

UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Selected bibliography of the geology and ore deposits of the  
Shawangunk Mountain region, New York, and related topics

compiled by

Jules D. Friedman, Felix E. Mutschler, and J. Scott Wilbur

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This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards and stratigraphic nomenclature.

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ABSTRACT

This bibliography of citations brings together selected references on the geology and ore deposits of the Shawangunk Mountain region, New York and adjacent, or related, areas. Each reference is preceded by a key, or keys, which may be read and sorted visually or by computer. The bibliography is available in two formats: (1) paper- or microfiche-hardcopy, and (2) 5 1/4 inch diskette. A FORTRAN program is provided for sorting the diskette version.

## INTRODUCTION

The bibliography includes 474 references on the geology and ore deposits of the Shawangunk Mountain region in Ulster, Sullivan, and Orange Counties, New York, together with references to the geology and ore deposits of adjacent, and related areas. The bibliography was compiled in conjunction with ongoing studies of the geology and ore deposits of the Shawangunk Mountains and environs. Useful geologic literature on the area dates back at least to 1842. Some of this literature is in relatively obscure publications, newspapers, privately printed documents (including company reports), masters and doctoral theses, materials open-filed by state organizations, and guidebooks for local meetings that are not found in current bibliographies and indices. It is especially difficult to find information on the location, history, geology, and production of mineral deposits and mineral showings. We hope that by making this bibliography available, it will help other workers to access this occasionally hard to find literature.

Each reference is preceded by up to 15 keys which indicate the types of information in the reference. These keys can be read and sorted either visually or by an electronic computer.

The bibliography is designed so that the user may update it, or re-key it, to suit his own purposes. Updating or modifying is most easily accomplished using the EDITOR facilities of an electronic computer.

## ACKNOWLEDGMENTS

We thank the many friends for the references suggested for inclusion in the bibliography and who helped us to obtain hard-to-find materials. Special thanks go to Carlyle Gray, Peter Lyttle, Linda B. McCollum, Lawrence V. Rickard, Martin S. Rutstein, Suzanne Schenk, Dan Smiley, Russell H. Waines, and Joseph E. Worthington, and to Don L. Sawatzky who reviewed and revised the BIBLIO program and prepared the DISKETTE version for the USGS Open-File Services Section.

## BIBLIOGRAPHY STRUCTURE

Each reference consists of a series of sorting keys and a citation. The sorting keys are on a line starting with an asterisk (\*) preceding the citation. Each key consists of three capitalized alphabetic characters, and each key is separated from the next key by a blank space. These keys are listed on Table 1. The order of items in the citation follows the standard U.S. Geological Survey format.

## AVAILABILITY

The bibliography is available in two formats: (1) hardcopy, either as paper- or microfiche-copy of computer printout; and (2) computer-readable 5 1/4 inch diskette.

The diskette version contains two files: BIB.TEXT;1 and BIB.BIB;1. Record length is 80 characters and block length is 960 characters (12 records).

File BIB.TEXT;1 includes this text and the computer program for sorting references, File BIB.BIB;1 is the bibliography.

Table 1. -- Keys for computer sorting.

SEM -- ECONOMIC GEOLOGY - METALS  
    SEC -- COMPANY REPORTS AND MANUSCRIPTS  
    SEI -- ISOTOPIC DATA FOR METALLIC ORE DEPOSITS

SEN -- ECONOMIC GEOLOGY - NON-METALS

SEG -- ENVIRONMENTAL GEOLOGY

SGG -- GENERAL GEOLOGY

SMS -- GEOLOGIC MAPS AND/OR SECTIONS

SGE -- GEOMORPHOLOGY

SMI -- MINERALOGY

SPG -- PLEISTOCENE (GLACIAL) GEOLOGY

SPO -- POPULAR GEOLOGY AND HISTORY

SSP -- STRATIGRAPHY AND PALEONTOLOGY  
    ORD -- ORDOVICIAN  
        ORI -- ORDOVICIAN IGNEOUS ROCKS  
    SIL -- SILURIAN  
    DEV -- DEVONIAN

SST -- STRUCTURAL GEOLOGY-TECTONICS

SGR -- GEOPHYSICS AND REMOTE SENSING

## BIBLIOGRAPHY

### \*SMS SEM

Alvord, D. C., and Drake, A. A., Jr., 1971, Geologic map of the Bushkill quadrangle, Pennsylvania-New Jersey: U.S. Geological Survey Geologic Quadrangle Map GQ-908.

### \*SSP SIL

Amsden, T. W., 1955, Lithofacies map of Lower Silurian deposits in central and eastern United States and Canada: American Association of Petroleum Geologists Bulletin, v. 39, p. 60-74.

### \*SEM

Anderson, G. M., 1973, The hydrothermal transport and deposition of galena and sphalerite near 100°C: Economic Geology, v. 68, p. 480-492.

### \*SEM

Anderson, G. M., 1975, Precipitation mechanisms for Mississippi Valley-type ores: Economic Geology, v. 70, p. 937-942.

### \*SEM

Anderson, G. M., and Macqueen, R. W., 1982, Ore deposit models--6, Mississippi Valley-type lead-zinc deposits: Geoscience Canada, v. 9, p. 108-117.

### \*SEM SEI

Ault, W. A., and Kulp, J. L., 1960, Sulphur isotopes and ore deposits: Economic Geology, v. 55, p. 73-100.

### \*SSP ORI

Aurousseau, M., and Washington, H. S., 1922, The nephelite syenite and nephelite porphyry of Beemerville, New Jersey: Journal of Geology, v. 30, p. 571-586.

### \*SEM SEI

Ayuso, R. A., Foley, N. K., and Brown, C. E., 1987, Source of lead and mineralizing brines for Rossie-type Pb-Zn veins in the Frontenac axis area, New York: Economic Geology, v. 82, p. 489-496.

### \*SEM SEI SMI

Bachinski, D. J., 1969, Bond strength and sulfur isotopic fractionation in coexisting sulfides: Economic Geology, v. 64, p. 56-65.

### \*SEM

Barnes, H. L., 1983, Ore-depositing reactions in Mississippi Valley-type deposits, in Kisvarsanyi, Geza, Grant, S. K., Pratt, W. P., and Koenig, J. W., eds., International conference on Mississippi Valley type lead-zinc deposits--Proceedings volume: Rolla, Missouri, University of Missouri-Rolla, p. 77-85.

### \*SSP SIL DEV

Barnett, S. G., 1970, Upper Cayugan and Helderbergian stratigraphy of southeastern New York and northern New Jersey: Geological Society of America Bulletin, v. 81, p. 2375-2402.

**\*SMI SEM**

Beck, L. C., 1842, Mineralogy of New York: Albany, New York, 534 p.

**\*SMI**

Beck, L. C., 1850, Report on the mineralogy of New York; comprising notices of the additions which have been made since 1842: New York State Cabinet Annual Report 3, p. 109-153.

**\*SSP SIL**

Belak, Ronald, 1980, The Cobleskill and Akron Members of the Rondout Formation: Late Silurian carbonate shelf sedimentation in the Appalachian basin, New York State: Journal of Sedimentary Petrology, v. 50, p. 1187-1204.

**\*SSP ORI**

Bender, J. F., Hanson, G. N., and Bence, A. E., 1984, Cortlandt complex: Differentiation and contamination in plutons of alkali basalt affinity: American Journal of Science, v. 284, p. 1-57.

**\*SSP SIL DEV**

Berdan, J. M., 1964, The Helderberg Group and the position of the Silurian-Devonian boundary in North America: U.S. Geological Survey Bulletin 1180-B, p. B1-B19.

**\*SST**

Berkey, C. P., 1908, Revised cross-section of the Rondout valley along the line of the Catskill aqueduct: Science, new series, v. 28, p. 351-352.

**\*SMS SST**

Berkey, C. P., 1911, Geology of the New York City (Catskill) aqueduct: New York State Museum Bulletin 146, 283 p.

**\*SGG SST**

Berkey, C. P., and Sanborn, J. F., 1923, Engineering geology of the Catskill water supply: American Society of Civil Engineering Transactions, v. 86, p. 1-91.

**\*SEM**

Bernard, A. J., and Samana, J. C., 1976, Summary of French school of studies of ores in sediments and associated volcanic rocks: epigenesis vs. syngeneses, in Wolf, K. H., ed., Handbook of stratabound and stratiform ore deposits: Elsevier Scientific Publishing Company, New York, v. 1, p. 299-338.

**\*SSP ORD**

Berry, W. B. N., 1963, On the "Snake Hill Shale": American Journal of Science, v. 261, p. 731-737.

**\*SSP ORD**

Berry, W. B. N., 1970, Review of late Middle Ordovician graptolites in eastern New York and Pennsylvania: American Journal of Science, v. 269, p. 304-313.

\*SSP SST ORD

Berry, W. B. N., 1973, Comments on: Middle Ordovician Normanskill Formation, eastern New York, age, stratigraphic and structural position: American Journal of Science, v. 273, p. 591-593.

\*SSP SIL

Berry, W. B. N., and Boucot, A. J., 1970, Correlation of the North American Silurian rocks: Geological Society of America Special Paper 102, 289 p.

\*SEM

Bethke, C. M., 1986, Hydrologic constraints on the genesis of the Upper Mississippi Valley mineral district from Illinois basin brines: Economic Geology, v. 81, p. 223-249.

\*SST

Beutner, E. C., and Diesel, F. A., 1985, Determination of fold kinematics from syntectonic fibers in pressure shadows, Martinsburg slate, New Jersey: American Journal of Science, v. 285, p. 16-50.

\*SST

Bird, J., and Dewey, J., 1970, Lithosphere plate--Continental margin tectonics and evolution of the Appalachian orogen: Geological Society of America Bulletin, v. 81, p. 1031-1060.

\*SST

Bird, P. H., 1940, Bad ground--Shaft 6 North: The Delaware Water Supply News, v. 3, no. 50.

\*SSP SIL SEG

Bird, P. H., 1941, A geologic discovery--The Delaware Water Supply News, v. 4, no. 62, p. 278.

\*SST SEM

Bird, P. H., 1943, Geology of Shawangunk Mountain with reference to the occurrence of methane gas: The Delaware Water Supply News, v. 6, no. 110, p. 503-504.

\*SEM SEI

Bird, P. H., 1944, Crystal-lined cavity in Shawangunk Grit: The Delaware Water Supply News, v. 6, no. 121, p. 563.

\*SST

Bosworth, William, 1984a, Foreland deformation in the Appalachian Plateau, central New York--The role of small-scale detachment structures in regional overthrusting: Journal of Structural Geology, v. 6, p. 73-81.

\*SST

Bosworth, William, 1984b, Fold-thrust geometry at the western limit of Taconic deformation, eastern New York: Northeastern Geology, v. 6, p. 111-117.

\*SST

Bosworth, William, and Vollmer, F. W., 1981, Structures of the medial Ordovician flysch of eastern New York: Journal of Geology, v. 89, p. 551-568.



\*SSP SST SIL DEV

Boucot, A. J., 1968, Silurian and Devonian of the northern Appalachians, in Zen, E-An, White, W. S., Hadley, J. B., and Thompson, J. B., Jr., eds., Studies in Appalachian geology--Northern and Maritime: New York, Interscience Publishers, p. 83-94.

\*SEM

Bradbury, J. C., 1961, Mineralogy and the question of zoning, northwestern Illinois zinc-lead district: Economic Geology, v. 56, p. 132-148.

\*SEM

Brockie, D. C., Hare, E. H., Jr., and Dingess, P. R., 1968, The Geology and ore deposits of the Tri-State district of Missouri, Kansas, and Oklahoma, in Ridge, J. D., editor, Ore deposits of the United States, 1933-1967 -- The Graton-Sales volume: New York, American Institute of Mining, Metallurgical and Petroleum Engineers, v. 1, p. 400-430.

\*SEM SEI

Brown, J. S., 1962, Ore leads and isotopes: Economic Geology, v. 57, p. 673-720.

\*SEM SEI

Brown, J. S., 1966, Ore lead isotopes of the British Isles and Scandinavia: Economic Geology, v. 61, p. 1191-1204.

\*SEM SEI

Brown, J. S., 1967, Isotopic zonation of lead and sulphur in southeast Missouri: Economic Geology, Monograph 3, p. 410-426.

\*SEM SEI

Brown, J. S., 1968, Ore deposits in the northeastern United States, in Ridge, J. D., ed., Ore deposits of the United States, 1933-1967 -- The Graton-Sales volume: New York, American Institute of Mining and Metallurgical and Petroleum Engineers, v. 1, p. 1-19.

\*SEM

Brown, J. S., 1970, Mississippi Valley type lead-zinc ores: Mineralium Deposita, v. 5, p. 103-119.

\*SSP SMS SST SIL

Brown, T. C., 1914, The Shawangunk Conglomerate and associated beds near High Falls, Ulster County, New York: American Journal of Science, 4th series, v. 37, p. 464-474.

\*SSP ORI SMS

Buddington, A. F., and Baker, D. R., 1961, Geology of the Franklin and part of the Hamburg quadrangles, New Jersey: U.S. Geological Survey Miscellaneous Geologic Investigations Map I-346.

\*SEM

Cathles, L. M., and Smith, A. T., 1983, Thermal constraints on the formation of the Mississippi Valley-type lead-zinc deposits and their implications for episodic basin dewatering and deposit genesis: Economic Geology, v. 78, p. 983-1002.

\*SEM SEI

Caulfield, J. B. D., Dixon, P. R., Rye, D. M., and LeHuray, A. P., 1985, Lead isotope studies and a model for the genesis of sediment-hosted deposits in Ireland: Geological Society of America Abstracts with Programs, v. 17, p. 540.

\*SSP ORD SIL DEV

Chadwick, G. H., 1908, Revision of "the New York series": Science, new series, v. 28, p. 346-348.

\*SSP SST SPG SIL DEV

Chadwick, G. H., 1944, Geology of the Catskill and Kaaterskill quadrangles. Part 2, Silurian and Devonian geology, with a chapter on Glacial geology: New York State Museum Bulletin 336, 251 p.

\*SMS

Chute, N. E., 1954-1960, Limestone areas of Ulster County (1:24,000 and 1:31,680): New York State Museum and Science Service Geological Survey Open-File (unpublished) maps.

\*SSP SIL

Clarke, J. M., 1907, The Eurypterid shales of the Shawangunk Mountains in eastern New York: New York State Museum Bulletin 107, Geology 12, p. 295-326.

\*SSP SIL

Clarke, J. M., and Ruedemann, Rudolph, 1912, The Eurypterida of New York: New York State Museum Memoir 14, v. 2, 439 p.

