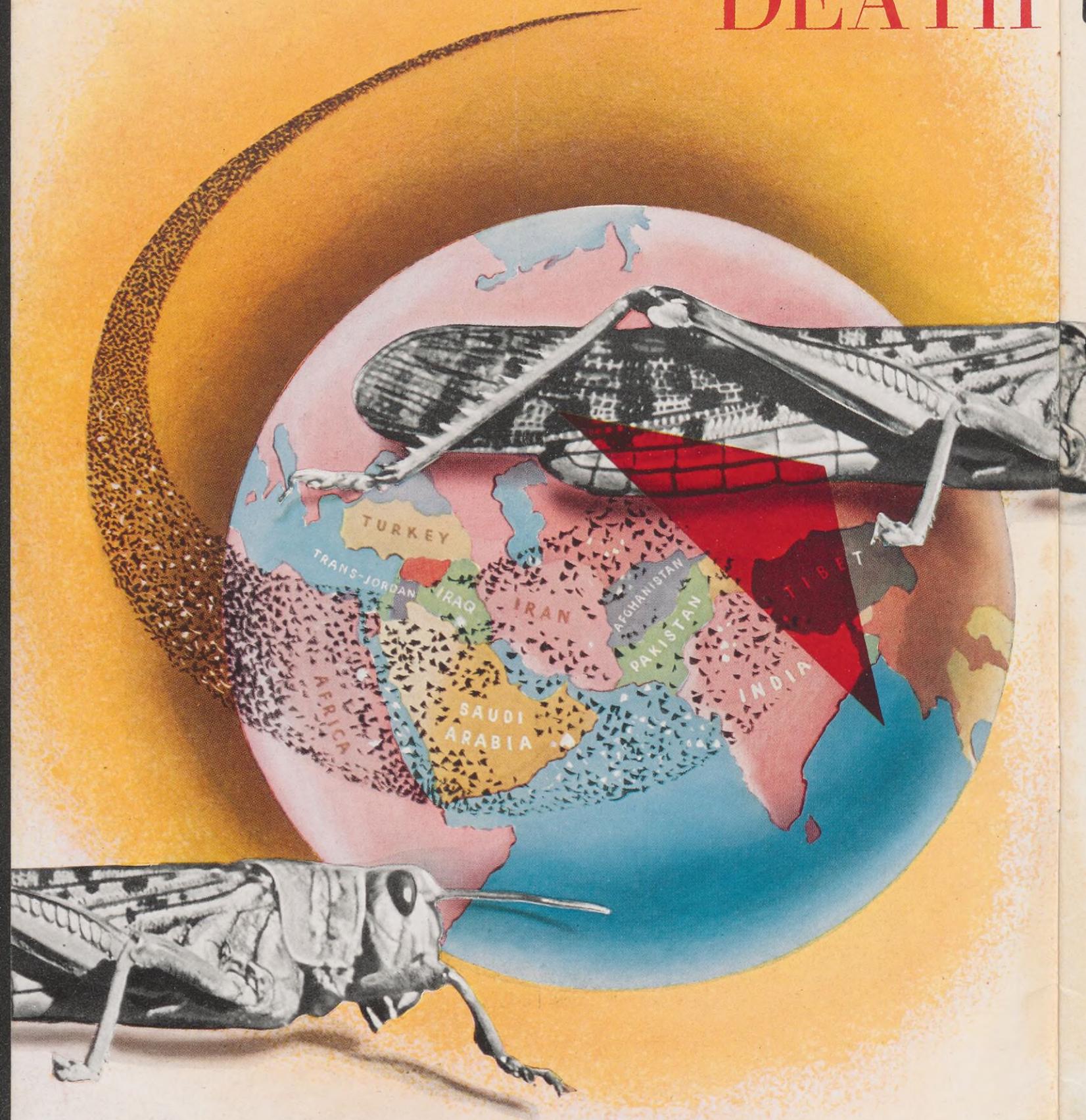




# SHELL NEWS

AUGUST 1952

# DEATH



# to the Locust

Aldrin, a Shell Insecticide, Is Used to Combat the "Flying Stomach" in Asia and to Demonstrate a New Pattern for International Cooperation

SINCE the first recorded history of man the most dreaded sound to the ears of the inhabitants of North Africa and Asia has been the buzzing roar of millions of swarming locusts moving across the land. Where the dirty brown cloud of ravenous "flying stomachs" descended, then moved on, not a blade of grass remained, not a stalk of grain. Famine, hunger and death were the only harvest.

For ages farmers have tried vainly to battle the devouring plagues of locusts. But they failed because in each case they fought a purely local battle. They may have burned or trampled millions of the pests, but they had no way of preventing the arrival of other swarms, because they didn't exterminate the locusts in their breeding grounds before they started their tour of destruction. Each year new hordes were hatched to spread destruction from country to country.

In recent years, however, as the world has grown figuratively smaller and the food supply of one nation has become the concern of its neighbors, scientists have turned to a closer study of the locust. They know now that the locust, and its cousin the grasshopper, threaten one fourth of the world's food supply. They know that the locust has per-



Locust swarms like this have plagued the people of Africa and Asia for as long as man can remember. This particular migration of adult locusts was photographed in Iran in 1951 shortly before the swarm was sprayed and killed with Shell's aldrin.

## SHELL NEWS

VOL. 20—No. 8

AUGUST, 1952

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

Employee Publications Department  
New York, N. Y.

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### PLANT DAY AT NORCO

The amateur chefs on this month's front cover are shown preparing the 1,400 pounds of barbecued beef which were consumed by over 3,000 Norco employees, families and their friends from the surrounding communities during the annual Plant Day held recently at the Norco Refinery.

For additional details of the Norco Outing, see page 26.



William Mabee, above, director of the Point Four locust control program in Africa and Asia, adjusts the spraying equipment on one of several light American planes sent to locust-troubled countries in the Middle East.



At an advance locust-fighting base in the Great Iraqi Desert, above, drums of aldrin and cans of fuel for spraying planes are unloaded. An indication of the results is shown below. One 500-pound drum of aldrin can kill all the locusts in four square miles.



manent breeding grounds in which millions of wingless "nymphs" are hatched. The nymphs can crawl and hop over only a few acres, but two or three weeks later, as full-grown winged locusts, they swarm into the sky and cover several thousand square miles in a matter of weeks—devouring every growing thing in their path. The great locust plagues of history have come in cycles of eight to ten years' duration—and 1951 and 1952 have been "locust years."

Naturally, scientists and agricultural experts have developed poisons to combat the locust. But none has been so successful as aldrin,\* a comparatively new insecticide which is so powerful that less than two ounces of the dark, syrupy liquid can rid an entire acre of locusts.

Aldrin proved its effectiveness in 1950 when it stopped a grasshopper plague threatening several million acres of crops and grasslands in Canada and northwestern United States. At the same time it was being proved effective for controlling other insects, particularly boll weevils, the scourge

of cotton growers. When locusts are still in the "nymph" stage and without wings, poisoned bait can be spread on the ground to kill them. Here an Iraqi scatters bran mixed with aldrin.

of cotton growers.

From these successes, aldrin moved on to applications in South and Central American countries. The results everywhere were noted by experts of the U. S. Department of Agriculture as well as the Technical Cooperation Administration of the State Department which is on the lookout for ways to give material assistance to other countries of the world through the Point Four Program. The insecticide also came to the attention of the Food and Agriculture Organization of the United Nations.

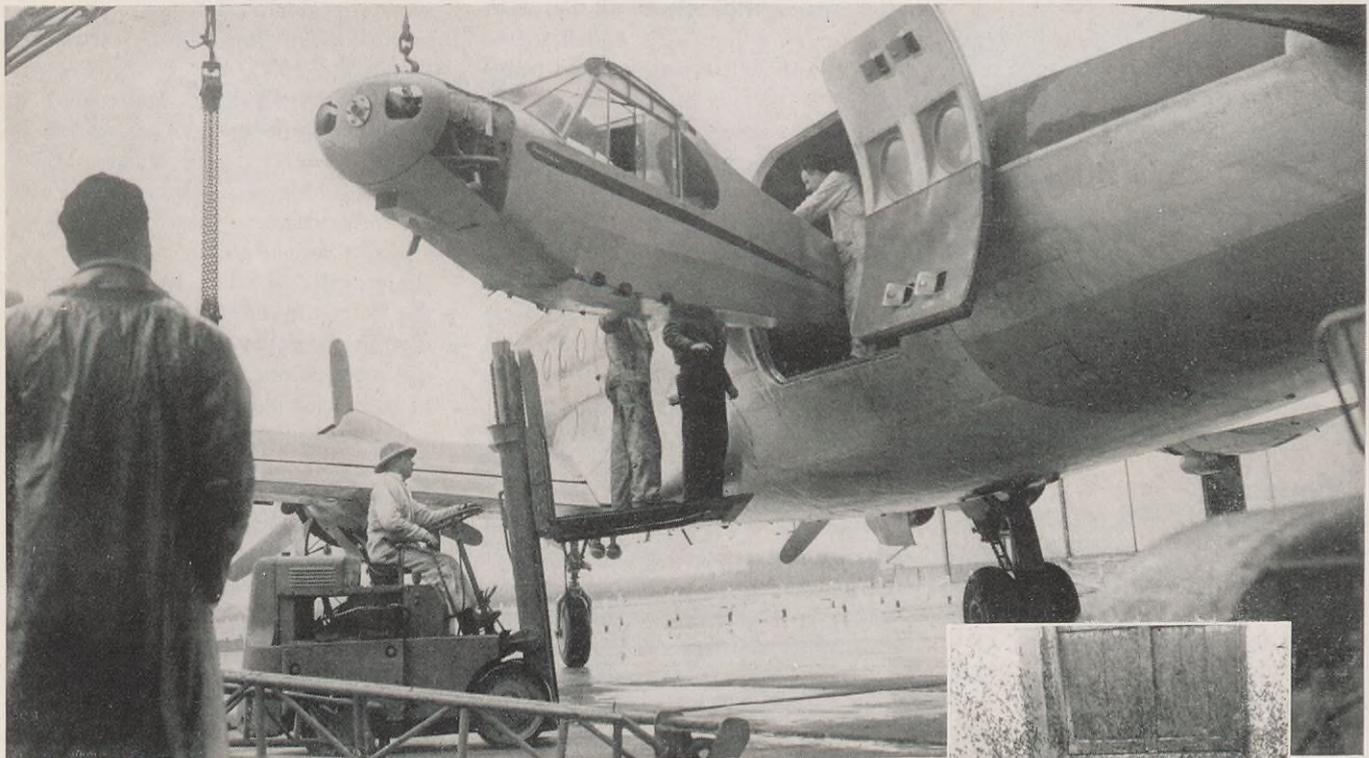
It was little wonder, then, that when the government of Iran appealed to the United States last year for assistance in combating locusts, aldrin was sent to do the job.

In April 1951, Iran was faced with its worst locust plague in 80 years. Along the Persian Gulf swarms of the insects were maturing in such numbers and with such speed that they threatened to destroy the major portion of the country's most important food crops. The Iranian government made an urgent appeal for aid under the



### \*Shell Chemical Sales of Aldrin

Until recently, Shell Chemical sold aldrin and a companion insecticide dieldrin as sales agent of the manufacturer, Julius Hyman & Company of Denver, Colorado. Early this year Shell Chemical purchased the stock of the Hyman corporation so that now Shell Chemical is the sole owner of the Hyman corporation and, of course, continues as the distributor of both insecticides.



In April 1951, when the Iranian government made an emergency appeal to the U. S. State Department for aid in fighting locusts, 10 tons of aldrin, eight spraying planes and a number of personnel were flying to the stricken country within four days. Above, one of the light spraying planes is loaded for rush shipment from Idlewild International Airport at New York. Meanwhile, millions of newly-hatched locust nymphs, like those at the right, were crawling and hopping everywhere in southern Iran.



Point Four Program, making it clear that if the locusts were not controlled within two weeks it would be too late to save the fields of Iran and perhaps those of other countries when the locusts migrated.

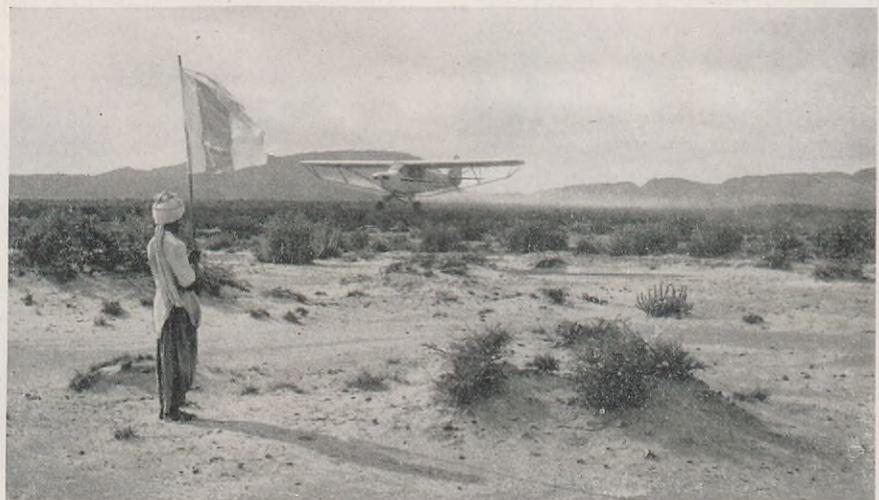
The U. S. State Department immediately called on Shell for a supply of locust-killing aldrin. Within four days, ten tons of the insecticide concentrate were en route to the troubled area in chartered planes. In addition, eight small planes equipped with spraying equipment were disassembled, flown to Iran in cargo planes and reassembled. Finally, nine pilots, a mechanic, and a crew of technicians were flown overseas to handle the first spraying operations and to teach the Iranians the technique of combating locusts in future outbreaks. A Shell agricultural expert was on hand to advise on the application of aldrin. The entire project was placed under the direction of William B. Mabee, a U. S. Department of Agriculture

specialist who had witnessed the first trials of aldrin in Colorado and Utah.

