

Era	Period	Epoch	NORTHWESTERN ALASKA	CHANDALAR-KOYUKUK REGION	CANNING RIVER REGION	PORCUPINE VALLEY REGION	EAGLE-CIRCLE DISTRICT	
			P. S. Smith and J. B. Mertie, jr., this report.	J. B. Mertie, jr., U. S. Geol. Survey Bull. 773, pp. 215-263, 1925.	E. de K. Leffingwell, U. S. Geol. Survey Prof. Paper 109, 1919.	E. M. Kindle, Geol. Soc. America Bull., vol. 19, pp. 315-338, 1908.	J. B. Mertie, jr., U. S. Geol. Survey Bull. in preparation.	
CENOZOIC	Quaternary	Recent	Sand, gravel, silt, and ice wedges or masses of fluvial, marine, glacial, and lacustrine origin laid down on the land and in the shallow waters off the coast.	Sand, gravel, and silt, dominantly laid down on flood plains of present streams and on their valley slopes. Detritus derived through glaciation and attendant processes and widely distributed through these processes.	Sand, gravel, silt, mud, and ice wedges, of marine, fluvial, and composite origin. Glacial and related deposits extending from Pleistocene to present.	Not described though obviously present.	Sand, gravel, silt, and mud, dominantly of fluvial origin.	
		Pleistocene						
	Tertiary	Pliocene	Nonindurated stratified slate-colored or ash-colored calcareous sediments near mouth of Colville. Formerly treated as upper part of "Colville series."	Sedimentary deposits not recognized. Basaltic lavas and intrusive rocks.	Shale, near Collinson Point and in adjacent part of Camden Bay region. Slightly consolidated. Fossils indicate temperate climate.	Successive basaltic lava flows with intervening accumulations of soil and forest growth.	Basic intrusive and effusive rocks.	
MESOZOIC	Cretaceous	Miocene	Conglomerate, sand, and shale, dominantly of terrigenous origin, containing small coal beds. Poorly consolidated except in Kobuk Valley.		Sandstone at Peard Bay. Fairly hard gray-green sandstone. Little deformed. No fossils found in these rocks.	Soft shale and marl with lignite beds. In places show dips of 20°		
		Eocene						
		Upper	Sandstone and shale of marine origin with some bentonite beds near top. Dominantly sandstone and shale of terrigenous origin with numerous thick coal beds. Sandstone and shale principally of marine origin.	Sandstone, shale, and conglomerate, thoroughly indurated and considerably folded and faulted.	Not recognized.		Eocene and Upper Cretaceous rocks. (Sandstone, graywacke, shale, grit, and conglomerate. Principally of nonmarine origin.)	
	Jurassic	Lower	Sandstone and shale with minor beds of grit. Marine. Universally much deformed. Massive conglomerate member near base.	[Shale, sandstone, and conglomerate forming Koyukuk group in region to the south.]				Slate and sandstone typically developed along Yukon River near mouth of Kandik River.
		Upper	Sedimentary representatives believed to be absent throughout northwestern Alaska but possibly present as Corwin formation in Lisburne region.	Jurassic sedimentary rocks not recognized and probably absent. Batholiths of granodiorite and related rocks possibly intruded during this interval.	Ignek formation (Jurassic?). (Black shale with some sandstone and coal beds. In part marine; in part terrigenous deposits.) Granitic intrusions of uncertain age.	No Mesozoic sedimentary beds recognized.	Jurassic sedimentary rocks not recognized and probably absent. Batholiths of granitic rocks probably intruded during this interval.	
		Middle						
	Triassic	Lower	Unknown anywhere in Alaska.		Kingak shale (Lower? Jurassic). (Black shale with marine fauna.)			
		Middle	Unknown anywhere in Alaska except from a single piece of float found in Seward Peninsula.	No Triassic rocks recognized.	Shublik formation. (Dark limestone, shale, and sandstone. Abundant marine fauna. Equally deformed with Paleozoic rocks.)		Shale and thin-bedded limestone.	
		Upper	Chert, limestone, and shale. Marine. Highly deformed.		Not recognized and probably absent.		Not recognized and probably absent.	
	PALEOZOIC	Carboniferous	Permian	Not recognized in region but may be present and overlapped by later rocks of Mesozoic age.	Not recognized.	Sadlerochit sandstone. [Originally assigned to Pennsylvanian but now regarded as Permian.]	Shale overlying limestone. [Both originally called "Upper Carboniferous." Fossils from limestone later determined to be Permian.]	Massive white limestone of Nation River.
