SHELL NEWS

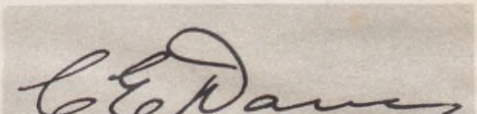
JULY—AUGUST
1941

An Interesting Feature . . . . . Page 16
SHELL MAKES HEADLINES IN THE MID-CONTINENT

With a Wistaria vine as a neighbor, Old Glory and the safety flag ripple in the breeze at Shell Pipe Line's Brookshire, Texas, station.

$3.00

THE OIL INDUSTRY IS READY



Manager, Manufacturing Department

THIS INDUSTRY OF OURS stands in a unique position with respect to the defense of our nation. It is ready and completely able to supply the greatly increased requirements of defense agencies with scarcely a ripple in the functions of the industry as a whole.

The only serious problem under emergency conditions arises from a shortage of transportation facilities needed to supply the markets of the eastern seaboard. This shortage has resulted from the transfer of tankers to Great Britain by the government, but plans are already under way to relieve this situation.

An aggressive exploration policy has led to a steady increase in crude oil reserves over the past few years with the result that an adequate supply of raw material is immediately available from Nature's underground storage whenever the demand occurs. Many new oil fields have been discovered and left virtually untouched in the interest of conservation, and these reservoirs will scarcely be disturbed by the increased demand from the defense efforts of the nation.

The art of refining has more than kept pace with the technological developments in the field of consumption, and improved products and countless new derivatives are being offered each year by the oil industry. The importance attached to blending agents—such as alkylate, iso-octane, etc., used in aviation gasoline, and other highly publicized commodities—oftentimes obscures the significant development of entirely new products such as solvents, plastic agents, and others that either directly or indirectly make for better living.

Although the United States owns something like ten percent, or less, of the fighting planes in the world, our oil industry now can produce over seventy percent of the world's supply of 100-octane aviation gasoline, with a further potential supply virtually unlimited.

Shell was the first to produce 100-octane aviation gasoline commercially, in 1935, and has since made constant improvements in plants and processes. Today it is in a very strong position with respect to the supply of this important fuel.

The development and installation of Shell processes for the production of Toluene (for explosives) and Butadiene (for artificial rubber) have opened the way for vastly increased production of commodities essential for national defense. The potential supply of these products also seems almost unlimited.

We in Shell can rightfully be proud of our outstanding collective contributions toward the preparedness of the industry—a preparedness that is a key factor in the program of national defense.

IN THE SHELLIMELIGHT

WHILE IT HAS ALWAYS been customary to devote the Shellimelight to some member or members of our immediate Shell family, it is felt that this month an exception is justified in order to honor the son of a Shell employee, Harry R. Pelikan, whose father, Harry J. Pelikan, is draftsman in the St. Louis Division. This is done because of a letter written by Harry R. Pelikan to President Roosevelt—a letter which kept the country's best newsmen in tense silence when it was read to them by the President, and which later received nation-wide publicity through both the press and radio. This letter read as follows:

"Dear President Roosevelt:

"I am a married man, 28 years old; a boy 3, a girl 1.

"Here's how I feel about being an American.

"My ancestors were Czechoslovakians, my wife's English; but we're Americans.

"I look at my refrigerator, my oil heater, and my radio.

"I'm glad I'm an American.

"My children get cod liver oil, nourishing food, and a doctor's watchful care. They'll be glad they're Americans.

"This morning I went to church. Amongst my neighbors, unafraid and unmolested, I thanked God for giving us America.

"I went home to my wife and kiddies. My little boy Douglas, came running and said, 'Hi, pop. You gonna take me to see the ribber?' And I said, 'Sure, Doug, I'll take you to see the river.'

" 'And we'll stand on the bridge, and see the cars, Pop?'

" 'Sure, Doug!'

" 'Pop, see the sun. Look see Pop. It shines in the car's window.'

" 'Yes, Doug, the sun's shining on all America.'

"After our walk, we came home, and sat down to veal chops, baked potatoes, fresh green beans and corn on the cob. I said grace with tears in my eyes. I'm so happy I'm an American.

"This afternoon, we listened to a radio broadcast of British children here in America, talking to their parents in England, and I was proud to be an American.

"Tomorrow, I'll go to work. I work in an electrotype foundry and I love my job. I made it, in fact, from errand boy to production manager in two years. I had ideas and I told the boss about them. He's an American.

"Tonight, before going to bed, I told my wife, 'Honey, I'm going to buy a large flag and hang it out the window Friday. The President wants everyone to pledge allegiance to a new and united America. And I'm going to do my part, because I'd rather be an American than anything else on earth.' "

(*Signed*) HARRY R. PELIKAN

THE ECONOMIC POSITION OF THE INDUSTRY

As the industry turns the corner into the second half of the year, it can look back happily at the substantial gains registered and, despite the many difficult problems which must be faced, looks hopefully ahead to the challenge of tomorrow.

The crude oil price increase of approximately six cents per barrel which became effective April 1, did not adequately reflect the continued strength of the crude oil and products markets, and for that reason was followed by a ten-cent increase on May 19 throughout most of the area east of the Rockies. Since the recent price rise the crude price structure has remained firm, as supply and demand have been well in balance except in a very few isolated cases. The allowables of the producing states have been substantially in line with Bureau of Mines estimates of requirements.

Motor fuel consumption during the first six months attained record levels, exceeding consumption during the corresponding period of 1940 by more than ten percent. As a result of this demand and the improved inventory position (now 5,000,000 barrels below last year), there has been some improvement over the unsatisfactory price level which prevailed at the beginning of the year.

In tune with the increased tempo of industrial production, there has been a steady improvement in demand and prices for residual fuel oils, both coastal and inland.

The demand for lubricating oils has been especially good as a result of the greater motor fuel consumption and increased industrial

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After watching Warren Curry of the Cleveland Division office, no one could help agreeing that to be a mail clerk requires real technique. Here we see Warren operating the postage meter machine which stamps and seals Cleveland Division office's vast quantity of mail.

The precision with which "Piccolo Pete" Gilliam of Houston Refinery handles his crane is typical of the skill required on many refinery jobs.

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production. Exports, however, have shown a marked reduction below last year's figure.

Looking at the distillate fuel position, we find that inventories are approximately 4,000,000 barrels, or twelve percent above last year. This would normally be considered quite satisfactory as the high rate of burner installations thus far in 1941 presage increased consumption during the forthcoming winter. As an offset to these new installations, however, a program is now afoot to encourage fuel economy through improved combustion technique in order to minimize tanker requirements for East Coast service. At this juncture it would be premature to predict the new effect of these various forces on consumptive demand.

As to the outlook for the ensuing six months, demand indications are quite good and the statistical position better than for some time past. However, because of the recent transfer of fifty tankers from normal service between the Gulf and the Eastern Seaboard — as a means of implementing our "Aid to Britain" program—a shortage of tankers has developed which may become more serious during the fall and winter months when transportation demands are usually at a peak. This transfer of tankers followed an earlier transfer of other units to United States Navy service.

In order to minimize the expected shortage, the industry has already taken steps to supply the East Coast by devious means involving a considerable increase in transportation expense above the costs necessary if tankers were available. An investigation is now proceeding in collaboration with the newly designated Federal petroleum coordinator to develop an industry program designed to meet the situation. The construction of new tankers at a greatly accelerated rate, new crude and products pipe lines from Texas and other Southwestern points to the Eastern Seaboard, and other projects are under consideration—all of which involve very substantial capital outlays.

The industry is keenly alert to its responsibility to serve the normal needs of the great consuming public and expects that measures will be taken to minimize public inconvenience. The transfer of tankers has been adopted with the full cooperation of the industry as a contribution to the National Defense Program, in which petroleum and its derivatives play such a significant part.

J. L. Dunham, pipefitter at Houston Refinery, has a unique hobby—making flounder gigs. Flounders, a flat fish, are caught by spearing after they bed down at night. The best of fishermen, however, often mistake stingarees for flounders, with the result that they are injured by the stingarees' barbed tails. Now that's where Dunham's gig comes in. With this device the fisherman can spear and pick up the fish without touching the water with his hands. Dunham makes these gigs at his home and has sold hundreds of them at two dollars each.

Joe Peistrup, at the helm of Chicago Division's alphabetical tabulating printer. With a volume of over 100,000 sales and stock cards, this machine handles more than a million cards per month in making the various runs required. Joe says he's been working with "tab" equipment for eleven years—and is still learning!

Those who received emblems at Atlanta. From left: J. S. Harris, Area Manager, New Orleans; J. M. Kruse, Operations Manager, Atlanta; C. H. Pattie, Area Manager, Mobile; W. H. Bradford; W. H. Bryant, Cashier, Atlanta; Sidney Goldin, Retail Merchandising Representative; C. A. MacDonald, Area Manager, Miami.

ATLANTA DIVISION EMPLOYEES RECEIVE SERVICE EMBLEMS

At a recent divisional sales meeting in Atlanta, service emblems were presented to Atlanta Division employees having ten, fifteen or twenty years of service — and, as these pictures show, the occasion was a happy one. Those employees having this amount of service to their credit and who were not able to attend the Atlanta meeting were presented their emblems individually by their local managers.

A special place of honor was given to Sydney Gervin, Field Manager in Alabama — not because of his length of service but because this meeting also served as an official welcome to him, as he was recently transferred from Boston Division.

Because of his twenty years of service, W. H. "Big Bill" Bradford, Fuel Oil Representative at Jacksonville, Florida, (middle) was guest of honor—and apparently enjoyed the congratulations by Division Manager W. H. Eaton (right) and the good wishes of Assistant Manager J. C. Munro.

SEAKAY

PETROLEUM . . .

MEETS A CRISIS

by Robert Pearson

When the United States Government recently called upon the oil industry to sacrifice its private interests for the sake of National Defense, the entire industry responded with a willingness and a unity of effort that called forth the highest praise from the nation's press. The usual intense competition between companies temporarily forgotten in a common eagerness to serve the armed forces and to cooperate in the country's policy of aid to Britain, the industry turned over approximately one-fourth of its Atlantic Coast tanker fleet.

Although this meant that the petroleum companies would be temporarily unable to supply fully the demand for oil on the Atlantic Coast, and consequently would suffer losses of business and profits, they relinquished the ships gladly, indeed proudly. Among those to go into defense service were many ships which had carried Shell Products.

