GEOLOGICAL SURVEY OF CANADA
DEPARTMENT OF ENERGY, MINES AND RESOURCES

FORM	NAME OF FORM	AUTHOR, DATE	LOCALITY NO.	LOCALITY LOCATION	STRATIGRAPHIC UNIT	PROBABLE AGE OF STRATIGRAPHIC UNIT (in billions of years) 3.0 2.5 2.0 1.5 1.0 0.5 0	LOCATION OF FIGURED SPECIMENS	INTERPRETATIONS: ORIGINAL INTERPRETATION	(SYMBOLS AGREE WITH THOSE IN LEGEND OF FIGURE 2) CATEGORY 1 PSEUDOFOSSILS: Inorganic	2 PROBLEMATICA: Probably inorganic	3 PROBLEMATICA: Undecided	4 PROBLEMATICA: Probably biologic	5 FOSSILS: Biologic	INTERPRETATIONS: PRESENT INTERPRETATION	INTERPRETATIONS: OTHER INTERPRETATIONS
						ARCHAEAN; PROTEROZOIC: APHEBIAN, HELIKIAN, HADRYNIAN; PHANEROZOIC									
MACRO-PROBLEMATICA AND MACRO-PSEUDOFOSSILS	Archaeospherina	Dawson 1875 (1867)	55	Argenteuil Co., Quebec (Côte St. Pierre; Long Lake) Rideau Lakes area, Ontario (Burgess)	Grenville metasediments	+ HADRYNIAN	Original types – not known GSC 24368	Foraminifera	×					Metamorphic serpentine grains	
	Arenicolites spiralis	Billings 1872 (Murray 1868)	48	St. John's area, Newfoundland	St. John's Formation	+ HADRYNIAN	Not known	Worm tube			×				Worm casting; worm tracks; inorganic
	Aspidella terranovica	Billings 1872	47	St. John's, Newfoundland	St. John's Formation	+ HADRYNIAN	GSC 221a, b, c; 24370a, 24371; outcrop photo	Resembles, but is different from Chiton or Patella		×				Mechanical; focussed surfaces of rupture	Mollusk, crustacean, striated concretion, spall mark, site of gas vent, pressure cone, gas bubble crater
	Atikokania lawsoni	Walcott 1912	28	Steep Rock Lake, Ontario	Steeprock Group	?+ ARCHAEAN	GSC 8059 a, b, c, e	Sponge or archaeocyathid	×					Chemical; radial crystal growth, diffusion, replacement	Osmotic, concretionary, diagenetic phenomenon
	Atikokania irregularis	Walcott 1912	28	Steep Rock Lake, Ontario	Steeprock Group	?+ ARCHAEAN	GSC 8059 d	Sponge or archaeocyathid	×					Clusters of radially arranged quartz crystals	Aggregates of quartz crystals
	Beltina danai	Walcott (1899) 1911	26	Waterton Lakes National Park, Alberta; Purcell Mountains, 45 km W of Cranbrook, B. C.	Altyn Formation; Aldridge Formation	+ HELIKIAN	U. S. N. M. 57501; 57502	Crustacean				×		Impressions of algae or organic films	Carbon segregations, thallophyte fragments, arthropods
	Chuaria	(Allan 1913)	24	Eastern base of Storm Mountain, 30 km W of Banff, Alberta	Hector Formation	+ HADRYNIAN	GSC types 24409, 24410	Brachiopod-like fossils			×			Compressed globular bodies of biologic or non-biologic origin	
	Collinsia mississagiense	Bain 1927	65	Vernon Tp., Ontario, 22 km N of Espanola 46° 27'25"N 81° 47'04"W	Mississagi Formation	+ APHEBIAN	G. W. Bain, private collection	Colonies of algal cells		×				Chemical	
	Ctenichnites	Matthew 1890	32	Thunder Bay area, Ontario	Animikie Group	+ APHEBIAN	None figured; no specimens available	Drag marks of some squid		×				Sole marks (tool and flute marks)	
	Cyathospongia? eozoica	Matthew 1890	53	Drury Cove, 6.5 km NNE of Saint John, New Brunswick	Green Head Group	? HELIKIAN	Not known	Sponge spicules			×				Crystals
