



a Trip

through

• ***Wood River Refinery***

**STANDARD
OIL COMPANY**

Standard Oil — Serving Since 1889

Standard Oil Company was incorporated in Indiana in 1889. Its general offices are in Chicago, Ill. With its subsidiaries, it finds, produces, purchases, and transports crude oil and manufactures, transports, and markets refined products.

Standard Oil Company markets in 15 midwestern states. It is the only company which may legally use that name in those states. Its subsidiaries market or operate in 31 other states. Standard Oil and its subsidiaries compete vigorously with other oil companies, including those that in other parts of the nation carry the name Standard Oil. The company believes that strong competition is in the public interest.

Gasoline Today Better and Cheaper Than in 1922

Expenditures for improved processes, techniques, and costly equipment, together with our investments in research, are continually benefiting consumers of petroleum products.

For example, looking back to the early '20s, we learn that Red Crown gasoline in July, 1922, without tax cost motorists 25 cents a gallon in St. Louis, Mo. There was a one-half cent municipal tax, which brought the total to 25.5 cents.

The prevailing price at Standard dealer stations in St. Louis on April 1, 1954, without tax, was 20.9 cents a gallon, a reduction of 4.1 cents for the consumer in a period when the general price level was rising. Including city, state, and federal gasoline taxes, the price was 26.9 cents.

Therefore motorists were able to buy gasoline early in 1954 at less than 1922 prices, excluding taxes — and at the same time they received greater value, because two gallons of today's improved gasoline, in improved automobile engines, do the work of three in the early '20s. And motorists can look forward to even greater value in the future.

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WOOD RIVER, ILL.
April, 1954

PLANT TOURS ...



It gives us pleasure to welcome visitors to our Wood River refinery.

Ours is a fascinating business. We are happy to tell our story to all who would like to know more about petroleum refining through a tour of this plant, for *seeing is believing*.

Guides are assigned to conduct groups through the refinery at appointed times.

Wood River Refinery

Early in 1907 construction crews with their machinery began to bite into a 419-acre tract of farm land in southern Illinois' tranquil Wood River valley, bordering the Mississippi river. They had come to dig foundations for the giant units and storage tanks of Standard Oil Company's third refinery.

Across the waterway 23 miles to the south was the metropolis St. Louis, Mo. Twenty-one miles south of the site was another large city, East St. Louis, Ill. Adjacent was historic, hilly Alton, population 15,000. The three cities offered excellent rail and shipping facilities. Eastward to the Ohio river lay the heart of Illinois' bituminous coal-mining belt.

Alert to a rising demand for petroleum products, Standard Oil directors saw the need for a refinery at the chosen site. They envisioned rapid industrial growth for this region.

The Company's first refinery, in Whiting, Ind., had been built 18 years earlier, to serve the vast Chicago industrial district. Building of its second, at Sugar Creek, Mo., near Kansas City, began in 1904. Only three years later Alton's mayor drove the first rivet in the third refinery's No. 1 storage tank. At the

end of 1909 Wood River refinery completed its first full year of operation, processing more than 7,500 barrels of crude oil per day. By that time a village had sprung up on the farm land. Named Wood River, it too gave promise of rapid growth.

About a year later the work of Standard's scientists resulted in one of the greatest inventions of our era — the Burton cracking process. Doubling the yield of gasoline from crude oil, it helped increase the output needed to power the automobiles that were already being mass-produced.

Burton stills were built at Wood River. They increased production. Then improvements in processes and engineering design made these stills obsolete in little more than 10 years. In their place today stand other units that tell the story of Wood River's steady growth.

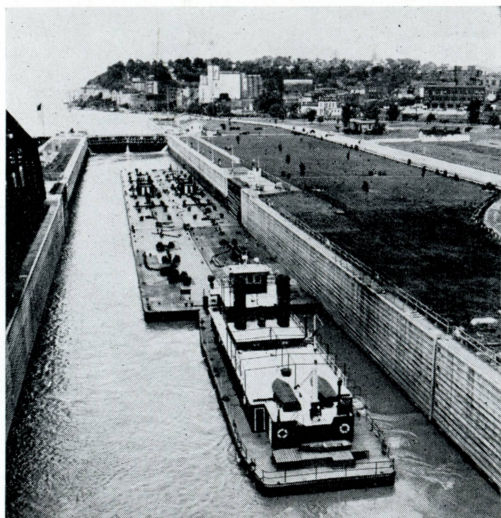
Guides explain to visitors the processes by which these units change crude oil into products that serve farm, home, and industry.

Wood River's crude running capacity is more than 48,000 barrels per day. The refinery employs about 1,800 persons. It is the third largest of six Standard Oil Company refineries. Their locations are shown on the map on page 19. In addition subsidiary companies own seven refineries. Each helps meet the problem of adequate supplies in the region it serves; and each helps supply the demand for new and improved products.

This air view of Standard Oil's Wood River refinery, looking south, shows the confluence of the Mississippi and Missouri rivers. The canal in left background, known as Chain of Rocks, is a recently completed cutoff saving ships nearly five miles of navigation through hazardous sections of the merging rivers. The canal's lock is the Mississippi river's southernmost.



The Stanolind "A" pushes its six loaded barges through the locks at Alton, on the way upstream to market terminals.



More than 18,000 service stations and other retail outlets, operated by independent businessmen, sell Standard Oil products in 15 midwestern states.

A list of the products shipped from Wood River to customers directly and to terminals, bulk plants, and retail outlets appears on the inside back cover.

Today, nearing the half-century mark of its existence, Wood River refinery lays claim to an area more than two and one-half times the size of the tract bought for its construction in 1906.

Pipelines

With little oil visible, visitors often ask, "Where's the oil?" The answer is this: oil, both crude and refined, is flowing through the refinery continually in a maze of pipes — underground, on the ground, and above it.

Pipelines bring crude oil to the refinery from Texas, Okla-



homa, Wyoming, Kansas, and New Mexico. Some of the producing fields are nearly 1,300 miles distant.

