



1973 ANNUAL REPORT Ranchers

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Inside the Johnny M Shaft

Sinking the Johnny M Shaft

Shaft sinking — the ancient and arduous craft of digging a hole in the ground — is proceeding apace at the Section 7 uranium property in Ambrosia Lake (N.M.), where the 14-foot-diameter circular shaft of the Johnny M Mine now stands at a depth of more than 900 feet.

Harrison Western crews, who have been working around the clock six — sometimes seven — days a week since early April, are advancing the bottom about 10 feet per day. If this rate continues, the 1,400-foot shaft, completely lined with a foot of concrete, will be ready before the July 1, 1974, deadline.

Stone Age Shafts

The basics of shaft sinking, being applied so diligently by the Harrison Western miners, date back to the Stone Age, when the first shafts were sunk to retrieve flint embedded in layers of chalk. The ancient miners, using deer-horn picks, punches, wedges and hammers, dug shafts to depths of approximately 50 feet. The shafts, usually about two feet square, were enlarged at the bottom so that tunnels could be driven into the flint-bearing strata.

From these first primitive

efforts, shaft sinking advanced but little in the next several thousand years. Thermal fracturing of rock — heating with fire, then cooling suddenly with water — was used, and later copper, bronze, and iron tools — chisels, shovels, buckets — were developed. However, it wasn't until the invention of black powder that shaft sinking, and mining in general, escaped the finite limitations of hand labor and began to resemble the craft as it's being practiced today at the Johnny M.

A Tyrolean named Kaspar Weindl set off the first blast — in the Royal Mines of Schemnitz at Ober-Biberstollein in Hungary in February 1627. By 1689, powder was regularly employed in the famed tin mines of Cornwall, England, and, despite its comparatively low energy, remained the standard blasting agent in mines for another 200 years. It was finally eclipsed by Alfred Nobel's invention of dynamite — the first high explosive — in 1867.

Steady Innovation

Since then, innovations in shaft sinking have come at a fairly steady pace. Engines greatly improved hoisting of men and materials; air-powered drills expedited the emplacement of explosives; and mucking machines, in use since the late 1930s, significantly increased the amount of shattered rock which could be removed from a shaft in a single day. In the early 1950s, the technique of sinking circular concrete shafts was perfected.

Despite these advances, shaft sinking as conducted at the Johnny M is hard work. Laboring in the limited — and often, wet — space at the bottom of the shaft, the five-man crew must drill blast holes, load explosives, muck out loose rock and case the shaft with concrete in only the dim light provided by helmet-mounted lamps. Heavy boots and waterproof clothing make movement difficult, and conversation is hampered, if not eliminated, by the roar of the drills, which requires the use of earplugs or other protective devices.

But the drilling-blasting-mucking-hoisting sequence goes forward at a surprising pace. In a stint requiring about 30 minutes, approximately 30 blast holes, each 1 1/4 inches in diameter and eight feet deep, are drilled in one-half the shaft bottom. The holes are then loaded with dynamite in another 30-minute period in which an electric blasting cap and seven sticks of dynamite are inserted in each hole.

Explosive Detonated

The shaft is cleared, and the explosive detonated by a fuse from the surface. Smoke is then blown from the shaft, and mucking begins.

Suspended from a steel arm anchored several feet above the bottom, the jaws of the air-powered mucking machine bite into the loose rock on the shaft floor, lift it upwards and sideways for a few feet and drop it into a 5-ton steel bucket attached to the hoist cable. Some 30 bucketfuls are hoisted to the surface and dumped during the two-hour mucking operation, clearing the bottom of the 150 tons of rock shattered by the blast.

Drilling Begins

After mucking is completed, drilling begins on the other half of the bottom, which served as a work platform during the previous drilling and mucking. In a typical eight-hour shift, a crew will blast three times and muck out twice, or vice versa. Occasionally, under ideal conditions, a crew will blast three times and muck out three times. As many as 97 buckets of muck have been hoisted in a single eight-hour shift, helping advance the bottom 21 feet in a 24-hour day.

THE SHAFT SINKERS

Gene Garriott, who paints the covers for the Annual Report, is one of Albuquerque's better known artists, having, among other achievements, won the Governor's Award in the 1972 New Mexico State Fair for artistic excellence. This year's painting, an oil entitled "The Shaft Sinkers," shows a Harrison Western shift crew outlined against the 90-foot head-frame of the Johnny M Mine.

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EXPLORATION AND DEVELOPMENT CORPORATION

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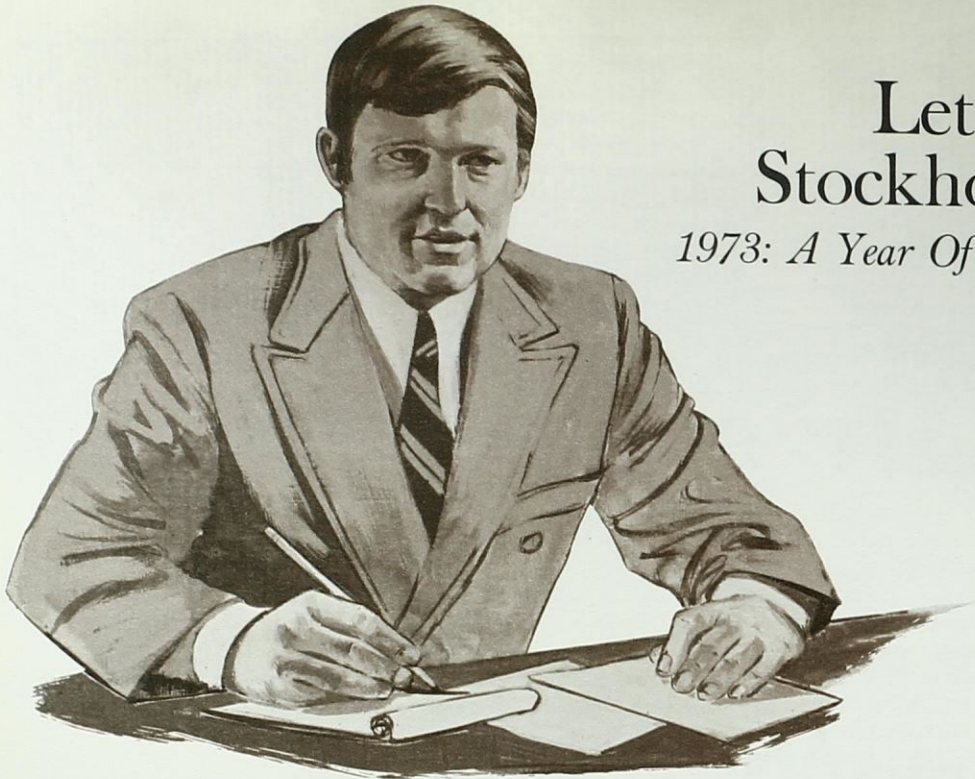
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Letter to Stockholders

1973: A Year Of Extremes

Fiscal year 1973 was a year of extremes for the Company.

From a standpoint of earnings (\$.52 per share vs. \$.71 in 1972), the year was a disappointment.

In terms of new projects and developments which broaden the Company's base and increase its potential for profit, it was perhaps the most successful year the Company has had.

The decline in earnings stemmed from a combination of factors, the most important being lower copper prices throughout most of the year, a strike and other production problems at the Bluebird Mine in the first quarter, and a strike at the Kerr McGee operations in Ambrosia Lake, which sharply reduced fourth quarter uranium royalties.

As a result of these problems, the Company got off to a slow start in the first quarter, reporting earnings of \$.03 per share, and never completely recovered thereafter, although earnings did improve somewhat. For the final three quarters they were \$.17, \$.13, and \$.19, respectively.

Despite the decline in earnings, the year was one of significant accomplishment, with both the copper and uranium operations of the Company making exceptional progress.

The Company produced nearly 19-million pounds of copper from its Bluebird, Old Reliable, and Big Mike mines during the year, a total exceeded only in 1971, when foreign shipments from the Big Mike temporarily swelled production

to about 23-million pounds.

After the first quarter difficulties, production at the Bluebird rebounded sharply, reaching nearly 4-million pounds in the second and fourth quarters, and totaling approximately 14,775,000 pounds for the year. This was short of the goal which the Company had hoped to reach, but still an increase of 5.6 percent over the previous year's production.

The Company also began negotiations during the year with Mitsubishi International Corporation, New York, concerning a possible joint venture leading to a major expansion of Bluebird production facilities. Negotiations are continuing. If consummated, the venture would accomplish the expansion through a change in the present heap leaching system and construction of additional cathode production facilities. Regardless of the outcome of these negotiations, the Company ultimately expects to expand operations at the Mine.

The Old Reliable, which came on stream midway through the year, fully justified the Company's decision to go forward with this unique in-place leaching operation. The Company's share of production from the Mine amounted to about 2-million pounds of copper.

Production at Big Mike totaled nearly 1.9-million pounds for the year, and the Mine was the scene in July 1973 of a large blast, which was used to shatter several hundred thousand tons of ore in preparation for in-place leaching. This new operation should increase output from the Mine in 1974.

Start of construction at the Johnny M Mine was the highlight of the Company's uranium operations during the year. The 1,400-foot shaft reached a depth of about 900 feet by August, and is scheduled for completion by the end of June 1974.

The demand for uranium remained strong throughout the year. Royalties from the Company's properties in northwest New Mexico were on the way to their highest total in several years when the Kerr McGee strike occurred in May. This reduced royalties to \$818,000, an increase of about 10 percent over 1972.

Exploration Continues

The joint uranium exploration venture with Occidental Minerals Corporation and Frontier Mining Company drilled throughout the year, but made no discoveries. The Company also added to its land position in the Colorado Plateau area, anticipating that it will expand its future uranium exploration effort in this area.

In addition to uranium, the Company evaluated other mineral properties, with emphasis on gold because of the steep rise in its price. The Company began a review of the gold-antimony property which it holds under lease at Stibnite, Idaho, and leased some 2,000 acres of gold placer deposits in eastern Alaska late in the year.

