Unit	Lithology	Thickness (feet)	Height Above Base (feet)
1	Mudstone, grey, gypsiferous with numerous bands of white selenite averaging 3 to 5 mm in thickness; poorly exposed	12	12
	No further exposure; unit is probably near base of Saline River Formation?		

SECTION MQ-3. BEAR ROCK, FRANKLIN MOUNTAINS (96C)

Located in Franklin Mountains, on south-facing flank of Bear Rock; section measured in gully about 500 feet above Mackenzie River and approximately 2 miles west of confluence of Great Bear River and Mackenzie River, and approximately 4 miles due south of Bear Rock (elevation 1,488 ft.); Latitude 64°55'N, Longitude 125°41'W; aerial photograph A12033-48; base of section at photo co-ordinates X=+8.5, Y=+8.6; top of section at photo co-ordinates X=+7.9, Y=+7.8. Measured and described by R.W. Macqueen with W.S. MacKenzie, June 4, 1968 through Franklin Mountain Formation (rhythmic and cyclic units; only lowest beds included here), and Saline River Formation.

PHANEROZOIC

PALEOZOIC

UPPER CAMBRIAN

Franklin Mountain Formation, cyclic unit.....145 feet (44 m)

Saline River Formation.....110 feet (34 m) (incomplete)

Unit	Lithology	Thickness (feet)	Height Above Base (feet)
	Franklin Mountain Formation, cyclic unit (Upper Cambrian)		
1	Dolomite, very finely crystalline, containing stromatolites, or flat-pebble conglomerates with wafer-like pebbles showing diverse fan-like orientations, or structureless; interbedded with argillaceous dolomite to dolomitic shale, papery to platy weathering, recessive; sharp lower contacts, upper contacts normally gradational. The four distinct types of dolomite tend to recur upward within the succession, in a cyclic, ABCD pattern (*see* Macqueen, 1969). Unlike exposures in the Norman Range, approximately 1 in 10 dolomite beds is extensively brecciated and calcite-veined (?solution breccia). Total thickness of cyclic unit	145	145
	Contact covered		

Unit	Lithology	Thickness (feet)	Height Above Base (feet)
	Saline River Formation (Upper Cambrian)		
2	Covered interval	35	110
1	Mudstone, gypsiferous, red to pale or dark reddish brown, thin bands of white or delicate pink selenite; local greyish green to moderate yellow-green zones (bands?); much contortion, jointing, and small-scale faulting. From 60' to 70' above base, dolomite interbeds 2 to 5 cm thick occur; highly fractured; local quasi-flexural folding	75	75
	End of exposure. Talus below unit 1 consists of gypsiferous red and green mudstone.		

SECTION MQ-6. DODO CANYON, CARCAJOU RANGE (96D)

Located along Dodo Creek, in Carcajou Range, Mackenzie Mountain Front, on northeast limb of broad anticline; base of section approximately 1 1/2 miles downstream from junction of Echo Creek and Dodo Creek (locality is type section of Macdougal Group as described by A.W. Nauss, 1944, *in* Hume, 1954, p. 10); Latitude 64°57'N, Longitude 127°16'W; aerial photograph A12147-16; base of section at photo co-ordinates X=-5.1, Y=-3.6, top of section at photo co-ordinates X=-2.8, Y=+4.5. Measured and described by R.W. Macqueen assisted by R.D. Cruickshank, June 8, 1968; from Franklin Mountain Formation cyclic unit through Saline River and Mount Cap Formations to "Dead End Shale" sub-unit of unnamed Helikian map-unit H5. Fossil collections identified by W.H. Fritz (GSC locs. C1762, C1763: GSC internal report C10-1968-WHF. GSC locs. 84275-84283; GSC internal report C14-1969-WHF). Top of "Dead End Shale" sub-unit in unnamed Helikian map-unit H5, section U-12, = top of unit 3 in section MQ-6.

PHANEROZOIC

PALEOZOIC

UPPER CAMBRIAN

Franklin Mountain Formation, cyclic unit.....basal beds only

Saline River Formation.....421 feet (128 m)

(Unconformity)

LOWER AND MIDDLE CAMBRIAN

Mount Cap Formation.....329-354 feet (100-108 m)

(Unconformity)

PROTEROZOIC

HELIKIAN?