	Eozoon canadense	Dawson 1864	55-59	Argenteuil Co., Quebec (Grenville, Côte St. Pierre, Long Lake); Grand Calumet, Quebec; Rideau Lakes area, Ontario (Burgess); Madoc, Ontario; Tudor Tp., Ontario	Grenville metasediments	+ HADRYNIAN	GSC 119; 122; 152; 157; 165 a; 168; 24368; 24369	Giant Foraminifera	×					Chemical; contact metamorphic Mechanical; fissure fillings	Stromatolites, stromatoporoids, sponges
	Eozoon canadense acervulina	Dawson 1875	55	Argenteuil Co., Quebec (Côte St. Pierre) 45° 45'29"N 75° 04'24"W	Grenville metasediments	+ HADRYNIAN	Not known	Foraminifera	×					Chemical	
	Eozoon canadense latior	Dawson 1893?	55	Argenteuil Co., Quebec	Grenville metasediments	+ HADRYNIAN	Not known	Foraminifera; resembles Stromatopora	×					Chemical	
	Eozoon canadense minor	Dawson 1875	55	Argenteuil Co., Quebec (Côte St. Pierre) 45° 45'29"N 75° 04'24"W	Grenville metasediments	+ HADRYNIAN	Not known	Foraminifera	×					Chemical	
	Halichondrites graphitiferus	Matthew 1890	52	Reversing Falls of Saint John River, Saint John, New Brunswick	Green Head Group	? HELIKIAN	Not known (?New Brunswick Museum)	Sponge spicules		×				Crystal striations on (0001) cleavage planes; scratch marks	Percussion marks
	Kempia huronense	Bain 1927; Young 1967	62, 64, 69	Vernon and Porter Tps., Ontario. 46° 27'25"N 81° 47'04"W; Washagami Lake, Ontario, 50 km ENE of Sudbury 46° 40'55"N 80° 28'40"; 6.5 km NE of Iron Bridge, Ontario 46° 19'39"N 83° 10'35"W	Mississagi Formation; Gowganda Formation	++ APHEBIAN	Pratt Museum, Amherst College PZ-1, PZ-2. GSC 24372, a; 24374, a	Colonial organism, partly resembling stromatoporoids	×					Chemical; diffusion banding	Possible stromatolite
	Medusichnites (Taonichnites)	Matthew 1891 (1890)	32	Thunder Bay area, Ontario	Animikie Group (Rove Formation?)	+ APHEBIAN	Not known	Dragmarks of animal with numerous tentacles with spines or horny protuberances	×					Sole marks produced by scouring	Mud-flow structures
	Oldhamia	Murray 1868	46	St. John's area, Newfoundland	Conception Group	+ HADRYNIAN	Not known	Fossil	×					Chemical	Concretion
	Rhysonetron byei	Hofmann 1967 (Frarey and McLaren 1963)	68	2.6 km NE of Desbarats, Ontario 46° 21'40"N 83° 53'55"W	Lorrain Formation (U Huronian)	+ APHEBIAN	GSC 15379; 22628	Possible metazoan tube casts	×					Mechanical; compaction phenomenon	Wrinkled algal mats
	Rhysonetron lahtii	Hofmann 1967	66	Flack Lake, 23.3 km NNW of Elliot Lake, Ontario 46° 35'10"N 82° 44'20"W	Bar River Formation (U Huronian)	+ APHEBIAN	GSC 9876, a, b; 22626; 24376	Questionable fossils; tube fillings; sponges	×					Mechanical; compaction phenomenon	Wrinkled algal mats
	Algae or colloidal bodies	Fenton and Fenton 1939	12	Mystery Island, Echo Bay, Great Bear Lake; 4.5 km SSW of Port Radium, N. W. T.	Echo Bay Group	+ APHEBIAN	No specimens available; outcrop photos.	Algae or colloidal bodies	×					Chemical	
