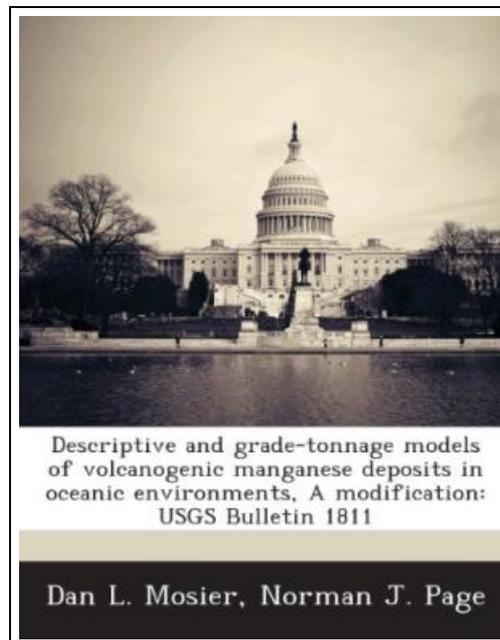


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Bibliogov, United States, 2013. Paperback. Book Condition: New. 246 x 189 mm. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*.Four types of volcanogenic manganese deposits, distinguished on the basis of geologic, geochemical, and geophysical characteristics, appear to result from a combination of volcanic and hydrothermal processes related to hot-spring activity in oceanic environments. We compare these four deposit types, here called the Franciscan, Cuban, Olympic Peninsula, and Cyprus, with respect to host rocks, associated rocks, minerals, deposit shape, dimensions, volume, tonnage, grade, and mineral-deposit density (number of deposits per unit area). Franciscan-type deposits occur in obducted oceanic ridge and backarc marginal-basin environments, are associated with chert, shale, and graywacke around the margins of mafic volcanic centers, and have a median tonnage of 450 t and median grades of 36 weight percent Mn and less than 5.1 weight percent Fe. Cuban-type deposits occur in island-arc environments, are associated with tuff and limestone around domal structures or intrusions inferred to be volcanic centers, and have a median tonnage of 6,400 t and median grades of 39 weight percent Mn and less than 4.4 weight percent Fe. Olympic Peninsula-type deposits occur in obducted oceanic midplate settings, are associated with argillaceous limestone, argillite, and graywacke around mafic volcanic centers (seamounts or islands), and have a median tonnage of 340 t and median grades of 35 weight percent Mn and less than 6.5 weight percent Fe. Cyprus-type deposits occur in the same tectonic environments as Franciscan type but are associated with basalt, marl, chalk, silt, and chert off the ridge-axis position and have a median tonnage of 41,000 t and median grades of 33 weight percent Fe and 8 weight percent Mn. All these deposits are thin ellipsoids, concordant to the host rocks, but Cyprus-and Cuban-type deposits are larger than Franciscan- and...

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