Bibliography of North American Geology, 1960

GEOLOGICAL SURVEY BULLETIN 1196
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The principal contributors to this volume were James W. Clarke, Georgianna D. Conant, Margaret Cooper, Wanda Lee Grimes, Bettie S. Hackman, Virginia M. Jussen, Ruth Reece King, Elisabeth S. Loud, Mildred Challman Mead, Florence V. Oftedahl, Douglas W. Rankin, Virginia E. Rees, and Walter S. White
BIBLIOGRAPHY OF NORTH AMERICAN GEOLOGY

1960

INTRODUCTION

The current annual volume lists publications that appeared during 1960 concerning the geology of the North American continent, Greenland, the West Indies and adjacent islands, Hawaii, Guam, and other island possessions, but not the trust territories of the United States. Articles by American authors published in foreign journals are cited if they deal with North American localities or are of a general nature, but not if they deal only with foreign areas. Articles on North America by foreign authors are included regardless of place of publication while those of a general nature are included only if they appeared in North American journals.

The citations are listed alphabetically by author, with full title and publication data. There follows a subject index to the papers cited. Geologic names in the index are those used by the individual authors, and their listing here does not imply approval by the Geological Survey.

The principal contributors to this volume were James W. Clarke, Georgiana D. Conant, Margaret Cooper, Wanda Lee Grimes, Bettie S. Hackman, Virginia M. Jussen, Ruth Reece King, Elisabeth S. Loud, Mildred Challman Mead, Florence V. Olteadal, Douglas W. Rankin, Virginia E. Rees, and Walter S. White.


SERIALS

The following list gives the abbreviated title of periodicals and serials most commonly cited in this bibliography, their complete titles, as used in library catalogs and the "Union List of Serials," and the place of publication. Periodicals cited only infrequently have been omitted from this list, but for those published in foreign countries, the place of publication has been included in the citation in the bibliography proper. Guidebooks, proceedings, and related types of literature prepared for special conferences, congresses, and symposiums are not listed here as serials but are cited in the bibliography proper under the name of the editor or of the issuing society.

Alabama Acad. Sci Jour -- Journal of the Alabama Academy of Science Montevallo, Alabama
Alabama Geol Survey Bull --
Alabama Geol Survey County Rept. --
Alabama Geol Survey Inf Ser --
Alabama Geol Survey Map --
Am Assoc Adv Sci Pub -- American Association for the Advancement of Science Publication Washington, D.C.
Am Assoc Petroleum Geologists Pacific Sec Correlation Sec -- American Association of Petroleum Geologists, Pacific Section, Correlation Section Los Angeles, California.
Am Ceramic Soc Bull. --
Am Ceramic Soc Jour --
American Ceramic Society Bulletin and Journal of the American Ceramic Society. Columbus, Ohio.
Am Geophys Union Trans -- American Geophysical Union Transactions. Washington, D.C.
Am Jour. Botany -- American Journal of Botany Botanical Society of America, Baltimore, Maryland
Am, Mineralogist -- American Mineralogist, Mineralogical Society of America, Washington, D. C.
Am Naturalist -- American Naturalist, Arizona State University, Tempe, Arizona.
Am Philos Soc. Trans. -- Transactions of the American Philosophical Society.
Am Soc Civil Engineers Trans. -- Transactions of the American Society of Civil Engineers.
Américas -- Américas Pan American Union, Washington, D. C.
Appalachia -- Appalachia, Appalachian Mountain Club, Boston, Massachusetts.
Arctic -- Arctic, Arctic Institute of North America, Montreal, Quebec.
Arizona Highways -- Arizona Highways Arizona Highway Department, Phoenix, Arizona.
Arkansas Archeol Soc Newsletter -- Arkansas Archeological Society Newsletter University Arkansas Museum, Fayetteville, Arkansas
Asoc Mexicana Geofisicos Explor. Bol -- Boletín de la Asociación Mexicana de Geofísicos de Exploración México, D. F.
Asoc Mexicana Geólogos Petroleros Bol -- Boletín de la Asociación Mexicana de Geólogos Petroleros. México, D F
Balneolog Soc Japan Jour -- Journal of the Balneological Society of Japan Chemical Institute of Tokyo University Tokyo, Japan.
Breviora -- Breviora Harvard College Museum of Comparative Zoology. Cambridge, Massachusetts
Brigham Young Univ. Research Studies Geology Ser. -- Brigham Young University Research Studies Geology Series. Provo, Utah.
Cahiers Géographie Québec -- Cahiers de Géographie de Québec Laval University Quebec, Canada.
California Coop. Oceanic Fisheries Inv Rept -- California Cooperative Oceanic Fisheries Investigations Reports Sacramento, California.
California Div Oil and Gas, California Oil Fields--Summ. Operations -- California Division of Oil and Gas, California Oil Fields--Summary of Operations San Francisco, California.
California Univ Pubs. Geol Sci -- University of California Publications in Geological Sciences Berkeley, California.
California Univ Scripps Inst. Oceanography Contr. -- University of California Scripps Institution of Oceanography Contribution La Jolla, California.
California Univ. Water Resources Center Contr. -- University of California Water Resources Center Contribution, Berkeley, California.
Canada Department of Mines and Technical Surveys Geographical Branch
Ottawa, Canada.
Inf. Bull -- Canada Department of Mines and Technical Surveys, Mineral
Resources Division, Mineral Information Bulletin, Ottawa, Canada
Canada Department of Mines and Technical Surveys Mines Branch Re-
Canada Geol. Survey Bull. --
Canada Geol Survey Econ. Geology Ser. --
Canada Geol. Survey Geophysics Paper --
Canada Geol. Survey Map --
Canada Geol. Survey Mem. --
Canada Geol. Survey Misc. Rept. --
Canada Geol. Survey Paper --
Canada Geol. Survey Prelim. Ser. Map --
Geological Survey of Canada Bulletin and Economic Geology Series and
Geophysics Paper and Map and Memoir and Miscellaneous Report and
Paper and Preliminary Series Map, Ottawa, Canada.
National Advisory Committee on Research in the Geological Sciences
Canada Natl. Mus. Bull. --
Canada Natl. Mus., Nat. History Paper --
National Museum of Canada Bulletin and Natural History Papers, Ottawa,
Canada.
Canadian Alpine Jour. -- Canadian Alpine Journal. Alpine Club of Canada,
Banff, Canada.
Canadian Audubon -- Canadian Audubon. Audubon Society of Canada, Toronto,
Canada.
Toronto, Canada.
Canadian Field-Naturalist -- Canadian Field-Naturalist. The Ottawa Field-
Naturalists' Club Ottawa, Canada.
Canadian Geog Jour. -- Canadian Geographical Journal. Royal Canadian
Geographical Society, Ottawa, Canada.
Canadian Geographer -- Canadian Geographer, Canadian Association of
Geographers. Ottawa, Canada.
Canadian Inst. Mining and Metallurgy Trans. -- Transactions of the Canadian
Institute of Mining and Metallurgy and of the Mining Society of Nova
Scotia, Montreal, Canada.
Council of Canada. Ottawa, Canada.
Canadian Jour. Chemistry -- Canadian Journal of Chemistry Natl Re-
search Council of Canada Ottawa, Canada.
Council of Canada. Ottawa, Canada.
Council of Canada. Ottawa, Canada.
Canadian Mineralogist -- Canadian Mineralogist. Mineralogical Association
of Canada. Ottawa, Canada.
Limited Toronto, Ontario.
Canadian Mining and Metall. Bull -- Canadian Mining and Metallurgical
Bulletin Canadian Institute of Mining and Metallurgy Montreal, Canada.
Canadian Mining Jour -- Canadian Mining Journal National Business
Publications Limited Gardenvale, Canada.
Publications Limited, Gardenvale, Canada.
Canadian Oil and Gas Industries -- Canadian Oil and Gas Industries, Na-
tional Business Publications Limited, Gardenvale, Canada.
SERIALS

Carleton Univ Dept Geology, Geol Paper -- Carleton University Department of Geology, Geological Paper, Ottawa, Canada.


Ciencia [Mexico] -- Ciencia Revista Hispano-Americana de Ciencias Puras y Aplicadas, Publicacion del Patronato de Ciencia, Mexico, D. F.


Cleveland Mus, Nat History Mus, News -- The Cleveland Museum of Natural History Museum News, Cleveland, Ohio.


Compass -- Compass, Brigham Young University, Provo, Utah.


Copelia -- Copelia, American Society of Ichthyologists and Herpetologists, Northridge, California.

Copenhagen Univ Mineralog. and Geol Mus, Contr, Mineralogy -- Mineralogical and Geological Museum of the University of Copenhagen, Contributions to Mineralogy, Copenhagen, Denmark.

Copenhague Univ, Mus, Mineralogie et Geologie Commun, Geol -- Musée de Minéralogie et de Géologie de l'Université de Copenhague, Communications, Copenhagen, Denmark.

Costa Rica Dept Geología, Minas y Petróleo Informes -- Costa Rica Departamento de Geología, Minas y Petróleo Informes, Ciudad Universitaria, Costa Rica.


Current Sci, [India] -- Current Science, Indian Institute of Science, Bangalore, India.

Cushman Found, Foram Research Contr. -- Cushman Foundation for Foraminiferal Research Contributions.

Cushman Found Foram, Research Spec, Pub -- Cushman Foundation for Foraminiferal Research Specail Publication.

De Re Metallica -- De Re Metallica, Montana School Mines, Butte, Montana.


Denison Univ Sci, Lab, Jour -- Denison University Journal of the Scientific Laboratories, Granville, Ohio.


Desert Mag -- Desert Magazine, Palm Desert, California.


Dissert Abs. -- Dissertation Abstracts, University Microfilms, Ann Arbor, Michigan.

Dominion Observatory Ottawa Pubs. -- Publications of the Dominion Observatory, Ottawa, Canada Department of Mines and Technical Surveys, Ottawa, Canada.
Eclogae Geol Helvetiae -- Eclogae Geologicae Helvetiae Société Géologique de Suisse Basel, Switzerland.
Erdfunde -- Erdfunde Ferd. Dümmlers Verlag Bonn, Germany.
Fieldiana Geology -- .
Gems and minerals -- Gems and Minerals. Mentone, California.
Geofisica Pura e Appl -- Geofisica Pura e Applicata. Instituto Geofisica Italiano. Milan, Italy.
Geol Mag -- Geological Magazine Stephen Austin and Sons Hertford, England
Geol Soc America Bull --
Geol Soc America Mem --
Geol. Soc America Proc --
Geol Soc London Proc. --
Geol Soc London Quart Jour --
Geolog. [Finland] -- Geologi Suomen Geologinen Seura, Otaniemi, Finland
Geonotes -- Geonotes Jamaica Geological Survey, Kingston, Jamaica
Geophysics -- Geophysics, Society of Exploration Geophysicists Tulsa, Oklahoma
Georgia Acad Sci Bull -- Bulletin of the Georgia Academy of Science Atlanta, Georgia
Georgia Geol Survey Inf Circ -- Georgia Geological Survey Information Circular Atlanta, Georgia.
Georgia Mineral Newsletter - Georgia Mineral Newsletter Georgia Geological Survey Atlanta, Georgia
Geoscience Abs -- Geoscience Abstracts American Geological Institute Washington, D C.
Geotimes -- Geotimes American Geological Institute, Washington, D C.
Glacier Nat History Assoc Spec Bull -- Special Bulletin, Glacier Natural History Association Kalispell, Montana
Great Northern Railway Co Mineral Research and Devel Dept Rept. -- Great Northern Railway Company Mineral Research and Development Department Report St Paul, Minnesota
Grønlands Geol Undersøgelse Bull --
Grønlands Geol. Undersøgelse Misc. Papers --
  Grønlands Geologiske Undersøgelse Bulletin and Grønlands Geologiske Undersøgelse Miscellaneous Paper Copenhagen Denmark
Gulf Coast Assoc. Geol Soc. Trans -- Gulf Coast Association of Geological Societies Transactions, New Orleans, Louisiana.
Hamburg Geol Staatsinst Mitt. -- Mitteilungen aus dem Geologischen Staatsinstitut in Hamburg Hamburg, Germany
Houston Geol Soc Bull -- Houston Geological Society Bulletin Houston, Texas
Idaho Bur. Mines and Geology Inf Circ --
Idaho Bur. Mines and Geology Pamph --
  Idaho Bureau of Mines Geology Information Circular and Pamphlet Moscow, Idaho
Illinois State Geol Survey Circ. --
Illinois State Geol Survey Educ Ser. --
Illinois State Geol Survey Guide Leaflet --
Illinois State Geol Survey Illinois Indus Minerals Note --
Illinois State Geol Survey Rept Inv --
Illinois Univ. Agr Expt Sta Bull -- University of Illinois Agricultural Experiment Station Bulletin Urbana, Illinois
SERIALS

India Geol Survey Recs -- Records of the Geological Survey of India, Calcutta, India
Indian Mineralogist -- Indian Mineralogist, Mineralogical Society of India, Madras, India
Indiana Acad Sci, Proc. -- Proceedings of the Indiana Academy of Science, Indianapolis, Indiana
Indian Geol. Survey Bull. --
Indian Geol. Survey Directory --
Indian Geol. Survey Mineral Economics Ser. --
Indian Geol. Survey Rept Prog. --

Ingemendar Civil -- Ingemendar Civil, Colegio de Ingeniero Civiles de Cuba, Havana, Cuba.

Inst. Centroamericano Inv. y Tecnol Indus, Noticias ICAITI -- Instituto Centroamericano de Investigación y Tecnología Industrial Noticias del ICAITI, Guatemala, Guatemala.


Internat Assoc Sci Hydrology Bull --

Interstate Oil Compact Comm. Comm Bull -- Interstate Oil Compact Committee Bulletin, Oklahoma City, Oklahoma.
Iowa Acad Sci Proc. -- Proceedings of the Iowa Academy of Science, Des Moines, Iowa


Iowa State Univ Sci. and Technology, Iowa Eng. Expt Sta Bull -- Iowa State University of Science and Technology, Iowa Engineering Experiment Station Bulletin, Ames, Iowa

Iris -- Iris History of Science Society, Seattle, Washington


Johns Hopkins Univ Studies in Geology -- Johns Hopkins University Studies in Geology, Baltimore, Maryland

Jour Chem and Eng Data -- Journal of Chemical and Engineering Data, American Chemical Society, Washington, D.C.

Jour Chem Physics -- Journal of Chemical Physics, American Institute of Physics, New York, New York


Jour Marine Research -- Journal of Marine Research, Yale University, New Haven, Connecticut

Jour Paleontology -- Journal of Paleontology, Society of Economic Paleontologists and Mineralogists, Tulsa, Oklahoma
SERIALS

Jour Petroleum Technology -- Journal of Petroleum Technology Society of Petroleum Engineers of AIME Dallas, Texas
Jour Sed Petrology -- Journal of Sedimentary Petrology Society of Economic Paleontologists and Mineralogists, Tulsa, Oklahoma,
Kansas Acad Sci Trans. -- Transactions of the Kansas Academy of Science Lawrence, Kansas
Kansas State Geol Survey Bull --
Kansas State Geol Survey Oil and Gas Inv -- State Geological Survey of Kansas Bulletin and Oil and Gas Investigations. Lawrence, Kansas
Kansas Univ. Paleont. Contr --
Kansas Univ. Sci Bull -- University of Kansas Paleontological Contributions and Science Bulletin. Lawrence, Kansas
Kansas Water Resources Board State Water Plan Studies -- Kansas Water Resources Board State Water Plan Studies. Topeka, Kansas
Kentucky Geol Survey, Rept Inv --
Kentucky Geol. Survey, Spec Pub. --
Kentucky Geological Survey, Report of Investigations and Special Publication Lexington, Kentucky
Koninkl Nederlandse Aardrijksk. Genoot Tijdschr -- Tijdschrift van het Koninklijk Aardrijkskundig Genootschap Amsterdam, Netherlands
Kyushu Univ Fac Sci Mem --
Kyushu Univ Fac Sci, Sci Repts Geology -- Kyushu University Memoirs of the Faculty of Science and Science Reports of the Faculty of Science, Geology Fukuoka, Japan.
Limnology and Oceanography -- Limnology and Oceanography American Society of Limnology and Oceanography Ann Arbor, Michigan
Liverpool and Manchester Geol Jour -- Liverpool and Manchester Geological Journal Liverpool Geological Society and Manchester Geological Association Liverpool, England
Los Angeles County Mus Contr Sci -- Los Angeles County Museum Contributions in Science Los Angeles, California,
Louisiana Geol Survey Folio Ser -- Louisiana Geological Survey Folio Series Baton Rouge, Louisiana,
Louisiana Geol Survey Water Resources Bull --
Louisiana State Univ Coastal Studies Inst Caribbean Beach Studies Tech Rept --
McLean Paleont Lab. Rept -- Reports from the McLean Paleontological Laboratory, Alexandria, Virginia
Maine Geol. Survey State Park Geol. Ser -- Maine Geological Survey State Park Geologic Series Augusta, Maine
Maine Water Utilities Assoc Jour. -- Journal of the Maine Water Utilities Association Augusta, Maine,
Manitoba Dept Mines and Nat Resources Mines Br Ann Rept --
Manitoba Dept. Mines and Nat Resources Mines Br Map --
Manitoba Dept Mines and Nat Resources Mines Br Pub --
Manitoba Department of Mines and Natural Resources Mines Branch Annual Report and Map and Publication Winnipeg, Canada
Massachusetts Inst Technology Soil Eng Div Pub -- Massachusetts Institute of Technology Soil Engineering Division Publication Cambridge, Massachusetts.


Medde om Grønland -- Meddelelser om Grønland Kommissionen for Videnskabelige Undersøgelser i Grønland Copenhagen, Denmark.

México Consejo Recursos Nat no Renovables Bol, -- México Consejo de Recursos Naturales no Renovables Boletín México, D. F.

México Univ, Nac Inst Geofísica Anales --

México Univ, Nac, Inst, Geofísica Mon, --

Universidad Nacional Autónomo de México Anales del Instituto de Geofísica and Monografías del Instituto de Geofísica México, D. F.

México Univ, Nac, Inst, Geología Anales --

México Univ Nac, Inst, Geología Bol, --

México Univ Nac Inst Geología Paleontología Mexicana --

Universidad Nacional Autónoma de México Instituto de Geología Anales and Boletín y Paleontología Mexicana, México, D. F.


Michigan Univ Mus Paleontology Contr, -- University of Michigan Contributions from the Museum of Paleontology, Ann Arbor, Michigan.


Mineralogist -- Mineralogist Mentone, California.


Mining Cong Jour -- Mining Congress Journal American Mining Congress, Washington, D. C.

Mining Eng -- Mining Engineering American Institute of Mining, Metallurgical, and Petroleum Engineers New York, New York.


Mining World -- Mining World, San Francisco, California.


Minnesota Dept Conserv, Div Waters Bull -- Minnesota Department of Conservation, Division of Waters Bulletin St. Paul, Minnesota.


Missouri Speleology -- Missouri Speleology Missouri Speleological Survey.
Columbia, Missouri
Bozeman, Montana
Montana Bur Mines and Geology Bull. --
Montana Bur Mines and Geology Mem. --
Montana Bur Mines and Geology Spec. Pub --
Montana Bureau of Mines and Geology Bulletin and Memoir and Special
Publication Butte, Montana
Nat History -- Natural History American Museum of Natural History, New
York, New York,
Natl. Acad. Sci. Proc. --
National Academy of Sciences Biographical Memoirs and Proceedings of the
National Academy of Sciences Washington, D.C.
Rept --
National Academy of Sciences - National Research Council Highway Re-
search Board Bulletin and Special Report, Washington, D.C.
Natl. Geog. Mag. -- National Geographic Magazine, National Geographic
Society, Washington, D.C.
Natl. Parks Mag -- National Parks Magazine, National Park Association,
Washington, D.C.
Natl. Petroleum Bibliography -- National Petroleum Bibliography Amarillo,
Texas.
Natl. Speleol. Soc. Bull. --
Natl. Speleol. Soc. Guidebook Ser. --
Natl. Speleol. Soc. NSS News --
Bulletin of the National Speleological Society and National Speleological
Society Guidebook Series and NSS News 1229 Allen Avenue, Falls Church,
Virginia
Naturaliste Canadien -- Le Naturaliste Canadien Université Laval Quebec,
Canada
Naturen -- Naturen Bergen, Norway
Nautilus -- The Nautilus American Malacological Union Philadelphia,
Pennsylvania
Nebraska Acad. Sci. Proc. -- Proceedings of the Nebraska Academy of
Science Lincoln, Nebraska.
Nebraska Univ. Conserv and Survey Div., Nebraska Water Survey Test Hole
Rept. -- University of Nebraska Conservation and Survey Division,
Nebraska Water Survey Test Hole Report Lincoln, Nebraska
Nebraska Univ. State Mus., Mus. Notes -- Museum Notes from the University
of Nebraska State Museum Lincoln, Nebraska
Neues Jahrb. Geologie u. Paläontologie Abh --
Neues Jahrb. Geologie u. Paläontologie Monatsh. --
Neues Jahrbuch für Geologie und Paläontologie Abhandlungen und Monat-
shefte, E. Schweizerbart'sche Verlagsbuchhandlung, Stuttgart, Germany.
Neues Jahrb. Mineralogie Abh --
Neues Jahrbuch für Mineralogie Abhandlungen E Schweizerbart'sche
Verglattsbuchhandlung Stuttgart, Germany.
Nevada,
Nevada Dept. Conserv and Nat Resources Ground-Water Resources-Re-
conn. Ser Rept. -- Nevada Department of Conservation and Natural
Resources Ground-Water Resources - Reconnaissance Series Report, Car-
son City, Nevada
Nevada Highways and Parks -- Nevada Highways and Parks, Nevada De-
partment of Highways Carson City, Nevada
New Hampshire State Planning and Development Commission Mineral Re-
sources Survey Concord, New Hampshire
New Jersey Bur. Geology and Topography Bull -- New Jersey Bureau of
Geology and Topography Bulletin. Trenton, New Jersey.


New Mexico Bur Mines and Mineral Resources Bull. --

New Mexico Bur Mines and Mineral Resources Circ. --

New Mexico Bur Mines and Mineral Resources Geol. Map --

New Mexico Bur Mines and Mineral Resources Mem. --

New Mexico Bureau of Mines and Mineral Resources Scenic Trips Geol. Past --

New Mexico Bureau of Mines and Mineral Resources Bulletin and Circular and Geologic Map and Memoir and Scenic Trips to the Geologic Past Socorro, New Mexico

New Mexico Mag -- New Mexico Magazine New Mexico Department of Development Santa Fe, New Mexico.

New Mexico State Engineer Bienn. Rept -- Biennial Report of the State Engineer of New Mexico Santa Fe, New Mexico.

New Mexico State Engineer Tech Rept -- New Mexico State Engineer Technical Report Santa Fe, New Mexico

New Mexico Univ Pubs Geology -- University of New Mexico Publications in Geology Albuquerque, New Mexico.

New York Acad Sci. Annals --


New York State Mus. and Sci. Service Bull. --

New York State Mus. and Sci. Service Educ Leaflet Ser. --


Nicaragua Servicio Geol. Nac. Bol. -- Boletín del Servicio Geologico Nacional de Nicaragua Managua, Nicaragua

Nordiis -- Norois, Instituta de Geographie des Facultés des Lettres de Caen, Poitiers, France

Norsk Geol. Tidsskr. -- Norsk Geologisk Tidsskrift Norsk Geologisk Forening Oslo, Norway


North Carolina Dept. Water Resources Ground-Water Bull. --

North Carolina Dept. Water Resources Rept Inv. --


North Dakota Coal Mine Inspection Dept Ann Rept -- North Dakota Coal Mine Inspection Department Annual Report, Bismarck, North Dakota

North Dakota Geol Survey Bull. --

North Dakota Geol Survey Circ. --

North Dakota Geol Survey Misc. Map. --

North Dakota Geol. Survey Production Statistics and Eng. Data Oil North Dakota

North Dakota Geol Survey Rept. Inv. --


Notes, Minerals Franklin and Sterling Hill, New Jersey -- Notes on the Minerals of Franklin and Sterling Hill, New Jersey Union, New Jersey


Ohio Div. Geol Survey Bull. --

Ohio Div. Geol Survey Inf. Circ. --

Ohio Div. Geol Survey Rept Inv. --

Ohio Division of Geological Survey Bulletin and Information Circular and Report of Investigations Columbus, Ohio
Ohio Div. Shore Erosion Tech. Rept. -- Ohio Division of Shore Erosion Technical Report, Columbus, Ohio
Ohio Div. Water Tech. Rept. -- Ohio Division of Water Technical Report, Columbus, Ohio
Ohio Jour. Sci. -- Ohio Journal of Science, Ohio State University, Columbus, Ohio.
Ohio State Univ. Eng. Expt. Sta. Bull. -- Ohio State University Engineering Experiment Station Bulletin, Columbus, Ohio
Ohio State Univ. Research Found. Rept. -- Ohio State University Research Foundation Report, Columbus, Ohio
Oil and Gas Jour. -- Oil and Gas Journal Petroleum Publishing Company, Tulsa, Oklahoma
Oil in Canada -- Oil in Canada, Stovel-Advocate Publications Ltd., Winnipeg, Canada.
Oilweek -- Oilweek, Myers Oil News Ltd. Calgary, Canada.
Oil Discovery -- Pacific Discovery, California Academy of Sciences, Berkeley, California.
Palaeontographica -- Palaeontographica, E. Schweizerbart'sche Verlagbuchhandlung Stuttgart, Germany.
Royal Soc. Canada Minutes Proc. --
Saracenia -- Saracenia "L'Université de Montréal" Montreal, Canada.
Saskatchewan Dept. Mineral Resources Rept. -- Saskatchewan Department of Mineral Resources Report [Regina, Saskatchewan].
Saskatchewan Research Council Geology Div. Rept. -- Saskatchewan Research Council Geology Division Report, Saskatoon, Saskatchewan.
Science -- Science, American Association for the Advancement of Science, Washington, D.C.
Senckenbergiana Lethaea -- Senckenbergiana Lethaea, Senckenbergischen Naturforschenden Gesellschaft, Frankfurt am Main, Germany.
Shale Shaker -- Shale Shaker, Oklahoma City Geological Society, Oklahoma City, Oklahoma.
Sierra Club Bull. --
Sierra Club Repr. Ser. --
Sierra Club Bulletin and Sierra Club Reprint Series, San Francisco, California.
Smithsonian Misc. Colln. -- Smithsonian Miscellaneous Collections, Smithsonian Institution, Washington, D.C.
Soc. Mexicana Historia Nat. Rev. -- Revista de la Sociedad Mexicana de Historia Natural, Mexico, D.F.
Soc. Vertebrate Paleontology Bibliography --
Soc. Vertebrate Paleontology News Bull. --
Soil Sci. -- Soil Science Wilkins and Wilkins Company, Baltimore, Maryland.
South Carolina State Devel. Board Div. Geology Bull. --
South Dakota State Geol. Survey Misc. Inv. --
Southeastern Geology -- Southeastern Geology Department of Geology, Duke University, Durham, North Carolina.
Systematic Zoology -- Systematic Zoology, Society of Systematic Zoology, Los Angeles, California.
Tellus -- Tellus, Svenska Geofysiska Föreningen, Stockholm, Sweden.
Tennessee Div. Geology Geol Map --
Tennessee Div. Geology Inf Circ. --
Tennessee Div. Geology Rept Inv --
University of Texas Bureau of Economic Geology Guidebook and Report of Investigations, Austin, Texas.
Texas Univ Pub -- University of Texas Publication, Austin, Texas.
Tohoku Univ. Sci Repts. -- The Science Reports of the Tohoku University, Sendai, Japan.
Tulsa Geol Soc. Digest -- Tulsa Geological Society Digest, Tulsa, Oklahoma.
U.S. Army, Corps of Engineers, Snow Ice and Permafrost Research Establishment Rept --
U.S. Army, Corps of Engineers, Snow Ice and Permafrost Research Establishment Rept --
U.S. Army, Corps of Engineers, Snow Ice and Permafrost Research Establishment Rept. --
U.S. Army, Corps of Engineers, Snow Ice and Permafrost Research Establishment Rept. --
U.S. Bur. Mines Rept., Inv. --
SERIALS


U. S. Geol Survey Bull. --
U. S. Geol, Survey Coal Inv, Map --
U. S. Geol, Survey Geophys, Inv, Map --
U. S Geol, Survey Hydrol Inv Atlas --
U. S. Geol Survey Mineral Inv Resource Map --
U. S. Geol, Survey Oil and Gas Inv, Chart --
U. S. Geol Survey Oil and Gas Inv, Map OM- --
U. S Geol Survey Prof Paper --
U. S Geol Survey TEI- Rept --
U. S Geol Survey Water-Supply Paper --


Utah Geol. and Mineralog. Survey Bull. -- Utah Geological and Mineralogical Survey Bulletin. Salt Lake City, Utah

Veliger -- The Veliger Northern California Malacozoological Club. Berkeley, California

Venezuela Dirección Geológica Bol. Geología Pub. Espec. --

Virginia Div Mineral Resources Bull --
Virginia Div. Mineral Resources Inf, Circ. --
Virginia Div, Mineral Resources, Mineral Resources Rept --
Virginia Div Mineral Resources Rept, Inv. --


Washington State Div Mines and Geology Bull --
Washington State Div. Mines and Geology Rept. Inv. --


West Virginia Geol. and Econ. Survey Bull. --
West Virginia Geol. and Econ. Survey Rept. Inv. --

Western Miner and Oil Rev. -- Western Miner and Oil Review Vancouver, British Columbia.

SERIALS


Wisconsin Univ Agr Expt Sta Bull -- University of Wisconsin Agricultural Experiment Station Bulletin Madison, Wisconsin.


World Oil -- World Oil, Gulf Publishing Company Houston, Texas.


Zeitschr Geophysik -- Zeitschrift für Geophysik Deutsche Geophysikalische Gesellschaft Würzburg, Germany.

Zeitschr Krystallographie -- Zeitschrift für Kristallographie Akademische Verlags-Gesellschaft Frankfurt am Main, Germany.

Zisin -- Zisin Seismological Society of Japan Tokyo, Japan.
AADLAND, Arne
1-60 Origin of the Monroe Creek (Miocene) sediments in western Nebraska
Compass, v 37, no 2, p 91-97 incl table, Jan 1960

ABDEL-GAWAD, Abdel-Moneim M
1-60 Alteration features associated with some basal Chnle uranium de­
positions [Colorado Plateau] [abs ] Dissert Abs , v 21, no 3, p 590, Sept.
1960

ABEL, John F , Jr
1-60 Permafrost tunnel, Camp Tuto, Greenland U S Army, Corps of En­
geers, Snow Ice and Permafrost Research Establishment Tech Rept 73,
19 p , illus , Oct 1960

ABELSON, Philip Hauge
1-60 (and HOERING, Thomas Carl) Biogeochemistry of the stable isotopes of carbon [abs ] Geol Soc America Bull , v 71, no 12, pt 2, p 1811,
Dec 1960.

ABILENE GEOLOGICAL SOCIETY
1-60 Geological contributions 1960 Abilene, Tex , 201 p , illus , 1960 A
symposium including individual papers which are cited separately

ABILENE GEOLOGICAL SOCIETY, Stratigraphic and Study Group
1-60 The stratigraphic distribution of hydrocarbon production from 12 count­
ies in the Abilene area [Texas] Abilene, Tex , Abilene Geol Soc [81] p ,
illus , 1960

ABRAHAM, Earl Michael
1-60 (and ROBERTSON, J A , and others) Scarfe township, District of
Algoma, Ontario Ontario Dept. Mines Prelim Map P 68, scale 1 in to
1/4 mi , [Nov ] 1960
2-60 (and ROBERTSON, J. A , and others) Mack township, District of Al­
goma, Ontario Ontario Dept Mines Prelim Map P 69, scale 1 in to 1/4
mi , [Nov ] 1960
3-60 (and ROBERTSON, J. A , and others) McGiverin township, District
of Algoma, Ontario Ontario Dept Mines Prelim Map P 70, scale 1 in to
4-60 (and ROBERTSON, J A , and others) Cobden township, District of
Algoma, Ontario Ontario Dept Mines Prelim Map P 71, scale 1 in to 1/4
mi , [Nov ] 1960
5-60 (and ROBERTSON, J A , and others) Striker township, District of Al­
goma, Ontario Ontario Dept Mines Prelim Map P 72, scale 1 in to
1/4 mi , [Nov ] 1960
6-60. (and ROBERTSON, J A , and others) Long township, District of
Algoma, Ontario Ontario Dept Mines Prelim Map P 73, scale 1 in to

ABRAHAM, Herbert
1-60 Asphalts and allied substances--Their occurrence, modes of produc­
tion, uses in the arts, and methods of testing--V 1, Historical review and
natural raw materials 6th ed , Princeton, N J , D. Van Nostrand Co ,
Inc , 370 p. incl sketch maps, sections, diagrams, tables, and illus , Sept
1960

ACHAUER, Charles Woodrow See ASCHENBRENNER, Bert Claus 1-60

21
ACKERMAN

ACKERMAN, Walter C  See ROBY, Robert Neil  1-60

ADAIR, Donald H

ADAIR, John K, Jr
1-60, East Texas oil field, Gregg, Rusk, Upshur, Smith and Cherokee Counties, Texas Compass, v 37, no 3, p 174-181 incl diagram and table, Mar 1960

ADAMS, Clark N  See NEWTON, Joseph  1-60

ADAMS, Gordon E  See MUEHLBERGER, William Rudolph  4-60

ADAMS, John Allan Stewart
1-60 (and RICHARDSON, K A) Radioactivity of aluminum metal Econ Geology, v 55, no 5, p 1060-1063 incl tables, Aug 1960
2-60 (and RICHARDSON, K A) Thorium, uranium and zirconium concentrations in bauxite Econ Geology, v 55, no 8, p 1653-1675 incl diagrams and tables, Dec 1960
3-60 (and KLINE, Mary-Cornelia, and ROGERS, John James William) Thorium and uranium content of the Enchanted Rock batholith, Texas [abs.] Geol Soc America Bull, v 71, no 12, pt 2, p 1811, Dec 1960
4-60 (and others) Absolute dating of the Middle Ordovician Nature (London), v 188, no 4751, p 636-638, tables, Nov 19, 1960

ADAMS, John Emery
1-60 (and RHODES, Mary Louise) Dolomitization by seepage refluxion Am Assoc Petroleum Geologists Bull, v 44, no 12, p 1912-1920 incl diagrams and section, Dec 1960

ADAMS, John Kendall
1-60 Note on Lower Tertiary and Upper Cretaceous Ostracoda from New Jersey Jour Paleontology, v. 34, no 2, p 371-372 incl table, Mar 1960

ADAMS, William Mansfield See also STAUDER, W V  2-60

ADELMAN, Frank L
1-60 (and BACIGALUPI, Clifford M, and MOMYER, Floyd E) Final report on the Pinot experiment [Colorado] California, Univ, Livermore, Lawrence Radiation Lab Rept UCRL-6274, 21 p., illus, Dec 27, 1960

ADKISON, Windsor Lester
1-60 Subsurface cross section of Paleozoic rocks from Barber County, Kansas, to Caddo County, Oklahoma U S Geol Survey Oil and Gas Inv Chart OC 61, 2 sheets, scale about 1 in to 6 mi , with text, 1960

ADLER, Alan A

ADLER, Frank J
1-60 The Paradox Basin of Colorado, Chap 17 in Mineral resources of Colorado, 1st sequel Denver, Colorado Mineral Resources Board, p 505, 625-651 incl index maps and table, 1960

22
ADLER, Hans H. See NININGER, Robert D. 1-60

ADLER, Isidore

AGARWAL, R G See SAWATZKY, Henry B 1-60, 2-60

AGNEW, Allen Francis  See also STEECE, F V 1-60
2-60. (and GRIES, John Paul) Dig deep for South Dakota pays Oil and Gas Jour., v 58, no 12, p. 160-162, 164, 167, 169-170, 172 incl sketch maps, Mar. 21, 1960.
3-60 (and GRIES, John Paul) South Dakota oil--past, present, and future. Am. Assoc Petroleum Geologists Rocky Mt Sec. Geol Record 1960, p. 85-94 incl illus [1960]

AGOGINO, George A  See HAYNES, Vance 2-60

AGRELL, S. O

AGUIRRE, A J. M
1-60. (and AGUIRRE, F Goico) A first look at the earth New York, N. Y., Franklin Watts, Inc, 72 p, illus , 1960

AGUIRRE, F Goico  See AGUIRRE, A J M 1-60

AHMAD, Jaleel

AHNERT, Frank O
1-60 Estuarine meanders in the Chesapeake Bay area Geog Rev, v 50, no 3, p 390-401 incl sketch map, diagrams, and illus , July 1960.
2-60 The influence of Pleistocene climates upon the morphology of cuesta scarps on the Colorado Plateau Assoc Am Geographers Annals, v 50, no 2, p 139-156 incl sketch maps, diagrams, and illus , June 1960.

AHO, Aaro E

AHRENS, Louis Herman  See also TAYLOR, S. R. 2-60

AITKEN, James D  See CANADA GEOL SURVEY 7-60
AKERS, Jay P
1-60 Ground water in the Red Lake area, Navajo Indian Reservation, Arizona and New Mexico Arizona Geol Soc Digest, v 3, p 41-42, Mar 1960
2-60 Geology of the Cameron and Leupp quadrangles, Arizona Arizona Geol Soc, Digest, v 3, p 43-44, Mar 1960

AKI, Keiji
1-60 The use of Love waves for the study of earthquake mechanism Jour Geophys Research, v 65, no 1, p 323-331 incl sketch maps, diagrams, and tables, Jan 1960
2-60 Study of earthquake mechanism by a method of phase equalization applied to Rayleigh and Love waves Jour Geophys Research, v 65, no 2, p 729-740 incl. sketch map, diagrams, and table, Feb 1960
3-60 Interpretation of source functions of circum-Pacific earthquakes obtained from long-period Rayleigh waves Jour Geophys Research, v 65, no 8, p 2405-2417 incl sketch maps, diagrams, and tables, Aug 1960
4-60 Further study of the mechanism of circum-Pacific earthquakes from Rayleigh waves Jour Geophys Research, v 65, no 12, p 4165-4172 incl sketch maps, diagrams, and tables, Dec 1960.

ALBANESE, John S
1-60 Geology-An infant science Earth Sci, v 13, no 6, p 213-214, Dec 1960
5-60 Zincite Notes, Minerals Franklin and Sterling Hill, New Jersey, v 1, no 5, p 79-84, Oct 1960
6-60 Fluorescence and phosphorescence Notes, Minerals Franklin and Sterling Hill, New Jersey, v 1, no 5, p 85-86, Oct 1960

ALBEE, Arden Leroy See also WELLS, J D 1-60 Relationships between the mineral association, chemical composition, and physical properties of the chlorite series [abs.] Geol Soc America Bull, v 71, no. 12, pt. 2, p 1813, Dec. 1960

[ALBERTA] OIL and GAS CONSERVATION BOARD
1-60 Map showing the Paleozoic surface for Area No 4, Alberta Calgary, scale 1 in to 4 mi, July 1960

ALBERTA SOCIETY of PETROLEUM GEOLOGISTS

ALBIN, Donald R
1-60, Murfreesboro area Arkansas Geol and Conserv Comm. Spec Ground-Water Rept 1, 22 p incl maps, graph, and table, 1960

ALCOCK, Frederick James See also CANADA GEOL SURVEY 13-60, 15-60, 16-60

24
ALDRICH, Lyman Thomas
2-60 (and DAVIS, Gordon Leslie) Age measurements of rocks and minerals in metamorphic regions of northern Michigan [abs.]. Jour Geophys. Research, v 65, no. 8, p 2471, Aug, 1960

ALETAN, George
1-60 The significance of microscopic investigation in the course of beneficiation of the 'Brunswick Ore' Canadian Mining and Metall Bull., v 53, no 584, p. 945-952 incl. illus., Dec, 1960, Canadian Inst Mining and Metallurgy Trans., v 63, p. 654-661, 1960

ALEXANDER, Corinne See RUBIN, Meyer 1-60

ALGER, Robert P. See also TIXIER, M., P. 1-60, 2-60
1-60 Log evaluation at the well Petroleum Engineer for Management, v 32, no 4, p B-78, B-80, B-83, B-88, B-90, B-95, B-98, B-100 incl. diagrams, Apr, 1960.

ALLARD, Gilles O
1-60. South half of McKenzie township, Abitibi-East electoral district-- Pt 2, South half of southeast quarter Quebec Dept. Mines Mineral Deposits Br Geol. Rept 95, p. 41-71, geol. map, 1960

ALLAWAY, William Hubert
1-60 Indiana's geodes are mysterious Earth Sci., v. 13, no 1, p. 19-20 incl. illus., Feb, 1960.

ALLEN, Alice Standish

ALLEN, Clarence Roderic
1-60 (and others) Structure of the lower Blue Glacier, Washington Jour. Geology, v 68, no. 6, p 601-625 incl. diagrams, sketch maps, sections, and tables, also structure map and illus., Nov, 1960
2-60 (and SILVER, Leon T., and STEHLI, Francis Greenough) Agua Blanca fault--A major transverse structure of northern Baja California, Mexico Geol. Soc America Bull., v 71, no. 4, p 457-482, illus. incl geol. and sketch maps, and table, Apr, 1960.

ALLEN, John Eliot See also CRAWFORD, T. C. 1-60

ALLEN, Rex V. See BARNES, D. F. 2-60

ALLEN, Rhesa McCoy, Jr

ALLEN, Thomas
ALLEN, Victor Thomas  See also HOSTERMAN, J W 1-60
1-60 (and JOHNS, William Davis) Clays and clay minerals of New England and eastern Canada  Geol Soc America Bull, v 71, no 1, p 75-85 incl. index map and table, Jan. 1960
2-60 Comparison of bauxite deposits of Europe with those in U S A Internat Geol Cong, 21st, Copenhagen, 1960, Rept, pt 16, p 230-236, 1960

ALLEN, William Burrows  See also LANG, S M 1-60
1-60 (and RYAN, Dennis J ) Ground-water map of the Fall River quadrangle, Massachusetts-Rhode Island, showing water-bearing formations and related ground-water data Rhode Island Water Resources Coordinating Board Ground-Water Map GWM 7, scale 1 24,000 (1 in to 2,000 ft ), with sections, 1960

ALLINGHAM, John Wing
1-60 Use of aeromagnetic data to determine geologic structure in northern Maine  Art 54 in U S Geol Survey Prof Paper 400-B, p B117-B119 incl. profiles, 1960
2-60 Interpretation of aeromagnetic anomalies in southeast Missouri  Art 95 in U S Geol Survey Prof Paper 400-B, p B216-B219 incl aeromagnetic map and profiles, 1960

ALLISON, Edwin Chester  See DURHAM, John Wyatt 1-60, 3-60

ALLISON, Ira Shimmin  See EMMONS, William Harvey 1-60

ALSUP, S A  See ANDRETTA, Daniel B 1-60

ALMANZA V, Eliseo  See PESZUERA VELÁZQUEZ, Rubén 1-60

ALTHENHOFEN, Robert E  See DOELL, Richard Rayman 2-60

ALTSCHAEFFL, Adolph G  See LEONARDS, Gerald Allen 1-60

ALTSCHULER, Zalman Samuel  See also OWENS, J P 1-60
1-60 (and YOUNG, Edward Joseph) Residual origin of the "Pleistocene" sand mantle in central Florida uplands and its bearing on marine terraces and Cenozoic uplift  Art 89 in U S Geol Survey Prof Paper 400-B, p B202-B207 incl topographic and isograde contour maps, sections, and diagrams, 1960

ALVAREZ, Manuel, Jr
1-60 Macrosismos y geología  Asoc Mexicana Geofísicos Explor Bol, v 1, no 3, p 287-298, tables, July-Sept 1960

ALVORD, Donald C  See DRAKE, Avery Ala, Jr 1-60

AMBRASEYS, Nicols N

AMBROSE, John Willis

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS  See COOPER, Byron Nelson 1-60, GATES, Olcott 1-60, OWENS, James Patrick 4-60
AMERICAN ASSOCIATION of PETROLEUM GEOLOGISTS, Committee on Stratigraphic Correlations
1-60 (Sacramento Valley Sub-Committee, Harding, Tod Powell, chairman)
Correlation section longitudinally north-south through Sacramento Valley from Red Bluff to Rio Vista, California Am Assoc Petroleum Geologists Pacific Sec Correlation Sec 13, Oct 1960

AMERICAN GEOGRAPHICAL SOCIETY
1-60 Nine glacier maps, northwestern North America, to accompany nine separate map sheets on scale of 1 10,000 Am Geog. Soc Spec Pub 34, 22 p , illus , 1960.

AMERICAN GEOLOGICAL INSTITUTE
1-60 GeoScience abstracts Washington, D C , v 2, nos 1-12, paged separately, Jan -Dec 1960

AMERICAN GEOLOGICAL INSTITUTE, Glossary Review Committee
2-60 (Weller, James Marvin, chairman) Supplement to the Glossary of geology and related sciences Washington, D. C , Am Geol Inst., 72 p , 1960 (Glossary was published in 1957)

AMERICAN INSTITUTE of MINING, METALLURGICAL, and PETROLEUM ENGINEERS
1-60 (Gillson, Joseph Lincoln, and others, editors) Industrial minerals and rocks--nonmetals other than fuels 3d ed , completely revised, New York, N Y , Am Inst. Mining, Metall., and Petroleum Engineers, 934 p , illus , 1960, originally published 1937 Includes papers by numerous authors which are cited individually.

AMERICAN SOCIETY of PHOTOGRAMMETRY

AMERICAN SOCIETY for TESTING MATERIALS
1-60 Symposium on technical developments in the handling and utilization of water and industrial waste water--3d Pacific area national meeting, San Francisco, Calif., October 15, 1959 Am Soc Testing Materials Spec. Tech Pub 273, 92 p incl sketch maps, sections, diagrams, tables, illus , and discussion, 1960 Includes individual papers which are cited separately

AMES, H Tate See KREMP, Gerhard Otto Wilhelm 3-60

AMES, Lloyd Leroy, Jr See also PEARCE, D W. 1-60
1-60. The cation sieve properties of clinoptilolite Am Mineralogist, v 45, nos 5-6, p 689-700 incl diagrams and tables, May-June 1960
2-60. Some cation substitutions during the formation of phosphorite from calcite Econ Geology, v 55, no 2, p 354-362 incl diagrams, Mar -Apr 1960

AMORUSO, John Joseph See LANDES, Kenneth Knight 2-60

AMPIAN, Sarkis G

AMSDEN, Thomas William
1-60 Stratigraphy and paleontology of the Hunton group in the Arbuckle Mountain region--Pt 6, Hunton stratigraphy Oklahoma Geol Survey Bull. 84, 311 p , illus incl geol map, Jan 14, 1960.
2-60 Lissatrypodea concentrica (Hall), emend Boucot and Amsden--Illustrations of the lectotype Oklahoma Geology Notes, v 20, no 6, p 138-139, illus , June 1960.
3-60 Silurian and Devonian strata in the Marble City area, Sequoyah County, Oklahoma, in North-eastern Oklahoma Kansas Geol Soc., 25th Field Conf , Sept 1960, Guidebook, p 110-112, illus , 1960
AMSTUTZ, Gerhardt Christian  See also KRISHNASWAMY, D S 1-60, LIGASACCHI, Attilio 1-60
1-60 The preparation and use of polished thin sections Am Mineralogist, v 45, nos 9-10, p 1114-1116 incl illus , Sept - Oct 1960
4-60 Geometric classification of rocks and mineral deposits, AGI Data Sheet 21 GeoTimes, v 5, no 4, p 23-24 incl diagrams, Nov - Dec 1960
5-60. Genetische Zusammenhänge zwischen Erzlaggestätten und ring-oder polygonal-Strukturen im Präkambrium und Paläozoikum von Missouri (USA) und anderen Schildegebieten Zeitschr Erzbergbau u Metallhüttenwesen (Stuttgart, Germany), Band 13, Heft 9, p 430-434, illus incl geol sketch map, Sept 1960.

ANANIA, John  See COHEN, Alvin Jerome 2-60

ANDEREGG, Ralph Charles.  See HEALD, Milton Tidd 1-60

ANDERS, Edward See also FISH, R A 1-60, GOLES, G G 1-60
2-60 (and others) Cosmic-ray-induced radioactivity in a fresh meteorite [abs ] Jour Geophys Research, v 65, no 8, p 2471, Aug 1960
3-60 (and STEVENS, Charles Martin) Thallium-205 and the age of the solar system [abs ] Jour Geophys Research, v 65, no 8, p 2471-2472, Aug 1960

ANDERS, Robert Bernard
1-60 Ground-water geology of Karnes County, Texas Texas Board of Water Engineers Bull 6007, 107 p , illus incl geol map, July 1960

ANDERSEN, Harold V
1-60 Geology of Sabine Parish Louisiana Geol Survey Geol Bull 34, 164 p , illus, incl geol map, Feb 1960

ANDERSON, Alfred L  See also NEWTON, Joseph 1-60
1-60 Genetic aspects of the monazite and columbium-bearing rutile deposits in northern Lemhi County, Idaho Econ Geology, v 55, no 6, p. 1179-1201 incl index sketch map and illus , Sept-Oct 1960

ANDERSON, Alfred T , Jr

ANDERSON, Arthur L  See BENNETT, Walter P 1-60

ANDERSON, Charles Alfred
1-60 Mining geology Mining Cong Jour. , v 46, no 2, p 38-41 incl illus , Feb 1960

ANDERSON, Donald Thomas
1-60 The distribution of copper and nickel in magmatic sulphides [abs ] Canadian Mining Jour. , v 81, no 6, p 169, June 1960

ANDERSON, Lennart A.
2-60 (and EKREN, Einar Bartlett, and FRISCHKNECHT, Frank Conrad) Electromagnetic and induced polarization studies in Maine [abs.] Mining Eng , v 12, no 1, p 23, Jan 1960.
ANDERSON, Richard Charles
1-60. Sand and gravel resources of Champaign County, Illinois Illinois State Geol Survey Div Circ 294, 15 p. incl. index map, diagrams, and tables, resource map, 1960

ANDERSON, Robert Wylie

ANDERSON, Roger Yates
1-60. (and KIRKLAND, Douglas W) Origin, varves, and cycles of Jurassic Todito formation, New Mexico Am, Assoc Petroleum Geologists Bull, v 44, no 1, p 37-52 incl. sketch map, diagrams, chart, and illus, Jan. 1960
3-60. Cretaceous-Tertiary palynology of the eastern side of the San Juan Basin, New Mexico [abs]. Desert Abs , v. 20, no 11, p 4366, May 1960

ANDERSON, Sydney Bakken
1-60 (and MENDOZA, Herbert A) Contour map of the pre-Mesozoic surface in North Dakota North Dakota Geol Survey Misc Map 6, scale about 1 in to 15 mi , Jan. 1960
2-60 (and MENDOZA, Herbert A) Pre-Mesozoic paleogeologic map of North Dakota North Dakota Geol Survey Misc Map 7, scale about 1 in to 16 mi , Jan. 1960
3-60 (and HANSEN, Dan Erick, and EASTWOOD, William Parker) Sub-surface studies, in Oil fields in the Burke County area, North Dakota-Geological, magnetic, and engineering studies North Dakota Geol. Survey Rept Inv 36, p 1-25, illus., 1960

ANDERSON, Sonia Ruth
1-60 The collection, study and classification of some eastern Nebraska fossils, in Science projects handbook, Moore, S., ed Washington, D C., Sci Service, p. 88-91 incl diagram, 1960

ANDERSON, V H.

ANDERSON, Warren L
1-60. (and SCHAEFFER, Frederick E , Jr ) Introduction, in Geology of the Silver Island Mountains, Box Elder and Tooele Counties, Utah, and Elko County, Nevada Utah Geol Soc, Guidebook to the Geology of Utah, no 15, p 7-12 incl index and sketch map, 1960
2-60 Igneous rocks of the northern Silver Island Mountains, in Geology of the Silver Island Mountains, Box Elder and Tooele Counties, Utah, and Elko County, Nevada Utah Geol Soc, Guidebook to the Geology of Utah, no 15, p 114-120 incl section and illus, 1960
3-60 Structural geology of the northern Silver Island Mountains, in Geology of the Silver Island Mountains, Box Elder and Tooele Counties, Utah, and Elko County, Nevada Utah Geol Soc , Guidebook to the Geology of Utah, no 15, p 125-130 incl diagrams, 1960.
4-60. Geomorphology of the Silver Island Mountains, in Geology of the Silver Island Mountains, Box Elder and Tooele Counties, Utah, and Elko County, Nevada Utah Geol Soc , Guidebook to the Geology of Utah, no 15, p 150-158 incl illus., 1960
5-60 Economic geology of the northern Silver Island Mountains, in Geology of the Silver Island Mountains, Box Elder and Tooele Counties, Utah, and Elko County, Nevada Utah Geol Soc , Guidebook to the Geology of Utah, no. 15, p 159-161, 1960.
ANDRAU, William Evert  See HINDS, G. W  1-60

ANDREASEN, Gordon Ellsworth  See also ZIETZ, Isidore, 1-60
   1-60 (and ZIETZ, Isidore)  Magnetic evidence for the attitude of a buried
   magnetic mass  Art. 53 in U S. Geol. Survey Prof. Paper 400-B, p. B114-
   B116 incl. aeromagnetic map and diagrams, 1960
   2-60. (and KANE, Martin Francis, and ZIETZ, Isidore)  Regional geologic
   interpretation of aeromagnetic and gravity data for the Rowe-Mora area,
   New Mexico  Art. 107 in U S. Geol. Survey Prof. Paper 400-B, p B238-
   B239 incl. structure contour map, 1960

ANDRESEN, Marvin John
   1-60. Geology and petrology of the Trivoli sandstone (Pennsylvanian) in
   the Illinois basin  [abs]  Dissert  Abs., v 21, no. 6, p 1522, Dec 1960

ANDRETTA, Daniel B.
   1-60 (and ALSUP, S. A.)  Geology and Cenozoic history of the Norris-Elk
   Creek area, southwest Montana, in West Yellowstone--Earthquake area
   190 incl. profiles and illus., 1960

ANDREWS, Donald Irvin
   1-60 Louann salt and its relation to Gulf Coast salt domes--Compilation
   and review of selected papers and associated data [abs]  Am Assoc
   Petroleum Geologists Bull., v 44, no. 9, p 1599-1600, Sept. 1960
   2-60 The Louann salt and its relationship to Gulf Coast salt domes Gulf
   Coast Assoc Geol. Soc. Trans., v 10, p. 215-240 incl. sketch maps, sec-
   tions, diagrams, and tables, 1960.

ANDRICHUK, John Michael
   1-60. Facies analysis of Upper Devonian Wabamun group in west-central
   Alberta, Canada  Am. Assoc Petroleum Geologists Bull., v 44, no. 10,  
   p 1651-1681 incl. index map, isopach and lithofacies maps, sections,
   and illus., Oct. 1960
   2-60, Stratigraphic evidence for tectonic and current control of Upper De-
   vonian reef sedimentation, Duhamel area, Alberta [abs] Canadian Oil

ANGONA, Frank Anthony
   1-60. Two-dimensional modeling and its application to seismic problems

ANNSGARD, Harry Williams. See BILLINGS GEOL SOC  1-60

ANNEAR, R. C.
   1-60. (and COLE, Willard A.)  Iron mining methods and costs, Greenwood
   map, sections, diagrams, and tables, 1960

ANNELL, Charles Sylvester
   1-60. (and HELZ, Armin Werner)  Spectrochemical analysis using con-
   trolled atmospheres with a simple gas jet  Art 227 in U S Geol. Survey
   Prof. Paper 400-B, p. B497-B499 incl. illus., 1960

ANTHONY, John Williams
   1-60. A note on the probability of assimilation of rocks intruded by the cen-
   tral Arizona diabase  Arizona Geol Soc. Digest, v 3, p 99-102 incl. dia-
   gram, Mar. 1960

ANTOINE, John Woodworth. See EWING, John Isaac  2-60

APPLEMAN, Daniel Everett  See also CLARK, J. R  4-60, 5-60, MORIMOTO,
   Nobuo 4-60, MORSE, M. E  1-60
   1-60. The crystal structure of bikitaite, LiAlSi_2O_6·H_2O [abs]  Acta Cryst.,
   v 13, pt 12, p. 1002, Dec. 1960
APPLEYARD, Edward C.
1-60 Metasomatic or magmatic origin of nepheline-bearing gneisses at Wolfe, Lyndoch township, Ontario [abs ] Canadian Mining Jour , v 81, no 3, p 127, Mar 1960

APPLEIN, Esther English Richards
1-60. A tropical sea in central Georgia in late Oligocene time Art 90 in U. S. Geol Survey Prof Paper 400-B, p B207-B209 incl index map and log, 1960

APPLEIN, Paul Livingston
1-60. Significance of changes in thickness and lithofacies of the Sunniland limestone, Collier County, Fla Art 91 in U S. Geol Survey Prof Paper 400-B, p B209-B211 incl index map and sections, 1960

ARAÚJO QUEIROZ, Lincoln See WALKER, Fred C. 1-60

ARCHIBALD, G M

ARCINIEGA, Victor M

ARCTIC INSTITUTE of NORTH AMERICA

ARKLE, Thomas, Jr

ARMITAGE, Jack Howard
1-60 Nature and occurrence of Triassic oil and gas in northeastern British Columbia [abs ] Canadian Oil and Gas Industries, v 13, no. 4, p 104, Apr 1960

ARMS, Bernard C.
1-60 A silica depressant method for concentrating fossil pollen and spores Micropaleontology, v 6, no 3, p 327-328, illus., July 1960

ARMSTRONG, Augustus Keathly

ARMSTRONG, Chuck
1-60 (and ARMSTRONG, Patricia) Niagarensis versus celebra EarthSci , v 13, no 4, p 137-138 incl illus., Aug. 1960

ARMSTRONG, Herbert Stoker
1-60 Marbles in the "Archean" of the southern Canadian Shield Internat. Geol Cong , 21st, Copenhagen, 1960, Rept , pt 9, p 7-20 incl index map, 1960
2-60 Township of Glamorgan, county of Haliburton, Ontario Ontario Dept. Mines Prelim Geol Map P 59, scale 1 in to 1/2 mi [June 14, 1960]
3-60 (and others) Township of Monmouth, Ontario Ontario Dept Mines Prelim Geol Map P 60, scale 1 in to 1/2 mi [June 14, 1960]
ARMSTRONG, John Edward. See also CANADA GEOL SURVEY 26-60
2-60 Field trip to illustrate geology of Coast Mountains, North Vancouver, B. C., in Geol. Discussion Club, Guidebook for geological field trips in southwestern British Columbia Vancouver, B. C., p 15-19 incl. geol. sketch map, Mar 1960.
3-60. Surficial geology of Sumas map-area, British Columbia Canada Geol Survey Paper 59-9, 27 p., illus. incl geol map, 1960

ARMSTRONG, Patricia. See ARMSTRONG, Chuck 1-60

ARMSTRONG, Richard L. See TUREKIAN, Karl K 2-60

ARNAL, Robert Emile. See BANDY, Orville Lee 1-60

ARNDT, Harold Harry
1-60 (and WOOD, Gordon Harry, Jr.) Late Paleozoic orogeny in eastern Pennsylvania consists of five progressive stages Art. 81 in U. S. Geol. Survey Prof Paper 400-B, p B182-B184 incl. geol sketch map and sections, 1960

ARNDT, Robert. See BOUCOT, Arthur James 3-60

ARNOLD, Chester Arthur

ARNOLD, G. W., Jr

ARNOLD, James Richard. See also MERRILL, J R. 1-60

ARNOW, Theodore. See also BOGART, D B. 1-60
1-60 (and BOGART, Dean Butler) Water problems of Puerto Rico and a program of water-resources investigations Caribbean Geol Conf, 2d, Mayaguez, Puerto Rico, Jan 4-9, 1959, Trans , p 120-129 incl sketch maps and table, with discussion, 1960
2-60 (and CROOKS, James Walker) Public water supplies in Puerto Rico Puerto Rico Water Resources Authority Water-Resources Bull. 2, 34 p., illus , 1960

ARNTON, R. H

ARRINGTON, J. R
1-60. Predicting the size of crude reserves is key to evaluating exploration programs--And here's a practical way to evaluate reserves Oil and Gas Jour , v 58, no 9, p 130-132,134 incl. diagram and charts, Feb 29, 1960

ARTUSY, Raymond Longino
1-60 Ostracoda of the Stone City beds at Stone City bluff, Texas [abs.] Dissert Abs , v. 21, no 3, p 590-591, Sept 1960

32
AULT

ASCHENBRENNER, Bert Claus

ASIMOV, Isaac
1-60 The physical sciences, V 1 of The intelligent man's guide to science 1st ed., New York, N Y., Basic Books, Inc , 382 p., illus., 1960

ASSELSTINE, Erwin Sumner See WELD, Betsy Anne 1-60

ASSTET, Edward J
1-60, Electronic computers aid many exploration phases World Oil, v. 150, no 5, p 105-111 incl. diagrams, tables, and illus , Apr 1960

ASSOCIATION INTERNATIONALE de Sédimentologie

ASSOCIATION of MISSOURI GEOLOGISTS
1-60 Middle Mississippian and Pennsylvanian stratigraphy of St. Louis and St Louis County, Missouri, [Guidebook] 7th annual meeting, October 7-8, 1960 St Louis, [12] p , illus , sponsored by Dept Geology and Geol Eng , Inst Technology, St Louis Univ , 1960

ATCHISON, Carl Hayden. See VERTREES, Charles David 1-60

ATHERTON, Elwood
1-60 (and others) Differentiation of Caseyville (Pennsylvanian) and Chester (Mississippian) sediments in the Illinois Basin Illinois State Geol. Survey Div Circ. 306, 36 p , illus., 1960

ATKINS, E R , Jr

AUBERGER, Michel

AUGER, Paul Émile

AULT, Ronald Keith. See MacFARLANE, Robert M 1-60

AULT, Wayne Urban
1-60 (and KULP, J. Laurence) Sulfur isotopes and ore deposits Econ. Geology, v 55, no. 1, p 73-100 incl sketch map, diagrams, and tables, Jan -Feb. 1960
AUNE, Quintin A

AUSTIN, Carl Fulton See also SLAWSON, W F 1-60
2-60 Some scheelite occurrences in the Magdalena mining district of New Mexico New Mexico Bur Mines and Mineral Resources Circ 55, 17 p, illus., 1960

AUSTIN, Charles R.
1-60. Earthquake fluctuations in wells in New Jersey New Jersey Dept Conserv and Econ Devel, Div Water Policy and Supply Water Resources Circ 5, 13 p incl sketch maps, tables, and diagrams, 1960

AUSTIN, S Ralph

AVERITT, Paul
1-60 Coal reserves of the United States, January 1, 1960 Art 39 in U S. Geol Survey Prof Paper 400-B, p B81-B82 incl table, 1960

AWALD, Clifford J.
1-60 Quartz "diamonds" of New York State Sci March, v 41, no. 1, p 23-24 incl illus., Oct 1960

AXELROD, Daniel Isaac. See also PUTNAM, W C 4-60

AXELROD, Joseph Meyer. See FAHEY, Joseph John 1-60, MILTON, Charles, 1-60

AYALA-CASTAÑARDES, Agustín
1-60 Orbtolina morelensis sp. nov de la formación Morelos del Cretácico Inferior (Albiano) en la región de Huetamo, Michoacán, México México Univ Nac Inst Geología Paleontología Mexicana, no 6, 16 p., illus., 1960

AYERS, Marshall G

AYRES, Gilbert H
AYUB M, Alejandro R

AZÁROFF, Leonid Vladimirovich
3-60. A one-dimensional Fourier analogue computer and its application to the refinement of the structure of cubanite [abs] Massachusetts Inst Technology Abs Theses 1953-54, p 91, 1960

AZMON, Emanuel

BAADSGAARD, Halfdan See also FOLINSBEE, Robert Edward, and LIPSON, Joseph Isaac) Caledonian or Acadian granites of the northern Yukon [abs] Oil in Canada, v. 12, no 16, p 33, Feb. 15, 1960

BAADSGAARD, P H

BAAS BECKING, Lourens Gerhard Marinus
1-60. (and KAPLAN, Ian R., and MOORE, Derek) Limits of the natural environment in terms of pH and oxidation-reduction potentials Jour Geology, v 68, no 3, p. 243-284 incl diagrams and tables, May 1960

BABER, Kenneth D

BACHMAN, George Odell
1-60 Southwestern edge of late Paleozoic landmass in New Mexico Art 108 in U. S. Geol. Survey Prof Paper 400-B, p B239-B241 incl geol map and section, 1960

BACHMANN, Hans Gert
1-60 The origin of ores Sci Am., v 202, no 6, p 146-150, 152, 154, 156 incl diagrams and illus , June 1960.

BACIGALUPI, Clifford M See ADELMAN, Frank L. 1-60

BACK, William
1-60 Electrode for simplified field determination of chloride in ground water Am. Water Works Assoc Jour , v 52, no 7, p 923-928 incl diagrams and illus., July 1960.
2-60 Origin of hydrochemical facies of ground water in the Atlantic Coastal Plain Internat Geol Cong, 21st, Copenhagen, 1960, Rept , pt 1, p. 87-95 incl index map and diagrams, 1960.
4-60 (and BARNES, Ivan) Field measurements of oxidation potentials related to iron in ground water [abs.] Jour Geophys Research, v 65, no 8, p 2473, Aug 1960

BACON, Charles F

35
BADER

BADGLEY, Peter Coles
2-60 Tectonic relationships of central Colorado, in Rocky Mt Assoc Geologists, Guide to the geology of Colorado Denver, p 165-169, tectonic maps, 1980

BADO, John Tama See JONES, Cecil L, Jr 1-60

BAGNOLD, Ralph A See also LEOPOLD, L B 2-60
1-60 Some aspects of the shape of river meanders U S Geol Survey Prof Paper 282-E, p 135-144, illus, 1960

BAILEY, Edgar Herbert
1-60. (and STEVENS, Rollin Elbert) Selective staining of K-feldspar and plagioclase on rock slabs and thin sections Am Mineralogist, v 45, nos 9-10, p 1020-1025 incl illus., Sept-Oct 1960
2-60 Franciscan formation of California as an example of eugeosynclinal deposition [abs] Geol Soc America Bull., v 71, no 12, pt 2, p 2046-2047, 1960

BAILEY, Harry P See PUTNAM, William Clement 4-60

BAILEY, Jack H See REYNOLDS, C H 1-60

BAILEY, Roy Alden See SMITH, R L 2-60

BAILEY, Sturges Williams See also BROWN, B E 1-60
1-60 (and TYLER, S. A.) Clay minerals associated with the Lake Superior iron ores Econ Geology, v 55, no 1, p 150-175 incl tables, Jan-Feb 1960

BAIN, George
1-60 The geology of the intrusives and associated contact rock of the Nokesville, Virginia quadrangle [abs.] West Virginia Acad Sci. Proc, 1959, v 31, p 57, Dec 1960

BAIN, George William
1-60 Patterns to ores in layered rocks Econ Geology, v. 55, no. 4, p. 695-731 incl geol sketch maps, sections, and table, June-July 1960

BAIRD, David McCurdy See also CANADA GEOL SURVEY 22-60
2-60. Observations on the nature and origin of the Cow Head breccias of Newfoundland Canada Geol Survey Paper 60-3, 26 p., illus., 1960.

BAKER, Arthur, 3d
1-60 Chalcopyrite blebs in sphalerite at Johnson Camp, Arizona Econ. Geology, v 55, no 2, p 387-398 incl. geol sections and illus, Mar - Apr. 1960
2-60. (and SCOTT, William C.) Geology at the Pitch mine [Colorado] [abs ] Mining Eng., v 12, no 12, p 1248, Dec. 1960

BAKER, Bruce L

BAKER, Donald Roy
2-60 (and TRIMBLE, James K) Cyclic deposition of the Cherokee group in the subsurface of southeastern Kansas and northeastern Oklahoma [abs ] Geol Soc America Bull, v 71, no 12, pt 2, p 1819-1820, Dec 1960

BAKER, E G

BAKER, Ernest T., Jr.
1-60 Geology and ground-water resources of Grayson County, Texas. Texas Board of Water Engineers Bull 6013, 152 p illus. incl. geol maps, Sept 1960

BAKER, F. J.
1-60 (and SCHAFER, George Miles, and HOLOWAYCHUK, N.) Surficial materials and soils of Paulding County, Ohio Ohio Jour Sci, v. 60, no 6, p 365-377 incl sketch maps, diagram, and table, Nov 1960.

BAKER, James K

BAKER, Richard C See WALLACE, Stewart Raynor 1-60

BAKKEN, Wallace Eugene See CARLSON, Clarence G 1-60

BALDWIN, Brewster See also WALTON, M. S., Jr 1-60
1-60 Ground-water reports for outside reading in the beginning geology course Jour Geol Education, v 8, no. 1, p 9-10, spring 1960

BALDWIN, Robert W

BALL, Mahlon Marsh
1-60 Gravity and magnetic measurements in eastern Kansas [abs ] Dissert. Abs., v 21, no 5, p 1162, Nov 1960

BALL, T. K
1-60. A petrofabric analysis of a fold Am Jour Sci, v 258, no 4, p 274-281 incl. diagrams, Apr 1960

BALLINGER, Dwight G See KRONER, Robert Charles 1-60
BALLMANN

BALLMANN, Donald Lawrence
1-60 Geology of the Knight Peak area, Grant County, New Mexico New Mexico Bur. Mines and Mineral Resources Bull 70, 39 p, illus incl. geol map, 1960

BALSLEY, James Robinson, Jr See also BROMERY, R W 2-60
2-60. (and BROMERY, Randolph Wilson, and REMINGTON, Edward Wade, and others) Aeromagnetic map of the Kerby and part of the Grants Pass quadrangles, Josephine and Curry Counties, Oregon U S. Geol Survey Geophys Inv. Map GP-197, scale 1 96,000 (about 1 in. to 1/2 mi.), 1960.

BALTZ, Elmer Harold, Jr See also JOHNSON, R B 1-60
1-60. (and READ, Charles Brian) Rocks of Mississippian and probable Devonian age in Sangre de Cristo Mountains, New Mexico Am Assoc. Petroleum Geologists Bull, v 44, no 11, p 1749-1774 incl index maps, chart, sections, and illus, Nov 1960

BANCROFT, Alfred M See also WILLMORE, P. L, 1-60

BANDY, Orville Lee
2-60. The geologic significance of coiling ratios in the foraminifer Globigerina pachyderma (Ehrenberg) [California] Jour Paleontology, v 34, no 4, p 671-681 incl index and sketch maps, sections, diagrams, tables, and illus, July 1960
3-60 General correlation of foraminiferal structure with environment Internat Geol Cong, 21st, Copenhagen, 1960, Rept, pt 22, p 7-19 incl charts, 1960
5-60 Planktonic foraminiferal criteria for paleoclimatic zonation Tohoku Univ. Sci. Repts., 2d ser, Geology, Spec V, no. 4, p 1-8, illus, May 1960

BANKS, Harlan Parker
1-60. Notes on Devonian lycopods Senckenbergiana Lethaea (Frankfurt am Main, Germany), Band 41, Nr 1-6, p 59-88, illus, Aug 29, 1960

BANKS, Harvey Oren

BANKS, Joseph Edwin

BANNATYNE, Barry B.
BARKLEY

BANNER, F. T. See also STAINFORTH, R. M. 1-60

BANNERMAN, Harold MacColl
1-60 Research and minerals resources Canadian Mining Jour., v 81, no 1, p 45-49, Jan 1960

BAPTIST, Oren Cecil
1-60 Oil production from frozen reservoir rocks, Umiat, Alaska Am. Inst Mining, Metall., and Petroleum Engineers Trans. 1959, v. 216, p 437-440 incl. diagrams and tables, 1960
2-60. Oil recovery and formation damage in permafrost, Umiat field, Alaska U S. Bur. Mines Rept Inv 5642, 22 p incl. sketch map, diagrams, and tables, 1960

BARAGAR, William Robert
1-60 Petrology of basaltic rocks in part of the Labrador trough Geol. Soc Americ Bull., v 71, no 11, p 1589-1643 incl. sketch maps, diagrams, and tables, also geol. map and illus, Nov 1960

BARBER, R. C. See ESENOR, N. R. 1-60

BARBY, Boardman Gene
1-60. Gas reserve study of the Morrow sand, Light Field, Beaver County, Oklahoma Shale Shaker, v 10, no 10, p 9, 11-16 incl. index and sketch maps, section, diagram, and tables, June 1960. (Slightly revised from Oil and Gas Jour., v 57, no 38, p 94-98, Sept 14, 1959)

BARD, Allen J
1-60. Controlled potential coulometric determination of tin Anal Chim Acta (Amsterdam), v 22, no 6, p 577-582 incl. diagrams and tables, June 1960

BARDEEN, James Maxwell

BARGHOORN, Elsa Sterrenberg See also SCOTT, R. A. 1-60, WOLFE, J. A. 1-60

BARGHUSEN, Herbert Richard
1-60. Functional-anatomical changes in the Chelonic temporal region Chicago, Illinois, Univ Chicago, 67 p, illus, Mar 1960

BARKER, Daniel S

BARKER, Franklin Brett

BARKLEY, Richard A
BARKSDALE

BARKSDALE, Henry Compton  See REMSON, Irwin  1-60

BARKSDALE, Julian Devreau

BARNES, Carleton P
1-60  Hugh Hammond Bennett, 1881-1960, Assoc Am Geographers Annals, v 50, no. 4, p 506-507 incl. portrait, Dec 1960

BARNES, D

BARNES, David Fitz
3-60. Seismic velocity measurements at the Ogotoruk Creek Chariot site, northwestern Alaska U.S. Geol.SurveyRept TEI-753,p 62-72 incl index map and diagrams, Jan. 1960

BARNES, Farrell Francis

BARNES, Hubert Lloyd

BARNES, Ivan  See BACK, William  4-60

BARNES, Robert C  See GRUBBS, Donald K  1-60

BARNES, Virgil Everett

BARNES, William Howard,  See KELSEY, C, H.  1-60

BARNETT, C C  See MOORE, John Marshall  1-60

BARNETT, Lincoln.  See LIFE MAGAZINE  1-60

BARNETT, Paul Redmond,  See BASTRON, Harry  1-60, HANSHAW, Penelope M  1-60

BARNETT, Ray Hosmer.  See VAUGHN, William Wendall  2-60

BAROSH, Patrick James
1-60. Beaver Lake Mountains, Beaver County, Utah--Their geology and ore deposits Utah Geol. and Mineralog. Survey Bull 68, 89 p, illus incl. geol map, Mar 1960.

BARR, Frank Theodore  See LANGENHEIM, Ralph Louis, Jr  7-60

40
BARTON

BARR, James Allen, Jr

BARR, K G See ROBSON, Geoffrey Robert 2-60

BARR, Kenneth William
1-60 Geological map, Toco district, Trinidad, W I Directorate Overseas Surveys, scale about 1 in to 4,000 ft., 1960
2-60. The occurrence of Choffatella decipiens in Trinidad Micropaleontology, v 6, no 3, p 323, July 1960.

BARRABÉ, Louis Camille
1-60 Bassins sédimentaires et provinces pétrolifères Internat Geol Cong, 21st, Copenhagen, 1960, Rept., pt 11, p 113-123 incl. sketch map, 1960

BARR, Kenneth William

BARRY, Gerald See FISHER, James 1-60

BARRY, R. G.

BARSHAD, Isaac. See also TABIKH, A A 1-60
1-60 Significance of the presence of exchangeable magnesium ions in acidified clays, Science, v 131, no 3405, p 986-990 incl. table, Apr 1, 1960

BARTH, Thomas Fredrik Weiby See LARSEN, Ole 1-60

BARTHOLOMÉ, P

BARTLETT, Z W See LEE, Clarence O. 1-60

BARTON, Paul Booth, Jr See also BETHKE, P. M. 1-60, SKINNER, B J. 1-60
BARTON, Robert H
1-60. (and BROSCOE, Andy Joe) The geomorphic expression of selected concealed structures in western Canada [abs] Canadian Oil and Gas Industries, v 13, no 4, p 107, Apr 1960

BASCOM, Willard Newell
2-60, Beaches Sci Am, v 203, no 2, p 80-82, 94 incl diagrams and illus, Aug 1960
3-60 Operation Mohole Mines Mag, v 50, no 2, p. 15-19 incl sections, Feb 1960

BASKIN, Yehuda

BASS, Manuel Nathan See also TILTON, G. R. 2-60
1-60 Grenville boundary in Ohio Jour Geology, v 68, no. 6, p 673-677 incl. index map and tables, Nov 1960.

BASSETT, Allen Mordorf. See BASSETT, W A. 3-60

BASSETT, Henry Gordon

BASSETT, William A.
1-60 Role of hydroxyl orientation in mica alteration Geol. Soc America Bull., v 71, no 4, p 449-455 incl. diagrams and table, illus, Apr 1960.

BASTRON, Harry. See also JACKSON, E. D. 2-60
1-60. (and BARNETT, Paul Redmond, and MURATA, Kiguma Jack) Method for the quantitative spectrochemical analysis of rocks, minerals, ores, and other materials by a powder d-c arc technique U. S Geol Survey Bull, 1084-G, p 165-182, tables, 1960

BASURTO GARCÍA, Jesús

BATEMAN, John Danvers
1-60, Saskatchewan focal point of search for rare helium Oilweek, v. 11, no 9, p 34-36, Apr 16, 1960.

BATES, Beth H See BATES, John D. 1-60

BATES, John D
1-60 (and BATES, Beth H ) Evaluation of heavy mineral separations using artificial samples Jour Sed Petrology, v. 30, no 1, p. 148-153 incl tables, Mar. 1960
BAXTER


BATES, Junior Lambert See BRENDEN, Byron, B 1-60

BATES, Robert Glenn See JOHNSON, Robert William, Jr 1-60

BATES, Robert Lattimer

BATES, Thomas Fulcher See also HINCKLEY, D N 1-60, 2-60, SILVERMAN, E N 1-60
2-60 Rock weathering and clay formation in Hawaiian Mineral Industries, v. 20, no 8, p. 1, 4-6 incl illus , May 1960

BATH, Gordon D
1-60 Magnetization of volcanic rocks in the Lake Superior geosyncline Art 93 in U S. Geol Survey Prof. Paper 400-B, p B212-B214 incl. geol sketch map and diagrams, 1960

BATH, Markus See BEN-MENAHEM, Ar 1-60

BATTEN, Roger Lyman. See also KNIGHT, J B 2-60, 3-60

BAUER, Herman L., Jr

BAUER, R. F.

BAULEKE, Maynard Paul See also PLUMMER, N V 1-60
1-60 Mineral wool from volcanic ash? Rock Products, v 63, no 6, p 110, 112 incl tables and illus., June 1960

BAUM, John L. See HURLBUT, Cornelius Searle, Jr. 1-60

BAUSCHMANN, Walter W
1-60. (and RASE, Daniel Edward) Nonequilibrium phase relations--Data in the system MgO-Al2O3-SiO2 [abs.] Am. Ceram Soc Bull , v 39, no. 4, p 247, Apr 1960

BAXTER, James Watson
1-60. Calcisphaera from the Salem (Mississippian) limestone in southwestern Illinois Jour Paleontology, v 34, no. 6, p 1153-1157, illus , Nov 1960.
2-60 Salem limestone in southwestern Illinois Illinois State Geol. Survey Div Circ 284, 32 p incl geol sketch map, cross section, tables, and illus, 1960

BAXTER, Robert Wilson
1-60 A first report of coal balls from the Pennsylvanian of New Brunswick, Canada Canadian Jour. Botany, v 38, no. 4, p 697-699, July 1960
BAYLEY, Richard William

BAYLY, M. B

BAYNE, Charles K.
1-60. Geology and ground-water resources of Harper County, Kansas, Kansas State Geol. Survey Bull. 143, 184 p., illus. incl. geol. map, Mar. 1960

BAYROCK, Luboslaw Anton, See also GRAVENOR, C P

BÉ, Allan Wie Hwa
1-60. Some observations on Arctic planktonic Foraminifera, Cushman Found. Foram. Research Contr., v. 11, pt. 2, p. 64-68, illus., Apr. 1960

BEARD, Harold Clay

BEALES, Francis William
1-60. Limestone peels, Alberta Soc. Petroleum Geologists Jour., v. 8, no. 4, p. 132-135 incl. illus., Apr. 1960

BEALL, Arthur

BEALL, G. H.

BEALL, Robert MacDonald. See RASMUSSEN, William Charles 1-60

BEALS, Carlyle Smith
BEAL, Harold Oliver

BEAR, Firman Edward

BEAR, Jacob
1-60. (and TODD, David Keith) The transition zone between fresh and salt waters in coastal aquifers California Univ. Water Resources Center Contrib., no. 29, 156 p., illus., Sept. 1, 1960.

BEATTY, Matthew Edwin

BEAVERS, Alvin Herman

BECK, Alan Edward

BECK, B. See SEIFERT, Hans 1-60

BECK, Carl Wellington. See also ELBERTY, W T. 1-60

BECK, Charles Beverley

BECK, Frederick M.

BECKER, Henry Floyd

74-507 O-64-4
BECKER

Herman Frederick

2-60. The Tertiary Mormon Creek flora from the Upper Ruby River Basin in southwestern Montana Palaeontographica (Stuttgart, Germany), Band 107, Abt B, Lief 4-6, p. 83-126, illus., Aug 1960


Joseph H

2-60

BECKER, Herman Frederick

2-60. The Tertiary Mormon Creek flora from the Upper Ruby River Basin in southwestern Montana Palaeontographica (Stuttgart, Germany), Band 107, Abt B, Lief 4-6, p. 83-126, illus., Aug 1960


BECKER, Herman Frederick

2-60. The Tertiary Mormon Creek flora from the Upper Ruby River Basin in southwestern Montana Palaeontographica (Stuttgart, Germany), Band 107, Abt B, Lief 4-6, p. 83-126, illus., Aug 1960


BECKER, Herman Frederick

2-60. The Tertiary Mormon Creek flora from the Upper Ruby River Basin in southwestern Montana Palaeontographica (Stuttgart, Germany), Band 107, Abt B, Lief 4-6, p. 83-126, illus., Aug 1960


BECKER, Herman Frederick

2-60. The Tertiary Mormon Creek flora from the Upper Ruby River Basin in southwestern Montana Palaeontographica (Stuttgart, Germany), Band 107, Abt B, Lief 4-6, p. 83-126, illus., Aug 1960


BECKER, Herman Frederick

2-60. The Tertiary Mormon Creek flora from the Upper Ruby River Basin in southwestern Montana Palaeontographica (Stuttgart, Germany), Band 107, Abt B, Lief 4-6, p. 83-126, illus., Aug 1960


BECKER, Herman Frederick

2-60. The Tertiary Mormon Creek flora from the Upper Ruby River Basin in southwestern Montana Palaeontographica (Stuttgart, Germany), Band 107, Abt B, Lief 4-6, p. 83-126, illus., Aug 1960

BELCHER, Donald Jenks

BELKNAP, William, Jr.

BELL, Alfred Hannam

BELL, Henry, 3d

BELL, Kenneth Garnville

BELL, Walter Andrew

BELOUSSOV, Vladimir Vladimirovitch

BELT, Charles Banks, Jr

BELYEA, Helen Reynolds
1-60. Distribution of some reefs and banks of the Upper Devonian woodbend and Fairholme groups in Alberta and eastern British Columbia Canada Geol. Survey Paper 59-15, 7 p., geol. map, 1960

BENDA, William K.

BENDER, James A

BENDER, Martin S  See GUILDAY, John E 1-60
BENGOECHEA, Adolfo J. See ZOPPIS BRACCI, Luigi 3-60

BENIOFF, Victor Hugo
2-60. Long-period seismographs Seismol Soc America Bull , v 50, no 1, p 1-13 incl diagrams, Jan 1960

BEN-MenAHem, Ari
1-60. (and BATH, Markus) A method for determination of epicenters of near earthquakes Geofisica Pura e Appl (Milan, Italy), v 46, [no.] 2, p 37-46 incl. sketch map, diagram, and tables, May-Aug 1960

BENNER, R. I.
1-60. New silver areas in Cobalt (Ontario) [abs.] Canadian Mining Jour., v. 81, no 4, p. 104-105, Apr 1960.

