PETROTOMICS COMPANY

P. O DRAWER 2450

March 22, 1967

U. S. Atomic Energy Commission
Division of Compliance, Region IV
10395 West Collax, Room 200
Denver, Colorado 80215

Reference: SUA-551 (Docket No. 6659)

ATTENTION: Mr. Donald L. Walker, Director

Dear Don:

Reference is made to your letter of March 2, 1967, and the attached items of non-compliance listed in paragraph five of Form A. E. C.-592.

In checking the records, I find that work sheets and memos show some of the material prepared, but evidently it was not entered into the records checked by Mr. Alley.

Item (a) 13(A)3 - The samples were obviously taken as required, since there are Ra_{226} and Th_{230} assays on record. I find only a uniform value for uranium reported for the months of September through December, 1965, of 5.66×10^{-7}. (Appendix "A")

Item (b) 13(A)4 - I find no record of the report that was to be issued to the Commission; however, the assay results tabulated in the files show a flowrated average for 1965 of 1.212 x MPC for the months April through December, 1965. The construction of a new secondary dam in July of 1965 resulted in reducing the seepage rate and the resulting higher pH reduced Th_{230} from 10^{-6} ranges to the 10^{-8} range. (Appendix "A")

AMENDMENT REQ. REAR LONGER IN EFFEC

Item (c) - Our samples #172 taken on May 28, 1965, and

assayed by Tracerlab, showed a uranium value of 1.42×10^{-7}. Sample #176 on August 17, 1965, showed a 3.06×10^{-7} (again assayed by Tracerlab). Sample #189 taken November 29, 1965, and assayed by Hazen Laboratories reported only Ra_{226} and Th_{230}. (Appendix "B")

Item (d) - The test wells were sampled in September, 1965, samples #180-181-182, but the results were not entered in the records. (Appendix "C")

Item (e) - Records show that effluents were sampled in March and April, 1966. (Appendix "A") There were no other samples of effluent assayed for Ra_{226} or Th_{230} May through December, 1966. Samples were taken for these months and U assays were supplied to Mr. Alley. Since the U assays on the samples taken May through December, 1966, were all lower than the 1965 and April, 1966 U values, it was assumed that the Ra_{226} and Th_{230} were also lower; therefore, the considerable expense of having these assays done was dispensed with. It is our contention the action was justified.

CALLED 3/24/67 COATES STAT Ra 226 AND TH-230 WOULD BE ASSAYED IN FUTURE

As Mr. Alley knows, Mr. Crozier left us early in 1965, and it is apparent that Mr. Duffield (who is no longer with us), did not keep the files in proper order. We have recently reorganized our staff assignments and hope that future surveys will find us in compliance.

Very truly yours,

PETROLEUMS COMPANY

G. K. Coates
Project Manager

GKC:dlw

Attachments

APPENDIX "A"

Tailings Seepage to Unrestricted Areas
Analytical Summary

#	Month 1965	pH	uc/ml. Ra226	uc/ml Th230	uc/ml Nat. U	XMPC
170	April	2.85	$.552 \times 10^{-8}$	3.7×10^{-6}	$.0626 \times 10^{-5}$	.466
171	May	2.80	$.012 \times 10^{-8}$	6.2×10^{-6}	$.0252 \times 10^{-5}$	.404
173	June	2.85	$.16 \times 10^{-8}$	10.0×10^{-6}	$.0569 \times 10^{-5}$	5.082
174	July	2.80	2.1×10^{-8}	9.6×10^{-6}	$.0736 \times 10^{-5}$	5.537
175	Aug.	2.90	3.7×10^{-8}	5.3×10^{-6}	$.0495 \times 10^{-5}$	1.586
179	Sept.	3.65	4.6×10^{-9}	$.12 \times 10^{-6}$	$.0566 \times 10^{-5}$	.187
183	Oct.	3.60	2.4×10^{-10}	6.5×10^{-8}	$.0566 \times 10^{-5}$	
184	Nov.	4.25	5.6×10^{-9}	2.0×10^{-8}	$.0566 \times 10^{-5}$	
188	Nov.	4.20	$.30 \times 10^{-8}$	$.025 \times 10^{-6}$	$.0566 \times 10^{-5}$	.141
190	Dec.	4.20	$.51 \times 10^{-8}$	$.11 \times 10^{-6}$	$.0566 \times 10^{-5}$	.2 4
					Flowrated Average	1. 2
	'66 March		0.72×10^{-9}	$.8 \times 10^{-8}$	No Assay	
192			0.17×10^{-8}	2.1×10^{-8}	2.6×10^{-7}	

APPENDIX "B"

Potable Water Analytical Summary

#	Month	x MPC	uc/ml. Ra 226	uc/ml. Th 230	uc/ml. Nat. U
172	May	.310	6.3×10^{-9}	5.9×10^{-9}	1.42×10^{-7}
176	Aug.	.280	[illegible]	2.4×10^{-8}	[illegible]
84	Nov.		2.2×10^{-9}	2.3×10^{-8}	1.41×10^{-7}

APPENDIX "C"

