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BIBLIOGRAPHY ON THE OCCURRENCE, PROPERTIES, AND USES OF
ZEOLITES FROM SEDIMENTARY DEPOSITS, PRE-1985

by

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Open-File Report 94-294-A

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ABSTRACT

This bibliography is an alphabetical listing of about 3,000 publications and formal releases, including patents and selected abstracts, from the world literature on the occurrence, properties, and uses of zeolites from sedimentary deposits for the period prior to 1985. The bibliography is available as hard copy or on a 3.5-inch floppy diskette, which was prepared on a Macintosh computer using EndNote Plus software. Computer searches of the bibliography can be made by author, year, title, journal, publisher, and keywords.

INTRODUCTION

Zeolites were discovered more than two centuries ago, and nearly 50 distinct species now have been recognized. Numerous zeolites also have been synthesized, but most have no natural counterparts. Zeolites occur in rocks that are diverse in lithology and age, and they have formed in many different geological environments. The most common and perhaps best known zeolite occurrences are in the cavities and fractures of igneous rocks, particularly basaltic rocks. Most of the large, attractive zeolite specimens in museum collections have been obtained from igneous rocks. In recent years, zeolites have been recognized as important rock-forming constituents in low-grade metamorphic rocks and in various sedimentary rocks, particularly rocks that were originally rich in vitric material. The zeolites in sedimentary rocks are very finely crystalline and do not appeal to mineral collectors, but deposits of this type are voluminous and have economic potential for many industrial, environmental, and agricultural processes.

DESCRIPTION OF BIBLIOGRAPHY

This compilation is an alphabetical listing of about 3,000 publications and formal releases, including patents and selected abstracts, from the world literature on the occurrence, properties, and uses of zeolites from sedimentary deposits for the period prior to 1985. Certain bibliographic entries concerning the properties of zeolites from other geologic settings and the results of laboratory syntheses have been included herein because these reports supplement our understanding of natural zeolites in sedimentary environments. Another compilation for publications that were released during 1985-1992 is available as U.S. Geological Survey Open-File Report 93-570-A and B.

The bibliography is available as hard copy or on a 3.5-inch floppy diskette. The diskette was prepared on a Macintosh computer using EndNote Plus software. EndNote Plus works with Macintosh models 512KE and up, and System 4.2 or later. To perform bibliographic searches of the diskette, either the EndNote Plus program or the less-expensive but limited EndNote Plus demonstration disk must be installed on a Macintosh computer. New bibliographic references can be added with the EndNote Plus program but

cannot be added with the demonstration disk. Searches can be made by author, year, title, journal, publisher, or keywords.

The keywords added to each bibliographic entry include the zeolite name as well as terms relating to the fields of geology, properties, and uses. Keywords under geology are the following: formation name and age of the host rock, lithology (includes tuff, sandstone, shale or mudstone, and carbonate), depositional environment (includes fluvial, lacustrine, marine, subaerial, soil, and hydrothermal or geothermal), location (includes country and state), and resources. The keywords under properties are the following: chemical composition, cell dimensions, refractive indices, cation exchange, adsorption, isotopes, heating, synthesis, and modification. Keywords under uses are the following: agriculture (includes plant, animal, and aquaculture), rad (radioactive) waste, pollution, energy, building materials, beneficiation, and health. Search items can be combined by using the Boolean *And*, *Or*, and *Not* features.

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