

1972 Annual
Report
Ranchers



An Exercise in Exploration

Uranium exploration in New Mexico — so dramatically recorded in Dick Kent's colorful cover photo — is the pursuit of a common mineral which commands an uncommon price only when you find a lot of it.

A lot of it — in one place.

Merely finding uranium is no trick.

For instance, a cubic mile of granite, a common rock found in mountainous regions, typically contains about 100,000,000 pounds of uranium oxide (U_3O_8) or about \$750,000,000 worth at current prices.

Of course, it would cost considerably more than that to extract it.

Exploration = Economics

So, exploration really boils down to a matter of economics — finding a sufficient concentration of the element to justify mining and milling expense.

Even at that, the concentration doesn't have to be great — generally several hundred thousand tons of ore containing at least four pounds of uranium among each 2,000 pounds (a ton) of waste.

Nevertheless, given the vast expanses where deposits might occur, the search is sort of a needle-in-the-haystack proposition — complicated by the fact that the haystack — the target formation — is usually located several hundred feet beneath the surface and can only be observed through a drill hole.

The needle itself is elusive, being nothing more or less than a uranium-saturated logjam of vegetation which lodged in the bend or meander of a stream some 130,000,000 years ago.

The Geologist

The man who looks for the needle is the exploration geologist — an incurable optimist who carries a rabbit's foot and combines the trained eye of Sherlock Holmes with the tenacity of a bulldog.

Directed by this extraordinary individual, the exploration effort usually unfolds in this manner:

A land position is acquired — based on knowledge of outcrops, proximity to known deposits, and various other information which would indicate that the acreage contains a favorable host rock. In the Grants (N.M.) Mineral Belt, for instance, the geologist seeks land containing thick beds of Morrison Formation sand-

stone, situated as close to the surface as possible (0 to 4,000 feet) and on trend (line) with other deposits in the area.

Next, wide-spaced drilling — holes a half mile or more apart — is begun on the most favorable acreage in an attempt to turn-up clues which will help to pinpoint a deposit, if there's one in the area.

Luck vs Logic

Occasionally, one strikes ore in one of these widely spaced holes. But such good fortune is a rarity — a triumph of luck over logic.

However, one may uncover a few clues: bleached or gray sandstone . . . pyrite . . . carbonaceous material . . . and faint traces of radioactivity picked up by the logging instrument — an elongated Geiger counter which is lowered into each hole.

The bleached or gray sandstone — as opposed to red sandstone — tells the geologist he is drilling in a generally favorable area.

Pyrite — fool's gold — and carbonaceous material from decayed vegetation are usually associated with uranium ore and are a further signal to the geologist that the area is favorable.

The traces of mineralization — frequently no more than .01 to .03 percent U_3O_8 — are tantalizing whiffs of scent which indicate that big game may be lurking nearby.

Abundant Clues

An abundance of these clues usually leads to closer-spaced drilling — four or five holes, or more, per section (640 acres). Hopefully, one of these holes will intersect ore grade material — several feet of ore containing .15 to .20 percent U_3O_8 .

Such a hole is immediately offset — by holes from 50 to several hundred feet distant. If all goes well, some of these holes will strike ore, gradually tracing out a deposit which contains enough uranium to be mined commercially.

If the holes are barren, the geologist returns to a program of wide-spaced drilling, spurred on by the knowledge that some \$3-billion worth of uranium has already been found in New Mexico and that there must be more out there . . . somewhere.

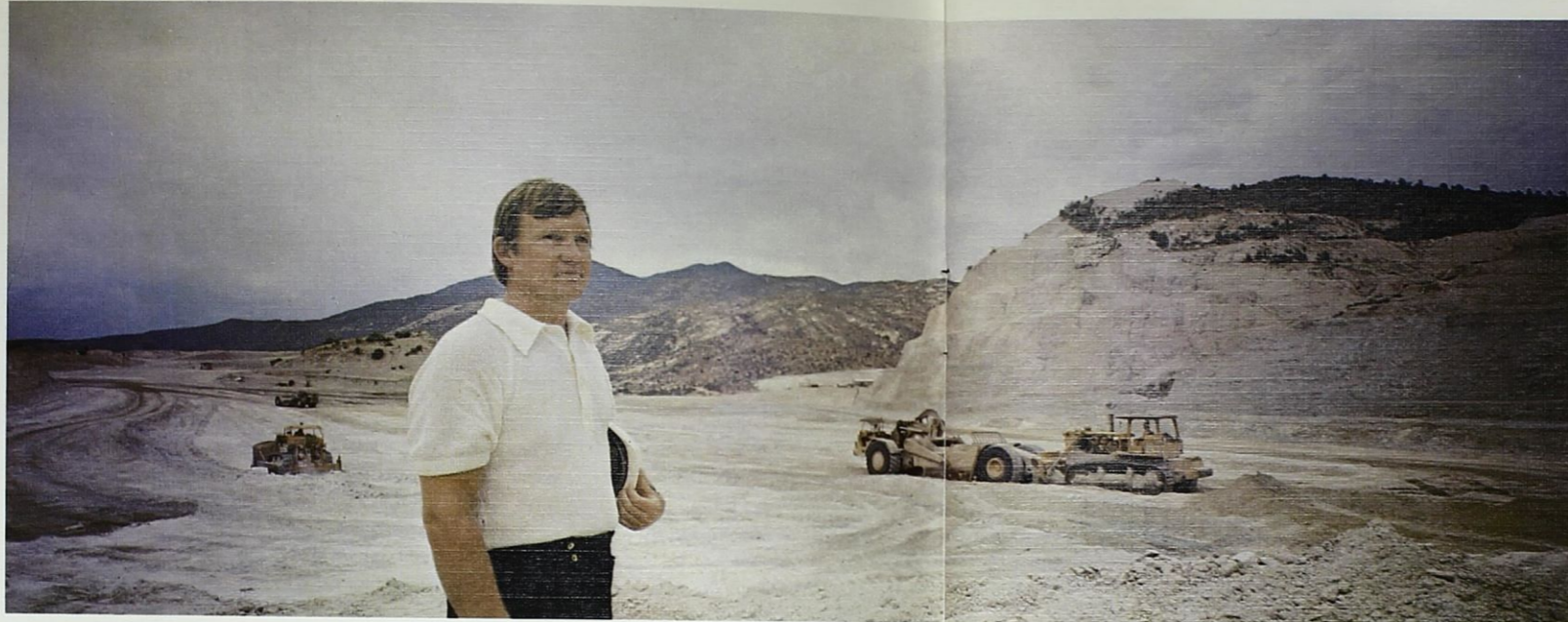
**1972 Annual
Report**
Ranchers
Exploration and Development Corporation

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Letter to Stockholders

More Earnings from Operations, New Developments In Copper and Uranium Highlight Fiscal Year '72

The year ending June 30, 1972, was an exceptionally busy period in which the Company recorded a modest increase in earnings from operations, improved and expanded its copper operations, and laid the foundation for greater earnings from its uranium properties. All in all, it was a successful year — one which provides a sound basis for continued growth in the year ahead. Developments of note:

Highlights of 1972

1. Net earnings were \$.70 per share from operations and \$.01 per share extraordinary, compared to \$.61 per share from operations and \$.09 per share extraordinary in 1971.
2. The outlook for uranium improved markedly, with the Company beginning a new joint exploration venture and selling the entire output of U_3O_8 from the Section 7 property, which will come on stream in late 1975.
3. Copper output at the Bluebird Mine again reached record levels, and reductions in cost of production helped to offset lower sales prices per pound.
4. The Old Reliable copper deposit was successfully shattered with 4-million pounds of explosive

prior to initiating an in-place leaching operation.

5. Leaching of stockpiled copper ore at the Big Mike Mine was begun and will be followed this year with leaching of ore still in the deposit on the property.

6. The Tungsten Queen Mine was placed on standby in August, 1971, following a serious decline in tungsten prices.

Review of Earnings and Operations

Net earnings were reduced significantly by losses at the Tungsten Queen. Total losses from the operation amounted to approximately \$.32 per share for the year before taking into consideration the effect of income taxes. Tungsten prices continued to decline throughout much of the year, and presently stand at about two-thirds of the 1970 selling price of \$68.50 per short ton unit. The mine will not reopen until prices stabilize at a substantially higher level.

