

Bibliography of North American Geology 1948

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and RUTH REECE DUNAVEN

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UNITED STATES DEPARTMENT OF THE INTERIOR

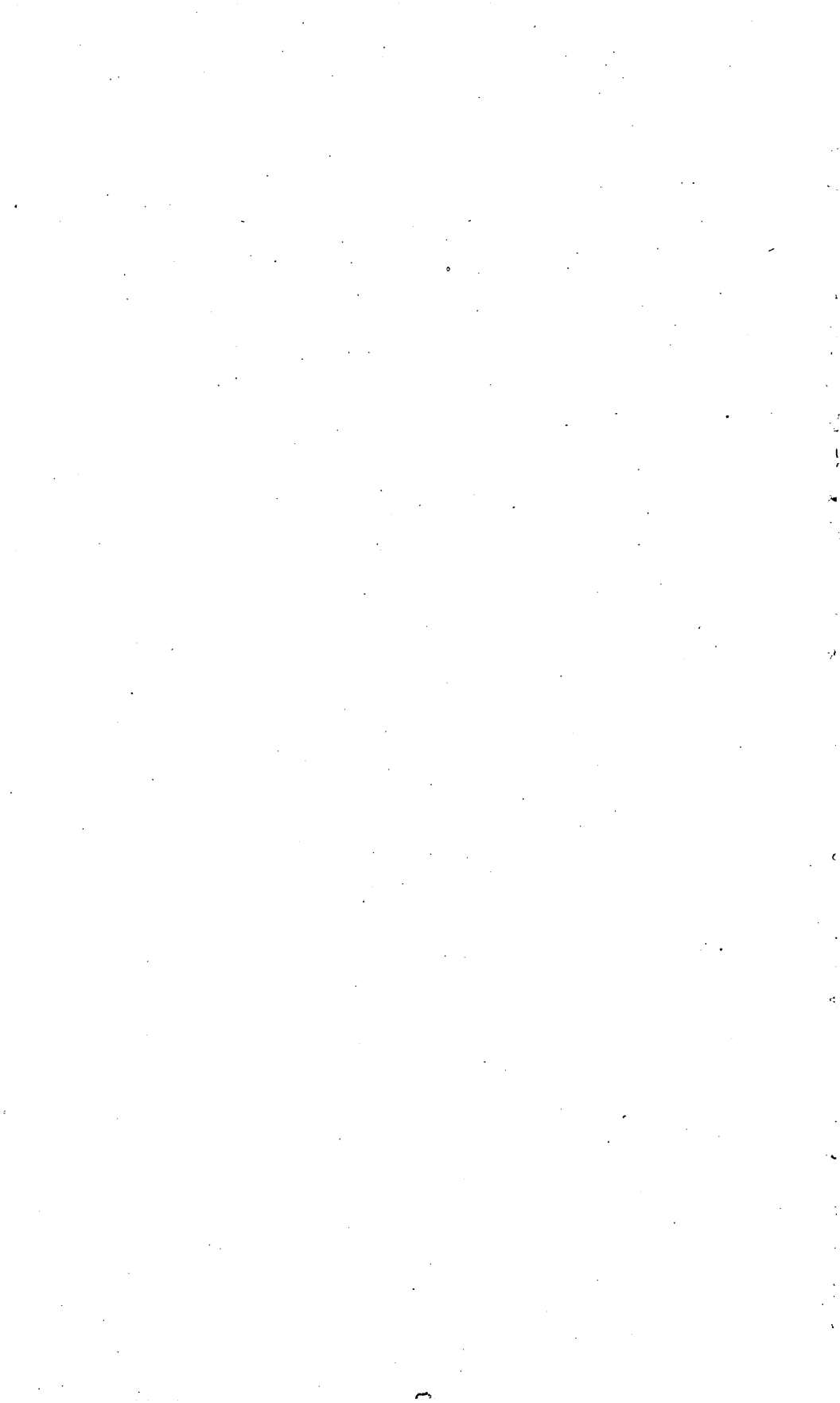
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BIBLIOGRAPHY OF NORTH AMERICAN GEOLOGY

1948

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INTRODUCTION

The bibliography of North American geology, including paleontology, petrology, and mineralogy, for the year 1948, lists publications on the geology of the Continent of North America and adjacent islands and on Panama, the Hawaiian Islands, and the Island of Guam. It includes textbooks and papers of a *general character* by American authors, but not papers by foreign authors, except those that appear in American publications.

The papers, with full title and medium of publication, are listed under the names of their authors, which are arranged in alphabetic order. The author list is followed by an index to the literature cited. The bibliography of North American geology to the end of 1947 is contained in the following bulletins of the United States Geological Survey: 746 and 747 (1785-1918) and 823 (1919-28), by John M. Nickles; 937 (1929-39), 938 (1940-41), 949 (1942-43), and 952 (1944-45), by Emma Mertins Thom; 958 (1946-47), by Emma Mertins Thom, Marjorie Hooker, and Ruth Reece Dunaven.