BENNETT, Frank Orville
1-60 Western Kansas shapes into major oil and gas province Oil and Gas Jour , v 58, no 35, p. 124-127 incl structure contour and index maps, Aug 29, 1960
2-60 Eubank may be next Kansas oil and gas-producing giant Oil and Gas Jour , v. 58, no 51, p 134-138 incl structure contour map and section, Dec 19, 1960
3-60. Mississippian production within the Kansas portion of the Hugoton Gas Field with special emphasis on the Pleasant Prairie and Eubank Pools [abs.] Tulsa Geol Soc. Digest, v 28, p 85, 1960

BENNETT, Hugh F. See BARNES, D F. 2-60

BENNETT, P. T.

BENNETT, Robert Raymond. See Da COSTA, José Alves 2-60

BENNETT, Walter P.
1-60 (and ANDERSON, Arthur L., and SMITH, Basil L ) Cavity definition, radiation and temperature distributions resulting from the Logan event California, Univ , Livermore, Lawrence Radiation Lab. Rept UCRL-6240, 52 p incl. diagrams, tables, and illus , Dec 1960

BENNETT, William Alfred Glenn

BENNINGTON, Kenneth O. See RAMBERG, Hans 2-60

BENÖ T, Fernand Wilbrod

BENSON, David
1-60 Application of the sphalerite geothermometer to some northern New Brunswick sulfide deposits Econ Geology, v. 55, no 4, p 818-826 incl. diagrams, June-July 1960
BERGE

BENSON, Edmund Thurston

BENSON, Lester B., Jr. See COPELAND, Lawrence L 1-60

BENSON, Virgil M. See KASSNER, James Lyle 1-60

BERARD, Jean
1-60 Preliminary report on Toco-Témiscamie area, Mistassini Territory Quebec Dept. Mines Geol Surveys Br. Prelim Rept 411, 10 p, geol. map, 1960, also French ed

BERCUTT, Henry

BERDAN, Jean Milton See also SOHN, I G. 1-60
1-60 Revision of the ostracode family Beecherellidae and redescription of Ulrich's types of Beecherella Jour Paleontology, v 34, no 3, p 467-478, illus, May 1960

BEREZHOI, A S
1-60 Silicon and its binary systems New York, New York, Consultants Bur., 275 p incl. diagrams and tables, translated from Russian, 1960

BERG, Henry Clay See also LATHRAM, E H 2-60
1-60. Three areas of possible mineral resource potential in southeastern Alaska Art 19 in U S. Geol Survey Prof Paper 400-B, p B38-B39 incl. index map, 1960

BERG, John Robert

BERG, Joseph Wilbur, Jr. See also SCHWIND, J. J 1-60
2-60 (and others) Seismic investigation of crustal structure in the eastern part of the Basin and Range province Seismol Soc. America Bull., v. 50, no 4, p. 511-535 incl. index maps, diagrams, and tables, Oct. 1960

BERG, Robert Raymond
2-60. Cambrian and Ordovician history of Colorado, in Rocky Mtn Assoc. Geologists, Guide to the geology of Colorado Denver, p 10-17 incl iso-pach maps, section, and correlation chart, 1960

BERGE, Charles William
1-60 Heavy minerals study of the intrusive bodies of the central Wasatch Range, Utah. Brigham Young Univ. Research Studies Geology Ser., v 7, no 6, 31 p., illus incl. geol. map, June 1960.
BERGE

BERGE, John Stark
1-60, Stratigraphy of the Ferguson Mountain area, Elko County, Nevada
Brigham Young Univ. Research Studies Geology Ser., v 7, no 5, 63 p.,
illus incl geol. map, Apr. 1960

BERGENDAHL, Maximilian Hilmar. See KOSCHMANN, Albert Herbert 1-60

BERGENHAYN, J R. M.
1-60, Cambrian and Ordovician loricates from North America Jour Pale-
onontology, v. 34, no 1, p 168-178 incl illus , Jan 1960

BERGER, Charles See MUCKLEROY, James Arnold 1-60

BERGERON, Robert See also GASTIL, R. G., 3-60
1-60. Les serpentinites de la zone de Cape Smith-Wakeham Bay, Nouveau-
Québec [abs.] Assoc. Canadienne-Française Av. Sci Annales, v 28, p 111,
1960.

BERGEY, William R .
1-60 The use of modern scientific techniques for mining exploration in
large areas of the Caribbean [abs ] Caribbean Geol Conf , 2d, Mayagüez,
Puerto Rico, Jan 4-9, 1959, Trans., p 137, with discussion, 1960

BERGMANN, Herbert J.
1-60 Horizontal loop equipment in ground survey Canadian Mining Jour.,
v 81, no 12, p 57-61 incl diagrams and illus , Dec 1960

BERGSTEN, John M See LYTLE, William Stuckley 2-60

BERGQUEST, Harlan Richard
1-60 Occurrence of Foraminifera and conodonts in upper Paleozoic and
Triassic rocks, northern Alaska Jour. Paleontology, v 34, no 3, p 596-
601 incl. index map, May 1960
2-60. Petrographic study of the crystalline rocks from the Opelika quad-
rangle, Alabama Alabama Geol. Survey Bull 69, 44 p, illus incl. geol
sketch map, 1960

BERKHOLZ, Mary Frances
1-60. Minerals of Bayard area, New Mexico Mineralogist, v 28, nos. 9-10,
p 154, 156, 158 incl. sketch map, Sept.-Oct 1960

BERKOWITZ, Norbert
1-60, Geochemical aspects of coal formation and structure [abs ] Geol Soc.

BERL, Walter George
1-60 (editor) Physical methods in chemical analysis, V. 1 2d revised ed ,
New York, N Y., Academic Press, 686 p. incl diagrams, tables, and
illus., 1960

BERMAN, Robert Morris See also OWENS, J P. 1-60
1-60 Simulation of metamictization in nuclear reactors [abs.] Geol Soc

BERMUDEZ y HERNÁNDEZ, Pedro Joaquín
1-60 Contribución al estudio de las Globigerinidae de la región Caribe-
Antillana (Paleoceno-Reciente), in Cong Geol Venezuela, 3d, Caracas,
1959, Mem , Tomo 3 Venezuela Dirección Geología (Caracas) Bol.

BERNARD, George G.
1-60 (and HOLBROOK, O. C.) The effect of some chemical agents on the
permeability of cores containing clays Producers Monthly, v. 24, no 5,
p. 18-21 incl diagrams, Mar. 1960

50
BERNSTEIN, Fabian

BERRANGÉ, Jevan Pierre

BERRY, Delmar Wood

BERRY, Frederick Almet Fulghum

BERRY, James E

BERRY, William Benjamin Newell
1-60. Early Ludlow graptolites from the Ashland area, Maine Jour. Paleontology, v. 34, no. 6, p. 1158-1163 incl. index map and illus., Nov. 1960.
3-60. Graptolite faunas of the Marathon region, west Texas Texas Univ. Pub 6005, 179 p., illus., Mar. 1, 1960.

BERRYHILL, Henry Lee, Jr.
2-60. (and GLOVER, Lynn, 3d) Geology of the Cayey quadrangle, Puerto Rico U. S. Geol. Survey Misc. Geol Inv. Map I-319, scale 1/20,000 (about 1 in. to 1,700 ft), with sections and text, 1960.

BERTHELESEN, Asger

BERTHOLF, William E., 2d
1-60. Magnetite taconite rock in Precambrian formations in Rio Arriba County, New Mexico New Mexico Bur., Mines and Mineral Resources Circ. 54, 24 p., illus., 1960.


BEVERIDGE, Alexander James. 1-60 Heavy minerals in lower Tertiary formations in the Santa Cruz Mountains, California Jour. Sed. Petrology, v. 30, no 4, p. 513-537 incl. geol. sketch map, sections, diagrams, table, and illus, Dec 1960


2-60, (and VENKATACHALA, B. S.) On Protosalvinia arnoldii sp. from Upper Devonian of Kentucky, U.S.A Senckenbergiana Lethaea (Frankfurt am Main, Germany), Band 41, Nr. 1-6, p. 27-35, illus., Aug 29, 1960


BIAYS, Pierre. 1-60 Quelques travaux et documents concernant le Bouclier canadien Norois (Poitiers, France), 7e année, no 25, p. 13-31 incl. illus, Jan-Mar 1960


2-60, The origins of the massive sulphides [Pt 1] Canadian Minnig Jour., v. 81, no. 3, p. 73-78 incl. diagram and illus., Mar 1960.

3-60, The origins of the massive sulphides, Pt 2 Canadian Minnig Jour., v. 81, no. 5, p. 69-72, May 1960.

BICK, Kenneth Fletcher. 1-60, Geology of the Lexington quadrangle, Virginia Virginia Div Mineral Resources Rept Inv 1, 40 p., geol map, 1960


BIDEAUX, Richard August. 1-60, Oriented overgrowths of tennantite and colusite on enargite Am Mineralogist, v. 45, nos 11-12, p. 1282-1285 incl. diagrams and illus, Nov.-Dec. 1960


BIELER, Barrie H See also WRIGHT, H D 2-60 1-60 (and WRIGHT, Harold D.) Primary mineralization of uranium-bearing "siliceous reef" veins in the Boulder batholith, Montana--Pt. 2, The veins Econ Geology, v. 55, no. 2, p 363-382 incl diagrams, table, and illus., Mar-Apr 1960.

BIEMESDERFER, George K. See BATES, John D. 2-60

BIEN, George Sung-Nien. See also HUBBS, C. L. 1-60 1-60. (and RAKESTRAW, N. W., and SUESS, Hans Edward) Radiocarbon concentration in Pacific Ocean water Tellus (Stockholm), v 12, no 4, p 436-443 incl. diagrams and tables, Nov. 1960.

BIERSCHENK, William H See HONSTEAD, J F 1-60, LANG, Solomon Max, 1-60, RANDALL, Allan D 1-60

BIGGS, Donald Lee. See THOMAS, Leo Almor 1-60


BIKE, Peter Brentley 1-60. Mississippi is still a good place to look for oil Oil and Gas Jour., v. 58, no. 9, p. 127 incl. index map, Feb. 29, 1960.


BILLINGS GEOLOGICAL SOCIETY 1-60. (CAMPAN, Donald Edmund, and ANISGARD, Harry Williams, and EGBERT, Robert L., editors) West Yellowstone--Earthquake area [Montana], 11th annual field conference, September 7-10, 1960 [Guidebook] Billings, Montana, Petroleum Inf., Inc., 313 p. incl. geol. and other sketch maps, diagrams, sections, tables, road logs, and illus., also geol. maps and sections, geomorphic map, and correlation chart, 1960. Includes individual papers which are cited separately.
BINGHAM, James W.
1-60. Basic geologic and ground water data for Clay County, Minnesota

BIRCH, Albert Francis See also VERMA, Raj Kumar 1-60
1-60. (and LeCOMTE, Paul) Temperature-pressure plane for albite com-
position Am. Jour. Sci., v 258, no. 3, p 209-217 incl. diagrams and
2-60. The velocity of compressional waves in rocks to 10 kilobars--Pt 1
 Jour. Geophys. Research, v 65, no. 4, p. 1083-1102 incl. diagrams and
 tables, Apr. 1960
3-60. Reginald Aldworth Daly (1871-1957) Am. Philos Soc. Year Book 1959,
4-60 Reginald Aldworth Daly, May 19, 1871-September 19, 1957 Natl.
Acad. Sci. Biog. Mem., v 34, p. 31-64, portrait, 1960
5-60 Internal constitution of the Earth, physics of the interior Am. Geo-

BIRD, John B.
1-60 The scenery of central and southern Arctic Canada Canadian Geog-
raper, no 15, p 1-11, illus., 1960

BIRMAN, Joseph Harold. See TERZAGHI, Karl 1-60

BISHOP, Ernest W.
1-60. The geochemistry of phosphorus, in Late Cenozoic stratigraphy and
sedimentation of central Florida Southeastern Geol. Soc., 9th Field Trip,
2-60 Structure and diadochic substitutions in the apatite group, in Late
Cenozoic stratigraphy and sedimentation of central Florida Southeastern
Geol. Soc., 9th Field Trip, May 1960, Guidebook, p. 64-74 incl. dia-
gram, 1960.

BISHOP, Margaret Stearns
1-60 Subsurface mapping New York, N. Y., John Wiley and Sons, 198 p.,
illus., 1960

BISQUE, Ramon Edward. See also BLOOM, Duane N. 1-60
1-60 Teaching geochemistry [abs.] Geol. Soc. America Bull., v. 71, no 12,
2-60. What is a geochemist? Geotimes, v. 4, no 7, p 30, 43-44, Apr. 1960
3-60. (and LEMISH, John) Silicification of carbonate aggregates in con-
crete, Natl Acad Sci.--Natl. Research Council Highway Research Board
Bull 239, p 41-55, illus., 1960

BIESSEL, Harold Joseph. See also ADAMS, J. E 1-60
1-60 Eastern Great Basin Permo-Pennsylvanian strata--Preliminary state-
incl. sketch maps, chart, section and fence diagrams, Aug 1960
2-60, Cordilleran fusulinid zonations [abs.] Geol. Soc. America Bull., v 71,
no 12, pt. 2, p 2050-2051, Dec. 1960

BISSON, John M
1-60. Modern limestones Sheffield Univ Geol. Soc. Jour. [Sheffield, En-

BISWAS, A. B. See IRANI, K 1-60

BJERRUM, L. See TERZAGHI, Karl 2-60

BLACK, Craig C.
1-60. A second record of the fossil rodent Palustrimus wood [Wyoming]
BLACK, Peter E.
1-60. (and others) Watershed analysis of the North Fork of the Cache la Poudre River, Larimer County, Colorado, and Albany County, Wyoming Fort Collins, Colorado State Univ., Coop. Watershed Management Unit, 121 p incl. diagrams, tables, and illus., geol. and other sketch maps, fall 1959

BLACK, Robert Foster

BLACKADAR, Robert Gordon See also CANADA GEOL SURVEY, 28-60

BLACKSTONE, Donald Leroy, Jr.

BLAISE, Roger A. See also GASTIL, R G 3-60, STUBBINS, J. B 1-60

BLAKELY, Merle F
1-60. How geologists feel about registration Oil and Gas Jour., v. 58, no 1, p. 52-54 incl illus., Jan. 4, 1960.

BLAKELY, Robert Fraser See also BIGGS, M. E 2-60

BLANCHARD, Raoul
BLAND

BLAND, Francis X.

BLANK, Horace Richard, Jr.

BLANKENSHIP, Joel T.

BLANDING, Bernard William

BLÁSQUEZ LÓPEZ, Luis

BLATT, Harvey

BLAU, Ludwig Wilhelm

BLEIMSTEIN, William C.

BLOCH, Marie Halun

BLOCH, Douglas A.

BLOCH, Stanley See PERLOFF, Alvin, 1-60

BLOOM, Arthur Leroy

BLOOM, Duane N.

BLOOM, Harold. See also HAWKES, H E., Jr. 2-60
BOEGLY, Richard Rodier

BLOSS, Fred Donald. See also GIBBS, G V, 1-60

BLOUGH, Glenn Orlando

BLOUNT, C W. See DICKSON, F. W. 2-60

BLOW, W. H. See BANNER, F. T, 1-60, STAINFORTH, Robert Masterman, 1-60

BLOXAM, T. W.

BLUM, Seymour L.

BLUNDUN, George John

BLYTHE, Jack Gordon

BOARDMAN, Richard Stanton

BOCK, Walter J. See OLSON, Everett Claire 2-60

BOCK, Wilhelm

BODE, Hans

BODINE, Marc Williams, Jr. See BETHKE, Philip Martin 1-60

BOEGLY, W. J. See PARKER, Frank L. 1-60, 2-60
BOESE, Robert W.

BOETTCHER, Jerome W. See INTERMOUNTAIN ASSOC PETROLEUM GEOLOGISTS 1-60

BOGART, Dean Butler. See also ARNOW, Theodore, 1-60

BOKMAN, John Willard
1-60. Oil gravities in the Western Canada basin Alberta Soc Petroleum Geologists Jour., v 8, no. 3, p 81-87 incl. gravity map, diagrams, and table, Mar 1960

BOLD, Willem Aaldert van den
1-60. Eocene and Oligocene ostracoda of Trinidad Micropaleontology, v. 6, no 2, p. 145-196, illus., Apr. 1960

BOLEY, Charles Chilton

BOLINGER, Jane. See SILVER, Leon T. 2-60

BOLLI, Hans Martin
1-60. Planktonic Foraminifera as index fossils in Trinidad, West Indies and their value for worldwide stratigraphic correlation Eclogae Geol. Helvetiae 1959, v 52, no 2, p 627-637 incl. table, Basel, Switzerland, Jan 28, 1960


BOLT, Bruce A

BOLTON, Thomas Elwood. See also COPELAND, M J 1-60

BOLTZ, David Ferdinand. See MELLON, Melvin Guy 1-60

BOLYARD, Dudley Wood

BONER, F. C. See HACKETT, Orwell Milton 1-60

BONET, Federico. See BUTTERLIN, Jacques A.1-60, 2-60, 6-60
BONEY, Buster Harvey

BONHAM, Lawrence Cook See SABINS, Floyd F., Jr 1-60

BONILLA, Manuel George

BONINI, William Emory See also MEYER, R. P. 1-60, WOOLLARD, G. P. 1-60

BONNER, Francis Truesdale

BOOHER, M. B. See HARDT, William Frederick, 1-60

BOON, J. A.

BOOS, Charles Maynard. See BOOS, Margaret Fuller, 1-60

BOOS, Margaret Fuller

BOOZER, George D. See SOMERTON, Wilbur H 1-60

BOPP OESTE, Monika G. See SEARS, Paul Bigelow, 1-60

BORDEN, Charles E.
1-60. DjRi 3, an early site in the Fraser Canyon, British Columbia Canada Natl Mus. Bull 162, p 101-118 incl diagrams and illus., 1960

BORG, Iris Y.

BORESKE, Paul E.

BORKOVICH, George L.
BORN, William Theodore

BORNHAUSER, Max
1-60. Depositional and structural history of Northwest Hartburg field, Newton County, Texas Am Assoc Petroleum Geologists Bull, v. 44, no. 4, p 458-470 incl index and structure contour maps, and sections, Apr. 1960

BORSCHEL, Ken

BORST, Lyle Benjamin
1-60. Time of planet formation Science, v. 131, no 3399, p. 566, Feb 19, 1960

BORST, Roger L

BOSSART, Paul N, Jr. See PATTERSON, Samuel Oliver 1-60

BOSTOCK, J M. See CANADA GEOL SURVEY 18-60

BOSWELL, Percy George Hammond, d 1960.

BOTINELLY, Theodore. See FISCHER, Richard Philip 2-60, GIBBONS, Anthony Benjamin 1-60, WILMARTH, Verl Richard 1-60

BOUCOT, Arthur James
4-60 (and others) A late Silurian fauna from the Sutherland River formation, Devon Island, Canadian Arctic Archipelago [Northwest Territories] Canada Geol. Survey Bull 65, 51 p incl diagrams, table and illus., also index map and French abs., 1960. Contains 6 papers which are not cited separately.

BOUNSALL, E. J.

BOVARNICK, Bennett. See LINIAL, Andrew V 1-60

BOWEN, B M
1-60, (and EDGERTON, J. H., and MOHRBACHER, J A., and CALLAHAN, Joseph Thomas) Geological factors affecting the ground disposal of liquid radioactive wastes into crystalline rocks at the Georgia Nuclear Laboratory site Internat. Geol Cong, 21st, Copenhagen, 1960, Rept., pt 20, p 32-48 incl sketch map, diagrams, and illus., 1960

60
BOWEN, Ira Sprague

BOWEN, Max W

BOWEN, N L. See CHAYES, Felix 1-60

BOWERS, Margaret E. See also GREGORY, A F 3-60, 4-60
1-60. Geophysical interpretation of the magnetic anomaly at Marmora, Ontario Canada Geol Survey Paper 59-4, 11 p., illus., 1960

BOWIN, Carl O.

BOWLES, C Gilbert

BOWLES, Oliver, 1877-1958

BOWMAN, Frank O., Jr.

BOWMAN, Joseph Richmond. See also BRUUN, Per 1-60

BOWN, M. G

BOWSER, E W

BOYD, Donald Ray. See MURRAY, Grover Elmer 1-60, 3-60

BOYD, Donald Wilkin

BOYD, Francis R.
BOYD
2-60 (and ENGLAND, Joseph Loveday) The quartz-coesite transition Jour Geophys Research, v. 65, no 2, p. 749-756 incl. diagrams, tables, and illus., Feb., 1960

BOYER, Robert Ernst

BOYLE, Robert William. See also WANLESS, R. K. 1-60
2-60. Occurrence and geochemistry of native silver in the lead-zinc-silver lodes of the Keno Hill-Galena Hill area, Yukon, Canada Neues Jahrb. Mineralogie Abh (Stuttgart, Germany), Band 94, Festband Ramdohr, 1. Hälfe, p. 280-297 incl. tables and illus., German abs., also geol. sketch map, June, 1960

BOZION, Constantine N. See HEYL, Allen Van 1-60

BRABB, Earl Edward

BRACE, William Francis
1-60 Behavior of rock salt, limestone, and anhydrite during indentation Jour. Geophys Research, v. 65, no. 6, p. 1773-1788 incl. diagrams, tables, and illus., June, 1960

BRACHO VALLE, Felipe
1-60. Yacimientos de Estafio en la Sierra de Chapultepec, Zac., La Ochoa, Dgo. y Cosio, Agu. México Consejo Recursos Nat. no Renovables Bol. 48, 116 p., illus. incl. geol. map, 1960

BRADBURY, James Clifford See also FINGER, G. C. 1-60
2-60 Rare earth and trace element content of an unusual clay on Hicks Dome in Hardin County, Illinois Illinois State Geol. Survey Illinois Industrial Minerals Note 11, p. 1-5 incl. diagram and tables, July 20, 1960

BRADDOCK, William Alfred. See also BOWLES, C. G. 1-60, EICHER, D. L. 1-60, GOTT, G. B. 1-60
1-60. The geology of the Jewel Cave SW quadrangle, South Dakota and its bearing on the origin of the uranium deposits in the southern Black Hills [abs.] Dissert. Abs., v. 20, no. 11, p. 4366-4367, May, 1960

BRADLEY, Edward See MEYERS, Theodore Ralph 1-60

BRADLEY, John Samuel See DUNLAP, Henry Francis, 1-60, 2-60
BRADLEY, William Crane  See RICHMOND, Gerald Martin  4-60

BRADLEY, William Frank. See also GRAF, D. L 1-60, GRIM, R E 3-60, HUGHES, P. W 1-60

BRADLEY, Wilmot Hyde

BRADSHAW, R L. See PARKER, Frank L 1-60, 2-60

BRADY, Lionel Francis, 1880-1963
1-60, Dinosaur tracks from the Navajo and Wingate sandstones Plateau, v 32, no. 4, p. 81-82, Apr. 1960

BRAMLETTE, Milton Nunn
1-60 Age relations in early Tertiary of Europe and America as indicated by coccolithophorids and related microfossils [abs] Geol. Soc America Bull., v 71, no 12, pt 2, p 1832, Dec 1960

BRANAN, Clifford B., Jr See also WEBB, F S 1-60
1-60 (and JORDAN, Louise) Southeast Oklahoma reawakens as potential gas giant Oil and Gas Jour., v. 58, no 32, p. 120-122 incl structure map, Aug. 8, 1960
2-60 (and JORDAN, Louise) Recent exploration in the Arkoma basin and Ouachita province, southeastern Oklahoma Oklahoma Geology Notes, v. 20, no 6, p 140-147, illus., June 1960

BRANDT, L W

BRANDWEIN, P F. See REED, William Maxwell 1-60

BRANN, Doris C

BRANSON, Carl Colton
1-60, Local fossil assemblage in the Seminole formation Oklahoma Geology Notes, v 20, no 1, p 16-17, Jan 1960
2-60 Reclassification of an Oklahoma foraminifer Oklahoma Geology Notes, v 20, no 6, p 139, June 1960
3-60. Conostichus Oklahoma Geology Notes, v. 20, no 8, p. 195-207, illus., Aug 1960
4-60 Proposed American standard of early Permian(?) rocks, a century-old controversy Oklahoma Geology Notes, v 20, no 9, p 229-235, illus., Sept 1960
5-60 A restricted biofacies Oklahoma Geology Notes, v 20, no 10, p 259-260, Oct 1960
6-60 John Tipton Lonsdale (1895-1960) Oklahoma Geology Notes, v 20, no 11, p 274, Nov. 1960

63
BRANT

BRANT, Russell Alan
1-60. (and DeLONG, Richard M) Coal resources of Ohio Ohio Div Geol Survey, Bull 58, 245 p., illus., 1960

BRAUN, Lewis Timothy See FUENNING, Paul 1-60

BRAUN, Theodore H.
1-60 (and WHEATLEY, George York) Electrical analog approach to dipmeter computations Geophysics, v. 25, no. 4, p 928-938 incl diagrams and illus., Aug. 1960

BRAY, Arthur
1-60. Mining celestine Canadian Mining Jour., v 81, no. 5, p 68-69 incl. illus., May 1960

BRAY, Ellis Edwin

BRAY, J -Guy

BRAY, R. C. E See BROWN, W. Lindop

BRAZEE, Rutlage J

BRECHTEL, Frederick Charles
1-60 (and GOULD, Donald Boyd) Arctic Islands [Northwest Territories] allow fast photogeologic evaluation World Oil, v. 151, no. 1, p. 103-107 incl. geol and index maps, and illus., July 1960.

BREGER, Irving A. See also ERSUN, Sabri, 2-60
1-60. (and CHANDLER, John C) Extractability of humic acid from coalified logs as a guide to temperatures in Colorado Plateau sediments Econ. Geology, v 55, no 5, p 1039-1047 incl. diagrams and tables, Aug. 1960

BREITRICK, Richard A. See BAUER, Herman L., Jr 1-60

BRENDEL, Byron B. See also NEWKIRK, H. W. 1-60

BRENNAN, Robert See JOHNSON, Carlton Robert, 2-60

BRENT, William Bonney
BRIGHT

BRETT, P. Robin
1-60 Preliminary report on the southeast quarter of La Motte township and the southwest quarter of Lacorne township, Abitibi-East electoral district Quebec Dept Mines Mineral Deposits Br Prelim Rept 428, 12 p., geol map, 1960, also French ed

BRETZ, J Harlen

BREWER, Max Clifton See GREENE, Gordon W 1-60

BREWER, R
1-60 The petrographic approach to the study of soils Internat Cong Soil Sci., 7th, Madison, Wisconsin, 1960, Trans, v. 1, comm 1, Soil physics, p 1-13 incl. table, illus., and French and German summaries [1960]

BRICE, James Coble

BRICHTA, Louis Chambon
1-60. Catalog of recorded exploration drilling and mine workings, Tri-State Zinc-Lead District--Missouri, Kansas, and Oklahoma U S Bur Mines Inf Circ 7993, 13 p incl. geol. and other sketch maps and tables, index maps, 1960

BRICKER, Owen P.

BRIDGWATER, David. See BERTHElsen, Ager, 1-60

BRIDWELL, Ralph Sterling
1-60 Dunman-Hudson area, Coleman County, Texas, in Abilene Geol. Soc., Geological contributions 1960, p 30-35, illus., 1960

BRIGGS, Louis I

BRIGGS, Louis Isaac, Jr. See McCULLOCH, David Sears, 1-60

BRIGGS, Reginald Peter. See also BERRYHILL, H L., Jr 1-60, PEASE, M. H., Jr. 2-60
2-60. Laterization in east-central Puerto Rico Caribbean Geol. Conf., 2d, Mayaguez, Puerto Rico, Jan 4-9, 1959, Trans., p. 103-119 incl. index and sketch maps, diagrams, and tables, with discussion, 1960

BRIGHT, Norman F. H. See WEBSTER, A. Hubert, 1-60
BRINDLE, John E.
1-60. Mississippian megafaunas in southeastern Saskatchewan Saskatchewan Dept. Mineral Resources Rept. 45, 107 p., illus., 1960
2-60. The faunas of the Lower Paleozoic carbonate rocks in the subsurface of Saskatchewan Saskatchewan Dept. Mineral Resources Rept. 54, 45 p. incl. index map, charts, tables, and illus., 1960.

BRINDLEY, George William
See also STEMPLE, I. S. 1-60

BRINSMEAD, Ralph

BRISBIN, William Corbett
See WILSON, Harry David Bruce 1-60, 2-60

BRITISH COLUMBIA DEPARTMENT of MINES

BRITISH COLUMBIA DEPARTMENT of MINES and PETROLEUM RESOURCES
1-60. Index to published geological mapping in British Columbia Victoria, map, scale about 1 in to 40 mi., with separate key, revised, Apr. 1960
2-60. Geological mapping in British Columbia to April 1960 Victoria, 31 p., illus., June 24, 1960.

BROBST, Donald Albert

BROCHU, Michel
See also FREMLIN, Gerald 1-60, ST.-ONGE, Denis 1-60

BROD, I. O.
1-60. Estado actual del problema del origen del petróleo y gas el proceso de su acumulación Asoc. Mexicana Geólogos Petroleros Bol., v. 12, nos 3-4, p. 103-144, sketch map, chart, and tables, Mar.-Apr. 1960.

BROD, Robert J.
See STEENLAND, Nelson Clarence 1-60

BRODER, J. D.
See WOLFF, Gunther Arthur 1-60

BRODING, Robert Andrew
How many species of birds have existed?

BROMERY, William Pierce

BRODSKY, Harold. See OSTERWALD, Frank William
1-60

BROECKER, Wallace S.. See also ECKELMANN, W. R. 1-60
1-60. (and EWING, William Maurice, and HEEZEN, Bruce Charles) Evidence for an abrupt change in climate close to 11,000 years ago Am. Jour. Sci., v 258, no. 6, p. 429-448 incl. diagrams and tables, June 1960
5-60. (and others) Natural radiocarbon in the Atlantic Ocean Jour. Geophys Research, v 65, no 9, p 2903-2931 incl sketch maps, diagrams, and tables, Sept 1960

BROGAN, Phil F

BROKAW, Arnold Leslie

BROMERY, Randolph Wilson. See also BALSLEY, J. R., Jr. 2-60
1-60. (and ZANDLE, Gerald L., and others) Aeromagnetic map of the Boyertown quadrangle, Berks and Montgomery Counties, Pennsylvania U. S. Geol Survey Geophys Inv. Map GP-232, scale 1 24,000 (1 in to 2,000 ft.), 1960
3-60 (and EMERY, Kenneth Orris, and BALSLEY, James Robinson, Jr ) Reconnaissance airborne magnetometer survey off southern California U. S Geol Survey Geophys. Inv Map GP-211, scale about 1 in to 16 mi , with geol map and text, 1960.
4-60. (and ZANDLE, Gerald L., and others) Aeromagnetic map of the Potstown quadrangle, Berks, Chester, and Montgomery Counties, Pennsylvania U S Geol. Survey Geophys. Inv. Map GP-222, scale 1 24,000 (1 in to 2,000 ft.), 1960
5-60. (and HENDERSON, John Richard, and ZANDLE, Gerald L., and others) Aeromagnetic map of the Wagontown quadrangle, Chester County, Pennsylvania U.S. Geol. Survey Geophys Inv. Map GP-223, scale 1 24,000 (1 in to 2,000 ft ), 1960
6-60. (and ZANDLE, Gerald L., and others) Aeromagnetic map of the Downingtown quadrangle, Chester County, Pennsylvania U. S Geol. Survey Geophys. Inv. Map GP-224, scale 1 24,000 (1 in to 2,000 ft.), 1960
7-60 (and HENDERSON, John Richard, and ZANDLE, Gerald L., and others) Aeromagnetic map of the Coatesville quadrangle, Chester County, Pennsylvania U S Geol Survey Geophys Inv. Map GP-225, scale 1 24,000 (1 in to 2,000 ft ), 1960.
8-60. (and ZANDLE, Gerald L., and others) Aeromagnetic map of part of the Unionville quadrangle, Chester County, Pennsylvania U. S. Geol. Survey Geophys. Inv Map GP-226, scale 1 24,000 (1 in to 2,000 ft.), 1960.
9-60. (and HENDERSON, John Richard, and ZANDLE, Gerald L., and others) Aeromagnetic map of the Temple quadrangle, Berks County, Pennsylvania U S Geol Survey Geophys Inv. Map GP-227, scale 1 24,000 (1 in to 2,000 ft.), 1960.
10-60. (and HENDERSON, John Richard, and ZANDLE, Gerald L., and others) Aeromagnetic map of the Fleetwood quadrangle, Berks County, Pennsylvania U. S. Geol. Survey Geophys. Inv. Map GP-228, scale 1:24,000 (1 in to 2,000 ft), 1960.

11-60. (and ZANDLE, Gerald L., and others) Aeromagnetic map of the Manatawny quadrangle, Berks County, Pennsylvania U. S. Geol. Survey Geophys. Inv. Map GP-229, scale 1:24,000 (1 in to 2,000 ft), 1960.


18-60. (and HENDERSON, John Richard, and ZANDLE, Gerald L., and others) Aeromagnetic map of part of the Langhorne quadrangle, Bucks County, Pennsylvania U. S. Geol. Survey Geophys. Inv. Map GP-238, scale 1:24,000 (1 in to 2,000 ft), 1960.


BRONOWSKI, J  See FISHER, James 1-60

BRONSON, Roy DeBolt

BROOKS, Harold Kelly
1-60, Size frequency distribution of particles in sediments of the "Citronelle formation" [Florida], in Late Cenozoic stratigraphy and sedimentation of central Florida Southeastern Geol. Soc., 9th Field Trip, May 1960, Guidebook, p. 32-35 incl. diagrams, 1960

BROPHY, Gerald Patrick

BROSCOE, Andy Joe  See BARTON, Robert H 1-60

BROSGÉ, William Peters

BROSS, Gerald L.
1-60, Distribution of Layton sandstone (Pennsylvanian), Logan County, Oklahoma Shale Shaker, v. 11, no 2, p 2-12 incl. index and sketch maps, sections, table, and discussion by H. G Wessman, Oct. 1960.

BROWN, B. E

BROWN, Bahngrell W
1-60, Geologic study along Highway 16 from Alabama line to Canton, Mississippi Mississippi State Geol Survey Bull. 89, 52 p., illus., 1960

BROWN, Boyd Ray  See also PICARD, M. D. 2-60, 3-60

BROWN, Charles N.  See HERSHEY, Howard Garland 1-60

BROWN, Charles Quentin

BROWN, Clair Alan
1-60 Palynological techniques Baton Rouge, La, privately printed, 188 p., illus., 1960

BROWN, Clarence Ervin. See also THAYER, T P. 1-60
BROWN, George Malcolm. See also WAGER, L. R. 1-60
1-60 The effect of ion substitution on the unit cell dimensions of the common clinopyroxenes. Am. Mineralogist, v 45, nos 1-2, p. 15-38 incl. diagrams and tables, Jan.-Feb. 1960

BROWN, Harold Henry

BROWN, Harrison Scott. See also KRINOV, E. L. 1-60
1-60. The density and mass distribution of meteoritic bodies in the neighborhood of the earth's orbit. Jour. Geophys Research, v. 65, no. 6, p. 1679-1683 incl. diagrams and tables, June 1960

BROWN, John Stafford

BROWN, Kermit Earl

BROWN, Leonard Franklin, Jr. See also SOC. ECON. PALEONTOLOGISTS and MINERALOGISTS, Permian Basin Chap., 1-60

BROWN, Maurice Vertner

BROWN, Philip Monroe
2-60. Ground-water supply of Cape Hatteras National Seashore Recreational Area. North Carolina Dept. Water Resources Rept. Inv. 1, 14 p incl. sketch map, section, diagram, and tables, 1960

BROWN, R. J. S

BROWN, Randall Emory. See also SCHWENDIMAN, L. C. 1-60
BROWNE


BROWN, Robert David, Jr

2-60. (and GOWER, Howard Dale, and SNAVELY, Parke Detweiler, Jr.) Geology of the Port Angeles-Lake Crescent area, Clallam County, Washington U S. Geol Survey Oil and Gas Inv. Map OM-203, scale 1 62,500 (about 1 in to 1 mi.), with sections and text, 1960.

BROWN, Roger J E. See also MACKAY, J R 3-60

BROWN, Roland Wilbur, 1893-1961 See also ESTES, Richard 1-60

BROWN, Silas Christian

BROWN, W. A See JAMES, Laurence Beresford 1-60

BROWN, Walter C

BROWN, William B, 3d

BROWN, William Liddle
1-60. (and others) Studies on pyroxene, amphibole, zeolite and feldspar minerals at the Department of Mineralogy, Pennsylvania State University [abs ]. Acta Cryst., v 13, pt 12, p 1004, Dec 1960.

2-60. Lattice changes in heat-treated plagioclases--The existence of monazite at room temperature Zeitschr Kristallographie (Frankfurt am Main, Germany), Band 113, Max von Laue Festschr. 2, p 297-329 incl diagrams and tables, with German abs, Apr. 1960.

3-60. The crystallographic and petrologic significance of peristerite unmixing in the acid plagioclases Zeitschr Kristallographie (Frankfurt am Main, Germany), Band 113, Max von Laue Festschr. 2, p 330-344 incl diagram, table, and illus, with German abs., Apr 1960.

BROWN, William Lindop

BROWNE, Ruth G.
BROWNE

2-60. (and McDONALD, Donald E.) Wisconsin molluscan faunas from Jefferson County, Kentucky Bulls Am. Paleontology, v 41, no 189, p. 165-183, illus., Aug. 5, 1960

BRUCE, Robert Russell. See DeMUMBRUM, Lawrence Edgar 2-60

BRUCKER, Roger W.

BRUHN, A F. See STOKES, William Lee 5-60

BRUMMER, Johannes J

BRUNDAGE, Harrison Truesdale
1-60. Many operators entering Appalachian Basin World Oil, v. 150, no 4, p. 93-99 incl. index map, section, and table, Mar. 1960

BRUNDALL, Laurence

BRUNE, James N. See also NAFE, J E 1-60

BRUNTON, George Delbert. See BECK, Carl Wellington 2-60

BRUSH, Lucien Munson, Jr. See also LEOPOLD, L. B. 2-60

BRUUN, Per. See also BOWMAN, J R. 1-60

BRYAN, Alan L.

BRYAN, James W.
BRYANT, Bruce Hazelton. See also CAROLINA GEOLOGICAL SOCIETY
1-60, FOSTER, M. D 2-60, REED, J. C., Jr 1-60, 2-60
1-60, (and SCHMIDT, Robert George, and PECORA, William Thomas)
Geology of the Maddux quadrangle, Bearpaw Mountain, Blaine County,
map, 1960

BRYHNI, Inge
1-60 Istds-syker i Nord-Amerika Naturen (Bergen, Norway), årg. 84,
nr 7, p 418-427 incl sketch map, diagram, and illus., 1960.

BRYNER, Leonid
1-60. Breccia and pebble columns associated with hydrothermal ore de­
2-60. Geology of the South Comobabi Mountains and Ko Vaya Hills, Pima
1960.

BUCHANAN, Richard Stuart
1-60 Present and future oil and gas possibilities in Pennsylvanian and Per­
man rocks of southeastern Colorado [abs ] Am Assoc Petroleum Geolo­

BUCKLAND, Francis Channing
1-60. Modern quest for the Klondike lode [Yukon] Western Miner and Oil
Rev, v 33, no 10, p 54-57 incl. illus., Oct 1960

BUCKNER, Dean Alan (and ROY, Rustum) Note on a subsolidus study of the system CaSiO3-
SrSiO3 Am Ceramic Soc Jour , v 43, no 1, p 52-53 incl diagram,
Jan 1, 1960
2-60 (and ROY, Della Martin, and ROY, Rustum) Studies in the system
v 258, no 2, p. 132-147 incl. diagrams and tables, Feb. 1960

BUCKWALTER, Tracy V
1-60. Some structural aspects of the Reading Hills Pennsylvania Acad Sci.
Proc., v 34, p 109-116, illus., 1960

Budd, Harrell
1-60. Notes on the Pure Oil Company discovery at Northwest Lisbon [Utah],
in Geology of the Paradox Basin fold and fault belt. Four Corners Geol

BUDDHUE, John Davis
1-60. Partial list of ice falls--Reward $500 Mineralogist, v 28, nos 2-3,
p 14, 16, 18, Feb -Mar 1960

BUDDING, Antonius Jacob
1-60. (and PITRAT, Charles William, and SMITH, Clay Taylor) Geology
of the southeastern part of the Chama basin, in Rio Chama Country New
illus , 1960.

BUDDINGTON, Arthur Francis. See also BALSLEY, J R., Jr. 1-60, 3-60
1-60. The origin of anorthosite re-evaluated India Geol Survey Recs., v. 86,

BUERGER, Martin Julian See also BURNHAM, C W 4-60, PREWITT, C T
1-60, 2-60, ZOLTAI, Tibor 2-60
1-60 Crystal-structure analysis New York, N Y., John Wiley and Sons,
2-60. (chairman) Symposium on twinning Inst. Inv Geol "Lucas Mal­
lada" Cursillos y Conf (Madrid), fasc. 7, p 3-57 incl. diagrams, tables,
and illus , May 1960 Includes individual papers which are cited separate­ly.

73
BUERGER


BULL, William Benham

BULLOCK, Kenneth C.
1-60 (and SMOUSE, DeForrest, and ROBINSON, Gerald B., Jr.) Minerals and mineral localities of Utah Provo, Dept. Geology, Brigham Young Univ., 170 p., illus., July 1960.

BUNKER, Carl Maurice

BUNN, John R.

BUR, T. See POLOCK, James Percy 1-60

BURBANK, Lawrence. See PÉWÉ, Troy Lewis 1-60

BURBANK, Wilbur Swett. See also LUEDKE, R. G. 1-60

Burch, John Q.

Burchard, Ernest Francis, 1875-1961

Burchett, R. R.

Burckle, Lloyd H.
1-60 Some Mississippian fenestrate Bryozoa from central Utah Jour. Paleontology, v. 34, no. 6, p. 1077-1098 incl. index map, illus., Nov. 1960.

Burford, Arthur E.
BURGER, John Allan
1-60. Mesaverde group in adjoining areas of Utah, Colorado, and Wyoming
[abs.] Am. Assoc Petroleum Geologists Bull., v. 44, no. 6, p. 954, June
1960.
2-60. Mesaverde group in adjoining areas of Utah, Colorado and Wyoming
[abs.] Am. Assoc. Petroleum Geologists Rocky Mt Sec. Geol. Record
1960, p. 163 [1960]

BURGESS, Jack D. See HOARE, Richard David 1-60

BURGESS, Richard Joseph
1-60. Oil in Trenton synclines [Michigan and Ontario] Oil and Gas Jour.,
v. 68, no. 33, p. 124-128, 130-131 incl. sketch maps, sections, and tables,
Aug 15, 1960
2-60. Oil in Trenton synclines a new exploratory target [abs.] Canadian Oil
3-60. (and HADLEY, C. J.) Geology of the Colchester oil pool, southwestern

BURGIN, Lorraine See WILLIAMSON, Donald Robert 2-60, 3-60, 4-60

BURK, Cornellus Franklin, Jr.
1-60 A regional study of the Silurian stratigraphy of Gaspe Peninsula, Que-
bec [abs.] Dissert. Abs., v. 20, no. 9, p. 3691-3692, Mar. 1960

BURKE, W H, Jr. See BRAY, Ellis Edwin 1-60

BURKS, James H. See WARMAN, James C. 1-60

BURLING, A H. See UNDERWOOD, Lloyd Bradish 1-60

BURNETT, Claude Murphy See HAGER, Dilworth S. 1-60

BURNETT, John L.
1-60. Expansible shale California Div. Mines Mineral Inf. Service, v 13,

BURNHAM, Clifford Wayne. See also PUTNAM, G. W. 1-60
1-60. A method for determining the solubility of silicates in water vapor
at high pressures [abs.] Jour. Geophys. Research, v. 65, no. 8, p. 2479
incl. table, Aug. 1960
2-60. (and TUTTLE, Orville Frank) The second critical end point in the
p. 2479-2480, Aug 1960
3-60. (and TUTTLE, Orville Frank) Composition of the magmatic vapor
1960
4-60 (and BUERGER, Martin Julian) Refinement of the crystal structure
of andalusite [abs.] Geol Soc America Bull, v 71, no. 12, pt. 2, p 1838,
Dec. 1960

BURNS, Donald John
1-60 Geochemical prospecting for copper-Arthur's Seat, Clarendon [Jama-
1960

BURNS, James Richard
1-60. Variation of aluminum, sodium, and manganese in common rocks Art.

BURR, Stanley V.
1-60. The self-potential method for the prospector Canadian Mining and

75


BUSCHER, Gustav 1-60. The boy's book of the earth beneath us· New York, N. Y., Roy Pubs., 144 p., illus., translated from German by Joseph Avrach and Egon Larsen (1960).


BUSH, Vincent R. See STEINBRUGGE, Karl V. 3-60


BYRNE, Elizabeth Ann McGee
2-60. Paleontology of the L. L. and E. et al. well, Unit 1-L, No. 1 Louisiana Geol. Survey Folio Ser., no. 1, 4 sheets, illus., Feb. 1960.

BUTTERLIN, Jacques A.

BYBEE, Halbert Homer

BYERLY, Perry

BYERLY, P. Edward

BYERS, Alfred Roddick

BYERS, Frank Milton, Jr.

BYERS, Horace Robert

BYRNE, John Vincent

734-507 O-64—6
CABBELL, Thomas R.

CADILLA, José F.

CADWELL, Donald E.

CADY, Gilbert Haven

CADY, John Gilbert

CADY, Wallace Martin

CAHOON, Elizabeth J.

CALDER, A. B.

Caldwell, Dabney W.

Caldwell, Joseph Morton

California Department of Water Resources, Division of Resources Planning


CALIFORNIA DIVISION of MINES

CALIFORNIA DIVISION of OIL and GAS

CALIFORNIA UNIVERSITY, Lawrence Radiation Laboratory
1-60. Some potential uses of nuclear explosives in the conservation and development of water resources California Univ., Livermore, Lawrence Radiation Lab. Rept. UCRL-6008, 24 p., May 24, 1960

CALLAHAN, Joseph Thomas. See also BOWEN, B. M. 1-60

CALLENDER, Charles See TAX, Sol 1-60

CALVERT, Warren L. See also SHEARROW, G. G. 2-60
1-60. Clinton, Berea, and Cambrian are principal targets of Ohio drillers Oil and Gas Jour., v. 58, no. 43, p. 168-170 incl. tables, Oct. 24, 1960.

CALVIN, Melvin

CAMERON, Alexander R.

CAMERON, Eugene Nathan
2-60. Graphite, in Am. Inst Mining, Metall., and Petroleum Engineers, Industrial minerals and rocks, p. 455-469 incl. diagram and tables, 1960

CAMERON, Harcourt Leslie. See also CANADA GEOL. SURVEY 12-60

CAMERON, Thomas Wright Moir
CAMERON


CAMPAN, Donald Edmund. See BILLINGS. Geol. Soc 1-60, JODRY, Richard Louis 1-60, 2-60, 3-60


CAMPBELL, William B., Jr.

CAMPBELL, William P., Jr.
1-60. Appalachian gold--handbook and guide to gold placers of the Southeast. Privately printed, 45 p., illus., 1960.

CAMPEN, William Hershey. See MULLIS, Ira B. 1-60

CANADA DEPARTMENT of MINES and TECHNICAL SURVEYS, Mineral Resources Division.

CANADA GEOLOGICAL SURVEY. See also CANADA DEPT. MINES and TECH. SURVEYS Mineral Res Div. 1-60
2-60 Bedrock geology and principal aquifers, Brandon, west of principal meridian, Manitoba. Canada Geol. Survey Map 1066A, scale 1,253,440 (1 in. to 4 mi.), geology by E. C. Halstead, 1960, also in Memoir 300, by E. C. Halstead, 1959.
3-60. Surficial geology, Brandon, west of principal meridian, Manitoba. Canada Geol. Survey Map 1067A, scale 1,253,440 (1 in. to 4 mi.), geology by J. A Elson, 1960, also in Memoir 300, by E. C. Halstead, 1959.
4-60. Surficial geology, Sturgeon Lake, west of fifth meridian, Alberta. Canada Geol. Survey Map 1077A, scale 1,253,440 (1 in. to 4 mi.), geology by E. P. Henderson, 1960, also in Memoir 303, by E. P. Henderson, 1959.
6-60. Mining properties, Nelson (west half), Kootenay and Similkameen Districts, British Columbia. Canada Geol. Survey Map 1091A, scale 1,253,440 (1 in. to 4 mi.), information obtained by H. W. Little, 1960, also in Memoir 308, by H. W. Little, 1960.
7-60. Geology, Atlin, Cassiar District, British Columbia. Canada Geol. Survey Map 1082A, scale 1,253,440 (1 in. to 4 mi.), with sections, geology by J. D. Aitken, 1960, also in Memoir 307, by J. D. Aitkin, 1959.
10-60. Flin Flon--Mandy, west of principal meridian, Manitoba and Saskatchewan. Canada Geol. Survey Map 1078A, scale 1,12,000 (1 in. to 1,000 ft.), with descriptive notes, geology by C. H. Stockwell, 1960.
11-60. Geology, Trout River, Island of Newfoundland. Canada Geol. Survey Map 1086A, scale 1,63,360 (1 in. to 1 mi.), with descriptive notes, geology by Charles H. Smith, 1960.

81
14-60. Geology, Crackingstone, Saskatchewan. Canada Geol. Survey Map 1095A, scale 1 63,360 (1 in to 1 mi.), with descriptive notes, geology by J. A. Fraser, 1960.


49-60, Aeromagnetic series, index to map sheets Map, sheets 1 and 7 [1960].

50-60, Alberta and northeastern British Columbia, showing oil and gas fields and oil and gas discoveries Canada Geol Survey Map 1039A, 7th ed., scale 1 1,267,200 (1 in. to 20 mi.), 1960, originally published 1952.

51-60, Aeromagnetic map series 1 63,360 (1 in. to 1 mi.), Geophysics Papers published in 1960 as follows:

230, Cape George, Antigonish and Inverness counties, Nova Scotia, revised, originally published 1955.
Anhgomsh, Anhgomsh and Guysborough counties, Nova Scotia, revised, originally published 1955.

Musquash--St. John, Charlotte and Kings counties, New Brunswick, revised, originally published 1957.

St. George, Charlotte county, New Brunswick, revised, originally published 1957.

Metegehan, Digby and Yarmouth counties, Nova Scotia, revised, originally published 1957.

Church Point, Digby county, Nova Scotia, revised, originally published 1957.

Ecum Secum, Halifax and Guysborough counties, Nova Scotia.

Hopewell--Pictou, Colchester, Guysborough and Halifax counties, Nova Scotia.

New Glasgow, Pictou county, Nova Scotia.

Harcourt--Kent, Westmorland and Queens counties, New Brunswick.

Grand Manan, Charlotte county, New Brunswick.

Salisbury--Westmorland, Queens, Kings and Albert counties, New Brunswick.

Rogersville, Kent and Northumberland counties, New Brunswick.

Petitcodiac--Kings, Westmorland and Albert counties, New Brunswick.

Granville Ferry, Annapolis county, Nova Scotia.

Digby, Digby and Annapolis counties, Nova Scotia.

Centreville, Digby county, Nova Scotia.

Campobello, Charlotte county, New Brunswick.

Sambro, Halifax county, Nova Scotia.

Cape Spencer, Saint John county, New Brunswick.

Loch Lomond, Saint John and Kings counties, New Brunswick.

Salmon River, Saint John county, New Brunswick.

Waterford--Kings, Saint John and Albert counties, New Brunswick.

Owls Head, Halifax county, Nova Scotia.

Tangier, Halifax county, Nova Scotia.

Upper Musquodoboit--Halifax, Colchester and Guysborough counties, Nova Scotia.

Bridgetown, Annapolis county, Nova Scotia.

Margaretsville, Annapolis and Kings counties, Nova Scotia.

Chezzetcook, Halifax county, Nova Scotia.

Musquodoboit, Halifax and Hants counties, Nova Scotia.

Shubenacadie--Hants, Colchester and Halifax counties, Nova Scotia.

Truro--Colchester, Hants and Pictou counties, Nova Scotia.

Tatamagouche--Colchester, Pictou and Cumberland counties, Nova Scotia.

Halifax, Halifax county, Nova Scotia.

Uniake, Halifax and Hants counties, Nova Scotia.

Kennetcook, Hants county, Nova Scotia.

Bass River--Hants, Colchester and Cumberland counties, Nova Scotia.


Wolfville, Kings and Hants counties, Nova Scotia.

Farrsboro--Cumberland, Colchester and Kings counties, Nova Scotia.

Springshill, Cumberland and Colchester counties, Nova Scotia.

Amherst, Westmorland and Cumberland counties, Nova Scotia--New Brunswick.

New Germany--Lunenburg, Annapolis, Kings and Queens counties, Nova Scotia.

Gasperau Lake--Kings, Annapolis and Lunenburg counties, Nova Scotia.

Berwick, Kings and Annapolis counties, Nova Scotia.

Cape Chignecto, Cumberland county, Nova Scotia.


Hillsborough, Albert and Westmorland counties, New Brunswick.

Kouchibouguac, Northumberland and Kent counties, New Brunswick.

Chatham, Northumberland county, New Brunswick.

Tabusintac River, Gloucester and Northumberland counties, New Brunswick.

Burnsville, Gloucester county, New Brunswick.
808, Grande-Anse, Gloucester county, New Brunswick.
809, Moncton, Westmorland and Albert counties, New Brunswick.
810, Buctouche, Kent and Westmorland counties, New Brunswick.
811, Richibucto, Kent county, New Brunswick.
812, Point Sapin, Kent and Northumberland counties, New Brunswick.
813, Point Escuminac, Northumberland and Kent counties, New Brunswick.
814, Wishart Point, Northumberland and Gloucester counties, New Brunswick.
815, Tracadie, Gloucester county, New Brunswick.
816, Caraquet, Gloucester county, New Brunswick.
817, Port Elgin, Westmorland county, New Brunswick.
818, Cape Egmont, Prince county, Prince Edward Island.
819, O'Leary, Prince county, Prince Edward Island.
820, Tignish, Prince county, Prince Edward Island.
821, North Point, Prince county, Prince Edward Island.
822, Miscou Island, Gloucester county, New Brunswick.
823, Point Escumac, Northumberland and Kent counties, New Brunswick.
824, Port Elgin, Westmorland county, New Brunswick.
825, Cape Egmont, Prince county, Prince Edward Island.
826, Prince Edward Island-Nova Scotia.
827, Summerside, Prince and Queens counties, Prince Edward Island.
828, Malpeque, Prince and Queens counties, Prince Edward Island.
829, Malagash--Cumberland, Pictou and Colchester counties, Nova Scotia.
830, Charlottetown, Queens county, Prince Edward Island.
831, Rustico, Queens county, Prince Edward Island.
832, Picton Island--Queens, Kings and Pictou counties, Prince Edward Island-Nova Scotia.
836, Montague, Kings and Queens counties, Prince Edward Island.
837, Mount Stewart, Kings and Queens counties, Prince Edward Island.
840, Merigomish, Pictou and Antigonish counties, Nova Scotia.
841, Malagash Lake--Antigonish and Kings counties, Nova Scotia-Prince Edward Island.
842, Boughton Island, Kings county, Prince Edward Island.
843, Souris, Kings county, Prince Edward Island.
846, Port Hood, Inverness county, Nova Scotia.
850, Wegg Lake, Kenora District, Ontario.
851, Gullrock Lake, Kenora District, Ontario.
852, Red Lake, Kenora District, Ontario.
853, Nungesser and Coli Lakes, Kenora District, Ontario.
854, Kirkness Lake, Kenora District, Ontario.
855, Berens Lake, Kenora District, Ontario.
856, McInnes Lake, Kenora District, Ontario.
857, Critchell Lake, Kenora District, Ontario.
858, Kennedy Lake, Kenora District, Ontario.
859, Favourable Lake, Kenora District, Ontario.
860, Goldpines, Kenora District, Ontario.
861, Bruce Lake, Kenora District, Ontario.
862, Trout Lake, Kenora District, Ontario.
863, Henfrey Lake, Kenora District, Ontario.
864, Windfall Creeks, Kenora District, Ontario.
865, Nechigona Lake, Kenora District, Ontario.
866, Sampson Lake, Kenora District, Ontario.
867, Margot Lake, Kenora District, Ontario.
868, Whiteloon Lake, Kenora District, Ontario.
869, Northwind Lake, Kenora District, Ontario.
870, Aerofoil Lake, Kenora District, Ontario.
871, Bluffy Lake, Kenora District, Ontario.
872, Confederation Lake, Kenora District, Ontario.
873, Shabumeni Lake, Kenora District, Ontario.
874, Mamakwash Lake, Kenora District, Ontario.
875, Conover Lake, Kenora District, Ontario.
876, MacDowell Lake, Kenora District, Ontario.
877, Hewitt Lake, Kenora District, Ontario.
878, North Spirit Lake, Kenora District, Ontario.
879, Niska Lake, Kenora District, Ontario.
880, Wapesi Lake, Kenora District, Ontario.
881, Papaongo Lake, Kenora District, Ontario.
882, Jeanette Lake, Kenora District, Ontario
883, Birch Lake, Kenora District, Ontario.
884, Carillon Lake, Kenora District, Ontario.
885, Wigwasikak Lake, Kenora District, Ontario.
886, Nabimina Lake, Kenora District, Ontario.
887, Laughton Lake, Kenora District, Ontario.
888, McCoy Lake, Kenora District, Ontario.
889, Petownkip Lake, Kenora District, Ontario.
890, Anenimus River, Kenora District, Ontario.
891, Otaotakan Lake, Kenora District, Ontario.
892, Wesleyan Lake, Kenora District, Ontario.
893, Zionz Lake, Kenora District, Ontario.
894, Cat Lake, Kenora District, Ontario.
895, Whitestone Lake, Kenora District, Ontario.
896, McCauley Lake, Kenora District, Ontario.
897, Shimbone Lake, Kenora District, Ontario.
898, Windigo Lake, Kenora District, Ontario.
899, Nkip Lake, Kenora District, Ontario.
900, St. Raphael Lake, Kenora District, Ontario.
901, Lindbergh Lake, Kenora District, Ontario.
902, Blackstone Lake, Kenora District, Ontario.
903, Obaskaka Lake, Kenora District, Ontario.
904, Gitche River, Kenora District, Ontario.
905, Upturnedroot Lake, Kenora District, Ontario.
906, Hinton Lake, Kenora District, Ontario.
907, Stirland Lake, Kenora District, Ontario.
908, Yoyoy Lake, Kenora District, Ontario.
909, Weagamow Lake, Kenora District, Ontario.
911, Miniss Lakes, Thunder Bay and Kenora Districts, Ontario.
912, Lake St. Joseph West, Kenora and Thunder Bay Districts, Ontario.
913, Kawnogans Lake, Kenora District, Ontario.
914, Dobie River, Kenora District, Ontario.
915, Obabika Lake, Kenora District, Ontario.
916, Kecheokagan Lake, Kenora District, Ontario.
917, Mawley Lake, Kenora District, Ontario.
918, Donnelly River, Kenora District, Ontario.
919, North Caribou Lake, Kenora District, Ontario.
920, Neverfreeze Lake, Thunder Bay District, Ontario.
921, McCrea Lake, Thunder Bay District, Ontario.
922, Osnaburgh House, Kenora and Thunder Bay Districts, Ontario.
923, Ochig Lake, Kenora District, Ontario.
924, Tarp Lake, Kenora District, Ontario.
925, Mamiegowish Lake, Kenora District, Ontario.
926, Menako Lakes, Kenora District, Ontario.
927, Forester Lake, Kenora District, Ontario.
928, Opapimaksan Lake, Kenora District, Ontario.
929, Wachusk Lake, Kenora District, Ontario.
930, Wabakimi Lake, Thunder Bay District, Ontario.
931, Burntrock Lake, Thunder Bay District, Ontario.
932, Achapi Lake, Thunder Bay and Kenora Districts, Ontario.
933, Sheech Lake, Kenora and Thunder Bay Districts, Ontario.
934, Collishaw Lake, Kenora District, Ontario.
935, Lysander Lake, Kenora District, Ontario.
936, Dillen Lake, Kenora District, Ontario.
937, Neawagank Lake, Kenora District, Ontario.
938, Obabigan Lake, Kenora District, Ontario.
939, Big Beaver House, Kenora District, Ontario.
940, Goldsborough Lake, Thunder Bay District, Ontario.
941, Whitewater Lake, Thunder Bay District, Ontario.
942, Greenmantle Lake, Thunder Bay District, Ontario.
943, Pruner Lake, Thunder Bay and Kenora Districts, Ontario.
944, Crerar Lake, Kenora and Thunder Bay Districts, Ontario.
945, Jervis Bay Lake, Kenora District, Ontario.
946, Totogan Lake, Kenora District, Ontario.
947, Wgwascence Lake, Kenora District, Ontario.
948, Michikens Lake, Kenora District, Ontario.
949, Wunnunmn Lake, Kenora District, Ontario.
950, Linklater Lake, Thunder Bay District, Ontario.
951, Whiteclay Lake, Thunder Bay District, Ontario.
952, Kilbarry Lake, Thunder Bay District, Ontario.
953, Grace Lake, Thunder Bay and Kenora Districts, Ontario.
954, Miminiska Lake, Kenora and Thunder Bay Districts, Ontario.
955, Ozhiski Lake, Kenora District, Ontario.
956, Pattle Lake, Kenora District, Ontario.
957, Eyes Lake, Kenora District, Ontario.
958, Sheridan Lake, Kenora District, Ontario.
959, Sennett Lake, Kenora District, Ontario.
960, Mjiitkit Lake, Thunder Bay District, Ontario.
961, D'Orsonnens Lake, Thunder Bay District, Ontario.
962, Sim Lake, Thunder Bay District, Ontario.
963, Kawitos Lake, Thunder Bay and Kenora Districts, Ontario.
964, Opikemo Lake, Kenora and Thunder Bay Districts, Ontario.
965, Machawaik Lake, Kenora District, Ontario.
966, Kabania Lake, Kenora District, Ontario.
967, Nankika Lake, Kenora District, Ontario.
968, Sagiminisa Lake, Kenora District, Ontario.
969, Wapikopa Lake, Kenora District, Ontario.
970, Makoki Lake, Thunder Bay District, Ontario.
971, Mahamo Lake, Thunder Bay District, Ontario.
972, Kellow Lake, Thunder Bay and Kenora Districts, Ontario.
973, Triangular Lake, Kenora and Thunder Bay Districts, Ontario.
974, Fort Hope, Kenora District, Ontario.
975, Stark Lake, Kenora District, Ontario.
976, Lansdowne House, Kenora District, Ontario.
977, Waptolem Lake, Kenora District, Ontario.
978, Mameigwess Lake, Kenora District, Ontario.
979, Kanuchuan Lake, Kenora District, Ontario.
980, Kapikotongwa Lake, Thunder Bay District, Ontario.
981, Ogoki Lake, Thunder Bay District, Ontario.
982, Harvey Lake, Thunder Bay and Kenora Districts, Ontario.
983, Makokibatan Lake, Kenora and Thunder Bay Districts, Ontario.
984, McIntyre Lake, Kenora District, Ontario.
985, Norton Lake, Kenora District, Ontario.
986, Windsor Lake, Kenora District, Ontario.
987, Owen Lake, Kenora District, Ontario.
988, Pulham Lake, Kenora District, Ontario.
989, Winisk Lake, Kenora District, Ontario.
990, Percy Lake, Thunder Bay and Cochrane Districts, Ontario.
991, Patience Lake, Thunder Bay and Cochrane Districts, Ontario.
992, Dusey Lake, Thunder Bay and Cochrane Districts, Ontario.
993, Kagami Falls, Thunder Bay and Cochrane Districts, Ontario.
994, Maxey Lake—Kenora, Cochrane and Thunder Bay Districts, Ontario.
995, Wabassi Falls, Kenora District, Ontario.
996, Shablye Lake, Kenora District, Ontario.
997, Kitchie Lake, Kenora District, Ontario.
998, Goods Lake, Kenora District, Ontario.
999, Prime Lake, Kenora District, Ontario.
1000, Louella Falls, Cochrane District, Ontario.
1001, La Rose Lake, Cochrane District, Ontario.
1002, Eby Falls, Cochrane District, Ontario.
1003, Big Canoe Lake, Cochrane District, Ontario.
1004, Nottik Island, Cochrane and Kenora Districts, Ontario.
1005, Sebert Lake, Kenora and Cochrane Districts, Ontario.
1006, Pym Island, Kenora District, Ontario.
1007, Fishtrap Lake, Kenora District, Ontario.
1008, Symons Lake, Kenora District, Ontario.
1009, Greig Lake, Kenora District, Ontario.
1010, Margaree, Inverness county, Nova Scotia.
1011, Chéticamp, Inverness county, Nova Scotia.
1013, Pleasant Bay, Inverness and Victoria counties, Nova Scotia.
1014, Dingwall, Victoria county, Nova Scotia.
1025, Chéticamp River, Inverness and Victoria counties, Nova Scotia.
52-60. Bay of Fundy Canada Geol. Survey Geophysics Papers 760-761, 766, scale 1 63,360 (1 in. to 1 m.), 1960.
53-60. Gulf of St Lawrence Canada Geol. Survey Geophysics Papers 822-823, 829, 834, 838-839, 844-845, 847-849, 1012, scale 1 63,360 (1 in. to 1 m.), Papers 1015-1024, scale 1 126,720 (1 in. to 2 m.), 1960.

CANADIAN GEOGRAPHICAL JOURNAL
1-60 Valleys in the bottom of Lake Superior Canadian Geog Jour., v 60, no. 3, p. 112 incl. sketch map and diagram, Mar 1960

CANADIAN MINING JOURNAL
1-60. Eldorado Beaverlodge Operation [Northwest Territories]--[Pt.] 2, Geology Canadian Mining Jour., v. 81, no. 6, p. 84-98 incl. geol. sketch maps, sections, and illus., June 1960.

CANADIAN SOCIETY of EXPLORATION GEOPHYSICISTS
1-60 The role of geophysics in the search for oil in Western Canada [abs.] Canadian Oil and Gas Industries, v 13, no 4, p. 108, Apr 1960.

CANNEY, Frank Cogswell

CANNON, Helen Leighton
2-60 Geochemistry of sandstones and related vegetation in the Yellow Cat area of the Thompson district, Grand County, Utah Art 46 in U. S. Geol. Survey Prof Paper 400-B, p. B86-B87 incl. tables, 1960.

CANNON, Peter. See PHILLIPS, Victor Arthur 1-60

CANNON, Walter F

CANTWELL, Thomas See also MADDEN, T. R. 1-60

CAPLAN, William M.

CARBONELL CÓRDOBA, Manuel. See PESZUERA VELÁZQUEZ, Rubén 1-60
CARBONNEAU, Côme
1-60. La faille Delson et ses ramifications en aval du pont Mercier [abs.]

CARD, Kenneth D. See THOMSON, James Edgar 5-60, 6-60

CARDEA, Harry S
1-60. A geologic study of the Terra Alta gas field [abs.] West Virginia Acad.

CARDER, Dean Samuel
1-60. (and CLOUD, William K.) Ground motions generated by underground nuclear explosions World Conf. Earthquake Eng., 2d, Tokyo and Kyoto,

CARDWELL, George Thomas

CAREY, Samuel Warren
1-60. The strength of the earth's crust New York Acad. Sci. Trans., ser. 2,
v. 22, no. 5, p. 303-312, illus., Mar. 1960

CARLISLE, Donald
p. 2053, Dec. 1960

CARLSON, Clarence Gustav
1-60. Subsurface geology and development of petroleum in North Dakota Compass, v. 37, no. 2, p. 123-143 incl. index and paleogeol. map, sections, chart, diagrams, and tables, Jan. 1960, reprinted as North Dakota Geol. Survey Bull. 34, 1960
2-60. Stratigraphy of the Winnipeg and Deadwood formations in North Dakota North Dakota Geol. Survey Bull. 35, 149 p., illus., 1960

CARLSTON, Charles William
1-60. Tritium as a hydrologic tool--The Wharton Tract study [N. J.] Internat.

CARMAN, Joel Ernest
1-60. The stratigraphy of the Devonian Holland Quarry shale of Ohio Fieldiana Geology, v. 14, no. 1, p. 1-5, illus., June 20, 1960

CARNAHAN, Veryle May
1-60. A slab of variscite Gems and Minerals, no. 270, p. 38, 40, 80, 81,
Mar. 1960
3-60. The treasure of the Himalaya Mine California Gems and Minerals, no. 278, p. 21-25, 55-57 incl. illus., Nov. 1960

CAROLINA GEOLOGICAL SOCIETY
1-60. (by BRYANT, Bruce Hazleton, and REED, John Calvin, Jr.) Field trip guidebook, road log of the Grandfather Mountain area, North Carolina, annual meeting, October 8-9, 1960 21 p., illus. incl. geol. maps, 1960.

89
CAROZZI, Albert Victor. See also GRIM, R. E. 2-60

CARPEN, Thaddeus Richard
1-60. Southeastern Colorado, Chap 14 in Mineral resources of Colorado, 1st sequel Denver, Colorado Mineral Resources Board, p. 505, 531-560 incl. index maps and correlation chart, 1960

CARPENTER, Alden B.

CARPENTER, Frank Morton

CARPENTER, Gene C.

CARPENTER, Gerald Leon
1-60. (and SMITH, Howard) Oil development and production in Indiana during 1959 Indiana Geol Survey Mineral Economics Ser., no. 6, 18 p., illus., Oct. 1960.

CARPENTER, Lee Graydon

CARPENTER, Robert Halstead

CARR, John M.
1-60. Porphyries, breccias, and copper mineralization in Highland Valley, British Columbia [abs] Canadian Mining Jour., v. 81, no. 4, p. 73, Apr. 1960.
2-60. Porphyries, breccias, and copper mineralization in Highland Valley, B. C Canadian Mining Jour., v. 81, no. 11, p. 71-73 incl. sketch maps and section, Nov. 1960.

CARR, Michael H. See also TUREKIAN, Karl K. 1-60
1-60. The bedrock geology of the Naugatuck quadrangle, with map Connecticut State Geol. and Nat. History Survey Quad Rept. 9, 25 p., illus., incl. geol. map, 1960.

CARRIKER, Melbourne Romaine

90
CARRILLO BRAVO, José See MURRAY, Grover Elmer 2-60

CARRILLO MARTINEZ, Pedro

CARRINGTON, Richard

CARRILLO MARTINEZ, Pedro
1-60. Estud10 geologico de los campos petroleros de San

CARROLL, Dorothy. See also AUSTIN, S. R. 1-60

CARROLL, Dorothy. See also AUSTIN, S. R. 1-60

3-60 Ilmenite alteration under reducing conditions in unconsolidated sediments Econ Geology, v 55, no 3, p 618-619, May 1960 (Discussion of paper by J W Gruner, v. 54, p. 1315-1316, 1959 )


CARSOLA, Alfred James
1-60. (and others) Bathymetry of the Beaufort Sea [Arctic Ocean][abs.] Oil in Canada, v 12, no. 16, p 32, Feb. 15, 1960

CARSON, Charles E.
1-60 (and HUSSEY, Keith Morgan) Hydrodynamics in three Arctic lakes [Alaska] Jour. Geology, v 68, no. 6, p 585-600 incl diagrams, sketch maps, and tables, illus., Nov 1960


CARSON, David John Temple

CARSS, Brian Williams. See LANGENHEIM, R L., Jr 2-60

CARTER, Joel A.

CARTER, R L See GIDDENS, Joel 1-60

CARTER, William Douglas. See WEIR, Gordon Whitney 5-60

CARVER, J A See PROTZMAN, Don L 1-60

CARY, Allen Stuart

CASAGRANDE, Arthur See also TERZAGHI, Karl 2-60
1-60 An unsolved problem of embankment stability on soft ground Cong. Panam Mecánica Suelos y Climentaciones, 1st, México, D. F., Sept. 7-12,
CASAGRANDE

1959, Mem, v 2, p. 721-746 incl sketch map, diagrams, illus., and Spanish abs. and conclusions, 1960

CASE, James Boyce See also JOESTING, H. R 1-60
2-60 Glacier mapping in the western United States--Final report Ohio State Univ. Research Found Rept. 943, 11 p., illus., Jan. 1960

CASSIDY, M. M. See also MANKIN, C J. 1-60
1-60. (and MANKIN, Charles John) Chlorox used in preparation of black shale for clay mineral analysis Oklahoma Geology Notes, v. 20, no. 11, p 275-281, illus., Nov. 1960

CASSIDY, William A.

CASTER, Kenneth Edward

CASTILLÓN BRACHO, Manuel See CONTRERAS VALÁZQUEZ, Hugo 1-60

CASTLE, J. E.

CASTRO, Honorato de
1-60. Traducción de un articulo sobre isostacia publicado en una revista inglesa que trata sobre "The figure of the earth and isostasy" Asoc. Mexicana Geófisicos Explor Bol , v 1, no 4, p 329-341, illus., Oct.-Dec 1960

CATANZARO, Edward John

CATE, Addison Smith See LYTLE, William Stuckley 2-60

CATE, Robert B., Jr.

CATER, Frederick William, Jr

CATHERINO, Henry A

CATTERMOL, John Marcus
1-60. Geology of the Bearden quadrangle, Tennessee U. S. Geol Survey Geol. Quad Map GQ-126, scale 1 24,000 (1 in to 2,000 ft ), with section and text, 1960

CAUSEY, Lawson V See HARRIS, Hobart Byron 1-60, WARMAN, J C. 1-60

92
CHAO


2-60  Cross-bedding directions in Upper Triassic sandstones of west Texas:  Jour Sed Petrology, v 30, no. 3, p. 459-465 incl sketch maps and diagrams, Sept 1960

CEFOLA, Michael.  See HAMWAY, Paulette  1-60

CHAFFEE, Robert Gibson  See MORRILL, Philip  2-60

CHALMERS, Robert A.  See MURDOCH, Joseph  1-60

CHABAI, Albert J.  See VORTMAN, Luke J.  1-60

CHAMBERLAN, Joseph Annandale  1-60  Structural history of the Beaverlodge area  Econ. Geology, v 55, no 3, p 617-618, May 1960, reply to discussion by P A. Hill, v 54, no. 8, p 1577, 1959
2-60  On the uranium possibilities of the southern Interior Plains of Canada  Canada Geol Survey Paper 59-16, 12 p., illus., 1960


CHAMPLIN, J B.F.  1-60, (and DUNNING, H. N.)  A geochemical investigation of the Athabasca bituminous sands  Econ. Geology, v 55, no. 4, p. 797-804 incl diagrams and tables, June-July 1960


CHANDLER, John Charles  See BREGER, Irving A  1-60, 2-60

CHAO, Edward Chung-Te.  See also FLEISCHER, Michael, 3-60, MILTON, Charles, 1-60, 3-60
1-60  A device for viewing x-ray precession photographs in three dimensions  Am Mineralogist, v 45, nos 7-8, p. 890-892 incl. illus., July-Aug. 1980
3-60.  (and DAVIES, William Edward)  Authigene rhodochrosite spherules from Gardner Creek, Kentucky Art. 204 in U S Geol Survey Prof Paper 400-B, p B446-B447 incl illus , 1960

93
CHAO

4-60. (and FLEISCHER, Michael) Abundance of zirconium in igneous rocks Internat. Geol Cong, 21st, Copenhagen, 1960, Rept, pt. 1, p 106-131 incl. diagrams and tables, 1960

5-60 Natural coesite--an unexpected geological discovery Foote Prints, v. 32, no 1, p. 25-32, illus., 1960.

CHAPMAN, Carleton Abramson. See DONATI, G. R 1-60

CHAPMAN, Dean R. 1-60. Recent re-entry research and the cosmic origin of tektites Nature (London), v. 188, no 4748, p. 353-355, illus., Oct 29, 1960

CHAPMAN, Robert Mills. See also HUMMEL, C L. 1-60

1-60 (and SHACKLETTE, Hansford T.) Geochemical exploration in Alaska Art. 49 in U. S. Geol. Survey Prof. Paper 400-B, p B104-B107 incl. index map and tables, 1960


CHARLESWORTH, Henry Alexander Kaye 1-60. Some observations on the origin of the earth's crust Edmonton Geol. Soc. Quart., v 4, no 2, p 1-7, illus. [June 1960]


CHARLESWORTH, Lloyd James, Jr. See LANDES, Kenneth Knight 2-60

CHARTERS, A. C. 1-60 High-speed impact Sci Am., v. 203, no 4, p. 128-131, 135-140 incl. diagram and illus., Oct 1960


CHASE, Armand B. See ROSENFELD, John L 2-60


CHAYES, Felix. See also MEGAW, H. D. 1-60, ZIES, E. G 1-60


CHEESMAN, Ralph Leslie 1-60. (and others) Summary report of geological surveys conducted in the Precambrian area of Saskatchewan, 1960 Regina, Saskatchewan Dept. Mineral Resources, Mines Br., Geology Div., v. 21 p, index map [1960]. Contains individual papers which are cited separately.
CHILINGAR

CHEETHAM, Alan Herbert

CHEN, C. S.

CHENEY, Theodore Albert

CHENOWETH, Philip Andrew
1-60. Ouachita Mountains do have oil and gas potential World Oil, v 151, no. 2, p 94-95, 99-100 incl. index map and section, Aug 1, 1960
2-60 A Canyon reef in southern Oklahoma Oklahoma Geology Notes, v 20, no 1, p 3-6, illus., Jan. 1960
3-60. Starfish impressions from the Hilltop shale Oklahoma Geology Notes, v 20, no 2, p. 35-36, illus., Feb. 1960

CHENOWETH, William Lyman
1-60, (and COOLEY, Maurice E.) Pleistocene cinder dunes near Cameron, Arizona Plateau, v 33, no. 1, p. 14-16, illus., July 1960

CHERITON, C G

CHERNOFF, C N

CHESTERMAN, Charles Wesley

CHILINGAR, George Varos See also ADAMS, J. E. 1-60, ASCHENBRENNER, B C. 2-60
1-60. (and KNIGHT, Larry) Relationship between pressure and moisture content of kaolinite, illite, and montmorillonite clays Am Assoc Petroleum Geologists Bull., v 44, no. 1, p 101-106 incl. diagrams and illus., Jan 1960
2-60 Notes on classification of carbonate rocks on basis of chemical composition Jour Sed Petrology, v 30, no 1, p 157-158 incl. tables, Mar. 1960
4-60. Ca/Mg ratios of calcareous sediments as a function of depth and distance from shore Compass, v 37, no 3, p. 182-186 incl. sketch map and diagrams, Mar 1960
5-60 El método potencial de oxidación-reducción en la exploración de yacimientos petrolíferos (una revisión) Asoc Mexicana Geólogos Petroleros Bol., v 12, nos 11-12, p 323-338 incl. diagrams, Nov-Dec. 1960

95
CHINNERY, Michael Alistair
1-60. Some physical aspects of earthquake mechanism Jour Geophys. Research, v. 65, no. 11, p. 3852-3854, Nov. 1960

CHISHOLM, Edward O.,
1-60. (and FERGUSON, Stewart A.) Township of Balmer, District of Kenora (Patricia Portion), Ontario Ontario Dept. Mines [Prelim. Map] P.47, scale 1 12,000 (1 in. to 1,000 ft.), [Mar. 8, 1960].

CHODOS, Arthur A. See ENGEL, Albert Edward John 2-60, STEVENS, Rollin Elbert 1-60, 5-60

CHOMBART, Louis G.

CHOQUETTE, Philip Wheeler
1-60. Petrology and structure of the Cockeysville formation (pre-Silurian) near Baltimore, Maryland Geol Soc. America Bull., v. 71, no. 7, p. 1027-1052 incl. sketch maps, diagrams, and tables, illus., July 1960

CHOU, Tsung-Lien. See VANONI, Vito August 2-60

CHOWN, Edward Holton MacPhail

CHOWN, R G. See REX, Robert Walter 1-60

CHRIST, Charles L. See also CLARK, J. R. 6-60, 7-60
1-60. Crystal chemistry and systematic classification of hydrated borate minerals Am Mineralogist, v. 45, nos. 3-4, p. 334-340 incl. tables, Mar.-Apr. 1960
4-60. (and CLARK, Joan Robinson) Studies of borate minerals--[Pt.] 9, The crystal structure of mayerhoffite, CaB3O3(OH)5·H2O Zeitschr. Kristallographie (Frankfurt am Main, Germany), Band 114, Heft 5-6, p. 321-342 incl. diagrams and tables, with German abs., Dec. 1960.

CHRISTENSEN, David E. See BECKER, Henry Floyd 1-60

CHRISTIANSEN, Earl Alfred
1-60. Geology and ground-water resources of the Qu'Appelle area, Saskatchewan Saskatchewan Research Council Geology Div. Rept. 1, 53 p. incl. index and sketch maps, diagrams, tables, and illus., also geol. and hydrol. maps, 1960.

CHRISTIE, John McDougall. See also BLATT, Harvey 1-60
CHRISTOPHER, James Ellis

CHRONIC, Byron John, Jr
1-60 Late Paleozoic paleontology in the northern Paradox Basin [Colorado Plateau], in Geology of the Paradox Basin fold and fault belt Four Corners Geol Soc , 3d Field Conf , 1960, [Guidebook] p. 80-85, illus., 1960

CHRZANOWSKI, Peter

CHU, Ting Y

CHU, T L See DAVIDSON, Donald Thomas 2-60

CHU, TING Ye See WILLIAMS, Wayne W. 1-60

CHUBB, Lawrence John

CHURKIN, Michael, Jr

CIFELLI, Richard
1-60 Structure and nature of the wall of Streblus Beccari (Linné) [abs ] Geol Soc. America Bull , v 71, no 12, pt 2, p 1843, Dec 1960

CLABAUGH, Stephen Edmund See DASCH, E. J 1-60

CLAIRED, C. N See WHITTEN, Charles Arthur 2-60

CLANTON, Uel S.
1-60 X-ray diffraction furnace Texas Jour Sci., v. 12, nos. 3-4, p. 131-137 incl. diagrams and illus., Oct 1960

CLARK, C. Burton
CLARK

CLARK, Dana Kent. See GRAHAM, Joseph John 1-60

CLARK, David Leigh. See also SCHELL, W. W 1-60
2-60 (and BECKER, Joseph H.) Upper Devonian correlations in western Utah and eastern Nevada Geol Soc. America Bull., v. 71, no 11, p 1861-1874 incl. index map, sections, and table, illus., Nov 1960

CLARK, E. W. See McJANNET, G. S. 1-60, 2-60

CLARK, Edward Lee. See ALLEN, Thomas 1-60

CLARK, Grady Wayne. See KOPP, Otto Charles 1-60

CLARK, Joan Robinson. See also CHRIST, C. L. 2-60, 3-60, 4-60
1-60 X-ray study of alteration in the uranium mineral pyrrhotite Am. Mineralogist, v 45, nos. 1-2, p. 200-208 incl. tables and illus., Jan.-Feb 1960
3-60. (and MROSE, Mary Emma) Veatchite and p-veatchite Am. Mineralogist, v. 45, nos. 11-12, p. 1221-1229 incl. diagrams and tables, Nov.-Dec. 1960
4-60. (and APPLEMAN, Daniel Everett) Crystal structure refinement of reedmergnerite, the boron analog of albite Science, v. 132, no. 3442, p 1837-1838 incl. tables, Dec 16, 1960
5-60. (and APPLEMAN, Daniel Everett) Crystal structure of reedmergnerite, the boron analogue of albite [abs.] Geol Soc America Bull., v 71, no. 12, pt. 2, p 1843-1844, Dec 1960
7-60. (and CHRIST, Charles Louis) Hauptman-Karle phase determination applied to meyerhoffertite Zeitschr. Kristallographie (Frankfurt am Main, Germany), Band 114, Heft 5-6, p. 343-354 incl. diagram and tables, with German abs , Dec 1960.