Refining

Its First Step Is Distillation

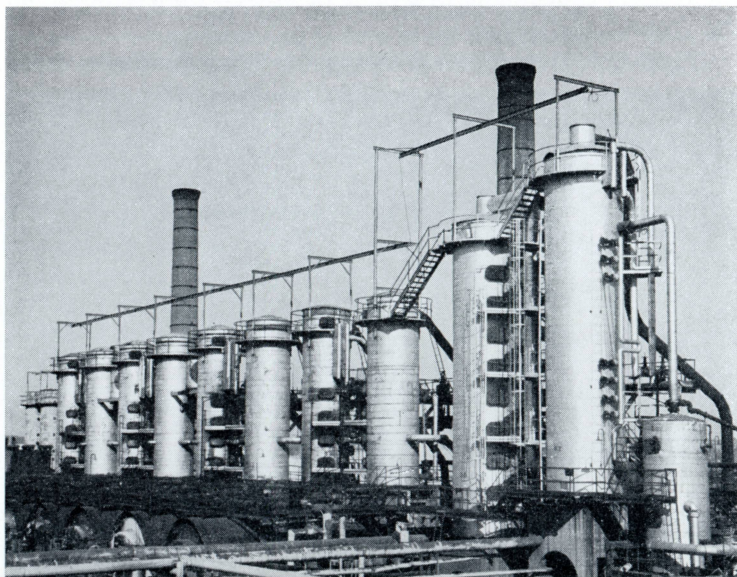
Huge storage tanks receive the crude oil, composed of hydrocarbon molecules, as it enters the refinery through pipelines. If you will refer to the chart on pages 12 and 13, you will understand more readily the course of the oil from the time it enters the refinery as crude until it leaves as refined products.

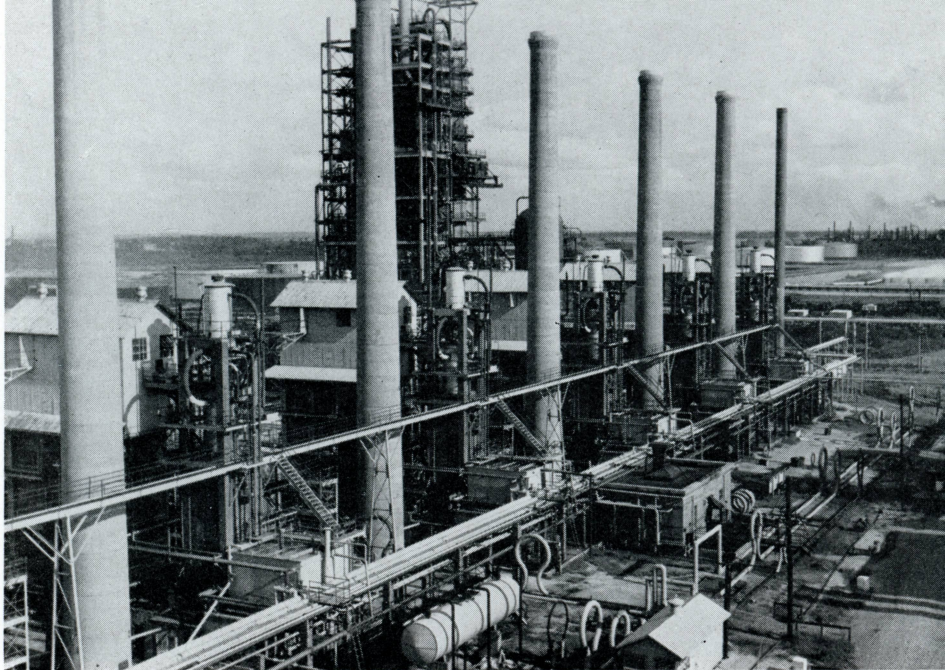
Refining's first step is the pumping of crude from storage into stills to undergo a process called *distillation* or *fractionation*. Distillation is one of many applications of laboratory science to refining. It enables us to separate the natural components into fractions suitable for processing into useful products.

In distilling crude oil at Wood River we heat it in a *pipe still* combined with a continuous battery of *shell stills*, or in a continuous battery of shell stills alone. In successive steps we bring it to a temperature high enough to vaporize all but its heaviest components.

The hot vapors from the pipe still furnace are fractionated

This battery of stills fractionates crude to separate it into gasoline, fuel oils, and reduced crude.





Thermal cracking units, or continuous pressure stills, are an improvement over the historic Burton stills. The tall unit in the background is our fluid catalytic cracking unit.

in a tall, cylindrical vessel called a *bubble tower*. Here they are cooled and partially condensed. The remaining vapors pass out through the top of the tower and they are condensed as light naphtha.

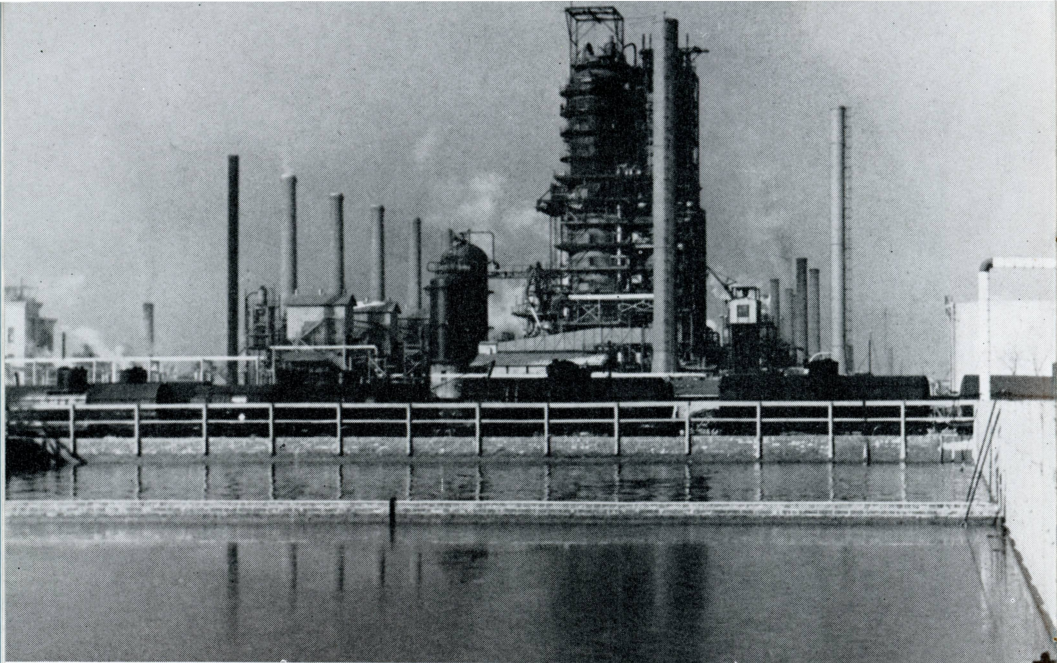
We draw heavier cuts, such as heavy naphtha, kerosene, heater oil, distillate fuel, and gas oil, as liquids from bubble trays at lower levels in the tower and the successive shell stills.

We pump some of the liquid fractions from these units directly to *blending* and *sweetening plants*, for improvement of odor of the finished products. We send the remainder to other units that continue the processing.

Molecules Are Split by Coking and Cracking

The heavy liquid remaining after distilling off the lightest parts of the crude oil may be sold as fuel oil, converted to asphalt, or processed in coke stills.

