

New Mexico originals: Type locality of minerals from the Land of Enchantment

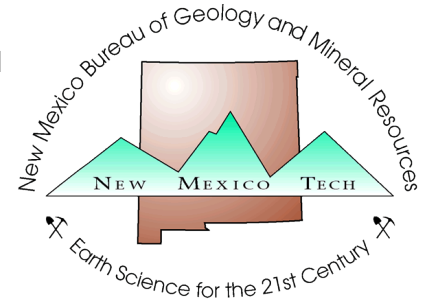
Nathalie N. Brandes and Paul T. Brandes

42nd Annual New Mexico Mineral Symposium
November 11-13, 2022, Socorro, NM
pp.3

Downloaded from: <https://geoinfo.nmt.edu/museum/minsymp/abstracts/home.cfm?SpecificYear=2022>

The annual [New Mexico Mineral Symposium](#) provides a forum for both professionals and amateurs interested in mineralogy. The meeting allows all to share their cumulative knowledge of mineral occurrences and provides stimulus for mineralogical studies and new mineral discoveries. In addition, the informal atmosphere encourages intimate discussions among all interested in mineralogy and associated fields.

The symposium is organized each year by the [Mineral Museum](#) at the [New Mexico Bureau of Geology & Mineral Resources](#).



Abstracts from all prior symposiums are also available: <https://geoinfo.nmt.edu/museum/minsymp/abstracts>

This page is intentionally left blank to maintain order of facing pages.

NEW MEXICO ORIGINALS: TYPE LOCALITY MINERALS FROM THE LAND OF ENCHANTMENT

¹NATHALIE N. BRANDES AND ²PAUL T. BRANDES

¹Lonestar College-Montgomery, ²Hudson Institute of Mineralogy
eclogite@pasty.com

In 1958, the International Mineralogical Association was founded. The following year, the Association established the Commission on New Minerals and Mineral Names to bring consistent guidelines to the naming of new minerals. Under the commission's guidelines, to name a new mineral, it is necessary to: (1) prove it's a new mineral, (2) prove it's not an existing species, (3) analyze the material, (4) prepare a formal proposal and name, (5) if accepted, publish a scientific paper describing the new mineral species, and (6) provide the original specimen (Type Specimen)

to a museum or university. Today, there are over 5820 recognized mineral species with an average of 100-200 added yearly.

There are around 2270 mineral species recognized in the United States. Of those, 883 are type locality species, meaning the source of an original type specimen is located in the United States. New Mexico, the fifth largest state in the United States is home to 724 confirmed mineral species, including 19 type locality species (Table 1).

Table 1. Type locality minerals from New Mexico

| MINERAL | TYPE LOCALITY | YEAR NAMED | NAMED FOR |
|--|--|--|--|
| Ferro-ferri-fluoro-leakeite $\text{Na}(\text{Na}_2)(\text{Fe}^{2+}_2\text{Fe}^{3+}_2\text{Li})(\text{Si}_8\text{O}_{22})$ (F) ₂ | Cañada Pinabete pluton, Questa, Taos County | 1992, leakeite group redefined 2012 | Bernard Elgey Leake Scottish geologist who was chairman of the IMA subcommittee to revise amphibole nomenclature |
| Galileiite $\text{Na}_3\text{Fe}^{2+}\text{Fe}^{2+}_{11}(\text{PO}_4)_9$ | Grant meteorite, Cibola County (discovered 1929, fall date unknown) | 1996, published 1997 | Galileo Galilei, In honor of his astronomical work |
| Georgechaoite $\text{NaKZr}[\text{Si}_3\text{O}_9] \cdot 2\text{H}_2\text{O}$ | Wind Mountain, Cornudas Mountains, Otero County | 1985 | George Yanji Chao; Professor of Mineralogy at Carleton University, Ottawa, for his work on zirconium silicates |
| Goldmanite $\text{Ca}_3\text{V}^{3+}_2(\text{SiO}_4)_3$ | Sandy Mine, Laguna subdistrict, Cibola County | 1964 | Marcus Isaac Goldman, USGS geologist who studied the Entrada Sandstone, host rock at the type locality |
| Grantsite $(\text{Na,Ca})_{2+x}(\text{V}^{5+},\text{V}^{4+})_6\text{O}_{16} \cdot 4\text{H}_2\text{O}$ | F-33 Mine, East Grants Ridge Mining District, Cibola County; Parco No. 23 Mine, Grand County, Utah | 1964 | Grants, New Mexico; Location where mineral was found |
| Hendersonite $(\text{Ca,Sr})_{1.3}\text{V}_6\text{O}_{16} \cdot 6\text{H}_2\text{O}$ | Nelson Point mine, Shiprock District, San Juan County; J J Mine, Uravan Mining District, Montrose County, Colorado | 1962 | Edward Porter Henderson; Curator of Meteorites at the Smithsonian Institution, who also contributed to the knowledge of the mineralogy of U-V deposits |
| Lannonite $\text{Mg}_2\text{Ca}_4\text{Al}_4(\text{SO}_4)_8\text{F}_8 \cdot 24\text{H}_2\text{O}$ | Lone Pine Mine, Wilcox Mining District, Catron County | 1983 | Dan Lannon; Discovered tellurium in the Wilcox district in 1889 and staked the Tellurium Mine claim in 1893 |
| Maxwellite $\text{NaFe}^{3+}(\text{AsO}_4)\text{F}$ | Squaw Creek Mine, Taylor Creek Mining District, Catron County | 1987, published 1991 | Charles Henry Maxwell; USGS geologist and mineralogist who studied the Taylor Creek district |