Before the ships were assigned to the Government, tankers delivered to the Atlantic Coast every day nearly 59 million gallons of oil, of which 83 per cent came from the Gulf Coast. This huge quantity was divided somewhat as follows:

23,100,000 gallons of crude oil bound for Eastern refineries; 16,800,000 gallons of fuel

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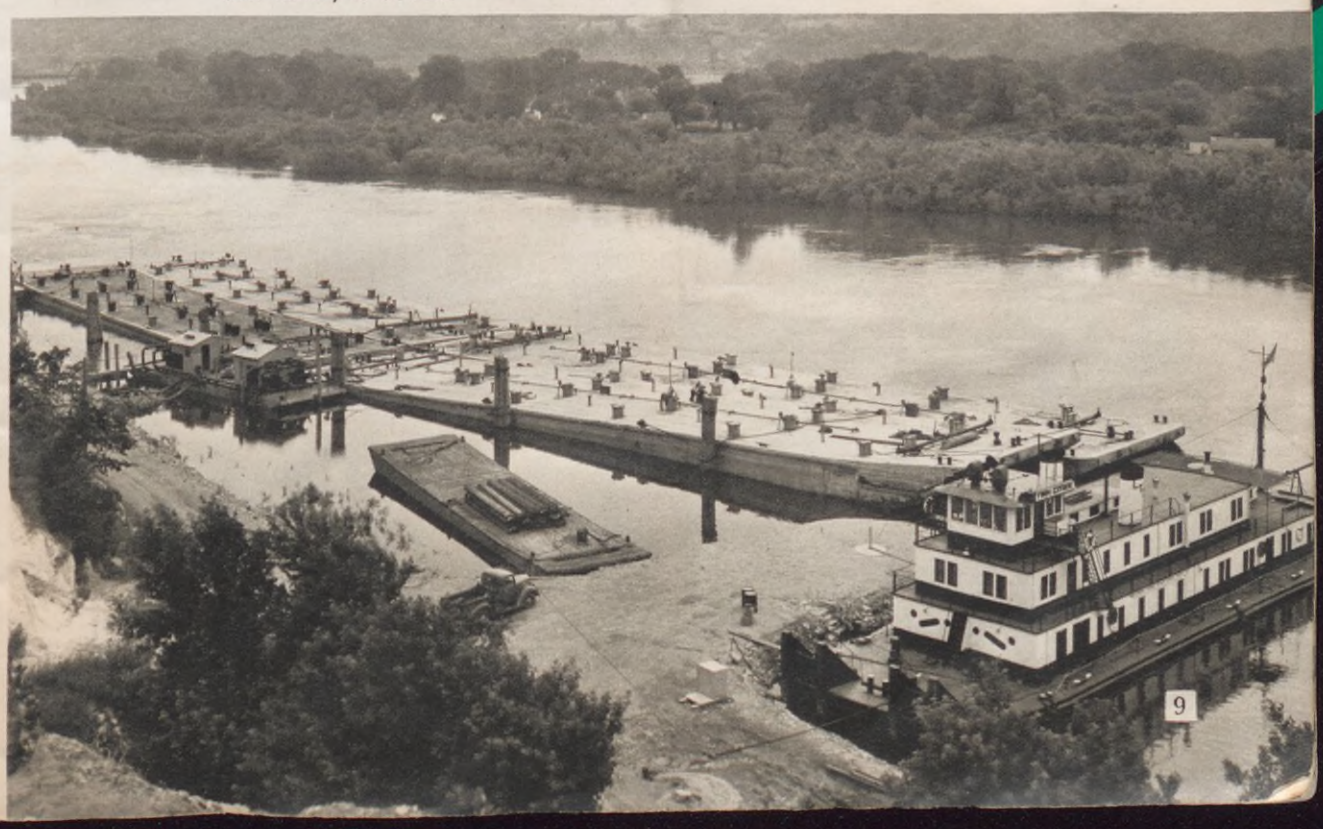
The *Seakay* (facing page) made the 2,100-mile trip from Shell's Houston refinery to New York, with 150,000 barrels, in five days. This ship, now in the service of the U. S. Navy, has been renamed the *U. S. S. Santee*. Below is shown the towboat *Twin Cities* tied up at Shell's St. Paul, Minnesota marine terminal. The barges, at the left of the towboat, carry 15,000 barrels apiece and require one week to travel 650 miles from Shell's Wood River refinery to St. Paul.



The East Coast used to be served almost entirely by tankers. Now it is necessary to take the roundabout route up the Mississippi and through the Great Lakes and the New York Barge Canal. But the best substitute transportation method will be by the proposed pipelines shown here, which are under consideration.

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oil, both industrial and domestic; 14,700,000 gallons of gasoline; 3,150,000 gallons of kerosene—plus smaller quantities of lubricants and other products. About 260 tankers in all were engaged in transporting these products to the Eastern Seaboard.

Large as these delivery figures are, the demand for petroleum products in the East will be even greater as this year progresses. Industrial plants working night and day on defense orders are burning more fuel oil. Army trucks and tanks as new users are consuming vast quantities of gasoline and even commercial trucks and cars are constantly busier. Aviation gasoline for the Army and Navy is being ordered by tens of millions of gallons. The great battleships of the Atlantic Fleet are bunkering at points along the coast. So this year a total of nearly 19 billion gallons of oil should be delivered from the Gulf Coast by tankers. At 3,654,000 gallons per voyage, which is the capacity of the average tanker, that means 5,200 loadings during the year, one hundred loadings a week, 14 per day! Even working at top speed, all 260 tankers of the oil industry's fleet could just barely handle the job.

But the fleet no longer consists of 260 tankers! Fifty-nine ships, between one-fifth and one-fourth of the entire fleet, have been turned over to the Government to help assure the security of the nation.

To the Navy went nine tankers, to supply the oil-fueled battle fleets, our rapidly grow-

ing first line of defense. Among others which had been carrying Shell Products, the supertankers *Seakay* and *Markay* were requisitioned. This, however, was no surprise to Shell. Such a move was anticipated even before the keels of the ships were laid, for the *Seakay* and *Markay* were two of a group of tankers designed and built for possible conversion to Navy use. With a foresightedness which has proved indeed fortunate in the light of recent events, the oil companies and the Navy have worked together over the past few years to design tankers such as have never been seen before.

They have a capacity of 150,000 barrels (6,300,000 gallons) of oil, as contrasted with the 87,000-barrel capacity of the average tanker. They have a cruising speed of over 20 knots, nearly twice as fast as the conventional tanker and faster than many crack passenger vessels. Consequently, they complete the round trip from Houston, Texas, to New York in ten to twelve days, while the conventional tanker requires about eighteen days. Not only were all these features built into the new ships to enable them to keep pace with modern warships, but they were even equipped with gun mounts so that they could be converted overnight into armed vessels capable of defending themselves. Huge, streamlined, fast, powerful—they were a great loss to Atlantic Coast tanker traffic, but essential to a Navy whose life-blood is oil.

With the addition of such new ships as might be delivered this year, and by drawing on stocks now in eastern storage, the oil industry might have transported the oil that will be needed on the Atlantic Coast this year, even though nine ships had been given up. But this was only the beginning of the demands on the fleet. On May 1, 1941, the Maritime Commission, in response to the President's call, asked the owners of the tankers to cooperate by allocating 50 tankers to the aid of Britain. The tanker owners responded immediately. These fifty tankers are being used in a "shuttle" service, conveying oil between Caribbean or Gulf Coast ports and United States ports north of Hatteras, where the cargoes are turned over to foreign-flag vessels for the voyage across the Atlantic.

As a result of this transfer of tankers to the Navy and Maritime Commission, the problem of oil transportation became critical. The 59 ships combined had delivered over 12 million gallons of petroleum products to Atlantic Coast ports every day. Thus, more than one-fifth of the total supply was suddenly cut off. One question became uppermost in every oil man's mind: how was the industry to transport the four billion gallons of oil that would have been carried this year by the tankers that were released?

Transportation facilities on this scale can not be provided overnight. A number of additional means of transportation are being discussed, but their realization will take time. Therefore it seems apparent that part of the solution must lie in the partial curtailment of petroleum products being used. Although no critical limit existed, or does exist, on production at the Gulf Coast refineries, there was a definite limit on the amount of products that could be delivered. So the problem, in part, is one of determining where the consumption of oil could best be restricted. It had to be decided which group could do without its product with the least resulting inconveniences or harm—the gasoline users or the fuel oil users. Gasoline, of course, is completely essential in moving the goods which are so vital to America now. Thirty per cent of all gasoline, however, is used for pleasure driving; and, to narrow the calculation still further, seven per cent of all gasoline is used for pleasure driving on Sunday.

Fuel oil, on the other hand, keeps hundreds of thousands of homes and apartments and hospitals warm in the winter. It heats busy mills, arms plants, public utility plants, dairies that supply milk for the babies of the cities. And only by cutting down on pleasure driving could sufficient fuel oil reach the Atlantic Coast in the winter of 1941. If "gasless Sundays" were inaugurated on the eastern seaboard, 308 million gallons of gasoline would be saved. And the tanker space could be devoted to the urgently needed fuel oil—308 million gallons of fuel oil for the homes, arms plants, dairies, public utilities, hospitals. If pleasure driving were further restricted, still more fuel oil could be brought in.

But restriction of this kind is at best highly undesirable. Dependent on selling gasoline are thousands of retailers on the Atlantic Coast. And after the necessary consideration of public welfare, continuing to supply these dealers was the uppermost thought in the managerial minds of Shell and other oil companies.

Shell is already doing something about it.

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Since no single method of transportation can completely replace the tanker, Shell has resorted to several alternative methods. First, it is using a roundabout route from the Gulf Coast to New York involving barges, pipelines, and lake tankers. Second, it is shipping farther than ever by rail. And third, it is eliminating third-grade gasoline.

A typical shipment by the new roundabout route makes the first leg of its journey by barge from New Orleans up the Mississippi River to St. Louis. Thence it is pumped by pipeline either to Chicago or Toledo, and from there it travels by lake tanker to Buffalo. Then it goes again into barges which carry it through the New York Barge Canal to Albany, and sometimes on down the Hudson River to New York City. Not only does this complicated course take 30 days, as contrasted with a week by tanker, but it can relieve only 25 percent of the shortage at best.

Although Shell is also shipping farther by rail than ever before, it is out of the question to expect railroad transportation to relieve the situation materially. Even in normal times it costs ten times as much to ship from Houston to New York by tank car as by tanker; and in addition, there may not be enough tank cars in existence to handle the requirements of the present situation.

By eliminating third-grade gasoline, it is possible to devote still more hauling and storage space to the much-needed fuel oil. In spite of the sacrifice in sales, Shell has adopted this measure to a large extent, and it is more than likely other companies may do the same.

In addition to these measures, furthermore, Shell had already taken several steps in the past two years which render the present situation less severe. Steps which are being recommended to the industry in the light of this transportation crisis are already accomplished facts in Shell's operations. For example, when the present European conflict began, Shell cut down on the number of intercoastal tanker shipments from California to ports on the northern Atlantic Coast. Several months ago, it abandoned such shipments altogether. This move alone freed at least three tankers.