The Company feels that both of these properties have potential for future production, if gold prices remain at their present level or increase. The Company is also evaluating other gold prospects which appear to merit attention at present prices.

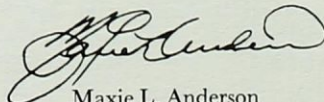
Outlook for 1974

The Company expects to report higher earnings in 1974, with increased copper production and prices being the most significant factors in the anticipated improvement.

The Bluebird and Old Reliable operations were running at near capacity at year's end, and the Big Mike should approach that level in the second quarter. Continuation of production at these levels would increase 1974 output to about 23-million pounds. This increased output, together with higher prices, should make the Company's copper operations unusually successful during the new year.

Uranium royalties will be reduced in the first quarter by the strike, which continued into July and August. However, total royalties for the year should be sufficient to help raise the Company's earnings to their highest level in several years.

August 24, 1973



Maxie L. Anderson
President

Highlights of '73

1. Earnings were \$.52 per share, compared to \$.71 per share in 1972. By quarters they were: \$.03, \$.17, \$.13, and \$.19, respectively.

2. Copper production rose to approximately 18.7-million pounds from the Company's three producing properties, an increase of 26.6 percent over the previous year. However, lower copper prices helped reduce the profitability of operations.

3. The Old Reliable Mine came on stream in the third quarter, producing copper from a combination of blasting and in-place leaching.

4. Explosives were emplaced at the Big Mike during the third and fourth quarters, and were detonated in July to shatter some 550,000 tons of ore and rock preparatory to beginning a new copper leaching operation.

5. Negotiations were begun with Mitsubishi International Corporation concerning a joint venture at the Bluebird Mine to change the method of leaching and expand production facilities.

6. A shaft was begun at the Johnny M Mine in Ambrosia Lake and is scheduled for completion in 1974. Ore production is to begin late in 1975.

7. The Company continued its joint uranium exploration venture with Occidental Minerals and Frontier Mining in New Mexico, and added to its land position in several surrounding states.

8. Uranium royalties increased about 10 percent to \$818,000, despite a strike which reduced the net received in the fourth quarter.

9. The Company began the evaluation of gold properties during the year. Evaluation centered on the gold-antimony property at Stibnite, Idaho, and placer deposits in eastern Alaska.



Earnings Gross Income Increases; But Net Earnings Decline

The Company's gross income rose slightly in 1973, but net earnings declined about 27 percent, with earnings per share totaling \$.52, compared to \$.71 in 1972.

Net earnings totaled \$784,836, compared to \$1,071,771 last year. Lower copper prices and slightly higher copper production costs were the principal factors in reducing earnings, although the Company also had substantial litigation expenses during the year.

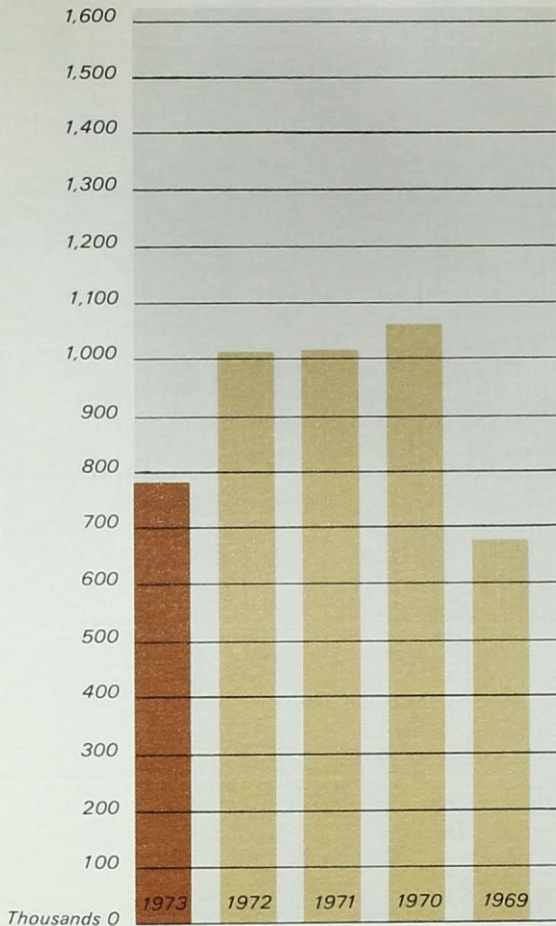
Gross income for the year was \$10,628,289, an increase of four percent over the 1972 total of \$10,210,242. Greater copper production and uranium royalties led to the increase, despite the absence of tungsten sales, which totaled \$947,960 in 1972.

Copper sales from the Bluebird Mine accounted for the bulk of the gross income, totaling \$8,693,805, an increase of nine percent over the \$7,962,669 of

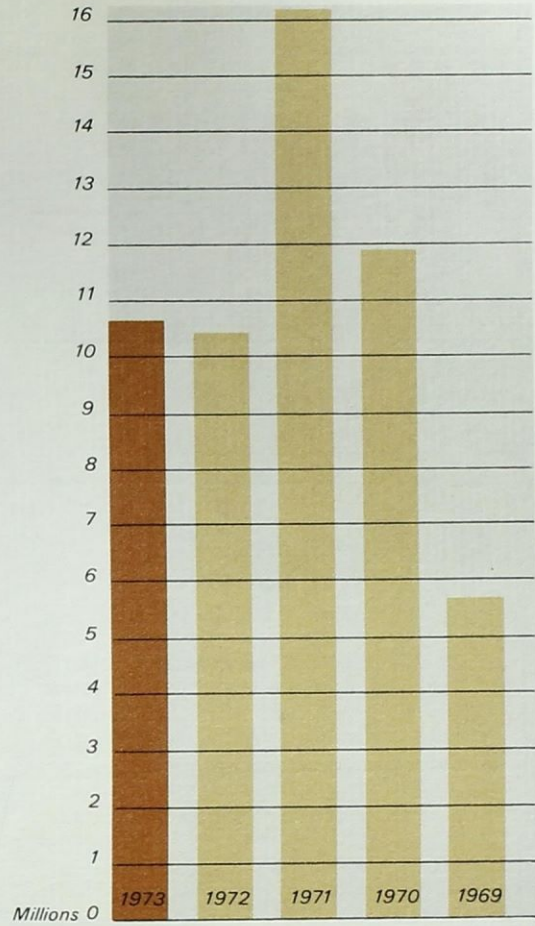
last year. Sales of copper from the Big Mike and Old Reliable mines totaled \$996,085, bringing total copper sales to \$9,689,890, an increase of 17 percent over the 1972 sales of \$8,287,124.

The remaining gross income consisted of uranium royalties of \$818,267 and interest, dividends, and miscellaneous income of \$120,132. Uranium royalties were up 10 percent over the \$745,720 received in 1972 and would have totaled approximately \$900,000 had not the strike occurred at the Kerr McKee operations in May and June.

During the year, the Company was assessed \$1,065,000 for additional federal income taxes due for the years ended June 30, 1965 through June 30, 1971. The Company has paid these taxes and will file a claim for refund. A more detailed explanation of the matter is given in Note F on page 26 of this report.



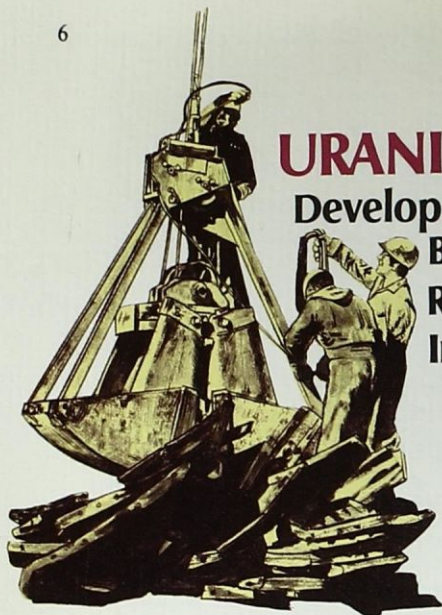
NET INCOME 1973/1969



GROSS INCOME 1973/1969

Financial Highlights

	1973	1972
Gross Income	\$10,628,289	\$10,210,242
Net Earnings before Income Taxes	1,021,036	1,139,564
Income Taxes	236,200	80,799
Net Earnings before Extraordinary Income	784,836	1,058,765
Extraordinary Income Net of Income Taxes	-0-	13,006
Net Earnings	784,836	1,071,771
Earnings per Share		
Ordinary	.52	.70
Extraordinary	-0-	.01
Total	.52	.71
Retained Earnings	7,933,945	7,149,109
Stockholders' Equity	13,854,059	13,104,689
Equity per Share	9.16	8.65



URANIUM Development Begins; Royalties Increase

The Company's uranium operations again made very satisfactory progress in 1973, reflecting confidence in the continuing strong demand for nuclear power. The main shaft was begun on the Section 7 property held jointly with HNG Oil Company and royalties in Ambrosia Lake increased slightly for the third consecutive year.

Progress in developing the Johnny M Mine on Section 7 was the highlight of the year's operations. The shaft site was selected early in the year and the collar poured in October. The shaft was then sunk under the direction of Company personnel to a depth of approximately 60 feet, the headframe erected, and hoist installed before the project was turned over to Harrison Western Corporation, successful bidder and contractor on the \$1.5-million shaft-sinking contract.

Harrison Western moved onto the site on March 1, and began sinking the 1,400-foot circular shaft on April 11. By late August, the depth of the shaft had been advanced to about 900 feet, with the work well ahead of schedule.

The shaft, including two pump stations and the main level haulage station, is to be completed no later than July 1, 1974. Excavation of some 6,700 feet of main haulage tunnels to ore bodies on Section 7 and the east half of Section 18, which adjoins Section 7, will begin immediately after completion of the shaft. Mining of ore will begin late in 1975 and the first deliveries of concentrates will be made in January 1976.