\*SEM SEI

Claypool, G. E., Holser, W. T., Kaplan, I. R., Sakai, Hitoshi, and Zak, Israel, 1980, The age curves of sulfur and oxygen isotopes in marine sulfate and their mutual interpretation: Chemical Geology, v. 28, p. 199-260.

\*SET SSP

Coller, D. W., 1984, Variscan structures in the Upper Palaeozoic rocks of west-central Ireland, in Hutton, D. W., and Sanderson, D. J., eds., Variscan tectonics of the North Atlantic region: Geological Society of London Special Publication 14, p. 185-194.

\*SSP ORD SIL DEV SST

Colton, G. W., 1970, The Appalachian basin--Its depositional sequences and their geological relationships, in Fisher, G. W., Pettijohn, F. J., Reed, J. C., Jr., and Weaver, K. N., eds., Studies of Appalachian geology--Central and southern: New York, Wiley Interscience, p. 5-47.

\*SGE SPG

Connally, G. G., and Sirkin, L. A., 1967, The Pleistocene geology of the Wallkill valley: New York State Geological Association Guidebook to field trips, 39th Annual Meeting, New Paltz, New York, 1967, p. A1-A21, G1-G4.

\*SPG

Connally, G. G., and Sirkin, L. A., 1973, Wisconsinan history of the Hudson-Champlain lobe: Geological Society of America Memoir 136, p. 47-67.

\*SPG

Connally, G. G., Sirkin, L. A., and Sevon, W. D., 1979, Woodfordian history of the Delaware-Minisink lobe: Geological Society of America Abstracts with Programs, v. 11, p. 7.

\*SST SEM

Conrad, D. L., Gronwald, K. H., and Rutstein, M. S., 1983, Thermal maturation of Ordovician shales in eastern New York: Geological Society of America Abstracts with Programs, v. 15, p. 140.

\*SGR SST

Cook, F. A., Albaugh, D. S., Brown, L. D., Kaufman, Sidney, and Oliver, J. E., 1979, Thin-skinned tectonics in the crystalline southern Appalachians; COCORP seismic-reflection profiling of the Blue Ridge and Piedmont: Geology v. 7, no. 12, p. 563-567.

\*SEM

Cornwall, H. R., 1945, The Arlington copper mine and the Pahaquarry copper mine, Pahaquarry, New Jersey: U.S. Geological Survey Open-File Report 45-9, 16 p.

\*SEM

Coveney, R. M., Goebel, E. D., and Ragan, V. M., 1987, Pressures and temperatures from aqueous fluid inclusions in sphalerite from midcontinent country rocks: Economic Geology, v. 82, p. 740-751.

\*SEM SEI SMI SSP SIL

Crawford, M. J., 1981, Geology and lead-zinc mineralization of the sandstone-hosted Shawangunk mine, New York, as compared to other lead-zinc sandstone deposits: Toronto, University of Toronto, M. Sc. thesis, 184 p.

\*SEM SEI

Crawford, M. J., and Beales, F. W., 1983, The Shawangunk mine--A possible sandstone-hosted Mississippi Valley-type ore deposit in New York, in Kisvarsanyi, Geza, Grant, S. K., Pratt, W. P., and Koenig, J. W., eds., International conference on Mississippi Valley type lead-zinc deposits--Proceedings volume: Rolla, Missouri, University of Missouri-Rolla, p. 436-445.

\*SSP ORI

Dallmeyer, R. D., 1972, Structural and metamorphic history of the northern Reading Prong, southeastern New York and northern New Jersey: Stony Brook, N. Y., State University of New York, Ph.D. thesis, 249 p.

\*SSP ORD SIL DEV SMS SST

Darton, N. H., 1892-1893, Notes for geological map for State of New York (2 notebooks): Unpublished, Filed in U.S. Geological Survey Library (Field Note Archives), Denver, Colorado, index no. NHD 17 and NHYD 18, locality K18, 1892-1893.

\*SSP SMS ORD SIL DEV SST

Darton, N. H., 1894, Preliminary report on the geology of Ulster County: New York State Museum 47th Annual Report, p. 393-422.

\*SGG SPO

Darton, N. H., 1894, Shawangunk Mountain [Ulster County, New York]: National Geographic Magazine, v. 6, p. 23-24.

\*SST SMS

Davis, R. E., Drake, A. A., Jr., and Epstein, J. B., 1967, Geology of the Bangor quadrangle, Pennsylvania - New Jersey: U.S. Geological Survey Geologic Quadrangle Map GQ-665.

\*SGG SPO

Davis, W. M., 1882, The little mountains east of the Catskills: Appalachia, v. 3, p. 20-33.

\*SST SMS

Davis, W. M., 1883, The nonconformity at Rondout, N. Y.: American Journal of Science, 3rd series, v. 26, p. 389-395.

\*SEM SEC

Deer Park Lead Company, 1866, Prospectus of the Deer Park Lead Company, Orange County, State of New York: New York City, Privately printed, 10 p. (U.S. Geological Survey Library, Reston, Virginia, Catalog no. 422/(221)/D36P).

\*SMS

Depman, A. J., and Parrillo, D. G., 1971, Geology of Tocks Island area and its engineering significance, in Subitzky, Seymour, ed., Geology of selected areas in New Jersey and Pennsylvania and guidebook of excursions: New Brunswick, N. J., Rutgers University Press, p. 354-362.

\*SGR

Diment, W. H., Urban, T. C., and Revetta, F. A., 1972, Some geophysical anomalies in the eastern United States, in Robertson, E. C., and others, eds.: The nature of the solid Earth: New York, McGraw Hill, p. 544-572.

\*SGR SST

Diment, W. H., Muller, Otto, and Lavin, P. M., 1980, Basement tectonics of New York and Pennsylvania as revealed by gravity and magnetic studies, in Wones, D. R., ed., The Caledonides of the U.S.A.: Virginia Polytechnic Institute, Department of Geological Science Memoir No. 2, p. 221-227.

\*SPG SGE

Dineen, R. J., and Duskin, Priscilla, 1987, Glacial geology of the Kingston region, in O'Brien, L. E., and Matson, L. R., eds., Field Trip Guidebook for the National Association of Geology Teachers, Eastern Section, Stone Ridge, New York, p. 27-67.

\*SSP ORI

Dodd, R. T., Jr., 1965, Precambrian geology of the Popolopen Lake quadrangle, southeastern New York: New York State Museum and Science Service Map and Chart Series, no. 6, 39 p.

**\*SEM SEI**

Doe, B. R., and Stacey, J. C., 1974, Application of lead isotopes to problems of ore genesis and ore prospect evaluation: A review: *Economic Geology*, v. 69, p. 757-776.

**\*SEM SEI**

Doe, B. R., and Zartman, R., 1979, Plumbotectonics, the Phanerozoic, in Barnes, H. L., ed., *Geochemistry of Hydrothermal Ore Deposits*: New York, John Wiley and Sons, p. 22-70.

**\*SMI SPO**

Donaldson, Francis, 1945, The Shawangunk Grit, in Publication Committee of the New York Chapter of the Appalachian Mountain Club, *In the Hudson Highlands*: New York, Walking News, Inc., p. 111-115.

**\*SST SMS**

Drake, A. A., Jr., 1967, Geologic map of the Easton quadrangle, New Jersey-Pennsylvania: U.S. Geological Survey Geologic Quadrangle Map GQ-594.

**\*SST SMS**

Drake, A. A., Jr., 1967, Geologic map of the Bloomsburg quadrangle, New Jersey: U.S. Geological Survey Geologic Quadrangle Map GQ-595.

**\*SST SSP**

Drake, A. A., Jr., 1980, The Taconides, Acadides, and Alleghenides in the central Appalachians, in Wones, D. R., ed., *Proceedings, The Caledonides in the U.S.A., I.G.C.P. Project 27--Caledonide orogen, 1979 Meeting*, Blacksburg, Virginia: Virginia Polytechnic Institute and State University memoir 2, p. 179-187.

**\*SSP SST**

Drake, A. A., Jr., 1984, The Reading Prong of New Jersey and eastern Pennsylvania--An appraisal of rock relations and chemistry of a major Proterozoic terrane in the Appalachians: *Geological Society of America Special Paper* 194, p. 75-109.

**\*SST**

Drake, A. A., Jr., Davis, R. E., and Alvord, D. C., 1960, Taconic and post-Taconic folds in eastern Pennsylvania and western New Jersey: U.S. Geological Survey Professional Paper 400-B, p. B180-B181.

**\*SSP SST ORD**

Drake, A. A., Jr., and Epstein, J. B., 1967, The Martinsburg Formation (Middle and Upper Ordovician) in the Delaware Valley, Pennsylvania-New Jersey: U.S. Geological Survey Bulletin 1244-H, p. H1-H16.

**\*SST SMS**

Drake, A. A., Jr., Epstein, J. B., and Aaron, J. M., 1969, Geologic map and sections of parts of the Portland and Belvidere quadrangles, New Jersey-Pennsylvania: U.S. Geological Survey Miscellaneous Geological Investigations Map I-552.

**\*SST SMS**

Drake, A. A., Jr., Kostelic, R. L., Jr., and Lyttle, P. T., 1985, Geologic map of the eastern parts of the Belvidere and Portland quadrangles, Warren County, New Jersey: U.S. Geological Survey Miscellaneous Investigations Series Map I-1530.

**\*SST SMS**

Drake, A. A., Jr., McLaughlin, D. B., and Davis, R. E., 1961, Geology of the Frenchtown quadrangle, New Jersey-Pennsylvania: U.S. Geological Survey Geologic Quadrangle Map GQ-133.

**\*SMS SST**

Drake, A. A., Jr., McLaughlin, D. B., and Davis, R. E., 1967, Geologic map of the Rieselsville quadrangle, Pennsylvania-New Jersey: U.S. Geological Survey Geologic Quadrangle Map GQ-593.

**\*SEM SEI SST**

Duane, M. J., Welke, H. J., and Allsopp, H. L., 1986, U-Pb age for some base-metal sulfide deposits in Ireland: Genetic implications for Mississippi Valley-type mineralization: *Geology*, v. 14, p. 477-480.

**\*SSP SIL DEV**

Dunn, J. R., and Rickard, L. V., 1961, Silurian and Devonian rocks of the central Hudson Valley: New York State Geological Association Guidebook to field trips, 33rd Annual meeting, p. C1-C32.

**\*SPG SGE**

Duskin, Priscilla, 1986, Glacial retreat in the Rondout and Wallkill valleys near Rosendale, N. Y.: Geological Society of America Abstracts with Programs, v. 18, p. 14.

**\*SEM**

Eilertsen, N. A., 1950, Investigation of Shawangunk mine zinc-lead deposit, near Summitville, Sullivan County, N.Y.: U.S. Bureau of Mines Report of Investigations 4675, 41 p.

**\*SGR SST**

Elliot, D. W., 1976, The motion of thrust sheets, *Journal of Geophysical Research*, v. 81, no. 5, p. 949-963.

**\*SEM**

Elliott, W. C., and Aronson, J. L., 1987, Alleghanian episode of K-bentonite illitization in the southern Appalachian Basin: *Geology*, v. 15, p. 735-739.

**\*SST**

Epstein, A. G., Epstein, J. B., and Harris, L. D., 1977, Conodont color alteration--An index to organic metamorphism: U.S. Geological Survey Professional Paper 995, 27 p.

\*SSP SIL DEV

Epstein, A. G., Epstein, J. B., Spink, W. J., and Jennings, D. S., 1967, Upper Silurian and Lower Devonian stratigraphy of northeastern Pennsylvania, New Jersey and southeasternmost New York: U.S. Geological Survey Bulletin 1243, 74 p.

\*SGE SST SMS

Epstein, J. B., 1966, Structural control of wind gaps and water gaps and of stream capture in the Stroudsburg area, Pennsylvania and New Jersey: U.S. Geological Survey Professional Paper 550-B, p. B80-B86.

\*SMS SSP ORD SIL DEV SST

Epstein, J. B., 1973, Geologic map of the Stroudsburg quadrangle, Pennsylvania-New Jersey: U.S. Geological Survey Geologic Quadrangle Map GQ-1047.

\*SST

Epstein, J. B., 1980, Geology of the Ridge and Valley Province, northwestern New Jersey and eastern Pennsylvania: New York Geological Association Annual Meeting No. 52, Guidebook of Excursions, p. 70-89.

\*SSP DEV

Epstein, J. B., 1984, Onesquethwan stratigraphy (Lower and Middle Devonian) of northeastern Pennsylvania: U.S. Geological Survey Professional Paper 1337, 35 p.

\*SGG SST SPP ORD SIL DEV

Epstein, J. B., 1986, The Valley and Ridge province of eastern Pennsylvania--stratigraphic and sedimentologic contributions and problems: Geological Journal, v. 21, p. 283-306.

\*SSP SST SPG ORD SIL DEV

Epstein, J. B., and Epstein, A. G., 1971, Geology of the Valley and Ridge province between Delaware Water Gap and Lehigh Gap, Pennsylvania, in Subitzky, Seymour, ed., Geology of selected areas in New Jersey and eastern Pennsylvania and guidebook of excursions: New Brunswick, N. J., Rutgers University Press, p. 132-205.

\*SSP ORD SIL

Epstein, J. B., and Epstein, A. G., 1972, The Shawangunk Formation (Upper Ordovician(?) to Middle Silurian) in eastern Pennsylvania: U.S. Geological Survey Professional Paper 744, 45 p.

\*SST

Epstein, J. B., and Lyttle, P. T., 1986, Chronology of deformation along the Taconic unconformity from eastern Pennsylvania to southern New York: Geological Society of America Abstracts with Programs, v. 18, p. 15.

\*SSP SST

Epstein, J. B., and Lyttle, P. T., 1987, Structure and stratigraphy above, below and within the Taconic unconformity, southeastern New York, in Waines, Russell H., ed., New York State Geological Association, 59th Annual Meeting, Kingston, N. Y., November 6-8, 1987, Field Trip Guidebook: New Paltz, N. Y., State University of New York, College at New Paltz, p. C1-C78.

\*SMS SGG

Epstein, J. B., Sevon, W. D., and Glaesser, J. D., 1974, Geology and mineral resources of the Lehigh and Palmerton 7 1/2-minute quadrangles, Pennsylvania: Pennsylvania Geological Survey, 4th series, Atlas 195cd, 460 p.

\*SST SEM

Ergin, M., and Friedman, G. M., 1986, Burial significance of Middle Silurian Lockport Dolomite, northwestern New York: Geological Society of America Abstracts with Programs, v. 18, p. 15.