CLARK, John

CLARK, Karl Adolf
2-60. Permeability of the Athabasca oil sands [Alberta] Oil in Canada, v 12, no. 28, p. 24-28, illus., May 9, 1960

CLARK, Lloyd A.
1-60. The Fe-As-S system--Phase relations and applications Econ. Geology, v. 55, no. 7, p. 1345-1381 incl. diagrams, tables, and illus., Nov 1960, v. 55, no. 8, p. 1631-1652 incl. diagram and tables, Dec. 1960

CLARK, Lorin Delbert
1-60. Evidence for two stages of deformation in the western Sierra Nevada metamorphic belt, California Art. 148 in U. S. Geol. Survey Prof. Paper 400-B, p. B316-B318 incl. geol. sketch map and illus., 1960
CLEMENS

CLARK, Norman J

CLARK, Robey Harned
1-60. (and CLARKE, W. J.) A plastic universal stage for student use Am Mineralogist, v. 45, nos 1-2, p 224-228 incl. illus., Jan-Feb 1960.

CLARK, Sydney Procter, Jr

CLARK, Thomas Henry. See also JONES, I W 1-60, OSBORNE, F. F. 3-60

CLARK, Wilfred Edward Le Gros
1-60 The antecedents of man--An introduction to the evolution of the primates Chicago, Ill , Quad Books, 374 p., illus , 1960

CLARKE, Arthur C.

CLARKE, Charles Edward See REXROAD, Carl Buckner 1-60

CLARKE, James Wood

CLARKE, P. J.
1-60. Preliminary report on Normanville area, Saguenay electoral district, Quebec Dept Mines Geol Surveys Br Prelim.Rept.413, 14 p, geol map, 1960, also French ed.

CLARKE, R T. See WILSON, Leonard Richard 4-60, 5-60

CLARKE, Roy Slayton, Jr See SWITZER, George S. 2-60

CLARKE, William James. See CLARK, Robey Harned 1-60, STAINFORTH, Robert Masterman 1-60

CLAUSEN, C. F.

CLAUSEN, Jens

CLEBSCH, Alfred, Jr.
1-60. Ground water in the Oak Spring formation and hydrologic effects of underground nuclear explosions at the Nevada Test Site U S. Geol. Survey Rept. TEI-759, 29 p. incl geol. sketch map, diagrams, and tables, Apr 1960.

CLEMENS, William A., Jr

99
CLEMENT

CLEMENT, Belva D. See ROCKY MTN. ASSOC. GEOLOGISTS 2-60

CLEMONS, Elizabeth

CLEVELAND, George Barrie
1-60. Geology of the Otay bentonite deposit, San Diego, California California Div. Mines Spec. Rept. 64, 16 p., illus incl. geol. map, 1960

CLEVEN, Merrill L. See JORDAN, James N. 1-60

CLIFFORD, Tom N.

CLINE, Lewis Manning
1-60. Stratigraphy of the late Paleozoic rocks of the Ouachita Mountains, Oklahoma Oklahoma Geol. Survey Bull. 85, 113 p., illus incl. geol. maps, Aug. 1960

CLINTON, Nelson James. See KELLEY, Vincent Cooper 3-60

CLOKE, Paul LeRoy

CLOOS, Ernst

CLOUD, Preston Ercelle, Jr.

CLOUD, William K. See also CARDER, D. S. 1-60

COATS, Robert Roy See also POWERS, H. A. 3-60

COBB, Edward Huntington
1-60. (compiler) Chromite, cobalt, nickel, and platinum occurrences in Alaska U. S. Geol. Survey Mineral Inv Resource Map MR-8, scale 1:2,500,000 (about 1 in. to 39 mi.), 1960
COBB, Howard Lewis

COBB, James Curtis

COBBAN, William Aubrey See REESIDE, John B., Jr 1-60, ZAPP, Alfred Dexter 1-60

COCKE, J. M See SUTHERLAND, Patrick Kennedy 1-60

COE, A V Robertson. See MARET, Raymond Eldon 1-60

COGAN, Edward

COHEE, George Vincent

COHEN, Alvin Jerome
3-60 Substitutional and interstitial aluminum impurity in quartz, structure and color interrelationships, in Symposium on defect structure of quartz and glassy silica Physics and Chemistry Solids, v 13, nos. 3-4, p 321-325, illus., June 1960.

COHEN, Charles I. See DONATH, F. A 1-60

COHEN, Howard M.
1-60 (and ROY, Rustum) Extent of mutual solubility in the crystalline alkali halides and AgCl at temperatures well below the solidus [abs.] Am Ceramic Soc. Bull., v 39, no 4, p 185, Apr. 1960.

COHEN, Stephen
1-60 The 1960 regional stratigraphy field trip of Indiana University Compass, v 38, no 1, p 39-43 incl. index map, Nov. 1960

COHENOUR, Robert Eugene

COHN, Byron E. See BOESE, Robert W 1-60

COKER, A. E
1-60, Mineralization of lower Mississippian chert nodules collected in northwest Georgia [abs.] Georgia Acad Sci Bull., v 18, nos 1-2, p 13, Apr. 1960

COLBERT, Edwin Harris
COLBERT


COLBORNE, G L.

COLBY, Charles Carlyle

COLBY, William E

COLE, David L. See CRESSMAN, Luther Sheeleigh 1-60

COLE, John Milton, Jr See CAMPBELL, Frank Howard, 3d 1-60

COLE, J. Y See MOORE, George William 2-60

COLE, Julian Francis
1-60. Toyah gas field, Reeves County, Texas, in Geology of the Delaware basin West Texas Geol Soc , Field Trip, Sept -Oct 1960, Guidebook, p 60-65 incl index, structure contour, and isopach maps, 1960

COLE, Sandford Stoddard

COLE, Willard A See ANNEAR, R C. 1-60

COLE, William Storrs

COLEMAN, Neil L
1-60 Laboratory experiments in selective grain transportation Chicago, Ill., Univ Chicago, 49 p., illus., June 1960.

COLLETT, Leonard Staner See HOBSON, George Donald 2-60

COLLINS, A Gene

COLLINS, Elizabeth See MURDOCH, Joseph 2-60
COMPTON

COLLINS, Henry Hill, Jr.
1-60. (adapter) The earth around us New York, N Y., Dial Press, 61 p., illus., 1960

COLLINS, Robert J., Jr.

COLLINS, Sam Garnette
1-60. Geology of the Patricia quadrangle, South Dakota South Dakota Geol. Survey [Geol. Map], scale 1 62,500 (about 1 in. to 1 mi.), with text, 1960
2-60. Geology of the Winner quadrangle, South Dakota South Dakota Geol. Survey [Geol. Map], scale 1 62,500 (about 1 in. to 1 mi.), with text, 1960.

COLLINSON, Charles William
1-60 (and SKARTVEDT, Romayne) Field book--Pennsylvanian plant fossils of Illinois Illinois State Geol Survey Educ. Ser. 6, 35 p., illus., 1960

COLLINSON, D. W.

COLORADO METAL MINING FUND BOARD

COLORADO SCHOOL of MINES, Department of Geological Engineering
1-60. Generalized composite stratigraphic section, Front Range of Colorado [1960]
2-60. Generalized composite stratigraphic section, South Park, Colorado [1960]

COLQUHOUN, Donald John
1-60. Triassic stratigraphy of western central Canada [Alberta-British Columbia] [abs] Dissert. Abs., v. 21, no. 6, p 1523, Dec 1960

COLTON, Harold Sellers

COLTON, Roger Burnham
1-60. Surficial geology of the Windsor Locks quadrangle, Connecticut U. S Geol Survey Geol. Quad. Map GQ-137, scale 1 24,000 (1 in. to 2,000 ft.), with text, 1960

COLVILLE, Alan A

COMER, Joseph John. See BRINDLEY, George William 4-60

COMITÉ de la CARTA GEOLOGICA de MÉXICO
1-60. (compiler) Carta geológica de la República Mexicana Washington, D.C., Williams and Heintz Map Corp, scale 1 2,000,000 (about 1 in. to 32 mi.), 1960.

COMPTON, Robert Ross
1-60. Charnockitic rocks of Santa Lucia Range, California Am Jour Sci., v. 258, no 9, p 609-636 incl. geol. sketch maps, section, tables, and illus., Nov 1960
COMPTON

2-60. Contact metamorphism in Santa Rosa Range, Nevada Geol. Soc. America Bull., v. 71, no. 9, p. 1383-1416 incl. sketch map, diagrams, sections, and tables, also geol. map and sections and illus., Sept. 1960.


CONANT, Georgianna D. See KING, Ruth Reece 1-60

CONKIN, Barbara M. See CONKIN, James Elvin 1-60


CONNELL, James Frederick Louis 1-60. A catalog of type localities of Coastal Plain stratigraphic units Southeastern Geology, v. 2, no. 2, p. 49-126, tables, Nov. 1960


COOK, D. R. See BUSH, J. B. 1-60


COOK, Frank A

COOK, Harold James

COOK, John Call

COOK, Kenneth Lorimer See BERG, Joseph Wilbur, Jr 1-60, 2-60, SCHWIND, Joseph J 1-60

COOK, Richard Kaufman See CHRZANOWSKI, Peter 1-60

COOKSON, George M

COOLEY, Maurice E See also CHENOWETH, W. L. 1-60, 2-60

COOLIDGE, John E See HULL, Paul 1-60, 2-60

COOMBS, Howard Abbott

COOPER, Byron Nelson
COOPER

COOPER, Gustav Arthur. See also MUIR-WOOD, H. M. 1-60

COOPER, Jack Charles

COOPER, James Blair
1-60, Ground water in the Causey-Lingo area, Roosevelt County, New Mexico New Mexico State Engineer Tech. Rept. 14, 51 p., illus., 1960.

COOPER, James J. See BAUER, Herman L., Jr. 1-60

COOPER, John Roberts

COOPER, William Skinner

COPELAND, Lawrence L.

COPELAND, Murray John

COREY, Allen Frank

CORMIER, Randall F. See FAIRBAIRN, Harold Williams 1-60, HURLEY, Patrick Mason 1-60

CORSHEN, F W

CORNWALL, Henry Rowland
COWEN

2-60 (and KLEINHAMPL, Frank J.) Preliminary geologic map of the Bare Mountain quadrangle, Nye County, Nevada U. S. Geol. Survey Mineral Inv. Field Studies Map MF-239, scale 1 48,000 (1 in to 4,000 ft), with sections, 1960.

CORPORUS CHRISTI GEOLOGICAL SOCIETY
1-60. Geology of the Chittim Arch and the area north to the Pecos River [Texas], 10th annual field trip, Apr 28-30, 1960 [guidebook] Corpus Christi, Tex., 47 p., illus., 1960. Includes individual papers which are cited separately.

CORSINI, A

COTÉ, Pierre E.
1-60. Chertsey area, Joliette, Montcalm and Terrebonne electical districts Quebec Dept. Mines Geol. Surveys Br. Geol. Rept 93, 30 p. incl. tables, geol. map, and illus., 1960, also French ed

COTTON, Roger Burnham. See HOLMES, Chauncey DePew 1-60

COUGHLIN, Roberta. See HEEZEN, B. C 3-60

COULTER, Henry Welty

COUNTS, Harlan B.
1-60. Salt water encroachment into the principal artesian aquifer in the Savannah area, Georgia and South Carolina. Am. Water Works Assoc., Jour. Southeastern Sec., v. 24, no. 1, p 25-50 incl. sketch maps, diagrams, and tables, 1960

COURTRIGHT, James H. See RICHARD, Kenyon E. 1-60

COUSMINER, Harold L.

COWAN, M. K.

COWEN, Robert C.
COWIE, John Watson

COWSER, Kenneth Emery. See STRUXNESS, E. G. 1-60

COX, Allan V. See also DOELL, R. R. 1-60

COX, Doak Carey. See MACDONALD, Gordon Andrew 2-60

COX, Leslie Regnald. See also KNIGHT, J. B. 2-60, 3-60

CRABTREE, Edwin Howard
1-60. Potentials of the Western metal mining industry Western Resources Conf., 1st, 1959, Papers, p. 251-267 incl. table, 1960

CRADDOCK, John Campbell

CRAFTS, Frederick S. See KESLING, Robert Vernon 3-60

CRAIG, Bruce Gordon. See also CANADA GEOL SURVEY, 42-60, FYLES, John Gladstone 1-60
1-60 Surficial geology of north-central District of Mackenzie, Northwest Territories Canada Geol. Survey Paper 60-18, 8 p., illus. incl. geol. map [1960]
2-60. (and FYLES, John Gladstone) Pleistocene geology of Arctic Canada Canada Geol. Survey Paper 60-10, 21 p., illus., 1960.

CRAIG, Lawrence Carey. See ORIEL, Steven S. 1-60

CRAWFORD, Dwight Raymond. See also MULLINEAUX, D. R. 1-60

CRANE, Horace Richard

CRANE, Ronald Clinton
1-60. The influence of clay mineralogy on ceramic properties [abs.] Dissert. Abs., v 21, no. 3, p. 593, Sept 1960
CRIDLAND

CRARY, Albert Paddock

CRAWFORD, Carl B. See also HAMILTON, J. J. 1-60

CRAWFORD, J H., Jr See NELSON, C M. 1-60

CRAWFORD, John Marion

CRAWFORD, T. C.

CRAWFORD, Thomas J. See McGRAIN, Preston 1-60

CREITZ, Ellis Erwin. See KASSNER, James Lyle 1-60

CRESSMAN, Earle Rupert See also GULBRANDSEN, R. A. 3-60

CRESSMAN, Luther Sheeleigh

CRICKMAY, Colin Hayter
6-60 The older Devonian faunas of the Northwest Territories Calgary, Alberta, privately printed, [21] p., illus., Aug. 25, 1930.

CRIDLAND, Arthur A.
CRIDLAND


CRITTENDEN, Max Dermont, Jr.

CROCKET, James Harvie. See WINCHESTER, John Widmer 1-60

CROCKFORD, Michael Bertram Bray

CROFT, Mack G.

CRONIN, James Gerald
1-60 (and WELLS, Lloyd C.) Geology and ground-water resources of Hale County, Texas Texas Board of Water Engineers Bull 6010, 146 p., illus., Nov 1960.

CRONOBLE, William R.
1-60 An occurrence of Ulocrinus buttoi Miller and Gurley in Oklahoma Oklahoma Geology Notes, v. 20, no. 4, p. 86-99, illus., Apr. 1960

CROOK, Keith A. W. See also PACKHAM, G. H. 1-60

CROOKS, James Walker. See ARNOW, Theodore 2-60, BOGART, Dean Butler 1-60

CROPP, Frederick William, 3d

CROSBY, Garth M See also SILVERMAN, A J 1-60

CROSBY, James W., 3d

CROSBY, Percy

CROSS, Jack L.
1-60 (and SHAW, Elizabeth H., and SCHEIFLE, Kathleen, editors) Geology, in Arizona--it's people and resources, by authors Tucson, Univ. Arizona Press, p 84-98, illus., 1960
3-60. (and SHAW, Elizabeth H., and SCHEIFLE, Kathleen, editors) Minerals and fuels, in Arizona--it's people and resources, by authors Tucson, Univ. Arizona Press, p 138-152, illus., 1960

110
CUMMINGS

CROSS, Whitman, 2d

CROWDER, Robert E

CROWELL, John Chambers

CROWL, George Henry. See CANADA GEOL SURVEY 46-60, 47-60

CROWLEY, Francis A. See ROBY, Robert Neil 1-60

CROWLEY, Frank A.

CROWNINGSHEILD, G Robert. See COPELAND, Lawrence L. 1-60

CROZIER, William Dwight

CRUMP, R M. See EMMONS, Richard Conrad 1-60

CRUZ LÓPEZ, Juan la

CSERNA, Eugene George
1-60. Pennsylvanian rocks in the Fra Cristobal quadrangle, Sierra County, New Mexico, in Northern Franklin Mountains, southern San Andres Mountains, with emphasis on Pennsylvanian stratigraphy Roswell Geol. Soc., Field Trip, Nov. 1960, Guidebook, p. 135-148 incl. section, 1960

CUBA COMISIÓN TÉCNICA de GEOLOGÍA y MINERÍA
1-60 Mapa minero de Cuba 2d ed., Havana, Cuba Dirección Minas, scale 1:1,000,000 (about 1 in. to 16 mi.), 1955, originally published 1947

CULLEN, Albert William
1-60. North, Middle, and South Parks, Chap 15 in Mineral resources of Colorado, 1st sequel Denver, Colorado Mineral Resources Board, p. 505, 561-591 incl. index and sketch maps, 1960

CULLINAN, Thomas A.
1-60. Preliminary study on the movement of salt and clay in a water-bearing formation [Texas] Compass, v. 37, no. 4, p. 299-314 incl. sketch map, diagrams, tables, and illus., May 1960.

CULLING, W. E. H

CUMMINGS, David

CUMMINGS, G. B. See SMITH, William Ogden 1-60

111
CUMMINGS, Jon Clark

CUMMINGS, Joseph Benton

CUMMINGS, Kenneth Francis
2-60. Buck Peak field, Moffat County, Colorado Am Assoc Petroleum Geologists Rocky Mt. Sec. Geol Record 1960, p 43-48 incl illus [1960]

CUMMINGS, T R. See GORDON, Ellis Davis 1-60

CUMMINGS, W W. See MAGEE, J. B 1-60

CUMMINS, Arthur Benson

CURRIE, Hubert. See DONNAY, Joseph Désiré Hubert 1-60

CURRIER, Louis Wade
1-60. The seismic method in subsurface exploration of highway and foundation sites in Massachusetts U. S Geol Survey Circ. 426, 8 p incl. sections and diagrams, 1960.
2-60. Geologic appraisal of dimension-stone deposits U S, Geol. Survey Bull. 1108, 67 p., illus., 1960

CURRY, Burrell L

CURRAY, Joseph Ross. See also SIEVER, Raymond 2-60, Van ANDEL, Tjeerd H 3-60

CURRIER, Louis Wade
1-60. The seismic method in subsurface exploration of highway and foundation sites in Massachusetts U. S Geol Survey Circ. 426, 8 p incl. sections and diagrams, 1960.
2-60. Geologic appraisal of dimension-stone deposits U S, Geol. Survey Bull. 1108, 67 p., illus., 1960

CURRY, Burrell L
1-60. Oklahoma-Arkansas coals [abs,] Mining Eng., v. 12, no 12, p 1212, Dec 1960.

CURRY, Sharon

CURTIS, Bruce Franklin

CURTIS, Doris Malkin
1-60. Relation of environmental energy levels and ostracod biofacies in east Mississippi delta area Am Assoc Petroleum Geologists Bull., v 44, no 4, p 471-494 incl. index and sketch maps, chart, table, and illus , Apr. 1960
DACHILLE

CURTIS, Ganniss Hearfield, See EVERNENT, Jack Foord 1-60, SAVAGE, Donald Elwin 1-60


2-60. (and others, editors) Kansas oil and gas fields--V 3, Northeastern Kansas, with special contributions covering SE Nebraska and NW Missouri. Wichita, Kansas Geol Soc, 220 p., illus, 1960

CURTIS, Neville Mackay, Jr See also HAM, W. E. 4-60 1-60. (compiler) Published papers on Oklahoma geology in the year 1959 Oklahoma Geology Notes, v 20, no 3, p. 55-73, Mar. 1960, addenda, no. 4, p. 102-103, Apr 1960.

2-60 Lignite in the Red Branch member, Woodbine formation, Oklahoma. Oklahoma Geology Notes, v. 20, no. 9, p 240-244, illus, Sept 1960

CURTIS, Robert Eugene See also SAMUELSON, W J. 1-60 1-60. Geology of Hebgen damsite, App 2 in U S. Army Corps of Engineers, Madison River, Montana, report on flood emergency, Madison River slide--V. 2, Appendixes Omaha, Nebraska, U S Army Corps of Engineers, p II-1-II-3, geol sketch map and diagram, Mar [Sept] 1960

2-60 (and KNIGHT, D K.) Preliminary slide-stability studies, App. 9 in U S. Army Corps of Engineers, Madison River, Montana, report on flood emergency, Madison River slide--V. 2, Appendixes Omaha, Nebraska, U S. Army Corps of Engineers, p IX-1-IX-10, tables, sketch map, and diagrams, Mar [Sept] 1960


CUTLER, Ivan Burton See HOLT, J. Birch 1-60

CUTTITTA, Frank. See also MEYROWITZ, Robert 1-60, WARR, Jesse J., Jr 1-60

1-60 (and MEYROWITZ, Robert, and LEVIN, Betsy) Dimethyl sulfoxide, a new diluent for methylene iodide heavy liquid Am. Mineralogist, v 45, nos 5-6, p 726-728 incl. table, May-June 1960

2-60 (and WARR, Jesse J., Jr.) Determination of lead in pyrites Art 219 in U S Geol Survey Prof Paper 400-B, p B485-B486, 1960


4-60 (and WARR, Jesse J., Jr.) Preparation of lead iodide for mass spectrometry Art 221 in U S. Geol Survey Prof Paper 400-B, p B487-B488, 1960.

5-60 Determination of small quantities of oxygen adsorbed on anatase Art 222 in U S. Geol Survey Prof Paper 400-B, p B488-B490 incl. diagram, 1960

6-60 (and SENFTLE, Frank Edward, and WALKER, Edward Corbell) Preliminary tests of isotopic fractionation of copper adsorbed on quartz and sphalerite Art 223 in U S. Geol. Survey Prof Paper 400-B, p B491-B493, 1960

CWIĘK, Mitchell S See CHENEY, Theodore Albert 1-60

DACHILLE, Frank See also HOFFER, Abraham 1-60, WHITE, W B 1-60 1-60. (and ROY, Rustum) High pressure studies of the system Mg2GeO4-Mg2SiO4 with special reference to the olivine-spinel transition Am. Jour Sci, v. 258, no 4, p 225-246 incl. diagrams and tables, Apr 1960


113
Da COSTA

Da COSTA, José Alves
1-60. Presentation of hydrologic data on maps in the United States of America Internat Assoc. Sci Hydrology (Gentbrugge, Belgium) Pub. 52, p. 143-186 incl. maps and sections, 1960

DAHL, Arthur R. See also HANSEN, J A., Jr 1-60
1-60 (and HANDY, Richard Lincoln, and DAVIDSON, Donald Thomas) Variation of loess thickness and clay content in southern Iowa, in Geologic and engineering properties of Pleistocene materials in Iowa Iowa State Univ Sci and Technology, Iowa Eng Expt Sta Bull 191 (Iowa State Highway Comm., Iowa Highway Research Board Bull. 20), p 81-87 incl. sketch maps, diagram, and table, Dec 7, 1960

DAHLSTROM, Clinton D A

DAKE, Henry Carl
1-60. Problems in wood identification Mineralogist, v. 27, nos. 12-[v. 28, no. 1], p 248-250 incl. illus, Dec 1959-Jan. 1960
2-60 Washington coprolites again Mineralogist, v. 28, nos. 2-3, p 6-8 incl. illus, Feb-Mar 1960
3-60. The case for a mineral collection Mineralogist, v. 28, nos. 9-10, p 148-153 incl. illus, Sept.-Oct 1960

DALE, Vernon B.
1-60. Tungsten deposits of Cochise, Pima and Santa Cruz Counties, Ariz U S Bur. Mines Rept Inv. 5650, 132 p incl. sketch maps, diagrams, and tables, 1960

DALQUEST, Walter Woelber See HIBBARD, Claude William 1-60

DAILY, J J. See MONTGOMERY, Gill 1-60

DAMBAUGH, Luella N.

DAMON, Paul Edward See also GREEN, W D 1-60
1-60 (and HEDGE, Carl E., and TAYLOR, Omer James, and HALVA, Carroll J.) Radiometric determination of potassium in silicates Arizona Geol Soc. Digest, v. 3, p 75-80 incl. tables, Mar 1960.

DANE, Carle Hamilton
1-60. New information on the areal extent of some Upper Cretaceous units in northwestern New Mexico Art 109 in U S Geol Survey Prof. Paper 400-B, p B241-B243 incl. sketch maps, 1960
2-60. The boundary between rocks of Carhle and Niobrara age in San Juan Basin, New Mexico and Colorado Am Jour Sci., v. 258-A (Bradley Volume), p 46-56 incl. index map and sections, 1960
DANES, Zdenko Frankenberger

DANIEL, Thomas W., Jr.
1-60. (and HASTINGS, Earl L.) Fort Payne chert=Warsaw limestone contact in Limestone County, Alabama Alabama Acad Sci. Jour., v. 31, no. 4, p 259-263, incl. geol. sketch map and illus., Apr 1960
2-60. (and HASTINGS, Earl L.) Geologic map of Limestone County, Alabama Alabama Geol. Survey Map 13, scale about 1 in to 1 mi., 1960

DANIELS, Raymond Bryant
2-60. (and HANDY, Richard Lincoln, and SIMONSON, Gerald H.) Dark-colored bands in the thick loess of western Iowa Jour Geology, v 68, no 4, p. 450-458 incl. index map, sections, diagrams, and tables, illus., July 1960.

DANNER, Wilbert Roosevelt

DANSGAARD, W.

DAPPLES, Edward Charles. See SLOSS, Laurence Louis 4-60

DARBY, David G See KESLING, Robert Vernon 3-60

DARLING, Lois

DARLING, Louis. See DARLING, Lois 1-60

DARRAH, William Culp

DART, Denis D

DASCH, Ernest J., Jr.

DAS SARMA, B. See CHOWDHURY, A. 1-60
DATTA, Ranajit

DATTA, Sankar K See KAMB, Walter Barclay 4-60

DAUBEN, Carol H See TEMPLETON, David Henry 1-60

DAUGHRITY, Arthur C

DAVIDSON, C. F. See also ROSCOE, S M 1-60
1-60 The mineralized conglomerates of Blind River [Ontario] Econ. Geology, v. 55, no 7, p 1561-1565, Nov. 1960. (Reply to discussions of earlier papers)

DAUGHERTY, Lyman Harry

DAVIDSON, David Francis

DAVIDSON, Donald Alexander


DAVIDSON, Edward Sheldon

DAVIES, James Frederick
1-60 Massive sulphide deposits in Manitoba, in Symposium on the occurrence of massive sulphide deposits in Canada Canadian Mining and Metall.
DAVIS

2-60 Geology of the Thompson-Moak Lake district, Manitoba Canadian Mining Jour., v 81, no. 4, p. 101-104 incl. geol. sketch maps, Apr 1960

DAVIES, William Edward See also CHAO, E. C. T. 3-60

DAVIS, Daniel Arthur See MACDONALD, Gordon Andrew 2-60

DAVE, George Hamilton

DAVIS, Gordon Leslie See ALDRICH, Lyman Thomas 2-60, BASS, M. N. 2-60, TILTON, George Robert 2-60, WETHERILL, George W 1-60

DAVIS, Gregory A.
1-60 Lawsonite and pumpellyite in glaucophane schist, North Berkeley Hills, California, with notes on the X-ray crystallography of lawsonite, by A Pabst Am. Jour Sci., v 258, no 10, p. 689-704 incl tables and illus., Dec. 1960

DAVIS, James Howell. See also CAMERON, E N. 1-60

DAVIS, Leon Virgil
1-60. Geology and ground-water resources of southern McCurtain County, Oklahoma Oklahoma Geol Survey Bull 86, 108 p., illus incl. geol map, 1960.

DAVIS, Margaret Bryan
2-60. (and GOODLETT, John C.) Comparison of the present vegetation with pollen-spectra in surface samples from Browington Pond, Vermont Ecology, v 41, no 2, p. 346-357, illus., Apr 1960
3-60. A late-glacial pollen diagram from Taunton, Massachusetts Torrey Bot. Club Bull , v 87, no. 4, p 258-270, illus., July-Aug. 1960

DAVIS, Raymond, Jr. See SCHAEFFER, O. A 1-60, STOENNER, R. W 1-60, 2-60

DAVIS, Robert Ellis. See DRAKE, Avery Ala, Jr 1-60, 2-60

DAVIS, T. Neil

DAVIS, Terry E See SLEMMONS, David Burton 1-60

DAVIS, Wilbur A See CRESSMAN, Luther Sheeleigh 1-60

117
DAVIES

DAVIES, Willard Eugene
1-60 (and JACKSON, Wayne H., and RICHTER, Donald Herman) Application of gravity surveys to chromite exploration in Camaguey Province, Cuba Art 60 in U. S. Geol. Survey Prof. Paper 400-B, p B133-B136 incl index and gravity maps and sections, 1960.

DAVISON, Kenneth
1-60. (and SHICK, Robert L.) How to get a million dollars from an abandoned oil lease [Illinois] Oil and Gas Jour , v. 58, no. 6, p 94-98, 100 incl isopach and index maps, section, diagrams, tables, and illus., Feb 8, 1960

DAVISON, W L. See CANADA GEOL. SURVEY 42-60

DAWSON, Thomas Albert
1-60. Deep test well in Lawrence County, Indiana--drilling techniques and stratigraphic interpretations Indiana Geol Survey Rept Prog 22, 36 p , illus , Nov. 1960

DAWSONGROVE, G. E See WEBSTER, Glen M. 1-60

DE, Anruddha

DEAN, Basil Gary

DEAN, James Wilbur

DEAN, John Auree See CARTER, Joel A 1-60

DEAN, John R.
1-60 A petrographic study of the argillaceous sandstones to determine factors that affect their suitability for use as road sub-base material [abs ] West Virginia Acad Sci Proc 1959, v 31, p 55, Dec 1960

DEAN, K. C.

DEAN, Robert George See EAGLESON, Peter Sturges 1-60

De BASTIANI, Mario J. See KOSTUIK, John 1-60

DEBRECHT, James D See WHITEHOUSE, Ulysses Grant 1-60

DeBROSSE, Theodore Anthony See SHEARROW, George Gordon 2-60

DeCHOW, E.

DeCOOK, Kenneth J
1-60. Geology and ground-water resources of Hays County, Texas Texas Board of Water Engineers Bull 6004, 167 p , illus incl geol maps, Aug. 1960.

118
DEEVEY, Edward Smith, Jr. See OANA, Shinya 1-60, STUIVER, Minze 1-60
DeFELICE, J. See FIREMAN, Edward Leonard 1-60, 2-60

DEFFEYES, Kenneth Stover
1-60 Late Cenozoic sedimentation and tectonic development of central Nevada [abs] Dissert. Abs., v 20, no 9, p 3692-3693, Mar. 1960

DeFORD, Ronald Kennison
1-60 Place of foreign languages in graduate study of geology [abs.] Geol Soc, America Bull., v. 71, no. 12, p 1848, Dec. 1960

DEKE, George Herman, 3d
See also WHITE, W B 2-60
1-60, X-ray analysis of some Missouri cave clays Missouri Speleology, v 2, no 1, p 9-11, Jan 1960.

de LAGUNA, Wallace See STRUXNESS, E. G 1-60

DELAITRE, Pierre
1-60 Papel que desempeña el geólogo en la construcción de presas Inst Centroamericano Investigación y Tecnología Indus Noticias ICAITI, no. 5, p [10-11], Dec 1960

de la MONTAGNE, John M. See MONTAGNE, John M de la

de LANGE, P. W.

DELANO, Leonard H
1-60, Uses of photogrammetric mapping and aerial photo interpretation [abs.] Mining Eng., v 12, no. 9, p 966, Sept. 1960

DELEVAULT, Robert Edmund See WARREN, Harry Verney 1-60, 2-60, 3-60

DELEVORYAS, Maryse Helen. See STERN, Thomas Whital 1-60

DELEVORYAS, Theodore. See also EGGERT, D. A. 1-60

DELLWIG, Louis Field

DeLONG, Jack Myler

DeLONG, Richard M. See BRANT, Russell Alan 1-60

del RIO, S. M.
1-60 (compiler, and others) Mineral resources of Colorado, 1st sequel Denver, Colorado Mineral Resources Board, 764 p. incl. sections, correlation chart, diagrams, and tables, also index and geol. sketch maps, 1960. Includes individual papers which are cited separately

119


DeLUCA, Frank A  See JOHNSON, Karl Elwood 1-60

deMILLE, George

deMONTIGNY, Pierre-A.
1-60. Preliminary report on the southwest and part of the southeast quarter of Lemoine township, Abitibi-East electoral district Quebec Dept Mines Deposits Br. Prelim Rept 437, 10 p., geol. map, 1960, also French ed.

deMUMBRUM, Lawrence Edgar

2-60. (and BRUCE, Robert Russell) Mineralogy of three soils of the Mississippi River alluvial plain Soil Sci., v. 89, no. 6, p. 333-337 incl. diagrams and tables, June 1960.

dENGO, Gabriel Obregon  See HOFFSTETTER, Robert 2-60, 3-60, 4-60, 5-60, LLOYD, Joel Joseph 1-60, 2-60

dENISON, Robert Howland
1-60. Fishes of the Devonian Holland Quarry shale of Ohio Fieldiana Geol. v. 11, no. 10, p. 555-613, illus., June 22, 1960.

dENISON, Rodger E.  See also HAM, W. E. 2-60
1-60. Rock slide on Mount Scott Oklahoma Geology Notes, v. 20, no. 6, p. 130-131, illus., June 1960.

dENNEN, William Henry

dENISON, A. T.
1-60. (and WARMAN, Harry Robert) Coordination of geology and geophysics pays off World Oil, v. 150, no. 5, p. 87-92 incl. illus., Apr. 1960.

dENISON, John Manley

dENONIER, John M.  See also KELLY, W. C. 1-60


dENTON, George H.
1-60. Coal resources of the upper part of the Monongahela formation and the Dunkard group in Ohio Ohio Div. Geol. Survey Rept. Inv. 38, 50 p., illus., 1960.

DERBYSHIRE, Edward
DERKSEN, George
1-60. Beryllium detector developed by Winnipeg scientists Precambrian, v. 33, no. 4, p. 14-16 incl. illus., Apr. 1960

DERRY, Duncan R.

DeRUSHA, Lyle
1-60. A few notes on collecting in Upper Michigan Rocks and Minerals, v. 35, nos. 1-2, p. 12, Jan-Feb 1960

DESAUTELS, Paul E
1-60. Occurrence of multi-form fluorite from Mexico Am Mineralogist, v. 45, nos. 7-8, p. 884-886 incl. diagram, July-Aug 1960

DeSESA, Michael A. See PETROW, Henry George 1-60

DESPAULT, G. J. G. See HEYDING, R. D. 2-60

DEUTSCH, Ernart R

DEUTSCH, Morris
1-60. (and VANLIER, K. Eugene, and GIROUX, Paul R.) Ground-water hydrology and glacial geology of the Kalamazoo area, Michigan Michigan Geol. Survey Div Prog. Rept. 23, 122 p., illus., 1960

DEUTSCH, Sarah See SILVER, Leon T. 1-60, 2-60

de VRIES, Hessel, 1916-1959
1-60. (and DREIMANIS, Aleksis) Finite radiocarbon dates of the Port Talbot interstadiol deposits in southern Ontario Science, v. 131, no. 3415, p. 1738-1739 incl. table, June 10, 1960

deVRIES, Robert Charles
1-60. Multiple growth twinning in BaTiO₃ single crystals Am Mineralogist, v. 45, nos. 7-8, p. 852-861 incl. diagrams and illus., July-Aug 1960

de WAARD, H.

DeWIT, Reinhout

de Witt, Wallace, Jr

de WITTE, Leendert See WYLLIE, Malcolm Robert Jesse 1-60

de WYS, E. Christiaan
3-60. A thermodynamic analysis of the system anorthite-åkermanite
Mineralog. Mag (London), v. 32, no 351, p. 644-649 incl diagrams, Dec
1960.

DIAZ de COSSIO, Roger
1-60 Foundation failures during the Coatzacoalcos (Mexico) earthquake
of 26 August 1959 World Conf. Earthquake Eng, 2d, Tokyo and Kyoto,
Japan, July 11-18, 1960, Proc., v. 1, p 473-486 incl. sketch map, diagrams,

DÍAZ VELASCO, Rafael See SEIGLIE, George Alfredo 1-60

DIBBLEE, Thomas Wilson, Jr
1-60. Preliminary geologic map of the Victorville quadrangle, California
U. S. Geol Survey Mineral Inv. Field Studies Map MF-229, scale 1 62,500
(abut 1 in. to 1 mi.), with sections and text, 1960
2-60. Geologic map of the Hawes quadrangle, San Bernardino County,
California U. S. Geol Survey Mineral Inv. Field Studies Map MF-226,
scale 1 62,500 (about 1 in. to 1 mi.), with sections, 1960
3-60. Geologic map of the Lancaster quadrangle, Los Angeles County,
California U. S. Geol Survey Mineral Inv. Field Studies Map MF-76,
scale 1 62,500 (about 1 in. to 1 mi.), with sections and text, 1960.
4-60. Preliminary geologic map of the Shadow Mountains quadrangle, Los
Angeles and San Bernardino Counties, California U. S. Geol Survey
Mineral Inv. Field Studies Map MF-227, scale 1 62,500 (about 1 in. to 1 mi.),
with sections, 1960
5-60. Preliminary geologic map of the Victorville quadrangle, California
U. S. Geol Survey Mineral Inv. Field Studies Map MF-229, scale 1 62,500
(abut 1 in. to 1 mi.), with sections and text, 1960
6-60. Preliminary geologic map of the Apple Valley quadrangle, California
U. S. Geol Survey Mineral Inv. Field Studies Map MF-232, scale 1 62,500
(abut 1 in. to 1 mi.), with sections and text, 1960
7-60. Geologic map of the Barstow quadrangle, San Bernardino County,
California U. S. Geol Survey Mineral Inv. Field Studies Map MF-233,
scale 1 62,500 (about 1 in. to 1 mi.), with sections, 1960
8-60 Geology of the Rogers Lake and Kramer quadrangles, California

DIBELE, Vernon H.
1-60. (and REESE, Robert M.) Mass spectrometry Anal Chemistry, v. 32,

DICKENS, H B See LEGGET, Robert Ferguson 2-60

DICKEY, Dayton Delbert See also McKEOWN, F. A. 1-60, 2-60
1-60. Thermoluminescence of some dolomite, tuff, and granitic rock sam­
ples from the north-central part of the Nevada Test Site, Nye County,
incl. index maps, diagrams, and tables, July 1960

DICKINSON, Maurice Levy See TERZAGHI, Karl 1-60

DICKINSON, William Richard
1-60. Petrology of Jurassic marine tuffs, central Oregon [abs.] Geol Soc
2-60. Geology of the Izee area, Grant County, Oregon [abs.] Dissert. Abs.,
v. 20, no 11, p 4367, May 1960

DICKSON, Frank Wilson. See also ARNTSON, R H 1-60
1-60. (and SHIELDS, D. L., and KENNEDY, George Clayton) Use of the
temperature-gradient furnace to determine equilibrium sulfur pressures
of metal sulfide reactions [abs.] Geol Soc. America Bull, v. 71, no 12,
2-60 (and BLOUNT, C. W., and TUNELL, George) Solubility of anhydrite
in water from 108°C to 275°C. and 1 bar to 1000 bars [abs.] Geol. Soc
America Bull, v. 71, no 12, pt. 2, p 2057, Dec 1960

122
DINKINS

DIEBOLD, Frank E

DIENES, George Juhan

DIETRICH, Richard Vincent
5-60. Basement beneath the emerged Atlantic Coastal Plain between New York and Georgia Southeastern Geology, v 1, no. 4, p 121-131, illus., 1959 (Apr. 1960).

DIETZ, Robert Sinclair
2-60. Meteorite impact suggested by shatter cones in rock Science, v. 131, no. 3416, p 1781-1784, June 17, 1960

DILLINGER, Lee. See also SCLAR, C. B. 1-60

DIMET, William Horace. See also BUNKER, C. M. 1-60, STEWART, S. W. 1-60
2-60. (and STEWART, Samuel Woods, and ROLLER, John C.) Maximum ground accelerations caused by nuclear explosions at distances of 5 to 300 kilometers Art. 70 in U. S. Geol. Survey Prof. Paper 400-B, p B160-B161, 1960

DINKINS, Donald Edward
1-60. Geology of Stensvad field, Montana, and its regional geologic setting, with notes on Tyler reservoir [abs.] Am. Assoc. Petroleum Geologists Bull., v. 44, no. 6, p 955, June 1960

123
DINNIN

DINNIN, Joseph I. See also JACKSON, E. D. 2-60

DIONNE, Jean Claude

DIXON, Cyril George. See HOFFSTETTER, Robert 1-60

DIXON, Joe Boris

DOBRIN, Milton Burnett

DODD, Charles Gardner. See also HAM, W. E. 6-60

DODD, Philip Horace. See SCOTT, James H. 1-60

DODSON, Chester L. See WEIR, Gordon Whitney 3-60

DOERING, John A.
1-60, Quaternary surface formations of southern part of Atlantic coastal plain Jour. Geology, v. 68, no. 2, p. 182-202, geol., geomorphologic, structure contour, and topographic maps, and diagrams, Mar. 1960

DOE, Bruce R

DOELL, Richard Rayman. See also COX, A. V. 1-60

DOERING, John A.
1-60, Quaternary surface formations of southern part of Atlantic coastal plain Jour. Geology, v. 68, no. 2, p. 182-202, geol., geomorphologic, structure contour, and topographic maps, and diagrams, Mar. 1960

DOH, Charles A. See TIXIER, Maurice Pierre 1-60

DOLAN, Robert G. See SMITH, D. D. 3-60

DOLAN, William M. See BERG, Joseph Wilbur, Jr. 2-60

124
DONN, Henri-Georges
2-60. (and MARTIN, Maurice, and TDIER, Maurice Pierre) Application of wire-line well logging to subsurface geology Internat Geol Cong, 21st, Copenhagen, 1960, Rept, pt. 2, p. 121-135 incl. logs and cross sections, 1960

DONN, Warwick L., 1909-1962
1-60. (and WILMOTH, Benton McMillian, Jr., and WHETSTONE, George W.) Water resources of Kanawha County, West Virginia West Virginia Geol. and Econ. Survey Bull 20, 189 p., illus. incl. geol map, July 1960.

DOLLOFF, Norman Horace

DOLMAGE, Victor

DOLSEN, C. Philip See SPACKMAN, William, Jr 2-60

DOMINION STEEL and COAL CORPORATION, Limited

DONALD, Harold Jack See POLANSKY, Theodore Stephen 1-60

DONALDSON, Alan Chase
2-60 Introductory discussion of Stonehenge limestone, in Gates, Olcott, ed., Lower Paleozoic carbonate rocks in Maryland and Pennsylvania Johns Hopkins Univ Studies Geology, no. 18, Guidebook 3, p 42-47 incl geol. sketch map, section, and chart, 1960

DONALDSON, J. A. See CANADA GEOL SURVEY 31-60, 34-60

DONALDSON, W. F. See ERGUN, Sabri 2-60

DONATH, Fred Arthur

DONATI, G. R.

DONN, William L. See also EWING, W. M 1-60, 2-60
DONNAN, Bryson Carlyle

DONNAY, Gabrielle. See also KULLERUD, Gunnar 1-60, MORIMOTO, Nobuo 2-60

DONNAY, Joseph Desire Hubert. See also KULLERUD, Gunnar 1-60
1-60. (and CURIEN, Hubert) The concept of "lattice complex" in the theory of twinning, in Symposium on twinning Inst Inv. Geol "Lucas Mallada" Cursos y Conf. (Madrid), fasc 7, p 13-14, May 1960

DONELLY, Thomas Wallace
2-60 The geology of St Thomas and St. John, Virgin Islands Caribbean Geol. Conf., 2d, Mayagüez, Puerto Rico, Jan 4-9, 1959, Trans., p 153-155, with discussion, 1960.
3-60. Geology of St Thomas and St. John, Virgin Islands [abs.] Dissert Abs., v 20, no. 7, p 2755-2756, Jan 1960

DOOLEY, John Raymond, Jr. See ROSHOLT, John Nicholas, Jr 1-60

DORAI-BABU, P. See AMSTUTZ, G C 3-60

DORF, Erling
1-60. Climatic changes of the past and present Am Scientist, v. 48, no. 3, p 341-364 incl. sketch maps, diagrams, and illus , Sept. 1960
3-60. The earth's changing climates [abs.] Houston Geol Soc Bull , v. 2, no 6, unpaged, Feb 1960

DORMAN, Henry James
1-60. (and PRENTISS, David) Particle amplitude profiles for Rayleigh waves on a heterogeneous earth Jour Geophys Research, v 65, no. 11, p 3805-3816 incl diagrams and tables, Nov 1960

DORT, Wakefield, Jr

DOSCH, Murray W. See YBARRA, R. A. 1-60

DOTY, Gene C.
1-60. Reconnaissance of ground water in Playas Valley, Hidalgo County, New Mexico New Mexico State Engineer Tech. Rept 15,40 p., illus., 1960
DOTY, William E. N. See CRAWFORD, J. M. 1-60

DOUGLAS, Charles H

DOUGLAS, Robert John Wilson
1-60 (and NORRIS, Donald Kring) Stratigraphy and structure of upper Mackenzie River region, Northwest Territories and Yukon [abs] Canadian Oil and Gas Industries, v 13, no. 4, p 104-105, Apr 1960
2-60. (and NORRIS, Donald Kring) Virginia Falls and Sibbeston Lake map-areas, Northwest Territories, 95F and 95G Canada Geol Survey Paper 60-19, 26 p, illus incl geol maps, 1960.
3-60 (and NORRIS, A. W.) Horn River map-area, Northwest Territories--north halves of 85 and 95 (parts of) Canada Geol. Survey Paper 59-11, 23 p, illus incl geol map, 1960

DOUGLASS, Raymond Charles
2-60 The foraminiferal genus Orbitolina in North America U S Geol Survey Prof Paper 333, 52 p, illus, 1960.
3-60 Revision of the family Orbitolinidae Micropaleontology, v 6, no 3, p 249-270, illus, July 1960

DOUGLASS, William Bennett, Jr

DOUZE, Eduard Jan
1-60 Reflections and refractions of elastic waves from a transition layer [abs] Dissert Abs, v 21, no. 4, p 847-848, Oct 1960

DOVE, George D
1-60 Drainage of the Teays-stage Mount Vernon and Cambridge Rivers Ohio Jour Sci, v 60, no 2, p 122-124 incl index and sketch maps, Mar 1960

DOW, Robert L. See TREFETHEN, Joseph Muzzy 1-60

DOW, Verne E
1-60 Magnetic separation of conodonts Jour Paleontology, v 34, no 4, p 738-743 incl diagrams, July 1960

DOWDESWELL, Wilfrid Hogarth

DRAKE, Avery Ala, Jr.
1-60. (and DAVE, Robert Ellis, and ALVORD, Donald C.) Taconic and post-Taconic folds in eastern Pennsylvania and western New Jersey Art 80 in U S Geol. Survey Prof Paper 400-B, p B180-B181, 1960
2-60. (and McLAUGHLIN, Dean Benjamin, and DAVIS, Robert Ellis) Geology of the Frenchtown quadrangle, New Jersey-Pennsylvania U.S Geol Survey Geol. Quad Map GQ-133, scale 1 24,000 (1 in to 2,000 ft), with sections and text, 1960

DRAKE, Charles Lum. See also BECKMANN, W. C. 1-60
1-60 (and BECKMANN, Walter Charles) Transistorized Raydist as used in geological surveys Jour Geophys. Research, v 65, no 2, p 525-528 incl index map and diagrams, Feb 1960
DRAKE

DRAKE, Dennis A

DRAKE, N. D'Arcy. See SCHACKNE, Stewart 1-60.

DRAKE, Robert J.

DRAKE, N. D. See SCHACKNE, Stewart 1-60.

DRAKE, Robert J.

DRAKE, N. D'Arcy. See SCHACKNE, Stewart 1-60.

DRAKE, Robert J.

DRAKE, N. D. See SCHACKNE, Stewart 1-60.

DRAKE, N. D.'Arcy. See SCHACKNE, Stewart 1-60.

DRAKE, Robert J.

DRAKE, N. D. See SCHACKNE, Stewart 1-60.

DRAKE, Robert J.

DRAKE, N. D. See SCHACKNE, Stewart 1-60.

DRAKE, Robert J.

DRAKE, N. D. See SCHACKNE, Stewart 1-60.

DRAKE, Robert J.

DRAKE, N. D. See SCHACKNE, Stewart 1-60.

DRAKE, Robert J.

DRAKE, N. D. See SCHACKNE, Stewart 1-60.

DRAKE, Robert J.

DRAKE, N. D. See SCHACKNE, Stewart 1-60.

DRAKE, Robert J.

DRAKE, N. D. See SCHACKNE, Stewart 1-60.

DRAKE, Robert J.

DRAKE, N. D. See SCHACKNE, Stewart 1-60.

DRAKE, Robert J.

DRAKE, N. D. See SCHACKNE, Stewart 1-60.

DRAKE, Robert J.

DRAKE, N. D. See SCHACKNE, Stewart 1-60.
DROUANT, Ronald George

DuBAR, Jules Ramon
1-60, Leonardo da Vinci [1452-1519]--the geologist GeoTimes, v 4, no 8, p 11-13, 37, May-June 1960

DUCKWORTH, H. E. See ISENOR, N. R 1-60

DUCLOZ, Ch
1-60, Apuntes sobre el yeso del Valle de Yumurí, Mataínzas Soc Cubana Historia Nat Mem, v 25, no 1, p 1-9, illus incl geol sketch map, Dec 10, 1960

DUFFUS, Henry John

DUFFY, J R

DUKE, Alton
1-60, Arizona gem fields 4th ed., Yuma, Arizona, privately printed, [or Southwest Printers?] 130 p incl. sketch maps and illus, 1960, (originally published 1956)

DUKE, C. Martin

DULIN, F H.

DUMANOIR, J. L. See DOLL, Henri-Georges 1-60

DUNBAR, Carl Owen See also PERMIAN SUBCOMMITTEE of the National Research Council's Committee on Stratigraphy 1-60
1-60, Geology 2d ed., New York, N Y., John Wiley and Sons, 500 p, 1960; (originally published 1949)

DUNBAR, Moira

DUNLAP, Henry Francis

DUNLAP, John Crawford See KAYE, Clifford Alan 1-60

DUNN, Paul Heaney
DUNNE

DUNNE, James Arthur See also BOLLIN, E. M. 1-60

DUNNING, Herbert Neal See CHAMPLIN, J. B. F. 1-60, DWIGGINS, C. W., Jr. 1-60, 2-60, PARK, Roderic 1-60

DUQUETTE, Gilles

DURAND, J L. See GELLER, Seymour 1-60

DUREN, Jack D
2-60. Some petrophysical aspects of the Mississippian "Chat" Ghick Field, Kiowa County, Kansas Shale Shaker, v 11, no. 1, p 2-8 incl index and sketch maps, diagrams, table, and illus., Sept 1960.

DURHAM, Clarence Orson, Jr. See MURRAY, Grover Elmer 3-60

DURHAM, David P.

DURHAM, John Wyatt
3-60. (and ALLESON, Edwin Chester) The geologic history of Baja California [Mexico] and its marine faunas, in Symposium--The biogeography of Baja California and adjacent seas--PT 1, Geologic history Systematic Zoology, v 9, no 2, p. 47-91, illus, June 1960.

DURR, Fritz
1-60. El marco geológico [El Salvador] Energía Geotérmica Informe, no 1, p. 8-29 incl, sketch maps and diagrams [1960]
4-60. La región de Ahuachapán [El Salvador] Energía Geotérmica Informe, no 1, p 43-47 incl sketch maps [1960]
6-60. Importancia de estratos poco permeables Energía Geotérmica Informe, no. 1, p. 137-143 incl diagrams [1960].
9-60 Interpretaciones y recomendaciones Energía Geotérmica Informe, no. 1, p. 213-268 incl. diagrams [1960].
EAMES


11-60. (and KLINGE, Hans) Beiträge zur Stratigraphie und zur Paläopedologie des mittleren El Salvadors Neues Jahrb, Geologie u. Paläontologie Monatsh. (Stuttgart, Germany), Jahrg. 1960, Heft 3, p 111-132, illus. incl geol map, with a contribution by W Haberland, Mar. 1960

DURY, George Harry

DUTCHER, Russell Richardson See also MANSFIELD, S. P. 1-60

DUTRO, John Thomas, Jr. See SANDO, William Jasper 4-60, YOCHELSON, Ellis Leon 3-60

DUWELL, Ernest John. See CADWELL, Donald E 1-60

DWIGGINS, Clauudius William, Jr.

DYCK, Willy J. See McCALLUM, Kenneth James 1-60

DYKSTRA, L. J
1-60. X-ray study of the ternary system U-Al-O General Atomic Div., General Dynamics Corp., San Diego, California, Rept GA-1479, 21 p., illus., Sept. 19, 1960

DYSON, James Lindsay

EADE, Kenneth Edgar. See CANADA GEOL. SURVEY 25-60, 29-60

EAGLESON, Peter Sturges

EAKIN, Thomas Emory

EAKINS, P. R.

EAMES, F. E. See SMOUT, Alan H. 1-60, STAINFORTH, Robert Masterman 1-60

131
EARDLEY, Armand John. See also GOODE, H. D. 1-60

EARGLE, Dolan Hoye. See also WEEKS, A. D 1-60
1-60. Uranium find heralds Texas Wildcat action Oil and Gas Jour., v. 58, no. 10, p. 148, 150, 154-155, 158 incl. geol. and sketch maps, and sections, Mar. 7, 1960.

EARL, Jack Franklin. See HENDERSON, Homer 1-60

EARTH SCIENCE

EASTERN NEVADA GEOLOGICAL SOCIETY. See INTERMOUNTAIN ASSOC. PETROLEUM GEOLOGISTS

EASTON, George B.

EASTON, William Heyden
1-60. Permian corals from Nevada and California Jour Paleontology, v. 34, no. 3, p. 570-583 incl. section and illus., May 1960.
2-60. Invertebrate paleontology. New York, N. Y., Harper and Brothers, 701 p., illus., 1960

EASTWOOD, William Parker. See ANDERSON, Sidney Bakken 3-60

EATON, Gordon Pryor. See also JOHNSTON, J. E. 1-60

EATON, Jerry Paul
EATON, Robert Wesley

EATON, Theodore Hildreth, Jr
1-60. The aquatic origin of tetrapods. Kansas Acad. Sci. Trans., v 63, no. 3, p 115-120, illus, fall 1960

EBERHARDT, Peter

ECHOLS, Dorothy J.
1-60. (and SCHAEFFER, Katherine M. M.) Microforaminifera of the Marianna limestone (Oligocene), from Little Stave Creek, Alabama. Micropaleontology, v. 6, no. 4, p 399-415, illus, Oct 1960.

ECKEL, Edwin Butt
1-60. Opportunities and responsibilities of earth scientists in the nuclear age. U. S. Geol Survey Circ 430, 8 p., 1960

ECKELMANN, Frank Donald. See KULP, John Laurence 2-60

ECKELMANN, Walter R

ECKHARDT, Engelhardt August

EDGERTON, J H See BOWEN, B M.

EDMONTON GEOLOGICAL SOCIETY

EDMUND, Alexander Gordon

EDWARDS, Acus Rex

EDWARDS, George See ADAMS, John Allan Stewart 4-60

EDWARDS, Robert Gary

EGBERT, Robert L See BILLINGS GEOL. SOC.

EGE, John R. See PRUSOK, Rudi A. 1-60
EGGERT, Donald A. 1-60. (and DELEVORYAS, Theodore) Callospermarwn--A new seed genus from the Upper Pennsylvanian of Illinois. Phytomorphology (Delhi, India), v. 10, no. 2, p. 131-138 incl. illus., July 1960


EHLERS, George Marion. See GALLOWAY, Jesse James 3-60


EICHER, Don L. See also WAAGÉ, K. M. 2-60


EIRICH, Frederick Roland. See WEYL, Waldemar Anatol 1-60


EISHER, Robert Lloyd. See CARSOLA, Alfred James 1-60

EKBLAW, George Elbert. See FRYE, John Chapman 1-60

EKREN, Einar Bartlett. See ANDERSON, Lennart A 2-60, FRISCHKNECHT, Frank Conrad 1-60

ELA, Robert E. See THOMSON, Robert D. 1-60


ELBERTY, William T. See also BECK, C. W. 2-60, STOIBER, R. E. 1-60


ELIASBERG, Vera F. See SCHURR, Sam H. 1-60

ELLIOTT, Douglas Howard

ELLIOTT, Robert Howard Jackson

ELLIOTT, Douglas Howard

ELLIOTT, Robert Howard Jackson

ELLIOTT, Robert Howard Jackson

ELLIOTT, Robert Howard Jackson
ELSTON


ELSTON, Wolfgang Eugene


2-60. Reconnaissance geologic map of Virden thirty-minute quadrangle New Mexico Bur. Mines and Mineral Resources Geol. Map 15, scale 1 126,720 (1 in. to 2 mi.), with section, 1960

EMELEUS, Charles H. See HARRY, William Trevelyan 1-60

EMERSON, Alfred Edwards. See HUXLEY, Julian Sorell 1-60

EMERSON, Donald Orville


EMERSON, William Keith. See also JOHNSON, R. G. 1-60

1-60. Results of the Puritan-American Museum of Natural History Expedition to western Mexico--[Pt.] 11, Pleistocene invertebrates from Cerro Island Am. Mus. Novitates, no 1995, 6 p. incl index map, Mar. 29, 1960

2-60. Pleistocene invertebrates from near Punta San José, Baja California, Mexico Am. Mus. Novitates, no 2002, 7 p. incl. sketch map, Mar. 29, 1960

3-60. (and HERTLEIN, Leo George) Pliocene and Pleistocene invertebrates from Punta Rosalba, Baja California, Mexico Am. Mus. Novitates, no. 2004, 8 p. incl. sketch map and illus., May 2, 1960.

4-60. Results of the Puritan-American Museum of Natural History Expedition to western Mexico--[Pt.] 12, Shell middens of San José Island Am. Mus. Novitates, no. 2013, 9 p. incl. illus., Aug. 18, 1960.

EMERY, Kenneth Orris See also BROEMY, R W 2-60, BYRNE, J V. 1-60


3-60. The sea off southern California--a modern habitat of petroleum New York, N. Y., John Wiley and Sons, 366 p., illus., 1960.

EMIGH, George Donald


EMILIANI, Cesare. See also HEEZEEN, B. C. 1-60


EMMONS, Richard Conrad


136
EMMONS, William Harvey, 1876-1948

EMPSON, F M. See PARKER, Frank L. 1-60, 2-60

EMRICH, Grover Harry. See also ATHERTON, Elwood 1-60

ENCK, Ernest G.

ENGEL, Albert Edward John

ENGEL, Celeste G. See ENGEL, Albert Edward John 1-60, 2-60

ENGEL, James E. See SHEARER, Eugene Merle 1-60, 2-60

ENGELHARDT, Donald W

ENGINEERING and MINING JOURNAL
1-60. Quebec's columbium will be tapped Eng. and Mining Jour., v. 161, no. 10, p. 92-95 incl. sketch map and diagrams, Oct. 1960

ENGLAND, Joseph Loveday. See BOYD, Francis R 1-60, 2-60, 3-60, 4-60

ENGLE, Eloise

ENGLUND, Kenneth John

ENRIGHT, Robert J
1-60. Scientists solving reservoir mystery Oil and Gas Jour., v. 58, no. 37, p. 66-68 incl. illus., Sept. 12, 1960.

ENZMANN, Robert Duncan

EPSTEIN, Samuel See SHARP, Robert Phillip 2-60, TAYLOR, H. P., Jr. 2-60, 3-60
ERD

ERD, Richard Clarkson. See also BENDA, W. K. 1-60

ERDMAN, John Gordon

ERDMANN, Charles Edgar See FISHER, Daniel Jerome 4-60

ERGUN, Sabri. See also MENTSER, Morris 1-60

ERICKSON, Bruce R.

ERICKSON, G. P.

ERICKSON, L. G. See MULSIE, Ira B. 1-60

ERICKSON, Ralph LeRoy

ERICSON, David Barnard See EWING, William Maurice 1-60, GRIFFIN, James B. 1-60

ERNSBERGER, F. M.
1-60. Structural effects in the chemical reactivity of silica and silicates, in Symposium on defect structure of quartz and glassy silica Physics and Chemistry Solids, v. 13, nos. 3-4, p. 347-351, illus , June 1960.

ERNST, Wallace Gary

ESPACH, Ralph Homeward, Jr. See also BIGGS, Paul 1-60
ESPENSHADE, Gilbert Howry

ESTES, Richard. See also HECHT, M. K. 1-60

ETHERIDGE, Richard

ETHINGTON, Raymond Lindsay
1-60 (and FURNISH, William Madison, Jr.) Upper Ordovician conodonts from southern Manitoba Jour. Paleontology, v. 34, no 2, p 265-274 incl. table, and illus., Mar 1960.

EUBANKS, Wallace
1-60. Fossil woods of Oregon Ore.-Bin, v. 22, no. 7, p 65-69 incl. index map and sections, July 1960

EUGSTER, Hans Peter

EVANS, Arthur Lynden

EVANS, David LeCount

EVANS, Glen Louise See VERTREES, Charles David 1-60

EVANS, Howard Tasker, Jr. See also MORIMOTO, Nobuo, 4-60, SKINNER, B. J. 2-60
4-60. Crystal structure refinement and vanadium bonding in the metavanadates KVO₃, NH₄VO₃ and KVO₃·H₂O Zeitschr. Kristallographie (Frankfurt am Main, Germany), Band 114 Heft 3-4, p. 257-277 incl. diagrams and tables, with German abs., Oct. 1960.

EVANS, James R

EVERHART, Donald Lough. See NININGER, Robert D. 1-60, WRIGHT, Robert James 1-60

139
EVERNDEN

EVERNDEN, Jack Foord. See also SAVAGE, D. E. 1-60
1-60. (and others) Argon diffusion in glauconite, microcline, sanidine, leu-
cite and phlogopite. Am. Jour. Sci., v. 258, no. 8, p. 583-604 incl. diagrams
and tables, Oct. 1960

EVISON, F. F.
1-60. On the growth of continents by plastic flow under gravity. Royal
and diagrams, June 1960.

EWING, John Isaac. See also LUSKIN, Bernard 1-60
1-60. (and others) Sub-bottom reflection measurements on the continental
shelf, Bermuda banks, West Indies Arc, and in the west Atlantic basins:
Jour. Geophys. Research, v. 65, no. 9, p. 2849-2859 incl. sketch map and
2-60. (and ANTOINE, John Woodward, and EWING, William Maurice) Geo-
physical measurements in the western Caribbean Sea and in the Gulf of
Mexico Jour. Geophys. Research, v. 65, no. 12, p. 4087-4126 incl. index
3-60. (and EWING, William Maurice, and FRAY, C.) Buried erosional terr-
ace on the edge of the continental shelf east of New Jersey [abs]. Geol.

EWING, William Maurice. See also BROECKER, W. S., 1-60,2-60, DORMAN,
H. J. 2-60, DRAKE, C. L 2-60, EWING, J. L.2-60, 3-60, HUNKINS, Kenneth
Leland 1-60, OLIVER, Jack Ertle 1-60, SATO, Yasuo 1-60, TALWANI,
Manik 1-60, 2-60
1-60. (and DONN, William L.) On Pleistocene surface temperatures of the
North Atlantic and Arctic Oceans: Science, v. 131, no 3393, p 99, Jan. 8,
1960, discussion of paper by Ericson, D. B., v. 130, no 3369, p. 219-220,
July 24, 1959.
2-60. (and DONN, William L., and FARRAND, William Richard) Revised
estimate of Pleistocene ice volume and sea-level lowering [abs]. Geol.
3-60. The ice ages--Theory Alberta Soc. Petroleum Geologists Jour., v. 8,
no 7, p. 191-201 incl. sketch maps, July 1960.
4-60. Earth's crust below the oceans and continents Am. Geophys. Union

EWOLDT, Harold Boaden
1-60. Gideon Apell [1887-1959]--An appreciation. Mining Eng., v. 12,
no. 4, p. 405-406, Apr. 1960.

FABRE, René
1-60. (and CHAIGNEAU, Marcel) Technique de prélèvement et d'analyse
de gaz de fumeroloes de volcans--Exemples d'analyses de gaz prélevés à
montagne Pelée (Martinique) et à la Grande Souffrière (Gua1deloupe): Bull.
Volcanol. (Naples, Italy), sér. 2, tome 23, p 21-30 incl. sketch maps and
tables, with discussion, 1960.

FAGAN, John J.
1-60. Origin of bedded cherts, turbidites, and volcanic rocks of the Carbon-
liferous of Northern Independence Range, Nevada [abs.] Geol Soc. America

FAGAN, Sylvia Robinson
1-60. Osteology of Mylagaulus laevis, a fossorial rodent from the upper
Miocene of Colorado-Kansas Univ. Paleont. Contr. [26], Vertebrata, art.
9, 32 p., illus., Nov. 21, 1960.

FAGERSTROM, John Alfred
1-60. The age, stratigraphic relations, and fauna of the Middle Devonian
Formosa reef limestone of southwestern Ontario [abs.] Dissert. Abs.,
v. 20, no. 12, p. 4633, June 1960.
2-60. The correlation of the Middle Devonian Formosa reef limestone of
p 15 [1960].
FAHEY, Joseph John. See also MILTON, Charles 1-60, 2-60, 3-60, 5-60

FAHNESTOCK, C. R.

FAHNESTOCK, Robert Kendall

FAHRIG, Walter Frederick
1-60. Shabogamo Lake, Newfoundland and Quebec· Canada Geol. Survey Paper 60-9, 4 p., geol. map, 1960

FAICK, John Nicholas

FAILS, Thomas Glenn, Jr.

FAIRBAIRN, Harold Williams. See also HART, S. R 1-60, HURLEY, P. M. 1-60

FAIRBRIDGE, Rhodes Whitmore. See also NEWMAN, W. S. 1-60, 2-60

FANG, Jen-Ho. See BROWN, W Liddle 1-60

FANSHAWE, John Richardson, 2d
FARKAS, Steven Eugene

FARLEY, Thomas Albert

FARLEY, William Horace
1-60. A pedologic study of the Aura soil [New Jersey] [abs.] Dissert. Abs., v. 20, no. 11, p. 4225, May 1960

FARQUHAR, Oswald Cornell

FARQUHAR, Ronald McCunn See also RUSSELL, R. Doncaster 3-60

FARR, Thomas Howard See SANDERSON, Milton William 1-60

FARRAND, William Richard. See also EWING, W. M. 2-60

FASSEL, Velmer Arthur

FATT, Irving. See MANN, Robert L 1-60

FAUL, Henry

FAXON, Richard Dike

FAY, Robert Oran

FECHTIG, H

FEDER, Allen M
1-60. Interpreting natural terrain from radar displays Photogramm Eng., v 28, no 4, p 618-630 incl. geol sketch map, diagrams, charts, section, and illus., Sept 1960

FEDOROFF, M. See FEDOROFF, N. 1-60
FERGUSON, N.  

FEHRMAN, Rolfie Gregg. See LANE, Kenneth Stacy 1-60.

FEIERABEND, Raymond H. See LEE, Clarence O. 1-60.

FELD, Jacob. See MULLIS, Ira B 1-60.


FERGUSON, Herman W. See KING, Philip Burke 2-60.


FERGUSON, Stewart Alexander See also CHISHOLM, E O 1-60.

1-60. Prospecting activities in Bateman township, Red Lake area, Ontario Canadian Mining Jour., v. 81, no. 4, p. 76-77 incl. geol. sketch map, Apr. 1960.


3-60. (and others) Tisdale township, southeast quarter Ontario Dept. Mines Prelim. Geol. Map P 8, revised, geol. map, scale 1 in to 500 ft., with separate legend, 1960.

4-60. (and others) Bateman township, south half Ontario Dept. Mines Prelim. Geol. Map [P.40], scale 1 in. to 1,000 ft [Jan. 20, 1960].

FERGUSON, William Sidney. See also BAKER, D. R. 1-60.

FERM, John Charles

FERNALD, Arthur Thomas

FETH, John Henry

FESSENDEN, Franklin Wheeler

FETTKE, Charles Reinhard
1-60. Jesse B. Miller No. 1 well, Napier Township, Bedford County Pennsylvania Geol Survey, 4th ser, Well-sample Record, no. 56, 43 p incl tables, 1960.

FETZNER, Richard Walter

FEULNER, Alvin J.
1-60. (and HUBBLE, John H ) Occurrence of stronhum in the surface and ground waters of Champaign County, Ohio Econ. Geology, v. 55, no. 1, p 176-186 incl. geol. sketch maps and tables, Jan-Feb. 1960

FIELD, A J See BAUER, R. F. 1-60

FIELD, C. W

FIELD, William Osgood, Jr.

FIFE, Clyde Lee, Jr.

FIGUEROA ABARCA, Jesús C
3-60. Nota sobre periodos sísmicos México Univ Nac Inst. Geofísica Anales, v. 6, p 71-77 incl. tables, with English abs., 1960

FILBY, Royston H
FILLOUX, Jean  See INMAN, Douglas Lamar 1-60
FINCH, Warren Irvin  See MIESCH, Alfred Thomas 2-60
FINE, Morris M.  See HAHN, Abner Decker 1-60
FINGER, Glenn Charles
1-60. (and RISSER, Hubert E., and BRADBURY, James Clifford) Illinois fluor spar Illinois State Geol Survey Div. Circ. 296, 36 p. incl. index maps, diagrams, tables, and illus., 1960
FINNS, Robert Melvin
1-60 Late Paleozoic sponge faunas of the Texas region--The siliceous sponges Am Mus Nat History Bull., v 120, art. 1, p 1-160, illus., Nov. 7, 1960.
FINN, Fenton H
FINOS, S  See BARNES, D. 1-60
FIREMAN, Edward Leonard
FISCHBUCH, Norman R.
FISCHER, Alfred George  See OSGOOD, Richard Grosvenor, Jr 1-60
FISCHER, Richard Philip
2-60. Vanadium-uranium deposits of the Rifle Creek area, Garfield County, Colorado, with section on mineralogy by Theodore Botinelly U. S. Geol. Survey Bull 1101, 52 p. incl. index map, diagrams, and tables, also geol. and structure maps and sections and illus., June 1960
FISCHER, William Alfred
1-60, Yellowstone's living geology, earthquakes and mountains--Highlights of Yellowstone geology with an interpretation of the 1959 earthquakes and their effects in Yellowstone National Park Yellowstone Nature Notes, 1959-60 Spec Issue, v. 33, 62 p. incl. sketch maps, sections, diagrams, illus., and tables, also separate seismic maps, June 1960
FISCHER, William August  See also RAY, R. G 1-60
FISH, Robert A.
1-60. (and GOLES, Gordon George, and ANDERS, Edward) The record in the meteorites--[Pt] 3, On the development of meteorites in asteroidal bodies Astrophys Jour., v. 132, no 1, p 243-258 incl. diagrams and table, illus., July 1960
FISHER, Daniel Jerome
1-60. (and VOLBORTH, Alex) Morinite-apatite-whitlockite Am Mineralogist, v 45, nos. 5-6, p 645-667 incl diagrams, tables, and illus., May-June 1960.
3-60 A new universal-type microscope Zeitschr. Kristallographie (Frankfurt am Main, Germany), Band 113, Max von Laue Festchrift 2, p. 77-93 incl diagram and illus., with German abs., Apr. 1960.

FISHER, David E. See also SCHAEFFER, O. A. 2-60

FISHER, Donald William
1-60. Correlation of the Silurian rocks in New York State New York State Mus and Sci. Service Geol Survey Map and Chart Ser. [no.1], with text, 1959 [1960]

FISHER, James
1-60. (and HUXLEY, Julian, and BARRY, Gerald, and BRONOWSKI, J , editors) The Doubleday pictorial library of nature--V. 2, Earth, plants animals Garden City, N Y., Doubleday and Co., Inc, 359 p. incl. illus , diagrams, and tables, 1960. Includes papers by J. Fisher, A J. Perry, and N. Guppy, which are cited separately

FISHER, John Joseph

FISHER, Richard Virgil
3-60. Classification of volcanic breccias· Geol. Soc. America Bull., v. 71, no. 7, p 973-981, July 1960

FISHER, Wilson, Jr
FLEMING

FISK, Harold Norman

FITCH, John Lawrence. See HURD, B. G. 1-60

FLAGG, Arthur Leonard

FLANAGAN, Francis James. See also SENFTLE, F. E. 1-60

FLANDERS, P. L. See ADAMS, W. M. 2-60

FLANGAS, William G.

FLAWN, Peter Tyrrell

FLECK, W. E. P.

FLEESCHER, Michael. See also AHRENS, L. H., 1-60, CHAO, E. C.-T. 4-60, HARTMAN, J. A. 1-60, HEWETT, D F 1-60

FLEMING, H. W. W.

FLEMING, Richard Howell
FLINN, Donald J.

FLINT, Richard Foster

FORKIN, Marcel

FLOWER, Rousseau Hayner

FOLEY, E. O
See BROWN, Philip Monroe 1-60

FOGARTY, Charles Franklin

POLEY, Lyndon L.
2-60. Selenium, rubidium, and yttrium in mineral veins in Arkansas Econ. Geology, v. 55, no. 7, p. 1553-1554, Nov. 1960

FOLINSBEE, Robert Edward. See also BAADSGAARD, Halfdan 1-60

FOLK, Robert Louis. See also SIEVER, Raymond 2-60, TEXAS UNIV. GEOL. SOC. 1-60

FOLKS, Homer Clifton

FOLLES, Richard H., Jr.

FOLSOM, Clarence Burton, Jr.
FONG, George

FONT-ALTABA, M.

FOOSE, Richard Martin

FORBES, Robert Briedwell

FORD, A. E. See YATES, Robert Glertz 1-60

FORD, Arthur Barnes

FORDE, R. H. See MURRAY, Grover, Elmer 3-60

FORGOTSON, James Morris, Jr.

FORMAN, Sydney Alexander

FORRESTER, John Stanley

FORSYTH, Jane Louise
2-60 Correlation of tills exposed in Toledo Edison Dam cut, Ohio. Ohio Jour. Sci., v. 60, no. 2, p. 94-100 incl. index map, section, and diagram, Mar. 1960.

FORTSON, Charles Wellborn, Jr. See PURCORN, Aurelius Sydney 2-60;
HURST, Vernon J. 1-60

FORWARD, Charles N.

FOSHAG, William Frederick, 1894-1956. See GONZÁLEZ REYNA, Jenaro 2-60
FOSS, Ted Harry


FOSTER, Frank Gordon See NIelsen, James Willard 1-60

FOSTER, Frank Wesley

2-60. Oil sands at the base of the Pennsylvanian in the Williston Basin Am. Assoc. Petroleum Geologists Rocky Mt. Sec Geol. Record 1960, p. 79-84 incl illus. [1960].

FOSTER, Margaret Dorothy


FOSTER, Perry Alanson, Jr


FOSTER, Philip C. See CARPENTER, Alden B. 1-60

FOSTER, Richard F. See HONSTEAD, J. F. 1-60

FOSTER, Robert John


FOSTER, Roy Woodrow. See KOTTLOWSKI, Frank Edward 1-60, ROSWELL GEOL. SOC, 1-60

FOSTER, Wilfrid Raymond. See also GENTILE, A. L. 2-60


FOUNTAIN, Richard C.


FOUR COWERS GEOLICAL SOCIETY

FRAREY

Inf., 183 p. incl. index, and sketch maps, sections, charts, diagrams, tables, and illus., also tectonic map, sections, and correlation chart, 1960. Includes individual papers which are cited separately.

FOUR CORNERS GEOLOGICAL SOCIETY, Nomenclature Committee

FOURNIER, A. L. See GREGORY, Alan Frank 1-60

FOURNIER, Robert Orville

FOUST, Roscoe Thornton, Jr. See REAGAN, Marion Allen, Jr. 1-60, 2-60

FOUTZ, Dell R
1-60. Geology of the Wash Canyon area, southern Wasatch Mountains, Utah. Brigham Young Univ Research Studies Geology Ser., v. 7, no. 2, 37 p., illus. incl. geol. map, Apr. 1960

FOWKES, Walter W.

FOWLER, George Malcolm

FOWLER, K. H.
1-60. Preliminary report on ground water in the Salmon Falls area, Twin Falls County, Idaho. U. S. Geol Survey Circ. 436, 17 p. incl. maps, diagrams, and tables, 1960

FOX, Frederick Glenn

FOX, Kenneth F., Jr

FOX, W. J.

FOXWORTH, Wyckllff Riley

FRANK, Ernest C. See BLACK, Peter E. 1-60

FRANKEL, Larry

FRANKLIN, Louis

FRAREY, Murray James See CANADA GEOL. SURVEY 35-60

151
FRASER

FRASER, Donald B

FRASER, George De Witt

FRASER, James Allan. See also CANADA GEOL. SURVEY 1-60, 42-60
1-60. The Precambrian of the Arctic mainland, Pt. 2 of Precambrian geology of Arctic Canada--a summary account Canada Geol. Survey Paper 60-8, p. 12-24, table, 1960

FRAY, C. See EWING, J. I. 3-60

FREBOLD, Hans Wilhelm Ludwig
1-60. The Jurassic faunas of the Canadian Arctic--Lower Jurassic and lowermost Middle Jurassic ammonites Canada Geol. Survey Bull. 59, 33 p., illus., 1960

FREDERIKSEN, N. O. See KREMP, Gerhard Otto Wilhelm 2-60

FREDERICKSON, Arman Frederick. See also MUCKLEROY, J. A. 1-60
2-60. (and REYNOLDS, Robert Col tart, Jr.) How measuring paleosalinity aids exploration Oil and Gas Jour., v. 58, no. 5, p. 154-155, 157-158 incl. diagrams and tables, Feb. 1, 1960.

FREDERICKSON, Edward Arthur

FREEMAN, Gerald W. See PRUSS, Donald E. 1-60

[FREITAG, Dean Richard]. See also LAMBE, T. W. 1-60
1-60. Soil as a factor in shoaling processes, a literature review U. S. Army, Corps of Engineers, Comm. Tidal Hydraulics Tech. Bull. 4, 47 p., illus., June 1960

FREMLIN, Gerald
1-60. Some observations on a recent article by Dr. Michel Brochu Zeitschr. Geomorphologie (Berhn), New Folge, Band 4, Heft 3-4, p. 288-291, Dec. 1960.

FRENTROP, Arthur H
1-60. (and SHERMAN, Harold) Neutrons from small tubes--[P]. 2, Schlumberger tube, for oil-well logging. Nucleonics, v. 18, no. 12, p. 72-74 incl. diagrams and illus., Dec. 1960

FRENZEL, Hugh N.

152

FRIEDLANDER, Gerhart. See SEGRE, Emilio Gino 1-60


FRIEDMAN, Gerald Manfred. See also WOLF, K. H. 1-60

FRIEDMAN, Melvin. See BORG, Irvyn. 1-60


FRIENDS of the PLEISTOCENE, Rocky Mountain Section 1-60. (GOODE, Harry Donald, and MORRISON, Roger Barron, leaders) Little Valley, Promontory Point, Utah, September 10, 1960 [and] Little Cottonwood-Draper area, near Salt Lake City, Utah, September 11, 1960, 6th annual field trip [guidebook] [8] p., illus., 1960.


FRISCHKNECHT, Frank Conrad. See also ANDERSON, L A. 2-60, KELLER, G. V. 5-60


FRITZ, Axel M., Jr.

FROELICH, Albert Joseph

FROHBERG, Max Hans

FRONDEL, Clifford See also ALBANESE, J S 4-60
2-60. (and MARVIN, U. B., and ITO, Jun) New occurrences of todorokite Am. Mineralogist, v. 45, nos. 11-12, p. 1167-1173 incl. diagrams, tables, and illus., Nov.-Dec. 1960

FROSCH, Alex. See HOWELL, Lynn Gorman 1-60

FROST, Clyde M See FOWKES, Walter W 1-60

FROST, Irving Condé

FROST, Robert Edson

FROST, Sherman L.

FRUECHTENICHT, H. L.

FRUEH, Alfred Joseph, Jr.
FULTON

FRY, Wayne Lyle


FRYKLUND, Verne Charles, Jr.

Frysinger, Galen Royen

FRYXELL, Roald

FUCHS, Louis H. See HOEKSTRA, Henry R 1-60

FUENNING, Paul

FUJII, Takashi

FUKTOMI, Takabaru

FULKERSON, F. B. See ROBY, Robert Neil 1-60

FULLER, John George Charles Martin

FULLER, Keith

FULTON, R. J. See CANADA GEOL. SURVEY 42-60
FUNDERBURG, John B.

FUQUA, Wallace Dunham

FURCRON, Aurelius Sydney
2-60. (and FORTSON, Charles Wellborn, Jr.) Commercial limestones of the Flint River Basin south of Albany, Georgia Georgia Mineral Newsletter, v. 13, no. 2, p. 45-57, illus., summer 1960
5-60 (compiler) Corundum in Georgia Georgia Mineral Newsletter, v. 13, no. 4, p. 167-177, illus., winter 1960.

FURLONG, Ira Ellsworth
1-60. The geology of the Farmington Quadrangle [Maine] [abs.] Dissert. Abs., v 21, no. 4, p 848, Oct. 1960

FURNAS, Thomas C., Jr.

FURNISH, William Madison, Jr. See ETHINGTON, Raymond Lindsay 2-60, SELLERS, David H. A. 1-60

FUZESY, L. M.

FYFE, William S. See also CAMPBELL, A. S 1-60

FYLES, John Gladstone. See also CANADA GEOL. SURVEY 23-60, 40-60, CRAIG, Bruce Gordon 2-60, 3-60

GAAL, Robert A. See also MOTTS, Ward Sundt 1-60
GABRIELSE, Hubert. See also CANADA GEOL. SURVEY 30-60


GAEDE, Verne F.

GAFFRON, Hans See also SHAPELY, Harlow 1-60

GAGNON, George C. See NAGY, Bartholomew Stephen 1-60

GALBRAITH, Denman S.

GALEANO, Sergio Fortún
1-60. Estudios hidrológicos para la fuente de abastecimiento de Manzamillo [Mexico] Ing Civil, v. 11, no 5, p. 263-288, illus., May 1960
2-60 Estudios hidrológicos para la Fuente de Abastecimiento de Manzanillo Soc Cubana Ingenieros Rev., v 60, nos 4-6, p. 81-98 incl. tables, also sketch map and diagrams, Apr.-June 1960.

GALLANT, Robert P See SEAMAN, David Martin 3-60

GALLANT, Roy A.

GALLE, O. Karmie

GALLOWAY, Jesse James
3-60 (and EHLERS, George Marlon) Some Middle Devonian stromatoporoids from Michigan and southwestern Ontario, including the types described by Alexander Winchell and A. W. Grabau Michigan Univ. Mus Paleontology Contr., v 15, no 4, p. 39-120, illus., Jan. 8, 1960

GALLOWAY, Raymond A See KRAUSS, Robert W 1-60

GALLUP, William B.
1-60. How geologists hunt for oil in the far north [Northwest Territories] Oil and Gas Jour., v 58, no 11, p. 240-242, 244-245 incl. index map and illus., Mar. 14, 1960
GALLUP


GAMBLE, Erling S. See GOODING, Ansel Miller 1-60

GAMSON, B. W See BROWN, R. J. S. 1-60

GARCIA ROJAS, Antonio

GARD, John Alan See also ROY, D. M. 1-60

GARD, Leonard Meade, Jr.

GARDNER, Frank Johnson
1-60. Cambrian strike gives Nebraska wildcatters another objective Oil and Gas Jour., v. 58, no 24, p. 167 incl. index map, June 13, 1960.
2-60. Michigan's far north draws 43 eager bidders Oil and Gas Jour., v. 58, no 25, p. 171 incl. sketch map, June 20, 1960.
3-60. Canadians watch two British Columbia wildcats Oil and Gas Jour., v. 58, no 30, p. 293 incl. index map, July 25, 1960.
4-60. New X-ray computer "fingerprints" rock samples Oil and Gas Jour., v. 58, no 51, p. 133 incl. illus., Dec. 19, 1960.

