

OFFICIAL FILE



FOURTEENTH

ANNUAL REPORT

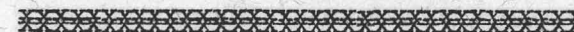
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DEPARTMENT OF
MINERAL RESOURCES
STATE OF ARIZONA

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JULY 1, 1952 - JUNE 30, 1953

R.I.C. MANNING,
Director.



DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

BOARD OF GOVERNORS:

Charles F. Willis, Phoenix, Arizona, Chairman
(term expires January 31, 1956)

Edwin W. Mills, Salome, Arizona, Vice-Chairman
(term expires January 31, 1958)

H. F. Mills, Humboldt, Arizona
(term expires January 31, 1954)

T. J. Long, Globe, Arizona
(term expires January 31, 1957)

Stanley M. Secrist, Tucson, Arizona
(term expires January 31, 1955)

PERSONNEL:

R.I.C. Manning, Director
W. C. Broadgate, Special Assistant
J. E. Busch, Mining Regulations & Land Specialist
A. L. Flagg, Field and Office Engineer
Mark Gemmill, Field Engineer, Northern District
Axel L. Johnson, Field Engineer, Southern Dist.
George Reed, Field Engineer, Western District
Frank J. Tuck, Statistical Engineer
Mrs. Glenn W. Pare, Office Secretary
Mrs. George L. Dunagan, Stenographer.

FINANCIAL STATEMENT

DEPARTMENT OF MINERAL RESOURCES

July 1, 1952 - June 30, 1953

LUMP SUM APPROPRIATION FOR FISCAL YEAR . . \$57,935.00

EXPENDITURES:

Personal Services	\$ 43,610.50
Current Expenditures -	
Utilities	381.68
Tel & Tel	528.43
Postage & Insurance	548.88
Printing	344.00
Equipment Maintenance, Etc.	622.28
Supplies: Office	869.91
Janitor	52.02
Engineers	464.29
Miscellaneous	75.50
Travel - State	6,694.54
Out-of-State	389.05
Subscriptions & Dues	44.00
Capital Outlay	2,167.92
	<hr/> 56,793.00
BALANCE RETURNED TO STATE:	<hr/> 1,142.00*

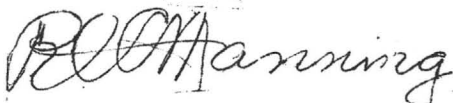
*(Of this amount \$736.50 was salary unpaid as our Land and Law Specialist resigned and the position was not filled).

To the Honorable J. Howard Pyle
Governor of Arizona
Capitol Building
Phoenix, Arizona

Dear Governor Pyle:

Pursuant to Chapter 27, Laws of 1939, creating the Department of Mineral Resources, I am submitting herewith the 14th Annual Report of the Department, covering the fiscal year July 1, 1952 to June 30, 1953.

Respectfully,



R.I.C. MANNING,
Director.

MUSEUM

Early in 1953 through the generous support of the following mining companies:

American Smelting and Refining Company
Inspiration Consolidated Copper Company
Kennecott Copper Corporation
Magma Copper Company
Miami Copper Company and
Phelps Dodge Corporation

it was possible to rehabilitate the Mineral Museum in the Mineral Building, Fairgrounds, and to open it to the public six days a week on a year-round basis. The Museum is operated as a division of the Department of Mineral Resources and has two full time employees. Many valuable specimens have been donated and much material has been loaned.

Heating and cooling equipment have been installed and many new cases added.

We have remodeled the room in the south end of the Mineral building by installing a new ceiling and light fixtures so that we now have a meeting place with a seating capacity of 150 that can be used for meetings of various sorts.

Arizona now has an excellent mineral exhibit adequately housed and displayed on a yearly basis without cost to the State, of which it can justly be proud.

In addition to the aforementioned companies, we wish to thank the Arizona Fair Commission and the Mineralogical Society of Arizona for their valuable assistance and cooperation.

OFFICES:

The headquarters office of the Department is located in the Mineral Building at the State Fairgrounds, McDowell and Nineteenth Avenue, Phoenix.