ABBREVIATIONS

A. A. A. S.	American Association for the Advancement of Science	Co.	Company, County
A. I. M. E.	American Institute of Mining and Metal- lurgical Engineers	Coll.	Collections
Acad.	Academy, etc.	Colo.	Colorado
Adm.	Administration	Comm.	Commission, Committee
ads.	advertisements	Commun.	Communications
Adv.	Advancement	Comp.	Comparative
Agr.	Agricultural, Agricul- ture	con.	consolidated
Ala.	Alabama	Conf.	Conference
Am.	American	Cong.	Congress, etc.
Anal.	Analytic, etc.	conglom.	conglomerate
Ann.	Annual	Conn.	Connecticut
Anthropol.	Anthropological, etc.	Conserv.	Conservation
App.	Appendix	Contr.	Contribution, etc.
appl.	applique	Coop.	Cooperative
approx.	approximately	correl.	correlation, etc.
Apr.	April	Coun.	Council
Archeol.	Archeological, etc.	Dec.	December
Ariz.	Arizona	Del.	Delaware
Ark.	Arkansas	Dept.	Department, etc.
art.	article	dev.	development
Assoc.	Association	diagr.	diagram, etc.
Astron.	Astronomical, etc.	Direc.	Dirección
Aug.	August	Dissert.	Dissertation
Auth.	Authority	dist.	district
Av.	Avancement	distrib.	distribution
Bd.	Board	Div.	Division
Bibl.	Bibliographic, etc.	Doc.	Doctoral, Document
Bienn.	Biennial	Doc. Dissert.	Doctoral Dissertation
Biog.	Biographic, etc.	dol.	dolomite
Biol.	Biologic, etc.	E.	east
Bldg.	Building	Ecol.	Ecological, etc.
Bol.	Boletim, Boletín	Econ.	Economic
Boll.	Bollettino	ed.	edition, editor
Bot.	Botanic, etc.	Educ.	Education, etc.
Br.	Branch	Elec.	Electric, etc.
Bull.	Bulletin	Eng.	Engineering, Engineers
Bur.	Bureau	Entomol.	Entomological, etc.
Calif.	California	equiv.	equivalent
Cat.	Catalog	exam.	examination
cent.	central	Exper.	Experiment, etc.
cf.	compare with	expl.	explanation, explana- tory
Chap.	Chapter	explor.	exploration, etc.
Chem.	Chemical, etc.	extr.	extract, extracted
chim.	chimique	Fac.	Faculty
chm.	chairman	facsim.	facsimile
Cienc.	Ciencia, Ciencias	fasc.	fascicle
cient.	científica	Feb.	February
Circ.	Circular(s)	fig.	figure
classn.	classification	Fla.	Florida
		fm.	formation
		franc.	français
		front.	frontispiece
		Ft.	Fort

Ga.....	Georgia	Meteorol.....	Meteorological, etc.
G. S.....	Geological Survey	Mich.....	Michigan
G. Soc.....	Geological Society	micr.....	microscopic, etc.
Gen.....	General	Mimeo.....	Mimeographed
gén.....	générale	Min.....	Mining
Geochem.....	Geochemical, etc.	Minn.....	Minnesota
Geod.....	Geodetic	min. res.....	mineral resources
géod.....	géodétique	Mineralog.....	Mineralogic, etc.
Geog.....	Geographic, etc.	Misc.....	Miscellaneous
géog.....	géographique	Miss.....	Mississippi
Geol.....	Geologic, etc.	Mo.....	Missouri
géol.....	géologique	Mon.....	Monograph, etc.
Geophys.....	Geophysical, etc.	Mont.....	Montana
géophys.....	géophysique	ms.....	manuscript
Govt.....	Government	Mt.....	Mount
Grad.....	Graduate	Mtg.....	Meeting
		Mtn.....	Mountain
hist.....	historic, etc.	Mts.....	Mountains
Hydrog.....	Hydrographic, etc.	Mus.....	Museo, Museum, etc.
Hydrol.....	Hydrologic, etc.		
ig.....	igneous	n.....	new
Ill.....	Illinois	N.....	north
illus.....	illustrated, etc.	N. Am.....	North America
Inc.....	Incorporated	n. d.....	no date
incl.....	including	N. Dak.....	North Dakota
Ind.....	Indiana	n. ser.....	new series
Indus.....	Industrial	nac.....	nacional
Inf.....	Information	Nat.....	Natural
Ing.....	Ingenieros, Ingenieurs	Natl.....	National
Inst.....	Institute, Institution, etc.	NE.....	northeast
internac.....	internacional	Nebr.....	Nebraska
Internat.....	International, etc.	Nev.....	Nevada
ntro.....	introduction.	N. H.....	New Hampshire
intrus.....	intrusion, intrusive.	N. J.....	New Jersey
Inv.....	Investigation (s)	N. Mex.....	New Mexico
Irr.....	Irrigation	N. Y.....	New York
Is.....	Island (s)	no.....	number
Ist.....	Istituto	nos.....	numbers
		nouv.....	nouveau, etc.
Jan.....	January	Nov.....	November
Jour.....	Journal	Nr.....	Nummer
		NW.....	northwest
Kans.....	Kansas	Oce.....	Occasional
Ky.....	Kentucky	Oct.....	October
		Okla.....	Oklahoma
La.....	Louisiana		
Lab.....	Laboratory	p.....	page (s)
Lit.....	Literary, Literature	Pa.....	Pennsylvania
ls.....	limestone	Paleoecol.....	Paleoecological, etc.
loc.....	locality	Paleogeog.....	Paleogeographic, etc.
lvs.....	leaves	Paleont.....	Paleontologic, etc.
		Pamph.....	Pamphlet
Mag.....	Magazine	Pan Am.....	Pan American
Mar.....	March	Penin.....	Peninsula
Mass.....	Massachusetts	Petr.....	Petrologic, etc.
Math.....	Mathematical, etc.	Petrog.....	Petrographic, etc.
mbr.....	member	Petrol.....	Petroleum
Md.....	Maryland	Philos.....	Philosophical, etc.
Mech.....	Mechanical, etc.	photo.....	photograph
Medd.....	Meddelelser	photog.....	photographic
Mem.....	Memoir, Memoria	Phys.....	Physical, etc.
Mém.....	Mémoire	Physiog.....	Physiographic, etc.
Memo.....	Memorandum	Pk.....	Peak
Met.....	Metallurgical, etc.	pl.....	plate
metam.....	metamorphic, meta- morphosed	Plann.....	Planning
		pls.....	plates