\*SEM SEC

Erie Lead Company, 1864, By-Laws of the Erie Lead Company, Orange County, State of New York (including Report of the directors of the Erie Lead Company for the year ending March 1st, 1864): New York City, Privately printed, 14 p. (U.S. Geological Survey Library, Reston, Virginia, Catalog no. 422/(221)/Er4e).

\*SEG

Egmeier, S. J., Liff, C. I., Smiley, D., and Rubin, P. A., 1981, The safe yield of the 'Sky' lakes of the Shawangunk Mountains of southeastern New York: Geological Society of America Abstracts with Programs, v. 13, p. 131.

\*SSP DEV SST

Faill, R. T., 1985, The Acadian orogeny and the Catskill delta, in Woodrow, D. L., and Sevon, W. D., eds., The Catskill Delta: Geological Society of America Special Paper 201, p. 15-37.

\*SPG

Fairchild, H. L., 1919, Pleistocene marine submergence of the Hudson, Champlain and St. Lawrence valleys: New York State Museum Bulletin 209-210, 76 p.

\*SSP DEV

Fettke, C. R., 1952, Tioga bentonite in Pennsylvania and adjacent states: American Association of Petroleum Geologists Bulletin, v. 36, p. 2038-2040.

\*SMS SST SSP

Fink, Sidney, and Schubert, C. J., 1962, The structure and stratigraphy of the Port Jervis South-Otisville quadrangles, in Valentine, W. G., ed., Guidebook to field excursions, New York State Geological Association, 34th Annual Meeting, Port Jervis, New York, p. C1-C10.

\*SSP SIL

Fisher, D. W., 1960, Correlation of the Silurian rocks in New York State: New York State Museum and Science Service Geological Survey Map and Chart Series, no. 1.

\*SSP ORD

Fisher, D. W., 1962, Correlation of the Ordovician rocks in New York State: New York State Museum and Science Service Map and Chart Series, no. 3.



**\*SSP SST**

Fisher, D. W., 1969, Quinquallochthonous succession and a new molasse in the southern Hudson Valley and their bearing on New York tectonic history [abs.]: Geological Society of America, Abstracts with Programs, Atlantic City meeting, p. 66.

**\*SSP ORD**

Fisher, D. W., 1977, Correlation of the Hadrynian, Cambrian, and Ordovician rocks in New York State: New York State Museum and Science Service Map and Chart Series, no. 25, 5 pl., 64 p.

**\*SSP SPO SPG**

Fisher, D. W., 1979, New York's Ice Age mammals: The Conservationist, v. 33, no. 4, p. 22-26.

**\*SSP SPO SIL**

Fisher, D. W., 1984, Our new State fossil--The old eurypterid: The Conservationist, v. 39, no. 3, p. 50.

**\*SMS**

Fisher, D. W., Isachsen, Y. W., and Rickard, L. V., 1970, Geologic map of New York State, 1970, New York State Museum and Science Service Geological Survey Map and Chart Series, no. 15.

**\*SMS**

Fisher, D. W., Isachsen, Y. W., Rickard, L. V., Broughton, J. G., and Offield, T. W., 1962, Geologic map of New York 1961: New York State Museum and Science Service Map and Chart Series, no. 5.

**\*SEM SMI SPO**

Flescher, A., 1979, Ellenville lead mines: Lapidary Journal, v. 32, no. 11, February, p. 2484-2486.

**\*SSP DEV SST**

Fletcher, F. W., 1962, Stratigraphy and structure of the "Catskill Group" in southeastern New York: New York State Geological Association Guidebook of Excursions, 34th Annual Meeting, p. D-4.

**\*SSP DEV**

Fletcher, F. W., and Woodrow, D. L., 1970, Geology and economic resources of the Pennsylvania portion of the Milford and Port Jervis 15-minute quadrangles: Pennsylvania Geological Survey Atlas 223, 64 p.

**\*SST**

Fluhr, T. W., 1941, Engineering geology of the Delaware aqueduct: Municipal Engineers Journal, v. 27, p. 91-126.

**\*SST**

Fluhr, T. W., 1950, The Delaware aqueduct--Some geological data: Transactions New York Academy of Science, series II, v. 12, no. 6, p. 182-186.

**\*SGG**

Fluhr, T., 1953, Geology of New York City's water supply system--A progress report: Municipal Engineers Journal, v. 39, p. 125-145.

\*SEG SGG SMS SGE SST

Fluhr, T. W., and Terenzio, V. G., 1984, Engineering geology of the New York City water supply system: New York State Museum and Science Service Geological Survey Open-File Report 05.08.001, 184 p.

\*SEM SEI

Foley, N. K., Sinha, A. K., and Craig, J. R., 1981, Isotopic composition of lead in the Austinville-Ivanhoe Pb-Zn district, Virginia: Economic Geology, v. 76, p. 2012-2017.

\*SSP SIL

Folk, R. L., 1960, Petrography and origin of the Tuscarora, Rose Hill, and Keefer Formations, Lower and Middle Silurian of eastern West Virginia: Journal of Sedimentary Petrology, v. 30, p. 1-58.

\*SSP SIL

Freund, M. F., 1941-1942, Roundout Valley (sic) crossing at Wawarsing: The Delaware Water Supply News, v. 4, no. 62, p. 273-275; v. 5, no. 86, p. 393-400.

\*SEM SEN SSP ORD

Freund, M. F., 1943, Tunnel driving through methane-bearing rock: The Delaware Water Supply News, v. 6, no. 110, p. 501-503; v. 6, no. 111, p. 505-508.

\*SSP SIL SST

Frey, M. G., 1973, Influence of Salina salt on structure in New York-Pennsylvania part of Appalachian plateau: American Association of Petroleum Geologists Bulletin, v. 57, p. 1027-1037.

\*SSP DEV SST

Friedman, G. M., 1987, Vertical movements of the crust--Case histories from the northern Appalachian Basin: Geology, v. 15, p. 1130-1133.

\*SST

Friedman, G. M., and Sanders, J. E., 1982, Time-temperature-burial significance of Devonian anthracite implies former great (~6.5 km) depth of burial of Catskill Mountains, New York: Geology, v. 10, p. 93-96.

\*SSP

Friedman, G. M., Sanders, J. E., and Martini, P., 1982, Sedimentary facies: Products of sedimentary environments in a cross section of the classic Appalachian Mountains and adjoining Appalachian basin in New York and Ontario, International Congress on Sedimentology, 11th, Guidebook Field Excursion 17A, p. 1-62 and 205 p. of itinerary and references.

\*SEM

Friedman, J. D., 1955, Comments on Biogeochemical prospecting at the Shawangunk mine--A case study, by J. E. Worthington, 1955 (in Economic Geology, v. 50, p. 420-429): Economic Geology, v. 50, p. 650-651.

\*SGG SEM SEI SEN SMS SGE SMI SPG SSP ORD SIL DEV SST

Friedman, J. D., 1957, Bedrock geology of the Ellenville area, New York: New Haven, Connecticut, Yale University, Ph.D. thesis, 271 p.

\*SGE SST SPG

Friedman, J. D., 1957, Geomorphology of the Shawangunk Range of Ulster and Sullivan Counties, New York [abs.]: Geological Society of America Bulletin, v. 68, p. 1891.

\*SGG SPO

Friedman, J. D., 1959, Development of geologic thought concerning Ulster County, New York: Washington Academy of Science Journal, v. 49, no. 7, p. 252-255.

\*SEM SEI

Friedman, J. D., 1959, S32/S34 isotopic abundance ratios and genesis of sulfide ore bodies at Summitville and Ellenville, N. Y. [abs.]: Economic Geology, v. 54, p. 1357.

\*SEM SST

Friedman, J. D., and Mutschler, F. E., 1986, New geophysical, geochemical, and geological investigations of northern Appalachian lead-zinc sulfide deposits of New York State: U.S. Geological Survey Circular 995, p. 21-22.

\*SEM SST

Friedman, J. D., and Mutschler, F. E., 1988, New findings in geochemistry and geophysics of the Shawangunk zinc-lead deposits, New York: Geological Society of America Abstracts with Programs, v. 20, p. 19-20.

\*SEG SMS SPG SST

Frimpter, M. H., 1972, Ground water resources of Orange and Ulster Counties, New York: U.S. Geological Survey Water-Supply Paper 1985, 80 p.

\*SMI SEM

Fron del, Clifford, Newhouse, W. H., and Jarrell, R. F., 1942, Spatial distribution of minor elements in single crystals: American Mineralogist, v. 27, p. 726-745.

\*SST

Gableman, J. W., 1984, Circular geomorphic features permissive to interpretation as conduits of mantle degassing: Global Tectonics and Metallogeny, v. 2, p. 151-168.

\*SST

Geiser, Peter, and Engelder, Terry, 1983, The distribution of layer parallel shortening fabrics in the Appalachian foreland of New York and Pennsylvania--Evidence for two non-coaxial phases of the Alleghanian orogeny, in Hatcher, R. D., Williams, Harold, and Zeitz, Isidore, eds., Contributions to the tectonics and geophysics of mountain chains: Geologic Society of America Memoir 158, p. 161-175.

\*SEM

Giordano, T. H., and Barnes, H. L., 1981, Lead transport in Mississippi Valley-type ore solutions: Economic Geology, v. 76, p. 2200-2211.

\*SGG SPO

Glenby, K. L., 1942, Historical geology of the Shawangunk Mountains: The Geological Review, Geological Society of the City College of New York, v. 2, no. 2, p. 11-13.

\*SSP SPO ORD SIL DEV

Goldring, Winifred, 1931, Handbook of paleontology for beginners and amateurs, Part 2--The formations: New York State Museum Handbook 10, 488 p.

\*SSP SPO ORD SIL DEV

Goldring, Winifred, 1950, Handbook of paleontology for beginners and amateurs, Part 1--The fossils: New York State Museum Handbook 9, 394 p.

\*SSP ORD ORI SMS

Gordon, C. E., 1911, Geology of the Poughkeepsie quadrangle, New York: New York State Museum Bulletin 148, 121 p.

\*SEM SGG

Gray, Carlyle, 1947, The geology of the Shawangunk Mine and environs: New York, Columbia University, M.A. thesis.

\*SEM SMS SMI SSP SIL SST

Gray, Carlyle, 1953, The lead-zinc ores of the Shawangunk Mountain district: New York, Columbia University, Ph.D. thesis, 102 p.

\*SEM SSP SIL SMS

Gray, Carlyle, 1961, Lead and zinc deposits of the Shawangunk Mountains, New York: New York Academy of Science Transactions, Series 2, v. 23, p. 315-331.

\*SEI SEM SSP

Greig, J. A., Baadsgaard, H., Cumming, G. L., Folinsbee, R. E., Krouse, H. R., Ohmoto, H., Sasaki, A., and Smejkal, V., 1971, Lead and sulphur isotopes of the Irish base metal mines in Carboniferous carbonate host rocks: Society of Mining Geologists of Japan Special Issue 2, Proceedings of the International Association on the Genesis of Ore Deposits, International Mineralogical Association, p. 84-92.

\*SEM

Grogan, R. M., and Bradbury, J. C., 1968, Fluorite-zinc-lead deposits of the Illinois-Kentucky mining district, in Ridge, J. D., ed., Ore deposits of the United States, 1933-1967--The Graton-Sales volume: New York, American Institute of Mining, Metallurgical and Petroleum Engineers, p. 370-399.

\*SEM SEC

Grugan, J. F., 1918, Report on the Guymard lead and zinc mine, Graham Station, Orange County, N.Y.: Unpublished report, New York State Museum, Albany, New York, 7 p.

\*SST

Gwynn, V. E., 1964, Thin-skinned tectonics in the Plateau and Northwestern Valley and Ridge Provinces of the Central Appalachians: Geological Society of America Bulletin, v. 75, p. 863-900.

\*SEM

Haack, U., Heinrichs, H., Boness, M., and Schneider, A., 1984, Loss of metals from pelites during regional metamorphism: Contributions to Mineralogy and Petrology, v. 85, p. 116-132.

\*SGR

Hadley, J. B., and Devine, J. F., 1974, Seismotectonic map of the Eastern United States: U.S. Geological Survey Miscellaneous Field Studies Map MF-620.

\*SEM

Hagni, R. D., 1983, Ore microscopy, paragenetic sequence, trace element content, and fluid inclusion studies of the copper-lead-zinc deposits of the Southeast Missouri lead district, in Kisvarsanyi, Geza, Grant, S. K., Pratt, W. P., and Koenig, J. W., eds., International conference on Mississippi Valley type lead-zinc deposits: Rolla, Missouri, University of Missouri-Rolla, p. 243-256.

\*SEN SEU SNU

Hagni, R. D., 1983, Minor elements in Mississippi Valley-type ore deposits, in Shanks, W. C., 1983, Cameron Volume on Unconventional Mineral Deposits: American Institute of Mining, Metallurgical and Petroleum Engineers, Society of Mining Engineers, p. 71-88.

\*SSP ORI

Hague, J. M., Baum, J. L., Herrmann, L. A., and Pickering, R. J., 1956, Geology and structure of the Franklin-Sterling area, New Jersey: Geological Society of America Bulletin, v. 67, p. 435-474.

\*SSP

Hall, James, 1847, Descriptions of the organic remains of the lower division of the New York system: Paleontology of New York, v. 1, 338 p.

\*SSP

Hall, James, 1852, Descriptions of the organic remains of the lower middle division of the New York system: Paleontology of New York, v. 2, 362 p.

\*SSP

Hall, James, 1859, Descriptions and figures of the organic remains of the lower Helderberg group and the Oriskany sandstone: Paleontology of New York, v. 3, pt. 1, 532 p.; (pt. 2, plates, published in 1861).

\*SSP

Hall, James, 1867, Descriptions and figures of the fossil Brachiopoda of the upper Helderberg, Hamilton, Portage, and Chemung groups: Paleontology of New York, v. 4, 428 p.

\*SSP

Hall, James, 1879, Descriptions of the Gastropoda, Pteropodia, and Cephalopoda of the upper Helderberg, Hamilton, Portage, and Chemung groups: Paleontology of New York, v. 5, Part 2, (2 volumes), 492 p.

\*SSP

Hall, James, 1884, Lamellibranchiata, Part I, Descriptions and figures of the Monomyaria of the upper Helderberg, Hamilton, and Chemung groups: Paleontology of New York, v. 5, pt. 1, 268 p.

\*SSP

Hall, James, 1885, Lamellibranchiata, Part II, in Descriptions and figures of the Dimyaria of the upper Helderberg, Hamilton, Portage, and Chemung groups: Paleontology of New York, v. 5, Pt. 2, p. 269-561.