GARDNER, Gerald Henry Fraser. See van der KNAPP, W. 1-60

GARDNER, John K See RICHTER, Charles Francis 2-60

GARDNER, Robert Alfred, Jr.

GARDNER, William E. See BLAND, Francis X. 1-60, 2-60, HORSTMAN, Elwood Louis 1-60

GARDNER, William Irving

GARDEÑO ARIAS, Ricardo Luis
GARNER, Hessle Filmore

GARRELS, Robert Minard
1-60. (and THOMPSON, Mary Eleanor, and SIEVER, Raymond) Stability of some carbonates at 25°C and one atmosphere total pressure Am. Jour Sci., v. 258, no. 6, p 402-418 incl. diagrams and tables, June 1960.
3-60. Mineral equilibria--At low temperature and pressure New York, N Y., Harper and Brothers, Pubs., 254 p., 1960

GARRETT, Donald Everett. See also CARPENTER, L. G. 1-60

GARRITY, Martin J. See PIERCE, R. Lacy 1-60

GASKILL, Thomas Frohock

GAST, Paul Werner
1-60. Limitations on the composition of the upper mantle Jour. Geophys Research, v. 65, no 4, p. 1287-1297 incl tables, Apr 1960

GASTIL, Russell Gordon
1-60. The distribution of mineral dates in time and space Am. Jour. Sci., v 258, no 1, p 1-35 incl. index and sketch maps, diagrams, and tables, Jan 1960

GATES, Gary Rickey. See also WINSLOW, J. D. 3-60

GATES, Olcott

GATLIN, Carl
GAUCHER, Edwin H. S.
1-60 Preliminary report on the southeast quarter of Barlow township, electoral district of Abitibi-East Quebec Dept. Mines Mineral Deposits Br Prelim Rept. 425, 13 p, geol. map, 1960, also French ed

GAUDELIN, S.

GAY, Peter. See BOWN, M. G. 1-60

GAY, Thomas E., Jr. See LYDON, Philip A. 1-60

GEBHART, John E. See HIGGS, D. V. 1-60

GEERTSMA, J.

GELSEN, Darlene

GELDERN, J van

GELINAS, Leopold
1-60 Preliminary report on the Gabriel Lake area (east part) and the Fort Chimo area (west part), New Quebec Quebec Dept. Mines Geol Surveys Br Prelim Rept 407, 9 p, geol. map, 1960, also French ed.
2-60. Preliminary report on the Fort Chimo area (east part), New Quebec Quebec Dept Mines Geol Surveys Br. Prelim Rept. 418, 6 p, geol. map, 1960, also French ed

GELLER, Seymour

GELPHMAN, Norman Ray
1-60. West Sentinel Oil Field, Washita County, Oklahoma--Sedimentology of the "Granite Wash" and structural geology Shale Shaker, v. 10, no. 6, p 2-16 incl. index and sketch maps, sections, table, illus., and discussion by R. L Roberts, Feb. 1960

GENESKY, S. M.

GENOVÉS T., Santiago
1-60. Revaluation of age, stature and sex of the Tepexpan remains, Mexico: Am., Jour Phys Anthropology, v. 18, no. 3, p 205-217 incl. tables and illus, Sept 1960

GENTILE, Anthony L.
1-60. (and ROY, Rustum) Isomorphism and crystalline solubility in the garnet family Am. Mineralogist, v 45, nos. 5-6, p 701-711 incl. tables, May-June 1960.
3-60. Investigation of phase relations in the high alumina portion of the system lime-alumina-silica [abs.] Dissert Abs, v. 21, no 4, p. 919-920, Oct 1960

160
GERWELS

GENTNER, W. See also FECHTIG, H. 1-60

GEOFFROY, Paul R

GEOLOGICAL DISCUSSION CLUB
1-60 Guidebook for geological field trips in southwestern British Columbia Vancouver, B C, 53 p incl sketch maps, correlation chart, and sections, geol map, Mar 1960. (Prepared for meetings of Geological Society of America Cordilleran Section.) Includes individual papers which are cited separately

GEOLOGICAL SOCIETY of AMERICA, Bibliographic Staff

GEOLOGICAL SOCIETY of AMERICA, Rocky Mountain Section
1-60, Guidebook for field trips, 13th annual meeting, Rapid City, South Dakota, April 28-30, 1960 20 p, illus, prepared by geol. staffs of South Dakota School of Mines and Homestake Mining Co, 1960

GEOLOGICAL SOCIETY of SACRAMENTO
1-60 Northwestern California--A traverse of the Klamath uplift, northern Coast Ranges and Eel River Basin, annual field trip, June 3-5, 1960 [guidebook] Sacramento, Calif, 43 p, section, 1960. Includes individual papers which are cited separately

GEORGE, William Owsley. See TURNER, Samuel Foster 1-60

GEORGI, Johannes

GERARD, Robert See BROECKER, Wallace S. 2-60

GERLACH, George Smith

GERRITSEN, Francisca§. See BOWMAN, Joseph Richmond 1-60, BRUUN, Per 1-60

GERSTENHAUER, A.
1-60. Der tropische Kegelkarst in Tabasco (Mexico) Zeitschr Geomorphologie (Berlin), Supplementband 2, p. 22-48 incl sketch maps, diagrams, graph, illus., and tables, 1960

GERWELS, Richard P.

161
GETZ, Lowell L.

GEYL, W F.

GIANELLA, Vincent Paul

GIARDINI, Armando Alfonzo

GIBBONS, Anthony Benjamin

GIBBS, Gerald V. See also BROWN, W. L. 1-60

GIBBS, Harold J. See also WILSON, S. D. 1-60

GIBBS, Peter Godbe. See SCHEUPLEIN, Robert 1-60

GIBSON, F. Harold. See ODE, William Harlan 1-60

GIBSON, William Murel

GIDDENS, Joel

GIELOW, Donald G. See GULBRANDSEN, Robert Allen 1-60

GIESE, Graham S. See ZEIGLER, John M. 2-60

GIFFIN, Charles E.

GILBERT, Freeman. See KNOPOFF, Leon 4-60
GILBERT, Joseph Evan Josaphat

GILES, Eugene
1-60. Multivariate analysis of Pleistocene and Recent coyotes (Canis latrans) from California California Univ Pubs. Geol. Sci., v. 36, no. 8, p 369-390, illus., Nov 17, 1960.

GILETTI, Bruno John

GILL, James Edward

GILL, James Rogers. See also TOURTELOT, H. A. 1-60, SCHULTZ, L G. 1-60

GILLARY, Herman W. See UDANE, Bernard 1-60

GILLESPIE, W H.
1-60. (and LATIMER, I S., Jr.) A guide to the common fossil plants of West Virginia Morgantown, West Virginia Geol. and Econ Survey, 59 p., illus. Incl. geol. map, June 1960.

GILLET, John Montague
1-60. The flora of the vicinity of the Merewether Crater, northern Labrador Canadian Field Naturalist, v 74, no 1, p 8-27 incl sketch maps, tables, and illus , Jan.-Mar 1960

GILSON, Joseph L. See also AM. INST. MINING, METALL., and PETROLEUM ENGINEERS 1-60, CASTLE, J E 1-60
1-60. Intriguing examples of geology applied to industrial minerals Econ. Geology, v 55, no 4, p 629-644, June-July 1960

GILLULY, James
GILMAN, Ralph

GILREATH, James A.
1-60. Interpretation of dipmeter surveys in Mississippi [abs.] Am. Assoc. Petroleum Geologists Bull., v. 44, no. 9, p. 1601, Sept 1960
3-60. Interpretation of dipmeter surveys in Mississippi: Gulf Coast Assoc. Geol Soc., Trans., v. 10, p. 267-275 incl. diagrams and illus., 1960.

GINSBURG, Robert Nathan
See also LOGAN, B. W. 1-60

GIOVANDO, L. F. See ZOPPIS BRACCI, Luigi
1-60, 3-60

GLAISTER, Rowland Perry
See also THOMAS, G. E. 1-60, 2-60

GLASS, Herbert David.
See also ATHERTON, Elwood 1-60, FRYE, John Chapman 3-60, GROOT, Johan Jacob 2-60

GLASS, Marion George

GLASS, Robert David.
See HUGHES, Paul Warren 1-60

GLASSER, Frederick Paul
1-60. (and OSBORN, Elburt Franklin) The ternary system MgO-MnO-SiO2 Am Ceramic Soc Jour., v 43, no. 3, p 132-140 incl. diagrams and tables, Mar. 1, 1960

GLASSMIRE, S. H.
GLEASON, Sterling
1-60. Ultraviolet guide to minerals--a complete working manual for the use of ultraviolet light in locating and recognizing minerals, including field identification charts. Princeton, N. J., D. Van Nostrand Co., Inc., 244 p., illus., 1960

GLEN, William

GLENN, R. C.

GLOVER, Everett D. See EHLMANN, Arthur J. 1-60

GLOVER, Lynn, 3d. See also BERRYHILL, H. L., Jr 1-60, 2-60, MATTSON, P. H. 1-60

GLOYNA, Earnest Frederick. See REYNOLDS, Tom D. 1-60, SERATA, Shosei 1-60

GODFREY, Curtis L. See NELSON, L. A. 2-60

GODFREY, John A., Jr.

GODFREY, John Derrick. See also GRAVENOR, C. P. 3-60

GOLDIN, Elisabeth. See ENGEL, Albert Edward John 2-60, STEVENS, Rollin Elbert 1-60

GOEBEL, Edwin D. See also HILPMAN, P. L. 1-60, JEWETT, J. M. 2-60, MERRIAM, D. F. 1-60
1-60. (and MERRIAM, Daniel F.) Kansas-Nebraska--Mid-America's latest exploration payoff. Oil and Gas Jour., v. 58, no. 17, p. 171-172, 174 incl. structure contour maps, section, and tables, Apr. 25, 1960.

GOECKERMANN, Robert H. See SHELTON, A. Vay 1-60

GOERING, Milford Wayne
GOLD, L. W.
1-60. The cracking activity in ice during creep Canadian Jour. Physics, v. 38, no. 9, p 1137-1148 incl. diagrams, illus., Sept 1960

GOLDBERG, Edward D. See also GRIFFIN, John 1-60, LAL, Devendra 1-60

GOLDICH, Samuel S. See QUIRKE, Terence T., Jr. 1-60

GOLDIN, Abraham Samuel. See SODD, Vincent J. 1-60

GOLDMAN, Harold B.

GOLDSMITH, Julian Royce. See also JAMIESON, J. C. 1-60
2-60. (and GRAF, Donald Lee) Subsolidus relations in the systems CaCO₃-MgCO₃-MnCO₃ Jour. Geology, v. 68, no. 3, p. 324-335 incl. diagrams and tables, May 1960.

GOLDSMITH, Richard
2-60. Surficial geology of the Uncasville quadrangle, Connecticut U. S. Geol Survey Geol. Quad. Map GQ-138, scale 1 24,000 (1 in. to 2,000 ft.), with text, 1960

GOLTHWAIT, Lawrence

GOLTHWAIT, Richard Parker

GOLES, Gordon George. See also FISH, R. A. 1-60

GOLTZ, Eugene M.

GONZÁLEZ, José
GONZALEZ REYNA, Jenaro


GOOCH, Edwin Octavius

GOOD, John Maxwell See HANSEN, Wallace Ray 2-60

GOODE, Harry Donald See also FRIENDS PLEISTOCENE, Rocky Mtn Sec. 1-60

GOODELL, Horace Grant See also CHEN, C. S. 1-60

GOODING, Ansel Miller. See also KAPP, R. O. 1-60

GOODLETT, John C. See DAVIS, Margaret Bryan 2-60, HACK, John Tilton 4-60

GOODMAN, Alfred John. See also HAITES, T. B. 1-60

GOODMAN, Richard E.
1-60 Photo/field prospecting Photogramm Eng., v. 26, no 1, p 100-105, Mar. 1960.

GOODWIN, Alan Murray

GORDER, John D.

GORDON, Ellis Davis

GORDON, Mackenzie, Jr
GORDON

GORDON, William Anthony
1-60. The age of the middle Tertiary rocks of northwestern Puerto Rico
Caribbean Geol. Conv., 2d, Mayaguez, Puerto Rico, Jan. 4-9, 1959, Trans.,
p. 87-90, with discussion, 1960.

GORRELL, Harold Alvin
1-60. Some indications of subsurface features from ground water data

GOSAR, Antone John
1-60. Stratigraphic and structural traps in Big Piney-La Barge area, Wyoming
1960.
2-60. Stratigraphic and structural traps in the Big Piney-La Barge area,
Record 1960, p. 165-166 [1960].

GOSSE, Ralph C.
2-60. Some notes on Herkimer "diamonds" Mineralogist, v. 28, nos. 6-8,

GOTT, Garland Bayard. See also WOLCOTT, D. E. 1-60
1-60. (and BRADDOCK, William Alfred, and POST, Edwin Vanhorn) Uranium
deposits of the southwestern Black Hills [abs.] Geol. Soc. America

GOTTFRIED, David. See LARSEN, Esper Signius, 3d 1-60

GOUDGE, Monson Fraser
1-60 (and TOMKINS, R. V.) Sodium sulfate from natural sources, in Am.
Inst. Mining, Metall., and Petroleum Engineers, Industrial minerals and

GOULD, Donald Boyd See BRECHTEL, Frederick Charles

GOULD, Howard Ross
1-60. Amount of sediment, [Chap.] P in Pt. 4 of Smith, W. O., Comprehensive
survey of sedimentation in Lake Mead [Arizona-Nevada], 1948-49 U. S.
Geol. Survey Prof. Paper 295, p. 195-200, illus., 1960
2-60. Turbidity currents, [Chap.] Q in Pt. 4 of Smith, W. O., Comprehensive
survey of sedimentation in Lake Mead [Arizona-Nevada], 1948-49 U. S.
Geol. Survey Prof. Paper 295, p. 201-207, illus., 1960
3-60. Erosion in the reservoir, [Chap.] R in Pt. 4 of Smith, W. O., Comprehensive
survey of sedimentation in Lake Mead [Arizona-Nevada], 1948-49
U S. Geol. Survey Prof. Paper 295, p 209-213, illus., 1960

GOVETT, Raymond W.
1-60. Geology of Wagoner County, Oklahoma [abs.] Dissert. Abs., v. 20,

GOW, James Donald
1-60. (and POLLOCK, Herbert Chermside) Development of a compact
evacuated pulsed neutron source. Rev. Sci Instruments, v. 31, no. 3,

GOWER, Howard Dale. See also BROWN, R. D., Jr. 2-60
1-60 (and VINE, James David, and SNAVELY, Parke Detweiler, Jr.)
Depositional environment of the Eocene coal deposits of Washington [abs.]
Quad. Map CQ-129, scale 1 62,500 (about 1 in. to 1 mi.), with sections and
text, 1960.

GRABAU, Warren E.
1-60. Geology as an historical tool [abs.] Am. Assoc Petroleum Geologists
GRANT

2-60. Geology as an historical tool Gulf Coast Assoc Geol. Soc. Trans., v. 10, p. 87-91, 1960


GRAHAM, Alan 1-60. (and HEIMSCH, Charles W) Pollen studies of some Texas peat deposits Ecology, v 41, no 4, p. 751-763, illus., Oct. 1960


GRAHAM, Richard Percival Devereux. See CORSINI, A. 1-60

GRAHAM, Robert Bruce 1-60. Geology of the New Hosco Mines Limited copper-zinc deposits, Mattagami area, Quebec [abs.] Canadian Mining Jour., v. 81, no. 4, p. 94, Apr. 1960

GRALENSKI, L. J See STUIVER, Minze 1-60

GRANGER, Harry Clifford. See also NEUERBURG, G. J 1-60 1-60 Pitchblende identified in a sandstone-type uranium deposit in the central part of the Ambrosia Lake district, New Mexico Art. 26 in U. S. Geol. Survey Prof. Paper 400-B, p B54-B55, 1960.


GRANT, Fraser S See RUSSELL, R. Doncaster 1-60

GRANT, James A See PHEMISTER, T. C. 2-60, 4-60


169
GRANT, Ulysses Simpson, 4th. See HERTLEIN, Leo George 2-60

GRANT, Willard Huntington


GRANTZ, Arthur. See also ZIETZ, Isidore 1-60


GRATON, L. C

1-60 If Lindgren were here Econ Geology, v. 55, no. 1, p. 192-201, Jan.-Feb. 1960

GRAVENOR, Conrad Percival


GRAY, Carlyle. See also ZIETZ, Isidore 2-60


GRAY, Clifton H., Jr. See RICHMOND, James Frank 1-60

GRAY, Helen. See MUSGRAVE, Albert Wayne 1-60

GRAY, Henry Hamilton


GRAY, Jane. See also LANGENHEIM, R. L., Jr. 1-60


GREEN


GRAY, T. E

GRAYSON, John Francis
2-60. Palynology as a working tool Oil and Gas Jour., v 58, no. 17, p. 136-140 incl. section, diagrams, chart, and illus., Apr. 25, 1960.

GREAT NORTHERN RAILWAY COMPANY MINERAL RESEARCH and DEVELOPMENT DEPARTMENT
2-60. Geology adjacent to the Great Falls-Billings line, Great Northern Railway, Montana (Pt 2) [Judith Basin and Fergus Counties] Great Northern Railway Co Mineral Research and Devel. Dept. Rept. 12, 69 p. incl. tables, also index, geol., and sketch maps, diagrams, and sections, July 1960.

GREEN, Cecil Howard

GREEN, F. Earl

GREEN, Jesse Robison

GREEN, Keith Ellsworth

GREEN, Lewis Howard. See also CANADA GEOL. SURVEY 38-60, 39-60, 40-60
1-60 (and RODDICK, James Archibald, and WHEELER, John Oliver) Geological reconnaissance of Pelly River district, Yukon Canadian Oil and Gas Industries, v. 13, no. 7, p. 51-54 incl. geol. map and sections, July 1960.
3-60. (and RODDICK, James Archibald, and WHEELER, John Oliver) A geological reconnaissance of Pelly Mountains and vicinity, southeastern Yukon Canadian Mining Jour., v. 81, no. 4, p. 98-99 incl. index and geol. sketch map and sections, Apr 1960.

GREEN, Morton
GREEN

GREEN, William D.

GRENBERG, Seymour Samuel. See also ELBERTY, W. T. 1-60, ERD, R. C. 1-60, SUNDERMAN, J. A. 1-60, 2-60 Outgrowths of authigenic brookite on leucoxene grains in Pennsylvanian and late Mississippian sandstones of Indiana Jour. Sed. Petrology, v. 30, no. 4, p. 622-623 incl. table and illus., Dec 1960
3-60. Petrography of Indiana sandstones collected for high-silica evaluation Indiana Geol. Survey Bull. 17, 64 p., illus., Aug 1960.

GREENE, Gordon W See also LACENNBRUCH, A. H. 3-60, 4-60 Some thermal effects of a roadway on permafrost Art 63 m U.S. Geol. Survey Prof. Paper 400-B, p B141-B144 incl. diagrams and table, 1960
2-60. (and HUNT, Charles Butler) Observations of current tilting of the earth's surface in the Death Valley, California, area Art 124 in U.S. Geol Survey Prof. Paper 400-B, p B275-B276 incl sketch map and table, 1960

GREENE, W. D.
1-60. A day with the dinosaur hunters [Wyo.] Mineralogist, v 28, nos 4-5, p 54-57 incl. illus., Apr -May 1960.


GREENWOOD, Hugh John

GREENWOOD, Robert
1-60. Availability of cesium for ion rockets Mining Eng., v. 12, no. 5, p 482-483 incl. tables, May 1960

GREGORY, Alan Frank
3-60. (and BOWER, Margaret E., and MORLEY, L W) Geological interpretation of aeromagnetic profiles from the Canadian Arctic Archipelago. Canada Geol Survey Paper 60-6, 13 p., illus., 1960
GRIFFITHS

GREGORY, Doris
1-60. New museum for the world's 8th wonder New Mexico Mag., v. 38, no. 2, p 32-35 incl. illus., Feb 1960.

GREGORY, Joseph Nalle

GREGORY, Joseph Nalle See HARDER, Edmund Cecil 1-60

GREIG, Edmund Wendell See HARDER, Edmund Cecil 1-60

GREIG, Edmund Wendell See HARDER, Edmund Cecil 1-60

GREIG, Edmund Wendell See HARDER, Edmund Cecil 1-60

GRETENER, Peter E.
1-60. An analysis of the observed time discrepancies between continuous and conventional well velocity surveys Alberta Soc. Petroleum Geologists Jour., v. 8, no 10, p 272-286 incl. index map and diagrams, Oct 1960

GRICE, Charles Richmond

GRIFFIN, George M.

GRIFFIN, James B.
See also CRANE, H. R 1-60

GRIFFIN, John

GRIFFIN, J. W.

GRIFFIN, S. V.

GRIFFIN, V. S. See RADER, E. K. 1-60

GRIFFITH, S. V.

GRIFFITHS, John Cedric

3-60. Aspects of measurement in the geosciences Mineral Industries, v. 29, no. 4, p. 1, 4-5, 8 incl. diagrams and illus., Jan.-Mar. 1960


GRIGGS, Thomas M.

GRIFFITTS, Wallace Rush. See also HAWLEY, C. C. 1-60

GRIGGS, Allan Bingham. See WALLACE, Robert Earl. 1-60

GRIGGS, David Tressel. See also TURNER, F. J. 1-60


GRIMALDI, Frank Saverio. See also MILTON, Charles. 1-60

GRISCOM, Andrew. See also NEW ENGLAND INTERCOLLEGIATE GEOL. CONG. 1-60

GRISWOLD, George Gary, Jr. See also SALES, Reno Haber. 1-60

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GUENNEL

GROGAN, Robert Mann

GROGN, M J See HOOD, James W. 1-60

GROLIER, Maurice Jean. See WALTERS, Kenneth L. 2-60

GROOT, Johan Jacob

GROSE, Lucius Trowbridge

GROSH, Wesley A

GROSS, Eugene Bischoff. See HEINRICH, Eberhardt William 3-60

GROSS, Gerardo Wolfgang

GROSS, Gordon Arnold

GRUBBS, Donald K.

GRUNER, J. W. See AUSTIN, S. Ralph 1-60; CARROLL, Dorothy 3-60

GRYC, George See JONES, David Lawrence 3-60

GUALTIERI, James Louis. See WEIR, Gordon Whitney 5-60

[GUATEMALA] DIRECCIÓN GENERAL de MINERÍA e HIDROCARBUROS, Sección de Geología
1-60. Compilación geológica provisional de la República de Guatemala--con aportaciones de las cifas, petroleras y de otras fuentes indicadas arriba Scale 1 500,000 (about 1 in to 8 mi.), Sept. 1960.

GUDE, Arthur James, 3d

GUENNEL, Gottfried Kurt See NEAVEL, Richard C. 1-60
GUEST, R. J

GUILBERT, John M. See CAMERON, Eugene Nathan 1-60

GUILCHER, André

GUILCHER, M. A.

GUILLENI M., J Jesús. See PESZUERA VELÁZQUEZ, Rubén 1-60

GULLOU, Robert Barton

GUIMOND, Roger

GULBRANDSEN, Robert Allen

GULF COAST ASSOCIATION of GEOLOGICAL SOCIETIES

GUENDERSEN, James Novotny

176
GUTSCHICK

GUNST, Robert. See BRAZEE, Rutlage J. 1-60

GUNTER, Herman

GUPPY, Nicholas Gareth Lechmere

GURNEE, Russell H.
1-60. The stream that bridged the river--strange natural formation in Guatemala Americas, v. 12, no 7, p. 31-34, illus., July 1960.
3-60 The caves of Guatemala [abs.] Natl Speleol Soc NSS News, v. 18, no. 7, p 75, July 1960

GUSSOW, William Carruthers
2-60. Jurassic-Cretaceous boundary in western Canada and Late Jurassic age of the Kootenay [abs ] Royal Soc Canada Minutes Proc , 3d ser., v 54, App C, p 37, 1960
3-60 Jurassic-Cretaceous boundary in Western Canada and late Jurassic age of the Kootenay formation Royal Soc. Canada Trans , 3d ser., v 54, sec 4, p 45-64, illus , June 1960

GUTENBERG, Beno, 1889-1960
1-60 Low-velocity layers in the earth, ocean, and atmosphere Science, v. 131, no 3405, p 959-965 incl sketch map and diagrams, Apr 1, 1960
2-60. The shadow of the earth's core Jour Geophys Research, v. 65, no. 3, p 1013-1020 incl. diagrams and tables, Mar 1960
5-60. Waves reflected at the "surface"of the earth--P'P'P'P' Seismol Soc. America Bull, v. 50, no 1, p 71-79 incl. diagrams, Jan. 1960

GUTIERREZ GIL, Roberto
1-60. Isthmus of Tehuantepec [Mexico]--Pt 1, Tehuantepec oil ['salt] domes may mark potential oil territory for Mexico--Pt. 2 Oil and Gas Jour , v. 58, no 7, p 159-160, 162-163 incl sketch maps, sections and table, Feb. 15, 1960, no. 8, p 150, 152-153, 155, 158, 160-161 incl structure contour maps and sections, Feb. 22, 1960

GUTJAHRI Christiaan Carl Maria

GUTSCHICK, Raymond Charles
1-60. Photography of Paleozoic arenaceous Foraminifera Jour Paleontology, v. 34, no 4, p. 756-758 incl. diagram, July 1960.
GVOSDETSKY, Vasyl  See EARDLEY, Armand John 1-60

GWINN, Vinton E. See also MUTCH, T A 1-60

HABERLAND, Wolfgang. See DURR, Fritz 2-60

HABERMANN, Ben

HACK, John Tilton

HACKETT, James Edward. See also MAXEY, G B. 1-60
1-60 Ground-water geology of Winnebago County, Illinois Illinois State Geol Survey Rept Inv. 213, 63 p., illus., 1960.

HACKETT, Orwoll Milton
1-60 (and VISHER, Frank Newell, and McMURTREY, Robert Cale, and STEINHILBER, W. L.) Geology and ground-water resources of the Gallatin Valley, Gallatin County, Montana, with a section on Surface-water resources by Frank Stearns and F. C. Boner, and a section on Chemical equality of the water by R. A. Krieger U S. Geol. Survey Water-Supply Paper 1482, 282 p. incl. sketch maps, diagrams, tables, and illus., also hydrologic maps and diagrams, 1960.

HACKMAN, Robert Joseph

HACQUEBARD, Peter Albertus

HADLEY, C J. See BURGESS, Richard Joseph 3-60

HADLEY, Jarvis Bardwell
HALBOUTY, Michel Thomas
HALE, Dean

HALE, Lyle A

Haley, Boyd Raymond

HALL, Clarence Albert, Jr.
1-60. Displaced Miocene molluscan provinces along the San Andreas fault, California Geol. Sci., v. 34, no. 6, p. 281-308, illus., Nov. 15, 1960.

HALL, Eugene Raymond

HALL, Howard Tracy

HALL, Thomas Ola

HALL, W. Ellis

HALL, Francis Ramey. See also PALMQUIST, Wilbur Nathaniel, Jr.
1-60 thru 18-60.


HALL, Wayne Everett


HALL, William Bartlett


HALLINGER, Donald E

HALLOCK, Allan R.

HALSTEAD, E C. See CANADA GEOL. SURVEY 2-60

HALVA, Carroll J. See also DAMON, P. E. 1-60; GREEN, W. D. 1-60

HAM, William Eugene. See also HOWERY, S. D. 1-60; LOVETT, F D 1-60
4-60. (and CURTIS, Neville Mackay, Jr.) Common minerals, rocks, and fossils of Oklahoma. Oklahoma Geol. Survey Guidebook 10, 28 p., illus. incl. geol. map, 1960
5-60. Glassy pebbles in southwestern Oklahoma---obsidian vs. tektite Oklahoma Geology Notes, v. 20, no. 4, p. 92-95, illus, Apr. 1960

HAMBLIN, William Kenneth

HAMELIN, Louis Edmond

HAMILL, Robert William

HAMILTON, Edwin Lee. See also DAVES, G. H. 1-60

HAMILTON, Eric I

HAMILTON, John C. See MYERS, Alfred Tennyson 1-60, 2-60

182
HAMilton, J. J.
1-60. (and CRAWFORD, C. B.) Improved determination of preconsolidation
pressure of a sensitive clay, in Papers on Soils Am. Soc. Testing Materials
Spec. Tech. Pub. 254, p 254-271 incl. diagrams, illus., and tables, with
discussion, June 1960.

HAMilton, Robert Gilbert
1-60. The revolution in well logging Oil and Gas Jour., v. 58, no. 26, p. 187-
188 incl. chart and tables, June 27, 1960.

HAMilton, Warren Bell. See also KING, P. B. 2-60, RICHMOND, G. M. 2-60
1-60. Metamorphism and thrust faulting in the Riggins quadrangle, Idaho
sketch map, 1960.
2-60. Phocene(?)) sediments of salt water origin near Blythe, southeastern
California Art. 125 in U. S. Geol. Survey Prof. Paper 400-B, p. B276-B277,
1960.
3-60 Structure in the Big Maria Mountains of southeastern California: Art.
126 in U. S. Geol. Survey Prof. Paper 400-B, p. B277-B278 incl. sections
and diagrams, 1960.
4-60. Silicic differentiates of lopoliths Internat. Geol. Cong., 21st, Copen-
5-60. Origin of the Gulf of California [Mexico] [abs.] Jour. Geophys. Re-
6-60. Late Cenozoic tectonics and volcanism of the Yellowstone region,
7-60. Late Cenozoic tectonics and volcanism of the Yellowstone region
Wyoming, Montana, and Idaho, in West Yellowstone--Earthquake area
105 incl. geol. sketch maps and illus., 1960.
8-60. Form of the Sudbury lopolith [Ontario] Canadian Mineralogist, v 6,

HAMLIN, William H.
1-60. Two new species of Foraminifera from the west coast of the United
States Cushman Found. Foram Research Contr., v. 11, pt 3, p. 87-88,
illus., July 1960.

HAMmELL, Laurence. See LODDING, William 1-60

HAMWAY, Paulette
1-60. (and CEFOLA, Michael, and NAGY, Bartholomew Stephen) Radio-
active tracer study of the separation efficiencies of rock and sediment

HANCOCK, C. W, Jr. See WILSON, Stanley D 1-60

HAnd, Hiram Darby
1-60. Resume of trona activity in the Green River basin, Wyoming, in Over-
thrust belt of southwestern Wyoming and adjacent areas. Wyoming Geol.
Assoc., 15th Ann. Field Conf., 1960, Guidebook, p 248-250 incl. index map,
1960.

HAnd, John E. See WILKENING, Marvin Hubert 1-60

Handin, John Walter See also BORG, Iris Y. 1-60, GRIGGS, D. T. 1-60,
4-60
Union Trans., v 41, no. 2, p. 162-165 incl. table, June 1960
2-60. (and HIGGS, Donald V., and O'BRIEN, Joseph K.) Torsion of Yule
marble under confining pressure, Chap 9 in Griggs, D T., ed, Rock
deformation--A symposium Geol. Soc. America Mem. 79, p. 245-274,
illus., 1960.
HANDLEY, Raymond

HANDWERK, Joseph Henry. See BASKIN, Yehuda 1-60


HANKING, B M. See WICKERSHEIM, Kenneth A. 1-60


HANNON, Norbert Michael, Jr. See KNIGHT, Jack William 1-60

HANSEN, Dan Erick. See ANDERSON, Sidney Bakken 3-60


HANSEN, Miller 1-60. Regional gravity map of northwestern North Dakota. North Dakota Geol. Survey Rept. Inv. 35, 1 sheet, scale about 1 in. to 1 mi., with text, 1960


HANSEN, Wallace Ray. See also RITZMA, H. R. 1-60


HANSHAW, Penelope M.

HANSON, Alfred Wallace
1-60 The crystal structure of eosphorite Acta Cryst , v 13, pt. 5, p 384-387 incl. diagrams and tables, May 1960

HANSON, Alvin Maddison

HANSON, William Ellum See ERDMAN, John Gordon 1-60, ZARRELLA, W M 1-60

HANTUSH, Mahdi Salih

HANWAY, John Joseph

HAPGOOD, Charles H.
1-60 Great mysteries of the earth New York, N Y , G P Putnam's Sons, 72 p., illus., 1960.

HARA, T.
1-60. (and SANDELL, Ernest Birger) Spectrophotometric determination of ruthenium with 1,4-diphenylthiosemicarbazide with special reference to meteorites Anal. Chim. Acta (Amsterdam), v 23, no 1, p 65-71 incl diagrams and tables, July 1960

HARADA, Yoshiro See BASKIN, Yehuda 1-60

HARBAUGH, John Warvelle, See also WOLF, K. H. 2-60
2-60. Petrology of marine bank limestones of Lansing Group (Pennsylvanian), southeast Kansas Kansas State Geol. Survey Bull 142, pt. 5, p 189-234, illus., Dec 1, 1960

HARBOUR, Jerry

HARBOUR, Robert Lee. See also ROSWELL GEOL. SOC. 1-60

HARDENBERG, Harry John
1-60. Michigan's gems and minerals Gems and Minerals, no 274, p. 20-22, 85 incl illus., July 1960

HARDER, Alfred Harry
1-60. The geology and ground-water resources of Calcasieu Parish, Louisiana U. S Geol Survey Water-Supply Paper 1488, 102 p., illus., 1960.
HARBER, Edmund Cecil

HARDING, James L.

HARDT, William Frederick
1-60. (and STULIK, R. S., and BOOHER, M. B.) Annual report on ground water in Arizona, spring 1959 to spring 1960 Arizona State Land Dept Water Resources Rept. 7, [89] p., illus., Sept 1960

HARDY, Robert Macdonald. See also WILSON, S D
1-60 (and LEGGET, Robert Ferguson) Boulder in varved clay at Steep Rock Lake, Ontario, Canada Geol. Soc America Bull., v. 71, no. 1, p 95-94, illus., Jan 1960

HARKER, Peter

HARKER, Robert Ian

HARKSEN, John Christian
1-60. Geology of the Manderson quadrangle, South Dakota South Dakota Geol. Survey [Geol. Map], scale 1 62,500 (about 1 in. to 1 mi.), with text, 1960
2-60. Geology of the Sharps Corner quadrangle, South Dakota South Dakota Geol. Survey [Geol. Map], scale 1 62,500 (about 1 in. to 1 mi.), with text, 1960.

HARLAND, W. B
1-60. The earth--rocks, minerals, and fossils New York, N Y, Franklin Watts, 255 p., illus incl. geol map, 1960

HARLTON, Bruce H.

HARMS, John Conrad

HAREL, Byron Eugene

HARRIES, H See TEDROW, John C F 1-60

HARRINGTON, John Wilbur
HARRIS, Hobart Byron

HARRIS, John F.

HARRIS, Lawrence Alvin. See KOPP, Otto Charles 1-60, POTTER, R. A. 1-60

HARRIS, Leonard Dorreen

HARRIS, Peter G.

HARRIS, Reginald Wilson
2-60 An index ostracode from the Arbuckle limestone, Oklahoma Oklahoma Geology Notes, v. 20, no. 9, p. 211-216, illus., Sept 1960.

HARRISON, Arthur Elliot

HARRISON, Earl Preston

HARRISON, Jack Lamar

HARRISON, James Merritt

HARRISON, John C. See NETTLETON, Lewis Lomax 1-60

HARRISON, Mae W.

HARRISON, Wyman. See also LYON, C. J 1-60

HARRY, William Trevelyan
1-60. (and EMELEUS, Charles H.) Mineral layering in some granite intrusions of S.W. Greenland Internat. Geol. Cong., 21st, Copenhagen, 1960,
HARRY


HARSHBARGER, John William

HART, Stanley Robert. See also MOORE, J. M. 1-60

HARTLEY, Robert P

HARTMAN, James A.

HARTMAN, Richard Thomas See WALKER, Philip Caleb 1-60

HARTSHORN, Joseph Harold. See also TUTTLE, C. R. 1-60

HARVEY, Cyril Hingston, 2d
1-60. Stratigraphy, sedimentation, and environment of the White River group of the Oligocene of northern Sioux County, Nebraska [abs.]: Dissert. Abs., v. 21, no. 6, p. 1523, Dec. 1960.

HARVEY, Edward Joseph
1-60. (and NICHOLS, Julious LaFayette) Surface and subsurface stratigraphy of the Quaternary and Upper Tertiary of the Pascagoula area, Mississippi, in Cenozoic of southeast Mississippi and southwest Alabama Mississippi Geol. Soc., 15th Field Trip, May 1960, Guidebook, p. 35-40 incl. section and correlation chart, 1960.

HARVEY, Richard David

HARWOOD, Robert J.

HASHIMOTO, Isao
HAUMANN

HASHIMOTO, T
1-60 Preliminary report on Hippocampe Lake area, Mistassini Territory Quebec Dept Mines Geol. Surveys Br Prelim. Rept 438, 5 p, geol. map, 1960, also French ed

HASKELL, Norman Abraham

HASTINGS, Andrew D., Jr.

HASTINGS, Earl L See also DANIEL, T. W., Jr. 1-60, 2-60, McGlamery, Winnie 1-60

HASTINGS, James S

HATHAWAY, John Cummins. See also FOSTER, M. D. 2-60

HATHERTON, T. See COOK, John Call 1-60

HATTERSLEY-SMITH, Geoffrey

HATTIN, Donald Edward See also PERRY, T. G. 2-60

HAUCK, Anthony M See MADDEN, Theodore R 1-60

HAUGHT, Oscar Lee
1-60. Map of Gilmer and Lewis Counties showing oil and gas fields, structural contours on top of Greenbrier limestone West Virginia Geol. and Econ. Survey, scale 1 62,500 (about 1 in. to 1 mi.), with section, 1960
2-60 Map of Kanawha County showing oil and gas fields, structural contours on top of Berea sandstone and Huntersville chert West Virginia Geol. and Econ. Survey, scale 1 62,500 (about 1 in. to 1 mi.), with section, 1960.
3-60 Oil and gas report on Lewis and Gilmer Counties, West Virginia West Virginia Geol. and Econ Survey Bull. 18, 14 p., illus., Apr 1960
4-60 Oil and gas report on Kanawha County, West Virginia West Virginia Geol. and Econ Survey Bull. 19, 24 p., illus., 1960
5-60. (and McCORD, Wallace Ronald) Oriskany gas development and structural map, Onandaga-Huntersville, West Virginia West Virginia Geol. and Econ Survey Rept Inv 20, 28 p., illus., 1960

HAUMANN, Dieter

189
HAUN

HAUN, John Daniel. See also ROCKY MTN ASSOC. GEOLOGISTS 1-60,
WEIMER, R J 2-60
1-60. (and WEIMER, Robert Jay) Cretaceous stratigraphy of Colorado,

HAUPTMAN, Herbert Aaron. See also SMITH, J. V. 4-60
1-60. (and KARLE, Isabella Lugoski, and KARLE, Jerome) Crystal structure of spurrite, Ca₅(SiO₄)₂CO₃--[Pt ] 1, Determination by the probability method Acta Cryst., v. 13, pt 6, p 451-453 incl. diagrams and tables, June 1960.

HAURY, Emil Walter

HAUSEN, Donald Martin

HAUSER, Robert Emanuel

HAVARD, J. F.

HAVENS, Raymond G. See STEVENS, Rollin Elbert 1-60, THEOBALD, Paul Kellogg, Jr 1-60

HAWES, Lorin
2-60 The development of an accurate low angle X-ray powder diffraction camera Am Mineralogist, v. 45, nos. 11-12, p T288-1296 incl diagrams and tables, Nov -Dec 1960

HAWKES, Herbert Edwin, Jr. See also CANTWELL, Thomas 2-60

HAWKINS, Daniel Bailon See also CANNEY, F. C 1-60

HAWKINS, Gerald Stanley

HAWKINS, Richard H. See BLACK, Peter E 1-60

HAWKINS, W H See KAY, Marshall 3-60

HAWKS, Graham Parker
1-60. Increase A. Lapham [1811-1875], Wisconsin's first scientist [abs ]: Dissert Abs , v. 21, no 6, p 1542, Dec 1960.
HAYNES

HAWLEY, A S

HAWLEY, Charles Caldwell See also SHARP, W N 1-60
1-60. (and SHARP, William N., and GRIFFITTS, Wallace Rush) Pre-mineralization faulting in the Lake George area, Park County, Colorado Art 34 in U S. Geol Survey Prof Paper 400-B, p B71-B73 incl geol. map, 1960

HAWLEY, David See NEW YORK STATE GEOL ASSOC 1-60

HAWORTH, A. John

HAWORTH, R See CUMMINGS, Joseph Benton 1-60

HAY, Richard LeRoy
1-60. Rate of clay formation and mineral alteration in a 4000-year-old volcanic ash soil on St Vincent, B.W I. Am Jour Sci., v 258, no 5, p 354-368 incl geol sketch map, diagrams, and table, May 1960

HAY, William Winn
1-60. The Cretaceous-Tertiary boundary in the Tampico embayment, Mexico-Internat Geol Cong., 21st, Copenhagen, 1960, Rept , pt 5, p 70-77 incl, diagrams and chart, 1960

HAYAMI, Itaru
1-60. Jurassic palaeogeography and crustal movements in North America (exclusive of Mexico and Gulf regions) Jour Geography, Tokyo, v 69, no 2, p 1-18, illus, in Japanese with English abs., 1960

HAYDEN, Richard John
1-60. (and WEHRENBERG, John Patteson) A40-K40 dating of igneous and metamorphic rocks in western Montana Jour Geology, v 68, no 1, p. 94-97 incl table, Jan 1960

HAYE, Edward Fabra See WHITWORTH, Virgil Lee 1-60

HAYES, Carlyle R See ZEIGLER, John M. 1-60

HAYES, John Robert See CABBELL, Thomas R 1-60

HAYES, Larry G
1-60. The Bowers-Campbell mine [Virginia]--Tri-State's boot-shaped zinc deposit Mining Eng., v 12, no. 9, p 997-1000 incl diagrams and illus., Sept. 1960

HAYNES, George L Jr. See GORDON, Ellis Davis 1-60

HAYNES, Vance, Jr
1-60 The rare earths, Chap 6 in Mineral resources of Colorado, 1st sequel Denver, Colorado Mineral Resources Board, p 367-385 incl. index map, diagrams, and tables, 1960

191
HAYNES


HEACOCK, John G, Jr. See PICKELL, James J. 1-60

HEADLEE, Alvah John Washington
1-60, Asphalt from well, Dickenson County, Virginia Producers Monthly, v 24, no. 6, p 28-30 incl. tables and illus., Apr 1960

HEALD, Milton Tidd

HEALD, Weldon F.
1-60 The geological drama, [Chap ] 2 in HighSierra [California]--Mountain wonderland, by J. Wampler and W. F. Heald Berkeley, Calif, privately printed, p. 8-16 incl. illus., 1960.

HEALEY, Don L See DIMENT, William Horace 1-60

HEALEY, John H
1-60, (and PRESS, Frank) Two-dimensional seismic models with continuously variable velocity depth and density functions Geophysics, v. 25, no. 5, p 987-997 incl. diagrams and illus., Oct. 1960

HEANY, Frank. See LANDES, Kenneth Knight 2-60

HEARD, Hugh C See also CHRISTIE, John McDougall J. R. 1-60, GOLDSMITH, J. R. 4-60, GRIGGS, David Tressel 5-60, 6-60, TURNER, Francis John 1-60

HEASLIP, William Graham

HEATH, James Procter

HECHT, Max Knobler

HECK, Edward Timmel
2-60, Hydraulic fracturing in light of geologic conditions Producers Monthly, v 24, no. 11, p 12-13, 16-19 incl. illus., Sept 1960

HEDGE, Carl E. See DAMON, Paul Edward 1-60

192
HEINICKE

1-60 New observations on Pelosphaera cornuta· Cushman Found. Foram Research Contr., v. 11, pt. 2, p 54-56, illus., Apr. 1960

HEDLUND, R W. See WILSON, Leonard Richard 3-60

HEEZEN, Bruce Charles See also BROECKER, Wallace S 1-60, 2-60; HUNKINS, Kenneth Leland 1-60, NESTEROFF, Wladimir D 1-60


4-60. Deep-sea geology [abs.] Ming Eng., v. 12, no. 3, p. 204, Mar. 1960

5-60. Some problems of Caribbean submarine geology Caribbean Geol Conf., 2d, Mayaguez, Puerto Rico, Jan. 4-9, 1959, Trans., p. 12-16 incl. structure sections, profiles, and diagrams, 1960

6-60. (and NESTEROFF. Wladimir D., and SABATIER. German) Répartition des minéraux argileux dans les sédiments profonds de l'Atlantique nord et équatorial Acad Sci Comptes Rendus (Paris), tome 251, no. 3, p. 410-412 incl. sketch map and diagrams, July 18, 1960


HEIDELBERGER, Michael See McMaster, Philip Duryee 1-60

HEILIGMAN, Harold A.


HEIM, George E., Jr


HEIMSCH, Charles W. See GRAHAM, Alan 1-60

HEINDL, Leopold Alexander


3-60. Geology of the lower Bonita Creek area (a preliminary report) Arizona Geol Soc Digest, v. 3, p. 35-39 incl. geol. sketch map, Mar. 1960

HEINES, John T

1-60 A brief look at commercial core analysis Alberta Soc Petroleum Geologists Jour., v. 8, no. 7, p. 207-212, July 1960

HEINICKE, Joachim H

1-60. Thorium, Chap. 7 in Mineral resources of Colorado, 1st sequel Denver, Colorado Mineral Resources Board, p. 387-397, table, 1960
HEINRICH, Eberhardt William  See also TEMPLE, A. K. 1-60
1-60. Stibiotantalite from the Brown Derby No. 1 pegmatite, Colorado Am. Mineralogist, v. 45, nos. 5-6, p. 728-731 incl. tables, May-June 1960.


HELBURN, Nicholas

HELD, S

HELTON, Walter L.
1-60. (compiler) Oil and gas map, Pulaski County, Kentucky Lexington, Kentucky Geol. Survey, ser. 10, scale 1 48,000 (1 in. to 4,000 ft.), 1960.

HELZ, Armin Werner.  See ANNELL, Charles Sylvester 1-60

HEM, John David

HEMPHILL, L. See PARKER, Frank L. 1-60, 2-60

HEMPHILL, William Ross.  See WITKIND, Irving Jerome 2-60

HENBEST, Lloyd George


HENDEL, Charles William

HENRY

HENRY, Bonnie C  

HENRY, Eric P See CANADA GEOL. SURVEY 4-60, 17-60

HENRY, Gerald Gordon Lewis  
1-60. A review of the geology of the Rocky Mountains along the Trans Canada highway [abs.] Canadian Oil and Gas Industries, v 13, no. 4, p 108, Apr. 1960

HENRY, Homer  
1-60. (and EARL, Jack Franklin) New drilling technique recovers 100 percent continuous core World Oil, v 150, no 1, p 111-118 incl. diagrams, table, and illus., Jan. 1960

HENRY, James Fenwick  

HENRY, John Richard. See BROMERY, Randolph Wilson 4-60, 6-60, 8-60, 9-60, 11-60, 12-60, 14-60, 19-60

HENRY, Roland George  
2-60. Polar charts for evaluating magnetic anomalies of three-dimensional bodies Paper 52 in U S Geol Survey Prof Paper 400-B, p B112-B114 incl. diagrams, 1960

HENDRICKS, Thomas Andrews See MISER, Hugh Dinsmore 1-60

HENDRICKSON, Gerth Edson. See KRIEGER, Robert Albert 1-60, 2-60

HENDRIX, Thomas Eugene  

HENLE, Walter Kurt See ADAMS, John Allan Stewart 4-60

HENNEMAN, Arlen Boyd  

HENNOCH, W. E. S.  

HENRIKSEN, Niels  

HENRY, Gary E.  

HENRY, Harold Robert  
1-60 Salt intrusion--Interfaces in limited aquifers [abs.] Jour Geophys. Research, v 65, no. 8, p 2497, Aug. 1960

195
HENRY


HENSEL, D R.

HEPPE, W. Charles

HERNDON, H. W.

HERON, Stephen Duncan, Jr.


HERREID, Gordon

HERRERA, Nicolás M. See also SEIGLIE, G. A. 1-60
1-60. Cuadro para la determinación megascópica de las rocas igneas Soc. Cubana Historia Nat Mem., v. 25, no. 1, p 11-19, illus., Dec. 10, 1960
2-60. Comentarios sobre las formaciones de la parte sur-central de Oriente Soc. Cubana Ingenieros Rev., v. 60, nos. 7-9, p. 195-201 incl. geol. sketch map, July-Sept 1960

HERRICK, Stephen Marion

HERRIN, Eugene Thornton, Jr.
1-60. (and MINTON, Paul D.) The velocity of Lg in the southwestern United States and Mexico Seismol. Soc. America Bull., v. 50, no 1, p. 35-44 incl. sketch map, diagram, and tables, Jan 1960

HERSHEY, Howard Garland
1-60 (and others) Highway construction materials from the consolidated rocks of southwestern Iowa Iowa State Highway Comm., Iowa Highway Research Board Bull. 15, 151 p., Jan 1960

HERSHEY, Lloyd Ashton. See VOEGELI, Paul Thomas, Sr. 1-60
HERSTE, Robert E
1-60. The high-silica resources of Tennessee. Tennessee Div Geology Rept. Inv 10, 62 p., illus., 1960.

HERTLEIN, Leo George. See also EMERSON, W K 3-60

HERZOG, Leonard Frederick. See also CASSIDY, W. A. 1-60


HESS, Harold DeWitt

HESS, Harry Hammond. See also TALWANI, Manik 2-60

HESS, Wilmot Norton
1-60. Project Plowshare--The peaceful uses of nuclear explosions [abs]. Mining Eng., v 12, no 3, p 204, Mar 1960.

HESSLER, Robert Raymond

HESSLER, Victor Peter. See WESCOTT, Eugene M. 2-60

HESTER, Jim J.

HESTER, Robert J.

HERSTE, Robert E.

HERTLEIN, Leo George. See also EMERSON, W K 3-60

HERZOG, Leonard Frederick. See also CASSIDY, W. A. 1-60


HESS, Harold DeWitt

HESS, Harry Hammond. See also TALWANI, Manik 2-60

HESS, Wilmot Norton
1-60. Project Plowshare--The peaceful uses of nuclear explosions [abs]. Mining Eng., v 12, no 3, p 204, Mar 1960.

HESSLER, Robert Raymond

HESSLER, Victor Peter. See WESCOTT, Eugene M. 2-60

HESTER, Jim J.

HESTER, Robert J.

197
HEUSSER, Calvin John

HEWETT, Donnel Foster

HEWITT, Donald F.

HEYBURN, Malcolm

HEYDEGGER, H. Roland. See ANDERS, Edward 2-60

HEYDING, R. D.

HEYL, Allen Van. See also PEARRE, N. C. 1-60

HEYLMUN, Edgar Baldwin, Jr
1-60. Kanab [Arizona-Utah]--The oil signs are there Oil and Gas Jour., v. 58, no 24, p 168-171 incl. sketch map and section, June 13, 1960.

HEYWOOD, William Walter. See CANADA GEOL SURVEY 25-60, 42-60

HIBBARD, Claude William

HIBBEN, Frank Cummings
2-60 Digging up America. New York, N. Y., Hill and Wang, 239 p., illus., 1960

HICKOX, Charles Frederick, Jr.

HIEDRA LOPEZ, Juan Carlos. See JUMIKIS, Alfreds R 1-60

HIESEY, William M. See CLAUSEN, Jens 1-60
HILDEBRAND, Fred Adelbert

HILL, F. L.

HILL, Gilman Arthur

HILL, H. L.

HILL, John D. See LANGENHEIM, Ralph Louis, Jr 5-60

HILL, Mason Lowell

HILL, P. A. See CHAMBERLAIN, J A. 1-60
HILL

HILL, Walter Edward, Jr. See also DELLLWIG, L. F. 1-60, IVES, William, Jr 2-60, WAUGH, W N. 1-60

HILLER, Wilhelm

HILLS, Theo L.

HILPERT, Lowell S.
1-60. (and MOENCH, Robert H) Uranium deposits of the southern part of the San Juan Basin, New Mexico Econ. Geology, v 55, no. 3, p. 429-464 incl. geol. sketch maps, sections, table, and illus., May 1960

HILPMAN, Paul Lorenz
1-60. (and GOEBEL, Edwin DeWayne) Two strikes put Geary into Kansas oil picture Oil and Gas Jour., v. 58, no. 8, p. 164-165 incl. index map and sections, Feb. 22, 1960.

HILTROP, Carl L. See also DIEBOLD, F E. 1-60

HINTON, Robert E.

HIMES, Susan Vaughn

HINCKLEY, David N.
1-60. (and BATES, Thomas Fulcher) An X-ray fluorescence method for the quantitative determination of small amounts of montmorillonite in kaolin clays Am. Mineralogist, v. 45, nos 1-2, p. 239-241 incl. diagram, Jan.-Feb 1960

HINDS, G W.
1-60. (and ANDRAU, William Evert) Geology of a portion of the northern Snake River Range, Bonneville County, Idaho, in Overthrust belt of southwestern Wyoming and adjacent areas Wyoming Geol. Assoc., 15th Ann. Field Conf., 1960, Guidebook, p 57-60 incl index map and table, also geol. map and sections, 1960
HINRICHS, Edgar Neal. See GIBBONS, Anthony Benjamin 1-60, OLSON, Jerry Chipman 1-60

HINRICHS, Frederick Woods

HINTZE, Lehi Ferdinand

HINZ, Wilhelm
1-60. (and KUNTH, Peter-Olaf) Phase equilibrium data for the system MgO-MgF2-SiO2 Am. Mineralogist, v 45, nos. 11-12, p 1198-1210 incl diagrams, tables, and illus., Nov.-Dec. 1960.

HINZE, William J.
1-60, Application of the gravity method to iron ore exploration Econ. Geology, v 55, no. 3, p 465-484 incl magnetic anomaly maps, sections, and diagrams, May 1960.

HIRSHMAN, Julius. See EWING, John Isaac 1-60

HES, William Louis
1-60. The origin of chert--An investigation of the literature Compass, v. 38, no 1, p. 3-17 incl diagrams, Nov. 1960.

HITCHON, Brian
1-60. The significance of the geochemistry of natural gas in exploration [abs ] Canadian Oil and Gas Industries, v 13, no 4, p. 106, Apr. 1960

HITE, Robert James

HLADIK, William B.
See PLUMMER, Norman Vincen 1-60

HO, Tong-Yun. See LEONARD, Arthur Byron 2-60, 3-60

HOADLEY, John William

HOARE, Richard David

201

HOBBIE, John E See BARNES, David Fitz 1-60

HOBBS, S. Warren. See KENNEDY, Vance Clifford 2-60, WALLACE, Robert Earl 1-60

HOBSON, George Donald
1-60. Seismic survey in Ontario Canadian Oil and Gas Industries, v. 13, no 7, p 47-51 incl. index map and correlation chart, July 1960.
3-60. A reconnaissance seismic refraction and reflection survey in southwestern Ontario Canadian Mining Jour., v 81, no 4, p 83-87 incl. sketch map and correlation chart, Apr. 1960.

HOCHMAN, Jack

HODGSON, Gordon Wesley. See also BAKER, B L 1-60

HODSON, Warren Gayler
1-60. (and WAHL, Kenneth D.) Geology and ground-water resources of Gove County, Kansas Kansas State Geol. Survey Bull. 145, 126 p., illus. incl. geol. map, June 1960.

HOEKSTRA, Henry R.

HOERING, Thomas Carl. See also ABELSON, P. H. 1-60

HOFF, Jerald H.
1-60. Geology of the Gann Valley quadrangle, South Dakota South Dakota Geol Survey [Geol. Map], scale 1:62,500 (about 1 in. to 1 mi.), with text, 1960

HOFFER, Abraham
1-60. (and DACHILLE, Frank, and ROY, Rustum) Some crystal chemical and kinetic data on solid phase transformations at pressures up to 100,000 atm. [abs.] Am Ceramic Soc. Bull., v. 39, no. 4, p. 181, Apr. 1960

HOFMAN, John Harold

202
HOFFMEISTER, William Simon. See also ZEIGLER, J, M 2-60
1-60, Palynology has important role in oil exploration World Oil, v. 150, no. 5, p 101-104 incl. diagrams and illus., Apr. 1960
2-60, Sodium hypochlorite, a new oxidizing agent for the preparation of microfossils Oklahoma Geology Notes, v 20, no 2, p 34-35, Feb. 1960

HOFFSTETTER, Robert. See also INTERNAT. GEOL. CONG., Strat. Comm 1-60

HOFKER, Jan

HOFMANN, Renner B See STEWART, Samuel Woods 1-60

HOGARTH, Donald David

HOGBERG, Rudolph K.

HOIDAL, C. R See COOMBS, Howard Abbott 1-60

HOLBROOK, O. C See BERNARD, George G. 1-60

HOLDEN, Alan
1-60, (and SINGER, Phylis) Crystals and crystal growing Garden City, N. Y., Anchor Books, 320 p., illus., 1960.

HOLE, Drancis Doan. See GLENN, R. C. 1-60

HOLGATE, M. M.
1-60, The microlog as a porosity datum for the neutron log in the Swan Hills Field, Alberta Canadian Mining and Metall. Bull., v 53, no. 579, p. 502-
HOLGATE


HOLLAND, C. H.

HOLLAND, Heinrich Dieter

HOLLAND, C. H. See HESTER, Robert J. 1-60

HOLLAND, T. H.

HOLLAND, William Yates. See GIBBS, Harold J. 2-60

HOLLAND, Willis A., Jr. See HURST, Vernon James 3-60

HOLLANDER, J. Theodore

HOLLENSHEAD, Charles Thomas

HOLLOWAY, H. L.

HOLMES, Arthur. See WETHERILL, George West 2-60

HOLMES, Chauncey DePew

2-60. (and COTTON, Roger Burnham) Patterned ground near Dundas (Thule Air Force Base), Greenland Medd. om Grønland, bind 158, nr. 6, 15 p., illus., 1960.

HOLMES, Clifford Newton

HOLMES, Ralph Jerome
1-60. Synthetic and other man-made gems Foote Prints, v. 32, no. 1, p. 3-24, illus., 1960.

HOLOWAYCHUK, N. See BAKER, F J. 1-60

HOLSER, William Thomas
HOPKINS


HOLT, J. Birch

HOLT, Richard J See MURPHY, Vincent J. 1-60

HOLUJ, F.
1-60. (and PETCH, Howard Earl) A nuclear magnetic resonance study of colemanite Canadian Jour. Physics, v. 38, no 4, p. 515-546 incl diagrams and tables, Apr 1960.

HOLZLE, Alvin F.
1-60. Photogeologic map of the Cabezon-3 quadrangle, McKinley and Sandoval Counties, New Mexico U S. Geol Survey Misc. Geol Inv Map I-317, scale 1 62,500 (about 1 in to 1 mi.), 1960.

HOMESTAKE MINING COMPANY GEOLOGICAL STAFF. See GEOLOGICAL SOCIETY of AMERICA, Rocky Mountain Section 1-60

HONDA, Masatake. See MERRILL, John R. 1-60

HONKALA, Frederick Saul

HONOLULU BOARD of WATER SUPPLY
1-60. The water sources of Oahu [Hawaii] 31 p. incl. sketch maps, graphs, and illus., [1960?].

HONSTEAD, J. F. See also SCHWENDIMAN, L C. 1-60

HOOD, James W.
1-60. (and MOWER, Reed W., and GROGIN, M. J.) The occurrence of saline ground water near Roswell, Chaves County, New Mexico New Mexico State Engineer Tech Rept 17, 93 p., illus incl. geol. map, 1960

HOOVER, Karl V

HOPKINS, Arthur H See RICHARDS, Horace Gardiner 3-60

HOPKINS, David Moody

205

734-507 O-64—14
HOPKINS, Otho Neil, Jr  See FOX, W. J. 1-60

HOPKINS, William B.

HOPSON, Clifford Andrae

HOREN, Arthur  See STRACZEK, John A. 1-60

HORIKAWA, Kiyoshi

HORN, Paul Herbert.  See TOTTEN, Robert Briggs 1-60

HOROWITZ, Alan Stanley
1-60. (and RODRIGUEZ, Joaquin) Paraconularia? from the Middle Chester of Indiana [abs]. Geol Soc America Bull, v. 71, no. 12, pt 2, p 1890-1891, Dec 1960

HORR, Clarence Albert  See SKOGSTAD, Marvin Wilmer 1-60

HORSTMAN, Elwood Louis
1-60. (and GARDNER, William E) Introduction to first day’s trip, in Cenozoic of southeast Mississippi and southwest Alabama Mississippi Geol. Soc., 15th Field Trip, May 1960, Guidebook, p 6-10 incl. geol. sketch map and diagram, 1960

HORTON, James Henry
1-60. (and ROSS, D. I.) Use of tritium from spent uranium fuel elements as a ground-water tracer Soil Sci, v. 90, no. 5, p. 267-271 incl. sketch map and diagrams, Nov. 1960

HORTON, Robert Carlton

HOSKINS, Donald Martin

206
HOSTERMAN, John Wallace. See also KNECHTEL, M. M. 1-60, PATTERSON, S. H. 1-60

HOTTON, Nicholas, 3d
1-60. The chorda tympani and middle ear as guides to origin and divergence of reptiles. Evolution, v. 14, no. 2, p. 194-211 incl. chart and illus., June 1960.

HOUGH, VanNess D.
1-60. Photogeologic techniques applied to the mapping of rock joints. West Virginia Geol. and Econ. Survey Rept. Inv. 19, 21 p., illus. incl. geol. map, June 30, 1960.

HOUSE, Henry Pierce. See RAINS, T. C. 1-60

HOUSER, Frederick Northrop
1-60. (and POOLE, Forrest Graham) Structural features of pyroclastic rocks of the Oak Spring formation at the Nevada Test Site, Nye County, Nevada, as related to the topography of the underlying surface. Art. 120 in U. S. Geol. Survey Prof. Paper 400-B, p. B266-B268 incl. index map, 1960.

HOUSTON GEOLOGICAL SOCIETY
1-60. (and SOCIETY OF ECONOMIC PALEONTOLOGISTS and MINERALOGISTS, Gulf Coast Section, and RUSSELL, William Low, leader) Jackson group, Catahoula and Oakville formations, and associated structures of northern Grimes County, Texas, guidebook for annual field trip, May 14, 1960. 50 p., illus., 1960. Includes papers by D. A. Drake and F. E. Smith, which are cited separately

HOWARD, Arthur David
1-60. Photogeology at Stanford University. Photogramm. Eng., v. 26, no. 1, p. 72-73, Mar. 1960

HOWARD, Calhoun L. H.

HOWARD, Hildegarde
HOWARD, John Hall

HOWARTH, Michael Kingsley

HOE, Herbert James
1-60 Turbinolia rosetta, a new coral species from the Paleocene of Alabama Jour. Paleontology, v. 34, no. 5, p 1020-1022 incl index map and illus., Sept. 1960.

HOE, Robert Hsi Lin
1-60. The application of aerial photographic interpretation to the investigation of hydrologic problems Photogramm Eng., v. 26, no 1, p 85-95 incl. sketch maps, diagrams, tables, and illus , Mar 1960

HOE, Wallace Brady. See HEIM, George E. 1-60, 2-60

HOE, Benjamin Franklin

HOE, Benjamin Franklin, Jr.

HOE, Francis Clark. See SIMPSON, George Gaylord 3-60

HOE, Jesse V.

HOE, Lynn Gorman. See also MARTINEZ, J D. 1-60


HOEWS, William White

HOWER, John, Jr. See HURLEY, Patrick Mason 1-60, PILKEY, Orrin H. 1-60

HOWERY, S. D.
HOWLAND, Arthur Lloyd. See JONES, William Rich 1-60

HOYTE, Alfred F.

HREHA, Andrew J. See DAWSON, Thomas Albert 2-60

HSU, Kenneth Jinghwa

HU, Chung-Hung. See LOCHMAN-BALK, Christina 2-60

HUANG, C K.
1-60. (and KERR, Paul Francis) Infrared study of the carbonate minerals Am. Mineralogist, v. 45, nos 3-4, p. 311-324 incl. diagrams and tables, Mar.-Apr. 1960

HUBBERT, M. K. See LAUBSCHER, Hans P. 1-60

HUBBLE, John H. See FEULNER, Alvin J. 1-60

HUBBS, Carl Leavitt

HUBERT, John Frederick
1-60. Syngenetic bleached borders on detrital red beds of the Fountain formation, Front Range, Colorado Geol. Soc. America Bull., v. 71, no. 1, p 95-98 incl. outcrop sketches, table and illus, Jan. 1960
3-60. Petrology of the Fountain and Lyons Formations, Front Range, Colorado School Mines Quart., v. 55, no 1, p 1-242 incl. Index and sketch maps, sections, diagrams, tables, and illus., Jan 1960

HUBRICHT, Leslie

HUDEC, P. P.
1-60. Highstone Lake-Miss Lake area, Kenora and Thunder Bay Districts, Ontario Ontario Dept Mines Prelim Map P.54, geol map, scale 1 63,360 (1 in. to 1 mi.) [Apr 14, 1960].

HUDSON, Frank Samuel
1-60 Post-Pliocene uplift of the Sierra Nevada, California Geol Soc. America Bull., v. 71, no 11, p 1547-1573 incl. sketch maps, profiles, diagrams, and tables, Nov. 1960

HUFF, Lyman Coleman
2-60. Comparison of soil analysis with other prospecting methods at a small high-grade copper lode [Colorado], in Internat Geol Cong, Mexico, Symposium de exploración geoquímica, Tomo 3 México, D. G., p 487-500 incl diagrams and tables, 1960.

HUFF, R. V. See RIGGS, Calvin Harold 1-60

HUFFMAN, Claude, Jr. See also RADER, L. F., Jr 1-60


HUFFMAN, George Garrett


3-60. (and STARKE, John M., Jr.) A new fossil plant locality in the Sylamore member, Chattanooga formation, northeastern Cherokee County, Oklahoma Oklahoma Geology Notes, v 20, no 4, p 89-91, ilus. incl geol map, Apr. 1960.

4-60. (and STARKE, John M., Jr.) Noel shale in northeastern Oklahoma Oklahoma Geology Notes, v 20, no 7, p. 159-163, ilus., July 1960


7-60 Oklahoma Cement Company opens new plant near Pryor Oklahoma Geology Notes, v 20, no 11, p 282-286, ilus. incl geol. sketch map, Nov 1960


HUGHES, Dudley Joe


2-60 Faulting associated with deep-seated salt domes in the northeast portion of the Mississippi salt basin Gulf Coast Assoc. Geol. Soc. Trans., v. 10, p 154-173 incl. index and sketch maps, sections, and diagrams, 1960.

HUGHES, Owen L See CANADA GEOL SURVEY 21-60, 29-60, 33-60; TERASMAE, Jaan 1-60, 4-60

HUGHES, Paul Warren


HULINGS, Neil Carlton. See EHLMANN, Arthur J. 1-60

HULL, Frank Montgomery


HULL, John See SUTTON, Felix 1-60, 2-60

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HUNT, Paul

HUMMEL, Charles L

HUMMEL, Floyd Allen. See MURTHY, M. Krishna 1-60

HUMPHREY, Fred LaSalle

HUMPHRYS, Graham

HUNGSBERG, Ulrich
1-60. Origen del azufre en el casquete de los domos salinos, cuenca salina del Istmo de Tehuantepec México Consejo Recursos Nat no Renovables Bol 51, 96 p., illus. incl. geol. maps, 1960.

HUNKINS, Kenneth Leland See also SCHWARZACKER, Walter 1-60
1-60 (and others) Biological and geological observations on the first photographs of the Arctic Ocean deep-sea floor Limnology and Oceanography, v 5, no. 2, p. 154-161, illus., Apr 1960.

HUNT, Alice P.
1-60. (and TANNER, Dallas) Early man sites near Moab, Utah Am. Antiquity, v. 28, no 1, p. 110-117 incl. sketch map, diagrams, table, and illus., June 1960

HUNT, C. Warren
1-60. Discussion of photo-geology and tectomorphic analysis for interpretation of subsurface structure [abs]. Oil in Canada, v 12, no. 28, p. 28, May 16, 1960.

HUNT, Charles Butler. See also GREENE, G. W. 2-60, WARD, F. N., 1-60
HUNT


HUNT, Graham H.

HUNT, John B. See CAROZZI, Albert Victor 1-60

HUNTER, Hugh Edwards. See also HESS, W. L. 2-60
1-60. Topographic control by primary igneous structures in the Raggedy Mountains, southwestern Oklahoma Oklahoma Geology Notes, v 20, no 5, p 112-115, illus , May 1960

HUNTER, Marvin Nathaniel

HUNTER, Ralph E. See SHEPPARD, Richard A. 1-60

HUNTING GEOFISICAL SERVICES

HUNTING, Marshall Tower. See VALENTINE, Grant Miller 1-60

HURD, B. G.

HURLBUT, Cornelius Searle, Jr.

HURLEY, Patrick Mason See also FAIRBAIRN, H. W. 1-60, 2-60, 3-60, HART, Stanley R. 1-60, HERZOG, Leonard Frederick, Jr 2-60, MOORE, John Marshall 1-60

HURLEY, Robert J.


HURST, Vernon J.


HUTTON

4-60 Oil tests in Georgia [Geol. Survey] Inf. Circ. 19, 14 p. incl. diagram, table, and map, index map, June 1960.

HUSE, Herbert W.

HUSSEY, Keith Morgan. See CARSON, Charles E. 1-60, 20-60, CHENEY, Theodore Albert 1-60, COULTER, Henry Welty 1-60, O'SULLIVAN, John Blanford 1-60

HUSTED, John Edwin

HUTCHEON, N. B See LEGGET, Robert Ferguson 2-60

HUTCHINSON, George Evelyn

HUTCHINSON, Harold C.
1-60. Geology and coal deposits of the Brazil Quadrangles, Indiana Indiana Geol. Survey Bull. 16, 50 p , illus. incl. geol. map, Aug. 1960

HUTCHINSON, Robert David

HUTCHINSON, Robert Maskell

HUTTA, Josef J. See WRIGHT, Harold Douglas 3-60

HUTTL, John B.
1-60. Simplot washes high-grade glass sand from Nevada sandstone Eng and Mining Jour., v. 161, no. 1, p 90-92, 94 incl. diagram and illus , Jan. 1960
2-60. Skin diving for gold becomes popular hobby in California Eng and Mining Jour., v. 161, no 10, p 108-111 incl. sketch map, diagrams, and illus , Oct 1960.

HUTTON, Colin Osborne
1-60 (and VLISIDES, Angelina Calomeris) Papagoite, a new copper-bearing mineral from Ajo, Arizona Am. Mineralogist, v 45, nos 5-6, p 599-611 incl. diagrams and tables, May-June 1960

213
HUXLEY, Julian Sorrell. See also FISHER, James 1-60

HYLER, Nelson W.

HYTONEN, Kai

IGELMAN, Kim See SHUMWAY, George 2-60

IGNAT'EV, G M

ILLINOIS STATE GEOLOGICAL SURVEY

IMBRIE, John See also NEWELL, N D. 2-60

IMLAY, Ralph Willard See also POPENOE, W P 1-60
1-60 Early Cretaceous (Albian) ammonites from the Chitina Valley and Talkeetna Mountains, Alaska U. S. Geol Survey Prof. Paper 354-D, p. 87-114, illus., 1960
2-60. Ammonites of Early Cretaceous (Valanginian and Hauterivian) from the Pacific Coast States U. S. Geol Survey Prof Paper 334-F, p 167-228, illus., 1960

INGENIERIA CIVIL
1-60 Asismicidad en viviendas económicas, Cap 4 Ing Civil, v. 11, no 11, p 709-736, illus., Nov 1960

214
2-60 Elementos generales de la sismología, Cap 1 of Asismicidad en vi-
tiendas económicas Ing Civil, v 11, no. 8, p 539-561, illus , Sept 1960

INGEISON, Earl See also MACKIN, J H 1-60
1-60 Estudios fundamentales de la Sub-división de Geoquímica y Petrología
del U S. Geological Survey en apoyo de la Política Nacional de los Estados
Unidos sobre minerales, in Internat Geol Cong , Mexico, Symposium de

INGHAM, Albert Irwin
1-60 Oil and gas frontiers in the East [United States] GeoTimes, v 4,

INGHAM, Walter Norman
1-60. The Duncan Range iron deposits near Fort George, Quebec [abs ]

INGLES, John C See ZIMMERMAN, J Bernard 1-60

INGRAHAM, T R See WARNER, N A 1-60

INGRAM, Blanche. See MILTON, Charles 4-60

INGRAM, W. L
1-60 Kraemer oil field. California Oil Fields--Summ Operations Jan -
June 1960, v 46, no 1, p 78-84, illus., 1960.

INMAN, Douglas Lamar
1-60 (and FILLOUX, Jean) Beach cycles related to tide and local wind
225-231 incl. index map, profiles, and table, illus , Mar 1960.

INNES, G. M See CANADA GEOL. SURVEY 45-60

INNES, Morris James Sage See also BEALS, C S. 1-60
1-60 Gravity and isostasy in northern Ontario and Manitoba Dominion Ob-
servatory Ottawa Pub., v 21, no. 6, p.283-338 incl index and geol. sketch
maps, diagrams, and tables, 1960.

INTERMOUNTAIN ASSOCIATION of PETROLEUM GEOLOGISTS
1-60. (and EASTERN NEVADA GEOLOGICAL SOCIETY, Boettcher, Jerome
W., and Sloan, William W., editors) Guidebook to the geology of east
central Nevada, 11th annual field conference, [September] 1960 Salt Lake
City, Utah Geol. and Mineralog. Survey, 284 p incl. index and geol. sketch
maps, sections, correlation charts, diagrams, tables, and illus., also geol.
and tectonic maps, sections, and diagrams, 1960. Includes individual papers
which are cited separately.

INTERNATIONAL GEOLOGICAL CONGRESS, Mexico
1-60. Symposium de exploración geoquímica, Tomo 3 México,D F., Internat
Geol. Cong , 20th, p 477-725 p. incl. index, geol , and other sketch
maps, sections, diagrams, and tables, 1960. Includes individual papers
which are cited separately

INTERNATIONAL GEOLOGICAL CONGRESS, Stratigraphic Commission
1-60 (HOFFSTETTER, Robert, chairman) Lexique stratigraphique inter-
national--V 5, Amérique Latine--Fasc. 2a, Amérique Centrale Paris,
Centre Natl Recherche Sci., 368 p., geol. maps and section, 1960. Includes
individual papers which are cited separately.

IRANI, K.
1-60. (and SINHA, A. P B , and BISWAS, A. B.) Crystal distortion in spin-
nels containing Mn3+ ions Physics and Chemistry Solids, v. 17, nos. 1-2,
IRELAND

IRELAND, Herbert O.

IRELAND, Hubert Andrew

IRONSIDE, R. See HEYDING, R. D. 1-60

IRVINE, Thomas Neil. See also CANADA GEOL. SURVEY 42-60
1-60. (and others) Lac des Mille Lacs area (west half), District of Thunder Bay, Ontario. Ontario Dept Mines Prelim Map P 88, geol map, scale 1 in. to 1/2 mi., 1960.

IRVINE, W. T. See CAMPBELL, Neil 1-60

IRWIN, William Porter
1-60 Relations between Abrams mica schist and Salmon hornblende schist in Weaverville quadrangle, California Art, 147 in U S. Geol Survey Prof. Paper 400-B, p. B315-B316 incl sketch map, 1960
2-60 Geologic reconnaissance of the northern Coast Ranges and Klamath Mountains, California, with a summary of the mineral resources California Div. Mines Bull. 179, 80 p., illus, incl geol, map, 1960
3-60. Geologic reconnaissance of the northern Coast Ranges and Klamath Mountains, California, with a summary of the mineral resources, in Geol. Soc. Sacramento, Ann Field Trip, June 1960, p 1-4, 1960

EACHSEN, Yngvar William
1-60. Data pertaining to important non-silicate minerals, AGI Data Sheet 17 GeoTimes, v 4, no. 6, p. 25-26, Mar 1960.

ISENOR, N. R.
1-60. (and BARBER, R. C., and DUCKWORTH, H. E.) Some recent determinations of atomic masses in the strontium-zirconium region Canadian Jour. Physics, v 38, no 6, p. 819-823 incl diagram and tables, June 1960.

ITO, Jun. See FRONDEL, Clifford 1-60, 2-60

IVES, J. D.
2-60. The deglaciation of Labrador-Ungava--an outline Cahiers Géographie Québec, 4e année, no. 8, p 323-343 incl, index and sketch maps, and illus., Apr.-Sept. 1960

IVES, Robert E

IVES, William, Jr
IZETT, Glenn Arthur

JABLONSKI, Leo A
1-60 Factual data for public-supply wells and selected irrigation wells in Monmouth County, New Jersey New Jersey Dept Conserv and Econ Devel, Div Water Policy and Supply Water Resources Circ 4, 29 p incl. map and tables, 1960

JACKSON, Everett Dale
1-60 X-ray determinative curve for natural olivine of composition Fo80-90 Art 197 in U. S Geol Survey Prof Paper 400-B, p B432-B434 incl. diagram and table, 1960

JACKSON, Garth D.
1-60 Belcher Islands, Northwest Territories Canada Geol Survey Paper 60-20, 13 p, illus incl geol maps, 1960

JACKSON, Marion LeRoy See DIXON, Joe Boris 1-60, GLENN, R C 1-60, HASHIMOTO, Isao 1-60

JACKSON, Wayne H See also DAVES, Willard E 1-60
1-60 Depth soundings in Hebgen Lake, Montana, after the earthquake of August 17, 1959 Art 97 in U S Geol Survey Prof Paper 400-B, p B221-B223 incl sketch map and diagram, 1960

JACOBS, Donald G. See STRUXNESS, E G. 1-60

JACOBS, John Arthur See also RUSSELL, R, D 1-60
2-60. Temperatures within the Earth's core Nature (London), v. 195, no 4712, p 521-522, Feb 20, 1960

JAEGGIN, R P See KOULOMZINE, Theodore 1-60

JAFFE, H H See NOTZ, K J 1-60

JAHNS, Richard Henry
3-60 Gem stones and allied materials, in Am Inst Mining, Metall, and Petroleum Engineers, Industrial minerals and rocks, p 383-441 incl. diagrams, tables, and illus , 1960

JAMBOOR, John Leslie
1-60, 2-60. Volborthite from British Columbia Am Mineralogist, v 45, no 11-12, p 1307-1309 incl. tables, Nov -Dec 1960
2-60 Vanadium-bearing interlava sediment from the Campbell River area, British Columbia [abs.] Canadian Mining Jour, v 81, no 10, p 133, Oct. 1960

JAMES, Alfred, 3d See CURTIS, Graham R 2-60

JAMES, Harold Lloyd
1-60 Problems of stratigraphy and correlation of Precambrian rocks with particular reference to the Lake Superior region Am Jour Sci, v. 258-A (Bradley Volume), p 104-114 incl sections and diagrams, 1960
JAMES, Laurence Beresford

JAMES, Roger See SCHWENDIMAN, L. C. 1-60

JAMIESON, John Calhoun

JANOVY, John See WORDEN, John A. 1-60

JANSONIUS, J See STAPLIN, Frank Lyons 1-60, 2-60

JANSSEN, Raymond Ellsworth

JARRELL, Lewis Coleman
1-60. Take a second look at South Louisiana Oil and Gas Jour., v 58, no 20, p 220-222 incl sketch map and tables, May 16, 1960.

JASTER, Marion Charlotte. See WITHINGTON, Charles Francis

JEFFERY, W. G
1-60. The geology of Campbell Chibougamau mine, Quebec [abs] Canadian Mining Jour., v 81, no 1, p 94, Jan. 1960

JEFFORDS, Russell MacGregor

JEFFREY, Lela M. See WHITEHOUSE, Ulysses Grant 1-60

JEFFREYS, H[arold]

JELETZKY, Jurijz Alexander
3-60. Uppermost Jurassic and Cretaceous rocks, east flank of Richardson Mountains between Stony Creek and lower Donna River, Northwest Territories, 106M and 107B (parts of) Canada Geol. Survey Paper 59-14, 31 p., illus incl. geol. sketch maps, 1960

JELINEK, Arthur J.
1-60. A late Pleistocene vertebrate fauna from Texas Jour Paleontology, v 34, no 5, p 933-939 incl tables, illus., Sept 1960

JENKINS, George Fredric

JENKINS, Robert D. See GRAY, Henry Hamilton 1-60

218
Jennings, Stuart Edward

Jenney, Charles Philip

Jenni, Clarence M.

Jennings, Charles William
See also Lydon, P. A. 1-60

Jennings, H. Y., Jr. See Sweeney, S. A. 1-60

Jensen, Mead Le Roy
See also Field, C. W. 1-60, Spinks, J. W. T. 1-60

Jepson, Glenn Lowell

Jersin, Arthur J.

Jessen, Frank Weldon
See Brown, Kermit Earl 1-60

Jewett, John Mark

Jillson, Willard Rouse
JIMÉNEZ LÓPEZ

JIMÉNEZ LÓPEZ, Luis S. See TAVERA AMEZCUA, Eugenio 1-60

JODRY, Richard Louis
1-60 (and CAMPAN, Donald Edmund) Small pseudochitinuous and resinous microfossils--New tools for subsurface geologist [abs.] Am. Assoc. Petroleum Geologists Bull, v 44, no. 6, p. 558, June 1960

2-60. (and CAMPAN, Donald Edmund) Small pseudochitinuous and resinous microfossils--New tools for the subsurface geologist [abs.] Canadian Oil and Gas Industries, v. 13, no 4, p. 107, Apr 1960.


JOESTING, Henry Rochambeau

JOHANSSON, Folke Carl

JOHNS, William Davis. See ALLEN, Victor Thomas 1-60

JOHNS, Willis M.
1-60. Progress report on geologic investigations in the Kootenai-Flathead area, northwest Montana--Pt. 2, Southeastern Lincoln County Montana Bur. Mines and Geology Bull. 17, 52 p, illus. incl. geol maps, July 1960

JOHNSON, John Herbert

JOHNSON, Arnold Ivan. See MORRIS, Donald Arthur 1-60

JOHNSON, Arthur. See also WELD, B. A 1-60


JOHNSON, C. V.
1-60. Madison slide subsurface exploration and observations, App. 10 in U S. Army Corps of Engineers, Madison River; Montana, report on flood emergency, Madison River slide--V. 2, Appendices Omaha, Nebraska, U S Army Corps of Engineers, p. X-1-X-10, diagrams, tables, and illus , Mar [Sept.] 1960

JOHNSON, Carlton Robert. See also GREENKORN, R. A. 1-60


2-60. Geology and ground water in the Platte-Republican Rivers watershed and the Little Blue River basin above Angus, Nebraska, with a section on Chemical quality of the ground water by R. Brennan U S. Geol Survey Water-Supply Paper 1489, 142 p., illus , 1960.

JOHNSON, Curtis Leonard
1-60. Microfossils of the Gregory shale member of the Pierre formation

JOHNSON, David C. See WALLACE, Stewart Raynor 1-60

JOHNSON, David S
1-60. Lineaments and fracture traces, in Oil fields in the Burke County
area, North Dakota--Geological, magnetic, and engineering studies
North Dakota Geol. Survey Rept Inv 36, p. 28-37, illus., 1960.