Polytech.....	Polytechnic, etc.	Spec.....	Special
Pop.....	Popular	ss.....	sandstone
port.....	portrait	St.....	Saint
ports.....	portraits	Sta.....	Station
poss.....	possibility, possibilities	Ste.....	Sainte
Prelim.....	Preliminary	Strat.....	Stratigraphic, etc., Stratigraphy
Proc.....	Proceedings	Summ.....	Summaries, Summariz- ized, Summary
Prof.....	Professional	Suppl.....	Supplement, Supple- mentary
Prog.....	Progress	SW.....	southwest
Proj.....	Project	syn.....	synonym
prosp.....	prospecting		
Prov.....	Province	Tech.....	Technical, etc.
Pt.....	Part, Point	Technol.....	Technological, etc.
Pts.....	Parts	temp.....	temporary
Pub.....	Publication(s), pub- lished	Tenn.....	Tennessee
		Terr.....	Territory; Territories, Territorial
quad.....	quadrangle	Tex.....	Texas
Quart.....	Quarterly	T. H.....	Territory of Hawaii
		Topog.....	Topographic, etc.
R. I.....	Rhode Island	Tp.....	Township
R. R.....	Railroad	Tps.....	Townships
Rap.....	Rapport	Tr.....	Transactions
Rec.....	Record(s), Recueil	transl.....	translate, translation
reconn.....	reconnaissance	transp.....	transportation
Rpt.....	Report	Trav.....	Travaux
Res.....	Resources		
Rev.....	Review, Revista, Revue	U. S.....	United States
Riv.....	Rivista	uncon.....	unconformity, etc.
Ry.....	Railway	Univ.....	University
S.....	south, Survey	v.....	volume
S. C.....	South Carolina	Va.....	Virginia
S. Dak.....	South Dakota	veg.....	vegetation
Sci.....	Science(s), Scientific	vs.....	versus
SE.....	southeast	Vt.....	Vermont
Sec.....	Section		
Sed.....	Sedimentary	W.....	west
Seismog.....	Seismographic, etc.	Wash.....	Washington
Seismol.....	Seismologic, etc.	W. Va.....	West Virginia
séismol.....	séismologique	Wis.....	Wisconsin
Sept.....	September	Wyo.....	Wyoming
ser.....	series		
Serv.....	Service	Zool.....	Zoological, etc.
Sess.....	Session		
sh.....	shale		
Soc.....	Société, Society		
sp.....	species		

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- Hemiptera, McKittrick asphalt field : Pierce, W. D., 3.
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Structure: Harrison, J. M., 1.

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Geologic maps.

Barrington Lake area: Crombie, G. P.
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Geologic maps—Continued

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Gods Lake area: Dix, W. F.

Hughes Lake area, Granville Lake Division: Allan, J. D., 1.

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Nokomis Lake area: Robertson, D. S.

Nor-Acme gold mine area: Canada G. S., 10.

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- Appalachian Basin, northern: Fettke, C. R., 2.
 Arkansas, Fouke oil field, Paluxy formation: Schwartz, C. B.
 Haiti, aluminous laterite: Goldich, S. S., 1.
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- Lead mines, former, Hampshire Co.:
Foster, E. C.
- Piedmontite: Bjareby, G.

Paleontology.

- Grassy Island site, Taunton River:
Deevey, E. S., Jr.

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Chayes, F., 2.

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- Flying bars: Nichols, R. L.
- Nantasket Beach, development: Wolfe,
C. W., 1.
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- Shoreline changes, Boston Harbor,
Shirley Gut: Nichols, R. L.

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- Quebec, Bulstrode River area: Morin,
L. G.

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- British Columbia, Hardie group: Math-
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D.

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leys, basement complex: May, J. C.
- San Gabriel Mts., mylonite belt:
Alf, R. M.
- Sierra Nevada, amphibolitic: Egeler,
C. G.
- Colorado, Mt. Olympus quadrangle:
Boos, M. F.
- Evolution, mineralogical, structural:
Turner, F. J., 1.
- Montana, Dillon area, pre-Beltian:
Heinrich, E. W., 5.
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Mallory, W. W.
- Schistosity, types and origin: Turner,
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Barksdale, J. D., 2.
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Peterson, N. P.
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Valleys: May, J. C.
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Schmitt, H. A.
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- South Dakota, Black Hills and Home-
stake mine area: Noble, J. A., 4.
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- Surface tension, geol. significance: Ver-
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Arizona: Nininger, H. H., 4.
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Zimmerman, W. W.
- Carolina Bays, origin: Prouty, W. F., 1.

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Paz, L., 1.
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- Catalog, largest known meteorites of the
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- Cavour aerolites, South Dakota: Budd-
hue, J. D., 4.
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relationships, planet structure:
Brown, H. S., 1.
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Henderson, E. P., 1.
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F. C., 7.
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Leonard, F. C., 10.
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2.
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Roby, R. N.

Little Pittsburg lead-zinc mine:

Hundhausen, R. J.

Pine Creek area, lead-zinc: Gammell, R. M.

Yellow Pine tungsten mine: Cole, J. W.

Illinois, barite: McClure, S. M.

Blewett zinc-lead deposit: Holt, S. P. 1.

Royal Princess deposit, zinc-lead: Holt, S. P., 3.

Kansas, general: Tolsted, L. L.

Kentucky, fluorite: Hickman, R. C.

Labrador, iron: Retty, J. A.

Manitoba, Barrington Lake area: Crombie, G. P.

Farley Lake area: Stanton, M. S., 1.

Lynn Lake area: Allan, J. D., 2.

Mexico, northern, iron: Toron Villegas, L., 2.

San Diego, lead-zinc: Esteve Torres, A.

Mineral deposits—Continued

- Mississippi, bauxite: Reed, D. F.
 Missouri, limonite: Ballinger, H. J., 1.
 Montana, industrial minerals: Perry, E. S.
 Minah lead-silver mine: Lorain, S. H.
 Red Lodge area, chromite: Herdlick, J. A.
 Sillimanite minerals: Heinrich, E. W., 1.
 Stillwater complex, chromite: Wimmer, N. L.
 New Jersey, West Portal magnetite mines: Botsford, G. B.
 New Mexico, Bayard zinc area: Duriez, L. H.
 Boston Hill, manganese: Soulé, J. H., 1.
 Potash: Storms, W. R.
 West Pinos Altos, zinc-lead: Soulé, J. H., 2.
 North Carolina, Conrad Hill copper-gold deposit: Ballard, T. J., 1.
 Ore Knob copper mine: Ballard, T. J., 6.
 Rudisil gold mine: Zodac, P., 1.
 Tungsten: Bishop, F. H.
 Virgilina district, copper: Newberry, A. W.
 North Carolina-Tennessee, Cranberry magnetite: Kline, M. H., 1.
 North Carolina-Virginia, Hamme district: McIntosh, F. K.
 Nova Scotia, gold: Messervey, J. P.
 Guide book: Nova Scotia Dept. Mines.
 Londonderry district, iron, manganese: Weeks, L. J., 1.
 Ohio, Newport Township: Smith, W. H.
 Oklahoma, McCurtain Co.: Anonymous, 10.
 Ontario, Midlothian Township: Marshall, H. I.
 Red Lake district: MacKay, D. G.
 Ore discoveries, recent: Joralemon, I. B.
 Quartz, piezoelectric: Waesche, H. H.
 Quebec, Mt. Albert, chromite: Osborne, F. F., 1.
 Nominigüe, Sicotte areas: Aubert de la Rüe, E.
 South Carolina, Rickard corundum mine: Ballard, T. J., 3.
 South Dakota, Belle-Eldridge lead-zinc deposit: Davis, V. C.
 Edison spodumene mine: Clarke, F. F., 2.
 Lithia in pegmatites, Hill City area: Erickson, M. P.
 Mateen spodumene deposit: U. S. Bur. Mines, Minneapolis Branch.
 Texas, celestite: Havins, T. R.
 Utah, Ophir district, lead and zinc: Dunham, W. C.
 Virginia, Virgilina district, copper: Newberry, A. W.