The Company's copper operations proceeded smoothly during the year, with greater output at the Bluebird and lower production costs offsetting lower sales prices. Prices averaged about \$.51 per pound, compared to \$.57 last year. Production at

the Bluebird increased 18 percent — to nearly 14-million pounds — while costs of production were reduced about 14 percent — an achievement which would be difficult to match in the copper industry in 1971-72. Steps were also begun to improve the quality of Bluebird cathodes by increasing their density and by studying possible replacements for the lead anodes in the electrowinning circuit.

The blast at the Old Reliable Mine was a spectacular event and, at this juncture, it appears that it will lead to a new method of producing copper at low cost. Successful completion of this pioneering project will provide the Company with technology which will be useful in future mining ventures. The Company's subsidiary, Kop-Ran Development Corporation, a mining contractor, performed capably on the project and should make significant contributions to the Company in the years ahead.

The resurgence of the uranium industry was perhaps the most satisfying development of the year since it affects the Company in so many different areas — royalties, exploration, mine development. The sale to Gulf Oil Corporation of all production from the high grade deposit on Section 7 and from an adjoining property will give the Company another major source of income, starting in fiscal year 1976. The properties are jointly owned by the Company and HNG Oil Company, a subsidiary of Houston Natural Gas Corporation.

3
Formation of the new joint uranium exploration venture with Occidental Minerals and Frontier Mining Corporation provides the Company with further opportunity to expand its position in uranium. The new venture, as well as sale of the Section 7 production, is ample evidence that the growth of nuclear power generation has reached the stage where it provides a strong, continuing demand for uranium — a development which will have a significant long-term effect on the Company.

Outlook for 1973

FY '73 is shaping up as a very good year. Earnings, aided by greater copper production from the Bluebird and Big Mike and new production from the Old Reliable, should increase substantially, barring a significant decrease in copper prices from the present level of about \$.48 per pound. Uranium royalties should remain at about the present level or perhaps increase slightly. Expenses from the Tungsten Queen will consist of the minimum maintenance required to keep the mine on a standby basis.

The Company has continued to add to its exploration capabilities in the past several years. This expertise will be put to greater use in the present fiscal year, with exploration expected to increase substantially. The uranium exploration venture — already well underway — holds a good land position and is operating in an area where the Company has had much valuable experience.

The Company again expects to expand and improve its copper operations. Studies of how to best utilize the increased reserves at the Bluebird are continuing, and a decision on whether to change the method of leaching will be made during the course of the year. Operations at Big Mike will be expanded by emplacing explosives in the ore remaining in the deposit and blasting it into the present open pit. This will be a large blast, which will break the ore, preparing it for leaching in place.

In summary, the Company expects another very active year in 1973, with increased earnings, greater exploration, improved efficiency and production from its present operations, and continued evaluation and possible acquisition of mineral properties. These prospective developments, coupled with the Company's greater technical expertise in various phases of the minerals business, should provide a satisfactory rate of growth in the foreseeable future.

August 31, 1972

Maxie L. Anderson, President

Financial Highlights

	1972	1971
Gross Income	\$10,210,242	\$16,075,656
Net Earnings before Income Taxes	\$ 1,139,564	\$ 1,102,326
Income Taxes	\$ 80,799	\$ 171,288
Net Earnings before Extraordinary Income	\$ 1,058,765	\$ 931,038
Extraordinary Income Net of Income Taxes	\$ 13,006	\$ 141,482
Net Earnings	\$ 1,071,771	\$ 1,072,520
Earnings per Share:		
Ordinary	\$.70	\$.61
Extraordinary	\$.01	\$.09
Total	\$.71	\$.70
Retained Earnings	\$ 7,243,561	\$ 6,171,790
Stockholders' Equity	\$13,199,141	\$12,266,790
Equity per Share	\$8.70	\$8.03

Operating Profits Increase But Per Share Earnings Remain About the Same

Net earnings from operations increased during the year, totaling \$.70 per share, a gain of 15 percent over the \$.61 per share earned in 1971. However, because of greater extraordinary income last year, total net earnings per share were up only slightly — \$.71 vs \$.70 in 1971. Earnings by quarters were: \$.13 (first), \$.22, \$.19, and \$.17.

The net from operations totaled \$1,058,765, compared to \$931,038 last year. Extraordinary income of \$13,006, resulting from re-purchase of the Company's debentures, brought the total net to \$1,071,771, compared to \$1,072,520 a year ago. The 1971 net was increased by extraordinary income of \$141,482 — about \$.09 per share — principally from the sale of marketable securities.

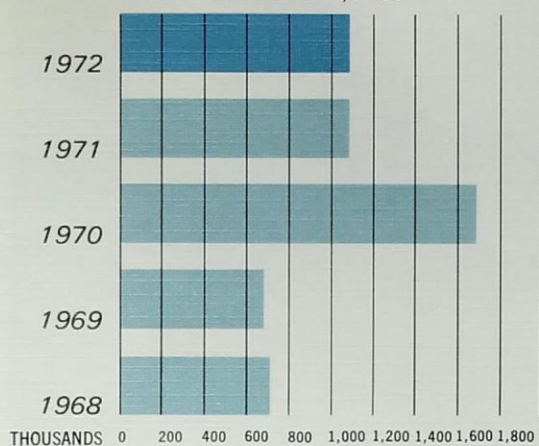
Gross income for the year was \$10,210,242, a decline of 36 percent from the 1971 total of \$16,075,656. Last year's gross, as well as 1970's, was greatly increased by the sale to foreign smelters of some 95,000 tons of high grade copper ore from the Big Mike Mine.

Copper sales from the Bluebird Mine accounted for most of the gross income during the year, totaling \$7,962,669, compared to \$7,654,851 in 1971. Sales of cement copper from the Big Mike Mine were \$324,455, bringing total copper sales to \$8,287,124, compared to \$14,439,269 in 1971, a decrease of 43 percent.

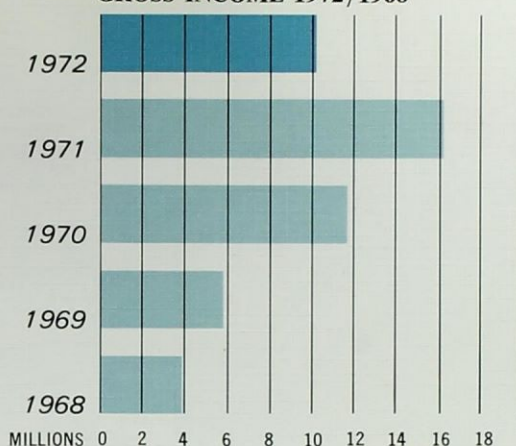
The remaining gross consisted of tungsten sales of \$947,960, uranium royalties of \$745,720, interest, dividends and miscellaneous income of \$121,541, and Kop-Ran sales of \$107,897. Tungsten sales in 1971 were \$754,325, uranium royalties \$724,341. Losses from tungsten operations in 1972 were \$484,310, or about \$.32 per share before taking into consideration the effect of income taxes.

The Company reduced its indebtedness substantially in 1972, with the amount owed to banks cut from \$1,500,000 as of June 30, 1971 to \$300,000 as of June 30, 1972. Long-term debt — principally convertible subordinated debentures due January 15, 1989 — totaled \$2,402,052 as of June 30, 1972, compared to \$2,763,729 on the same date a year ago.

NET INCOME 1972/1968



GROSS INCOME 1972/1968



Financial Summary* 1972/1968

Fiscal year ended June 30

ANNUAL

	1972	1971	1970	1969	1968
Net sales	\$ 9,343	\$ 15,194	\$ 11,040	\$ 4,835	\$ 2,871
Royalties — uranium	746	724	611	739	887
Other income	121	158	276	138	22
Total income	10,210	16,076	11,927	5,712	3,780
Income from operations before income taxes	1,140	1,102	2,665	714	338
Provision for income taxes	81	171	794	38	(93)
Income from operations	1,059	931	1,871	676	431
Extraordinary income (loss) net of applicable income taxes	13	141	(195)	-0-	267
Net income	1,072	1,072	1,676	676	698
Net income per share					
From operations	.70	.61	1.25	.49	.35
From extraordinary income (loss)	.01	.09	(.13)	-0-	.21
Total	.71	.70	1.12	.49	.56

YEAR END

Current assets	4,353	5,140	9,110	2,861	1,992
Current liabilities	1,552	2,671	4,381	996	1,668
Working capital	2,801	2,469	4,729	1,865	324
Net property, plant and equipment and other non-current assets	14,248	13,936	13,774	9,968	5,224
Long-term debt	2,402	2,764	5,912	2,910	1,853
Deferred income taxes	1,425	1,375	1,300	440	405
Minority interest	23	-0-	-0-	-0-	-0-
Net worth	13,199	12,267	11,291	8,483	3,290
Stockholders' equity per share	8.70	8.03	7.37	5.76	2.62
Number of shares outstanding	1,515,420	1,528,120	1,531,552	1,473,616	1,253,712

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

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



Uranium Shows Strength

**New Exploration Venture Begins, Section 7 Production Sold
As Company Feels Impact of Rise in Nuclear Power Generation**

The country's growing energy requirements began to exert a significant influence on the Company's uranium operations in 1972, increasing royalties slightly, triggering a new round of exploration, and prompting sale of future production from the jointly-held Section 7 deposit. It appears that the use of uranium for nuclear power generation will continue to expand at a brisk rate in the foreseeable future, substantially benefiting this major segment of the Company's business.

