

COLUMNAR SECTION OF THE SIKSIKPUK FORMATION,
GRAY MOUNTAIN, WISEMAN (D-3) QUADRANGLE,
NORTHCENTRAL BROOKS RANGE, ALASKA

LAT 67°56'18" N., LONG 151°15'12" W.

EXPLANATION

ROCK TYPES

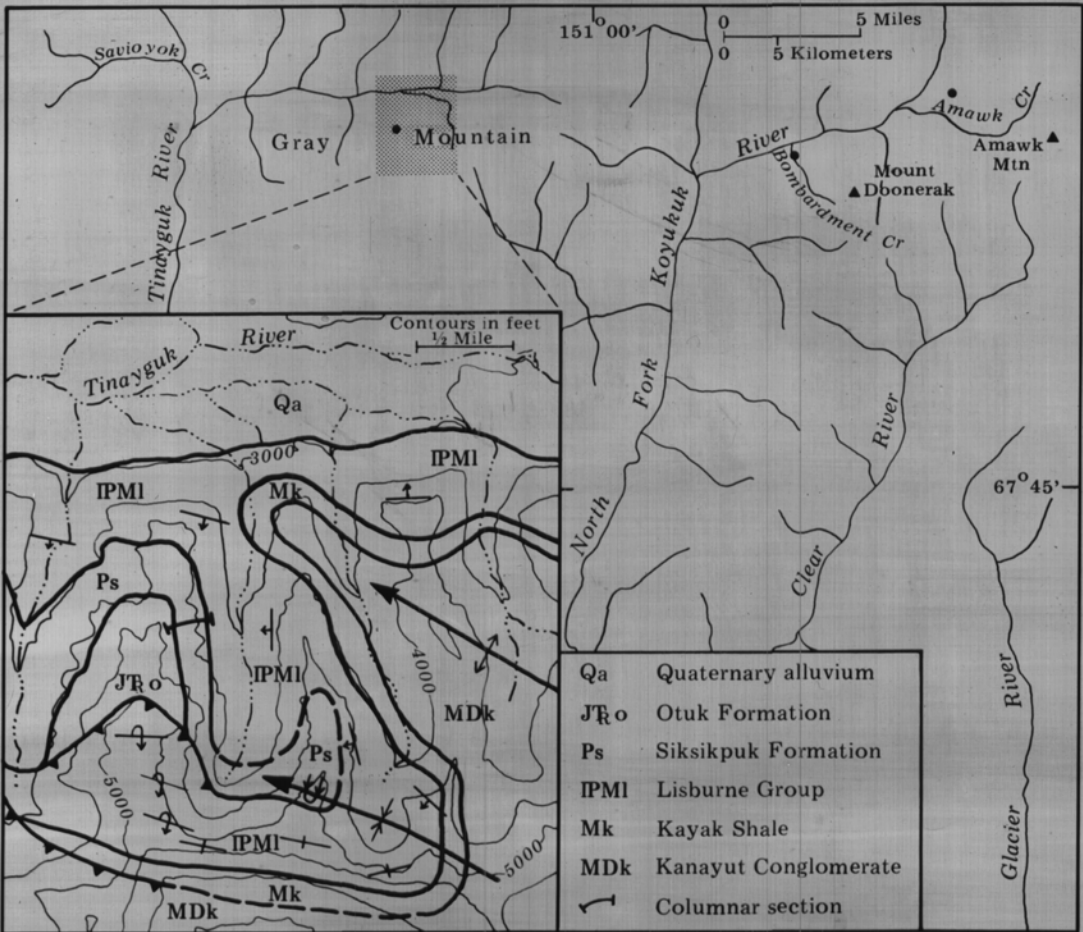
- Sandy siltstone — Sandy metasiltstone
- Siltstone — Metasiltstone
- Silty shale — Silty slate
- Shale — Slate
- Shaley chert — Slaty chert
- Chert

STRUCTURES

- Wispy lamination
- Concretion, nodule, or pebble — May be combined with other symbols. Filled where indeterminate
- Vein — May be combined with other symbols
- Shear zone
- Fault — Arrows indicate direction of relative movement

MINERALS

- Barite
- Dolomite
- Pyrite
- Phosphate
- Quartz
- FOSSILS
-
- Foraminifera
- Radiolarian
- Ophiomorpha
- Burrow