Similarly, other tankers have been freed by measures undertaken by the Company within the last two years. The tanker movements along the Gulf Coast have been largely replaced with barge shipments. Shell is now supplying its Norco refinery entirely by barge, although it was formerly served partially by tanker. A pipeline, nearing completion on the West Coast, will connect the Ventura oil fields with Shell's Wilmington, California, refinery. The tankers which are replaced by this line will in all probability be transferred to the Atlantic Coast to serve in the emergency here. And three more ships were freed when Shell discontinued shipping crude from the Gulf to Montreal, Canada, by tankers, sending it instead by pipeline and lake tanker. Thus, it is easily seen that if Shell had not taken these and similar steps, the present shortage in the Atlantic Coast tanker fleet might be even more serious.

By and large, however, just as the problem is industry-wide, so must be the solution. Already, remedies for the situation in the near future are being rushed with all possible speed. At the request of the President, Congress is hurrying passage of the Cole Bill, which will give either the Government or private companies the right of eminent domain in laying a pipeline all the way from the refining centers of the Gulf to the population centers of the East. The consensus of governmental opinion is that work should be started immediately on a tremendous pipeline project.

The backbone of such a project will probably be a 20-inch line to carry refined products from the Houston-Beaumont district to the New York City area. Costing $70,000,000, it will require about a year to complete, but will deliver nearly 10,000,000 gallons a day. This will release about 35 tankers for other uses. In addition, a similar 20-inch crude line has been suggested to parallel the product line, but as this magazine goes to press it is generally believed that only a single line will be constructed in the near future. The industry is considering building 36 new tankers, all part of a single huge project, to accomplish the same work that the crude oil pipeline would do.

Such a gigantic project must necessarily be undertaken jointly by a group of major oil companies. The companies right now are preparing to throw their energies into the completion of the line in record time. By pooling their finances, experience, and supervisory talents at Government request, they will be able to accomplish what no single company or agency could do alone.

Plantation Pipeline Company, owned jointly by Shell and the Standard Oil interests, might even now be serving the Atlantic Coast with an enormous pipeline in this emergency, had its construction not been blocked. *Business Week* for May 31, 1941, expressed the situation succinctly, as follows:

"The Plantation Pipe Line would run from refineries at Baton Rouge and Norco, Louisiana, to Greensboro, North Carolina. The line could supply the southeastern states . . . releasing six tankers and many barges for other service . . . Plantation (the company sponsored by Shell and Standard) applied to 24 railroads asking for 81 crossing permits. All were refused except the application to one road for one crossing. Despite the President's appeal, the Georgia legislature adjourned without acting on the matter."

The Cole Bill, when passed, will allow the line to be laid without further delay. When it is completed, it will serve several seaboard states which must now be supplied from ocean terminals along the coast.

In addition to the pipelines, new tankers will soon begin to take the place of those turned over to the Government. There are now under construction or contract in American yards approximately 150 tankers. Because of recent developments in tanker construction, their delivery is constantly being speeded up. For example, tankers may now be built separately in sections and then brought together and welded in final form. By this and other comparable improvements in efficiency, a tanker may now be built in 4½ to 5 months' time, compared with nearly twice that long by older methods.

Although the outlook for the future is encouraging, the oil industry does not underestimate the magnitude or importance of its task. When it was called upon by the United States Government to turn over nearly one-fourth of its available ships, it did its part willingly, well aware of the sacrifice involved, but confident of its ability to meet any emergency. The emergency is now here. And, in spite of countless worries and stumbling blocks, the industry is confident that it can do the job.

Some sacrifices will have to be made by users of oil and retailers of petroleum products during the next few months. But such a condition will be purely temporary. There is plenty of oil, and Shell and the other companies are making heroic efforts to continue to serve their dealers and commercial accounts. New tankers are on the ways, and new pipelines are under construction. With the oil companies working side by side with the Government, functioning as an integrated industry in this crisis, the oil *will get through.*

This little fingerprinting scene between operator M. R. Shumard and Paul Thomas, cashier at the Utica, New York, depot, will bring back memories of the identification procedure which practically all employees throughout the Company have already experienced. There are only a few locations where employees have not yet been reached.

Minneapolis Division office recently set about to remodel its quarters, giving special thought to improvement in lighting, ventilation, and the general convenience and comfort of employees. This partial view of the office shows the orderliness which now exists.

PLANT DAY AT NORCO REFINERY

The band concert enjoyed its share of popularity.

The employees of Norco Refinery with their families and friends recently celebrated en masse the refinery's twentieth annual Plant Day. It was, as usual, a gala occasion with a merry-go-round for the youngsters, contests of all kinds for grown-ups and children alike, and sports of every description, including tennis, horseshoes, ping-pong, skeet shooting, golf, archery, bait casting, and baseball. A band concert, dancing, prizes and food were also features of the day's program which was supervised by Fred Rathjen, chairman of a committee of diligent workers.

Norco's first Plant Day was held in May 1922 in commemoration of the refinery's opening in May 1920. Each succeeding year this anniversary has been celebrated—at first on a rather small scale with social gatherings in the evening, but gradually becoming more elaborate until now it is an event beginning early in the morning and lasting until shortly after midnight.

For getting together, there's nothing like a good ole' Plant Day!

. . . and was the food delicious!

The engineering baseball team—but the game was rained out.

P. E. Foster rides to the umpire's stand to call 'em—chauffeured by "Dusty" Rhoads.

Ed Logan, winner of the horseshoe singles, shows how he did it.

Waiting their turn on the "flying horses."

The fancy steps of this quintet pleased the audience.

SHELL

MAKES HEADLINES IN THE MID-CONTINENT

by B. R. Carney*

Oklahoma's first oil well. This well, completed in 1897 and located on the bank of the Caney River at Bartlesville, produced one barrel a day.

THIS IS NOT A HISTORY—although a very interesting and creditable one could be written about Shell's achievements in the Mid-Continent. Here in Shell's oldest and yet most youthful production area, Shell men prefer to think of the present and plan for the future rather than reminisce about the booms of the past. Are new pools difficult to locate? Then better and more precise exploration methods will find them. Do small fields and low allowables seem to invoke the economic law of diminishing returns? Then reduced drilling costs and more efficient operation will restore the economic balance so that final results are "in the black". Do the vagaries of an unpredictable market seem to preclude economic recovery of natural gasoline? Then natural gasoline plants must be more closely integrated with other operations. Such is the spirit of Shell's organization in the Mid-Continent.

The Area includes: Oklahoma — still the third largest oil producing State in the Union; Kansas — with developed potential so great that one day's wide open production of all its wells could yield a full month's allowable; the Texas Panhandle—a vast empire of oil and gas; and North Central Texas—where modern exploration methods are discovering great new reserves that escaped the attention of the more picturesque but less scientific operators of earlier "Boom Town" days. Besides these active regions it includes Missouri, Iowa, Nebraska, Minnesota and the Dakotas.

In this Area are found the oldest known oil-producing strata in the world, and geologists say that their age is from 200 million to 400 million years. The excellent refining properties of most of the Mid-Continent crude oils and their suitability for producing a varied line of fine products are thought to be associated with this great age.

*Manager, Gas-Gasoline Division, Mid-Continent Area.

Here you will find some 1400 Shell employees operating 2300 oil wells, 55 gas wells, and nine gasoline plants. Besides the actual field operations there is the continued exploration and land campaign aimed at maintaining and improving Shell's position in this important section. During 1940 these activities resulted in the discovery of six new oil pools.

Let us say a visitor wishes to make a field trip in the Mid-Continent Area. Upon arrival at the Area headquarters in Tulsa he will first meet Ralph B. Roark, energetic Vice President in charge. His 23 years' service with Shell have been spent in this Area, and a brief chat with him convinces our visitor that here—as elsewhere—Shell's leadership is capable. Other introductions around the office will include R. E. Shutt, Exploration Manager; R. W. Bond, Production Manager; H. W. Penterman, Land Manager; George Cunningham, Assistant Secretary and head of the Legal Department; and E. A. Bacon, in charge of Crude Oil Purchase and Sales. Finally, and especially if he wishes to cash a check, he will meet J. M. Flaherty, Assistant Treasurer.

Then, if technical and operating details are of particular interest, our visitor may meet Sherwood Buckstaff, Acting Assistant Exploration Manager; W. E. Morrison, Manager Oklahoma Production Division; Glenver McConnell, Area Mechanical Engineer; Earl Davis, Area Drilling Superintendent; and H. V. "Irish" Steadman, Division Mechanical Engineer. The last three, along with the Division Managers, have been prominent in the development of Shell's "slim-hole" drilling technique and equipment—about which more later. Here, too, he may meet the personnel of the Gas-Gasoline Division, including J. W. Cowles whose work on gas contract problems brought him the Hanlon Award for outstanding service to the Natural Gasoline Industry.

Starting in the morning from Tulsa we take our visitor on U. S. Highway 66 about 54 miles through Sapulpa to Stroud, headquarters for one of Shell's most active production districts. Nearby is the Depew pool, a Shell discovery of 1940 and wholly controlled by the Company. Here a portable "slim-hole" unit is drilling 4,100-foot wells to the prolific Wilcox sandstone. The oil is delivered to Shell Pipe Line, the gas—separated under pressure so that it contains a negligible amount of valuable gasoline vapors—is purchased by a utility company.

Directly south from Stroud, the road takes us through Seminole and other quiet, orderly oil towns. As recently as 14 years ago these were boom towns as rough and tough as any America has known. Seminole witnessed one of the last of the really great oil booms. Out of the chaos and waste that threatened it came one of the first practical applications of proration—accomplished not by statute but by the voluntary cooperation of the oil men. Northeast from Seminole near the little Town of Boley is the Dill pool where Shell has important holdings. Here is the rich Curry lease in the recently developed north extension of the pool. A bit further south is East Cromwell, another new area where Shell is active.

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The Mayo Building, Tulsa, Oklahoma—home of the Area Office of Mid-Continent Area. Shell occupies the top four floors of this building. Note the Shell sign on the corner of the building.

TYPICAL FIELD HEADQUARTERS SCENES. (Above) Tonkawa field office at work. From left: Ray Kandt, stenographer; R. M. Asbury, production foreman; Rex Hensel, area stores division; R. E. Porter, district clerk. (Right) Perry Larson, district exploitation engineer at Stroud headquarters, examining well cuttings.

