for the same reason that I believe in the United States, i.e., I think we would have done as well under British rule as we did alone, except we would have been denied participation in our own success. Likewise, I am convinced that Union Oil Company would treat its employees with every consideration without a union. I believe they would make every effort to guarantee the well being of each employee. The Company would be a benevolent despot, but a despot nonetheless.

(2) Mr. Editor, the workers wish to have a part in determining their conditions, good or bad. In regard to the strike itself, the strike began as an effort to get better wages, but quickly developed into a union-busting campaign on the part of the Company. The campaign has been identified with the following:

(3) Threatening and intimidating phone calls and letters.

(4) The hiring of non-union labor, obviously the Company prerogative, but the workers regarded it as a stab in the back.

(5) The employment of certain people of dubious character, specifically the truck driver without a license who overturned a truck-load of men at Oleum's main gate. The latter were armed with lead pipes and other instruments of mass murder and mutilation.

(Continued on Page 21)

Driving Lessons From Eastbay

FOR the fifth time in six years, drivers of our Oakland and Alameda plants have been given National Safety Council recognition as being the safest drivers of the East Bay Chapter's petroleum division. This year the Union Oilers rose to new heights by leading, not only the petroleum division, but all East Bay truck fleets of the under-100,000 miles classification.

Sixty-five fleets were entered in the recently reported competition. They represented 3,843 vehicles, amassed 24,628,854 miles of operation, and met with 1,044 traffic accidents, which is a frequency of 4.24 accidents per 100,000 miles.

In contrast, Union Oil drivers, operating 16 vehicles over a distance of 95,000 miles, met with no accidents. This achievement is made more impressive by the fact that practically all driving was done in the traffic of a congested metropolitan area.

A reportable accident, according to National Safety Council rules, is any accident in which the contestant's vehicle is involved, unless properly parked, where such accident results in death, personal injury or property damage. An accident is reportable regardless of who was hurt, what property was damaged or to what ex-

Twenty-seven years of Union Oil truck driving without an accident is the remarkable record of Oakland's George N. Carman, right. Do you know of a longer perfect driving performance?



AWARD of MERIT

presented to

Union Oil Co. of California.

for the best Safety Record in the

Under 100,000 miles Division

of the

INTER-FLEET

SAFETY CONTEST

conducted by the

EASTBAY CHAPTER

of the

NATIONAL SAFETY COUNCIL

*January-June
1948*

Carman
PRESIDENT
EASTBAY CHAPTER NATIONAL SAFETY COUNCIL
H.P. Moore
CONFIDENTIAL



tent, where it occurred, or who was responsible. To win, therefore, requires that the drivers be good on the "defense" by constantly remaining alert to others' mistakes and bad driving judgment.

In view of the heavy accident toll continuing on American streets and highways today, all of us can well afford to take a few lessons from East Bay employees.

Company drivers convene at least once monthly to discuss good operating practice. In their meetings they

are given a knowledge of how to maintain and operate petroleum trucks, how to prevent accidents through cautious driving, and exactly what to do in case trouble does occur.

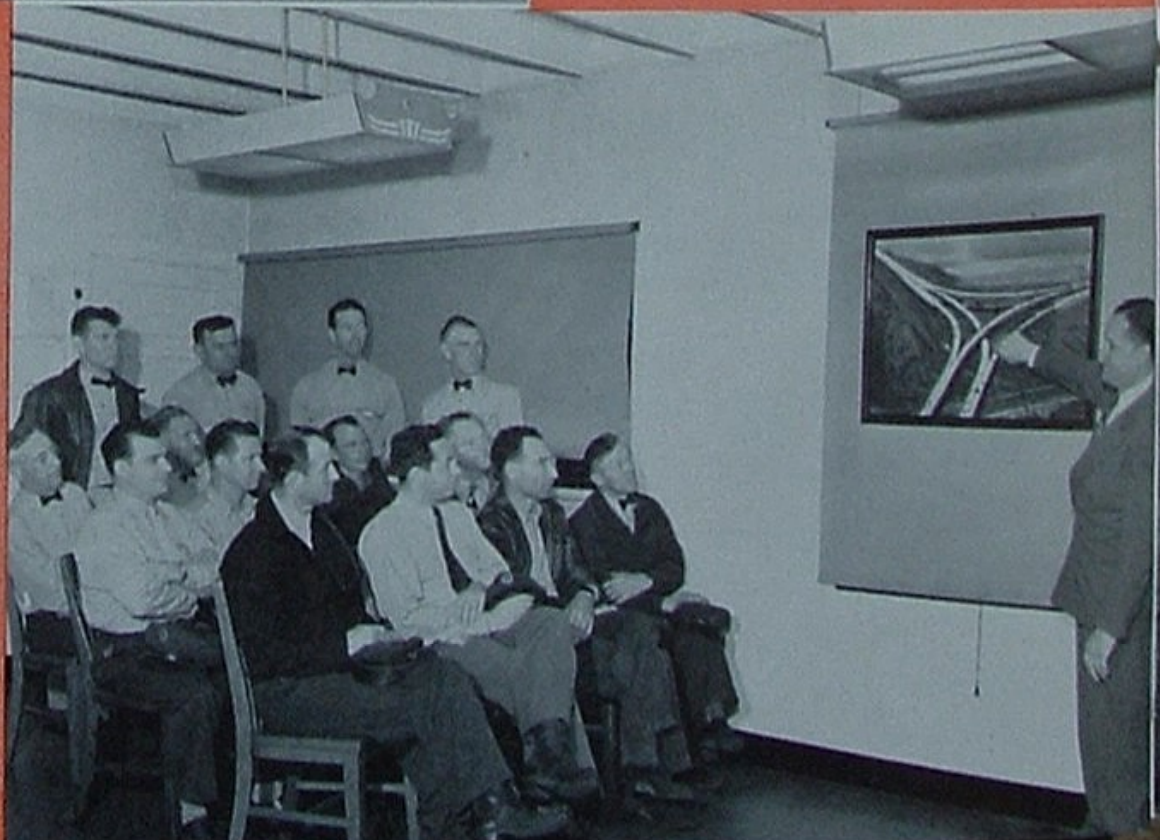
Next, it is an important part of every driver's job to inspect the mechanical condition of his vehicle regularly and not drive it in case of faulty brakes, tires, battery, motor or auxiliary equipment.

Plant supervisors see to it that knowledge is used to



State law requires that all trucks carrying petroleum products stop before crossing railway tracks. Accidents happen regardless, so our drivers are urged to stop, look and listen.

A clue to Oakland's traffic safety success is observable in this monthly safety meeting. The drivers discussed a traffic hazard encountered daily on approaches to Golden Gate Bridge.



develop driving skill and is repeatedly practiced until ability develops into correct habits. It is the habit of always doing the right thing at the right time that distinguishes the expert from the novice.

Finally, attitude plays an important part in the development of a skillful driver. An oil truck is no place for a hot-head, a day-dreamer, a road-hog, a smart-aleck, a racing enthusiast, a drinker, a smoker, a mocker of traffic rules. Rather, the successful professional driver is one whose foremost impulse is to concentrate on the job, drive well within traffic laws and rules of courtesy, and reach one's destination without accident.

It is a certainty that the Oakland-Alameda success was not achieved without faithful observance of the Company driving rules listed below. If Americans generally had adopted the same motoring habits during 1947, the greater part of 32,300 traffic deaths and 1,150,000 injuries might have been avoided.

Make it a habit to:

1. Check the mechanical and operating condition of your vehicle daily before venturing into traffic.
2. Regard every traffic officer and warning as a protection rather than an obstruction.
3. Stay within posted speed limits.
4. Before turning from a highway, move to the traffic lane nearest the direction of your contemplated turn to avoid turning in front of a following vehicle.
5. Be particularly alert where visibility is poor or when roads are slippery or wet.
6. Note position of following vehicles and signal well in advance before stopping, slowing, turning, or changing traffic lanes.
7. Try to be the most courteous driver on the road rather than the fastest and most daring.

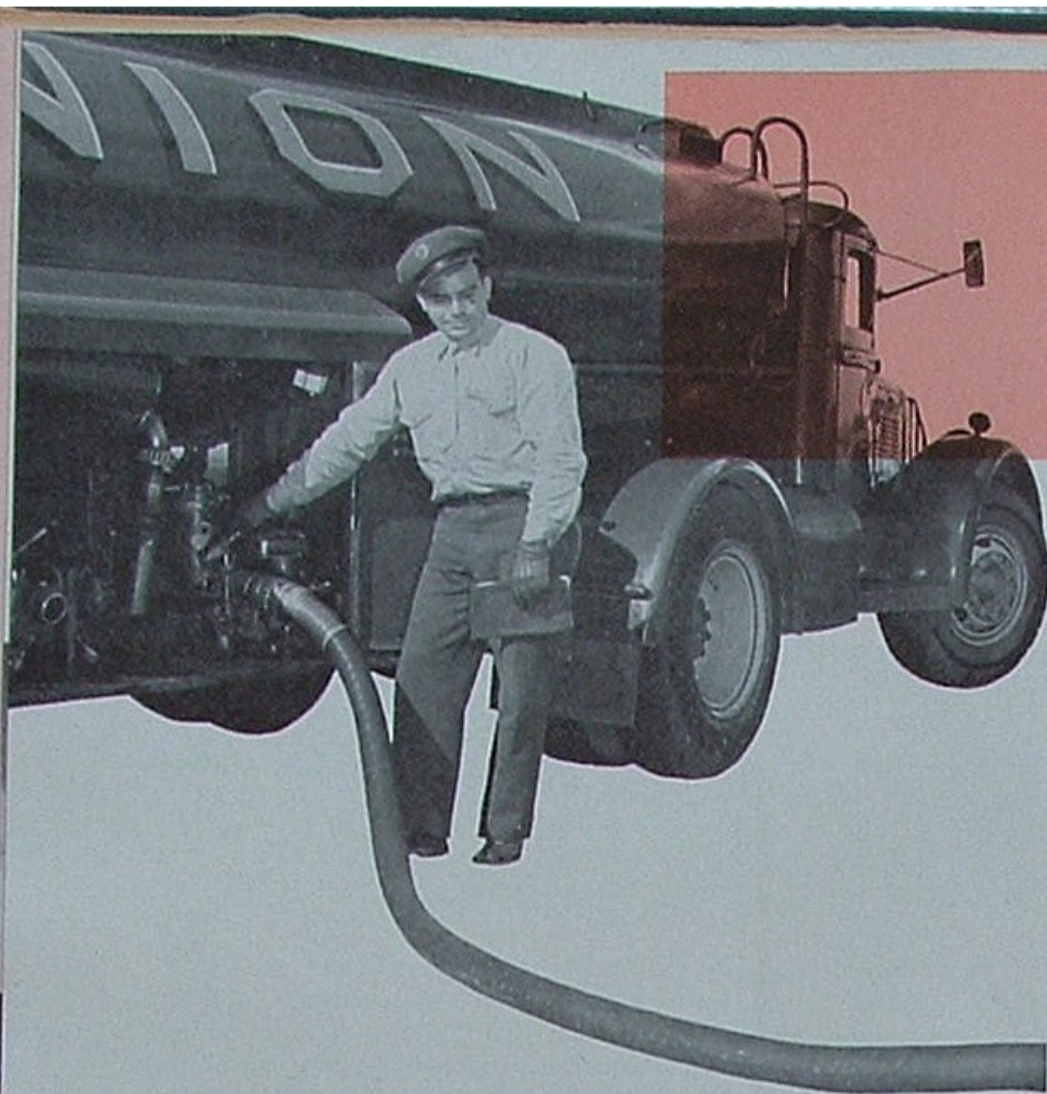


Pleased with "Awards of Merit" recently presented to Eastbay Union Oilers by the National Safety Council are (L-R) Harold B. Ashton, superintendent of Alameda Plant, Walter J. Vollmer, resident manager, and Lee O. Dampier, superintendent of Oakland Plant.

8. Study the traffic laws of your state and community.
9. Always park your vehicle properly and be extremely careful in moving from parking into a thoroughfare.
10. Stay out of the driver's seat if you have faulty vision, hearing, coordination or other physical defects that handicap your driving ability.
11. Remain completely unintoxicated while you drive.
12. Look under and behind your vehicle before backing.

Checking tire pressures at change of shift are transport drivers Stanley Smithem, left, and William Carman. This and other precautionary checks prevent many an accident or a breakdown on such busy thoroughfares as Eastshore Boulevard, right, where stopping would be risky.





While delivering gasoline to a service station, Richard Simpson stands ready to close valve in case of an overflow. Stock spills and thoughtless smokers have been the cause of many service station fires.

Incidentally

When the driver of a petroleum truck reaches his destination without accident, his vigilance usually has only begun. It is equally important that he protect others and himself against numerous other hazards peculiar to his job.

Imagine what the consequences might be if gasoline were delivered into customer storage containers for cleaning solvent or kerosene. Or if fuel oil were delivered into gasoline storage of a service station. Such mistakes, known as stock mixtures, not only have re-

sulted in the costly loss of products contaminated but have brought about fires, property damage, injury and expensive lawsuits.

To guard against such troubles a system of commodity colors and commodity tags is in use throughout our plant and marketing areas. It is the responsibility of a loader to see that truck compartments and outlets are properly tagged before being filled. Similarly, drivers must check customer storage facilities before making delivery.

Stock spills are another source of grief. A few drops of lubricating oil left on a floor or sidewalk can cause serious falls. A small spill or overflow of gasoline can produce enough inflammable vapors to cause a bad fire or explosion. It is for these reasons that an experienced driver never neglects to wipe up every oil spot and flush away any spills of gasoline.

Finally, the practice of self-defense is considered an important part of good truck driving. The oil driver's shoes, cap, bow tie, leather gloves and uniform have been styled largely by safety planning and experience. He is warned not to continue wearing garments on which petroleum products have been spilled. He is taught, among other safeguards, how to upend a 400-pound barrel without danger of muscle strain or rupture.

Left: Driver George Carman and loader Rene Lorette compare dome and meter compartment commodity tags to prevent delivery of, say, gasoline into a cleaning solvent tank. Right: James Hendryx demonstrates how the hydraulic tailgate lessens physical hazards of barrel handling.



POSO CRUDE GOES

"On Stream"

This fourth in our series of articles, telling how Mt. Poso crude progresses from well to consumer, unravels some of the mysteries of petroleum refining.

THE DISTILLATION DEPARTMENT

By J. G. Warnecke

IT has been said correctly that nearly every complicated science or process is nothing more than an accumulation of natural laws and relatively simple facts or operations. Certainly that is true of most oil refineries, whose labyrinths of towers, pipes, tanks and heaters can be quite readily understood if we sit down for a few minutes and take them apart mentally.