Mr. Mabee and Dr. John R. Parker, also of the U.S.D.A., have since received Distinguished Service Awards

for their outstanding work in relation to the project.

An excerpt from Mr. Mabee's report gives an indication of the results in Iran. He wrote:



In Pakistan, too, locust breeding grounds were being sprayed. The most effective way of stopping their destructive migrations is to kill the locusts before they grow wings and swarm. Above, a Pakistani holds a flag to mark the limits of a locust breeding ground and to guide an American pilot operating a spraying plane.



In India, jeeps carrying spraying equipment are also used to supplement the plane and ground-baiting methods. Information is being exchanged freely between nations in the international battle against the locust.

"Some 53,715 acres of crops have been saved in 18 different localities. The kill was 100 per cent at the end of four days. We had the opportunity of spraying two adult migrating swarms that had settled for the night, with amazing results. They didn't travel much farther!

"We have been praised by landowner, peasant, and tribesman alike, many riding great distances to tell us of the kill, others to request the planes in their own areas."

The praise of the Iranians was heard 'round the world. Particular attention was paid to it by the governments of 14 other African and Asian countries whose food supply is annually threatened by the locusts. Their interest was heightened by predictions of entomologists that in 1952 the Middle East would suffer the greatest locust plague in a century. Out of this mutual concern a three-pronged organization for attack on the locusts emerged. On the local level, individual countries strengthened and expedited the activities of their own national agencies for pest control. Secondly, some of the threatened countries applied to the United States for Point Four aid. Thirdly, still others began receiving assistance from the United Nations Food and Agriculture Organization. A pattern of international assistance and cooperation materialized. For example, Dr. Taskhir Ahmad, director of the Pakistan Department of Plant Protection, solved a big problem and passed on his findings to other nations. In the beginning, the aldrin concentrate

was mixed with diesel oil or other oils for spraying. This added to the cost of application and created transportation problems. Dr. Ahmad developed a method of applying aldrin with water. Now the expense of application is cut considerably and spraying teams can draw their water from sources in the field.

Meanwhile Shell had heeded the warning of the entomologists. Without being asked, Shell Chemical stockpiled 50 tons of aldrin at Denver in readiness for immediate shipment.

The precaution was a fruitful one. Early this year another S.O.S. came from Jordan and within 24 hours two tons of aldrin were on their way overseas by cargo plane—enough to purge the locusts from more than 30,000 acres. Another shipment by boat was arranged consisting of 40 tons to be used in trouble spots from Eritrea in East Africa to Pakistan and India.

These orders were placed by the United Nations' Food and Agriculture Organization. But even earlier in the year the U. S. Technical Cooperation Administration, which administers the Point Four Program, sent 77 tons of aldrin to the Middle East. This meant there was enough of the deadly insecticide in Africa and Asia to deliver millions of acres from the locust menace—a menace that has destroyed an estimated \$80,000,000 worth of crops annually in the past.

Although a comparatively new in-

secticide, aldrin's international reputation is growing fast. As early as December 1950, the U. S. Department of Agriculture announced it would recommend aldrin for grasshopper control in all states. At its 1951 conference in Rome, the Food and Agriculture Organization specifically named aldrin as a most outstanding locust killer. In recent weeks the Voice of America has been broadcasting the story of aldrin's role in the internationally cooperative effort to end locust plagues.

Perhaps the best testimonial to this Shell insecticide can be found in an excerpt from a recent statement by Pirzada Abdus Sattar, Agricultural Minister of Pakistan. He said:

"This year the dream of locust control promises to become a reality. The locust horde will be fought not by individuals, but by many nations, combining their resources through the Point Four Program of the United States and the Food and Agriculture Organization of the United Nations. Our government will be among those taking part. Wherever locusts are a problem, they will be attacked from the air with aldrin, the powerful new insecticide. . . .

"And remember, when the airplanes spray aldrin across a swarm of locusts, your government is working with the United Nations to provide a happier, healthier life for the people of the world."

One of man's oldest forms of transportation helps track down and exterminate one of man's oldest enemies, below, as a camel carries a patrol in the rugged areas of northern India in search of locust egg fields.



# 1952 Mileage Marathon



Last Year's Winners Beat Own Record And Make Highest Mileage in History of The Marathon

**D**AVE BERRY and Fred Schuette made history in their 1924 Chevrolet during the annual "Mileage Marathon" recently conducted by employees of Shell Oil Company's Research Laboratory at the Wood River Refinery. They marked up a new record of 168.47 miles per gallon and for the second successive year won first place in the Marathon. The previous record of 150 miles per gallon was made in 1949 by R. J. Green-shields, Director of Research at the

Laboratory.

The greater mileage was attributed partly to a new course used for this year's event, which was composed entirely of paved highways with very little interference from traffic. As on previous courses, however, there were two railroad crossings.

Such fantastic mileages were obtained by using methods that are practical only for specialists and by running the specified course laid out for the Marathon. Such procedures

are not for everyday driving and the average motorist would certainly ruin his automobile were he to attempt them under ordinary conditions.

Some of the procedures used to attain high mileages are: blow up tires to a precarious 110 pounds, file off the treads leaving only a narrow center band of rubber, alter differentials and transmissions, disconnect fans, generators and all other power-consuming accessories and tune the ignition and carburetion to perfection. Each inch of the course is studied for weeks by each entrant and before the Marathon they make their own maps indicating where to accelerate and where to coast.

This year a new class was added, to give cars with automatic transmissions and drivers of less than professional instincts a chance at the prizes. Cars entered in this class were required to maintain an average speed of not less than 30 miles per hour.

No trick attachments were allowed in any automobile in either class during the running of the Marathon. The contest rules are strict and each entrant is required to adhere to specified regulations.

In addition to the Marathon's being fun both for the contestants and the spectators, the data obtained are of interest to Wood River scientists. In the Research Laboratory, a year-round testing program includes experiments with engines and fuels in a constant effort to improve motor fuel and engine performance for the average motorist.

Scorekeeper F. A. Orr was kept busy recording the mileage of each car as it arrived at the finish of the course's 11.94 miles.

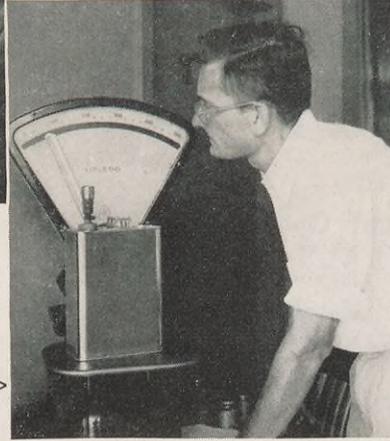
SHELL MILEAGE MARATHON 1952					
CLASS	CONTESTANT	CAR	CAR WEIGHT	SPEED	MILES PER GALLON
1	BERRY-SCHUETTE	1924 CHEV	2455	161.49	168.47
1	SIMS-BLATT	32 PLY	3025	98.27	129.29
1	TSRINGHAUS	44 Ford	3327	79.47	79.26
1	BLATT-SIMS	49 Oldsm	2015	124.88	103.38
2	M.V. REEDY	51 Nash Rambler	3076	74.48	70.30
2	B LONG+HD LONG	51 Buick	4374	71.25	52.18
2	JOHN BAKER	50 Merc	4220	56.1	
2	ITUELL+WATSON	51 Ford	3798	48.4	
2	PHALEN+SMIALEK				
2	O.+M.H. COX				
2	HE HEINZ				
2	ERK+PHALEN				
2	ELONG		3817	65.20	
2	N				
2	ATT				30.28
2	STMAN				41.30
2	SIMS				

## Mileage Marathon . . . cont'd



Marathon contestants and spectators enjoyed a buffet luncheon that was set up on the grounds of the Research Laboratory. The children divided their time between the buffet and the Marathon finish line.

J. J. Heithaus weighs a test fuel container to be used by a contestant. > Shell Premium Gasoline, available to the public at any Shell Service Station, was used exclusively by all contestants in the Marathon.



Mary and Orbie Cox (above) make their final adjustments to the fuel line of their 1930 model Ford while waiting their turn to start the Marathon course.



The pulse of the Mileage Marathon—C. E. Arbutnot center and E. C. Larson compute and record the mileage of all cars. Each contestant was given the same amount of fuel in a special container; this container was weighed after the run and the amount of fuel remaining determined the entrant's score.



Class I winners in the 1952 Marathon shown standing by their cars are (from left) W. D. Sims, 3rd place; W. N. Blatt, 2nd place; Fred Schuette and Dave Berry, who came in first for the second successive year. Their 1924 Chevrolet was the same car they drove last year.



The contestants included in the various teams which entered this year's mileage Marathon were: (standing left to right) O. Cox, Mary Helen Cox, Helen Ryan, J. G. Ryan, Bonnie Long, J. J. Smialek, B. T. Welch, W. W. Horstman, Jr., R. G. Tuell, W. W. Horstman and B. W. DeLong; (seated, middle row, left to right) J. T. Watson, C. A. Phalen, E. A. Isringhaus, Marilyn Isringhaus and D. L. Berry; (seated, front row, left to right) L. W. Read, J. B. Baker, Ruth Reedy, M. V. Reedy, W. N. Blatt, J. Dowell, W. Sims and Helen DeLong.

The teams of B. W. and Helen DeLong, left, and Ruth and M. V. Reedy, who won second and first places respectively in Class II, show the Marathon trophies they were awarded.



# Shell People I

## Shell Development Changes



D. L. Yabroff



K. R. Edlund



D. P. Stevenson



J. N. Wilson

D. L. YABROFF has returned to Shell Development Company as Associate Director in charge of Chemical Products Research. He replaces K. R. EDLUND who, as an Associate Director, will undertake a special assignment involving, among other things, coordination of sponsored research at Emeryville.

A graduate of the University of California, where he received his Doctorate in Chemistry, Dr. Edlund has been with Shell since 1927, starting as a Chemist at the Martinez Refinery. Moving to Emeryville the following year he continued in research work until 1937, at which time he was named Director of the Shell Oil Company Research Laboratory at Wood River. He returned to Shell Development Company in 1943 as an Associate Director.

Dr. Yabroff is a graduate of the University of Nebraska and the University of California, receiving his Doctorate in Chemistry from the latter. Starting with Shell Development Company in 1934, he became an Associate Director in 1948. In December, 1950, he was released to accept a temporary assignment with Shell Oil Company as Manager of the Head Office Manufacturing-Research Department.

D. P. STEVENSON has been made Head of the Chemical Physics Department at Shell Development Company's Emeryville Laboratories in California. Dr. Stevenson replaces J. N. WILSON who has been appointed Head of the Catalysis and Surface Chemistry Department at Emeryville, leaving M. W. Tamele, who had been in charge of this department, free to devote his attention to his principal duties as an Associate Director of Research. Dr. Tamele will continue to direct the general research activities of the Chemical Physics and Catalysis and Surface Chemistry Departments.

Dr. Stevenson, who took his Bachelor's Degree at the University of California and received his Doctor's Degree from Princeton University, has been with Shell for 10 years. He was Assistant Head of the Emeryville Chemical Physics Department from 1950 until his new appointment. Dr. Wilson, who received his Doctorate at the California Institute of Technology, has been with Shell for the past nine years.

# e In The News

## Shell Oil Changes

**A. H. BOULTBEE** has been named Manager of the Manufacturing-Research Department in the New York Head Office of Shell Oil Company. Holder of graduate and post-graduate degrees in chemical engineering from the University of Toronto, Mr. Boultee joined Shell Oil Company of Canada in 1933 as a Chemist at the Montreal Refinery. He transferred to Shell Oil Company in 1935 and subsequently served in various technical capacities at the Company's West Coast refineries. In 1943, after three years of special assignments with Shell Development Company, he was named Manager of the Technological Department at the Wilmington Refinery. Mr. Boultee held other senior technical assignments there and in San Francisco prior to 1947 when he accepted an assignment with an associate company in England in connection with the major expansion of the Stanlow and Shell Haven Refineries.

**R. K. SCHULZE** has been appointed Chief Engineer, Development-Research, for the Products Pipe Line Department in the New York Head Office of Shell Oil Company. His new assignment frees C. D. Faires, Chief Engineer of Construction, for the Department's large pipe line expansion program and extraordinary maintenance activities.