We heat to a high temperature the heavy liquid that we use as charge in our coke stills. The result is gas, gasoline, and gas oil, all distilled overhead, and petroleum coke, formed in



Our fluid catalytic cracking unit is the tallest and one of the most complex of our refining units. In this view it is flanked on the left by stacks of the thermal cracking units, reflected in the spray pond in the foreground.

the still itself. Before we can remove the coke, we must allow the still to cool. After its removal we prepare the still for another coking run.

The process by which we convert gas oil into gasoline is known as *cracking*. As its name implies, cracking means splitting (or otherwise changing) molecules into different patterns and sizes. Through this process we obtain from the oil more and better products than nature provides.

In our *thermal cracking units* we employ high temperature, over 900° F., in stills under relatively high pressure to break up the molecules. However, in the modern *catalytic cracking* process we produce gasoline of even higher quality through use of a *catalyst* to assist in the splitting at much lower pressure.

A catalyst is an agent which helps to bring about a chemical change without being consumed or changed itself. The hundreds of tons of finely pulverized catalyst that we use in the fluid catalytic unit are circulated back and forth within the unit several times an hour, in contact with the hot oil vapor during the cracking reaction.

Our Cat Cracker Is 15 Stories High!

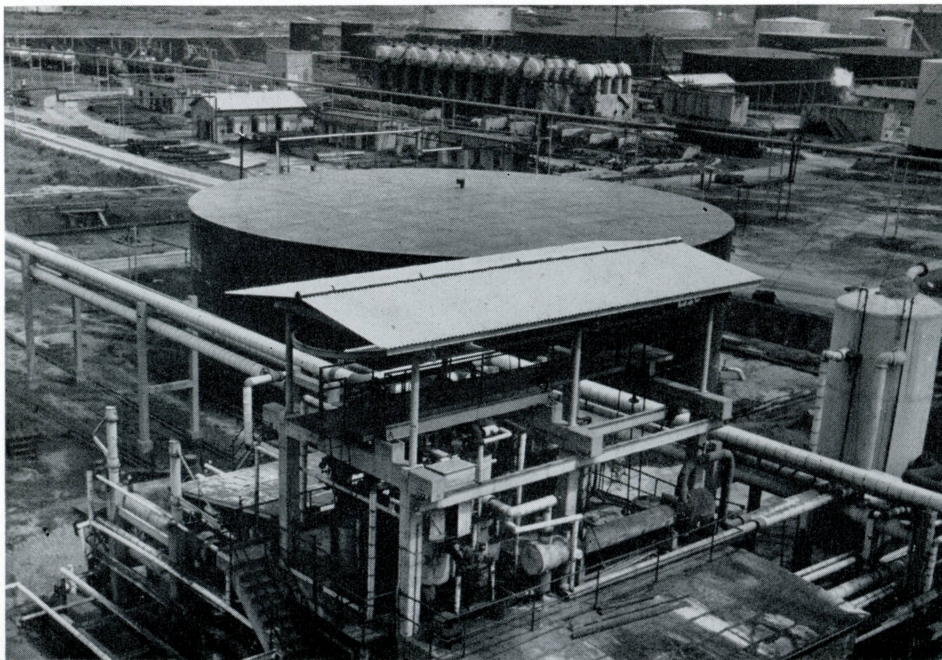
The tallest structure in the refinery, which visitors see at a distance before they enter our gates, is a *fluid catalytic cracking unit*, popularly called a *cat cracker*. The equivalent of 15 stories high, it is equipped with an elevator.

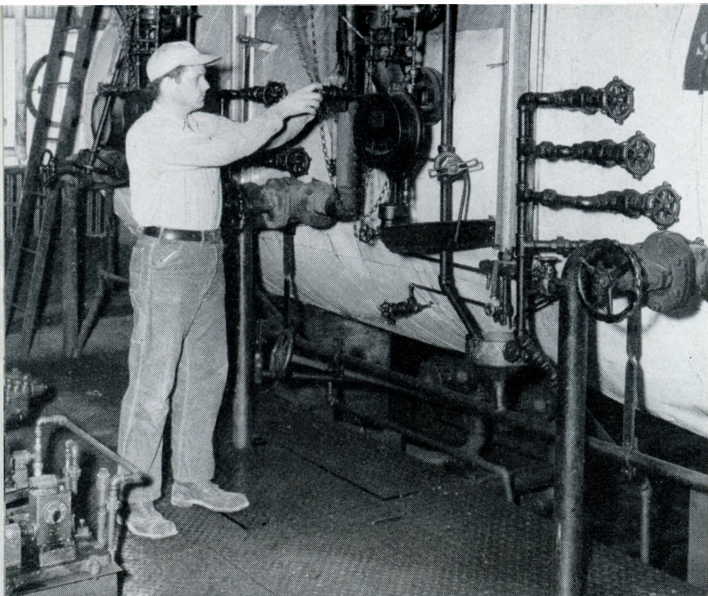
With a capacity for processing 15,000 barrels per day of fresh feed (sometimes called charging stock), the unit converts gas oil into high-octane gasoline. It makes components for distillate fuels; and it also makes charging stock for the *alkylation*, *polymerization*, and thermal cracking units. Its total cracking capacity is about 250 times that of a Burton still of little more than a quarter of a century ago. Its initial cost, however, is more than 500 times as much. Wood River's cat cracker, first such unit built by the Company, is only one of many pioneering developments at this refinery.

Processing in Other Units

The gas and gasoline that we produce on the cat cracker are fed or, in refinery language, are *charged* as a mixture to a

Products of the polybutene unit include a polymer used in the manufacture of additives for motor oil in our refinery and in the making of adhesives by other manufacturers.





Highly refined oil fractions result from processing dewaxed oil in our chloroform extraction unit.

vapor recovery unit. Thus continues the long but swift series of processes that make products out of crude oil.

Here we remove the hydrocarbons that are too volatile (capable of being vaporized too rapidly) for inclusion in gasoline. What remains we fractionate into three streams — two for use later in the blending of seasonal grades of gasoline and the third for charge to our polymerization and alkylation units.

Providing the proper fuel for those indispensable servants of ours — the engines of automobiles and tractors —, gasoline balanced in volatility to meet the needs of changing seasons represents another important application of science to industry. We take it for granted today; but perhaps we can appreciate it better if we look back about 20 years. In that era, for example, the gasoline sold in Duluth in midwinter did not differ in starting volatility or warmup characteristics from that sold in midsummer in St. Louis.

Today motorists, wherever they live, can expect these volatility characteristics to be *balanced*, with this result: the engines of their cars respond promptly and function efficiently on cold winter mornings. They can also expect their engines to be free from vapor lock troubles on hot summer days. They can credit seasonally balanced gasoline for these improved conditions.