STRIKE N.30°W., DIP 20°SW. BELOW FAULT
STRIKE N.50°W., DIP 10°SW. ABOVE FAULT
VERTICAL SCALE 1 INCH = 4 METERS

SERIES	STAGE	GROUP	FORMATION	INFORMAL LITHO- STRATIGRAPHIC UNIT	THICKNESS, IN METERS	LITHOLOGY	SAMPLE NUMBER	FOSSILS	DESCRIPTION
Upper Permian(?)	Guadalupian(?)			D	75		84AKA17-23	⊗?	SLIGHTLY METAMORPHOSED SHALE, medium-green-gray and medium-gray to black, darkening upsection, medium-green-brown- and red-brown-weathering. Lower half of unit contains abundant chert, cubic pyrite, and rare barite crystals. Carbonaceous(?) matter is present in trace amounts throughout unit. Poorly preserved calcareous foraminifera have been recovered (Chevron U.S.A. Inc., written commun., 1985), and radiolarians(?), altering to barite(?), have been observed in thin section. Bedding obscured by pervasive slaty cleavage. Base of unit breaks with hackly fracture. Vitritine reflectance (R _v) values determined for unit average 3.58, and thermal alteration index (TAI) ranges from 3.8 to 4 (Chevron U.S.A. Inc., written commun., 1985), suggesting rocks reached lower limit of metamorphism. Contact with overlying Otuk Formation covered with tundra
					70		84AKA17-22		
Lower Permian(?)					65		84AKA17-21		SLIGHTLY METAMORPHOSED SHALEY CHERT AND MINOR INTERBEDDED SHALE. Chert is dark gray to black and weathers gray green with white and black laminations. Contains pyrite and rare barite and quartz veins. Chert beds vary from 2 to 10 cm thick and are wispy laminated; shale intervals average 2 to 3 cm thick. Radiolarians(?) are present in chert beds but recrystallized. Unit is cleaved throughout and exhibits spiky fracture. Change of bedding attitude at about 32 m may indicate small-scale reverse fault. Thermal alteration index (TAI) determined for unit ranges from 3.8 to 4 (Chevron U.S.A. Inc., written commun., 1985), suggesting rocks reached lower limit of metamorphism. Contacts within unit are smooth and sharp; contact with overlying unit D is gradational
					60		84AKA17-20		
Lower Permian(?)	Leonardian(?)	Etivluk	Siksikpuk	C	55		84AKA17-19	⊗? Poorly preserved, calcareous	SLIGHTLY METAMORPHOSED SHALE. Same lithology as underlying unit B ₁ , except finer grained and speckled with limonite. Upper contact covered with siliceous rubble from unit C
					50		84AKA17-18	✱?	
Lower Permian(?)					45		84AKA17-17		SLIGHTLY METAMORPHOSED SILTY SHALE, medium- to dark-gray, weathering in red to orange-brown and green-gray to black bands 5 to 40 cm wide; pyrite concentrated in red bands. Beds obscured by cleavage and joints, but wispy lamination and bedding parallel and oblique burrows (0.5 to 1 cm diam) preserved. Foraminifera(?) are present but highly deformed and altered. Silty shale breaks with splintery fracture. Unit fines upward into shale of unit B ₂
					40		84AKA17-16		
Lower Permian(?)					35		84AKA17-15		SLIGHTLY METAMORPHOSED SANDY SILTSTONE GRADING TO SILTSTONE, medium-gray, orange-brown-weathering, very dolomitic, cherty; contains cubic and nodular pyrite to 5 cm diam. At base, unit includes phosphate pebbles to 5 cm diam and traces of bioclastic carbonate grains. Beds are 5 to 10 cm thick and wispy laminated. Ophiomorpha is present but altered to pyrite. Unit pitted parallel to bedding surface, possibly due to pyrite dissolution, and cleaved. Siltstones break with hackly fracture. Contact with overlying unit B ₁ is gradational
					30		84AKA17-14	✱?	
Lower Permian(?)				B ₂	25		84AKA17-13		SLIGHTLY METAMORPHOSED CARBONACEOUS SILTSTONE, dark-gray to black, yellow-green- and red-brown- to red-orange-weathering, pyritic. Near contact, unit contains phosphate clasts(?) to 1 to 2 cm diam that are surrounded by pyrite. Beds are 5 to 10 cm thick, have undulatory surfaces, and break with blocky fracture. Cleavage is well developed throughout unit. Contact with overlying Siksikpuk Formation is undulatory; however, shear zone is present immediately below contact, which indicates some movement
					20		84AKA17-12	⊗?	
Lower Permian(?)					15		84AKA17-11		Section measured with Jacob's staff by K.E. Adams and E.E. Harris, July 1984.
					10		84AKA17-10	⊗?	
Lower Permian(?)	Wolfcampian(?)			B ₁	5				
					0		84AKA17-9 84AKA17-8 84AKA17-7 84AKA17-6 84AKA17-5	⊗?	
Upper Mississippian(?)		Lisburne	Kuna(?)	A				A	