Mineral deposits—Continued

- Washington, Cle Elum area, iron: Zoldok, S. W.
 Holden copper-zinc mine: Soderberg, R. L.
 Wisconsin, Coker and Bickford zinc deposits: Lincoln, F. C.
 Mineral deposits, origin.
 Alabama, brown iron ore: Brown, Andrew.
 Arizona, Bagdad copper area: Anderson, C. A.
 Castle Dome copper deposit: Peterson, N. P.
 Christmas copper deposit: Tainter, S. L.
 Bauxite: Goldich, S. S., 2.
 British Columbia, Aiken Lake area: Armstrong, J. E., 2.
 Ainsworth mining area, structure: Rice, H. M. A., 2.
 Barkerville district, structure: Lang, A. H., 4.
 Bralorne gold mine, structure: Joubin, F. R., 1, 2.
 Britannia copper mine, structure: Irvine, W. T.
 Cadwallader gold belt: Joubin, F. R., 1, 2.
 Cariboo Gold Quartz mine: Skerl, A. C., 2.
 Structure: Richards, F.
 Copper Mountain mine: Fahrni, K. C.
 Structure: Dolmage, V.
 Duthie lead-zinc mine, structure: Kindle, E. D., 1.
 Edye Pass gold mine: Smith, A., 1.
 Hardie group, mercury, structure: Mathews, W. H., 1.
 Hidden Creek copper mine, structure: Nelson, N. E.
 Island Mountain gold mine, structure: Benedict, P. C., 1.
 Kicking Horse lead-zinc mine: Brown, W. L., 1.
 Last Chance claim, structure: Cockfield, W. E., 2.
 Mining areas: British Columbia Dept. Mines.
 Monarch lead-zinc mine: Brown, W. L., 1.
 Nicola area: Cockfield, W. E., 1.
 Pinchi Lake, mercury: Armstrong, J. E., 3.
 Pioneer gold mine, structure: Joubin, F. R., 1, 2.
 Polaris-Taku gold mine: Smith, A., 2.
 Portland Canal district: Langille, E. G., 2.
 Premier mine, structure: Langille, E. G., 1.
 Princeton area: Rice, H. M. A., 1.
 Privateer gold mine, Zeballos area, structure: Gunning, H. C.
 Pugsley gold mine: Gill, J. E., 2.

Mineral deposits, origin—Continued

British Columbia—Continued

Red Rose tungsten mine, structure: Davis, A. W.

Regal Silver tungsten mine, structure: Lord, C. S., 2.

Rossland area, structure: Gilbert, G. Slocan area, Lucky Jim zinc mine, structure: Hedley, M. S.

Structure: Cairnes, C. E., 2.

Standard mine, lead and zinc: Starr, C. C.

Stump Lake area, sulfides: Cockfield, W. E., 3.

Sullivan lead-zinc mine: Swanson, C. O.

Surf Inlet gold mine: Gill, J. E., 2.

Surf Point gold mine: Smith, A., 1.

Taku River area: Kerr, F. A., 2.

Tulsequah area, structure: Smith, A., 2.

Twin "J" gold mine, sulfides: Stevenson, J. S., 2.

Williams Creek: Skerl, A. C., 1.

Zeballos gold area, structure: Stevenson, J. S., 1.

California, iron, Cave Canyon: Lamey, C. A., 4.

Eagle Mts.: Radley, J. B.

Iron King: Lamey, C. A., 2.

Iron Mtn.: Lamey, C. A., 1, 2.

Kingston Range: Hewett, D. F.

Old Dad Mtn.: Lamey, C. A., 3.

Spencer Lakes area: Durrell, C.

Vulcan mine: Severy, C. L.

Lake County: Nichols, J. B.

Mercury deposits, Sonoma Co.: Myers, W. B.

San Gabriel Mts. titaniferous iron deposits: Oakeshott, G. B.

Siskiyou Co.: O'Brien, J. C.

Canada: Canada G. S., 3.

Appalachian region: Alcock, F. J., 1.

Structural control: Alcock, F. J., 4.

Canadian Shield gold vein deposits: Legraye, M.

Cordilleran region: Lord, C. S., 1.

Structural control: Lang, A. H., 3.

Gold, structural control: Ebbutt, F.

Interior Plains: Hume, G. S., 1.

Ore deposit structures: McKinstry, H. E., 2; Canadian Inst. Mining and Metallurgy.

St. Lawrence Lowlands: Caley, J. F., 1.

Canadian Shield, Precambrian, structural control: Gill, J. E., 1.

Colorado, Eight Mile Park, pegmatites: Heinrich, E. W., 3.

North Empire district: Tapp, W. N.

Cuba, Camagüey chromite district: Flint, D. E.

General: Sullivan, C. J.

Idaho, Blackbird district, cobalt-copper: Vhay, J. S.

Boise Basin: Anderson, A. L., 3.

Mineral deposits, origin—Continued

Idaho—Continued

Ima tungsten mine: Anderson, A. L., 5.

Lemhi Range deposits: Anderson, R. A.

Silver Summit silver-copper mine: Sorenson, R. E.

Indiana, Gardner Mine Ridge, clay: Callaghan, E.

Labrador, iron: Faessler, C., 3; Anonymous, 25.

Laterite: Goldich, S. S., 2.

Maine, Robinson Mtn., vesuvianite: Fisher, L. W.