JOHNSON, Fred L., Jr See AYRES, Gilbert H 1-60

JOHNSON, Gerald Woodrow
1-60. Excavation with nuclear explosives California, Univ., Livermore,
Lawrence Radiation Lab. Rept UCRL-5917, 28 p incl tables and diagrams,
Nov. 1, 1960.
2-60. Industrial and scientific applications of nuclear explosions California,
tables and diagrams, Jan 19, 1960.
3-60. Application of nuclear explosions as seismic sources California,
Univ., Livermore, Lawrence Radiation Lab Rept UCRL-6030-T, 49 p.,
illus., July 7, 1960
4-60 Peaceful nuclear explosions--Status and promise Nucleonics, v. 18,

JOHNSON, Hamilton M.
1-60 Duties of a logging co-ordinator in an operating company Geophy­
sics, v 25, no. 4, p 734-747 incl diagrams, Aug. 1960

JOHNSON, Henry Stanley, Jr See also ROBINSON, G. C 1-60
1-60 Underground storage of natural gas in South Carolina South Carolina
State Devel. Board Div. Geology Geol. Notes, v. 4, no. 6, p 49-51, illus.,

JOHNSON, Jarl P.
1-60. A method for determining formation permeability from well log data
Soc. Prof Well Log Analysts, 1st. Ann. Logging Symposium, Tulsa, Okla­
homa, May 16-17, 1960, Trans , [9] p incl. diagrams and tables, paged
separately, 1960

JOHNSON, Jesse Harlan
1-60. (and KONISHI, Kenji) An interesting Late Cretaceous calcareous alga
from Guatemala Jour Paleontology, v. 34, no 6, p. 1099-1105, illus.,
2-60 Palaeozoic Solenoporaceae and related red algae Colorado School
Mines Quart, v. 55, no. 3, 77 p incl sketch maps, diagrams, tables,
and illus , July 1960

JOHNSON, Karl Elwood. See also La SALA, A. M., Jr. 1-60
1-60. (and MASON, Robert A., and DeLUCA, Frank A.) Ground-water map
of the Oneco quadrangle, Connecticut-Rhode Island, showing water-bearing
formations and related ground-water data Rhode Island Water Resources
Coordinating Board Ground-Water Map GWM 10, scale 1 24,000 (1 in. to
2,000 ft ), with sections, 1960.

JOHNSON, Neil O.
1-60. Foote Mineral Company's lithium mining operations at Kings Moun­
tain, N. C Mines Mag., v 50, no. 4, p 11-16 incl. sketch maps, dia­
grams, and illus., Apr 1960.

JOHNSON, Noye M.
1-60 Thermoluminescence in biogenic calcium carbonate Jour. Sed. Pe­
JOHNSON, Ralph Gordon

JOHNSON, Robert Britten

JOHNSON, Robert William, Jr.

JOHNSON, Ross Byron

JOHNSTON, Derek

JOHNSTON, Frederick Joseph

JOHNSTON, John Edward. See also TRUMBULL, J V. A 1-60

JOHNSTON, Paul McKelvey

JOHNSTON, William George
1-60. (and others) Atikwa-Caviar Lakes area, District of Kenora Ontario Dept. Mines Prelim Geol. Map P.84, scale 1 in to 1/2 mi. [1960].

JOHNSTONE, Robert H. See SCHMIDT, Victor Edward 1-60

JOINT COMMITTEE on INVERTEBRATE PALEONTOLOGY
1-60 (MOORE, Raymond Cecil, editor) Treatise on invertebrate paleontology--Pt. I, Mollusca 1 Lawrence, Kansa., Geol. Soc. America and Univ.
JONES

Kansas Press, p 11-1351 incl. diagrams and illus., 1960. Contains individual papers which are cited separately

JOKLIK, G F
1-60. The discovery of a copper-zinc deposit at Garon Lake, Quebec Econ Geology, v. 55, no 2, p. 338-353 incl. geol. sketch map, magnetic anomaly maps, and diagrams, Mar - Apr. 1960.

JOLIVET, J.

JONAS, Edward Charles
1-60. (and ROBERSON, Herman Ellis) Particle size as a factor influencing expansion of the three-layer clay minerals Am. Mineralogist, v. 45, nos 7-8, p 828-838 incl. diagrams, July-Aug 1960.

JONES, Alexander Gordon. See CANADA GEOL. SURVEY 1-60

JONES, Cecil L, Jr.

JONES, Chester Warren. See MORRIS, Donald Arthur 1-60

JONES, Daniel H See STEVENS, Calvin Howes 1-60

JONES, Daniel John

JONES, David Lawrence See also GRANTZ, Arthur 2-60
1-60. Lower Cretaceous (Albian) fossils from southwestern Oregon and their paleogeographic significance Jour, Paleontology, v. 34, no. 1, p 152-160 incl. index and geol. sketch maps, illus., Jan 1960.
2-60. Pelecypods of the genus Pterotrigonia from the west coast of North America Jour Paleontology, v 34, no. 3, p 433-439 incl index map and chart, illus , May 1960.

JONES, Douglas Epps

JONES, Eugene L.

JONES, G. H S.
1-60 (and HALLETT, Archibald Cameron Hollis) The specific heat of crystalline quartz between 2° K and 4° K Canadian Jour. Physics, v. 38, no. 5, p. 696-700 incl. diagrams, May 1960
JONES, Islwyn Winwaeloc

JONES, J. F.

JONES, J. L. See FORRESTER, John Stanley 1-60

JONES, James Irvm

JONES, Maurice Harry See FLECK, W. E. P 1-60

JONES, Robert E.

JONES, Waldo H.

JONES, Walter Bryan
1-60. Warrior Basin [Mississippi-Alabama] prospects are bright, exploration needed World Oil, v. 150, no. 7, p. 89-91 incl. index and structure contour maps and table, June 1960

JONES, William Rich

JOPLING, Alan V

JORDAN, James N

JORDAN, Louise. See also BRANAN, C. B., Jr. 1-60, 2-60
4-60 Oil and gas in Kingfisher County Oklahoma Geology Notes, v, 20, no. 12, p 303-314, illus., Dec 1960.

224
JORGENSEN, Donald Gene
1-60. Possible oil and gas reservoirs associated with the Sioux Ridge [abs.]
2-60. Geology and shallow ground water resources of the Missouri Valley
between North Sioux City and Yankton, South Dakota South Dakota State
Geol Survey Rept Inv. 88, 59 p., illus incl geol map, Nov 1, 1960.

JORGENSEN, Neil
1-60. A beryl occurrence at Moody Mountain, Oxford County, Maine Rocks
and Minerals, v 35, nos 11-12, p. 547-549 incl sketch map and illus

JOUBIN, Franc R.
1-60. Comments regarding the Blind River (Algoma) uranium ores and their
origin Econ Geology, v 55, no 8, p. 1751-1756, Dec 1960

JOYCE, James Wallace
1-60 The International Union of Geodesy and Geophysics Am. Geophys
Union Trans, v. 41, no 1, p 22-25, Mar 1960.

JOYNER, William B.
1-60. Heat flow in Pennsylvania and West Virginia Geophysics, v. 25,

JUÁREZ-BADILLO, Eulalio
1-60. Teoría de grietas de tensión Cong Panam. Mecánica Suelos y
Cimentaciones, 1st, México, D. F., Sept. 7-12, 1959, Mem., v. 1, p. 65-
83 incl diagrams, illus., English abs. and conclusions, discussion by
R. J. Marsal, and reply by authors, 1960, English translation, v 3,
p. 1097-1107 incl. diagrams and illus, 1960.

JUDSON, S Sheldon, Jr
1-60 William Morris Davis [1850-1934]--An appraisal Zeitschr Geomor-
phologie (Berlin), Neue Folge, Band 4, Heft 3-4, p 193-201 incl. portrait,
Dec 1960.

JUMIKIS, Alfredas R.
1-60. Some American soil classification systems Cong Panam Mecánica
Suelos y Cimentaciones, 1st, México, D. F., Sept 7-12, 1959, Mem.,
v 2, p. 791-820 incl tables, charts, Spanish abs. and conclusions, and

JUSSEN, Virginia M. See KING, Ruth Reece 1-60

KACHADOORIAN, Reuben
1-60. Engineering and surficial geology of the Nenana-Rex area, Alaska
U S Geol Survey Misc Geol. Inv Map I-307, scale 1 63,360 (1 in to
1 mi.), with text, 1960.
2-60. Engineering geology of the Katalla area, Alaska U S Geol Survey
Misc Geol. Inv Map I-308, scale 1 63,360 (1 in. to 1 mi.), with text, 1960
3-60. Engineering geology of the Chariot site near Cape Thompson, north-
western Alaska U S Geol. Survey Rept. TEI-753, p 19-37 incl tables,
4-60. (and others) Geologic investigations in support of Project Chariot in
the vicinity of Cape Thompson, northwestern Alaska--Preliminary report
U S Geol. Survey Rept TEI-753, 94 p incl illus , Jan 1960.
5-60. (and SAINSBURY, Cleo Ladell, and CAMPBELL, Russell Harper)
Geologic factors proposed nuclear test near Cape Thompson, northwest

KAISER, Albert D., Jr. See TAGGART, Millard Seals, Jr 1-60

KAMB, Walter Barclay. See also ALLEN, C R 1-60, 3-60
1-60. (and OKE, William C.) Paulingite, a new zeolite, in association with
erionite and filiform pyrite Am Mineralogist, v. 45, nos. 1-2, p. 79-91
incl tables and illus , Jan-Feb 1960.

225
KAMB

3-60. The crystal structure of zunyite Acta Cryst., v. 13, pt. 1, p. 15-24 incl. diagrams and tables, Jan. 1960
4-60. (and DATTA, Sankar K.) Crystal structures of the high-pressure forms of ice--ice III. Nature (London), v. 187, no. 4732, p. 140-141, July 9, 1960

KANE, Martin Francis. See also ANDREASEN, G. E. 2-60, MABEY, D. R.
2-60, PAKISER, L. C., Jr 3-60

KANSAS GEOLOGICAL SOCIETY
1-60. (and OKLAHOMA GEOLOGICAL SOCIETY, and WICHITA UNIVERSITY) North-eastern Oklahoma, 25th field conference, September 1960, guidebook Wichita, Kans., 125 p., illus incl. geol map, 1960. Includes individual papers which are cited separately.

KANSAS WATER RESOURCES BOARD

KANWISHER, John Willis

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KARLE, Jerome. See HAUTMAN, Herbert Aaron 1-60, SMITH, Joseph Victor 4-60

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KAY, Marshall


KAYE, Clifford Alan

KEACH, John M.
1-60. Preliminary foraminiferal population count in upper Niobrara chalk.

KEATING, Bernard Joseph
1-60. Massive sulphide deposits in Nova Scotia, in Symposium on the occurrence
of massive sulphide deposits in Canada. Canadian Mining and Metallurg.
Bull., v. 53, no. 574, p. 81-87 incl. sketch map and illus., Feb., 1960, Cana­

KEECH, C. F.
1-60 (compiler) Hamilton County: Nebraska Univ. Conserv. and Survey
Div., Nebraska Water Survey Test Hole Rept. 3, 53 p. incl. sketch map,
diagram, and tables, Nov. 1960.

KEEFER, William Richard
1-60. Progressive growth of anticlines during Late Cretaceous and Pale­
ocene time in central Wyoming. Art. 105 in U. S. Geol. Survey Prof. Paper
400-B, p. B233-B236 incl. geol. sketch map and sections, 1960
2-60. Magnitude of crustal movement and deposition during latest Cretaceous
and early Tertiary time in the Wind River Basin, central Wyoming

KEEN, Angeline Myra. See also KNIGHT, J. B. 2-60
1-60. A bivalve gastropod [Mexico]. Nature (London), v. 186, no. 4722,

KEENE, Jack R.
1-60. A mineralogical study of the Winnipeg formation [abs.] South Dakota

KEHN, Thomas Mathew
1-60. Previously unrecognized Devonian rocks and a major fault between the

KEESER, Hubert D.
1-60. Minor industrial minerals, in Am. Inst. Mining, Metall., and Petro­
leum Engineers, Industrial minerals and rocks, p. 605-621 incl table,
1960.

KEITH, James. See ANDERS, Edward 2-60

KEITH, James Walter

KELLER, Allen S.
1-60. Structure behind the Bannock thrust, Idaho [abs.] Geol. Soc. America

KELLER, George V.
1-60. Electrical properties of zinc-bearing rocks in Jefferson County, Ten­
incl. diagrams and table, 1960.
2-60. Physical properties of tuffs of the Oak Spring formation, Nevada. Art.
183 in U. S. Geol. Survey Prof. Paper 400-B, p. B396-B400 incl. diagrams
and tables, 1960
3-60. (and PLOUFF, Donald F., and ZIETZ, Isidore) Geophysical studies
in support of geologic mapping in the Twin Butte quadrangle, Ariz. [abs.]
4-60. Pulse-transient behavior of brine-saturated sandstones. U. S. Geol.
5-60. (and FRESEKHNECHT, Frank Conrad) Electrical resistivity studies
on the Athabasca Glacier, Alberta, Canada [abs.] Oil in Canada, v. 12,
no. 16, p. 34, Feb 15, 1960.

228
KELLY, Walter David. See also PONDER, Herman 2-60

KELLEY, Danford Greenfield. See also CANADA GEOL SURVEY 48-60, NEALE, E. R. W. 1-60

KELLEY, Jane Holden See GREEN, F. Earl 1-60

KELLEY, Robert W. 1-60
A glacier passed this way Michigan Conserv., v. 29, no. 4, p 12-16, illus., July-Aug 1960

3-60 (and CLINTON, Nelson James) Fracture systems and tectonic elements of the Colorado Plateau New Mexico Univ Pubs. Geology, no. 6, 104 p., illus incl. maps under separate cover, 1960.


KELLY, George F. 1-60, United States section of petroleum geologic map of North America Tulsa, Okla., privately printed, 2 sheets, scales 1 6,000,000 (about 1 in. to 95 mi.), and 1 2,500,000 (about 1 in. to 40 mi.) [1960?]

KELLY, Sherwin Finch 1-60, The pillars of our prosperity and the impending drain on mineral resources Western Miner and Oil Rev., v 33, no. 10, p 72, 74, 76-78, 80-82, 85-87, Oct. 1960


KELLY, T. E See MERRIAM, Daniel Francis 4-60

KELLY, William Crowley 1-60 (and DeNOYER, John M.) A heating micro-coil for the study of mineral fragments and heat-etching of polished sections Am. Mineralogist, v 45, nos 11-12, p 1185-1197 incl diagrams, tables, and illus., Nov.-Dec 1960.
KELLY


KELSEY, C. H.
1-60 (and BARNES, William Howard) The crystal structure of metarosite Canadian Mineralogist, v. 6, pt. 4, p. 448-466, illus., 1960.

KENDALL, David L.

KENDALL, Thomas A. See McGRAIN, Preston 2-60

KENNA, B. T.

KENNEDY, George Clayton. See also DICKSON, F. W. 1-60, PISTORIUS, C. W F. T. 3-60, SOURIRAJAN, S. 1-60

KENNEDY, Richard R.
1-60. Geology between Pine (Bullion) Creek and Tenmile Creek, eastern Tushar Range, Piute County, Utah. Brigham Young Univ. Research Studies Geology Ser., v. 7, no. 4, 58 p., illus., incl. geol. map, Feb. 1960.

KENNERLY, John B. See LANGENHEIM, R L., Jr 2-60

KENNEY, Theodore Cameron. See WU, Tien Hsing 1-60

KENT, Bion Huntley. See KINOSHITA, Willie T. 1-60

KENT, Lois Margaret Schoonover. See BRANN, Doris C. 1-60

KENT, Percy Edward
1-60. (and RUSSELL, William Allan Campbell) Evaporite pavement structure in the northern Richardson Mountains, Northwest Territories [abs.]. Oil in Canada, v. 12, no. 16, p. 35, Feb 15, 1960.

KENTS, Paul

KEOSIAN, John

KERR, James William

KERR, Paul Francis. See also BASSETT, W. A. 2-60, BOLLIN, E. M. 1-60, DUNNE, J. A. 1-60, HOWARD, C. L. H. 1-60, HUANG, C. K. 1-60, MOLLOY, M. W. 1-60.

KESLER, Thomas Lingle

KESLING, Robert Vernon. See also KAUFFMAN, E. G. 1-60.

KETNER, Keith B. See EMMONS, Richard Conrad 1-60.

KIELY, John Roche. See TERZAGHI, Karl.

KIERNSCH, George Alfred

KILBURN, Lionel C.

KILGORE, Bruce M.
KILLIN

KILLIN, A. F.

KIMBELL, Charles Lewis
1-60. Here's how oil hunters use the stamper as a seismic tool Oil and Gas Jour., v. 58, no. 38, p. 154-158 incl. diagrams and illus., Sept. 19, 1960.

KIMREY, Joel O.

KINDSCHY, Robert R.

KING, Charles R. See CURTIS, Graham R. 2-60

KING, Elizabeth Raymond

KING, Gayle

KING, George Leslie, Jr.

KING, Norman Julius. See GORDON, Ellis Davis 1-60

KING, Philip Burke
2-60. (and FERGUSON, Herman W.) Geology of northeasternmost Tennessee, with a section on Description of the basement rocks by W. Hamilton U. S. Geol. Survey Prof. Paper 311, 136 p., illus incl. geol. maps, 1960.

KING, Robert Evans

KING, Ruth Reece

KINGERY, William David
KLEINKOPF

KINGSTON, Benson Medill

KINNEAR, John C., Jr.

KINNEY, C. R. See POLANSKY, Theodore Stephen 1-60

KINNEY, Douglas Merrill. See HANSEN, Wallace Ray 2-60.

KINOSITA, Willie T.

KINSEY, Charles Alvin

KIRKBY, Ruth A.

KIRKLAND, Douglas W. See ANDERSON, Roger Yates 1-60

KIRKLAND, S. J. T.

KIRKPATRICK, Douglas H.

KISTLER, R W. See EVERNDEN, Jack Foord 1-60

KISTNER, Gustav A.

KLEIN, George deVries

KLEINHAMPL, Frank Joseph
1-60. Sandstone petrogenesis of the Wolfville formation (Upper Triassic), Maritime Provinces, Canada [abs] Geol Soc America Bull., v 71, no. 12, p. 104-104 incl. diagram and tables, also geol map and illus., 1960

KLEINKOPF, Merlin Dean
KLEINPELL, Robert Minssen

KLEINPELL

KLEMIC, Harry See STERN, Thomas Whital 1-60

KLINE, Mary-Cornelia. See ADAMS, John A S. 3-60

KLINEFELTER, Theron Albert

KLING, Stanley A.
1-60 Permian fusulinids from Guatemala Jour. Paleontology, v. 34, no 4, p. 637-655 incl geol. sketch map, sections, and diagrams, illus., July 1960.

KLINGE, Hans See also DURR, Fritz 1-60, 2-60

KLINGER, Frederick Lindsay
1-60, Geology and ore deposits of the Soudan Mine, St. Louis County, Minnesota [abs.]: Dissert Abs., v. 20, no 11, p. 4369-4370, May 1960.

KLINGERSBERG, Cyrus

KLUG, Harold Philip. See MASER, Morton 1-60

KLUG, M. F See MOULDER, Edward Arlo 1-60

KLUGMAN, Michael Anthony See also BLOOM, D N. 1-60

KNEBEL, George Moses

KNECHTEL, Maxwell McMichael

KNIGHT, D. K. See BENNETT, P. T. 1-60, CURTISS, Robert Eugene 2-60

KNIGHT, Jack William
KNIGHT, James Brookes, 1888-1960
3-60. (and others) Supplement--Paleozoic and some Mesozoic Caenogastropoda and Opisthobranchia, in Joint Comm Invertebrate Paleontology, Treatise on invertebrate paleontology--Pt. I, Mollusca 1 Lawrence, Kans., Geol. Soc America and Univ. Kansas Press, p 1310-1331 incl. illus., 1960.

KNIGHT, Larry See CHILINGAR, George Varas 1-60, 3-60

KNIGHT, Samuel Howell

KNIPPING, Hans Dieter
1-60. Late Paleozoic orogeny--North Yukon [abs] Canadian Oil and Gas Industries, v. 13, no 4, p 106, Apr. 1960

KNOP, Osvald

KNOPF, Adolph

KNOPPOFF, Leon See also KENNEDY, G. C. 2-60
4-60. (and GILBERT, Freeman) First motions from seismic sources Seismol Soc America Bull., v. 50, no. 1, p 117-134 incl. diagrams, Jan 1960.

KNOWLES, David Martin See GASTIL, Russell Gordon 2-60, 3-60

KNOWLES, Doyle Blewer
1-60. (and READE, Harold Leslie, Jr., and SCOTT, John C.) Geology and ground-water resources of Montgomery County, Alabama, with special reference to the Montgomery area--Basic data Alabama Geol Survey Bull. 68, pt. B, 493 p incl tables and hydrol. map, 1960

KNUTSON, Carroll Field See CAVANAUGH, R. J. 1-60
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KO, R.

KOCH, B. Eske

KOCH, George Schneider, Jr

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KOPP, Otto Charles
1-60. (and HARRIS, Lawrence Alvin, and CLARK, Grady Wayne) Hydrothermal conversion of muscovite to kalsilite and an iron-rich mica [abs.]: Geol Soc. America Bull., v. 71, no. 12, pt. 2, p. 1907, Dec. 1960

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KOTTLOWSKI

KOPPE, Edwin F.

KORNFIELD, Joseph Alton
4-60. Las Animas Arch [Colorado-Kansas]--Promising oil and gas frontier. World Oil, v. 151, no. 4, p. 87-92 incl. index and structure contour maps, section, and table, Sept. 1960.

KORNICKER, Louis Sampson

KOSANKE, Robert Max
1-60. (and others) Classification of the Pennsylvanian strata of Illinois. Illinois State Geol. Survey Rept. Inv. 214, 84 p., illus., 1960.

KOSCHMANN, Albert Herbert, 1896-1962

KOSTER, F.

KOSTUIK, John

KOTEFF, Carl. See KLEINHAMPL, Frank Joseph 1-60, TUTTLE, Curtis Randall 1-60

KOTTLOWSKI, Frank Edward. See also ROSWELL GEOL. SOC. 1-60
1-60. (and FOSTER, Roy Woodrow) Ancient shore-line sedimentary rocks
KOTTLOWSKI


2-60. Geology and coal deposits of the Switz City quadrangle, Greene County, Indiana. U. S. Geol Survey Coal Inv. Map C-41, scale 1 24,000 (1 in. to 2,000 ft.), with sections and text, 1960

3-60. Depositional features of the Pennsylvanian of south-central New Mexico, in Northern Franklin Mountains, southern San Andres Mountains, with emphasis on Pennsylvanian stratigraphy. Roswell Geol Soc., Field Trip, Nov. 1960, Guidebook, p. 96-130 incl. index and geol. sketch maps, sections, table, and illus., 1960.


KOULOMZINE, Theodore. See also GEOFFROY, P. R. 1-60


KOVAR, Anton J. See KREMP, Gerhard Otto Wilhelm 1-60, 3-60

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1-60. Photogeologic map of the Chaco Canyon-2 quadrangle, McKinley County, New Mexico U. S. Geol Survey Misc Geol Inv Map I-315, scale 1 62,500 (about 1 in. to 1 mi.), 1960.

KRAMER, Harry P. See KRONER, Robert Charles 1-60

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KRONER, Robert Charles.
1-60. (and BALLINGER, Dwight G., and KRAMER, Harry P.) Evaluation of
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KUNIN, Robert

KUNKEL, Clair M.
1-60. Economic geology of the south ore body, Pine Creek mine [California] [abs.] Mining Eng., v. 12, no 7, p 666, July 1960

KUNKEL, Fred

KUNKEL, Robert Paul

KUNO, Hisashi
1-60. High-alumina basalt Jour Petrology (Oxford, England), v 1, no. 2, p 121-125 incl. sketch maps, diagrams, and tables, June 1960

KUNTH, Peter-Olaf See HINZ, Wilhelm 1-60

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3-60. Pegmatite-granite relationships in the Calamity Peak area, Black

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KUPFSCl, Walter Oscar
1-60 Radiocarbon-dated organic sediment near Herbert, Saskatchewan Am. Jour Sci., v 258, no. 4, p. 282-292 incl. diagrams, geol sketch map, and chart, Apr 1960

KURODA, Paul Kazuo. See also KENNA, B. T. 1-60
1-60. Nuclear fission in the early history of the Earth Nature (London), v. 187, no 4731, p. 36-38, illus., July 2, 1960

KURTZ, Edwin Bernard, Jr.
1-60. (and TUCKER, Henry, and LIVERMAN, James L.) Reliability of identification of fossil pollen as corn Am Antiquity, v 25, no. 4, p. 605-606 incl table, Apr 1960

KURTZ, Vincent Ellsworth

KUSIROI, Ikuo

LACABANNE, Washington David

LaCHAPELLE, Edward R.
1-60 Post-IGY glacier research on Mount Olympus [Washington] [abs.] Jour. Geophys Research, v. 65, no. 4, p 1315, Apr. 1960


LACHENBRUCH, Arthur Herold. See also GREENE, G. W. 1-60


4-60. (and GREENE, Gordon W.) Preliminary report of geothermal studies at the Ogotoruk Creek Charlot site, northwestern Alaska U S Geol. Survey Rept TEI-753, p. 55-62 incl. diagrams, Jan. 1960


LaCOSTE, Lucien Jean Batiste. See NETTLETON, Lewis Lomax 1-60,

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1-60. Geology of the Dunchurch area, Ontario, Canada Geol. Soc America Bull., v 71, no 11, p 1713-1717 incl index map and tables, also geol. map and sections, Nov 1960

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1-60, Observaciones sobre la actividad de los volcanes Santiago (Masaya) y Cerro Negro (León) Nicaragua Servicio Geol. Nac. Bol 4, p. 7-12, illus., 1960.
2-60, El Tungsteno y el Molibdeno de Macuelizo Nicaragua Servicio Geol. Nac Bol 4, p. 13-16, sketch maps, 1960

LaGANZA, Richard F.

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1-60, Ground-water resources of the South--a frontier of the nation's water supply. U. S. Geol. Survey Circ. 441, 9 p., illus., 1960.
2-60 (and TOULMIN, Lyman Dorgan, Jr.) Geology and ground-water resources of Wilcox County, Alabama Alabama Geol Survey County Rept. 4, 280 p., illus incl. geol map, 1959 [1960].
4-60, (and MAXEY, George Burke) Ground water Am Geophys. Union Trans., v. 41, no. 2, p. 311-314 incl. sketch map, June 1960
LaMORI

LaMORI, Philip N. See CHRISTIE, John McDougall 1-60, KENNEDY, George Clayton 1-60

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LANDES, Kenneth Knight
3-60. Chemical and metallurgical limestone in northern and northeastern States and Ontario [abs.] Mining Eng., v. 12, no. 12, p 1243, Dec. 1960
4-60. Salt deposits of the United States, Chap 5 of Sodium chloride--The production and properties of salt and brine, KAUFMANN, D. W., ed. New York, N. Y., Reinhold Publishing Corp., p. 70-95, illus. 1960

LANDES, Edwin Robert. See also ELSTON, D. P. 1-60
1-60. Uranium content of ground and surface waters in a part of the central Great Plains U S Geol. Survey Bull 1087-G, p. 223-258 incl. index map and tables, geol. map, 1960.

LANDESMAN, Mark G. See SATÔ, Yasuo 1-60

LANDSBERG, Hans H. See SCHURR, Sam H. 1-60

LANE, Bernard

LANE, Charles Wallace
1-60. Geology and ground-water resources of Kingman County, Kansas Kansas State Geol Survey Bull. 144, 174 p., illus incl geol. map, Mar. 1960.

LANE, Kenneth Stacy

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1-60. (and SMILEY, Charles J., and GRAY, Jane) Cretaceous amber from the Arctic Coastal Plain of Alaska Geol Soc America Bull., v 71, no. 9, p. 1345-1356 incl index map and section, Sept 1960.


3-60 (and TISCHLER, Herbert) Mississippian and Devonian paleontology and stratigraphy, Quartz Spring area, Inyo County, California California Univ pubs. Geol. Sci., v. 38, no. 2, p. 89-150, illus., Nov 23, 1960.

4-60 (and PECK, Joseph Howard, Jr) La formation de Peers Spring dans le Pioche district, Nevada Cahiers Géol, no. 56, p 537-548, illus, incl geol sketch map, with English abs, Seyssel, France, Sept. 1959 [May 30, 1960]


LANGFORD, Fred F.

LANGSTON, Wann, Jr

2-60. The vertebrate fauna of the Selma formation of Alabama--Pt. 6, The dinosaurs Fieldiana Geology Mem., v 3, nos 5-6, p. 315-360, illus, Aug. 19, 1960

LANGWAY, Chester C, Jr

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LANKFORD, Robert R
1-60. (and SHEPARD, Francis Parker) Facies interpretations in Mississippi delta borings Jour Geology, v. 68, no 4, p. 408-426 incl index map, sections, and tables, illus., July 1960

LAPHAM, Davis Mortimer

LAPKOWSKY, W. W.

LAPPARENT, Albert F. de

LAROCHELLE, Andre
1-60 A study of the palaeomagnetism of rocks from Yamaska and Brome Mountains, Quebec [abs ] Canadian Mining Jour , v 81, no 1, p 94, Jan. 1960.

La ROCQUE, Aurele
2-60. Molluscan faunas of the Flagstaff formation of central Utah Geol Soc. America Mem. 78, 100 p , illus., 1960
3-60. Les animaux de l'époque glaciaire Sarracenia, no 4, 17 p. incl sketch maps, diagrams, and tables, May 1960

LARSEN, Esper Signus, 3d, 1912-1961

LARSEN, Norbert W
1-60 Geology and ground water resources of northern Cedar Valley, Utah County, Utah Brigham Young Univ. Research Studies Geology Ser., v. 7, no 1, 42 p, illus incl geol. map, Apr. 1960.

LARSEN, Ole

LARSON, Edward Richard See GIANELLA, V. P 2-60
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1-60 (and JOHNSON, Karl Elwood) Ground-water map of the Quonochontaug quadrangle, Rhode Island, showing water-bearing formations and related ground-water data. Rhode Island Water Resources Coordinating Board Ground-Water Map GWM 11, scale 1 24,000 (1 in. to 2,000 ft.), with sections, 1960.

2-60 (and HAHN, Glenn Walter) Ground-water map of the Carolina quadrangle, Rhode Island, showing water-bearing formations and related ground-water data. Rhode Island Water Resources Coordinating Board Ground-Water Map GWM 9, scale 1 24,000 (1 in. to 2,000 ft.), with sections, 1960.

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2-60. (and others) Progress map of the geology of Admiralty Island; Alaska U. S. Geol. Survey Misc. Geol. Inv. Map I-323, scale 1 250,000 (about 1 in. to 4 mi.), with table, 1960.

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LATTMAN, Laurence Harold. See also ADLER, A A. 1-60

LATULIPPE, Maurice. See also SHARPE, J. I. 2-60
1-60. (and SHARPE, John I.) Distribution of sulphide deposits in the Val d'Or-Mattagami area, Quebec [abs.] Canadian Mining Jour., v. 81, no. 4, p. 95, Apr. 1960.


LAU, Leung-Ku Stephen

LAUBSCHER, Hans P.

LAUGHBAUM, L. Ronald

LAURENCE, Robert Abraham
LAURENCE, T. Herbert

Laurin, André Frédéric Joseph

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1-60. Manly-Neas area, Jones County, Texas, in Abilene Geol. Soc., Geolog­ical contributions 1960, p. 77-86, illus., 1960

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Leakey, L. S. B.

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Lee, Clarence O.
1-60. (and Bartlett, Z. W., and Feierabend, Raymond) The Grand Isle mine [Louisiana] Mining Eng., v. 12, no. 6, p. 578-590 incl. sketch map, diagrams, table, and illus., June 1960

Lee, Edward L.

Lee, Gerhard Bjorne. See Glenn, R. C. 1-60

Lee, Hulbert Austin. See also Canada Geol. Survey 25-60
1-60. Late glacial and postglacial Hudson Bay sea episode [Canada]. Science, v. 131, no. 3413, p. 1609-1611 index map and diagram, May 27, 1960.
LEIGHTY

LEE, Kwang-Yuan
1-60. Geology of the Flandreau quadrangle, South Dakota South Dakota Geol. Survey [Geol Map], scale 1 62,500 (about 1 in. to 1 mi.), with text, 1960.
2-60. Geology of the Rutland quadrangle, South Dakota South Dakota Geol. Survey [Geol Map], scale 1 62,500 (about 1 in. to 1 mi.), with text, 1960.

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4-60. Geology and ground-water resources of Wilmington-New Bern area North Carolina Dept Water Resources Ground-Water Bull 1, 80 p., illus., 1960.

LEHMANN, Ulrich

LEIGHTON, Freeman Beach

LEIGHTON, Morris Morgan
1-60. The classification of the Wisconsin glacial stage of north central UnitedStates Jour Geology, v 68, no. 5, p 529-552 incl. sketch maps, diagrams, and tables, also glacial map and illus., Sept 1960.

LEIGHTY, Robert D
1-60. (and POULIN, Ambrose O.) Ice-cap access route, Narssarsuaq, Greenland--Location and engineering evaluation U. S. Army, Corps of Engineers, Snow Ice and Permafrost Research Establishment Tech. Rept. 48, 38 p., illus., May 1960.
LEININGER, Richard Keith  See FILBY, Royston H 1-60

LEESMAN, Gilbert Arthur
1-60. The morphology and anatomy of Callipteridum Sullivani [Iowa-Kansas] Am Jour Botany, v. 47, no 4, p 281-287 incl illus., Apr 1960

Le MAY, William Joseph
1-60. In southeast New Mexico--Abo reef play yielding large oil fields World Oil, v. 151, no 7, p 91-95 incl tectonic index map, sketch maps, sections, and diagrams, Dec 1960
3-60. Oil accumulation along Abo reefing, southeastern New Mexico, in Natural gas in the Southwest Southwestern Federation Geol Socs Trans., v 1, p 125-137 incl index and sketch maps, sections, and diagram, 1960.

LEMINISH, John  See BISQUE, Ramon Edward 3-60, DIEBOLD, Frank E. 1-60, HARWOOD, Robert J. 1-60, HILTROP, Carl L 1-60, 2-60

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LENHART, Walter B.
1-60. Sand gravel, in Am Inst Mining, Metall., and Petroleum Engineers, Industrial minerals and rocks, p. 733-758 incl diagrams, tables, and illus., 1960

LENZ, Alfred Carl

LEO, Gerhard William

LEONARD, Arthur Byron
2-60. (and HO, Tong-Yun) A new species of Calyptrgula (Hydrobidae) from the Pleistocene of Texas Nautilus, v 73, no 3, p 110-113, Jan. 1960
3-60. (and HO, Tong-Yun) New Calyptrgula from Pleistocene of Texas and notes on Cochliopa riograndensis. Nautilus, v. 73, no 4, p 125-129, illus., Apr 1960.

LEONARD, Benjam Franklin, 3d
1-60. (and VILSIDS, Angelina Calomeris) Vonenite from St Lawrence County, northwest Adirondacks, New York Am. Mineralogist, v 45, nos. 3-4, p 439-442 incl. tables, Mar.-Apr 1960
2-60. Reflectivity measurements with a Hallmond visual microphotometer Econ Geology, v. 55, no 6, p 1306-1312 incl tables, Sept.-Oct 1960

LEONARD, Frederick Charles, 1896-1960
1-60. The term "cosmoparticle" Science, v 132, no 3411, p. 1400, May 13, 1960

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1-60 (and ALTSCHAEFFL, Adolph G.) Subsurface materials of Marion
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Aug. 1960

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LEOPOLD, Luna Bergere
1-60, (and WOLMAN, Markley Gordon) River meanders Geol Soc. America
2-60, (and others) Flow resistance in sinuous or irregular channels U S
Geol Survey Prof. Paper 282-D, p 111-134, illus., 1960
3-60, (and LANGBEIN, Walter B.) A primer on water Washington, D. C,

LEPS, Thomas MacMaster. See TERZAGHI, Karl 1-60

LERNER, Joseph. See SCHURR, Sam H. 1-60

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LeROY, Leslie Walter
1-60 (compiler) Generalized composite stratigraphic sections of western
Colorado Colorado School Mines, [16] sheets incl index map, illus., and
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1-60 Georgia palynology and petrology--a preliminary report [abs •]
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1-60, Silurian eurypterids from West Virginia Jour. Paleontology, v. 34,
2-60, Silurian fish fossils in the Salina basin Geol Soc. America Bull,
v. 71, no 2, p. 215-217 incl paleogeog. map, Feb 1960
3-60, Stratigraphy and paleontology of the Salina group in central New

LEVESON, David Jeffrey
1-60, Orbicular rocks of the Lonesome Mountain area, Beartooth Mountains,

LEVICK, Dudley A., Jr
1-60, A collecting trip to Virginia. Rocks and Minerals, v 35, nos. 11-12,
p 562-564, Nov.-Dec 1960

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1-60 (and ROBBINS, Carl Richard, and WARING, Jon Lamont) Systemlan­
thanum oxide-boric oxide [abs.] Am Ceramic Soc. Bull., v. 39, no 4,
p 185, Apr 1960.

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1-60, Second occurrence of todorokite Am Mineralogist, v 45, nos. 7-8,
p 802-807 incl. tables, July-Aug 1960
2-60, Poorly crystallized, low barium, psilomelane-type mineral [abs]

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1-60. Heavy mineral content of tills in western New York Compass, v. 37, no. 3, p. 162-173 incl. sketch map and tables, Mar. 1960

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1-60. How to analyze bioherms in the Williston Basin World Oil, v. 150, no. 2, p. 82-84 incl. illus., Feb. 1, 1960

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1-60 Dielectric behavior of rocks and minerals [abs] Dissert Abs., v. 20, no. 8, p. 3260, Feb. 1960
LICHT, Arthur L.

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1-60, Geology and ground-water resources of Martin County, Florida Florida Geol. Survey Rept. Inv 23, 149 p , illus., 1960.

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2-60. (and DENGÖ, Gabriel Obregon) Continued drilling may uncover oil in Guatemala's Peten Oil and Gas Jour., v. 58, no. 18, p. 208, 210, 212 incl. geol. sketch map and sections, May 2, 1960.

LLOYD, Ronald Michael

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2-60. Vermicular gibbsite in the Pensauken of New Jersey Am Mineralogist, v 45, nos 1-2, p. 228-229 incl. illus, Jan -Feb 1960

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2-60. Study of the metamorphic history of the New York City area [New York- 
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p. 3694, Mar 1960.

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1-60. (and VEHRS, R. A., and SAHAKIAN, A.) An examination of parts of 
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1-60. Possible explanation of diverse structural patterns in southern 
Nevada Am. Jour. Sci., v. 258-A (Bradley Volume), p 192-203 incl. index and 
tectonic maps, 1960.

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1-60. Versión castellana de la redacción preliminar del Código Estratigráfico, Pt. 2 
Asoc. Mexicana Geólogos Petroleros Bol., v. 12, nos. 5-6, 

LORANGER, Diane May 
1-60. Jurassic-Cretaceous boundary in western Canada Internat. Geol 
Cong, 21st, Copenhagen, 1960, Rept , pt. 12, p. 170-177 incl. paleogeog 
maps, sections, and chart, 1960.

LORENZ, Philip Boalt. See DWIGGINS, Claudius William, Jr 2-60

LONG, William Bacheller 
1-60. Geology and ore deposits of the northern part of the Big Indian dis-

LOUD, Elisabeth S. See KING, Ruth Reece 1-60

LOUDEN, J. Russell 
1-60. The origin of the porphyry and porphyry-like rocks of Elbow, New 
Brunswick [abs ] Canadian Mining Jour., v 81, no. 11, p 114, Nov. 1960

LOUNSBURY, Richard William See SCHUSTER, Robert Lee 1-60

LOVE, John David 
1-60 Cenozoic sedimentation and crustal movement in Wyoming Am. Jour. 
Sci , v. 258-A (Bradley Volume), p 204-214 incl. index map and table, 
ilus., 1960.

LOVE, Warner Edwards See PATTERSON, Arthur Lindo 1-60
LOVEJOY, Earl M. P

LOVELL, Harold Lemuel See MANEVAL, David Richard 1-60

LOVERING, Thomas Seward See also BUSH, J. B 1-60
3-60, (and others) Geologic map of the East Tintic district, Utah U S. Geol Survey Mineral Inv. Field Studies Map MF-230, sheet 1, scale 1 9,600 (1 in to 800 ft.), 1960
4-60, (and others) Alteration map of the East Tintic district, Utah U S. Geol Survey Mineral Inv Field Studies Map MF-230, sheet 2, scale 1 9,600 (1 in to 800 ft.), 1960.

LOVERING, Tom Gray See HUFF, Lyman Coleman 1-60

LOVETT, F D
1-60, (and MANKIN, Charles John, and HAM, William Eugene) Authigenic apatite and clay minerals from Roger Mills County, Oklahoma Oklahoma Geology Notes, v 20, no 8, p 190-194, illus , Aug 1960

LOW, Philip Funk

LOWDON, James Alexander See also WANLESS, R. K 1-60

LOWELL, James Diller
1-60, Ordovician miogeosynclinal margin in central Nevada Internat. Geol. Cong., 21st, Copenhagen, 1960, Rept., pt. 7, p 7-17 incl index map, section, and table, 1960

LOWENSTAM, Heinz Adolf

LOWMAN, Paul D., Jr

LOWRY, Wallace Dean
1-60, Relationship between tectonism and sedimentation in Early Silurian time in Virginia Mineral Industries Jour., v 7, no 3, p 1-7, illus., Sept 1960

LUCAS, Clifford V. See FUQUA, Wallace Dunham 1-60, 2-60
LUCAS

LUCAS, K. A. See MILNE, William George 1-60

LUDBROOK, N H.

LUEDKE, Robert George

LUGAY, Josefa. See SCOMILLIO, John 1-60

LUGN, Alvin Leonard

LUM, Daniel

LUMBRES, Sydney Blake
1-60. (and others) Parts of Adair and Abbotsford townships, District of Cochrane Ontario Dept. Mines Prelim. Geol. Map P-85, scale 1 in. to 1/4 mi. [1960].
2-60. (and others) Hepburn township and north part of Sargeant township, District of Cochrane Ontario Dept. Mines Prelim. Geol. Map P-86, scale 1 in. to 1/4 mi. [1960]

LUND, Ernest Howard

LUNDBERG, Hans T. F.

LUNDBERG, William D.

LUNDQUEST, C. A. See VARNEDOE, W. W. 1-60

LURIE, Edward

LUSCHYNISKI, N. J.
1-60. (and SWARZENSKI, W. V.) Position of the salt-water body in the Magothy (?) formation in the Cedarhurst-Woodmere area of southwestern Nassau County, Long Island. N. Y. Econ. Geology, v. 55, no. 8, p. 1739-1750 incl. index maps, sections, and table, Dec. 1960

LUSKIN, Bernard. See also EWING, J. I. 1-60
LYTLE, Edward Turner

LUTHER, Harold John
1-60. Movement of rocks by uprooting of forest trees. Am Jour Sci., v 258, no 10, p 752-756 incl. illus., Dec 1960

LYDON, Philip A.

LYDON, Philip A.

LYLON, J. J. See THOMAS, J. F. J. 1-60

LYNN, Craig Alfred
1-60. See also HANDY, Richard Lincoln 1-60, 2-60

LYNCH, Shirley Alfred

LYND, Langtry E

LYON, Charles Julius

LYON, R. J. P. See also TUDDENHAM, W. M. 1-60, 3-60

LYONS, John B. See STOIBER, Richard Edwin 1-60

LYONS, L. A. See PAUL, H. P. 1-60

LYONS, Sanford Carlisle. See MURRAY, Haydn Herbert 2-60

LYTLE, William Stuckley
1-60. History, present status, and future possibilities of secondary re-

259
LYTLE


LYTTYKAINEN, Hilpas T. E.

MAASLAND, Marinus See WALTON, William Clarence 2-60

MABEY, Don Russell


McADIE, H. G. See FLECK, W. E. P. 1-60

MCALEER, Joseph F.

McALESTER, A Lee

McALLISTER, A L.

McALLISTER, D. E.

McANDREWS, John H.

McBCRYDE, William A. E. See BOUNSALL, E. J. 1-60

McCALL, J. Mabel

McCALLUM, John Stewart

McCALLUM, Kenneth James
MacCLINTOCK

McCAMMON, Helen

McCAMMON, Richard Baldwin
2-60 Sedimentology and origin of the alluvial terraces along the Wabash Valley [Indiana] [abs.] Dissert. Abs., v. 20, no. 10, p. 4078, Apr., 1960.

MacCARTHY, Gerald Raleigh
2-60 The formation of joints as a possible cause of certain seismic phenomena Southeastern Geology, v. 1, no. 4, p. 117-119, 1959 [Apr. 1960].

McCARTNEY, James Thomas See ERGUN, Sabri 3-60

McCASLIN, John Calvin
1-60 Tennessee may be next big shallow-play target Oil and Gas Jour., v. 58, no. 1, p. 127, Jan. 4, 1960.
2-60 Deeper drilling may tap new eastern reserves [United States and Ontario] Oil and Gas Jour., v. 58, no. 3, p. 131 incl. chart, Jan. 18, 1960.
3-60 Bigger gas reserves are needed [United States and Canada] Oil and Gas Jour., v. 58, no. 23, p. 176-177 incl. sketch map, June 6, 1960.
4-60 Drillers show new regard for Panhandle Permian [Kansas-Oklahoma-Texas]. Oil and Gas Jour., v. 58, no. 23, p. 180-181 incl. index map, and tables, June 6, 1960.
5-60 Green River basin turns up rare Mesaverde oil [Wyoming] Oil and Gas Jour., v. 58, no. 34, p. 127 incl. sketch map, Aug. 23, 1960.
6-60 Ten-year search may be on verge of a payoff [Williston basin] Oil and Gas Jour., v. 58, no. 43, p. 165 incl. index map and section, Oct. 24, 1960.

McCAY, Camilla K
1-60 Exploration for heavy minerals on Hilton Head Island, South Carolina South Carolina State Devel. Board Div. Geology Bull. 26, 13 p incl. tables, also sketch map, 1960.

McCAY, John F.

MacCHESNEY, John Burnette

McCLEARY, John Thompson See KELLEY, Vincent Cooper 1-60

MacCLINTOCK, Paul
McCOLLUM

1-60 Geophysical parameters Geophysics, v 25, no 1, p 92-94, Feb 1960

McCONIGA, M. W See BROWN, Randall Emory 3-60

McCONNELL, Duncan See also POSNER, A S 1-60
1-60 The crystal chemistry of dahilitie Am Mineralogist, v 45, nos. 1-2, p 209-216 incl tables and illus, Jan.-Feb. 1960

McCONNELL, G W.
1-60 An analysis of the economic potential of the Bathurst district base metal deposits [New Brunswick] [abs ] Canadian Mining Jour, v 81, no 2, p 226, Feb 1960

McCORD, Wallace Ronald See also HAUGHT, O L 5-60
1-60. Map of West Virginia showing structural contours on top of Onondaga limestone-Huntersville chert with deep well locations West Virginia Geol and Econ Survey, scale 1 250,000 (about 1 in to 4 mi.), 1960

McCoy, John J.

McCracken, Ralph J.

McCRADY, Allen D
1-60. Prospecting limestone areas for Pleistocene vertebrate fossils Soc. Vertebrate Paleontology News Bull 60, p 30-33, illus , Oct. 1960

McCREHAN, Richard H See STOIBER, Richard Edwin 1-60

McCrosky, Richard Eugene

McCROSSAN, Robert George
1-60. A natural scale structural section of western Canada with earth curvature [abs ] Canadian Oil and Gas Industries, v 13, no 4, p 102, Apr 1960

McCulloch, David Sears

McCulloch, Thane Hubert
1-60. Gravity variations and the geology of the Los Angeles Basin of California Art 150 in U S. Geol Survey Prof. Paper 400-B, p B320-B325 incl. structure contour and gravity maps, sections, and diagram, 1960

McCUTCHEON, Virginia A. See LANGELEIN, R L , Jr 2-60

MacDIARMID, Roy Angus


3-60 Geology and ore deposits of the Bristol Silver Mine, Poiche, Nevada [abs ] Dissert Abs., v 21, no 1, p 170, July 1960

McDIVITT, James Frederick
1-60. Progress and problems in the search for ore Mineral Industries, v 30, no 3, p 6-7, Dec 1960

McDONALD, Donald E See BROWNE, Ruth G 1-60, 2-60

262
McFALL, Gordon Andrew
2-60 (and DAVIS, Daniel Arthur, and COX, Doak Carey) Geology and ground-water resources of the Island of Kauai, Hawaii Div. Hydrography Bull 13, 212 p, illus. incl geol maps, 1960
3-60. Dissimilarity of continental and oceanic rock types Jour. Petrology (Oxford, England), v 1, no 2, p 172-177 incl table, June 1960

MacDONALD, Gordon J F See also KNOPOFF, Leon 1-60, 3-60, MUNK, W. H 1-60
3-60. Tectonic theories Am. Geophys Union Trans., v. 41, no 2, p. 168-169, June 1960

McDONALD, Harris Robert
1-60. (and WANTLAND, Dart) Geophysical procedures in ground water study Am Soc. Civil Engineers Proc., v. 86, paper 2589, Jour. Irrigation and Drainage Div., no IR 3, pt 1, p 13-26, illus., Sept. 1960

McDONALD, James Reid See also MATTHEW, W. D 1-60
1-60 An early Pliocene fauna from Mission, South Dakota Jour Paleontology, v 34, no. 5, p 961-982 incl. index map, diagrams, tables, and illus., Sept 1960

MacDONALD, R. A

MacDONALD, Roderick Dickson

MacDONALD, William Delbert

McDOWELL, Fred W. See BEERBOWER, James Richard 2-60

McDOWELL, J Spotts. See CLARK, C Burton 1-60

McDOWELL, John Parmelee

MacELVAIN, Robert C See JONES, Walter Bryan 2-60, WHITE, H Gene 1-60

MacFADYEN, John Archibald, Jr

McFALL, C Carew

263
McFARLAN

McFARLAN, Arthur Crane See also NOSOW, Edmund 2-60

MacFARLANE, Robert M

MACFARLANE, Ronald Duncan
1-60. Natural occurrence of samarium-146 Nature (London), v. 188, no 4757, p 1180-1181 incl diagram and table, Dec 31, 1960

McGAVOCK, E H See also MITCHELL, R S 2-60
1-60. (and MITCHELL, Richard Scott) Comments on apatite from the Morefield Mine, Amelia County, Virginia [abs.] Virginia Jour Sci, v 11, no 4, p 211, Sept 1960

McGERRIGLE, J I
1-60 Preliminary report on Ste-Adele area, Terrebonne electoral district Quebec Dept Mines Mineral Deposits Br. Prelim Rept. 431, 8 p, geol. map, 1960, also French ed

McGILL, John Thomas See also PUTNAM, W C 4-60
1-60. Selected bibliography of coastal geomorphology of the world Los Angeles, Calif., William C Putnam, 50 p, 1960

McGLAMERY, Wmme

McGOOKEY, Donald Paul See also WYOMING GEOLOGICAL ASSOCIATION
1-60. Early Tertiary stratigraphy of part of central Utah Am. Assoc Petroleum Geologists Bull, v 44, no 5, p 589-615 incl geol maps, index map, sections, tables, and illus , May 1960
2-60 (and MILLER, Daniel Newton, Jr ) Facts concerning the early development of the Dry Piney Oil Field [Wyoming], and confusion of the same with the surrounding area--Taken from a geological report by Chas Lackey, March, 1921, in Overthrust belt of southwestern Wyoming and adjacent areas Wyoming Geol Assoc., 15th Ann. Field Conf., 1960, Guidebook, p 31-35, 1960.

McGOWAN, G E

McGRAIN, Preston
1-60 (and CRAWFORD, Thomas J ) [Guidebook] A physiographic and stratigraphic profile in Kentucky--Lexington to the Mammoth Cave region Geol. Soc America Southeastern Sec Field Trip [no 2], Mar 26, 1960, 39 p, incl geol and sketch maps, sections, and illus , 1960 (Published by Kentucky Geological Survey, Lexington.)
2-60 (and KENDALL, Thomas A, and TEATER, Thelma C ) Miscellaneous clay and shale analyses for 1957-1959 Kentucky Geol Survey, ser. 10, Rept Inv 3, p 4-57, illus , 1960

McGRATH, B R G
1-60 Swansea Cave, St Catherine [Jamaica] Geonotes, v 3, pt 1, (Jamaica Geol Survey Pub. 60) p 23-26, illus , Apr 1960

McGRATH, P H.
MACKAY

McGREGOR, Duncan Colin

McGREGOR, Duncan Junior
1-60 Gravels of Indiana Indiana Geol Survey Rept Prog. 17, 53 p., illus incl geol map, Feb. 1960
2-60 The lowly nonmetallics [abs ] Indiana Acad. Sci. Proc. 1959, v. 69, p 184, 1960

MacGREGOR, Ian D. See PHEMISTER, Thomas Crawford 3-60, SMITH, Charles H 1-60

McGREGOR, Paul Orman

McGUGAN, Alan
1-60, A new species of the pelecypod Megalodon from the Permo-Carboniferous of the Banff area, Alberta Jour Paleontology, v. 34, no. 1, p. 101-106 incl sketch map and sections, illus , Jan 1960

McGUINNESS, Charles Lee
1-60 Ground water--A mixed blessing Internat Geol Cong , 21st, Copenhagen, 1960, Rept., pt. 20, p 7-16 incl. ground-water map, 1960

McINTIRE, William Leigh

McIVER, Normal L.

McJANNET, G. S

MACK, Seymour
1-60 Geology and ground-water features of Shasta Valley, Siskiyou County, California U S. Geol. Survey Water-Supply Paper 1484, 115 p., illus incl. geol. map, 1960.

MACKAY, Douglas Griffiths
MACKAY, John Ross. See also MATTHEWS, W. H. 2-60, 3-60

McKEE, Bates

McKEE, Edwin Dinwiddie

McKEE, William Dean, Jr

McKELVEY, Vincent Ellis

McKENNA, Malcolm Carnegie

MacKENZIE, Graham Stewart. See CANADA GEOL. SURVEY, 15-60, 16-60

MACKENZIE, John Douglas
1-60. Fusion of quartz and cristobalite Am. Ceramic Soc. Jour., v. 43, no. 12, p. 615-620 incl. diagrams, tables, and illus., Dec 1, 1960.

MacKENZIE, W. Bruce. See WALLACE, Stewart Raynor 1-60

McKEOWN, Francis Alexander. See also WILMARTH, V. R 2-60
1-60. (and DICKEY, Dayton Delbert) Some relations between geology and
McLEAN


MacKEVETT, Edward Malcolm, Jr. See also BERG, H. C 2-60, SAINSBURY, C L. 1-60
1-60. Geology and ore deposits of the Kern River uramum area, California. U. S. Geol. Survey Bull 1087-F, p. 169-222 incl. index maps, diagrams, and tables, also geol and mine maps and sections and illus., 1960.


MACKIN, Joseph Hoover


McKINNEY, Charles. See SILVER, Leon T. 2-60

McKINNEY, William Alan. See DALE, Vernon B. 1-60

McKINSTRY, Herbert Alden. See BRINDLEY, George William 3-60

McKINSTRY, Hugh

McLAREN, I A

McLAUGHLIN, Dean Benjamin. See also DRAKE, A A. Jr. 2-60

McLAUGHLIN, Robert Everett

McLAUGHLIN, Thad Gerald

McLEAN, Douglas D.
McLEAN

McLEAN, James Douglas, Jr.
1-60. Stratigraphy of the Parris Island area, South Carolina McLean

McLEARN, Frank Harris
1-60. Revision of some Amsian (Middle Triassic) ammonoids [British
2-60. Ammonoid faunas of the Upper Triassic Pardonet formation, Peace
incl. sketch maps, tables, and section, illus., with French abs., 1960.

McLEOD, Harold
1-60. Minerals output value sets record in 1959 Canadian Mining Jour.,
v. 81, no. 2, p. 93-104 incl. diagrams and tables, Feb 1960.

McLEOD, Richard Royce
1-60. Theory for formation of limestone cap rock of salt domes [abs.] Am.
2-60. A theory for the formation of limestone cap rock of salt domes. Gulf

McLERRAN, James Herschel
1-60. Airphoto interpretation for airport site location Am. Soc. Civil
Engineers Proc., v. 86, paper 2467, Jour. Air Transport Div., no AT 1,
p. 73-90 incl. sketch maps and illus., May 1960.

McMANIS, William J.
1-60. Coarse facies of the Belt series, southwestern Montana [abs.]. Geol.

McMANUS, Dean Alvis
1-60. Stratigraphy and depositional history of the Kearny Formation (Lower
Pennsylvania) in western Kansas [abs.] Dissert. Abs., v. 20, no. 10,
p. 4078-4079, Apr. 1960

McMASTER, Philip Duryee
1-60. (and HEIDELBERGER, Michael) Florence Rena Sabin, November 9,
1871-October 3, 1953 Natl. Acad. Sci. Biog Mem., v. 34, p. 271-319,
portrait, 1960.

McMASTER, Robert Luscher
1-60. Mineralogy as an indicator of beach sand movement along the Rhode
Island shore. Jour. Sed. Petrology, v. 30, no. 3, p. 404-413 incl. index and
2-60. Sediments of Narragansett Bay system and Rhode Island Sound, Rhode
distribution, and sketch maps, and tables, June 1960.

McMASTER, William M.
1-60. Interim report on ground-water studies in the Athens area, Alabama,

McMILLAN, Neil John
1-60. Soils of the Queen Elizabeth Islands (Canadian Arctic) Jour. Soil. Sci.

McMILLAN, Robert T.
minerals and rocks, p. 713-731 incl. map, diagram, and tables, 1960

McMILLAN, William Duncan
1-60. Report of the Bureau of Mines--Report on mineral resources in the
proximity of the San Juan-Chama irrigation projects, southern Colorado
and northern New Mexico, in San Juan-Chama and Navajo Indian projects
U. S. Cong., 86th, 2d sess, House Doc. 424, p. 132-139 incl. table, index
map, 1960

268
McMURCHY, Robert Connell

McMURDIE, Howard Francis

McMURTRY, Robert Gale See HACKETT, Orwell Milton 1-60

McMURTRY, Wilbur E. See WORDEN, John A. 1-60

McNAIR, Andrew Hamilton

McNEAL, Robert Paul

MacNEIL, Francis Stearns. See HOPKINS, David Moody, 1-60 2-60

McNITT, James R.

McNULTY, Charles Lee, Jr. See BOON, J. A. 1-60

MACPHERSON, J. D.

McQUEEN, Irel S. See ROLFE, Bernard Nathan 1-60

MACQUEEN, R. W. See also OLLERENSHAW, N. C. 1-60

McTAGGART, Kenneth Cunningham. See also GREEN, L. H. 2-60
2-60. The geology of Keno and Galena Hills, Yukon Territory (105 M) Canada Geol. Survey Bull 58, 37 p. incl. index and sketch maps, diagrams, and illus., geol. map, with French abstract, 1960.

McTHENIA, Andrew Wolfe, Jr.

McVAY, Thomas Newkirk See also WEAVER, C. F. 1-60

MADDEN, Theodore R. See also CANTWELL, Thomas 1-60
1-60 (and CANTWELL, Thomas, and HAUCK, Anthony M.) Electrical con-
ductivity structure of the crust under Massachusetts determined from resistivity and magnetotelluric measurements [abs] Jour Geophys Research, v 65, no. 8, p 2509, Aug. 1960

MADDOCK, Thomas, Jr.

MADSEN, Beth Marie See CHAO, Edward Ching-Te 2-60

MAGAS, Istvan Osscar
1-60. Geology and reservoir characteristics of the Glen Ewen field, Saskatchewan Saskatchewan Dept Mineral Resources Rept. 48, 62 p incl. index and sketch maps, diagrams, and tables, cross sections, 1960.

MAGEE, J. B.

MAGILL, Elwin A.

MAGIN, George B., Jr.

MAGRATH, C. B.

MAGUIRE, Edward A., Jr. See BLUM, Seymour L. 1-60

MAHER, John Charles


MAIR, J. A.

MAJESKES, Otto P. See WILSON, James Lee 1-60

MAJOR, Maurice W. See OLIVER, Jack Erte 3-60

MALAURIE, Jean M.

MALAVASSI, Enrique
MANKIN

MALDE, Harold Edwin

MALDONADO-KOERDELL, Manuel

MALEY, Richard P. See also LANDER, J. F. 1-60

MALHOTRA, Chamen L.

MALLIK, Kanai Lal

MALLORY, William Wyman

MALONEY, Ralph C. See BLACK, Peter E. 1-60

MAMAY, Sergius Harry. See also READ, C. B. 1-60

MANCUSO, J. J. See CAMERON, Eugene Nathan 1-60

MANDARINO, Joseph Anthony

MANDRA, York Tooree

MANEVAL, David Richard
1-60 (and LOVELL, Harold Lemuel) Determination of lanthanum, cerium, praseodymium, and neodymium as major components by X-ray emission spectroscopy Anal. Chemistry, v. 32, no. 10, p 1289-1292 incl. tables, Sept 1960

MANITOBA DEPARTMENT of MINES and NATURAL RESOURCES, Mines Branch

MANKIN, Charles John See also CASSIDY, M. M 1-60, HAM, W E. 3-60, HOWERY, S. D 1-60, LOVETT, F. D. 1-60, YOUNG, L. M. 1-60

271
MANKIN
1-60. (and CASSIDY, M. M.) Chlorite, vermiculite, and talc from Webster, North Carolina Oklahoma Geology Notes, v 20, no 10, p. 261-266, illus., Oct. 1960

MANKO, E. M.

MANN, John Allen

MANN, John Francis, Jr

MANN, Robert L.

MANNION, Lawrence Edward

MANSFIELD, Silas P.

MANSUR, Charles Isaiah See TURNBULL, Willard Jay 1-60

MANTIA, Philip A See SCOMILLIO, John 1-60

MAPEL, William Jameson. See IZETT, Glenn Arthur 1-60

MAPPER, D.

MARCHER, Melvm Vernette. See also STEARNS, R G. 1-60

MARCIAN, Edward J.

MARCUS, Leslie F.
1-60. A census of the abundant large Pleistocene mammals from Rancho La Brea [Calif] Los Angeles County Mus Contr. Sci 38, 11 p, illus., May 19, 1960.

MARCUS, Melvin G.

MARDOCK, Edwin Scott, 1909-1960
MARET, Raymond Eldon

MARLEAU, Raymond Alban
1-60 Preliminary report on Lorraine-Flandre area, Pontiac electoral district Quebec Dept. Mines Geol Surveys Br Prelim Rept. 420, 8 p, geol. map, 1960, also French ed

MARLER, George D.

MARLOWE, James I.

MARNEY, Dorothy M See BRINDLEY, George William 2-60

MARRANZINO, Albert P. See ERICKSON, Ralph LeRoy 1-60, GRIFFITTS, Wallace Rush 1-60

MARSAL, Raúl J See also JUAREZ-BADILLO, Eulalio, Eulalio 1-60

MARSELL, Ray E.
1-60. (and THREET, Richard Lowell) Geologic map of Salt Lake County, Utah Utah Geol. and Mineralog Survey Repr. Ser. R S 83, scale about 1 in to 1 mi., with sections, June 1960.

MARSH, Owen T. See also BUSH, A. L. 1-60
1-60. A geologic-profile plotter Econ Geology, v 55, no 1, p. 201-204 incl diagram, table, and illus., Jan-Feb 1960
4-60. Geology of the Orchard Peak area, California California Div Mines Spec Rept. 62, 42 p., illus incl. geol map, 1960.

MARSHALL, B Vaughn See LACHENBRUCH, A H. 3-60

MARSHALL, Donald James

MARSHALL, Ernest William

273
MARTIN, Conrad

MARTIN, Gene Briggs

MARTIN, Harold. See GREEN, Morton 2-60

MARTIN, James Anthony. See HEIM, George E. 1-60, 2-60

MARTIN, Jeanne G. M. See COPELAND, Lawrence L. 1-60

MARTIN, K. G. See MURRAY, Grover Elmer 3-60

MARTIN, Leonard John
1-60. Tectonic framework of northern Canada [abs.] Oil in Canada, v. 12, no. 12, p. 72, Jan. 18, 1960

MARTIN, Maurice. See DOLL, Henri-Georges 1-60, 2-60

MARTIN, Paul Schultz


MARTIN, R. Torrence

MARTIN, Rudolf

MARTINEZ, Joseph Didier. See also HOWELL, L G 1-60

MARTINEZ, Joseph Didier

274
MASTERS, Anders See also BOUCOT, A. J 4-60
1-60. The primitiopsaid ostracodes from the Ordovician of Oklahoma and the systematics of the family Primitiopsidae Uppsala Univ. Geol. Inst Bull (Uppsala, Sweden), v 38, pt. 2, p 139-154, illus., 1960

MARVIN, U. B See FRONDEL, Clifford 1-60, 2-60

MASTERMAN, P C See HEINRICH, E. W 5-60

MASURSKY, Harold

MATELSKI, Roy P. See SHIPP, R. F
1-60

MATHER, Bryant

MATHEWS, David L.

MATHEWS, William Henry. See also SHEPARD, F. P
1-60
2-60

MATHEWSON, Donald Edward

MATSUMOTO, Tatsuro
1-60. On some type ammonites from the Gulf Coast Cretaceous Kyushu Univ. Fac Sci., Sci. Repts Geology (Fukuoka,Japan), v. 5, no. 1, p. 36-49, illus., in Japanese with English abs., 1960
2-60. Upper Cretaceous ammonites of California, Pt 3, with notes on Stratigraphy of the Redding area and the Santa Ana Mountains, by T, Matsumoto and W F. Popenoe Kyushu Univ Fac Sci Mem , (Fukuoko, Japan), Ser. D, Geology, spec v. 2, 204 p , illus., Jan 25, 1960

MATTIES, François Émile See also BEATTY, M. E
1-60
2-60

MATTHEW, William H, 3d
MAYCOCK, Ian D
1-60. The Ordovician limestones of the Kingston (Ontario) District [abs.] Canadian Mining Jour., v 81, no. 6, p 169, June 1960

MAXWELLa, John Alfred. See NICKEL, Ernest Henry 1-60

MAXWELL, John Crawford. See also DE, Anruddha 1-60

MAXWELL, Moreau S.
1-60. An archaeological analysis of eastern Grant Land, Ellesmere Island, Northwest Territories Canada Natl. Mus Bull 170, 109 p incl index and sketch maps, diagrams, and illus., 1960

MAXWELL, James Christie

MAXWELL, George Burke. See also LaMOREAUX, P. E. 4-60

MAUGHAN, Edwin Kelly

MAURER, William C. See RINEHART, John Sargent 2-60

MAUGHAN, Edwin Kelly
MAYNE

MAYNE, K. I.

MAYNES, A. D. See MAIR, J A. 1-60

MAYO, Evans Blakemore. See EVANS, David LeCount 1-60

MAZARI, Marcos. See MARSL, Raúl J. 2-60

MEAD, Judson See COLVILLE, Alan A. 1-60

MEADE, Robert Francis, See VALENTINE, James William 1-60

MEARS, Brainerd, Jr.

MEDLIN, William Louis
1-60. Comments on "Thermoluminescent properties of calcite" Jour. Chem. Physics, v. 32, no 3, p 943 incl diagram, Mar. 1960

MEENTS, Wayne Franklin
1-60. Glacial-drift gas in Illinois, Illinois State Geol Survey Div, Circ. 292, 58 p. incl. diagrams, index and sketch maps, and tables, 1960

MEGAW, Helen D.

MEHL, Maurice Goldsmith
1-60. The relationships of the base of the Mississippian system in Missouri Denison Univ. Sci, Lab, Jour., v. 45, art. 5, p 57-107 incl chart and sections, Dec. 1960.

MEIDAV, Tsvi. See also SCHARON, H. L. 1-60

MEIER, Mark Frederick. See also ALLEN, C R 1-60, 3-60

MEIER, Walter Max
1-60. The crystal structure of natrolite Zeitschr. Kristallographie (Frankfurt am Main, Germany), Band 113, Max von Laue Festschr. 2, p 430-444 incl, diagrams and tables, with German abs., Apr 1960.
2-60. A new way of representing silicate frameworks Zeitschr Kristallo­
graphie (Frankfurt am Main, Germany), Band 114, Heft 5-6, p 478-480 incl and illus., with German abs., Dec 1960.

MEIMAN, James R. See BLACK, Peter E 1-60

MEISLER, Harold See LOCKWOOD, William Noble 1-60

278
MEITES, Louis See CATHERINO, Henry A. 1-60

MELAMID, Alexander

MELBYE, Charles E.
1-60. Geophysics used in Rocky Mountains to trace uranium channels, locate narrow veins, and determine depth of desert sand and gravel. Mining World, v. 22, no. 7, p. 37-40 incl. illus., June 1960

MELHORN, Wilton Newton See also GATES, G. R., 1-60, WINSLOW, J. D. 3-60

MELLERSH, H. E. L.

MELTON, Mark Aldridge

MENARD, Henry William, Jr.

MENA ROJAS, Enrique

MENDOZA, Herbert A See ANDERSON, Sidney Bakken 1-60, 2-60

MENELEY, W. A.
1-60. Theory of microfabric analysis [abs.] Canadian Mining Jour., v. 81, no. 8, p. 105, Aug. 1960

MENIS, Oscar. See RAINS, T. C. 1-60

MENTSER, Morris See also ERGUN, Sabri 1-60
MENZIES, Robert James. See HUNKINS, Kenneth Leland 1-60

MEREWETHER, E. Allen
1-60 (compiler) Geologic map of the igneous and metamorphic rocks of Wyoming, showing location of uranium deposits. U.S. Geol. Survey Misc. Geol. Inv. Map I-310, scale 1:500,000 (about 1 in. to 8 mi.), 1960
2-60. (compiler) Geologic map of the igneous and metamorphic rocks of Colorado showing location of uranium deposits. U.S. Geol. Survey Misc. Geol. Inv. Map I-309, scale 1:500,000 (about 1 in. to 8 mi.) [1960].

MERINO y CORONADO, José

MERK, George P.

MERO, John L.
2-60. Deep sea minerals of economic importance [abs.] Mining Eng., v. 12, no. 6, p. 534, June 1960.

MERRIAM, Charles Warren. See ROSS, R. J., Jr. 1-60

MERRIAM, Daniel Francis. See also GOEBEL, E D 1-60
1-60. (and GOEBEL, Edwin DeWayne) Kansas' oil, gas-field discoveries continue to mount. Oil and Gas Jour., v. 58, no. 13, p. 250-253 incl. index maps, diagrams, and tables, Mar. 28, 1960.
3-60. Preliminary regional structural contour map on top of Mississippian rocks in Kansas. Kansas State Geol. Survey Oil and Gas Inv. 22, scale about 1 in. to 10 mi., 1960.
4-60. (and KELLY, T. E.) Preliminary regional structural contour map on top of "Hunton" (Silurian-Devonian) rocks in Kansas. Kansas State Geol. Survey Oil and Gas Inv. 23, scale about 1 in. to 10 mi., 1960.

MERRIAM, Richard Holmes

MERRILL, Glen K.

MERRILL, John R.
MEYERS
MERRILL, William Meredith

MERRIMAN, Mansfield

MERRIN, Seymour

MERRITT, Clifford Addison. See also HAM, W E 2-60
1-60. Petrography of the Spavinaw granite Oklahoma Geology Notes, v. 20, no. 9, p. 224-228, illus. incl. geol. sketch map, Sept. 1960

MERTIE, John Beaver, Jr.

MESSINA, Angelina Rose. See ELLIS, Brooks Fleming 1-60, 2-60, 3-60
MESSMER, Joseph Herman. See WOODSIDE, William 1-60

METSGER, Robert W. See SUTTON, George H 1-60, 3-60

MEYBOOM, P
1-60. Geology and groundwater resources of the Milk River sandstone in southern Alberta Research Council Alberta Mem 2, 89 p. incl. geol. and other sketch maps, section, diagrams, chart, tables, and illus., index map, 1960.

MEYER, Gerald

MEYER, H. Conrad, d. 1957

MEYER, Pierrepont Arthur, Jr. See BROWN, John Stafford 2-60


MEYER-ABICH, Helmut

MEYERHOF, Walter E. See SEGRÈ, Emilio Gino 1-60

MEYERS, Theodore Ralph
1-60. (and BRADLEY, Edward) Suburban and rural water supplies in
MEYERS


MEYROWITZ, Robert. See also CUTTITTA, Frank 1-60, OUTERBRIDGE, W. F., 1-60
1-60. (and CUTTITTA, Frank, and LEVIN, Betsy) N,N-Dimethylformamide, a new diluent for methylene iodide heavy liquid Am Mineralogist, v. 45, nos. 11-12, p. 1278-1280 incl. table, Nov.-Dec 1960.

MICHAEL, Robert Henry

MICHAELS, Alan Sherman See ROSENQVIST, Ivan Thoroff 1-60

MICHENER, P. Z

MICHIGAN BASIN GEOLOGICAL SOCIETY

MICHIGAN GEOLOGICAL SURVEY

MIDDLETON, Gerard V.

MIDLAND MAP COMPANY
1-60. Permian basin geological province and field map [Texas-New Mex], showing oil fields, county seats, and all major highways 1960 ed., Midland, Texas, scale about 1 in to 12 mi [1960]

MIESCH, Alfred Thomas

MIHM, R. J. See KAY, Marshall 3-60

MIKAMI, Harry M. See HEILIGMAN, Harold A. 1-60

MILHOU, Holman Cannon
1-60. Tennessee, key development years just ahead World Oil, v. 150, no. 7, p. 92-95 incl. oil and gas and structure maps and sections, June 1960

MILKEY, Robert George

282
MILLARD, Frank Stutzman
1-60. Sonic log evaluates Morrow sand in western Oklahoma Petroleum Engineer for Management, v 32, no. 9, p B-29-B-34 incl. diagrams, Aug 1960

MILLER, A. J

MILLER, Allan E See LAVAL, William Norris 1-60

MILLER, Daniel Newton, Jr See also McGOOKEY, D. P. 2-60, WYOMING GEOLOGICAL ASSOCIATION 1-60

MILLER, Don John, 1919-1961

MILLER, Donald S.

MILLER, Dwight O.

MILLER, Floyd Henry, Jr. See McNEAL, Robert Paul 1-60, 2-60

MILLER, Gerald Matthew

MILLER, Halsey Wilkinson, Jr See also MOORE, R A 1-60

MILLER, J. E. See BRANDT, L W 1-60

MILLER, John Preston, 1923-1961 See WOLMAN, Markley Gordon 1-60

MILLER, L. V. See NEAVEL, Richard C 3-60

MILLER, Leo J.
MILLER, Loye Holmes

MILLER, Lynn M.

MILLER, Osborn Maitland

MILLER, P. Schuyler. See DIETZ, Robert Sinclair 1-60.

MILLER, Reuben F. See ROLFE, Bernard Nathan 1-60.

MILLER, Robert J. M.

MILLER, Robert Lee. See OLSON, Everett Claire 2-60.

MILLER, T. H. See JEFFORDS, Russell MacGregor 1-60.

MILLETT, Marion T.

MILLLICAN, Marcus L.

MILLIGAN, George Clinton

MILLISON, Clark Drury. See PURCELL, Tom E. 1-60.

MILLS, Joseph William


MINARD, James Pierson. See OWENS, James Patrick 4-60.

MILNE, Ivan Herbert. See SLAUGHTER, Maynard 1-60.

MILNE, William George


MILTON, Charles
1-60. (and CHAO, Edward Ching-Te, and AXELROD, Joseph Meyer, and GRIMALDI, Frank Saverio) Reedmergerite, NaBSi$_3$O$_8$, the boron analogue of albite, from the Green River formation, Utah Am Mineralogist, v 45, nos 1-2, p 188-199 incl. geol. sketch map, diagrams, tables, and illus., Jan.-Feb. 1960.

284

3-60. (and CHAO, Edward Ching-Te, and FAHEY, Joseph John, and MROSE, Mary Emma) Silicate mineralogy of the Green River formation of Wyoming, Utah, and Colorado Internat. Geol Cong , 21st, Copenhagen, 1960, Rept., pt 21, p. 171-184 incl. index map, tables, and illus. 1960


MILTON, Daniel Jeremy. See also GRISCOM, Andrew 3-60, NEW ENGLAND INTERCOLLEGIATE GEOL. CONF. 1-60


MINARD, James Pierson. See also OWENS, J., P 2-60, 3-60

1-60. (and OWENS, James Patrick) Differential subsidence of the southern part of the New Jersey coastal plain since early Late Cretaceous time Art. 82 in U.S Geol Survey Prof Paper 400-B, p B184-B186 incl. index map, diagrams, and tables, 1960.

2-60 Color aerial photographs facilitate geologic mapping on the Atlantic Coastal Plain of New Jersey Photogramm. Eng , v. 26, no. 1, p. 112-116 incl. index map, sections, and illus , Mar. 1960.

MINATO, M


MINA UHINK, Federico

1-60. Desarrollo petrolero en México durante 1959 Asoc Mexicana Geólogos Petroleros Bol., v. 12, nos. 3-4, p 95-102, sketch maps, diagram, and tables, Mar-Apr 1960.

MINING WORLD

1-60 Boomer mine [Colorado]--Non-pegmatite sources of high grade beryl-lum ore from hydrothermal vein Mining World, v. 22, no 3, p. 44-45, incl illus, Mar 1960

2-60. Wyoming's trona trend Mining World, v. 22, no. 4, p 26 incl. sketch map, Apr 1960

3-60 New Jersey's new zinc mine [Tennessee] Mining World, v 22, no 4, p 27-29 incl index map and illus, Apr 1960

MINK, John F.


MINSHALL, Francis Edward


MINTON, Paul D. See HERRIN, Eugene Thornton, Jr 1-60

MIRSKY, Arthur

1-60. Stratigraphy of the nonmarine Upper Jurassic and Lower Cretaceous rocks, southern Big Horn Mountains, Wyoming [abs] Dissert Abs., v 21, no 4, p 850-851, Oct 1960

285
MISCH


MISCH, Peter H


MISER, Hugh Dinsmore


MISIASZEK, Edward Thomas


MISSISSIPPI GEOLOGICAL SOCIETY

1-60. The Cenozoic of southeastern Mississippi and southwestern Alabama, 15th field trip, May 12-14, 1960, guide book Jackson, Miss , 48 p incl. index, geol. and other sketch maps, sections, diagram, and illus., profile, 1960. Includes individual papers which are cited separately.

MITCHELL, John

1-60. (and QUINN, John C.) Coal research, Pt. 1 Mining Cong Jour., v. 46, no 2, p 86-94 incl illus., Feb. 1960

2-60. (and QUINN, John C.) Coal research, Pt. 2 Mining Cong Jour., v. 46, no. 3, p 72-78 incl illus., Mar. 1960.

MITCHELL, Richard Scott. See also McGAVOCK, E. H. 1-60, MANDARINO, J A. 1-60

1-60. Small barite nodules from Ovid, Colorado Rocks and Minerals, v. 35, nos 1-2, p 9-11 incl diagram and illus., Jan-Feb 1960


3-60. (and PHARR, Richard F.) Strontium minerals from Wise County, Virginia Virginia Minerals, v. 6, no 4, p 1-4, illus , Oct 1960

MITCHELL, Stanley N.


MITCHELL-THOMÉ, Raoul C

1-60. Lithologic features of the younger Tertiaries of Puerto Rico Caribbean Geol Conf., 2d, Mayaguez, Puerto Rico, Jan 4-9, 1959, Trans , p 138-142 incl chart and table, 1960

MOBERLY, Ralph Moon, Jr.


MØLLER, Jens Tyge

1-60. Glaciers in Upernavik Ø [Greenland], with special reference to the periglacial phenomena, in Denmark--Contributions to problems discussed
MONTAGU

in symposia and excursions Internat Geog. Cong., 19th, Norden, 1960, Guidebook, p 185-208 incl. sketch maps and illus., 1960

MOENCH, Robert H. See HILPERT, Lowell S. 1-60, SCHLEE, John Stevens 1-60

MOGG, Joe Luther
1-60 (and SCHOFF, Stuart Leeson, and REED, Edwin William) Ground-water resources of Canadian County, Oklahoma Oklahoma Geol Survey Bull 87, 112 p., illus., 1960

MOHRBACHER, J. A. See BOWEN, B. M

MOLLARD, John Douglas. See also BELCHER, D J 1-60
1-60 Airphoto analysis and interpretation--a laboratory manual of selected airphotos showing landforms and soil conditions in western Canada Regina, Saskatchewan, privately printed, unpaged, illus., prepared for 1980 short course, Univ Alberta [1960?].
2-60 Airphoto interpretation helps man conquer Muskeg Oilweek, v. 11, no 23, p. 24-31, illus., July 23, 1960

MOLLER, William P
1-60. Analcite crystals from Point Sal [Calif] Mineralogist, v. 28, nos. 11-12, p 196-199 incl sketch map and illus., Nov-Dec 1960

MOLLISON, R. D. See FOGARTY, Charles Franklin 1-60

MOLLOY, Martin W
1-60 (and KERR, Paul Francis) X-ray spectrochemical analysis--An application to certain light elements in clay minerals and volcanic glass Am Mineralogist, v 45, nos 9-10, p 911-936 incl diagrams and tables, Sept-Oct 1960

MOMPER, James Arthur. See VERVILLE, George Julius 1-60

MOMYER, Floyd F. See ADELMAN, Frank L. 1-60

MONEY, P. L.

MONEYMAKER, Berlen Clifford

MONNETT, Victor Brown. See SKILLMAN, Margaret W.

MONROE, Watson Hiner

MONTAGNE, John M de la. See also BLACKSTONE, D. L., Jr. 1-60

MONTAGU, Montague Francis Ashley

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MONTAGUE, S. A.

MONTANA BUREAU of MINES and GEOLOGY

MONTGOMERY, Arthur

MONTGOMERY, Gill

MONTGOMERY, J. H. See THOMPSON, Robert Mitchell 1-60

MOODY, Graham Blair

MOOK, Charles Craig

MOOKHERJEE, Asoke
1-60. (and SAHU, K. C.) Microhardness of the plagioclase series Am Mineralogist, v. 45, nos. 5-6, p. 742-744 incl. diagram and table, May-June 1960

MOONEY, Harold Morton. See SATO, Motoaki 1-60

MOORBATH, S

MOORE, Carl E

MOORE, David G. See also SHEPARD, F. P. 5-60
1-60. Acoustic-reflection studies of the continental shelf and slope off southern California Geol Soc. America Bull., v. 71, no 8, p. 1121-1136 incl. sketch map, diagrams, and table, profiles, Aug. 1960

MOORE, Derek See BAAS BECKING, Lourens Gerhard Marinus 1-60
MOORE, Fred Edward

MOORE, George William
2-60 (and COLE, J. Y.) Coastal processes in the vicinity of Cape Thompson, Alaska U.S Geol. Survey Rept. TEI-753, p 41-55 incl sketch maps and diagram, Jan 1960.
3-60 (editor) Origin of limestone caves--A symposium with discussion Natl Speleol Soc Bull., v 22, pt 1, p 3-84, illus., Jan 1960 Includes individual papers which are cited separately
4-60 Geology of Carlsbad Caverns, New Mexico Natl Speleol Soc Guidebook Ser., no 1, p 10-18, illus, 1960

MOORE, Howard Earl
1-60 The geochemistry of the inert gases in natural gas [abs ] Dissert. Abs., v 21, no 3, p 455, Sept 1960

MOORE, James Gregory
2-60 Curvature of normal faults in the Basin and Range province of the western United States Art 188 in U S Geol. Survey Prof Paper 400-B, p B409-B411 incl. diagram and table, 1960

MOORE, John Ezra
3-60 Petrography of northeastern Lake Michigan bottom sediments [abs ] Dissert Abs., v 21, no 6, p 1526, Dec 1960

MOORE, John Marshall

MOORE, Raymond Cecil See also JOINT COMM INVERTEBRATE PALEONTOLOGY 1-60
2-60. Can AGI survive? GeoTimes, v 4, no 5, p 10-12, Jan-Feb 1960

MOORE, Richard Thomas. See also WILSON, E D 2-60, 3-60
1-60 (and WILSON, Eldred Dewey, and O’HAIRE, Robert T) Geologic map of Coconino County, Arizona Tucson, Arizona Bur. Mines, scale 1 375,000 (about 1 in to 6 mi ), 1960

MOORE, Robert A.