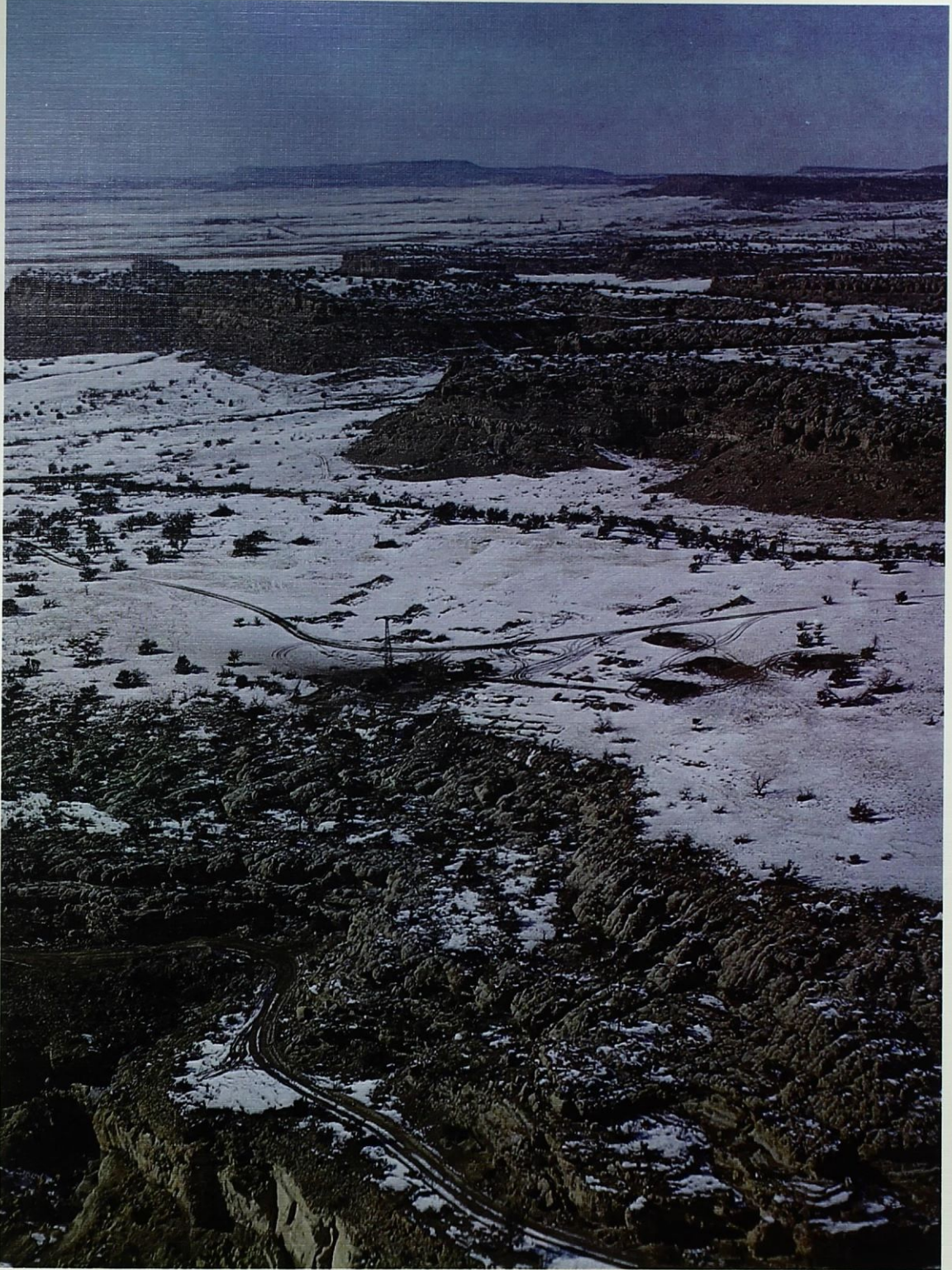
The increase in royalties — from \$724,000 to \$746,000, a rise of three percent — stemmed mostly from higher uranium oxide prices received by Kerr McGee on properties in the Ambrosia Lake area of northwest New Mexico. Another small increase in royalties is expected in 1973, continuing an upward trend that began in 1971.

The Company's new exploration venture — with Occidental Minerals Corporation and Frontier Mining Corporation — was organized in late March, and by the end of the fiscal year had completed nearly 40,000 feet of drilling. Drilling in 1973 will be at the rate of approximately 20,000 feet per month.

The Company is managing the venture and owns a 45 percent interest in it. Occidental and Frontier each own a 27½ percent interest. Venture terms call for expenditure of at least \$500,000 per year for two years, although Occidental and Frontier, which are funding the project, may elect to discontinue contributions at the end of the first year.

In addition to the amount earmarked for exploration each year, the venture provides for the contribution of additional funds by Occidental and Fron-

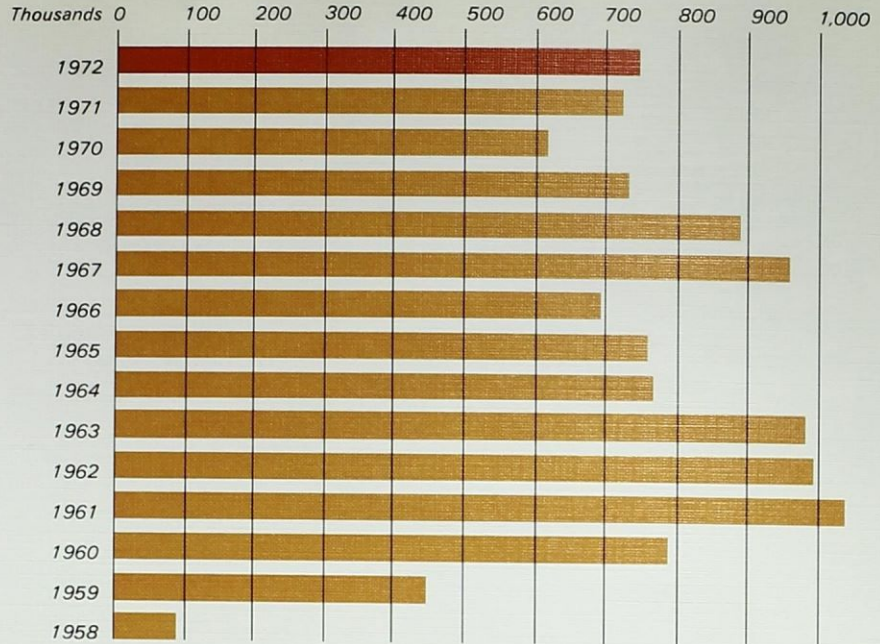
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Uranium exploration in northwest New Mexico with 11,389-foot Mt. Taylor in the background



Uranium Royalties 1958/1972



tier in order to perform further development drilling on properties where exploratory drilling has indicated the possibility of commercial ore reserves. Additional funds required for development, construction, equipment, and other expenses needed to bring a property into production would be contributed by the three partners in accordance with their ownership interests.

The venture holds a strong land position, with initial exploration centering on selected portions of 120,000 acres of state, private and Indian leases and federal mining claims and permits in the Grants Mineral Belt in northwest New Mexico. This acreage was supplemented in July by 16,000 acres acquired under lease from New Mexico and Arizona Land Company. Situated in the western part of the Mineral Belt, this acreage is regarded as an important addition to the venture's land position. The Company is considering a second exploration venture on approximately 300,000 acres of uncommitted uranium leases and permits which it holds in western states.

