
Compiled by Jonathan H. Goodwin, Donald G. Mikulic, and James W. Baxter

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CONTENTS

FOREWORD 1
GLOSSARY 2
COMMODITIES 3
   Barite 3
   Brine 3
   Cement-Making Materials 3
   Chert 3
   Clay 4
   Feldspar 12
   Fluorspar 12
   Gypsum and Anhydrite 13
   Igneous Rocks 14
   Industrial Silica Sand 14
   Limestone 15
   Microcrystalline Silica (Tripoli) 21
   Molding Sand 22
   Peat and Humus 23
   Sand and Gravel 23
   Sandstone 27
   Uranium, Thorium, Rare Earths, Beryllium 27
   Zinc and Lead 28
AGGREGATE RESOURCE MAPS 29
GEOLOGY, MINERALOGY, AND MINERAL ECONOMICS 29
PRODUCER DIRECTORIES 32
STATEWIDE ECONOMIC SUMMARIES 33
FOREWORD

This annotated bibliography includes Illinois State Geological Survey (ISGS) publications on the mining and processing of nonfuel industrial and metallic minerals and rocks in the state (at the ISGS, fuel materials, i.e., coal and oil and gas, are categorized separately and hence are not included here).

The industrial prosperity of Illinois depends on the mining and processing of industrial minerals and metals. Although relatively low in total value, industrial minerals and metals are the backbone of the construction industry and the foundation of our mineral-based economy. According to 1987 estimates, the value of nonfuel industrial and metallic minerals mined and processed in Illinois ($789.5 million) constituted about 25 percent of the combined value of fuel and nonfuel materials produced and processed in Illinois.

Since its origin in 1905, the ISGS has maintained a vigorous program of research and service dealing with the geology, location and extent, physical and chemical properties, processing and refining, and uses of the industrial and metallic mineral resources of the state. The results of these studies have been transmitted to the mineral industries, governmental agencies, planners, and the general public through numerous technical and nontechnical publications in the ISGS' own publication series and in refereed scientific journals. The ISGS first prepared a lightly annotated list of its publications dealing with nonfuel mineral resources in 1966 and has periodically updated that listing since then. This revised and expanded bibliography replaces Illinois Mineral Notes 69, which was published in 1979.

This new bibliography is more comprehensive than past listings. More publications of a general nature are listed, many dealing with stratigraphy, depositional environments, and geochemistry of Illinois rocks—subjects of growing importance in the exploration for mineral deposits. A few publications are included in which mineral resource subjects are a relatively minor part of the publication. This bibliography includes publications released through December 1989. Publications are listed by mineral commodity, as well as other headings. Articles that include discussions related to more than one industrial or metallic mineral commonly are listed under each appropriate heading.

Publications of the ISGS are available for a nominal cost, which is shown in the listing. Information on shipping and handling charges is given at the back of this publication, along with a tear-out order form. A list of all ISGS publications with complete price information is available free upon written request. Out-of-print publications, designated with an asterisk in this listing, may be consulted at the ISGS library and in other libraries; some may be borrowed directly from ISGS for limited periods. Out-of-print publications in the Reprint series are not available for loan, but many libraries will have the scientific journal in which the reprinted article originally appeared (the original journal citation is included in this listing).

All materials published by the ISGS are in the public domain, and authors are free to include ISGS figures, tables, maps, or other materials in their publications. We ask that the ISGS be acknowledged each time material is used. If the material has been amended, it should be stated in the acknowledgment.

In addition to its publications, the ISGS has extensive reference material: well logs, field notes, unpublished work copies of maps, unpublished manuscripts, and photographs. You are invited to telephone, write, or visit the Survey to make inquiries.
GLOSSARY

Abbreviations of Publication Series:
B, Bulletin
C, Circular
C/G, Contract Grant
EGN, Environmental Geology Notes
ES, Educational Series
GB, Guidebook
IMN, Illinois (or Industrial) Mineral Notes
IP, Illinois Petroleum
MEB, Mineral Economics Brief
MIB, Mining Investigations Bulletin
R, Reprint (includes year and letter designation, e.g., R 1955-L)
RI, Report of Investigations

Annotations are in italics.
Commodities

Barite

*C 179

C 265
Barite in the southern Illinois fluorspar district. 1959. 14 p., 1 figure, 1 table. Occurrence, distribution, and uses. $1.75

Brine

C 244
Brine disposal in Illinois oil fields. 1957. 12 p., 2 figures, 3 tables. $1.75.

*C 393
The origin of saline formation waters. II. Isotopic fractionation by shale micropore systems. 1965. 32 p., 8 figures, 2 tables. See R 1966-I.

*C 397
The origin of saline formation waters. III. Calcium chloride waters. 1966. 60 p., 15 figures, 6 tables.

IP 66
Illinois oil-field brines—their geologic occurrence and chemical composition. 1952. 38 p., 13 figures, 1 table. $0.65.

R 1958-N

*R 1963-C

*R 1966-I

Cement-Making Materials

*B 8A
(Extract from B 8, 1908). Cement making materials in the vicinity of La Salle. 8 p., 1 plate. Concrete materials produced in the Chicago district. 1908, 28 p., 1 figure.

B 17
Portland-cement resources of Illinois. 1912. 121 p., 19 plates, 3 tables. $2.40.

*IMN 12
A survey of some Illinois materials possibly useful as pozzolans. 1961. 6 p., 1 table.

R 1966-M

RI 195

Chert

*C 245
Petrography and origin of Illinois nodular cherts. 1957. 25 p., 2 figures, 2 plates, 2 tables. Cherts are epigenetic concretions.

C 468
Properties of chert related to its reactivity in an alkaline environment. 1972. 31 p., 2 plates, 6 figures, 6 tables. $1.75.

IMN 59
The distribution and physical properties of chert gravel in Pike County, Illinois. 1974. 21 p., 7 figures, 3 tables, appendix. Resources of Cretaceous Hadley gravel and Pleistocene-Holocene stream-valley gravels for use as construction aggregate; includes data on roundness, abrasion resistance, soundness, water absorption, specific gravity, and chemical composition; maps show distribution of gravel types. $1.25.

*out of print
Commodities (continued)

RI 166 Siliceous materials of extreme southern Illinois—silica, novaculite, ganister, calico rocks, and chert gravels. 1953. 39 p., 17 figures, 11 tables. $0.90.

Clay

*B 4 Year Book for 1906. Preliminary investigation of Illinois fire clays. 1907. p. 129-175, 1 map, 3 figures, 1 table. Resources, especially in extreme southern Illinois, chemical analyses, and pyrometric tests.

*B 8E (Extract from B 8, 1908). Statistics and directory of the clay industries. 12 p.

*B 9 Paving brick and paving brick clays of Illinois. 1908. 318 p., 3 plates, 33 figures. Clay deposits, qualities of clays and bricks, and brick pavements.

B 17 Portland-cement resources of Illinois. 1912. 121 p., 19 plates, 3 tables. Raw materials, including clays in selected areas; cement manufacture. $2.40.


B 38D (Extract from B 38, 1922). Investigations of Illinois fire-clays. 149 p., 14 figures, 1 table. Deposits in 20 counties, methods of testing, ceramic tests. $2.40.

*B 38F (Extract from B 38, 1922). Notes on Illinois bituminous shales, including results of their experimental distillation. 20 p., 4 figures, 17 tables. Occurrences in eight counties; distillation tests.

B 43A (Extract from B 43, 1923). Geology and mineral resources of the La Harpe and Good Hope Quadrangles. 89 p., 1 plate, 11 figures, 2 tables. Limestone, sand and gravel, and clay resources in portions of Hancock, McDonough, Henderson, and Mercer Counties. $3.40.