RTH Wells # 1, 2, & 3 Analytical Summary

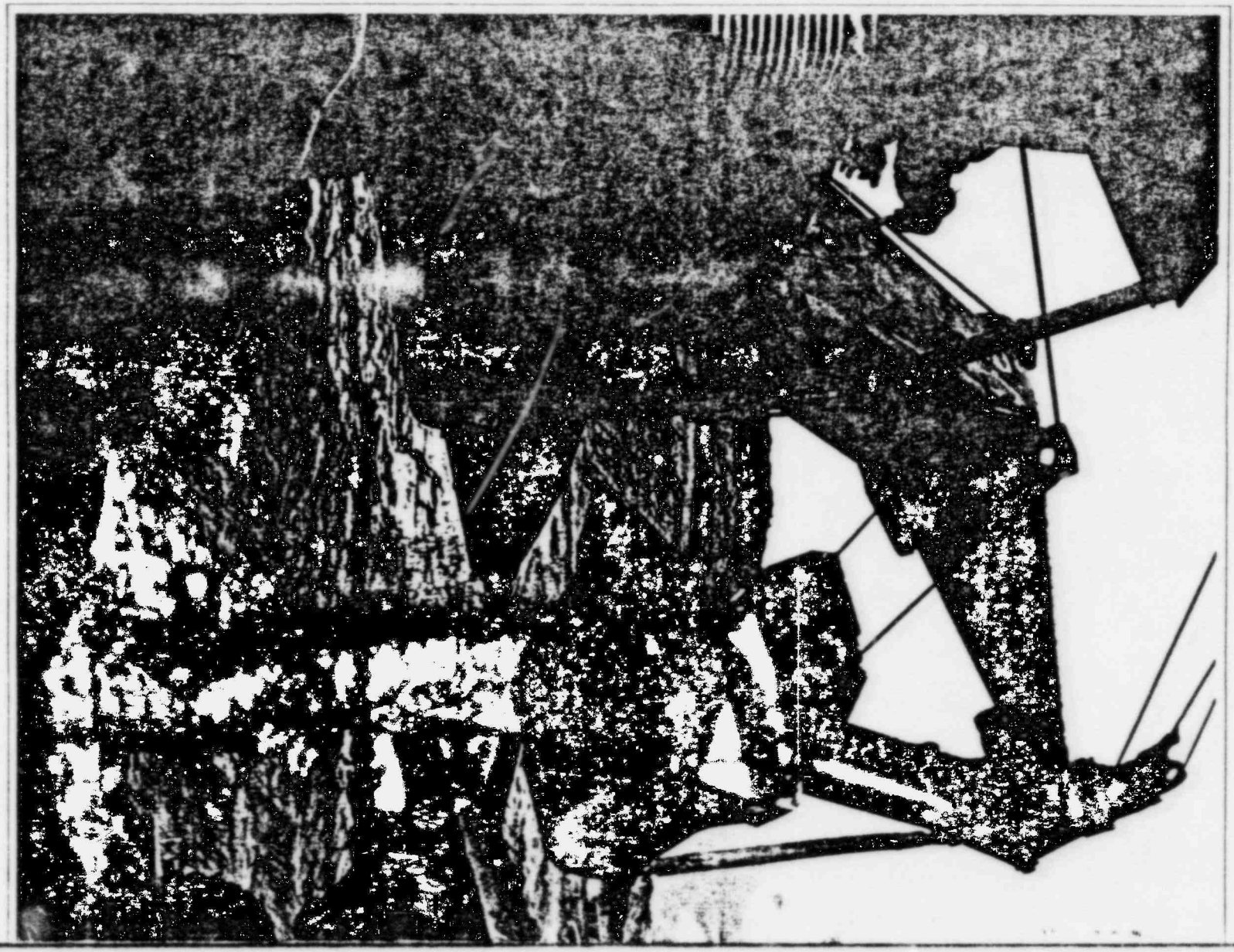
#	Well #	Month	x MPC	uc/ml. Ra 226	uc/ml. Th 230	uc/ml. Nat. U
80	1	Sept.	1.672	4.5×10^{-9}	3.3×10^{-7}	1.41×10^{-7}
81	2	Sept.	.043	1.0×10^{-9}	5.9×10^{-9}	1.41×10^{-7}
82	3	Sept.	.057	1.4×10^{-9}	6.3×10^{-9}	1.41×10^{-7}
185	1	Nov.		[illegible]	[illegible]	[illegible]
2	2	Nov.		$.013 \times .0^{-8}$	1.0×10^{-9}	[illegible]
3	3	Nov.		$.050 \times 10^{-8}$	1.7×10^{-8}	[illegible]

SKELLY

the Skelly Magazine

JULY-AUGUST 1962

SKELLY MINES FOR URANIUM IN WYOMING'S SHIRLEY BASIN



SKELLY BUILDS FOR THE FUTURE WITH ATOMIC ENERGY

That Skelly is deeply involved in the production of fuel for atomic power is a fact few employees know. Yet our entry into the uranium field some ten years ago marks us as one of the front-runners in the development of atomic energy.

On August 2, 1939, Albert Einstein wrote a personal letter to President Franklin D. Roosevelt urging the United States to "quick action" in the development of an atomic bomb.

Almost six years to the day — August 5, 1945, the United States exploded a uranium atom bomb on the Japanese city of Hiroshima, destroying half of the city. All this in a single devastating blast that dwarfed any man-made explosion ever produced on the earth before.

Today, the same massive energy then used as a destructive force is now being used for the betterment of mankind: to lengthen lives, to increase food production and to produce cheap electrical power.

The source of atomic energy is uranium, a heavy radioactive metallic element. More than ten years ago, Skelly began its search for uranium; and today, with operations concentrated in Wyoming, Skelly and partners are among the front-runners in uranium exploration and in the mining and milling of uranium ore.* The early decision to become involved in the search for uranium, when relatively little was known of its whereabouts, is primarily the reason for our excellent position in the ownership and production of this valuable mineral at the moment.

What Skelly is doing today with this mineral may well bring us a leading role in the future development of atomic energy. In a nutshell, this article explains why.

Until about 1942, scientists cared little about uranium. (The 1901 edition of Webster's Dictionary defined uranium as "a worthless metal not found in the United States.") But after Einstein's letter to Roosevelt, the

*Over-all responsibility for the project lies with our Exploration Department. Glenn E. McKinley, manager of foreign exploration and special projects, is immediately responsible for operations.

A/71

U. S. Government became vitally interested in obtaining the mineral. So the research began. However, because of the confidential nature of the project, explorers were handicapped and thus found little. Although uranium was the basic raw material for nuclear weapons, it was still in short supply.

Then the formation of the Atomic Energy Commission after World War II to produce the U. S. arsenal of atomic weapons and to develop peaceful uses for atomic energy brought the search into the open. In 1946, The Atomic Energy Act authorized the use of nuclear energy for civilian purposes. (In 1954, the Act was broadened with an amendment permitting the private ownership of special nuclear materials. This paved the way for commercial civilian nuclear power.)

In 1947, the AEC decided to concentrate uranium exploration within the U. S. It encouraged U. S. companies to search for the mineral and to mine and mill it once it had been found. To add impetus to its procurement program, the AEC promised guaranteed minimum prices for domestic uranium ore, a bonus for discovery and production of high-grade domestic ore, a mine development allowance, premiums for higher-than-average grade ore, and allowances for haulage. Despite all this, few large uranium deposits were found.

Then in October, 1951, a spectacular discovery was made in New Mexico, proving that large uranium ore bodies did exist in the United States. As a result, between 1952 and 1958 U. S. uranium reserves increased from about 4,000 tons to something over 180,000 tons. During this time, Skelly, Tidewater and Getty oil companies together became interested in uranium and were thus among the very first oil companies to engage in the search.

Today's search for uranium is comparable to the early-day search for oil. When petroleum was first discovered, it was discovered seeping and oozing from the ground. For a number of years, exploring for oil involved little more than examining the **surface** of the earth for clues.

By the same token, recent searches for uranium deposits were more or less **surface** searches with a Geiger counter. Then some of the oil companies joined in the hunt, using sophisticated techniques of petroleum exploration. The petroleum geologist and landman thus gave oil firms such as the Skelly group a decided advantage in the search. This is another reason for our advanced position within the industry.

Uranium and Atomic Energy

Uranium is the main source of atomic energy, and atomic energy is heat. It occurs with the fission (splitting) of the uranium atom. Whenever a uranium atom undergoes fission (uranium atoms are split when bombarded with neutrons), energy is released through the destruction of matter, as in the burning of any material. As each fission occurs, more neutrons emit, leading to a chain reaction that becomes a massive source of energy. If uncontrolled, the result is an explosion; if controlled, fission is a source of useable energy greater than any known before.