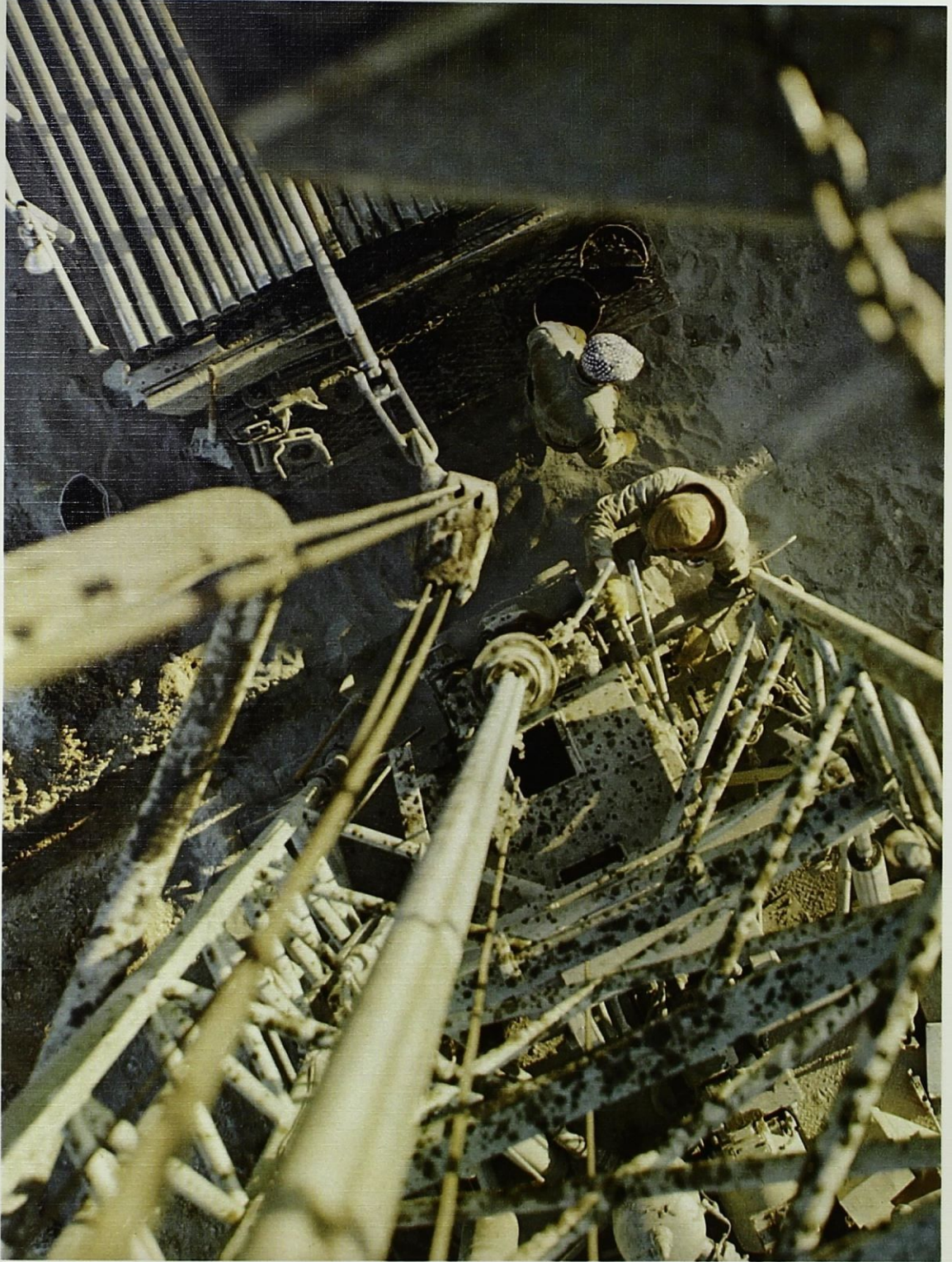
Sale by the Company and HNG of production from the Section 7 property in Ambrosia Lake to Gulf Oil was the most important development of the year. The sales agreement calls for delivery of a minimum of 5-million to a maximum of 10-million pounds of U_3O_8 , with the actual total to depend on

ultimate production from the property and an adjoining property held under lease. Deliveries will be at the rate of about 1-million pounds per year and will begin in January 1976, with the mine coming on stream late in 1975.

Gross value of the contract ranges from approximately \$40-million to \$90-million for the 5 to 10 million pounds. Proven reserves on the properties presently total in excess of 5-million pounds. Cost of bringing the mine into production is estimated at about \$6-million; costs and profits will be shared equally by the Company and HNG. Mine development planning leading to selection of locations for the 1,400-foot shaft and the main ore haulage tunnels is now underway. Ore will be processed by one of the mills in the area under a toll milling agreement.

Although uranium accounted for a major part of the Company's exploration and development effort in 1972, a number of other mineral properties were evaluated during the year, with copper, gold, silver, lead, zinc, and fluor spar prospects being among those examined. The Company is also re-evaluating the Yellow Pine antimony and gold deposit, Stibnite, Idaho, which is of increasing interest because of the continuing rise in the price of gold.

Drill rig—view from the top





Copper—Another Profitable Year

Bluebird Output, Costs Improve; Production Begins At Big Mike; Old Reliable Blast Goes As Scheduled

The Company's copper operations again made considerable progress in 1972, with higher production and lower costs at the Bluebird Mine highlighting the year. The Company also took steps to diversify its operations, beginning production of cement copper from stockpiled ore at the Big Mike Mine and successfully fracturing the Old Reliable deposit.

Production at the Bluebird totaled 13,987,840 pounds of cathodes, an increase of 18 percent over the 11,859,000 pounds produced last year. Output rose gradually throughout the year, with quarterly totals being 3,091,045; 3,505,945; 3,563,843 and 3,827,007.

The mining rate was increased, with approximately 4,500,000 tons of ore mined, compared to about 2,900,000 in 1971, an increase of 55 percent. This greater mining rate will be reflected in future production. About 3,885,790 tons of waste were mined, compared to 2,955,000 tons in 1971. Ore grade was .437 compared to .459 percent last year.

The substantial reduction in production costs played a key role in the mine's profitability since sales prices averaged \$.51 per pound, compared to \$.57 per pound in 1971. The slight improvement in profit margins for the year was partly a function of increased production, which permitted fixed costs to be spread over more units; however, a reduction in sulfuric acid costs — from an average of \$31 per ton in 1971 to an average of \$23 in 1972 — was the most important factor.

Bluebird sales for the year totaled \$7,962,669, compared to \$7,654,851 last year. Total copper sales were \$8,287,124, including \$324,455 from Big Mike cement. Last year's total, which included approximately \$6.8-million on export sales of high grade ore from Big Mike, was \$14,439,269.

The Company expects another record year at the Bluebird in 1973, although first quarter production may be slightly lower because of decreased output during the first two weeks of July. A brief strike at

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The Old Reliable— A New Method of Mining an Old Metal

Shortly before noon on the 9th of March, 1972, some 75 observers — including a large part of the Company's management — assembled along a dusty road near Mammoth, in southeast Arizona, to witness the writing of a new page in the 10,000-year-old history of men and metals.