After blending, we must improve the odor of the gasoline

by a process called *sweetening*. In so doing, we convert ill-smelling sulfur compounds to obtain what in refinery language is known as a *sweet* product. We improve the odor of some gasoline stocks in our *continuous doctor sweetening* plant. Other means of sweetening are also used.

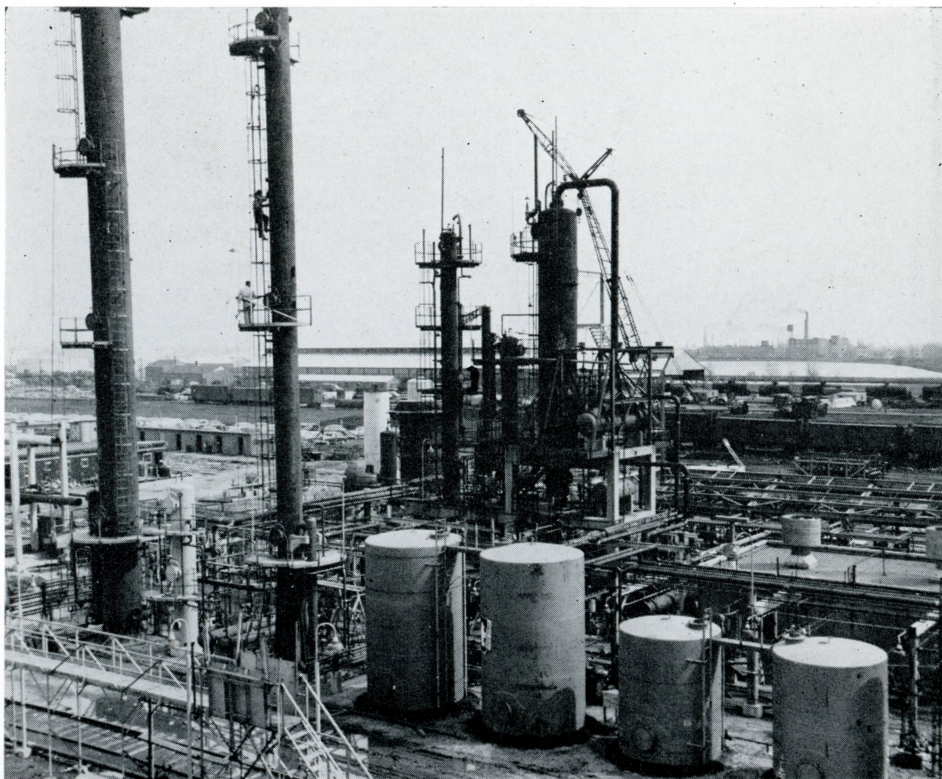
Polymerization Combines Molecules

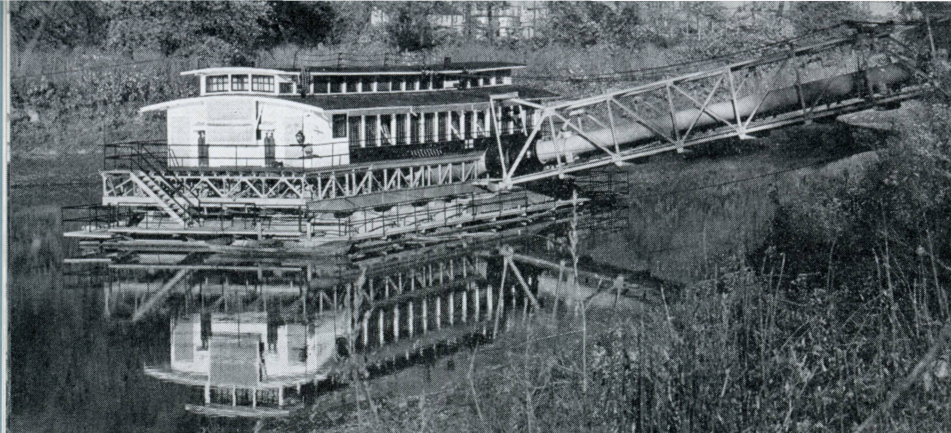
Light components, produced at the catalytic and thermal cracking units and separated at the vapor recovery units, are used as feed stock for the *polybutene* and *alkylation* units.

Here again we use catalysts, this time to assist in combining the molecules with each other. At the polybutene unit we produce a viscous (thick) *polymer*, a product formed when many lighter molecules are joined. This polymer is used in the manufacture of detergent additives for motor oil and by the manufacturers of adhesives in the making of pressure sensitive cellulose tape.

Produced at the alkylation unit are gasoline molecules of

Construction means progress. This view of our isooctyl alcohol unit under construction was taken from a tank roof looking southeast.





The refinery's water supply is pumped from this floating pump house, which rises and settles according to the changing level of the river. Greatest rise ever recorded: 40 feet. (Torkel Korling photo)

high-octane number. As most motorists know, high-octane gasoline is important to the efficient operation of today's high-compression automobile and airplane engines.

Hydroforming Also Upgrades Gasoline

Another process, known as *hydroforming*, also improves the octane number of gasoline. It exposes the gasoline fractions of crude oil to a special catalyst in the presence of hydrogen at elevated temperature and pressure. Thus fractions are *reformed*. Wood River's new hydroforming unit will employ the *Ultraforming* process, using a special platinum catalyst, which will be regenerated during operation of the unit. Adoption of the regenerating feature, providing continuous attainment of high yields and high-octane numbers, represents another pioneering development at Wood River.

Standard Oil had an important role in the development of the original hydroforming process, which was adapted at its Whiting refinery to produce toluene for World War II munitions. Later it was adapted to produce benzene, an important aromatic chemical.

We Make Lube Oils . . .

Lubricating oil base materials, generally called *lube* stocks, come from another pipe still employing *vacuum distillation* on the heaviest material from the crude unit. These base materials are distillates or fractions representing several oil grades. Because they contain wax and other ingredients detri-

mental to today's engines and machinery, we must remove the undesirable components. We remove the wax in our *propane dewaxing unit* by filtering it as a solid from the refrigerated base materials. This unit represents still another pioneering development, for it was the first of its kind in the country.

Then in our *chlorex extraction unit* we extract the sludge-forming materials and other undesirable ingredients from the dewaxed oil. We thus obtain highly refined oil fractions. Our next step is to blend and compound the refined oil fractions with *additives* to provide the several grades of high-quality motor and lubricating oils with which motorists are familiar.