| | | | |
|--|---|---------------------------|---|
| Metatyuyamunite $\text{Ca}(\text{UO}_2)_2(\text{VO}_4)_2 \cdot 3\text{H}_2\text{O}$ | Laguna Mining District, New Mexico; Haystack Mine, Ambrosia Lake subdistrict, McKinley County; Shiprock District, San Juan County; Mesa No. 1 Mine, White Ash Peak, Lukachukai Mining Dis- trict, Apache County, Arizona | 1953 (IMA grandfathered) | Tyuyamunite was named in 1912 prefix meta- added indi- cating a dehydration relation- ship to tyuyamunite; Tyuy- amunite named for the Tyuya- Muyun Massif, Kyrgyzstan |
| Meurigite-K $\text{KFe}^{3+}_8(\text{PO}_4)_6(\text{OH})_7 \cdot 6.5\text{H}_2\text{O}$ | Chino Mine, Santa Rita Mining District, Grant County | 1996, the K added in 2009 | Sir John Meurig Thomas crystal chemist specializing in solid- state chemistry and catalysts |
| Plumbojarosite $\text{Pb}_{0.5}\text{Fe}^{3+}_3(\text{SO}_4)_2(\text{OH})_6$ | Cookes Peak Mining District, Luna County | 1902 (IMA grandfathered) | composition with dominant lead and relationship to jarosite |
| Rajite $\text{Cu}(\text{Te}^{4+}_2\text{O}_5)$ | Lone Pine Mine, Wilcox Mining District, Catron County | 1978, published 1979 | Dr. Robert Allen Jenkins, geol- ogist with Phelps Dodge, who found the first samples |
| Ramsdellite Mn^{4+}O_2 | Lake Valley Mining District, Sierra County | 1943 (IMA grandfathered) | Lewis Stephen Ramsdell; Min- eralogy professor at the Uni- versity of Michigan, who first described the mineral |
| Raydemarkite $\text{MoO}_3 \cdot \text{H}_2\text{O}$ | Summit group, Cookes Peak Mining District, Luna County | 2022, not yet published | Ramon DeMark; New Mexico mineral collector extraordi- naire, presenter at every New Mexico Mineral Symposium ever held, and all-round gentle- man |
| Santafeite $(\text{Na}, \text{Ca}, \text{Sr})_{12}(\text{Mn}^{2+}, \text{Fe}^{3+}, \text{Al}, \text{Mg})_8$ $\text{Mn}^{4+}_8(\text{VO}_4)_{16}(\text{OH}, \text{O})_{20} \cdot 8\text{H}_2\text{O}$ | Unnamed Uranium Mine, McKinley County | 1958 (IMA grandfathered) | Atchison, Topeka and Santa Fe Railroad; Conducted explora- tion and development of New Mexico uranium deposits, owned property where mineral was discovered |
| Scrutinyite $\alpha\text{-PbO}_2$ | Sunshine No. 1 adit, Blanchard Mine, Hansonburg District, Socorro County, | 1988 | Scrutiny Refers to the care required to make the initial identification of the mineral |
| Tellurobismuthite Bi_2Te_3 | Little Mildred mine (Green mine), Sylvanite Mining District, Hidalgo County; Mosnap Mine, Moisesberg Mines, Fyresdal, Vestfold og Telemark, Norway; Boly Field Mine, Dahlonega, Lumpkin County, Georgia | 1815 (IMA grandfathered) | Tellurium and bismuth; Name reflects composition |
| Wilcoxite $\text{MgAl}(\text{SO}_4)_2\text{F} \cdot 17\text{H}_2\text{O}$ | Lone Pine Mine, Wilcox Mining District, Catron County | 1979, published 1983 | William Wilcox; Discoverer of the Wilcox Mining District |
| Windmountainite $\square\text{Fe}^{3+}_2\text{Mg}_2\text{Si}_8\text{O}_{20}(\text{OH})_2 \cdot 8\text{H}_2\text{O}$ | Wind Mountain, Cornudas Mountains, Otero County | 2019, published 2020 | Wind Mountain; Type locality |
| | | | |