On arriving at Oleum by tanker, Poso crude is received and pumped to refinery storage tanks by our Operating Department. Then, in order to be converted into a form which can be processed into finished products, the crude must be separated into its component parts. The process used is called distillation, the operation is performed at Unit 31, and the department that is responsible for this type of work is appropriately called the Distillation Department. Unit 31 consists essentially of two fired heaters, two distillation columns, plus attendant pumps, heat interchangers and control instruments.

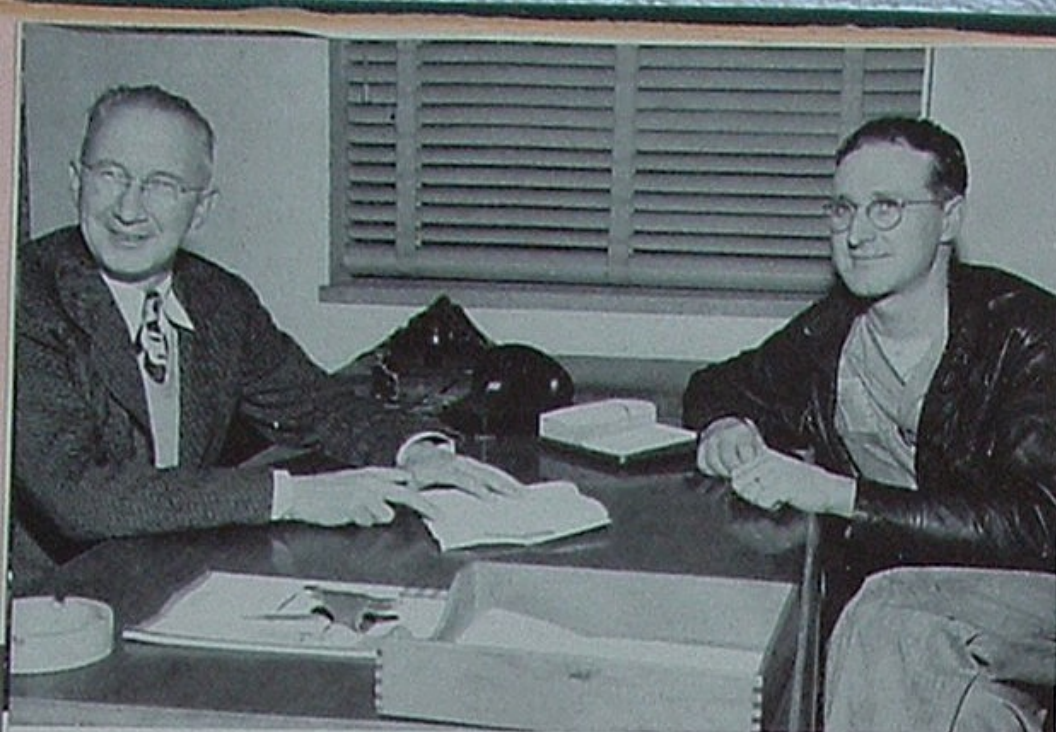
The products desired from Poso crude are gasoline, diesel oil blending stock, spray stock, lube oil base stocks and asphalt. These are referred to in refineries as fractions or distillates. Separation of the materials by distillation (heating to vapor form and condensing)



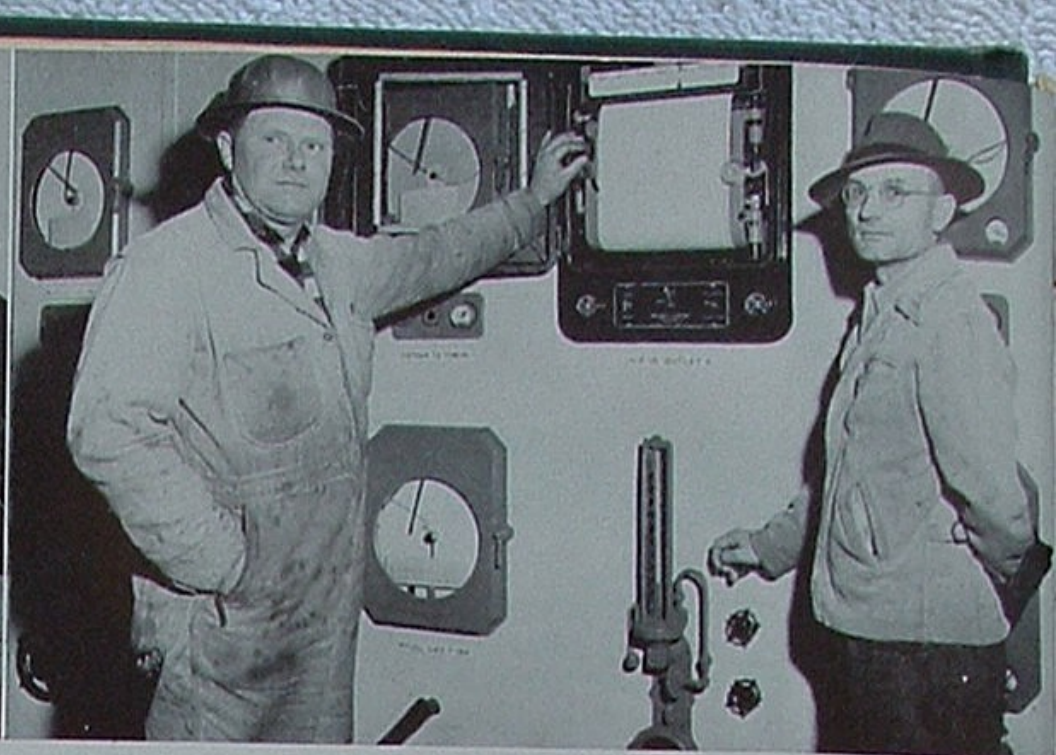
Unit 31 at Oleum includes the larger of these two vacuum columns, where Poso crude is distilled into gas oil, distillate and asphalt.

is possible because each of the fractions has a different boiling point and all can be removed from the crude mixture through successive vaporization and condensation steps. For comparison, the average approximate boiling points at atmospheric pressure of the various fractions are as follows:

<i>Fraction</i>	<i>Boiling Point, °F.</i>
Water	212
Crude Gasoline	300
Diesel Blending Stock	525
Valley Distillate SAE 10	680
Valley Distillate SAE 30	830
Valley Distillate SAE 60	870
Asphalt or Road Oil	1000 plus
Most petroleum fractions tend to "crack" (break up	



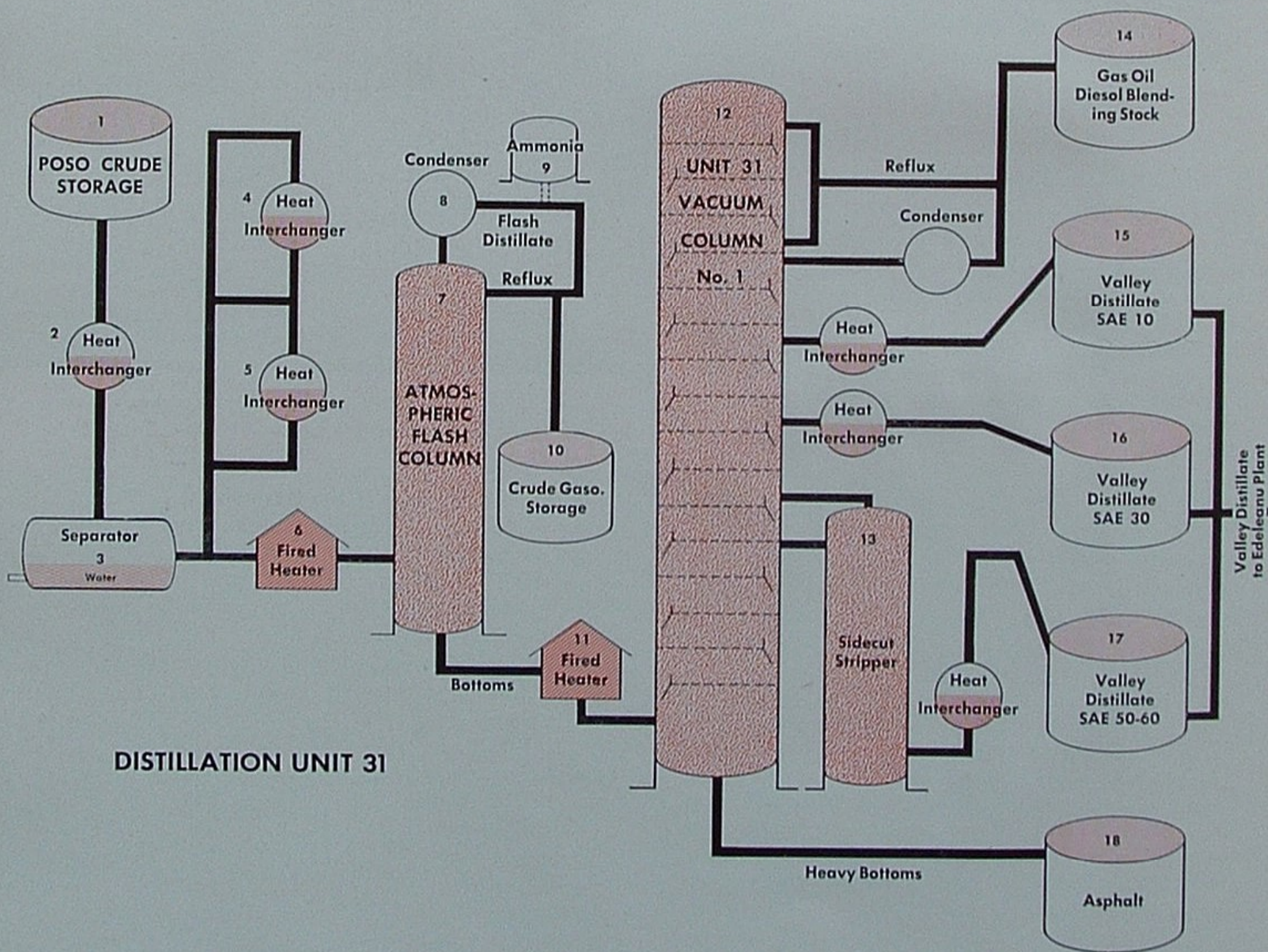
Superintendent and assistant superintendent, respectively, of distillation at Oleum are Vern Taylor, left, and Jack Warnecke. Jack is our author-escort on this month's trip through his department.



When Unit 31's recording and control instruments fail, stillman R. T. Willis, right, summons Gordon Buchanan, left, instrument shop foreman, here seen checking a temperature control mechanism.

into lighter and heavier hydrocarbons) at temperatures over 650 degrees. This is undesirable in the case of diesel and lube oils, since cracking produces compounds that are not color stable, have offensive odors and cause excessive treating losses. For these reasons Unit 31 is designed to separate the higher boiling fractions by

distilling them in a partial vacuum sufficient to reduce their average boiling points below 650 degrees. (Most of us are familiar with the fact that water has a lower boiling point at high altitudes than at sea level due to the decreased pressure of atmosphere at high elevations. Similarly, petroleum fractions boil at a lower tempera-





Discussing an "off-specs" sample of Aristo oil are (L-R) Harold Prior, lube treater foreman; Harvey Fifer, author and assistant superintendent; Chet Frisbey and Ira Miller, treating foremen.

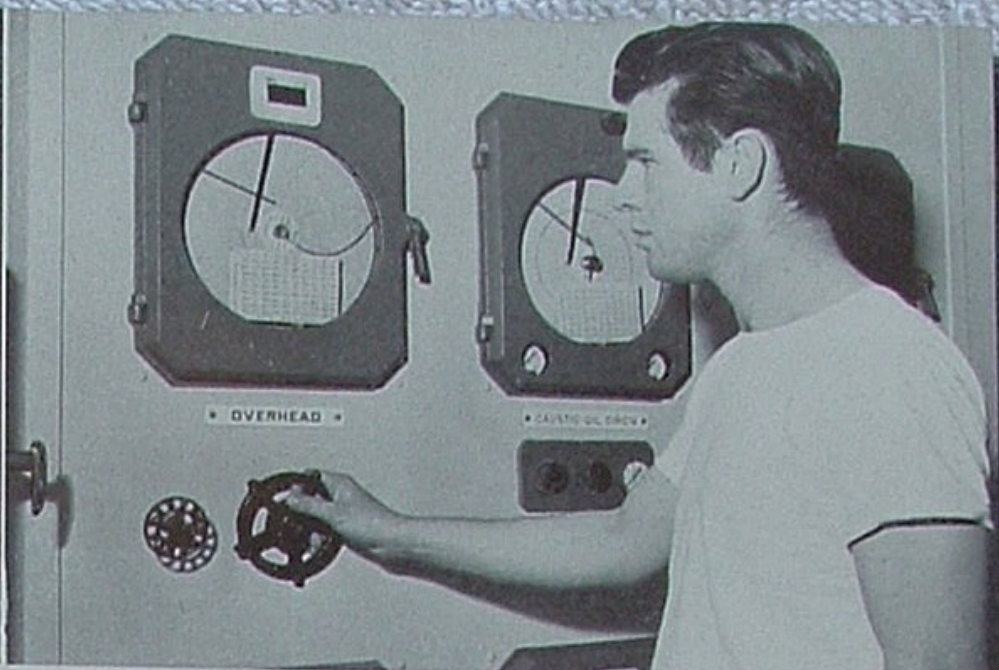
ture when the normal pressure inside a column is reduced to a partial vacuum.)

DISTILLATION FLOW CHART:

Poso crude is brought into Unit 31, pumped through a heat interchanger (2) to recover heat from outgoing products, and into a separator (3) where most of its remaining water content is drawn off. Then proceeding through two additional heat interchangers (4 and 5) and a fired heater (6), it enters a small distillation column (7). Here final traces of water are distilled off in vapor form, followed by a small amount of heavy gasoline. The gasoline vapors go overhead, are cooled to liquid form in a condenser (8), are treated with ammonia (9) to neutralize corrosive constituents, and either return to the column as a reflux (cooling or condensing agent) or proceed on to crude gasoline storage (10).

Liquid fractions remaining in the column (7) absorb additional heat in a second fired heater (11) before entering the large vacuum column of Unit 31 (12). This distillation column operates at a vacuum of 28.5 inches of mercury. (An absolute vacuum is 29.92 inches of mercury.)

