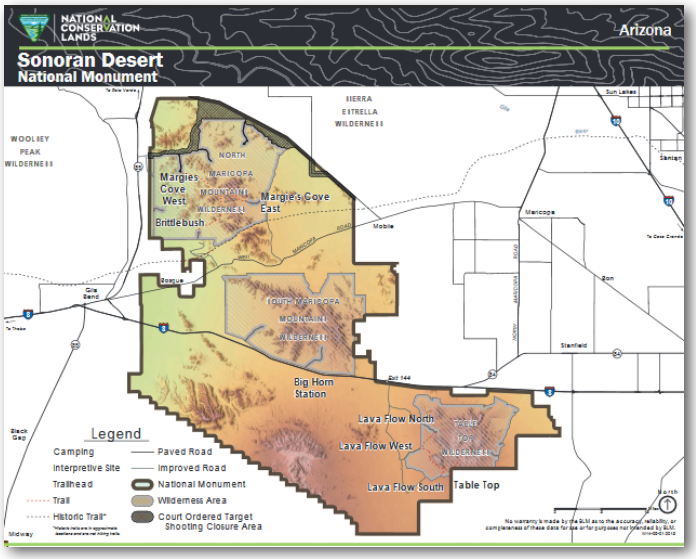
Geology & Cultural History of the Sonoran Desert National Monument (SDNM), Arizona

GCPNM Parameters

- *Established* 17 Jan. 2001 - Exe. Order President W.J. Clinton
- *Land Mangement*: Bureau of Land Management
- *Footprint*: 496,400 acres
- *Cultural features*: significant archaeological sites including voluminous rock art sites
- Current Use(s): Recreation, minor livestock gracing



Physiographic Features

Basin & Range Province, Bender Wash, Margie's Peak, Maricopa Mountains, Sand Tank Mountains, Sheep Mountain, Sonoran Desert, Vekol Valley, Vekol Wash, West Prong Waterman Wash

Historical Mineral Resources

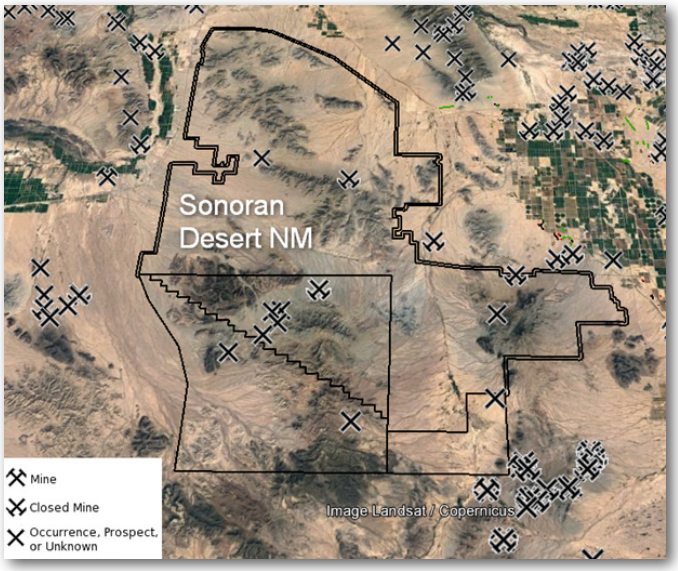
Aggregate, gold, silver, copper, manganese. The Mine Index for Metallic Mineral Index of Arizona (1985) shows no mining districts in the SDNM.

Mineral Potential

The SDNM is situated in south-central Arizona's copper porphyry mineral zone. With the exception of the Sand Tank Mountains, however, a key signature of porphyry copper mineralization, the presence of 50-80 million-year-old granitic rocks, is absent. The Sand Tank Mountains, situated on the border of the SDNM and the Barry Goldwater Range, are a potential source of porphyry copper (Spencer, 2013). U.S. Geological Survey's Mineral Resource database does not show any historic mine sites in the Sand Tank Mountains, although a number of old mines are located just southeast of the mountain range.

The SDNM footprint does not cover any deposits of large river systems, so the potential for high-quality aggregate is low.

Concluding Statement. The present-day SDNM was one of several sites in the SW U.S. evaluated for hosting a superconducting super collider. It was not selected for the building site, but reams of mostly unpublished data were certainly collected that might be useful in assessing the mineral resource potential of the SDNM.



Footprint of SDNM showing mine sites from U.S.G.S. Mineral Resources On-Line Spatial Data.

Select Literature Resources

Cunningham, D., DeWitt, E., Haxel, G., Reynolds, S.J., and Spencer, J.E., 1987, Geologic map of the Maricopa Mountains, central Arizona: Arizona Bureau of Geology and Mineral Technology Open-File Report 87-4, scale 1:62,500.

Keith, S.B., Gest, D.E., DeWitt, E., Toll, N.W., and Everson, B.A., 1983, Metallic mineral districts and production in Arizona: Arizona Bureau of Geology and Mineral Technology Bulletin 194, 58 p., 1 sheet, scale 1:1,000,000.

Spencer, J.E., 2013, The Sonoran Desert Heritage Proposal: An evaluation of the mineral resource potential of lands proposed for withdrawal from mineral entry. Arizona Geological Survey Open File Report, OFR-13-03, 30 p.

U.S. Geological Survey Mineral Resources On-Line Spatial Data

Welty, J.W., Reynolds, S.J., Keith S.B., Gest D.E., Trapp, R.A. and DeWitt E., 1986, Mine Index for Metallic Mineral Districts of Arizona. Arizona Bureau of Geology and Mineral Technology, Bulletin 196, 96 p.

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