R. B. Roark, Vice-President in charge of Mid-Continent Area.

R. E. Shutt, Exploration Manager.

R. W. Bond, Production Manager.

H. W. Penterman, Land Manager.

(Continued from page 17)

By now the day is well spent and it seems a good idea to head for Ardmore, a good steak dinner, and a night's rest. The route leads through Sulphur and Davis, and follows U. S. 77 over the Arbuckle Mountains. This low, rugged range is really the root of what once must have been a mountain mass of majestic proportions. Here the geology literally "sticks out of the ground." The horizontal rock strata have been tilted nearly to vertical, and the edges of dolomite layers project in serried ranks above the thin soil. In the short drive from the mountain crest to Ardmore we pass over the geological record of nearly 200 million years.

Before leaving Oklahoma we also visit Healdton and Hewitt, settled fields where the production from sandstone strata is unusually long lived. The Healdton field is 25 years old and its importance as a producing unit is indicated by the fact that it has an estimated further productive life of at least another 25 years. Shell is the largest single operator here, controlling about 30 percent of the production besides operating a natural gasoline plant.

At Hewitt, Shell operates important leases and a gasoline recovery plant owned in partnership with another oil company. Until recently each company had an individual plant running dangerously close to "red ink". Operations were combined into the one plant, and improvements permitted by the larger scale have gradually increased the combined recovery of gasoline nearly 50 percent, with a substantially reduced recovery cost per gallon.

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Photo by W. A. Rice

Pulling drill pipe out of the hole on Orr No. 2A in the Stroud District of Oklahoma, in preparation for changing the drilling bit. The equipment is an 84-foot Franks drill mast of the portable type. From left: Kenneth Roylance and Ted Rawlins.

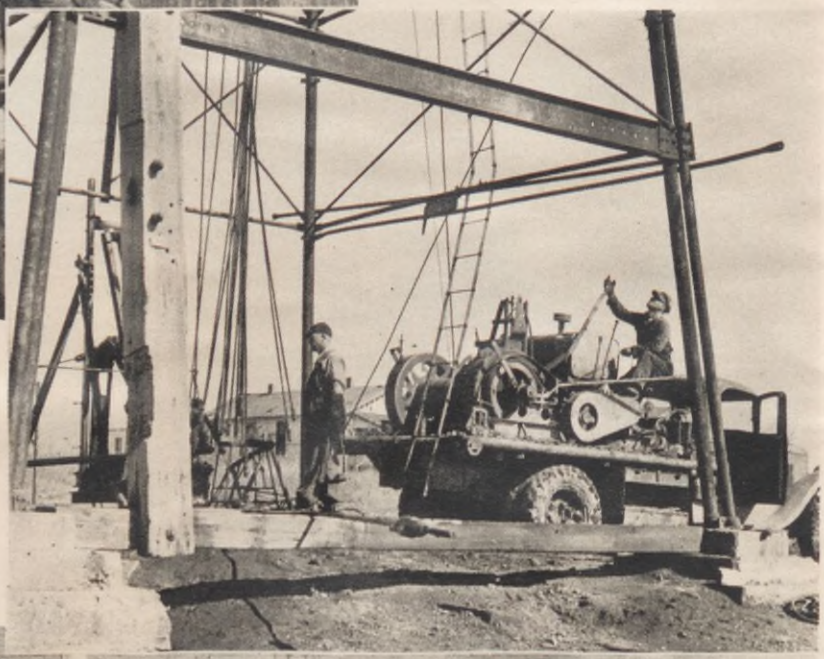
G. W. Cunningham, Assistant Secretary and head of the Legal Department.

E. A. Bacon, in charge of Crude Oil Purchases and Sales.

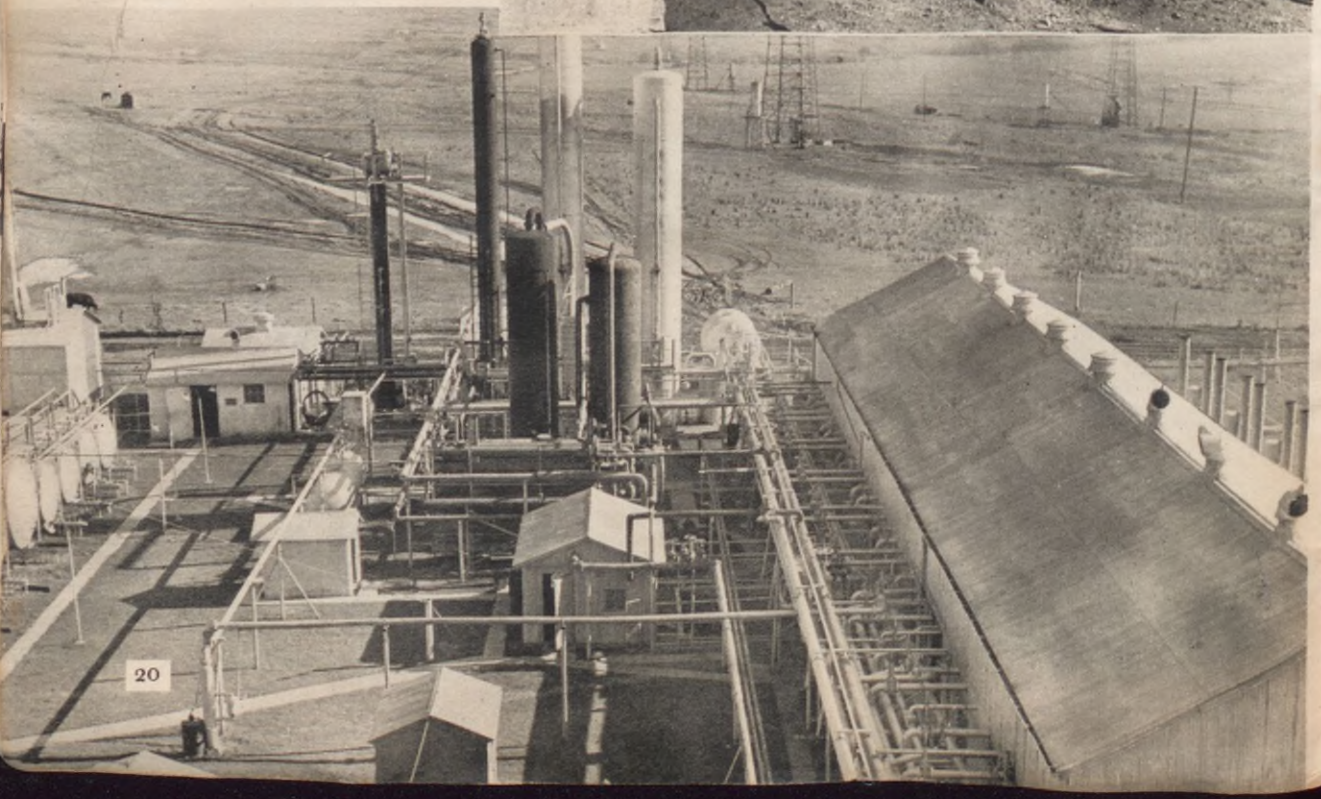
J. M. Flaherty, Assistant Treasurer.

B. R. Carney, Manager Gas-Gasoline Division.

Operating an oil well is a man-sized job. (Left) Running casing in a well. From left: Orville Grant, driller; D. R. Tillery, cathead; Curtis Taylor, lead tongs, and Tom Walker, derrick man. (Below) Pulling rods. From left: W. B. Bewley and H. S. Sulgrove.



General view of the gasoline plant at Lucien, Oklahoma.



↑ An oil field worker, his home and family. Mr. E. C. Spencer, roustabout in the Tonkawa field, poses with his wife and their three sons—Eldon, Wallace and Bobby. Trump, the family mascot, thinks he belongs in the picture, too!

↓ Repressuring in an old Oklahoma oil field. This shows Frank Lee taking a spot reading on a gas repressuring well in the Avant District.

↑ These compressors at the Tonkawa, Oklahoma, gasoline plant give an idea of the heavy machinery required at such a plant.

↓ Dolomite outcrops in the Arbuckle Mountains near Ardmore, Oklahoma. Here Nature seems to have written geological history on leaves of stone and then opened the book for man to study.

Back in the "good old days"—when oxen were used for "pulling power" and mire for roads in transporting drilling machines. This scene dates back to 1907 at Nowata, Oklahoma.

Radio Building in Wichita Falls, Texas, the top floor of which accommodates Shell's Wichita Falls office staff.

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Our next stop is at Wichita Falls, headquarters of Shell's North Texas Division. Here we meet Ward C. Bean, Division Geologist—longest service geologist in the Mid-Continent Area—and Wallace Collins, Division Manager. They tell us about Henderson and Coleman, both Shell discoveries of 1940. An afternoon's drive through semi-arid mesquite country takes us to both of these new fields where we find active drilling in progress. Henderson has two producing strata with deeper possibilities yet to be tested. At Coleman the first well was drilled until it made a heavy flow of hot salt water—it "got the ocean" as the boys say. With such an artificial hot spring, some wit suggested that the lease be exploited as a health resort under the name "Shell's Dells". However, the water was successfully sealed off with cement and the casing suitably perforated. After treating the limestone with acid, the well was brought in with a potential oil production of 2,000 barrels per day!

Next day our route takes us north and west to Pampa in the Texas Panhandle. This area is the great "Llano Estacado" of the old Spanish explorers—a seemingly endless plain, the very desolation of which becomes a fascinating grandeur. Here for miles on end stretch fields of derricks, enormous natural gasoline plants, hundreds of gas wells, and carbon black plants whose black smoke makes a continuous smudge cloud along the horizon. For more than 90 miles oil and gas activities dominate the countryside.

They hit the door of the Wichita Falls office at the same time, after having been fingerprinted and photographed in connection with Shell's new identification program: E. Richer, roustabout; B. Byrum, pumper on the Coleman lease; M. C. Woodson, Thalia, Texas; J. Wade, geophysical party at Bowie, Texas; and R. C. Erwin, land man in Wichita Falls.

Carbon black plant in the Panhandle area. Because of the smoke, it is difficult to photograph plants of this type.

Casinghead residue gas produced in connection with oil and gasoline recovery, and also the inferior sour (sulphur bearing) dry gas, may be burned to make "carbon black". This product is mainly responsible for the wearing qualities of today's automobile tires, and is the principal ingredient of printing ink. In the Panhandle, Shell sells over 40 million cubic feet of gas daily to be burned to carbon black. Stopping at Pampa we find an active "slim-hole" drilling campaign and visit gasoline plants whose economic life span was supposed to have been ended before 1940 yet are now producing more gasoline than ever before.