Additives prolong engine life. They inhibit corrosion and provide a detergent (cleansing) action on the working parts. We make a corrosion-inhibiting additive in our *dipentene plant* and detergent additives in our *sulfurizing plant* and *SA-52 plant*. One of Wood River's newest units, the SA-52 plant more than doubles the refinery's previous output of detergent additives. The combined additives markedly improve the quality of motor oil.

Standard Oil ranks as one of the principal manufacturers of lubricating oil additives in the United States — and Wood River produces most of the Company's output. Wood River also produces STA-CLEAN, an additive used in the manufacture of furnace oil at all the Company's refineries.

... and Asphalts

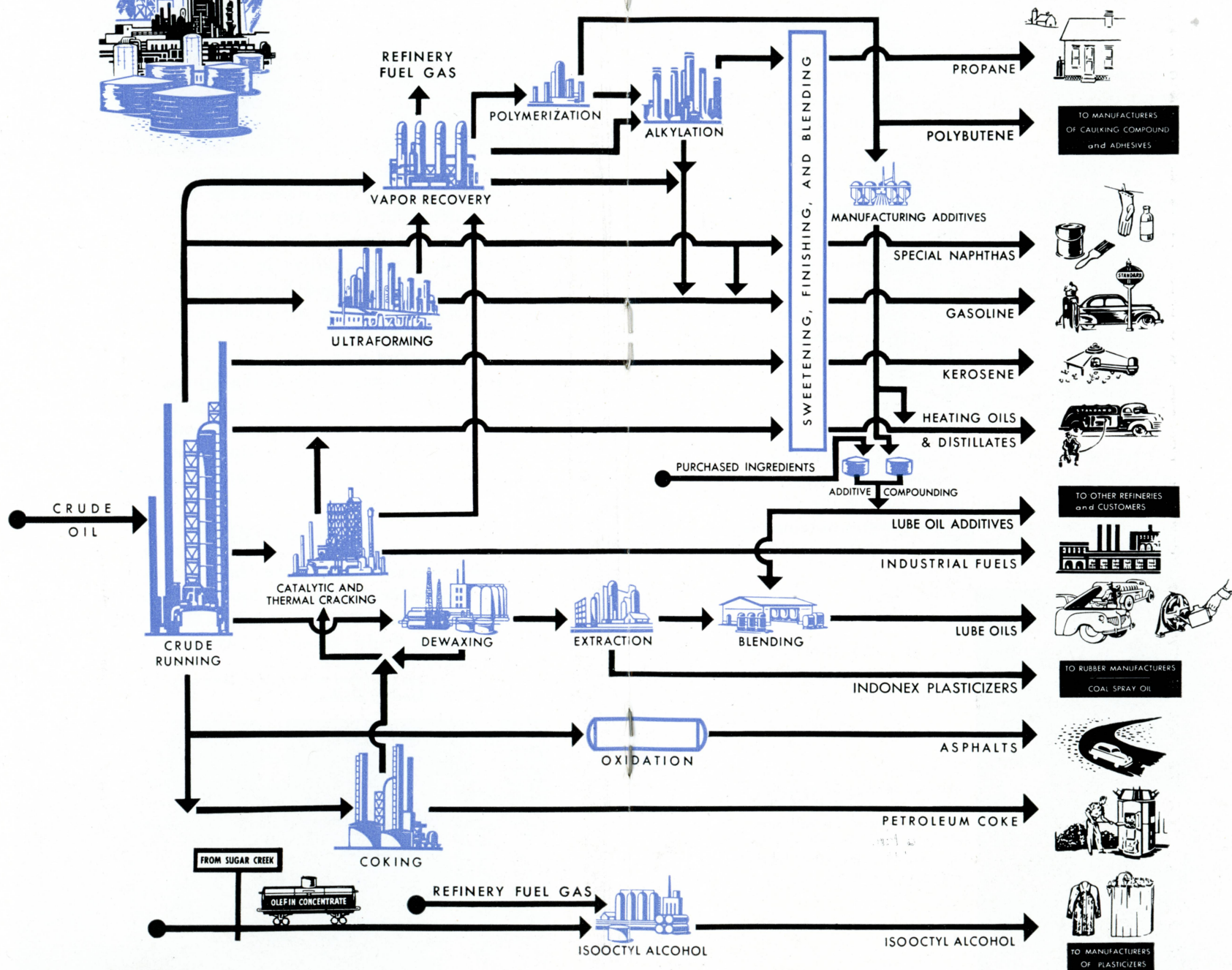
The heaviest liquid, which we draw from the bottom of the vacuum still bubble tower or the last shell still of the batteries, is processed further to produce asphalt. Other residuums may

Cartons are filled with asphalt, then closed, sealed, and moved to a loading platform.



SIMPLIFIED FLOW CHART

WOOD RIVER REFINERY



be marketed as fuel oil or charged directly to the coke stills.

We make asphalts by subjecting the bubble tower bottoms to partial oxidation with air in the presence of steam. Through this process we convert the residuum to high melting point plastic solids, which we sell as such or as liquids after dissolving the solids in light hydrocarbons. We ship the greatest volume of these products to customers in railroad tank cars and transport tank trucks; we package the remainder at the refinery in cartons, drums, and barrels before shipping them in dray van trucks and box cars.

Most of our asphalt output is used for paving and roofing.

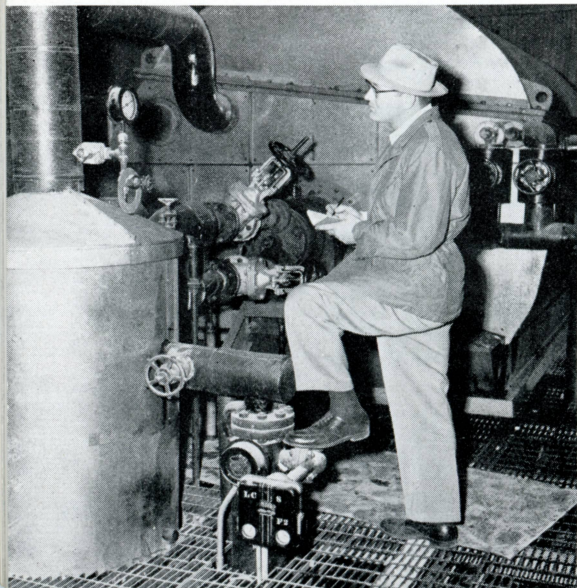
Oxo Plant Produces Petrochemicals

Wood River's new *isooctyl alcohol plant*, generally referred to as the *oxo plant*, was built to meet the ever-increasing demand for chemicals from petroleum.

One important use of isooctyl alcohols is in the manufacture of plasticizers for vinyl-type resins. Such resins are used in many kinds of products, from raincoats and shower curtains to floor tile.