\*SSP

Hall, James, 1888, Supplement containing descriptions and illustrations of Pteropodia, Cephalopoda, and Annelida: Paleontology of New York, v. 5, pt. 2, supplement, 42 p.

\*SSP

Hall, James, and Clarke, J. M., 1893-1894, An introduction to the study of the genera of Paleozoic Brachiopoda: Paleontology of New York, v. 8, pt. 1, 367 p. (1893); pt. 2, 394 p. (1894).

\*SSP

Hall, James, and Clarke, J. M., 1888, Descriptions of the trilobites and other Crustacea of the Oriskany, upper Helderberg, Hamilton, Portage, Chemung, and Catskill groups: Paleontology of New York, v. 7, 236 p.

\*SSP

Hall, James, and Simpson, G. B., 1887, Corals and Bryozoa, in Descriptions of figures of species from the lower Helderberg, upper Helderberg, and Hamilton groups: Paleontology of New York, v. 6, 298 p.

\*SEM

Hall, W. E., and Heyl, A. V., 1968, Distribution of minor elements in ore and host rock, Illinois-Kentucky fluorite district and Upper Mississippi Valley zinc-lead district: Economic Geology, v. 63, p. 655-670.

\*SEM

Hanor, J. S., 1979, The sedimentary genesis of hydrothermal fluids, in Barnes, H. L., ed., Geochemistry of hydrothermal ore deposits: New York, John Wiley & Sons, p. 137-172.

\*SEM

Hanor, J. S., 1980, Dissolved methane in sedimentary brines--Potential effects on the PTV properties of fluid inclusions: Economic Geology, v. 75, p. 603-609.

\*SSP SIL

Harper, J. D., 1969, Stratigraphy, sedimentology, and paleoecology of the Rondout Formation (Late Silurian), eastern New York State: Providence, R.I., Brown University, Ph.D. thesis, 296 p.

\*SGRS SST

Harris, L. D., and Bayer, K. D., 1979, Sequential development of the Appalachian orogen above a master decollement--A hypothesis, Geology: v. 7, p. 568-572.

\*SST

Harris, A. G., Harris, L. D., and Epstein, J. B., 1978, Oil and gas data from Paleozoic rocks in the Appalachian basin: Maps for assessing hydrocarbon potential and thermal maturity (conodont alteration isograds and overburden isopachs): U.S. Geological Survey Miscellaneous Investigations Series Map I-917-E.

\*SSP SIL

Hartnagel, C. A., 1905, Notes on the Siluric or Ontaric section of eastern New York: New York State Museum Bulletin 80, p. 342-358.

\*SEM SEN

Hartnagel, C. A., 1927, The mining and quarry industries of New York from 1919 to 1924: New York State Museum Bulletin 273, 102 p.

SEM SEN

Hartnagel, C. A., and Broughton, J. G., 1951, The mining and quarry industries of New York State, 1937 to 1948: New York State Museum Bulletin 343, 130 p.

\*SGR SST

Hatcher, R. D., Jr., 1978, Synthesis of the southern and central Appalachians, U.S.A., in Tozer, E. T., and Schenk, P. E., eds., Caledonian-Appalachian orogen of the North American region: Canada Geological Survey Paper 78-13 p. 149-157.

\*SGG

Hatcher, R. D., Williams, Harold, and Zietz, Isidore, eds., 1983, Contributions to the tectonics and geophysics of mountain chains: Geological Society of America Memoir 158, 223 p.

\*SGR

Haworth, R. T., Daniels, D. I., Williams, H., and Zeitz, I., 1980, Bouguer gravity anomaly map of the Appalachian orogen: Memorial University of Newfoundland, Map 3.

\*SGG SSP SMI

Heald, M. T., 1961, Differential cementation in the Tuscarora Sandstone: Journal of Sedimentary Petrology, v. 30, p. 568-577.

\*SEI SEM SST

Hearn, P. P., Sutter, J. F., Kunk, M. J., and Belkin, H. E., 1985, Evidence for Alleghenian brine migration in the central and southern Appalachians: Implications for Mississippi Valley-type sulfide mineralization: Geological Society of America Abstracts with Programs, v. 17, p. 606.

\*SEM

Hearn, P. P., Jr., and Sutter, J. F., 1985, Authigenic potassium feldspar in Cambrian carbonates--Evidence of Alleghenian brine migration: Science, v. 228, p. 1529-1531.

\*SEM

Hearn, P. B., Sutter, J. F., and Belkin, H. E., 1987, Authigenic K-feldspar-- An indicator of the geochronology and chemical evolution of mineralizing fluids in carbonate-hosted lead-zinc deposits: U.S. Geological Survey Circular 995, p. 28.

\*SST SGR

Herman, G. C., and Monteverde, D. H., 1988, The Jenny Jump - Crooked Swamp structural front of northern New Jersey: Alleghenian overthrusting of a Taconic foreland: Geological Society of America, Northeastern Section, Abstracts with Programs, v. 20, p. 26.

\*SPG SGE

Heroy, W. B., 1974, History of Lake Wawarsing, in Coates, D. R., ed., Glacial geomorphology: State University of New York at Binghamton, Special Publications in Geomorphology, p. 277-292.

\*SPO

Heusser, Ernest, 1939, The Shawangunk Mountains of New York: Rocks and Minerals, v. 14, p. 311-313.

\*SEM SMI SPO

Heusser, George, 1976, An update on collecting around Ellenville, New York: Rocks and Minerals, v. 51, p. 339-341.

\*SEM SMI SPO

Heusser, George, 1976, Gold, silver, and other mines of the Shawangunks: Ellenville, N.Y., Privately printed, 38 p.

\*SEM SMI SPO

Heusser, George, 1976, Legend and history and minerals of the Ellenville mines: Ellenville, N.Y., Privately printed, 26 p.

\*SEM SMI SPO

Heusser, George, 1977, The Shawangunk Mountain lead-zinc deposit: Rocks and Minerals, v. 52, p. 515-520.

\*SEM SST

Heyl, A. V., 1985, Precambrian crustal and lineament controls of the Upper Mississippi Valley-type base metal districts in the north-central United States: Global Tectonics and Metallogeny, v. 3, p. 8.

\*SEM

Heyl, A. V., 1968, The Upper Mississippi Valley base-metal district, in Ridge, J. D., ed., Ore deposits of the United States, 1933-1967--The Graton-Sales volume: New York, American Institute of Mining, Metallurgical and Petroleum Engineers, p. 431-459.

\*SEM SEI

Heyl, A. V., 1983, Geologic characteristics of three major Mississippi Valley districts, in Kisvarsanyi, Geza, Grant, S. K., Pratt, W. P., and Koenig, J. W., eds., International conference on Mississippi Valley type lead-zinc deposits: Rolla, Missouri, University of Missouri-Rolla, p. 27-60.



\*SEM

Heyl, A. V., Agnew, A. F., Lyons, E. J., and Behre, C. H., Jr., 1959, The geology of the zinc and lead deposits of the Upper Mississippi Valley district: U.S. Geological Survey Professional Paper 309, 310 p.

\*SEM

Heyl, A. V., and Bozion, C. N., 1979, A review of some massive and disseminated sulfide deposits in the northeastern United States: Geological Society of America Abstracts with Programs, v. 11, p. 16.

\*SEM SEI

Heyl, A. V., Delevaux, M. H., Zartman, R. E., and Brock, M. R., 1966, Isotopic study of galenas from the Upper Mississippi Valley, the Illinois-Kentucky, and some Appalachian Valley mineral districts: Economic Geology, v. 61, p. 933-961.

\*SEM SEI

Heyl, A. V., Landis, G. P., and Zartman, R. E., 1974, Isotopic evidence for the origin of Mississippi Valley-type mineral deposits--A review: Economic Geology, v. 69, p. 992-1006.

\*SGR

Hildenbrand, T. G., Simpson, R. W., Jr., and Godson, R. H., 1982, Digital colored residual and regional Bouguer gravity maps of the conterminous United States with cut-off wavelengths of 250 km and 1000 km: U.S. Geological Survey Geophysical Investigations Map GP-953A.

\*SSP ORD

Hiscott, R. N., 1984, Ophiolitic source rocks for Taconic-age flysch--Trace element evidence: Geological Society of America Bulletin, v. 95, p. 1261-1267.

\*SEM

Hoagland, A. D., 1976, Appalachian zinc-lead deposits, in Wolf, K. H., ed., Handbook of strata-bound and stratiform ore deposits: New York, Elsevier, v. 6, p. 495-534.

\*SSP SIL DEV

Hoar, F., and Bowne, Z., 1967, Brachiopods and stratigraphy of the Rondout Formation in the Rosendale quadrangle, southeastern New York: Journal of Paleontology, v. 41, p. 1-36.

\*SEM

Hodge, J. T., 1854, The Ulster lead mines: Mining Magazine, v. 2, p. 138-147.

\*SSP ORD SIL SMS

Holzwasser, Florrie, 1926, Geology of Newburgh and vicinity: New York State Museum Bulletin 270, 95 p.

\*SST

Hopeck, J., and Sharp, W., 1986, New constraints on Alleghenian-age deformation of Martinsburg and Shawangunk Formations, Lehigh water gap, Pennsylvania: Geological Society of America Abstracts with Programs, v. 18, p. 23.

\*SEM

Howe, S. S., 1984, Formation of Mississippi Valley-type lead-zinc deposits by periodic expulsion of basin brines--An example from central Pennsylvania: Geological Society of America Abstracts with Programs, v. 16, p. 544-545.

\*SEM SEI SMI

Howe, S. S., 1981, Mineralogy, fluid inclusions, and stable isotopes of lead-zinc occurrences in central Pennsylvania: State College, Pennsylvania State University, M.S. thesis, 155 p.

\*SEM SEI SMI

Howe, S. S., 1988, Locations and descriptions of mineralized rock samples from Mississippi Valley-type lead-zinc occurrences in central Pennsylvania: U.S. Geological Survey Open-File Report 88-250, 37 p.

\*SGG

Howell, B. F., 1942, Geological studies in Ulster County, New York: New York State Museum Bulletin 327, p. 73-76.

\*SPP ORD

Howell, B. F., 1942, Graptolites from Ordovician Normanskill Shale at Kingston Point, Ulster County, New York: New York State Museum Bulletin 327, p. 77-80.

\*SSP ORD

Howell, B. F., 1942, Two new localities for fossils in the Ordovician Snake Hill Shale of Ulster County, New York: New York State Museum Bulletin 327, p. 81-86.

\*SSP DEV

Howell, B. F., 1942, New localities for fossils in the Devonian Esopus Grit of Ulster County, New York: New York State Museum Bulletin 327, p. 87-94.

\*SST SSP ORD

Hsu, K. J., 1968, The principles of melanges and their bearing on the Franciscan-Knoxville paradox: Geological Society of America Bulletin, v. 79, p. 1063-1074.

\*SSP SIL

Hunter, R. E., 1970, Facies of iron sedimentation in the Clinton Group, in Fisher, G. W., and others, eds., Studies of Appalachian geology--central and southern: New York, Interscience Publishers, p. 101-121.

\*SEM SMS

Ihlseng, A. O., 1903, Zinc mines at Ellenville, N. Y.: Engineering and Mining Journal, v. 75, p. 630.

\*SEM

Ingham, A. I., 1940, The zinc and lead deposits of Shawangunk Mountain, New York: Economic Geology, v. 35, p. 751-760.

\*SST

Isachsen, Y. W., 1974, Extent and configuration of the Precambrian in northeastern United States: New York Academy of Science Transactions, Series 2, v. 36, p. 812-829.

\*SPO SST

Isachsen, Y. W., 1980, Continental collisions and ancient volcanoes--The geology of southeastern New York: New York State Museum and Science Service Geological Survey Educational Leaflet, no. 24, 15 p.

\*SST

Isachsen, Y. W., Wright, S. F., Revetta, F. H., and Dinjeen, R. J., 1977, The Panther Mt. circular structure: A possible buried meteorite crater, in Wilson, P. C., ed., Guidebook to Field Excursions, 49th Annual Meeting, New York State Geological Association, p. B1-B28.

\*SEM SSP SST

Jackson, S. A., and Beales, F. W., 1967, An aspect of sedimentary basin evolution: The concentration of Mississippi Valley-type ores during late stages of diagenesis: Canadian Journal of Petrology Geology, v. 15, p. 383-433.

\*SSP ORI

Jaffe, H. W., and Jaffe, E. B., 1973, Bedrock geology of the Monroe quadrangle, Orange County, New York: New York State Museum and Science Service Map and Chart Series, no. 20, 74 p.

\*SMI SPO

Jensen, D. E., 1978, Minerals of New York State: Rochester, N.Y., Upward Press, Wards Natural Science Establishment, Inc., 220 p.

\*SEN

Johnsen, J. H., and Schaffel, Simon, 1967, The economic geology of the Mid-Hudson Valley region: New York State Geological Association Guidebook to field trips, 39th Annual Meeting, New Paltz, New York, 1967, p. B1-B18.

\*SSP DEV

Johnsen, J. H., and Southard, J. B., 1962, The Schoharie Formation in southeastern New York: New York State Geological Association Guidebook to field trips, 34th Annual Meeting, Port Jervis, New York, p. A7-A23.

\*SST

Johnsson, M. J., 1986, Distribution of maximum burial temperatures across northern Appalachian basin and implications for Carboniferous sedimentation patterns: Geology, v. 14, p. 384-387.

\*SSP DEV SST

Johnsson, M. J., 1987, Reply to Comment on "Distribution of maximum burial temperature across northern Appalachian Basin and implications for Carboniferous sedimentation patterns": Geology, v. 15, p. 279-280.

\*SEM SMI

Jolly, J. L., and Heyl, A. V., 1968, Mercury and other trace elements in sphalerite and wallrocks from central Kentucky, Tennessee and Appalachian zinc districts: U.S. Geological Survey Bulletin 1252-F, p. F1-F29.

\*SST SSP ORD

Kalaka, M. J., and Waines, R. H., 1986, The Ordovician shale belt, lower Wallkill valley, southern Ulster and northern Orange Counties, southeastern New York--A new structural and stratigraphic interpretation: Geological Society of America Abstracts with Programs, v. 18, p. 25.

\*SGR SST

Kane, M. F., 1981, Gravity evidence of crustal structure in the United States Appalachians, in Schenk, P. E., ed., Regional trends in the geology of the Appalachian-Caledonian-Hercynian-Mauritanide orogen: NATO Advanced Study Institute, Series C-Math. Phys. Sci., Dortrecht, Netherlands, D. Reidel, 10 p.