*B 43B (Extract from B 43, 1923). Geology and mineral resources of the Morris Quadrangle. 114 p., 3 plates, 32 figures, 4 tables. Limestone, sand and gravel, and clay resources in the Morris Quadrangle of Grundy and Kendall Counties.

B 43C (Extract from B 43, 1923). Geology and mineral resources of the Kings Quadrangle. 100 p., 3 plates, 34 figures, 1 table. Limestone, sand and gravel, and clay resources of the Kings Quadrangle in Winnebago and Ogle Counties. $3.40.

B 69 Amenability of various types of clay minerals to alumina extraction by the lime sinter and lime-soda sinter processes. 1945. 77 p., 24 figures, 12 tables. $2.40.


*C 45 Relation of the composition to the properties of clays. 1939. 11 p., 4 figures, 2 tables (reprinted from Journal of the American Ceramic Society, v. 22, no. 5, p. 141-151).

*C 49 Properties of clay. 1939. 30 p., 4 figures (reprinted from Recent Marine Sediments, American Association of Petroleum Geologists, Special Volume, p. 466-495).


*Out of print
Commodities (continued)

*C 77  Predicting the behavior of clay. 1942. 6 p., 4 figures (reprinted from Brick and Clay Record, v. 97, no. 6, p. 20-22, December 1940).
C 78  Directory of Illinois clay and clay products producers, January 1, 1942. 35 p., 6 figures. $0.90.
*C 83  Halloysite clay in Illinois. 1942. 3 p. Deposit in Pope County.
*C 168  Reactions accompanying the firing of brick. 1951. 6 p., 4 figures, 2 tables.
C 203  Uranium in Illinois black shales. 1955. 15 p., 1 figure, 4 tables. $1.75.
*C 208  Illinois oil shales. 1956. 22 p., 2 figures, 6 tables. Oil content and other data on 120 samples.
C 233  Pottery clay resources of Illinois. 1957. 8 p., 2 figures. Preliminary tests; general distribution. $1.75.
C 266  Water-sorption characteristics of clay minerals. 1959. 20 p., 22 figures. Data on kaolinite, illite, chlorite, and montmorillonite. $1.75.
C 277  Light-burning clay resources in La Salle County, Illinois. 1959. 27 p., 3 figures. Deposits, firing, and bonding tests. $1.75.
C 290  Lightweight aggregate from Illinois shales. 1960. 29 p., 2 plates, 2 figures, 2 tables. Mineral and chemical composition; causes of bloating; tests on 76 samples. $1.75.
C 302  Lower Pennsylvanian clay resources of Knox County, Illinois. 1960. 19 p., 1 figure. Ceramic and bonding tests on 39 samples. $1.75.
C 303  Ceramic tests of Illinois clays and shales. 1960. 72 p., 1 figure. More than 125 tests of samples from 59 counties. $1.75.
C 307  Chemical evaluation of Illinois oil shales. 1960. 22 p., 3 figures, 11 tables, appendix. Detailed study of chemical and physical characteristics of products from the retorting of five samples. $1.75.
C 322  Lower Pennsylvanian clay resources of Rock Island, Mercer, and Henry Counties, Illinois. 1961. 40 p., 1 figure. Ceramic and bonding tests on 95 samples. $1.75.
*C 334  Stratigraphy and mineralogy of the Wisconsinan loesses of Illinois. 1962. 55 p., 1 plate, 3 figures, 6 tables, 15 geol. secs. Particle size, x-ray diffraction, major element composition, and other analyses of several hundred samples from across the state. $1.75.
C 352  Buff-burning clay resources of southwestern and southern Illinois. 1963. 23 p., 4 figures, 3 tables, appendix. Ceramic and bonding properties of 66 samples. $1.75.

*out of print
Commodities (continued)

*C 371 Illinois clay resources for lightweight ceramic block. 1964. 15 p., 5 figures, 1 table. Tests of seven shales and clays as bonding material for lightweight shale aggregate.


C 405 Long-term dimensional changes in Illinois bricks and other clay products. 1966. 44 p., 14 figures, appendix. $1.75.


C 427 Mineral zonation of Woodfordian loesses of Illinois. 1968. 44 p., 7 figures, 5 tables, appendix. $1.75.

*C 429 Petrography of Pennsylvanian underclays in Illinois and their application to some mineral industries. 1968. 36 p., 7 figs, 3 tables, appendix.


*C 438 Geology for planning in McHenry County. 1969. 31 p., 2 figures, appendix. Some discussion of potential clay resources in glacial tills of the area.

C 442 Glacial geology of the Vandalia, Illinois, region. 1969. 23 p., 8 figures, 4 tables, appendix. Glacial units differentiated, in part, on the basis of their clay mineral suites. $1.75.

C 457 Old glacial drift near Danville, Illinois. 1971. 16 p., 3 figures, 1 table. Pre-Illinoian tills differentiated, in part, on the basis of their clay mineralology. $1.75.


C 460 Summary of the geology of the Chicago area. 1971. 77 p., 1 plate, 27 figures. Includes data on clay and shale. $1.75.

C 465 Geology for planning in St. Clair County, Illinois. 1971. 35 p., 8 plates, 4 figures, 8 tables. Includes description of clay and shale resources. $13.75.

C 478 Geology along the Illinois waterway: a basis for environmental planning. 1973. 48 p., 7 plates, 6 figures, 2 tables. Includes discussion of potential clay and shale resources. $8.75.

C 497 Geology for planning in the Springfield-Decatur region, Illinois. 1977. 76 p., 7 plates, 21 figures, 8 tables, appendix. $8.75.

C 510 Geology for planning in Rock Island County, Illinois. 1980. 35 p., 3 plates, 12 figures, 8 tables. $5.75.


C 531 Geology for planning in Boone and Winnebago Counties. 1984. 69 p., 21 figures, 7 tables, 3 plates. $6.75.

*EGN 33 Geology for planning in De Kalb County, Illinois. 1970. 26 p., 6 figures.

*IMN 2 Lightweight brick from clay and peat or shredded corn cobs. 1955. p. 3-4.

*IMN 9 Shales as source material for synthetic lightweight aggregate. 1959. 5 p.

*IMN 11 Rare earth and trace element content of an unusual clay on Hicks Dome in Hardin County, Illinois. 1960. 6 p., 1 figure, 3 tables.


*IMN 16 Refractory clay resources of Illinois. 1962. 4 p., 1 figure. A general discussion.

*IMN 18 Permanent expansion in bricks. 1964. 8 p., 4 figures. Tests of Illinois brick showed expansion not acute.

IMN 19 Binding materials used in making pellets and briquets. 1964. 46 p. $1.25.
Commodities (continued)

*IMN 22 Illinois clays as binders for iron ore pellets. 1965. 8 p., 1 figure, 4 tables. Tests of seven clays showed promise.

IMN 26 Binders for fluorspar pellets. 1966. 9 p., 1 figure, 4 tables. $1.25.

*IMN 28 Illinois clays as binders for iron ore pellets—a further study. 1966. 14 p., 1 figure, 8 tables.


IMN 30 Lightweight bricks made with clay and expanded plastic. 1967. 8 p., 1 plate, 2 tables. $1.25.

IMN 31 Clays as binding materials. 1967. 32 p. Uses of different types of clay for binders are described. $1.25.


*IMN 36 Beneficiation of kaolinite clay from silica sand washings. 1968. 10 p., 2 figures, 5 tables.


IMN 77 Chemical analyses of western Illinois clay materials. 1980. 11 p., 1 figure, 1 table. $1.25.


MIB 18 Tests on clay materials available in Illinois coal mines. 1917. 130 p., 62 figures. Burning tests on 106 samples from 20 counties. $0.65.