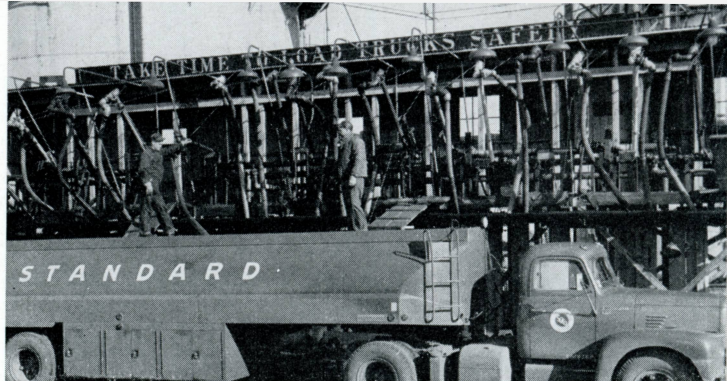
Cooling System

Wood River's spray pond is not part of a landscape architect's plan for beautifying the refinery area. Rather, it is a huge reservoir, providing a cooling system for the processing operations of some units by recirculating water obtained from the river. Other units employ water directly from the river.

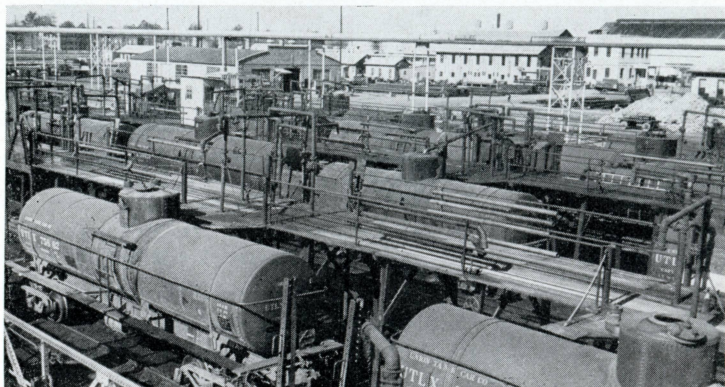


A chemical engineer notes instrument reading in the STAN-ADD unit, popularly called the SA-52 plant. The unit produces a large percentage of the total U. S. output of lubricating oil additives.

**Motor
transport trucks**
.....



.....
**railroad
tank cars**
.....



.....
and barges
haul Wood River
refinery's products
to market.

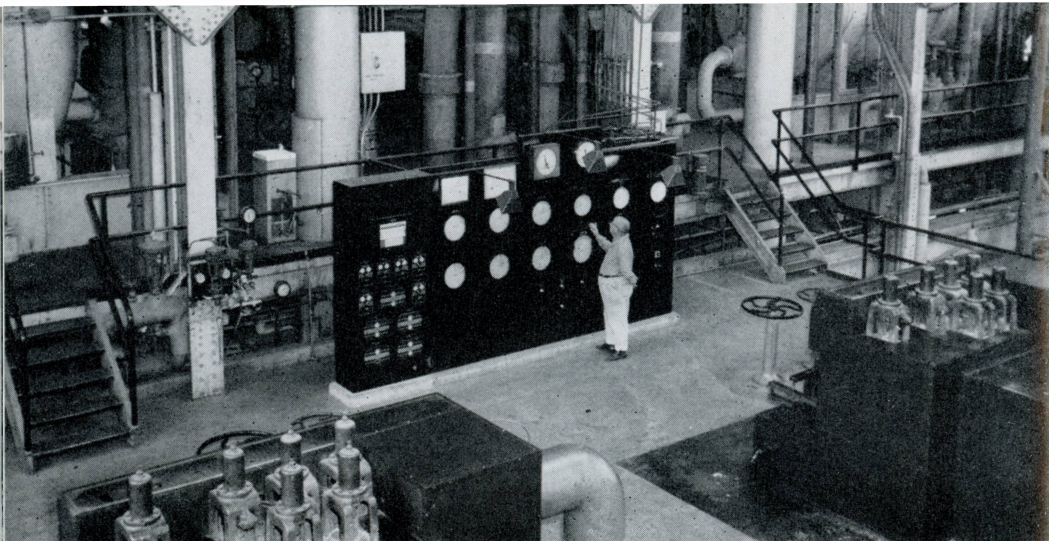


In summer, when river water temperature sometimes registers as high as 90 degrees F., a few units requiring cool water — no warmer than 65 degrees F. — draw on the refinery's third water system, its wells.

To Market

We ship our products to market by motor truck, railroad tank and box car, and river barge.

Railroad tank cars and transport tank trucks are filled with



Employee checks instrument readings on the control board in our turbine room. Here we generate electricity for refining processes and illumination for the entire refinery. Exhaust steam from the turbines provides heat for refinery units.

liquid products from overhead facilities at loading platforms. At other platforms we load canned oil, barrels of lubricating oil, and drums and cartons of asphalt into railroad box cars and dray van trucks.

We load barges at two floating docks on the river. Propelled by a towboat, the *Stanolind "A"*, six barges in one trip can carry more than one day's output from the refinery to terminals on the Mississippi, Illinois, or Ohio rivers or the Chicago Sanitary and Ship canal. The Company owns terminals at Bettendorf, Ia., North Pekin (near Peoria), Ill., Cape Girardeau, Mo., and Evansville, Ind. It leases tankage facilities at St. Louis, Quincy, and Chicago. To reach Bettendorf, our northernmost river terminal, the *Stanolind "A"* pushes its cargo upstream through 11 of the Mississippi river's 27 locks.

Laboratories

Much as today's strains of wheat have been made into stronger and better varieties through science, so the products of our complex refining units have been improved through long years of research.

A large-scale, highly organized activity, research is one of

the most important ways of providing more and better petroleum products for more and more people. The center of all our research activities is the research laboratory near our Whiting refinery. We also have laboratories at each of our other refineries.

Wood River's laboratory building provides modern facilities for chemists, chemical engineers, and technicians, who work on many projects. Some develop new and improved products and processes; others work with refinery groups on projects aimed at increasing the operating efficiency of the refinery; and still others test components and products for quality.

Equipment

Engineers Build and Mechanical Crews Maintain It . . .

A refinery never stops growing or being improved, if it is to meet the demand for more and better products. At Wood River one indication of growth is the fact that capacity to process more than 48,000 barrels of crude oil daily is about six and one-half times the average number of barrels processed daily in 1909, the refinery's first full year of operation.

Supervising the building of equipment, our engineering division cooperates closely with other groups. It prepares or approves the engineering design for new units and those to be remodeled or repaired. Its members are always consulted

In a well equipped first aid hospital employees receive prompt treatment for injuries.



about operating and safety problems of an engineering nature. They are responsible for inspection of all refinery equipment.