The field offices are located as follows:

Northern District:

Chamber of Commerce Building,
150 South McCormick,
Prescott, Arizona

Southern District:

Chamber of Commerce Building
80 South Stone Avenue
Tucson, Arizona

Central District:

Mineral Building, Fairgrounds
McDowell and 19th Avenue
Phoenix, Arizona

Western District:

Chamber of Commerce Building
Kingman, Arizona

The Kingman, Prescott and Tucson Chambers of Commerce have graciously furnished space to the Department at no cost to the State and the many favors extended are gratefully acknowledged.

Fringe Benefits Paid by Arizona Mines - Wages Paid in Years 1942, 1947, 1951, 1952.

Comparison of Property and Production Taxes Paid by Mining Industries of Five Western Mining States.

Comparison of Property Taxes Paid by Arizona Agricultural, Manufacturing and Mining Industries.

In Washington, the Department as usual, was able to render valuable assistance to the industry.

Data was gathered and furnished to our congressmen from Arizona and in many instances to those from other western states. Appreciation of this work has often been expressed both orally and by letter.

We cooperated to the fullest with various federal departments and gathered data for dissemination to the industry through our local offices.

The Director represented the Department at meetings of the American Institute of Mining Engineers, the Western Governors' Mining Advisory Council, American Mining Congress and the United States Chamber of Commerce.

EXCERPTS FROM THE LAW CREATING THE ARIZONA
DEPARTMENT OF MINERAL RESOURCES:

"Aid in the promotion and development of the mineral resources of the State.

Conduct studies of the economic problems of prospectors and operators of small mines with a view to assisting in their solution.

Assist in discovering sources of supply for persons desiring to buy minerals.

List and describe available mining properties.

Make mineral resource surveys and conduct such other investigations as may interest capital in the development of the State's mineral resources.

Serve as a bureau of mining information in conjunction with the Arizona Bureau of Mines.

Publish and disseminate such information and data as may be necessary or advisable to attain its objectives.

Cooperate with the State Land Department to encourage mining activity on state lands.

Cooperate with the Corporation Commission in its investigations and administration of laws relating to the sale of mining securities.

Cooperate with the Arizona Bureau of Mines, and turn over to said Bureau such problems as the field work of the division may show to be within the scope of the activities of said Bureau.

Cooperate with federal and other agencies having for their purposes the development of mines and minerals.

Work against all congressional acts favoring reciprocal or duty free imports of foreign minerals.

The statistical department issued the following reports which were sent to a mailing list of 175 companies, governmental agencies and individuals:

Stories of Bisbee, Magma and United Verde mines.

Mine Production of Gold, Silver, Copper, Lead and Zinc in 1951.

The Relation of Arizona's Mining Industry to Power Development in the State.

Final Value of All Property Assessed to Producing Mining Companies.

Arizona Wage Payments and Mining Product per Man.

Value of Arizona's Copper, Lead, Zinc, Gold and Silver as they leave the State.

Arizona and United States Copper Statistics, 1910-1951 Inclusive.

Mine Taxation

Arizona's Manufacturing Industry and Mining.

Comparative Values of Metal, Livestock and Crop Production in Arizona - Years 1949, 1950, 1951.

Copper Mining in Arizona

Arizona Mining Industry Taxes Compared to Total Taxes.

Arizona and United States Metal Statistics - Copper, Lead, Zinc, Gold and Silver.

Lest We Forget the Need of an Excise Tariff on Copper.

Picture of Arizona Lead-Zinc Industry Showing Need of a Flexible Tariff.

Do such other things as may assist the more extensive exploration and development of the Mineral Resources of the State".

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The total value of Arizona metal production showed a drop of slightly over \$14,600,000 under the preceding year. This is a decrease of 6%. The lower trend was evident in all of the five major metals - gold, silver, copper, lead and zinc.

The price of gold and silver, both fixed by the United States Government, remained unchanged, the price of copper averaged 24.2¢, lead 16.1¢ and zinc 16.6¢.

The loss in the value of copper production was due to the mining of lower grade ores as the total tonnage mined - 44,525,000 tons was the largest on record and the price was unchanged at 24.2¢ per pound. In the case of lead and zinc a drop in price was mainly responsible and resulted in the shut down of some of the mines.