	Algal-like forms	Thomson 1960	63	Errington No. 2, and Vermilion Mines, 20 km WNW, and 27 km W of Sudbury, Ontario	Vermilion Formation (Whitewater Group)	+ APHEBIAN	GSC 24373	Probable stromatolite	×					Chemical; fissure fillings	
	Elliptical structures	Osborne 1931	61	L'Amable, Ontario, 7 km SE of Bancroft 45° 01'04"N 77° 47'17"W	Mayo Group (Grenville metasediments)	+ HADRYNIAN	GSC 24377, b, c, d; outcrop photos	Probably inorganic			×			Undetermined	Stromatolites; concretionary; deformational
	Graphitic compressions	Stinchcomb et al. 1965	43	0.8 km SW of High Falls on Swampy Bay River, Otelnuk Lake area, Quebec, NE edge of Schefferville, Quebec	Knob Lake Group	+ APHEBIAN	B. L. Stinchcomb, private collection (GSC paratype 24411)	Colonies of blue-green algae				×		Impressions of algae or organic films	
	Graphitic markings	Low 1903	38	E side of Cotter Island, Nastapoka Islands, N. W. T. (Hudson Bay)	Manitounuk Group	+ APHEBIAN	None figured; no specimens available	Possible organic matter				×		Impressions of algae or organic films	
	Skolithos-like tubes	Hoffman 1968	15	N shore of Charlton Bay, near Reliance, District of Mackenzie 62° 44'N 109° 04'30"W	Sosan Group	+ APHEBIAN	GSC 24969, a, b, c	Possible metazoan burrows	×					Chemical	
	Worm burrows, spicules	Dawson 1866	60	Madoc, Ontario	Grenville metasediments	? HELIKIAN	Not known	Worm burrows; spicules			×				Possibly organic
MACROFOSSILS	Annelid trails	Walcott 1900	45	Hickmans Harbour; Smith Point, Heart's Delight; (Newfoundland)	Random Formation; Snows Pond Formation	++ HADRYNIAN	GSC 24375	Annelid trails					◆	Trace fossils	
	Brachiopods and trace fossils	McNair 1965	6	W part of Victoria Island, District of Franklin, N. W. T.	(Cambrian)	+ PHANEROZOIC	None figured; GSC (locality nos.) 31313, 40141, 44291	Brachiopods and trace fossils					◇	Brachiopods and trace fossils (Cambrian)	
	Metazoans	Anderson and Misra 1968	49	Cliffs W of Mistaken Point, SE tip of Newfoundland	Conception Group	+ HADRYNIAN	In outcrop	Soft-bodied metazoans					◆	Metazoa	
	Organic burrows	Tuke et al. 1966	4	4 km SE of mouth of Hunting River, NW part of Somerset Island, District of Franklin, N. W. T.	Hunting Formation	+ PHANEROZOIC	University of Ottawa, T7-19	Trace fossils					◇	Trace fossils (Phanerozoic)	
MICROFOSSILS	Animikiea septata	Barghoorn 1965	31	6.4 km W of Schreiber, Ontario 48° 47'50"N 87° 20'48"W 9.2 km W of Schreiber, Ontario 48° 48'45"N 87° 23'41"W	Gunflint Formation	+ APHEBIAN	Harvard University, Paleobot. 58253 (type) GSC	Filamentous blue-green alga, resembling Oscillatoria and Lyngbya					■	Cyanophyta (Myxophyceae), Nostocinales	
	Archaeorestis schreiberensis	Barghoorn 1965	31	6.4 km W of Schreiber, Ontario 1.2 km WNW of Kakabeka Falls, Ontario 48° 24'22"N 89° 38'11"W	Gunflint Formation	+ APHEBIAN	Harvard University, Paleobot. 58271 (type)	Problematic organism					■	Problematic organism	
	Entosphaeroides amplus	Barghoorn 1965	31	6.4 km W of Schreiber, Ontario	Gunflint Formation	+ APHEBIAN	Harvard University, Paleobot. 58255 (type)	Blue-green alga or iron bacterium					■	Algal; sheath of Animikiea?	