Manitoba, Flin Flon copper mine: Hudson Bay Mining & Smelting Co.

Nor-Acme gold mine: Harrison, J. M., 1.

Northern, structural control: Stockwell, C. H., 1.

San Antonio gold mine: Gibson, J. C. Sherritt Gordon copper-zinc mine:

Farley, W. J.

Southeastern, structural control: Stockwell, C. H., 2.

Squall Lake gold property: Boyes, W. T.

Wallace Lake area: Russell, G. A., 2.

Mexico, Guadalcázar, tin: Perez Larios, J.

Optical calcite deposits: Fries, C., Jr., 1.

Pachuca and Real del Monte districts, silver ores: Wissler, E.; Bastin, E. S.

Soyatal district, antimony: White, D. E., 1.

Michigan, iron, Iron River district: James, H. L., 2.

Limonite: Hill, J.

Mineralizing solutions: Engel, A. E. J., 2.

Missouri, Rex zinc mine, Howell Co.: Ballinger, H. J., 2.

Montana, agates: Bateman, E. S.

Butte area: Sales, R. H.

Libby quadrangle: Gibson, R.

Nevada, Goldfield area: Searls, F., Jr.

New Mexico, Red River and Twining districts: Park, C. F., Jr., 1.

Newfoundland, copper, Bett's Cove-Stocking Harbour district: Baird, D. M.

St. Lawrence area, Burin Peninsula, fluorite: Van Alstine, R. E.

Southern White Bay area: Betz, F., Jr.

Northwest Territories, Camlaren gold mine: Henderson, J. F., 2.

Canadian Shield, structure: Henderson, J. F., 1.

Eldorado mine, pitchblende: Murphy, R.

Giant Yellowknife gold mine: Dadson, A. S.

Mineral deposits, origin—Continued

Nova Scotia, Caribou mine : Bell, L. V.
 Gold veins : Douglas, G. V.
 Ontario, Algoma district, iron : Moore, E. S., 1.
 Aunor gold mine : Buffam, B. S. W., 2.
 Bankfield gold mine : Matheson, A. F., 2.
 Berens River gold mine : Keys, M. R.
 Bidgood Kirkland gold mine : Parsons, G. E.
 Broulan gold mine : Backman, O. L.
 Buffalo Ankerite gold mine : Kinkel, A. R., Jr.
 Central Patricia gold mine : Barrett, R. E.
 Chesterville gold mine : Buffam, B. S. W., 3.
 Cline Lake iron mine : Bruce, E. L., 1.
 Cochenour Willams gold mine : Nowlan, J. P.
 Coniaurum gold mine : Carter, O. F.
 Delnite gold mine : Taylor, R. B.
 Dome gold mine : Holmes, T. C.
 Falconbridge nickel mine : Davidson, S. C., 1.
 Gold Eagle gold mine : Horwood, H. C., 3.
 Hallnor gold mine : Bell, A. M.
 Hard Rock gold mine : Matheson, A. F., 3.
 Hasaga gold mine, Red Lake area : Horwood, H. C., 2.
 Hollinger gold mine : Jones, W. A., 1.
 Howey gold mine, Red Lake area : Horwood, H. C., 2.
 Jellicoe gold mine : Matheson, A. F., 1.
 Jerome gold mine : Brown, W. L., 2.
 Josephine iron mine : Morrison, W. F.
 Kirkland Lake gold area : Ward, W.
 Kirkland Lake-Larder Lake gold area : Thomson, J. E., 1.
 Lakefield area, nepheline syenites : Derry, D. R., 4.
 Lake Geneva zinc-lead mine : Hawley, J. E., 2.
 Leitch iron mine : McKay, G. A.
 Little Long Lac-Sturgeon River area : Horwood, H. C., 5.
 McIntyre gold mine : Furse, G. D.
 Ore deposition temperature : Smith, F. G., 2.
 McKenzie Red Lake gold mine : Horwood, H. C., 4.
 Madsen Red Lake gold mine : McIntosh, R.
 Matachewan Consolidated gold mine : Derry, D. R., 1.
 Michipicoten-Goudreau area : Moore, E. S., 3.
 Moneta Porcupine gold mine : Buffam, B. S. W., 1.
 New Helen iron mine : Tanton, T. L., 1.
 Noranda-Rouyn area : Wilson, M. E., 1.

Mineral deposits, origin—Continued

Ontario—Continued

Northern Empire gold mine : Benedict, P. C., 2.
 Omega gold mine : Thomson, J. E., 2.
 Pamour gold mine : Price, P., 1.
 Paymaster gold mine : Longley, C. S.
 Pickle Crow gold mine : Corking, W. P.
 Porcupine gold area : Dunbar, W. R.
 Porcupine Peninsula gold mine : Byers, A. R., 1.
 Preston East Dome gold mine : Hawley, J. E., 1.
 Red Lake area : Horwood, H. C., 1.
 Red Lake Gold Shore gold mine : Mawdsley, J. B., 1.
 Renabie gold mine : Bruce, E. L., 2.
 Ross gold mine : Jones, W. A., 2.
 Steep Rock iron mine : Bartley, M. W.
 Sudbury area : Cooke, H. C., 1.
 Sudbury, International Nickel Co. mines : Yates, A. B.
 Tombill gold mine : Matheson, A. F., 2.
 Young-Davidson gold mine : North, H. H.
 Ore genesis : Brown, J. S.
 Oregon, bauxite : Allen, V. T., 3.
 Morning mine area, Grant Co. : Allen, R. M., Jr., 1.
 Priceite : Staples, L. W., 2.
 Quebec : Denis, B. T.
 Abitibi region, relation to structure : Norman, G. W. H., 1.
 Aldermac copper mine : Hawley, J. E., 4.
 Arntfield gold mine : Hart, E. A.
 Beattie gold mine : Davidson, S. C., 2.
 Belleterre gold mine : Trenholme, L. S.
 Canadian Malartic gold mine : Derry, D. R., 2.
 Consolidated Central Cadillac gold mine : Koulomzine, T.
 East Malartic gold mine : Cormie, J. M.
 Eustis pyrite mine : Cooke, H. C., 2.
 Federal zinc-lead area, Gaspé : Gill, J. E., 4.
 Francœur gold mine : Hawley, J. E., 3.
 Golden Manitou gold mine : Hopper, S. A. J.
 Horne copper mine : Price, P., 3.
 Indian Molybdenum mine : Norman, G. W. H., 3.
 Iron deposits, Hollinger area : Faessler, C., 3, 6.
 La Corne molybdenite mine : Norman, G. W. H., 4.
 Lamaque gold mine : Wilson, H. S.
 McWatters gold mine : Wilson, M. E., 4.
 Malartic Gold Fields mine : Halet, R. A.
 Malartic-Haig area, gold : Norman, G. W. H., 2.