Last on our schedule is Kansas, the Sunflower State. East from the Panhandle to Oklahoma City, thence north we follow a route which leads through or near many famous oil fields to Wichita. Here we are greeted by J. E. Galley, District Geologist, and C. R. Bickel, Division Manager for Kansas. Production in Kansas is mainly from the Arbuckle dolomite, oldest of the important Mid-Continent producing strata. The crude is slightly sour, and by some mischance of nature is rarely accompanied by any gas. Here, with rather light pumping loads, we again find typical Shell efficiency. Five horse-power portable pumping units are used on many leases —one to each of four wells and moved from well to well as needed. Here as elsewhere are the portable drilling units at work in active

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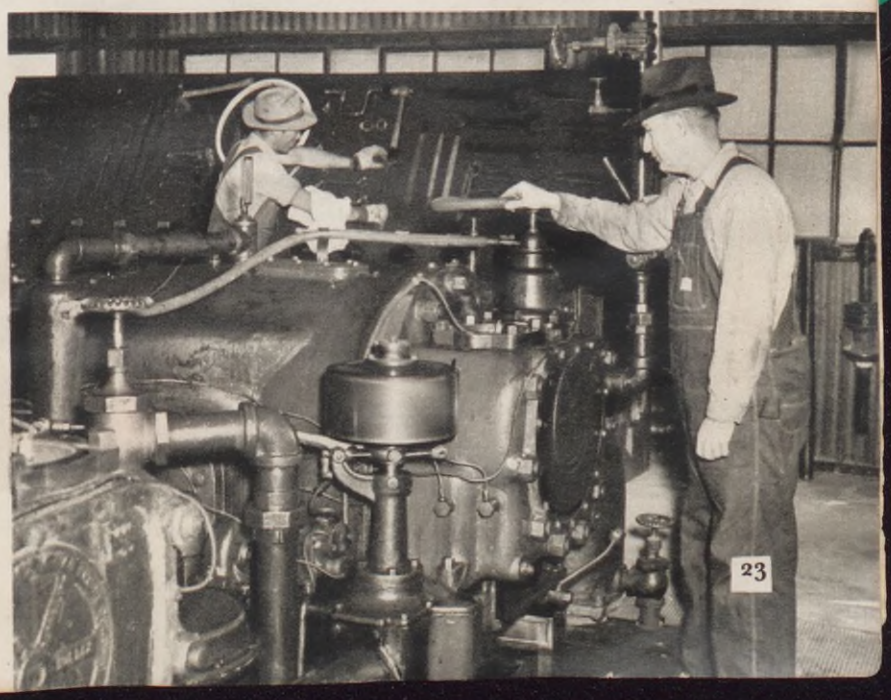
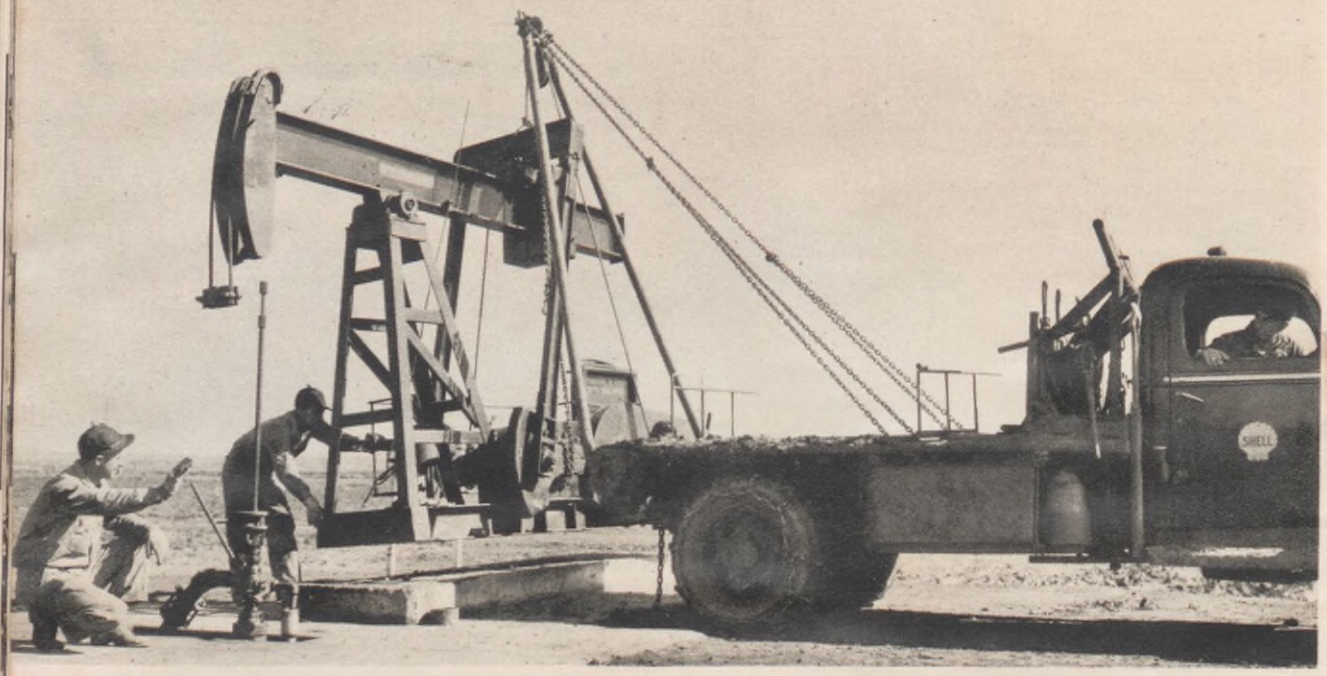


Typical work at a Gasoline Plant, showing an "old-timer" and a "new-timer" on the job. Engineer W. L. Parker, with 23 years of Shell service, makes a final check on the engine, while George Satterwhite, roustabout with one month's service, puts the tools away. These men are employed at Gasoline Plant No. 15 in the Pampa Area.



Setting a portable pumping unit at H. M. Sellens No. 1—typical of Shell's newer Western Kansas operations. These units serve three wells and are moved from location to location once each month. After the allowed production has been obtained from one well, the unit is disconnected, transferred to the next location in the manner shown, and reconnected. The entire operation requires approximately thirty minutes. From left: O. E. Houser, C. R. Warner, and H. J. Best.

(Continued from page 25)

development of Shell's leases in all the important producing fields of the State, including the recent Bean and Riley discoveries.

After returning to Tulsa via the older producing sections of Tonkawa, Burbank, and Osage—the latter headquarters of the old Wolverine properties, our circuit of the Mid-Continent Area ends.

Although we have seen the results of exploration work in the form of new oil fields, naturally Shell's Exploration staff must be reticent about its current work, and the activities of field parties are a closely guarded secret. In the Mid-Continent Area the "reflection seismograph" (described in the March 1939 *Shell News*) is used more extensively than any other method.

In some Mid-Continent fields, as for instance the Texas Panhandle, daily well production allowables under "proration" are so low that drilling and development by the earlier and more expensive methods no longer yield an economic return, and this brings us logically to an explanation of "slim-hole" drilling and the benefits it has brought to Shell in the Mid-Continent Area.

Practically all oil wells are now drilled by the rotary method, and—aside from a short string of surface pipe—in most Mid-Continent wells only one "oil string" of steel casing is used to reach the oil zone. Until very recently,

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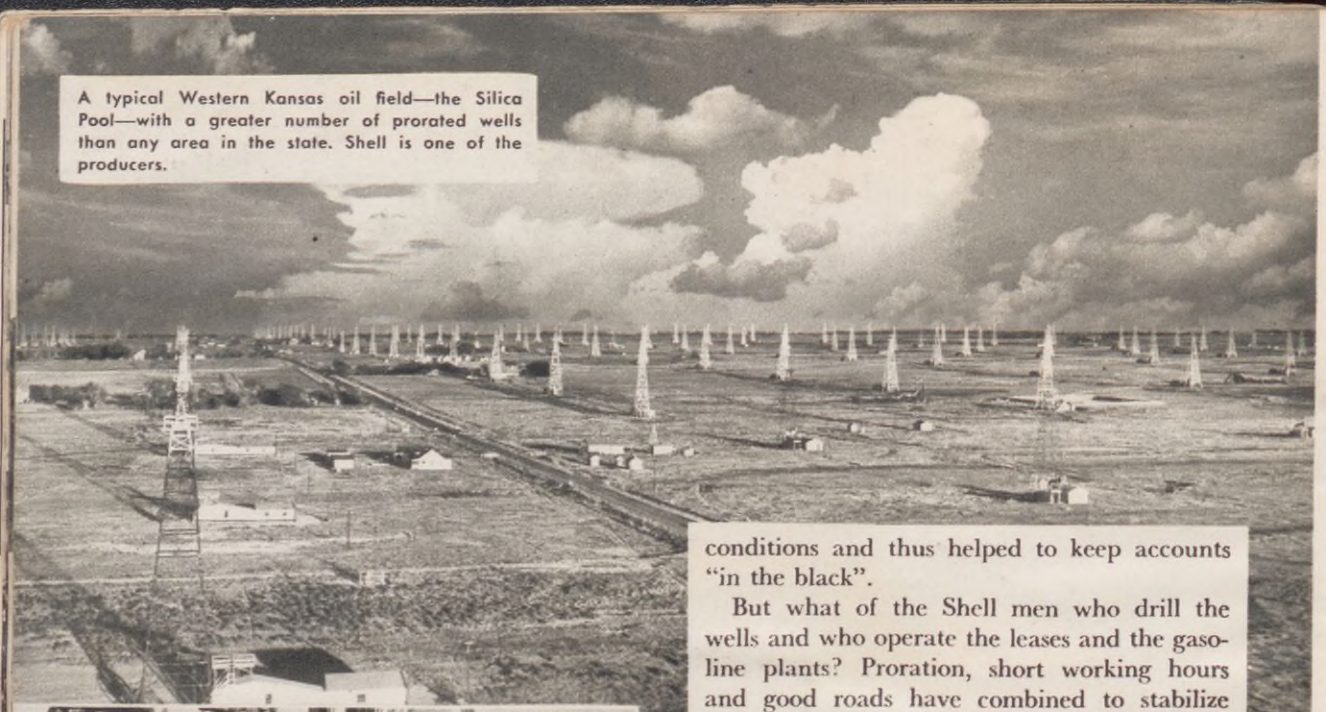
Chief Engineer Art Hutchinson, Plant No. 15 in the Panhandle area, blows a gas well which furnishes fuel for the plant and outside requirements.