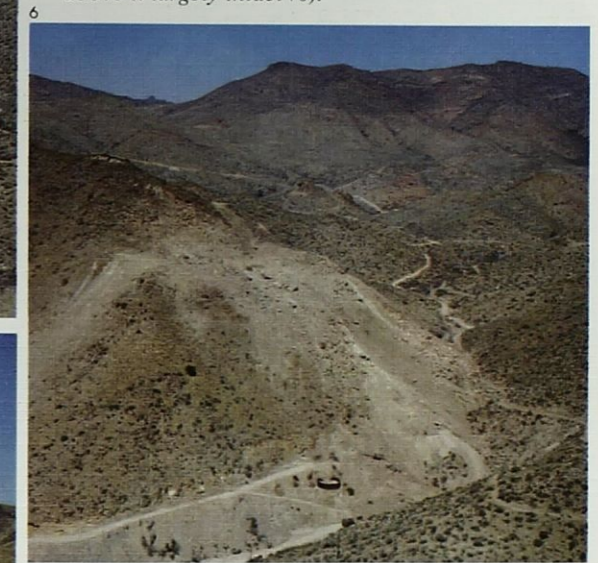
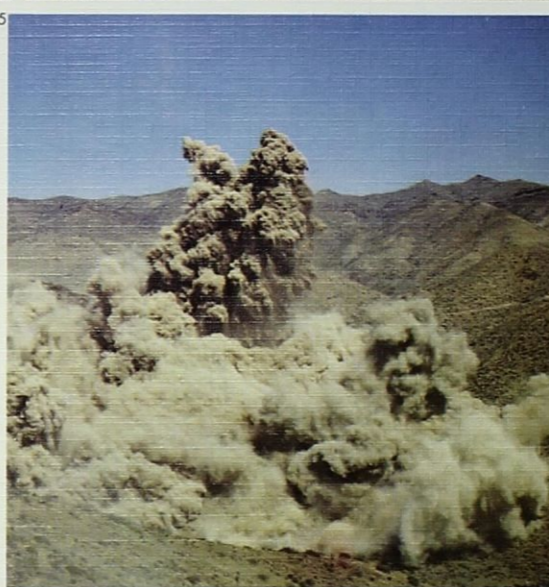
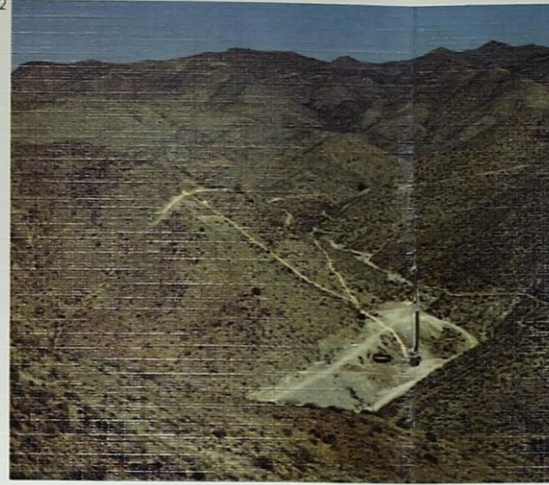
A loud-speaker began a brief countdown, and as it reached zero, the ground rolled, a muffled rumble struck the ear, and dust began to spout from the surface of a small hill nearly three miles away. Stemming from the largest non-nuclear explosion in free-world history, these blast effects marked the completion of a critical phase in the Old Reliable Project — a new method of mining one of civilization's oldest metals — copper.

When the dust cleared a few minutes later, the hill containing the Old Reliable deposit appeared almost unscathed, showing little effect of the detonation of 4-million pounds of explosives within the ore body, although the resulting shock wave was

recorded on seismic instruments as far away as Dallas. However, subsequent inspection of high speed film showed that portions of the 4-million-ton deposit and surrounding overburden had been lifted more than 100 feet by the three-stage blast lasting about 150/1000 of a second. When this mass slumped back into place, ore throughout an area measuring approximately 500 feet in diameter and 350 feet deep was broken into pieces averaging an estimated nine inches in diameter.

This breakage was the object of the blast. Calculations had indicated that if the ore could be broken into small pieces — 12 inches in diameter or less — it would be possible to percolate a solution of sulfuric acid and water through the broken mass, dissolving the copper for production of cement copper. The ore would not have to be removed from the deposit, reducing the cost of production by 30 to 50 percent.

The project would actually combine two mining



THE BLAST—BEFORE, DURING AND AFTER
Fifty-pound bags of explosives are loaded into tunnels in the Old Reliable deposit (1), then detonated by primacord (2), in a record-setting blast (3, 4, 5) which crushed ore in the deposit, but left the surface above it largely intact (6).

4,000-pound test blast in August. Kop-Ran Development Corporation, the Company's mining subsidiary, began excavating tunnels and crosscuts in September, and emplacement of 50-pound bags of ammonium nitrate began in late January and was completed on March 3. In the meantime construction of a precipitation plant was begun and an interest in the property sold to Du Pont, which provided the explosives and technical plan for their emplacement. Emplacement of sand — blown into the tunnels and crosscuts to keep the force of the blast from escaping — was finished on March 6.

A temporary restraining order — obtained by a neighboring rancher — kept the shot in doubt until the final hour, but it went as scheduled on the 9th, without damage to the closest dwelling three-fourths of a mile away. Activity at the site immediately resumed; terracing of the surface above the deposit began on March 15 and was completed on May 30. A six-mile-long pipeline was constructed in July to provide water for leaching solutions.

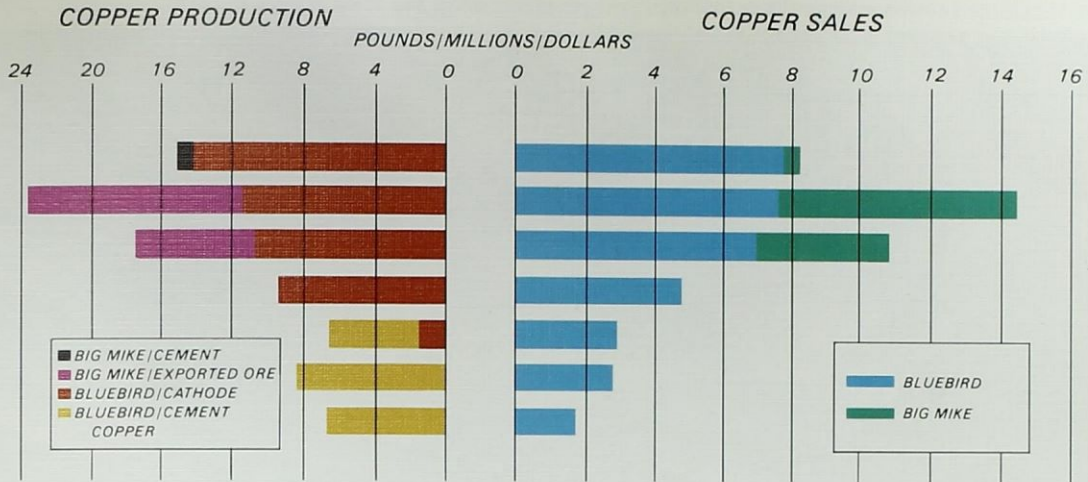
Leaching began in late August, and will be followed by production in September — only two years after the property first came under consideration and six months following the blast which marked the Old Reliable as one of the unique ventures in copper mining history.

techniques — blasting and leaching — which have been widely used for hundreds of years. However, no one had previously attempted to combine them by fracturing an entire ore body and leaching it in place.

The Company began considering the property in mid-1970, first pondering the feasibility of a nuclear shot, but discarding the idea for economic reasons. The idea of a conventional explosion was then advanced, and the property was purchased in October, 1970. The whirlwind of activity which followed was reminiscent of that which accompanied mining of the Big Mike deposit.

Roads were cut to the property in April, 1971, safety tests were conducted in June, followed by a





the mine in August — ended by the signing of a three-year contract — had no appreciable effect on production. Production for the year should exceed 15.5-million pounds, or an average of about 42,000 pounds per day. This would be near the average achieved during the fourth quarter, when daily production on occasion exceeded 50,000 pounds.

Acid costs may average slightly less in 1973, resulting in lower production costs. However, copper prices have also declined recently, so profit margins are not likely to improve as they did in 1972. A return of copper prices to the level of \$.52 to \$.55 per pound would, however, increase profits significantly. The Company has sold about 70 percent of the Bluebird output through December at \$.484 per pound.

Modifications to the Bluebird plant were made late in the year to improve the density of its cathodes, making them somewhat more competitive in a market affected by over-supply. A further improvement in cathode quality will be attempted during the new fiscal year when a portion of the lead anodes are replaced, thus reducing a source of product contamination.

Leaching of stockpiled ore began at Big Mike in December following completion of a small precipitation plant to produce cement copper. Leaching was confined to about half the 300,000 tons of stockpiled ore on the property; production for the year totaled 834,860 pounds.

Production is expected to approximately double at the mine in 1973 when leaching begins on the remainder of the stockpiled ore. Production will also be aided by leaching of about 400,000 tons of ore still remaining in and around the open pit on the property. This ore will be blasted into the pit, then

leached and the resulting copper solution pumped to the precipitation plant on the property.