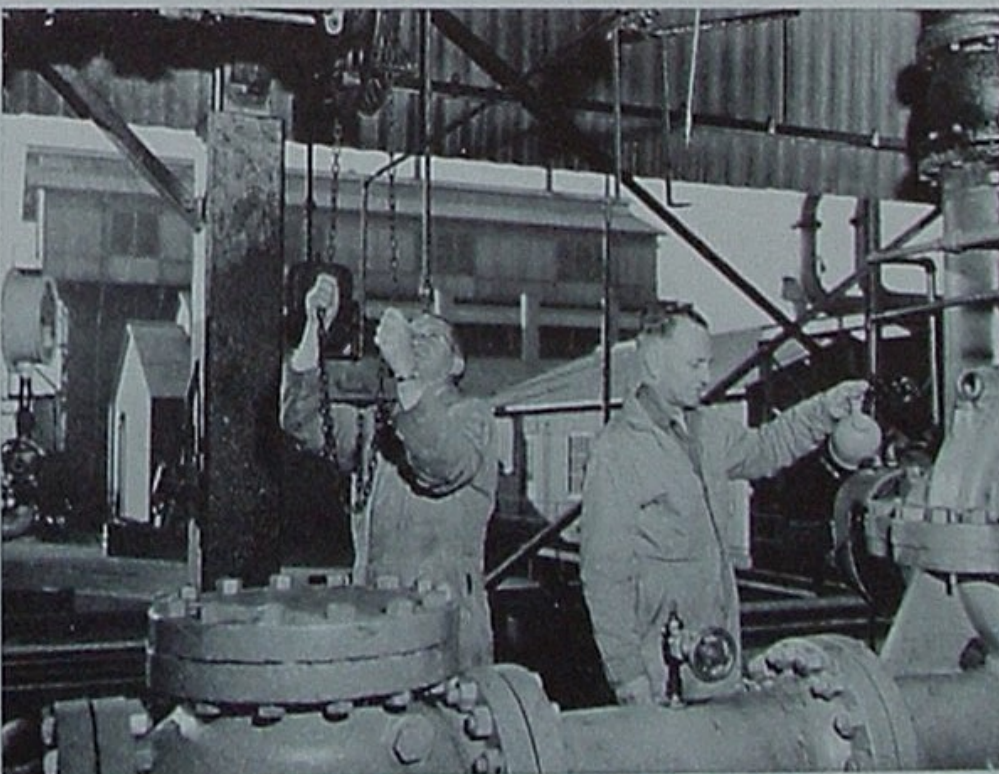
The heated column feed divides into two portions in this vacuum column (12), a liquid portion which is pumped to storage (18) for use as asphalt, and a vapor portion which passes upward in the column. Each of the fractions condenses within the column at a temperature corresponding to its boiling point. The fractions having the lower boiling point collect near the top and those with a higher boiling point toward the bottom. The topmost fraction flows from the upper trays of the column to a condenser where, after being cooled, it returns as reflux or continues on to gas oil storage (14). From the next lower outlets three additional sidecuts are taken to storage facilities (15, 16 and 17). Although known at Oleum Refinery as "Valley Distillates," these fractions are more clearly identified to outsiders as untreated lube oil stocks. Valley Distillate SAE 50-60 goes through a sidecut stripper (13) where light ends are stripped out with steam and returned to the tower.



Operations of Unit 31 are governed from the control room, where Edward Graves, stillman, is seen adjusting the gas-oil side-cut flow. Three operators per shift handle both Units 31 and 32.



The transfer of oil from one refinery unit to another is a function of the Operating Department. Martin Shuttlesworth, left, is a gauger, and George Creed, right, is the assistant superintendent.



Two other members of the Operating Department are Lew Quigley, left, seen opening a discharge valve, and Lew Hansen oiling the bearings of a centrifugal pump. Both men serve as dispatchers.

THE LUBE TREATING DEPARTMENT

By H. R. Fifer

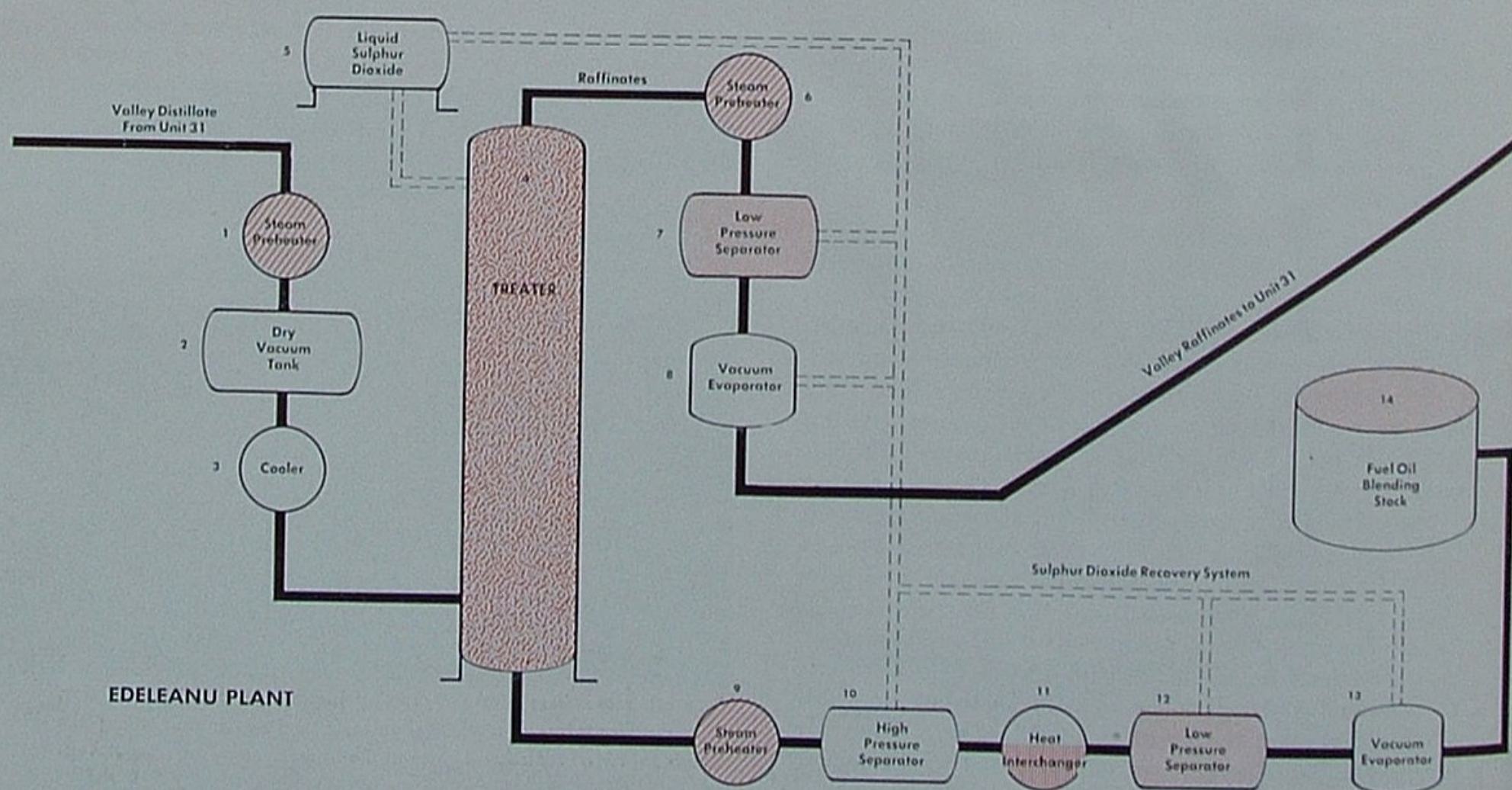
The greater percentage of Valley Distillates SAE 10, 30 and 60 made at Unit 31 are blended together and sent to the Edeleanu Plant. The remainder are used as a blending stock for dark journal oils, Darval oils or ink oil.

EDELEANU PLANT FLOW CHART: The Edeleanu process uses liquid sulphur dioxide as a solvent to remove the undesirable (from a lubricating oil standpoint) portion of the lube distillate. This portion is called extract and represents about 45 per cent of the feed entering the plant.

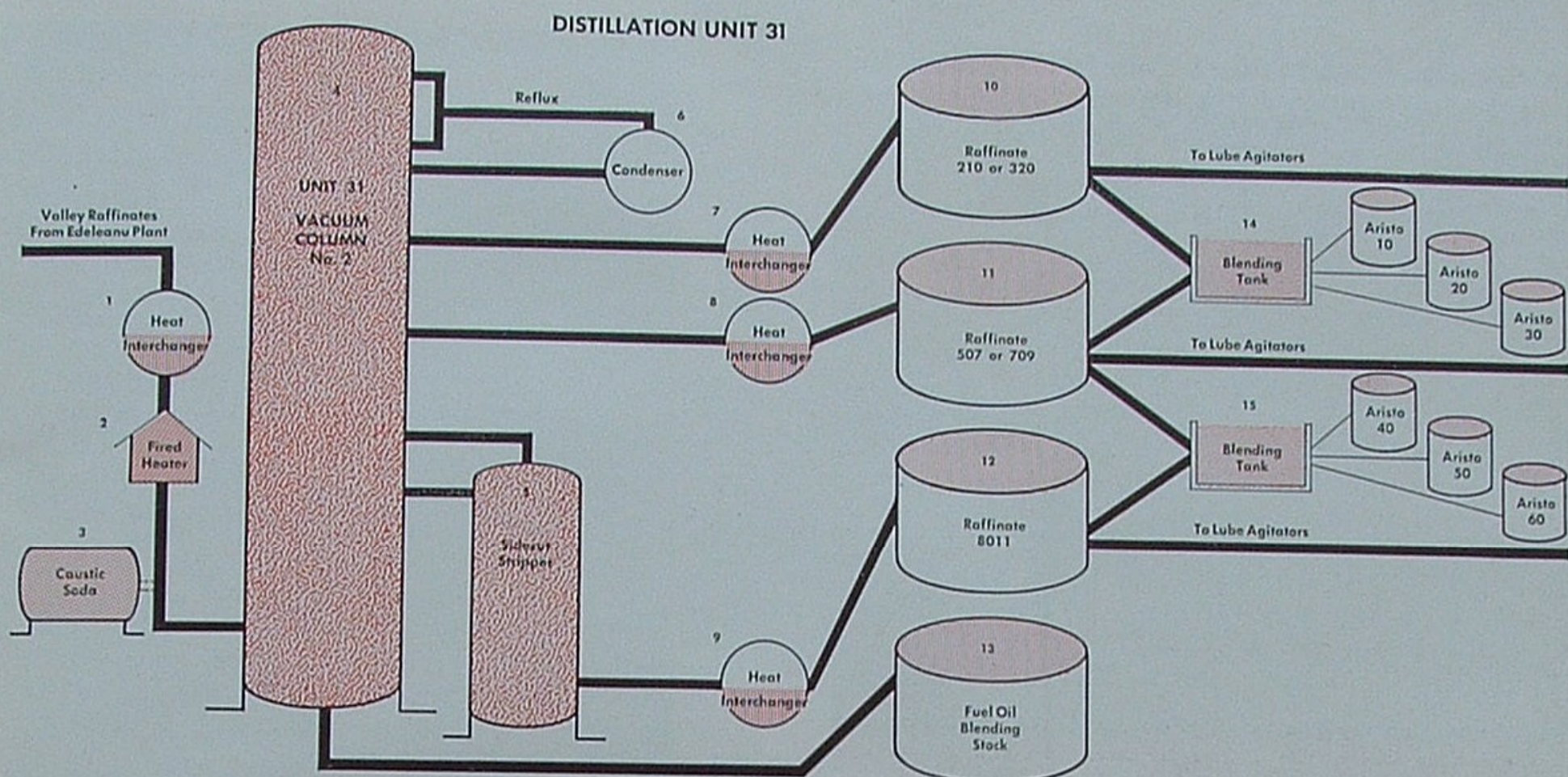
Valley Distillate enters a steam preheater (1); next a dry vacuum tank (2) where all traces of moisture are removed; and then a cooling unit (3). The treater (4) where the oil next proceeds is actually a series of tall cylindrical vessels, but is better visualized in the form of one vessel. Distillate enters near the bottom and liquid sulphur dioxide (5) enters near the top. The latter, being heavier, sinks to the bottom of the vessel, picking up, as it goes, the extract. Oil rising through the descending liquid sulphur dioxide to the top of the treater is called raffinate (a refinery term derived from paraffin).

Both the raffinate from the top of the treater and extract from the bottom go through separating processes (6 to 8 and 9 to 13 respectively) in which the sulphur dioxide is recovered and cycled back for re-use in the treater.

This battery of treaters in the Edeleanu Plant, though only a few years old, are to be replaced soon by a newer process and other equipment. To keep pace, refineries modernize constantly.



EDELEANU PLANT



Extract from the Edeleanu Plant has little value as a lubricating oil, so most of it is blended into fuel oil (14). Raffinate from the plant is essentially a finished lube oil, but it now must return to Unit 31 for redistillation into various lube blending stocks.

REDISTILLATION AT UNIT 31

By J. G. Warnecke

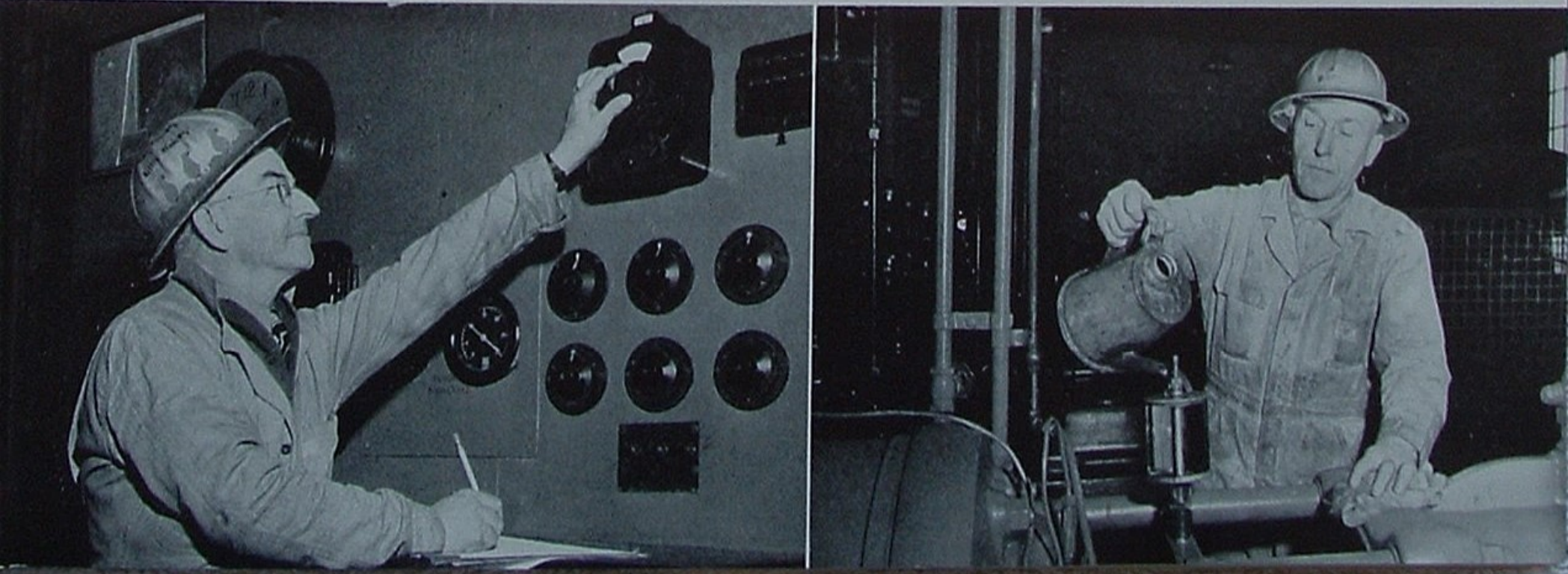
Valley Raffinates returning to Unit 31 from the Edeleanu Plant are taken through a process similar to our crude distillation steps previously described, except that a caustic soda solution is added to the feed before it enters the atmospheric column (not shown on the accompanying flow chart). Caustic soda (3) is