*out of print
Commodities (continued)


*out of print
Commodities (continued)


*R 1968-X Past and present uses of Illinois Quaternary materials. 1968 (reprinted from The Quaternary of Illinois, University of Illinois College of Agriculture Special Publication 14, p 150-156).


R 1986-M Recovery of fine grained quartz sand and kaolin from abandoned sand washing tailings ponds—a feasibility study. 1986. 12 p., 6 figures, 10 tables (reprinted from Eleventh Annual Powder and Bulk Solids Conference/Exhibition, Proceed-
Commodities (continued)

ings of the Technical Program: Powder and Bulk Solids Handling and Process-

R 1986-N

R 1986-S

R 1988-C

R 1988-K

RI 8
Preliminary report on the economic mineral resources of Calhoun County. 1926. 21 p., 3 figures. *Data on shale, clay, and other materials.* $0.90.

RI 15
Preliminary report on the Fuller’s earth deposits of Pulaski County. 1928. 31 p., 8 figures. *Deposits in Pulaski, Massac, and Alexander Counties; specific volume and apparent acidity tests.* $0.90.

RI 22
Refractory clays in Calhoun and Pike Counties, Illinois. 1931. 43 p., 6 figures. *Deposits; ceramic tests on 22 samples.* $0.90.

*RI 26
Petrography of the fuller’s earth deposits, at Olmsted, Illinois, with a brief study of some non-Illinois earths. 1933. 20 p., 15 figures, 4 tables. *Occurrence; mineral composition of fuller’s earth at Olmsted; petrographic data on 14 other earths.*

*RI 27
Anna Kaolin as a new decolorizing agent for edible oils. 1933. 42 p., 7 figures. *Decolorization; rate of filtration; oil retained by earth.*

RI 44

*RI 52

*RI 53
A unique clay from the Goose Lake, Illinois area. 1939. 20 p., 4 figures (reprinted from Journal of the American Ceramic Society, v. 22, p. 157-164). *Occurrence, constitution, properties, and uses.*

*RI 64

*RI 66

*RI 69
(1) Elements of the petrographic study of bonding clays and of the clay sub-
stance of molding sands. (2) Mineral composition and texture of the clay sub-
stance of natural molding sands. (3) The relationship between the physical and mineralogical characteristics of bonding clays. 1940. 32 p., 11 figures

*out of print
Commodities (continued)

(Reprinted from Transactions of the American Foundrymen’s Association, v. 47, no. 4, p. 895-908, 935-953; v. 48, no. 1, p. 211-224).

*RI 72 Petrographic and ceramic properties of Pennsylvanian shales of Illinois. 1941. 15 p., 10 figures (reprinted from Journal of the American Ceramic Society, v. 24, no. 1, p. 23-28).


RI 85 Differential thermal analyses of clay minerals and other hydrous materials. 1942. 34 p., 14 figures, reprinted 1953 (reprinted from American Mineralogist., v 27, no. 11 and 12, 1942). $0.90.

RI 100 Illinois clays and shales as mortar mix. 1944. 55 p., 12 figures, 20 tables. $0.90.

RI 102 The bonding action of clays. Part I. Clays in green molding sands. 1945. 55 p., 20 figures, 8 tables. See RI 110. $0.90.

*RI 103 Some clay-water properties of certain clay minerals. 1945. 15 p., 6 figures (reprinted from Journal of the American Ceramic Society, v. 28, no. 3).

RI 104 Illinois surface clays as bonding clays for molding sands: an exploratory study. 1945. 41 p., 3 figures, 11 tables. Tests on clays, including till, gumbotil, lake clays, and residual clays. $0.90.

*RI 108 Molecular associations between montmorillonite and some polyfunctional organic liquids. 1945. 12 p., 5 figures (reprinted from Journal of the American Chemical Society, v. 67, no. 6, p. 975-981).

RI 110 The bonding action of clays. Part II. Clays in dry molding sands. 1946. 36 p., 17 figures, 4 tables. See RI 102. $0.90.


RI 128 Clay and shale resources of extreme southern Illinois. 1948. 107 p., 8 figures, 2 tables. Deposits; more than 50 ceramic tests; 32 chemical analyses. $0.90.


RI 138 Colloid properties of layer silicates. 1948, 10 p., 9 figures (reprinted from Journal of Physical Chemistry, v. 52, no. 8, p. 1404-1413). $0.90.

RI 144 Atterberg plastic limits of clay minerals. 1949. 5 p., 1 table, 1949 (reprinted from American Mineralogist, v. 34, no. 7 and 8, p. 508-512). $0.90.

RI 154 High temperature thermal effects of clay and related materials. 1951. 20 p., 10 figures, 3 tables (reprinted from American Mineralogist, v. 36, p. 182-201). $0.90.

RI 173 High temperature phases from kaolinite and halloysite. 1954. 15 p., 2 figures, 1 table (reprinted from American Mineralogist, v. 39, no. 3-4, p. 193-207). $0.90.

RI 202 Vanadium efflorescence and its control by use of fluorspar. 1957. 29 p., 11 figures, 10 tables. $0.90.

RI 203 Petrology of paleozoic shales of Illinois. 1957. 35 p., 5 figures, 5 tables, appendix. Mineral and chemical composition, differential thermal analyses, optical properties, and other data. $1.75.

RI 208 Water sorption properties of homoionic clay minerals. 1958. 46 p., 16 figures, 4 tables. Data on seven groups of clay minerals. $1.75.

*out of print
Commodities (continued)

**Feldspar**


IMN 38  Kankakee dune sands as a commercial source of feldspar. 1969. 17 p., 5 figures, 4 tables. $1.25.

IMN 43  Lower Mississippi River terrace sands as a commercial source of feldspar. 1970. 18 p., 3 figures, 3 tables. $1.25.

IMN 56  Commercial feldspar resources in southeastern Kankakee County, Illinois. 1974. 18 p., 2 figures, 8 tables. Further investigations of Kankakee County dune sands. See IMN 38. $1.25.

*R 1 79  Feldspar in Illinois sands—a study of resources. 1942. 87 p., 13 figures, 5 tables. See C 391. Deposits, feldspar content, and sieve tests.

**Fluorspar**


*B 41  Geology of Hardin County and the adjoining part of Pope County. 1920. 416 p., 11 plates, 30 figures, 1 map, 4 tables. Geology and mineral resources; especially fluorspar and lead and zinc ores.


C 231  Refraction seismic investigations, Rosiclare fluorspar district, Illinois. Part I. Goose Creek area. 1957. 15 p., 7 figures. $1.75.

*C 296  Illinois fluorspar. 1960. 36 p., 1 plate, 6 figures, 4 tables. Geology, mining, milling, economic aspects, and uses; a nontechnical account.


C 363  Aeromagnetic study of the Hardin County area. 1964. 12 p., 5 figures. $1.75.


C 420  Fluorspar in Illinois. 1968. 64 p., 16 figures, 7 tables, appendix. Replaces C 296. Geology, mining, milling, economic aspects, and uses; a nontechnical account. $1.75.

C 450  A gravity survey of extreme southeastern Illinois. 1970. 12 p., 1 plate, 4 figures. $2.75.
Commodities (continued)


*GB 11 A geologic excursion to fluorspar mines in Hardin and Pope Counties, Illinois, Illinois-Kentucky mining district and adjacent upper Mississippi Embayment. 1973. 30 p., 11 figures. Background information on the geology of the Illinois fluorspar district and Illinois portion of Mississippi Embayment; brief discussion of geologic points of interest along a route from Paducah, Kentucky, to fluorspar mines; descriptions of Gaskins Mine (vein deposit) and Oxford Mine (bedded deposit).