395,719 tons copper @ 24.2¢ lb	\$ 191,527,996
16,520 tons lead @ 16.1¢ lb	5,319,440
47,143 tons zinc @ 16.6¢ lb	15,651,476
112,355 oz. gold @ \$35.00 oz.	3,932,425
4,701,330 oz. silver @ 90.5¢ oz.	4,254,941
	<u>\$ 220,686,278</u>

Arizona ranks first in the production of copper, fourth in silver, sixth in zinc and seventh in both gold and lead. Practically all of the gold and silver production was a by-product of copper, lead and zinc mining. A few small producers of gold and silver however were able to remain in production in spite of high costs because of the high silica content of their ores which enabled them to obtain advantageous smelter rates due to the need for flux.

We have added one field office during the year at Kingman to take care of the greatly increased activity in the northwest section of the State due principally to the manganese and tungsten operations. This gives us three strategically located field offices - Kingman, Prescott and Tucson which have enabled us to render a far better service to the industry.

Field personnel travelled a total of 66,657 miles, attended 242 meetings, visited 434 mines, showed 33 educational movies and had 515 office calls.

These meetings attended afforded the engineers the opportunity to make the necessary contacts with operators and prospectors having need of their services. They also provided a medium whereby they could disseminate information regarding the various governmental programs for the maintenance of a healthy mining industry.

Visits to the actual properties of the operators enabled the engineers to render valuable technical assistance and to gather data for the benefit of others.

The Phoenix office, together with the Museum had 7646 callers which were about equally divided.

Lectures were given to 550 grade school children on the importance of the mining industry and 168 student specimen kits were mailed at a cost of 30¢ each to the recipient to cover packaging and postage.

The Department has acted as a clearing house for the dissemination of information regarding mining in the state and nationally.

We have cooperated to the best of our ability with other state and federal agencies to further the best interests of the mining industry.

ARIZONA'S METAL

Source: U. S.

	GOLD oz.	SILVER oz.	COPPER lbs.
1943	171,810	5,713,889	806,362,000
1944	112,162	4,394,039	716,606,000
1945	77,223	3,558,216	574,406,000
1946	79,024	3,268,765	578,446,000
1947	95,860	4,569,084	732,436,000
1948	109,487	4,837,740	750,242,000
1949	108,993	4,790,736	718,020,000
1950	118,313	5,325,441	806,602,000
1951	116,093	5,120,985	831,740,000
1952	112,355	4,701,330	791,438,000

RELATIVE 1952 Preliminary

	United States	Arizona	Arizona %
Gold (oz)	1,886,036	113,500	6.02
Silver (oz)	39,100,923	4,605,500	11.78
Copper (tons)	924,469	393,350	42.55
Lead (tons)	384,097	16,150	4.20
Zinc (tons)	661,023	46,000	6.96

Mining Law changes are once again in the limelight and many groups have come forth with suggestions, most of which would serve to benefit only their segment of industry or pleasure, and rarely shows signs of any overall study of the problems peculiar to mining. Prominent among these are the Hope Bill H. R. # 5358 and its counterpart, the Anderson Bill, S. B. # 783, both of which have been endorsed by the Agriculture Department, and opposed by the Interior Department.

Multiple use of surface rights is certainly not desirable in the industry and although a few minor changes such as suggested by the D'Ewart Bill H. R. # 4983 might be of benefit it appears that a strict enforcement of the present laws would remedy many of the so-called evils.

It is not denied that recently many fraudulent mining locations have been made, most of which are by persons not of the mining industry, and often feeble attempts by governmental departments charged with enforcing the law to correct the abuses, leads to the belief that perhaps a deliberate attempt to create a chaotic condition calling for public demand for a drastic revision of the statutes may be in the wind.

Withdrawals of the public domain, as well as acquisition of private property by governmental agencies continues in Arizona as in other Western states. In many instances the removal of this land from the tax roll poses a serious problem to local governing bodies. This practice has been condemned by many public spirited groups and payment in lieu of taxes has been suggested as a possible remedy as well as a listing of all holdings together with purposes for which they are being held.

PRODUCTION

Bureau of Mines

LEAD lbs	ZINC lbs.	TOTAL VALUE
27,454,000	39,354,000	\$ 121,212,902
33,414,000	58,154,000	113,094,806
45,734,000	80,452,000	95,963,006
47,860,000	87,330,000	114,986,254
57,132,000	109,288,000	182,752,537
59,798,000	108,956,000	196,207,948
67,136,000	141,316,000	177,894,134
52,766,000	120,960,000	201,033,694
34,786,000	105,998,000	235,289,045
33,040,000	94,286,000	220,686,278

PRODUCTION Figures

Arizona's Place	Leading State	Production
7	South Dakota	484,556
4	Idaho	14,746,329
1	Arizona	393,350
7	Missouri	123,955
6	Montana	81,834

Lavender Pit - Owned by Phelps Dodge Corporation
- \$25,000,000 will be expended - will produce
76,000,000 pounds of copper annually - will get
started about the end of 1954.