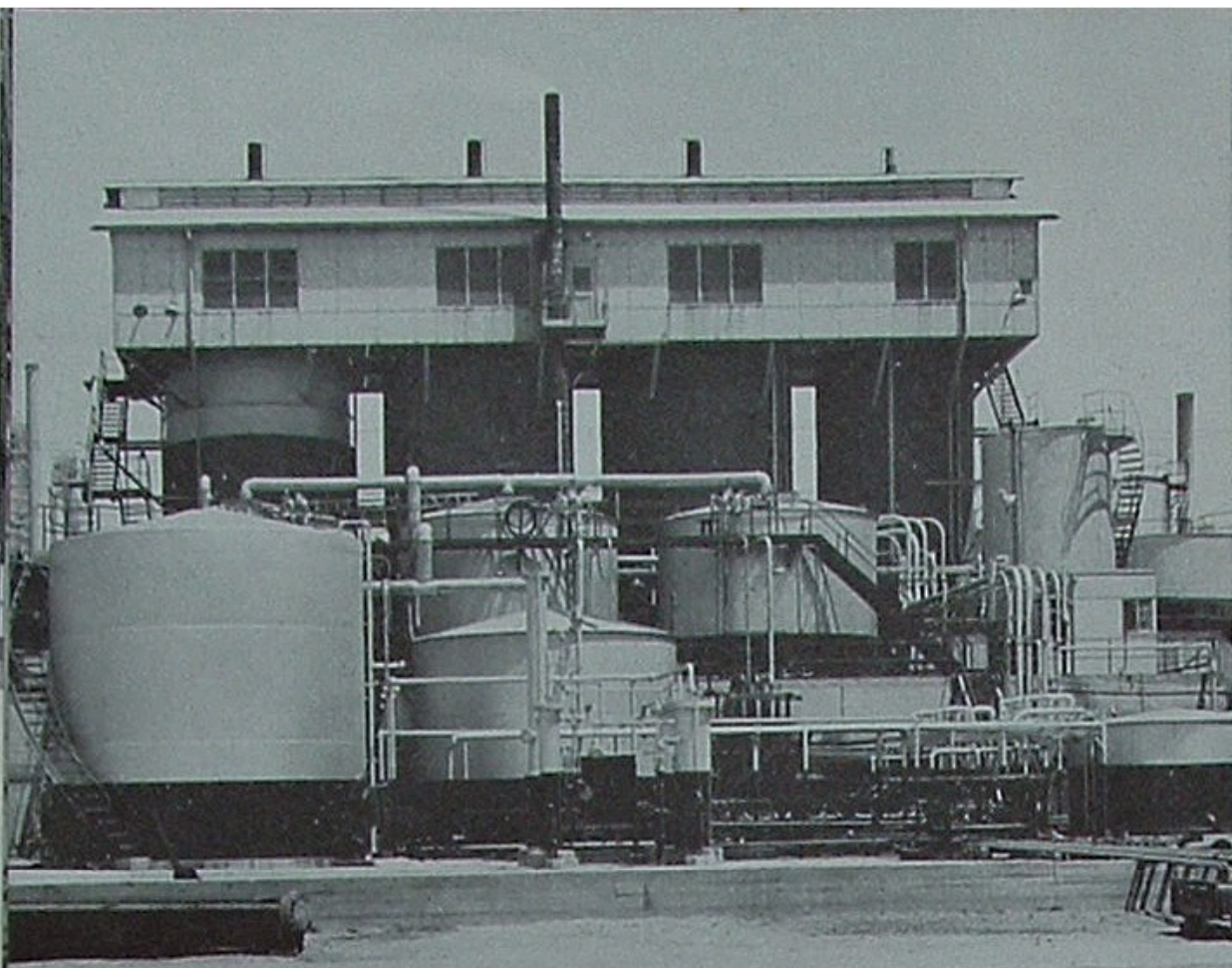
used to remove excess acids, thereby permitting production of neutral oils from the unit.

Side cuts leave the vacuum column (4) still under the name of raffinates but now bearing different numbers to indicate their varying viscosities and other characteristics. The column can be regulated to produce a wide series of raffinates, but for sake of brevity the chart shows only a few (10, 11 and 12). Bottoms from this redistillation process are used as fuel oil blending stock (13).

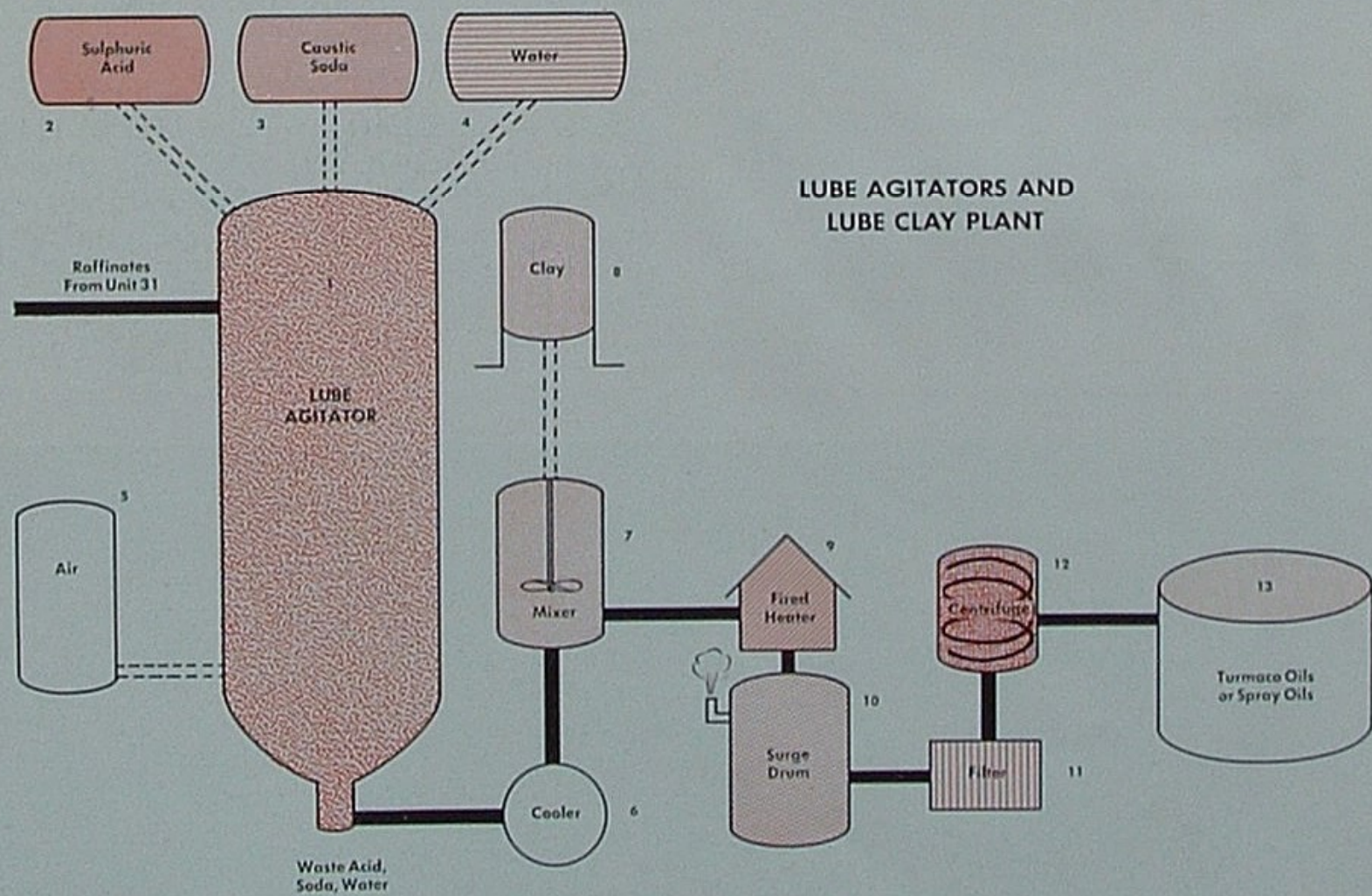
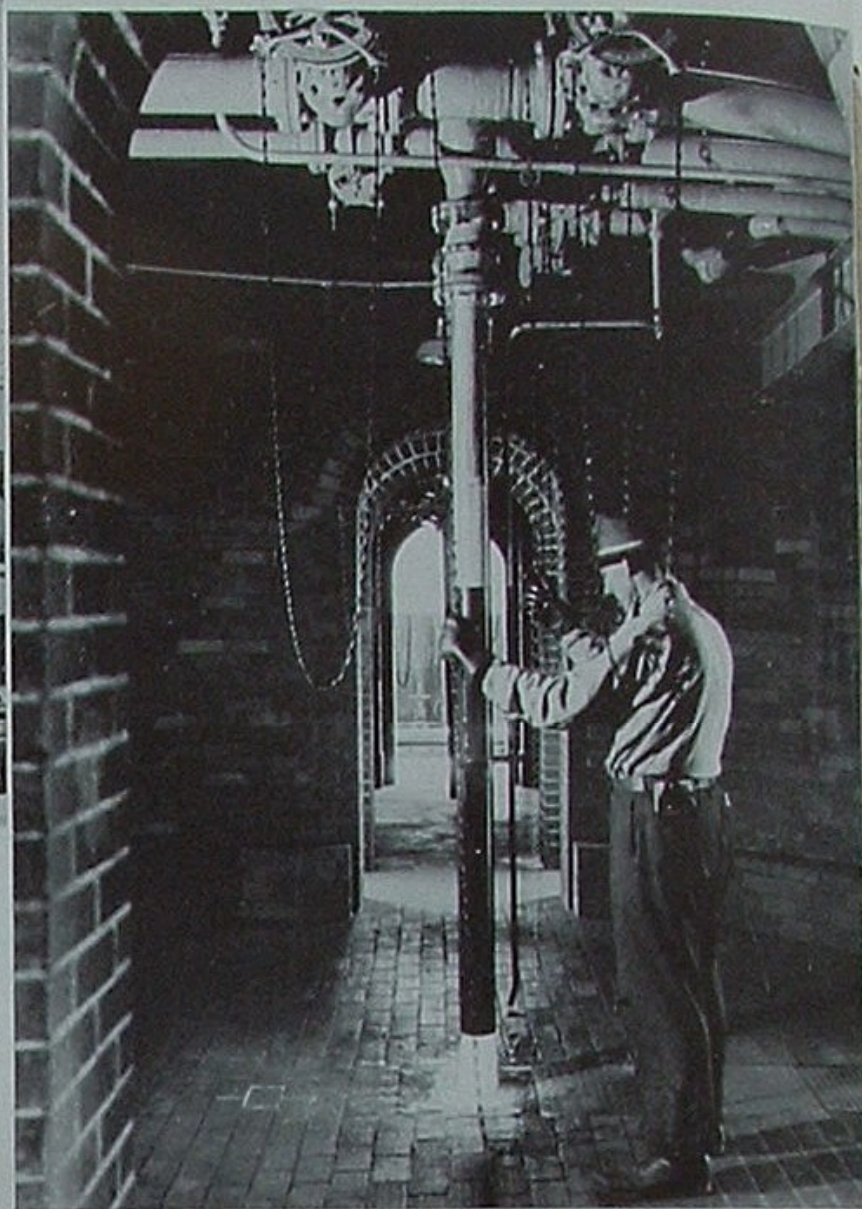
Some of the raffinates are now blended (14 and 15) to viscosities ranging from SAE 10 to 60 and emerge under the old and familiar Union Oil trade name of Aristo Motor Oils. The remainder goes to the lube agitators for further processing by our Lube Treating Department.

Among men who keep the Edeleanu Plant in operation are treaters C. W. Carlile, left, taking temperature reading, and R. S. Kuball, oiling.





The structure above is supported by four brick and steel columns called the lube agitators. Here raffinates from Unit 31 are agitated in turn with sulphuric acid, water and caustic soda to produce turbine and spray oils of high quality. Tanks in the foreground are lead-lined sludge cookers. At right a workman is seen removing waste acid from the bottom outlet of a lube agitator.



THE LUBE AGITATORS AND CLAY PLANT

By H. R. Fifer

Redistillation at Unit 31 does not remove certain sulphonatable material from the oil which would be detrimental to a high quality turbine oil or, in the case of a spray oil, would be injurious to plant life. This further refinement is accomplished by the lube agitators.

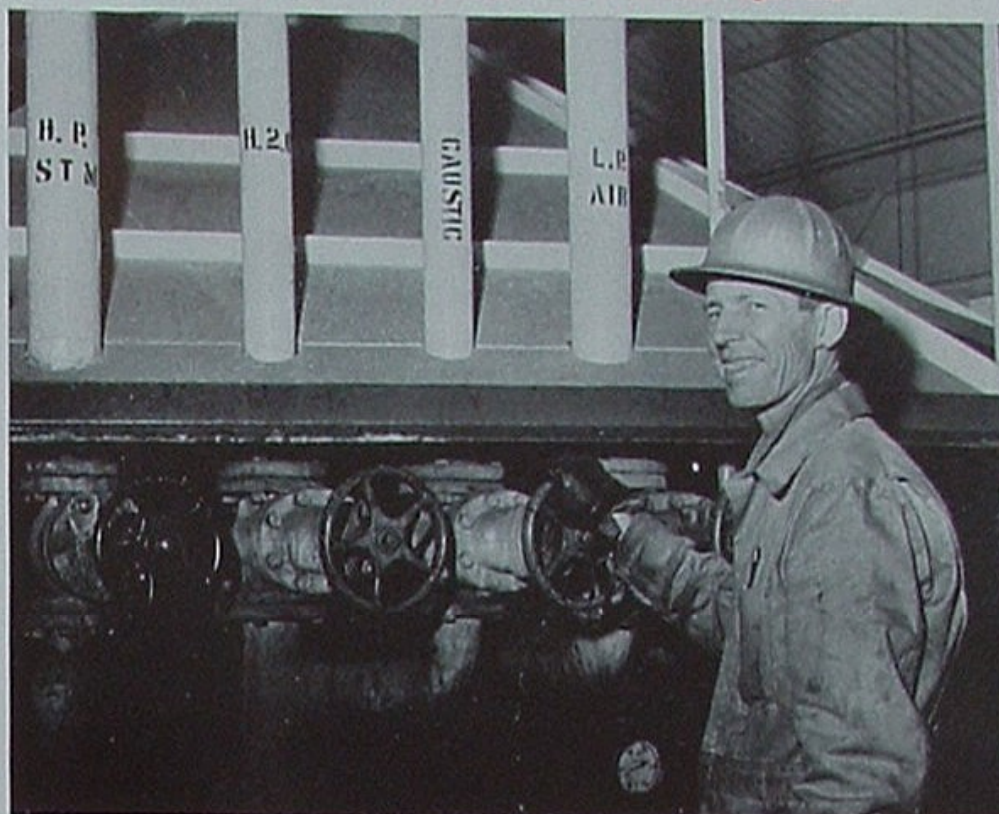
The agitators (1) are large vessels with cone-shaped bottoms and equipped with pumps and air-blowing (5) facilities to permit mixing of the acid and oil. A batch of oil to be treated is pumped into an agitator and the required amount of 99 per cent sulphuric acid (2) is added. Thorough mixing of the oil and acid causes undesirable materials to settle with the acid in the form of sludge to the treater cone, where both are drawn off. The acid treated oil remaining in the agitator is then thoroughly washed with water (4) and neutralized with caustic soda (3) to remove last traces of acid.