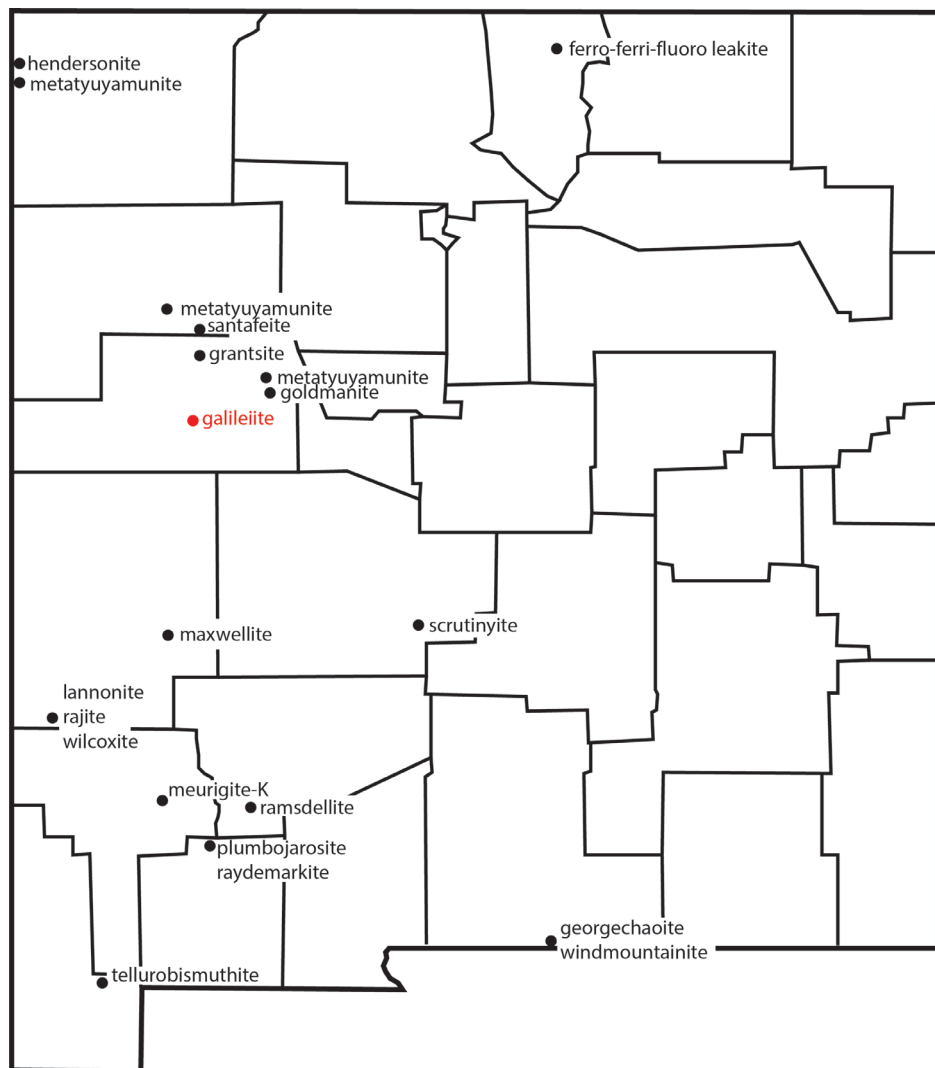


Figure 1: General map of New Mexico showing the localities of the type minerals. Galileiite, shown in red, was found in a meteorite sample and not related to minerals in the region.



Photo 1: Maxwellite. Squaw Creek Mine, Taylor Creek Mining District, Catron County, New Mexico. Specimen from the collection of Ray Demark. Photograph by Michael C. Michayluk. FOV 2.0 mm.



Photo 2: Scrutinyite. Snake Pit Mine, Mex-Tex Mine, Bingham, Hansonburg District, Socorro County, New Mexico. Specimen in and photograph by Gianfranco Ciccolini collection. FOV 1.7 mm.