A graduate of Washington University in St. Louis where he majored in mechanical engineering, Mr. Schulze joined Shell Oil Company in 1937 as a Junior Safety Engineer in the St. Louis Office. He held safety assignments there,

at the Wood River Refinery and at the East Chicago Terminal prior to 1942 when he transferred to the Head Office Products Pipe Line Department as Office Engineer. He was named Senior Engineer in 1946.

**H. A. CURTIN** has been named Special Assistant to the Manager of the Head Office Auditing Department of Shell Oil Company. Mr. Curtin joined Shell in 1929 as a Clerk in Boston, Massachusetts. He moved to the New York Head Office as an Auditor the following year and served in various Treasury assignments there prior to becoming Chief Accountant in the Marketing Accounting Department in 1941. Mr. Curtin became Treasury Manager for the New York Marketing Division in 1944 and served in this position until his latest assignment.

**R. D. HAGUE** has succeeded H. A. Curtin as Treasury Manager of the New York Marketing Division. A graduate of the University of California where he majored in accounting, Mr. Hague joined Shell Oil Company in 1937 as a Clerk in the Treasury Accounting Department in the San Francisco Office. He served there until 1942 when he took a military leave of absence. He returned to the San Francisco Office in 1946 as an Accountant and was appointed Chief Accountant for the Seattle Marketing Division late the following year. Since 1949, Mr. Hague has held the position of Chief Accountant in the Marketing Accounting Department in the New York Head Office.



A. H. Boultee



R. K. Schulze



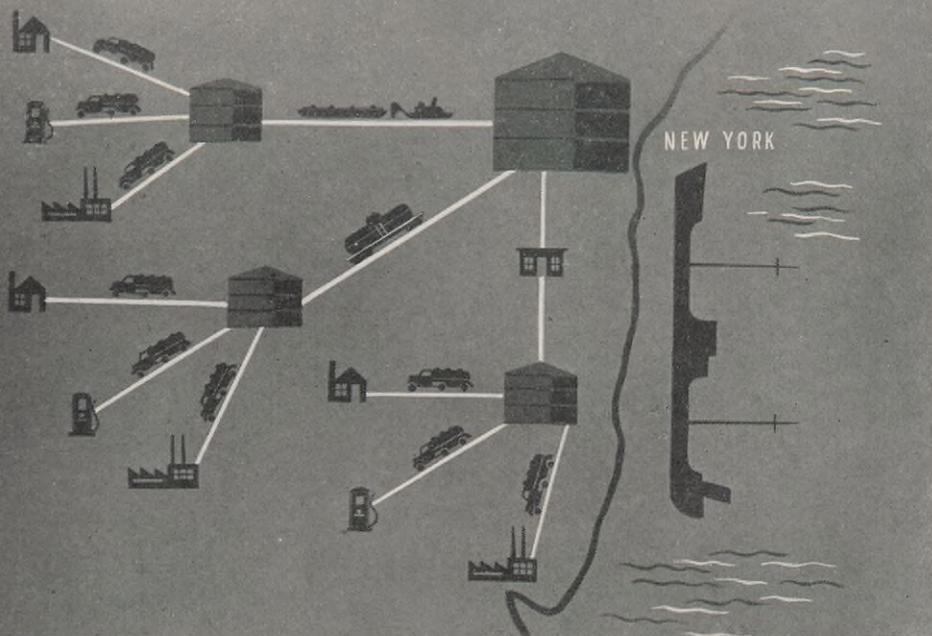
H. A. Curtin



R. D. Hague

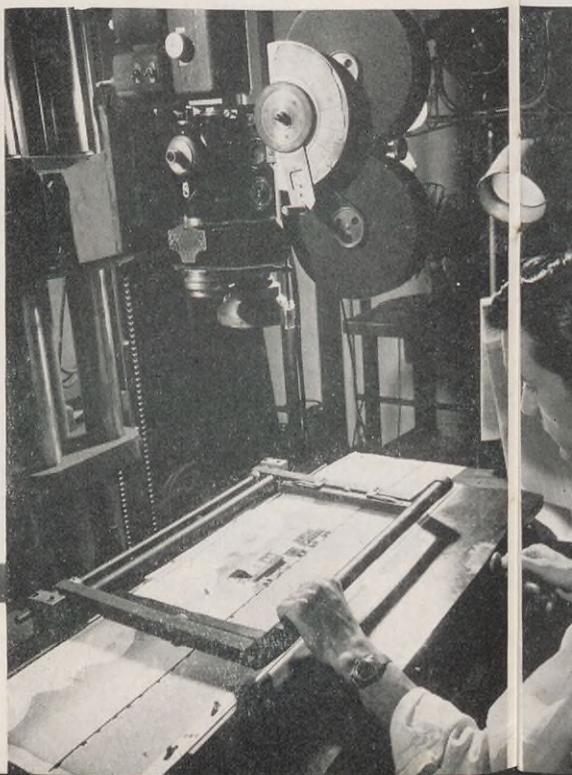
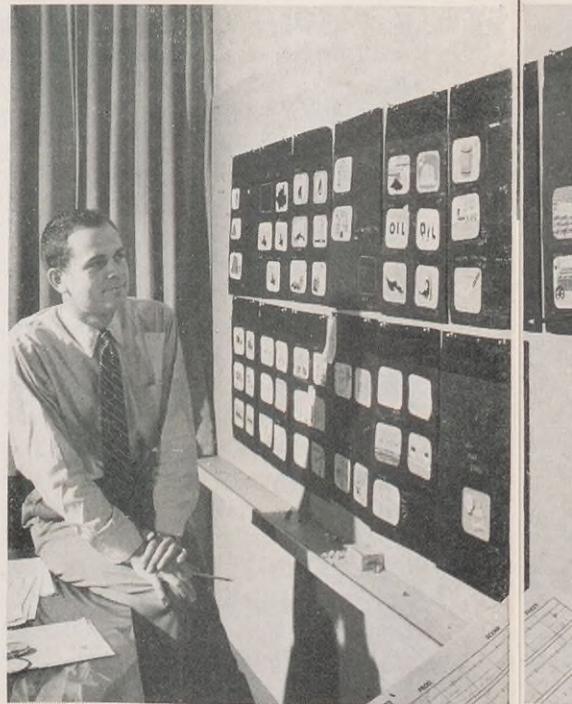
# OIL, THE INVISIBLE TRAVELER

Months of Activity by a Group of Highly Skilled Technicians Have Brought Shell's Newest Film in the "This is Oil" Series to Successful Completion



Graphic diagrams such as this are used in the new Shell motion picture in preparing animation sequences to show the various means by which crude oil and its products are distributed.

Michael Emanuele operates the animation camera which clicked 80,000 times to bring motion to the colored drawings making up the animation sequences. The composition of basic drawings is changed slightly for each exposure and the finished frames, when run off in close succession, give the illusion of movement.

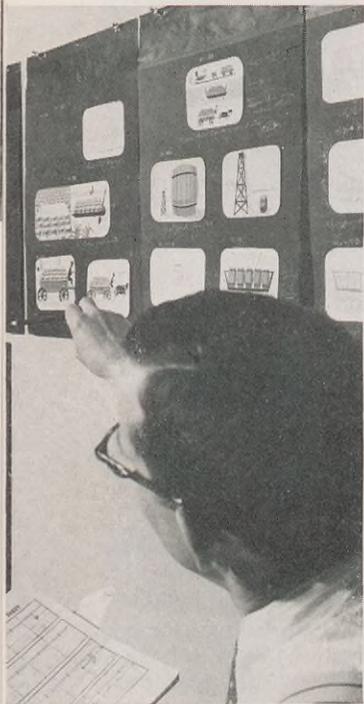


THE making of a moving picture is a long and complicated affair demanding artistic inspiration, common sense and a lot of plain hard work. These elements all went into *Oil, the Invisible Traveler*, fourth in Shell's "This is Oil" series.

Recently completed, the 18½-minute color picture blends live action and animation to trace the history of petroleum transportation from the wooden barrel to the present great network of petroleum carriers.

*Oil, the Invisible Traveler* had its conception in 1943, the year Shell initiated its film program. The backbone of that program was to be, and is today, a series of educational films designed to give the public a better understanding and appreciation of the fundamental operations of the petroleum industry. The first three of this series entitled "This is Oil": *Prospecting for Petroleum* (Exploration), *Birth of An Oil Field* (Drilling and Production), and *Refining Oil for Energy* (Manufacturing) accounted for a very large percentage of the 8,500,000 people who saw Shell films last year.

The people shown in *Oil, the Invisible Traveler* are Shell employees and dealers doing their daily jobs in exactly the same manner as they always do them—and even dressed the same way. They were shot by a roving camera crew which traveled to more than 100 locations to document these men and women at work. Animation



Artist Earl Murphy (left) looks over his work during an animation story board discussion. The story board is made up of a series of panels containing the continuity of the film in a number of rough drawings describing the major action.



Jack Zander, head of Transfilm's Animation Department, prepares a cue sheet which gives the animation cameraman the position of each drawing for each frame of film, the timing, and the words to be spoken in each sequence.

was used to portray historical scenes, and to clarify technical sequences.

The basic framework for any film is the script and Shell again chose veteran Norman Vizents for this job. Vizents, who did scripts for the first three "This is Oil" films, worked closely with Shell's Transportation and Supplies Department as he prepared the initial treatment which was later expanded into a script and a story board with the major scenes visualized by rough drawings.

Shell does not maintain its own film production unit but goes outside when a motion picture is to be made. Vizents' script called for action and animation. The Company picked Transfilm, Inc., to do the production. Transfilm has been successful in both fields.

Moving pictures are seldom, if ever, shot consecutively from start to finish. In the case of *Oil, the Invisible Traveler*, the live action was done on a geographical basis; scenes were shot from area to area, regardless of their final sequence in the picture. There were 162 separate live action scenes for the film, and many extra "takes" on each of these. In making these takes, about 9,000 feet of color film was exposed, although only approximately 350 feet of live action film was used in the final picture. It is wiser to make a number of takes on one location than to run the risk of having to go back and do the entire job over again if trouble should show up in the initial footage.

While the producer's field unit was at work, the head of the producer's

*Oil, the Invisible Traveler* will be made available for free showings to schools, service clubs, church and fraternal organizations and other interested groups. It may be obtained from the Shell Film Library at New York, Houston, San Francisco or Chicago.

## Oil, The Invisible Traveler . . . cont'd



Tank trucks are often the final link in petroleum transportation, bringing gasoline to supply neighborhood service stations.

animation department and his staff were preparing color drawings of their sequences. Once these were tested and approved, hundreds of pictures in color were prepared on large sheets of transparent plastic, along with a cue sheet giving the animation camera-

man the exact position of each drawing for each frame of film and other necessary data. All told, the animation camera clicked 80,000 times to make the animation sequences for *Oil, the Invisible Traveler*. The finished film represents 12,480 clicks, the remainder were used for action and color tests and in replacing sequences which were not up to top quality.

Live action and animation sequences were combined into a "work print" by the film editor whose responsibility it is to judge the pace and over-all effect of the production. At this stage, narration and music were still lacking.

*Oil, the Invisible Traveler* is a "voice over" film, the narration being spoken by an offstage voice. Don Hollenbeck, radio and television commentator, did the job for Shell. In a special sound studio with the work print projected before him and with a recorder for his voice synchronized to the projector, he spent two and a half hours

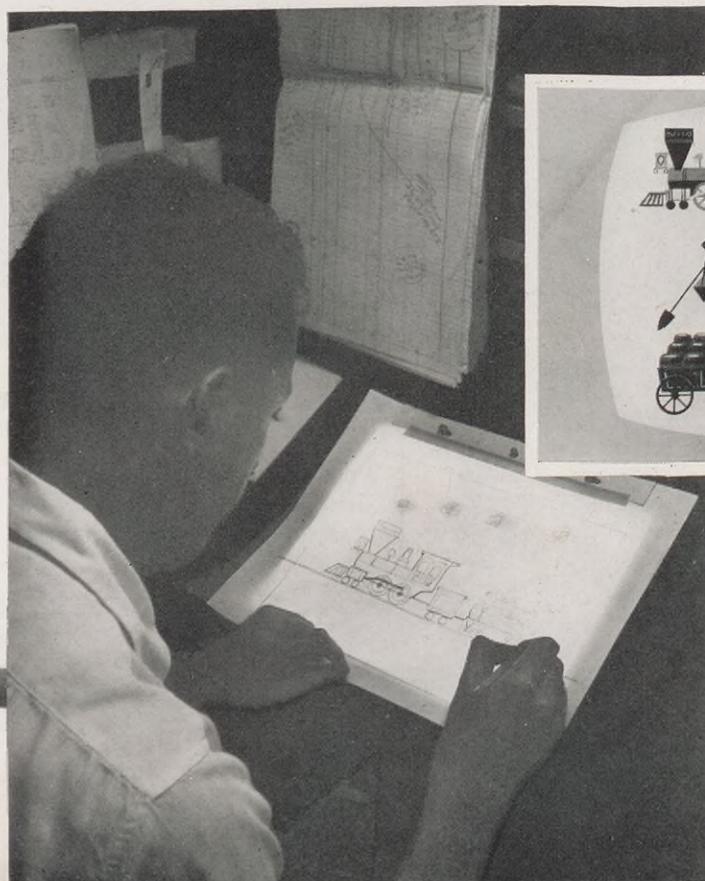
recording the picture's 14 minutes of narration.

