

DESCRIPTIVE MODEL OF EPITHERMAL Mn

By Dan L. Mosier

DESCRIPTION Manganese mineralization in epithermal veins filling faults and fractures in subaerial volcanic rocks.

GEOLOGICAL ENVIRONMENT

Rock Types Flows, tuffs, breccias, and agglomerates of rhyolitic, dacitic, andesitic or basaltic composition.

Age Range Tertiary.

Depositional Environment Volcanic centers.

Tectonic Setting(s) Through-going fracture systems.

Associated Deposit Types Epithermal gold-silver.

DEPOSIT DESCRIPTION

Mineralogy Rhodochrosite, manganocalcite, calcite, quartz, chalcedony, barite, zeolites.

Texture/Structure Veins, bunches, stringers, nodular masses, disseminations.

Alteration Kaolinitization.

Ore Controls Through-going faults and fractures; brecciated volcanic rocks.

Weathering Oxidization zone contains abundant manganese oxides, psilomelane, pyrolusite, braunite, wad, manganite, cryptomelane, hollandite, coronadite, and Fe oxides.

Geochemical Signature Mn, Fe, P(Pb, Ag, Au, CU). At Talamantes W is important.

EXAMPLES

Talamantes, MXCO
Gloryana, USNM
Sardegna, ITALY

(Rocha and Wilson, 1948)
(Farnham, 1961)
(Burckhardt and Falini, 1956)

GRADE AND TONNAGE MODEL OF EPITHERMAL Mn

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COMMENTS See figs. 126-127.DEPOSITS

<u>Name</u>	<u>Country</u>	<u>Name</u>	<u>Country</u>
Abra Negra	MXCO	Murguia	MXCO
Armour Group	USAZ	Nacozari	MXCO
Atenguillo	MXCO	Niggerhead	USNM
Black Crow-San Juan	USNM	Oviachic 1&2	MXCO
California Group	USAZ	Phillips Lease	USNM
Casa de Janos	MXCO	Pito Real	MXCO
Casas Grandes	MXCO	Red Hill-Red Hill Ext.	USNM
Ciudad Obregon	MXCO	St. Pietro	ITLY
Cliff Roy	USNM	San Bernardo	MXCO
Estacion Llanos	MXCO	San Miguel El Alto	MXCO
Gloryana	USNM	Santa Ana	MXCO
Griffith	USNM	Sardegna	ITLY
Hatton	USAZ	Satevo	MXCO
J.M. Meadows Group	USAZ	Selimiye	TRKY
JVB Claim	USNM	Shag Rock	CNBC
Karangnunggal	INDS	Sierra de El Alto	MXCO
Karatas	TRKY	Sierra de Enmedio	MXCO
Kliripan	INDS	Sierra Los Organos	MXCO
Lajas	MXCO	soto	MXCO
La Leona	MXCO	Talamantes	MXCO
La Noria	MXCO	Terrenates	MXCO
Las Varas-La Vaca	MXCO	Thurston & Hardy	USAZ
Los Borregos	MXCO	Topock	USAZ
Los Volcanes	MXCO	Turfullar	TRKY
M and M Group	USNM	U.S. Group	USAZ
Manganese Chief	USNM	Viterbo-Roma	ITLY
Manganese Development	USAZ	West Niggerhead	USNM
Matamoros	MXCO	Yahualica	MXCO
Mezcala	MXCO	Zacate-Cerro Chino	MXCO
Montosa	MXCO		

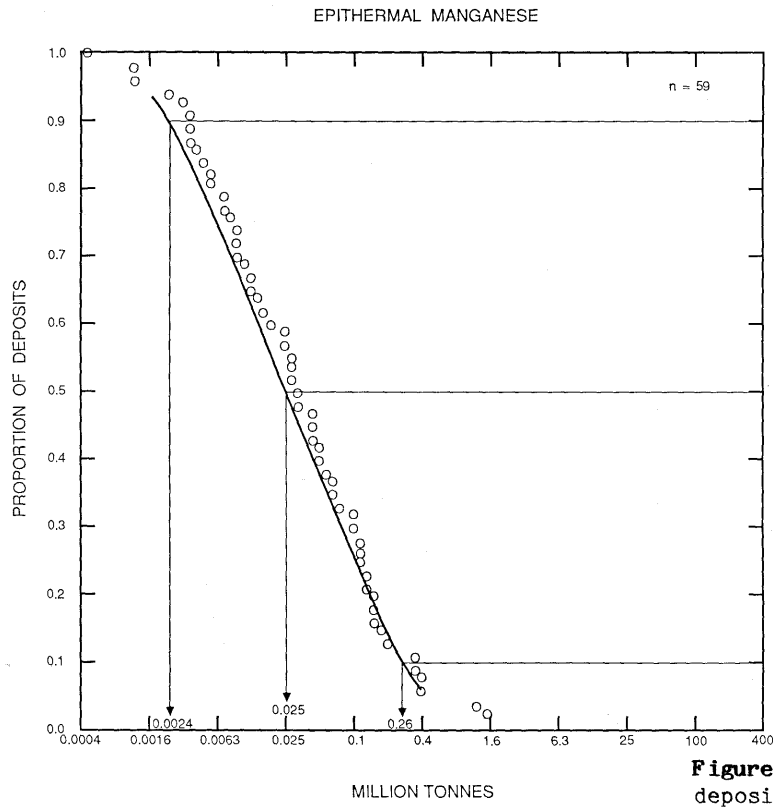


Figure 126. Tonnages of epithermal Mn deposits.

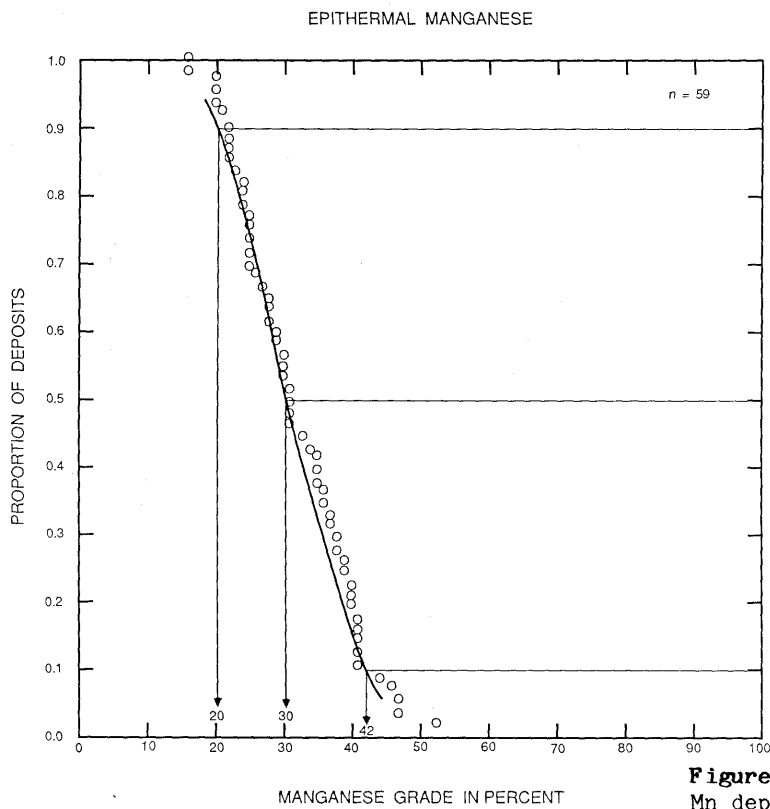


Figure 127. Manganese grades of epithermal Mn deposits.