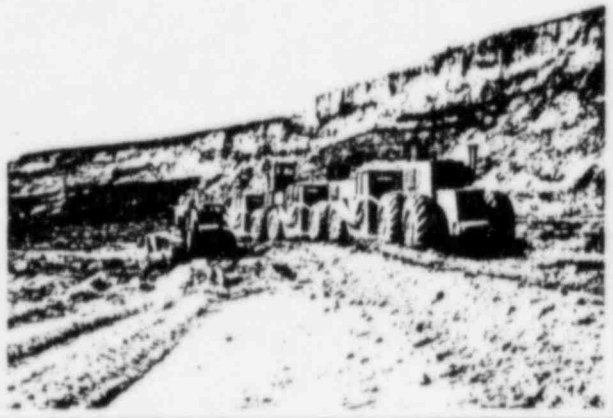
Since energy is heat, uranium must be "burned" in some manner in order to convert it into energy. This is accomplished in a **nuclear reactor** (simply a special kind of furnace) in which the uranium atoms are split. The "burning" process is called **nuclear fission.** In the case of electric power, the fission that takes place within a reactor produces heat which is used to boil water and turn it into steam. The steam drives turbine generators which produce electricity.

The chief advantage of atomic energy for power is that a small amount of fuel can produce a tremendous amount of power. For example,

Uranium appears in rolls and veins within channels of sand. Inside the mine pit (left), workers look for uranium deposits with a Geiger counter. If a vein is indicated, the shovel is moved to the spot to scoop out the rich ore.

Key figures in the Petrotomics operation are top row (left to right) Bob Cypert, project geologist; Chuck Wolff, general mill foreman; and Wayne Butcher, office manager. Bottom row: Ken Coates (left), manager of operations; and Bob Pullen, mine superintendent.

Here a giant scraper, especially fabricated for this project, removes the "overburden" covering the uranium ore. Depth of the overburden runs from 200 to 300 feet.



the power in the atom is so intense that the fission of a piece of uranium smaller than a golf ball can provide the same energy as 2,300,000 pounds of coal. Another advantage is that the fission of uranium in a reactor needs no oxygen. Thus atomic energy is ideal for submarines, permitting them to operate underwater for months without surfacing.

Atomic Reactors

The big move today for commercial use of atomic energy is by utility companies for the production of electric power. In producing electric power, a utility company must burn either coal, oil or natural gas which, as mentioned earlier, turns water into steam to drive turbine generators.

A utility company power station which contains a nuclear reactor as an energy source is not entirely unlike today's conventional station. It consists of a turbine, a generator and a switchgear. Instead, however, of using coal, oil or natural gas as an energy source, it uses uranium.

The fuel for a nuclear reactor is mined as uranium ore and is then milled and refined. During this process, it is concentrated into uranium oxide (U_3O_8), a powder-like substance commonly called "yellowcake." This is then converted into gas and then into a solid, which is used in the fabrication of reactor fuel elements.

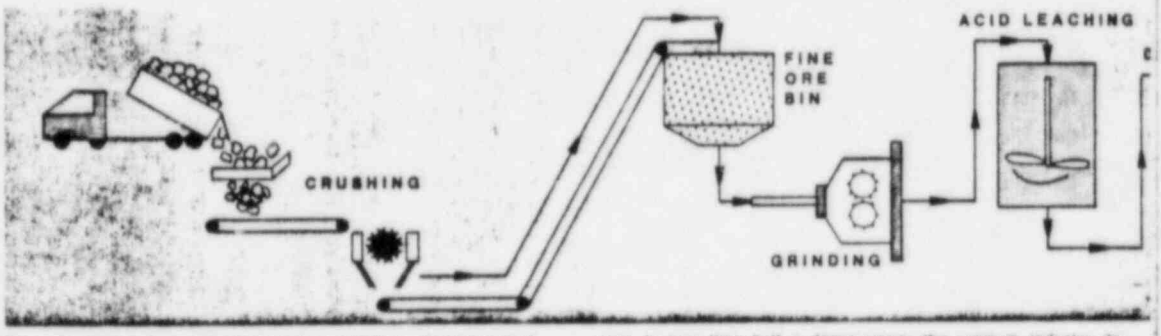
It's the yellowcake that Skelly is after at the moment. (We are also considering "vertically integrating" our operations, that is, increasing our processing from the yellowcake stage on through to the finished fuel element.) Skelly, through its joint venture with Getty and Tidewater, joined with Kerr-McGee in forming an operating company called **Petrotomics.** This company is now mining and milling uranium ore in Wyoming's Shirley Basin and marketing the yellowcake.

Petrotomics

On January 17, 1955, Skelly joined Getty and Tidewater in the search for uranium ore deposits on government lands. The group bought acreage in Arizona, New Mexico, Utah, Colorado, and Wyoming, and made geological studies in California, Nevada, South Dakota, Idaho, Montana, North and South Carolina and Western Ontario.

Out of all of this, our geological studies indicated that the Shirley Basin, about 65 miles due south of Casper, Wyoming, held the best potential. Our geologists felt that sediments here warranted staking claims. So

Noncommercial sand is removed from the mine and dumped in abandoned pits. Here a scraper receives help from bulldozer.



For some three or four years back in the mid-fifties, what happened inside the uranium mill between the crushing and grinding stages at the entrance of the mill, and the finished product (yellowcake) was a closely guarded secret. ■ The chemical metallurgical process of "ion-exchange" combined with "acid leaching" and "solvent extraction" sounded rather exotic. These were terms not connected with the usual roasting, smelting and refining of other metallic ores. In less than half a dozen years, the uranium industry developed the bulk-handling, low-unit-cost chemical process which became the standard process which Petrotomics has been using since 1961 at the Shirley Basin mill. ■ Basic steps are illustrated by this artist's sketch. In the **crushing** and **grinding** stages, the ore (which in some cases contains boulders the size of a piano) is reduced to sand. This is then mixed into a slurry in the acid **leaching** tanks where sulphuric acid is added to dissolve the

on August 2, 1957, we drilled our first exploratory hole for core samples of the deposits; they indicated the presence of uranium.

Once we had satisfied ourselves that the Shirley Basin contained substantial uranium reserves, we made application to the AEC for allocations. However, in granting the license, the AEC said we and everyone else could do all the uranium mining we wanted to in the Shirley Basin, but that only one mill could be built.

Thus we had two alternatives: Go into partnerships with other Shirley Basin mining companies, or truck our ore over a hundred miles to another mill. We elected to build a partnership mill, involving the Skelly group and Kerr-McGee. The result was the formation of **Petrotomics** as an operating company.

At the moment, Petrotomics is mining and milling over 500 tons of uranium ore daily, from which is processed as much as 2500 pounds of uranium concentrate, or yellowcake. As with most figures, these do not mean a great deal unless one looks at the total picture.

The yellowcake required to manufacture the fuel initially loaded into a single 1,000-megawatt reactor is around a million and a half pounds. (One megawatt is 1,000 kilowatts or 1,000,000 watts. A 1,000-megawatt reactor could easily handle the power needs of a growing city the size of Tulsa whose current power demands average about 500 megawatts daily.) To keep such a reactor going, another 400,000 pounds of yellowcake are needed each year. Estimates are that by 1970, utility companies will need about 10 million pounds of yellowcake a year. By 1980, this figure is expected to reach 56 million pounds. Again, to get a perspective of Skelly's future in uranium, Petrotomics is today producing around 2500 pounds a day. (The going rate for yellowcake is around $8 a pound, a figure that increases to $165 a pound for the fabricated fuel element.) Plans are being finalized to more than double this production by the end of 1968.