Meanwhile, Samuel Matlowsky, one-time student at the Paris Conservatory of Music, was at work on the film's musical score. Reading and re-reading the script, looking at live action and animation sequences, he set down the notes which complemented and symbolized the action on the screen.

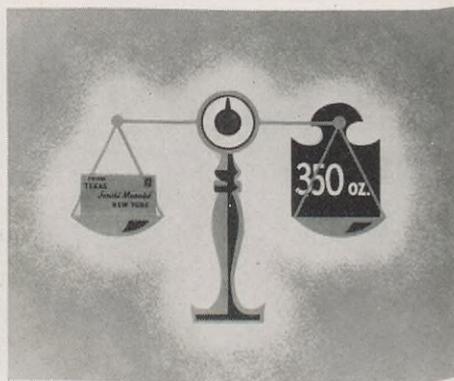
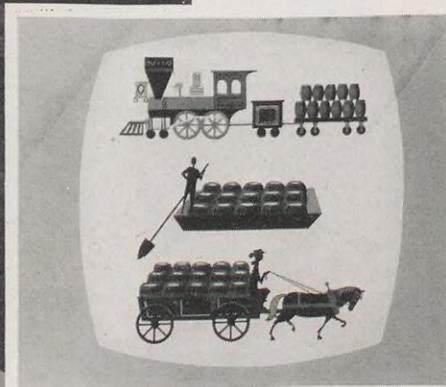
Before the music was recorded, the voice sound track was cut in final form and "laid against" the edited work print.

Under Matlowsky's direction, 26 musicians spent three hours recording the film's 18½ minutes of music. The music was recorded in apparently unrelated sections but each portion was coded by the film editor and composer, and when the music track was "laid together" it became a continuous musical composition.

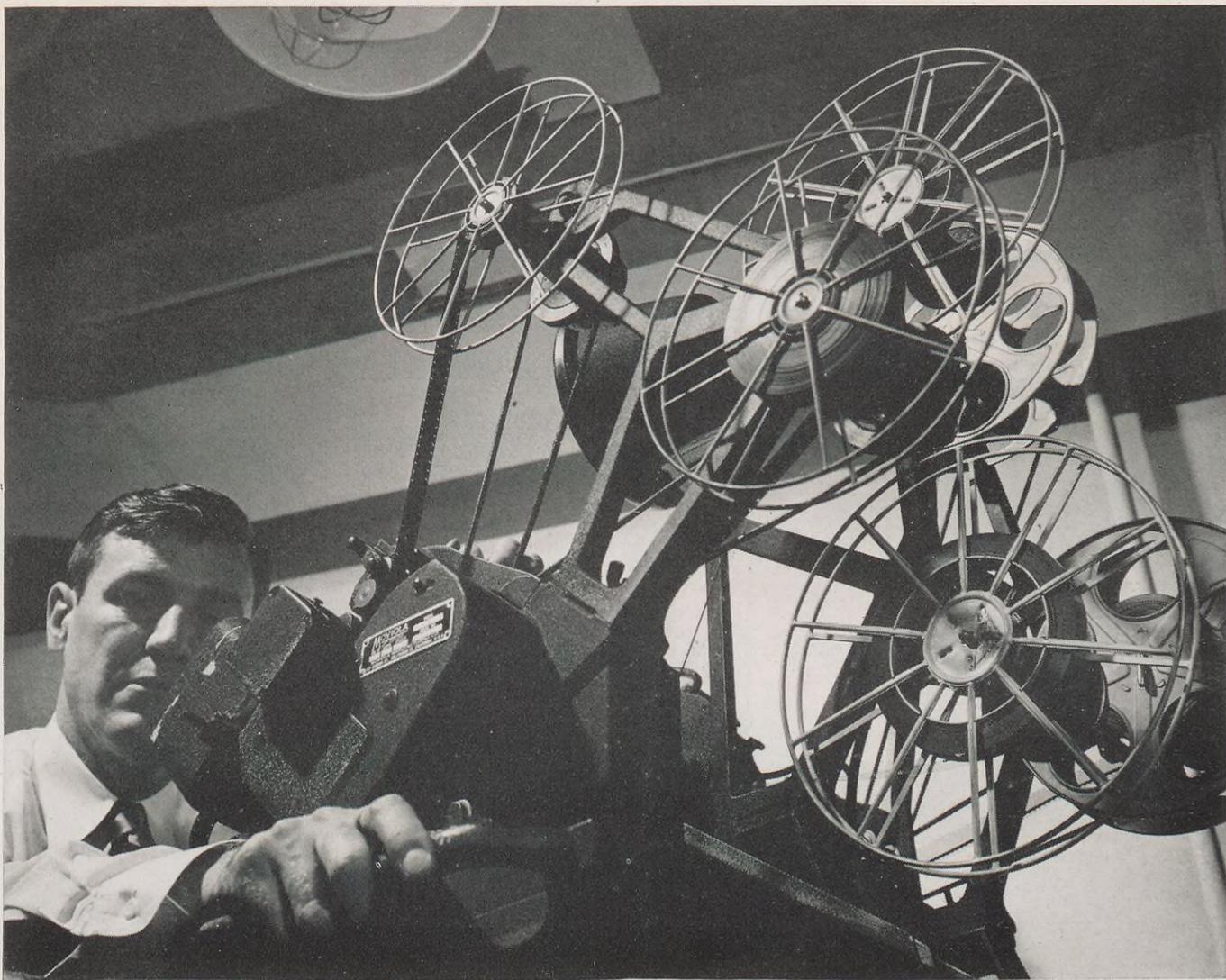
Finally, the last "mix" took place in a sound studio. There, while the final work print was projected on a screen, the voice track, music track and a track of sound effects were blended into a composite by a sound engineer. With the completion of this step, the physical task of making *Oil, the Invisible Traveler* was done.



For picturing historic scenes, and to illustrate the comparative cost of petroleum transportation clearly and tersely, animation, as shown below, is often superior to live action.



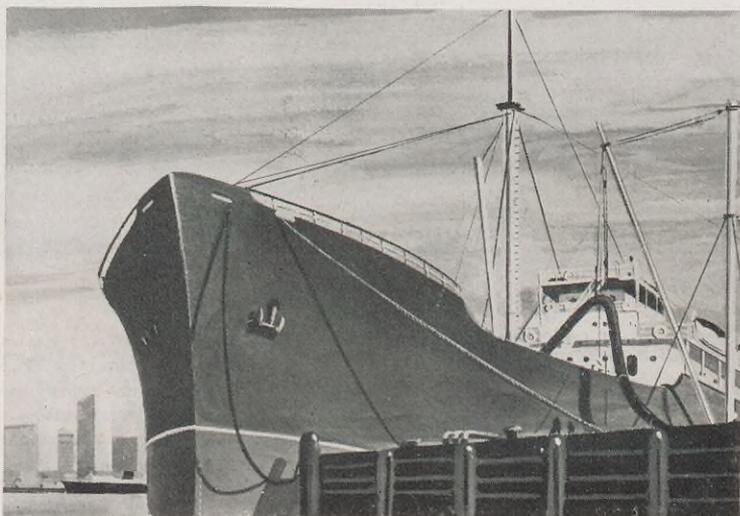
Artist Robert Perry sketches the train used to symbolize petroleum transportation in the past. Transparent paper over glass enables the artists to make series of overlays.



Teddy Markovic, film editor, uses a Movieola to check "Oil, the Invisible Traveler." The machine reproduces both the picture (on a tiny screen) and the sound track. The film editor times and assembles in proper sequence the approved "takes" of live action and animation scenes. The resulting product is a "work print" ready for the narration, music and final editing which will be added to complete the motion picture.



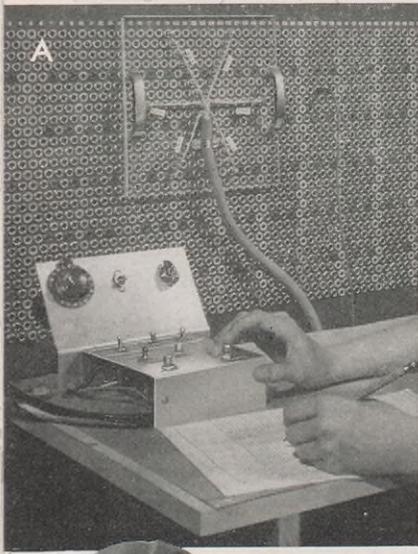
"Oil, the Invisible Traveler" contains colorful pictures of such means of transportation as tankers, tank cars and pipe lines.



# MATHEMATICS MADE EASY

An Electronic Brain, Designed and Built By Shell, at

Houston, Can Work Out Involved  
Mathematical Formulas Quicker Than You  
Can Say Multiplication Table



## HOW THE ANALOG COMPUTER WORKS

Before the analog computer was devised, Computer Julia A. Weil, above, laid a six-sided sheet of plastic on a contour map (Photo B). The six-sided sheet had 43 holes for spotting field location figures and the center hole was placed over the particular field location Julia was working with. The figures appearing in each hole were put into the desk calculator and the formula worked out. The analog computer (the control portion of which is shown in Photo A) substitutes a "jackboard," a large perforated panel that looks like a telephone switchboard, for the contour map. Each hole represents a figure on the contour map and the values of the figures have been placed in the machine beforehand in the form of voltages. A plastic "plug-board," with 43 plugs arranged like the spokes of a hexagon, substitutes for the plastic sheet used on the contour map in the old method. The plugboard is shoved into the large panel, with the center plug at the desired field location, and the problem is set up for working. By merely pressing a switch, Julia turns the problem over to the "electronic brain" for solving.

IF you can do 43 multiplications and additions in 10 seconds you're bound to get "A" in arithmetic—if you can do it.

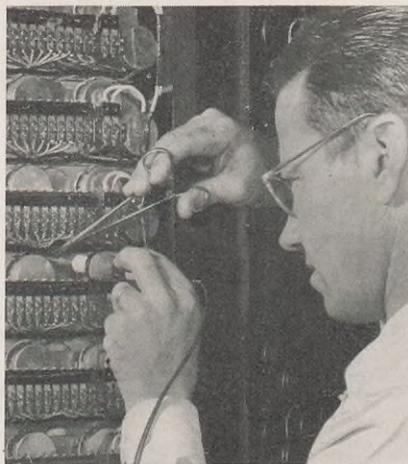
The fact is, this seemingly impossible feat is accomplished scores of times almost every day by Shell people in the Houston research laboratory of the Exploration and Production Technical Division. The catch is that they use an "electronic brain" designed and created by the laboratory's own personnel—an imposing array of lighted panels, wires, vacuum tubes, plugs and switches that do complex calculations connected with gravity and geophysical surveying. The instrument is an *analog computer* and it is helping Shell exploration men to chart accurately the underground structures of present and potential oil fields, and to chart them many times faster than was ever possible before.

The analog computer relieves exploration staff personnel of the tedious and time-consuming job of working out thousands of mathematical calculations which are necessary to interpret the data obtained by gravity and magnetic parties in the field. These parties, surveying a given area, take readings at plotted intervals—which form a square grid on their map—and jot down a number at each spot where a reading is taken. From this information, Area Exploration offices plot contour maps of the area surveyed.

But this gives only a partial indication of what lies beneath the surface. By taking the figures written down on the contour map and using them in mathematical formulas, a better interpretation of the subsurface information can be obtained. This is the job of a computer in the office.

Before that electronic whiz, the analog computer, was devised, the accepted method for working out a formula was for a person to sit down with a contour map, and a device for spotting the 43 figures used in each formula, a desk calculating machine, and a bit of patience—and start figuring. An experienced computer, multiplying and adding at a steady rate, might do as many as 40 computations a day.

The trouble was, one lengthy com-



There are two miles of wiring and over 15,000 soldered connections in the analog computer.

putation gave the data for only one field location—and some surveys include thousands of them. Then, too, a computer pecking away at a calculating machine most of the day wasn't immune to errors.

The new analog computer eliminates the tedium and guess-work. All the field location figures are put into the machine in the form of voltages, then the operator selects the desired location and plugs in a device which automatically picks out the 43 figures involved in the problem. A switch is pressed and, zing, 10 seconds later the answer appears in numbered lights. The only visible movements or sounds are the flashing of numerous small lights and the clicking of electric relays.