\*SGR

Kane, M. F., Hildenbrand, T. G., Simpson, R. W., Jr., Godson, R. H., and Bracken, R. E., 1983, Crust and mantle structure of the conterminous U.S. from wavelength-filtered gravity data (abs.), Geophysics, v. 48, no. 4, p. 445.

\*SSP DEV SST

Karig, D. E., 1987, Comment on "Distribution of maximum burial temperature across northern Appalachian Basin and implications for Carboniferous sedimentation patterns": Geology, v. 15, p. 278-279.

\*SEM

Kisvarsanyi, Geza, Grant, S. K., Pratt, W. P., and Koenig, J. W., 1983, eds., International conference on Mississippi Valley type lead-zinc deposits--Proceedings volume: Rolla, Missouri, University of Missouri-Rolla, 603 p.

\*SSP SIL

Kjellesvig-Waering, E. N., 1964, Euripterida--Notes on the subgenus Hushmilleria (Nanahushmilleria) from the Silurian of New York: Journal of Paleontology, v. 38, p. 410-412.

\*SGE SPO

Kopsick, P. R., 1977, Quaternary geology of the lower Shawangunk Kill, Wallkill River Valley, Ulster County, New York: Geological Society of America Abstracts with Programs, v. 9, p. 287.

\*SEI

Kulp, J. L., Ault, W. U., and Feely, H. W., 1956, Sulfur isotope abundances in sulfide minerals: Economic Geology, v. 51, no. 2, p. 139-150.

\*SEM SEI

Kulp, J. L., and Eckelmann, F. D., 1959, Lead isotopes and ore deposition in the southeast Missouri lead district: Economic Geology, v. 54, p. 1344-1345.

**\*SSP DEV SST**

Lakatos, Stephen, and Miller, D. S., 1983, Fission-track analysis of apatite and zircon defines a burial depth of 4 to 7 km for lowermost Upper Devonian, Catskill Mountains, New York: *Geology*, v. 11, p. 103-104.

**\*SSP DEV**

Laporte, L. F., 1967, Carbonate deposition near mean sea level and resultant facies mosaic--Manlius Formation (Lower Devonian) of New York State: *American Association of Petroleum Geologists Bulletin*, v. 51, p. 73-101.

**\*SSP DEV**

Laporte, L. F., 1969, Recognition of a transgressive carbonate sequence within an epeiric sea--Helderberg Group (Lower Devonian) of New York State, in *Symposium on Depositional Environments of Carbonate Rocks, Proceedings: Society of Economic Paleontology and Mineralogy Special Publication 14*, p. 98-119.

**\*SEM SEI**

Larson, L. T., Miller, J. D., Nadeau, J. E., and Roedder, E., 1973, Two sources of error in low temperature homogenization determinations and corrections on published data for the East Tennessee and Laisvall deposits: *Economic Geology*, v. 68, p. 113-116.

**\*SMS SGG**

Lash, G. G., 1985, Geologic map and sections of the Kutztown 7 1/2 minute quadrangle, Pennsylvania: *U.S. Geological Survey Quadrangle Map GQ-1577*.

**\*SST**

Lash, G. G., and Drake, A. A., Jr., 1984, The Richmond and Greenwich slices of the Hamburg klippe in eastern Pennsylvania--Stratigraphy, sedimentology, structure and plate tectonic implications: *U.S. Geological Survey Professional Paper 1312*, 40 p.

**\*SST**

Lash, G. G., Lyttle, P. T., and Epstein, J. B., 1984, Geology of an accreted terrane: the eastern Hamburg klippe and surrounding rocks, eastern Pennsylvania: *Guidebook for the 49th Annual Field Conference of Pennsylvania Geologists: Harrisburg, Pennsylvania, Pennsylvania Geological Survey*, 151 p. and folded map.

**\*SPG**

Laverdiere, Camille, Bernard, Claude, and Dionne, Jean-Claude, 1968, Les types de broutures glaciaires (glacial chattermarks)--pt. 2, Observations effectuées au Quebec: *Review Géographie Montreal*, v. 22, no. 2, p. 159-173.

**\*SEM SST**

Leach, D. L., 1973, Possible relationship of Pb-Zn mineralization in the Ozarks to the Ouachita orogeny: *Geological Society of America Abstracts with Programs*, v. 5, p. 269.

**\*SEM SMI**

Leach, 1979, Temperature and salinity of the fluids responsible for minor occurrences of sphalerite in the Ozark region of Missouri: *Economic Geology*, v. 74, p. 931-937.

**\*SEM**

Leach, D. L., Viets, J. G., and Rowan, L. , 1984, Appalachian-Ouachita orogeny and Mississippi Valley-type lead-zinc deposits: *Geological Society of America Abstracts with Programs*, v. 16, p. 572.

**\*SEM SST**

Leach, D. L., and Rowan, E. L., 1986, Genetic link between Ouachita foldbelt tectonism and the Mississippi Valley-type lead-zinc deposits of the Ozarks: *Geology*, v. 14, p. 931-935.

**\*SSP DEV SST**

Levine, J. R., 1986, Deep burial of coal-bearing strata, Anthracite region, Pennsylvania: Sedimentation or tectonics?: *Geology*, v. 14, p. 577-580.

**\*SMS SGG**

Lewis, J. V., and Kummel, H. B., 1910-1912, *Geologic map of New Jersey*, revised by H. B. Kummel, 1931 and by M. E. Johnson, 1950, *Geological Survey of New Jersey*.

**\*SSP ORD SIL**

Liebling, R. S., and Scherp, H. S., 1982, Late-Ordovician/Early-Silurian hiatus at the Ordovician-Silurian boundary in eastern Pennsylvania: *Northeastern Geology*, v. 4, p. 17-19.

**\*SSP DEV**

Lindholm, R. C., 1967, *Petrology of the Onondaga Limestone (Middle Devonian)* New York: Baltimore, Johns Hopkins University, Ph.D. thesis, 188 p.

**\*SST**

Long, E. T., 1922, Minor faulting in the Cayuga Lake region: *American Journal of Science*, v. 3, p. 229-248.

**\*SGR SST**

Long, L. T., 1979, The Carolina slate belt--Evidence of a continental rift zone, *Geology*, v. 7, no. 4, p. 180-184.

**SPG SGE SST**

Losee, Margaret, and Medville, Douglas, 1970, Structurally controlled joint caves in the Shawangunk Mountains, Ellenville, New York: *National Speleological Society Bulletin*, v. 32, p. 47.

**\*SEM SMI**

Luedke, E. M., Wrucke, C. T., and Graham, J. A., 1959, Mineral occurrences of New York State with selected references to each locality: *U.S. Geological Survey Bulletin* 1072-F, p. 385-444.

**\*SST SSP ORD SIL**

Lukas, T., Rutstein, M. S., and Waines, R. H., 1977, Re-examination of the Silurian-Ordovician angular unconformity in southeastern New York: Geological Society of America Abstracts with Programs, v. 9, p. 296.

**\*SMS SGG SMS**

Lyttle, P. T., and Epstein, J. B., 1986, Geologic map of the Newark 1° x 2° quadrangle, New Jersey, Pennsylvania, New Jersey and New York: U.S. Geological Survey Miscellaneous Investigation Series Map I-1715.

**\*SMS SGG**

Lyttle, P. T., Lash, G. G., and Epstein, J. B., 1986, Bedrock geologic map of the Slatedale quadrangle, Pennsylvania: U.S. Geological Survey Map GQ-1598.

**\*SGR SST**

Lyttle, P. T., and Phillips, J. D., 1981, Multiple tectonic levels of allochthonous Proterozoic rocks in the central Appalachians: Geological Society of America, Northeastern Section, Abstracts with Programs, v. 13, p. 143.

**\*SSP ORD**

McBride, E. F., 1960, Martinsburg flysch of the central Appalachians: Baltimore, Johns Hopkins University, Ph.D. thesis, 367 p.

**\*SSP SST ORD**

McBride, E. F., 1962, Flysch and associated beds of the Martinsburg Formation (Ordovician), central Appalachians: Journal of Sedimentary Petrology, v. 32, p. 39-91.

**\*SEM SEI**

McKnight, E. T., 1967, Bearing of isotopic composition of contained lead on the genesis of Mississippi Valley ore deposits: Economic Geology Monograph 3, p. 392-399.

**\*SST**

Marshak, Stephen, 1986, Structure and tectonics of the Hudson Valley fold-thrust belt, eastern New York State: Geological Society of America Bulletin, v. 97, p. 354-368.

**\*SEM**

Marshall, R. R., and Joensuu, Oiva, 1961, Crystal habit and trace element content of some galenas: Economic Geology, v. 56, p. 758-771.

**\*SSG**

Mather, W. W., 1839, Third annual report on the geology of the First Geological District of the State of New York, with appendix by W. Horton on the geology of Orange County: New York State Assembly Document No. 275.

**\*SGG**

Mather, W. W., 1840, Fourth annual report on the geology of the First Geological District of the State of New York: New York State Assembly Document No. 275.

\*SSP SST SEM SEN SMS ORD SIL DEV

Mather, W. W., 1843, Geology of New York, pt. 1, Comprising the geology of the first geological district: Albany, New York, 653 p.

\*SSP ORI

Maxey, L. R., 1976, Petrology and geochemistry of the Beemerville carbonatite-alkalic rock complex, New Jersey: Geological Society of America Bulletin, v. 87, p. 1551-1559 (additional data in Geological Society of America Supplementary Material 76-20).

\*SSP SIL

Meckel, L. D., 1970, Paleozoic alluvial deposition in the central Appalachians: A summary, in Fisher, G. W., Pettijohn, F. J., Reed, J. C., Jr., and Weaver, K. N., eds., Studies in Appalachian geology--Central and southern: New York, Interscience Publishers, p. 49-67.

\*SEM SEN

Merrill, F. J. H., 1895, Mineral resources of New York State: New York State Museum Bulletin, v. 3, no. 15, p. 365-595.

\*SPO SSP ORD SIL DEV SEM SEN

Merrill, F. J. H., 1898, A guide to the study of the geological collections of the New York State Museum: New York State Museum Bulletin, v. 4, no. 19, p. 109-125.

\*SSP SIL DEV

Mesolella, K. J., 1978, Paleogeography of some Silurian and Devonian reef trends, central Appalachian basin: American Association of Petroleum Geologists Bulletin, v. 62, p. 1607-1644.

\*SST

Miller, D. S., and Duddy, I. R., 1986, Burial and uplift history of northern Appalachian Basin--Apatite and zircon fission-track chronology: Geological Society of America Abstracts with Programs, v. 18, p. 55.

\*SGG SPO

Miller, W. J., 1924, The geological history of New York State: New York State Museum Bulletin 255, 148 p.

\*SSP ORI

Milton, Charles, 1947, Diabase dikes of the Franklin Furnace, New Jersey quadrangle: Journal of Geology, v. 55, p. 522-526.

\*SSP ORI

Milton, Charles, 1952, Dikes of special petrologic interest: Pennsylvania Geologists Guidebook to field trips, 18th Annual Field conference, Sussex County, New Jersey, p. 1-12.

\*SSP ORI

Milton, Charles, 1964, Note on "nepheline syenite" from Brookville, New Jersey: American Journal of Science, v. 262, p. 119-1123.



\*SSP ORI

Milton, Charles, and Davidson, N., 1950, An occurrence of natrolite, andradite and allanite in the Franklin Furnace quadrangle, New Jersey: American Mineralogist, v. 35, p. 500-507.

\*SST

Mitch, G. J., and Waines, R. H., 1982, Discussion of Salkind, Morris, 1979, "Silurian tectonic activity in southeastern New York" Northeastern Geology, v. 1, p. 48-57: Northeastern Geology, v. 4, p. 46-48.

\*SEI SEM

Mitchell, R. H., and Krouse, H. R., 1971, Isotopic composition of sulfur and lead in galena from the Greenhow-Skyreholme area, Yorkshire, England: Economic Geology, v. 66, p. 243-251.

\*SEM SEC

Mount Hope Mineral Company, 1863, Certificate of Incorporation of the Mount Hope Mineral Company with the By-laws of the Company: New York City, Privately printed, 16 p.

\*SEM SEG

Moxham, R. L., 1969, Distribution of Cu, Pb, and Zn in surficial materials near Shawangunk Mountain, New York: Geological Society of America Abstracts 1969, pt. 1 (Northeast Section), p. 42.

\*SEM SEG

Moxham, R. L., 1972, Geochemical reconnaissance of surficial materials in the vicinity of Shawangunk Mountain, New York: New York State Museum and Science Service Geological Survey Map and Chart Series, no. 21, 20 p.

\*SST

Murphy, P. J., Bruno, T. L., and Lanney, N. A., 1980, Decollement in the Hudson River Valley: Summary: Geological Society of America Bulletin, v. 91, p. 258-262.

\*SSP SIL

Muskatt, H. S., 1969, Petrology of the origin of the Clinton Group (Silurian) of east-central New York and its relationship to the Shawangunk Formation (Silurian) of southeastern New York: Syracuse, Syracuse University, Ph.D. thesis, 356 p.

\*SEM

Mutschler, F. E., Wilbur, J. S., and Friedman, J. D., 1988, Ore sulfides from Shawangunk Mountains, New York, zinc-lead deposits compared with sulfides from MVT deposits: Geological Society of America Abstracts with Programs, v. 20, p. 57.

\*SGE SPG

Myers, R. E., 1946, The glacial lakes of the Shawangunk Mountains, Ulster County, New York: Rocks and Minerals, v. 21, p. 3-5.

\*SEM

Nash, J. T., 1976, Fluid-inclusion petrology--Data from porphyry copper deposits and applications to exploration: U.S. Geological Survey Professional Paper 907-D, p. D1-D16.

\*SEM SEN

Nason, F. L., 1894, Economic geology of Ulster County: New York State Museum 47th Annual Report, p. 569-600.

\*SST

Naylor, R. S., 1971, Acadian orogeny: An abrupt and brief event: Science, v. 172, p. 558-559.

\*SSP SIL

Naylor, R. S., and Boucot, A. J., 1965, Origin and distribution of rocks of Ludlow age (Late Silurian) in the northern Appalachians: American Journal of Science, v. 263, p. 153-169.

\*SEM

Neumann, G. L., 1952, Guymard lead-zinc deposit, Orange County, N.Y.: U.S. Bureau of Mines Report of Investigations 4909, 10 p.

\*SEM SEN

Newland, D. H., 1921, The mineral resources of the State of New York: New York State Museum Bulletin 223-224, 315 p.

\*SEM

Newland, D. H., 1933, The prospects for gold discoveries in New York State: New York State Museum Circular 12, 6 p.