MOORE, Shirley See ANDERSON, Sonia Ruth 1-60, BARDEEN, James Maxwell 1-60

289
MOORE

MOORE, Thomas Francis. See DUNLAP, Henry Francis 1-60, 2-60

MOORHOUSE, Walter Wilson

MORALES, Gustavo

MORGAN, J. W. See MOORBATH, S. 3-60

MORGAN, Vincent

MORIMOTO, Nobuo
4-60. (and APPLEMAN, Daniel Everett, and EVANS, Howard Tasker, Jr.) The crystal structures of clinoenstatite and pigeonite Zeitschr. Kristallographie (Frankfurt am Main, Germany), Band 114, Heft 1-2, p 120-147 incl diagrams and tables, with German abs., June 1960

MORISAWA, Marie E.

MORITZ, Carl Albert

MORLEY, L W. See GREGORY, Alan Frank 3-60, 4-60

MORRILL, Philip
2-60. (and CHAFFEE, Robert Gibson) Vermont mines and minerals localities—Pt 2, Northern Vermont Hanover, N. H, Dartmouth Coll. Mus., 18 p., illus., 1960.

MORRIS, Arthur
1-60. The Settee Lake Area (West Half), in Cheesman, R. L., Summary report of geological surveys conducted in the Precambrian area of Saskatchewan, 1960 Regina, Saskatchewan Dept Mineral Resources, Mines Br, Geology Div., p. 4-5 [1960].

MORRIS, Donald Arthur See also MOULDER, E. A. 1-60

MORRIS, H. T. See BUSH, J B 1-60

290
MORRIS, James Mervyn, Jr.

MORRIS, John E. See CRIDLAND, Arthur A 2-60

MORRIS, Robert Hamilton See WITKIND, Irving Jerome 2-60

MORRISON, Charles C., Jr.

MORRISON, Roger Barron See FRIENDS PLEISTOCENE, Rocky Mt Sec 1-60

MORTENSEN, James L. See SCHWENDINGER, Richard B. 1-60

MORTON, Roy J See STRUXNESS, E. G 1-60

MOSEN, A W. See SCHMITT, R A 1-60

MOSER, Frank See McCULLOCH, David Sears 1-60

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MOTTS, Ward Sundt

MOULTON, Edward Quentin See BRANT, Russell Alan 2-60

MOUNT, J. Russell. See REEVES, Corwin C, Jr 1-60

MOUNTJOY, Eric Walter See also CANADA GEOL. SURVEY 19-60

MOWER, Reed W See HOOD, James W 1-60

MOXHAM, Robert L
1-60. Minor element distribution in some metamorphic pyroxenes [Ontario and Quebec]. Canadian Mineralogist, v. 6, pt. 4, p. 522-545, tables, 1960

MOXHAM, Robert Morgan
MOYER, Paul Tyson, Jr.

MROSE, Mary Emma. See also CLARK, J. R. 3-60, EVANS, H. T., Jr. 1-60, MILTON, Charles 3-60, SCHALLER, W. T 1-60


MUELLER, George

MUELLER, Ivan Istvan

MUELLER, Robert Francis

MUESEBECK, Carl Frederick William

MUIR-WOOD, Helen Margaret
MULLENS, Thomas Ellison
1-60, Geology of the Clay Hills area, San Juan County, Utah U S. Geol Survey Bull 1087-H, p 259-336 incl. index maps, geol. map, 1960

MULLER, Daniel A.

MULLER, Ernest Hathaway. See FRIENDS PLEISTOCENE GEOLOGY, Eastern Sec 1-60

MULLIGAN, Robert
1-60, Beryllium occurrences in Canada (preliminary account) Canada Geol Survey Paper 60-21, 40 p., table, 1960

MULLINEAUX, Donal Ray
1-60, (and CRANDELL, Dwight Raymond) Late Recent age of Mount St Helens volcano, Washington Art 143 in U S. Geol Survey Prof Paper 400-B, p B307-B308, 1960

MULLINGS, W M
1-60, Let's look at luminescence Mineralogist, v 28, nos 2-3, p 9-13, Feb-Mar 1960

MULLIS, Ira B.
1-60, Roadbeds on highways and airport runways Am. Soc. Civil Engineers Proc, v 86, paper 2412, Jour Highway Div, no HW 1, pt 1, p 1-27, illus., Mar 1960, discussions by J. Feld and others, paper 2694, no HW 4, pt 1, p 35-49, illus., Dec 1960

MUMPTON, Frederick Albert
1-60, (and ROY, Rustum) Low-temperature equilibria among ZrO₂, ThO₂, and UO₂ Am Ceramic Soc Jour., v. 43, no 5, p. 234-240 incl. diagrams, May 1, 1960
2-60, Clinoptilolite redefined Am Mineralogist, v 45, nos. 3-4, p 351-369 incl diagrams, tables, and illus., Mar-Apr 1960

MUNIR, Zuhair A. See WITHERSPOON, Paul A. 1-60

MUNIZ, Sotero, Jr.
1-60, The engineering properties of sandstones Compass, v 37, no 3, p 220-233 incl diagrams, Mar. 1960

MUNK, Walter Heinrich

MURATA, Kiguma Jack See also BASTRON, Harry 1-60, EATON, J P 1-60
3-60, Diary of a volcano [Hawaii] Natl. Parks Mag, v 34, no 148, p. 12-13 incl. chart, Jan 1960

MURDOCH, Joseph
1-60, (and CHALMERS, Robert A ) Ettringite ("Woodfordite") from Crestmore, California Am Mineralogist, v. 45, nos 11-12, p 1275-1278 incl. tables, Nov-Dec 1960
MURIEDAS PAVÓN

MURIEDAS PAVÓN, Alfonso See BASURTO GARCÍA, Jesús 1-60

MURPHY, Daniel Lawson

MURPHY, Michael A. See also POPENOE, W. P 1-60, WINTERER, E. L 1-60 1-60. (and RODDA, Peter Ulisse) Mollusca of the Cretaceous Bald Hills formation of California--Pt 1 Jour. Paleontology, v. 34, no. 5, p. 835-858 incl. geol. sketch map, sections, and chart, illus., Sept. 1960

MURPHY, Thomas Daniel

MURPHY, Vincent J.

MURPHY, W. I. R. See TISOT, P. R. 1-60

MURRAY, Floyd E

MURRAY, Grover Elmer
1-60. (and others) Late Cretaceous fossil locality, eastern Parras Basin, Coahuila, México Jour. Paleontology, v. 34, no. 2, p. 368-370 incl. sketch map and section, Mar. 1960
2-60. (and FURNISH, William Madison, Jr., and CARRILLO BRAVO, José) Carboniferous goniatites from Caballeros Canyon, State of Tamaulipas, Mexico Jour Paleontology, v. 34, no. 4, p 731-737 incl. index maps, geol. sketch map, and diagrams, July 1960.

MURRAY, Haydn Herbert, See also PINSAK, A. P

MURRAY, Raymond Carl
MURTHY, M Krishna

MURTHY, Varanası Rama

MUSGRAVE, Albert Wayne

MUTCH, Thomas A

MYERS, Alfred Tennyson. See also HUFF, L C 1-60

MYERS, Arthur John
1-60 An area of gypsum karst topography in Oklahoma Oklahoma Geology Notes, v 20, no 1, p 10-14, illus., Jan 1960.

MYERS, Donald Arthur

MYERS, John B.

MYERS, Paul Benton, Jr.

MYERS, Richmond Elmore

MYERS, W Bradley

MYSLINSKI, Frank J See MONTGOMERY, Gill 1-60.
NACE

NACE, Raymond Lee

NACKOWSKI, Matthew Peter  See PARRY, William T  1-60

NAFE, John Elliott. See also BRUNE, J N. 1-60, 2-60

NAGY, Bartholomew Stephen. See also DUFFY, J R. 1-60, HAMWAY, Paul-lette 1-60, SCOMILLIO, John 1-60
2-60 Natural chromatography and the geochemistry of petroleum accumulation [abs ] Geol Soc America Bull , v. 71, no 12, pt 2, p 2107, Dec 1960

NAKAGAWA, Harry M  See GRIFFITTS, Wallace Rush 3-60, THOMPSON, Charles E 1-60, WARD, Frederick Norville 1-60

NAKAHARA, Hiroshi.  See BEVELANDER, Gerrit 1-60

NAKAI, Nobuyuki  See JENSEN, Mead LeRoy  2-60

NAMOWITZ, Samuel N
1-60 (and STONE, Donald B ) Earth science--The world we live in 2d ed., Princeton, N J., D Van Nostrand Co , 614 p , illus., 1960, originally published 1953

NANCE, Richard Leon
1-60, Caddo oil field, Carter County, Oklahoma Shale Shaker, v 10, no 7, p 2-13 incl. index and sketch maps, sections, table, and discussion by E S. Rouget, Jr., Mar 1960.

NARAIN, Kedar  See SMOOT, Thomas William 2-60

NARANS, Harry D., Jr  See BERG, Joseph Wilbur, Jr 1-60, 2-60

NASH, W. A  See CANADA GEOL SURVEY 45-60

NATIONAL RESEARCH COUNCIL, Committee on Stratigraphy, Permian Sub-committee  See Permian Subcommittee of the National Research Council's Committee on Stratigraphy

NAVARRRE, Alfred Theodore, 1894-1962  See also HURST, Vernon J. 1-60
1-60 A mineralogical evaluation of the Cretaceous and Eocene formations of Crawford County, Georgia [abs.] Georgia Acad Sci Bull , v. 18, nos. 1-2, p 11-12, Apr. 1960

NAVARRO de HAYDON, Rosa
1-60 The Geology Club of Puerto Rico.Caribbean Geol Conf , 2d, Mayaguez, Puerto Rico, Jan 4-9, 1959, Trans., p. 150-152, 1960

NEALE, Ernest Richard Ward. See also CANADA GEOL SURVEY 45-60

NEAVEL, Richard C.
1-60. (and GUENNEL, Gottfried Kurt) Indiana paper coal--Composition and deposition Jour. Sed Petrology, v 30, no 2, p 241-248 incl index and sketch maps, diagram, tables, and illus , June 1960

296
NELSON


3-60 (and MILLER, L V.) Properties of cutinite Fuel (London), v 39, no 3, p 217-222, illus., May 1960

NEBRASKA UNIVERSITY, Conservation and Survey Division

1-60 Groundwater map of Nebraska Nebraska Univ Conserv and Survey Div, scale about 1 in to 16 mi, Nov 1960

NEFF, Arthur William

1-60. Comparisons between the salt anticlines of South Persia and those of the Paradox Basin [Colorado Plateau], in Geology of the Paradox Basin fold and fault belt Four Corners Geol Soc, 3d Field Conf, 1960, [Guidebook] p 56-64, illus., 1960

NEIL, Sarah T See STEVENS, Rollin Elbert 1-60, 2-60

NEILL, J. C See WALTON, William Clarence 4-60

NELSON, James Maxwell

1-60, (and SNELGROVE, A K., and Van PELT, J R ) Curricular and professional aspects of geological engineering Econ Geology, v 55, no 5, p 1048-1059 incl diagram, Aug. 1960


NELSON, Bruce Warren See also SIEVER, Raymond 2-60


NELSON, C M

1-60 (and CRAWFORD, J. H., Jr ) Optical absorption in irradiated quartz and fused silica, in Symposium on defect structure of quartz and glassy silica Physics and Chemistry Solids, v 13, nos 3-4, p 296-305, illus, June 1960

NELSON, Clemens Arvid


NELSON, J L See PEARCE, Dennis Wiffen 1-60

NELSON, Jerome S.


NELSON, Lloyd Alveno. See also McCracken, R. J 1-60, ROSWELL GEOL SOC 1-60

1-60. The Pennsylvanian rocks of the Franklin Mountains east of Vinton, Texas, in Northern Franklin Mountains, southern San Andres Mountains, with emphasis on Pennsylvanian stratigraphy Roswell Geol Soc, Field Trip, Nov. 1960, Guidebook, p 131-134 incl. table, 1960
NELSON, Russell C 1-60. World tungsten-molybdenum reserves--A detailed look at present supplies Eng and Mining Jour., v. 161, no. 5, p. 93-97 incl. sketch map, May 1960.


NELSON, Wilis Howard. See LEWIS, Richard Quintin 1-60, POWERS, Howard Adorno 3-60

NESS, Norman Frederick. See also MACDONALD, G. J. P. 1-60

NESTEROFF, Wladimir D. See also HEEZEN, B. C 6-60

NETSCHERT, Bruce C See SCHURR, Sam H 1-60


NEUBERG, George Joseph 1-60 (and GRANGER, Harry Clifford) A geochemical test of diabase as an ore source for the uranium deposits of the Dripping Spring district, Arizona Neues Jahrb. Mineralogie Abh. (Stuttgart, Germany), Band 94, Festband Ramdohr, 2 Hälfte, p. 759-797 incl. diagrams, illus, and German abs., also index map and diagrams, July 1960.

NEUMAN, Robert Ballin 1-60 Pre-Silurian stratigraphy in the Shin Pond and Stacyville quadrangles, Maine. Art. 74 in U S. Geol. Survey Prof. Paper 400-B, p B166-B168 incl. geol map, 1960
2-60 (and WILSON, Robert Lake) Geology of the Blockhouse quadrangle, Tennessee U S. Geol. Survey Geol Quad. Map GQ-131, scale 1 24,000 (1 in. to 2,000 ft.), with sections and text, 1960
3-60. Geology of the Wildwood quadrangle, Tennessee U S. Geol. Survey Geol. Map GQ-130, scale 1 24,000 (1 in. to 2,000 ft.), with sections and text, 1960.
4-60. The St. Paul group of Maryland, in Gates, Olcott, ed, Lower Paleozoic carbonate rocks in Maryland and Pennsylvania Johns Hopkins Univ. Studies Geology, no 18, Guidebook 3, p 16-18, 1960

NEUSCHEL, Virginia Smith See CLARKE, James Wood 1-60

NEW ENGLAND INTERCOLLEGIATE GEOLOGICAL CONFERENCE
1-60. (GRISCOM, Andrew, and MILTON, Daniel Jeremy, editors) Field
trips in west-central Maine, 52d annual meeting, Rumford, Maine,
October 8-9, 1960, guidebook [n p.,] 38 p incl. geol and other sketch maps
and table, 1960. Contains individual papers which are cited separately.

NEW ENGLAND INTERCOLLEGIATE GEOLOGICAL CONFERENCE
1-60. (GRISCOM, Andrew, and MILTON, Daniel Jeremy, editors) Field
trips in west-central Maine, 52d annual meeting, Rumford, Maine,
October 8-9, 1960, guidebook [n p.,] 38 p incl. geol and other sketch maps
and table, 1960. Contains individual papers which are cited separately.

NEW ENGLAND INTERCOLLEGIATE GEOLOGICAL CONFERENCE
1-60. (GRISCOM, Andrew, and MILTON, Daniel Jeremy, editors) Field
trips in west-central Maine, 52d annual meeting, Rumford, Maine,
October 8-9, 1960, guidebook [n p.,] 38 p incl. geol and other sketch maps
and table, 1960. Contains individual papers which are cited separately.

NEW ENGLAND INTERCOLLEGIATE GEOLOGICAL CONFERENCE
1-60. (GRISCOM, Andrew, and MILTON, Daniel Jeremy, editors) Field
trips in west-central Maine, 52d annual meeting, Rumford, Maine,
October 8-9, 1960, guidebook [n p.,] 38 p incl. geol and other sketch maps
and table, 1960. Contains individual papers which are cited separately.

NEW ENGLAND INTERCOLLEGIATE GEOLOGICAL CONFERENCE
1-60. (GRISCOM, Andrew, and MILTON, Daniel Jeremy, editors) Field
trips in west-central Maine, 52d annual meeting, Rumford, Maine,
October 8-9, 1960, guidebook [n p.,] 38 p incl. geol and other sketch maps
and table, 1960. Contains individual papers which are cited separately.

NEW ENGLAND INTERCOLLEGIATE GEOLOGICAL CONFERENCE
1-60. (GRISCOM, Andrew, and MILTON, Daniel Jeremy, editors) Field
trips in west-central Maine, 52d annual meeting, Rumford, Maine,
October 8-9, 1960, guidebook [n p.,] 38 p incl. geol and other sketch maps
and table, 1960. Contains individual papers which are cited separately.

NEW ENGLAND INTERCOLLEGIATE GEOLOGICAL CONFERENCE
1-60. (GRISCOM, Andrew, and MILTON, Daniel Jeremy, editors) Field
trips in west-central Maine, 52d annual meeting, Rumford, Maine,
October 8-9, 1960, guidebook [n p.,] 38 p incl. geol and other sketch maps
and table, 1960. Contains individual papers which are cited separately.

NEW ENGLAND INTERCOLLEGIATE GEOLOGICAL CONFERENCE
1-60. (GRISCOM, Andrew, and MILTON, Daniel Jeremy, editors) Field
trips in west-central Maine, 52d annual meeting, Rumford, Maine,
October 8-9, 1960, guidebook [n p.,] 38 p incl. geol and other sketch maps
and table, 1960. Contains individual papers which are cited separately.

NEWTON, Robert

NEWTON, Vernon C., Jr
1-60. Oil and gas exploration in Oregon during 1959. Ore.-Bin, v. 22, no. 1, p. 8-10. incl. sketch map, diagrams, and tables, Jan. 1960

NIBLETT, Edward Ronald

NICHOLLS, Geoffrey Dennis

NICHOLS, Donald Raymond

NICHOLS, I. L. See DEAN, K. C. 1-60

NICHOLS, Julious LaFayette See HARVEY, Edward Joseph 1-60, 2-60

NICHOLS, Rachel H

NICHOLSON, John Hirston

NICKEL, Ernest Henry

[NICKELL, Walter P.]

NICOL, A. W. See ROY, Della Martin 1-60

NIEF, G. See DANSGAARD, W. 1-60

300
NIELSEN, James Willard
1-60. (and FOSTER, Frank Gordon) Unusual etch pits in quartz crystals
Am. Mineralogist, v. 45, nos. 3-4, p. 299-310 incl. diagrams and illus.,
Mar - Apr 1960.

NIER, Alfred Otto Carl. See also HOFFMAN, J H 1-60, SIGNER, P 1-60
1-60. Cosmic-ray effects in meteorites Am. Geophys. Union Trans., v. 41,

NIETZEL, Oscar A. See PETROW, Henry George 1-60

NILE, Stephen Waters
1-60 The Hebgen Lake [Montana] earthquakes, in West Yellowstone--

NILES, William W. See STEVENS, Rollin Elbert 4-60

NININGER, Robert D.
1-60. (and EVERHART, Donald Lough, and ADLER, Hans H., and KRATCH-
MAN, Jack) The genesis of uranium deposits Internat. Geol Cong.,

NISHIDA, Yoshichika
1-50. A new analysis of the deformation characteristics of soils Cong.
Panam Mecánica Suelos y Cimentaciones, 1st, México, D. F., Sept. 7-12,
1959, Mem., v. 1, p. 85-95 incl. diagrams, 1960

NITECKI, Matthew Henry
1-60. A carbonate vein in limestone [Indiana] Jour Sed Petrology, v. 30,
no. 4, p 624-625 incl. table and illus., Dec. 1960

NOBLE, Edwin A.
Cong., 21st, Copenhagen, 1960, Rept., pt. 15, p. 26-39 incl. sketch maps,
sections, and table, 1960
2-60. Waters of compaction as an ore-forming fluid [abs.] Geol. Soc.

NOBLE, James Alexander. See also TAYLOR, H. P., Jr. 1-60
1-60. (and TAYLOR, Hugh Pettngill, Jr.) Correlation of the ultramafic
complexes of southeastern Alaska with those of other parts of North
America and the world Internat. Geol. Cong., 21st, Copenhagen, 1960,
Rept., pt. 13, p. 188-197 incl. sketch map, 1960

NOBLE, John B.
1-60. A preliminary report on the geology and ground-water resources of
the Sequim-Dungeness area, Clallam County, Washington Washington State
Div. Water Resources Water Supply Bull. 11, 43 p incl. tables, also geol.
map, ground-water map, and sections in pocket, 1960.

NOBLES, Laurence Hewit
1-60. Study of movement across the margin of an ice cap [abs.] Geol. Soc.
2-60. Glaciological investigations, Nunatarssuaq ice ramp, northwestern
Greenland U S. Army, Corps of Engineers, Snow Ice and Permafrost Re-
search Establishment Tech. Rept. 55, 57 p, illus., May 1960

NOLAN, Thomas Brennan
1-60. The place of geology in the development of the mining industry

NOMICOS, George N. See VANONI, Vito August 1-60, 2-60

NORDYKE, Milo D. See SHELTON, A Vay 1-60

301
NORFORD, B. Seeley
1-60 A well-preserved Dinobolus from the sandpile group (Middle Silurian) of northern British Columbia Palaeontology (London), v. 3, pt 2, p. 242-244, Aug 1960

WERFORD [NORFORD], B Seeley. See RAASCH, Gilbert Oscar 1-60

NORMAN, Arthur Geoffrey. See RICH, Charles Irvm 1-60

NORMAN, Carl Edgar. See WEISS, Malcolm Pickett 1-60, 2-60, 3-60

NORRIS, A R. See HEYDING, R. D. 1-60

NORRIS, A W. See DOUGLAS, Robert John Wilson 3-60

NORRIS, Donald Kring See DOUGLAS, Robert John Wilson 1-60, 2-60

NORRIS, Robert Matheson

NORTH DAKOTA GEOLOGICAL SOCIETY

NORTH DAKOTA GEOLOGICAL SURVEY
1-60. Production statistics and engineering data--Oil in North Dakota, 2d half 1959 Grand Forks, 89 p., illus., Mar. 1960

NORTHERN MINER PRESS Limited
1-60. Canadian mines handbook 1960 Canadian Mines Handb 1960, 312 p. incl. sketch maps and tables, July 1960

NORTHROP, John See BROWN, Maurice Vertner 1-60

NORTHUP, Richard C. See HERSHEY, Howard Garland 1-60

NORTON, James Jennings

NORTON, Matthew F.

NORTON, O. Richard

NORVITCH, Ralph F.
1-60 Ground water in alluvial channel deposits, Nobles County, Minnesota Minnesota Dept. Conserv., Div Waters Bull 14, 23 p. incl. cross section and tables, ground-water map, Sept. 1960

NOSOW, Edmund. See also McFARLAN, A C 2-60, SUMMERSON, C H.1-60
2-60 (and McFARLAN, Arthur Crane) [Guidebook] Geology of the central Bluegrass area [Kentucky] Geol Soc America Southeastern Sec Field Trip [no 1], Mar 26, 1960, 54 p incl geol and sketch maps, sections, and illus , 1960 (Published by Kentucky Geological Survey, Lexington)

NOTTINGHAM, Marsh Whitney
1-60 Recent Bell Canyon exploration in the North Delaware basin [New Mexico] [abs ] Oil and Gas Jour , v 58, no 40, p 146, Oct 3, 1960
2-60 Recent Bell Canyon exploration in the North Delaware Basin [New Mexico-Texas], in Natural gas in the Southwest Southwestern Federation Geol Soc Trans , v 1, p 139-153 incl index and sketch maps, diagrams, and illus , 1960.

NOTZ, K J
1-60 (and JAFFÉ, H H ) Correlation of TGA and DTA temperatures in decomposition reactions Am Ceramic Soc Jour , v 43, no 1, p 53-54, Jan 1, 1960

NOYES, A P , Jr
1-60. (and YOUNG, Keith Preston) Geology of Purgatory Creek area, Hays and Comal Counties, Texas Texas Jour Sci , v 12, nos 1-2, p 64-104 incl index and geol sketch maps, sections, and illus , May 1960

NUFFIELD, Edward Wilfrid See PATCHETT, Joseph Edmund 1-60, FROHBERG, Max Hans 1-60

OAKES, David Thomas

OAKESHOTT, Gordon Blaisdell
2-60 Geologic sketch of the Southern Coast Ranges California Div Mines Mineral Inf Service, v 13, no 1, p 1-13, illus , Jan 1960

OAKLEY, Kenneth Page See MONTAGU, Montague Francis Ashley 1-60

OANA, Shinya
1-60 (and DEEVEY, Edward Smith, Jr ) Carbon 13 in lake waters, and its possible bearing on paleolimnology Am Jour Sci , v 258-A (Bradley Volume), p 253-272 incl diagram and tables, 1960

OBERHANSLEY, Frank R
1-60 Crystal Cave in Sequoia National Park [California] Visalia, Calif , Commercial Printing Co , 28 p , illus , revised [1960]

O'BOYLE, Charles C
1-60 Northwestern Colorado, Chap 16 in Mineral resources of Colorado, 1st sequel Denver, Colorado Mineral Resources Board, p 505, 593-623 incl index and geol sketch maps, 1960

OBRADOVICH, J D See EVERNDEN, Jack Foord 1-60

OBREGÓN de la PARRA, Jorge
1-60. El contacto Cretácico-Terciario y el Paleoceno de la cuenca sedimentaria de Tampico-Misantla Internat Geol Cong , 21st, Copenhagen, 1960, Rept , pt 5, p 78-81 incl. sketch map and chart, 1960

O'BRIEN, Christian Arthur Edgar
1-60 The structural geology of the Boule and Bosch Ranges in the Canadian Rocky Mountains Geol Soc London Quart Jour , v 116, pt 4, p 409-436, illus , with discussion, Dec. 31, 1960

303
O'BRIEN


O'BRIEN, Joseph K See HANDIN, John Walter 2-60

OCHOTERENA F., Héctor
1-60 Variación intraespecífica en Parathryridina mexicana n sp., Terebratulídos del Oxfordiano de México México Univ Nac Inst Geología Paleontología Mexicana, no. 9, 40 p incl index map and diagrams, illus., 1960

O'CONNOR, Howard Grant

ODA, Uteana See Griffitts, Wallace Rush 2-60

ODÉ, Helmer

ODE, William Harlan
1-60. (and GIBSON, F Harold) International system for classifying brown coals and lignites and its application to American coals U S Bur Mines Rept Inv 5695, 20 p incl. diagrams and tables, 1960

ODEKIRK, Jerry R See WHELAN, James Arthur 1-60

ODELL, James W. See Snyder, Frank G. 1-60

ODELL, Noel Ewart
1-60 The building of mountains Am. Alpine Jour., v 12, no. 1, p 87-94, 1960

O'DONNELL, Hugh John See ERGUN, Sabri 1-60

OGDEN, J. Gordon, 3d

OGLE, Burdette Adrian

O'HAIRE, Robert T See MOORE, Richard Thomas 1-60, WILSON, Eldred Dewey 2-60, 3-60

OHM, John M See VAUGHN, William Wendall 1-60

OIL and GAS JOURNAL
1-60. Higher standards for geologists urged Oil and Gas Jour., v. 58, no 8, p 68-69, Feb. 22, 1960

2-60. "Montage" technique makes for quick decisions in evaluating a drillable prospect Oil and Gas Jour., v 58, no. 17, p 127-135 incl. sketch maps, sections, and illus., Apr. 25, 1960

3-60. Formation correlator of the United States Oil and Gas Jour., v. 58, no 17, 1 sheet, supp. chart incl index map, Apr. 25, 1960

4-60 Today's active oil fronts Oil and Gas Jour., v 58, no. 17, p. 148-197 [14 pages of ads] incl. index and sketch maps, sections, logs, tables, and illus., Apr. 25, 1960
5-60. Pemex plans careful drilling program for Northeast Mexico Oil and Gas Jour., v. 58, no 22, p 134-136 incl. sketch map and chart, May 30, 1960

6-60. Mexican drlls slated for action along Gulf coastal area Oil and Gas Jour., v. 58, no 25, p 174-176 incl. sketch map, June 20, 1960

7-60. Oil hunters get busy throughout Alaska Oil and Gas Jour., v. 58, no. 28, p 147-148, 150 incl. index map, columnar section, and illus , July 11, 1960.

OJA, R V See also KRANCK, E H 1-60

OKE, William C. See KAMB, Walter Barclay 1-60

O'KEEFE, John Aloysius See also HOCHMAN, Jack 1-60

OKLAHOMA GEOLOGICAL SOCIETY  See KANS. GEOL SOC. 1-60

OKULITCH, Vladimir Joseph
1-60 The Lower Cambrian fauna, in Evolution, its science and doctrine Royal Soc Canada "Studia Varia" Ser 4, p. 12-21, 1960

OLCOTT, Gordon West

OLDALE, Harry R. See WRIGHT, J D. 1-60

OLEHY, D A See SCHMITT, R A. 1-60

OLEKSYSHYN, John

OLHOVICH, Vladimir A

OLIPHANT, E. M. See STAPLIN, Frank Lyons 2-60

OLIVER, Howard William

OLIVER, Jack Ertle See also BRUNE, J. N. 1-60, 2-60, DORMAN, H. J 2-60, POMEROY, P. W 1-60, SUTTON, C. H. 3-60
1-60 (and POMEROY, Paul W, and EWING, William Maurice) Long-period seismic waves from nuclear explosions in various environments Science, v. 131, no 3418, p 1804-1805, June 17, 1960

OLIVER, Thomas Albert

305
OLIVER

OLIVER, William Albert, Jr
2-60. Rugose corals from reef limestones in the Lower Devonian of New York Jour. Paleontology, v 34, no 1, p 59-100 incl index map, diagrams, tables, and illus., Jan. 1960
4-60 Devonian rugose corals from northern Maine U. S. Geol Survey Bull 1111-A, p. 1-23, illus., 1960
5-60 (and QUINN, Alonzo Wallace) Geology of the Narragansett basin, Rhode Island and Massachusetts Washington Acad. Sci Jour., v 50, no. 7, p 6-8, Nov 1960

OLLERENSHAW, N. C.

OLMSTED, Franklin Howard See THOMASSON, Horace Gordon, Jr. 1-60

OLSEN, Stanley John
2-60. Post cranial skeleton, Pt. 2 of The fossil carnivore Amphiocyon longramus from the Thomas Farm Miocene Harvard Coll Mus Comp. Zoology Bull., v. 123, no 1, p 1-45, illus., July 1960
4-60 Additional remains of Florida's Pleistocene vampire Jour Mammalogy, v 41, no 4, p. 458-462 incl illus., Nov 1960

OLSON, Edwin A. See also BROECKER, W. S. 3-60

OLSON, Everett Claire
1-60. A trilophosaurid reptile from the Kootenai formation (Lower Cretaceous) [Montana] Jour. Paleontology, v. 34, no 3, p 551-555 incl. diagrams, table, and illus., May 1960

OLSON, Jerry Chapman
1-60. (and HINRICHS, Edgar Neal) Beryl-bearing pegmatites in the Ruby Mountains and other areas in Nevada and northwestern Arizona U. S Geol Survey Bull. 1082-D, p 135-200 incl. index and sketch maps, diagram, and tables, also geol map and sections and illus., 1960

OLSSON, Richard Keith

O'NEIL, Robert L. See BATES, Thomas Fulcher 1-60

ONTARIO DEPARTMENT of MINES
ONTARIO FUEL BOARD

OPDYKE, Neil D.
1-60. (and RUNCORN, Stanley Keith) Wind direction in the western United States in the late Paleozoic Geol Soc America Bull, v. 71, no 7, p. 859-971 incl diagrams and tables, illus., July 1960

OPIK, Ernst Julius

ORE -BIN
1-60. Index to published geologic mapping in Oregon Ore.-Bin, v. 22, no 6, p 53-61 incl. index maps, June 1960

OREGON DEPARTMENT of GEOLOGY and MINERAL INDUSTRIES
2-60. Oil and gas map of Oregon Portland, Oreg., 3 sheets, scale 1 380,000 (about 1 in. to 6 mi.), [1960?]

OREGON STATE WATER RESOURCES BOARD

O'REILLY, John
1-60. Yellowstone quake [Mont ] Nat History, v 69, no. 1, p 24-32 incl. illus , Jan 1960

ORIEL, Steven S

ORMSBY, Walter Clayton See also WEYL, W A 1-60

ORÓ, John

OROS, Margaret O.

OROWAN, E.

ORR, Allen A See CABBELL, Thomas R. 1-60

307
ORR, Phil Cummings. See also BROECKER, W. S. 3-60
1-60. Late Pleistocene marine terraces on Santa Rosa Island, California
Geol Soc. America Bull., v. 71, no. 7, p 1113-1119 incl. geol. sketch map,
diagrams, and table, illus., July 1960.

ORR, R. D. 1-60. The Upper Devonian Jasper basin [Alberta], in Rock Lake Edmonton

ORVILLE, Philip M 1-60. Petrology of several pegmatites in the Keystone district, Black Hills,
South Dakota Geol Soc America Bull., v 71, no 10, p 1467-1489 incl. 
geol sketch maps, diagrams, and tables, illus., Oct 1960
2-60. Powder X-ray method for determination of (Ab+An) content of micro-
Dec 1960

OSBORN, Elburt Franklin See also GLASSER, F. P. 1-60, ROEDER, P. L.
1-60. (and ROEDER, P. L.) Effect of oxygen pressure on crystallization in
simplified basalt systems Internat. Geol. Cong , 21st, Copenhagen, 1960,

OSBORNE, Freleigh Fitz 1-60. Géologie de la région des Apalaches dans la Province de Québec--
progrès et problèmes [abs.] Assoc. Canadienne-Française Av. Sci Annales,
2-60. On turbidites Royal Soc. Canada Trans ,3d ser., v. 54, sec 4, p. 1-9,
June 1960
3-60 (and CLARK, Thomas Henry) New Glasgow-Saint-Lin area, electoral
districts of Montcalm, Terrebonne and L'Assomption Quebec Dept Mines 
Geol Surveys Br Geol. Rept 91, 41 p , 1960, also French ed.

OSGOOD, Richard Grosvenor, Jr 1-60. (and FISCHER, Alfred George) Structure and preservation of Masto-
pora pyriformis, an Ordovician dasycladacean alga Jour. Paleontology,
v 34, no. 5, p 896-902 incl. diagrams, illus , Sept. 1960

OSMOND, John Chambers, Jr. 1-60. Tectonic history of the Basin and Range Province in Utah and Nevada
Mining Eng., v 12, no. 3, p. 251-265 incl. sketch maps, sections, and dia-

OSMOND, John Kenneth. See ADAMS, John Allan Stewart 4-60

OSPOVAT, Alexander Meier 1-60. Abraham Gottlob Werner and his influence on mineralogy and geology
[abs ] Dissert Abs., v. 21, no 3, p 600-601, Sept 1960

OSTENSO, Ned A. See WOOLLARD, George Prior 1-60

OSTERWALD, Frank William 1-60. (and BRODSKY, Harold) Tentative correlation between coal bumps and
orientation of mine workings in the Sunnyside No 1 mine, Utah Art 64 in 
U S Geol Survey Prof. Paper 400-B, p. B144-B146 incl. sketch map and 
diagrams, 1960.

OSTROM, Meredith Eggers 1-60. An interlayer mixture of three clay mineral types from Hector,
California Am. Mineralogist, v 45, nos 7-8, p 886-889 incl. diagrams,

O’SULLIVAN, John Blandford See also CARSON, C. E 2-60, COULTER,
Henry Welty 1-60
1-60. (and HUSSEY, Keith Morgan) Noneolian origin for silts of the Arctic
Dec 1960.
OTTE, Carol, Jr  See SLACK, Howard Addison 1-60, 2-60

OTTE, Mary E  See THOMSON, Robert D 1-60

OUTERBRIDGE, William F.  See also PESELNICK, Louis 1-60
1-60  (and STAATZ, Mortimer Hay, and MEYROWITZ, Robert, and POMMER, Alfred Michael)  Weeksite, a new uranium silicate from the Thomas Range, Juab County, Utah. Am Minerologist, v 45, nos 1-2, p 39-52 incl. tables and illus., Jan.-Feb 1960

OUTLAW, Donald E  See TURNER, Samuel Foster 1-60

OVERSTREET, Elizabeth Fischer.  See OVERSTREET, William Courtney 5-60

OVERSTREET, Roy  See TABIKH, A A 1-60

OVERSTREET, William Courtney.  See also BELL, Henry, 3d 2-60
2-60. (and BELL, Henry, 3d) Geologic relations inferred from the provis- 
    sional geologic map of the crystalline rocks of South Carolina.  Art 87 in 
    U. S. Geol. Survey Prof. Paper 400-B, p. B197-B199 incl. geol. sketch and 
    index map, 1960.
3-60. (and THEOBALD, Paul Kellogg, Jr., and WHITLOW, Jesse William)  
    Thorium and uranium resources in monazite placers of the western 
    Piedmont, North and South Carolina.  Am Inst Mining, Metall, and 
    Petroleum Engineers Trans 1959, v. 214, p 709-714 incl. sketch map and 
    tables, 1960
4-60 (and BELL, Henry, 3d) Notes on the Kings Mountain belt in Laurens 
    County, South Carolina.  South Carolina State Devel Board Div. Geology 
    Geol. Notes, v. 4, no 4, p. 27-30 illus., July-Aug 1960
5-60. (and OVERSTREET, Elizabeth Fischer, and BELL, Henry, 3d) Pseudo-
    morphs of kyanite near Winnsboro, Fairfield County, South Carolina.  South 
    Carolina State Devel Board Div. Geology Geol. Notes, v. 4, no 5, p 35-39, 
    Sept-Oct. 1960
6-60. (and BELL, Henry, 3d) Geochemical and heavy-mineral reconnais-
    sance of the Concord SE quadrangle, Cabarrus County, North Carolina.  
    U. S. Geol. Survey Mineral Inv Field Studies Map MF-235, scale 1 24,000 
    (1 in. to 2,000 ft.), with text, 1960

OWEN, Vaux, Jr., 1927-1961. See also CALLAHAN, J. T. 1-60
1-60. Geology and ground-water resources of Lee and Sumter Counties, 
    southwest Georgia [abs.] Georgia Acad. Sci Bull., v 18, nos. 1-2, p. 10-
    11, Apr. 1960

OWENS, Harold William
1-60. Florida-Bahama platform [abs.] Am. Assoc Petroleum Geologists 
    Bull., v. 44, no. 9, p. 1602, Sept 1960
2-60 Florida-Bahama platform [abs.] Am Assoc Petroleum Geologists 
    Bull., v. 44, no. 7, p. 1254, July 1960
3-60 Florida-Bahama platform [abs.] Gulf Coast Assoc Geol Soc.s Trans., 
    v. 10, p. 86, 1960

OWENS, James Patrick. See also MINARD, J. P. 1-60
1-60. (and ALTSCHELER, Zalman Samuel, and BERMAN, Robert Morris)  
    Millisite in phosphorite from Homeland, Florida.  Am. Mineralogist, v 45, 
    nos. 5-6, p 547-561 incl. diagrams, tables, and illus., May-June 1960. 
2-60. (and MINARD, James Pierson, and WIESNET, Donald Richard)  
    Concentrations of "ilmenite" in the Miocene and post-Miocene formations near 
    Trenton, New Jersey.  Art. 28 in U. S. Geol Survey Prof. Paper 400-B, 
    p. B57-B59 incl. index map and tables, 1960
3-60. (and MINARD, James Pierson) Some characteristics of glauconite 
    from the coastal plain formations of New Jersey.  Art 196 in U. S. Geol. 
    Survey Prof. Paper 400-B, p B430-B432 incl. tables, 1960
OWENS
4-60 (and MINARD, James P.) The geology of the north-central part of the New Jersey coastal plain Johns Hopkins Univ. Studies Geology, no 18, Guidebook 1, 45 p. incl. geol., sketch maps and charts, 1960 (1960 annual convention, American Association of Petroleum Geologists and Society of Economic Paleontologists and Mineralogists.)

OWER, John R.

OZARK MOUNTAIN GEM and MINERAL SOCIETY

PABST, Adolf. See also DAVIS, G A 1-60

PACKARD, Earl Leroy

PACKHAM, G H.
1-60 (and CROOK, Keith A W ) The principle of diagenetic facies and some of its implications Jour Geology, v 68, no 4, p 392-407 incl diagrams and tables, July 1960

PADGHAM, W A
1-60. The Otter Lake Area (East Half), in Cheesman, R. L., Summary report of geological surveys conducted in the Precambrian area of Saskatchewan, 1960 Regina, Saskatchewan Dept Mineral Resources, Mines Br, Geology Div p. 6-7 [1960]
2-60. The geology of the Otter Lake area (west half), Saskatchewan Saskatchewan Dept. Mineral Resources Rept 41, 34 p incl tables and illus , index and geol. maps, 1960

PAGE, Lincoln Ridler
1-60. The source of uranium in ore deposits Internat Geol. Cong , 21st, Copenhagen, 1960, Rept., pt 15, p. 149-164, 1960

PAGE, Thornton Leigh
1-60. The origin of the earth, in Smithsonian treasury of science, V. 1, True, W. P., ed New York, N Y , Simon and Schuster, Inc , p. 55-78, illus., revised 1960, originally published 1948

PAGE, Virginia M.
1-60. How to identify fossil wood--Pt. 2, The structure of wood Gems and Minerals, no 271, p 24-31 incl. illus ., Apr 1960

PAGES of HISTORY
1-60. Diving and digging for gold Sausalito, Calif , 23 p., illus., 1960.

310
PALMER

PAN, S A.

PAKKER, Louis Charles, Jr. See also MABEY, D. R 2-60
1-60 Volcanism in eastern California--A proposed eruption mechanism Art 189 in U S. Geol Survey Prof Paper 400-B, p B411-B414 incl, tectonic and gravity maps and diagrams, 1960

PALACAS, James George

PALACHE, Charles, 1869-1954
1-60. A comparison of the ore deposits of Langban, Sweden, with those of Franklin, New Jersey--Notes, Minerals Franklin and Sterling Hill, New Jersey, v. 1, no. 4, p. 67-70, table, July 1960

PALADINO, Albert E., Jr.
1-60 Phase equilibria in the ferrite region of the system FeO-MgO-Fe2O3 Am Ceramic Soc Jour., v 43, no 4, p 183-191 incl. diagrams and tables, Apr 1, 1960.

PALLISTER, Alfred Ernest
1-60. Continuous seismic profiler--A new Far North exploration tool Oil and Gas Jour., v. 58, no. 33, p. 132, 135 incl. sketch map and illus., Aug. 15, 1960.

PALLISTER, Hugh Davidson, 1883-1961. See also BURCHARD, E F. 1-60

PALMER, Allison Ralph See also ROSS, R. J., Jr 1-60
PALMER


PALMER, Katherine Van Winkle

PALMORE, Robert D

PALQUEST, Wilbur Nathaniel, Jr See also HALL, F. R. 1-60-15-60
1-60, (and HALL, Francis Ramey) Geologic map of Bullitt, Jefferson, and Oldham Counties, Kentucky (county group 22) U S. Geol Survey Hydrol. Inv Atlas HA-22, sheet 1, scale 1 125,000 (about 1 in. to 2 mi.), 1960
2-60 (and HALL, Francis Ramey) Availability of ground water in Bullitt, Jefferson, and Oldham Counties, Kentucky (county group 22) U S. Geol. Survey Hydrol Inv. Atlas HA-22, sheet 2, map, scale 1 125,000 (about 1 in to 2 mi.), 1960
4-60. (and HALL, Frances Ramey) Geologic map of Boone, Campbell, Grant, Kenton, and Pendleton Counties, Kentucky (county group 15) U S. Geol. Survey Hydrol Inv Atlas HA-15, sheet 1, scale 1 125,000 (about 1 in to 2 mi.), 1960
5-60. (and HALL, Frances Ramey) Availability of ground water in Boone, Campbell, Grant, Kenton, and Pendleton Counties, Kentucky (county group 15) U S Geol Survey Hydrol Inv Atlas HA-15, sheet 2, map, scale 1 125,000 (about 1 in to 2 mi.), 1960
7-60, (and HALL, Frances Ramey) Geologic map of Bracken, Harrison, Mason, Nicholas, and Robertson Counties, Kentucky (county group 16) U. S. Geol Survey Hydrol Inv. Atlas HA-16, sheet 1, scale 1 125,000 (about 1 in to 2 mi.), 1960.
8-60 (and HALL, Frances Ramey) Availability of groundwater in Bracken, Harrison, Mason, Nicholas, and Robertson Counties, Kentucky (county group 16) U S. Geol. Survey Hydrol. Inv. Atlas HA-16, sheet 2, map, scale 1 125,000 (about 1 in to 2 mi.), 1960
10-60 (and HALL, Frances Ramey) Geologic map of Lewis and Rowan Counties, Kentucky (county group 17) U. S. Geol. Survey Hydrol Inv. Atlas HA-17, sheet 1, scale 1 125,000 (about 1 in to 2 mi.), 1960
11-60. (and HALL, Frances Ramey) Availability of ground water in Lewis and Rowan Counties, Kentucky (county group 17) U. S. Geol. Survey Hydrol. Inv. Atlas HA-17, sheet 2, map, scale 1 125,000 (about 1 in to 2 mi.), 1960.
14-60 (and HALL, Frances Ramey) Availability of ground water in Boyle, Garrard, Lincoln, and Mercer Counties, Kentucky (county group 20) U S. Geol, Survey Hydrol. Inv. Atlas HA-20, sheet 2, map, scale 1 125,000 (about 1 in. to 2 mi.), 1960.

312

16-60 (and HALL, Frances Ramey) Geologic map of Bourbon, Fayette, Jessamine, and Scott Counties, Kentucky (county group 25) U S Geol Survey Hydrol. Inv. Atlas HA-25, sheet 1, scale 1 125,000 (about 1 in to 2 mi.), 1960


PALOWITCH, E. R See GRAY, T E 1-60, 2-60

PAMPEYAN, Earl Haig See TSCHANZ, C. M 2-60

PANEK, Louis A.
1-60 Measurement of rock pressure with a hydraulic cell [abs ] Mining Eng., v 12, no. 12, p 1247, Dec. 1960

PANTIN, Henry M.
1-60 Dye-staining technique for examination of sedimentary microstructures in cores Jour Sed Petrology, v 30, no. 2, p 314-316 incl table and illustr , June 1960

PAPKE, James J.

PARHAM, Walter E.
1-60 Lower Pennsylvanian clay resources of Knox County, Illinois Illinois State Geol. Survey Div Circ. 302, 19 p , illustr., 1960

PARK, Roderic

PARK, William H

PARKER, Ben Hutchinson, Jr

PARKER, Edgar
1-60 Determinaciones de permeabilidad [El Salvador] Energía Geotérmica Informe, no 1, p 144-147 incl sections [1960].

PARKER, Frank Leon

PARKER, John Mason, 3d

PARKER, John William. See also BROWN, B. R 1-60, PICARD, M. D. 2-60, 3-60

PARKER, Patrick LeGrand. See also HOERING, T. C. 1-60

PARKER, Pierce Dow

PARKER, Robert Hallett. See also GOLDBERG, E. D. 1-60

PARKER, Verlyn See WILLIAMS, J Stewart 1-60

PARKINSON, L. J., Jr

PARKS, William Scott
1-60. Prentiss County geology, with a section on Ground-water resources by B. E Ellison, Jr. and E H Boswell Mississippi State Geol. Survey Bull 87, [154] p., illus. incl. geol. map, 1960.

PARMELEE, Gertrude

PARRISH, William

PARROTT, William T. See GOOCH, Edwin Octavius 1-60

PARRY, William T.

PARSONS, Gordon W

PARSONS, Willard Hall

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PATTERSON


3-60 John Reed Moseley, 1900-1959 Jour. Geol. Education, v. 8, no 1, p 40, spring 1960

PARWEL, A. See GAVELIN, S. 1-60

PATCHETT, Joseph Edmund See also MAIR, J. A. 1-60


PATCHICK, Paul F.

PATTERSON, M S. See GRIGGS, D. T. 6-60

PATTERSON, Norman R. See also MACKAY, D. G. 1-60

PATTERSON, S

PATNODE, Homer Whitman See TRUMP, Robert P. 1-60

PATTEE, Eldon C
1-60. Tungsten resources of Montana--Deposits of the Mount Torrey batholith, Beaverhead County U S Bur Mines Rept Inv 5552, 41 p incl geol and other sketch maps, diagrams, tables, and illus., sketch maps, 1960

PATTERSON, Arthur Lindo

PATTERSON, Elmer Davisson

PATTERSON, John Robert. See also ZELL, R. L. 1-60

PATTERSON, Reid

PATTERSON, Sam Hunting
PATTERSON, Samuel Oliver

PATTERSON, John B.

PATTERSON, William Wallace, Jr

PAUL, H. P.

PAULSON, Oscar Lawrence, Jr

PAULY, Hans

PAUTARD, Frederick G. E.

PAVLIDES, Louis
1-60. Structurally localized metamorphism of manganese deposits, Aroostook County, Maine Art 211 in U. S. Geol Survey Prof Paper 400-B, B463-B465 incl. table, 1960

PAYNE, Max B. See SOC. ECON PALEONTOLOGISTS and MINERALOGISTS Pacific Sec 1-60

PAYNE, William Ross

PEACOR, D. R.

PEAK, Wilferd W. See FUQUA, Wallace Dunham 1-60, 2-60

PEARCE, Denis Wiffen. See also SCHWENDIMAN, L. C. 1-60
PEARCY, G Etzel  

PEARL, Richard Maxwell  
1-60. Geology--an introduction to principles of physical and historical geology, with examination and answers keyed to standard textbooks New York, N Y , Noble, Coll Outline Ser , no. 13, 260 p , illus , 1960

PEARRE, Nancy C.  

PEARSON, George Raymond  
1-60 (and SHAW, Denis Martin) Trace elements in kyanite, sillimanite and andalusite Am. Mineralogist, v. 45, nos. 7-8, p. 808-817 incl. tables, July-Aug 1960

PEARSON, Walter J  
2-60. (and PHEMISTER, Thomas Crawford, and THOMSON, James Edgar) Dryden township, District of Sudbury Ontario Dept Mines Prelim Map F.56, geol. map, scale 1 in. to 1/4 mi., with separate legend and text [May 22, 1960]

PEASE, Maurice H , Jr See also BRIGGS, R P 1-60
1-60 Structural control of hydrothermal alteration in some volcanic rocks in Puerto Rico Art 165 in U S Geol. Survey Prof. Paper 400-B, p. B357, B360-B363 incl index, geol., and fault maps, 1960
2-60, (and BRIGGS, Reginald Peter) Geology of the Comerio quadrangle, Puerto Rico U.S Geol. Survey Misc Geol, Inv. Map I-320, scale 1 20,000 (about 1 in. to 1,700 ft ), with sections and text, 1960

PEASE, Robert W.  

PECK, Dallas Lynn  

PECK, Joseph Howard, Jr. See also LANGENHEIM, R L., Jr 4-60

PECK, Ralph Brazelton See TERZAGHI, Karl 2-60

PECKHAM, Alan Embree  
PECORA, William Thomas. See also BRYANT, B. H. 1-60

PEDDER, Alan Edwin Hardy

PEDERSEN, K. See KOCH, B. Eke 1-60

PELLETIER, Bernard Roderick
1-60 The measurement of grain diameters in thin section with the use of a strip gauge Carleton Univ. Dept Geology Geol. Paper 60-1, 5 p., illus., 1960.

PEMBERTON, Earl
1-60, (editor, and others) The minerals of Boron, California. Montebello, Mineral Research Soc. California, 40 p., illus., 1960

PENNSYLVANIA EARTH and SPACE SCIENCE COURSE ADVISORY COMMITTEE

PENNSYLVANIA GEOLOGISTS
1-60, (WISE, Donald Underkofler, and KAUFFMAN, Marvin Earl, editors) Some tectonic and structural problems of the Appalachian Piedmont along the Susquehanna River, 25th annual field conference, October 22-23, 1960, guidebook. Lancaster, Franklin and Marshall Coll., [103] p. incl. geol. and other sketch maps, and diagrams, illus., 1960 Includes individual papers which are cited separately.

PENNY, John Sloyan. See GROOT, Johan Jacob 1-60

PENTTILLA, William Charles. See BADGLEY, Peter Coles 1-60, 3-60

PEOPLES, Joe Webb. See JONES, William Rich 1-60

PEREZ la SALVIA, Hugo. See WALKER, Fred C. 1-60

PERKINS, Henry Frank. See GIDDENS, Joel 1-60

PERLMUTTER, Nathaniel Matthew
1-60 Sources of ground water in southeastern New York U. S. Geol. Survey Circ. 417, 9 p. incl. index map and table, 1960

PERLOFF, Alvin
1-60, (and BLOCK, Stanley) Low temperature phase transition of colemanite Am Mineralogist, v 45, nos. 1-2, p 229, Jan-Feb. 1960

PERMIAN SUBCOMMITTEE of the National Research Council's Committee on Stratigraphy
1-60, (Dunbar, Carl Owen, chm.) Correlation of the Permian formations of North America Geol Soc. America Bull, v. 71, no. 12, pt. 1, p 1763-1805 incl. diagrammatic sections, correlation chart, Dec 1960

PERRET, William Rikers See ADAMS, W M 2-60, VORTMAN, Luke J. 1-60
PERRUILLAT MONTOYA, María del Carmen

PERRY, Annette Josephine

PERRY, Douglas. See DAUGHTRY, Arthur C. 1-60

PERRY, Eugene Sheridan

PERRY, J. Kent

PERRY, Stanley Calvin, 1904–1936. See CANADA GEOL. SURVEY 13-60

PERRY, Thomas Gregory. See also UTGAARD, John 1-60, 2-60
2-60. (and HATTIN, Donald Edward) Osgood (Niagaran) bryozoans from the type area [Indiana] Jour. Paleontology, v. 34, no 4, p 695-710, illus., July 1960

PESELNICK, Louis

PESQUERA VELAZQUEZ, Rubén
1-60 (and CARBONELL CORDOBA, Manuel, and others) Geología y exploración de los depósitos de carbón de la región de San Marcial, Estado de Sonora México Consejo Recursos Nat no Renovables Bol. 59, 39 p., illus., 1960.

PESSAGNO, Emile A., Jr.
3-60 Thin-sectioning and photographing smaller foraminifera Micropaleontology, v. 6, no 4, p 419-423, illus., Oct. 1960

PESTANA, Harold Richard
1-60. Fossils from the Johnson Spring formation, Middle Ordovician, Independence quadrangle, California. Jour. Paleontology, v. 34, no. 5, p 862-873 incl. geol. sketch map, illus., Sept 1960

PETCH, Howard Earl See HOLUJ, F. 1-60
PETERS

PETERS, Jack Warren

PETERSEN, N S See BABER, Kenneth D. 1-60

PETERSEN, Richard G

PETERSON, Dallas Odell
1-60. Regional stratigraphy of the Pennsylvanian system in northeastern Utah, western Wyoming, northwestern Colorado, and southeastern Idaho [abs.] Dissert. Abs., v. 20, no 7, p. 2757, Jan 1960

PETERSON, Donald William
1-60. Geology of the Haunted Canyon quadrangle, Arizona U. S. Geol. Survey Geol. Quad Map GQ-128, scale 1 24,000 (1 in to 2,000 ft), with sections and text, 1960

PETERSON, Melvin N. A

PETERSON, Norman V.
1-60. Geology of the Lakeview, Oregon, uranium area [abs ] Mining Eng., v. 12, no. 6, p. 534, June 1960.

PETERSON, Warren L

PETROLEUM INFORMATION
1-60. Rocky Mountain oil and gas operations for 1959, 30th annual resume Denver, Colo, [159] p. incl. illus and maps, 1960.
2-60. Map of the Rocky Mountain region 1960 ed., revised, Denver, Colo, scale 1 in. to 16 mi. [1960].

PETROW, Henry George

PETRUK, William
1-60. The Clearwater copper-zinc deposit, New Brunswick, and its setting, with a special study of mineral zoning around such deposits [abs.] Canadian Mining Jour., v. 81, no. 1, p. 94, Jan. 1960

PETSCH, Bruno Carl

PETTERSSON, Hans
1-60 The accretion of cosmic matter to the Earth Endeavour (London), v 19, no 75, p. 142-146 incl. diagram and illus., July 1960

PETTIJOHN, Francis John. See also BOSWELL, P. G H 1-60
1-60. Some contributions of sedimentology to tectonic analysis Internat Geol. Cong., 21st, Copenhagen, 1960, Rept., pt 18, p. 446-454 incl. diagrams and tables, 1960

320
PETTY, John Kirkpatrick
1-60. Interpretation of air-drilled samples Petroleum Engineer for Management, v 32, no 1, p B-88, B-90, B-94-B-95, B-98 incl diagram and illus., Jan 1960.

PETTY, Wayne A
1-60. The Dakota controversy South Dakota Acad Sci Proc. 1959, v 38, p 34-38, illus., Jan 1960

PÉWÉ, Troy Lewis

PEYTON, Garland
1-60. Georgia, record exploratory activity reported World Oil, v 150, no 7, p 106-108 incl. sketch map, June 1960

PFISTER, A J See STEWART, Lincoln Adair 1-60

PHARR, Richard F. See MITCHELL, Richard Scott 3-60

PEWELS, Girard W
1-60. Practical grain size analysis of clays--[Pt ] 3, Log probability data plotting Am Ceramic Soc Bull., v 39, no 5, p 267-269 incl diagrams and tables, May 1960

PHEMISTER, Thomas Crawford See also PEARSON, W J. 2-60
3-60. (and MacGREGOR, Ian D.) Broder township, District of Sudbury Ontario Dept. Mines Prelim Map P 57, geol map, scale 1 in. to 1/4 mi., with separate legend and text [May 22, 1960]
4-60. (and GRANT, James A.) Dill township, District of Sudbury Ontario Dept Mines Prelim, Map P 58, geol map, scale 1 in. to 1/4 mi., with separate legend and text [May 22, 1960].

PHIFER, Robert L.

PHILBRICK, Shailer Shaw
1-60. Cyclic sediments and engineering geology Internat Geol Cong., 21st, Copenhagen, 1960, Rept , pt. 20, p. 49-63 incl. sections and chart, 1960

PHILLIPS, Julien F. See GARRETT, Donald Everett 1-60

PHILLIPS, Victor Arthur

PHILPOTT, Thomas Hughes
PHILPOTT


3-60. Lower Cretaceous trend of south Arkansas, north Louisiana, Mississippi and Alabama [abs.] Gulf Coast Assoc. Geol Soc. Trans., v. 10, p. 275-277 incl. sketch maps and section, 1960

PHINNEY, William Charles

PHIPPS, Rollin E.
1-60. A case history of the Bronte (Ellenburger) and Rawhins fields, Coke County, Texas. Geophysics, v. 25, no. 6, p. 1167-1183 incl. sketch maps, diagrams, and chart, Dec, 1960

PHLEGER, Fred B. See also SHEPARD, F. P. 3-60


PHOENIX, David Allen

PICARD, Meredith Dane


PICKARD, George Lawson

PICKELL, James J.

PICKETT, George Richard
PINKLEY

PIERCE, Arthur Preble

PIERCE, Richard LeRoy

PIERCE, Richard Lacy
1-60 (and GARRITY, Martin J.) Waterfall performance, Upper Terminal zone, Fault Block VB, Wilmington Oil Field [Calif] Mines Mag., v. 50, no. 11, p 37-43 incl. sketch maps, section, and diagrams, Nov. 1960

PIERCE, William Gamewell

PIERCE, William Dwight

PIERSON, Lloyd

PILKEY, Orrin H.
1-60. (and HOWER, John, Jr ) The effect of environment on the concentration of skeletal magnesium and strontium in Dendraster Jour Geology, v 68, no 2, p 203-216 incl diagrams and tables, Mar. 1960

PILMORE, Charles Lee. See IZETT, Glenn Arthur 1-60, WITKIND, Irving Jerome 2-60

PINCUS, Howard Jonah
2-60. Secrets of the sea--Oceanography for young scientists Columbus, Ohio, Am Education Pubs., 31 p incl sketch maps, diagrams, and illus., 1960.
3-60. Engineering geology of the Ohio shore line of Lake Erie, Sheets A-E Ohio Div Shore Erosion Tech Rept 7, 1960

PINE, Clyde Anthony

PINKLEY, George Roger
1-60. Southwest Texas exploration centers on Edwards trend--Pt 1, The deep Edwards trend [Texas]--Pt. 2 Oil and Gas Jour., v. 58, no. 47, p. 262, 265-266 incl. structure contour map, Nov. 21, 1960, no. 48, p 112, 115, 117-118 incl index map, Nov. 28, 1960

323
PINKLEY

2-60 Edwards gas trend of South Texas, in Natural gas in the Southwest Southwestern Federation Geol. Soc.s Trans., v. 1, p. 63-79 incl. sketch maps, 1960

PINSAK, Arthur Peter

PINSON, William Hamet, Jr. See FAIRBAIRN, Harold Williams 1-60, 3-60.
HART, Stanley R. 1-60, HERZOG, Leonard Frederick, Jr. 2-60, HURLEY, Patrick Mason 1-60

PIRKE, Earl Conly

PITSON, Sylvain Joseph
1-60 How to make geochemical exploration succeed World Oil, v. 150, no. 5, p. 93-96 incl. diagram, Apr. 1960

PISTORIUS, Carl W.F.T.
2-60. Lattice constants and probable space group of anhydrous cupric sulfate (artificial chalcocyanite). Am. Mineralogist, v. 45, nos. 5-6, p. 744-746 incl. table, May-June 1960

PITCHER, Max Grow
1-60 Fusulinids of the Cache Creek group, Stikine River area, Cassiar District, British Columbia, Canada. Brigham Young Univ. Research Studies Geology Ser., v. 7, no. 7, 64 p., illus., May 1960.

PITRAT, Charles William. See BUDDING, Antonius Jacob 1-60

PITTMAN, E. D. See PROTZMAN, Don L. 1-60

PLATT, Lucian B.

PLESSET, Milton S. See also LATTER, A. L. 1-60

324
PLOCH, Richard A. See KESLING, Robert Vernon 2-60

PLOUFF, Donald F. See also KELLER, G V 3-60

PLUMMER, Norman Vincen

PLUNKETT, J D

POBORSKI, Stanislaw J.

POCOCK, Stanley A J See CRICKMAY, C H. 3-60, STAPLIN, Frank Lyons 1-60, 2-60, ZIEGLEN, Walter Heinrich 2-60

POETSCH, Ernst See RIECKEN, Frank Frederick 1-60

POINDEXTER, Edward Haviland

POLAND, Joseph Fairfield
2-60 Land subsidence in the San Joaquin Valley, California, and its effect on estimates of ground-water resources Internat. Assoc Sci Hydrology (Gentbrugge, Belgium) Pub 52, p. 324-335 incl. sketch maps, diagrams and French abs., 1960

POLANSKY, Theodore Stephen
1-60. (and DONALD, Harold Jack, and KINNEY, Corliss Robert) Structure of high-rank coals deduced from helium densities Nature (London), v 186, no. 4727, p. 792-793, illus , June 4, 1960

POLDERVAART, Ane. See also TAUBENECK, W H 1-60

POLLACK, Henry N.
1-60 Interglacial Fall Creek west of Beebe Lake, Ithaca, New York Compass, v 37, no 2, p. 66-72 incl sketch maps and diagram, Jan. 1960.

POLLACK, Jerome Marvin. See HARRINGTON, John Wilbur 1-60

POLLACK, Sidney Solomon See GRANQUIST, William Thomas

POLLOCK, Donald William Thomas
1-60. Preliminary report on Lesage-Rivard area, electoral district of Labelle Quebec Dept Nat Resources Geol. Surveys Br Prelim. Rept. 441, 11 p , geol map, 1960, also French ed.

POLLOCK, Gerald D.
1-60. Age determination of granitic rocks from Manitoba and northwestern Ontario by the lead-alpha method [abs ] Canadian Mining Jour, v. 81, no 11, p. 114, Nov 1960

POLLOCK, Herbert Chermside. See GOW, James Donald 1-60
POLLOCK, James Percy

POLLOCK, Samuel J.
1-60. Ground-water map of the North Scituate quadrangle, Rhode Island, showing water-bearing formations and related ground-water data Rhode Island Water Resources Coordinating Board Ground-Water Map GWM 12, scale 1:24,000 (1 in. to 2,000 ft.), with sections, 1960

POMEROY, John S. See LATHRAM, Ernest Hartwell 2-60

POMEROY, Paul W. See also OLIVER, J. E. 1-60

POMMER, Alfred Michael. See also CARROLL, Dorothy 1-60, 2-60, OUTER-BRIDGE, W. F 1-60

PONCE, Tomás
1-60 Los cráteres lunares no son de origen volcánico--A propósito de la afirmación del Ruso Dr. N. A. Kozirev San Salvador, Ministerio de Cultura, 68 p., 1960.

POND, Gordon G
1-60. Rescuing the fossil remains of an imperial mammoth [New Mexico] Desert Mag., v. 23, no. 5, p. 12-13 incl. sketch map and illus., May 1960.

PONDER, Herman
1-60. The geology, mineralogy, and genesis of selected fireclays from Latah County, Idaho [abs ] Dissert. Abs., v 20, no 7, p 2757-2758, Jan 1960.

POOLE, David M. See Van ANDEL, Tjeerd Hendrik 1-60

POOLE, Forrest Graham See HOUSER, Frederick Northrop 1-60, 3-60

POOLE, Joseph L. See BRODING, Robert Andrew 1-60

POOLE, William Hope. See also CANADA GEOL SURVEY 40-60
1-60. Hayesville and McNamee map-areas, York, Northumberland, and Carleton counties, New Brunswick Canada Geol. Survey Paper 60-15, 10 p., illus incl geol maps, 1960

POOLEY, Robert Neville

POPE, John Keyler. See also CASTER, K E 1-60
1-60. Sokolophocoleus, new name for the Machaeridlan genus, Lophocoleus Ruedemann Jour Paleontology, v 34, no 5, p 1054, Sept 1960, discussion of paper by Ruedemann, R., New York State Mus Bull 327, p 45-71, illus., Apr. 1942
POWENOE, Willis Parkinson See also MATSUMOTO, Tatsuro 2-60
1-60 (and IMLAY, Ralph Willard, and MURPHY, Michael A.) Correlation of the Cretaceous formations of the Pacific Coast (United States and northwestern Mexico) Geol. Soc. America Bull., v 71, no. 10, p 1491-1540 incl. index maps, correlation chart, Oct. 1960

PORTER, James L

PORTER, Stephen Cummings
1-60. The surficial geology of the Wallingford quadrangle, with map Connecticut State Geol. and Nat. History Survey Quad. Rept. 10, 42 p., illus incl. geol. map, 1960

POSNER, Aaron Sidney

POST, Austin S

POST, Edwin Vanhorn See GOTT, Garland Bayard 1-60

POTHIER, O. E
1-60 Western phosphate mining Mining Cong. Jour., v. 46, no. 7, p. 49-52 incl. illus., July 1960.

POTTER, Donald B See ESPENSHADE, Gilbert Howry 1-60, NEW YORK STATE GEOL. ASSOC. 1-60

POTTER, Loren David

POTTER, Paul Edwin See also ATHERTON, Elwood 1-60, SIEVER, Raymond 2-60

POTTER, R. A

POUGH, Fredrick Harvey

POULIN, Ambrose O. See LEIGHTY, Robert D 1-60

POWELL, William Jenner. See LaMOREAUX, Philip Elmer 3-60

327
POWER

POWER, Walter Robert, Jr
1-60. Backset beds in the Coso formation, Inyo County, California [abs ]

POWERS, Howard Adorno See also LEWIS, R. Q 1-60, YOUNG, E J 1-60
1-60. Alkalic lava flow, with fluidity of basalt, in the Snake River Plain,
2-60 A distinctive chemical characteristic of Snake River basalts of Idaho
3-60. (and COATS, Robert Roy, and NELSON, Willis Howard) Geology
and submarine physiography of Amchitka Island, Alaska U. S. Geol.

PRATHER, R. W
1-60. Geology of gas occurrences in Paleozoic rocks of the Alberta plains,
a summary [abs ] Oil in Canada, v 12, no 29, p. 29-30, May 16, 1960

PRATT, Wallace Everette

PRAY, Lloyd Charles
1-60. Compaction in calc lutites [abs ] Geol. Soc America Bull , v 71,
no 12, pt 2, p 1946, Dec 1960

PRECAMBIAN
1-60 Lithium—useful metal has half of water’s weight Precambrian, v 33,
no. 8, p 37-39 incl. sketch maps, diagrams, and illus , Aug. 1960
2-60 Mapping Canada’s bedrock Precambrian, v 33, no 9, p 8-15 incl. table
and illus , Sept. 1960

PRENDERGAST, J. B
1-60. The use of the gravity meter as an exploration and development tool in
iron ore prospecting [abs. ] Canadian Mining and Metall. Bull, v. 53,
no 575, p 194, Mar 1960

PRENTISS, David. See DORMAN, Henry James 1-60

PRESCOTT, Glenn Carleton, Jr
1-60. The geology of Maine and its relation to water supplies Maine Water

PRESS, Frank See also GRIGGS, D T, 2-60, HEALY, J H 1-60, PAKISER,
L C., Jr. 3-60, WHITE, J E 4-60
1-60. Crustal structure in the California-Nevada region Jour Geophys. Re-
search, v 65, no 3, p. 1039-1051 incl. sketch map, diagrams, and tables,
Mar 1960.
2-60 (and TAKEUCHI, Hitoshi) Note on the variational and homogeneous
layer approximations for the computation of Rayleigh-wave dispersion
Seismol. Soc America Bull., v 50, no. 1, p 81-85 incl. diagram and
tables, Jan 1960
3-60 Seismic wave propagation Am. Geophys Union Trans., v 41, no 2,
p 150-151, June 1960

PRESSMAN, Albert Eli
1-60. Photogeology speeds up groundwork for oil hunters Oil and Gas
Jour., v 58, no 37, p 162-166, 168 incl maps and section, Sept 12,
1960

PREST, Victor Kent
1-60 Geology of the soils of Canada [abs ] Royal Soc Canada Minutes

PRESTON, Roger G. See ADAMS, W. M. 2-60

328
PREWITT, Charles Thompson

PRICE, Charles E

PRICE, Paul Holland

PRICE, Raymond Alex

PRIDDY, Richard Randall
1-60 Madison County geology Mississippi State Geol Survey Bull 88, 123 p., illus incl geol. maps, 1960.

PRIEN, Charles Henry
1-60 Oil shale, Chap 10 in Mineral resources of Colorado, 1st sequel Denver, Colorado Mineral Resources Board, p 443-461 incl sketch map and table, also geol. map, 1960.

PRIMAK, William Leo

PRITCHARD, Roy Lee See HOLLENHEAD, Charles Thomas 1-60

PROBANDT, William Taylor
1-60 Reconnaissance investigation--Paradox Basin salt structures and Moab Valley, Utah Compass, v 37, no. 4, p. 250-268 incl sketch maps, diagram, and illus., May 1960

PROCTOR, Richard Malcolm
1-60. Quantitative clay mineralogy of the Vanguard and Blairmore formations, Southwestern Saskatchewan [abs.] Dissert Abs., v 20, no. 12, p 4635, June 1960

PROCTOR, Paul Dean

PRODUCERS MONTHLY
1-60 Caterpillar perfects seismic analysis method to determinerippability velocity tables now complete Producers Monthly, v 24, no 4, p 26-27 incl. diagrams, Feb 1960

PROSTKA, Harold J See EUGSTER, Hans P 2-60
PROTZMAN, Don L.
1-60. (and CARVER, J. A., and PITTMAN, E. D.) Oligocene marine-
nonmarine relations, coastal Ventura basin, California [abs.] Geol.

PROUTY, Chilton Eaton
1-60. Results of a geology curriculum and standards study, United States
and Canadian schools [abs.] Geol. Soc. America Bull., v. 71, no. 12,

PRUFER, Olaf H.
1-60. Survey of Ohio fluted points, No. 3 Cleveland, Ohio, Cleveland Mus.
Nat History, p. 1-13 incl. sketch map and illus., Nov. 1960

PRUSOK, Rudi A.
1-60. (and EGE, John R.) A simple stereophotographic field method of
rock outcrop description for the geologist Photogramm. Eng., v 26, no. 1,

PRUSS, Donald E.
1-60. (and FREEMAN, Gerald W.) Quantitative geophysics applied to
metallic-mineral-property (e.g. iron-ore) evaluation [abs.] Geol. Soc.

PRYOR, Wayne Arthur
1-60. Cretaceous sedimentation in Upper Mississippi Embayment Am.
Assoc. Petroleum Geologists Bull., v. 44, no. 9, p. 1473-1504 incl. index
and sketch maps, sections, diagrams, and tables, Sept. 1960, correction,
2-60. Sand trends and paleo slope in Mississippi embayment and Illinois basin
1960.

PRYOR, William Thurman. See BELCHER, Donald Jenks 1-60

PYSIAZNIUK, R. Y. See HEYDING, R. D. 1-60

PUFFETT, Willard Penry. See WEIR, Gordon Whitney 1-60, 5-60

PUGH, Derek C.
1-60. The subsurface Gethmg and Bluesky formations of northeastern British

PUGH, Emerson
1-60. Glaciers--The rockhound's benefactors Earth Sci., v. 13, no. 5,
p. 175-177, 188 incl. illus., Oct. 1960

PULSE, Richard R.
1-60. (and SWEET, Walter Clarence) The American Upper Ordovician
standard, [Pt. 3, Conodonts from the Fairview and McMillan formations
of Ohio, Kentucky and Indiana Jour. Paleontology, v. 34, no. 2, p. 237-

PURCELL, Tom E.
1-60. The Mesaverde formation of the north and central Powder River
basin, Wyoming Shale Shaker, v. 11, no. 4, p. 2-22 incl. index and sketch
maps, sections, correlation chart, and discussion by Clark Millison,

PURDOM, William Berlin
1-60. Geology of La Minera Occidental Bosch, S.A., and the Coto Francisco,
Pinar del Rio, Cuba [abs.] Dissert. Abs., v. 21, no. 4, p. 851-852, Oct
1960.
PYKE

PURDUE UNIVERSITY, Joint Highway Research Project
1-60 Engineering soils map, Kosciusko County, Indiana Lafayette, Ind.,
scale about 1 in. to 1 mi., with profiles, 1960.

PURDY, Edward George. See also NEWELL, N D, 2-60
1-60. Recent calcium carbonate facies of the Great Bahama Bank [abs ]
Dissert Abs., v. 21, no. 4, p 852, Oct 1960.

PURI, Harbans Singh. See also SOUTHEASTERN GEOL SOC. 1-60
1-60. (and VERNON, Robert Orion) Notes on the surficial geology of cen­
tral peninsular Florida, in Late Cenozoic stratigraphy and sedimentation of
central Florida Southeastern Geol Soc , 9th Field Trip, May 1960, Guide­
book, p. 1-31 incl index map, section and chart, diagram, 1960
2-60 Recent Ostracoda from the west coast of Florida Gulf Coast Assoc.
Geol. Soc Trans , v.10, p 107-149 incl index map, table, and illus., 1960

PUSEY, Richard D
1-60 Effect of fault-block structures on sedimentary history of Coastal
Plain in North Carolina [abs ] Am. Assoc Petroleum Geologists Bull ,
2-60 Geology and ground water in the Goldsboro area, North Carolina
geol and index maps, cross section, diagrams, tables, and illus., 1960.

PUTNAM, George W
1-60. (and BURNHAM, Clifford Wayne) Distribution of minor elements in
some igneous rocks of central and northwestern Arizona [abs ] Geol.

PUTNAM, John Alpheus
Technology, v 12, no 10, p 62, Oct 1960

PUTNAM, William Clement, 1908-1963
1-60. Faulting and Pleistocene glaciation in the east-central Sierra Nevada
of California, U S A Internat Geol Cong , 21st, Copenhagen, 1960, Rept ,
pt 21, p 270-274 incl geol sketch map, section, and chart, 1960.
2-60 Relation of the McGee glacial stage to the late Cenozoic history of
the Sierra Nevada [abs.] Geol. Soc. America Bull., v. 71, no 12, pt 2,
3-60. Origin of Rock Creek and Owens River Gorges, Mono County, Cali­
fornia California Univ Pubs Geol Sci , v. 34, no 5, p 221-279, illus
incl. geol map, Mar. 7, 1960.
4-60. (and others) Natural coastal environments of the world Los Angeles,
Calif., 140 p., illus , 1960 (Prepared by U S Office Naval Research and
Univ. California)

PYE, Edgar George
1957, v. 66, pt 8, 114 p., illus incl geol maps, 1960
2-60 (and others) Big Duck Lake area, District of Thunder Bay Ontario
Dept Mines Prelim Map P 87, geol map, scale 1 in. to 1/4 mi., 1960

PYE, Willard Dickson See also THOMAS, G C. 1-60
1-60. Techniques of porosity, permeability and insoluble residue analysis of
carbonates and their economic significance--As based on a study of the
Ordovician and Silurian section of the Williston Basin Arizona Geol Soc.
Digest, v 3, p 103-107, Mar 1960
2-60. Preliminary petrographic study of some Cretaceous coals in Arizona
Arizona Geol Soc Digest, v 3, p 109-110, Mar 1960

PYEATT, Bob See OZARK MOUNTAIN GEM and MINERAL SOC. 1-60

PYKE, Murray William
1-60 The Atittiti Lake Area, (West Half), in Cheesman, R L , Summary re-

331
PYKE


PYLE, Howard Carter

QUEBEC DEPARTMENT of MINES
1-60. Annotated list of publications of the Department of Mines of the Province of Quebec, 1883-1960 Quebec, Quebec Dept. Mines, 116 p., 1960

QUIGLEY, Walter Donald

QUILNLAN, James Francis, Jr.

QUINN, Alonzo Wallace. See OLIVER, William Albert, Jr 5-60

QUINN, Harold Arthur See CANADA GEOL. SURVEY 20-60, 43-60

QUINN, James Harrison

QUINN, John C. See MITCHELL, John 1-60, 2-60

QUIRKE, Terence T., Jr
1-60, (and GOLDICH, Samuel S., and KRUEGER, Harold W.) Composition and age of the Temiscamie iron-formation, Mistassini Territory, Quebec, Canada. Econ. Geology, v. 55, no. 2, p 311-326 incl. index and geol. sketch maps and tables, Mar.-Apr. 1960

QURESHY, Mohammed Naseeb

RAASCH, Gilbert Oscar

RABBEN, Ellis L. See CHENEY, Theodore Albert 1-60

RABBITT, John Charles. See HEINRICH, Eberhardt William 7-60

RADER, E. K.
1-60. (and GRIFFIN, V. S.) A petrographic study of some dikes in a quarry in Bluegrass Valley, Highland County, Virginia [abs] Virginia Jour. Sci., v. 11, no. 4, p 213, Sept. 1960
RAMBERG


3-60. On some fossil plants from the Minto Coalfield, New Brunswick Senckenbergiana Lethaea (Frankfurt am Main, Germany), Band 41, Nr 1-6, p. 101-119, illus., Aug. 29, 1960.


2-60. Stratigraphy and its role in the future exploration for oil and gas in the Gulf Coast Gulf Coast Assoc. Geol. Socs. Trans., v. 10, p. 33-75 incl. sketch maps, sections, charts, tables, and illus., sections, 1960.


RAKESTRAW, N. W. See BIEN, George Sung-Nien 1-60.


2-60. Energy transfer from differentiation in a differential pressure system under non-equilibrium conditions----A discussion of "partial quantities"
RAMBERG


RAMP, Lenn
1-60. Gold placer mining in southwestern Oregon Ore.-Bin, v 22, no. 8, p. 75-79 incl sketch map, diagram, and tables, Aug 1960
2-60 The Quartz Mountain silica deposit, Oregon Ore.-Bin, v. 22, no. 11, p. 109-114 incl geol. sketch map and diagram, Nov 1960.

RAMSDELL, Lewis R
1-60. Mineralogy of salt, Chap. 2 of Sodium chloride--The production and properties of salt and brine, Kaufmann, D. W , ed New York, N Y , Reinhold Publishing Corp , p 13-21, illus., 1960

RANDALL, Allan D
1-60. (and BIERSCHENK, William H., and HAHN, Glenn Walter) Ground-water map of the Voluntown quadrangle, Connecticut-Rhode Island, showing water-bearing formations and related ground-water data Rhode Island Water Resources Coordinating Board Ground-Water Map GWM 13, scale 1 24,000 (1 in. to 2,000 ft.), with sections, 1960.

RANDALL, Arthur Guy

RANDOLPH, James Raymond See REMSON, Irwin 1-60

RANKIN, Douglas W

RAPP, George Robert, Jr
2-60 Geochemistry and mineralogy of the zoisite-epidote group [abs] Dissert Abs , v. 21, no 1, p 203-204, July 1960.

RAPSON, June E. See McGUGAN, Alan 3-60

RASCOE, Bailey, Jr

RASE, Daniel Edward. See BAUSCHMANN, Walter W, 1-60, DULIN, F. H 1-60

RASMUSSEN, N. C. See CANTWELL, Thomas 2-60

RASMUSSEN, William Charles
1-60. (and WILKENS, Richard A., and BEALL, Robert MacDonald, and others) Water resources of Sussex County, Delaware, with a section on salt-water encroachment at Lewes Delaware Geol. Survey Bull 8, 228 p., incl index and sketch maps, diagrams, and tables, Dec. 1960

RATCLIFFE, E. H.

RATCLIFFE, John H See also LUNDBERG, H T F. 1-60
RATTÉ, James Clifford  See STEVEN, Thomas August 1-60, 2-60

RATTIGAN, J. H.

RAU, John Llewellyn

RAUP, David Malcolm

RAW, Frank

RAWSON, D E

RAY, Clayton E.

RAY, Louis Lamy

RAY, Richard Godfrey
2-60. Aerial photographs in geologic interpretation and mapping U.S. Geol. Survey Prof. Paper 373, 230 p., illus., 1960

RAY, Satyabrata.  See DODD, Charles Gardner 1-60, HAM, William Eugene 6-60

READ, Charles Brian.  See also BALTZ, Elmer Harold, Jr. 1-60, NEW MEX. GEOL. SOC. 1-60

READ, Peter Burland
2-60. The geology of the Fraser Valley between Hope and Emory Creek, British Columbia [abs.] Canadian Mining Jour., v. 81, no. 11, p. 114, Nov. 1960.

READ, William Franklin

READE, Ernest H., Jr.
1-60. The geology of a portion of Newton and Walton Counties, Georgia [abs.] Georgia Mineral Newsletter, v. 13, no. 2, p. 107, summer 1960
READE

READE, Harold Leslie, Jr. See KNOWLES, Doyle Blewer 1-60

REAGAN, Marion Allen, Jr

REAEVLY, George Harold

RECKE, W. See MUELLER, George 1-60

RECTOR, Michael Robert
1-60 Walnut Grove gas field shows how management thinking changes in California Oil and Gas Jour., v 58, no. 52, p. 197, 199-200 incl. sketch and index maps and section, Dec. 26, 1960

REDDEN, Jack Allison. See also NORTON, J J 2-60
1-60. Rocks, minerals, and ores of the Piney River-Roseland district, Virginia Mineral Industries Jour., v 7, no 2, p 6-7, June 1960

REED, Charles A. See also TURNBULL, W D. 2-60
1-60. Polyphyletic or monophyletic ancestry of mammals, or--what is a class? Evolution, v. 14, no. 3, p 314-332, Sept 1960

REED, Edwin William. See MOGG, Joe Luther 1-60

REED, Eugene Clifton

REED, George W., Jr See ANDERS, Edward 2-60, TILTON, George Robert 3-60

REED, Jack W. See VORTMAN, Luke J 1-60

REED, John Calvin, Jr See also CAROLINA GEOL SOC 1-60
2-60. (and BRYANT, Bruce Hazelton) Lower Cambrian and late Precambrian rocks in the Grandfather Mountain window, North Carolina Washington Acad. Sci Jour., v. 50, no. 7, p. 3-5, Nov 1960

REED, Juliet C

REED, Katherine Milmine
1-60. Insectivores of the Middle Miocene Split Rock local fauna, Wyoming Breviora, no. 116, 15 p., illus., Jan. 6, 1960

REED, William Maxwell

REEDER, Harold Oliver
1-60. (and others) Ground-water levels in New Mexico, 1956 New Mexico State Engineer Tech. Rept. 19, 251 p incl. index and sketch maps, diagrams, and tables, 1960.
REEDER, William Glase
1-60, Two new rodent genera from the Oligocene White River formation (family Heteromyidae) Fieldiana Geology, v. 10, no. 35, p. 511-524, illus., July 22, 1960

REEKIE, Isabel M.