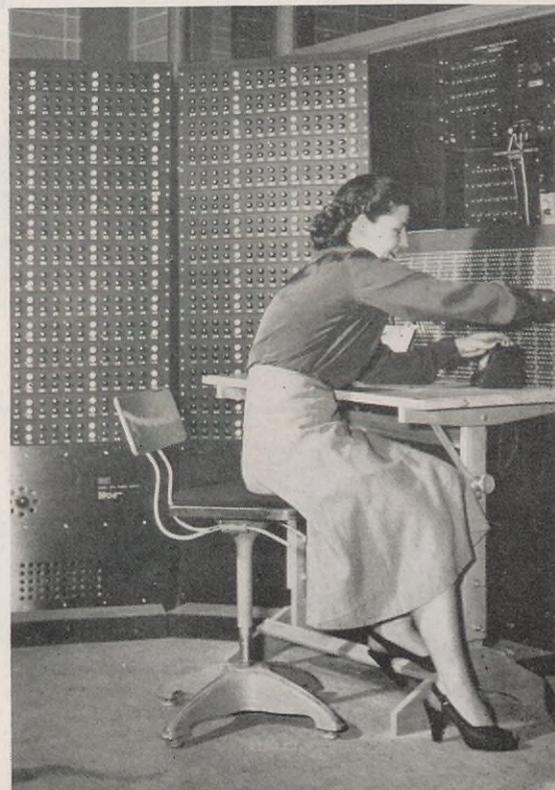
Because the analog computer has the faculty of "remembering" all the field location figures, no matter how many times they are used, it is more accurate than a human brain. Its speed also makes it possible to run each formula through twice to check this accuracy.

Its speed adds in another way to the accuracy of the exploration information being compiled. There are several mathematical theories and as many formulas for obtaining subsurface data from magnetic and gravity surveys. In the old, slow method of computing with a desk calculator, the custom was to work out only one formula and let the others go. With

the analog computer, five formulas are now being worked out for each field survey.

Shell's analog computer has been in operation at Houston since mid-1951. Though it is a bewildering collection of two miles of wiring, 127 vacuum tubes, hundreds of lights, thousands of screws, and with more than 15,000 soldered connections, it was designed and built in an amazingly short time. The problem of devising some method of cutting down on survey calculating time was given to the Physics-Electronics Group at the Laboratory in October 1950. By the following January, the problems of voltages, double analogs, microseconds, potentiometers, resistors, and what-have-you had been neatly solved and jig-sawed together in the form of a pilot model. After extensive testing of the model, the full-scale analog computer was completed in June. It is now being used by the Technical Services Group of the Exploration and Production Technical Division for obtaining information from selected field surveys. The Technical Division plans to build more like it, to spread the advantages of speed and accuracy as far as possible.

Though the "electronic brain" is an intricate and sensitive machine, a "non-technical" person can learn to operate it in a single day.





The tenth in a new series of organization charts

Shell Oil Company

August—1952

Vice President



S. F. Bowlby

Manager  
Exploration

L. R. Newfarmer

Manager  
Land

M. W. Sheppard

Manager  
Legal

R. T. Patton

Manager  
Pers. & Ind.  
Relations

W. S. Gage

Area  
Geophysicist

H. Thornburgh

Senior  
Geophysicist

C. H. Gregory

Area  
Geologist

G. E. Miller

Senior  
Geologist

V. W. Finch

Senior  
Geologist

D. E. Taylor

Assistant  
Manager  
Land

C. I. Warren

Office  
Manager

C. L. LaForce

Senior Geologist  
(Special  
Assignment)

M. Birkhauser

Senior Geologist  
(Special  
Assignment)

G. C. Kuffel

Senior Geologist  
(Special  
Assignment)

L. Kehrer

Geologist  
(Special  
Assignment)

H. J. Buddenhagen

Rocky Mountain  
Division  
Manager

J. E. Clark

Division  
Geologist  
Coastal

F. W. Bell

Division  
Geologist  
San Joaquin

W. McKittrick

Division  
Geologist  
Rocky Mountain

R. B. Wing

Division Land  
Manager  
Coastal

C. T. Crewell

Division Land  
Manager  
San Joaquin

H. F. Crandall

Division Land  
Manager  
Rocky Mountain

R. N. Gadbois

Division Supt.  
Rocky Mountain

F. J. Toth

# PACIFIC COAST EXPLORATION AND PRODUCTION AREA ORGANIZATION CHART

Manager  
Purchasing-Stores



A. E. Collins

Manager  
Treasury



C. A. Peterson

Assistant to  
the Vice President



S. H. Oatway

Manager  
Production



E. W. Masters

Assistant  
Manager  
Purchasing-Stores



G. Borchard

Chief  
Accountant



D. H. Filbert

Manager  
Automotive



R. W. Bozeman

Dept. Manager  
Survey and  
Drafting



H. F. Peterson

Gen. Drilling  
Superintendent



W. F. Bates

Chief  
Exploitation  
Engineer



W. C. Chonette

Chief  
Mechanical  
Engineer



C. A. Yeatman

Natural Gas  
& Gasoline Div.  
Manager



J. T. Doyle

Pipe Line  
Division  
Manager



W. C. Roberts

Div. Production  
Manager  
Coastal



B. P. Eastin

Div. Production  
Manager  
San Joaquin



F. R. Schmieder

(Acting) Div. Prod.  
Manager  
Los Angeles Basin



P. E. Lehr

Senior  
Exploitation  
Engineer



W. TempelaarLietz

Senior  
Exploitation  
Engineer



A. M. Johnson

Senior  
Mechanical  
Engineer



R. J. Kettenburg

Assistant  
Pipe Line  
Manager



M. C. Alcorn

Division Supt.  
Coastal



R. R. Robison

Division Supt.  
San Joaquin



J. E. Gallagher

Senior  
Production  
Geologist



J. M. Fouts, Jr.

Sr. Exploitation  
Engineer  
(Special Problems)



J. P. Murphy

Senior  
Exploitation  
Engineer



W. L. Hobro

Senior  
Exploitation  
Engineer



L. M. Charter

# Blow The Bit Down

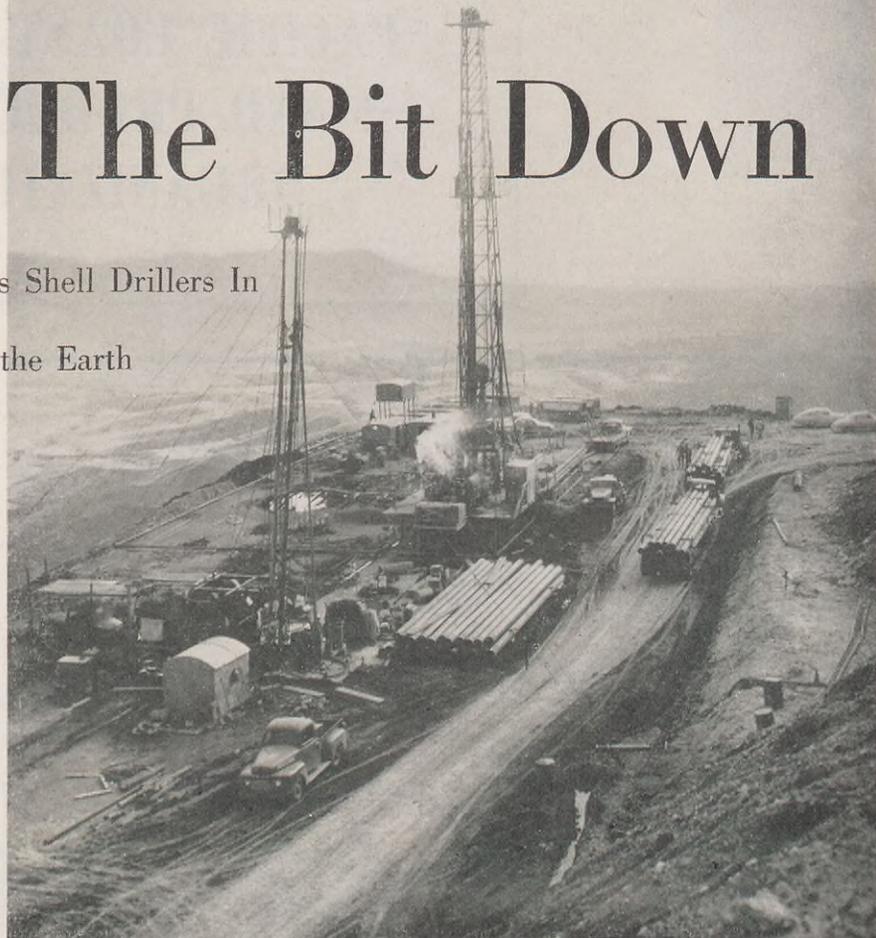
Compressed Air Now Aids Shell Drillers In  
Their Search For Oil Deep In the Earth

**I**T'S an ill wind that blows nobody good, even in the oil business, so now they're using winds of tornado force to help drive drilling bits deep into the earth in search of oil. They're using compressed air, as a substitute for drilling mud, to cool the bit and carry rock cuttings to the surface.

There is little difference between the old and new technique. Either mud or air, when used in rotary drilling, is pumped down through the drill pipe and emerges with force through holes in the drilling bit. There it cools the bit, then flows back up the hole on the outside of the drill pipe, carrying with it the rock cuttings ground out of subsurface formations by the drilling bit.

Mud has an additional function. On the way up it seals off the small cracks and fissures around the sides of the hole. The catch is that occasionally the hole runs through a layer of fractured rock where the cracks are so large that much of the mud and cuttings are lost in them. This is called "lost circulation" and it's a costly proposition in drilling, because the special mud is an expensive item. Too, the rock cuttings which don't get to the surface might be just the ones that could give the geologists important clues to oil-bearing formations.

By using air under pressure, the driller can save the cost of lost mud and at the same time get most of the rock cuttings blown straight up the hole to the surface.



Old and new drilling methods vie with each other in this picture. The old cable tool rig, foreground, is much slower than the larger rotary rig using compressed air. Both methods can be used, however, when cracks in underground formations cause high loss of drilling mud.

The problem of lost mud circulation assumed major proportions when Shell began recently to develop its properties in the South Mountain Field of California, properties purchased just last year. The field is located on the top and steep slopes of South Mountain, near Santa Paula, and for the first 500 to 1,000 feet below the surface the drilling bit must penetrate loose and fractured volcanic rock which is literally a sieve of cracks and holes. In one well, for example, loss of mud made it necessary to stop the drilling and cement off big cracks six different times in the first 600 feet. There is no way to avoid the cracks, for they occur throughout the field's area, and any drilling problem such as lost circulation is exaggerated by the fact that most wells at South

Mountain are directionally drilled and require delicate control of the drill pipe and bit. Drilling can be done only from flat "islands" gouged out of the mountainside, and as many as six wells are angled out in various directions from each island.

Now, after months of experimentation, Shell uses compressed air instead of mud until each well has penetrated the troublesome strata near the surface. A battery of nine compressors substitute for the mud pumps. They supply 4,180 cubic feet of air each minute. The air reaches the bit at a pressure of approximately 100 pounds per square inch. When the air returns to the surface, a flow pipe directs the rock cuttings into a pile—instead of into mud pits.

Once through the fractured area,



Five of the nine compressors that supply air for Shell's air drilling operations at South Mountain Field, California, are shown here on one of the mountainside "island" drilling sites.

with casing set, and with the bit drilling in less porous formations, the crew switches over to the use of mud.

Before Shell put compressed air to work at South Mountain, cable tool rigs were used to solve lost circulation problems. The cable tool requires no mud and consequently is not affected by lost circulation. But the cable tool is extremely slow—in comparison with present-day rotary drilling speeds—and maintaining a straight or controlled-angle hole is difficult. Air drilling saves additional time by eliminating the necessity for moving out the cable tool rig and replacing it with a rotary rig to deepen the hole.

#### Air Drilling for Shot-Holes

Actually, compressed air drilling was first used by Shell as an exploration technique rather than in drilling for oil. Since 1950, some of the Company's seismic exploration crews have used air instead of drilling mud for drilling the shot-holes in which they set off explosive charges. In the first place, since the shot-holes are sometimes drilled several hundred feet deep, they occasionally penetrate cracked and porous formations and suffer from lost circulation like their bigger counterparts. Air drilling takes care of this problem. Another advantage for air is that it eliminates the need for hauling water by tank truck to mix the drilling mud. A single air compressor capable of supplying enough air for seismic shot-hole drilling can be

mounted on the same truck that carries the portable rig that drills the holes. One-truck air drilling units have also been developed by Shell for obtaining paleontological samples at shallow depths.

Considerable research on the subject was conducted by the Exploration and Production Technical Division at its laboratory in Houston and at field locations. Air drilling has long been practiced by the mining industry, and two Shell men toured mines in Michigan to observe the methods used there. Portable rigs were then equipped

with air compressors for tests in the vicinity of New Braunfels and San Angelo, Texas. They proved the time-saving advantages of air drilling under certain conditions over both the mud drilling and cable tool methods.