Mineral deposits, origin—Continued

Quebec—Continued

- Mic Mac gold mine: Mills, J. W.
 Moulton Hill mine, sulfide ore: Hawley, J. E., 5.
 New Quebec: Bruet, E., 2.
 Nonmetallic deposits: Bourret, P. E.
 Noranda-Rouyn area: Wilson, M. E., 1.
 Normetal mine, sulfides: Brown, W. L., 3.
 O'Brien gold mine: Brown, R. A.
 Perron gold mine: Ames, H. G.
 Powell Rouyn gold mine: McMurphy, R. C.
 Quemont mine: Scott, J. S.
 Rouyn Merger gold mine: Wilson, M. E., 5.
 Senator-Rouyn gold mine: Wilson, M. E., 2.
 Siscoe gold mine: James, W. F.
 Sladen Malartic gold mine: Byers, A. R., 2.
 Stadacona gold mine: Wilson, M. E., 3.
 Waite Amulet copper-zinc mine: Price P., 2; Suffel, G. G.
 Wasa Lake gold mine: Gill, J. E., 3.
 Saskatchewan, Flin Flon area: Bichan, W. J., 1.
 Flin Flon copper mine: Hudson Bay Mining & Smelting Co.
 Solubility and transfer of silica: Gillingham, T. E.
 Tennessee, Bumpass Cove: Rodgers, J., 1.
 Texas, fluorite, Spar Valley: Gillerman, E.
 Utah, Bingham district: Peacock, Hollis.
 Iron Springs dist.: Mackin, J. H., 3.
 Washington, Turk magnesite deposit: Schroeder, M. C., 1, 2.
 Wisconsin, Crescent lead, zinc mine, Iowa Co.: Berliner, M. H.
 Yukon, Mayo district, structure: Bostock, H. S., 1.

Mineral descriptions. *See also* Mineralogy.

- Adamite, Ojuela mine, Mexico: Mrose, M. E.
 Agates: Wild, G. O., 2.
 Anglesite: Pearl, R. M., 4.
 Anhydrite: Pearl, R. M., 4.
 Anthophyllite series minerals: Rabbitt, J. C.
 Apophyllite, Monocacy, Pennsylvania: Thomas, C. A., 2.
 Arduinite, Tintic, Utah: Stringham, B. F., 2.
 Barite: Pearl, R. M., 4.
 Blue, Sterling, Colo.: Ellermeier, G. B., 1.
 Becquerelite: Schoep, A., 1.
 Billietite: Schoep, A., 1.
 Brackebuschite: Berry, L. G., 1.
 Brazilianite, New Hampshire, Palermo pegmatite: Frondel, C., 3.

Mineral descriptions—Continued

- California minerals: Murdoch, J., 1.
 Celestite: Pearl, R. M., 4.
 Central Texas: Havins, T. R.
 Chalcosiderite: Graham, A. R.
 Cobaltite, crystal structure: Peacock, M. A.
 Cornwallite, Utah: Berry, L. G., 2.
 Cryolite, Ivigtut, Greenland: Sinkankas, J.
 CuSe, artificial: Earley, J. W.
 Danburite, Silver Harbour, Ontario: Tanton, T. L., 3.
 Datolite, Silver Harbour, Ontario: Tanton, T. L., 3.
 Elpasolite, Colorado and Greenland: Frondel, C., 1.
 Falkmanite: Robinson, S. C., 3.
 Fluorescent minerals: De Ment, J. A., 5.
 Fourmarierite: Brasseur, H.
 Franckeite: Nuffield, E. W., 2.
 Garnet, Turret, Colorado: Ellermeier, G. B., 2.
 Varieties: Van Leuven, E. P.
 Geikielite, California: Murdoch, J., 2.
 Gersdorffite, crystal structure: Peacock, M. A.
 Goethite, St. Francisville, Missouri: Hurlbut, C. S., Jr., 2.
 Hagemannite, Colorado and Greenland: Frondel, C., 1.
 Helvite, New Mexico: Weissenborn, A. E., 1.
 Hematolite: Berry, L. G., 1.
 Heulandite, Oregon: Dake, H. C., 3.
 Higginsite, Utah and Nevada: Berry, L. G., 2.
 Idaho, distribution, heavy alluvial minerals: Staley, W. W.
 Jade: Dake, H. C., 1.
 Jarlite: Ferguson, R. B.
 Kalinite, Craters of the Moon National Park, Idaho: Dake, H. C., 2.
 Kobellite: Nuffield, E. W., 1.
 Lazulite, green, Stoddard, N. H.: Meyers, T. R.
 Lead sulphantimonites, artificial: Robinson, S. C., 1.
 Lengenbachite: Nuffield, E. W., 2.
 Limonite, Michigan: Hill, J.
 Lithiophorite, Virginia: Cosminsky, P. R.
 Loughlinite, Green River, Wyoming: Fahey, J. J.
 Malachite: Ramsdell, L. S., 1.
 Mansfieldite, Hobart Butte, Oregon: Allen, V. T., 1.
 Mansfieldite-scorodite series, Hobart Butte, Oregon: Allen, V. T., 1.
 Millerite, Iowa: Brotherton, B.
 Missouri, Granby: Patterson, T. A.
 Molybdenite, Manhattan-Brooklyn tunnel, New York City: Lisle, T. O.
 Monazite, Yorktown Heights, New York: Bodelsen, O. W.
 Olivine, Laramie Range, Wyoming: Devore, G. W.