\*SEM

Newland, D. H., 1936, Mineralogy and the origin of the Taconic limonites: Economic Geology, v. 31, p. 133-155.

\*SEN

Newland, D. H., and Hartnagel, C. A., 1928, The mining and quarry industries of New York for 1925 and 1926: New York State Museum Bulletin 277, 126 p.

\*SEM SEN

Newland, D. H., and Hartnagel, C. A., 1932, The mining and quarry industries of New York State for 1927 to 1929: New York State Museum Bulletin 295, 99 p.

\*SEM

Newland, D. H., and Hartnagel, C. A., 1939, The mining and quarry industries of New York State for 1934 to 1936: New York State Museum Bulletin 319, 108 p.

\*SEM SEC

New York and Montgomery Mining Company, 1852, Reports of chemist and geologist, October 21, 1852: New York City, Privately printed, 8 p. (U.S. Geological Survey Library, Reston, Virginia, Catalog No. 422/(221)/N48r).

\*SEM SEN SPO

New York State Department of Commerce, 1950, The mineral industries of New York State: Albany, New York State Department of Commerce, Division of Commerce and Industry, 108 p.

\*SEM SEC

New York Zinc Company, 1852, Report: New York City, Privately printed, 9 p. (U.S. Geological Survey Library, Reston, Virginia, Catalog No. 422/(221)/N489n).

\*SSP ORD ORI SIL SMS

Offield, T. W., 1967, Bedrock geology of the Goshen-Greenwood Lake area, New York: New York State Museum and Science Service Map and Chart Series, no. 9, 77 p.

\*SEM SEI

Ohmoto, H., 1972, Systematics of sulfur and carbon isotopes in hydrothermal ore deposits: Economic Geology, v. 67, p. 551-578.

\*SEM SEI

Ohmoto, H., and Rye, R. O., 1979, Isotopes of sulfur and carbon, in Barnes, H. L., ed., Geochemistry of hydrothermal ore deposits, (2d ed.): New York, John Wiley and Sons, p. 509-567.

\*SEM SST

Oliver, Jack, 1986, Fluids expelled tectonically from orogenic belts--Their role in hydrocarbon migration and other geologic phenomena, Geology, v. 14, p. 99-102.

\*SSP DEV

Oliver, W. A., Jr., 1956, Biostromes and bioherms of the Onondaga Limestone in eastern New York: New York State Museum and Science Service Circular 45, 23 p.

\*SSP DEV

Oliver, W. A., Jr., 1956, Stratigraphy of the Onondaga Limestone in eastern New York: Geological Society of America Bulletin, v. 67, p. 1441-1474.

\*SSP DEV

Oliver, W. A., Jr., 1962, The Onondaga Limestone in southeastern New York: New York State Geological Association Guidebook to field trips, 34th Annual Meeting, Port Jervis, New York, p. A2-A6.

\*SGR SST

Osberg, P. H., 1978, Synthesis of the geology of the northeastern Appalachians, U.S.A., in Tozer, E. T., and Schenk, P. E., eds., Caledonian Appalachian orogen of the Appalachian region: Canada Geological Survey Paper 78-13, p. 137-147.

\*SEM

Panno, S. V., Harbottle, G., Sayre, V. E., and Hood, W. C., 1983, Genetic implication of halide enrichment near a Mississippi Valley-type ore deposit: Economic Geology, v. 78, p. 150-156.

\*SSP SIL DEV

Pedersen, Kenneth, Sichko, Michael, Jr., and Wolft, M. P., 1976, Stratigraphy and structure of Silurian and Devonian rocks in the vicinity of Kingston, New York, in Guidebook to Field Excursions, 48th New York State Geological Association Annual Meeting, Poughkeepsie, N. Y., p. B-4-1 to B-4-27.

\*SST SSP ORD

Perissoratis, C., Brock, P. W. G., Brueckner, H. K., Drake, A. A., Jr., and Berry, W. B. N., 1979, The Taconides of western New Jersey: New evidence from the Jutland klippe: Geological Society of America Bulletin, v. 90, p. 154-177.

\*SST

Phillips, W. E. A., Stillman, C. J., and Murphy, T., 1976, A Caledonian plate tectonic model: Geological Society of London Journal, v. 132, p. 579-609.

\*SEM

Potter, R. W., II, Clynne, M. A., and Brown, D. L., 1978, Freezing point depression of aqueous sodium chloride solutions: Economic Geology, v. 73, p. 284-285.

\*SGR SST

Podwysocki, M. H., Pohn, H. A., Phillips, J. D., Krohn, M. D., Purdy, G. L., and Merin, I. S., 1982, Evaluation of remote-sensing geological and geophysical data for south-central New York and northern Pennsylvania: U.S. Geological Survey Open-File Report 82-319, 120 p.

\*SST

Prucha, J. J., 1968, Salt deformation and decollement in the Firtree Point anticline of central New York: Tectonophysics, v. 6, p. 273-299.

\*SPO

Quinlan, J. E., 1873, The History of Sullivan County: LC No. 1-14268, published by G. M. Beebe and W. P. Morgans, Liberty, New York, 700 p.

\*SST

Rankin, D. W., 1976, Appalachian salients and recesses--Late Precambrian continental breakup and opening of the Iapetus Ocean: Journal of Geophysical Research, v. 81, p. 5605-5619.

\*SSP ORI

Ransome, F. L., 1899, On a new occurrence of nepheline syenite in New Jersey: American Journal of Science, 4th series, v. 8, p. 417-426.

\*SSP ORI

Ratcliffe, N. M., 1968, Contact relations of the Cortlandt Complex at Stony Point, New York and their regional implications: Geological Society of America Bulletin, v. 79, p. 777-786.

\*SSP ORI

Ratcliffe, N. M., 1971, Ramapo fault system in New York and adjacent northern New Jersey--A case of tectonic heredity: Geological Society of America Bulletin, v. 82, p. 125-141.

\*SSP ORI

Ratcliffe, N. M., 1981, Cortlandt-Beemerville magmatic belt--A probable late Taconian alkalic cross trend in the central Appalachians: Geology, v. 9, p. 329-335.

\*SSP ORI

Ratcliffe, N. M., Armstrong, R. L., Mose, D. G., Seneschal, R., Williams, N., and Baramonte, M. J., 1982, Emplacement history and tectonic significance of the Cortlandt Complex: American Journal of Science: v. 282, p. 358-390.

\*SST SSP ORD SIL DEV

Ratcliffe, N. M., Bird, J. M., and Bahrami, B., 1975, Structural and stratigraphic chronology of the Taconide and Acadian polydeformational belt of the central Taconics of New York State and Massachusetts, in Ratcliffe, N. M., ed., New England Intercollegiate Geology Conference, 67th Meeting Guidebook, New York, p. 55-86.

\*SSP DEV

Rehmer, Judith, 1976, Petrology of the Esopus Shale (Lower Devonian), New York and adjacent states: Cambridge, Massachusetts, Harvard University, Ph.D. thesis, 288 p.

\*SPG SGE

Rich, J. L., 1935, Glacial geology of the Catskills: New York State Museum Bulletin 299, 180 p.

\*SEM

Rickard, D. T., 1973, Limiting conditions for synsedimentary sulfide ore formation: Economic Geology, v. 68, p. 605-617.

\*SSP DEV

Rickard, L. V., 1952, The Middle Devonian Cherry Valley Limestone of eastern New York: American Journal of Science, v. 250, p. 511-522.

\*SEM

Rickard, L. V., 1960, Portions of the Port Jervis, Monticello, Ellenville, Slide Mountain, and Rosendale quadrangles (1:24,000; 1:31,680; and 1:62,500): New York State Museum and Science Service Geological Survey Open-File (unpublished) maps.

\*SSP SIL DEV

Rickard, L. V., 1962, Late Cayugan (Upper Silurian) and Helderbergian (Lower Devonian) stratigraphy in New York: New York State Museum and Science Service Bulletin 386, 157 p.

**\*SSP DEV**

Rickard, L. V., 1964, Correlation chart of the Devonian rocks in New York State: New York State Museum and Science Service Geological Survey Map and Chart Series, no. 4.

**\*SSP SIL**

Rickard, L. V., 1969, Stratigraphy of the Upper Silurian Salina Group, New York, Pennsylvania, Ohio, and Ontario: New York State Museum and Science Service Map and Chart Series, no. 12, 57 p.

**\*SSP ORD**

Rickard, L. V., 1973, Stratigraphy and structure of the subsurface Cambrian and Ordovician carbonates of New York: New York State Museum and Science Service Map and Chart Series Number 18, 23 p.

**\*SSP SIL DEV**

Rickard, L. V., 1975, Correlation of the Silurian and Devonian rocks in New York State: New York State Museum and Science Service Map and Chart Series, no. 24, 16 p.

**\*SEM**

Rickard, D. T., Willden, M. Y., Marinder, N. E., and Donnelly, T. H., 1979, Studies on the Genesis of the Laisvall Sandstone Lead-Zinc Deposit, Sweden, Economic Geology, v. 74, p. 1255-1285.

**\*SSP**

Rickard, L. V., 1981, The Devonian System of New York State, in Oliver, W. A., and Klapper, G., eds., Devonian biostratigraphy of New York: Washington, D. C., International Union of Geological Sciences, Meeting of Subcommittee on Devonian Stratigraphy, p. 5-22.

**\*SSP SST ORD**

Rickard, L. V., and Fisher, D. W., 1973, Middle Ordovician Normanskill Formation, eastern New York--Age, stratigraphic and structural position: American Journal of Science, v. 273, p. 580-590.

**\*SEN**

Ries, Heinrich, 1901, Lime and cement industries of New York: New York State Museum Bulletin, v. 8, no. 44, p. 640-968.

**\*SEM**

Robinson, G. R., Jr., 1986, Gold and associated metals at Cuttingsville, Vermont: Geological Society of America Abstracts with Programs, v. 18, p. 62-63.

**\*SEM SEC**

Rochester Copper and Lead Mining Company, 1864, Prospectus of the Rochester Copper and Lead Mining Company: New York City, Privately printed, 21 p. (U.S. Geological Survey Library, Reston, Virginia, Catalog no. 422/(221)/R58p).

\*SST

Rodgers, John, 1967, Chronology of tectonic movements in the Appalachian region of eastern North America: American Journal of Science, v. 265, p. 408-427.

\*SGR SST

Rodgers, John, 1968, The eastern edge of the North American Continent during the Cambrian and early Ordovician, in Zen, E-An and others, eds., Studies of Appalachian Geology: Northern and Maritime: New York, John Wiley, p. 141-149.

\*SST

Rodgers, John, 1970, The tectonics of the Appalachians: New York, Wiley-Interscience, 271 p.

\*SEM

Roedder, Edwin, 1967, Environment of deposition of stratiform (Mississippi Valley-type) ore deposits, from studies of fluid inclusions: Economic Geology Monograph 3, p. 349-361.

\*SEM

Roedder, Edwin, 1971, Fluid-inclusion evidence on the environment of formation of mineral deposits of the southern Appalachian Valley: Economic Geology, v. 66, p. 777-791.

\*SEM

Roedder, Edwin, 1984, Fluid inclusions: Reviews in Mineralogy, v. 12, 644 p.

\*SEM

Roedder, Edwin, Heyl, A. V., and Creel, J. P., 1968, Environment of ore deposition at the Mex-Tex deposits, Hansonburg district, New Mexico, from studies of fluid inclusions: Economic Geology, v. 63, p. 336-348.

\*SGG

Rogers, H. D., 1838, Second annual report on the (1st) geological exploration of the State of Pennsylvania: Harrisburg, 93 p.

\*SST

Root, S. I., and MacLachlan, D. B., 1978, Western limit of Taconic allochthons in Pennsylvania: Geological Society of America Bulletin, v. 89, p. 1515-1528.

\*SSP

Rubin, P. A., 1981, New aspects on the stratigraphy and structure of the Shawangunk Mountains, Ulster County, southeastern New York: Geological Society of America Abstracts with Programs, v. 13, p. 173.

\*SSP ORD

Ruedemann, Rudolf, 1901, Hudson River beds near Albany and their taxonomic equivalents: New York State Museum Bulletin 42, p. 489-596.

\*SSP ORD

Ruedemann, Rudolf, 1904, Graptolites of New York. Part 1, Graptolites of the lower beds: New York State Museum Memoir 7, 349 p.

\*SSP ORD SIL DEV

Ruedemann, Rudolf, 1908, Graptolites of New York. Part 2, Graptolites of the higher beds: New York State Museum Memoir 11, 583 p.

\*SSP SIL

Ruedemann, Rudolf, 1912, The Lower Siluric shales of the Mohawk Valley: New York State Museum Bulletin 162, 151 p.

\*SSP ORD SIL DEV

Ruedemann, Rudolf, 1930, Geology of the Capital district (Albany, Cohoes, Troy, and Schenectady quadrangles): New York State Museum Bulletin 285, 218 p.

\*SEM

Ruedemann, Rudolf, 1931, Age and origin of the siderite and limonite of the Burden iron mines near Hudson, New York: New York State Museum Bulletin 286, p. 135-149.

\*SGE SPG

Ruedemann, Rudolf, 1932, Development of drainage of the Catskills: American Journal of Science, Series 5, v. 23, p. 337-349.

\*SSP SST SPG ORD

Ruedemann, Rudolf, 1942, Geology of the Catskill and Kaaterskill quadrangles, Part 1, Cambrian and Ordovician geology of the Catskill quadrangle, with sections on Glacial geology by J. H. Cook, and Economic geology by D. H. Newland: New York State Museum Bulletin 331, 251 p.

\*SEM SEI

Russell, R. D., and Farquhar, R. M., 1960, Lead isotopes in geology: New York, Wiley - Interscience, 243 p.

\*SEM SEN SPO SSP ORD SIL DEV SST

Rutstein, M. S., 1977, The lithologies and geologic evolution of the Mid-Hudson Valley: New Paltz, N.Y., State University College at New Paltz, 46 p.

\*SEM

Rutstein, M. S., 1979, Pb-Zn-Cu mineralization in southeastern New York: Geological Society of America Abstracts with Programs, v. 11, p. 51.

\*SMI

Rutstein, M. S., 1987, Mineralogy of the Ellenville-Accord area, in O'Brien, L. E., and Matson, L. R., eds., Field Trip Guidebook for the National Association of Geology Teachers, Eastern Section, Stone Ridge, New York, p. 110-124.

\*SST SEM

Rutstein, M. S., Gronwald, K., and Conrad, D., 1983, Illite crystallinity studies of Mid-Hudson River valley Ordovician shales: Geological Society of America, Northeastern Section Meeting, March 23-26, 1983, Concord Hotel, Kiamesha Lake, New York, Guidebook Field Trip 2, p. 47-64.