Additional treating of turbine oils is done at the Lube Clay Plant to remove undesirable color bodies and acidic constituents. Here in a mixer (7) a finely divided activated clay (8) contacts the oil; both are heated (9) and then enter a filter (11) and a centrifuge (12), where the clay and its accumulation of color bodies and acid are removed. The resulting petroleum products are excellent spray stock or lubricating oils having extremely low pour points, high resistance to oxidation, low carbon forming tendencies and good demulsibility characteristics. The lubricants are known as Red Line Turmaco Oils.

Few, if any, oils produced from distillation or treating units meet finished viscosity specifications. Therefore, a rigid testing procedure is set up for each production stream. From assembled test data it is possible to calculate appropriate blends that will meet finished oil specifications. The blending is done in tanks or blow pans. After the required amounts of each oil are measured into the blow pan and thoroughly mixed, the batch is again tested. If the oil is on grade, it is either shipped or stored. If not on grade, necessary adjustments are made and the oil is retested.

Here clay filters remove color bodies from oil to improve its appearance. Centrifuges, extreme left, remove clay from oil.

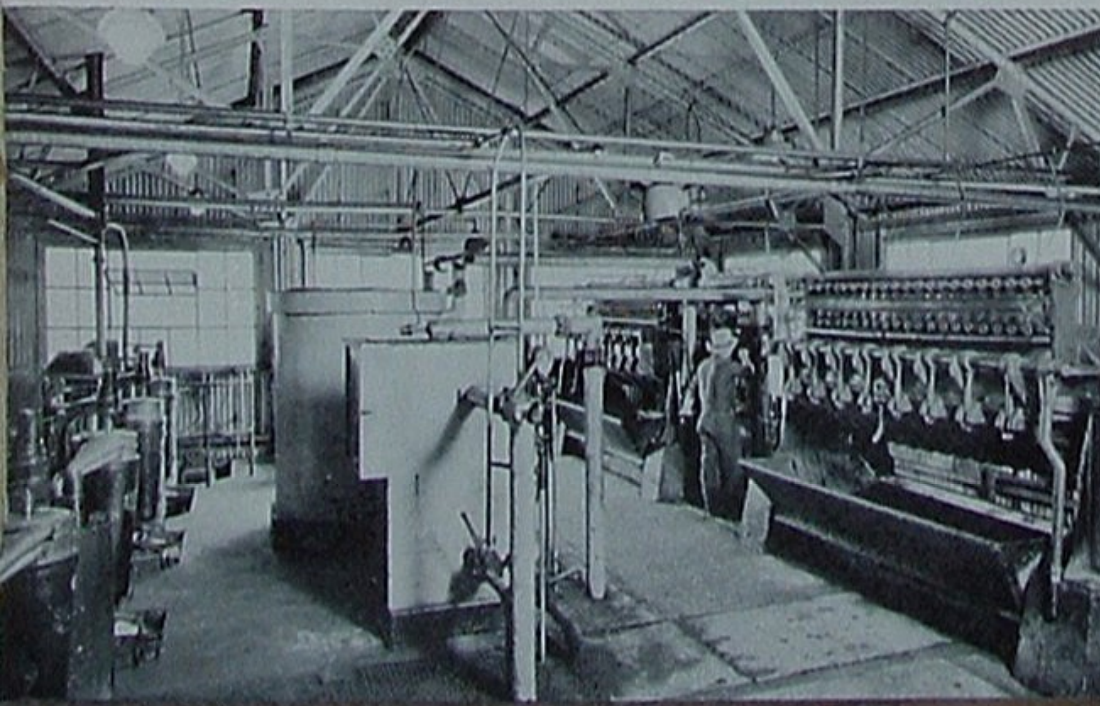
Harry Moore, Treater No. 1, manipulates the valve arrangement through which acid, caustic soda, etc., enter the lube agitators.



Aristo oil, requiring no acid treating, goes directly from Unit 31 to the "blow pans." Ernest Medino takes a sample of SAE 10 to test.



Part of Al Sweet's job as treater No. 2 is that of removing spent clay (containing unwanted color bodies) from leaves of filter press.





INDUSTRIAL SUMMARY

● **THE STRIKE** December 9—In another personal letter to employees and shareholders, Reese H. Taylor outlined several strike issues that are prolonging settlement with OWIU-CIO.

Said Mr. Taylor, "Management believes it is to the best interest of the Company, its shareholders and employees to have the strike settled by reaching an agreement with the union. However, the Company does not propose to enter into any agreement that will jeopardize the positions of those employees who made it possible to serve the public by keeping the refineries running during the strike."

The Company and the union have agreed to a 12½ cent wage increase. But differences still existed over the reinstatement of striking employees whose jobs have been filled (1) by new employees, or (2) by private contractors' crews who have taken over many of the maintenance functions.

At negotiations resumed on December 6, the Company offered to:

Provide immediate employment with the Company for all eligible refinery personnel who are still out on strike, with the exceptions of yard and maintenance employees, for whom other provisions were offered, and those strikers who are found to be guilty of misconduct. The returning employees would be reinstated as to Company service, all benefit plans, etc. Eligible employees who did not return to work would be offered the regular Company termination allowance.

Regarding yard and maintenance employees, the Company service, all benefit plans, etc. Eligible employees refineries and to help the affected strikers obtain jobs either in the Company or with private contractors who are doing the maintenance work.

The program guaranteed that this would be accomplished without jeopardizing or affecting in any way the jobs of present employees—new or old.

Although this offer is the same as that agreed to by OWIU-CIO in the case of other oil companies, no settlement had been reached by December 9. Management, keeping the offer open for further negotiation and bargaining, was asking that their offer be given serious consideration.

● **MARKETING** Total sales during October, the latest month for which complete figures are available, show a small increase in dollar volume. For the year the percentage increase is 24.1.

Contributing to the increase are appreciable gains in sales of lubricants, particularly T5X Oil and Unoba Grease. The multi-purpose characteristics of these products make them extremely desirable to purchasers of automotive and industrial lubricants.

In addition to supplying domestic consumers with their requirements during the month, we were able to provide the government with substantial quantities of aviation and motor gasoline, as well as fuel oil.

● **REFINING** November 30—Los Angeles Refinery, fully staffed throughout November despite the continued strike of OWIU's Local 128, was back to its normal production of 7600 Gasoline and exceeding the amount of 100 octane gasoline required to meet our contractual obligations. Production of 76 Gasoline was below normal, primarily because of an extensive cleaning program on the gas oil cracking coils and in the catalytic cracker, some of which work had been delayed by the strike. Full production will be realized about January 1.

Oleum Refinery succeeded in returning all units to operation by mid-November despite a manpower shortage of about 200 people. It was predicted that December throughout would be normal. The erection of new Triton facilities also was resumed in November.

● **FIELD** The Field Department announces formation of the Rocky Mountain Division to handle expanded exploration, drilling and production activities of that region. This division will be headed by Max Krueger and will cover Utah, Nevada, Arizona, western New Mexico, Colorado, Wyoming and Montana, and will include the southern part of the Province of Alberta where operations are now in progress. Headquarters of the division are temporarily located at Laramie, Wyoming.

Earl B. Noble has been designated as chief exploration geologist, responsible for all exploration work outside of the existing districts, including Alaska and foreign exploration.

The principal completions for the month were Powell No. 1, a discovery well in the East Moss Lake area near Lake Charles, Louisiana; and Egert No. 1, an offset producer to a recent discovery in the Powder River Basin of Wyoming. Both of these wells are in new producing areas which will require further development work to determine their importance.

● **PIPE LINES** Due to increased production and purchase of crude oil in the South Mountain Field, 13,000 feet of our combination 2½ inch and 3 inch gathering line was replaced with 4 inch pipe.

Work is in progress on the installation of 51,000 feet of 6 inch pipe line to deliver domestic gasoline from Torrance Tank Farm to Southwest Territory Distribution Terminal at 135th and Broadway Streets, Los Angeles. Domestic gasoline will be moved from Los Angeles Refinery through existing pipe line facilities and into storage tanks at Torrance, from which point it will be delivered through the new line to Rosecrans.

The renewal and relocating of approximately 25,000 feet of No. 1 and No. 2 lines west of Junction was completed during the month. These old lines were bare pipe, threaded and coupled, and originally installed by Producers Transportation Company in 1909 and 1914.

● **MARINE** With the return of normal operating conditions in November, it was possible to withdraw three tankers from service for dry-

docking, painting and voyage repairs. Some of this work had been postponed from September and October.

● **FOREIGN SALES** Harry A. Dike, our district manager for Costa Rica in Central America, spent his bi-annual leave in Los Angeles. The last 17 of his 31 years of Company service have been spent in Latin America. On the recent completion of our marine storage facilities at Puntarenas, he took charge of our Costa Rica sales from marketing station headquarters at San Jose.

Full-scale marketing began in Costa Rica in January, 1948, but was interrupted shortly thereafter by the first revolution that country had experienced in over 30 years. While actual hostilities terminated in April, it has required over six months for the return of normal trading. Regulations of the Rightest Provisional Government have been slow to erase the confusion, but it is felt that beneficial measures are well on their way. Eventual stability will benefit Union Oil Company along with the two other major oil companies marketing in that country.

A S T E P H I G H E R

GORDON K. REID

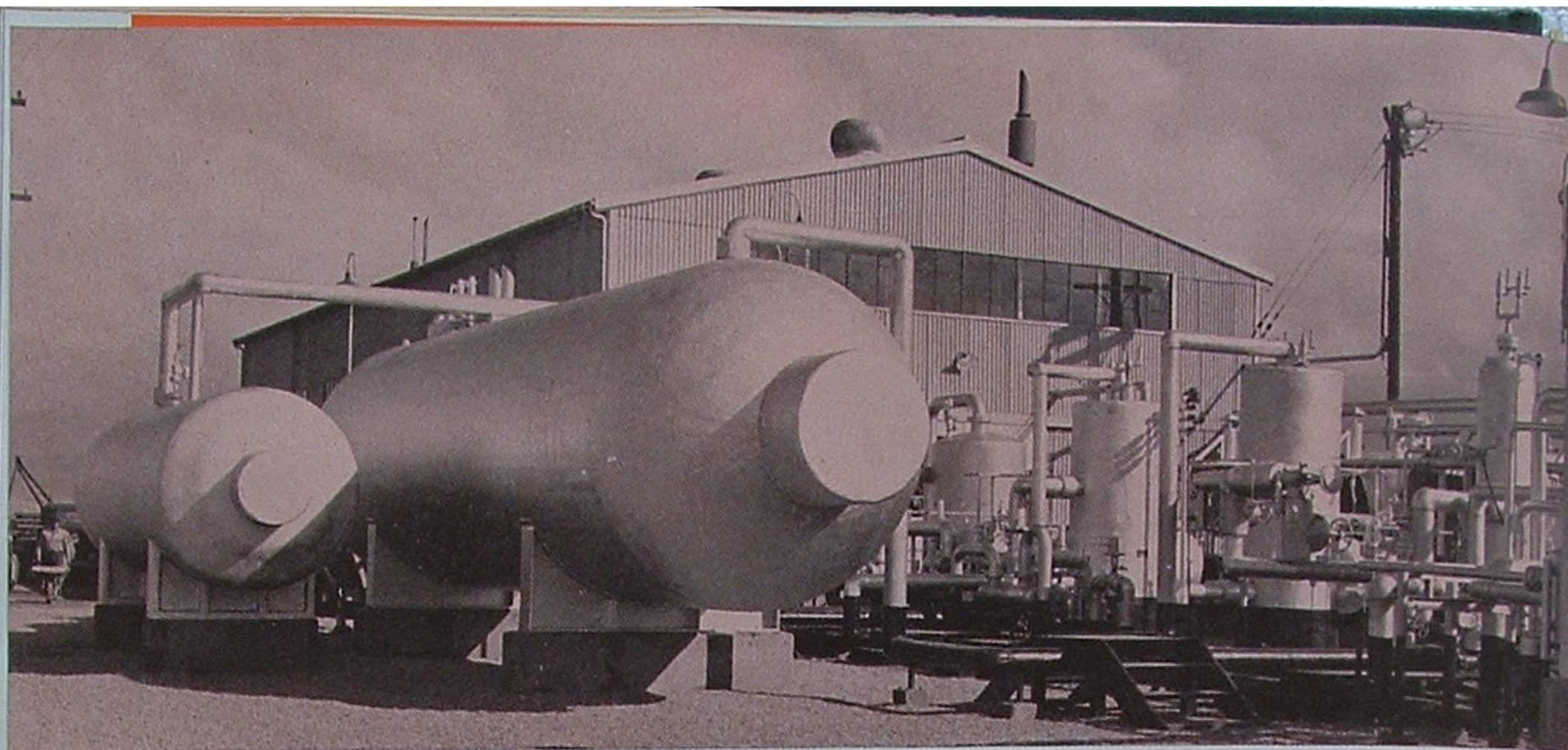
Among many Union Oilers who have progressed from office boy to greater responsibilities is Gordon Reid of Marketing. Employed at Los Angeles in 1932 for Head Office duties, he became a clerk two years later in the Fuel Oil Department. Further experience in San Francisco after February, 1947, as a clerk, truck salesman, fuel oil salesman and industrial service representative preceded his November 1 promotion and transfer to Head Office as General Sales representative.



CHARLES N. COMBS, JR.