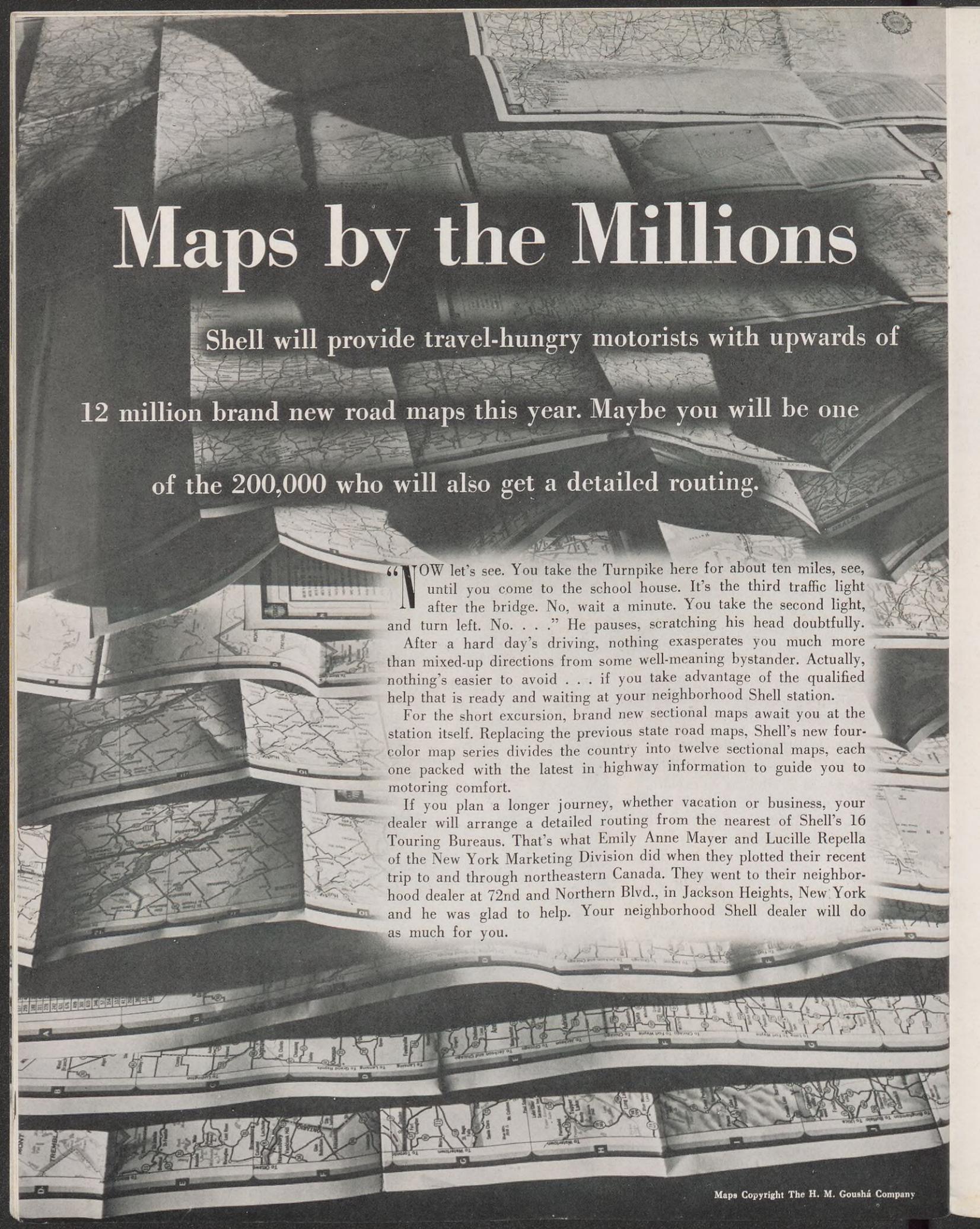
A seismic drilling truck using mud for circulation often required a whole day to drill a 100-foot shot-hole in the cavernous limestone at San Angelo. The same rig, equipped for air circulation, put down three and a half similar holes in the same time. The rig using mud at one test location required 5,600 gallons of water—14 truck loads. The air drilling rig required no water at all.

The speed advantage over the cable tool method of drilling came into sharp focus when, by luck, one of the air testing rigs happened to be working across a fence from a cable tool rig drilling water wells. The rotary rig, using air for circulation, won the race to the bottom with little effort. At one stage, the rig was making hole at the rate of 194 feet per hour.

The air circulation technique has been used successfully on more than ten wells in the South Mountain Field to date—enough to assure it a definite place in the highly specialized business of oil well drilling.



When air is used in drilling instead of mud, rock cuttings emerge from a flow pipe, above, at the surface and fall into a pile. The method is basically the same as that using mud for circulation.



# Maps by the Millions

Shell will provide travel-hungry motorists with upwards of 12 million brand new road maps this year. Maybe you will be one of the 200,000 who will also get a detailed routing.

**N**OW let's see. You take the Turnpike here for about ten miles, see, until you come to the school house. It's the third traffic light after the bridge. No, wait a minute. You take the second light, and turn left. No. . . ." He pauses, scratching his head doubtfully.

After a hard day's driving, nothing exasperates you much more than mixed-up directions from some well-meaning bystander. Actually, nothing's easier to avoid . . . if you take advantage of the qualified help that is ready and waiting at your neighborhood Shell station.

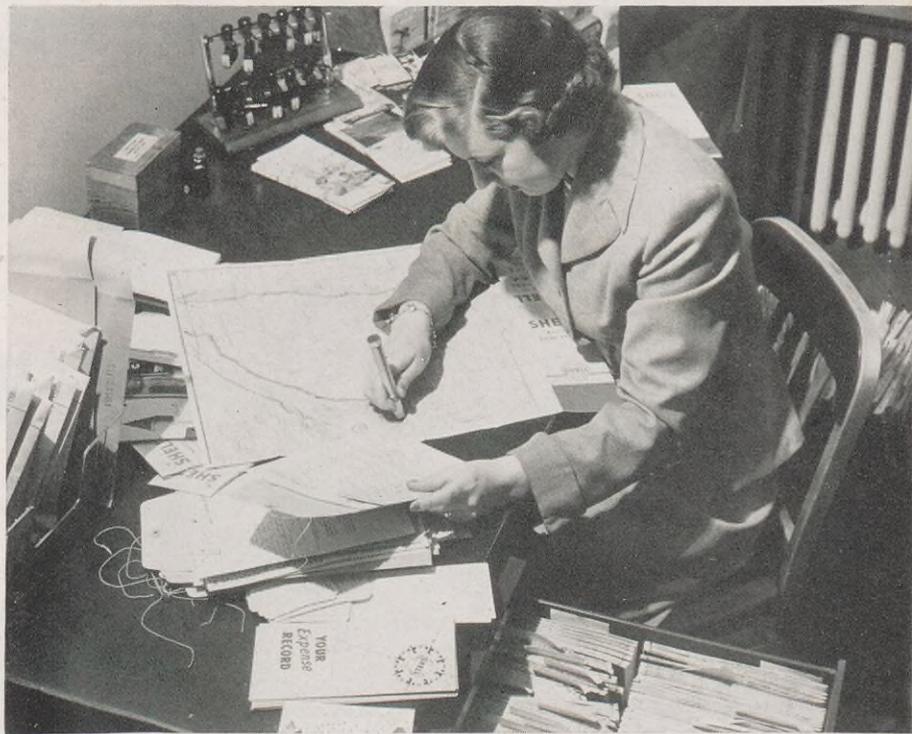
For the short excursion, brand new sectional maps await you at the station itself. Replacing the previous state road maps, Shell's new four-color map series divides the country into twelve sectional maps, each one packed with the latest in highway information to guide you to motoring comfort.

If you plan a longer journey, whether vacation or business, your dealer will arrange a detailed routing from the nearest of Shell's 16 Touring Bureaus. That's what Emily Anne Mayer and Lucille Repella of the New York Marketing Division did when they plotted their recent trip to and through northeastern Canada. They went to their neighborhood dealer at 72nd and Northern Blvd., in Jackson Heights, New York and he was glad to help. Your neighborhood Shell dealer will do as much for you.



Emily Anne, in car, and Lucille ask Service Station Dealer Ward Franzen for map routing and other helpful information for their forthcoming trip to Canada. The new Shell sectional maps, which show major points of interest as well as regular map data, are much easier to use than a handful of individual state maps.

Dealer Franzen forwarded their routing request into the New York Division Touring Bureau. Betty Mulcahy, right, marks the recommended routing on the maps, taking care to steer the girls around all possible road obstructions. In addition to complete map coverage, the Touring Bureau packet includes additional literature on points of interest along the way, places to write for information on food and hotel accommodations, a sheet for listing daily expenses, etc.



The dealer notifies the girls as soon as he receives the travel packet from the Touring Bureau. He's familiar with the routing and points out a few of the sites on the route.



Photographs and memories . . . Emily Anne Mayer and Lucille Repella show the dealer a few mementoes of their trip which was completely free of travel headaches. The same swift Shell service can help make your next trip a pleasant one, too.

# MINK in Your Own Back Yard



When Elwin's baby minks are 19 days old, above, they resemble the household kitten. Unlike most cats, however, minks' pedigrees are kept as carefully as the records of a racehorse stable. These minks will be pampered until ready to form pelts for m'lady's coat.

*Social Register Cousins Of*

*The Weasel Are Raised By*

*Wilmington Employee*

**M**OST people who have a half acre of property behind their homes raise vegetables, flowers, fruit trees or dogs. Not so Elwin G. Williams, Gauger "A" in the Dispatching Department at the Wilmington Refinery—he breeds minks.

Elwin, who long had a yen to raise these luxuriously furred animals, decided in 1947 to invest in the purchase of four females and a half interest in a male. With extraordinary beginner's luck, he found that at the end of the first mating season he was the proud owner of twenty-three kits (baby minks) of which twenty-one were females.

As the number of minks increased, so did Elwin's knowledge of breeding, pelting, and marketing of mink skins. The first pelting season was 1948, the year after the start of the new venture, at which time he thinned out his herd by 59 animals. Since then he has prepared 367 pelts for the fur market, and despite this thinning of the ranks his present herd totals almost 300 skins.

The Williams' well-trained Doberman Pinscher is the guardian of the mink farm. Whenever a mink escapes, "Vickie" warns her master with a resounding growl that can be heard in the house. The camera-shy minks hid in corners as this photograph was taken.

V





Elwin holds one of his blue ribbon winners, a rare white mink. In the cage is a valuable Royal Pastel mink. Despite the cuddly appearance of the minks, Elwin wears steel reinforced gloves to protect himself from the razor-sharp teeth. These animals are heavy eaters and the herd consumes over 55 lbs. of horse meat and fish every day.



Elwin Williams is stretching a pelt he has just prepared on a drying board. Above him are a few of the furs he has pelted this last season. Once on boards the furs are kept in a dry place for five days. If pelts are shipped before having been dried, they will be ruined.



Every now and then choice mink pelts take a detour and instead of going to Elwin's New York fur brokers they find themselves made into a scarf for Mrs. Williams or used to decorate a collar for Patsy Anne, the Williams' three year old daughter.

# They Have Retired



H. H. ANDERSON

H. H. ANDERSON, Vice President and General Manager of Shell Pipe Line Corporation, has retired after thirty-five years of Shell service.

Mr. Anderson's outstanding record with the Shell companies is well known throughout the Oil Industry. He started with Shell in 1917 in the Coalinga Field in California, after receiving B.S. and M.S. degrees from the University of Southern California, and served in various West Coast engineering positions prior to becoming Chief Engineer of the Production Department in Los Angeles in 1925. Four years later, he was selected to plan and construct the Shell Building in San Francisco. The 30-story structure was erected and occupied in the record-breaking time of ten months.

The early thirties found Mr. Anderson working with Shell organizational problems that brought him into close contact with Shell operations throughout North America. On one such assignment, he spent a year with an associate Shell company in Mexico.

Mr. Anderson, who has represented the Industry on many occasions, served as chairman of the Labor Sub-Committee of the Oil Code Authority in Washington, D. C. in 1934. He has been a member of several important API

committees, and has been most active in helping to solve industry corrosion problems.

Mr. Anderson was named a Vice President of Shell Oil Company in 1932. Nine years later he moved to Houston as Vice President of Shell Pipe Line Corporation. His tremendous enthusiasm and sympathetic understanding contributed in no small way to the successful expansion of the Corporation in the past decade, and his solution of the many problems that Shell Pipe Line employees faced in this period has earned for him their admiration and respect.

E. G. ROBINSON, Vice President in charge of Shell Oil Company's Calgary Exploration and Production Area, has retired after more than twenty-seven years of distinguished service.

Mr. Robinson received graduate and post-graduate degrees in geology from Cornell University prior to joining Shell in 1925 as a Geologist at San Antonio, Texas. His subsequent career with the Company took him to a number of oil-producing locations. He went from San Antonio to Dallas, Texas, and from there to St. Louis where in 1930 he was made Assistant to the Vice President, Exploration. In 1937, after serving for a time in California, he was put in charge of exploration and production activities in the then newly-discovered Illinois Basin. His outstanding success in this Illinois assignment led to his appointment as Exploration Manager for the old Texas-Gulf Area in 1944.

Other senior assignments followed swiftly. He was made Manager of the New Orleans Area when it was set up in 1946, and three years later became Manager of the Calgary Area and a Vice President of Shell Oil of Canada. Mr. Robinson was named a Vice President of Shell Oil Company in 1951.