REESE, Robert M. See DIBELER, Vernon H. 1-60

REESE, John B., Jr., 1889-1958 See also FISHER, D. J. 4-60
1-60 (and COBBAN, William A.) Studies of the Mowry shale (Cretaceous) and contemporary formations in the United States and Canada U. S Geol. Survey Prof. Paper 355, 126 p incl sketch maps, sections, diagrams, tables, and illus., also sections, correlation chart, and illus., 1960.

REEVES, Corwin C., Jr.
1-60 (and MOUNT, J. Russell) Possibility of hydrocarbon accumulations along northern flank of Marietta syncline, Love County, Oklahoma Am Assoc. Petroleum Geologists Bull, v. 4, no 1, p 72-82 incl index maps, sections, and tables, Jan 1960
2-60 A closer look at Love County [Oklahoma]--[Pt. 1], Oklahoma's Love County invites new exploration--Pt 2 Oil and Gas Jour, v. 58, no. 1, p 116, 118, 120-121 incl. sketch map, sections, and stratig chart, Jan. 4, 1960, no. 2, p 124, 126, 129-130 incl isopach map, sections, and table, Jan 11, 1960.
3-60 How oil came to be Compass, v 37, no. 3, p 213-219, Mar. 1960

REGIS, Andrew J. See SAND, Leonard B. 1-60

REGNIER, Jerome P.M.
1-60 Cenozoic geology in the vicinity of Carlin, Nevada Geol Soc. America Bull., v. 71, no 8, p. 1189-1210 incl. diagrams, sections, and table, also geol. map and cross sections and illus., Aug. 1960

REICHERT, Stanley Orville
2-60 Florida minerals for construction Florida Devel Comm Indus Div Business Research Rept. 120, 22 p. incl geol map, tables, and chart, Aug. 1960
3-60 Case history studies of how geology and hydrology influence nuclear reactor site locations in Florida Southeastern Geology, v 2, no 1, p 23-41, illus incl geol. sketch maps, Aug 1960.

REICHERT, William H.

REID, A. M.

REID, B. W. See WENGER, Welton J. 1-60

REID, Eugene Fisher
REID, Rolland R.


3-60. Placer deposits of the Elk City region Idaho Bur. Mines and Geology Pamph 121, 26 p., illus. incl. geol. map, July 1960

REILLY, P. T


REISER, Ralph

1-60. (and TASCH, Paul) Investigation of the viability of osmophile bacteria of great geological age Kansas Acad. Sci. Trans., v. 63, no. 1, p. 31-34, spring 1960

REITAN, Paul H.

1-60. The earth's volume change and its significance for orogenesis Jour. Geology, v. 68, no. 6, p. 678-680 incl. table, Nov. 1960

REMICK, Jerome Hosmer

1-60. Exploration of the Harricana-Turgeon area, western Quebec [abs.] Canadian Mining Jour., v. 81, no. 4, p. 85, Apr. 1960

REMINGTON, D. B. See CHARLESWORTH, Henry Alexander Kaye 2-60

REMINGTON, Edward Wade. See BALSLEY, James Robinson, Jr. 2-60

REMSON, Irwin


RENTON, John J.


RETTGER, Robert Ernest


RETTIG, Shirley Louise. See MAGIN, George B., Jr. 1-60

REVELLE, Roger Randall Dougan. See COWEN, Robert C. 1-60

REVES, William Dickenson

1-60. An X-ray study of two Florida land pebble phosphate samples, in Late Cenozoic stratigraphy and sedimentation of central Florida southeastern Geol. Soc., 9th Field Trip, May 1960, Guidebook, p. 50-63 incl. tables, 1960

REX, Robert Walter


REXIN, Elmer E

REXROAD, Carl Buckner
1-60. (and CLARKE, Charles Edward) Conodonts from the Glen Dean Formation of Kentucky and equivalent formations of Virginia and West Virginia Jour. Paleontology, v 34, no 6, p 1202-1206 incl. index map and table, illus., Nov. 1960.

REYNOLDS, C. H.

REYNOLDS, John Hamilton
3-60. The age of the elements in the solar system Sci Am., v. 203, no. 5, p 171-174, 176, 178, 180, 182 incl. diagrams and illus., Nov 1960.

REYNOLDS, Robert Coltart, Jr. See FREDERICKSON, Arman Frederick 2-60, 3-60

REYNOLDS, Stephen Edward
1-60. 24th biennial report of the State Engineer of New Mexico New Mexico State Engineer, 24th Bienn. Rept. 1958-60, 190 p, illus., [1960].

REYNOLDS, Tom D.

REZAK, Richard See LOGAN, B. W. 1-60

RHoads, Donald C.

RhoDehAmeL, Edward Charles. See Carlston, Charles William 1-60

RHODES, Howard S. See THOMAS, G. E. 3-60

RHODES, Mary Louise See Adams, John Emory 1-60

Ribble, Paul H.
1-60 An X-ray and optical investigation of the peristerite plagioclases Am. Mineralogist, v. 45, nos. 5-6, p 626-644 incl. diagrams, tables, and illus., May-June 1960.

Rice, Harington Molesworth Anthony See CANADA GEOL. SURVEY 1-60, 41-60

Rice, Robert Vernon See MASER, Morton 1-60

Rice, Salem J

Rice, William M.
RICH

RICH, A. D

RICH, Charles Irvin

RICH, Ernest I See BROWN, Robert David, Jr 1-60

RICH, Mark
1-60. Chaetetes in the Bird Spring formation near Lee Canyon, Clark County, Nevada Jour Paleontology, v 34, no. 4, p. 761-762, July 1960

RICHARD, B. H.

RICHARD, Kenyon E

RICHARDS, Adrian Frank

RICHARDS, Horace Gardner
1-60 Correlation of Pleistocene shore lines of North America with those of Europe Internat. Geol Cong, 21st, Copenhagen, 1960, Rept , pt 4, p 58-61, 1960

RICHARDS, J. Howard

RICHARDS, Leverett G.
1-60. Ice age coming?--The story of glaciers, bergs, and ice caps New York, N Y, John Day Co, 128 p, illus., 1960

RICHARDS, Norval Richard

RICHARDS, Terence Charles
1-60. Wide angle reflections and their application to finding limestone structures in the foothills of Western Canada Geophysics, v 25, no. 2, p. 385-407 incl. geol. sketch map, section, diagrams, and table, Apr 1960

RICHARDSON, Everett Vern. See SIMONS, Daryl Baldwin 1-60, VANONI, Vito August 1-60, 2-60

RICHARDSON, K A. See ADAMS, J.A.S. 1-60, 2-60
RICHMOND, Gerald Martin

RICHMOND, James Frank

RICHMOND, Jean. See HERRIN, Eugene Thornton, Jr. 2-60

RICHMOND, Jean. See HERRIN, Eugene Thornton, Jr. 2-60

RICHTER, Charles Francis  See also CARDER, D. S. 1-60, FIGUEROA ARCA, J. C 1-60

RICHTER, Donald Herman. See DAVIS, Willard E 1-60, EATON, Jerry Paul 2-60

RICHTER, Raymond C  See FUQUA, Wallace Dunham 3-60

RICKETTS, C. E.

RICKMAN, Edmund Gerald

RIDDELL, John Evans, See also HAWKES, H. E., Jr. 2-60
1-60 Geochemical prospecting methods employed in Canada's glaciated Precambrian terrains Mining Eng., v. 12, no. 11, p 1170-1172 incl. tables, Nov. 1960

RIDGE, John Drew
RIDGEWAY

RIDGEWAY, D. C.

RIECKEN, Frank Frederick

RIGBY, J. Keith. See also McGUGAN, Alan 1-60

RIGGS, Calvin Harold

RIGGS, E. A

RIGGS, Francis Behn, Jr. See KISTNER, Gustav A. 1-60

RIGGS, Robert Jennings, Jr

RIGSBY, George Pierce

RILEY, George C.

RILEY, Leonard Benjamin. See GUDE, Arthur James, 3d 1-60, MIESCH, Alfred Thomas 1-60

RIMMER, W. G

RINEHART, John Sargent. See also AUBERGER, Michel 1-60, 2-60

RISSE, Hubert E. See also FINGER, G. C. 1-60

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RISTOW, Walter W

RITCHIE, R. A. See DRESSEL, Waldemar M. 1-60

RITCHIE, Kenneth M.

RITCHIE, W. D.

RITTENHOUSE, Gordon

RITZIUS, DeVaun Ervn

RITZMA, Howard Russell

ROACH, Carl Houston

ROBB, W. A. See STANFIELD, Kenneth Edison 1-60

ROBBINS, Carl Richard. See also LEVIN, E. M. 1-60

ROBECK, Raymond Clifton
2-60. Subsurface structure map, Lisbon Valley anticline, Utah, Map 1 Grand Junction, Colo., privately printed, scale about 1 in. to 3/4 mi., with separate section, Dec. 1960
4-60. Photogeologic map of the Lisbon Valley anticline and surrounding area, San Juan County, Utah [Map 3] Grand Junction, Colo., privately printed, scale about 1 in. to 3/4 mi. [1960].
5-60. Geologic and structure map, Lisbon Valley, Utah-Colorado, and vicinity, showing oil and gas wells in relation to uranium deposits. Grand Junction, Colo., privately printed, scale about 1 in. to 3 mi. [1960].
6-60. Structure map of Harley anticline, Grand County, Utah [Grand Junction, Colo.] privately printed, scale about 1 in. to 1,000 ft., 1960.

ROBERSON, Charles Elmer See STEVENS, Rollin Elbert 2-60
ROBERSON, Herman Ellis  See JONAS, Edward Charles 1-60

ROBERTS, Albert Eugene.  See JOHNSON, Ross B 2-60

ROBERTS, Archie Carl.  See EWING, John Isaac 1-60

ROBERTS, Carl Harold
1-60, Oriskany found in Pennsylvanian syncline Oil and Gas Jour., v 58, no. 16, p 174, 178 incl sketch map, Apr 18, 1960

ROBERTS, David C.

ROBERTS, Ralph Jackson

ROBERTS, Richard L.  See GELPHMAN, Norman Ray 1-60

ROBERTS, W H., 3d

ROBERTSON, D S
1-60. (and STEENLAND, N. C.)  On the Blind River uranium ores and their origin Econ Geology, v.55, no. 4, p 659-694 incl geol, sketch and isopach maps and sections, diagrams, tables, and illus , June-July 1960

ROBERTSON, Eugene Corley. See also HATHAWAY, J C 1-60
1-60 Creep of Solenhofen limestone under moderate hydrostatic pressure, Chap 8 in Griggs, D T., ed., Rock deformation--A symposium Geol. Soc America Mem 78, p. 227-244, illus., 1960

ROBERTSON, J. A  See ABRAHAM, Earl Michael 1-60—6-60

ROBERTSON, Robert  See KNIGHT, James Brookes 2-60

ROBINSON, Charles Sherwood

ROBINSON, Edward

ROBINSON, Gerald B , Jr  See BULLOCK, Kenneth C. 1-60
ROCH

ROBINSON, Gershon Duvall

ROBINSON, Gilbert Chase

ROBINSON, H. See SCHOFIELD, Wilfred Borden 1-60.

ROBINSON, J. W.

ROBINSON, Peter
2-60. Sinopia from the Cucharas formation of Colorado Postilla, no 44, 4 p., incl. illus., Feb. 15, 1960.

ROBINSON, Stephen Clive. See also LOWDON, J. A 1-60.

ROBINSON, Thomas A. See MOORE, Carl E. 1-60.

ROBINSON, Thomas William. See HUNT, Charles Butler 1-60.

ROBINSON, Turner, Samuel Foster 1-60.

ROBSON, Richard A.

ROBITAILLE, Benoit

ROBSON, Geoffrey Robert

ROBY, Robert Neil

ROCH, Eduoard
ROCKY MOUNTAIN ASSOCIATION of GEOLOGISTS

ROCKY MOUNTAIN ASSOCIATION of GEOLOGISTS

2-60 (DONNELL, John Roswell, and CLEMENT, Belva D., editors) Geological road logs of Colorado Denver, 80 p incl. sections and illus., 1960. Includes a paper by T G. McLaughlin, which is cited separately

RODDA, Peter Ulisse See MURPHY, Michael A 1-60

RODDICK, James Archibald. See CANADA GEOL. SURVEY 38-60 — 40-60, GREEN, Lewis Howard 1-60, 3-60

RODGER, Walton A.
1-60. Radioactive waste disposal Argonne National Lab., Lemont, Ill., Rept. ANL-6233, 169 p., illus, Sept 1960

RODGERS, John See FLINT, Richard Foster 1-60

RODGERS, P A

RODGERS, Robert William

RODES, Harry George
1-60. (and SCHNEIDER, Robert) Occurrence of ground waters of low hardness and of high chloride content in Lyon County, Minnesota U. S. Geol. Survey Circ 423, 2 p., illus, 1960

RODRIGUEZ, Joaquin See also HOROWITZ, A S 1-60, PERRY, T. G. 1-60
1-60. Invertebrate fauna of the Golconda formation (middle Chester) of Indiana, western Kentucky, and southern Illinois [abs ] Dissert Abs, v 21, no 3, p 598, Sept. 1960

ROE, Anne. See SIMPSON, George Gaylord 5-60

ROEDDER, Edwin Woods

ROEDER, P. L. See also OSBORN, E F 1-60

ROEHLER, Henry William. See McGREW, Paul Orman 1-60

346
RORABAUGH

ROGERS, George W
1-60. Alaska in transition--The southeast region Baltimore, Md., Johns Hopkins Press, 384 p incl. diagrams and tables, also illus., 1960 (Published for Resources for the Future, Inc)

ROGERS, John James William. See also ADAMS, J. A. S. 3-60

ROHRER, Willis Lee

ROLFE, Bernard Nathan

ROLIFF, William Albert

ROLLER, John C See BYERLY, P. Edward 1-60, DIMENT, William Horace 1-60, 2-60

ROLLO, J. R. See also CARDWELL, G T. 1-60
1-60 Ground water in Louisiana Louisiana Geol. Survey Water Resources Bull 1, 84 p., illus incl. geol map, Aug. 1960

ROMAN, Irwin

ROMER, Alfred Sherwood

RONDOT, Jehan

RONES, Morris

ROOTS, Ernst Frederick

RORABAUGH, Matthew Irvin
1-60 Problems of waste disposal and ground water quality Am. Water Works Assoc Jour., v 52, no. 8, p 979-982, Aug. 1960

ROSALSKY, Maurice B.

ROSCOE, S M.

ROSE, Charles K.

ROSE, Edward Roderick
1-60. Rare earths of the Grenville sub-province, Ontario and Quebec. Canada Geol Survey Paper 59-10, 41 p., tables, 1960

ROSE, Harry Joseph, Jr.

ROSENBLOOM, Eugene Holloway, Jr.

ROSENBERG, Philip E. See also WARSHAW, C M, 3-60

ROSENQVIST, Ivan Thoroff
ROSENZWEIG, Abraham

ROSHOLT, John Nicholas, Jr. See also ROBINSON, C. S. 1-60

ROSS, Alex R

ROSS, Charles Alexander

ROSS, Clarence Samuel. See also SMITH, R. L. 2-60

ROSS, Clyde Polhemus
3-60. Geology of Glacier National Park and the Flathead region, northwestern Montana U. S., Geol. Survey Prof. Paper 296, 125 p incl. sketch maps, sections, charts, diagram, tables, and illus., also geol. and topog maps and block diagrams, 1959 [1960].

ROSS, D I See HORTON, James Henry 1-60

ROSS, Daphne Riska See SMITH, William Lee 1-60

ROSS, June R. Phillips
2-60. Type species of Ptilodictya--Ptilodictya lanceolata (Goldfuss) Jour. Paleontology, v. 34, no 3, p 440-446 incl. diagram, table, and illus., May 1960.

ROSS, Malcolm See FAHEY, J. J. 1-60, STRACZEK, John A. 1-60

349
ROSS, Mattie E.  

ROSS, Reuben James, Jr.  

ROSSUM, John R.  

ROSTOKER, Mendel David  

ROSWELL GEOLOGICAL SOCIETY  
1-60 (KOTTLOWSKI, Frank Edward, and others, leaders) Northern Franklin Mountains, southern San Andres Mountains, with emphasis on Pennsylvanian stratigraphy, Guidebook for field trip, November 18-20, 1960 Roswell, N. Mex., 160 p incl. index and geol sketch maps, sections, tables, and illus., 1960. Includes papers which are cited separately

ROTH, Eldon Sherwood  
1-60, The silt-clay dunes at Clark Dry Lake, California Compass, v 38, no. 1, p. 18-27 incl. sketch map, diagrams, and illus, Nov. 1960.

ROTH, Etienne. See DANSGAARD, W. 1-60

ROTH, Robert Ingersol  

ROTH, Robert Sidney. See also SCHNEIDER, S. J., Jr. 2-60  

ROTHROCK, David P.  

ROTTENBERG, J. A See BEALS, Carlyle Smith 1-60

ROUGET, Edmund S., Jr See NANCE, Richard Leon 1-60

ROUND, George Frederick. See also NEWTON, Robert 1-60  

ROWELL, J. A. See HARRES, Peter G 1-60

ROWLAND, John F. See NICKEL, Ernest Henry 1-60

ROWLAND, Tommy Lee. See JORDAN, Louise

ROWLEY, Elmer B  
ROWLEY, Joanne. See also POTTER, L. D 1-60

ROY, Amalendu
1-60. A new approach to geophysical method of finding oil Oil and Gas Jour., v. 58, no. 45, p. 208-211 incl. diagrams and table, Nov 7, 1960

ROY, Chalmer John. See CARSON, C. E. 2-60, DAHL, A. R. 2-60, HANSEN, J A., Jr 2-60

ROY, Della Martin. See also BUCKNER, D. A. 2-60

ROY, Rustum See also BUCKNER, D. A 1-60, 2-60, COHEN, H M. 1-60, DACHILLE, Frank 1-60, 2-60, DATTA, Ranajit 1-60, GENTILE, A L. 1-60, HAWKINS, D. B. 1-60, HOFFER, Abraham 1-60, KLINGSBERG, Cyrus 1-60, KOIZUMI, Mitsue 1-60, MUMPTON, F. A. 1-60, SHORT, James 1-60, STUBICAN, Vladimir 1-60, TAYLOR, A. M 1-60, WARSHAWE, C M. 1-60, 3-60, WHITE, W B. 1-60
1-60. High pressure--A new chemical tool Mineral Industries, v 29, no. 5, p. 1, 4-6, 8 incl. diagrams, Feb 1960

ROSE, Frank, Jr See ESPACH, Ralph Homeward, Jr. 1-60

RUBEY, W W. See LAUBSCHER, Hans P 1-60

RUBIN, Meyer

RUDMAN, Albert J. See also BIGGS, M E. 2-60
2-60. A seismic reflection survey of the surface of the basement complex in Indiana Indiana Geol Survey Rept. Prog 18, 26 p, illus., Apr 1960.

RUEDEMANN, Rudolf, 1864-1956 See POPE, John Keyler 1-60

RUHE, Robert Victory

RUHLMAN, E Robert

RUNCORN, Stanley Keith See COLLINSOL, D. W. 1-60, OPDYKE, Neil D. 1-60

RUNNELS, Russell Tyson See GALLE, O Karmie 1-60, HILL, Walter Edward, Jr 1-60, IVES, William, Jr. 1-60

RUNNER, Joseph James

RUSH, Richard William
RUSNAK, Gene Alexander

RUSSELL, Dale A.

RUSSELL, Dealr Trayea
1-60. Geology of northern Latimer County, Oklahoma Oklahoma Geol. Survey Circ 50, 57 p , illus incl geol. map, 1960

RUSSELL, Lora Shano
1-60. Fossil mammals and intercontinental connections, in Evolution, its science and doctrine Royal Soc Canada "Studia Varia" Ser. 4, p 63-78 incl. chart, 1960
2-60. The geological record of evolution, in Evolution, its science and doctrine Royal Soc. Canada "Studia Varia" Ser. 4, p 3-11, 1960

RUSSELL, Richard Doncaster. See also BOYLE, R. W. 1-60, FARQUHAR, R. M 1-60, MAIR, J. A 1-60, STANTON, R. D. 1-60
1-60. (and JACOBS, John Arthur, and GRANT, Fraser S.) Gravity measurements on the Salmon Glacier and adjoining snow field, British Columbia, Canada Geol. Soc America Bull , v 71, no 8, p 1223-1229 incl. diagram and profiles, also gravity maps and illus., Aug. 1960

RUSSELL, Richard Joel
1-60. Beach rock investigations [abs ] Science, v. 131, no 3409, p 1320, Apr. 29, 1960
2-60. Preliminary notes on Caribbean beach rock Caribbean Geol Conf , 23, Mayaguez, Puerto Rico, Jan. 4-8, 1959, Trans., p 43-49 incl index map and illus , with discussion, 1960.

RUSSELL, Robert H

RUSSELL, Robert J.
1-60. Pleistocene pocket gophers from San Josecito Cave, Nuevo León, México Kansas Univ Mus. Nat. History Pub , v. 9, no 21, p 541-548, illus., Jan 14, 1960

RUSSELL, Wendell H.

RUSSELL, William Allan Campbell See KENT, Percy Edward 1-60

RUSSELL, William Low See also HOUSTON GEOL. SOC. 1-60

352
RUTKA, A.

RUTTEN, Martin Gerard
1-60 Ice-pushed ridges, permafrost and drainage Am Jour Sci., v 258, no 4, p 293-297 incl sketch maps, Apr. 1960

RUZHENIEV, V. E.
1-60. Ammonoid classification problems Jour. Paleontology, v. 34, no. 4, p 609-619 incl. diagrams, July 1960

RYAN, Dennis J  See ALLEN, William Burrows 1-60

RYAN, Douglas Earl
1-60. The determination of zirconium with benzoylphenylhydroxylamine Canadian Jour Chemistry, v. 38, no. 12, p 2488-2492 incl tables, Dec. 1960

RYAN, Jack Burns1de

RYHAGE, R.  See GAVELIN, S 1-60

RYLING, Roy W.

SABATIER, German  See HEEZEN, Bruce Charles 6-60

SABLES, Bruno Erich

2-60. Late Cenozoic volcanism in the San Francisco volcanic field and adjacent areas in north central Arizona [abs.] Dissert. Abs., v. 21, no. 3, p 596, Sept. 1960

SABINA, Ann P.

SABINS, Floyd F., Jr


SABLE, Edward G.  See CHAPMAN, Robert Mills 2-60

SABOL, Joseph William

2-60. The microfauna of the Yorktown formation from James River, Surry County, Virginia Bull. Am. Paleontology, v 41, no.191, p 211-246, illus., Nov 25, 1960

SABOURN, Robert Joseph Edmond
SABOURIN


SACHS, Donald Charles. See ADAMS, W. M. 2-60

SACHS, Kelvin Norman, Jr

SACKETT, William Malcolm
1-60. Protactinium-231 content of ocean water and sediments Science, v 132, no. 3441, p. 1761-1762 incl. tables, Dec. 9, 1960

SACRAMENTO VALLEY SUB-COMMITTEE, HARDING, Tod Powell, chairman See AM. ASSOC. PETROLEUM GEOLOGISTS Comm. Strat Correlations 1-60

SADLER, A. G.

SADLICK, Walter
1-60. New name for Spirifer occidentahs (Girty) and its geologic history Jour. Paleontology, v. 34, no 6, p 1210-1214 incl. table, Nov. 1960

SÁENZ A, Mario

SÁENZ RUIZ, Rodrigo

SAHAKIAN, A See LONG, R. A. 1-60

SAHINEN, Uuno Mathias

SAHU, K. C. See MOOKHERJEE, Asoke 1-60

SAINSBURY, Cleo Ladell. See also KACHADOORIAN, Reuben 5-60
2-60 Metallization and post-mineral hypogene argillization, Lost River tin mine, Alaska. Econ. Geology, v. 55, no. 7, p. 1478-1506 incl. geol. sketch maps and sections, diagrams, tables, and illus., Nov. 1960

ST. JEAN, Joseph, Jr. See also GALLOWAY, J. J. 2-60

ST. JOHN, Billy E. See MUEHLBERGER, William Rudolph 4-60

ST. JOHN, Jack W. See ROSS, Alex R. 1-60

354
SANDBERG

ST-ONGE, Denis
1-60. Discussion on two articles by Dr. M. Brochu Zeitschr Geomorphologie (Berlin), New Folge, Band 4, Heft 3-4, p 292-296, Dec. 1960.

SAKAMOTO, K See YAMAGUCHI, Goro 1-60

SAKS, V. N

SALAS, Guillermo Pedro
1-60 Programa y resultados de trabajos realizados durante el año de 1959 México Univ. Nac Inst. Geofísica Anales, tomo 16, 17 p., illus., 1960

SALES, Reno Haber
1-60. (and GREGWOLD, George Gary, Jr., and SHEA, Edward P.) Murl Harold Gidel [1889-1960]—An appreciation Mining Eng., v. 12, no 11, p. 1184-1195, Nov 1960
2-60. Critical remarks on the genesis of ore as applied to future mineral exploration Econ Geology, v 55, no. 4, p 805-817, June-July 1960.

SALINAS ESTRELLA, Sergio
1-60. Características estratigráficas de la región La Perla-Orizaba-Tequila, Edo. de Veracruz Asoc Mexicana Geólogos Petroleros Bol., v 12, nos. 5-6, p 145-199, index map, sections, and chart, May-June 1960

SALMON, Merlyn L See HAWKES, Herbert Edwin, Jr 1-60

SAMPSON, Ross E See PARSONS, Gordon W. 1-60

SAMUELSON, W. J.

SANDBANK, Harold

SANBORN, Albert Francis
1-60. Geology and paleontology of the southwest quarter of the Big Bend quadrangle, Shasta County, California California Div Mines Spec. Rept. 63, 26 p., illus. incl geol map, 1960.

SANBORN, William B.
1-60 Crystal and mineral collecting Menlo Park, Calif., Lane Book Co., 144 p., illus., Feb. 1960

SAND, Leonard B See also MASON, B. H. 1-60

SANDBERG, Charles Albert

355
SANDELL

SANDELL, Ernest Birger. See HARA, T. 1-60

SANDELL, John Essington. See also FLINT, R. F 1-60, SIEVER, Raymond 2-60

SANDELL, Norman K. See DAVIS, T. Neil 2-60

SANDELL, Ivan T.

SANDELL, L.

SANDELL, Milton William

SANDELL, Walter

SANDO, William Jasper
3-60. Late Cambrian and Early Ordovician sedimentation in Maryland, in Gates, Oclott, ed., Lower Paleozoic carbonate rocks in Maryland and Pennsylvania, Johns Hopkins Univ. Studies Geology, no. 18, Guidebook 3, p. 5-15 incl. geol. sketch map, section, chart, and diagrams, 1960.

SANDOR, J. E.

SANFORD, John Theron

SANFORD, Thomas H., Jr.
SANGREE, John Brewster, Jr
1-60. Silurian of northern Indiana [abs] Dissert Abs., v 21, no 6, p. 1528-1529, Dec 1960

SARGENT, John David

SARGENT, Kenneth Albert

SARGENT, John David

SARGENT, Kenneth Albert

SARIN, Dev Datt
1-60. Mounting heavy mineral grains Jour Sed. Petrology, v 30, no. 4, p 619, Dec., 1960

SASKATCHEWAN DEPARTMENT of MINERAL RESOURCES, Petroleum and Natural Gas Branch, Statistics Division

SASKATCHEWAN SOIL SURVEY
1-60. Physiographic divisions of Saskatchewan In coop. with Geology Div., Saskatchewan Research Council, and Geology Dept., Univ. Saskatchewan, 2 sheets, scale 1 1,520,640 (about 1 in. to 24 mi.), with text, 1960

SASS, Daniel B.

SATIN, Lowell R.

SATO, Motoaki
2-60 Oxidation of sulfide ore bodies--[Pt. 1] 1, Geochemical environments in terms of Eh and pH, [Pt. 2] 2, Oxidation mechanisms of sulfide minerals at 25° C Pt 1 in Econ Geology, v 55, no 5, p 928-961 incl. diagrams and table, Aug 1960, Pt 2 in v. 55, no 6, p 1202-1231 incl. diagrams and tables, Sept-Oct 1960

SATO, Yasuo

SATTERLY, Jack
2-60. (compiler) German [township] Ontario Dept. Mines [Prelim Map P.37], scale 1 in. to 1/4 mi. [Jan 11, 1960]
SATTERLY

4-60 (compiler) Taylor township Ontario Dept Mines [Prelim Geol Map P-39], scale 1 in. to 1/4 m. [Jan. 11, 1960].

SAUCHELLI, Vincent. See EMIGH, George Donald 1-60, MacDONALD, R A. 1-60

SAUL, Lou Ella Rankin See also POPENOIE, W P. 3-60

SAUL, Richard B. See SAUL, Lou Ella Rankin 1-60

SAUVÉ, Pierre

SAVAGE, C. N.

SAVAGE, Donald Elvin
2-60, A survey of various late Cenozoic vertebrate faunas of the Panhandle of Texas--Pt 3, Felidae California Univ. Publs Geol. Sci., v. 36, no. 6, p. 317-343, illus., Sept. 22, 1960

SAVAGE, Jay Mathers
1-60, Evolution of a peninsular herpetofauna, in Symposium--The biogeography of Baja California and adjacent seas--Pt 2, Marine biotas Systematic Zoology, v. 9, nos. 3-4, p 184-212, illus., Sept-Dec 1960

SAVEL'EV, B. A.

SAVIT, Carl Hertz. See also VINCENZ, S A 1-60
2-60. Use seismic data to find stratigraphic traps Oil and Gas Jour., v. 58, no. 15, p 182-184 incl. diagrams, Apr. 11, 1960.

SAVOLAHTI, A.O M

SAWATZKY, Henry B.

SAWHNEY, B L

358
SAYN-WITTMENSTEIN, Catherine. See NIBLETT, Edward Ronald

SCHACKNE, Stewart
1-60. (and DRAKE, N. D'Arcy) Oil for the world 2d revised ed, New York, N Y, Harper and Brothers Publishers, 142 p., illus., 1960

SCHAEFFER, Bobb

SCHAEFFER, Frederick E. See also ANDERSON, W L 1-60, UTAH GEOL. SOC. 1-60
1-60. Stratigraphy of the Silver Island Mountains, in Geology of the Silver Island Mountains, Box Elder and Tooele Counties, Utah, and Elko County, Nevada Utah Geol Soc., Guidebook to the Geology of Utah, no. 15, p. 15-113 incl. sections and illus., 1960.
2-60. Igneous rocks of the central and southern Silver Island Mountains, in Geology of the Silver Island Mountains, Box Elder and Tooele Counties, Utah, and Elko County, Nevada Utah Geol Soc., Guidebook to the Geology of Utah, no. 15, p. 131-124 incl. illus., 1960.
3-60 Structural geology of the central and southern Silver Island Mountains, in Geology of the Silver Island Mountains, Box Elder and Tooele Counties, Utah, and Elko County, Nevada Utah Geol. Soc., Guidebook to the Geology of Utah, no. 15, p. 131-149 incl. sections and illus., 1960.

SCHAEFFER, Katherine Maude Marie. See also ECHOLS, D. J 1-60
1-60. Late Paleozoic bisaccate pollen from the Midcontinent area [abs.] Dissert. Abs., v. 21, no. 6, p. 1529-1530, Dec 1960.

SCHAEFFER, Oliver Adam. See also BASSETT, W A 2-60, BONNER, Francis Truesdale 1-60, STOENNER, R. W 1-60, 2-60

SCHAFFER, George Miles. See BAKER, F. J 1-60

SCHAILER, John Frank. See also HYTÖNEN, Kai 1-60

SCHALK, Marshall

SCHALLER, Waldemar Theodore
1-60. (and MROSE, Mary Emma) The naming of the hydrous magnesium borate minerals from Boron, California--A preliminary note Am. Mineralogist, v. 45, no. 5-6, p. 732-734 incl. table, May-June 1960.

SCHANZ, John Jacob, Jr
1-60. The not-so-rare earth metals Mineral Industries, v. 29, no. 4, p. 6-7, incl. table, Jan 1960.

SCHARON, Harry LeRoy. See also GERLACH, G. S. 1-60
SCHEANS

SCHEANS, Daniel J. See CRESSMAN, Luther Sheeleigh 1-60

SHEFFER, Victor Blanchard

Scheid, Vernon Edward. See HOSTERMAN, John Wallace 1-60

Scheidegger, Adrian Eugen
5-60. The physics of flow through porous media Revised ed., New York, N. Y., Macmillan Co., 313 p., illus., 1960, originally published 1957

Scheifle, Kathleen. See CROSS, Jack L. 1-60-3-60

SHELL, William Wilkomm
1-60. (and CLARK, David Leigh) Lower Triassic foraminifera from Nevada Micropaleontology, v 6, no. 3, p 291-295, illus., July 1960

Schenck, Hubert Gregory, 1897-1960

Scheuplein, Robert

SCHILLING, John Harold

SCHILLINGER, A W See POLLOCK, James Percy 1-60

Schlaikjer, Erich Maren

Schlaudt, Charles McCammon
1-60. (and YOUNG, Keith Preston) Acrothoracic barnacles from the Texas Permian and Cretaceous Jour. Paleontology, v 34, no 5, p 903-907 incl. diagrams, illus., Sept. 1960

Schlee, John Stevens

Schleicher, John Anthony See also HAM, W. E. 3-60

360
SCHNEPFE

SCHLICKER, Herbert G.

SCHLOCKER, Julius

SCHMALTZ, Lloyd John
1-60. Occurrence of vertebrate remains in Nebraskan till of north-central Missouri Jour. Paleontology, v 34, no. 4, p. 762, July 1960

SCHMIDT, Dwight Lyman

SCHMIDT, Robert George. See BRYANT, Bruce Hazelton 1-60

SCHMIDT, Robert Gordon. See GUILLOU, Robert Barton 1-60

SCHMIDT, Ronald Grover. See also CARPENTER, G. C. 1-60

[SCHMIDT, Victor Edward]

SCHMIDT, R. A.

SCHNABEL, Robert Wayne

SCHNABEL, Robert Wayne

SCHNEER, Cecil Jack

SCHNEIDER, Robert. See RODIS, Harry George 1-60

SCHNEIDER, Samuel James, Jr.

SCHNEEPFE, Marian M.
SCHOFF

SCHOFF, Stuart Leeson  See MOGG, Joe Luther 1-60

SCHOFIELD, Wilfred Jordon
1-60 (and ROBINSON, H) Late-glacial and postglacial plant macrofossils from Gillis Lake, Richmond County, Nova Scotia Am Jour Sci, v 258, no 7, p 518-523 incl illus , Summer 1960

SCHOLL, David W
1-60 Relationship of the insular shelf sediments to the sedimentary environments and geology of Anacapa Island, California Jour Sed Petrology, v 30, no 1, p 123-139 incl geol and sediment distribution maps, diagrams, and tables, Mar 1960
2-60 Pleistocene algal pinnacles at Searles Lake, California Jour Sed Petrology, v 30, no 3, p 414-431 incl sketch map, diagram, tables and illus , Sept 1960

SCHOLTEN, Robert

SCHOPF, James Morton
1-60 Field description and sampling of coal beds U S Geol Survey Bull 1111-B, p 25-70, illus , 1960
2-60 Double cover-glass slides for plant microfossils Micropaleontology, v 6, no 2, p 237-240, illus , Apr 1960

SCHREYER, G J

SCHULZ, Ralf
2-60 Activity sfismica in El Salvador Energia Geotermica Informe, no 1, p 30-33 incl sketch maps and diagram [1960]

SCHULZ, Rudolf
1-60 Actividad sfismica en El Salvador Energia Geotermica Informe, no 1, p 30-33 incl sketch maps and diagram [1960]
SCHUMM, Stanley Alfred
3-60. The shape of alluvial channels in relation to sediment type U. S Geol. Survey Prof. Paper 352-B, p. 17-30, illus, 1960

SCHURR, Sam H

SCHUSTER, Robert Lee

SCHWARCZ, Henry P

SCHWARTZ, George Melvin

SCHWARZACKER, Walter [Walther]
1-60. (and HUNKINS, Kenneth Leland) Dredged gravels from the central Arctic Ocean [abs.] Oil in Canada, v. 12, no. 16, p 34, Feb. 15, 1960

SCHWARZE, David Martin

SCHWENDIMAN, L. C

SCHWENDINGER, Richard B.

SCHWIND, Joseph J.
1-60. (and BERG, Joseph Wilbur, Jr., and COOK, Kenneth Lorimer) PS converted waves from large explosions [Utah and Nevada] Jour. Geophys. Research, v. 65, no. 11, p 3817-3824 incl. sketch map, diagrams, and tables, Nov 1960

SCISSION, Sidney E
1-60 Planning for mined underground LPG storage Oil and Gas Jour., v 58, no. 18, p. 141-142, 144 incl. sketch map, diagram, and tables, May 2, 1960

SCLAR, Charles Bertram See also DILLINGER, Lee 1-60
1-60. (and DILLINGER, Lee) The microscopic determination of the thickness and planeness of platelets in fine materials Am. Mineralogist, v. 45, nos. 7-8, p 862-870 incl. diagram and illus., July-Aug 1960.
SCOMILLIO, John

SCOTT, Albert Duncan. See HANWAY, John Joseph 1-60

SCOTT, Gerald Lee

SCOTT, Glenn Robert. See also PETERSON, W L. 1-60

SCOTT, James H.

SCOTT, John C. See also KNOWLES, D. B. 1-60
1-60. Ground-water resources of Macon County, Alabama--A reconnaissance report Alabama Geol Survey Inf. Ser. 21, 97 p., illus. incl. geol. map, 1960.
2-60. Ground-water resources of Autauga County, Alabama--A reconnaissance report Alabama Geol. Survey Inf Ser. 21, 92 p., illus. incl. geol. map, 1960.

SCOTT, John Stanley

SCOTT, Richard Albert
2-60. Pollen of Ephedra from the Chinle formation (Upper Triassic] [Arizona] and the genus Equisetosporites Micropaleontology, v 6, no 3, p. 271-276, illus., July 1960.

SCOTT, Ronald F
1-60. Soil engineering in the Arctic Eng and Sci., v 23, no. 8, p 22, 24, 26, 28 incl. diagrams, May 1960.

SCOTT, William C. See BAKER, Arthur, 3d 2-60

SCRUTON, Philip Challacombe
1-60. Delta building and the deltaic sequence, in Shepard, F. P., and others, ed., Recent sediments, northwest Gulf of Mexico Tulsa, Okla., Am. Assoc. Petroleum Geologists, p. 82-102, illus., 1960

SCUDDER, George D. See WALTON, William Clarence 5-60

SCULL, Berton James

SEABER, Paul Robert

364
SEIGEL

SEAMAN, David Martin

SEARL, Milton F.

SEARLS, Fred, Jr. See LONG, A 1-60

SEARS, Paul Bigelow

SEED, Harry Bolton

SEEGER, Dietrich
4-60. Descripción de los núcleos de las perforaciones [El Salvador] Energía Geotérmica Informe, no. 1, p. 179-194 incl. tables and diagrams [1960]

SEEWALD, Kenneth Oscar

SEFF, Philip

SEGERSTROM, Kenneth

SEGNIIT, Egdar R. See HOLLAND, Heinrich Dieter 1-60

SEGRE, Emilio Gino

SEIFERT, Hans

SEIGEL, Harold O.

365
SEILACHER, Adolf
1-60. Epizoans as a key to ammonoid ecology Jour Paleontology, v. 34, no 1, p 189-193 incl diagrams and illus., Jan 1960.

SELL, James D.

SELLERS, David H. A.
1-60. (and FURNISH, William Madison, Jr.) Mississippian ammonoids from northwestern Canada [British Columbia and Yukon] Jour. Paleontology, v 34, no. 6, p 1124-1128 incl index map, diagrams, and table, illus., Nov. 1960

SEMKEN, Holmes A.

SEN, Buddhadev. See MALLIK, Kanai Lal 1-60

SEN, Sisir Kumar

SENFFLE, Frank Edward. See also CUTTITTA, Frank 6-60, FRIEDMAN, I. I. 1-60, FRIEDMAN, I. N 3-60

SERATA, Shosei

SERRATOSA, Jose M. See also BRADLEY, W. F. 1-60

SEVER, Charles W., Jr.

SEVERINGHAUS, Nelson

SEVON, William D
1-60. Geology of the Ring Thunder quadrangle, South Dakota South Dakota Geol. Survey [Geol. Map], scale 1 62,500 (about 1 in. to 1 mi.), with section and text, 1960
2-60. Geology of the Sprmg Creek quadrangle, South Dakota South Dakota Geol. Survey [Geol. Map], scale 1 62,500 (about 1 in. to 1 mi.), with section and text, 1960.

SHACKLETTE, Hansford T. See also CHAPMAN, R. M 1-60

SHAFFER, Lysle Edward. See FLANAGS, William G. 1-60

SHAFFER, Paul Raymond See FRYE, John Chapman 1-60

SHALGOSKY, H. I.

SHAND, J. A. See DUFFUS, Henry John 1-60

SHANKLE, John Dyer, 2d

SHANNON, Spencer S., Jr See ROSE, Charles K. 1-60

SHANNON, Terry

SHAPIRO, Leonard

SHAPLEY, Harlow

SHARMA, Balraj. See WHYTE, G N. 1-60

SHARP, R A See SCHMITT, R A 1-60

SHARP, Robert Phillip. See also ALLEN, C. R 1-60, 3-60

SHARP, Willard Edwin. See also PISTORIUS, C. W.F.T. 4-60
2-60. The movement of playa scrapers by the wind Jour Geology, v. 68, no. 5, p. 567-572 incl. diagrams and tables, Sept. 1960

367
SHARP, William N. See also HAWLEY, C. C. 1-60

SHARPE, John I See also LATULIPPE, Maurice 1-60

SHARTSE, Jack Morris. See ORMSBY, Walter Clayton 1-60-3-60

SHAVER, Robert Harold

SHAW, Alan B.

SHAW, Charles Anderson
1-60. Oklahoma's Cimarron County could be another Golden Trend Oil and Gas Jour, v. 58, no 50, p 164-167 incl. sketch maps and diagram, Dec. 12, 1960

SHAW, Denis Martin. See also PEARSON, G. R. 1-60

SHAW, Elizabeth H. See CROSS, Jack L. 1-60-3-60

SHEA, Edward P. See also SALES, R. H. 1-60
1-60. The use of geology in Butte [Montana] [abs] Mining Eng., v. 12, no. 12, p 1248, Dec. 1960

SHEA, F. S.

SHEARER, Eugene Merle

SHEARROW, George Gordon
1-60. New oil-hunting methods may boost Ohio production, Oil and Gas Jour, v 58, no. 16, p 183, 187-189, Apr. 18, 1960

368
SHEEPARD

2-60. (and DeBROSSE, Theodore Anthony, and CALVERT, Warren Lytle) Oil and gas fields of Ohio (including underground storage areas) Ohio Div Geol. Survey, map, scale 1 in. to 6 mi., with section, revised, July 1960.

SHEEPARD, Anna O. See also LOVERING, Thomas Seward


SHEDERER, John B. See also CHU, T. Y., 1-60


SHEFFER, Nola Bewley See ZUBOVIC, Peter 1-60-4-60

SHELBERNE, Orville Berlin, Jr


SHELDEN, Arthur William


SHELDON, Robert F


SHELL, Haskell Roy See GIBBS, Gerald V 1-60

SHELTON, A. Vay


SHEN, H. W. See HORIKAWA, Kiyoshi 1-60

SHEEPARD, Francis Parker, See also LANKFORD, R. R. 1-60


3-60. (and PHLEGER, Fred B., and Van ANDEL, Tjeerd H., editors) Recent sediments, northwest Gulf of Mexico--A symposium summarizing the results of work carried on in Project 51 of the American Petroleum Institute Tulsa, Okla., Am. Assoc. Petroleum Geologists, 394 p., illus., incl. geol. maps, 1960. Includes individual papers which are cited separately.


SHEPARD


SHEPPARD, Richard A.

SHERIDAN, Douglas Maynard. See WELLS, J. David 1-60

SHERMAN, Harold. See FRENTROP, Arthur H 1-60

SHERWOOD, Alexander M. See FLANAGAN, Francis James 1-60

SHICK, Robert L. See DAVISON, Kenneth 1-60

SHIELDS, D. L. See DICKSON, F. W. 1-60

SHIMMER, John Asa

SHIPEK, Carl J. See CARSOLA, Alfred James 1-60

SHIPP, R. F.

SHIRLEY, Jack William


SHIVELY, J. A. See NEWTON, Joseph 1-60

SHKLANKA, Anatol

SHNEIDEROV, Anatol

SHOEMAKER, Eugene Merle. See also CHAO, E. C.-T. 2-60, ELSTON, D. P. 3-60, MIESCH, A. T. 2-60


SHOR, George G., Jr.
SHURTZ


SHOREY, R.

SHORT, James

SHORT, Nicholas Martin
1-60. Project Cowboy--Fracturing of rock salt by a contained high explosive California, Univ., Livermore, Lawrence Radiation Lab. Rept UCRL-6054, 60 p incl diagrams, table, and illus., Nov. 10, 1960.

SHOTTS, Reynold Quinn

SHREVE, Ronald L.

SHROCK, Robert Rakes

SHUBAK, Kenneth E. See KESLING, Robert Vernon 3-60

SHUK, Thomas See WILSON, Stanley D. 1-60

SHUMAKER, Robert Clarke
1-60, Geology of the Pawlet quadrangle, Vermont[abs.] Dissert Abs., v 21, no. 6, p. 1530, Dec 1960

SHUMWAY, George. See also CARSOLA, A. J. 1-60

SHURBET, Deskin Hunt, Jr.

SHURTZ, Robert F

371
SHUSTER

SHUSTER, Carl Nathaniel, Jr.
1-60. Oysters in Delaware waters—their records, historic and geologic Estuarine Bull., v. 5, no. 3, p. 2-15 incl. sketch maps and illus., autumn 1960

SHUTE, Barbara. See O'KEEFE, J. A. 2-60

SIEGEL, Frederic R.

SIEVER, Raymond. See also GARRELS, R. M. 1-60

SIGNORE, P

SIKABONYI, L A

SILBERLING, Norman John. See also TATLOCK, D. B. 1-60, WALLACE, R. E. 2-60, 3-60

SILLMAN, Leonard R

SILVER, Burr Arthur

SILVER, Leon T. See also ALLEN, C. R. 2-60

SILVERMAN, Arnold J. See also LONG, A. 1-60
SIMPICH

SILVERMAN, E. N.

SILVERMAN, Sol Robert

SIM, Victor W

SIMMS, Frederick E., Jr.

SIMON, Jack Aaron. See KOSANKE, Robert Max 1-60.

SIMONETT, David S.

SIMONS, Daryl Baldwin. See also VANONI, V. A. 1-60, 2-60

SIMONS, Elwyn LaVerne
1-60. These are the shining mountains [Oregon]. Sierra Club Repr. Ser. no. 2, p. 1-12 incl. index map, also illus., Jan. 4, 1960, originally published 1959.

SIMONS, Elwyn LaVerne

SIMONSON, Gerald H. See DANIELS, Raymond Bryant 2-60.

SIMONY, P. S.

SIMPICH, Frederick, Jr.

373
SIMPSON, Eugene Sidney
2-60. A ground water mechanism for the deposition of glacial till [abs.] Washington Acad. Sci Jour., v 50, no. 7, p 1-2, Nov. 1960

SIMPSON, George Gaylord
2-60. Late Cretaceous and early Cenozoic in the San Juan Basin, in Rio Chama Country New Mexico Geol. Soc., 11th Field Conf., Oct 1960, Guidebook, p 75-77, illus., 1960

SIMPSON, Howard E
1-60. Geology of the Yankton area, South Dakota and Nebraska U. S Geol. Survey Prof. Paper 328, 124 p. incl. geol. map, index and sketch maps, sections, correlation chart, diagrams, tables, and illus., also geol. and physiol. maps, section, correlation chart, and profile, 1960

SIMPSON, Stephen Milton, Jr

SIMPSON, Thomas A See also HOPKINS, W. B

SIMS, Paul Kibler. See also BARTON, P B, Jr., 2-60, TWETO, O. L

SINCLAIR, A J.
1-60. Preliminary report on the Georget Lake area (East Half), Saguenay electoral district Quebec Dept. Mines Geol. Surveys Br Prelim. Rept. 414, 7 p., geol. map, 1960, also French ed

SINCLAIR, George Winston

SINCLAIR, William C.
1-60. Reconnaissance of the ground-water resources of Delta County, Michigan Michigan Geol. Survey Div. Prog. Rept. 24, 93 p., illus. incl. geol. maps, 1960

374
SKILLING

SINGER, Phylis See HOLDEN, Alan 1-60

SINGEWALD, Joseph Theophilus, Jr.
1-60. Maryland, oil and gas potential a question mark World Oil, v. 150, no 7, p. 112-113, June 1960.

SINHA, A. P. B. See IRANI, K.

SINHA, Evelyn Zepel

SINKANKAS, John See SWITZER, George S. 2-60

SIPLE, George E
1-60. Piezometric levels in the Cretaceous sand aquifer of the Savannah River Basin Georgia Mineral Newsletter, v 13, no. 4, p 163-166, illus., winter 1960.

SISLER, Frederick David

SISSONS, J. B.

SITLER, Robert Francis
1-60. (and BAKER, Jack) Thickness of loess in Clark County, Illinois Ohio Jour. Sci., v 60, no. 2, p 73-77 incl index and contour maps and diagram, Mar 1960

SKARTVEDT, Romayne. See COLLINSON, Charles William 1-60

SKEHAN, James Williams

SKEMPTON, A W. See TERZAGHI, Karl 2-60

SKERL, A C.

SKEVINGTON, D.

SKIBITZKE, Herbert E.

SKILLING, Gordon F
1-60 Microfossil research Canadian Oil and Gas Industries, v 13, no. 10, p 39-40 incl. table, Oct. 1960

375
SKILLMAN, Margaret W
1-60. Historical geology laboratory manual 2d ed., Minneapolis, Minn., Burgess Publishing Co., 143 p incl. geol sketch maps, sketch maps, diagrams, sections, tables, charts, and illus., revised by V. B. Monnett, 1960

SKINNER, Brian John
1-60 (and BARTON, Paul Booth, Jr.) The substitution of oxygen for sulfur in wurtzite and sphalerite Am. Mineralogist, v. 45, nos. 5-6, p. 612-625 incl. diagram and tables, May--June 1960
2-60. (and EVANS, Howard Tasker, Jr.) Crystal chemistry of B-spodumene solid solutions on the join Li₂O Al₂O₃-SiO₂ Am. Jour. Sci., v. 258-A (Bradley Volume), p 312-324 incl. diagrams and tables, 1960.

SKINNER, Hubert Clayton

SKINNER, Robert E

SKOUGSTAD, Marvin Wilmer
1-60. (and HORR, Clarence Albert) Occurrence of strontium in natural water U. S. Geol. Survey Circ 420, 6 p incl. index map and tables, 1960

SLACK, Howard Addison

SLAUGHTER, Bob H.
1-60. A new species of Smilodon from a late Pleistocene alluvial terrace deposit of the Trinity River (Texas) Jour Paleontology, v. 34, no. 3, p. 486-492 incl. diagram and table, illus., May 1960

SLAUGHTER, Maynard

SLAWSON, William Francis
See also AUSTIN, C. F. 1-60
1-60. (and AUSTIN, Carl Fulton) Anomalous leads from a selected geological environment in west-central New Mexico Nature (London), v. 187, no. 4735, p. 400-401, illus., July 30, 1960

SLEMMONS, David Burton
1-60. (and DAVIS, Terry E.) Relative speed and accuracy of some methods

SLICHTER, Louis Byrne
1-60. The need of a new philosophy of prospecting Mining Eng., v. 12, no. 6, p 570-576 incl. diagrams and table, June 1960
2-60. The need of a new philosophy of prospecting Canadian Mining Manual 1960, p 11-21 incl. ads., illus [1960]

SLOAN, Robert Evan See ZANGERL, Rainer 1-60

SLOAN, William W. See INTERMOUNTAIN ASSOC. PETROLEUM GEOLOGISTS 1-60

SLOANE, Bruce C

SLOSS, Laurence Louis

SMALES, Albert Arthur
1-60. (and WAGER, Lawrence Rickard, editors) Methods in geochemistry New York, N. Y., Intersci. Publishers, 464 p., illus., 1960 Contains individual papers which are cited separately

SMEDES, Harry Wynn

SMILEY, Charles J. See LANGENHEIM, Ralph Louis, Jr 1-60

SMILEY, Terah LeRoy. See HARSHBARGER, John William 2-60

SMITH, Allyn Goodwin
2-60. Amphineura, in Joint Comm Invertebrate Paleontology, Treatise on invertebrate paleontology--Pt I, Mollusca 1 Lawrence, Kans., Geol. Soc. America and Univ. Kansas Press, p. 141-176 incl. illus., 1960

SMITH, Arthur Y.
1-60. Heavy-metal (Zn, Pb, Cu) content of stream sediments of part of Westmorland County, New Brunswick Canada Geol Survey Paper 59-12, 8 p., illus. incl. geol. map, 1960
SMITH

SMITH, Basil L. See BENNETT, Walter P. 1-60

SMITH, Baxter L. See also PRIDDY, R. R 2-60
  1-60. Dauphin Island, Alabama, in Cenozoic of southeast Mississippi and
  southwest Alabama Mississippi Geol Soc., 15th Field Trip, May 1960, 
  Guidebook, p. 27-29 incl. sketch maps, 1960

SMITH, Billy George. See GOERING, Milford Wayne 1-60

SMITH, Charles H. See also CANADA GEOL. SURVEY 11-60
  1-60. (and MacGREGOR, Ian D.) Ultrabasic intrusive conditions illustrated
  by the Mount Albert ultrabasic pluton, Gaspe, Quebec [abs.] Geol. Soc.
  2-60 Diamonds in the Great Lakes area--A geological enigma Canadian
  Mining Jour., v 81, no 7, p 51-52 incl. sketch map, July 1960

SMITH, Chester Martin, Jr See WRIGHT, Harold Douglas 3-60

SMITH, Clay T. See also BUDDING, A. J. 1-60
  1-60. From X-rays to fission, a metamorphosis in mining, in Geology of
  the Paradox Basin fold and fault belt Four Corners Geol. Soc., 3d Field

SMITH, David Dwyer
  1-60. Origin of parallel pattern of meltwater lakes on Fletcher's Ice Island,
  T-3 Internat. Geol Cong., 21st, Copenhagen, 1960, Rept., pt. 21, p 51-59
  incl. diagram and illus., 1960.
  2-60 Compound erosion surface on the San Francisco Peninsula, California
  1960.
  3-60 (and DOLAN, Robert G) Erosional development of beach cusps
  along the Outer Banks of North Carolina [abs.] Geol Soc. America Bull.,
  4-60 The geomorphology of part of the San Francisco Peninsula, California
  [abs.] Dissert. Abs., v. 20, no 11, p. 4371-4372, May 1960

SMITH, David E.
  1-60. (compiler) Valley County Nebraska Univ. Conserv. and Survey Div.,
  Nebraska Water Survey Test Hole Rept 2, 121 p. incl. sketch map, diagram,
  2-60, (compiler) Sherman County Nebraska Univ. Conserv. and Survey Div.,
  Nebraska Water Survey Test Hole Rept. 1, 132 p. incl. sketch map,
  3-60 Logs of test-holes--Valley County, Nebraska Lincoln, Univ. Nebraska,
  Conserv. and Survey Div., 121 p., in cooperation with U. S. Geol. Survey,
  1960.
  4-60 Logs of test holes--Sherman County, Nebraska Lincoln, Univ Nebraska,
  Conserv. and Survey Div., 121 p., in cooperation with U. S. Geol. Survey,
  1960.

SMITH, Fred L
  1-60. (and YOUNG, Thomas R.) Nuclear explosives and mining costs
  California, Univ., Livermore, Lawrence Radiation Lab Rept. UCRL-5928,
  35 p. incl. diagrams, July 1960
  2-60 Radioisotopes in the mineral industry Mines Mag., v 50, no 5,

SMITH, Frederick E
  1-60. The Moody's Branch member of the Caddell shale, in Jackson group,
  Catahoula and Oakville formations, and associated structures of northern
  Grimes County, Texas Houston Geol. Soc., Ann. Field Trip, May 1960,
  Guidebook, p 20, illus., 1960

SMITH, G H See ATKINS, E R, Jr. 1-60
SMITH, George Irving
1-60. Time of the last displacement on the middle part of the Garlock fault, California
2-60. Estimate of total displacement on the Garlock fault, southeastern
1960

SMITH, Harry Nelson. See STANFIELD, Kenneth Edson 1-60

SMITH, Henry Landiss See ENGLUND, Kenneth John 1-60

SMITH, Howard See CARPENTER, Gerald Leon 1-60

SMITH, James B.
1-60. (and BADER, Richard George) Organic, metal-ion, and carbon dioxide
uptake by sedimentary minerals and its significance in the marine environ-
1960.

SMITH, J. R. See MULLIS, Ira B. 1-60

SMITH, James Robert
1-60. South half of McKenzie township, Abitibi-East electoral district--
Pt 1, Southwestern quarter and north half of southeast quarter Quebec Dept.
2-60. Optical properties of low-temperature plagioclase, App. 3 in
Stillwater igneous complex, Montana Geol. Soc. America Mem 80,
p 191-219 incl. diagrams and tables, 1960

SMITH, James W
1-60. Geology of an area along the Cartersville fault near Fairmont, Geor-
gia [abs.] Georgia Mineral Newsletter, v 13, no 2, p 107, summer 1960

SMITH, Jane Elizabeth Inch
1-60. Ostracods from the Middle Devonian Traverse group of Emmet and
Charlevoix Counties of Michigan [abs ] Dissert. Abs., v. 20, no 11,
p. 4372, May 1960

SMITH, John Ward. See also STANFIELD, K. E 1-60
1-60. (and HIGBY, L. Warren) Preparation of organic concentrate from
Green River oil shale Anal Chemistry, v. 32, no 12, p. 1718-1719,
Nov 1960.

SMITH, Joseph Victor. See also AGRELL, S. O. 1-60, BROWN, W. Liddle
1-60
1-60. Phase diagrams for alkali feldspars Internat Geol Cong., 21st,
2-60. Complex disorder of H2O molecules and Ca ions in wet-Ca cha-
1960.
3-60. Current and future operations of the X-ray Powder Data File [abs ]
4-60. (and others) The crystal structure of spurrite, Ca5(SiO4)2CO3--
[Pt.] 2, Description of structure Acta Cryst , v. 13, pt 6, p 454-458 incl
diagrams and tables, June 1960.
5-60. Correlation of elemental analysis and phase identification as viewed
by a mineralogist, in Symposium on identification of water-formed de-
Feb 1960

SMITH, Markwick Kern, Jr.
1-60. Filter theory of linear operators with seismic applications [abs.]
Massachusetts Inst. Technology Abs Theses 1953-54, p. 97-98, 1960
SMITH

SMITH, Maurice Harold

SMITH, Ned Myron. See GATES, Gary Rickey 1-60

SMITH, Norman O. See DUFFY, J. R. 1-60

SMITH, Patsy Beckstead
1-60 Foraminifera of the Monterey shale and Puente formation, Santa Ana Mountains and San Juan Capistrano area, California U. S. Geol. Survey Prof Paper 294-M, p. 463-495, illus. incl. geol. map, 1960

SMITH, Ralph Irvin See SAHINEN, Uuno Mathias 1-60

SMITH, Raymond Newton. See KESLING, Robert Vernon 3-60

SMITH, Rex O.

SMITH, Robert Leland. See also FRIEDMAN, Irving 2-60
3-60 Zones and zonal variations in welded ash flows U S. Geol. Survey Prof Paper 354-F, p 149-159, illus., 1960

SMITH, Travis Ward

SMITH, W. Campbell

SMITH, Walter Lorane

SMITH, Ward Conwell See also BENDA, W K 1-60

SMITH, William Lee See also FLANAGAN, F. J. 1-60
1-60 (and STONE, Jerome, and ROSS, Daphne Riska, and LEVINE, Harry) Doverite, a possible new yttrium fluocarbonate from Dover, Morris County, New Jersey Am Mineralogist, v. 45, nos 1-2, p 92-98 incl. tables, Jan.-Feb 1960.

SMITH, William Ogden
SMITHERINGALE, W. G

SMOOT, Thomas William
1-60, Clay mineralogy of pre-Pennsylvanian sandstones and shales of the Illinois Basin--Pt 1, Relation of permeability to clay mineral suites Illinois State Geol Survey Div Circ. 286, 20 p incl. index map, diagrams, and tables, 1960

SMOUSE, DeForrest See BULLOCK, Kenneth C. 1-60

SMOUT, Alan H.

SNAVELY, Parke Detweiler, Jr. See BROWN, Robert David, Jr. 2-60, GOWER, Howard Dale 1-60

SNELGROVE, Alfred Kitchener. See also NEILSON, J M 1-60
1-60, Opportunities in geology and geological engineering New York, N. Y., Vocational Guidance Manuals, 86 p, tables, 1960

SNOW, Geoffrey G

SNYDER, Charles Theodore

SNYDER, Frank G
1-60. (and ODELL, James W.) Some aspects of mine geology in the Southeast Missouri lead district [abs ] Mining Eng , v. 12, no 12, p. 1248, Dec 1960

SNYDER, James D See DELLWIG, L. F 2-60

SNYDER, Thomas Elliot
1-60 Fossil termites from Tertiary amber of Chiapas, México (Isoptera) Jour Paleontology, v 34, no 3, p. 493-494, illus, May 1960

SOCIETY of ECONOMIC PALEONTOLOGISTS and MINERALOGISTS See COOPER, Byron Nelson 1-60, GATES, Olcott 1-60, OWENS, James Patrick 4-60

SOCIETY of ECONOMIC PALEONTOLOGISTS and MINERALOGISTS, Gulf Coast Section See also HOUSTON GEOL. SOC. 1-60
1-60, Type Localities Project, Unit 1 Baton Rouge, La , [58] p, illus , Oct. 1960

SOCIETY of ECONOMIC PALEONTOLOGISTS and MINERALOGISTS, Pacific Section
1-60. (PAYNE, Max B., leader) Type Panoche, Panoche Hills area, Fresno
SOCKET OF - - -

County, California, 1960 spring field trip, April 15-16, 1960, guidebook [18] p incl index and geol. sketch maps, and charts, 1960

SOCIETY OF ECONOMIC PALEONTOLOGISTS and MINERALOGISTS, Permian Basin Chapter

SOCOLOW, Arthur Abraham

SODD, Vincent J.

SOGNNAES, Reidar F See POSNER, Aaron Sidney

SOH, Norman Frederick

SOHN, Israel Gregory. See also HOSTERMAN, J W 1-60

SOESTER, Paul Edward

SOLÓRZANO MARÍN, Roberto. See also ZOPPIS BRACCI, Luigi
1-60. Análisis y perspectivas industriales de los recursos minerales de Nicaragua Nicaragua Servicio Geol. Nac Bol. 4, p 119-161 incl. tables, 1960.

SOMERTON, Wilbur H.
1-60. (and BOOZER, George D) Thermal characteristics of porous rocks at elevated temperatures Jour Petroleum Technology, v 12, no. 6, p. 77-81 incl. diagrams and tables, June 1960.

SÔMIYA, Shigeyuki. See MUAN, Arnulf

382
SPANGLER

SPANGLER, Merlin Grant
1-60. Soil engineering 2d ed., Scranton, Pa., Internat Textbook Co., 483 p., illus., 1960

SPENCE, R. E.

SPENCER, Charles W. See also UPSON, J. E., 2d 1-60

SPENCER, Ned D.

SPENCER, Ralph Wellington. See TERZAGHI, Karl 1-60

SPERIC, Herbert Cecil

SPIEGEL, Zane E.

SPIEKER, Edmund Maute

SPIELBERG, Nathan. See LADELL, Joshua 1-60

SPILLERS, James Parker See STIPE, Jack C.

SPINKS, J.W.T.
1-60. Sulfur isotopes and hydrothermal deposits Econ Geology, v 55, no 1, p 206, Jan -Feb. 1960 (Discussion of paper by M. L Jensen, v. 54, p 374, 1959 )

SPJELDNAES, Nils
1-60. Ordovician climatic zones Norsk Geol. Tidsskr. (Bergen, Norway), bind 41, hefte 1, p. 45-77 incl sketch maps and diagrams, 1960

SPRINGER, Karl J
1-60. How a small mining company can pursue mineral exploration Mining Cong Jour., v. 46, no. 12, p 48-50 incl. illus., Dec. 1960

SPROULE, John Campbell

STAATZ, Mortimer Hay. See also OUTERBRIDGE, W F 1-60

STABBACK, Jack G.
STANLEY


STACEY, F D. See also STOTT, P. M. 1-60
1-60 Magnetic anisotropy of igneous rocks Jour Geophys Research, v. 65, no 8, p 2429-2442 incl diagrams and tables, Aug. 1960

STACEY, J. S.

STACKLER, Willi Friedrich. See also THYSSEN-BORNEMÍESZA, Stephen 1-60
1-60. New light on isopach residual values--In gravity interpretations Oil and Gas Jour., v 58, no 33, p 153, 155, 159 incl diagrams, Aug 15, 1960.

STACY, John R. See PHOENIX, David Allen 1-60

STADNICHENKO, Taísa Maximovna, 1894-1958. See ZUBOVIC, Peter, 1-60-4-60

STAFFORD, Philip Thomas
2-60. Stratigraphy of the Wichita group in part of the Brazos River valley, north Texas U. S Geol Survey Bull 1081-G, p. 261-280, illus. incl. geol. map, 1960

STAGER, Harold Keith

STAINFORTH, Robert Masterman

STALKER, Archibald MacSween See also CANADA GEOL SURVEY 5-60
1-60. Ice-pressed drift forms and associated deposits in Alberta Canada Geol. Survey Bull. 57, 38 p., illus., 1960

STAM, Johannes Cornelis

STANDER, Cornelius M.
1-60. Extraction and flame spectrophotometric determination of vanadium Anal Chemistry, v. 32, no 10, p. 1296-1299 incl. diagrams and tables, Sept 1960

STANFIELD, Kenneth Edison

STANLEY, Ruth P.

385
STANTON, R. D
1-60 (and RUSSELL, R. D.) Anomalous leads and the emplacement of lead sulfide ores--Erratum Econ Geology, v 55, no 4, p 841, June-July 1960, erratum to paper, v. 54, no 4, p 588-607, 1959

STANTON, R. L

STAPLIN, Frank Lyons. See also HALBETTSMA, H. L 1-60, 2-60
2-60 (and others) Palynological techniques for sediments Micropaleontology, v 6, no 3, p. 329-331, July 1960.
3-60 Upper Mississippian plant spores from the Golata formation, Alberta, Canada Palaeontographica (Stuttgart, Germany), Band 107, Abt. B, Lief. 1-3, p 1-40, illus, June 1960.

STARCK, L. P. See HILL, H. L 1-60.

STARKE, John M., Jr. See HUFFMAN, George Garrett 2-60-4-60, 6-60

STARKEY, Harry C. See also CARROLL, Dorothy 4-60

STATHAM, Edwin H See HOWELL, Lynn Gorman 1-60, MARTINEZ, Joseph Didier 1-60.

STAUFFER, William Vincent

STAUFFER, Clinton Raymond, 1875-1960. See EMMONS, William Harvey 1-60.

STEARN, Colin William. See CLARK, Thomas Henry 1-60

STEARN, Richard Gordon. See also MARCHER, M. V 1-60, WILSON, C. W. Jr 1-60

STEECE, Fred Victor
1-60. (and TIPTON, Merlin Joseph, and AGNEW, Allen Francis) Glacial

STEEL, Ernest William

STEENLAND, Nelson Clarence See also ROBERTSON, D S. 1-60

STEINHART, John S. See also MEYER, R P 1-60
1-60 (and MEYER, Robert Paul, and WOLLARD, George Prior) Statistical uncertainty and interpretion problems in seismic crustal studies with applications [abs.] Jour Geophys. Research, v 65, no. 8, p 2526, Aug 1960
STEPHENS

STEPHENS, Fred H

STEPHENS, James Dallas
1-60. Hydrothermal alteration at the United States mine, West Mountain (Bingham) district, Utah [abs.] Dissert. Abs., v. 21, no. 4, p. 920, Oct. 1960

STEPHENS, John James

STEPHENS, Raymond Weathers, Jr.

STEPHENSON, William J.

STERLING, Clarence I., Jr

STERMITZ, Frank See HACKETT, Orwoll Milton 1-60

STERN, Konrad

STERN, Thomas White. See also ROSE, H. J., Jr 1-60, 2-60

STERNS, Mabel
1-60. The Kunz collection and the U.S.G.S Library Gems and Minerals, no. 268, p. 44, Jan 1960

STEVEN, Thomas August
1-60. (and RATTÉ, James Clifford) Relation of mineralization to caldera subsidence in the Creede district, San Juan Mountains, Colorado Art. 8 in U.S Geol Survey Prof. Paper 400-B, p B14-B17 incl. geol. sketch maps, 1960
2-60. (and RATTÉ, James Clifford) Geology and ore deposits of the Summitville district, San Juan Mountains, Colorado U.S. Geol Survey Prof Paper 343, 70 p., illus. incl. geol. maps, 1960

STEVENS, Calvin Howes
1-60. (and JONES, Daniel H., and TODD, Robert George) Ultrasonic vibrations as a cleaning agent for fossils Jour Paleontology, v. 34, no. 4, p. 727-730, illus., July 1960

STEVENS, Charles Martin. See ANDERS, Edward 1-60, 3-60

STEVENS, Curtis
1-60. (editor) Petroleum sourcebook 1959--A regional bibliography of petroleum information Amarillo, Texas, Natl Petroleum Bibliography, 234 p., 1960
STEVENSON


3-60 (and STEVENS, Donald Raymond, compilers and editors) Hugoton Embayment-Anadarko Basin handbook--A compendium of oil and gas field information on the Amarillo-Hugoton area Amarillo, Tex., Natl Petroleum Bibliography, 412 p., illus., 1960

STEVENS, Donald Raymond See STEVENS, Curtis 3-60

STEVENS, Harry W., Jr

STEVENS, Peter

STEVENS, Rollin Elbert See also BAILEY, E. H. 1-60, 3-60

2-60 (and NEIL, Sarah T., and ROBERSON, Charles Elmer) Gravimetric conversion factors and other data used in interpreting analyses of rocks, minerals, and waters, AGI Data Sheets 18a and 18b GeoTimes, v. 4, no. 7, p 41-42, Apr 1960, no 8, p 23, May-June 1960.

3-60. (and others) Second report on a cooperative investigation of the composition of two silicate rocks U. S. Geol. Survey Bull 1113, 126 p. incl diagrams and tables, 1960. Contains individual papers which are cited separately

4-60. (and NILES, William W) Chemical analysis of the granite and the diabase, Pt 1 in Second report on a cooperative investigation of the composition of two silicate rocks U. S. Geol. Survey Bull 1113, p 3-43 incl. diagrams and tables, 1960


STEVENSON, Frank Jay


STEVENSON, I. M. See also CANADA GEOL SURVEY 29-60
1-60. New occurrences of Triassic sedimentary rocks in Chedabucto Bay area, Nova Scotia Geol Soc America Bull., v 71, no. 12, pt 1, p 1807-1808 incl sketch map, Dec. 1960

STEVENSON, John Sinclair. See CLARK, Thomas Henry 2-60

STEVENSON, Robert Evans


3-60. Geology of the Little Eagle quadrangle, South Dakota South Dakota Geol Survey [Geol Map], scale 1 62,500 (about 1 in. to 1 mi.), with text, 1960

389
STEVENSOn

4-60 Geology of the Timber Lake quadrangle, South Dakota South Dakota Geol Survey [Geol Map], scale 1 62,500 (about 1 in. to 1 mi ), with text, 1960.

STEWARD, Julian H

STEWARD, David Benjamin
1-60 The system LiAlSiO₄-NaAlSi₃O₈-H₂O at 2,000 bars Internat. Geol. Cong, 21st, Copenhagen, 1960, Rept., pt. 17, p 15-30 incl diagram and tables, 1960

STEWARD, John Harris See also FESCHER, R. P. 1-60

STEWARD, Joseph William. See also WALTON, W. C 2-60
1-60. Relation of salty ground water to fresh artesian water in the Brunswick area, Glynn County, Georgia Georgia Geol Survey Inf Circ 20, 42 p, illus, 1960

STEWARD, Lincoln Adair See also DALE, V. B 1-60
1-60, (and PFISTER, A. J.) Barite deposits of Arizona U. S, Bur Mines Rept Inv 5651, 89 p. incl. index and sketch maps, diagrams, and illus, 1960

STEWARD, Peggy Lou. See EATON, Theodore Hildreth, Jr 3-60

STEWARD, Samuel Woods See also BYERLY, P E 1-60, DIMENT, W. H 2-60

STICK, John C., Jr.

STIEFF, Lorin Rollins See STERN, Thomas Whitall 1-60

STINSON, Melvin C. See PABST, Adolf 2-60

STIPE, Jack C.

STIPP, Thomas Franklin
1-60 (compiler) Selected bibliography, in Northern Franklin Mountains, southern San Andes Mountains, with emphasis on Pennsylvanian stratig­raphy Roswell Geol Soc, Field Trip, Nov 1960, Guidebook, p. 157-160, 1960

STIRTON, Ruben Arthur

390
STOTT

STOBBE, P. C.

STOCKTON, A D. See YBARRA, R A. 1-60

STOCKWELL, Clifford Howard See CANADA GEOL. SURVEY 10-60

STOENNER, R W. See also BASSETT, W. A. 2-60, SCHAEFFER, O A 1-60
1-60 (and SCHAEFFER, Oliver Adam, and DAVIS, Raymond, Jr.) Meteorites as space probes for testing the spatial constancy of cosmic radiation Jour. Geophys Research, v 65, no. 10, p. 3025-3034 incl. diagrams and tables, Oct 1960

STOIBER, Richard Edwin

STOKES, William Lee

STONE, Donald B. See NAMOWITZ, Samuel N 1-60

STONE, Jerome. See SMITH, William Lee 1-60

STONELEY, Robert

STOREY, Taras Philip See also PATTERSON, J R 1-60
1-60 Devonian stratigraphy--Norman Wells region [Northwest Territories] [abs.] Oil in Canada, v 12, no 16, p 33, Feb. 15, 1960

STOSE, George Willis, 1869-1960
1-60 (and LJUNGSTEDT, Olof Axel, compilers) Geologic map of the United States Washington D C, U. S Geol Survey, 4 sheets, scale 1,250,000 (about 1 in to 39 mi.), slightly revised 1960, originally published 1932.

STOTT, Donald Franklin
1-60 Cretaceous rocks between Smoky and Pine Rivers, Rocky Mountain Foothills, Alberta and British Columbia Canada Geol Survey Paper 60-16, 52 p., illus. incl. geol. map, 1960
2-60 Cretaceous rocks in the region of Liard and Mackenzie Rivers, Northwest Territories Canada Geol Survey Bull. 63, 36 p incl. tables, diagrams and illus., separate geol maps and section, with French abs., 1960
STOTT

STOTT, P M

STOUT, Martin Lundy

STOUT, Thompson Mylan

STOUT, Wilber Elihu, 1876-1961

STRACHAN, Clyde G

STRACZEK, John A

STRAHLER, Arthur Newell

STRALEY, H W , 3d See also HUSTED, J E 1-60, 2-60

STRAND, Rudolph G See JENNINGS, Charles William 1-60

STRATTON, Hazel J.
1-60 List of publications issued by the Bureau of Mines from July 1, 1910, to January 1, 1960, with subject and author index Washington, D. C., 826 p., 1960.

STRAWN, Enos J.

STRICKLAND, John Willis

STRIMPLE, Harrell LeRoy
1-60. The genus Paragassizocrinus in Oklahoma Oklahoma Geol. Survey Circ. 55, 37 p , illus., 1960
2-60. Regressive evolution among erisocrinids Oklahoma Geology Notes, v 20, no 6, p 151-155, illus., June 1960
STRINGHAM, Bronson  See also ADAIR, D H 1-60, SNOW, G. G 1-60

STROSS, Fred Helmut

STROUD, L.  See BRANDT, L W 1-60

STROUXNESS, E. G.  See also PARKER, Frank L 1-60, 2-60

STUART, Roy Armstrong
1-60. Geology of the Kemano-Tahta area British Columbia Dept Mines and Petroleum Resources Bull 42, 52 p., illus. incl geol. map, 1960

STUBBINS, John B.  See also BLAIS, R. A 1-60

STUBICAN, Vladimir  See also BRINDLEY, G. W. 3-60
1-60. (and ROY, Rustum) Progress of dehydroxylation and proton retention in heated 1 1 clays studied by infra-red spectroscopy, weight loss and deuterium uptake [abs.] Am. Ceramic Soc. Bull., v 39, no. 4, p 189, Apr. 1960

STUCKEY, Charles Wannwright, Jr.
2-60 A correlation of the Gulf Coast Jackson Gulf Coast Assoc. Geol. Soc. Trans., v 10, p 285-289 incl sketch maps, correlation charts, and sections, 1960

STUCKEY, Jasper Leonidas

STUDE, Jerry R  See TASCH, Paul 2-60

STUIVER, Minze

STULIK, R. S.  See HARDT, William Frederick 1-60

STUMM, Erwin Charles
1-60. New rugose corals from the Middle and Upper Devonian of New York Jour. Paleontology, v 34, no 1, p 161-163, illus., Jan. 1960
3-60 The type species of the Paleozoic tabulate coral genera Cladopora and Coenites Michigan Univ. Mus. Paleontology Contr., v. 15, no 7, p 133-138, illus., Jan 13, 1960
SUSS

SUSS, Hans Eduard See also BIEN, G. S-N 1-60, HUBBS, C L 1-60

SUFFREDINI, C S. See SCHMITT, R A. 1-60

SULLIVAN, Charles John
1-60. The origin of sulphide ores Eng and Mining Jour , v. 161, no 6, p. 189-194 incl diagrams and table, June 1960

SULLIVAN, Dan
1-60. Recent oil development in Spencer County, Indiana Kentucky Geol. Survey, ser 10, Spec Pub. 3, p. 48-55, illus., 1960

SULLIVAN, Dan M See DAWSON, Thomas Albert 2-60

SULLIVAN, John C

SULLWOLD, Harold H., Jr. See also HOLLAND, C. H 1-60
1-60 Tarzana fan, deep submarine fan of late Miocene age, Los Angeles County, California Am Assoc. Petroleum Geologists Bull , v. 44, no. 4, p. 433-457 incl. geol sketch map, index and sketch maps, diagrams, table, sections, and illus , Apr. 1960

SUMMERSON, Charles Henry. See also MILLER, O. M 1-60

SUN, Ming-Shan

SUND, J. Olaf See BAIRD, David McCurdy 5-60

SUWERMAN, Jack Allen

SUSKA, Maria Magdalena
1-60. Pre-Woodbend prospects of North-Central Alberta [abs.] Canadian Oil and Gas Industries, v. 13, no 4, p 102-103, Apr. 1960

SUTCLIFFE, Horace, Jr. See NEWTON, John G 1-60

SUTER, Hans H.
1-60 The general and economic geology of Trinidad, B. W. I 2d ed., London, Her Majesty's Stationery Office, 145 p , illus. incl. geol. sketch maps, with revisionary appendix by G E Higgins, 1960

SUTER, Max See TURNBULL, Willard Jay 1-60

394
SUTHERLAND, Patrick Kennedy See also MONTGOMERY, Arthur 1-60
1-60. (and COCKE, J. M.) A solitary rugose coral of exceptional size from the Middle Pennsylvanian of Oklahoma Oklahoma Geology Notes, v 20, no 4, p 76-82, illus., Apr 1960

SUTHERLAND, R. L.
1-60 Stratigraphy and paleontology of the "Maysville" division of the Martinsburg shale formation near Chatham Hill, Smyth County, Virginia [abs.] Virginia Jour. Sci., v. 11, no. 4, p 216, Sept 1960

SUTHERLAND BROWN, Atholl
1-60. Physiography of the Queen Charlotte Islands [British Columbia]
Canadian Geog Jour, v. 61, no 1, p 30-37 incl. geol. and sketch maps, table, and illus., July 1960
2-60. Triassic and Jurassic rocks of the Queen Charlotte Islands [British Columbia] [abs.] Geol. Soc. America Bull., v. 71, no. 12, pt 2, p 2052, Dec 1960

SUTTON, Felix

SUTTON, George H. See also BECKMANN, W. C. 1-60

SUTTON, Robert George

SVOBODA, Richard Frank
1-60. Interest flares in Forest City basin [Nebraska-Missouri] Oil and Gas Jour., v 58, no. 21, p 150-153 incl. index, structure contour, and isopach maps, May 23, 1960.

SWADLEY, W. C. See RADER, Lewis Franklin, Jr 1-60

SWAIN, Frederick Morrill. See PALACAS, James George 2-60

SWANN, David Henry. See ATHERTON, Elwood 1-60

SWANSON, E. B.

SWANSON, Howard Eugene See McMURDIE, Howard Francis 1-60, SWITZER, George S. 1-60.

SWANSON, Roger Warren See also CRESSMAN, E. R. 1-60
SWANSON

SWANSON, Vernon Emanuel

SWARZENSKI, W. V. See LUSCZYNSKI, N. J. 1-60

SWAYNE, William H.
1-60. (and TRASK, Frank) Geology of El Salvador Mining Eng., v. 12, no. 4, p. 344-348 incl. geol. sketch map, section, and illus., Apr 1960.

SWEENEY, S. A.

SWEET, Walter Clarence See PULSE, Richard 1-60

SWEETING, Marjorie Mary See VERSEY, Howard Raymond 2-60

SWENSON, Frank Albert. See also MOULDER, E. A 1-60

SWIFT, Lawrence Merton. See ADAMS, William Mansfield 1-60

SWINEFORD, Ada

SWINGLE, George D.
1-60. (compiler) Rockwood quadrangle, Roane County, Tennessee Tenni­see Div Geol. Map GM 123-SW, scale 1 31,680 (1 in. to 1/2 mi.), with sections [1960].
2-60. (compiler) Jacksboro quadrangle, Campbell County, Tennessee Tenn­see Div. Geol. Map GM 136-SW, scale 1 31,680 (1 in. to 1/2 mi.), with sections [1960].
3-60. (compiler) Lake City quadrangle, Anderson County, Tennessee Tenn­see Div Geol Geol Map GM 137-NW, scale 1 31,680 (1 in. to 1/2 mi.), with sections [1960].

SWINTON, William Elgin

SWITZER, George S.

SYROCKI, B. John
TANNER

TABIKH, A. A.

TABOR, Rowland W.

TAGGART, Millard Seals, Jr.

TAKAHASHI, Taro

TAKUECHI, Hitoshi. See PRESS, Frank 2-60.

TALIAFERRO, Nicholas Lloyd See BYERLY, Perry 3-60.

TALMADGE, Robert R.
1-60. On Gondwana and the halitoids, a hypothesis Veliger, v 3, no 1, p. 11-13, July 1, 1960.

TALWANI, Manik. See also SUTTON, G. H. 2-60, WORZEL, J. L 1-60.

TAMERS, Murry Allen

TAMURA, T. See PARKER, Frank L. 1-60, 2-60, STRUXNESS, E. G. 1-60.

TANGUY, D. R. See TIXIER, Maurice Pierre 2-60.

TANNER, Allan Bain

TANNER, Dallas. See HUNT, Alice P. 1-60.

TANNER, J. G.

