EXPLANATION OF FIGURE 4A & B

In the descriptions below, colors are those of fresh, unweathered rocks. Grain sizes are as follows: fine, less than 1 mm; medium, 1-5 mm; coarse, more than 5 mm

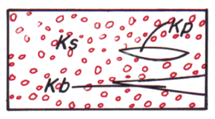
TERTIARY (?)

Serpentinite

Fine-grained, bright- to dark-greenish-gray, moderate- to dusky-yellow-green, and grayish-olive-green to greenish-black serpentinite. Intrudes strata of Middle Devonian to Late Cretaceous age

CRETACEOUS

Early to Late Cretaceous



Metaconglomerate and related rocks

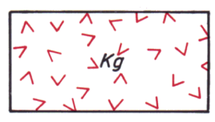
Ks, *coarse- to fine-grained, light-olive-gray to medium-dark-gray, weakly metamorphosed, sedimentary rocks, undivided; commonly pervasively sheared near underlying overthrust fault. Stretched quartz-pebble and quartz-cobble metaconglomerate characteristic, especially between Wesley Creek and Kogoluktuk River; metasandstone, phyllite and slate locally abundant, especially at western and eastern ends of mapped area. At Ferguson Peak and head of California Creek, rock immediately above overthrust fault consists of fine- to coarse-grained, grayish-red to grayish-green, slaty metaconglomerate characterized by extremely stretched and flattened pebbles and cobbles of greenschist associated with matrix and beds of grayish-green, olive-green, and grayish-red slate, phyllite, and metasiltstone. Similar reddish to greenish metaconglomerate exposed in comparable position west of Kollioksak Lake and west of summit of Cosmos Mountain. Conglomerate locally serpentinized at Cosmos Mountain within 1 foot of intrusive serpentinite*

Kb, *mainly extrusive, fine-grained, greenish-gray, weakly metamorphosed, locally amygdaloidal basalt; subordinate, possibly intrusive, medium-grained diabase, and porphyritic basalt(?) characterized by altered plagioclase phenocrysts. Boundaries of map units generalized*

Kp, *fine-grained, medium-dark-gray phyllite; mapped only near Wesley Creek to emphasize trend of bedding, but similar rock common elsewhere in unit* Ks, *especially at western and eastern ends of mapped area*

UNCONFORMITY

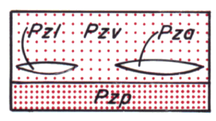
Early Cretaceous



Granite

Medium- to coarse-grained, very-light-gray, gneissic, albite granite characterized by pinkish-gray microcline phenocrysts or porphyroblasts as much as 1 inch in diameter. Intrudes and contains xenoliths of adjacent schist, Pzs

Middle Devonian (?)



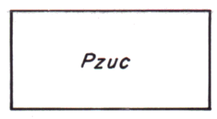
Metabasalt and related rocks

Pzv, *mainly fine- to medium-grained, greenish-gray metatuff and metabasalt; metabasalt locally amygdaloidal and pillow-bearing; agglomeratic in eastern part of R. 10 E. Fine-grained, greenish-gray to medium-dark-gray, thinly bedded, tuffaceous to quartzitic phyllite locally abundant, especially west of Kogoluktuk River. Unit also includes minor unmapped limestone*

Pza, *medium- to coarse-grained, greenish-gray metamorphosed agglomerate or volcanic conglomerate consisting of fragments of metabasalt as much as 10 inches long set in greenish- to light-olive-gray, tuffaceous to phyllitic-looking matrix; fragments lithologically similar to underlying amygdaloidal metabasalt and much less sheared than fragments in overlying metaconglomerate*

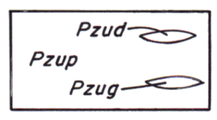
Pzl, *fine- to medium-grained, medium-light-gray, thinly bedded limestone; some beds characterized by clastic texture and contain fragments of crinoid stems 1-10 mm in diameter, especially at Ferguson Peak*

Pzp, *fine-grained, medium-dark-gray phyllite and quartz-rich metasedimentary rocks with interlayered greenish-gray metatuff; includes thinly bedded tuffaceous phyllite lithologically similar to parts of overlying unit,* Pzv



Upper carbonates

Fine-grained, light-gray, thinly to thickly bedded carbonates, including limestone and possible dolomite. Poorly exposed, and not studied in detail



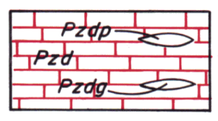
Upper phyllite and related rocks

Pzup, *fine-grained, medium-dark-gray phyllite, with subordinate greenschist and possibly carbonate*

Pzud, *fine-grained, light-gray, thinly bedded limestone north of Serpentine Creek and poorly bedded, fossiliferous, dolomitic limestone south of creek. Boundaries of map units generalized*

Pzug, *fine-grained, greenish-gray greenstone and greenschist. Origin and age uncertain; may represent intrusive metadiabase or extrusive metabasalt or metatuff. Believed to reflect volcanism contemporaneous with Devonian sedimentation*