E. G. ROBINSON



V. O. ANDREWS  
Sacramento Division  
Operations



A. A. CHRISTENSON  
Shell Chemical Corp.  
Dominguez Plant



A. L. COOK  
Pacific Coast Area  
Production



D. G. COOPER  
Atlanta Division  
Tax Representative



P. S. CRAFTON  
Pacific Coast Area  
Production



F. W. DEIST  
Wood River Refinery  
Fire & Safety



S. T. DIXON  
Pacific Coast Area  
Production



L. L. FISHER  
Martinez Refinery  
Engineering



J. J. FOX  
Pacific Coast Area  
Production



R. H. FUNK  
Cleveland Division  
Operations



H. W. GETTING  
Head Office  
Tax



G. A. HANDLEY  
Pacific Coast Area  
Production



E. C. HATFIELD  
Martinez Refinery  
Dispatching



E. R. HORSTMEIER  
Chicago Division  
Tax Representative



C. J. HUGGETT  
Wilmington Refinery  
Cracking



H. HUNSUCKER  
Indianapolis Division  
Operations



J. H. JAMES  
Pacific Coast Area  
Purchasing-Stores



W. A. JOHNSON  
Wood River Refinery  
Engineering



H. N. KEIDEL  
Wood River Refinery  
Engineering



S. A. MARTIN  
Wood River Refinery  
Fire & Safety



S. H. MCGOWAN  
San Francisco Office  
Purchasing



C. J. MONROE  
Wilmington Refinery  
Distilling



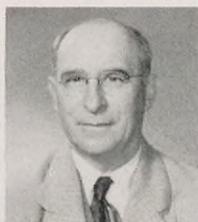
M. F. MORAN  
Pacific Coast Area  
Operations



W. M. NEWCOMB  
Boston Division  
Operations



W. O. RORICK  
Wilmington Refinery  
Engineering



J. J. SCHICKER  
Sewaren Plant  
Compounding



J. B. SCHWARTZ  
Wilmington Refinery  
Engineering



F. S. SEIBERT  
Pacific Coast Area  
Production



C. H. SHIVERS  
Los Angeles Division  
Sales



E. SIMPKINS  
San Francisco Office  
Operations



O. P. SNOW  
Tulsa Area  
Production



W. R. STARKS  
Indianapolis Division  
Operations



F. A. STOCKDALE  
Seattle Division  
Operations



F. P. STRATE  
Pacific Coast Area  
Treasury



A. TAYLOR  
Wilmington Refinery  
Engineering

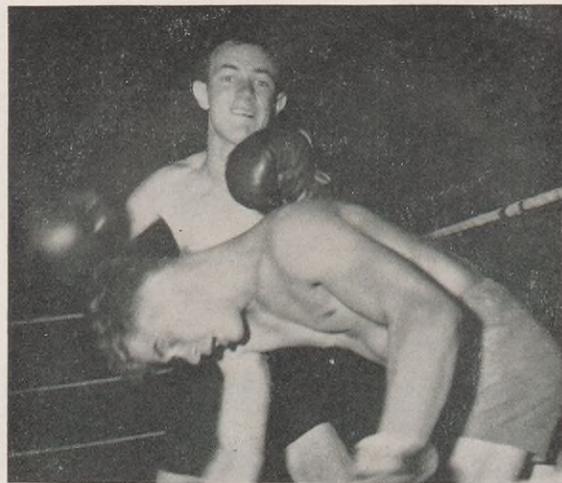


C. H. TINNELL  
Seattle Division  
Operations

# Plant Day At Norco

Annual Outing Held By

Refinery Employees For Families And Friends



J. Palmisano in front, and C. Bourgeois, both weighing 135 lbs., are evenly matched in one of the boxing bouts.



Norco skeet shooting enthusiasts await their turns to knock down their quota of the elusive clay pigeons.



A large crowd gathers in front of the Refinery's Main Office to witness the flag raising ceremony. In the ceremony, Girl and Boy Scouts acted as color guards. At left; a line of youngsters waits hungrily for lunch.





# coast to coast



LEWIS E. PIERSON, a Director of Shell Oil Company since 1939, was guest of honor at a testimonial dinner given recently at the Harvard Club in New York City. Former President Hoover, Secretary of the Treasury John W. Snyder and Walter S. Gifford, Ambassador to Great Britain, joined with civic and business leaders in paying tribute to Mr. Pierson, who retired as chairman of the New York State Savings Bonds Advisory Committee. Since 1946, when Mr. Pierson assumed the chairmanship of the committee, more than \$10 billion of U. S. Savings Bonds of all denominations were sold in New York State. His retirement from active direction of the committee became effective in July when he became honorary chairman.

Active in civic and community affairs, Mr. Pierson has served as finance chairman of the American Red Cross and the Salvation Army, chairman of the executive committee of the Travelers Aid Society and director of the Long Island Association.

Shell Chemical employees in the San Francisco Western Division Office recently held a "Goofy Golf" Tourney. Few of the players had ever held a golf club before and each foursome played two balls, alternating shots. Show below are (l. to r.) Margaret O'Kelley, Betty Curtright, Ruth Allman, Marion Folsom, Leone Zander, Jane Stillings and Turner Moncure.





The Martinez (California) Clubhouse has become the scene of weekly folk dances. Shell Employees at Martinez and their friends gather together each Wednesday night and with the help of 125 folk dance recordings plus the professional calling of four of the group, the club house rings with "promenades".



The "Ball of the Americas", held in Caracas, Venezuela, brought a signal honor to Sylvia Sears, daughter of D. F. Sears, of Shell Pipe Line Corporation. Miss Sears attended the function as representative of the United States. She is shown in the above picture with her escort, Joseph McEvoy, Press Attache of the U. S. Embassy.

June Lockwood, right, was voted "Miss Shell Manhattan 1952" during the annual Field Day held recently by Head Office employees.

*Hal Costain*



J. G. Fuller, Industrial Products Department Manager of the Indianapolis Division was the commencement speaker at the 17th commencement of Indiana Technical College at Fort Wayne, Indiana. During the graduation ceremony, Mr. Fuller received an Honorary Degree of Master of Administrative Engineering. Dean R. C. Ruhl, left, is putting Mr. Fuller's new hood in place while Dr. A. T. Keene, president of the college, confers the honorary degree.



# Service Birthdays

## Thirty-Five Years



L. M. BOUDREAU  
Shell Pipe Line Corp.  
Mid-Continent Area



L. F. CRAGG  
Tulsa Area  
Production



A. P. GENTRY  
Pacific Coast Area  
Production

## Thirty Years



G. V. BIRKINSHAW  
Portland Division  
Manager



C. W. HAND  
Wood River Refinery  
Engineering



E. W. HOBBS  
Los Angeles Division  
Treasury



H. E. MILLER  
Seattle Division  
Sales



C. MOONEY  
San Francisco Division  
Operations



H. B. PRICE  
Houston Refinery  
Cracking



P. J. SHEA  
Pacific Coast Area  
Production



L. SOUTHARD  
Wood River Refinery  
Treasury



J. O. ST. AMANT  
Norco Refinery  
Distilling



R. D. STETSON  
Los Angeles Division  
Manager



C. F. STONE  
Wood River Refinery  
Operations



V. L. WEINDEL  
Wood River Refinery  
Operations



O. WILHELM  
Head Office  
Expl. & Prod.

## Twenty-Five Years



R. M. ADAMSON  
San Francisco Office  
Marketing



C. ARZILLI  
Wilmington Refinery  
Engineering



W. H. BAER  
Seattle Division  
Operations



J. W. BAUMGARTNER  
Chicago Division  
Operations



J. A. BERNOS, JR.  
Atlanta Division  
Real Estate



C. F. BEYERS  
Pacific Coast Area  
Production



H. S. BIGELOW  
San Francisco Division  
Marketing Service

## 25 Years (cont'd)



**W. T. BLACKBURN** Wilmington Refinery Utilities  
**C. A. BRAIN** Wilmington Refinery Engineering  
**C. G. BROWN** Martinez Refinery Engineering  
**C. H. BROWNING** Shell Pipe Line Corp. Mid-Continent Area  
**L. C. CALLESEN** Tulsa Area Production  
**W. F. CHAPMAN** Pacific Coast Area Production  
**L. S. COLE** Portland Division Operations



**C. C. CURVEY** Products Pipe Line Barnett, Illinois  
**C. A. DESMOND** Wilmington Refinery Treasury  
**E. J. DUNNE** San Francisco Office Transp. & Supplies  
**F. J. ERICHSEN** Seattle Division Operations  
**C. W. FUHRMAN** Pacific Coast Area Purchasing-Stores  
**G. W. GORDON** Wood River Refinery Operations  
**J. L. HARKNESS** Shell Pipe Line Corp. West Texas Area



**G. T. HOLT** Martinez Refinery Engineering  
**J. F. HUBBELL** Tulsa Area Production  
**T. F. HUDSON** Products Pipe Line Auburn, Illinois  
**M. I. JACKSON** Minneapolis Division Treasury  
**J. KINLOCH** Portland Division Marketing Service  
**C. L. KLUCK** Head Office Marketing  
**H. M. KURTZ** Shell Chemical Corp. Head Office



**L. R. MANNING** Martinez Refinery Lubricating Oils  
**A. O. MEIER** Head Office Marketing  
**A. A. MILLER** Martinez Refinery Cracking  
**A. E. MUELLER** St. Louis Division Operations  
**S. R. RANDLE** Pacific Coast Area Production  
**G. RETTIG** Indianapolis Division Operations  
**O. E. ROBB** Tulsa Area Production



**H. S. ROBERTS** Tulsa Area Production  
**J. A. ROTHENFLUCH** Portland Division Operations  
**F. T. SILK** Wilmington Refinery Engineering  
**C. L. SISCHO** Wilmington Refinery Engineering  
**R. E. STEVENS** New Orleans Area Exploration  
**H. C. SWIFT** Martinez Refinery Engineering  
**M. J. TREBINO** Martinez Refinery Engineering



S. L. VALENTINE  
Martinez Refinery  
Engineering

L. G. VERGEZ  
San Francisco Div.  
Treasury

E. VINYARD  
Wood River Refinery  
Engineering

C. E. WAGNER  
Wilmington Refinery  
Cat. Cracking

E. L. WEBB  
Pacific Coast Area  
Production

G. M. WHITNEY  
Shell Develop. Co.  
Analytical

W. B. WILLIAMS  
New Orleans Area  
Pers. & Ind. Relations

## SHELL OIL COMPANY

### Head Office

#### 20 Years

L. R. Goldsmith.....Manufacturing  
H. S. MacLaggan.....Marketing  
F. H. Roberts.....Public Relations

#### 10 Years

Ellen M. Henderson.....Treasury  
Mildred E. Machold.....Personnel  
Louise C. Trimbath.....Marketing

### San Francisco Office

#### 20 Years

W. M. Davy.....Treasury  
A. F. Smith.....Personnel & Ind. Relations

#### 10 Years

Yvonne L. Fouch.....Manufacturing  
R. J. Hughes.....Manufacturing

### Exploration and Production

#### HOUSTON AREA

#### 15 Years

W. M. Cogen.....Exploration  
G. W. Heid.....Exploration  
G. C. Hogen.....Production  
L. E. Hubbard.....Production  
S. J. Shores.....Exploration  
B. L. Willbanks.....Production

#### 10 Years

P. Delcambre.....Exploration  
W. Mahaffey.....Production  
J. R. Patterson.....Production  
J. R. Powell.....Production  
M. H. Shaw, Jr.....Land  
P. Tamez.....Production

#### MIDLAND AREA

#### 20 Years

D. D. Mattison.....Exploration

#### 15 Years

J. M. Palmer.....Production  
Alice W. Woody.....Legal

#### 10 Years

S. E. Carnes.....Production  
C. B. McCracken.....Gas  
Jessie M. Stroup.....Production

#### NEW ORLEANS AREA

#### 15 Years

J. M. Dufren.....Production  
J. O. Guzman.....Production  
A. M. Hebert.....Production  
L. M. Plagens.....Production  
E. J. Wunstell.....Production

#### 10 Years

E. P. Boudreaux.....Production  
L. G. Dunham.....Production  
R. W. Kelley.....Exploration  
H. J. LeBlanc.....Production  
T. LeLeaux.....Production  
C. B. Simmons.....Production

#### PACIFIC COAST AREA

#### 20 Years

W. J. Chesser.....Purchasing-Stores

#### 15 Years

G. D. Bloom.....Production  
P. W. Collier.....Production  
H. D. Finkle.....Production  
R. N. Gadbois.....Land  
L. Hensley.....Production  
C. J. Howard.....Production  
R. E. Lowery.....Production

#### 10 Years

J. S. Gragg.....Production  
D. F. Smith.....Production  
R. B. Stallings.....Production  
C. F. Swindle.....Production  
P. E. Wills.....Production

#### TULSA AREA

#### 20 Years

L. L. McCrabb.....Automotive  
J. E. Vaughn.....Production

#### 15 Years

R. F. Bracken.....Production  
J. M. Davis.....Legal  
E. N. Durham.....Production  
E. E. Kracht.....Exploration

#### 10 Years

M. G. Bryan.....Treasury  
A. L. Garrison.....Gas  
E. C. Hall.....Personnel & Ind. Relations  
W. C. Irons.....Automotive

### Manufacturing

#### HOUSTON REFINERY

#### 20 Years

E. R. Butler.....Engineering  
R. D. Johnson.....Cracking  
G. A. Lindstrom.....Engineering  
M. A. Neeley.....Dispatching  
J. C. Phillips.....Cracking