Our mechanical crews are responsible for efficient maintenance of equipment and construction of improvements.

...and Turbines Supply Energy for It

Giant turbines in our power station generate the electricity for operating our equipment.

Lines from the station also carry thousands of pounds per hour of high pressure steam to processing units. We convert nearly two million gallons of Mississippi river water into steam every day.

We generate enough electricity for refinery units in a 24-hour day to supply the requirements of a non-industrial area the size of Wood River township.

Accident Prevention

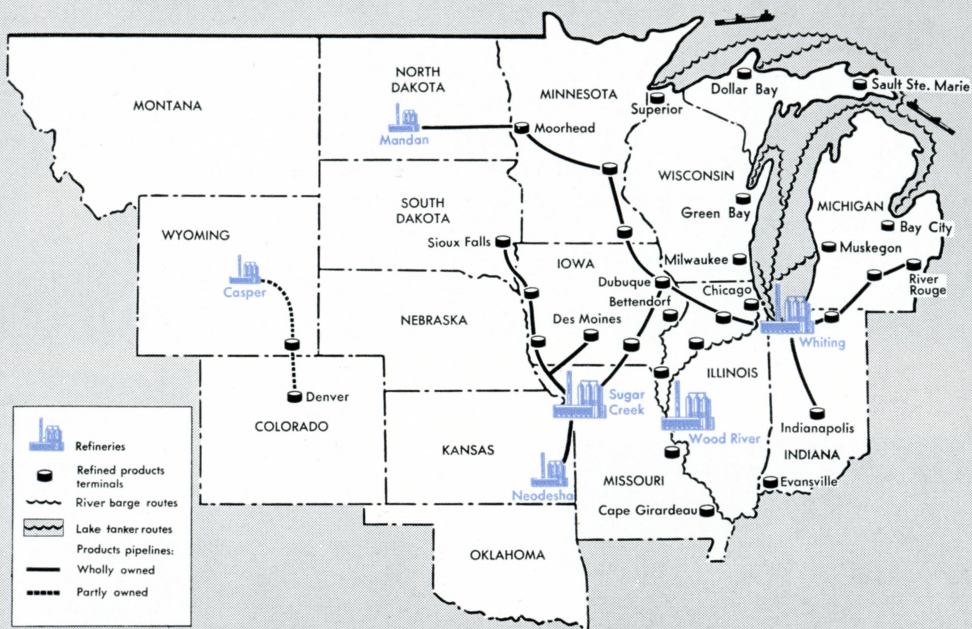
Safe practices for our employees are always our primary concern.

In 1942 Wood River set a world's record in the petroleum industry for number of man hours worked without a disabling injury, a record that stood until February 10, 1954.

We know from statistics kept in the safety section of our

Refinery foremen hold regular meetings with the supervisor of safety to discuss accident prevention and health preservation on the job.





Map of the 15 states in which Standard Oil Company markets its products, showing the location of the Company's six refineries, river barge lines, lake tanker routes, products pipelines (wholly and partly owned), river terminals (some wholly owned and others providing leased tankage facilities), and Company owned lake and pipeline terminals.

industrial relations department that employees are safer on the job than at home, on the highway, or elsewhere.

We continually teach and remind employees, individually and in groups, of their responsibility for *preventing accidents* and *preserving health*.

Contributing to employees' outstanding safety records is the staff of the refinery hospital. Here first aid is given promptly, even when an injury appears trifling. Minor injuries are therefore not given a chance to become disabling.

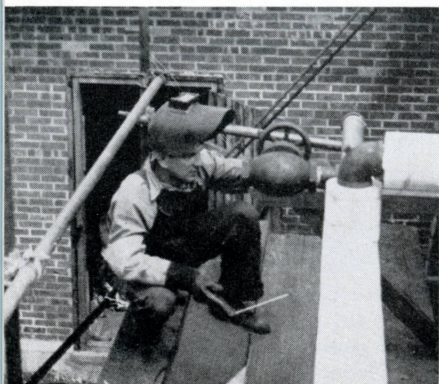
Employees

We're Many People with Many Kinds of Jobs . . .

Visitors usually are impressed by the fact that, except for the large groups of employees in offices and laboratories, they see



Representative of the men and women of Wood River are these: . . . general superintendent, manager, assistant general superintendents, and secretary . . .



. . . a welder, at work on our motor oil additive plant . . .



. . . a technician, determining octane rating of motor fuel . . .

comparatively few elsewhere in the refinery until shifts change. The reason: more than half of our employees work at scattered locations in the plant.

At the cat cracker, our largest unit, we need only eight men on any of the three shifts. Automatic instruments largely control operations.

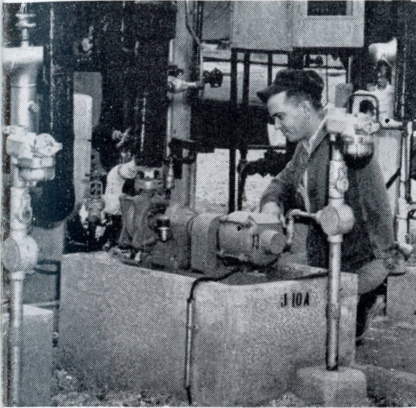
Skills of refinery employees are increased by Company-sponsored training programs, such as apprentice training for mechanical craftsmen, special training for operators of new equipment, and regularly scheduled conferences for supervisors.

Employees are eligible to participate in the Company's retirement, savings and stock bonus, group life insurance, vacation, and hospitalization and surgical operation plans, and

... a teletype machine operator ...



... an oxo plant employee, checking operation of pump ...



... and an operator at the motor oil additive plant.

Changing shifts.



other employee benefits, according to their length of service. The Company's benefit plans program is one of the most liberal in all industry.

Long periods of service are the rule rather than the ex-

ception at Wood River. A recent look at the refinery's employee records shows that more than 800 have been in Standard Oil employ 10 years or longer, nearly 250 have been employed 30 years or more, and 12 have been with the Company more than 40 years.

... and We Have Many Community Interests

We are proud that our employees are active in the affairs of the communities in which they live.

If visitors could linger a while after a refinery tour to observe employees in off-duty hours, they would learn that many Standard Oilers are church and civic leaders in the city of Wood River and in neighboring towns and cities.

Retired employees, who have formed an Annuitants' club, are also active in civic improvement projects at Wood River. They meet regularly in the Roundhouse, recreation building that Standard Oil gave to the community with a swimming pool in 1926.