\*SEI SEM

Rye, R. O., and Ohmoto, H., 1974, Sulfur and carbon isotopes and ore genesis: a review: *Economic Geology*, v. 69, p. 826-842.

\*SST

Salkind, Morris, 1974, The Shawangunk klippe: *Geological Society of America Abstracts*, v. 6, no. 1, p. 67.

\*SST

Salkind, Morris, 1979, Silurian tectonic activity in southeastern New York: *Northeastern Geology*, v. 1, p. 48-57.

\*SST

Salkind, Morris, 1981, Discussion of "Silurian tectonic activity in southeastern New York" by Mitch, G. J., and Waines, R. H., 1982, *Northeastern Geology* no. 1, p. 46-48.; Reply: *Northeastern Geology*, v. 3, p. 144-148.

\*SEM

Samana, J. C., 1976, Comparative review of the genesis of the copper-lead sandstone type deposits, in Wolf, K. H., ed., *Handbook of stratabound and stratiform ore deposits*: New York, Elsevier Scientific Publishing Company, v. 6, p. 1-8.

\*SST SSP SGG

Sanders, J. E., 1983, Reinterpretation of the subsurface structure of the Middletown gas well (Crom-Wells, Inc. 1 Fee) in light of concept of large-scale bedding thrusts: *Northeastern Geology*, v. 5, p. 172-180.

\*SEI SEM

Sangster, D. F., 1968, Relative sulfur abundances of ancient seas and stratabound sulfide deposits: *Geological Association of Canada Proceedings*, v. 19, p. 79-91.

\*SEI SEM

Sangster, D. F., 1976, Sulfur and lead isotopes in stratabound deposits, in Wolf, K. H., ed., *Handbook of stratabound and stratiform ore deposits*: New York, Elsevier Scientific Publishing Company, v. 2, p. 219-266.

\*SEM

Sangster, D. F., 1983, Mississippi Valley-type deposits: A geological melange, in Kisvarsanyi, Geza, Grant, S. K., Pratt, W. P., and Koenig, J. W., eds., *International conference on Mississippi Valley type lead-zinc deposits -- Proceedings volume*: Rolla, Missouri, University of Missouri-Rolla, p. 7-19.

\*SST

Schneider, P. F., 1905, Preliminary note on some overthrust faults in central New York: *American Journal of Science*, v. 20, p. 308-312.

\*SSP SIL

Schuchert, Charles, 1916, Silurian formations of southeastern New York, New Jersey, and Pennsylvania: *Geological Society of America Bulletin*, v. 27, p. 531-554.

\*SSP SST ORD SIL DEV

Schuchert, Charles, and Longwell, C. R., 1932, Paleozoic deformations of the Hudson valley region, New York: American Journal of Science, 5th series, v. 23, p. 305-326.

\*SPO

Shattuck, G. B., 1907, Some geological rambles near Vassar College: Poughkeepsie, New York, Vassar College Press, 108 p.

\*SEM SEC

Shawangunk Lead Mining Company, 1863, Reports: New York City, Privately printed, 15 p. (U.S. Geological Survey Library, Reston, Virginia, Catalog no. 422/(221)/Sh2r).

\*SSP SIL DEV

Shimer, H. W., 1905, Upper Siluric and lower Devonian faunas of Trilobite Mountain, Orange County, New York: New York State Museum Bulletin 80, p. 173-265.

\*SST SSP ORD

Shyer, E. B., and Waines, R. H., 1980, A rescheduling of the Hudson River phase of the Taconic orogeny -- Paleogeographic and paleotectonic implications of Late Ordovician (Richmondian) marine strata in southeastern New York: Geological Society of America Abstracts with Programs, v. 12, p. 83.

\*SSP SIL

Sibley, D. F., and Blatt, Harvey, 1976, Intergranular pressure solution and cementation of the Tuscarora orthoquartzite: Journal of Sedimentary Petrology, v. 46, p. 881-896.

\*SEM

Siegel, D. I., Chamberlain, S. C., and Dossert, W. P., 1987, The isotopic and chemical evolution of mineralization in septarian concretions--Evidence for episodic paleohydrogeologic methanogenesis: Geological Society of America Bulletin, v. 99, p. 385-394.

\*SGR

Simpson, R. W., Hildenbrand, T. G., Godson, R. H., and Kane, M. F., 1982, A description of colored gravity and terrain maps for the conterminous United States, shown on 35-mm slides, U.S. Geological Survey Open-File Report 82-477, 7 p.

\*SEM SMI

Sims, P. K., and Hotz, P. E., 1951, Zinc-lead deposit at Shawangunk mine, Sullivan County, New York: U.S. Geological Survey Bulletin 978-D, p. 101-121.

\*SMS

Skiba, J. T., 1985, Bedrock geologic mapping in New York: New York State Geological Survey, New York State Museum Circular 50.

**\*SEG**

Smiley, D., Rubin, P. A., and Egemeier, S. J., 1981, Acid precipitation in the Shawangunk Mountains, Ulster County, southeastern New York: Geological Society of America Abstracts with Programs, v. 13, p. 177.

**\*SEM SSP DEV**

Smith, A. T., and Rose, A. W., 1985, Relation of red-bed copper-uranium occurrences to the regional sedimentology of the Catskill Formation in Pennsylvania: Geological Society of America Special Paper 201, p. 183-197.

**\*SMS**

Smith, B. L., 1971, Engineering geology of the Yards Creek hydroelectric pumped storage project, in Subitzky, Seymour, ed., Geology of selected areas in New Jersey and Pennsylvania and guidebook of excursions: New Brunswick, N. J., Rutgers University Press, p. 348-353.

**\*SSP SIL**

Smith, N. D., 1967, A stratigraphic and sedimentologic analysis of some Lower and Middle Silurian clastic rocks of the north-central Appalachians: Providence, R. I., Brown University, Ph.D. thesis, 195 p.

**\*SSP SIL**

Smith, N. D., 1968, Cyclic sedimentation in a Silurian intertidal sequence in eastern Pennsylvania: Journal of Sedimentary Petrology, v. 38, p. 1301-1304.

**\*SSP SIL**

Smith, N. D., 1970, The braided stream depositional environment--Comparison of the Platte River with some Silurian clastic rocks, north-central Appalachians: Geological Society of America Bulletin, v. 81, p. 2993-3013.

**\*SEM**

Smith, R. C., II, 1977, Zinc and lead occurrences in Pennsylvania: Pennsylvania Bureau of Topographic and Geological Surveys Mineral Resource Report 72, 318 p.

**\*SEM**

Smith, R. C., II, Herrick, D. C., Rose, A. W., and McNeal, J. M., 1971, Zinc-lead occurrences near Mapleton, Huntingdon County, Pennsylvania: Pennsylvania State University Earth Mineral Science Experimental Station Circular 83, 38 p.

**\*SEM**

Smock, J. C., 1889, Iron mines and iron-ore districts in the State of New York: New York State Museum Bulletin 7, 70 p.

**\*SGG SEG SPO SGE SPG**

Snyder, Bradley, and Beard, Karl, 1981, The Shawangunk Mountains--A history of nature and man: New Paltz, N. Y., Mohonk Preserve Inc., 48 p.

**\*SSP ORI**

Spencer, A. C., Kummel, H. B., Wolff, J. E., Salisbury, and Palache, Charles, 1908, Franklin Furnace quadrangle: U.S. Geological Survey, Folio 161, 27 p.

**\*SEM**

Spirakis, C. S., 1983, A possible precipitation mechanism for sulfide minerals in Mississippi Valley-type lead-zinc deposits, in Kisvarsanyi, Geza, Grant, S. K., Pratt, W. P., and Koenig, J. W., eds., International conference on Mississippi Valley type lead-zinc deposits--Proceedings volume: Rolla, Missouri, University of Missouri-Rolla, p. 211-215.

**\*SEM**

Spirakis, C. S., and Heyl, A. V., 1987, A link among 34 sulfur-rich pyrite in greenish-gray shales, ferric iron from smectite as it converts to illite, kinetics of sulfur redox reactions, and the genesis of Mississippi Valley-type deposits: U.S. Geological Survey Circular 995, p. 68-69.

**\*SST SSP ORD**

Stanley, R. S., and Ratcliffe, N. M., 1985, Tectonic synthesis of the Taconic orogeny in western New England: Geological Society of America Bulletin, v. 96, p. 1227-1250.

**\*SST**

Stiefel, F. W., 1942, Constructing the Delaware aqueduct under the Shawangunk Range: Civil Engineering, v. 13, no. 4, p. 199-202.

**\*SST**

Stose, G. W., 1946, The Taconic sequence in Pennsylvania: American Journal of Science, v. 244, p. 665-696.

**\*SST**

Sutter, J. F., Ratcliffe, N. M., and Mukasa, S. B., 1985,  $^{40}\text{Ar}/^{39}\text{Ar}$  and K-Ar data bearing on the metamorphic and tectonic history of western New England: Geological Society of America Bulletin, v. 96, p. 123-136.

**\*SEM**

Sverjensky, D. A., 1981, The origin of a Mississippi Valley-type deposit in the Viburnum Trend, Southeast Missouri, Economic Geology, v. 76, p. 1848-1872.

**\*SEM SEI**

Sverjensky, D. A., Rye, D. M., and Doe, B. R., 1979, The lead and sulfur isotopic compositions of galena from a Mississippi Valley-type deposit in the New Lead belt, southeast Missouri: Economic Geology, v. 74, p. 149-153.

**\*SEM**

Sverjensky, D. A., 1986, A model for the origin of the metal ratios of sediment-hosted base-metal sulfide ore deposits: EOS, v. 67, p. 388-389.

**\*SST**

Swanson, M. T., 1986, Preexisting fault control for Mesozoic basin formation in eastern North America: Geology, v. 14, p. 419-422.

\*SSP SIL

Swartz, C. K., and Swartz, F. M., 1930, Age of the Shawangunk conglomerate of eastern New York: American Journal of Science, 5th series, v. 20, p. 467-474.

\*SSP SIL

Swartz, C. K., and Swartz, F. M., 1931, Early Silurian formations of southeastern Pennsylvania: Geological Society of America Bulletin, v. 42, p. 621-661.

\*SPG SEG SMS

Sweet, A. T., and Secor, Wilbur, 1940, Soil survey of Ulster County, New York: U.S. Department of Agriculture, Bureau of Plant Industry, Series 1934, no. 22, 52 p.

\*SEM

Tan, L. P., 1967, Stratiform copper mineralization at Pahaquarry, New Jersey, U.S.A.: Geological Society of China Proceedings, no. 10, p. 145-150.

\*SEM SST

Taylor, M., Kelley, W. C., Kesler, S. E., McCormick, J. E., Rasnick, F. D., and Mellon, W. V., 1983, Relationship of zinc mineralization in East Tennessee to Appalachian orogenic events, in Kisvarsanyi, Geza, Grant, S. K., Pratt, W. P., and Koenig, J. W., eds., Proceedings, International Conference on Mississippi Valley-Type Lead-Zinc Deposits: Rolla, University of Missouri-Rolla, p. 271-278.

\*SEM

Taylor, M., Kesler, S. E., Cloke, P. L., and Kelly, W. C., 1983, Fluid inclusion evidence for fluid mixing, Mascot-Jefferson City zinc district, Tennessee: Economic Geology, v. 78, p. 1425-1439.

\*SGR SST

Taylor, S. F., and Toksoz, M. N., 1979, Three-dimensional crust and upper mantle structure of the northeastern United States, Journal of Geophysical Research, v. 84, p. 7627-7644.

\*SEM SPO

Terwilliger, K. T., 1969, Before today's headlines--Some attempts at mining in the Town of Wawarsing: Ellenville, N. Y., Ellenville Journal, Part 1, November 27; Part 2, December 4; Part 3, December 11; Part 4, December 18.

\*SEM

Terwilliger, K. T., 1982, Napanoch--Land overflowed by water: Ellenville, New York, Ellenville Public Library and Museum, 266 p.

\*SGE

Thompson, H. D., 1949, Drainage evolution in the Appalachians of Pennsylvania: New York Academy of Science Annals, v. 52, p. 31-67.

\*SSP SIL

Thomson, A. F., 1957, Petrology of the Silurian quartzites and conglomerates in New Jersey: New Brunswick, Rutgers University, Ph.D. thesis, 491 p.

\*SEM SST

Tillman, J. E., and Barnes, H. L., 1983, Deciphering fracturing and fluid migration histories in northern Appalachian Basin: American Association of Petroleum Geologists Bulletin, v. 67, p. 692-705.

\*SEN SEG SMS SGE SPG

Tornes, L. A., 1979, Soil survey of Ulster County, New York: U.S. Department of Agriculture Soil Conservation Service, 273 p.

\*SEM SEC

Ulster Company, 1853, By-laws of the Ulster Company, Ellenville, New York: New York City, Privately printed, 8 p. (U.S. Geological Survey Library, Reston, Virginia, Catalog no. 422/(221)/U18b).

\*SEM SEC

Ulster Company, 1854, Official reports of the Ulster Company: New York City, Privately printed, 20 p. (U.S. Geological Survey Library, Reston, Virginia, Catalog no. 422/(221)/U18o).

\*SEM SEC

Union Lead Mining Company, 1863, Report: New York City, Privately printed, 22 p. (U.S. Geological Survey Library, Reston, Virginia, Catalog no. 422/(221)/Un4r).

\*SSP SST ORD SIL DEV SMS

van Ingen, Gilbert, and Clark, P. E., 1903, Disturbed fossiliferous rocks in the vicinity of Rondout, N.Y.: New York State Museum Bulletin 69, Paleontology 9, p. 1176-1227.

\*SSP ORD

Vidale, R., 1974, Vein assemblages and metamorphism in Dutchess County, New York: Geological Society of America Bulletin, v. 85, p. 303-306.

\*SEM

Vine, J. D., and Tourtelot, E. B., 1970, Geochemistry of black shale deposits-- A summary report: Economic Geology, v. 65, p. 253-272.

\*SST SSP ORD

Vollmer, F. W., 1981, Structural studies of the Ordovician flysch and melange in Albany County, New York: Albany, State University of New York at Albany, M.S. thesis, 151 p.

\*SEG SPG

Wahlen, M., Kothari, B., Elmore, D., Banerjee, S. K., and Leskee, W., 1983,  
10 Be in lake systems: EOS, v. 64, p. 282-283.