His November 1 promotion to industrial sales representative in San Francisco came to "Chuck" Combs as a consequence of 11 years' service and preparation. Employed in 1937 as a warehouseman at Oakland, he advanced to other such Bay Area assignments as truck salesman, plant clerk and district salesman. Following a 1943 to 1946 U. S. Army role, he returned to a Central Territory desk from which sales of black oil and asphalt are handled.





From vertical tank at extreme right, liquid carbon dioxide, at temperature of 85 degrees F. and pressure up to 1100 pounds, enters successively lower stages of temperature and pressure until it reaches larger of two horizontal storage tanks, left, at 235 pounds and minus 10 degrees F.

Entering the Dry Ice Age

In the August issue of ON TOUR, C. D. Gard, chief process engineer, told us why and how Union Oil Company planned to produce dry ice. This month, as a sequel, we are pleased to announce completion of the new ice plant and to give Union Oil people a glimpse of its operation.

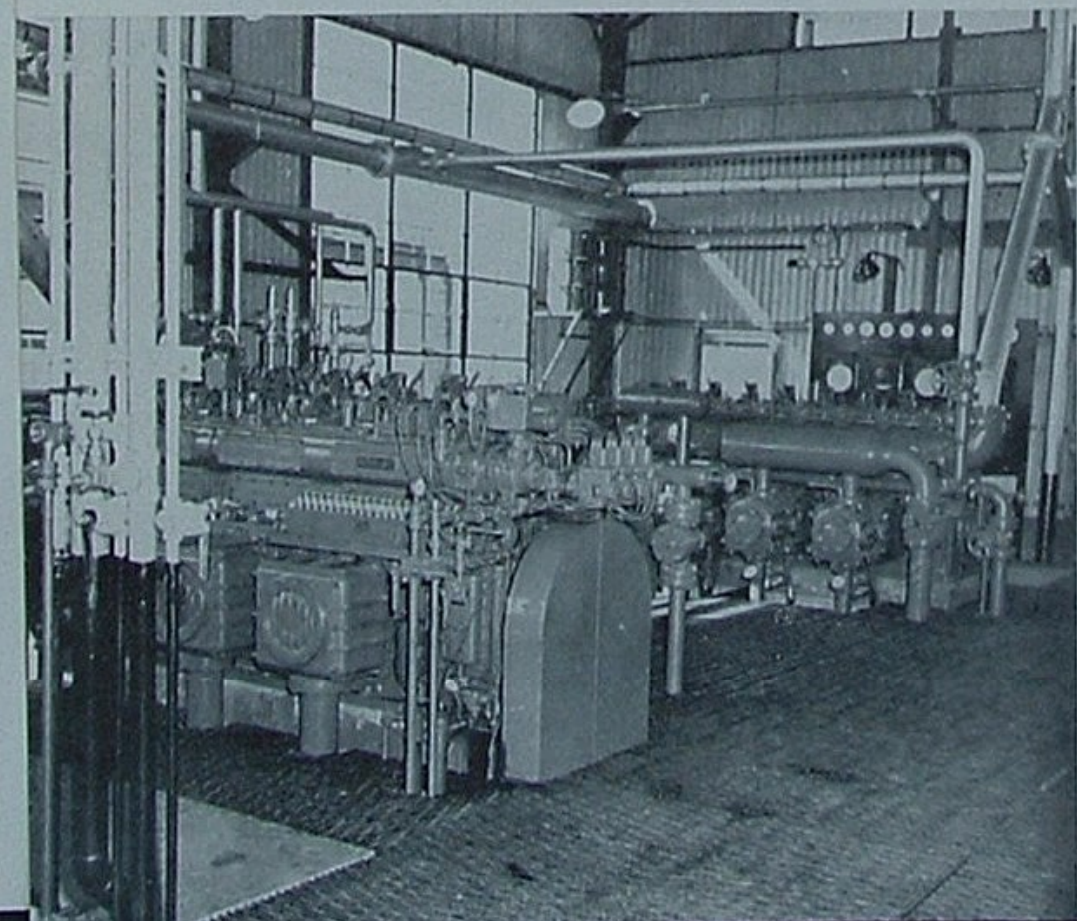
Believed to be the first unit in the world to extract carbon dioxide commercially from oil well natural gas for the manufacture of dry ice, this project marks another of many pioneering achievements for which the

Company has become noted. Moreover, it represents a service of great existing and greater potential worth to society, for carbon dioxide in its various forms is rapidly becoming one of mankind's most useful commodities.

As previously described in detail by Mr. Gard, carbon dioxide has been considered as anything but an asset to our production of natural gas. Emerging in increasing proportions during recent years with natural gas being produced from wells in the Santa Maria Valley, the CO_2 , being an inert or nonflammable gas, began to affect the heating properties of its companion product. Union Oil was obliged either to remove some of the carbon dioxide or accept a less favorable price for the natural gas we sell.

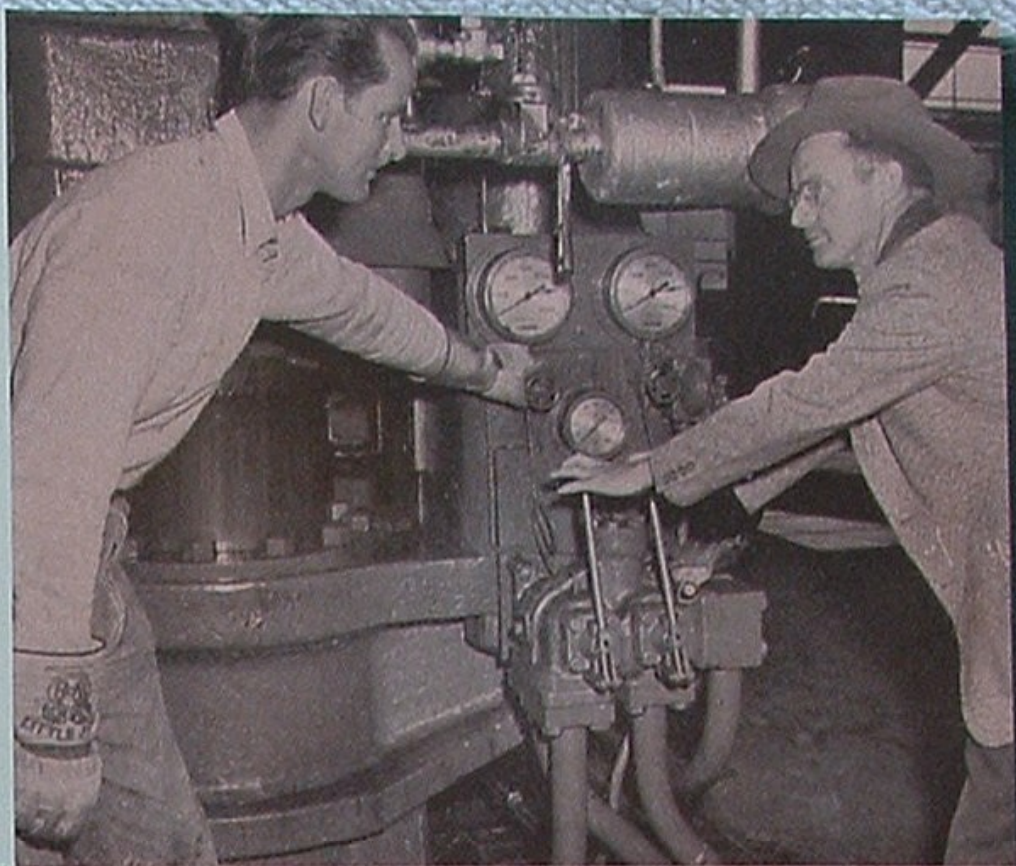
Economics, plus management's preference to market highest quality products, pointed to the latter solution. A carbon dioxide extraction plant, employing the Girbotol process, was then added to our Battles Plant facilities. It successfully removed about half of the undesired carbon dioxide and raised the heating value of our natural gas to a minimum of 1000 British Thermal Units per cubic foot.

By means of these two compressors, carbon dioxide gas is subjected to a pressure of about 1100 pounds. When retained at this pressure and cooled to 85 degrees F., the gas is converted to liquid.

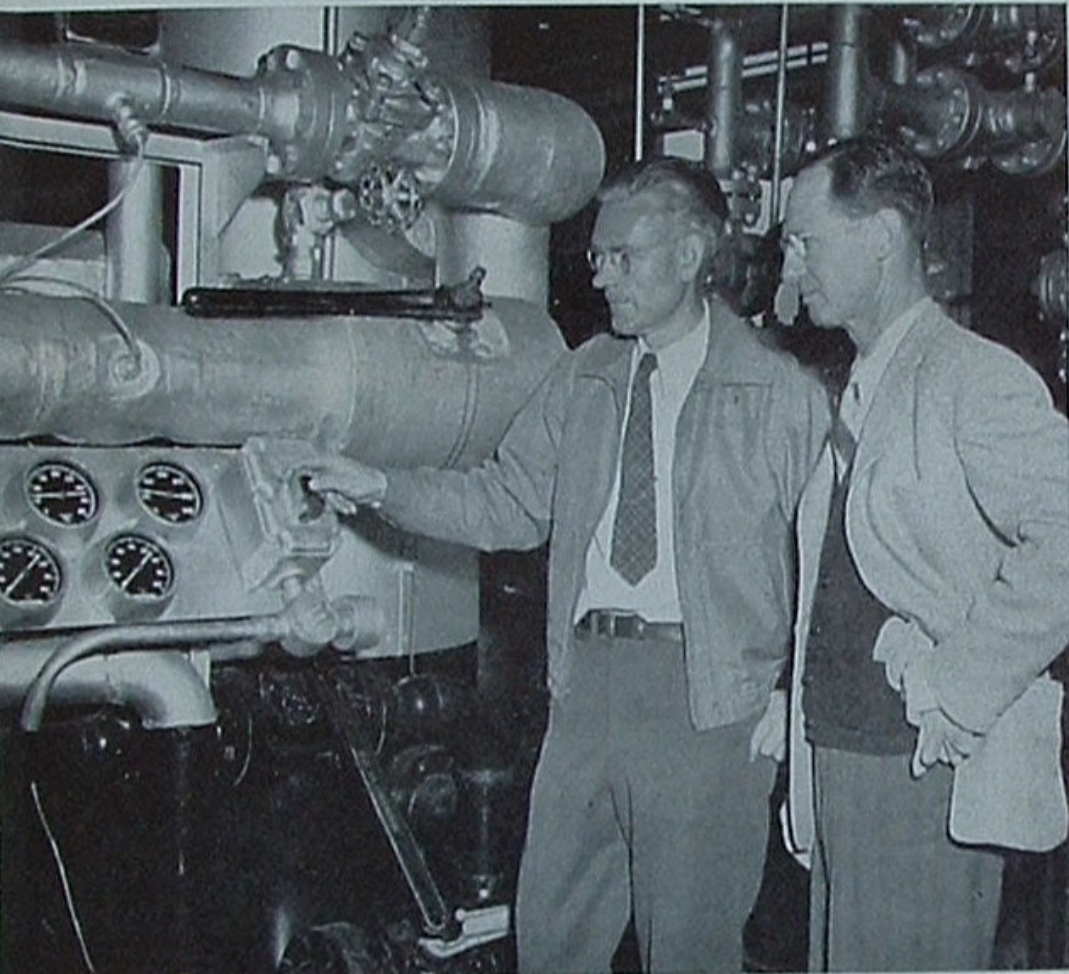


Rather than waste the practically pure carbon dioxide separated by the Girbotol process, Company engineers sought ways of using it. The most practical idea presented was that of converting the by-product into dry ice.

The plant now on stream near Santa Maria receives carbon dioxide in nearly pure form from the adjacent Battles Plant stripper described in our August account. Its conversion into dry ice is entirely mechanical. The gas passes through several stages of compression and cooling until, at a pressure of 1100 pounds and a temperature of 85 degrees F., it is converted to liquid form. Then the liquid proceeds through a reverse series of decompression steps until it "flashes" at atmospheric pressure into snow. Three powerful presses compress this snow into rectangular blocks of ice, each of which



Above: Herb Allaire (right), assistant foreman who supervised construction of dry ice plant, shows Al Brandt, operator-pressman, how to operate one of three presses that convert CO₂ snow to ice.



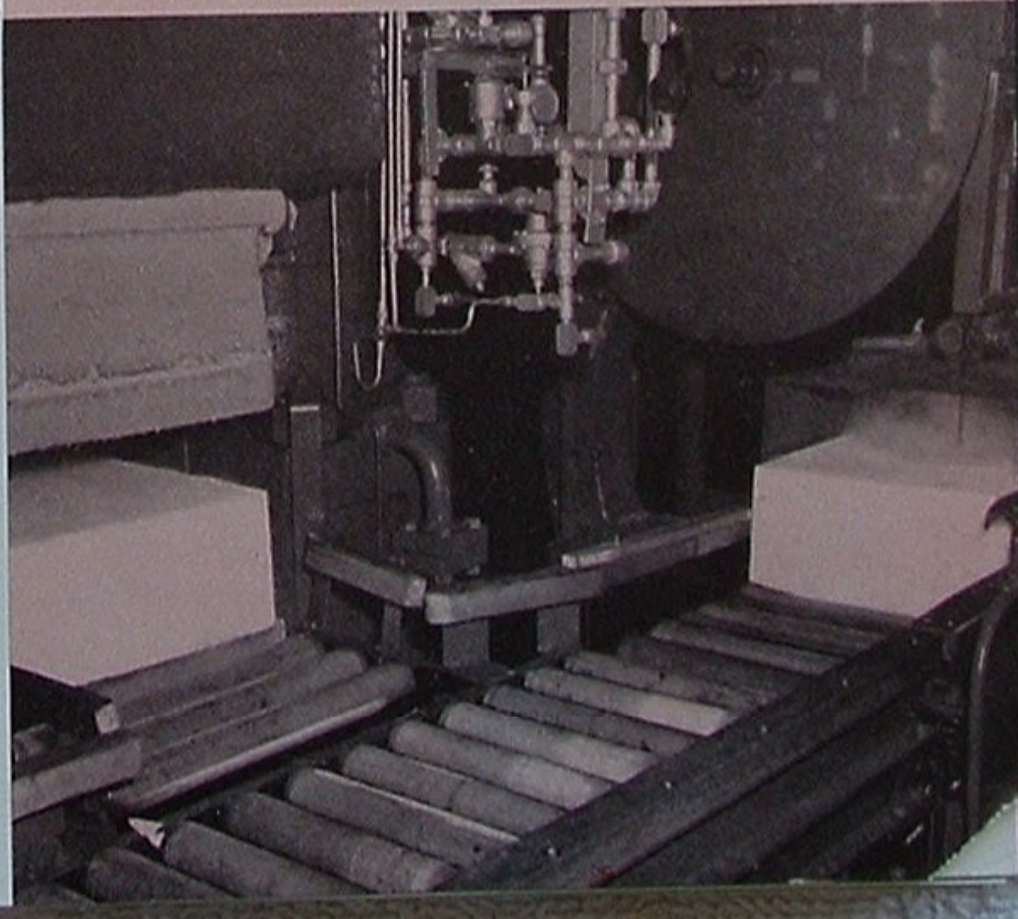
Left: Don E. McFaddin and Frank G. Boyd, field engineers on the project, watch the performance of a "Hydryer" where final traces of moisture are removed from carbon dioxide during compression.