*IMN 7 Outlying occurrences of galena, sphalerite and fluorspar in Illinois. 1957. 5 p. Occurrences near Alto Pass and Anna in Union County, and in Hancock and Kendall Counties.

IMN 17 Pelletizing Illinois fluorspar. 1963. 3 p., Purpose, physical tests, and commercial production. $1.25.

IMN 26 Binders for fluorspar pellets. 1966. 9 p., 1 figure, 4 tables. $1.25.


R 1957-L Controlling vanadium efflorescence. 1957 (reprinted from Ceramic Age, April, 2 p.). $1.00.


* R 1968-O Glaciation as a possible cause of mineral deposition. 1968 (reprinted from Economic Geology, v. 63, no. 4, p 390-400).


* RI 68 Effect of fluorspar on silicate melts with special reference to mineral wool. 1940. 15 p., 6 figures, 4 tables. The effect of fluorspar content of the melt on fiber diameter.


RI 202 Vanadium efflorescence and its control by the use of fluorspar. 1957. 29 p., 11 figures, 10 tables. $1.75.

Gypsum and Anhydrite


*out of print
Commodities (continued)

Igneous Rocks

*C 157

C 330
Trace elements, rare earths and chemical composition of southern Illinois igneous rocks. 1962. 12 p., 1 figure, 4 tables. Data on 16 samples. $1.75.

*C 382

*R 1963-L

*R 130

*R 178
Metamorphism of coal by peridotite dikes in southern Illinois. 1955. 18 p., 1 plate, 4 figures, 3 tables.

*R 197
Igneous intrusive rocks in Illinois and their economic significance. 1956. 19 p., 6 plates, 1 figure, 1 table. Dikes and sills and their relation to coal and fluorspar.

Industrial Silica Sand

*B 23B

*B 37
Geology and mineral resources of the Hennepin and La Salle Quadrangles. 1919. 136 p., 6 plates, 36 figures. Information on silica sand deposits.

*B 49
Geology and mineral resources of the Dixon Quadrangle. 1926. 141 p., 5 plates, 20 figures. Information on silica sand deposits.

*B 53
Geology and economic resources of the St. Peter Sandstone of Illinois. 1928. 175 p., 3 plates, 43 figures, 15 tables. Resources, distribution, mineralogy, sieve tests, and uses; silica sand.

*B 66
Geology and mineral resources of the Marseilles, Ottawa, and Streator Quadrangles. 1942. 388 p., 29 plates, 127 figures, 14 tables. Pages 234 to 243 (4 figures, 2 tables) describe resources, distribution, chemical analyses, and uses of St. Peter Sandstone (source of silica sand). Set of 29 plates available. $17.50.

*C 100
Early Ordovician strata along Fox River in northern Illinois. 1943. 11 p., 4 figures. Data on silica sand deposits.

C 335
Silica brick from northern Illinois silica sand. 1962. 18 p., 6 figures, 7 tables. Calcium and aluminum phosphates used as binders. $1.75.

*C 422
Geology related to land use in the Hennepin region. 1968. 24 p., 10 figures, 2 tables. Includes data on silica sand.

C 444
A study of the surface areas of particulate microcrystalline silica and silica sand. 1969. 12 p., 3 figures, 2 tables. $1.75.

C 478
Geology along the Illinois waterway: a basis for environmental planning. 1973. 48 p., 7 plates, 6 figures, 2 tables. $6.75.

IMN 32
Silica sand briquets and pellets as a replacement for quartzite. 1968. 8 p., 1 plate, 2 figures. $1.25.

*IMN 36
Beneficiation of kaolinite clay from silica sand washings. 1968. 10 p., 2 figures, 5 tables.

R 1985-E
Use of aerial photographs and vegetation patterns to predict the distribution of fine-grained quartz and kaolinite in tailing ponds. 1984 (reprinted from 1984 Symposium on Surface Mining, Hydrology, Sedimentation, and Reclamation, p. 309-318). $1.00.

*out of print
Commodities (continued)


Limestone


B 17 Portland-cement resources of Illinois. 1912. 121 p., 19 plates, 3 tables. Raw materials in selected areas; cement manufacture. $2.40.

B 43A (Extract from B 43, 1923). Geology and mineral resources of the La Harpe and Good Hope Quadrangles. 89 p., 1 plate, 11 figures, 2 tables. Limestone, sand and gravel, and clay resources in portions of Hancock, McDonough, Henderson, and Mercer Counties. $3.40.

*B 43B (Extract from B 43, 1923). Geology and mineral resources of the Morris Quadrangle. 114 p., 3 plates, 32 figures, 4 tables. Limestone, sand and gravel, and clay resources in the Morris Quadrangle of Grundy and Kendall Counties.

B 43C (Extract from B 43, 1923). Geology and mineral resources of the Kings Quadrangle. 100 p., 3 plates, 34 figures, 1 table. Limestone, sand and gravel, and clay resources of the Kings Quadrangle in Winnebago and Ogle Counties. $3.40.

B 46 Limestone resources of Illinois. 1925. 392 p., 70 figures, 19 tables. Resources by counties; chemical analyses and physical tests. $2.40.

*B 61 Rock wool from Illinois mineral resources. 1934. 262 p., 34 figures, 39 tables. Occurrence of suitable materials, chemistry of rock wool production, and economic factors influencing the Illinois market.


*B 89 Champlainian (Middle Ordovician) Series in Illinois. 1963. 260 p., 41 figures, 35 geol. secs., index. Detailed stratigraphy of major limestone, dolomite sequence exposed in northern Illinois.

B 91 Handbook on limestone and dolomite for Illinois quarry operators. 1967. 119 p., 61 figures, 10 tables. Wide-range discussion of the properties and characteristics of limestone and dolomite; of general interest. $4.75.

*C 2 Agricultural limestone in Illinois in 1930-31. 1932. 4 p. (for other years, see *C 6, 1932; *C 8, 1933; *C 9, 1934; *C 13, 1935; *C 20, 1936; *C 27, 1937; *C 47, 1938; *C 61, 1939; *C 72, 1940; *C 82, 1941; *C 96, 1942; *C 111, 1943; *C 119, 1944; *C 123, 1945; and C 132, 1946). Circulars on distribution or use of agricultural limestone in Illinois published for each of these years; various titles. $0.90.

*C 4 Results of test-drilling of limestone near Morris, Illinois. 1933. 6 p., 1 table. Supplement to RI 23.


*out of print
Commodities (continued)

*C 94 Agricultural limestone resources of Illinois: their character and occurrence and methods of examination. 1943. 33 p., 7 figures.


C 146 Agstone used in Illinois in 1947. 1948. 10 p., 1 figure, 5 tables. $0.90.


C 221 Sampling limestone and dolomite deposits for trace and minor elements. 1956. 18 p., 5 figures, 6 tables. $1.75.

C 230 Subsurface dolomite and limestone resources of Grundy and Kendall Counties. 1957. 25 p., 7 figures, 1 table. $1.75.

*C 243 Trace elements in Illinois Pennsylvanian limestones. 1957. 34 p., 4 figures, 5 tables. Data on boron, barium, chromium, copper, iron, potassium, manganese, molybdenum, sodium, nickel, lead, strontium, titanium, vanadium, and zinc.

C 261 Some plastic properties of pastes made from hydrated dolomitic and high-calcium limes. 1958. 9 p., 2 plates, 3 figures, 7 tables. $1.75.

C 270 Effects of hydration procedures and calcination in the presence of NaCl on the properties of lime hydrates. 1959. 33 p., 1 plate, 20 figures, 10 tables. $1.75.

*C 284 Salem limestone in southwestern Illinois. 1960. 32 p. 3 plates, 6 figures, 3 tables. Resources in Mississippi bluff area; textural details, stratigraphy, and chemical analyses.