\*SSP SIL

Waines, R. H., 1976, Stratigraphy and paleontology of the Binnewater Sandstone from Accord to Wilbur, New York, in Johnson, J. H., ed., Guidebook to Field Excursions, 48th New York State Geological Association Annual Meeting, Poughkeepsie, N. Y., p. B-3-1 to B-3-15.

**\*SSP ORD SST**

Waines, R. H., 1980, Stratigraphy and significance of a 10,000 foot arenite sequence in a late Medial-medial Late Ordovician outlier in southeastern Ulster County, New York: Geological Society of America Abstracts with Programs, v. 12, p. 543.

**\*SSP ORD**

Waines, R. H., 1986, The Quassaic Group, A Medial to Late Ordovician arenite sequence in the Marlboro Mountains outlier, mid-Hudson Valley, New York, U.S.A.: Geological Journal, v. 21, p. 337-351. (Contains references to numerous student papers).

**\*SSP SIL DEV**

Waines, R. H., and Hoar, F., 1967, Upper Silurian-Lower Devonian stratigraphic sequence, western Mid-Hudson Valley region, Kingston to Accord, Ulster County, New York (Trip D): New York State Geologists Association 39th Annual Meeting Guidebook to field trips, p. D1-D28.

**\*SST SSP SIL ORD**

Waines, R. H., and Sanders, B. A., 1968, The Silurian-Ordovician angular unconformity, southeastern New York, in Guidebook for Field Trip: National Association of Geology Teachers, Eastern Section Meeting, April 5-6, 1968, Guidebook to Field Trips, p. 2-20.

**\*SSP ORD SST SMS**

Waines, R. H., Shyer, E. B., and Rutstein, M. S., 1983, Middle and Upper Ordovician sandstone shale sequences of the Mid-Hudson region west of the Hudson River: Geological Society of America, Northeastern Section Meeting, March 23-26, 1983, Concord Hotel, Kiamesha Lake, New York, Guidebook Field Trip 2, p. 1-46.

**\*SSP ORD**

Walcott, C. D., 1890, The value of the term "Hudson River Group" in geologic nomenclature: Geological Society of America Bulletin, v. 1, p. 335-356.

**\*SEM SEC**

Wallkill Lead Company, 1863, Certificate of incorporation of the Wallkill Lead Company, By-laws: New York City, Privately printed, 11 p. (U.S. Geological Survey Library, Reston, Virginia, Catalog no. 422/(221)/W14c).

**\*SEM SEC**

Wallkill Lead Company, 1864, The Wallkill Lead Company: New York City. Privately printed, 16 p. (U.S. Geological Survey Library, Reston, Virginia, Catalog no. 422/(221)/W14w).

**\*SST SSP SIL DEV**

Wanless, H. R., 1920, Final report on the geology of the Rosendale cement district: Princeton, Princeton University, M.A. Thesis, XX p.

**\*SSP SIL**

Warren, L. E., and Waines, R. H., 1986, Relation of the Wilbur Limestone to the Rosendale Dolostone Member of the Rondout Formation (Late Silurian), Kingston to Accord, Ulster County, southeastern New York--A revised interpretation: Geological Society of America Abstracts with Programs, v. 18, p. 74.

\*SMI SSP ORD

Weber, J. N., and Middleton, G. V., 1961, Geochemistry of the turbidites of the Normanskill and Charny Formations--I. Effect of turbidity currents on the chemical differentiation of turbidites: *Geochimica et Cosmochimica Acta*, v. 22, p. 200-243.

\*SMI SSP ORD

Weber, J. N., and Middleton, G. V., 1961, Geochemistry of the turbidites of the Normanskill and Charny Formations--II. Distribution of trace elements: *Geochimica et Cosmochimica Acta*, v. 22, p. 244-288.

\*SEM

Weed, W. H., 1911, Copper deposits of the Appalachian states: U.S. Geological Survey Bulletin 455, 99 p.

\*SPG SGE SST

Werner, E., and Medville, D., 1980, Structurally controlled caves in quartzite, Shawangunk Mountains, southeastern New York: *National Speleological Society Bulletin*, v. 42, no.2, p. 26.

\*SMI SEM

Whitlock, H. P., 1903, New York mineral localities: *New York State Museum Bulletin* 70, Mineralogy 3, 108 p.

\*SMI

Whitlock, H. P., 1910, Calcites of New York: *New York State Museum Memoir* 13, 190 p.

\*SEM

Whitney, P. R., 1973, Variation of heavy metal content with particle size in stream sediments: *Geological Society of America Abstracts*, v. 5, p. 238.

\*SEM SEI SMI

Wilbur, J. S., 1986, Shawangunk Mountains, New York zinc-lead-copper veins--Fluid inclusion, geochemical, and isotope studies: Cheney, Washington, Eastern Washington University, M.S. thesis, 65 p.

\*SSP ORI

Wilkerson, A. S., 1952, Tinguaitite and bostonite in northwestern New Jersey: *American Mineralogist*, v. 37, p. 120-125.

\*SSP SIL

Willard, Bradford, 1928, The age and origin of the Shawangunk Formation: *Journal of Paleontology*, v. 1, p. 255-258.

\*SEG

Wiltshire, D. A., and Evans, M. L., 1984, Acid precipitation--An annotated bibliography: U.S. Geological Survey Circular 923, 282 p.

\*SSP DEV SST

Wolff, M. P., 1977, Tectonic origin and redefinition for the type section of a Middle Devonian conglomerate within the Marcellus Fm. (Hamilton Group) of southern New York: The Alcove Conglomerate - a sandy debris flow [abs.]: *Geological Society of America, Abstracts with Programs*, v. 9, p. 331.



**\*SST SEN**

Wood, G. H., Jr., and Bergin, M. J., 1970, The Valley and Ridge and Appalachian Plateau; structure and tectonics; structural controls of the anthracite region, Pennsylvania: in Fisher, G. W., Pettijohn, F. J., Reed, J. C., Jr., and Weaver, K. N., 1970: Studies of Appalachian Geology, central and southern: Interscience Publications, New York, p. 147-160.

**\*SSP DEV**

Woodrow, D. L., and Sevon, W. D., eds., 1985, The Catskill delta: Geological Society of America Special Paper 201, 246 p.

**\*SEM SSP SIL**

Woodward, H. P., 1944, Copper mines and mining in New Jersey: New Jersey Department of Conservation and Development, Geological Series, Bulletin 57, 156 p.

**\*SST**

Woodward, H. P., 1957, Structural elements of northeastern Appalachians: Bulletin of the American Association of Petroleum Geologists, v. 41, p. 1429-1440.

**\*SGE SPG**

Woodworth, J. B., 1905, Ancient water levels of the Champlain and Hudson valleys: New York State Museum Bulletin 84, 203 p.

**\*SEM**

Worthington, J. E., 1955, Biogeochemical prospecting at the Shawangunk mine--A case study: Economic Geology, v. 50, p. 420-429.

**\*SSP SIL**

Yeakel, L. S., Jr., 1962, Tuscarora, Juniata, and Bald Eagle paleocurrents and paleogeography in the central Appalachians: Geological Society of America Bulletin, v. 73, p. 1515-1539.

**\*SSP ORI**

Zartman, R. E., Brock, M. R., Heyl, A. V., and Thomas, H. H., 1967, K-Ar and Rb-Sr ages of some alkalic intrusive rocks from central and eastern United States: American Journal of Science, v. 265, p. 848-870.

**\*SST**

Zartman, R. E., Hurley, P. M., Krueser, H. W., and Giletti, B. J., 1970, A Permian disturbance of K-Ar radiometric ages in New England--Its occurrence and cause: Geological Society of America Bulletin, v. 81, p. 3359-3374.

**\*SSP ORD**

Zen, E-an, 1964, Taconic stratigraphic names--Definitions and synonyms: U.S. Geological Survey Bulletin 1174, 95 p.

**\*SST SSP ORD**

Zen, E-an, 1967, Time and space relationships of the Taconic allochthon and autochthon: Geological Society of America Special Paper 97, 197 p.

\*SST

Zen, E-an, 1972, The Taconide zone and the Taconic orogeny in the western part of the northern Appalachian orogeny: Geological Society of America Special Paper 135, 72 p.

\*SST

Zietz, Isidore, and Gilbert, F. P., 1981, Aeromagnetic map of New York: U.S. Geological Survey Geophysical Investigations Map GP-0938.

\*SGR

Zietz, Isidore, Haworth, R. T., Williams, Harold, and Daniels, D. L., 1980, Magnetic anomaly map of the Appalachian orogen: Memorial University of Newfoundland.

\*SEM SMI SPO

Zodac, Peter, 1937, Digging rock crystals near Napanoch, N.Y.: Rocks and Minerals, v. 12, no. 2, p. 54.

\*SEM SMI SPO

Zodac, Peter, 1937, Ellenville quartz crystals: Rocks and Minerals, v. 12, no. 2, p. 49-50.

## APPENDIX

### Computer program BIBLIO for sorting references

#### PROGRAM BIBLIO

Program BIBLIO is used to select records from a file containing bibliographic references. Each reference must begin with an asterisk ('\*') in column one. The first line of the reference, (the line containing the asterisk) consists of a series of three-character keys separated by spaces. The following lines contain the reference itself. These lines may contain asterisk characters, as long as they are not in column one. The purpose of BIBLIO is to select only those references which contain a key specified by the user. These selected references are copied to the output file specified by the user.

#### USING PROGRAM BIBLIO

THE FOLLOWING IS THE PROCEDURE FOR USING THE PROGRAM BIBLIO:

##### (1) TYPE

\$RUN BIBLIO

(2) BIBLIO will respond by asking for an input file name. Enter the file name that contains the bibliographic references. Hit carriage return. If an error was made in entering the file name BIBLIO will continue to prompt for an input file name until a correct file name is entered.

(3) When the input file is accepted, BIBLIO will ask for an output file name. Enter an output file name and hit carriage return. If an invalid name is entered, BIBLIO will prompt a second time for a name.

(4) BIBLIO will prompt for a series of three-character keys. Enter a key and hit carriage return. BIBLIO requires at least one key but no more than twenty. When all the desired keys have been entered, type "%END" and carriage return.

(5) Processing will begin. "FORTRAN STOP" will be printed when processing is complete.

PROGRAM biblio

File names

```

        CHARACTER*40  infil, outfil
        CHARACTER*80  line
        CHARACTER*3   keys(20)

C          input and output logical units
        INTEGER      in,      out
C          number of keys
        >            , nkeys
C          integer function to return the length of a string
        >            , size

        LOGICAL      done

        DATA        in,out / 10, 11/
        >            , done /.FALSE./
10090      continue
        WRITE ( *, 10100 )
10100          FORMAT ( ' Enter input file name:')
        READ  ( *, 10110 ) infil
10110          FORMAT ( A40 )
C
C          NOTE: The read only OPTION in the open statement
C                is optional and nonstandard. It permits
C                users to run this program who do not have
C                write access to their DATA.
C
        OPEN        ( UNIT = in
        >            , STATUS = 'OLD'
        >            , FILE = infil
        >            , READ ONLY
        >            , ERR = 10090
        >            )

10115      continue
        WRITE ( *, 10120 )
10120          FORMAT ( ' Enter output file name:')
        READ ( *, 10110 ) outfil
C
C          NOTE: The "carriage control = 'LIST'" option is
C                nonstandard and optional. It suppresses
C                the interpretation of column 1 carriage con-
C                trol. This is to permit the output file to
C                have the same format as the input file.
C
        OPEN        ( UNIT = out
        >            , STATUS = 'NEW'
        >            , FILE = outfil
        >            , carriage control = 'LIST'
        >            , ERR = 10115
        >            )

        WRITE ( *, 10500 )
10500          FORMAT ( ' Enter up to 20 3 character keys,
        >            one per line. Terminate list',/,')

```

```

>          by type "%END".', ' All keys must
>          start in column one.')
done = .FALSE.
nkeys = 0
10520 continue
        WRITE (*, 10530)
10530         FORMAT ( X, 'Enter key:')
        READ ( *, 10540, END = 20000 ) line (1:4)
10540         FORMAT ( A4 )
        done = i .EQ. 19
        IF (.NOT.( line (1:4) .EQ. '%END' .OR.
>             line(1:4) .EQ. '%end' .OR.
>             line(1:4) .EQ. ' ' ) ) THEN
12
                keys ( nkeys) = line(1:3 )
            ELSE
                done = .TRUE.
            END IF
        IF ( .NOT. done ) goto 10520

20000 continue
WRITE ( *, '(X,i10, '' keys found.'')' ) nkeys
IF ( nkeys .EQ. 0 ) GOTO 40100

C      Loop to look for first "*"
20100 continue
        read ( in, 20200, END = 40100) line
20200         FORMAT ( A80)
        IF ( line (1:1) .EQ. '*' ) GOTO 30100
        CALL write ( out, line(1:size(line)) )
goto 20100

C      main process loop. Loop terminates only by de-
C      tecting EOF on read statement.
30100 continue
C      Search through all the keys
DO 30110 i = 1, nkeys
        IF ( index ( line,keys(i) ) .NE. 0)
>            GOTO 30400
30110 continue
C      Searched through all the keys, didn't find
C      a match - therefore we search for the next
C      "*"
30200 continue
        read ( in, 20200, END = 40100 ) line
        IF ( line(1:1) .EQ. '*' ) GOTO 30100
goto 30200

C      We have a match, write
30400 continue
        CALL write ( out, line(1:size(line)) )
        read ( in, 20200, END = 40100 ) line
        IF ( line(1:1) .NE. '*' ) GOTO 30400
GOTO 30100

```

```

40100      continue
          CLOSE ( UNIT = in )
          CLOSE ( UNIT = out)
          STOP
          END

C      SUBROUTINE write - write a variable alphanumeric
C                          string to a given unit.
C      Arguments: unit - (input) integer logical unit
C                          number to which string is to
C                          be written.
C                          str - (input) string of type character
C                          to be written.
C      Values returned: None
C      Description: In Vax-11 FORTRAN this subroutine
C                  can be replaced by a single
C                  statement write (unit, '(a)' ) str(1:size(str))
C                  where size is an integer function that
C                  returns the length of the string strip-
C                  ped of trailing blanks. However, stan-
C                  dard FORTRAN requires that the length
C                  of the string be specified in the for-
C                  mat statement. This routine creates
C                  a format that has the length. Then this
C                  format is used to perform the write.
C      SUBROUTINE write (unit, str )
C      write a character string, left justified, to logical
C      unit UNIT
C      INTEGER unit
C      CHARACTER*(*) str
C      CHARACTER*40 format
C      ENCODE (len(format), '('( A'',13,'')'')',format)
>      len(str)
C      WRITE ( unit, format ) str
C      RETURN
C      END

```