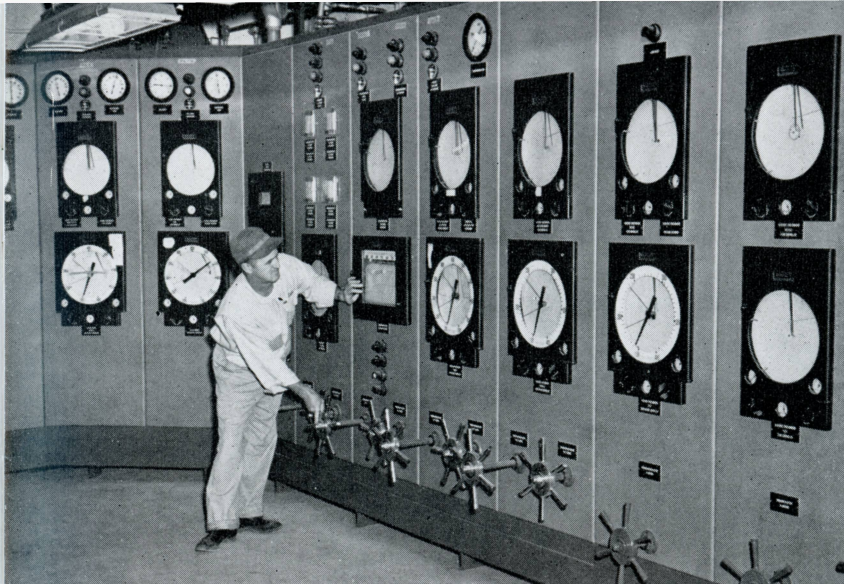
The Company has made some of its property available to the city of Wood River as a playground.

America's Needs Make Us Grow

It is the needs of you who read this book and of people like you in other communities that have made it necessary to in-

Standard Oil gave this swimming pool and recreation building (in background), known as the Roundhouse, to Wood River, Ill., in 1926.





Refining operations are controlled chiefly by automatic instruments. Here is the control room of a unit, showing the instrument boards, which process men watch closely.

crease the production of refineries continually throughout the nation. Today refinery capacity is about 50 per cent greater than it was a decade ago.

Visitors can readily see that the equipment in an oil refinery is costly to build and maintain. Much of it is gigantic in size, intricate in design, and operated 24 hours a day.

The investment of 117,800 share owners, about one-fifth



of them employees, has made possible the oil properties, pipelines, refineries, bulk stations, typewriters, trucks, buildings, and everything else that almost 51,000 employees of the parent company and subsidiaries use to carry on their work. Two-thirds of consolidated profits have been plowed back into the business in recent years, so that invested capital averaged \$36,200 behind each of these employees at the beginning of 1954. This is a large investment compared with the average for industry as a whole; but it is fairly typical of the petroleum industry.

The petroleum industry's progress contributes to the nation's progress. It helps keep our country's standard of living the highest in the world, for oil and natural gas provide more than half the energy used for all heat and power requirements.

If you have received this book as a visitor, we hope you have found its summary of operations and its story of Wood River refinery's growth helpful in crystallizing impressions of your tour.

If you have not yet visited us, we hope you have gained from the book an impression of what we are doing at Wood River to serve America's needs. We hope, too, that some day you will come to see for yourselves why visitors find a tour through Wood River a memorable experience.

Refinery manager presents a watch to a veteran, a token of recognition given to every employee who has completed 30 years of service at time of retirement.



Products

Shipped from Wood River Refinery

GASOLINES

STANDARD
WHITE CROWN

STANDARD
RED CROWN

STANDARD
Aviation

MOTOR OILS

SUPER
PERMALUBE
PERMALUBE

ISO-VIS
STANOLUBE
HD-M

STANOLUBE HL-A
STANOLUBE S-1
STANOLUBE HD

OTHER LUBRICATING OILS

STANDARD HD
Oil
STANOIL
Industrial Oils
STANOGAS Engine
Oil

Railway Diesel
Lubricating Oils
Solvent Neutral Oils

SUPERLA Mine
Lubricants
Miscellaneous
Industrial &
Automotive
Lubricating Oils

NAPHTHAS

STANOLIND Stove
& Lighting
Rubber Solvent

V M & P
(Varnish Makers' & Painters')

STANISOL
Oleum Spirits
Mineral Spirits

DISTILLATE FUELS

FORTNITE
Longtime
Burner Oil
PERFECTION
Kerosene
STANDARD
Heater Oil

Propane (LPG)
STANDARD
Power Fuel
Industrial Diesel
Fuel
STANOLIND
Diesel Fuel

C. T. Diesel Fuel
STANDARD
Diesel Fuel
STANDARD
Furnace Oil, with
STA-CLEAN
Special Fuel

RESIDUAL FUELS

No. 200 Industrial Fuel

Industrial "C" Fuel

SPECIAL PRODUCTS

Coal Spray Oils
Lube Oil Additives
Furnace Oil Additive
ACA Roll Oil

SYNTHOLUBE
(synthetic oil)
Isooctyl Alcohol

INDOPOL
Polybutenes
INDONEX
Plasticizers

ASPHALT

Cutback Asphalts
Fluxing Asphalts
Road Oils
KORITES
PAROLITES

STANOLIND
Paving Asphalts
Saturating Asphalts
Paving Filler

STANOLIND Wood
& Tie Treating
Liquid Asphalt
Roofers' Fluxing
Asphaltum



Industry Diversified in Wood River Area

Illinois' Wood River area is a region of diversified industry. Among the city's nearest industrialized neighbors are Alton, East Alton, Edwardsville, Hartford, and Roxana.

Within view of Standard's Wood River refinery are two refineries of competitive oil companies. In other nearby cities and towns there are many factories. Output ranges from box board and cartridges to glass and steel. Much of it is shipped to world markets.

More Standard Oil employees live in the historic Wood River-Alton section than in all the other communities combined. Alton's population is more than 32,000; Wood River has more than 11,000 residents.

Here, about 150 years ago, members of the Lewis and Clark expedition spent a winter. They encamped near the mouth of Wood River, Mississippi tributary, to gird for their trip into the unexplored west. A memorial plaque placed by the Illinois Historical Society marks the site today.

Where now there are farms, cities, roads, superhighways, and airports, the explorers found wilderness; where today a dredged waterway carries ships and barges, an unharmed, unspanned river slowed their progress.

Today seven bridges span the great river at strategic points in this area. One bridge spans its largest tributary, the Missouri, west of Alton. Hundreds of tons of automotive transport cross these bridges daily. Two are named for the historic expedition's leaders. The Lewis bridge crosses the Missouri; the Clark spans the Mississippi.

A series of 27 locks and 26 dams helps control the Mississippi's level. The Chain of Rocks lock, less than 20 miles south of Alton, and the lock at Alton are the only ones in the series through which traffic flows the year 'round.

Diversified industry and excellent water, rail, highway, and air shipping facilities have joined forces uniquely in this area. They give stability to its economy.