	Eoastrion simplex	Barghoorn 1965	31	6.4 km W of Schreiber, Ontario 1.2 km WNW of Kakabeka Falls, Ontario	Gunflint Formation	+ APHEBIAN	Harvard University, Paleobot. 58277 (type)	Plant; comparable to certain actinomycetes and myxobacteria					■	Bacterium	Resembles Mn and Fe oxidizing bacterium Metallogenium personatum
	Eoastrion bifurcatum	Barghoorn 1965	31	6.4 km W of Schreiber, Ontario 1.2 km WNW of Kakabeka Falls, Ontario	Gunflint Formation	+ APHEBIAN	Harvard University, Paleobot. 58278 (type)	Plant; comparable to certain actinomycetes and myxobacteria					■	Bacterium	Acritarch
	Eomicrhystridium barghoorni	Deflandre 1968	31	6.4 km W of Schreiber, Ontario	Gunflint Formation	+ APHEBIAN	G. Deflandre, CH7, O 41.3 GSC 24380 a, 24380 c	Acritarcha, Subgroup Acanthomorphitae					■	Acritarcha: Acanthomorphitae	
	Eosphaera tyleri	Barghoorn 1965	31	6.4 km W of Schreiber, Ontario 9.2 km W of Schreiber, Ontario 48° 48'45"N 87° 23'41"W	Gunflint Formation	+ APHEBIAN	Harvard University, Paleobot. 58293 (type)	Problematic organism					■	Problematic organism	
	Gunflintia minuta	Barghoorn 1965	31	Throughout fossiliferous zones of Gunflint Formation	Gunflint Formation	+ APHEBIAN	Harvard University, Paleobot. 58263 (type)	Comparable to filamentous blue-green algae and bacteria					■	Cyanophyta (Myxophyceae), Nostocinales	Comparable to filamentous iron bacteria, e.g., Sphaerotilus (Leptothrix). Fungal hyphae
	Gunflintia grandis	Barghoorn 1965	31	Throughout fossiliferous zones of Gunflint Formation	Gunflint Formation	+ APHEBIAN	Harvard University, Paleobot. 58256 (type)	Comparable to filamentous blue-green algae and bacteria					■	Cyanophyta (Myxophyceae), Nostocinales	
	Huroniospora microreticulata	Barghoorn 1965	31	Throughout fossiliferous zones of Gunflint Formation	Gunflint Formation	+ APHEBIAN	Harvard University, Paleobot. 58264 (type)	Of diverse origin; algae, bacteria, spores					■	Problematic organic structures, probably of diverse origins	Fungal spores; possibly Myxophyceae, Order Croococcales; or dinoflagellates
	Huroniospora macroreticulata	Barghoorn 1965	31	1.2 km WNW of Kakabeka Falls, Ontario 48° 24'22"N 89° 38'11"W	Gunflint Formation	+ APHEBIAN	Harvard University, Paleobot. 58266 (type)	Of diverse origin; algae, bacteria, spores					■	Problematic organic structures, probably of diverse origins	
	Huroniospora psilata	Barghoorn 1965	31	1.2 km WNW of Kakabeka Falls, Ontario	Gunflint Formation	+ APHEBIAN	Harvard University, Paleobot. 58267 (type)	Of diverse origin; algae, bacteria, spores					■	Problematic organic structures, probably of diverse origins	
	Kakabekia umbellata	Barghoorn 1965	31	1.2 km WNW of Kakabeka Falls, Ontario 6.4 km W of Schreiber, Ontario	Gunflint Formation	+ APHEBIAN	Harvard University, Paleobot. 58290 (type)	Problematic organism; of Coelenterata					■	Problematic organism	Resembles some modern problematic ammonia-obligate organism