Silverbell Mine - Owned by American Smelting &
Refining - \$17,000,000 to be spent - will result
in production of 36,000,000 pounds of copper
annually - will get started production by 1955.

Bagdad Copper Corporation - will spend \$18,000,000
to double their present production - will then
handle 4,500 tons more ore a day - an additional
production of about 20,000,000 pounds annually -
will get started late in 1954. They will also
produce some molybdenum concentrate.

Total of these five projects is about \$200,000,000,
to be spent in the next two years and the annual out-
put of copper from them will be increased 317,000,000
pounds of copper annually. Present production is
792,000,000. Thus an increase of 40% from these
projects alone.

Due to the sharp drop in price of both lead and zinc
and high operating costs most of the mines in the
State have closed with the result that production of
these metals is now at the lowest point for many years.

Non-Metallics continue to play an ever necessary roll
in our mining economy. Asbestos is experiencing the
greatest amount of activity it has had in many years.
In addition, bentonite, pumice, clay, mica, barite,
limestone, flagstone, perlite, fluorspar, feldspar,
and gypsum are being mined commercially.

In spite of the reduction of lead and zinc mining employment showed no drop.

The opening of the Wenden Purchasing Depot for Manganese ores by the General Services Administration at Wenden has meant the establishment of a new industry in the State, resulting in the employment of upwards of 400 men directly and many more indirectly in servicing industries. This depot opened in late February with a capacity of 400 tons in eight hours which was soon exceeded and the second shift was added in June, thereby doubling the tonnage. At present this depot is purchasing more manganese ore than all other such depots in the country. Because of its location, in the heart of the largest manganese district in the State, it has enabled mines to operate that could not otherwise have done so and paid the high transportation costs to markets. The acceptance of small lots (5 tons) with manganese content as low as 15% plus prompt payment has enabled many small producers to exist and the nation is benefited by the accumulation of a stockpile of strategic mineral and the creation of an industry capable of producing it. The Department is proud of having had a part in the forming of a new segment in the economy of Arizona.

An asbestos buying station was opened in Globe during the year which provides the small producer with a market for his fibre and more especially for the No. 2 and 3 grades which account for the greater part of their production and heretofore had been hard to dispose of. Asbestos miners presently feel more confident of the future than ever before. Plans are being discussed regarding the erection of a plant for the treatment of hard fibres at Globe, making them much more in demand.

During the year there were 18 operating tungsten mines and mine concentrators, three of which accept custom ores. Recovery is usually low on small shipments and milling costs are necessarily high. Furthermore,

the custom mills in the State can handle only ores that are amenable to their process. There is a ready market for 60% concentrates but few of the smaller operators can produce this grade and consequently have to ship to Bishop, California. The resultant freight rates and treatment charges make their operations marginal at the best.

With but two exceptions, Arizona's production of uranium continues to come from the northeast, or four corners area of the state, north of highway 66 and east of highway 89. This, together with adjacent portions of Utah, Colorado and New Mexico, the Colorado Plateau, comprising about 65,000 square miles, is the second largest source of uranium in the world. The Atomic Energy Program has grown to be one of the largest businesses in the country and with the application of atomic energy to peacetime uses, a long period of prosperity is assured this section. New discoveries of ore are still being made, and will undoubtedly continue in the foreseeable future. This has meant much to the Indians on whose land much of the ore has been discovered and they are proving themselves to be capable of performing the tasks incidental to the mining and processing.

The production of copper holds great promise for the future as is evidenced by the following tabulation, showing anticipated expenditures by producers of low grade ores:

Copper Cities - Miami Copper Company - \$15,000,000 to be expended - will result in production of 45,000,000 pounds additional copper annually, starting late in 1953.

San Manuel Copper Corporation - owned by Magma Copper Company - \$125,000,000 to be spent - will result in 140,000,000 pounds copper annually, with some molybdenum, will get started production in 1955.