*C 298 Geochemistry of carbonate sediments and sedimentary carbonate rocks. Part II: Sedimentary carbonate rocks. 1960. 43 p., 6 figures, 4 tables.


C 321 Uses of limestone and dolomite. 1961. 41 p., 2 tables, index (reprinted with addenda, 1965). Describes 75 uses; extensive bibliography. $1.75.

C 332 Geology of the Illinois parts of the Cairo, La Center, and Thebes Quadrangles. 1962. 39 p., 2 plates, 11 figures, 17 tables. $4.75.

C 345 Impact resistance of Illinois limestones and dolomites. 1963. 20 p., 9 figures, 5 tables. Laboratory tests with falling weight. $1.75.

*out of print
Commodities (continued)

C 346  Limestone resources of the lower Kaskaskia Valley. 1963. 22 p., 1 plate, 2 figures, 3 tables. Resources, chemical analyses, and physical tests. $2.75.

C 370  Mississippian limestone resources in Fulton, McDonough, and Schuyler Counties, Illinois. 1964. 27 p., 5 figures, 8 tables, appendix. Resources, chemical analyses, and physical tests. $1.75.

C 379  Dolomite resources of Boone and De Kalb Counties. 1965. 22 p., 5 figures, 3 tables. Resources, depth to unexposed deposits, and chemical analyses. $1.75.

*C 389  Grand Tower Limestone (Devonian) of southern Illinois. 1965. 34 p., 7 figures, appendix.

C 390  Limestone resources of Madison County, Illinois. 1965. 39 p., 1 plate, 6 figures, 2 tables. Resources, geologic map, stratigraphy, underground mining, and chemical analyses. $2.75.

C 404  Electron microscope study of microtexture and grain surfaces in limestones. 1966. 18 p., 8 plates. $1.75.

C 408  One-dimensional disorder in carbonates. 1967. 61 p., 12 figures, 5 tables, appendix. $1.75.

C 415  Thermal expansion of certain Illinois limestones and dolomites. 1967. 33 p., 4 plates, 9 figures, 7 tables. $1.75.

*C 422  Geology related to land use in the Hennepin Region. 1968. 24 p., 10 figures, 2 tables. Data on limestone are given.

*C 438  Geology for planning in McHenry County. 1969. 31 p., 2 figures, 1 table, appendix. Contains data on stone.

C 448  Limestone and dolomite resources of Jersey County, Illinois. 1970. 28 p., 1 plate, 3 figures, 2 tables. $2.75.

C 460  Summary of the geology of the Chicago area. 1971. 77 p., 1 plate, 27 figures. Includes data on dolomite and limestone. $3.75.

C 465  Geology for planning in St. Clair County, Illinois. 1971. 35 p., 8 plates, 4 figures, 8 tables. Includes discussion of limestone resources. $13.75.

C 472  Limestone resources of Scott County, Illinois. 1972. 24 p., 1 plate, 2 figures, 2 tables, appendix. Resources, stratigraphy, chemical analyses, operating quarries, and outcrop descriptions. $2.75.

*C 474  Lateral gradation of the Salem and St. Louis Limestone (Middle Mississippian) in Illinois. 1972. 21 p., 10 figures, 1 table.

C 478  Geology along the Illinois waterway: a basis for environmental planning. 1973. 48 p., 7 plates, 6 figures, 2 tables. Summary of resources, by district, of bottomlands, bluffs, and strip of upland 1 mile wide; stratigraphy, surficial geology maps. $8.75.


C 497  Geology for planning in the Springfield-Decatur region. 1977. 76 p., 7 plates, 21 figures, 8 tables, appendix. Includes discussion and map of limestone resources. $8.75.


C 510  Geology for planning in Rock Island County, Illinois. 1980. 35 p., 3 plates, 12 figures, 8 tables. $5.75.

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Commodities (continued)

C 512 Limestone resources of Adams and Brown Counties, Illinois. 1980. 20 p., 1 plate, 4 figures, 6 tables, appendix. $2.75.


C 531 Geology for planning in Boone and Winnebago Counties. 1984. 69 p., 21 figures, 7 tables, 3 plates. Discussion of dolomite resources of area. $6.75.

C 542 Stack-unit mapping of geologic materials in Illinois to a depth of 15 meters. 1988. 23 p., 4 plates, 5 figures, 2 tables. Maps can be used to determine areas in which limestone/dolomite bedrock occurs at depths less than 15 meters (50 feet) and the character of overburden. $9.75.

*EGN 21 Mineralogy and petrography of carbonate rocks related to control of sulfur dioxide in flue gases—a preliminary report. 1968. 9 p., 3 figures, 2 tables.

*EGN 33 Geology for planning in De Kalb County, Illinois. 1970. 26 p., 6 figures. Data on dolomite are included.

*EGN 38 Petrographic and mineralogical characteristics of carbonate rocks related to sorption of sulfur oxides in flue gases. 1970. 31 p., 52 figures, 8 tables.

EGN 50 Petrographic properties of carbonate rocks related to their sorption of sulfur dioxide. 1971. 37 p., 12 figures, 12 tables. $1.25.


EGN 68 Lake marls, chalks, and other carbonate rocks with high dissolution rates in SO2 scrubbing liquors. 1974. 22 p., 1 plate, 10 figures, 2 tables. Summary of results of testing; table and location map of sample sources. $1.25.


*IMN 10 Recent price and cost trends relating to stone, sand, and gravel production in Illinois. 1959. 4 p., 2 figures.

*IMN 15 Black and brown terrazzo chips from southern Illinois limestones. 1962. 7 p.

IMN 20 Chemical composition of some deep limestones and dolomites in Livingston County, Illinois. 1964. 5 p., 2 tables. $1.25.

IMN 23 Limestone resources of Jefferson and Marion Counties, Illinois. 1965. 15 p., 3 figures, 2 tables, appendix. Resources; chemical analyses. $1.25.

IMN 24 Thermal expansion of certain Illinois limestones. 1966. 6 p., 1 figure, 1 table. Expansion in range -4° to 140°F. $1.25.

IMN 27 High-purity limestones in Illinois. 1966. 20 p., 3 figures, 1 table. $1.25.

IMN 39 Alumina content of carbonate rocks as an index to sodium sulfate soundness—a preliminary report. 1969. 10 p., 2 figures, 1 table. $1.25.

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Commodities (continued)

| IMN 41 | Two-dimensional shape of sand made by crushing Illinois limestones of different textures. 1970. 23 p., 8 figures, 5 tables. $1.25. |
| IMN 73 | A guide to selecting an agricultural limestone product. 1979. 7 p., 3 figures, 4 tables. $1.25. |
| IMN 78 | Subsurface variation in the high-calcium Dolbee Creek Limestone in western Illinois. 1981. 23 p., 10 figures, 4 tables. $0.25. |
| IP 109 | Structure of the top of the Karnak Limestone Member (Ste. Genevieve) in Illinois. 1976. 6 p., 1 plate, 2 figures. Map available separately. $2.25. |

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**Commodities (continued)**


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Commodities (continued)


RI 8 Preliminary report on the economic mineral resources of Calhoun County. 1926. 21 p., 3 figures. Deals especially with limestone, shale, and sandstone. $0.90.


RI 12 Limestone for sewage filter beds—causes of disintegration, desirable properties, and methods of testing. 1927. 21 p., 5 figures. $0.90.

*RI 17 The limestone resources of the Pontiac-Fairbury region. 1929. 27 p., 7 figures.


*RI 49 A summary of the uses of limestone and dolomite. 1938. 50 p. See C 321.