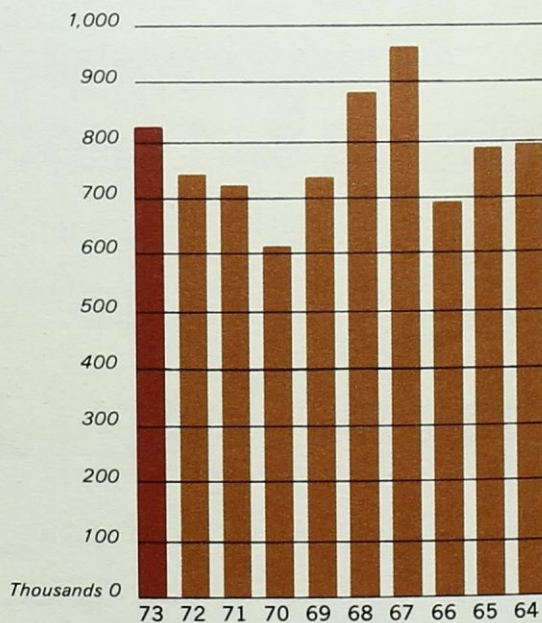
Construction at the Johnny M Mine — named for John E. Motica, the Company's vice president of geology who directed exploration leading to the Mine's discovery — was triggered by the sale in early 1972 of production from the Mine to Gulf Oil Corporation. The sales agreement calls for delivery of a minimum of 5-million to a maximum

of 10-million pounds of U_3O_8 , with the actual total depending on ultimate production from the two sections.

Gross value of the contract ranges from approximately \$40-million to \$90-million for the five to 10 million pounds. Proven reserves on the properties total in excess of 5-million pounds, with Section 7 estimated to contain about 3.5-million pounds and Section 18 about 1.8-million pounds. Both sections have good potential for additional ore. Section 18 was purchased from United Nuclear for \$575,000, plus a royalty on production.

The cost of bringing the Mine into production is estimated to range from \$6 to \$7-million, of which up to \$5-million will be financed by a loan from the Chase Manhattan Bank to the joint venture, equally owned by the Company and HNG.

Uranium royalties from properties in the Ambrosia Lake area totaled \$818,000 during the year, the highest since 1968, despite the strike at Kerr McGee's operations. The increase reflects the growing demand for uranium to fuel nuclear power generation plants. According to the Atomic Energy Commission, the U.S. had, as of June 30, 1973, 34 operable nuclear power plants with a total generating capacity of 19,005,000 kilowatts; 57 units under construction with a generating capacity of 51,076,000 kilowatts, and 81 units planned (reactors ordered) with a generating capacity of 86,382,000 kilowatts. At the end of the previous 12 months, the figures were 26 units in operation, 51 under construction, and 66 planned.



**Uranium Royalties
1964/1973**

Johnny M Shaft Before Headframe Was Emplaced



Copper Production Rises But Prices Fall



The Company produced approximately 18.7-million pounds of copper in 1973 at its Bluebird, Old Reliable and Big Mike Mines. Although that output was the greatest since 1971 when exported ore from Big Mike lifted annual output to 23-million pounds, production was somewhat erratic at the Bluebird, and lower copper prices and higher costs reduced profit margins substantially.

The Bluebird produced a record total of 14,774,225 pounds of cathodes, an increase of 5.6 percent over the 13,987,840 pounds produced in 1972, but below the 15.5-million pounds which the Company had hoped to produce. Production by quarters: 3,326,475, 3,974,115, 3,551,715, and 3,921,920 pounds.

Production Disrupted

First quarter production was disrupted by a strike at the Mine in early August, then further reduced by changes which the Company made in the solvent extraction-electrowinning plant to improve cathode purity. These changes included installation of new lead anodes and construction of a system to filter the solvent in the production circuit.

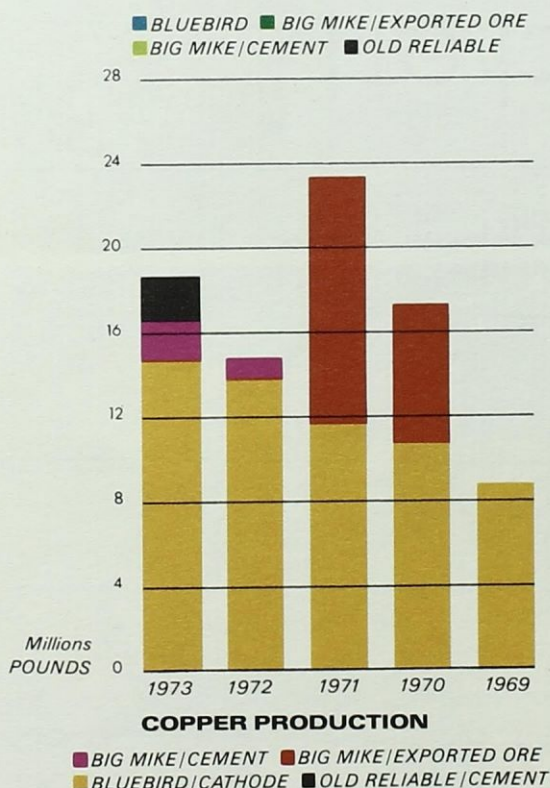
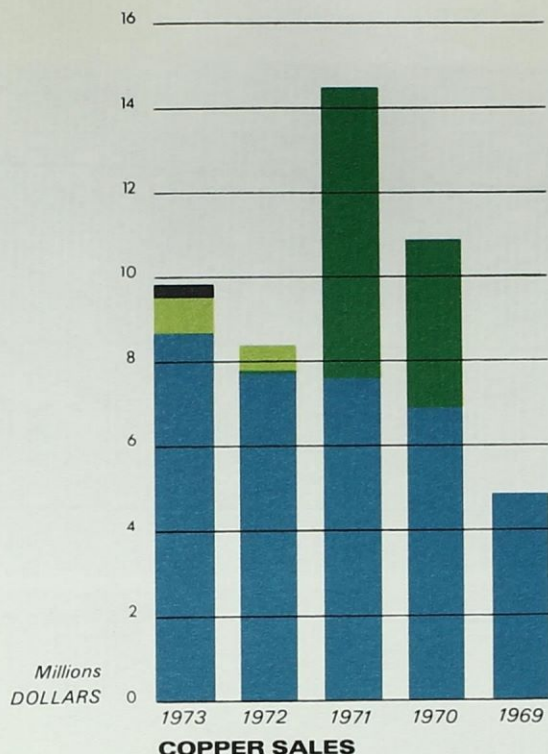
Second quarter production exceeded by about four percent the previous record output of 3,827,000 pounds produced in the fourth quarter of fiscal year 1972. Cathode quality, a problem which has affected salability of the cathodes during times of copper surpluses, also improved substantially, aided by inclusion of chemical additives in the production circuit.

Third quarter production was affected by heavy rains, which complicated mining operations in the open pit and diluted leaching solutions on the ore heaps. Production did, however, rebound sharply in the final quarter and the Mine was running near its capacity of about 45,000 pounds of cathodes daily as the new year began.

Bluebird Sales for the Year

Bluebird sales during the year totaled \$8,693,807 for 17,554,306 pounds of copper, including 2,243,431 pounds of purchased cathode starter sheets, an average sales price of \$.495 per pound. In 1972, sales totaled \$7,962,669 for 15,606,817 pounds of copper, including 2,066,370 pounds of starter sheets, an average sales price of \$.510 per pound.

A major development of the year at the Bluebird was the Company's announcement in February that it had reached a preliminary agreement in principle with Mitsubishi International Corporation on terms of a possible joint venture to expand operations at the Mine. The proposed agreement, which was still being negotiated as of August 24, provides that Mitsubishi will initially contribute about \$250,000 to cover costs of research and test work related to changing the leaching



system at the Mine and enlarging production facilities.

The proposed expansion would include enlargement of the solvent extraction-electrowinning plant and a change in the leaching system so that production could be expanded to about four times the present annual output of 7,500 tons of cathodes. The ore treatment system would involve vat, agitation or acid leaching or some similar method to increase the recovery of copper from the ore.

The Company was quite pleased with progress of the Old Reliable Mine during the year. A joint effort of the Company and Du Pont, the Mine involves the in-place leaching of approximately 4-million tons of .74 percent copper ore, which were shattered by explosives in a large blast in March 1972. Leaching solutions were applied in late August 1972, and copper-bearing liquors began to return in volume during February. By the end of the year, production of cement copper was averaging about 17,000 pounds daily.

Big Mike Operations

Operations at the Big Mike Mine, Winnemucca, Nevada, also progressed well during the year, with production of cement copper totaling 1,942,714 pounds. First quarter production — 224,869 pounds — came from a single large heap on the property; however, in subsequent quarters, a second heap was brought on stream, lifting production to 407,806, 593,957, and 716,082 pounds in the final three periods. The heaps were formed from mixed oxide-sulfide ore stockpiled when high grade ore was removed from the open pit on the property and shipped abroad in 1970.

The open pit was the scene of considerable activity late in the year as preparations were made to blast ore remaining in the bottom and walls of the pit. The operation was completed in July 1973, and treatment of the shattered ore, now being placed under leach in the bottom of the pit, should increase Big Mike production slightly in 1974, if the new operation performs as expected.

Production To Rise

Copper production at the Company's three mines should rise substantially in 1974. Production goals for the year at the Bluebird, Old Reliable and Big Mike are 15,500,000, 5,000,000, and 2,000,000 pounds, respectively. Profit margins should also improve somewhat over those of 1973 as a result of higher copper prices. As of August 24, the Company had sold 7,125,000 pounds of Bluebird copper through December at an average price of about \$.60 per pound and committed 1,995,000 pounds of Old Reliable production for the same period at an average price of \$.70 per pound. About 350,000 pounds of Big Mike production have been sold through September at an average price of \$.53 per pound.