	Palaeorivularia ontarica	Korde 1958 (Tyler and Barghoorn 1954)	31	1.2 km WNW of Kakabeka Falls, Ontario	Gunflint Formation	+ APHEBIAN	Harvard University, Paleobot. (type is damaged)	Alga resembling Rivulariaceae					■	Blue-green algae or bacteria; with diffusion halos	
	Coccoid bacteria	Schopf et al. 1965	31	6.4 km W of Schreiber, Ontario	Gunflint Formation	+ APHEBIAN	Illustrations in publication	Comparable to some iron bacteria; e.g., siderocapsa and siderococcus					■	Bacteria	
	Rod-shaped bacteria	Schopf et al. 1965	31	6.4 km W of Schreiber, Ontario	Gunflint Formation	+ APHEBIAN	Illustrations in publication	Comparable to some iron bacteria; e.g., sphaerotilus natans					■	Bacteria	
	Actinomycetes	Jackson 1967	67	NE corner of Wells Tp., Ontario; 46° 26'18"N 83° 20'05"W E central part of Tp. 169, Ontario, 42.5 km N of Blind River	Gowganda Formation	+ APHEBIAN	Illustrations in publication	Actinomycetes and other bacteria					□	Organisms, possibly contaminants	
	Eucaryotic nannofossils	Licari and Cloud 1968	25	Banff area, Alberta	Hector Formation	+ HADRYNIAN	None figured	Chlorophyta					■		
MICRO-PROBLEMATICA	Algal cell structures	Moore 1918	37	Kipalu Peninsula, Belcher Islands, N. W. T. (Hudson Bay)	Kipalu Iron-Formation	+ APHEBIAN	Not known	Comparable to blue-green algae (Coccogoneae and Hormogoneae)				▲		Algal or inorganic	
	Microspherulitic structures	LaBerge 1967	37, 41	Broomfield Island, Belcher Islands, N. W. T. (Hudson Bay), 55° 43'40"N 79° 10'50"W. Lake Albanel, Quebec	Kipalu Iron-Formation; Temiscamie Formation	+ APHEBIAN	GSC 24379 G. L. LaBerge, private collection	Organic		▲				Chemical; diagenetic or metamorphic	
	Protozoans	Madison 1957	34	Road cut 1.3 km NW of Schreiber, Ontario 48° 49'18"N 87° 16'43"W	Keewatin	+ ARCHAEAN	K. M. Madison, private collection	Protozoans		▲				Chemical; alteration of iron minerals	
STROMATOLITES	Archaeozoon acadiense	Matthew 1890	54	NW tip of Green Head Peninsula, near Saint John, New Brunswick 45° 16'46"N 66° 07'57"W	Ashburn Formation (Green Head Group)	? HELIKIAN	GSC 24383, a; 24384; outcrop photos; New Brunswick Museum	Protozoan resembling Cryptozoon					●	Deformed, branching columnar stromatolite	
	Archaeozoon septentrionale	(Fenton and Fenton 1939)	13	Small island in Marian Lake, 115 km NW of Yellowknife, N. W. T. 62° 59'02"N 116° 17'45"W	Snare Group	+ APHEBIAN	Princeton University 24011; outcrop photos GSC 24408	Stromatolite					●	Deformed, branching columnar stromatolite	
	Cryptozoon walcotti	Rothpletz 1916 (?Walcott 1912)	29	Steep Rock Lake, Ontario	Steeprock Group	?+ ARCHAEAN	GSC 8059 f; 24385, a	Stromatolite					●	Deformed, branching to laminar stromatolite	
	Other stromatolites	Many authors	See Fig. 2	Many locations	Many formations	+ ARCHAEAN — — — — — + PHANEROZOIC	GSC (plant types) 13131 - 13136; Outcrop photos; Peabody Museum; other museums	Stromatolites				×	○ ●	Many types of stromatolites	Diffusion bands; tectonic; soft sediment deformation

Published, 1970

Printed by the Surveys and Mapping Branch

Figure 1. Summary of Precambrian remains in Canada.

Data compiled by H. J. Hofmann, 1968

To accompany GSC Bulletin 189, by H. J. Hofmann