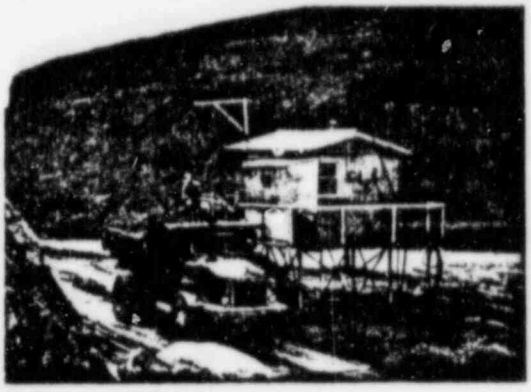
There's still more: Toward the end of last year, the AEC lifted restrictions on the construction of uranium ore mills, at which time the Skelly-Tidewater-Getty group began plans to build another mill, apart from Petrotomics, to mine its own ore. This new project, called **Uranium Joint Venture,** could be operating by 1971. Already, we have set up a Joint Venture district exploration office in Salt Lake City where a manager and six geologists are now exploring for new uranium reserves in the Western United States. At the moment, Joint Venture also is core drilling in the Shirley Basin to determine the best locations for future mining and milling operations there. Thus with the enlarging of Petrotomics and the construction of the new Joint Venture mill, the Skelly group should be producing a whopping 10,000 pounds of yellowcake a day in the near future.

The uranium picture has not always appeared so bright, however. Until the end of last year, the **AEC** was the only purchaser of uranium. Furthermore, because the government had stockpiled enough uranium to fill its needs, it curtailed its purchases, and thus for awhile the uranium market looked bleak. Then toward the end of last year, the AEC lifted its restrictions on the sale of uranium to private industry. Coupled with the AEC's move, the utility firms began increasing orders for atomic reactors. The result of all this is a spectacular increase in the demand for nuclear fuel.

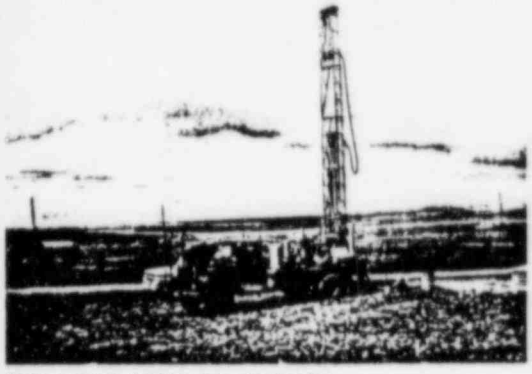
For example in 1966, utility companies placed orders for more than $2 billion worth of nuclear power plants. All these plants are to be operating six years from now producing nearly 30,000 megawatts of nuclear power, three times the AEC forecast in 1962. Less than a year ago, General Electric expected nuclear fission to fill 18 per cent of the nation's

Chuck Wolff, general mill foreman, che

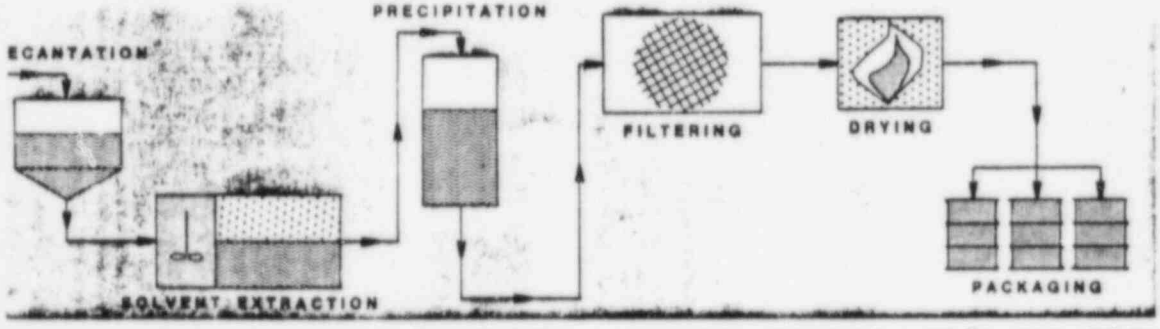
Mine geologists look on as a shovel scoops out a vein of rich uranium ore.



As the ore is hauled from the mine to the mill, the quality of each load is measured and recorded.



At the moment, Joint Venture (see text for explanation) is core drilling for uranium deposits in the Shirley Basin near Casper, Wyoming.



uranium from its mineral form into solution. During **decantation**, the waste products such as sand grains, clay and mica flakes (which make up more than 95 per cent of the original ore) are separated from the uranium solution and sent to the waste dump. The uranium, meanwhile, stays in solution and is carefully treated with certain chemicals and organic compounds at the **solvent extraction** stage. This step removes those chemicals that have been used to dissolve the uranium into solution and is preparatory to converting the uranium from a solution back to a solid. The uranium, which has been floating around in this solution like salt in water, "falls out" in the **precipitation** process as a bright yellow uranium oxide. The uranium oxide is then **filtered** to remove all liquids. The filtered uranium oxide, or "yellowcake" as it is commonly called, is finally **dryed** as a last step and packaged in steel drums which, when full, weigh almost 800 pounds and are worth about $6,000 each.

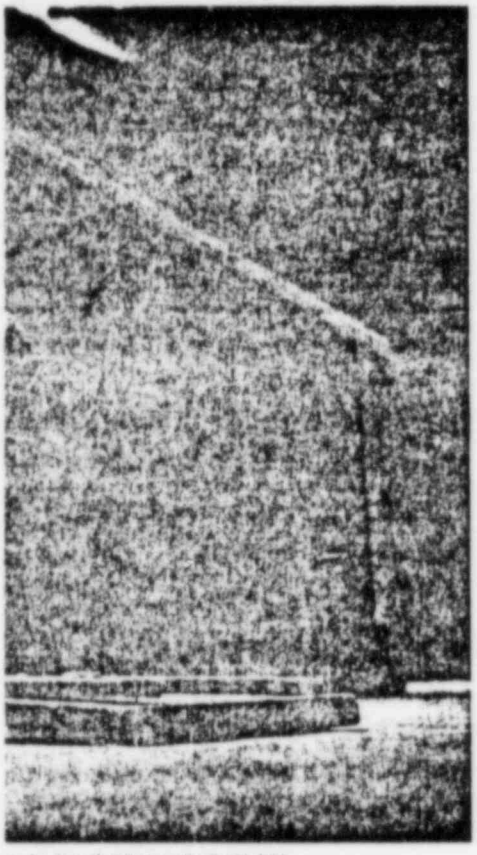
power needs by 1980. Now, it has raised the estimate to **30 per cent**. The demands for electricity are rising steadily (five times as fast as the population is increasing), while the cost of generating power by nuclear fission is dropping considerably.

