

# MANGANESE STATISTICS

Compiled by: Arizona Department of Mineral Resources

Source: Minerals Yearbook, U. S. Bureau of Mines

## MANGANESE ORE (35% or More Mn)

	Total U. S. Mine Shipments (Short tons)	Arizona	General Imports	Price per Long Ton Unit (22.4#)
1941	87,794	990	1,714,581	63¢ - \$1.00
1942	190,748	2,946	1,583,024	72¢
1943	205,173	5,779	1,511,630	73¢
1944	247,616	8,510	1,157,932	76¢
1945	182,337	1,093	1,461,945	79¢
1946	143,635	-	1,749,223	70¢-71¢
1947	131,627	133	1,541,818	65¢-70¢
1948	131,100	240	1,256,957	65¢-72¢
1949	115,000*	-	1,500,000*	70¢-82¢
1950	115,000*	-	1,800,000*	82¢-92¢

## FERROMANGANESE

	Total U. S. Production (short tons)	Arizona	Price per short ton
1941	580,704	17	\$ -
1942	661,338	-	120.50
1943	702,484	498	120.50
1944	702,632	320	120.50
1945	619,760	56	129.28
1946	491,973	-	124.25
1947	614,626	62	130.11
1948	647,617	-	149.18
1949	550,000*	-	\$160 - \$172
1950	720,000*	-	185

\* Estimated by Engineering and Mining Journal

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The manganese ore mined in the United States is of varying grade and usually has to be concentrated to a 35% to 48% manganese grade before it is acceptable for use in the steel industry.

The latest Government regulations (August 1951) for the purchase of domestic manganese ores, specify 48.0% manganese, 6.0% iron, 11.0% silica plus alumina, 0.12% phosphorus. There are premiums for higher manganese content and lower iron content, likewise penalties for lower manganese, higher iron, silica plus alumina, and phosphorus.

The Deming, New Mexico depot will receive Arizona shipments. The price for one long dry ton varies from \$6.10 for a 15% Mn ore, to \$76.00 for a 40% Mn ore.

The August 17, 1951 issue of Pay Dirt describes the latest government "five-year plan" for the production of Manganese Ore. The Geneva Steel Co., P. O. Box 269, Salt Lake City, Utah has issued a bulletin giving price schedule for Manganese ores, and "Aids to Prospecting for Manganese", together with other interesting papers on "Manganese Ores".



## The Story of Manganese in Arizona Since 1941

- 1941 The largest shipper from Arizona was Apache Mines, Inc. with operations at the Apache Mines in Gila County and the Casa Grande mine in Pinal County. Shipments averaged 44.4% manganese. In addition small quantities were shipped by 10 other producers in Cochise, Coconino, Gila, Pinal, Yavapai and Santa Cruz counties.
- A small quantity of battery-grade ore averaging 41.6% manganese was shipped from the Black Warrior mine in Mohave County.
- 1942 The largest producer was the Black Warrior mine in the Artillery Peak District. Shipments from this mine were made to the Metals Reserve Co. and totaled 543 short tons. Other shipments of considerable size came from Coconino and Gila Counties. Fourteen shippers supplied the State total in 1942.
- 1943 The large producing manganese mines of Arizona in 1943 were the American mine in Gila County, the Black Warrior in Mohave County and the Denison and Shafer operations in Coconino County. The ferruginous manganese ore for metallurgical use came also from Coconino, Gila and Mohave counties. Not included in the statistical data for Arizona were 8,450 tons of concentrating-grade ore containing 2,135 tons of manganese reported shipped to Government stockpiles during 1943.
- 1944 The Black Warrior mine shipping 1672 short tons, was the largest operation. The American mine in Gila County was second with 1,384 tons. Counties supplying manganese ore were Cochise, Coconino, Gila, Mohave, Navajo, Pima, Santa Cruz, Yuma and Yavapai. Three mines in Gila county supplied the ferruginous manganese ore.
- 1945 Shipments totalling 709 short tons were made from the Manganese King mine in Pima County by R. H. Van Morel; the ore averaged (natural) 15% Mn. Smelter shipments were made from Long Valley in Coconino county and from the Victory mine in Yavapai County. The small output of ferruginous manganese ore averaged (natural) 33.6% Mn and came from the Black Warrior mine in Mohave County.
- 1946 No manganese produced during this year.
- 1947 The Walter H. Denison Manganese Co. shipped manganese ore containing (dry) 47.0% from the Long Valley mine in Coconino county. A small shipment of ferruginous manganese ore was also made from this property.
- 1948 The Denison Manganese Co. shipped manganese ore containing (natural) 48% Mn from the Long Valley and Heber mines in Coconino County.
- 1949 Interest in manganese in Arizona increased during the year, but production was practically nil.
- 1950 The U.S. Bureau of Mines has completed its development program at the Artillery Peak deposit in southern Mohave County and have stockpiled sufficient ore to make daily shipments of 50 tons to the test plant at Boulder City, Nevada. When this test work is completed, it is expected that a large beneficiation plant will be built near the mine. There are other large and promising deposits in Northern Yuma County and Southern Mohave County.

For an article on "Concentration of Manganese Ores from Gila, Greenlee, and Graham Counties," see Bureau of Mines, Report of Investigations 3842, 1946, 47pp.

Arizona Department of Mineral Resources

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