Although somewhat slower to come on stream than anticipated, the Company's Old Reliable Mine proved in 1973 to be just as dependable as its name would indicate. The Mine — the copper industry's first blast-and-in-place-leaching operation — began production in the third quarter and by the end of the year had established itself as an efficient, low-cost producer of cement copper.

Pioneering Project

The pioneering project got off the ground — literally — in early March 1972, when the 4-million-ton deposit was shattered with 4-million pounds of explosive. Goal of the project, carried out in conjunction with explosives experts from Du Pont, a minority partner in the project, was to break the copper ore and leach it in-place by saturating the deposit with a solution of sulfuric acid and water. The copper-bearing liquor would flow from the base of the fractured deposit and into a precipitation plant for treatment.

Leaching began on the terraced surface of the deposit on August 23, 1972, with some 300 gallons per minute of solution being applied with lawn sprinklers. Solution began to seep from the base of the deposit — some 475 feet below the top — exactly a month later.

Initial Flow

Initial flow measured only 10 gallons per minute, but rose slowly in the next several months, reaching 210 gallons per minute by the end of November. This was, however, substantially less than had been expected, considering that by this time more than 30-million gallons of solution had been applied to the 245,000 square feet of leaching surface.

Concern that some of the solution might be escaping was allayed, however, by the fact that the flow continued to rise steadily.

By the end of December, it had reached 275 gallons per minute, and a month later had risen to 425 gallons — about two-thirds the amount of solution then being applied.

The flow increased sharply in February. By the end of the month, 900 gallons per minute were emerging from the deposit, about the same amount being applied to the surface. Since that time, the flow on and off the deposit has been in approximate equilibrium at about 1,000 gallons per minute.

The loaded solution, containing



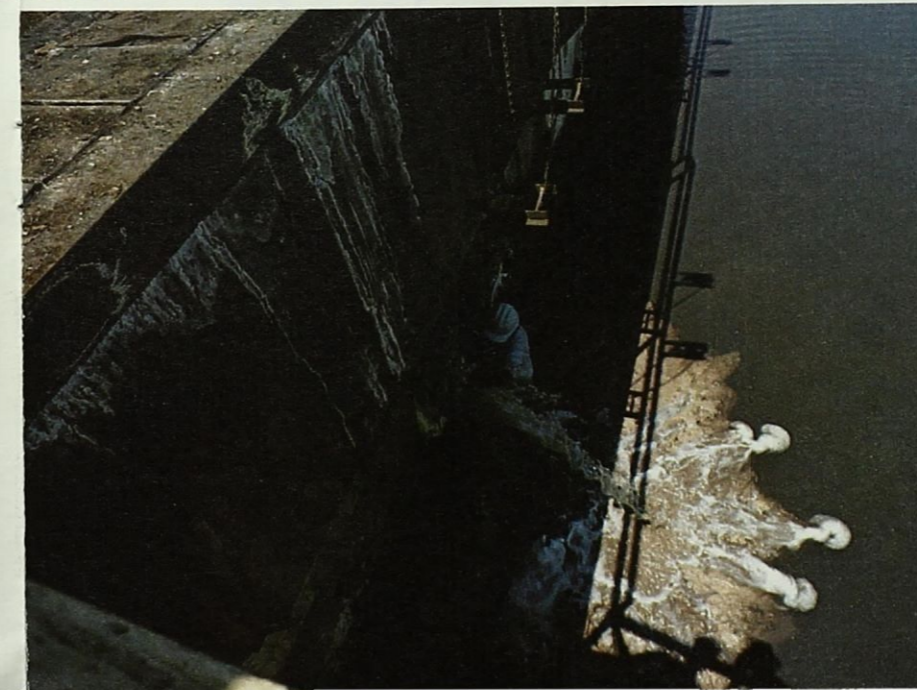
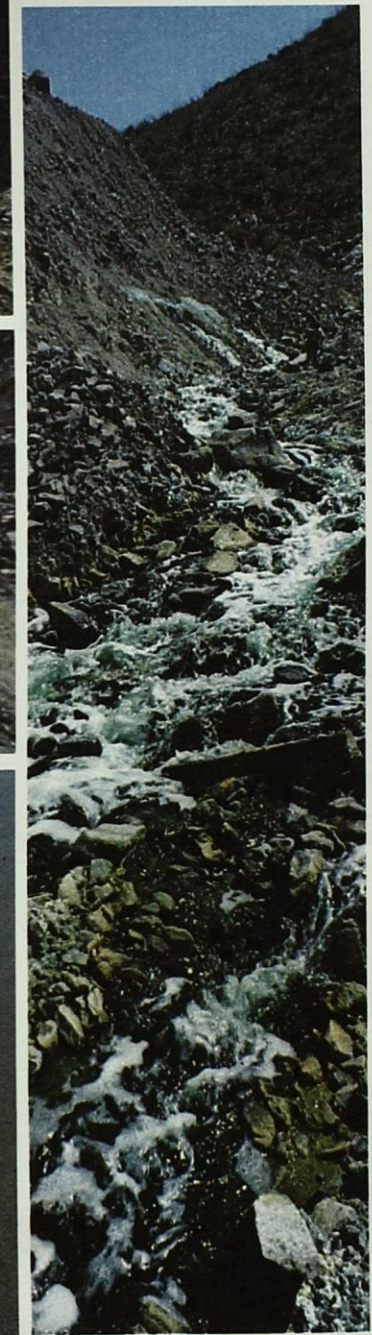
about .20 percent copper, flows from a small holding dam at the base of the deposit and into the precipitation plant. In the plant, the solution is pumped into concrete cells filled with de-tinned cans. The iron in the cans replaces the copper in the solution, causing it to drop to the bottom of the cells. Mud-like in appearance, this cement copper is flushed out of the cells and placed on a pad to dry.

Production of cement copper from the leach liquors began in January, when some 117,000 pounds were produced, climbed to 364,000 pounds in February, and has averaged about 500,000 pounds per month since then.



THE OLD RELIABLE OPERATION

Acid and water are sprinkled on terraces (left); copper-bearing solution seeps from bottom of ore body (center) and flows down channel (below) to precipitation plant where cement copper (bottom center) is produced.

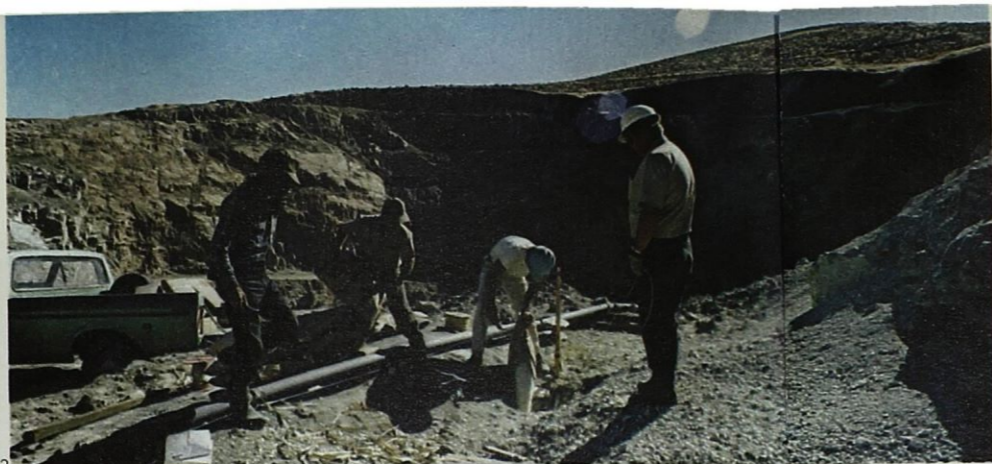
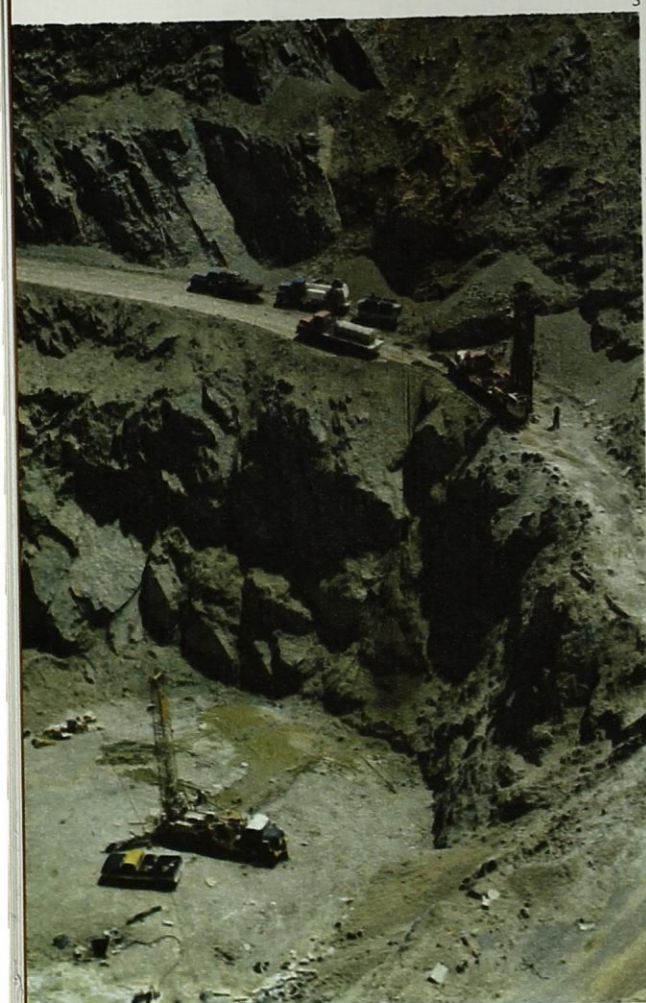


**The Very Reliable
OLD RELIABLE**



BEFORE THE BLAST

Big Mike Open Pit (1), Drilling Blast Holes (2) and Loading Explosive into Holes on Rim of Pit (3).