The Future

To talk about the future of uranium is to talk in terms of Buck Rogers (even he is an anachronism these days). Although a decided advancement over producing energy by burning coal and oil, the process of "burning" uranium in today's nuclear reactors is not revolutionary. It will be tomorrow, however.

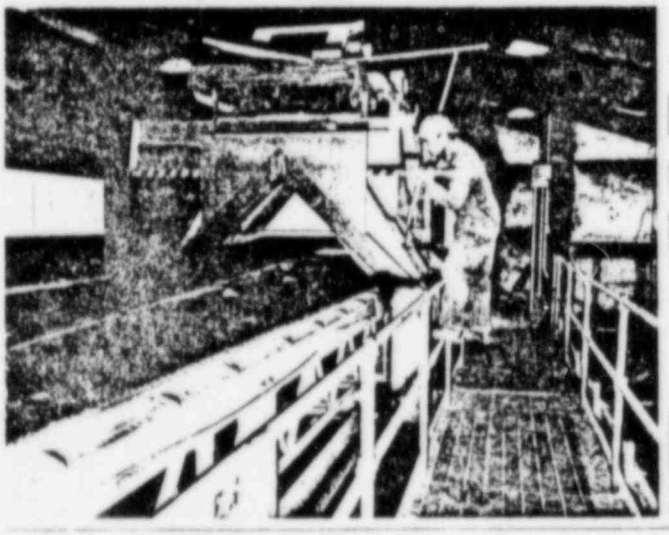
Scientific talk today is about a revolutionary "breeder" reactor, an instrument that creates more nuclear fuel than it "burns." According to **Fortune**, "the breeders promise to deliver vast quantities of energy at such low cost that they will have a cascading effect on all industry, on man's efforts to gather food and build shelter, and on the fabric of society itself. Scientists and technicians, in a frustrating search for some way to describe the changes that their work portends, speak glowingly of air-conditioning Africa and heating the subarctic."

Indeed, we are on the threshhold of an amazing new era. To the unscientific mind, the idea of extracting from a handful of gray or black sand a substance that has locked within it such massive power is inconceivable. But the encouraging thing is that this tremendous force is now being controlled by our scientists and used for the betterment of mankind. And what's more, Skelly is right in the middle of this new energy industry and is champing at the bits to become a major producer of nuclear fuel. And why not, energy is our business. ◇

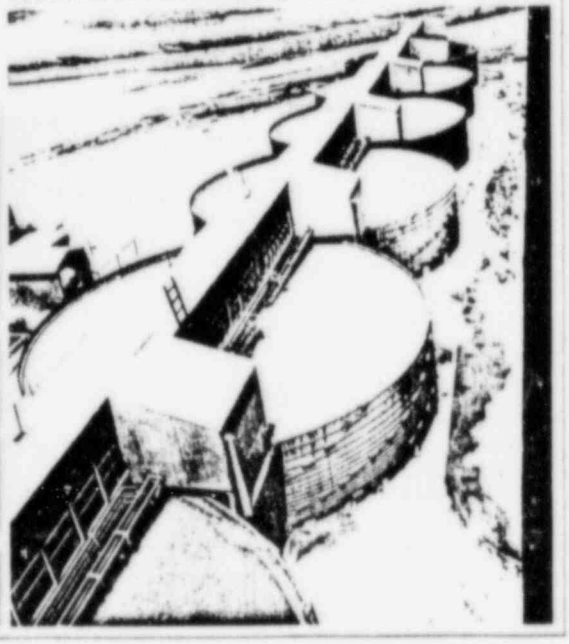


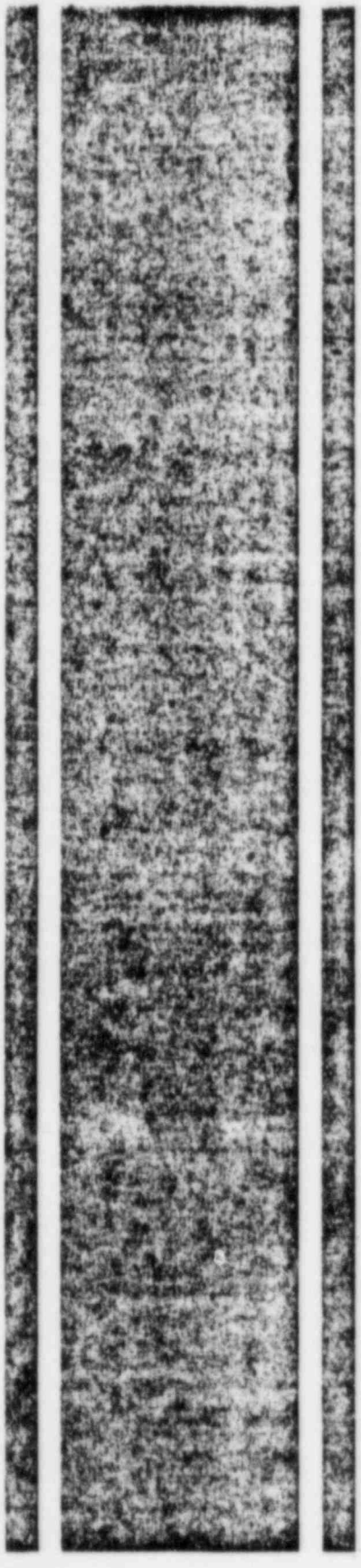
A beaker of yellow uranium solution.

A workman checks conveyor carrying crushed ore through the mill. Note the second aperture at top center of photo to see ore, now in sandy form, falling from conveyor belt into storage bin below.



During the decantation process which takes place in these six tanks, the waste rock in slurry form is separated from the solution carrying the uranium.





economy run proves Keotane best gasoline buy

Human nature being what it is, it takes a mighty lot of convincing most of the time to talk a man into changing an idea, his brand of cigarettes or his gasoline.

Most folks go on the theory that the proof of the pudding is in the eating, to quote a brand new adage.

So the commercial says, "Try three tanksful of Skelly Keotane . . ." We believe that once a person makes this test, he will have all the proof he needs.

That's one way of offering convincing proof. Another is to sponsor a sports car economy run and have one of the cars post a mileage score of 52.216 miles per gallon over a 207-mile course.

And that's just what happened a few weeks ago when the Southern Region of our Marketing Department sponsored the Keotane Economy Run from Joplin to Kansas City, Mo., a 207-mile course that subjects the car and its driver to all sorts of driving conditions. (A similar run was held in our Central Marketing Region in Des Moines, Iowa.)

Ninety-three cars entered the Kansas City event in seven classes. Co-sponsored by WDAF radio, the two-day program began on Saturday with a gimmick rally from Kansas City to Joplin, during which the drivers were tested on both driving skill and navigation.

The return trip the next day tested the drivers' ability to negotiate a prescribed course as fast as possible (obeying all traffic regulations) and yet get maximum gasoline mileage from Keotane.

Such rallies as this not only give Skelly an opportunity to show what Keotane can do, but also to receive a good deal of publicity. For example radio and television announcements totaled more than 100 during the entire promotion, and door decals for each car were seen by thousands of motorists. What's more, entry fees for most such rallies are donated to charity.