RI 65 Agricultural limestone resources of Cumberland, Effingham, Clay, Richland, and Jasper Counties. 1940. 44 p., 8 figures, 12 tables. $0.90.

*RI 90 High-purity dolomite in Illinois. 1943. 89 p., 34 figures. Deposits in the Chicago, Kankakee, Rockford, Savanna, Port Byron, and Grafton-Hardin regions; chemical analyses.


RI 195 Preliminary report on Portland cement materials in Illinois. 1956. 34 p., 3 figures, 3 tables. Limestone, shale, and clay resources; chemical analyses. $1.75.

RI 200 Chemical analyses of Illinois limestones and dolomites. 1957. 33 p., 2 tables. 670 analyses from 43 counties. $1.75.

RI 211 Limestone resources of extreme southern Illinois. 1959. 81 p., 8 plates, 4 figs, 7 tables. Resources by county and by geological formation; chemical analyses and physical tests. $7.75.

Microcrystalline Silica (Tripoli)


C 444 A study of the surface areas of particulate microcrystalline silica sand. 1969. 12 p., 3 figures, 2 tables. $1.75.


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Commodities (continued)

IMN 40  Colloidal-size silica produced from southern Illinois tripoli. 1970. 6 p., 3 figures. $1.25.


*RI 24  Progress report on the study of southern Illinois silica as a pottery material. 1932. 7 p.

RI 47  Decolorization of southern Illinois silica. 1937. 35 p., 14 figures, 6 tables. *Methods, costs, efficiency, corrosion problems. $0.90.

RI 117  Southern Illinois novaculite and novaculite gravel for making silica refractories. 1946. 55 p., 29 figures, 16 tables. *Materials offer promise when crushed, properly graded, bonded, and fired. $0.90.

RI 166  Siliceous materials of extreme southern Illinois—silica, novaculite, ganister, calico rock, and chert gravels. 1953. 39 p., 17 figures, 11 tables. *Silica (tripoli), novaculite, novaculite gravel, ganister, calico rock, and shale and chert gravels; deposits, occurrence, characteristics, composition, and uses. $0.90.

Molding Sand

B 50  Natural bonding molding sand resources of Illinois. 1925. 183 p., 49 figures, 32 tables. *Resources in 40 counties; sieve, bond strength, permeability, and other tests. $2.40.

*B 53  Geology and economic resources of the St. Peter Sandstone of Illinois. 1928. 175 p., 3 plates, 43 figures, 15 tables. *Resources distribution, mineralogy, sieve tests, and uses; silica sand.


*R 1968-X  Past and present uses of Illinois Quaternary mineral materials. 1968 (reprinted from The Quaternary of Illinois, University of Illinois College of Agriculture Special Publication 14, p. 150-156).

*RI 3  Preliminary report on an investigation of the molding sand resources of Illinois. 1925. 37 p. (in cooperation with Engineering Experiment Station, University of Illinois).

*RI 57  Fine grained molding sand resources of northern Illinois: a preliminary investigation. 1939. 53 p., 5 figures. *Sand for nonferrous and gray iron castings, especially in Cook, Henry, Jo Daviess, Mason, and Whiteside Counties; sieve tests.


RI 104  Illinois surface clays as bonding clays for molding sands—an exploratory study. 1945. 41 p. 3 figures, 11 tables. $0.90.

RI 110*  The bonding action of clays. Part II. Clays in dry molding sands. 1946. 36 p., 17 figs, 4 tables. *See RI 102. $0.90.

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Commodities (continued)

Peat and Humus

*C 438  Geology for planning in McHenry County. 1969. 31 p., 2 plates, 2 figures, 1 table, appendix. Data on peat.

C 460  Summary of the geology of the Chicago area. 1971. 77 p., 1 plate, 27 figures. Map shows locations of peat deposits. $3.75.


C 481  Geology for planning in Lake County, Illinois. 1973. 43 p., 4 plates, 10 figures, 1 table, appendix. Peat deposits indicated on map, discussed briefly in text. $8.75.


C 503  Sand and gravel and peat resources in northeastern Illinois. 1978. 11 p., 1 plate, 1 figure, 3 tables. Deposits in Cook, Du Page, Kane, Lake, McHenry, and Will Counties shown on map and discussed in text. $0.75.

C 510  Geology for planning in Rock Island County. 1980. 35 p., 3 plates, 12 figures, 8 tables. $5.75.

C 531  Geology for planning in Boone and Winnebago Counties. 1984. 69 p., 3 plates, 21 figures, 7 tables. Briefly discusses peat resources in both counties. $0.75.

*EGN 33  Geology for planning in De Kalb County, Illinois. 1970. 26 p., 6 figures.

*IMN 2  Capsule report: Lightweight brick from clay and peat or shredded corncobs. 1955. 4 p., 1 table.


*R 1968-X  Past and present uses of Illinois Quaternary mineral materials. 1968. 6 p., 5 figures (reprinted from The Quaternary of Illinois, University of Illinois College of Agriculture Special Publication 14, p. 150-156, 1968). Includes data on resources and uses of peat.

Sand and Gravel

B 43A  (Extract from B 43, 1923). Geology and mineral resources of the La Harpe and Good Hope Quadrangles. 89 p., 1 plate, 11 figures, 2 tables. Limestone, sand and gravel, and clay resources in portions of Hancock, McDonough, Henderson, and Mercer Counties. $3.00.

*B 43B  (Extract from B 43, 1923). Geology and mineral resources of the Morris Quadrangle. 114 p., 3 plates, 32 figures, 4 tables. Limestone, sand and gravel, and clay resources in the Morris Quadrangle of Grundy and Kendall Counties.

B 43C  (Extract from B 43, 1923). Geology and mineral resources of the Kings Quadrangle. 100 p., 3 plates, 34 figures, 1 table. Limestone, sand and gravel, and clay resources of the Kings Quadrangle in Winnebago and Ogle Counties. $3.40.

B 50  Natural bonded molding sand resources of Illinois. 1925. 183 p., 49 figures, 32 tables. Resources of 40 counties; sieve, bond strength, permeability, and other tests. $2.40.

*B 53  Geology and economic resources of the St. Peter Sandstone of Illinois. 1928. 175 p., 3 plates, 43 figures, 15 tables. Resources, distribution, mineralogy, sieve tests, and uses; silica sand.

*B 66  Geology and mineral resources of the Marseilles, Ottawa, and Streator Quadrangles. 1942. p. 234-243, 4 figures, 2 tables. Resources, distribution, chemical analyses, and uses of the St. Peter Sandstone (source of silica sand).

*C 3  Preliminary report on the sand and gravel resources of the Buda Quadrangle. 1932. 8 p., 1 map.