Big Blast at Big Mike



THE BLAST — DURING & AFTER

First Ten Seconds of Blast (4,5,6); Dust in Pit Several Minutes Later (7); and Pit after Dust Had Cleared (8).



The Company's "blast-and-leach" approach to copper production received its second test on July 10, 1973, when the technique was used to blast ore into the open pit at the Big Mike Mine near Winnemucca, Nevada.

Some 400,000 pounds of explosive were used to blast approximately 550,000 tons of copper ore and rock into the 300-foot-deep pit, where the ore will be leached by percolating acid and water through the broken material.

Although the amount of explo-

sive was much smaller (400,000 pounds vs 4,000,000) than that used in the Old Reliable shot and the payoff will be considerably less, the purpose of the blast was the same: to save time and money which would have been expended had a conventional blasting, hauling, and heap-leaching operation been used to move and treat the ore remaining in and around the open pit.

The open pit on the property was formed in 1970 when approximately 95,000 tons of high grade

sulfide ore, containing nine percent copper, were removed and shipped abroad in a rapidly-executed operation spanning about nine months. Some 300,000 tons of lower grade oxide-sulfide ore, which surrounded the high grade ore, were also removed, placed in heaps, and are now being leached.

In addition to this lower grade ore, approximately 400,000 tons of ore, containing about two percent copper, were left in the pit. This included about 325,000 tons in portions of the pit wall and 75,000 tons in the bottom of the pit. This ore was the target of the July blast.

Drilling of holes for the big blast began in early February and was completed on July 6. Approximately 250 holes, including 175 in the walls and 75 in the bottom, were drilled and loaded with ammonium nitrate pellets and waterproof slurry gel, under direction of Du Pont personnel.

Final loading occurred on July 9, and wiring with Primacord — a rapid burning fuse — was completed the following morning. The area was cleared and the blast set off at 11:05 a.m., producing a large cloud of dust, a small shower of flying rock, and a ground tremor, which could be felt a few thousand feet from ground zero.

The shattered ore and rock — crushed to an average of nine inches in diameter — fell into the pit, filling the bottom 60 feet.

The ore has since been leveled and terraced in preparation for leaching, scheduled to begin in September. Leaching will be accomplished by sprinkling a solution of sulfuric acid and water on the ore at the rate of about 200 gallons per minute.

This solution will percolate through the crushed ore, gradually removing the copper. The copper-bearing liquid will drain

into a pipe-encased hole sunk about 150 feet below the top of the ore heap and then be pumped to the precipitation plant on the surface at the rate of about 200 gallons per minute.

If successfully implemented, this small, but unique operation should recover several million pounds of copper in the next three to four years. In addition, recovery will be accomplished with minimal disturbance of the environment since all mining and leaching activity will be confined to the present pit.



The Company maintained an active exploration program in 1973, concentrating primarily on uranium, copper, and gold properties.

Uranium exploration again received the greatest attention. The joint venture with Occidental Minerals and Frontier Mining, formed in March 1972, drilled approximately 126,000 feet during the year. Drilling was concentrated on selected portions of some 135,000 acres of state, private and Indian leases and federal mining claims and permits in the Grants Mineral Belt in northwest New Mexico. Low grade mineralization was intersected during the drilling, but no deposits were discovered.

The Company also acquired for its own account several thousands of acres of land in the Colorado Plateau area, which are believed to be favorable for the deposition of uranium. The Company plans to explore these lands on its own or with a partner.

New Copper Properties

The Company continues to be quite interested in new copper properties. During the past decade the Company has gained considerable experience in the mining, production, and sale of copper, and is interested in applying this expertise to new operations. A number of copper prospects were evaluated during the year and several remain under consideration.

The rising price of gold prompted the Company to focus much of its evaluation effort late in the year on properties which appear to carry economic amounts of the metal. A number of previously worked properties were examined, and in the fourth quarter the Company leased a placer property in eastern Alaska. The property is located in a district which has a history of production, yielding some \$3-million in gold values.

The property contains many million yards of potential gold-bearing gravels distributed over some 2,000 acres. Drilling and test work performed by previous operators have been evaluated, and the Company has begun geophysical testing. This work will be followed by a test drilling program, which will determine whether the Company proceeds with development of the property.

Gold-Antimony Property

During the year, the Company also began and is continuing a careful re-evaluation of the gold-antimony property held under lease at Stibnite, Idaho. The deposit, most of which can be mined from an open pit, has considerable potential as a result of the rise in both gold and antimony prices.

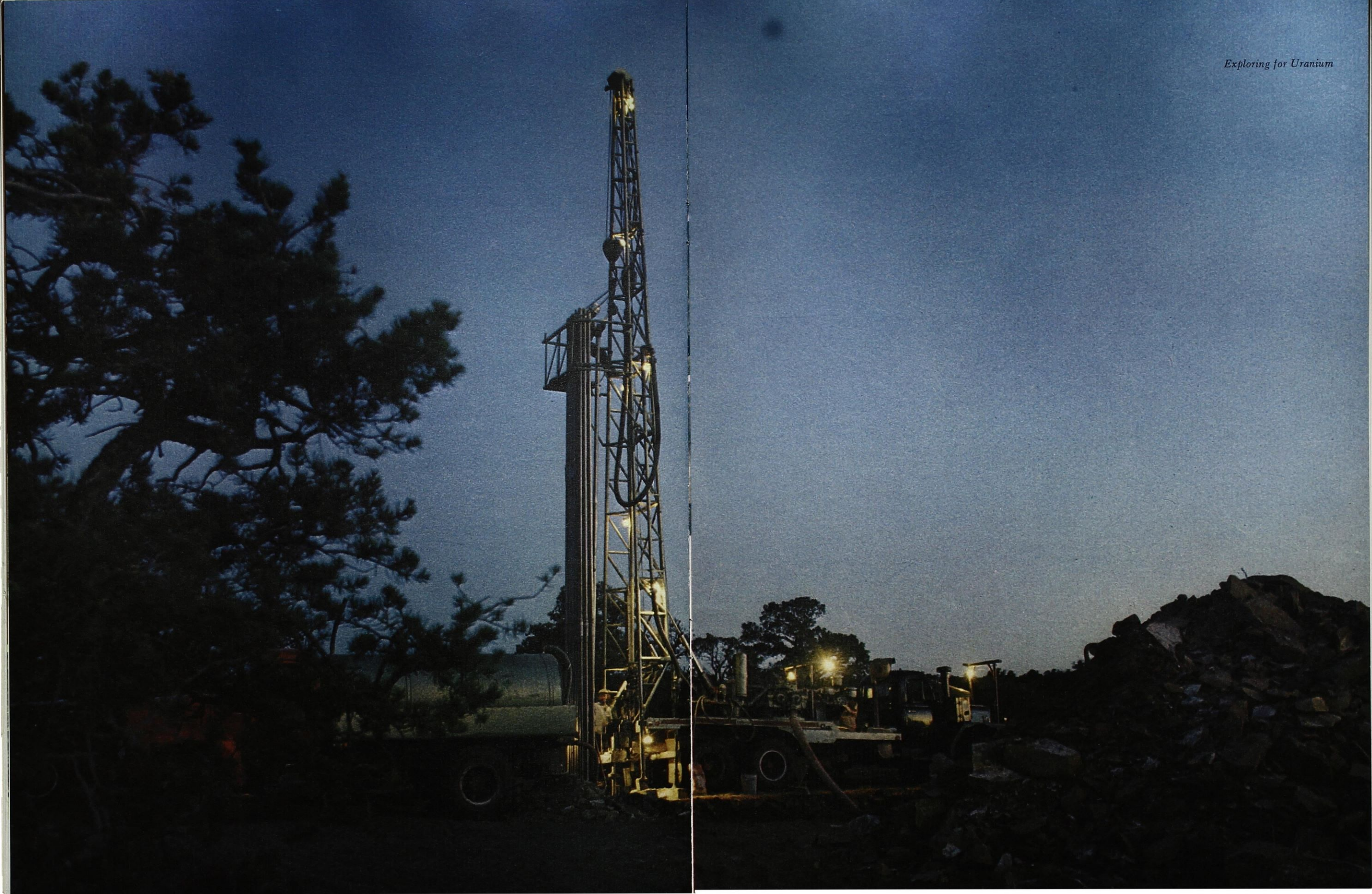
Drilling of the property was undertaken in July and August 1973 to verify previous drilling data and to obtain samples for metallurgical testing. The result of this testing, which will determine the amount of gold that can be extracted from the ore, will be a critical factor in determining whether the development of the property continues.

EXPLORATION

Uranium, Copper, Gold, Are Principal Targets



Inserting Cathode Starter Sheet at Bluebird Mine



OFFICERS RANCHERS EXPLORATION AND DEVELOPMENT CORPORATION



HERBERT M. CAMPBELL II
SECRETARY

Mr. Campbell serves as the Company's chief in-house counsel, and as such directs the preparation and administration of all legal matters involving the Company, including assignment and coordination of work performed by the Company's general counsel.

Mr. Campbell joined the Company as a staff attorney in 1967, became assistant secretary later that year, and assumed his present position the following year.

He was born in Selfridge Field, Michigan, on February 10, 1944, completed his undergraduate work at the Air Force Academy, and received his Juris Doctor degree from the University of New Mexico School of Law in 1967. He is a member of the New Mexico State Bar.



MILTON H. WARD
VICE PRESIDENT, OPERATIONS

Mr. Ward has directed the Company's mining operations since 1970, when he joined the Company following service as a general manager and general superintendent of mines with United Nuclear-Homestake Partners and Kerr McGee Corporation.

From 1966-69, he was in charge of operating six uranium mines and a mill in Ambrosia Lake, New Mexico, for United Nuclear-Homestake. He served with Kerr McGee from 1960-66, first as a mine superintendent in Ambrosia Lake and later as division engineer in Oklahoma City. From 1955-60, he was employed by Magma Copper Company.

