

BOOK REVIEW

MINERALS FIRST DISCOVERED ON THE TERRITORY OF THE FORMER SOVIET UNION by Igor V. Pekov. Ocean Pictures, Moscow, 369 pages. \$53 hardback.

This extraordinary book describes minerals whose type localities are within the former Soviet Union. Not only does this book take full account of many rare and recently described solid phases, but it will surprise many readers that some common (grossular garnet) and some highly desirable collectable minerals (jeremejevite) were discovered here. When one realizes that the former Soviet Union covers one-sixth of the earth's land mass, then it is reasonable that almost 600 minerals have been discovered there; the surprise arises because of unfamiliarity with this area.

There are eleven major sections to this book. They are as follows: (1) Introduction, (2) About this book, (3) Acknowledgments, (4) Abbreviations, (5) Part 1—Minerals, (6) Part 2—Geography of discoveries, (7) Part 3—Chronology of discoveries, (8) References, (9) Index of place names, (10) Persons in whose honor the minerals were named, and (11) Appendix. In the Introduction, the author gives credit to previous authors who have produced other summary works of the minerals of the USSR. However, the present author has taken a quantum leap forward by focusing on the detailed geography of mineral occurrences and providing a complete set of references. Pekov has also put emphasis on type specimens, an index of place names, and mineral and location photographs. The author went to great lengths in researching this summary volume, using published materials, special reports and dissertations, communications with mineral discovery authors, co-researchers and historical geologists, and finally, museum collections containing type specimens.

The introduction succinctly puts the purpose of the book in perspective. The author states in the first paragraph of the book that “the history of the discovery of new minerals, precise definition of their type localities, and compilation of data of type specimens preserved in museums are very important and deserve primary attention.” Pekov has elegantly captured the intent of this book in one sentence. He dealt with multiple challenges in compiling this summary. First, many studies were originally published in limited regional editions, which are difficult to access or acquire. Second, the strict secrecy system of the USSR introduced after the Second World War, from 1945 to 1990, severely limited geographic information on so-called strategic materials (precious metals, radioactive minerals, boron, etc). Under the same secretive nature of this political system, large-scale geographic maps were rarely available to precisely locate deposits.

The section “About this book” provides information on the

582 mineral species discovered in the former USSR. The author wrote this as a reference review with emphasis on historical and geographic details. For each mineral section the author has compiled data on “the type locality and history of the first discovery, the chemical formula, group, a brief discussion of the first find (morphology, size, color, occurrence conditions, and associated minerals), the origin of the name, the place of preservation of type specimens, and appropriate references.” The mineral species described have been approved by the Commission on New Minerals and Mineral Names of the International Mineralogical Association (CNMMN IMA). Subsections of “About this book” are devoted to how type localities are chosen for discussion, potential problems with language translation, minerals named after their discoverer, the predominant Soviet repositories for type specimens, specific references, and acknowledgments for photographs and illustrations. The third section of the book, “Acknowledgments” lists over eighty professional scientists, collectors, and Soviet colleagues who were instrumental in making the book as conclusive and well documented as it is in its final form. The section for abbreviations is very useful, especially for the names of Soviet institutes and journals.

The largest section (Part 1—Minerals), at 233 pages, is the real core of the book. The descriptions of the minerals are wonderful not only for the basic science provided to the reader, (chemical formula, crystal form, color, etc.), but especially for the history of the discovery and the residing facility of the type specimens. If there is a complaint to be voiced of this section, albeit minor, it is that the mineral descriptions vary significantly in length. Certain mineral descriptions (for example crocoite and hessite) are rich in the historical lore of the mineral, various early attempts to identify the mineral, and the general intrigue of being the first to confirm the identity of the specimen. On the other hand, mineral descriptions such as that for mushistonite [(Cu,Zn,Fe) Sn(OH)₆] are quite terse and provide only the most basic information. This unevenness may not be the fault of the author, but rather an indication that more recently discovered minerals tend to lack such lore. In the midst of this section is a series of stunning color plates covering over 150 different species, followed by location photographs of the Kola Peninsula, the near-polar Urals, Tadjikistan, Siberia, and Kamchatka, to name a few. The end of the section on minerals is replete with a group of 40 SEM black and white photos illustrating fascinating microscopic-sized minerals.

The next section, labeled “Part 2—Geography of Discoveries” should finally put to rest any lack of information on the localities of minerals discovered in the former USSR. Not only is this section broken down into major regions, but it is further broken down into territories and districts. To complement the descrip-

tive geography provided, a series of schematic maps help one to understand the enormous nature of the former USSR and how the regions have interplayed on a national level.

The final sections (Part 3-Chronology of discoveries, References, Index of place names, Persons in whose honor the minerals were named, and Appendix) are very informative in their own right. The chronology of discoveries shows periodic surges in the abundance of new mineral identifications, some related to new analytical equipment (electron microprobe in the 1960s), while others are due to exploration of new provinces (Lovozero massif) or episodes of exploration for strategic minerals (uranium) required for nuclear projects. These are well documented by the author in the latter part of the chronology section. The reference section is rich in information with over 750 citations.

Location names are given in both English and Russian, which is very useful for both researchers and collectors. The final appendix, listing new phases discovered in the burnt coal mine dumps of Chelyabinsk, Southern Urals, is extremely interesting, to say the least, even if these are not qualified by the CNMMN IMA as new minerals.

Although *Minerals First Discovered on the Territory of the Former Soviet Union* is very much a specialty book, it is quite enjoyable reading and will be extremely useful to mineralogists, museum curators, and mineral collectors the world over.

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