Below: Emerging from one of the presses in a 224-pound block, the dry ice travels via conveyor through two bandsaws (one visible at right) where it is cut into four cubes weighing 56 pounds each.

is then sawed automatically into four cubes weighing up to 56 pounds apiece. Sealed in paper bags to prevent evaporation losses, the dry ice finally proceeds to specially built refrigerator cars. By such means it can be shipped long distances at a shrinkage rate of about one per cent a day.

The distribution and marketing of all dry ice manufactured at our new plant is the responsibility of Pure Carbonic Company, who are purchasing this production. A plant capacity of 56 tons per day probably will be attained during a contemplated test run in the next few weeks. To date, due largely to seasonal demand, the best output in a single day has been 44 tons.

ON TOUR





Plant storage for packaged ice is provided by three bins from which Jim Monk (left) and Dave Salmon are seen loading a conveyor. Workers avoid touching ice or inhaling its suffocating vapors.

for testing ariplanes and other equipment under low temperature conditions. Blood plasma is processed through a dry-ice method. Containers of liquid carbon dioxide are used to inflate life preservers and life rafts. Many of the dense fog and cloud scenes of motion pictures are products of this adaptable commodity.

In machine shops dry ice is now being used to shrink cylinders of hydraulic machinery and engine blocks so that bronze and cast-iron liners can be inserted by hand. This saves time and eliminates the need of a press.

Rivets made of aluminum or certain alloys tend to "age" rapidly at room temperatures and often have to be re-annealed just before being driven. By storing the rivets in dry ice, this "aging" or hardening is retarded and shops, such as airplane factories, can keep a larger supply of rivets at each working place.

In the laboratory certain silicon steels have been hardened by means of solid carbon dioxide. If adopted commercially, the process may permit the machining of some metals before they are hardened.

Other laboratory processes have used solid carbon dioxide to dehydrate ether by freezing out its water content. The grinding of such products as rubber, gums and plastics into powdered samples is made possible by dry-ice-freezing them until brittle.

An instance is known in which a broken water main was shut off by filling a trench ahead of the break with dry ice and forming an ice plug inside the pipe. It has also been used to stop leaks of deadly chlorine by chilling the chlorine containers until their interior vapor pressure was less than atmospheric pressure.

Packaging consists of slipping a paper bag over each cube and tape-sealing the open end. After being weighed, the blocks proceed via conveyor belt to car. Workmen are (l-r) F. Goodchild and D. Foster.

USES

To most of us, dry ice is a laboratory oddity that melts into vapor instead of a liquid, and produces a burning rather than freezing sensation to our touch. We have seen it used commercially as a means of keeping ice cream and other food products frozen or cooled during shipment. We have heard of partially successful rain-making experiments in which powdered dry ice was dropped from airplanes into cloud formations. Most oil workers are intimately familiar with the carbon dioxide fire extinguisher, which because of its non-conducting characteristics is so useful in fighting Class "C" fires in or near electrical equipment.

These uses indeed represent some of its major functions and possibilities. But there are others:

With a temperature of minus 109 degrees F. (water ice melts at plus 32 degrees F.), dry ice is in demand



In the rubber industry, golf balls are improved by chilling the centers prior to winding, assuring that the balls hold their shape and have increased tension, thus giving players greater putting accuracy and driving distance. Chilling of the finished ball with dry ice also permits removal of any mold scarf by merely breaking it off. Crepe or foam rubber, now being used extensively for sound-proofing and upholstery, can be cut and trimmed evenly after being chilled in a similar manner.

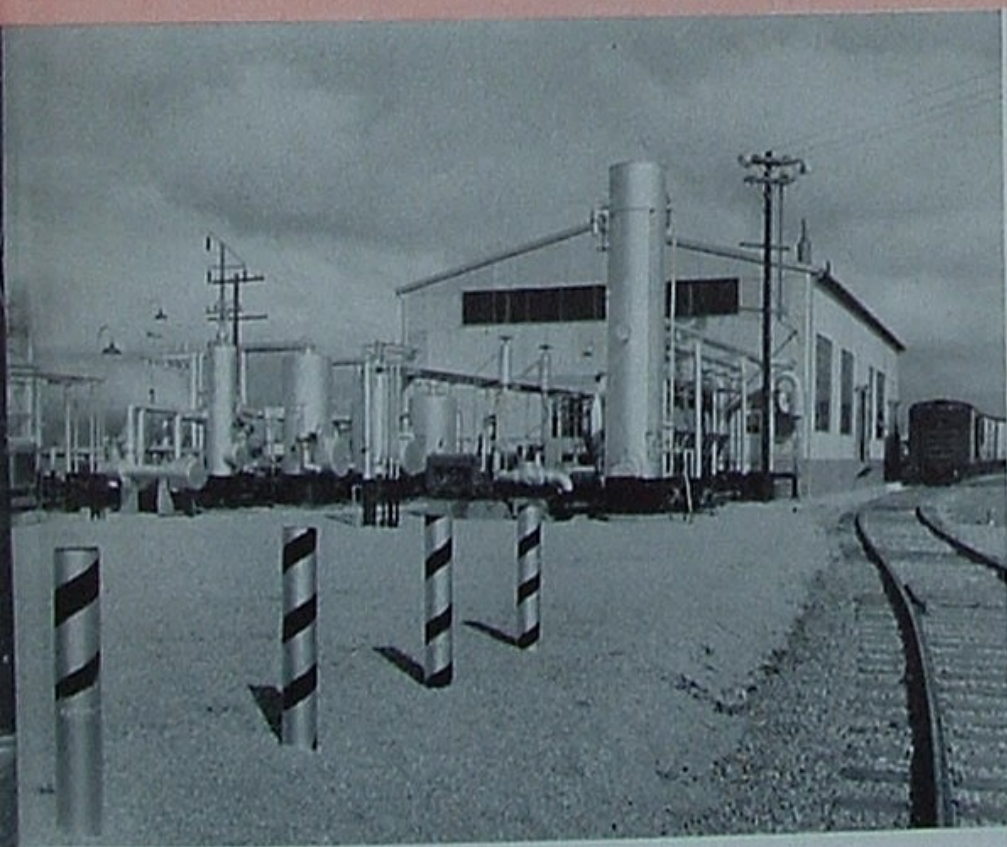
The power generated by carbon dioxide while expanding from liquid to gas form has already been put to use in a variety of ways. One hundred pounds of the product is sufficient to ring a certain type of bell buoy 800,000 times, or enough to keep the bell in operation for four months. It has been used or proposed as a power-bottle for lifting jacks, as a starter for airplane motors, as a non-combustible commodity for the leakage testing of gas vessels, as a plumber's aid in dislodging obstructions from plumbing, as a means of increasing the flow of water wells.

In the coal mining industry, liquid CO₂ is the power source of an ingenious blasting device called the Cardox cartridge. When chemicals inside the cartridge are mixed, they produce heat. The heat causes the CO₂ to expand and explode. As is not the case with ordinary explosives, the carbon dioxide blast lowers rather than raises surrounding mine temperatures. Thus the danger of coal gas and dust explosions is minimized. An un-



This Union Oil plant near Santa Maria is believed to be the first to commercially manufacture dry ice by using carbon dioxide that has been extracted from natural oil well gas. It is now on stream.

John Adams, field engineer, inspects double doors of special car used to transport dry ice throughout western states. Shipped in this manner, ice can be held to a daily shrinkage of one per cent.



expected advantage of this cartridge is that it produces a higher percentage of coal in coarse sizes.

For many years the world of science has been expanding carbon dioxide's limits of usefulness. Plant growth can be greatly stimulated by it. Doctors have used it as a respiratory stimulant, for curing many skin diseases, and experimentally even as an anesthetic. And all of us partake of it liberally and enthusiastically at the corner drug store in the form of carbonated beverages.

From the foregoing it appears obvious that we are only entering the dry ice age. Thousands of additional uses will present themselves to alert minds. It is not improbable that some day your fountain drink will be cooled and carbonated simultaneously by a pellet of Union Oil's delicious CO₂.

On an Island with Esther

Well, perhaps our title exaggerates the plot a trifle. Indeed Esther Williams, actress and swimming beauty, was there in person—but so was her husband, Ben Gage, along with 'steen thousand opening night fans. There was soft music too—if you could catch a note now and then between the blare of auto horns. An aroma of flowers caressed the night—well diluted with exhaust fumes. And the setting was one of the neatest islands you've ever seen—a "76" pump island, that is. But it was all very romantic nonetheless.

In case you haven't already guessed, Ben Gage, famous as a radio announcer, has branched out to put sparks in the service station business. With typical beginner's luck, he took over as lessee of a Union Oil Station at 18th and Montana streets in Santa Monica.

Mrs. Gage—Esther Williams to us—thought it would be quite a cozy idea on opening night, November 23, to invite some of their friends in for oil changes at popular prices. She didn't dream—or did she?—that an avalanche of business would result from having on hand such celebrities as comedian Keenan Wynn, actor Larry Parks and wife (singer Betty Garret), and handleader Xavier Cugat, along with their Hollywood following of lights, cameras, action.

The result was undoubtedly the most stupendous premier in service station history. The crowd was so immense that Santa Monica traffic officers moved from street intersections to the service station drives. It seemed that most of California's four million cars waited in line. But, 'tis said, the first driver to look through his freshly "Clearexed" windshield and find Esther on the other side promptly swooned, thereby halting practically everything in the form of gasoline sales and profits.

Moral: What! In Hollywood?

Miss Williams: "May we fill your tank with '76", dear—or sir?"
Miss Garret: "No, Esther, he said to test the oil, not taste it!"
Mr. Cugat: "Now I have two Union cards—AFM and Seventy-Seex!"
Mr. Wynn: "I see what you meant by offering to teach me the side-stroke on an island in the moonlight!"



In my opinion ...

(Continued from Page 2)

(6) The latest phase consists of an effort to fire those loyal employees who stuck by the Company during a period of labor shortages and an inflated labor market during the war; I refer to the Maintenance Department of Oleum.

(7) Permit me in closing to reassure Union Oil Company of the good intentions of their employees who want their old jobs back, who wish to work again in an atmosphere of peace and mutual confidence. If the holding of such views or the expression of such views means the loss of my job, so be it.

Sincerely yours,

(Name withheld by ON TOUR)

Dear Sir:

Since you are not an official spokesman for Oil Workers International Union (CIO), we have not asked for an official answer from Union Oil Company. However, the following response to your earnest convictions will receive the blessings of management before being published.

(1) May we go a little farther than you have in justifying our belief in the United States and in the cause of organized labor. We believe that the United States has risen in less than 200 years from obscurity to its present world leadership almost solely because of the freedom, opportunity and protection it has given to individual citizens. Under British rule we probably would have done about as well as the British, who had a commanding head-start.

Furthermore, we believe that unions have been a powerful and necessary influence in improving the living standards of all workmen. They have undoubtedly raised labor to a more dignified place; they have eliminated thousands of abuses and wretched working conditions; they have given the working man a larger share of the nation's production than he might have otherwise enjoyed.

We cannot even go so far as to believe that Union Oil Company, without periodic promptings from organized labor, would have been the benevolent employer you mention. It isn't natural or possible for a competitive business to be much more philanthropic than its watchful neighbors. So, you see, we are a little more sympathetic with unions than you perhaps expected.

In addition, we believe that labor unions have a great and vital future. They can do an immeasurable amount of good not only for working men but for the nation and world as a whole. Many unions are becoming con-

scious of the fact that prosperity is *first* a matter of production and *second* a matter of what share of production the workers are to get in wages. As a result, some unions are doing their utmost to avoid strikes, jurisdictional interruptions, slow-downs and feather-bedding. They are encouraging their members to earn more by becoming more productive and learning higher skills. They are building cooperation rather than barriers between employers and employees. It is only through such constructive efforts that we can all rise to higher standards of living. The future of unionism is boundless if, while keeping vigil over wages and working conditions, it will use its great power to increase the productiveness and earning power of each "rank and filer."

(2) We are fully in agreement with the belief that workers should have a part in determining their working conditions. They should have that right individually as well as collectively. However, the sole issue advanced during this strike was wages. The union, seeking parity with other oil workers, struck for an increase of 21 cents an hour, whereas the Company offered 12½ cents. The latter figure has been the basis of all settlements with other oil companies to date.

Only by a long stretch of the imagination can Union Oil be accused of "union-busting" during this strike. Our management repeatedly invited employees to return to their jobs against the wishes of union leaders. Such was the Company's lawful and moral right at a time when forceful means were being used against it by strikers to paralyze operations. You and I, as employers, would have done the same thing. But certainly management is fully aware of its "union-busting" limitations. Employees are guaranteed by law, including the Labor Management Relations Act, the privilege of forming or reforming any labor organization of their choosing. It does not appear that O. W. I. U. has been broken during this strike. If it has lost control of any employee group, there is nothing the Company can do to prevent or encourage the union's reforming. Only the employees can make or break a union.

(3) It is surprising that the letters mailed by management, informing employees of strike developments and inviting their return to work, could be characterized as threatening and intimidating. We carefully read all bulletins. They outlined facts as we saw them and accurately predicted events that have taken place since. If you received threats or intimidations via telephone, management undoubtedly will welcome knowledge of their nature and origin.

(4) If strikers regard the hiring of people to fill vacated jobs as being a stab in the back, what must an employer think of an unpeaceful picket line? Furthermore, the people who accepted these jobs could hardly be classed as non-union. Many were members of labor organizations, even of the striking O. W. I. U.

It seems to many of us that a cool-headed analysis of wage schedules by union and industry representatives could have prevented this strike. Instead, force was

injected too quickly and reason did not prevail. The hiring of new employees, as you mention, was certainly the Company's prerogative. More than that, it was their only defense against coercive action other than meekly bowing to a demand they considered unjust.

(5) This is the version we heard of the truck incident at Oleum's main gate: Sea-going personnel had brought two of our tankships into Oleum and gone on strike. The Company was obliged to replace them with any other seamen available. A crew was eventually hired with the understanding that they would arrange their own transportation to Oleum dock. On September 18, the seamen arrived at Oleum's main gate in two van-type trucks with two of the crew members serving as drivers. On entering the gate, either because of the driver's nervousness or miscalculation, the leading truck failed to negotiate the down-hill turn and tipped over on its side. One of the passengers was slightly injured. If the seamen were armed with "instruments of mass murder and mutilation," it is a regrettable circumstance that the Company neither suggested nor endorses. We do not know of any violence that resulted in this instance.