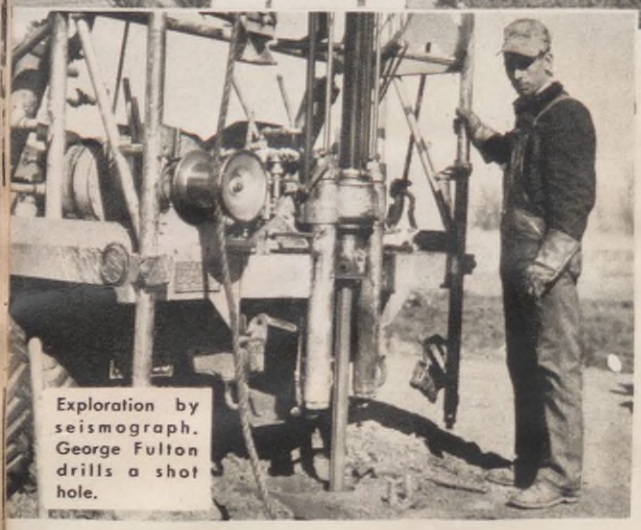
One of Shell's most recent discovery wells in the Mid-Continent Area is located approximately two miles south of New York City (Clay County, Texas) shown above. The well had an initial production of 138 barrels in 3 hours and is producing from Mississippi lime at approximately 6200 feet. Shell's substantial block of acreage around this well is known as the New York City Block.

A section of the Exploitation and Mechanical staffs in the Wichita, Kansas, Division office. From left, at desks: C. A. Lytle, A. J. Erbert, Harold Moore. From left, draftsmen: C. L. Hill, L. K. Mock, F. L. Tempero, M. G. Curry, and B. G. Swain.

The Trapp Pool in Western Kansas, which has the largest potential in the State. Shell owns 22 percent of this production, and its P. Schneider "B" lease, shown in the foreground, is a substantial contributor.



A typical Western Kansas oil field—the Silica Pool—with a greater number of prorated wells than any area in the state. Shell is one of the producers.



Exploration by seismograph. George Fulton drills a shot hole.

(Continued from page 24)

the standard "oil string" for Mid-Continent was 7-inch casing, which required the drilling of a 9-inch hole in the earth. As proration reduced the daily production and income from an oil well, it necessarily mothered a search for means to reduce the drilling cost.

Shell's engineers were quick to realize that comparatively small volumes of oil could be produced with smaller casing set in smaller holes. They also sought a reduction in the "intangible" costs of drilling, such as derrick foundations, moving and setting steam boilers, fuel and water to generate steam, et cetera.

Their investigations resulted in the portable Diesel-powered drilling units shown in photographs accompanying this story. These units drill 6¾-inch hole in which 4½-inch casing is run. With their introduction, Shell led the way in adapting itself to these changing field conditions and thus helped to keep accounts "in the black".

But what of the Shell men who drill the wells and who operate the leases and the gasoline plants? Proration, short working hours and good roads have combined to stabilize their jobs and improve their living conditions. They are no longer "boomers" but instead are established citizens of the communities near the leases or plants where they work. They and their families have access to churches, schools, amusements and shopping facilities. The older camp-house mode of living is rapidly disappearing.

Present-day stability of jobs is attested by the fact that, of the 1,400 Shell employees in the Mid-Continent Area, over 40 per cent have 10 years or more of service. As might be expected, men of this type are safe, careful workers. On more than one occasion Shell groups in this Area have won national recognition for excellent safety records.

Our visit through the Area so far has covered mainly the direct field activities. Other departments contribute essential services to the over-all success of the Area. The Office Manager's Department handles accounting, personnel, purchasing and automotive functions, involving disbursements each month of nearly one and a half million dollars. The Land Department secures leases in whatever areas the Exploration Department designates, and it handles a great variety of trades, partnership deals and the like. The Legal Department prepares all contracts, checks property titles and handles tax and proration problems. The Crude Oil Department handles the purchase and sale of crude oil, acts as liaison agent with Shell Pipe Line Corporation, and assists the Legal Department in proration problems.

All departments and their divisions cooperate closely, and by such cooperation the Mid-Continent Area realizes efficiency and progress.

PICNIC DAYS ARE HERE AGAIN!

A memorable event was the annual all-day picnic held at Sulphur, Oklahoma, for Wirt Headquarters employees, their families and friends. Sulphur's Vendome Park was given over to the occasion, and the picnickers enjoyed swimming, dancing, games—and food a-plenty! These pictures, taken at various times during the day, show a part of the crowd.

OBSERVATIONS.....
ON A TRIP TO ENGLAND

by Dr. R. T. GOODWIN*

Dr. R. T. Goodwin

Two months ago the Head Office personnel were guests of the Company at the Newsreel Theatre in Rockefeller Center to hear an informal talk by Dr. Goodwin, who had just returned from England. His observations on aviation matters in all parts of the United Kingdom, including many restricted areas, have been placed at the disposal of the United States Government.

Reports of Dr. Goodwin's talk have spread throughout Shell and have aroused much interest. Since it is impossible for him to visit all of our field and division offices, he has written a resume of the talk for *Shell News*.

On February 19, 1941, I left New York by Clipper Ship for a visit to England. I had a great many ideas of what it would be like: I looked forward to a luxurious trip on the Clipper; I expected that I would find Lisbon a sleepy little port town, and that London would be all wreckage, fires and bombs. Most of my ideas, I soon discovered, were wrong.

After 21½ hours of flight, we made a fine landing in the Tagus River, at Lisbon. The Shell Company of Portugal, with headquarters there, had sent me an escort whose knowledge of both English and Portuguese whisked me pleasantly through the Customs inspection on the docks—usually, in these days, an ordeal to remember—and to the Shell Building. Joe Lyons, who spent several years with Flintkote Company in the United States, introduced me to Mr. Shervington, Manager of Shell in Portugal, and together they sketched a word-picture of Lisbon today.

As one of the few ports of escape, Lisbon is packed with refugees of every nationality. The Police are very strict with them, requiring a report every few days, and many have been imprisoned because of inability to leave Portugal within their allotted time. Even a citizen of the United States, while he may easily obtain a visa to enter Portugal, must secure a special police permit to enter the City of Lisbon.

Portugal is endeavoring to be neutral, so much so that newspaper reports from British and German sources are given equal space, and propaganda magazines and window displays of both sides appear in every available spot.

From Lisbon, the only transportation to England is that of flying boats or land planes, a thousand mile flight mostly over water. A waiting list reported to be 1,500 people does not convince me that this is a pleasure trip—our American-made Douglas DC3 required 7½ hours over the ocean with every window "blacked out" for protection from enemy planes, a procedure slightly disturbing to the nervous system. Had our co-pilot sighted an enemy, we should have had to dive for the nearest cloud bank. We flew under sealed orders, not knowing whether we were to land in England, Scotland, or Wales until we were met by an escort of British planes. There was also the danger of not being recognized by ground anti-aircraft crews—orders prescribe "open season" in the event that a plane does not return prescribed signals in twenty seconds.

*Manager, Aviation Department

When we had made a rough but welcome landing in a very muddy flying field near Bristol, I met Mr. T. B. Rendel, formerly of Wood River, who had come down from London to deliver me to the Lensbury Club. After an alarming daylight view of Bristol's bombing damage, probably at that time the worst in England, we started our drive to London and in a few minutes caught up with the blackout. I shall always remember this trip by the number of gray hairs it added to my head. As we drove along in almost complete darkness, enemy planes circled overhead and "Alert!" warnings sounded in the various towns. Fire engines screamed past us and, most disturbing of all, Rendel continued to drive on what seemed to me, an American, to be the wrong side of the road. It was a long eight hours before we arrived safely at Lensbury.

Practically all of Shell's operations have been moved to the Lensbury Club, a thirty minute drive from the center of London. Built by Shell for its employees, the Club has facilities for soccer, badminton, rowing, and other sports, but its beautiful clubhouse has been converted to business use. The first two floors and part of the third floor now serve as offices, while sleeping quarters are on the top floor. There is no commuting problem for those who live in the Club, for they sleep on the fourth floor and work on the third. Over 1200 employees work in the clubhouse and nearby rented buildings. Many men who have been in the United States at various times were there—Messrs. Peace, Raphael, Monty Clark, Stevens, Bond, Gould, Rendel, Lewis, Garton and others.

The St. Helens Court Building, which housed the directors of Shell's world wide activities, now contains the Shell transportation department as well as the telephone and cable offices. Since the destruction of the famous old Guild Hall, the offices of the City of London have been moved to some of the top floors of this building. One wing has been hit by a bomb which went through three floors, but the damage was about repaired at the time of my visit. The building is well equipped for air raid conditions. The telephone and cable offices are located about four floors below ground level, protected by heavy steel reinforced walls and large steel doors. Air raid shelters for several hundred people have been built, so that the girl telephone operators who live in the shelters and work below ground seldom see the light of day. In addition to the shelters, a large first aid hos-

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Shell Pipe Liners at work at Oetters Station. From left: H. R. Terrill, mechanical maintenance supervisor; E. A. Phenix, assistant mechanical supervisor, and J. W. Parks, mechanical maintenance supervisor in charge of automotive control equipment. Terrill and Phenix have just removed a piston from one of the engines, while Parks is examining an automatic regulator.

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pital has been installed; its capacity of 200 people at a time was in full use when a bomb fell on a nearby bank. The lower floors of the building itself are equipped with gas-proof doors and individual air conditioning units; it is said that this air raid shelter is one of the finest and most complete in London.

The British defense people have worked out elaborate methods for protecting petroleum reserves, on both existing tanks and new storage equipment. Mr. E. R. Cartwright, Chief Engineer of Shell in London, has done wonderful work as chairman of this committee. While the work is of a military nature and must be kept confidential, I was able to make much of this particular information available to U. S. Military authorities so that we may profit by their experiences on the other side.

I soon discovered that people in England live two distinct lives; a daylight life, which is quite normal, and a "blackout" life at night. They do have daylight alerts, but people pay little or no attention to them. I was invited to lunch at the Royal Auto Club my first day in London and soon after arriving downtown heard my first alert. I prepared to dash into the closest bomb shelter, all of which are marked by large direction signs, but no one appeared to notice the alert nor did anyone even look into the sky to try to locate the German planes. This was usual throughout England. It is my general impression that the RAF have control of the air in the daytime, with the exception that during foggy weather the German planes are able to come very low and strafe the streets of an unprotected town or an automobile on the road. Captain Jerry Shaw of Shell's Aviation Department, with whom I spent the last two days in England and who delivered me to the flying boat at the time of my departure, had been machine-gunned on a road just outside of Bristol a few days before by a German plane which suddenly appeared out of a low hanging cloud. It is very difficult to guard against such lone raiders.

In the daytime, business goes on very much as usual. Hotels are crowded at lunch time and stores are open until about 4:30 in the afternoon; however, they attempt to have the employees get home before dark, since trans-

Dinner given in honor of Wirt Headquarters employees for their part in helping the Oklahoma Division win the "Four Horsemen Safety Contest." At this dinner—held at the Ardmore Hotel, Ardmore, Oklahoma—a bronze belt buckle was presented to each employee.