#### 15 Years

A. P. Garner, Jr.....Lubricating Oils  
D. O. Henry.....Control Laboratory  
J. B. Jones.....Stores  
B. L. McManners.....Engineering

#### 10 Years

J. W. Fosha.....Engineering  
C. H. Mitchell.....Effluent Control  
H. L. Simon.....Engineering  
W. J. Winfree.....Engineering

## MARTINEZ REFINERY

15 Years

W. A. Bailey, Jr. . . . . Research Laboratory

10 Years

H. N. Donia . . . . . Engineering  
R. C. Eiffert . . . . . Research Laboratory  
R. H. Graves . . . . . Distilling

## NORCO REFINERY

20 Years

A. L. Cameron . . . . . Engineering  
L. J. Troxler . . . . . Engineering

15 Years

C. L. Babin . . . . . Engineering  
L. L. Landry, Jr. . . . . Engineering

## WILMINGTON REFINERY

20 Years

Mildred T. Schafer . . . . . Treasury

15 Years

H. J. Gollatz . . . . . Marine Loading  
H. H. Hickey . . . . . Laboratory  
A. N. O'Hare . . . . . Engineering  
Lillian M. Roberts . . . . . Alkylation  
J. W. Smale . . . . . Distilling

10 Years

A. A. Arndt . . . . . Experimental Laboratory  
W. C. Coleman . . . . . Engineering  
R. T. Cushman . . . . . Engineering  
H. R. Day . . . . . Engineering  
Elizabeth S. Estvan . . . . . Engineering  
F. J. Flannagan . . . . . Laboratory  
L. E. Long . . . . . Laboratory  
J. Raffa . . . . . Engineering  
A. Swyter . . . . . Engineering  
G. A. Tipton . . . . . Alkylation  
B. R. Yates . . . . . Engineering  
G. W. Weible . . . . . Engineering

## WOOD RIVER REFINERY

20 Years

U. A. Gubser . . . . . Control Laboratory  
L. M. Hoffman . . . . . Engineering  
J. Mills . . . . . Engineering

15 Years

E. S. Bowen . . . . . Engineering  
R. J. Brendle . . . . . Engineering  
J. Critchley, Jr. . . . . Engineering  
J. L. Dickerson . . . . . Engineering  
E. Gross . . . . . Engineering  
A. B. Hoppe . . . . . Engineering  
O. M. Lindquist . . . . . Engineering  
C. J. Paulfrey . . . . . Engineering  
E. F. Schaberg . . . . . Engineering  
H. E. Whitley . . . . . Fire & Safety

10 Years

K. S. Baird . . . . . Lubricating  
L. F. Bartels . . . . . Cracking  
J. C. Barton . . . . . Distilling

E. L. Bohnenstiehl . . . . . Engineering  
J. B. Dammann . . . . . Cracking  
H. W. Davidson . . . . . Experimental Laboratory  
H. J. DeVries . . . . . Engineering  
F. M. Foley . . . . . Engineering  
F. M. Ford . . . . . Dispatching  
M. A. Gammill . . . . . Cracking  
C. J. Garde . . . . . Engineering  
H. E. Hobson . . . . . Dispatching  
D. O. Hug . . . . . Experimental Laboratory  
S. G. Jouett . . . . . Engineering  
W. L. King . . . . . Control Laboratory  
T. J. Layman . . . . . Engineering  
D. M. McCracken . . . . . Engineering  
F. J. Merkel . . . . . Gas  
R. K. Monaghan . . . . . Control Laboratory  
C. L. Morrow . . . . . Engineering  
W. T. Murphy . . . . . Engineering  
C. E. Nisinger . . . . . Stores  
M. E. Oldham . . . . . Engineering  
W. C. Perkins . . . . . Engineering  
A. G. Rahn . . . . . Engineering  
O. M. Scholl . . . . . Lubricating  
J. Senchak . . . . . Engineering  
L. D. Skeldon . . . . . Cracking  
H. W. Sittner, Jr. . . . . Engineering  
J. W. Southard . . . . . Engineering  
G. Spears . . . . . Engineering  
W. A. Stanton . . . . . Engineering  
T. K. Turpin . . . . . Engineering  
B. J. Ursch . . . . . Engineering  
R. Weigel . . . . . Engineering  
L. V. Young . . . . . Utilities  
V. Zalders . . . . . Stores  
J. R. Zoellers . . . . . Engineering

## Marketing

### MARKETING DIVISIONS

20 Years

M. J. Canaday . . . . . Albany, Operations  
C. W. McDowell . . . . . Atlanta, Sales  
E. C. Mello . . . . . Boston, Operations  
R. S. Kawachi . . . . . Honolulu, Operations  
J. G. Williams . . . . . Indianapolis, Sales  
R. E. Doyle . . . . . Los Angeles, Treasury  
J. E. Hargrove . . . . . Minneapolis, Treasury  
W. M. Marshall . . . . . New York, Operations  
G. B. Robart . . . . . Portland, Operations  
R. A. Smith . . . . . Portland, Operations  
M. C. Hunt . . . . . Sacramento, Operations

15 Years

R. B. Leary . . . . . Boston, Operations  
M. Francesconi . . . . . Chicago, Treasury  
P. H. Scheyli . . . . . Chicago, Operations  
B. M. Seman . . . . . Los Angeles, Operations  
G. A. Dodge . . . . . Portland, Sales  
D. E. Schultz . . . . . Portland, Operations  
H. W. Ehrhardt . . . . . Sacramento, Operations

10 Years

E. T. Boone . . . . . Atlanta, Operations  
G. W. Crawford . . . . . Atlanta, Operations  
W. E. Hall . . . . . Baltimore, Operations  
J. Lynch . . . . . Boston, Operations  
A. K. Dean . . . . . Detroit, Operations  
C. D. Harden . . . . . Indianapolis, Treasury  
S. W. Ruhl . . . . . Los Angeles, Operations  
Helen M. Crose . . . . . San Francisco, Treasury  
R. O. Allen . . . . . Seattle, Operations  
G. R. Nordblad . . . . . Seattle, Operations

## SEWAREN PLANT

20 Years

T. A. Holzheimer . . . . . Engineering

10 Years

T. M. Hanley, Jr. . . . . Laboratory

## Products Pipe Line

15 Years

G. A. Berryman . . . . . New York, N. Y.  
J. B. Lawler . . . . . Holliston, Mass.  
H. W. Stroh . . . . . Clinton, Ill.

10 Years

T. T. Hendrix . . . . . Greensboro, N. C.

## SHELL CHEMICAL CORPORATION

15 Years

G. L. Harding . . . . . Dominguez  
J. P. Cunningham . . . . . Head Office  
R. L. Smith . . . . . Houston  
P. Berdella . . . . . Shell Point

10 Years

M. L. Griffin . . . . . Head Office  
C. B. Johnson, Jr. . . . . Houston  
D. N. Rindsberg . . . . . Houston  
R. B. Brown . . . . . Shell Point  
E. O. Wingfield . . . . . Shell Point

## SHELL DEVELOPMENT COMPANY

20 Years

H. A. Hamilton . . . . . Treasury

15 Years

E. L. Derr . . . . . Physical Chemistry  
Ernestine B. Kirkhoff . . . . . Patent  
F. D. Moss . . . . . Experimental Plants  
R. V. Stone . . . . . Mechanical Engineering

10 Years

C. H. Klute . . . . . Organic & Applications  
Eulice M. Myers . . . . . Experimental Plants  
R. B. Olney . . . . . Chemical Eng. Application  
C. P. Strand . . . . . Chemical Eng. Application

## SHELL PIPE LINE CORPORATION

15 Years

T. C. Bryant . . . . . West Texas Area  
J. C. Mayfield . . . . . Texas-Gulf Area  
M. M. Privett . . . . . Mid-Continent Area  
H. Zarlengo . . . . . Texas-Gulf Area

10 Years

H. J. Hutchison . . . . . Mid-Continent Area  
S. I. Rice . . . . . West Texas Area

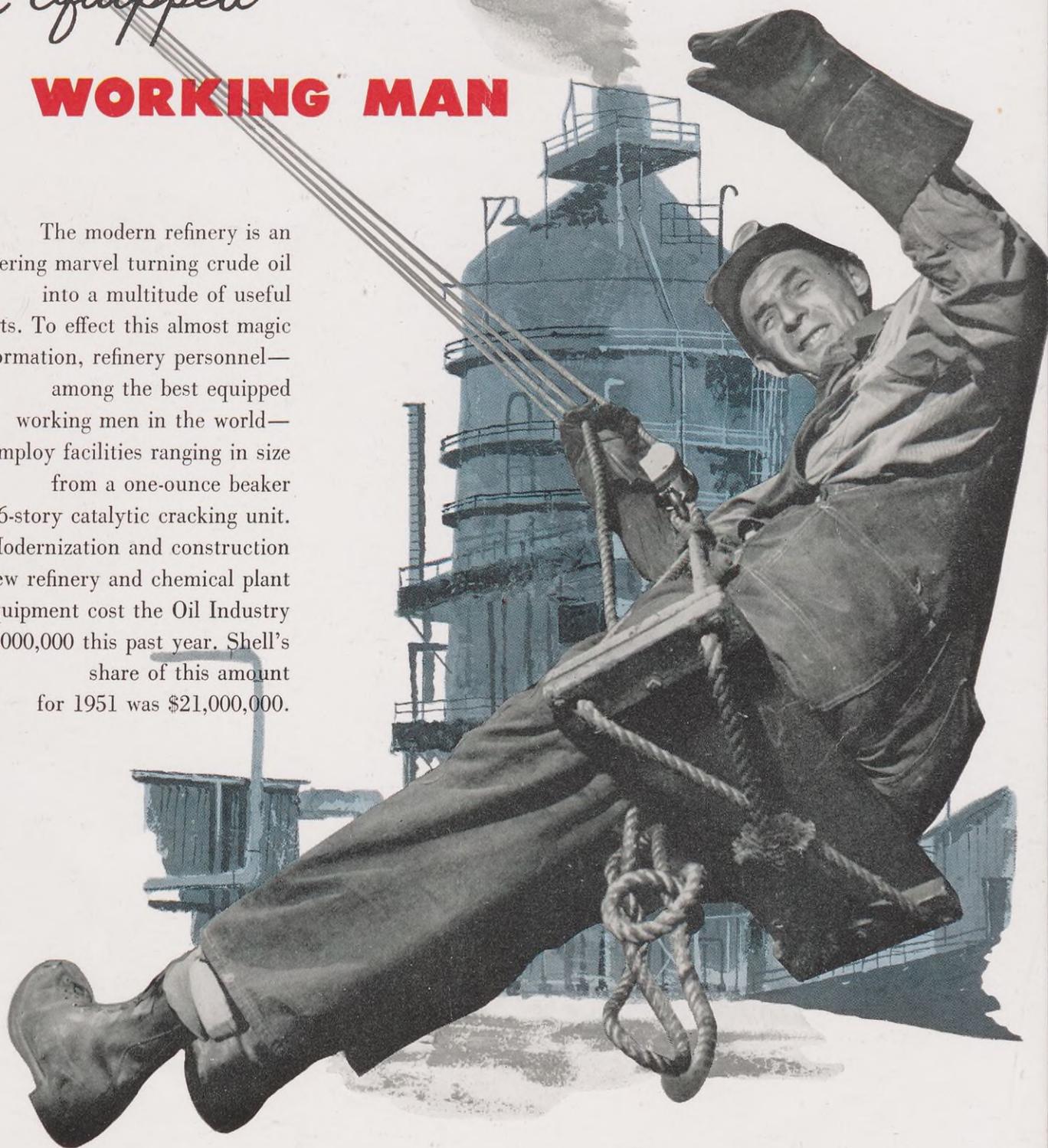
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## **WORKING MAN**

The modern refinery is an engineering marvel turning crude oil into a multitude of useful products. To effect this almost magic transformation, refinery personnel—among the best equipped working men in the world—employ facilities ranging in size from a one-ounce beaker to a 16-story catalytic cracking unit.

Modernization and construction of new refinery and chemical plant equipment cost the Oil Industry \$575,000,000 this past year. Shell's share of this amount for 1951 was \$21,000,000.



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## FAMILY PORTRAIT

**W**HEN Shell customers ask the Minneapolis Division office for answers to lubricating problems or for information about the proper types or grades of oils and greases for their needs, more often than not they talk to George Sherer. He takes mail and phone orders, gives information on prices, and places orders to Shell refineries for shipment of lube oils, naphthas and other products to depots and customers. George is one of the 233 Marketing Service employees in the Marketing Divisions of Shell Oil Company responsible for many office activities which maintain Shell's good relationships with its customers.

This is a double anniversary year for George and Mrs. Sherer. They celebrated their twenty-fifth wedding date on February 25 and three days later marked twenty-five years for George with the Company. The Sherers live in Robbinsdale, a suburb of Minneapolis, with their 12-year-old son, James. Daughter Betty is married and another son, Bill, is in the Navy. George spends much time in his flower and vegetable garden, with excursions in season to fish in nearby lakes and streams with James. During the winter the Sherers divide their interest between model railroading and woodcraft projects.



**MARKETING SERVICE CLERK • GEORGE SHERER**