(6) In answer to another employee's letter being published on these pages, we have attempted to explain why the Company is contracting some of its operations. The contracting of refinery maintenance was started sometime ago. Undoubtedly the strike had a great deal to do with accelerating final accomplishment of this objective. But there is no evidence that the Company took advantage of the strike to avoid giving maintenance employees the same consideration we have given marketing, field and other employees during previous changes. Transfers, pensions, termination allowances and aid in finding other employment have been extended to maintenance men whether on strike or not.

(7) We congratulate you in attaching your full name and address to the letter. Your views and your courage in voicing them have our respect. Such expressions could not result in the loss of your job with Union Oil Company.

The Editor

Dear Editor:

You have invited questions regarding policies affecting labor-management relationships and I am wondering if, through your column, many Head Office employees may be enlightened in regard to the sudden termination of the employees on the building maintenance staff.

I believe I bespeak the feelings of hundreds of us who were shocked to learn that the building crew are to be terminated on December 1 and this work contracted to an outside firm. There aren't many men involved, but almost all of them are at an age that makes it difficult to get other employment; their service records with Union Oil Company, we are told, range from

16 to 30 years; their services to the Company throughout that time are judged by the rest of us to have been excellent.

The sudden termination of these men—not because their services were unsatisfactory; not because their work was no longer essential; their replacement just a few months and years before their normal retirement—does not seem compatible with the employee-relations policies to which we have been accustomed. Our sense of security in the "humaneness" of our top management is shaken. What has happened to one small non-union group can happen to any one of us, and our morale is low.

Can the financial saving which might be accomplished by this action, considering the comparatively small payroll involved, possibly offset the loss in employee morale? Couldn't the change have been postponed without serious effect on dividends for the short time until the men were normally retired? Doesn't the human element enter into management's decisions any longer?

We know there must be two sides to this, and we hear only one. We need our faith restored by hearing the other side. Can you help us?

One of many.

Dear "One of Many":

For several years now there has been a trend within Union Oil Company toward decentralization. Many of our marketing stations, formerly operated by employees, have been leased to consignees. With very few exceptions, our service stations are being operated by lessees. Practically all of our drilling is now being done by contractors. During the past few weeks refinery maintenance work has also been contracted. And most recently, as you have stated, Head Office maintenance work by employees has been discontinued in favor of contracted services.

Evidently you have no fault to find with the economics of this trend. In most instances it has resulted in increased sales, greater efficiency, or more economical operations—three necessary objectives of every company in the competitive oil industry. If good results were not obtained, the Company would be obliged to reverse its course.

Now, in regard to the Company's "humaneness" during these changes, let us examine the facts:

In most cases where Union Oil Company has turned to a program of leasing or contracting, the affected employees have been given every reasonable consideration. Wherever possible, qualified employees have been made dealers, consignees or contractors. Others have been transferred to new jobs, retired with liberal retirement pensions, or recommended to other companies. A generous termination allowance has been extended in

every deserving case to compensate for possible hardships.

Generally, the settlement has been a satisfactory one to all directly concerned. Many former employees are now enjoying their greatest prosperity as independent business men and contractors. Others are gainfully employed or enjoying the benefits of paid retirement. Surprisingly few cases of dissatisfaction or hardship have been brought to the Company's attention.

Regarding treatment given Head Office maintenance employees, it occurred to us that the best source of information would be the employees themselves. This is what we learned:

The maintenance men, whose service records range upward to 25 years, expressed themselves as being more than pleased with their lot. All received generous treatment. Several have been granted the same pension allowance they would receive on their normal retirement dates at age 65. All others received termination allowances in proportion to their years of service. Several employees have been aided in finding comparable work elsewhere. Although several of the younger men would elect to work on in their Company jobs as usual, none denies that he has received the most helpful consideration.

Regarding the "sense of security" of employees so far unaffected by the trend, we believe that our best policy is to remain or become realistic. Very few functions of the Company cannot be contracted, including production, refining, transportation, distribution, marketing, research, accounting, industrial relations—and even editing alas! If management could get this work done more economically and efficiently by contracting we couldn't say much for their common sense and ability if they didn't contract. On the other hand, there are obvious limitations to such a trend and considerable evidence that the trend is often reversed. Plenty of us stop sending the washing out when the laundry bill gets too high.

In other words, the best way of telling whether our own individual job futures will be affected is to examine our personal efficiency and that of our departments. High skills, good management and good work are in demand everywhere, whether or not we serve as contractors or employees. Having such assets, we need have no fear. Lacking them, we have no claim to security.

The leasing and contracting trend may have reached its climax. Not even management knows for certain. However, if similar changes are in the offing, we need not be too concerned about Union Oil's humaneness. Most men who have left the payroll appear to have received a square deal.

We trust that this rather lengthy answer has reassured you and the many.

The Editor

Dear Editor:

Now that management has seen fit to contract work formerly done by the Building Department, the few of us who have stayed on feel that we have been pleasantly and profitably employed during the years. We are grateful that the Company made an effort to keep us on the payroll during the lean years of the depression.

Those of us who are still within a few years of retirement, have been generously taken care of by the Company. In some cases we are being retired with all the privileges we would have received if we had remained until normal retirement.

As these halls will no longer resound to the tap-tap of Al's hammer, I close the lid of my tool chest saying that I am concluding the best carpenter's job that any carpenter ever had anywhere. Union Oil's management and employees have been a fine group of people to work with.

Al Bowen



SERVICE BIRTHDAY AWARDS

DECEMBER, 1948

Thirty-Five Years

Tornquist, Carl G., So. Div. Field

Thirty Years

Cline, Julia E., Central Territory
Davis, Chester A., Coast Div. Field
Graves, Harold D., Jr., Oleum Ref. Mfg.

Twenty-Five Years

Collins, Albert S., Northwest Territory
Hall, Richard F., Southwest Territory
Kirkpatrick, Elmo, Northwest Territory
Pate, Bonnie B., Head Office Mfg.
Robertson, John L., L. A. Refinery Mfg.
Swearingen, Bert, L. A. Refinery Mfg.

Twenty Years

Grogan, Allen E., H. O. Sales Service

Hanson, Elmer M., Northwest Territory
Keyser, Augustus, No. Div. Pipe Line
Lundberg, Ray D., So. Div. Field
McVey, Leil E., L. A. Refinery Mfg.
Milbrad, Herbert W., L. A. Ref. Mfg.
Robb, Milo H., Central Territory
Turner, William L., Oleum Ref. Mfg.
Watson, William A., H. O. Sales Service
Welton, Edmund F., L. A. Refinery Mfg.
Russell, Arthur B., Oleum Refinery Mfg.
Thomas, Robert R., Southwest Territory

Fifteen Years

Davies, James R., Central Territory
Elliott Clyde A., Oleum Refinery Mfg.
Farley, Frances C., Central Territory

Fitzgerald, Charles R., Oleum Ref. Mfg.
Lee, Lawrence M. P., So. Div. Field
Martin, Perry, No. Div. Pipe Line
Martins, John, Honolulu Dist.
Nichols, Lawrence, So. Div. Automotive
Oke, William C., Union Oil Maintenance
Peterson Elijah G., Oleum Refinery Mfg.
Weland, Albert K., Oleum Refinery Mfg.

Ten Years

Ayers, Clarence H., Southwest Territory
Edwards, Lester C., Oleum Refinery Mfg.
Fechter, Harold A., Northwest Territory
Hill, Isabelle G., So. Div. Pipe Line
Sander, Silverius A., Central Territory

You can't measure prices with dollars

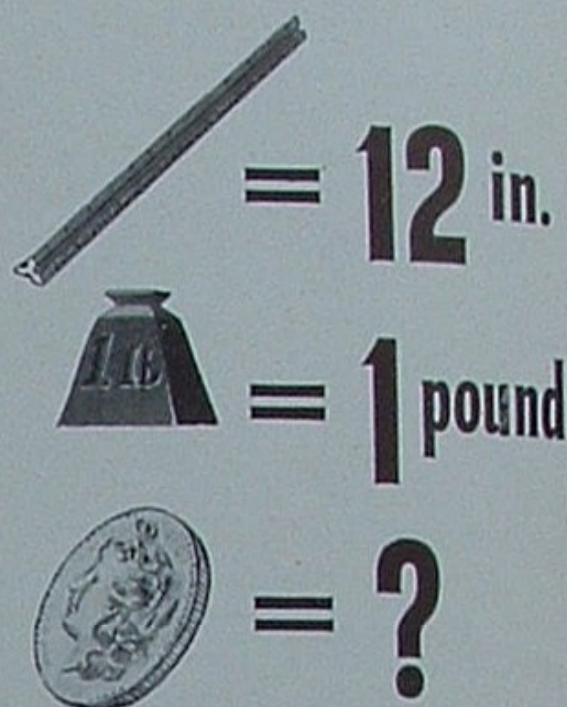


1. If your 12-year-old son was three feet tall in 1941 when he was 4, and five feet tall today, you can say with complete accuracy that his height has increased 66.6% in 8 years. But if it cost you 60¢ to get his hair cut in 1941, and \$1.00 today, you can't say with complete accuracy that the price of haircuts has increased 66.6% in that same time.



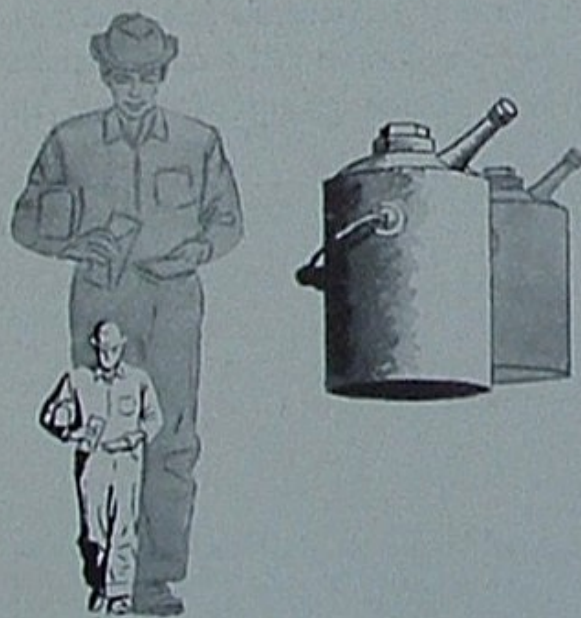
2. For at today's hourly wage rates the average American gets \$1.00 for the same amount of work that he was paid 60¢ for in 1941.* Consequently, this particular haircut would cost most people the same number of minutes' work that it did 8 years ago. The price hasn't changed. Furthermore the barber's take hasn't changed. For the dollar he gets today—compared with what a dollar would buy him in 1941—is worth only 60¢.*

*U.S. Department of Labor statistics.

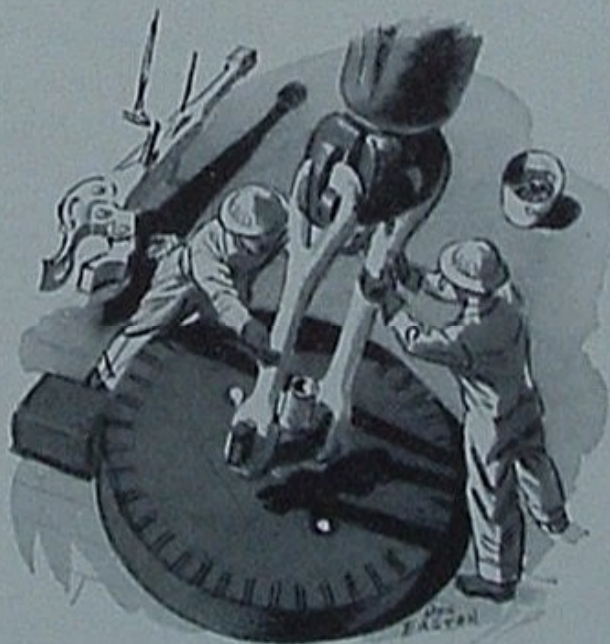


3. In other words, a foot represents the same distance year in and year out. A pound represents the same weight. But a dollar, year in and year out, seldom represents the same value. That's why you can't use it to measure comparative prices, or wages, or profits. In 1941, for example, the retail price* of our 76 Gasoline was 14¢ per gallon—excluding State and Federal taxes. Today it is 18.1¢. This represents an increase in money of 29%.

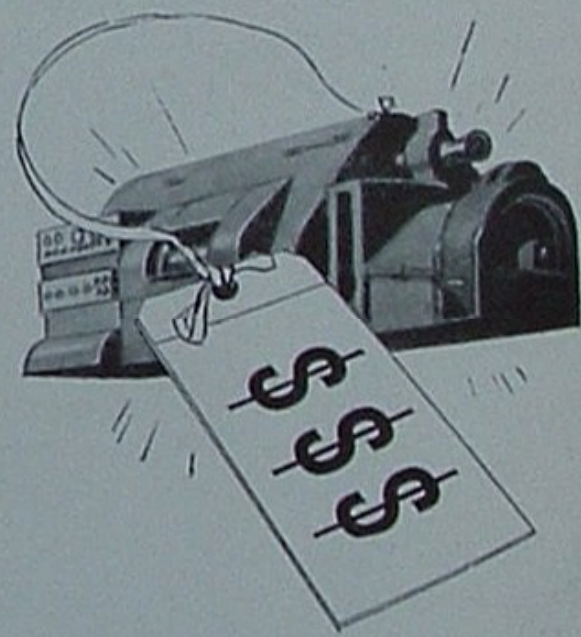
*San Francisco—slight variance from city to city.



4. But since U. S. average hourly wages have gone up more than twice this percentage (approximately 66%), most people can buy our gasoline with fewer minutes' work today than they could in '41. So the true price to them is lower. Furthermore, the dollars we take in—like the dollars the barber takes in—will buy considerably less than they would in '41.



5. In 1941, for example, our drilling costs averaged \$8.78 per foot. With 76 Gasoline retailing at 14¢, it took 63 gallons to pay for one foot of drilling. Today our drilling costs average \$15.31 per foot. With 76 retailing at 18.1¢, it takes 85 gallons to pay for one foot of drilling. New pipe line which cost us 21 gallons per foot in 1941 costs 34 gallons today. A two-canopy service station which cost about 90,000 gallons in 1941 costs 160,000 today. Other costs have gone up proportionately.



6. The only way we've been able to meet these increased costs without raising gasoline prices proportionately is by increasing our total volume and increasing our efficiency. And this increased efficiency has been largely accomplished by plowing back our so-called "profits" into better machinery, better equipment and better tools.

UNION OIL COMPANY
OF CALIFORNIA

INCORPORATED IN CALIFORNIA, OCTOBER 17, 1890

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.