Born in Birmingham, Alabama, on August 1, 1932, Mr. Ward holds a BS degree in mining engineering from the University of Alabama, 1955, and recently completed requirements for a MBA degree at the University of New Mexico.



LELAND O. ERDAHL
VICE PRESIDENT, FINANCE,
AND TREASURER

The Company's chief financial officer, Mr. Erdahl joined the Company in 1970 following service with the Atomic Energy Commission and United Nuclear Corporation.

From 1957-65, he served in the Grand Junction, Colorado, office of the AEC, first as an auditor and later as supervisor of divisions involved in auditing, negotiating, and administering uranium procurement contracts. In 1965, he became chief, Audit Planning and Program Branch, AEC Headquarters, Germantown, Maryland, leaving in 1967 to join United Nuclear in Santa Fe, New Mexico, as manager, Finance and Administration, Mining and Milling Division.

Born in Doland, South Dakota, on December 3, 1928, Mr. Erdahl holds a BS degree in business from the College of Santa Fe, 1970.

The Company's staff of six officers has had extensive experience in mineral exploration and development, and the related fields of mineral law, finance and accounting. Experience is concentrated in the Company's two principal areas of operation — copper mining and uranium exploration and development, a field in which several members of the staff have been active since the mid-1950s. Average age of the staff is 38.

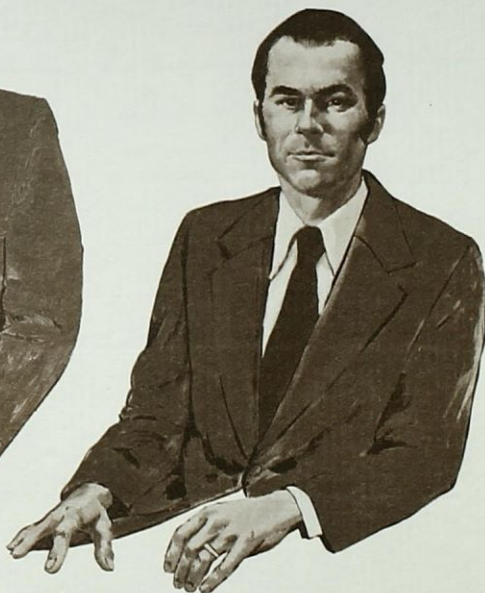


MAXIE L. ANDERSON
PRESIDENT

Mr. Anderson was elected to the Company's board of directors in 1957, became manager of the Company in 1962, and assumed his present position in 1963. Under his direction, sales have increased more than tenfold, and the Company has initiated its own uranium and copper operations, while retaining its original uranium royalty interests.

Mr. Anderson has some 20 years of experience in the mining industry, beginning with exploration for uranium near the Arctic Circle in 1953. He has been active in uranium exploration in New Mexico since 1955, when he began acquiring properties for Anderson Development Company, later a part of Kerr McGee Corporation.

Born in Sayre, Oklahoma, on September 10, 1934, Mr. Anderson holds a BS degree in industrial engineering from the University of North Dakota, 1956.



MARVIN K. KAISER
ASSISTANT SECRETARY
AND TREASURER

A Certified Public Accountant, Mr. Kaiser is primarily responsible for the Company's accounting operations, including the preparation of financial statements and income tax reporting. He is also involved in coordinating sales and shipments of products, inventory controls, budgeting and planning.

Mr. Kaiser joined the Company in 1969 as controller and assumed his present position in 1972. He served as chief accountant and production control manager for the Enviro Division of Becton-Dickinson & Co. from 1967-69 and as a staff accountant with Ernst & Ernst from 1963-67.

Mr. Kaiser was born in Belleville, Illinois on September 30, 1941, and holds a BS degree in accounting from Southern Illinois University, 1963.



JOHN E. MOTICA
VICE PRESIDENT, GEOLOGY

Mr. Motica joined the Company in his present capacity in 1967, and has headed its exploration and mineral property evaluation program since that time. He directed the joint exploration venture which discovered the Section 7 uranium deposit in the Ambrosia Lake district in 1968.

Prior to joining the Company, Mr. Motica served as chief geologist with Union Carbide's Colorado Plateau Operations from 1954-67. This position involved direction of the Company's exploration activities for uranium-vanadium in the Plateau area.

Born in Monarch, Wyoming, on September 23, 1925, Mr. Motica holds an Engineer of Mines degree from Colorado School of Mines, 1948.

Assets

Consolidated Balance Sheet/June 30, 1973 and June 30, 1972 Ranchers Exploration and Development Corporation and Subsidiary

	1973	1972 Restated Note H
CURRENT ASSETS		
Cash and certificates of deposit (1973-\$296,170; 1972-\$830,000)	\$ 791,977	\$ 1,411,872
Marketable securities - at cost, approximately market	24,118	24,048
Trade accounts receivable	1,057,378	919,403
Inventories - Note B	2,316,388	1,820,384
Prepaid expenses and other current assets	343,908	177,368
Deposits with brokers for copper futures contracts	173,182	-0-
TOTAL CURRENT ASSETS	<u>4,706,951</u>	<u>4,353,075</u>
PROPERTY, PLANT AND EQUIPMENT - at cost - Notes C and E		
Land	77,522	77,522
Buildings and equipment	12,074,411	11,557,131
Construction in progress - estimated additional costs to complete (1973-\$10,000; 1972-\$70,000)	14,126	14,556
Mineral interests, mining claims, leases and permits - Note D	1,214,222	1,156,273
Deferred intangible mining and development costs	5,716,412	4,694,404
	<u>19,096,693</u>	<u>17,499,886</u>
Allowances for depreciation, depletion and amortization	4,993,292	4,356,153
	<u>14,103,401</u>	<u>13,143,733</u>
OTHER ASSETS AND DEFERRED CHARGES		
Investment in joint ventures - Note D	638,024	842,938
Unamortized debt expense	109,571	118,306
Other deferred charges	85,230	143,102
Claim for refund of federal income taxes - Note F	1,065,000	-0-
	<u>1,897,825</u>	<u>1,104,346</u>
	<u>\$20,708,177</u>	<u>\$18,601,154</u>

See notes to consolidated financial statements

Liabilities and Stockholders' Equity

Consolidated Balance Sheet/June 30, 1973 and June 30, 1972
Ranchers Exploration and Development Corporation and Subsidiary

	1973	1972 Restated Note H
CURRENT LIABILITIES		
Notes payable to bank	\$ 200,000	\$ 300,000
Trade accounts payable	1,348,997	1,101,826
Accrued interest payable	61,339	61,417
Federal income taxes - Note F	1,090,000	65,000
Other liabilities	146,789	135,463
Current portion of long-term debt	58,478	83,122
	<u>2,905,603</u>	<u>1,746,828</u>
TOTAL CURRENT LIABILITIES		
LONG-TERM DEBT - Note E		
5¾% convertible subordinated debentures due January 15, 1989	2,355,000	2,355,000
Contract payable for purchase of mineral interest	40,461	100,501
Lease-purchase contracts - equipment pledged as collateral (Cost: 1973-\$129,150; 1972- \$107,366)	18,017	29,673
	<u>2,413,478</u>	<u>2,485,174</u>
Less portion classified as current liability	58,478	83,122
	<u>2,355,000</u>	<u>2,402,052</u>
DEFERRED FEDERAL INCOME TAXES - Note F	1,590,000	1,325,000
MINORITY INTEREST IN SUBSIDIARY - represented by twenty percent of capital stock	3,515	22,585
STOCKHOLDERS' EQUITY - Note I		
Common Stock - par value \$.50 a share		
Shares authorized - 4,000,000		
Shares issued - 1,542,228 including shares in treasury	771,114	771,114
Capital in excess of par value	5,511,635	5,511,635
Retained earnings	7,933,945	7,149,109
	<u>14,216,694</u>	<u>13,431,858</u>
Less cost of Common Stock in treasury (1973- 29,808 shares ;1972-26,808 shares)	362,635	327,169
	<u>13,854,059</u>	<u>13,104,689</u>
	<u>\$20,708,177</u>	<u>\$18,601,154</u>

See notes to consolidated financial statements

Statement of Consolidated Income

Ranchers Exploration and Development Corporation and Subsidiary
Year Ended June 30, 1973 and June 30, 1972

	1973	1972
Income		
Net sales	\$ 9,766,858	\$ 9,342,981
Uranium royalties	818,267	745,720
Interest, dividends and other	43,164	121,541
	<u>10,628,289</u>	<u>10,210,242</u>
Deductions from income		
Cost of products sold	8,614,116	7,993,071
Exploration, conservation and maintenance of mining properties	256,900	331,903
Administrative and general expense	552,214	522,448
Interest, principally on long-term debt	184,023	223,256
	<u>9,607,253</u>	<u>9,070,678</u>
INCOME FROM OPERATIONS BEFORE APPLICABLE INCOME TAXES	1,021,036	1,139,564
Federal income taxes - Note F		
Currently payable	25,000	30,799
Deferred	211,200	50,000
	<u>236,200</u>	<u>80,799</u>
INCOME BEFORE EXTRAORDINARY ITEM	784,836	1,058,765
Extraordinary item:		
Gain on repurchase of Company debentures, less applicable income tax of \$15,265	-0-	13,006
NET INCOME	<u>\$ 784,836</u>	<u>\$ 1,071,771</u>
Earnings per share - Note G		
Income before extraordinary item	\$.52	\$.70
Extraordinary item	-0-	.01
	<u>\$.52</u>	<u>\$.71</u>
See notes to consolidated financial statements		

Statement of Consolidated Stockholders' Equity

Ranchers Exploration and Development Corporation and Subsidiary
Year Ended June 30, 1973 and June 30, 1972