Indeed, it sometimes takes some strong talk to get a person to switch brands of gasoline. But even those who would rather fight than switch find the proof of a Keotane Economy Run mighty hard pudding to resist.

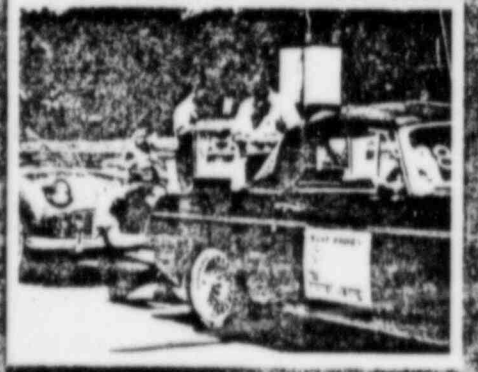
KEOTANE ECONOMY RUN WINNERS

Class	MPG	Make	Driver
A	20.886	Oldsmobile	Bob Reich
B	23.006	Barracuda	Linda Molby
C	52.216	Sunbeam	Bud Howard
D	26.366	Corvair	Jeff Allen
E	30.609	TR 3	Ryan Burns
F	33.288	Lotus	Dave Long
G	41.773	MG Midget	Claude Boyle

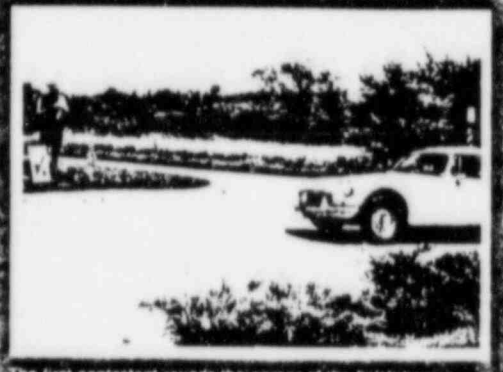
Contestants gather for instructions before the rally.

Missouri motorists recognized rally cars by the Skelly-WOAF Radio signs taped to both doors of each entry.

Following the economy run, officials refill each car with Keotane, note the gallonage and compute it into miles per gallon to determine the winning entry.



As cars line up to be refilled following completion of the run, gallonage tests posing above supervisor of Keotane.



The first contestant rounds the corner of the finish line after the 207-mile economy run from Joplin to Kansas City.

Site of the start of the rally was the Skelly-Western Auto complex near Kansas City.

Three of the six Keotane economy winners (from left to right) are Mr. and Mrs. Claude Boyle, class C, MG Midget, 41.772 mpg; Mr. and Mrs. Ryan Burns, class B, TR 3, 30.809 mpg; Dick Kibling and Bud Howard, class C, Sunbeam, 52.216 mpg.

Close-Up

Allen Gibson:

FOREMAN BY DAY, HUNTER BY NIGHT

Standing quietly on a crisp night, listening to his baying dogs working a warm trail, a good coon hunter can recognize the voice of an individual dog as well as tell how close his hounds are to the quarry.

A good coon hunter also can interpret the howls of his dogs better than most people can interpret each other. And Allen Gibson is a good hunter. An expert! He hunts like he works, with meticulous care to the many details which mean a job well done. At 57, Allen looks like a man who could work all day, hunt all night and still outdo a man 20 years younger.

Allen Gibson is a lube plant operations foreman at the Skelly refinery, a job he has held for the past 18 years. He is in charge of storing, unloading, blending, compounding and drumming of lube oils. He joined the refinery in the spring of 1934; and, except for two years with the Navy Seabees in the 40's, Allen has spent all but six months of his 33 years with Skelly in the lube plant.

Though he has acquired an impressive reputation as a coon hunter among his co-workers, Allen lists quail and pheasant as his favorite game, and quite frequently he trains his sights on bobcat.

He has made 10 or 12 trips to South Dakota to hunt pheasant for a week at a time. And every year or two he hunts Kansas pheasant out in the western part of the state. But it doesn't really matter where or what he hunts. "I like to be outdoors just about any time and about anywhere," he quips. "Whenever I can get some of the fellows around here to go with me, I take off. And that's just about any weekend when the weather is good."

To Allen, the most thrilling part of a hunt is watching the dogs work. "Of course, you don't see the coon dogs work, you listen to them," he said. "But listening to a good trailhound tracking a coon can be just as exciting as watching a bird dog flush a pheasant."

As you might expect, Allen spends a good part, if not all, of his vacations hunting. "It looks like the quail season will be good again this year," he comments. "So I'll be taking off in November to give it a try."

Usually on these vacation hunting trips, Allen and his companions hunt quail during the day and coon at night, so you can bet they don't come home empty handed. In the past six years, he and his partners have caught around 600 coons.

But hunting, regardless of the game, is just one of his many interests. Allen, soft-spoken and not prone to boast of his know-how, is also an adept fisherman, gardener, carpenter and baseball player. In fact, he finds enjoyment in almost everything around him and doesn't become involved in any activity unless he has the time and inclination to become an expert.

Born and raised in Butler County, Kan., Allen lives with his wife, Fern, in El Dorado just a half mile north of the refinery. They built their own house in 1940, and Allen did all the finish work himself.

In back of their home, Allen has built kennels for his hunting dogs, a pointer named Sandy and a black and tan trailhound he calls Sailor. He also cares for another trailhound, Buck, which belongs to a hunting companion and life-long friend, Roy B. Darlington, Judge of the Probate Court in Butler County. The trailhounds are descendants of a strain of dogs which Allen's uncle first acquired in 1928.

Next to his kennels, Allen has a garden about the size of an average city lot. Here, he and his wife grow a wide variety of vegetables including corn, green beans, tomatoes, beets, onions, sweet potatoes, strawberries and okra. What they can't eat or store in a deep freezer, they give away to friends and relatives. Bordering the garden and decorating their yard and house, the Gibsons raise as many different kinds of beautiful flowers as they do vegetables.

Though hunting and gardening consume a great deal of Allen's free time, they don't take it all. He generally has some kind of a project going all the time such as building the 10-foot-square green house which also sits in the back yard. "I'm either building something for myself, for someone else, or for some organization. I like using any kind of a tool whether it be a rifle or garden hoe."

Allen is also quite a baseball player. In fact, he says baseball had something to do with his coming to work for Skelly. "In 1934, I was looking for a job, and Skelly was looking for an employee who could play baseball. So I hired on and played shortstop for the refinery team for almost 12 years," he said. "There were some good ball clubs back then, and one year our team finished as high as third in a state semi-pro tournament."

Besides Allen, there are about six or seven other refinery men still working at the plant who were members of that Skelly team of the 30's. And a couple of them have told us that Allen was one of the team's better hitters. They say that in one of the earliest semi-pro games played in Wichita's Lawrence Stadium, Allen hit a home run, giving him the distinction of being the first man to hit a ball out of the park. And then two years later, in 1937, he won the state batting championship.