Production should begin at the Old Reliable in September and, if the unique operation is successful, will increase steadily throughout the year as the shattered ore becomes saturated with more than 30-million gallons of water and sulfuric acid. Production should total about 6-million pounds of cement copper for the year. Production over a period of five years should approximate 30-million pounds.

E. I. Du Pont de Nemours & Co. holds about a 20 percent interest in the property. Occidental Minerals Corporation will receive 20 percent of the net profits of the operation after the Company and Du Pont have recovered their total investment.

Taxes—Taxes—Taxes

The only discordant note in the otherwise smooth performance of the Company's copper operations in 1972 was a decision by the Arizona Department of Property Evaluation to increase ad valorem taxes on the Bluebird Mine at Miami, Arizona.

Initially, assessment value of the property was increased by 270 percent; this amount was subsequently reduced to 102 percent, and finally to 25 percent following a formal protest to the Board of Property Tax Appeal. If permitted to stand, this increase would amount to approximately \$.01 per share of the Company's common stock outstanding.

There appears to be no logical basis for the increase, and the assessing officer has been unable to provide a formula or precedent which accounts for his action. The Company does not object to paying reasonable taxes, properly levied. It will, however, vigorously resist this arbitrary and capricious tax increase, ironically assessed at a time when other elements in the economic environment—profits, salaries, wages—remain under strict government controls which limit growth to about 5% annually.

M. L. Anderson, President

Crane-mounted electromagnet drops iron into precipitation cells at Big Mike



Board of Directors

The Company's Board of Directors was increased to seven members during the fiscal year with the appointment of two distinguished members of the mining community — Edward McL. Tittmann and J. B. Mudd. Mr. Tittmann is the former head of American Smelting and Refining Company. Mr. Mudd is a recognized authority on mining in South Africa, having held various positions there and in England with units of Anglo American Corporation.

Resumes of Mr. Tittmann, Mr. Mudd and other members of the Board:

EDWARD McL. TITTMANN

Mr. Tittmann is the former chairman of the board and chief executive officer of American Smelting and Refining Company (ASARCO), a position he held from 1963 until his retirement in 1971. After graduation from MIT in 1929 with a BS degree in mining and metallurgical engineering, he joined ASARCO as a chemist, moving through a variety of managerial positions to become general manager of Western Operations in 1951, president of Southern Peru Copper in 1955, vice-president of ASARCO in 1958, and executive vice-president in 1959. A resident of Reno, Nevada, he joined Ranchers' board in 1971.



J. B. MUDD

A consulting mining engineer, Mr. Mudd retired in 1972 as technical director (chief executive) of Anglo American International, Ltd. (AAI.) and as a director of Charter Consolidated Ltd. He also served as consulting engineer (a vice president, mining) to Anglo American Corporation of South Africa, Ltd., and chief consulting engineer (vice president, technical) to Charter Ltd., the international mining companies which control AAI. A graduate of the University of Witwatersrand, Johannesburg, in civil and mining engineering, he served with Union Corporation from 1935-48, when he joined Anglo American. He became technical director in London in 1968, after managing several large gold mining companies and serving as a director and chief executive officer of Western Deep Levels, Vaal Reefs, Western Reefs, and other mining companies in South Africa.





ROBERT V. SIBERT

A member of Ranchers' board since 1962, Mr. Sibert is president of Pearson-Sibert Oil Co. of Texas, a firm which he formed in 1949 after first entering the oil business in 1936. The company presently has interests in some 800 wells (California, Colorado, Nebraska, New Mexico, Texas, Canada) with gross production of about 27,000 barrels daily.

Mr. Sibert is also chairman of the board of the A. F. Gilmore Company, owner of the world-famous Farmers Market in Los Angeles. Born in Iowa in 1905 and a graduate of the University of Iowa (BS, commerce, 1928), he now resides in Beverly Hills, California.



MAXIE L. ANDERSON

Mr. Anderson was elected to the Ranchers' board in 1957, became manager of the Company in 1962, and assumed his present position as president in 1963. He began his association with the mining industry in 1953 by prospecting for uranium near the Arctic Circle and in 1955 began acquiring uranium properties in the Ambrosia Lake (N.M.) area for Anderson Development Company, which later became a part of Kerr McGee Corporation. Born in Oklahoma in 1934, Mr. Anderson is a graduate of Missouri Military Academy and the University of North Dakota (BS, industrial engineering, 1956).



FRANK COOLBAUGH

A mining consultant and president of Coolbaugh Mining Corporation, Mr. Coolbaugh was formerly chief executive officer and chairman of the board of American Metal Climax, Inc. (AMAX). He joined Climax Molybdenum Company in 1933 after graduating from Colorado School of Mines, became general manager of Western Operations and vice president in 1954, and president in 1959. Climax Molybdenum had become a division of AMAX in 1957, and Mr. Coolbaugh became president of the parent company in 1960, resigning as president and chairman of the board in 1967.

He has been a member of the Ranchers and Newmont Mining Corporation boards since 1968. He resides in Golden, Colorado.

EDWARD E. MONTEITH, JR.

The Company's chief financial advisor.

Mr. Monteith is executive vice-president and head of the petroleum and minerals section, Republic National Bank of Dallas, a position he has held since 1964. He joined the Bank in 1947 and served as senior vice-president from 1962-64. A native of Dallas, he holds BS degrees in engineering (1943), petroleum engineering (1947) and mechanical engineering (1947) from Texas A & M University. In addition to Ranchers' board, which he joined in 1962, he is a member of the board of Kirby Petroleum Company.

**ROY RICHARDS**

Mr. Richards is the founder and president of Southwire Company, a major manufacturer of wire, rod and cable for the electrical industry. Formed in 1950, Southwire is also known for its development of a system, now used world-wide, for continuous casting of wire and cable products. Major plants include the headquarters at Carrollton, Georgia; an aluminum reduction facility and rod and cable mill in Hancock County, Kentucky; and specialty wire plants in Connecticut and New Jersey. A graduate of Georgia Tech (BS, mechanical engineering, 1935), Mr. Richards joined Ranchers' board in 1969.



Directors

Maxie L. Anderson, Albuquerque, President, Ranchers Exploration and Development Corporation / **Frank Coolbaugh**, Denver, Mining Consultant / **Edward E. Monteith, Jr.**, Dallas, Executive Vice President, Republic National Bank of Dallas / **J. B. Mudd**, M.B.E., M.C., Johannesburg, Consulting Mining Engineer / **Roy Richards**, Carrollton, Georgia, President, Southwire Company / **Robert V. Sibert**, Beverly Hills, California, President, Pearson-Sibert Oil Company of Texas / **Edward McL. Tittmann**, Reno, Nevada, Mining Consultant.

Officers

Maxie L. Anderson, President / **Leland O. Erdahl**, Vice President, Finance and Treasurer / **John E. Motica**, Vice President, Geology / **Milton H. Ward**, Vice President, Operations / **Herbert M. Campbell II**, Secretary / **M. K. Kaiser**, Assistant Secretary and Treasurer.

Assets

Consolidated Balance Sheet/June 30, 1972 and June 30, 1971 Ranchers Exploration and Development Corporation and Subsidiary

	1972	1971
CURRENT ASSETS		
Cash and certificates of deposit (1972 - \$830,000; 1971 - \$1,170,000)	\$ 1,411,872	\$ 1,952,690
Marketable securities - at cost - approximately market	24,048	61,611
Trade accounts receivable	919,403	341,311
Recoverable federal income taxes	-0-	25,000
Inventories — Note B	1,820,384	2,607,122
Prepaid expenses and other current assets	177,368	152,546
TOTAL CURRENT ASSETS	<u>4,353,075</u>	<u>5,140,280</u>
PROPERTY, PLANT, AND EQUIPMENT		
at cost - Notes C, D, and F		
Land	77,522	66,054
Buildings and equipment	11,557,131	11,211,416
Construction in progress - estimated additional costs to complete (1972 - \$70,000; 1971 - \$335,000)	14,556	90,441
Mineral interests, mining claims, leases and permits	1,156,273	1,169,929
Deferred intangible mining and development costs	4,694,404	4,532,377
	<u>17,499,886</u>	<u>17,070,217</u>
Allowances for depreciation, depletion, and amortization	4,356,153	3,708,243
	<u>13,143,733</u>	<u>13,361,974</u>
OTHER ASSETS AND DEFERRED CHARGES		
Trade accounts receivable	-0-	218,039
Investment in joint ventures - Note E	842,938	219,807
Unamortized debt discount and expense	118,306	136,376
Other deferred charges	143,102	-0-
	<u>1,104,346</u>	<u>574,222</u>
	<u>\$18,601,154</u>	<u>\$19,076,476</u>