	1973	1972
COMMON STOCK		
BALANCE AT BEGINNING AND END OF YEAR	<u>\$ 771,114</u>	<u>\$ 771,114</u>
CAPITAL IN EXCESS OF PAR VALUE		
Balance at beginning of year	\$5,511,635	\$5,509,581
Proceeds in excess of cost of treasury shares sold under stock option plan	<u>-0-</u>	<u>2,054</u>
BALANCE AT END OF YEAR	<u>\$5,511,635</u>	<u>\$5,511,635</u>
RETAINED EARNINGS		
Balance at beginning of year		
As previously reported	\$7,243,561	\$6,171,790
Adjustment - Note H	<u>(94,452)</u>	<u>(94,452)</u>
As restated	7,149,109	6,077,338
Net income	<u>784,836</u>	<u>1,071,771</u>
BALANCE AT END OF YEAR	<u>\$7,933,945</u>	<u>\$7,149,109</u>
TREASURY STOCK		
Balance at beginning of year	\$ 327,169	\$ 185,695
Purchase of shares for treasury (1973- 3,000 shares; 1972-15,100 shares)	<u>35,466</u>	<u>162,220</u>
	362,635	347,915
Cost of shares sold under stock option plan	<u>-0-</u>	<u>20,746</u>
BALANCE AT END OF YEAR	<u>\$ 362,635</u>	<u>\$ 327,169</u>

See notes to consolidated financial statements

Statement of Changes in Consolidated Financial Position

*Ranchers Exploration and Development Corporation and Subsidiary
Year Ended June 30, 1973 and June 30, 1972*

	1973	1972
ADDITIONS		
Income before extraordinary item	\$ 784,836	\$1,058,765
Add charges to income not requiring working capital:		
Provision for depreciation, depletion, and amortization	894,504	944,266
Amortization of debt expense	8,735	18,070
Increase in deferred income taxes	265,000	50,000
Lease abandonment	50,000	-0-
Income (loss) applicable to minority interest	(19,070)	12,585
WORKING CAPITAL PROVIDED FROM OPERATIONS EXCLUSIVE OF EXTRAORDINARY ITEM	<u>1,984,005</u>	<u>2,083,686</u>
Extraordinary item - gain on repurchase of Company debentures, less applicable income tax of \$15,265	-0-	13,006
TOTAL FROM OPERATIONS	<u>1,984,005</u>	<u>2,096,692</u>
Decrease in investment in joint ventures	204,914	-0-
Decrease in other deferred charges	57,872	74,936
Proceeds from sale of treasury stock	-0-	22,800
Proceeds from sale of capital stock in subsidiary	-0-	10,000
Carrying amount of property, plant and equipment disposals	3,343	121,985
TOTAL	<u>2,250,134</u>	<u>2,326,413</u>
DEDUCTIONS		
Decrease in long-term debt	\$ 47,052	\$ 221,677
Additions to land (1973-\$0; 1972-\$11,468) and depreciable property, plant and equipment	755,045	560,817
Additions to mineral interests, mining claims, leases and permits	107,949	-0-
Additions to deferred mining and development costs	1,044,521	287,192
Claim for refund of federal income taxes	1,065,000	-0-
Cost of Common Stock purchased for treasury	35,466	162,220
Increase in investment in joint ventures	-0-	623,131
Purchase of debentures for treasury	-0-	140,000
TOTAL	<u>3,055,033</u>	<u>1,995,037</u>
INCREASE (DECREASE) IN WORKING CAPITAL	<u>\$ (804,899)</u>	<u>\$ 331,376</u>

CHANGE IN COMPONENTS OF WORKING CAPITAL

Increase (decrease) in current assets:		
Cash	\$ (619,895)	\$ (540,818)
Marketable securities	70	(37,563)
Trade accounts receivable	137,975	578,092
Recoverable federal income tax	-0-	(25,000)
Inventories	496,004	(786,738)
Prepaid expenses and other current assets	166,540	24,822
Deposits with brokers for copper futures contracts	173,182	-0-
	<u>353,876</u>	<u>(787,205)</u>
Increase (decrease) in current liabilities:		
Notes payable to bank	(100,000)	300,000
Trade accounts payable	247,171	17,723
Accrued interest payable	(78)	(13,860)
Federal income taxes	1,025,000	6,000
Other liabilities	11,326	(64,989)
Current portion of long-term debt	(24,644)	(1,363,455)
	<u>1,158,775</u>	<u>(1,118,581)</u>
INCREASE (DECREASE) IN WORKING CAPITAL	<u>\$ (804,899)</u>	<u>\$ 331,376</u>

Notes to Consolidated Financial Statements June 30, 1973

Note A - Summary of Significant Accounting Policies

Principles of Consolidation - The consolidated financial statements include the accounts of the Company's subsidiary, KOP-RAN Development Corporation, which is 80% owned by the Company. Upon consolidation, intercompany accounts and transactions have been eliminated.

Inventories - Inventories are stated at the lower of cost (principally average cost) or market. The Company hedges sales of part of its production of cathode copper through the sale of futures contracts. As these contracts are repurchased and replaced with physical sales contracts, the resulting differences are included in inventory. These amounts are then charged (or credited) to income when delivery is made under the sales contracts.

Property, Depreciation, Amortization, and Depletion - The costs of maintaining and repairing property are charged to operations. Additions and betterments are added to property accounts at cost. Units of property, plant and equipment retired or replaced are credited to property accounts at cost and the corresponding allowances for depreciation, deple-

tion, or amortization are removed. Any differences between amounts received and net carrying amounts of the disposals are generally reflected in operations. Provisions for depreciation, depletion, and amortization are computed using rates which the Company believes are sufficient to amortize the cost of the asset over its useful life, which is the shorter of the asset's physical life or the economic life of the mine. These rates are subject to periodic review and are revised when deemed necessary to assure that the cost of the respective assets will be written off over their useful lives.

Exploration Expenses - Costs incurred in the search for new mining properties are charged against earnings when incurred.

Development Costs - Development costs to bring new mineral properties into production, and for major programs of a special nature at existing mines are capitalized and amortized using the units-of-production method when production begins.

Income Taxes - The income tax effects resulting from allowable deductions taken in income tax returns for depreciation and mine development costs in excess of amounts charged against earn-

ings in the financial statements are deferred. Operating loss carryforwards and investment tax credit carryforwards are considered in the determination of such deferred taxes. Investment tax credits are accounted for by use of the flow-through method.

Note B - Inventories

Inventories consist of the following:

	June 30	
	1973	1972
Finished metals and metal products	\$ 893,432	\$ 410,783
Ore in leach heaps and stockpiles	954,159	1,106,186
Supplies	359,784	298,538
Costs incurred in cancellation of futures contracts replaced with physical sales contracts	109,013	4,877
	<u>\$2,316,388</u>	<u>\$1,820,384</u>

Note C - Tungsten Queen Mine

Due to the substantial decline in the market price of tungsten, the Company suspended operations at its Tungsten Queen Mine in August 1971. Because of continued depressed market conditions, it cannot be determined at this time when the mine will be reopened. The carrying amount of property, plant and equipment at the mine at June 30, 1973 was \$7,852,621. In management's opinion, the investment will be recovered through future operations or disposition of the property.

Note D - Investment in Joint Ventures

Included in the balance shown as investment in joint ventures is the Company's carrying amount of property, plant, equipment and intangible development costs aggregating \$629,101 which represents its 50% share of the Ranchers-HNG Oil Company Joint Project. In addition to this carrying amount, the Company also has \$92,871 included in mineral interests relating to the Joint Project. This Joint Project was formed to develop and operate the Johnny M Mine (uranium) located in McKinley County, New Mexico. On February 12, 1973 the Joint Project entered into a credit agreement with a commercial bank in order to provide a portion of the funds to finance the development and equipping of the mine. The credit agreement provides for initial revolving credit loans to be made by the bank in an aggregate principal amount not to exceed \$5,000,000 prior to January 31, 1976, or under certain conditions September 30, 1976. At that date, the total balance due under the revolving credit loans is to be converted to a term loan

which is repayable in 48 equal monthly installments. The annual rate of interest is one percent above 114% of the bank's prime commercial rate in effect, provided that over the full course of the revolving credit loan and term loan, the total interest paid on the individual loan does not exceed 8.75%.

All property, plant and equipment and proceeds derived from sale of production of the Johnny M Mine are pledged as collateral on the loans, with no recourse by the bank to the respective participants in the Joint Project upon completion of the mine. As of June 30, 1973, the Joint Project had borrowed \$700,000 under this agreement. The Company's investment in the Joint Project includes only the contributions made to the Joint Project by the Company.

Note E - Long-Term Debt

The debentures, which bear interest at the rate of 5¾%, are convertible into one share of Common Stock for each \$24.71 of principal amount, and are subordinated to all outstanding or subsequently incurred senior indebtedness. The debentures are redeemable, at the option of the Company, in whole or in part at redemption prices ranging downward from 104.398% beginning January 15, 1973 to 100% beginning January 15, 1988. The indenture provides for an annual sinking fund payment in the amount of \$118,500 which can be reduced by the principal amount of debentures purchased by the Company. The indenture, among other things, provides limitations upon payment of cash dividends and the amount of Common Stock the Company can purchase for treasury. Retained earnings available for payment of cash dividends amounted to \$5,224,551 at June 30, 1973 and \$4,534,167 at June 30, 1972.

Debt expense incurred in connection with registration and sale of the debentures is being amortized over the life of the outstanding debentures.

The contract payable for purchase of mineral interest requires minimum annual payments of \$40,000 and bears no interest. Annual payments may be increased depending upon production from the property.

Note F - Federal Income Taxes

During the year ended June 30, 1973 the Company received a deficiency notice

for \$1,065,000, representing additional federal income taxes assessed, including interest, for the years ended June 30, 1965 through June 30, 1971. The Company has recorded this amount as it intends to pay the deficiency notice and file a claim for refund. Should the Internal Revenue Service refuse to honor this claim, the Company intends to commence litigation to recover the payment. While the outcome of this matter is not determinable at this time, management is of the opinion that the ultimate deficiency, if any, will not have a materially adverse effect on the consolidated financial position or results of operations of the Company. If the proposed adjustments are upheld by the courts, substantially all would be in the nature of timing differences, for which provision has been made in the deferred income tax liability accounts.