Commenting about his years with Skelly, Allen says, "Well, it's been a long time, but it doesn't seem like it. I've been real happy with the way Skelly has treated me, and I hope the Company is happy with my work. But I'm looking forward to early retirement. Maybe then I can get serious about hunting."

Allen Gibson, a lube plant operations foreman at the Skelly refinery, is in charge of storing, unloading, blending, compounding and drumming of lube oils.

Allen and Judge Darlington (left) with their trailhounds, Buck and Sailor. The two hounds are descendants of a strain of dogs which have been in Allen's family for 40 years.

An amateur carpenter, Allen built this 10-foot-square greenhouse where he raises flowers throughout the year and gives some of his vegetables an early start in the spring.

Taking time out for coffee, Allen chats with fellow workers (left to right) William J. Bell, Joe R. Porter, Chester A. Z. Scribner.

Allen and Fern inspect the beautiful lilies bordering their vegetable garden. Growing flowers is just one of Allen's many hobbies. ◇

people & events

SAFETY RECORD IS NO BOBBLE — Employees of Skelly's El Dorado refinery have broken the 1,000,000 man-hour mark for the third time without suffering a loss-time accident. And for their efforts, the refinery will receive a third safety award such as the two held here by Dan Blaine (left), safety director, and Bob Struebing, general superintendent. As a result of their commendable record, Bobble, the white elephant, hasn't seen the outside of the refinery manager's office for the past year and a half. Bobble is the booby-prize awarded to a superintendent whenever a loss-time accident occurs in his department. When there have been no accidents, he is kept in the refinery manager's office. Bobble has only been around for about three years, but already he has become both a tradition and a nemesis to refinery employees. The refinery received its first safety award after completing 1,151,132 man-hours without a loss-time accident from March 26, 1946, through May 7, 1957. The second award was for 2,024,135 man-hours worked between April 18, 1956, and April 27, 1958. The safety awards are presented by the American Petroleum Institute and Joseph A. Holmes Safety Institution, an affiliate of the U. S. Bureau of Mines.

WINS ATOMIC ENERGY AWARD — Glen Eric Hager, the son of H. G. Hager, Lovington, N. M., production foreman, has won a U. S. Atomic Energy Commission Special Award at the 18th International Science Fair in San Francisco. He is seen here explaining his project to an AEC judge, Dr. James L. Born, Assistant Director for Biomedical Research at Donner Laboratory of Medical Physics. Glen's award entitles him and his science teacher to spend a "Nuclear Research Orientation Week" at the AEC's Argonne National Laboratory near Chicago.

PERSONNEL

SERVICE AWARDS

40 year awards

Robert P. Morgan
Manufacturing

Walter G. Head
Marketing

THIRTY YEAR AWARDS

Arthur L. Adkison, Manufacturing
Wayne L. Arwood, Controller's
Wendell W. Aupperle, Manufacturing
Samuel O. Dunham, Manufacturing
James T. Hanks, Controller's
Charles W. Mullins, Manufacturing
Lewis G. Tiffany, Marketing

TWENTY FIVE YEAR AWARDS

Otho O. Boaz, Production
Verne E. Fletcher, Production
George E. Holloway, Manufacturing
Robert O. Kitson, Marketing
Charles E. Weaver, Manufacturing

TWENTY YEAR AWARDS

Harry L. Barr, Jr., Controller's
Winford T. Bowden, Production
James E. Butler, Marketing
Floyd F. Campbell, Manufacturing
Harry O. Creel, Controller's
Robert F. Evans, Controller's
Kenneth M. Foley, Marketing
Bert W. Hall, Manufacturing
Clyde J. Henry, Production
Harold L. Higgs, Manufacturing
William D. Lott, Marketing
Charles J. Myers, Marketing
William R. Reynolds, Manufacturing
Jack R. Saulmon, Controller's
Winnie K. Seeman, Marketing
Harry O. Smith, Marketing
Orville R. Taylor, Production
Wayne O. Wade, Manufacturing

TEN YEAR AWARDS

Anna C. Adlesperger, Manufacturing
William C. Anderson, Marketing
James L. Bigham, Manufacturing
Willie R. Booth, Manufacturing
Robert L. Butcher, Marketing
Clayton O. Craig, Marketing
Eldon R. Diver, Manufacturing
Donald E. Geonetz, Exploration
Maynard M. Hills, Marketing
John C. Holmes, Jr., Exploration
William O. Kinsey, Manufacturing
John T. Lynch, Production
Terry J. Mason, Marketing
William Singley, Jr., Production
Donald G. Stephens, Purchasing
Jesse W. Thompson, Production
Sheard W. Wells, Law
Carlice O. Wynn, Marketing

In Memoriam

In memory of these, our late co-workers and friends, may we offer sincerest sympathy to their families.

Edward H. Stitt, 59,
Marketing, Terre Haute, Indiana
3 years' service, on April 6, 1967

John S. Freeman, 70,
(Retired), Executive, Sun City, Arizona
36 years' service, on April 8, 1967

Herman Earl Perego, 69,
(Retired), Supply and Transportation, El Dorado, Kansas
25 years' service, on April 10, 1967

Harold C. Barber, 51,
Marketing, Raytown, Missouri
18 years' service, on April 14, 1967

E. Dale Smart, 66,
(Retired), Marketing, Irvington, Nebraska
25 years' service, on April 14, 1967

Jasper L. Howard, 79,
(Retired), Marketing, Shawnee Mission, Kansas
34 years' service, on April 20, 1967

John Henry Morris, 75,
(Retired), Manufacturing, Shawnee, Oklahoma
21 years' service, on April 26, 1967

Hewitt E. Lovelace, 80,
(Retired), Marketing, Kansas City, Kansas
10 years' service, on April 28, 1967

James A. Hill, 75,
(Retired), Manufacturing, Eunice, New Mexico
8 years' service, on May 17, 1967

Elmer H. Gilman, 70,
(Retired), Manufacturing, El Dorado, Kansas
27 years' service, on May 31, 1967

To receive coverage in THE SKELLY DIAMOND, news about employees and employee activities should be sent to the editor, Tulsa, Oklahoma.

ELECTED PRESIDENT — Roy Miller, Fort Smith, Ark., a landman working out of the Exploration Department's Oklahoma City district, has been elected president of the Fort Smith Association of Petroleum Landmen for 1967-68. Last year he served the organization as vice president. Miller, who joined Skelly in 1960 as a scout, is also a member of the American Association of Petroleum Landmen.

HEADS PETROLEUM COMMITTEE — Charles A. Swinney, district sales manager in the Marketing Department's Southern Region, has been elected chairman of the executive committee of the Kansas Petroleum Industries Committee. Swinney, a resident of Valley Center, Kan., joined Skelly in 1936. He also is a member of the Wichita Oil Men's Club, associate member of the Kansas Oil Men's Association, the Valley Center Civic Club and is a 32nd degree Mason.