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Commodities (continued)

*C 100 Early Ordovician strata along Fox River in northern Illinois. 1943. 11 p., 4 figures. Data on silica sand deposits.
*C 275 Geology of the Buda Quadrangle, Illinois. 1959. 29 p., 1 plate, 4 figures, 7 tables. Extensive treatment of Pleistocene deposits. $3.75.
*C 294 Sand and gravel resources of Champaign County, Illinois. 1960. 15 p., 1 plate, 3 figures, 3 tables.
*C 299 Sand and gravel resources of Kane County, Illinois. 1960. 11 p., 1 map plate, 1 figure, 5 tables.
*C 335 Silica brick from northern Illinois silica sand. 1962. 18 p., 6 figures, 7 tables. Calcium and aluminum phosphates used as binders. $1.75.
*C 336 Sand and gravel resources of McHenry County, Illinois. 1962. 15 p., 1 plate, 1 figure, 4 tables. Deposits; sieve tests. $2.75.
*C 359 Sand and gravel resources of northeastern Illinois. 1964. 8 p., 1 map plate, 2 figures. Covers greater Chicago area. $2.75.
*C 364 Cretaceous deposits and the Illinoian glacial boundary in western Illinois. 1964. 28 p., 7 figures, 5 tables, 8 geol. secs.
*C 367 Sand and gravel resources of De Kalb County. 1964. 16 p., 1 map plate, 1 figure, 4 tables. Deposits; sieve tests. $2.75.
*C 381 Sand and gravel resources of Peoria County. 1965. 16 p., 1 map plate, 2 figures, 4 tables. Deposits; sieve tests. $2.75.
*C 399 Sand and gravel resources of Tazewell County, Illinois. 1966. 22 p., 1 plate, 3 figures, 4 tables. $2.75.
*C 402 Heavy minerals in sands along the Wabash River. 1966. 22 p., 3 figures, 5 tables. $1.75.
*C 414 Sand and gravel resources along the Rock River in Illinois. 1967. 17 p., 1 plate, 2 figures, 7 tables. $2.75.
*C 417 Sand and gravel resources of Boone County, Illinois. 1967. 14 p., 1 plate, 1 figure, 4 tables. $2.75.
*C 422 Geology related to land use in the Hennepin Region. 1968. 24 p., 10 figures, 2 tables. Includes data on sand and gravel.
*C 428 Heavy minerals of the Cretaceous and Tertiary sands of extreme southern Illinois. 1968. 22 p., 5 figures, 6 tables. $1.75.
*C 438 Geology for planning in McHenry County. 1969. 31 p., 2 figures, 1 table, appendix. Data on sand and gravel are included.
*C 440 High-level glacial outwash in the driftless area of northwestern Illinois. 1969. 23 p., 5 figures, 2 tables, appendix. $1.75.
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C 442 Glacial geology of the Vandalia, Illinois, Region. 1969. 23 p., 8 figures, 4 tables, appendix. Data on sand and gravel are given. $1.75.
C 446 Sand and gravel resources of Macon County, Illinois. 1969. 16 p., 1 plate, 1 figure, 4 tables. $2.75.
C 452 Sand and gravel resources of Sangamon County, Illinois. 1970. 20 p., 2 figures, 4 tables, appendix. $2.75.
C 460 Summary of the geology of the Chicago area. 1971. 77 p., 1 plate, 27 figures. Includes data on sand and gravel. $3.75.
C 464 Sand and gravel resources of Mason County, Illinois. 1971. 20 p., 1 plate, 4 figures, 4 tables, appendix. $2.75.
C 465 Geology for planning in St. Clair County, Illinois. 1971. 35 p., 8 plates, 4 figures, 8 tables. Includes discussion of sand and gravel resources. $13.75.
C 466 Deltaic sedimentation in Glacial Lake Douglas. 1971. 12 p., 5 figures, 1 table. $1.75.
C 478 Geology along the Illinois waterway: a basis for environmental planning. 1973. 48 p., 7 plates, 6 figures, 2 tables. Summary of resources, by district, of bottomlands, bluffs, and strip of upland 1 mile wide; stratigraphy, surficial geology maps. $8.75.
C 481 Geology for planning in Lake County. 1973. 43 p., 4 plates, 10 figures, 1 table, appendix. Includes map and discussion of sand and gravel resources. $8.75.
C 497 Geology for planning in Springfield-Decatur Region, Illinois. 1977. 76 p., 7 plates, 21 figures, 8 tables, appendix. Includes map and discussion of sand and gravel resources. $8.75.
C 503 Sand and gravel and peat resources in northeastern Illinois. 1978. 11 p., 1 figure, 1 plate. Types of deposits in Cook, Du Page, Kane, Lake, McHenry, and Will Counties shown on map and discussed in text. $2.75.
C 506 Glacial geology of north-central and western Champaign County, Illinois. 1979. 30 p., 12 figures, 2 tables, appendix. $1.75.
C 510 Geology for planning in Rock Island County, Illinois. 1980. 35 p., 3 plates, 12 figures, 8 tables. $5.75.
C 531 Geology for planning in Boone and Winnebago Counties. 1984. 69 p., 21 figures, 7 tables, 3 plates. Discussion of sand and gravel resources of Boone and Winnebago Counties. $6.75.
C 542 Stack-unit mapping of geologic materials in Illinois to a depth of 15 meters. 1988. 23 p., 4 plates 5 figures, 2 tables. Maps, at a scale of 1:250,000, can be used to determine areas in which sand and gravel occurs at depths less than 15 meters (45 feet) and the character of overburden. $9.75.

*C/G 1987-1 Geologic characteristics of Illinois gravel deposits affecting IDOT freeze-thaw test results.
*EGN 33 Geology for planning in De Kalb County, Illinois. 1970. 26 p., 6 figures. Includes data on sand and gravel.

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<th>Commodities (continued)</th>
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<td><strong>EGN 83</strong> Geology for planning in De Witt County, Illinois. 1977. 42 p., 15 figures, 2 tables, appendix. <em>Includes discussion and map of sand and gravel resources.</em> $1.25.</td>
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<td><strong>IMN 82</strong> Application of sedimentology to development of sand and gravel resources in McHenry and Kane Counties, northeastern Illinois. 1981. 17 p., 13 figures. $0.25.</td>
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Commodities (continued)

*R 1968-X Past and present uses of Illinois Quaternary mineral materials. 1968 (reprinted from The Quaternary of Illinois, University of Illinois College of Agriculture Special Publication 14, p. 150-156).


*RI 57 Fine-grained molding sand resources of northern Illinois: a preliminary investigation. 1939. 53 p., 5 figures. Sand for nonferrous and gray iron castings, especially in Cook, Henry, Jo Daviess, Mason, and Whiteside Counties; sieve tests.

*RI 79 Feldspar in Illinois sands—a study of resources. 1942. 87 p., 13 figures, 5 tables. Occurrence of sands, feldspar content, and sieve tests.

Sandstone

*B 53 Geology and economic resources of the St. Peter Sandstone in Illinois. 1928. 175 p., 3 plates, 43 figures, 15 tables. Resources, distribution, mineralogy, sieve tests, and uses.

*C 256 Geology and petrology of the Anvil Rock Sandstone of southern Illinois. 1958. 49 p., 2 plates, 14 figures, 5 tables.

*C 280 Visual estimates of grain size distribution in some Chester sandstones. 1959. 43 p., 14 figures, 4 tables. appendix.

*C 316 Geology and petrology of the Trivoli Sandstone in the Illinois Basin. 1961. 31 p., 1 plate, 15 figures. $2.75.

C 331 Chemical and physical character of the Pennsylvanian sandstones in central Illinois. 1962. 43 p., 5 figures, 11 tables, appendix. Deposits, 90 sieve tests, 71 chemical analyses, heavy minerals, clay minerals, and fusion tests. $1.75.

*C 340 Late Mississippian sandstones of Illinois. 1962. 36 p., 4 plates, 14 figures, 4 tables.


RI 188 Sandstone resources of extreme southern Illinois—a preliminary report. 1955. 21 p., 2 plates, 2 figures, 7 tables. Sieve tests of 65 samples from 30 outcrops; 18 chemical analyses; uses. $0.90.

Uranium, Thorium, Rare Earths, Beryllium

C 200 Preliminary report on uranium in Hardin County, Illinois. 1955. 22 p., 1 figure, 5 tables. No samples contained more than 0.1 percent U₂O₅. $1.75.

C 203 Uranium in Illinois black shales. 1955. 15 p., 1 figure, 4 tables. None of the 175 samples tested met minimum requirements for ore. $1.75.

*IMN 11 Rare earth and trace element content of an unusual clay on Hicks Dome in Hardin County, Illinois. 1960. 6 p., 1 figure, 3 tables.