See notes to consolidated financial statements

Liabilities and Stockholders' Equity

Consolidated Balance Sheet/June 30, 1972 and June 30, 1971
Ranchers Exploration and Development Corporation and Subsidiary

	1972	1971
CURRENT LIABILITIES		
Notes payable to bank	\$ 300,000	\$ -0-
Trade accounts payable	907,374	889,651
Accrued interest payable	61,417	75,277
Federal and state income taxes	65,000	59,000
Other liabilities	135,463	200,452
Current portion of long-term debt	83,122	1,446,577
TOTAL CURRENT LIABILITIES	<u>1,552,376</u>	<u>2,670,957</u>
LONG-TERM DEBT - Note F		
5¾% convertible subordinated debentures due January 15, 1989	2,355,000	2,495,000
Notes payable to banks	-0-	1,500,000
Contract payable for purchase of mineral interest	100,501	162,405
Lease-purchase contracts - equipment pledged as collateral (Cost: 1972 - \$107,366; 1971 - \$113,808)	29,673	52,901
	<u>2,485,174</u>	<u>4,210,306</u>
Less portion classified as current liability	83,122	1,446,577
	<u>2,402,052</u>	<u>2,763,729</u>
DEFERRED FEDERAL AND STATE INCOME TAXES - Note G	1,425,000	1,375,000
MINORITY INTEREST IN SUBSIDIARY - represented by twenty percent of capital stock	22,585	-0-
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	5,509,581
Retained earnings	7,243,561	6,171,790
	<u>13,526,310</u>	<u>12,452,485</u>
Less cost of Common Stock in treasury (1972 - 26,808 shares; 1971 - 14,108 shares)	327,169	185,695
	<u>13,199,141</u>	<u>12,266,790</u>
	<u>\$18,601,154</u>	<u>\$19,076,476</u>

See notes to consolidated financial statements

Statement of Consolidated Income

Ranchers Exploration and Development Corporation and Subsidiary
Year Ended June 30, 1972 and June 30, 1971

	1972	1971
Income		
Net sales	\$ 9,342,981	\$15,193,594
Uranium royalties	745,720	724,341
Interest, dividends, and other	121,541	157,721
	<u>10,210,242</u>	<u>16,075,656</u>
Deductions from income - Notes B, D and E		
Cost of products sold	7,993,071	13,388,228
Exploration, conservation, and maintenance of mining properties	331,903	447,550
Administrative and general expense	522,448	575,489
Interest, principally on long-term debt	223,256	562,063
	<u>9,070,678</u>	<u>14,973,330</u>
INCOME FROM OPERATIONS BEFORE APPLICABLE INCOME TAXES	1,139,564	1,102,326
Federal and state income taxes - Note G		
Currently payable	30,799	96,288
Deferred	50,000	75,000
	<u>80,799</u>	<u>171,288</u>
INCOME BEFORE EXTRAORDINARY ITEMS	1,058,765	931,038
Extraordinary items:		
Proceeds from sale of marketable securities in excess of carrying amount, less applicable income taxes of \$40,599	-0-	121,679
Gain on repurchase of Company debentures, less applicable income taxes (1972 - \$15,265; 1971 - \$23,247)	13,006	19,803
	<u>13,006</u>	<u>141,482</u>
NET INCOME	<u>\$ 1,071,771</u>	<u>\$ 1,072,520</u>
Earnings per share - Note H		
Income before extraordinary items	\$.70	\$.61
Extraordinary items	<u>.01</u>	<u>.09</u>
NET INCOME	<u>\$.71</u>	<u>\$.70</u>
Earnings per share - assuming full dilution - Note H		
Income before extraordinary items	\$.69	\$.61
Extraordinary items	<u>.01</u>	<u>.09</u>
NET INCOME	<u>\$.70</u>	<u>\$.70</u>

See notes to consolidated financial statements

Statement of Consolidated Stockholders' Equity

Ranchers Exploration and Development Corporation and Subsidiary
Year Ended June 30, 1972 and June 30, 1971

	1972	1971
COMMON STOCK		
Balance at beginning of year	\$ 771,114	\$ 768,445
Par value of 5,336 shares sold under stock option plan	<u>-0-</u>	<u>2,669</u>
BALANCE AT END OF YEAR	<u>\$ 771,114</u>	<u>\$ 771,114</u>
CAPITAL IN EXCESS OF PAR VALUE		
Balance at beginning of year	\$5,509,581	\$5,482,658
Proceeds in excess of par value of shares sold under stock option plan	-0-	26,923
Proceeds in excess of cost of treasury shares sold under stock option plan	<u>2,054</u>	<u>-0-</u>
BALANCE AT END OF YEAR	<u>\$5,511,635</u>	<u>\$5,509,581</u>
RETAINED EARNINGS		
Balance at beginning of year	\$6,171,790	\$5,099,270
Net income for the year	<u>1,071,771</u>	<u>1,072,520</u>
BALANCE AT END OF YEAR	<u>\$7,243,561</u>	<u>\$6,171,790</u>
TREASURY STOCK		
Balance at beginning of year	\$ 185,695	\$ 59,461
Purchase of shares for treasury (1972 - 15,100 shares; 1971 - 8,768 shares)	<u>162,220</u>	<u>126,234</u>
	347,915	185,695
Cost of shares sold under stock option plan	<u>20,746</u>	<u>-0-</u>
BALANCE AT END OF YEAR	<u>\$ 327,169</u>	<u>\$ 185,695</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, 1972 and June 30, 1971

	1972	1971
ADDITIONS		
Income before extraordinary items	\$ 1,058,765	\$ 931,038
Add charges to income not requiring working capital:		
Provisions for depreciation, depletion, and amortization	944,266	4,860,877
Amortization of debt discount and expense	18,070	50,945
Increase in deferred income taxes	50,000	75,000
Income applicable to minority interest	12,585	-0-
	<hr/>	<hr/>
WORKING CAPITAL PROVIDED FROM OPERATIONS EXCLUSIVE OF EXTRAORDINARY ITEMS	2,083,686	5,917,860
Extraordinary items:		
Proceeds from sale of marketable securities, \$956,272, in excess of carrying amount, less applicable income taxes of \$40,599	-0-	121,679
Gain on repurchase of Company debentures less applicable income taxes (1972 - \$15,265; 1971 - \$23,247)	13,006	19,803
	<hr/>	<hr/>
TOTAL FROM OPERATIONS	2,096,692	6,059,342
Decrease in other assets	74,936	165
Proceeds from sale of treasury stock	22,800	-0-
Net book value of disposals of property, plant and equipment	121,985	42,711
Proceeds from sale of previously unissued stock	-0-	29,592
Proceeds from sale of capital stock in subsidiary	10,000	-0-
	<hr/>	<hr/>
TOTAL	2,326,413	6,131,810
DEDUCTIONS		
Decrease in long-term debt	221,677	2,943,738
Additions to land, \$11,468, and depreciable property, plant, and equipment	560,817	1,888,787
Additions to mineral interests, mining claims, leases and permits	-0-	63,536
Additions to deferred mining and development costs	287,192	3,164,258
Increase in investment in joint ventures	623,131	-0-
Purchase of debentures for treasury	140,000	205,000
Cost of Common Stock purchased for treasury	162,220	126,234
	<hr/>	<hr/>
TOTAL	1,995,037	8,391,553
INCREASE (DECREASE) IN WORKING CAPITAL	\$ 331,376	\$ (2,259,743)

INCREASE (DECREASE) IN WORKING CAPITAL

Increase (decrease) in current assets:

Cash	\$ (540,818)	\$ (25,077)
Marketable securities	(37,563)	(1,254,153)
Trade accounts receivable	578,092	(3,363,164)
Recoverable federal income taxes	(25,000)	(93,400)
Inventories	(786,738)	843,928
Prepaid expenses and other current assets	24,822	(13,149)
Deferred income tax charge	-0-	(65,000)
	<u>(787,205)</u>	<u>(3,970,015)</u>

Increase (decrease) in current liabilities:

Note payable to bank	300,000	(720,000)
Trade accounts payable	17,723	(386,917)
Accrued interest payable	(13,860)	(32,413)
Federal and state income taxes	6,000	4,000
Other liabilities	(64,989)	69,348
Current portion of long-term debt	<u>(1,363,455)</u>	<u>(644,290)</u>
	<u>(1,118,581)</u>	<u>(1,710,272)</u>

INCREASE (DECREASE) IN WORKING CAPITAL

	<u>\$ 331,376</u>	<u>\$ (2,259,743)</u>
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Notes to Consolidated Financial Statements June 30, 1972

NOTE A — Basis of Consolidation

During the year ended June 30, 1972, the Company acquired an 80% interest in a mine construction company, Kop-Ran Development Corporation. The consolidated financial statements include the accounts of the subsidiary. Upon consolidation, intercompany accounts and transactions have been eliminated.