Investment tax credits of \$54,976 for 1973 and \$23,050 for 1972 have been used to reduce the provision for income taxes.

Note G - Earnings Per Share

Earnings per share of Common Stock have been computed based on the weighted average number of shares outstanding during each year. Dilution resulting from conversion of debentures and exercise of stock options is not material.

Note H - Settlement of Litigation

On July 3, 1973 settlement, resulting from a court judgement, was made of litigation in connection with work at the Company's Big Mike Mine.

The balance of retained earnings at June 30, 1970 and subsequent dates has been restated from amounts previously

reported to reflect a retroactive charge of \$94,452, which is net of applicable income taxes of \$100,000, for payment made in settlement. The balance sheets for both June 30, 1973 and June 30, 1972 reflect this settlement. Earnings per share for the year ended June 30, 1970 is thus restated as follows:

	As Previously Reported	As Restated
Income before extraordinary item	\$1.25	\$1.19
Extraordinary item	(.13)	(.13)
Net income	1.12	1.06
Net income fully diluted	1.08	1.02

Note I - Stock Options

At June 30, 1973, 60,968 shares of Common Stock were reserved for issuance to certain officers and employees under the Company's stock option plan. Of the 60,968 shares reserved for options, 18,200 were covered by options outstanding and 42,768 were available for future grant. Options may be granted at prices not less than market value at date of grant, become exercisable principally in five equal annual installments following dates of grant, and expire five years from date of grant. The plan provides that individual options cannot be exercised while any option previously granted at a higher price is outstanding.

In addition, the Company has granted other options, principally to directors, not under the stock option plan, which are priced at fair market value on the date of the grant and become exercisable principally in five equal annual installments following dates of grant, and expire five years from the date of grant.

Options exercised, exercisable, and outstanding are summarized as follows:

	Stock Option Plan		Other		Total Shares
	Shares	Price	Shares	Price	
Outstanding June 30, 1971	23,750	\$ 9.50-23.50	38,500	\$11.50-19.00	62,250
Exercisable June 30, 1971	7,820	9.50-23.50	11,768	11.50-19.00	19,588
Year ended June 30, 1972					
Granted	4,600	9.88	14,000	9.88	18,600
Exercised	(2,400)	9.50	-0-	-0-	(2,400)
Cancelled	(3,750)	12.94-20.38	-0-	-0-	(3,750)
Outstanding June 30, 1972	22,200	9.88-23.50	52,500	9.88-19.00	74,700
Exercisable June 30, 1972	9,140	10.25-23.50	21,200	11.50-19.00	30,340
Year ended June 30, 1973					
Granted	-0-		-0-		-0-
Exercised	-0-		-0-		-0-
Cancelled	(4,000)	18.00-23.50	-0-		(4,000)
Outstanding June 30, 1973	18,200	9.88-21.50	52,500	9.88-19.00	70,700
Exercisable June 30, 1973	10,660	9.88-21.50	30,100	9.88-19.00	40,760

Financial Summary* 1973/69

Fiscal Year Ended June 30	1973	1972**	1971**	1970**	1969
ANNUAL					
Net sales	\$ 9,767	\$ 9,343	\$15,194	\$11,040	\$ 4,835
Royalties—uranium	818	746	724	611	739
Interest, dividends and other	43	121	158	276	138
Total income	10,628	10,210	16,076	11,927	5,712
Income from operations before income taxes	1,021	1,140	1,102	2,471	714
Provision for income taxes	236	81	171	694	38
Income from operations	785	1,059	931	1,777	676
Extraordinary income (loss) net of applicable income taxes	-0-	13	141	(195)	-0-
Net income	785	1,072	1,072	1,582	676
Net income per share					
From operations	.52	.70	.61	1.19	.49
From extraordinary income (loss)	-0-	.01	.09	(.13)	-0-
Total	.52	.71	.70	1.06	.49
YEAR END					
Current assets	4,707	4,353	5,140	9,110	2,861
Current liabilities	2,906	1,747	2,866	4,576	996
Working capital	1,801	2,606	2,274	4,534	1,865
Net property, plant and equipment and other non-current assets	16,001	14,248	13,936	13,774	9,968
Long-term debt	2,355	2,402	2,764	5,912	2,910
Deferred income taxes	1,590	1,325	1,275	1,200	440
Minority interest	4	23	-0-	-0-	-0-
Net worth	13,854	13,104	12,171	11,197	8,483
Stockholders' equity per share	9.16	8.65	7.97	7.31	5.76
Number of shares outstanding	1,512,420	1,515,420	1,528,120	1,531,552	1,473,616

* (000 omitted except for per share and share amounts)

** Restated - See Note H to Financial Statements

Per share amounts and number of shares outstanding have been adjusted to reflect the 2-for-1 stock split-up declared in March, 1970.

Shareholders and Board of Directors
Ranchers Exploration and
Development Corporation
Albuquerque, New Mexico

We have examined the consolidated financial statements of Ranchers Exploration and Development Corporation and subsidiary for the years ended June 30, 1973 and 1972. Our examinations were made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, subject to the ultimate realization of the investment in the Tungsten Queen Mine as explained in Note C, the accompanying balance

sheet and statements of income, stockholders' equity, and changes in financial position present fairly the consolidated financial position of Ranchers Exploration and Development Corporation and subsidiary at June 30, 1973 and 1972 and the consolidated results of their operations, changes in stockholders' equity and changes in financial position for the years then ended, in conformity with generally accepted accounting principles applied on a consistent basis.

Ernst & Ernst

Albuquerque, New Mexico
August 6, 1973

How the company spent its income in '73



The Company had a gross income of \$10,628,289 in Fiscal Year 1973.

This income was distributed in the following manner:

\$6,187,735, or 58 percent, went to suppliers for the various goods and services needed to conduct the Company's business.

\$2,238,630, or 21 percent, was spent on labor, including social security, insurance, etc.

\$894,504, or 8.4 percent, was set aside for depreciation, amortization, and depletion of property, plant, and equipment.

\$522,584, or 5 percent, was paid in federal, state, and local taxes.

These expenditures totaled \$9,843,453, leaving a profit of \$784,836, or 7.4 percent of the gross income for the year. This amounted to \$.52 per share on the 1,512,420 shares held by the Company's approximately 1,200 stockholders.

To heap leach, or not to heap leach?

Although hardly a question worthy of Shakespeare, it is one which the Company is pondering with great deliberation at its Bluebird Copper Mine, where heap leaching has been used since 1964.

Heap leaching — placing broken ore in piles and soaking it with a mixture of sulfuric acid and water to dissolve the copper — is probably the oldest method of copper recovery still used by modern metallurgists. In addition, it's relatively simple and inexpensive.

But, it has one major drawback. It is a slow process which extracts only about half the copper from the ore over a period of months.

Other methods of treatment — vat, agitation, and acid-bake leaching — are much more efficient, commonly extracting 90 percent or more of the copper in a matter of days, or even hours.

Major Drawback

But, these systems have one major drawback. They are expensive.

The Company has estimated, for instance, that it would cost \$35 to \$40-million to install one of these confined leaching systems at the Bluebird. However, the improvement in copper recovery could more than pay for the new system and increase the life and profitability of the Mine.

Despite this advantage, the Company is weighing any change in leaching with great care, if for no other reason than reluctance to abandon a system with which it has had extraordinary success.

A Successful Operation

The Bluebird is one of the most successful heap leaching operations in the long history of copper, representing perhaps the first time that large tonnages of oxidized copper ore have been profitably mined and heap-leached.

Historically, heap leaching has been confined largely to ores which were too marginal to be treated by other means. Any copper leached from these ores merely supplemented a mine's regular



production from conventional recovery processes.

Work at the Bluebird has advanced the art and science of heap leaching appreciably. When the Mine was acquired in 1964, its reserves were too limited to support the large capital outlay needed for confined leaching, and the oxidized ore could not be treated by flotation. Heaps were the only answer, and the Company set out to learn how to build them as rapidly and efficiently as possible.

The results have been impressive. Using a fleet of caterpillar earthmovers and tractors, personnel at the Mine build and begin leaching a new heap every 12 to 14 days, bringing about 52 acres of new ore under treatment each year. Since 1964, 21-million tons of ore have been placed in heaps.

Each new heap is 20 feet thick, covers 90,000 square feet, and contains 185,000 tons of ore. The 20-foot-thick layers are piled upon each other, and now extend a maximum of 180 feet above ground level.

The heaps are leached in a revolving cycle, with only 10 of the 20 areas under treatment at any one time. The remaining areas are either drying preparatory to construction of a new heap or are having ore piled on them.

Fourteen Scrapers

Fourteen scrapers — most of them capable of carrying 45 tons per load — are used in the mining and heap building process. Ore is loaded through an opening in the bottom of the giant vehicles, with the tractors pushing them for a short distance in the pit to fill them to capacity.

The ore is dumped near the edge of the heap under construction, then bulldozed over the side at the rate of six to eight tons at a time (see photo). Some 13,000 tons of ore are moved each day, two shifts a day, six days a week. In addition, an average of 17,000 tons of waste is moved each day of the work week.

When the heap is completed, two-inch-diameter pipe is placed at eight-foot intervals on the surface to convey the leaching solutions evenly across the heap. Small needle valves located every eight feet along the pipe drip a mixture of water and sulfuric acid (two percent) onto the ore. Some 200 gallons trickle onto each heap each minute, saturating a 20-foot layer in about a week.

Solutions Flow

Some 2000 gallons of solution, containing .20 percent copper, flow from the bottom of the heaps each minute and are pumped to the cathode production plant. In the past nine years, this simple, age-old leaching process has produced some 85-million pounds of copper from the Bluebird ore deposit. Whether it continues to do so will be determined by the results of studies now underway.