Mineral descriptions—Continued

- Ore minerals, western Canada : Warren, H. V., 1.
- Oregon, new minerals : Staples, L. W., 1.
- Orthopyroxene, Laramie Range, Wyoming : DeVore, G. W.
- Pararammelsbergite, Cobalt dist., Ontario : Ramdohr, P.
- Paraschoepite : Schoep, A., 2.
- Pegmatite minerals, Colorado, Eight Mile Park : Heinrich, E. W., 3.
- Perlite, California : King, C. R.
- Piedmontite, Annapolis, Missouri : Keller, W. D., 2.
- Massachusetts : Bjareby, G.
- Prissnite, Searles Lake, California : Evans, H. T., Jr., 2.
- Plume agate, Colorado : Fahl, R.
- Prehnite, Meers area, Oklahoma : Dott, R. H., 1.
- Psilomelane, Virginia : Cosminsky, P. R.
- Quartz, Salisbury and Port Leyden, New York : Slocum, H. W.
- Quartz crystal casts, Paterson, New Jersey : McKown, M.
- Radioactive minerals : Anthony, J. W.; Hellborn, G.
- Retgersite, Nevada, Pennsylvania : Frondel, C., 4.
- Rhodochrosite, thermal study : Wright, H. D.
- Sapphire, Turret, Colorado : Ellermeier, G. B., 2.
- Schirmerite : Wickman, F. E., 2.
- Schroëckingerite, Wamsutter, Wyoming : Jaffe, H. W.
- Scorodite, Durango, Mexico : Allen, V. T., 1.
- Scorzalite, South Dakota, Custer area : Pecora, W. T., 2.
- Silver ores, Gowganda dist., Ontario : Montgomery, A.
- Sphaerosiderite, Idaho : Radford, N.
- Spinel crystals in synthetic class : Prince, A. T.
- Thorium minerals : Spence, H. S.
- Tincalconite, Searles Lake, California : Pabst, A.
- Tourmaline, crystal structure : Hamburger, G. E.
- Turquoise and chalcociderite, X-ray study : Graham, A. R.
- Tyrolite, Tintic, Utah : Berry, L. G., 2.
- Ullmannite, crystal structure : Peacock, M. A.
- Uraninite crystal, Cardiff Tp., Ontario : Meen, V. B.
- Uranium minerals : Spence, H. S.
- Vermiculite, Kiowa County, Oklahoma : Chase, G. W.
- Vesuvianite : Fisher, L. W.
- Essex County, New York : Rowley, E. B.
- Wavellite, Arkansas : Shockley, W. G., 1.
- Weberite : Ferguson, R. B.
- Yenerite : Robinson, S. C., 3.
- Zeolites, Oregon : Dake, H. C., 3.

- Mineral determination, punched cards for : Hurlbut, C. C., Jr., 3.
- Mineral pigments, Nebraska : Richards, R. W., 1; U. S. G. S., 3, no. 15.
- Mineral resources. *See also* sub-heading *Economic geology* under the various countries and states.
- British Columbia : British Columbia Dept. Mines.
- Fort St. James area, geologic map : Canada G. S., 7.
- Princeton area : Rice, H. M. A., 1.
- California, iron deposits : Burchard, E. F.
- Napa Co. : Davis, F. F.
- Siskiyou Co. : O'Brien, J. C.
- Tesla quadrangle : Huey, A. S.
- Canada, coal : Gray, F. W.
- Oil and gas : Hume, G. S., 3.
- Colorado, nonmetallic, map : Larrabee, D. M.
- Georgia, bibliography : Peyton, G.
- Paleozoic areas : Butts, C.
- Illinois, Franklin County, coal : Cady, G. H., 3.
- Kansas, coal : Schoewe, W. H.
- Louisiana, Grant Parish : Grant Parish Plan. Bd.
- Maryland, Charles County : Dryden, A. L., Jr., 4.
- Mexico, Coahuila : Mullerried, 7.
- Guanajuato : Mullerried, 5.
- Nuevo León : Mullerried, 1, 7.
- Michigan, iron : Pardee, F. G.
- Montana, construction materials, non-metallic : Knechtel, M. M.; U. S. G. S., 3, no. 11.
- Libby quadrangle : Gibson, R.
- New Jersey, Highlands area, feldspar : Parker, J. Mason, III.
- New Mexico : Northrop, S. A.
- Ohio, mineral industry map : White, G. W., 2.
- Oil shale, Colorado, Utah, Wyoming : Belser, C.
- Oklahoma : Dott, R. H., 2.
- Trinity River tributary area : Weissenborn, A. E., 2.
- Pennsylvania, pyrophyllite : Stephenson, R. C., 1.
- Petroleum : Levorsen, A. I., 3, 4.
- Quebec : Denis, B. T.
- Nonmetallic : Bourret, P. E.
- South Dakota, Moberge area : Rothrock, E. P., 2.
- Texas, Trinity River tributary area : Weissenborn, A. E., 2.
- United States : U. S. Bur. Mines.
- Coal : Crichton, A. B.
- Exploitation : Lovering, T. S., 3.
- Intermountain States : Hunt, R. N., 2.
- West, nonmetallic : Mulryan, H.
- Utah, Iron County, iron : Allsman, P. T.
- Washington, nonmetallic : Glover, S. L.
- West Virginia, coal : Brady, S. D., Jr.

Mineral resources—Continued

Wyoming: Snell, B. M.

Basin-Greybull area, Big Horn County: Pierce, W. G.; U. S. G. S., 1, no. 77.

Map: Fischer, R. P.; U. S. G. S., 3, no. 17.

Nonmetallic, map: Larrabee, D. M.

Mineral springs, Nova Scotia, Glengarry: Goudge, M. G.

Mineralizers.

Fluorine, structural nature of mineralizing action: Buerger, M. J., 2.

Hydroxyl, structural nature of mineralizing action: Buerger, M. J., 2.

Mineralogist, use in mineral exploitation: Fairbanks, E. E., 1.

Mineralogy.

Anthophyllite series, study: Rabbitt, J. C.

Asbestos: Bowles, O.

California, mineral descriptions: Murdoch, J., 1.

Chalcosiderite and turquoise, X-ray study: Graham, A. R.

Chart for specific gravity calculation: Winchell, H.

Charting 5, 6 and 7 variables on hyper-tetrahedral faces: Mertie, J. B., Jr., 1, 3.

Clay-mineral models: Wear, J. I.

Cleavage flakes, optical properties: Taylor, E. D.