AWARDED BRONZE STAR — Jimmie L. Parker, who in civilian life is a yardman at the Schaefer gasoline plant in Pampa, Tex., recently was awarded the Bronze Star with "V" device by direction of President Johnson for his valor in Viet Nam. Parker, 27, joined Skelly January 4, 1965, and is currently on military leave, serving with Company B, 1st Battalion, 26th Infantry Division. According to the citation accompanying the medal, Parker exposed himself to enemy fire and directed suppressive fire into the insurgents during a military action against the Viet Cong on April 1, 1967, during which time he engaged the enemy in hand-to-hand combat.

April-May

PROMOTIONS

COMPUTER
Elva Batson, to K.P. oper., Tulsa
Billy V. Boyles, to lead control clk., Tulsa
John R. Codrey, to computer oper., Tulsa
Gerald G. Himes, to syst. supvr.-technical, Tulsa
John C. Linehan, to syst. analyst, Tulsa

CONTROLLER'S
Margaret Andrews, to dist. clk. prod., Tulsa
Marilyn Barucki, to checkwriter, Tulsa
Lynnda Conwell, to accts. payable proof clk., Tulsa
J. N. Crawford, to lead work-in-progress acct., Tulsa
J. R. Duke, to dist. clk. prod., Tulsa
M. D. Everett, to allied companies acct., Tulsa
Patti McElroy, to inv. proc. clk., Tulsa
Minerva Sanders, to K.P. oper. credit card, Tulsa
M. E. Schulke, to capital expen. & depletion supvr., Tulsa
R. G. Tatum, to rpts. services supvr., Tulsa
Richard D. Tighe, to credit service supvr., Tulsa

EXPLORATION
Keith A. Cornelius, to dist. exploration drafting supvr., Calgary
Michael A. Cullinan, to div. order clk., Tulsa
Robert C. Dickinson, to dist. geologist, Denver
Walter A. Glod, to dist. geologist, Jackson
Kenneth L. Greenhagen, to dist. geophysicist, Denver
Billie Jo Maddox, to dist. landman, Denver
Frederick O. Mueller, to dist. geologist, Houston
Bert J. Rosson, to dist. landman, Jackson
Richard H. Schulze, to landman, Denver
Linda K. Smith, to steno to dist. geologist, Midland
Charles O. Williams, to dist. geologist, Denver
Bobbie F. Wright, to secy. to dist. mgr., Midland

INTERNAL AUDIT
George E. Conner, to sr. internal auditor, Tulsa

MANUFACTURING
Wm. J. Lewallen, to sr. proc. engr., Eunice
James J. Tighe, to supvr., acct. and budgeting, El Dorado

MARKETING
Robert E. Anthony, to Skelgas sales promotion rep., Kansas City
Alfons A. Baumgart, III, to merch. salesman, St. Paul
Francis G. Belton, to Skelgas br. mgr., Wamego, Kan.
John H. Constant, to asst. Skelgas br. mgr., Chillicothe, Mo.
Hilburn L. Grayson, to dist. office mgr., Dallas
Billy O. Grimes, to terr. salesman, Dodge City, Kan.
John M. Hogan, to terr. salesman, Tulsa
William J. Holman, Jr., to lessee salesman, St. Paul
William A. Hopkins, to new business rep., Dallas
Charles R. Lawson, to merch. salesman, Des Moines
James W. Lear, to petr. dist. sales mgr., Dallas
Samuel P. Lundhigh, to rvg. credit mgr., Des Moines
Larry D. Mittie, to merch. salesman, Kansas City
Eugene A. Phillips, to truck stop solicitor, Kansas City
William W. Porter, to new business rep., Denver
Myron J. Ronding, to Skelgas br. mgr., Barron, Wis.
Kenneth W. Shannon, to lessee salesman, Denver
Raymond G. Souder, to Skelgas br. mgr., Junction City, Kan.
Richard D. Willis, to terr. salesman, New Ulm, Minn.

OFFICE SERVICES
Jerry R. Goins, to lead offset printer, Tulsa
Roger Schlemme, to lead stockman, Tulsa
Donald Shelley, to offset printer, Tulsa

PRODUCTION
Hurshel A. Baker, to truck driver-light, Velma
Junior D. Ellis, to pumper, Pampa
Vera E. Graham, to material clk., Monahans
Peggy Nicholson, to clk.-typist, Hobbs
Lamar Parnell, to pumper, Penwell, Tex.
William L. Stineburg, to lead clk., Velma
Robert L. Wyatt, to office mgr., Denver

PURCHASING
Lloyd W. Liszeo, to buyer, Tulsa

SUPPLY & TRANSPORTATION
C. A. Manwarren, to truck driver-gang pusher, Stafford, Kan.
L. A. Martin, to dist. gauger, Larned, Kan.
A. L. McMillian, to engr. (station), Cunningham, Kan.
W. L. Norris, to truck driver, Larned, Kan.
Jimmie E. Piper, to receiving & delivery gauger, El Dorado
G. L. Renville, to dist. clk., Stafford, Kan.

RETIREMENTS

Clyde R. Chapman, Production, 40 years' service
Alvin F. Hoppe, Marketing, 19 years' service
John W. Komer, Manufacturing, 37 years' service
Carlos B. Langston, Marketing, 30 years' service
Carl V. Lindbeck, Supply and Transportation, 28 years' service
Gilbert F. Morris, Production, 35 years' service
Norman Taylor, Treasury, 37 years' service

(ENTRY BLANK IN MAY-JUNE ISSUE OF THE SKELLY DIAMOND)

Send Us Ideas Now!

HOW WOULD YOU PLAN A BIRTHDAY PARTY FOR 5,000 PEOPLE?

On October 2, 1969, Skelly will be 50 years old. Even now, plans are underway to celebrate this important occasion. But we need ideas. Your ideas! Ideas that could be worth valuable prizes to you.

You recently received a contest entry blank in the May-June issue of THE SKELLY DIAMOND with five questions asking for your ideas. Answer these questions and help us plan for Skelly's Golden Anniversary.

One of the questions asks for an anniversary theme idea which will tie together everything we do to celebrate Skelly's 50th birthday. This theme will be used throughout 1969 in all of our promotion, on stationery, signs, booklets and perhaps in a documentary movie.

Here is your chance to demonstrate imagination and at the same time contribute to one of the most significant events in our company's history. All ideas will be considered, so don't sell any of yours short. Let us be the judge.

To show appreciation for your help in selecting a theme, we will award 11 fine prizes for the best 11 themes selected by a panel of judges. The First Prize is a GE "Porta Color" personal color TV. Beautiful GE AM-FM 50-transistor radios will be awarded to the five Second Prize winners. And five Third Prize winners will receive FM-AM 15-transistor radios.

Dig out your entry blank and put your mind in motion now. In case of a tie, the earliest postmark will determine the winner.

So mail your entry today. **Deadline is September 15, 1967.**

This anniversary is for you. We want you to share in its planning and be a part of what we do.

the skelly diamond

EDITOR: Virgil W. Hensley. **ASSOCIATE EDITOR:** Jack C. High — Volume 4, no. 4, July-August 1967. Published bi-monthly in Tulsa, Oklahoma, by the Employee Relations Department, Skelly Oil Company. Main Offices: Oil Center Building, 1437 S. Boulder, P. O. Box 1650. Member of the International Council of Industrial Editors.