NOTE B — Inventories

Inventories are stated at the lower of cost (principally average cost) or market and consist of the following:

	June 30	
	1972	1971
Finished metals and metal products	\$ 410,783	\$ 922,751
Ore in leaching heaps and stockpiles	1,106,186	1,042,722
Supplies	298,538	621,198
Costs incurred in cancellation of futures contracts replaced with more favorable sales contracts	4,877	20,451
	<u>\$1,820,384</u>	<u>\$2,607,122</u>

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 more favorable sales contracts, the resulting costs are added to inventory. These amounts are charged to income when delivery is made under the sales contracts.

NOTE C — Tungsten Queen Mine

With the decline in market price of tungsten from \$68.50 per short ton unit to approximately two-thirds of that amount currently, 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 net book value of property, plant and equipment at the mine at June 30, 1972 was \$7,842,172. Depreciation, computed by reference to ore reserves, amounted to \$154,052 in 1972 and \$682,577 in 1971. In management's opinion, the recorded provisions to date are greater than they would have been if depreciation had been based on the physical life of the assets.

NOTE D — Depreciation, Depletion, and Amortization

It is the policy of the Company to provide for depreciation, depletion, and amortization by using annual rates which are sufficient to amortize the cost of equipment over its estimated useful life and to amortize the costs of leases and mine development over the productive lives of the mines, based on estimated reserves. Declining-balance and straight-line methods are used for computing depreciation, both for federal income tax purposes and financial reporting. Costs of producing leases and related mine development costs are being amortized by using the unit-of-production method. The remaining estimated economic lives used to determine annual rates of depreciation, amortization and depletion are subject to periodic review and revision when necessary to assure that the cost of the respective assets will be written off over their economic lives. In 1972, as a result of such a revision of rates, net income for the year, after estimated income taxes, was increased by approximately \$89,000. Depreciation, depletion, and amortization of property, plant, and equipment charged to income amounted to \$944,266 in 1972 and \$4,860,877 in 1971.

NOTE E — Investment in Joint Ventures

The amount shown represents the Company's contributions made to joint ventures less the Company's share of expenses to date. The Company's share of such expenses amounted to \$50,954 in the year ended June 30, 1972 and \$107,099 in the year ended June 30, 1971.

NOTE F — 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 104.736% beginning January 15, 1972 to 100% beginning January 15, 1988. The indenture provides for an annual sinking fund payment in the amount of \$118,500 beginning January 15, 1970, 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 unrestricted as to the payment of

dividends amounted to \$4,534,167 at June 30, 1972 and \$3,462,396 at June 30, 1971.

Debt discount and 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 G — Federal and State Income Taxes

The Company elects to deduct certain mining and development costs for income tax purposes while such costs have been deferred for financial reporting purposes and are being amortized over the production units (metal) benefited by such expenditures. Income taxes deferred, as a result of currently deducting such mining and development costs, have been charged or credited to income.

Investment tax credits of \$23,050 for 1972 and \$72,592 for 1971 have been used to reduce the income tax provision.

NOTE H — Income Per Share

Net income per share of Common Stock was computed on the basis of the weighted average number of shares outstanding during each year. Fully diluted income per share assumes the conversion of all outstanding convertible debentures (issued in January, 1969) at the beginning of the year.

NOTE I — Stock Options

At June 30, 1972, 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, 22,200 were covered by options outstanding and 38,768 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.

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 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, 1970	29,336	\$2.50-23.50	46,500	\$11.50-19.00	75,836
Exercisable June 30, 1970	8,536	\$2.50-23.50	3,334	\$17.50	11,870
Year ended June 30, 1971:					
Granted	2,750	\$12.94	—	—	2,750
Exercised	(4,336)	\$2.50-3.25	(1,000)	\$17.50	(5,336)
Cancelled	(4,000)	\$10.25-23.50	(7,000)	\$19.00	(11,000)
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	—	—	(2,400)
Cancelled	(3,750)	\$12.94-20.38	—	—	(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

NOTE J — Litigation

A contractor has filed a claim for approximately \$1,060,000 in the United States District Court in Nevada as a result of alleged extra work done for the Company in connection with construction work at the Big Mike Mine in Nevada. The Company has filed a counterclaim for approximately \$1,695,000 for claimed delays and poor performance by the contractor. In the opinion of Company's legal counsel, any recovery by the contractor will not materially affect the financial statements as presented herein, and there is a reasonable chance of recovery by the Company on at least a portion of its claims.

The Company is plaintiff in a lawsuit filed to recover \$80,000, of which \$50,000 is included in property, plant, and equipment, plus attorney fees and court costs, and for \$50,000 in punitive damages in connection with acquisition of leasehold interests in Montana. The defendant in the lawsuit, another mining company, has counterclaimed asking for a contract payment of \$100,000, attorneys' fees and expenses, and damages in excess of \$2,500,000 for alleged failure to evaluate the property and obtain other properties near the leasehold properties. The defendant has requested a jury trial; it is counsel's opinion that the Company has meritorious defenses to the claims for damages, that recovery, if any, against the Company would not materially exceed \$100,000 plus attorneys' fees and trial expenses, and that there is a reasonable chance that there will be a net recovery to the Company.

The Company is engaged in other litigation, but in the opinion of Company's legal counsel, final settle-

ment of any of the matters involved should have no material effect on the Company's financial position.

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, 1972 and 1971. 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, 1972 and 1971 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 7, 1972

Leaching of ore heap at Big Mike (1) produces copper sulphate (2), which is pumped to cells where shredded tin cans (3) are added to precipitate cement copper (4), which is dried on a pad (5) before shipment to a smelter.



There's Chemistry — But No Magic — In Cement Copper

The Company resumed its production of cement copper in 1972, and in 1973 will further increase its output of this centuries-old product which was once used to demonstrate the powers of ancient alchemists.

Anyone who has dipped an iron or steel nail in a solution of copper salts (sulphate) and watched it become coated with copper has observed the production of cement copper, so-called because the copper is considered to "cement" out on the iron. This phenomenon has been observed since early in the fourth century and was considered by alchemists to be a transmutation of the baser metal to copper — a claim that helped lend support to contentions that gold could be produced by similar techniques.

As chemists subsequently learned, there is no magic or mystery to the cementation process. Since copper lies below iron in the electromotive series of elements, iron will displace copper from the solutions of its salts. Metallic iron in any form if added to a solution of copper sulphate will enter the solution and displace metallic copper — producing about a pound of copper for each pound and a half of iron consumed.

At the Company's Big Mike Mine, cement copper is produced by placing copper ore in heaps, leaching it with a solution of sulfuric acid and water, and

pumping the resulting copper sulphate solution into concrete cells called launders. Scrap iron, usually shredded tin cans, is dissolved in the solution, displacing the copper, which drops to the bottom of the cells where it is flushed out and placed on a drying pad. This powder-like concentrate, containing about 75 percent copper, is then shipped directly to smelters for refining in a furnace.

This method of producing copper has been applied for centuries, having been used in the famous Rio Tinto deposits in Spain in the fifteenth century and later in Peru. Its first use in the U.S. is thought to have occurred in Montana in 1889 when an enterprising citizen channeled the run-off from neighboring copper operations into ditches containing scrap iron and old cans.

The Company produced its first cement at the Bluebird Mine in 1964, precipitating more than 23-million pounds before the conversion to cathode production in 1968. Output at Big Mike totaled 834,860 pounds in 1972 and should reach about 1.5-million pounds in 1973. Cement will also be produced at the Old Reliable, with output expected to total approximately 6-million pounds, giving the Company about two percent of the estimated annual U.S. production of 350-million pounds.