Crystal structure: Wyckoff, R. W. G.

Determination, sodium, potassium, in silicate minerals and rocks: Lund, L.

Detrital sediments, Sangre de Cristo Mts., New Mexico: Sidwell, R., 1.

Dictionary: Chambers, G.

Electron microscope uses: Bates, T. F., 1.

Equilibrium relations, investigations: Tuttle, O. F., 1.

Field tests, abrasion pH: Stevens, R. E. Common metals: Fansett, G. R.

Fluorescence: Sylvester, R. L.

Spinel: De Ment, J. A., 4.

Zircon, accessory: Foster, W. R.

Garnet, vicinal forms: Trainer, J. N.

Geiger counter X-ray spectrometer: Mason, F. D.

Gemology: Pearl, R. M., 2.

Gems, specific birefringence: De Ment, J. A., 7.

Grossularite, stability relations, experiments: Yoder, H. S., Jr.

Handbook, mineral collectors: Pearl, R. M., 1.

Immersion media containing methylene iodide: Darnel, R. L.

Infrared studies: Bailly, R., 1, 2.

Kyanite and dumortierite, distinction: Butler, S. B.

Lead sulphantimonides, synthesis: Robinson, S. C., 1, 2.

Mineralogy—Continued

Liquid inclusions, measurement by decrepitation: Scott, H. S., 1.

Utilized for temperature of formation determination: Scott, H. S., 2.

Luminescence: Barnett, C. E.

Melilite, isomorphism: Goldsmith, J. R., 3.

Solid solutions: Goldsmith, J. R., 2.

Meteorites, composition and origin: Brown, H. S., 1, 2.

Minerals: Brentlinger, C. M.

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 Gill Ranch gas field, California : Snedden, L. B.
 Golden Trend, Oklahoma : Swesnik, R. M., 3.
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 Raisin City oil field, California: Sloat, J., 1.
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 Salinas Valley oil field, California: Kil-kenny, J. E.; Thorup, R. R.
 San Ardo oil field, California: Campbell, H. A.
 Sand Draw oil and gas field, Wyoming: Krampert, E. W., 3.
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 South Earlsboro pool, Oklahoma: Weatherby, B. B., 2.
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 Stony Lake oil field, Michigan: Grant, R. P.
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 Tejon oil field, California: Kasline, F. E.
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- Wellington oil field, Colorado: Willson, J. H., 1.
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Archeria, Permian amphibian : Stovall,
 J. W., 1.
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 Corals, Pennsylvanian dibunophyllid :
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Holmesina, giant Pleistocene armadillo :
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- Phanocrinus*, Fayetteville fm. : Strimple,
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- Aunor gold mine, structure : Buffam, B.
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 Central Patricia gold mine, structure :
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- Gold Eagle gold mine, structure: Horwood, H. C., 3.
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Hasaga gold mine, Red Lake area, structure: Horwood, H. C., 2.
Hollinger gold mine, structure: Jones, W. A., 1.
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Iron, Algoma district: Moore, E. S., 1.
Jellicoe gold mine, structure: Matheson, A. F., 1.
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Kirkland Lake gold area, structure: Ward, W.
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Leitch iron mine, structure: McKay, G. A.
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McKenzie Red Lake gold mine, structure: Horwood, H. C., 4.
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Madsen Red Lake gold mine, structure: McIntosh, R.
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Red Lake area, structure: Horwood, H. C., 1.
Red Lake Gold Shore gold mine, structure: Mawdsley, J. B., 1.
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Sudbury, development history: Zurbigg, H. F.
International Nickel Co. mines, structure: Yates, A. B.
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Kirkland Lake-Larder Lake gold area: Thomson, J. E., 1.
Lakemount prospect, Algoma district: Moore, E. S., 2.
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Madsen Red Lake mine: McIntosh, R.
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Pitt Township: Hogg, N., 2.
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- Sudbury area : Cooke, H. C., 1.
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 Keith and Muskego areas : Prest, V. K.
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 Red Lake area : Horwood, H. C., 1.
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- Danburite, Silver Harbour : Tanton, T. L., 3.
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- Mastodon, Rodney area : Russell, L. S., 3.

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- Intrusives, Bryce Tp., origin : Moorhouse, W. W.
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- Dwarf faunas, environment : Moore, R. C., 4.
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- Effect of rotation of objective on optical properties : Neuerburg, G. J., 2.
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- Stream flow and ground water runoff: Piper, A. M.

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- Feldspar weathering to bauxite, Allen, V. T., 4.
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- Baleen, Cape Blanco, Pliocene: Packard, E. L., 1.
Flora, Franklin Butte, Scio formation, Oligocene: Sanborn, E. I.
Pliocene Rattlesnake fm.: Chaney, R. W., 3.
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Astoria, Miocene: Cushman, J. A., 3.
Helmick Hill, Eocene: Cushman, J. A., 7.
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Vertebrate humerus, Astoria formation, Miocene, Schooner Creek: Packard, E. L., 3.

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- Bauxite from basalt: Allen, V. T., 3.
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- Serpentine, Upper Triassic overthrusting, NE.: Thayer, T. P.
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- Mt. Hood eruption, glaciation: Lawrence, D. B.
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- Appalachian and Alpine structures: Lombard, A. E.
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Dalvé, E.
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Cooper, G. A., 2.

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de.
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4.
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Pierce, W. D., 6.
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Pierce, W. D., 3.
- Ice Age, La Brea: Linze, D. W., 2.
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Pierce, W. D., 2, 3.
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ter, G. F., 2.
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- Rancho La Brea, arthropods: Pierce,
W. D., 1.
- Canis dirus*: Stock, C., 5.
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H. L.
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2.
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V., 1.
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1.
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Powell, L. H.
- Pleistocene flora: Rosendahl, C. O.
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Schultz, C. B., 4.

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Ver Steeg, K., 1.
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Springer, G. D.
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 Mineral deposits: Denis, B. T.
 Nonmetallic: Bourret, P. E.
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 Nominigues area, Labelle Co.: Aubert de la Rüe, E.

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 Normetal mine, sulfides, structure: Brown, W. L., 3.
 O'Brien gold mine, structure: Brown, R. A.
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 Sicotte area, Gâtineau Co.: Aubert de la Rüe, E.
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