Employees of Lucien Headquarters (Oklahoma) at a dinner held recently at Enid, Oklahoma, in honor of the part they played in helping Oklahoma Division win the "Four Horsemen Safety Contest." Mr. L. E. Wichmann, Superintendent, presided and presented special bronze buckles to the men for their accomplishment. Fourteen men eligible to receive these buckles were unable to attend the meeting—hence, their awards were made locally.

portation facilities are more difficult to maintain in a blackout. The movies start at 5:30 and are over by 8:30. Most of the busses stop at 11 o'clock at night and it is very difficult to get a taxi-cab after that time. Usually if you are going into London for dinner or an evening, plans are made to spend the night because transportation is very difficult during the air raid. Some restaurants include sleeping facilities with dinner and charge one price for both.

One of the first questions asked in England was this, "Are things over here as you expected?" My answer in every case was "No." I had expected bomb damage, especially in London, to be much worse than that which I saw. This, I believe, is due to the fact that most of the pictures and news that we receive show damage done and does not concern property which has not been damaged. We are apt to think London almost destroyed from both fire and bomb damage, that the working day is broken up by almost continuous air raid alarms, that certainly the people of London sleep in shelters every night. Much of this is not correct; for example, bomb shelters are numerous, in buildings, on the streets, and in subways, but only a small percentage of the people actually sleep in them.

Not all the British cities have been bombed. I visited Oxford to see Mr. Ricardo, who does research work for Shell and was the inventor of the Comet Diesel engine. Oxford has never had a bomb within the city area. This comparative freedom from bombing has made Oxford a very popular place in which to live, so that it is practically impossible to get sleeping accommodations there. A visit to Cambridge showed that this city, also, has had relatively few bombings.

England's production of military planes is increasing very satisfactorily from month to month, and regular shipments are arriving from the United States; large numbers of American planes may be seen on the various air fields.

The flying fields are scattered throughout the country, and, as a rule, are camouflaged so that they cannot be recognized from a few thousand feet in the air. The tendency is to build a large number of small fields so that there never will be a concentration of planes

(Continued on page 32)

Employees of Tonkawa Headquarters (Oklahoma) who attended the recent dinner held at the Tonkawa Hotel in honor of the part they played in helping Oklahoma Division win the "Four Horsemen Safety Contest." Each employee was presented a specially-designed bronze belt buckle.

Recent safety meeting of the Production and Gasoline Divisions, Pampa, Texas. At this meeting the following men received safe driving awards: J. E. Hines—6 year award; E. C. Brister and W. A. Worthington—5 year awards; W. A. Hutchinson and J. B. Lindsey—4 year awards; H. B. Collis, W. R. Tinsley, L. C. Eubanks and J. M. Garlick—3 year awards; C. H. Batt, H. O. Donham and Neal Harper—2 year awards; R. C. King, Dee Murrah, T. D. Payne—1 year awards.

(Continued from page 31)

in any particular area. Planes are never stored in any large number in hangars, except for repairing, and in these cases the hangars are of heavy construction and highly camouflaged.

The RAF fliers are the real heroes in England and have done amazing work against overpowering odds. One of the outstanding pilots of the RAF is Douglas Bader, who was formerly in Shell's Aviation Department in London. Bader has just been appointed a Wing Commander and will command about 60 Spitfires. Recently he was in charge of a Canadian unit, and has a large number of individual victories to his personal credit. This record is the more outstanding because Bader lost both legs a few years ago in an air accident. He dances, plays badminton and shoots a 73 in golf. He was at the office the day before I left London and just recently wrote a letter regarding his transfer and increase in rank; in it he jokes about an injury he received the other day, when hit by a machine gun bullet on what would have been his shin bone. It looks, he remarks, as if he will have to take another trip to the blacksmith shop.

This is a peculiar war. There are no flags, no parades, and no war songs; I didn't even hear them sing, "There Will Always Be An England." Not once did I hear the words "patriotism" or "defeat" or any discussion of peace. The Germans are not called Boches, but are referred to as Jerries; Hitler and Mussolini are known as "Hit" and "Miss."

It is very difficult in an evening's conversation to keep away from talk about the war conditions, yet frequently the whole situation is passed off with, "It was a bit noisy last night." Other conversations center around personal bombing experiences, and many times I heard the statement, "We don't want to hear about your bombing, because we have just had one of our own and would like to tell you about that." Like our well-known fishing stories, where the one who tells the last story always catches the largest fish, you soon find that no matter how close to you a bomb exploded, someone else always has had one explode a little nearer. The matter-of fact spirit with which each day's calamities are met is the true representation of a courage that has never been equalled. It was with regret that I left England and her brave people.

View of the Products Pipe Line safety meeting held recently at the Warren Hotel, Indianapolis.

Justly proud of the safety trophy which the Lima terminal of Products Pipe Line captured because of its record of no lost-time accidents during 1940, these men who were responsible for this good record pose with the trophy. Standing, from left: M. F. Schneidermeyer, J. G. Tait, F. Plessa, E. W. Finnell, J. G. Sparks, J. H. Harvey, Jr., J. G. Lillis, C. E. Austin, G. D. Paton, J. B. Nice and M. C. Dobson. Seated, from left: J. R. Hale, K. Redmond, K. Nash, E. J. Feldkamp, B. F. McIntyre, W. Paris. Front row, from left: R. R. Crump, maintenance foreman; J. J. Kuehn, Superintendent. H. E. Hackley and C. J. Griesinger were not present when this picture was taken.

Presentation of 25-year emblems by R. B. Roark, Vice-President. From left: C. R. Brown, H. C. Frazier, R. B. Roark, J. B. Oakley, and L. D. Kehl.

SERVICE EMBLEMS PRESENTED TO 71 MID-CONTINENT AREA EMPLOYEES

In honor of 46 Mid-Continent Area employees having 20 and 25 years of service, and also 25 employees having 10 and 15 years of service, special luncheons were held at the Mayo Hotel, Tulsa, on June 9 and 10. Mr. R. B. Roark, Vice-President, was the principal speaker at both occasions. Those presented emblems for 25 years of service were: C. R. Brown, L. D. Kehl, J. B. Oakley, H. C. Frazier, L. A. Massey and J. L. Mathews. Forty received 20-year emblems, fourteen 15-year emblems, and eleven 10-year emblems.

Other luncheons were scheduled to be held later for those 10- and 15-year employees working outside of Tulsa who would also be presented similar service emblems.

At the luncheon given in honor of Tulsa employees having 10 and 15 years of service.

At the luncheon given in honor of Tulsa employees having 20 and 25 years of service.

At the banquet of the Ten Year Club of Norco Refinery, which was held on June 7 at the Jung Hotel in New Orleans.

SHELL AT PLAY

Enthusiastic participants in the second monthly Minneapolis Division Golf Tournament. These tournaments, managed by C. B. Schulz of the Marketing Service Department, are on a handicap basis, the winners being awarded trophies on their net scores.

At the boat excursion given by the Shell Club of Wood River Refinery.

The new Board of Governors of Wood River Refinery's Recreation Association. From left: G. F. Craig, chairman; B. W. DeLong; H. R. Helvie; O. C. Gent, and A. T. Smith.

A bit of nourishment is always welcome! The occasion was a recent meeting of the Service Club at Wood River Refinery.

OIL INDUSTRY HAS FAVORABLE SAFETY RECORD

Oil company employees in 1940 sustained only slightly more than half as many fatal injuries while on duty as they did when not working, a review of fatalities by the American Petroleum Industry's Department of Accident Prevention reveals. The 1940 fatal injury record of the petroleum industry was the lowest since data has been reported and was 49% below the fatality rate in 1930.

Oil companies employing 327,112 workers reported 101 fatalities last year, or a rate of 30.9 per 100,000 workers. Fires and explosions accounted for 36% of the industrial deaths; motor-vehicle operation, 17%; asphyxiation, 5%; electrical contacts 4%; and miscellaneous causes such as falls, falling objects, and drowning, 38%.

Shell Pipe Line foremen in the Mid-Continent area who recently attended a conference at Arkansas City, Kansas. This group is one of six discussion groups that meet monthly in various divisions of the Mid-Continent area. The subject of this conference was "Discipline," how the conception of discipline has changed with the passing years, as well as various methods of maintaining discipline.

From left (rear): W. H. Wolf, B. M. Holdren, L. Polston, H. M. Walker, Frank Wilson, L. C. Geiler, A. D. Lawhorn, T. C. Raynes, R. G. Pierce, J. G. Robinson, R. A. Dowell, G. R. Murphy, J. W. Basden, W. R. Riddle, R. L. Roberts, H. A. Brown, N. J. Rouser. From left (front): A. F. Terrill and E. M. Owens. These nineteen men represent a total of 290 years of service with Shell Pipe Line.

Mr. Selwyn Eddy, Manager of Detroit Division, bids goodbye to William Jerow, Marketing Service Clerk, the first employee from Detroit Division to be inducted into military service.

Two presidents: F. G. Hawks (left) of the Houston Refinery Service Club, and M. D. Daeschner of the Gulf Coast Foremen's Club composed of supervisors of 21 industries in the Houston area.

This Way TO HOUSE FURNISHINGS!

by C. S. RAMSAY*

Leon Stovall in his workshop.

WHEN LEON STOVALL FINDS a good walnut tree in making his daily rounds as field gauger for Shell Pipe Line at Kilgore, Texas, the chances are his expert eye will size it up appraisingly. Not that he'll be thinking of walnuts—far from it! He'll be thinking how nice it would look made up into a dining room suite, for instance, like the one he and Mrs. Stovall have been talking about.

This business of making furniture for his home from trees that he spots here and there is a hobby with Leon. After locating the tree of his choice—which is usually a walnut or cedar—he arranges to cut it down and haul it to a mill, where it is sawed to his specifications. Then he allows the lumber to "season."

Starting in 1935 with a lathe which he bought for his convenience in making a few small articles such as ash tray holders, he has gradually increased his equipment until today his workshop also includes a bandsaw, buzzsaw, drill press, shaper and sanders.

To say that Stovall "has a knack" for woodworking — and metalworking, too, for that matter—is to put it modestly. The fact is that his handiwork shows expertness in both design and craftsmanship. Among the many things he has already made are a walnut bedroom suite, numerous chairs and tables, and a cedar chest, while one of his latest achievements is a lamp fashioned from an old Ford cylinder block. But perhaps the most prized piece of all is the walnut crib he made for his little daughter, a recent arrival. Even the young lady herself, according to Leon, admires it with approving eyes!

*Assistant Division Superintendent, Kilgore, Texas —Shell Pipe Line Corporation.