TANNER, Lloyd George

397
TANNER, William Francis, Jr.
3-60. Expanding shoals in areas of wave refraction Science, v 132, no 3433, p. 1012-1013 incl sketch map and diagram, Oct. 14, 1960
4-60. Helicoidal flow, a possible cause of meandering Jour Geophys. Research, v 65, no. 3, p 993-995 incl diagrams, Mar 1960
6-60. Florida coastal classification Gulf Coast Assoc. Geol Socs. Trans , v 10, p 259-266 incl. sketch maps and tables, 1960
7-60 Paleogeography--Coastal studies provide more questions than answers Shale Shaker, v 11, no 3, p 14-17 incl. sketch maps, diagram, and table, Nov. 1960
8-60. (editor) 11th annual symposium on highway engineering geology, Florida State University, February 26, 1960, proceedings Tallahassee, Florida Geol Survey, 119 p , ilus , Sept 1960 Includes individual papers which are cited separately.
9-60. 'Perched' barrier islands, east Florida coast Southeastern Geology, v 2, no 2, p 133-135, table, Nov. 1960
11-60. Relative accuracies of thickness based on true and apparent dips Shale Shaker, v 11, no 1, p 17-18 incl. diagram, Sept 1960

TAPPAN, Helen Niña

TASCH, Paul. See also REISER, Ralph 1-60
3-60. Paleoecological observations of the Wellington salt (Hutchinson member) Kansas Acad Sci Trans , v 63, no 1, p 24-30, illus., spring 1960

TASHA, Herman J. See ZEIGLER, John M. 2-60

TATEM, William A

TATLOCK, Donald Bruce. See also WALLACE, R E 2-60, 3-60

TATOR, Benjamin Almon

TATUM, James L.

TAUBENECK, William Harris See also BROWN, W Liddle 1-60, POLDERVAART, Arie 1-60
1-60. (and POLDERVAART, Arie) Geology of the Elkhorn Mountains, north-
TAYLOR


TAYLOR, Allan M.

TAYLOR, Charles Alfred

TAYLOR, Don Ray


TAYLOR, Dwight Willard. See also HIBBARD, C. W 2-60

2-60 Late Cenozoic molluscan faunas from the High Plains U.S. Geol. Survey Prof Paper 337, 94 p., illus., 1960

TAYLOR, Garvin Lawrence. See HARRIS, John F. 1-60

TAYLOR, H. W. See WHYTE, G N. 1-60

TAYLOR, Harry Francis West. See GARD, John Alan 1-60, ROY, Della Martin 1-60

TAYLOR, Hugh Pettingill, Jr. See also NOBLE, J. A. 1-60
TAYLOR


TAYLOR, Hugh S. See EARDLEY, Armand John 5-60, RUSSELL, Richard Joel 3-60, WILSON, John T 4-60

TAYLOR, Omer James. See also DAMON, P E. 1-60
1-60 Correlation of volcanic rocks in Santa Cruz County, Arizona Arizona Geol Soc Digest, v.3, p.87-91 incl correlation chart and table, Mar 1960.

TAYLOR, Philip Seyfang

TAYLOR, Richard Bartlett. See BUSH, Alfred Lerner 1-60

TAYLOR, Richard Spence

TAYLOR, Robert W.

TAYLOR, Russell N.
1-60. The Jocelyn-Varn Fry sandstone field, Taylor County, Texas, in Abilene Geol Soc., Geological contributions 1960, p 68-76, illus., 1960

TAYLOR, Stanley A G.

TAYLOR, Stuart Ross

TEATER, Thelma C. See McGRAIN, Preston 2-60

TEDLIE, William Donald
1-60 Acid rocks associated with an intrusive complex, Coppermine River Area, Northwest Territories [abs.] Canadian Mining Jour., v 81, no 10, p. 133, Oct 1960

TEDROW, John C F.
1-60 (and HARRIES, H.) Tundra soil in relation to vegetation, permafrost and glaciation Oikos--Acta Oecologica Scandinavica (Copenhagen), v 11, fasc. 2, p. 237-249 incl. sketch maps, 1960

TEGLAND, Edward R See MALHOTRA, Chamen L 1-60

TEICHERT, Curt
1-60. (and KUMMEL, Bernhard) Size of endoceroid cephalopods Breviora, no 128, 7 p., illus., Dec. 20, 1960.
TEISSEYRE, Roman See DROSTE, Sophia 1-60

TEMPLE, Alan Keith

TEMPLETON, David Henry

TERASMAE, Jaan See also MacDLINTOCK, Paul 1-60, RADFORTH, Norman William 1-60
2-60. Surficial geology of Cornwall map-area, Ontario and Quebec, 31 G/2 Canada Geol Survey Paper 60-28, 4 p., geol. map, 1960
3-60. Contributions to Canadian palynology, No. 2--Pt. 1, A palynological study of post-glacial deposits in the St Lawrence Lowlands [Quebec], Pt. 2, A palynological study of Pleistocene interglacial beds at Toronto, Ontario Canada Geol. Survey Bull 56, 41 p., illus., 1960

TERRIERE, Robert Theodore

TERZAGHI, Karl
2-60. From theory to practice in soil mechanics--Selections from the writings of Karl Terzaghi, with bibliography and contributions on his life and achievements prepared by L. Bjerrum, A Casagrande, R. B. Peck, A W Skempton New York, N. Y , John Wiley and Sons, 425 p incl, sketch map, sections, diagrams, and illus , 1960

TEXAS BOARD OF WATER ENGINEERS, Ground Water Division
1-60. Reconnaissance investigation of the ground water resources of the Canadian River Basin, Texas Texas Board of Water Engineers Bull 6016, 27 p., illus incl geol map, Sept 1960.

TEXAS UNIVERSITY, Bureau of Economic Geology
1-60. Aspects of the geology of Texas--A symposium Texas Univ. Pub. 6017, 117 p., illus incl geol. map, Sept 1, 1960. Includes individual papers which are cited separately

TEXAS UNIVERSITY GEOLOGICAL SOCIETY

THALMANN, Hans Ernest
1-60. An index to the genera and species of the Foraminifera, 1890-1950 Stanford Univ., Stanford, Calif, George Vanderbilt Found., 393 p., illus , 1960

THAMES, Clement Beal, Jr.
1-60. Facies relationships in the Mississippian effects upon fluid migration Williston Basin Oil Rev., v 9, no 2, p 20-22, illus , Apr 1960.
THARIM, James C.

THATCHER, Leland L. See CARLSTON, Charles William 1-60, MAGIN, George B., Jr 1-60

THAYER, Thomas Preence

THEOBALD, Paul Kellogg, Jr. See also OVERSTREET, W. C. 3-60

THIEL, Edward, 1928-1961 See WOOLLARD, George Prior 1-60

THIEL, George Alfred See EMMONS, William Harvey 1-60, SCHWARTZ, George Melvin 1-60

THODE, Henry George. See also YOUNG, B. G. 1-60

THOMAS, G. E
1-60. (and GLAISTER, Rowland Perry) Facies and porosity relationships in some Mississippian carbonate cycles of Western Canada basin Am. Assoc. Petroleum Geologists Bull., v. 44, no. 5, p. 569-588 incl. index and sketch maps, chart, diagrams, sections, and illus., May 1960

THOMAS, G. W

THOMAS, George C

THOMAS, George L. See JONAS, Edward Charles 2-60

THOMAS, George Richard

THOMAS, Gerald Waylett See RICH, Charles Irvin 1-60

THOMAS, Grant W
THOMAS, Harold Edgar

2-60 (and WHITE, Donald Edward) Meteoric versus nonmeteoric ground water Am Soc. Civil Engineers Trans. 1960, v. 125, pt 1, p 1304-1307, slightly revised 1960, originally published 1959


4-60. Essentials for optimum use of ground-water resources Western Resources Conf., 1st, 1959, Papers, p. 181-191, 1960

THOMAS, Horace Davis

THOMAS, J. F. J.

THOMAS, Leo Almor. See also TRI-STATE GEOL. FIELD CONF 1-60


THOMAS, Leonard C.

THOMAS, R. P.

THOMAS, Robert G.

THOMASON, Ben R., Jr.

THOMASSON, Horace Gordon, Jr.
1-60. (and OLMSTED, Franklin Howard, and LeROUX, E F.) Geology, water resources, and usable ground-water storage capacity of part of Solano County, California U. S. Geol Survey Water-Supply Paper 1464, 683 p. incl. tables, diagrams, and illus., also geol. maps and sections, 1960

THOMPSON, Charles E

THOMPSON, George Albert

THOMPSON, Henry Dewey

THOMPSON, Lloyd G. D.
1-60. (and LaCOSTE, Lucien Jean Batiste) Aerial gravity measurements
Jour Geophys. Research, v. 65, no 1, p. 305-322 incl sketch map, diagrams, tables, and illus., Jan. 1960

THOMPSON, Marcus Luther
1-60. Stratigraphic distribution of American Pennsylvanian fusulinid

THOMPSON, Mary Eleanor. See GARRELS, Robert Minard 1-60, 2-60

THOMPSON, Raymond Melvin
1-60. Geology and petroleum possibilities of Alaska. Internat Geol Cong.,
21st, Copenhagen, 1960, Rept., pt. 11, p 27-36 incl. geol. and tectonic
sketch maps, 1960.

THOMSON, Robert
7-60. Legends, symbols and location maps to accompany uncoloured geo­
logic map sheets (white prints) of vicinity of Cobalt (1960) Ontario

THOMPSON, Robert Bruce, Jr.
1-60. Some observations on structure and metamorphism in the Harrisburg,
195, Jan. 1960

THOMPSON, Robert Mitchell
1-60. (and MONTGOMERY, J. H.) Barium silicates from the Yukon Territ­
tory [abs.] Canadian Mining and Metall Bull, v. 53, no 575, p. 200, Mar
1960

THOMPSON, Ted. See GIROUX, Paul R. 1-60

THOMPSON, Thomas Francis
1-60. The Contractor's Hill slide, and it's causes and correction [abs ]
California Assoc. Eng Geologists, 3d Ann Mtg, Berkeley, Oct 14-16,
1960, p. 14 [1960]

THOMPSON, Thomas Gordon. See BARKLEY, Richard A 1-60

THOMPSON, Will F
1-60. The shape of New England Mountains, Pt. 1 Appalachia, no. 131,

THOMPSON, Willard D., Jr
1-60. Geology of the northern part of Cherry Creek metamorphic rocks,
Madison Co, Montana, in West Yellowstone--Earthquake area Billings
index and geol. sketch maps, diagrams, and illus., 1960

THOMSON, James Edgar. See also GINN, R M 2-60, PEARSON, W. J. 2-60
2-60. On the origin of algal-like forms and carbon in the Sudbury basin, Ontario Royal Soc Canada Trans., 3d ser., v 54, sec 4, p 65-75, illus.,
June 1960.

4-60. Uranium and thorium deposits at the base of the Huronian system in the District of Sudbury Ontario Dept. Mines Geol Rept. 1, 40 p., illus incl. geol. sketch maps, 1960


6-60 (and CARD, Kenneth D.) Davis township, District of Sudbury Ontario Dept Mines Prelim. Map P 51, geol map, scale 1 in to 1/4 mi, [Mar 11, 1960].


10-60 Sudbury basin series--Sheet 3, Balfour township Ontario Dept Mines [Prelim. Map P 44], geol map, scale 1 in, to 1/4 mi [Feb 19, 1960].


13-60. Sudbury basin series--Sheet 4, Rayside township Ontario Dept Mines [Prelim Map P.45], geol map, scale 1 in to 1/4 mi [Feb 19, 1960].

14-60. Sudbury basin series--Sheet 7, Fairbank township Ontario Dept. Mines [Prelim Map P.46], geol map, scale 1 in to 1/4 mi [Feb 19, 1960].

THOMSON, Robert

1-60. Coleman tp , con. 3, lots 10, 11, 12, and Gillies Limit, blocks 3,4,5, western "A" claims, District of Timiskaming, Ontario Ontario Dept. Mines Provisional Map P-81, geol map, scale 1 in. to 400 ft, with separate legend [Nov.] 1960.

2-60. Part of Coleman township, con 3 and 4, lots 13, 14, 15, District of Timiskaming, Ontario Ontario Dept Mines Provisional Map P-79, geol map, scale 1 in to 400 ft, with separate legend, [Nov.] 1960.

3-60. Part of Coleman township, con 5 and 6, lots 7-11, District of Timiskaming, Ontario Ontario Dept. Mines Provisional Map P-80, scale 1 in to 400 ft, with separate legend, [Nov.] 1960.

4-60. Part of Latchford township, District of Timiskaming, Ontario Ontario Dept. Mines Provisional Map P-82, geol map, scale 1 in to 400 ft, with separate legend, [Nov.] 1960.

5-60. Part of Gillies Limit, blocks 9, 10, 11, 17, 18, 19, District of Timiskaming, Ontario Ontario Dept Mines Provisional Map P-83, geol map, scale 1 in to 400 ft, with separate legend, [Nov.] 1960.


7-60. Part of Lorrain township, con 11, lots 1-6, con. 12, lots 1-5, District of Timiskaming, Ontario Ontario Dept. Mines Provisional Map P-61, geol map, scale 1 in to 400 ft., [Aug. 17] 1960.


9-60. Lorrain township, con. 9, lots 7,8,9, con 10, lots 7,8, District of Timiskaming, Ontario Ontario Dept Mines Provisional Map P-63, scale 1 in. to 400 ft, [Aug 17] 1960.

10-60. Lorrain township, con 7, lots 7-12, con. 8, lots 7-10, District of Timiskaming, Ontario Ontario Dept. Mines Provisional Map P-64, scale 1 in. to 400 ft, [Aug. 17] 1960.

THOMSON


THOMSEN, Richard Wyatt See BIDEAUX, Richard August 2-60

THORNTON, Charles Wyatt Perkins 1-60. (and TUTTLE, Orville Frank) Chemistry of igneous rocks--[Pt.] 1, Differentiation index Am Jour Sci., v 258, no 9, p. 664-684 incl. diagrams, Nov 1960

THORPE, Arthur. See FRIEDMAN, Irving I 1-60, 3-60, SENFTLE, Frank Edward 1-60

THORSEN, Gerald W See BENNETT, W. A. G 1-60


TIEN, Chi 1-60. Temperature distribution of an idealized ice cap U S. Army, Corps of Engineers, Snow Ice and Permafrost Research Establishment, Research Rept 64, 8 p., illus., July, 1960


TOCHER


TILLING, Robert Ingersoll. See WINCHELL, Horace 1-60


TILTON, George Robert See also BASS, M. N. 2-60, WETHERILL, G. W. 1-60

1-60. Volume diffusion as a mechanism for discordant lead ages Jour Geophys Research, v 65, no. 9, p 2933-2945 incl. diagrams and tables, Sept. 1960.

2-60. (and others) 1000-million-year-old minerals from the eastern United States and Canada Jour. Geophys Research, v. 65, no. 12, p 4173-4179 incl. index map and tables, Dec 1960.

3-60. (and REED, George W., Jr.) Concentration of lead in ultramafic rocks by neutron activation analysis [abs.] Jour. Geophys Research, v 65, no. 8, p. 2529, Aug. 1960

TING, William Su. See AXELROD, Daniel Isaac 1-60, 2-60


TIPTON, Merlin Joseph. See also STEECE, F V. 1-60


TISCHLER, Herbert. See LANGENHEIM, Ralph Louis, Jr. 3-60


TIXIER, Maurice Pierre See also DOLL, H -G. 2-60


TOCHER, Don See also OAKESHOTT, G B 1-60


TOCHER

5-60 Creep on the San Andreas fault--Creep rate and related measurements at Vineyard, California Seismol Soc America Bull., v 50, no 3, p 398-404 incl, diagrams and tables, July 1960

TODD, David Keith See also BEAR, Jacob 1-60
1-60 Salt water intrusion of coastal aquifers in the United States Internat Assoc Sci Hydrology (Gentbrugge, Belgium) Pub 52, p 452-461 incl, sketch map and French abs., 1960

TODD, Robert George See STEVENS, Calvin Howes 1-60


TOLER, Henry Niles 1-60. Mississippi-Alabama oil and gas search at all-time peak World Oil, v 150, no 7, p 82-86 incl tectonic map, section, and tables, June 1960

TOMKINS, R V See GOUDGE, Monson Fraser 1-60

TOMPINS, Joseph 1-60. The Tompkins (multi-pay) field, Stonewall County, Texas, in Abilene Geol Soc , Geological contributions 1960, p 129-140, illus., 1960

TORRE y CALLEJAS, Alfredo de la See also KROMMELBEIN, Karl 1-60 Notas sobre rudistas Soc Cubana Historia Nat Mem, v 25, no 1, p 51-64, illus., Dec 10, 1960

TORREY, Paul Dwight 1-60. Evaluation of U S oil resources Producers Monthly, v 24, no 9, p 12-17 incl diagrams and tables, July 1960.

TOTH, Alfred M 1-60. Ground-water resources of the rural municipality of Cory (No 344), Saskatchewan Canada Geol. Survey Paper 60-25, 6 p , illus., 1960.


TOULMIN, Lyman Dorgan, Jr See also LAMOREAUX, P E 2-60

TOULMIN, Priestley, 3d. See also BARTON, P B , Jr 2-60

TOUNG, George D See JOHNSEN, John Herbert 1-60

TOURTELOT, Harry Allison. See also BREGER, I A 2-60, GILL, J R.1-60, SCHULTZ, L. G. 1-60
1-60. (and SCHULTZ, Leonard Gene, and GILL, James Rogers) Strati-


TOWNSEND, Donald H

TOZER, Edward Timothy. See also THORSTEINSSON, Raymond 1-60, 2-60
1-60. Summary account of Mesozoic and Tertiary stratigraphy, Canadian Arctic Archipelago Canada Geol Survey Paper 60-5, 24 p, illus incl geol sketch maps, 1960
2-60 Mesozoic and Tertiary stratigraphy of the Canadian Arctic Archipelago [abs.] Oil in Canada, v 12, no 12, p. 74, Jan 18, 1960

TOZER, Eliot

TRACE, Robert Denny

TRAILL, R J See SABINA, Ann P 1-60

TRAINER, Frank Wilson

TRASK, Frank See SWAYNE, William H 1-60

TRAUGER, Frederick Dale
1-60. Availability of ground water at proposed well sites in Gila National Forest, Sierra and Catron Counties, New Mexico. New Mexico State Engineer Tech. Rept 18, 20 p, illus, 1960

TRAVERSE, Alfred See PIERCE, Richard LeRoy 1-60

TRAVIS, Dorothy F.

TREASHER, Raymond Clarence

TRECHMANN, Charles Taylor

TREFETHEN, Joseph Muzzy
TREJO H, Mario 1-60 La familia Nannoconidae y su alcance estratigráfico en América (Protozoa, Incertae sedis) Asoc Mexicana Geólogos Petroleros Bol., v 12, nos 9-10 incl. diagrams, illus., Sept.-Oct. 1960

TREMAINE, Marie See ARCTIC INSTITUTE of NORTH AMERICA 1-60

TREMAYNE, Léo Paul See CANADA GEOL SURVEY 36-60

TRENCH, Harry See TRENCH, Harry 1-60

TREGANO, George See TREGANO, George 1-60

TRENLOVE, David See TRENLOVE, David 1-60

TREMBLAY, Léo Paul, See CANADA GEOL SURVEY 36-60


TRETTIN, Hans Peter 1-60 Canadian explorers ponder new province in central British Columbia Oil and Gas Jour., v 58, no 33, p. 142, 145-146, 148 incl. index map and chart, Aug 15, 1960


TRETTIN, Hans Peter 3-60 Geology of the Fraser River valley between Lillooet and Big Bar Creek [British Columbia] [abs.] Canadian Mining Jour., v 81, no 8, p. 105, Aug 1960


TREVES, Samuel Blain 2-60 Geology of the Carney Lake complex, Dickinson County, Michigan [abs.] Dissert. Abs., v 20, no 10, p 4080-4081, Apr 1960


TREXLER, John Peter 1-60 Geologic mapping with aerial photographs in the anthracite region of Pennsylvania [abs.] Geol Soc America Bull., v 71, no 12, pt 2, p 2026-2027, Dec 1960

TRI-STATE GEOLOGICAL FIELD CONFERENCE 1-60 (by Thomas, Leo Almor) Guidebook for the 24th annual field conference, north-central Iowa, October 8-9, 1960 n. p., [26 p.], illus., 1960

TRIMBLE, James K See BADGLEY, Peter Coles 1-60, 3-60, BAKER, Donald R 2-60

TROLLOPE, David Hugh. See LAMBE, Thomas William 1-60


TROUTMAN, Arthur 1-60 Prospective oil and gas areas of the United States Houston, Tex., Oil Center Tool Co., 108 p., illus. incl. geol. sketch maps, 1960


TRUE, Webster Prentiss See BRADLEY, Wilmot, Hyde 1-60, GONZÁLEZ Reyna, Jenaro 2-60, GUTENBERG, Beno 4-60, OPIK, Ernest Julius 1-60, PAGE, Thornton Leigh 1-60, SUESS, Hans Eduard 2-60

410
Tuddenham, Alfred H

Tuddenham, William Marvin See also Lyon, R. J. P. 2-60-5-60
2-60, (and Zimmerley, Stuart R.) Infrared analysis is quick and easy Eng and Mining Jour, v. 161, no. 7, p. 92-94 incl. diagrams, table, and illus., July 1960

TruJillo, Ernest F

Trujillo, Mario H

Trumbull, James Van Alen. See also Johnston, J. E. 1-60
2-60. Coal fields of the United States, Sheet 1 U.S. Geol. Survey, scale 1:5,000,000 (about 1 in. to 80 mi.), 1960.

Trump, Robert P.

Tschanz, Charles McFarland

Tschoudy, Robert H

Tsytovich, N. A

Tuan, Yi-Fu
1-60. Coastal land forms of central Panama Berkeley, Univ. California, Dept. Geography, 30 p., illus., 1960.

Tucker, Henry. See Kurtz, Edwin Bernard, Jr. 1-60

411
TUDDENHAM

3-60 (and LYON, Ronald James Pearson) Infrared techniques in the identification and measurement of minerals [abs] Spectrochim Acta, V. 16, no. 5, p 611, June 1960

TULSA GEOLOGICAL SOCIETY
1-60. Symposium on geology and secondary recovery Tulsa Geol Soc. Digest, v. 28, p. 33-77 incl diagrams, and tables, 1960 Includes individual papers which are cited separately.

TUNELL, George See ARNTSON, R H. 1-60, DICKSON, F W. 2-60

TUOHY, Donald R See BRYAN, Alan L. 1-60

TUPPER, William MacGregor

TUREKIAN, Karl K

TUREKEVICH, Anthony Leonid. See ANDERS, Edward 2-60

TURLEY, Thomasz J.
1-60. The minerals of the Chicago Area [Illinois] Earth Sci , v 13, no. 6, p. 221-223 incl illus., Dec 1960

TURNBULL, Willard Jay

TURNBULL, William D.


TURNER, Mortimer D.
1-60. Geology and the development of the mineral industry in Puerto Rico [abs ] Caribbean Geol Conf , 2d, Mayagüez, Puerto Rico, Jan. 4-9, 1959, Trans., p 81, 1960
TURNER, Samuel Foster

TUTTEN, William David

TUTTLE, Curtis Randall

TUTTLE, Orville Frank. See BURNHAM, Clifford Wayne 2-60, 3-60, CHAYES, Felix 1-60, GITTINS, John 1-60, THORNTON, Charles Perkins 1-60, WYLIE, Peter John 1-60-4-60

TUTTLE, Sherwood Dodge

TWETO, Ogden Linne


3-60, Scheelite in the Precambrian gneisses of Colorado Econ Geology, v 55, no 7, p 1406-1428 incl mineral index and geol sketch maps and tables, Nov 1960


TWISS, Page Charles

TYDINGS, J E. See GIARDINI, Armando Alfonzo 1-60

TYLER, S A See BAILEY, S W 1-60

TYNAN, Eugene J.

TYNI, M H. See SAVOLAHTI, A O M 1-60

UCHIO, Takayasu
1-60 Ecology of living benthonic Foraminifera from the San Diego, California, area Cushman Found Foram. Research Spec Pub 5, 72 p, illus , Apr 20, 1960.

UDAGAWA, S See BRINDLEY, George William 1-60

UDANE, Bernard

UFFEN, Robert James See TANNER, J. G 1-60
UGOLINI, Fiorenzo C.
1-60. Soil development on the red beds of New Jersey [abs.] Dissert. Abs. v 21, no 5, p 1007, Nov 1960

UHLEY, Robert Phil. See SCHARON, Harry LeRoy 1-60

UNDERWOOD, Frank Alan See TAYLOR, Charles A. 1-60

UNDERWOOD, Lloyd Bradish

UNITED STATES AIR FORCE CAMBRIDGE RESEARCH LABORATORIES, Geophysical Research Directorate

UNITED STATES ARMY, Corps of Engineers
1-60. Madison River, Montana, report on flood emergency, Madison River slide--V. 2, Appendices Omaha, Nebraska, U.S. Army Corps of Engineers, paged separately, geol. sketch maps, sections, diagrams, and illus., Sept. 1960 Includes individual papers which are cited separately.
2-60 Madison River, Montana, report on flood emergency, Madison River slide--V 1, Main report Omaha, Nebr., U. S. Army Engineer District, 28 p., maps, diagrams, and illus., Sept. 1960

UNITED STATES ATOMIC ENERGY COMMISSION

UNITED STATES BUREAU of RECLAMATION
1-60. Earth manual--A guide to the use of soils as foundations and as construction materials for hydraulic structure 1st ed., Denver, Colo., 751 p incl. databases, tables, and illus., July 1960

UNITED STATES DEPARTMENT of the INTERIOR

UNITED STATES GEOLOGICAL SURVEY
2-60. Mineral and water resources of Wyoming U S. Cong., 86th, 2d sess., Senate Doc. 76, 40 p., illus., 1960.

UNITED STATES GEOLOGICAL SURVEY, Water Resources Division

UNITED STATES] LIBRARY of CONGRESS, Snow Ice and Permafrost Research Establishment Bibliography Project

414
VALLENTYNE

UOTILA, Urho Antti Kalevi
1-60. Investigations on the gravity field and shape of the Earth [abs.] Dissert. Abs., v 20, no. 9, p 3694, Mar 1960

UPSHAW, Charles Francis

UPSON, Joseph Edwin, 2d. See also KUNKEL, Fred 1-60

UPTON, B. G J

UREY, Harold Clayton
See also MASON, B H 2-60
1-60 The duration of the intense bombardment of the moon [abs] Jour. Geophys Research, v. 65, no 8, p. 2529, Aug 1960

UTAH GEOLOGICAL SOCIETY
1-60. (Schaeffer, Frederick E., Jr., editor) Geology of the Silver Island Mountains, Box Elder and Tooele Counties, Utah, and Elko County, Nevada Utah Geol. Soc., Guidebook to the Geology of Utah, no 15, 185 p incl. sketch maps, sections, diagrams, and illus., also geol. maps and sections, 1960. Includes papers by F. E. Schaeffer and W. L. Anderson, which are cited separately

UTGAARD, John
1-60. (and PERRY, Thomas Gregory) Fenestrate bryozoans from the Glen Dean limestone (middle Chester) of southern Indiana [abs.] Geol. Soc. America Bull., v. 71, no 12, pt 2, p. 2027, Dec 1960
2-60. (and PERRY, Thomas Gregory) Fenestrate bryozoans from the Glen Dean Limestone (middle Chester) of southern Indiana. Indiana Geol. Survey Bull. 19, 32 p incl index map and diagrams, illus., Dec. 1960

VALENTIN, Hartmut

VALENTINE, Grant Miller

VALENTINE, James William
See also JOHNSON, R G 1-60

VALIENTE MADRID, Noemi

VALLENTYNE, John R.
VALLENTYNE


VALLETTA, Robert Michael
1-60  Structures and phase equilibria of binary rare earth metal systems [abs.]  Dissert. Abs., v. 20, no. 9, p. 3539, Mar 1960.

VAN, Joseph N

Van ALSTINE, Ralph Erskine

Van ANDEL, Tjeerd Hendrik  See also SHEPARD, F. P.

VANCE, Joseph Alan

VANCE, Maurice M

Van COTT, Harrison C  See RIBBE, Paul H
2-60

van der KNAPP, W

VANDERPOOL, Robert E.
1-60  Geology of the Featherston area, Pittsburg County, Oklahoma Oklahoma Geol. Survey Circ. 53, 36 p., illus., incl. geol. map, 1960

Van ECK, Orville  See HERSHEY, Howard Garland
1-60

Van HOOK, H. J.
1-60  The ternary system AggS-Bi2S3-PbS  Econ. Geology, v. 55, no. 4, p. 759-784 incl. diagrams, tables, and illus., June-July 1960.
2-60  Phase relations in the system Fe2O3-Fe3O4-YFeO3 in air [abs.]  Am. Ceramic Soc. Bull., v. 39, no. 4, p. 183, Apr. 1960

Van HOUTEN, Franklyn Bosworth
1-60  Composition of upper Triassic Lockatong argillite, west-central New Jersey  Jour. Geology, v. 68, no. 6, p. 666-669 incl. geol. sketch map, diagrams, and table, Nov. 1960

VANLIER, K. Eugene  See DEUTSCH, Morris
1-60

416
VEATCH

VAN OLPEN, Hendrik

VANONI, Vito August
1-60 (and NOMICOS, George N.) Resistance properties of sediment-laden streams Am Soc Civil Engineers Trans 1960, v. 125, pt 1, p 1140-1175, illus., with discussion by E M Laursen, T -L Chou, D. B Simons, and E V Richardson, and reply by authors, slightly revised 1960, originally published 1959

Van PELT, J R See NEILSON, J M 1-60

Van TUYL, Francisc Maurice

Van VALEN, Leigh

Van VLACK, Lawrence Hall See also WELLS, R. G. 1-60
1-60. Microstructure of silica in the presence of iron oxide Am Ceramic Soc. Jour., v. 43, no 3, p 140-145 incl. diagrams, tables, and illus., Mar 1, 1960

VARNEDOE, W W.

VARNES, David Joseph See CRANDELL, D. R., 1-60

VAUGHN, Peter Paul

VAUGHN, William Wendall
1-60. (and WILSON, Ernest Elmer, and OHM, J M.) A field instrument for quantitative determination of beryllium by activation analysis U. S. Survey Circ 427, 9 p. incl. diagrams and illus., 1960
2-60 (and BARNETT, Ray Hosmer, and WILSON, Ernest Elmer) Drill core scanner proved in field Am Inst Minng, Metall., and Petroleum Engineers Trans. 1959, v 214, p. 617-620 incl. diagrams and illus., 1960

VÁZQUEZ, Leovigildo
1-60. Geology and ore deposits of the Keystone iron mine near Juncos, Puerto Rico Caribbean Geol. Conf., 2d, Mayaguez, Puerto Rico, Jan. 4-9, 1959, Trans., p 143-146, 1960

VEATCH, Arthur Clifford, 1878-1938
VEDDER, John Graham
1-60. Previously unreported Pliocene mollusca from the southeastern Los Angeles basin Art 151 in U. S. Geol. Survey Prof Paper 400-B, p B326-B328 incl tables, 1960

VEHRS, R A See LONG, R A. 1-60

VELTEN, Richard J. See SODD, Vincent J. 1-60

VENKATACHALA, B. S. See BHARADWAJ, Dinesh 2-60

VENING MEINESZ, Felix Andries
1-60. The difference of the tectonic development of the east and west side of the Pacific Koninkl Nederlandse Akad. Wetensch Proc. (Amsterdam), ser. B, v 63, no 1, p 26-31, 1960

VERA-MEGE, R See MUELLER, George 1-60

VERHOOGEN, John. See also TURNER, F J 2-60

VERMA, Raj Kumar

VERNION, Robert Orion See also PURI, H. S 1-60

VERODA, Victor Joye

VERSEY, Howard Raymond See also ROBINSON, Edward 1-60

VERTREES, Charles David

VERVILLE, George Julius
VETTER, Carl Peter See SMITH, William Ogden 1-60

VIDZIUNAS, Irene See KRINOV, E. L. 1-60, SHARP, Robert Philip 2-60

VIELE, George Washington
1-60 The geology of the Flat Creek area, Lewis and Clark County, Montana [abs.] Dissert. Abs., v 21, no. 4, p 853, Oct 1960.

VILKS, Irita. See WOLFE, Caleb Wroe 2-60

VILLARRUZ, Primo A See ROSSUM, John R. 1-60

VINCENT, Ewart Albert


VINCENTZ, S. A.


VINE, James David. See also GOWER, H. D 1-60

1-60. Recent domal structures in southeastern New Mexico Am. Assoc. Petroleum Geologists Bull., v 44, no. 12, p. 1903-1911 incl. geol. map, index map, diagrams, and illus., Dec. 1960

VIRGINIA DIVISION of WATER RESOURCES

VISHER, Frank Newell. See also HACKETT, O M 1-60

1-60. Summary of preliminary findings in ground-water studies of southern Oahu, Hawaii U S Geol Survey Circ. 435, 16 p., illus., 1960


VISHER, Glenn S

VISTELIUS, Andrew B

VITALIANO, Dorothy Brauneck. See also CLARKE, J W 1-60


VITE P., Luis G. See PESZUERA VELÁZQUEZ, Rubén 1-60

VIVÓ ESCOTO, Jorge A.
VLISIDIS, Angelina Calomeris  See HUTTON, Colin Osborne 1-60, LEO NARD, Benjamin Franklin, 3d 1-60

VOEGELI, Paul Thomas, Sr.  1-60. (and HERSHEY, Lloyd Ashton) Records and logs of selected wells and test holes, and chemical and radiometric analyses of ground water, Prowers County, Colorado Colorado Water Conserv Board Ground-Water Ser Basic Data Rept. 1, 52 p., illus., 1960


WADDELL, Dwight E.  See FREDERICKSON, Edward Arthur 2-60


WADSWORTH, Milton Elliot. See HOLT, J. Birch 1-60

420
WAKEFIELD

WAESCHE, Hugh Henry
1-60. Quartz crystal and optical calcite, in Am Inst. Mining, Metall., and Petroleum Engineers, Industrial minerals and rocks, p. 687-698 incl. diagram and table, 1960

WAGER, Lawrence Rickard
See also SMALES, A. A. 1-60

WAGNER, James K.

WAGNER, Walter R.
See LYTLE, William Stuckley 2-60

WAHL, Kenneth D.
See HODSON, Warren Gayler 1-60

WAHL, William George

WAHLSTROM, Ernest Eugene
1-60 Optical crystallography—With particular reference to the use and theory of the polarizing microscope 3d ed., New York, N. Y., John Wiley and Sons, 356 p., illus., 1960, originally published 1943

WAHRHAFTIG, Clyde Adolph
See HOPKINS, David M. 3-60

WAINES, Russell H. See also LANGENHEIM, R. L., Jr. 2-60, 5-60

WAIT, James Richard
2-60. On the electromagnetic response of a conducting sphere to a dipole field Geophysics, v. 25, no. 3, p. 649-658 incl. diagram, June 1960

WAIT, Robert L.
See also CALLAHAN, J. T. 1-60
1-60 Summary of the ground-water resources of Calhoun County, Georgia Georgia Mineral Newsletter, v. 13, no. 1, p. 26-31, illus. incl. map, Spring 1960.
2-60 Summary of the geology and ground-water resources of Clay County, Georgia Georgia Mineral Newsletter, v. 13, no. 2, p. 93-101, illus. incl. geol. map, summer 1960
3-60 Source and quality of ground water in southwestern Georgia [abs.] Georgia Acad Sci Bull., v. 18, nos. 1-2, p. 11, Apr. 1960
4-60 Summary of the ground-water resources of Terrell County, Georgia Georgia Mineral Newsletter, v. 13, no. 3, p. 117-122, illus. incl. geol. sketch map, fall 1960
5-60 Source and quality of ground water in southwestern Georgia Georgia Geol. Survey Inf. Circ. 18, 74 p. illus., 1960

WAKEFIELD, John W.
1-60. Water resources and conservation in Florida Am Water Works Assoc. Jour., v. 52, no. 8, p. 970-978 incl. sketch maps and table, Aug. 1960

421
WALKER

WALKER, A. O. See BARKER, Franklin Brett 1-60

WALKER, D D.
1-60. Tungsten resources of Montana--Deposits of the Philipsburg batholith, Granite and Deer Lodge Counties U. S Bur Mines Rept. Inv. 5612, 55 p incl. geol and other sketch maps, 1960

WALKER, Edward Corbell. See CUTTITTA, Frank 6-60

WALKER, Fred C.
1-60. The use of residual soils in earth and rockfill dams Cong Panam. Mecánica Suelos y Cimentaciones, 1st, México, D. F., Sept 7-12, 1959, Mem., v 2, p 589-602 incl. diagrams, table, Spanish abs. and conclusions, and discussion by Lincoln Araugo Queiroz and Hugo Perez la Salvia, 1960

WALKER, George Walton

WALKER, Kenneth R
1-60. A study of the dispersal of a calcareous deposit Southeastern Geology, v 1, no 4, p. 139-145, illus., 1959 [Apr 1960].

WALKER, Philip Caleb

WALKER, Terry
1-60 Simplified log interpretation--Parts 1-3 Petroleum Engineer for Management, v 32, no 5, p B-80, B-85, B-99-B100 incl. diagrams, May 1960, no 6, p B-66, B-69, B-75, B-78, B-82, B-88 incl. diagrams, June 1960, no 9, p B-70, B-74, B-78-B-79 incl. diagrams, Aug. 1960

WALKER, Theodore Roscoe

WALL, John Hallett
1-60. Jurassic microfaunas from Saskatchewan Saskatchewan Dept Mineral Resources Rept 53, 229 p incl. index maps, section, charts, and illus., 1960
2-60 Upper Cretaceous Foraminifera from the Smoky River area, Alberta Research Council Alberta Bull. 6, 43 p incl. index map, diagram, table, and illus., 1960.

WALLACE, Gerald W.

WALLACE, Robert Earl. See also TATLOCK, D B 1-60
WALLACE, Stewart Raynor
1-60 (and others) Geology of the Climax molybdenite deposit--a progress report, in Rocky Mtn Assoc Geologists, Guide to the geology of Colorado Denver, p. 238-252 incl. geol. sketch maps, 1960

WALLER, Roger M.
1-60. Ground-water conditions in the vicinity of Project Chariot, Ogotoruk Creek, northwestern Alaska U. S. Geol. Survey Rept TEI-753, p 72-78 incl. sketch map, Jan. 1960

WALLISER, Otto H. See BOUCOT, Arthur James 4-60

WALLS, Richard

WALPER, Jack Louis. See also HARRIS, J. F. 1-60
2-60. Helicopter geology is faster, cheaper, when the going is tough [Northwest Territories-Yukon] Oil and Gas Jour , v 58, no 33, p 150-152 incl. sketch maps, tables, and illus., Aug 15, 1960.

WALTER, L. S.

WALTERS, Joe P.
1-60. The marble industry of East Tennessee Tennessee Acad. Sci Jour., v 35, no 1, p 54-62 incl sketch map and illus., Jan. 1960

WALTERS, Kenneth Lyle
1-60 Availability of ground water at the border stations at Laurier and Ferrry, Washington U S Geol Survey Circ 422, 8 p, illus., 1960.

WALTON, Matt Savage, Jr
1-60 Granite problems Science, v 131, no 3401, p 635-645 incl. sketch map, diagrams, table, and illus., Mar. 4, 1960, discussion with title, Differentiation of basaltic rock, by B Baldwin, with reply by author, v 132, no 3418, p 48, July 1, 1960

WALTON, William Clarence
5-60. (and SCUDDER, George D ) Ground-water resources of the valley-train deposits in the Fairborn area, Ohio Ohio Div Water Tech. Rept 3, 57 p , illus , 1960

423
WALTON, William Ralph
2-60. Diagnostic faunal characteristics on and near a barrier island, Horn Island, Mississippi Gulf Coast Assoc Geol Soc Trans, v. 10, p. 7-27 incl index and sketch maps and diagrams, 1960.

WAMPLER, J M.

WAMPLER, Joseph. See also HEALD, Weldon F. 1-60

WANKE, H. See SCHAEFFER, Oliver Adam 2-60

WANLESS, Harold Rollin. See KOSANKE, Robert Max 1-60

WANLESS, R. K
1-60. (and BOYLE, R W., and LOWDON, J A) Sulfur isotope investigation of the gold-quartz deposits of the Yellowknife district [Northwest Territories] Econ. Geology, v. 55, no 8, p. 1591-1621 incl geol sketch map, diagrams and tables, Dec 1960

WANTLAND, Dart See McDONALD, Harris Robert 1-60

WARD, Dederick C. See RIGGS, Calvin Harold 1-60

WARD, Dwight Edward

WARD, Frederick Norville

WARD, Porter Elwood

WARD, Richard F. See PARSONS, W H. 2-60

WARD, Stanley Harry
1-60 Application of mining geophysics in western ore deposits [abs ] Mining Eng, v. 12, no 7, p. 666, July 1960

WARGO, Joseph George
1-60. Magnetic susceptibility and fusion data for some volcanic rocks from southwestern New Mexico Geol Soc America Bull., v 71, no. 1, p. 87-91 incl index map, diagrams, and table, Jan. 1960
3-60. The geology of the Schoolhouse Mountain quadrangle, Grant County, New Mexico [abs.] Arizona Geol. Soc. Digest, v. 3, p. 176-177, Mar. 1960,

WARING, Jon Lamont. See LEVIN, Ernest Maurice 1-60

WARKENTIN, Benno Peter. See LAMBE, Thomas William 1-60, YONG, Raymond N. Y 1-60

WARMAN, Harry Robert. See DENNISON, A T 1-60

424
WASHBURN

WARNE, Slade St J  See WOLF, Karl H

WARNER, N A.

WARNING, George F.

WARR, Jesse J., Jr  See also CUTTITTA, Frank 2-60-9-60
1-60 (and CUTTITTA, Frank) The determination of lead in iron-bearing materials Art 218 in U. S Geol. Survey Prof. Paper 400-B, p B483-B484, 1960

WARREN, Harry Verney


4-60. Health and geology Western Miner and Oil Rev., v 33, no. 8, p 35-44 incl. tables and illus., Aug. 1960.

WARREN, Percival Sidney

2-60, (and STELCK, Charles Richard) A new Freboldiceras from the Canadian Arctic Royal Soc Canada Trans, 3d ser., v 54, sec. 4, p 21-26, illus., June 1960

WARRICK, Richard Ellsworth

WARSHAW, Charlotte Marsh  See also STRACZLek, J. A. 1-60


3-60. (and ROSENBERG, Philip E., and ROY, Rustum) Changes effected in layer silicates by heating below 550°C Clay Minerals Bull (London), v 4, no 23, p. 113-126 incl. diagrams and tables, July 1960

WASHBURN, Albert Lincoln  See HUNT, Charles Butler 3-60
WASHINGTON STATE DIVISION of WATER RESOURCES

WASHINGTON STATE DIVISION of WATER RESOURCES

WASSALL, Harry William, 3d
1-60. Geological bibliographies--Cuba, 1781-1955, Pt. 2 Havana, Cuba, Henry Wassall and Assoc., Apr 1, 1960

WASSON, Edward Bassett. See BERG, Robert Raymond 1-60

WATERS, Aaron Clement

WATKINS, J. Wade. See COLLINS, A. Gene 1-60

WATSON, Edward Hahn. See BUSÉ, Marfa Luisa 1-60

WATSON, Jane Werner

WATSON, Kenneth DePencier

WAUGH, Wanda N.

WAYLAND, Russell Gibson
1-60. The Alaska Juneau gold ore body Neues Jahrb. Mineralogie Abh. (Stuttgart, Germany), Band 94, Festband Ramdohr, 1. Hälfte, p. 267-279 incl. chart and German abs., also diagrams, June 1960

WAYNE, William John
2-60. Stratigraphy of the Ohio River Formation [Indiana-Kentucky] Indiana Geol. Survey Bull. 21, 44 p., illus., Dec. 1960

WEATHERFORD, Richard L. See LARSON, Thurston Eric 1-60

WEAVER, C. F

WEAVER, Charles Edward
WEAVER, John Dodsworth 1-60. Note on higher level erosion surfaces of Puerto Rico Caribbean Geol. Conf., 2d, Mayaguez, Puerto Rico, Jan 4-9, 1959, Trans, p 96-98 incl. index map, diagrams, with discussion, 1960

WEAVER, Opal V. See HARDISON, Mae W. 1-60

WEAVER, Paul. See LYNCH, Shirley Alfred 1-60

WEBB, Frank S. 1-60. Surface geology of the Eufaula-Texanna area, McIntosh and Pittsburg Counties, Oklahoma Shale Shaker, v.10, no. 8, p 2-14 incl. index and geol sketch map, sections, illus., and discussion by C. B. Branan, Jr., Apr. 1960

WEBB, John S. See HAWKES, Herbert Edwin, Jr. 2-60


WEBB, Robert Robert. See MURDOCH, Joseph 2-60

WEBER, Florence Robinson. See PÉWÉ, T. L. 2-60

WEBER, J. H. 1-60. The geochemistry of some graywackes and some shales [abs ] Canadian Mining Jour., v. 81, no 2, p 226, Feb 1960


WEBER, Jon Noel Earl. See also SHAW, D. M 4-60

1-60. Geochemistry of graywackes and shales Science, v 131, no 3401, p. 664-665 incl table, Mar 4, 1960


WEBER, R K See also MOORBATH, S. 3-60


WEDDLE, James Reid. See also PARK, W. H. 1-60, SULLIVAN, J. C 1-60


427
WEED

WEED, S. B. See McCracken, Ralph J. 1-60

WEEKS, Alice Dowse. See also TRUESDELL, A. H. 1-60

WEEKS, Lewis George
4-60 The next hundred years energy demand and sources of supply Geotimes, v. 5, no. 1, p. 18-21, 51-55 incl. diagrams and tables, July-Aug. 1960.

WEEKS, Ludlow Jackson. See CANADA GEOL. SURVEY 9-60, 12-60

WEEKS, Wilford Frank

WEGMANN, C. Eugène

WEHRENBERG, John Patteson. See HAYDEN, Richard John 1-60

WEIDIE, Alfred E. See MURRAY, Grover Elmer 3-60

WEIDMAN, Robert McMaster. See GRAY, Henry Hamilton 1-60

WEIG, James A.

WEIGELT, William C.
1-60. Fluorescent mineral report 1st ed., Cumberland, Md., privately printed, 51 p., tables, 1960

WEILER, M. R. See KO, R. 1-60

WEIMER, Robert Jay. See also HAUN, J. D. 1-60, ROCKY MTN. ASSOC. GEOLOGISTS 1-60

WEINIG, Arthur J.
WEIR, Charles Edward. See YODER, Hatten Schuyler, Jr 1-60

WEIR, Gordon Whitney

WEIR, Gordon Whitney
1-60. (and PUFFETT, Willard Penry) Preliminary geologic map and sections of the Mount Peale 2 NE quadrangle, San Juan County, Utah U.S. Geol. Survey Mineral Inv. Field Studies Map MF-141, scale 1:24,000 (1 in. to 2,000 ft.), 1960.

WEIR, Gordon Whitney
3-60. (and TRHODSON, Chester L., and PUFFETT, Willard Penry) Preliminary geologic map and section of the Mount Peale 2 SE San Juan County, Utah U.S. Geol. Survey Mineral Inv. Field Studies Map MF-143, scale 1:24,000 (1 in. to 2,000 ft.), 1960.

WEIR, Gordon Whitney
4-60. (and PUFFETT, Willard Penry) Preliminary geologic map of the Mount Peale 4 SE quadrangle, San Juan County, Utah, and San Miguel County, Colorado. U.S. Geol. Survey Mineral Inv. Field Studies Map MF-149, scale 1:24,000 (1 in. to 2,000 ft.), with section, 1960.

WEIR, Gordon Whitney
5-60. (and others) Preliminary geologic map and section of the Mount Peale 4 NE quadrangle, San Juan County, Utah and Montrose and San Miguel Counties, Colorado U.S. Geol. Survey Mineral Inv. Field Studies Map MF-150, scale 1:24,000 (1 in. to 2,000 ft.), 1960.

WEIR, Thomas Robert

WEIS, Paul Lester. See also CAMERON, E. N. 3-60

WEIS, Paul Lester

WEISSLAND, T. J. See SCHRAEGER, G. J. 1-60

WEISS, Herbert V.

WEISS, Malcolm Pickett

WEISS, Malcolm Pickett

WEISS, Malcolm Pickett

WEIST, William Godfrey, Jr.
1-60. Records and logs of selected wells and test holes, and chemical analyses of ground water, Yuma County, Colorado Colorado Water Conserv. Board Ground-Water Ser. Basic Data Rept. 2, 41 p., illus., 1960.

WELBY, Charles William. See TAYLOR, Stuart Ross 1-60

WELD, Betsy Anne

429

734-507 O-64--28
WELLER, James Marvin. See also AM. GEOL INST. Glossary Rev. Comm. 2-60, HOARE, R. D. 2-60

3-60. Stratigraphy and structure of the House Rock Valley area, Coconino County, Arizona U S. Geol Survey Bull. 1081-D, p 117-158 incl. index map and diagrams, also geol. and tectonic maps, 1960


WELLS, Lloyd C. See CRONIN, James Gerald 1-60


WERNER, Michael A. See DIEBOLD, Frank E. 1-60

430
WERNICK, Jack Harry
1-60, Constitution of the AgSbS₂-PbS, AgBiS₂-PbS, and AgBiS₂-AgBiSe₂ Systems Ann Mineralogist, v. 45, nos 5-6, p 591-598 incl diagrams and tables, May-June 1960.

WESCOTT, Eugene M.
1-60 Magnetic and telluric current disturbances in Alaska Geophysics, v 25, no 6, p 1242-1250 incl diagrams and tables, Dec 1960

WESSMAN, H. G. See BROSS, Gerald L. 1-60

WEST, Alvin E.
1-60 Geology of northeastern Lincoln County, Oklahoma Shale Shaker, v 11, no. 3, p 2-12 incl. index and geol. sketch maps, sections, correlation chart, table, and illus., Nov. 1960

WEST, Lewis R. See SANFORD, Thomas H Jr. 1-60, 2-60

WEST, Philip J. See TERZAGHI, Karl 1-60

WEST TEXAS GEOLOGICAL SOCIETY
1-60. Geology of the Delaware basin and field trip guidebook, Sept. 29-Oct. 1, 1960 Midland, Texas, 97 p. incl index, contour, and isopach maps, sections, and tables, also geol map, section, chart, and illus., 1960 Includes individual papers which are cited separately.

WESTERN MINER and OIL REVIEW
1-60. Mining and subsurface analysis by new seismic technique. Western Miner and Oil Rev., v. 33, no. 7., p 38-40 incl diagrams and illus., July 1960.

WESTERN STATES MAP COMPANY
1-60. (compiler) Oil and gas map of eastern Utah--[Sheet 1], [Sheet 2] western Utah Salt Lake City, Utah, scale about 1 in. to 4 mi [1960].

WESTERVelt, Ralph D.
1-60. An investigation of the sulphide mineralization at the Kootenay Chief ore body, Bluebell mine, B C [abs.] Canadian Mining Jour., v. 81, no. 8, p 105, Aug. 1960.

WETHERILL, George West. See also ALDRICH, L. T 1-60, BÀSS, M N. 2-60, TILTON, G R. 2-60

WETMORE, Alexander
1-60. A classification for the birds of the world Smithsonian Misc. Colln., v. 139, no. 11, 37 p., June 23, 1960
2-60. Pleistocene birds in Bermuda Smithsonian Misc. Colln., v. 140, no. 2, 11 p., illus., July 7, 1960

WETZEL, Otto Kramer, Jr.
1-60. Natural gas--Its value as a function of its chemical and physical characteristics, in Natural gas in the Southwest Southwestern Federation Geol. Socs. Trans., v. 1, p. 99-114 incl diagrams and tables, 1960

WEYL, Peter K.
WEYL, Richard See HOFFSTETTER, Robert 5-60, SCHULZ, Rudolf 2-60, 3-60

WEYL, Woldemar Anatol

WHEATLEY, George York. See BRAUN, Theodor H. 1-60

WHEELER, Everett Pepperrell, 2d

WHEELER, Harry Eugene

WHEELER, John Oliver See CANADA GEOL SURVEY 38-60, 39-60, GABRIELSE, H. 2-60, GREEN, Lewis Howard 1-60, 3-60

WHEELER, Robert Reid
1-60. The structural map of the midcontinent from Denver to the east Texas gulf coast, Central series Dallas, Tex., privately printed, 3 sheets, scale 1 in. to 6 mi., 1960
2-60. The structural map of the midcontinent from Denver to the east Texas gulf coast, Southern series Dallas, Tex., privately printed, 3 sheets, scale 1 in. to 6 mi., 1960.

WHEELER, Walter Hall
1-60. The untatheres and the Cope-Marsh war Science, v. 131, no. 3408, p. 1171-1176 incl. illus., Apr 22, 1960

WHELAN, James Arthur

WHETSTONE, George W. See DOLL, Warwick L. 1-60

WHIDDEN, Helen L. See KING, Gayle 1-60

WHITE, Donald Edward. See also THOMAS, H. E. 2-60

WHITE, Everett M.

WHITE, George Willard

WHITE, H. Gene
WHITE, Jack Lee. See MACKENZIE, John Douglas 2-60

WHITE, James Edward

WHITE, Joe Lloyd. See BRONSON, Roy 1-60, HENSEL, D R 1-60

WHITE, Sidney Edward

WHITE, Walter Noy. See TURNER, Samuel Foster 1-60

WHITE, Walter Stanley

WHITE, William Alexander

WHITE, William Arthur

WHITE, William B.

WHITE, William Harrison

WHITEHOUSE, Ulysses Grant
WHITHAM

WHITHAM, Kenneth

WHITING, Richard F. See SCHNELLER, Cecil Jack 1-60

WHITLOW, Jesse William. See BROWN, Clarence Ervin1-60, OVERSTREET, William Courtney 3-60

WHITMORE, Frank Clifford, Jr.

WHITNEY, Geoffrey G., Jr. See ZEIGLER, John M. 1-60

WHITTAKER, Eric James William
1-60. The crystal chemistry of the amphiboles Acta Cryst., v 13, pt 4, p 291-298 incl. diagrams and illus., Apr. 1960, addition with title, Relationships between the crystal chemistry of pyroxenes and amphiboles, pt. 9, p. 741-742, Sept 1960.

WHITTEN, Charles Arthur
1-60. Horizontal movement in the earth's crust Jour Geophys Research, v 65, no 9, p 2839-2844 incl. diagrams, Sept 1960
2-60. (and CLAIRE, C. N.) Creep on the San Andreas fault (Calif.)-Analysis of geodetic measurements along the San Andreas fault Seismol. Soc America Bull., v. 50, no 3, p 404-415 incl. sketch map, diagrams, and tables, July 1960

WHITTEN, E. H. Timothy
2-60. Quantitative distribution of major and trace components in rock masses [abs.] Mining Eng., v 12, no 12, p 1248, Dec 1960.

WITTIG, Lynn D. See KUBOTA, Joe 1-60

WHITTINGTON, Harry Blackmore See also BOUCOT, A. J. 4-60
1-60. Cordania and other trilobites from the Lower and Middle Devonian Jour. Paleontology, v 34, no. 3, p 405-420 incl. diagrams, illus., May 1960.
2-60. Unique fossils from Virginia Virginia Minerals, v. 6, no. 3, 7 p., illus., July 1960

WHITWORTH, Virgil Lee
1-60. (and HAYE, Edward Fabra, and LINDHOLM, Thomas M.) Gravity-photogeology method boosts accuracy, cuts costs World Oil, v. 150, no 5, p 99-100, 104 incl. diagrams and illus., Apr. 1960

WHYTE, G. N.

WICHITA UNIVERSITY See KANS. GEOL. SOC. 1-60

WICKEN, Oscar M.

WICKERSHEIM, Kenneth A
1-60. (and LEFEVER, Robert A., and HANKING, B. M.) Infrared absorp-
tion spectrum of the silicate ion in the garnet structure Jour. Chem. Physics, v. 32, no. 1, p. 271-276 incl. diagrams and table, Jan. 1960

WICKREMASINGHE, O. C. See SHAW, Denis Martin 4-60

WICKSTROM, Alden E.

WIDMER, Kemble

WIDMIER, J. W See KAY, Marshall 3-60

WIENERT, Herbert W.

WIER, Charles Eugene

WIERSEMA, Alice

WIESE, John Herbert

WIESNET, Donald Richard. See OWENS, James Patrick 2-60

WIIK, H. B. See MASON, Brian Harold 6-60, 7-60

WILBERT, W P. See MURRAY, Grover Elmer 3-60

WILBUR, Karl M.

WILCOX, Ray Everett. See also FISHER, R. V 1-60, 5-60, WILMARTH, V R. 1-60

WILD, Jack
1-60. Types of structures in southern Saskatchewan [abs.] Canadian Mining Jour., v. 81, no. 6, p 169, June 1960.

WILES, D R.
1-60. The effect of radioactive fallout on instrumental prospecting Canadian Mining Jour., v. 81, no. 5, p 61-63 incl. table, May 1960
WILES, William W
1-60 Pore concentration of the planktonic foraminifer, Globigerina eggeri, as an index to Quaternary climates [abs] Dissert Abs, v 21, no 4, p 854, Oct 1960

WILHELMY, Herbert
2-60 Erdbeben [Montana] Geog Rundschau, Jahrg 12, Nr 1, p 1-9, illus, Braunschweig, Germany, Jan 1960

WILKENING, Marvin Hubert
1-60 (and HAND, John E) Radon flux at the earth-air interface Jour Geophys Research, v 65, no 10, p 3367-3370 incl diagrams, Oct 1960

WILKENS, Richard H
See RASMUSSEN, William Charles 1-60

WILKINS, D H
1-60 The chelometric determination of aluminum, nickel and manganese without prior separation Anal Chim Acta (Amsterdam), v 23, no 4, p 309-311 incl table, Oct 1960

WILKINSON, Elbert R
1-60 The school science teacher--A new role for the graduate geologist GeoTimes, v 4, no 8, p 14-15, 34-35, May-June 1960

WILLARD, Robert J
1-60. A method of teaching basic crystallography to the beginning student Arkansas Acad Sci Proc, v 14, p 29-37 incl diagram, 1960
2-60 Beever Reservoir IV--Nature fashions the stage Arkansas Archeol Soc Newsletter, v 1, no 8, p 1-5 incl sections, 1960

WILLEDEN, Charles Ronald
1-60 Sedimentary iron-formation in the Devonian Martin formation, Christmas quadrangle, Arizona Art 11 in U S Geol Survey Prof Paper 400-B, p B21-B23 incl geol sketch map and table, 1960

WILLEY, Gordon R
1-60 New World prehistory Science, v 131, no 3393, p 73-86 incl charts and illus, Jan 8, 1960

WILLIAMS, Eugene Griffin See also FERM, J C 1-60
1-60 Marine and fresh water fossiliferous beds in the Pottsville and Allegheny groups of western Pennsylvania Jour Paleontology, v 34, no 5, p 908-922 incl index and faunal distribution maps, sections, and tables, illus, Sept 1960
2-60 Relationship between the stratigraphy and petrography of Pottsville sandstones and the occurrence of high-alumina Mercer clay Econ Geology, v 55, no 6, p 1291-1302 incl index map, geol sections, tables, and illus, Sept-Oct 1960

WILLIAMS, Harold L.

WILLIAMS, Howel
1-60 Volcanic collapse-basins of Lakes Atitlan and Ayarza, Guatemala Internat Geol Cong, 21st, Copenhagen, 1960, Rept, pt 21, p 110-118 incl geol sketch maps, section, and diagram, 1960
2-60 Volcanic history of the Guatemalan Highlands California Univ Pubs Geol Sci, v 38, no 1, p 1-87, illus, Sept 30, 1960
WILLMAN


WILLIAMS, James Stewart

WILLIAMS, John Bernard Edgar. See ROBINSON, Edward 1-60

WILLIAMS, John Ropes

WILLIAMS, Merton Yarwood
1-60. Evolution of Paleozoic life--Ordovician to Permian, in Evolution, its science and doctrine Royal Soc Canada "Studia Varia" Ser. 4, p 22-44, 1960

WILLIAMS, Milton See also DAUGTHRY, A C 1-60

WILLIAMS, Paul Lincoln

WILLIAMS, Sidney Arthur. See also BIDEAUX, R A. 2-60

WILLIAMS, Wayne W.

WILLIAMSON, Donald Robert

WILLIAMSON, W. O.
1-60. Some effects of deformation on the structure and properties of clay Mineral Industries, v. 29, no 7, p. 3-5, 8 incl diagrams and illus., Apr. 1960.

WILLIS, David E.

WILLMAN, Harold Bowen. See FRYÊ, John Chapman 1-60, 3-60, KOSANKE, Robert Max 1-60 —3-60 —
WILLMORE

WILLMORE, P. L.


WILSON, Derek William Raymond See RAASCH, Gilbert Oscar 1-60

WILSON, E. C. See LANGENHEIM, Ralph Louis, Jr. 7-60


2-60 (and MOORE, Richard Thomas and O'HAIRE, Robert T.) Geologic map of Navajo and Apache Counties, Arizona, Tucson, Arizona Bur. Mines, scale 1 375,000 (about 1 in. to 6 mi.), 1960


WILSON, Harry David Bruce


WILSON, HERSCHELL Thomas
WILSON, James Lee
1-60. (and MAJEWSKE, Otto P) ConJected middle Paleozoic history of central and west Texas, in Texas Univ Bur Econ Geology, Aspects of the geology of Texas--A symposium Texas Univ Pub 6017, p 65-86, illus., Sept 1, 1960

WILSON, James Tinley. See WILLIS, David E 1-60

WILSON, John Andrew. See also MURRAY, G. E. 1-60
1-60. Miocene carnivores, Texas Coastal Plain Jour. Paleontology, v. 34, no 5, p 983-1000 incl. diagrams, tables, and illus., Sept 1960

WILSON, John H , 2d

WILSON, John Tuzo
2-60. Former mountain connections in the Arctic [abs,] Oilweek, v. 10, no 49, p 23, Jan 23, 1960, Oil in Canada, v 12, no. 16, p 32, Feb. 15, 1960

WILSON, Joseph M

WILSON, Leonard Richard
2-60. Florinities pelucidus and Endosporites ornatus with observations on their morphology Oklahoma Geology Notes, v 20, no 2, p. 29-33, illus , Feb. 1960.
3-60 (and HEDLUND, R. W ) Two techniques for staining hystrichosphaerids Oklahoma Geology Notes, v. 20, no 4, p 101-102, Apr. 1960.
4-60 (and CLARKE, R. T.) Siliceous spherules in tracheids of cordaitean wood Oklahoma Geology Notes, v 20, no. 5, p 106-110, illus , May 1960.
5-60 (and CLARKE, R. T ) A Mississippian chitinozoan from Oklahoma Oklahoma Geology Notes, v. 20, no. 6, p. 148-150, illus , June 1960.
6-60. A Permian hystrichosphaerid from Oklahoma Oklahoma Geology Notes, v. 20, no. 7, p. 170, illus., July 1960
7-60 Development of paleobotany in Oklahoma Oklahoma Geology Notes, v 20, no 9, p 217-223, Sept. 1960

WILSON, M T See THOMAS, Harold Edgar 1-60

WILSON, Morley Evans
1-60 Or1gin of pillow structure in early Precambrian lavas of western Quebec Jour. Geology, v 68, no. 1, p 97-102, illus., Jan 1960

WILSON, Richard Fairfield See MAUGHAN, Edwin Kelly 1-60, STEWART, John Harris 1-60

WILSON, Robert Lake See NEUMAN, Robert Ballin 2-60

439
WILSON, Robert Warren
1-60. Early Miocone rodents and insectivores from northeastern Colorado Kansas Univ Paleont. Contr. [24], Vertebrata, art. 7, 92 p., illus., Nov 21, 1960

WILSON, Stanley DeWolf
1-60 (and HANCOCK, C. W, Jr.) Horizontal displacements of clay foundations Cong Panam. Mecánica Suelos y Cimentaciones, 1st, México, D. F., Sept 7-12, 1959, Mem., v 1, p. 41-64 incl. diagrams, illus., Spanish abs., discussion by H. J. Gibbs, Thomas Shuk, R. M. Hardy, and reply by authors, 1960.
2-60. Slope stabilization in open pit mining Mining Cong Jour., v. 46, no 7, p 28-33 incl. diagrams and illus., July 1960

WILSON, William F.

WILSON, William Harold
2-60. Radioactive mineral deposits of Wyoming Wyoming Geol Survey Rept. Inv 7, 41 p., geol. index map, Apr. 1960

WILSON, William Westfall. See SAWATZKY, Henry B. 1-60, 2-60

WINCHELL, Horace

WINCHESTER, John Widmer

WINDER, Charles Gordon

WINFREY, Walter Michael, Jr.

WINKLER, Erhard Mario

WINSLOW, Allen George
WINSLOW, John Durfee. See also WARRICK, R. E. 1-60
2-60. Preliminary engineering geology report of dam sites on the east fork of the Muscatacut River in Scott, Jennings, and Jefferson Counties, Indiana Indiana Geol. Survey Rept. Prog 20, 30 p., illus. incl. geol. map, Sept 1960
3-60. (and GATES, Gary Rickey, and MELHORN, Wilton Newton) Engineering geology of dam site and spillway areas for the Monroe Reservoir, southern Indiana Indiana Geol Survey Rept Prog 19, 19 p., illus incl. geol. map, July 1960

WINTERER, Edward Litton 1-60. (and MURPHY, Michael A.) Silurian reef complex and associated facies, central Nevada Jour Geology, v. 68, no 2, p 117-139 incl. geol. maps, sketch map, and sections, illus., Mar. 1960


WISCONSIN UNIVERSITY, Agricultural Experiment Station 1-60. Soils of the north central region of the United States--Their characteristics, classification Wisconsin Univ Agr. Expt Sta Bull 544, 192 p incl. sketch and geol. sketch maps, diagrams, tables, and illus., June 1960.

WISE, Charles D. See KORNICKER, Louis S 3-60

WISE, Donald Underkofler. See also CLOOS, Ernst 1-60, GRAY, Carlyle 2-60, PENNSYLVANIA GEOLOGISTS 1-60

WISEMAN, J.D H See HEEZEN, Bruce Charles 1-60

WISSER, Edward Holister 1-60. Relation of ore deposition to doming in the North American Cordiller. Geol Soc America Mem 77, 117 p., illus., 1960

WITHINGTON, Charles Francis

WITKIND, Irving Jerome

WITTERS, Juanita See GOLDSMITH, J. R. 3-60

WOLCOTT, Don E.

WOLDSTEDT, Paul
1-60, Alte Strandlinien des Pleistozäns in Nordamerika und Europa Eiszeitalter und Gegenwart, Band 11, p. 12-19 incl. sketch map, table, and English abs., Dec 15, 1960
2-60 Mississippi und Rhein--Ein geologischer Vergleich Eiszeitalter und Gegenwart, Band 11, p. 31-38 incl. diagrams, tables, and English abs., Dec 15, 1960.
3-60 Die Letzte Eiszeit in Nordamerika und Europa Eiszeitalter und Gegenwart, Band 11, p. 148-165 incl. diagrams and English abs., Dec. 15, 1960

WOLF, Donald D. See SUTTON, Felix 2-60

WOLF, Karl H.

WOLFE, Caleb Wroe
1-60, Crystal synthesis by refrigeration Am Mineralogist, v 45, nos. 11-12, p. 1211-1220 incl illus., Nov -Dec. 1960
5-60 (and SWARZENSKI, Wolfgang V.) The tectonic significance of the erosion surfaces in northwestern Maine Zeitschr Geomorphologie, Neue Folge (Berlin), Band 4, Heft 1, p. 53-68 incl. sketch map, diagrams, profiles, and illus., Feb. 1960.
WOOD, Jack A

WOLFF, Gunther Arthur

WOLFSON, Sumner H. See HAWKINS, Gerald Stanley 2-60

WOLHUTER, L E.

WOLLENZIEN, Thomas P.
1-60, Gypsum deposits adjacent to the Great Northern Railway in central Montana [abs.] Mining Eng., v. 12, no 10, p 1056, Oct. 1960.

WOLMAN, Markley Gordon See also BRUSH, L M., Jr 1-60, LEOPOLD, L. B 1-60, 2-60
1-60, (and MILLER, John Preston) Magnitude and frequency of forces in geomorphic processes Jour Geology, v. 68, no 1, p 54-74 incl diagrams and tables, Jan. 1960

WONES, David R

WONG, H. D.
2-60 Geology of the Alexandria quadrangle, South Dakota South Dakota Geol. Survey [Geol Map], scale 1 62,500 (about 1 in. to 1 mi.), with text, 1960

WOOD, Albert Elmer. See BURT, Alvin M 1-60

WOOD, Darwin Lewis

WOOD, Gordon Harry, Jr See ARNDT, Harold Harry 1-60

WOOD, Harold A.

WOOD, Horace Elmer, 2d

WOOD, John Armstead, Jr.
WOOD

WOOD, Joseph Miller

WOOD, Leonard Alton. See WINSLOW, Allen George 1-60

WOOD, Leonard Eugene

WOOD, Paul Alan

WOOD, Perry Rowley

WOOD, Robert S. See GOOCH, Edwin Octavius 1-60

WOODARD, Farrell Wayne

WOODCOCK, J. R.

WOODFORD, Alfred Oswald

WOODHOUSE, Charles Douglas. See NORRIS, Robert Matheson 2-60

WOODRING, Wendell Phillips
2-60. Oligocene and Miocene in the Caribbean region Caribbean Geol. Conf., 2d, Mayaguez, Puerto Rico, Jan, 4-9, 1959, Trans., p. 27-32 incl correlation chart, with discussion, 1960.

WOODSIDE, K. H. See ORMSBY, Walter Clayton 3-60

WOODSIDE, William

WOOTLI, Robert A. See HOWELL, Benjamin Franklin, Jr. 1-60

WOODWARD, Herbert Preston

WOODWARD, Thomas Canby
WOOLF, Donald Oliver

WOOLLARD, George Prior See also BONINI, W. E. 1-60, MEYER, R. P. 1-60, POOLEY, R. N. 1-60, STEINHART, J S 1-60
1-60, (and others) Gravity anomalies, crustal structure, and geology in Alaska Jour. Geophys. Research, v 65, no 3, p 1021-1037 incl index map, sections, diagrams, and tables, gravity map, Mar 1960
4-60 Current developments in seismological research Am. Geophys. Union Trans., v 41, no. 2, p. 155-157, June 1960

WOLLEBEN, James A. See MURRAY, Grover Elmer 1-60, 3-60

WOOLLEN, A. E See MORRIS, James Mervyn, Jr. 1-60

WOOLLEY, William C. See MUSGRAVE, Albert Wayne 1-60

WOOLVERTON, Ralph S.

WORCESTER, Philip George

WORDEN, John A.
1-60. Pre-Desmoinesian isopachous and paleogeologic studies of the Ama­rillo-Hugoton area Shale Shaker, v 10, no 9, p 2-24, 26-28 incl. index and sketch maps, sections, and discussion by J. Janovy and W. E McMurtry, May 1960

WORLD OIL
1-60 Magnetic orientation of cores aids oil search World Oil, v. 150, no. 5, p 112-113 incl. diagrams and illus., Apr 1960
2-60 The Carolinas, offshore areas are main hope World Oil, v 150, no 7, p. 108-110 incl sketch map, section, diagrams, and table, June 1960.

WORLD PETROLEUM
1-60 New tools for the geophysicist World Petroleum, v 31, no 3, p 48-55, 50, 62, 64, 66, 70 incl sketch maps, diagrams, table, and illus., Mar. 1960
2-60. Proposed new pipeline to stimulate British Columbia crude search World Petroleum, v 31, no 5, p 66-67 incl. sketch map, May 1960

WORZEL, John Lamar. See also SUTTON, G H 2-60, TALWANI, Manik 2-60

WOSINSKI, Jean A. See HAHN, Glenn Walter 1-60

WRAY, John Lee

WRIGHT, Charles. See DUFFUS, Henry John 1-60

WRIGHT, Grant MacLachlan See LOWDON, James Alexander 1-60
WRIGHT, Harold Douglas. See also BIELER, B H. 1-60

WRIGHT, James Clifton. See WHITE, Walter Stanley 1-60, 3-60

WRIGHT, J. D

WRIGHT, Lauren Albert. See ENGEL, Albert Edward John 3-60, JAHNS, R. H 2-60

WRIGHT, Lawrence Boynton
1-60 Southern Pacific's geologists find 132,000,000 tons low grade iron ore [Nevada] Mining World, v 22, no. 3, p 26-31 incl. index, geol. and other sketch maps, diagram, tables, and illus., Mar. 1960

WRIGHT, Martin

WRIGHT, Marshall S., Jr.

WRIGHT, Robert James
1-60. (and EVERHART, Donald Lough) Uranium, Chap. 5 in Mineral resources of Colorado, 1st sequel Denver, Colorado Mineral Resources Board, p. 327-365 incl. index and geol. sketch maps, sections, and diagrams, also geol. map, 1960

WRIGHT, Thomas L. See EUGSTER, Hans Peter 1-60

WRIGHT-BROUGHTON, C.

Wrigley, Gladys M.

WU, Tien Hsing

WUENSCH, Bernhardt John
YAGER

WUENSCHEL, Paul Clarence
1-60. Seismogram synthesis including multiples and transmission coefficients Geophysics, v. 25, no. 1, p. 106-129 incl. diagrams and charts, Feb 1960

WURMAN, E.
1-60. Pedogenic and petrogenic characteristics of soil profiles developed in silt-mantled acid shale [Wis.] Soil Sci., v 90, no 6, p 348-356 incl. geol sketch map, tables, and illus , Dec 1960
2-60. A mineralogical study of a gray-brown podzolic soil in Wisconsin derived from glauconitic sandstone Soil Sci., v, 89, no 1, p 38-44 incl. sketch map, section, diagrams, and tables, Jan 1960

WYCKOFF, Jerome
1-60. The story of geology--Our changing earth through the ages New York, N. Y , Golden Press, 177 p, illus., 1960

WYLIE, Malcolm Robert Jesse
1-60. Log interpretation in sandstone reservoirs Geophysics, v 25, no 4, p 748-778 incl. diagrams and tables, Aug. 1960, discussion by de Witte, L , with reply by author, v 26, no 1, p 101-102, Feb 1961

WYLIE, Peter John
1-60. (and TUTTLE, Orville Frank) Experimental investigation of silicate systems containing two volatile components--Pt. 1, Geometrical considerations Am Jour Sci., v. 258, no. 7, p 498-517 incl. diagrams, Summer 1960
2-60. (and TUTTLE, Orville Frank) Experimental verification for the magmatic origin of carbonatites Internat, Geol Cong , 21st,Copenhagen, 1960, Rept., pt 13, p. 310-318 incl diagrams, 1960

WYMAN, Richard V
1-60. Comments regarding ore genesis at Silver Reef, Utah Econ Geology, v 55, no 4, p 835-839, June-July 1960.

WYNN, Lester Lee

WYNNE-EDWARDS, Hugh Robert. See CANADA GEOL SURVEY 34-60

WYOMING GEOLOGICAL ASSOCIATION
1-60. (McGEOKEY, Donald Paul, and MILLER, Daniel Newton, Jr., editors) Overthrust belt of southwestern Wyoming and adjacent areas [Idaho-Utah], 15th annual field conference, 1960, guidebook Casper, Wyoming Geol. Assoc , 285 p. incl index and sketch maps, diagrams, tables, and illus., also geol map, sections, and charts,1960. Includes individual papers which are cited separately.

WYRICK, Granville Glenn
2-60. The ground-water resources of Volusia County, Florida Florida Geol. Survey Rept. Inv. 22, 65 p, illus., 1960

YAGER, Charles E

447
YALKOVSKY

YALKOVSKY, Ralph. See also HEEZEN, B C. 1-60
1-60. A suggested program to meet the critical need for teachers Jour. Geol Education, v. 8, no 1, p. 6-8, spring 1960

YAMAGUCHI, Goro

YANG, Julie Chi-Sun
1-60. The system magnesia-silica-water below 300°C.--[Pt.] 1, Low-temperature phases from 100° to 300°C and their properties Am. Ceramic Soc. Jour., v 43, no. 10, p. 542-549 incl. diagrams, tables, and illus., Oct. 1, 1960.

YATES, Robert Giertz

YBARRA, R. A.

YEATS, Vestal Lierly
1-60 Upheaval Dome [Utah] Compass, v. 37, no. 4, p 269-277 incl geol. and aeromagnetic maps, section, and illus., May 1960

YEDLOSKY, Robert J.

YEHLE, Lynn Alois See NICHOLS, Donald R. 2-60

YINGST, Parke O
2-60. Coal, Chap. 11 in Mineral resources of Colorado, 1st sequel Denver, Colorado Mineral Resources Board, p 463-486 incl. diagrams, also index map, 1960

YOCHelson, Ellis Leon. See also BOUCOT, A J. 4-60, KNIGHT, J B 1-60, 2-60, 3-60
3-60 (and DUTRO, John Thomas, Jr.) Late Paleozoic Gastropoda from northern Alaska U. S. Geol Survey Prof. Paper 334-D, p 111-147, illus., 1960

YODER, Hatten Schuyler, Jr. See also SCHAIRER, J F 1-60, SCHREYER, W F. 1-60
1-60. (and WEIR, Charles Edward) High-pressure form of analcrite and free energy change with pressure of analcrite reactions Am, Jour Sci., v. 258-A (Bradley Volume), p. 420-433 incl. diagrams and tables, 1960.
YOUNG

YOE, John H. See MILLER, Dwight O. 1-60

YON, J. William, Jr. See GOODELL, Horace Grant 1-60

YONG, Raymond N. Y. See also LAMBE, T. W. 1-60

1-60. (and WARKENTIN, B. P.) A physico-chemical analysis of high swelling clays subject to loading. Cong Panam Mecánica Suelos y Cimentaciones, 1st, México, D. F., Sept. 7-12, 1959, Mem., v. 2, p. 865-888 incl. diagrams, illus., and Spanish abs., 1960

YONGE, C. M. 1-60. General characters of Mollusca, in Joint Comm Invertebrate Paleontology, Treatise on invertebrate paleontology--Pt I, Mollusca 1 Lawrence, Kans., Geol. Soc. America and Univ. Kansas Press, p. I3-I36 incl. diagrams and illus., 1960


YOUNG, B. G. 1-60. (and THODE, Henry George) Absolute yields of the xenon and krypton isotopes in $^{238}$U spontaneous fission. Canadian J. Physics, v. 38, no 1, p. 1-9 incl. diagrams and tables, Jan. 1960

YOUNG, David Marion 1-60. Virginia, Appalachian rim is likely area World Oil, v. 150, no. 7, p. 104-105 incl. sketch map, June 1960

YOUNG, Edward Joseph. See also ALTSCHULER, Z. S. 1-60, GUDE, A. J., 3d 1-60


YOUNG, Keith Preston. See also NOYES, A. P., Jr. 1-60, SCHLAUDT, C. M. 1-60


YOUNG, Robert Glen

YOUNG, Roland Stansfield

YOUNG, Thomas R. See SMITH, Fred L. 1-60

YOUNG, William Lee

YUND, Richard Allen. See also KULLERUD, Gunnar 2-60

ZABLOCKI, Charles Joseph

ZACHER, Edwin G. See STEINBRUGGE, Karl V 4-60

ZAHRINGER, J. See FECHTIG, H 1-60, GENTNER, W. 1-60

ZAJAC, Steve See STUBBINS, John B. 1-60

ZANDLE, Gerald L. See BROMERY, Randolph Wilson 3-60, 26-60

ZANGERL, Rainer

ZANS, Verners Aleksands, 1904-1961
2-60. Recent geological work and mining developments in Jamaica--A brief review of the activities during the last decade Caribbean Geol. Conf., 2d, Mayagüez, Puerto Rico, Jan. 4-9, 1959, Trans., p. 69-80, with discussion, 1960, reprinted as Jamaica Geol. Survey Pub., 68, 1960

ZAPP, Alfred Dexter
ZAPPA, Theodore A
1-60. Alaska--The next big oil state? Oil and Gas Jour., v. 58, no. 34, p. 128-131 incl. illus., Aug 22, 1960

ZARRELLA, W. M. See also SCHRAYER, G. J. 1-60

ZECK, Wayne A. See CARLISLE, Donald 1-60

ZEEVAERT, Leonardo. See GIBBS, Harold J. 1-60

ZEIGLER, John M
3-60. Beach studies in the Cape Cod area [Massachusetts] conducted during the period August 1953--April 1960 Woods Hole Oceanog. Inst. Reference, no. 60-20, 29 p., illus., Apr. 1960

ZELTNER, June Culp
1-60. Rare gems of the Midwest Earth Sci., v. 13, no. 2, p. 58-62 incl. illus., Apr. 1960
2-60. Fossil collecting and localities Mineralogist, v. 28, nos. 4-5, p. 58-60 incl. illus., Apr.-May 1960
3-60. Barite Mineralogist, v. 28, nos. 11-12, p. 208, 210, Nov.-Dec. 1960

ZELL, Raymond LeRoy

ZELLER, Robert Allen, Jr.
1-60. Reef and associated facies of Horquilla limestone, Big Hatchet Mountains area, southwestern New Mexico, in Northern Franklin Mountains, southern San Andres Mountains, with emphasis on Pennsylvanian stratigraphy Roswell Geol. Soc., Field Trip, Nov. 1960, Guidebook, p. 49-156 incl. index and geol. sketch map, and sections, 1960.

ZEN, E-an. See also CADY, W. M. 1-60

ZIEGLER, Peter A.
1-60. Frühpaläozoische Tillite im östlichen Yukon-Territorium (Kanada) Eclogae Geol. Helvetiae 1959, v. 52, no. 2, p. 735-741 incl. sketch map, graph, section, and illus., Basel, Switzerland, Jan. 29, 1960

ZIEGLER, Walter Heinrich

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ZIES, Emanuel George
1-60. (and CHAYES, Felix) Pseudoleucite in a tinguadite from the Bearpaw Mountains, Montana Jour Petrology (Oxford, England), v. 1, no. 1, p. 86-88 incl. tables, illus., Feb 1960


ZIMMERLEY, Stuart R. See TUDDENHAM, William Marvin 2-60

ZIMMERMAN, Everett Alfred

ZIMMERMAN, J. Bernard

ZIMMERMAN, James A.
1-60 Pleistocene molluscan faunas of the Newell Lake deposit, Logan County, Ohio Ohio Jour. Sci, v. 60, no. 1, p 13-39 incl. index map, sections, diagrams, and tables, Jan. 1960

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ZOLTAI, Tibor

2-60. (and BUERGER, Martin Julian) The relative energies of rings of tetrahedra Zeitschr. Kristallographie (Frankfurt am Main, Germany), Band 114, Heft 1-2, p. 1-8 incl. diagrams and table, with German abs., June 1960.


ZONNEVELD, Jan I. S.

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2-60 (and GIUDICE, Daniele del) Reconocimiento geológico del Valle de Punta Gorda Nicaragua Servicio Geol. Nac Bol. 4, p. 61-83, illus., geol sketch map, 1960.
3-60 (editor, and others) Reconocimiento geológico-minero para el fosfato en el Departamento de Rivas Nicaragua Servicio Geol Nac Bol. 4, p. 85-117 incl. tables, and illus., 1960.

ZUBOVIC, Peter

ZULBERTI, John L.

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Bibliography
Alabama
Geology, 1935-58 Hastings, E L. 1-60
Arctic America
Arctic Institute of North America, 1-60
Baker, M. B.
Ambrose, J. W. 1-60
Cartography
Historical Ristow, W. W. 1-60
Coastal sedimentation
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<td>Ontario Department of Mines</td>
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| Photogeology  |
| Belcher, D. J 1-60, Tator, B. A 1-60 |
| Sedimentation  |
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| U S. Libr. Cong. 1-60 |
| South Dakota  |
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| United States Bureau of Mines authors  |
| Stratton, H. J. 1-60 |
| Journal articles Hardison, M. W. 1-60 |
| United States Geological Survey  |
| Reports and maps in open files Weld, B A. 1-60 |
| Uranium  |
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