			Pennsylvanian			Greenstone intrusive and effusive rocks.		Sandstone, shale, grit, and conglomerate of Nation River. Principally nonmarine.
			Upper Mississippian	Lisburne limestone, of marine origin. (Limestone and chert)	Limestone in remote parts of Brooks Range, not critically examined.	Lisburne limestone. (Dark limestone at base overlain by light-gray limestone containing abundant fossils and some chert.)	Limestone and shale resembling similar series at Calico Bluff.	Limestone and shale of Calico Bluff, along Yukon River.
Devonian		Lower Mississippian	Noatak formation. (Sandstone and shale, principally of marine origin but contains small coal beds. Includes chert conglomerate formerly called Stuver "series.")	Upper Devonian or Mississippian rocks, not separated. (Chert, quartzite, calcareous black shale, impure limestone, and cherty grit.)		Quartzite, sandstone, and shale, carrying fossil plants.	Shale and chert typically developed at N. end of Calico Bluff. Rampart group, basic lava, slate, and chert.	
		Upper	Sandstone, grit, and shale.		Black shale with subordinate beds of sandstone. Complexly folded and faulted.	Brown shale with some basic lava flows.	Not recognized as sedimentary rocks. Ultrabasic intrusives possibly injected during this interval.	
		Middle	Not specifically identified but probably present and included with the general group of Devonian rocks.	Slate and sandstone with thin limestone layers. Contains fauna of limestone at mouth of Salmontrout River.		Salmontrout limestone. (Light-gray to blue, weathering to buff.) No angular unconformity at base.	Chert, cherty grit, and slate, along international boundary. Basic volcanic rocks with interbedded limestone exposed at Woodchopper, on the Yukon. Limestone on international boundary containing Salmontrout fauna.	
PALEOZOIC	Silurian	Lower	Not recognized anywhere in Alaska and probably absent in this region.	Not recognized; probably absent.		Missing.	Missing.	
		Upper	Slate, schist, and metamorphic limestone designated undifferentiated Silurian rocks.	Silurian limestone. Crystalline and semi-crystalline limestone and dolomite.		Graptolitic shale overlying magnesian limestone and dolomite which carries Niagara fauna.	Limestone, slate, and related rocks.	
	Ordovician	Upper					Limestone of White Mountains. Massive limestone.	
		Middle				Not recognized.	Early Silurian not recognized and possibly absent	
		Lower	Early Paleozoic or older rocks: Quartzite, quartzite schist, quartz-mica schist, calcareous schist, carbonaceous schist, chloritic schist, phyllite, hornblende schist, albite schist, interbedded crystalline limestone, and undifferentiated basic volcanic rocks of greenstone habit. Includes part of former "Totson series" of John River region and certain of the so-called "undifferentiated schists" of the Kobuk and Noatak Valleys. At least one strongly indicated unconformity is present, and doubtless others occur but have not been distinguished.	Early Paleozoic rocks, consisting of mica schist, phyllite, carbonaceous schist, gneiss, and basic igneous rocks of greenstone habit. Includes rocks formerly called "Rapids schist" and "Lake quartzite schist"; these names subsequently abandoned.	Neroukpuk schist. (Quartzite and quartzite schist, with some conglomeratic beds.) Metamorphism intensely greater than in any of the other rocks. Contacts with other rocks apparently in all places fault contacts. Two belts of schist discriminated in field but this division not retained in report and both described as unit of pre-Carboniferous age.	Hard bluish-gray limestone with a few oolitic bands. Contains fossils of Mohawkian age.	Limestone along international boundary and in Ruby district. Richmond fossils. Calcareous tuff underlain by basaltic lavas and tuffs, in White Mountains. Mohawkian (?) fossils.	
	Cambrian	Upper					Limestone and graptolitic slate, along international boundary. Normanskill fossils.	
Middle						Argillite and slate of White Mountains. Beekmantown fossils.		
Pre-Cambrian (?)	Lower					Limestone along international boundary. Upper Cambrian.		
						Limestone along international boundary. Massive limestone, underlain by argillite and thin-bedded limestone, Yukon River below Eagle. Middle and Lower Cambrian.		
			Quartzite schist and quartzite (Birch Creek schist?).			Red beds, probably underlain by graywacke, conglomerate, argillite, and phyllite.		
						Quartzite, quartzite schist, quartz-mica schist mica schist, carbonaceous and calcareous schist, sericite and chlorite schist, hornblende schist, amphibolite, and granitic gneiss.		

CORRELATION TABLE OF GEOLOGIC FORMATIONS IN NORTHWESTERN ALASKA AND ADJACENT REGIONS