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Zinc and Lead

*B 21 Lead and zinc deposits of northwestern Illinois. 1914. 120 p., 22 plates, 13 figures. Geology, ore deposits, and prospects.

*B 26 Geology and geography of the Galena and Elizabeth Quadrangles. 1916. 233 p., 25 plates, 50 figures. Geology, mineral resources, and development of Jo Daviess County, including history of mining.

*C 214 Geologic structure map of northwestern Illinois zinc-lead district. 1956. 7 p., 1 plate, 3 figures. Map scale, 2 inches = 1 mile.

C 499 Trace elements in coal: occurrence and distribution. 1977. 154 p., 79 figures, 37 tables, appendix, index. Minor element, trace element, and standard analyses on 276 coal samples from various parts of the Illinois Basin and from coal-producing areas in other states. Statistical analyses of data. $1.75.


*IMN 5 Relation of sulfate and chloride to ore deposits in the Ordovician rocks of Jo Daviess County. 1957. p. 3-6, 1 figure. No relation shown by tests of surface rocks.

*IMN 7 Outlying occurrences of galena, sphalerite, and fluorite in Illinois. 1957. 5 p. Occurrences near Alto Pass and Anna in Union County, and in Hancock and Kendall Counties.

IMN 71 Abundance and recovery of sphalerite and fine coal from mine waste in Illinois. 1979. 11 p., 10 figures, 5 tables. $1.25.

IMN 74 The abundance of zinc and cadmium in sphalerite-bearing coals in Illinois. 1980. 28 p., 16 figures, 7 tables, appendix. $1.25.


*RI 116 Geological aspects of prospecting and areas for prospecting in the zinc-lead district of northwestern Illinois. 1946. 48 p., 2 plates, 7 figures, 2 tables. Includes descriptions of many mining properties.


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Commodities (continued)


AGGREGATE RESOURCE MAPS

Blueline prints of maps showing limestone or sand and gravel resources for areas of Illinois:
- Road Materials Resource Maps. 1930-32, 1935. County maps showing limestone outcrops and sand and gravel resources. Maps are available for most counties. Scale: 1:63,360 (1 inch = 1 mile). $2.00 each.
- Preliminary Map of Limestone Outcrops. 1950. State map. Scale: 1:1,000,000 (1 inch = 16 miles). $2.00.
- Sand and Gravel Resources of Illinois. 1960. State map. Scale: 1:1,000,000 (1 inch = 16 miles). $2.00.

County sand and gravel maps available separately:

GEOLOGY, MINERALOGY, AND MINERAL ECONOMICS

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<td>B 92</td>
<td>Bibliography and index of Illinois geology through 1965. 1968. 373 p. $4.75.</td>
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<tr>
<td>*B 94</td>
<td>Pleistocene stratigraphy of Illinois. 1970. 204 p., 3 plates, 14 figures, 7 tables, glossary, index.</td>
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<td>B 95</td>
<td>Handbook of Illinois stratigraphy. 1975. 261 p., 176 figures, 3 tables, index. $4.75.</td>
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<tr>
<td>C 209</td>
<td>Unpublished reports on open file. II. Industrial Minerals. 1956. 8 p. Briefly describes reports dating from 1918, available for consultation at the Geological Survey. Subjects include occurrence or uses of the following minerals or products: ocher, potash, shale, silica (tripoli), ganister, novaculite, cement-making materials, fluorspar, limestone, zinc and lead ores, clay, gravel, and organic material in limestones. $1.75.</td>
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<td>C 402</td>
<td>Heavy minerals in sands along the Wabash River. 1966. 22 p., 3 figures, 5 tables. $1.75.</td>
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<td>C 408</td>
<td>One-dimensional disorders in carbonates. 1967. 61 p., 3 figures, 5 tables, appendix. $1.75.</td>
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<td>C 428</td>
<td>Heavy minerals of the Cretaceous and Tertiary sands of extreme southern Illinois. 1968. 22 p., 5 figures, 6 tables. $1.75.</td>
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<td>*C 490</td>
<td>Glacial drift in Illinois: thickness and character. 1975. 35 p., 2 plates, 5 figures, 1 table, appendix. Includes map at scale of 1:500,000 showing drift thickness in Illinois.</td>
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The gravity field and tectonics of Illinois. 1976. 28 p., 4 plates, 14 figures, 2 tables. $6.75.

C 495

An aeromagnetic survey of southwestern Illinois. 1976. 28 p., 1 plate, 11 figures, 2 tables. $3.75.

C 499

Trace elements in coal: occurrence and distribution. 1977. 154 p., 79 figures, 37 tables, appendix, index. $1.75.

*IMN 1


*IMN 6


*IMN 11

Rare earth and trace element content of an unusual clay on Hicks Dome in Hardin County, Illinois. 1960. 6 p., 1 figure, 3 tables.

IMN 19

Binding materials used in making pellets and briquets. 1964. 46 p. A literature review; extensive bibliography. $1.25.

IMN 21

Illinois natural resources—an industrial development asset. 1964. 5 p. $1.25.

*IMN 25

Annotated selected list of industrial minerals publications. 1966. 16 p.

IMN 44


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*IMN 47


IMN 55


IMN 57


IMN 61


IMN 69


IMN 102


*EGN 16

Urban expansion—an opportunity and a challenge to industrial mineral producers. 1967. 19 p., 15 figures, 1 table.

EGN 49

Environmental quality control and minerals. 1971. 10 p., 6 figures. $1.25.

*EGN 70

Land resource—its use and analysis. 1974. 6 p.

*EGN 73


ES 5

Guide to rocks and minerals of Illinois. 1959. 40 p., 11 figures, $1.00.

ES 8

Industrial minerals and metals of Illinois. 1965. 48 p., 23 figures. A nontechnical account of the formation, occurrence, production, and uses of 22 materials. $1.00.

*ES 9

Inside Illinois—mineral resources. 1965. 31 p., 20 figures.

*ES 10

History of Illinois mineral industries. 1968. 30 p., 11 figures.

MEB 12

Mineral resources and mineral industries of the East St. Louis region, Illinois. 1966. 32 p., 24 figures, 4 tables. $1.25.

MEB 13

Mineral resources and mineral industries of the extreme southern Illinois region. 1966. 26 p., 14 figures, 2 tables. $1.25.

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Geology, Mineralogy, and Mineral Economics

*M 22 Mineral resources and mineral industries of the northeastern Illinois region. 1968. 28 p., 21 figures, 2 tables. $1.25.
*R 1968-O Glaciation as a possible cause of mineral deposition. 1968 (reprinted from Economic Geology, v. 63, no. 4, p 390-400).

*out of print
during liquefaction process. Sphalerite remains unaltered in liquefaction processes. $1.00.


Guide leaflets A series of geological science field trip guide leaflets providing one-day tours of the geological features in a limited area. Approximately 80 leaflets are available for various parts of the state. Most of them describe the mineral resources in the area of study. $1.00 each.

Quadrangle reports The Illinois State Geological Survey has issued many reports on specific quadrangles of the state, areas approximately 13 miles wide and 18 miles long. Each report considers the geology and mineral resources of one such area. Additional information on these reports is available from the Information Office, Illinois State Geological Survey, Natural Resources Building, 615 E. Peabody Drive, Champaign, Illinois 61820; telephone (217) 333-4747.

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<td>MEB 29 Directory of Illinois mineral producers. 1971. 12 p. *Includes producers of cement, clay and clay products, fluorspar, lead and zinc, natural bonded molding sand, tripoli, ganister, and peat.</td>
<td>$1.25</td>
</tr>
</tbody>
</table>

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<table>
<thead>
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<th>Reference</th>
<th>Description</th>
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