Middle Devonian



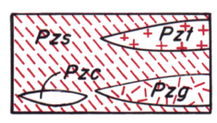
Main dolomitic limestone and related rocks

Pzd, *mainly fine- to medium-grained, light- to very-light-gray, thinly bedded limestone and fine-grained, medium- to very-light-gray, thinly to thickly bedded dolomite. Locally fossiliferous. Dolomitic reef breccia present in several places and abundant near Pardners Hill, Lone Mountain and Bornite; cupriferous near Pardners Hill and Bornite. Light-weight lines at Aurora Mountain indicate approximate outlines of mappable dolomitic stratigraphic units, including thick reef breccia. Similar east-trending line near Bornite marks approximate base (southern edge) of main zone of dolomitic rocks, including reef breccia; thinly bedded limestone abundant below (to south). Medium-grained, white, tremolite-bearing marble characteristic near Shungnak River. Formation also contains subordinate unmapped phyllite and greenschist*

Pzdp, *fine-grained, medium-dark-gray phyllite, with subordinate greenschist*

Pzdg, *fine- to medium-grained, greenish-gray greenstone and greenschist. Near Bornite, rock is intrusive metadiabase forming sill-like bodies. Age uncertain, but rock believed to reflect volcanism contemporaneous with Devonian sedimentation*

Middle Devonian or older



Phyllitic schist and related rocks

Pzs, *mainly fine- to coarse-grained, medium-gray to medium-dark-gray pelitic rocks ranging from highly carbonaceous phyllite to muscovite schist, with interbedded metagraywacke or impure quartzite. East of Dahl Creek, metamorphic grade increases toward granite,* Kg. *Where most metamorphosed, pelitic rocks are characterized by red garnet and nearly black, carbonaceous albite porphyroblasts 1-10 mm in diameter. West of Jay Creek fault, metamorphic grade increases toward Shungnak River, where pelitic rocks are characterized by similar albite porphyroblasts. Unit also contains small unmapped bodies of impure crystalline limestone, and moderate amounts of greenschist and greenstone similar to rocks described below. Unmapped greenschist most abundant west of Cosmos Creek*

Pzc, *mainly fine- to medium-grained carbonate rocks ranging from medium-light-gray, thinly bedded limestone in central part of mapped area to nearly white, micaceous, tremolite-bearing marble at upper canyon of Shungnak River; marble also exposed near west edge of sec. 11, T. 18 N., R. 10 E. Subordinate greenschist and phyllite, especially near Shungnak River*

Pzt, *mainly fine- to medium-grained, greenish-gray, well foliated, porphyroblastic actinolite schist (metatuff) characterized by numerous white to creamy albite porphyroblasts 1-5 mm in diameter. Map unit generalized; contains interlayered muscovite- and quartz-rich metasedimentary rocks*

Pzg, *mainly fine- to medium-grained, greenish-gray, tough, blocky or slabby to thinly layered greenstone, with interlayered greenschist similar to* Pzt. *Primarily a mixture of intrusive metadiabase, possible extrusive metabasalt, and probable metatuff. Map units generalized; may include subordinate quartz-muscovite schist, impure quartzite, impure crystalline limestone, tremolite-muscovite schist, and black amphibolite. Light-weight lines in large map unit near Black Rock Ridge indicate approximate boundaries of massive greenstone layers separated by thin layers of black amphibolite or other well foliated rock. Typical greenstone contains garnets 1-10 mm in diameter near Black Rock and Crescent Ridges. Near summit of Black Rock Ridge, massive probably intrusive greenstone, characterized by stubby black hornblende porphyroblasts, contains large inclusion of thinly bedded, light-gray, crystalline limestone*

PALEOZOIC

A

Albite porphyroblast locality

G

Garnet locality

Microscopic crystals in quartzite within greenstone near head of Harry Creek; porphyroblasts at other localities

Contact

Long-dashed where approximately located; short-dashed where inferred; queried where position, nature or extent of contact uncertain. Discordances between contacts and bedding are discussed in the text

U D High-angle T Low-angle

Faults

Long-dashed where approximately located; short-dashed where inferred; queried where position, nature or extent of contact uncertain. U, upthrown side; D, downthrown side. T, upper side of low-angle overthrust fault

20 Inclined, showing dip

Horizontal

Bedding

15 Inclined foliation, showing dip

C FA 30 Lineation

Mineral lineation or lineation of stretched clastic fragments, unless otherwise designated; C, crenulations; FA, fold axes; number indicates plunge. May be combined with bedding and foliation symbols

80 Inclined joint, showing dip

Pillow structure

Short bar shows top direction; long bar shows approximate trend of pillow-bearing zone

15 Anticline, showing plunge

Shaft

Adit

Trench

Group of trenches

Prospect

Placer mine

Fossil locality

Camp site

FIGURE 4-C