Furniture with truly a "personal touch." From tree to finished product, Leon Stovall fashions furniture such as this for his home.

GASOLINE QUALITY BEST IN HISTORY

THE BUREAU OF MINES reports that motorists throughout the country are getting the finest grades of gasoline in the history of the gasoline age. Average octane rating of more than 2,000 samples of commercial motor fuel collected in the winter of 1940-41 increased appreciably over the previous winter, and anti-knock and volatility qualities of all three grades of gasoline sold at service stations has shown a steady improvement during the past five years.

In this five-year period the average octane number of regular grades of gasoline rose from 69.6 to 74.4; average of premium grades from 76.7 to 80.2; and of third grade from 57.9 to 65.6. Reports from other sources indicate that the average of regular grades of motor fuel in 1931 was only 60; and four years earlier, in 1927, it was only about 50.

↑ Get-together for Boston Division "old-timers." Here we see 114 ten-year-or-more employees of Boston Division at a banquet given in their honor at Hotel Kenmore on May 23.

↓ Only one of its kind in Cleveland Division, this station at Columbus, Ohio, is a training school for division salesmen, who will attend one-week sessions here between June 16 and September 7.

1940 DRILLING COSTS EQUALLED HALF TOTAL CRUDE-OIL PRODUCTION VALUE

Drilling the 30,000 wells completed in 1940 cost the petroleum industry, it is estimated, between $500,000,000 and $750,000,000, or from three-eighths to three-fifths of the total value of the crude oil produced in that year.

Deep wells may cost $150,000 and more each, but the average well in 1940 was only 3,073 feet deep, and the average cost per foot is believed to have been somewhere between $5.50 and $8.00. In different fields, however, costs per foot vary greatly—from $3 or less, up to $30 and more. These are direct drilling costs, and make no provision for costs of exploration.

An authority has estimated that approximately 3,000 rigs were operated during 1940 to drill these 30,000 wells, each completing an average of 10 wells. Allowing 21 men to a rig, plus clerical workers, management, engineers, mechanics, and allowances for sickness and vacations, probably 69,000 men were employed in drilling last year. This, however, does not include the number of workers doing special jobs connected with drilling, whether employed by the drilling company or by a contractor. Such jobs embrace oil-well cementing, electrical logging, transportation, drilling-mud control, coring, etc. Contract drilling employees are included, however.

Direct labor costs, not including the labor employed in these special services, nor in the manufacture and supply of materials and equipment, are estimated to have been approximately 25 percent of the total well cost. For the 69,000 employees, and the minimum well cost of $500,000,000, this would average $1,800 per employee.

Untying one of those "knotty" operating problems which no sales division can escape. This scene happens to be laid in the Cleveland Division office. From left: Alfred Hansen, Field Engineer; C. B. Wheeler, Marketing Service Manager, and F. L. Dover, Field Engineer.

Entrance to Houston Refinery, carefully guarded day and night.

JUST FOR

← Food-time!

When the folks from the Engineering Department of Wood River Refinery stage a picnic, they do it with the idea of swinging right into the spirit of the occasion. The pictures here show a few highlights of their picnic held at Highland Park on June 21. More than 300 children and grown-ups attended.

↑ Shellettes take their turn.

← "Brownie" tells another fish story to a very skeptical audience.

→ A tense moment on the badminton court.

FUN!

"Chick" Featherhoff and daughter in a ping-pong match.

The last hole.

Mrs. Hord lifts the rolling pin gleefully when she thinks of Rolla.

Hammering the nails home!

"Oh, Ralph," Mrs. Wandling shouts in the husband-calling contest.

Scoutmaster Henry Dalton with his troop.

SHELL'S INTERESTING PEOPLE

by E. J. WARD*

When Henry Dalton, line walker on the Eastern Products Pipe Line and scoutmaster of Boy Scout Troop 302 at Danville, Indiana, was awarded the Scoutmaster's Golden Key recently, he was given the highest honor it is possible for a scoutmaster to receive. In fact, his Golden Key means much the same to him as a Nobel Prize would mean to a scientist or writer, since it is the high seal of recognition for preeminent work.

In looking back to the reasons for this award, we find an interesting story. Long before scouting was known in this country, Dalton—then a youth—delighted in spending his time out-of-doors studying nature. As he grew older he felt there was a need for an organization which could afford boys an opportunity for group activity in becoming acquainted with the wonders of outdoor life. Consequently, it was only natural that when scouting was introduced to this country from England, young Dalton was one of the first to join.

"I can still remember those first meetings and outings of ours," he reminisces; "I thought they were wonderful!" And, fortunately for many another young lad, his enthusiasm for the work has deepened with the years.

There's something contagious about Dalton's interest in scouting. It reaches not only to his friends but to his family, as well. Mrs. Dalton is a girl scout leader; their 21-year-old son an assistant scoutmaster, and their 19-year-old daughter an assistant girl scout leader. Without question, it's Dalton's genuine interest in young people generally that makes it possible for him to do so much for "his boys." This interest, while naturally heightened by his work with the scouts, was also encouraged

*Chief Clerk, Zionsville, Indiana.

during his twenty-five years of school teaching — and it has led him to do many helpful things, such as his present generosity in making a home for four boys who attend a teachers' college in Danville.

With his job of line walking, Henry Dalton in well pleased, since, as he says, it puts him where he enjoys life the most. Each year he walks approximately 3,000 miles along his patrol, climbs some 350 fences, encounters snakes—and occasionally meets a mean bull that keeps him atop a hay stack or in a tree for an hour or so. But such things do not deter him from making friends as he covers his patrol. He knows most of the tenants and landowners along his right-of-way and never fails to greet them with a smile and a friendly word.

Contrary to the usual belief that one is not appreciated at home, Dalton has received much local recognition from newspapers and business men. But it is recognition which he well deserves, since in addition to his scout work he is also a prime mover in his American Legion post, the church, and other community activities.

"Who says we don't have our knotty problems?" ask these scouts.

Learning the sport of "Indian wrestling."

It's never too early to learn about hornets' nests, if one is to spend time out-of-doors — so Dalton gives "his boys" a lesson with the aid of some interesting specimens.

SERVICE

JOSEPH CLINGAN
20 years—July 1941
Geological
Houston, Texas

A. G. VASSEUR
20 years—July 1941
Production
Wirt, Oklahoma

BIRTHDAYS

15 YEARS—JULY 1941

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Marketing

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Geological

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Cracking Cleanout

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10 YEARS—JULY 1941

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SHELL NEWS

Dedicated to the principle that the interests of employee and employer are mutual and inseparable

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Wood River Refinery watchmen at Indian Creek picnic, which was featured with a fish-fry and barbecue. First row, from left: R. T. Brown, J. H. Baumeister, F. S. Shehorn, J. J. Lofy, J. H. Howard. Second row, from left: C. J. Wilson, H. E. Bartels, E. H. Leonard, W. A. Crews, H. A. Deem, T. H. Tonkinson, H. Bergfeld, G. F. Craig. Third row, from left: O. A. Kleinert, R. H. Hord, P. M. Goewey, W. H. Hawkins, G. G. Grisham, R. J. Sterthman, S. J. Tipsword.

LIFE AS A REFINERY NURSE

by Pearl Johnson*

Now say "AH"! Scenes such as this are common in the refinery hospital — the patient this time being O. K. High, Control Laboratory chemist.

It is early morning. The almost constant clang of the time clocks in the clock house can be heard as the workmen "punch out" after making one more "graveyard" and the day shift "punches in" to take over for the next eight hours. Into our white-tiled hospital comes a constant stream of employees, some for redressing, some reporting back for work after non-occupational illness, and still others reporting for release on a healed injury. Even though the hour is early, most of the men are in a pleasant mood and the business of getting through this rush hour is punctuated with friendly "good mornings," rising above the good natured banter between the men themselves.

After the morning rush we settle down to record-keeping and the handling of insurance claims, all part of our duty. Usually then comes an hour or so of comparative quiet, broken only by the ringing of the phone or the advent of a first-aid case. In handling first-aid cases we have routine orders from our doctor, and if there is any doubt that we can handle the case successfully the employee is sent immediately to the doctor.

Ten o'clock, and morning mail arrives bringing insurance checks for the men who have I.P.I. claims, also doctors' statements and bills on occupational injuries, new claims to be set up, and off-duty reports on employees who for some reason failed to report for work. Plenty to do until noon, when new redressings must be made. Lunch is eaten at our desk, as the hospital must have a nurse on duty all the time.

From this smooth running routine, day or night at any moment we may be startled by the dreaded clang of the emergency bell or the shrill scream of the fire whistle. Then all hands drop their various tasks and move immediately to their appointed emergency positions. The ambulance speeds from the garage to the hospital and the nurse on duty accompanies it to the scene of the emergency. A trained first-aid man takes charge of the hospital while the nurse is gone and there is always a crew of other trained first-aid men available in case of major fires. If the accident

*Staff Nurse—Houston Refinery

is severe, the injured man is placed into the ambulance and transferred to the plant hospital where he is given first aid and then sent on to a large city hospital. In case of fire, the ambulance and nurse stand by to render first aid to minor burns or injuries until the fire is under control, or to be immediately available in case of major burns. Fortunately these ambulance trips are rare indeed; but when there's an electrical storm raging, little peace is felt until it abates, as lightning seems to have a particular affinity for refinery equipment.

The second shift begins at four in the afternoon, and it is during this period that most of our actual book work is done. Recently, we have been introduced to the art of fingerprinting and photographing, so countless times we have said "look at the birdie" and rolled fingerprints over fingerprint cards.

Then at 12 o'clock comes the early morning or "graveyard" shift. What a far cry from the long, dim corridors of the training hospital, where the only sound we heard was the rustle of our own starched uniforms or the muffled comment of a patient. Out here, our lights burn high and the incessant roar of the refinery units never lets one forget that the wheels of industry turn without ceasing. The duties of the night nurses are lighter and more uniform than those of other shifts. They record the first-aid cases of the previous twenty-four hours, make and sterilize supplies, and put the hospital in order for the coming day.

We nurses feel we occupy a unique position in both our profession and the company by helping to bring professional care and comfort into the busy whirl of industrial life, and regardless of whether the physical trouble which crosses an employee's path is large or small, we feel we're his partner in trying to free him of it as quickly as possible. That's what makes life as a refinery nurse so interesting.

Pearl Johnson, staff nurse, at her desk in the Houston Refinery hospital.

OUR COVER

Samuel Baehler, mechanic in the Tulsa garage, sends up a shower of sparks in rebuilding a seismograph drill bit. These bits are resurfaced with haystelite and borieum to increase their hardness and give them longer life for drilling in rock formations.

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A portion of Shell's Jacksonville, Florida, marine terminal.