Unnamed map-unit H5
"Dead End Shale" sub-unit.....193-218 feet (59-66 m) (incomplete)

Top	Unit	Lithology	Thickness (feet)	Height Above Base (feet)
		Franklin Mountain Formation, cyclic unit (Upper Cambrian)		
0	2	Dolomite, calcareous, finely crystalline, grey, weathers pale yellowish brown	3	6
3	1	Dolomite, very argillaceous, greyish green, papery to platy weathering, recessive	3	3
		Contact conformable with overlying cyclic unit of Franklin Mountain Formation; contact between cyclic unit and underlying beds on a regional scale is arbitrarily placed at top of highest red mudstone or shale, which is unit 10 of the Saline River Formation, this section. Overlying beds of cyclic unit contain alternations of argillaceous dolomite, flat-pebble dolomite conglomerates, and stromatolitic dolomite.		
		Saline River Formation (Upper Cambrian)		
6	10	Shale, distinctive red to dark reddish brown, papery to platy weathering; sharp upper contact	8	421
14	9	Covered interval. Appears to be underlain by gypsum and moderate red mudstone and/or shale, similar to units in upper part of Saline River Formation of Norman Range (Section MQ-2) (massive)	150(approx.)	413
114	8	Gypsum, banded with black argillaceous and bituminous(?) material; mudstone, moderate red, appears to occupy this interval also	5	263
169	7	Covered interval (massive)	40	258
209	6	Gypsum, mostly fibrous selenite crystals, some argillaceous banding, much contorted	5	218
214	5	Covered interval (massive)	60	213
274	4	Gypsum, grey to white, prominent banding consisting of alternating argillaceous seams and gypsum; much contorted	20	153
294	3	Covered interval	30	133

Note: Unconformity below 144

Top	Unit	Lithology	Thickness (feet)	Height Above Base (feet)
324	2	Gypsum, grey, weathering grey, banded and/or laminated, much contorted (passive flow folds); argillaceous; scattered selenite crystals, white to delicate pink. Approximately 80% covered; exposed interval is rubbly	63	103
387	1	Covered interval, probably underlain by gypsum, grey, weathering light grey. Probably belongs to Saline River Formation	40	40
		Contact with Mount Cap Formation covered.		
		(Unconformity) ??		
		Mount Cap Formation (Lower and Middle Cambrian)		
427	19	Shale, non-calcareous, greyish black to black, papery, in bands 1/2" to 6" thick, interbedded with limestone, dolomitic, micritic, dark grey, weathering brownish grey, with pelletoid grains, and very abundant pyrite replacing grains. Unit is recessive; contains about 70% shale, 30% limestone. Top 15' mostly limestone, partly dolomitized	45	354
		Section continued about 1,000' upstream on west side of Dodo Creek. Units 5 - 18 are exposed in small gully; beds here dip 10°E. Unit 18 is sharply overlain by Pleistocene sand and gravel of lateral moraine, at top of gully		
472	18	Shale, dark grey, weathering medium to dark grey, recessive; minor interbeds of dolomite, calcareous, grey, weathering yellowish brown. Unit approximately 90% shale, 10% carbonate	31	309
503	17	Limestone, micritic, slightly dolomitic, light to medium grey, weathers rusty medium grey to yellowish brown; interbedded with shale, calcareous, dark grey, weathering dark grey to rusty yellowish brown, plate. GSC loc. * 84283 (273 1/2 ft.): *Glossopleura?* sp.	5	278

503 278
508 273
2

Unit	Lithology	Thickness (feet)	Height Above Base (feet)
16	Shale, non-calcareous, very dark grey, papery, recessive; rare interbeds of micritic limestone, argillaceous, dark grey; a persistent unit. At 231': *Cambrotrypa* sp., aff. *Glossopleura* sp., *Micromitra* sp. (GSC loc. 84279); at 236': *"Albertella" levis?* Walcott, *Albertella* sp., *Cambrotrypa* sp., aff. *Glossopleura* sp. (GSC loc. 84280); at 243': aff. *Bathyuriscus* sp., *Glossopleura* sp. (GSC loc. 84281); at 252': aff. *Bathyuriscus* sp., *Glossopleura* sp., *Hyolithes* sp. (GSC loc. 84282)	61	273
15	Limestone, micritic, dolomitic, laminated, dark grey, weathers rusty yellowish orange; argillaceous laminae are permanent and indicate some reworking by infauna	9	212
14	Shale, dark brownish grey, weathers rusty yellowish orange, recessive, thin interbeds of dolomite as in unit 13	6	203
13	Dolomite, calcareous, dark grey, weathers rusty yellowish orange, abundant silt-size to very fine sand-size quartz; evenly laminated (1-2 mm), a few thin argillaceous partings	10	197
12	Shale, greyish green, recessive, interbedded with limestone, grey, weathering greenish grey, nodular	13	187
11	Sandstone, fine to medium grained, greyish green fresh and weathered surfaces; contains abundant very fine to coarse-grained glauconite grains or pellets, and limestone grains (rock fragments?). Numerous burrows and bottom markings preserved on basal bed, which indents underlying shale unit. Thin micritic limestone beds at 172' and 174', containing trilobites. At 172': *Amecephalus* sp., dolichometopid or zacanthoidid trilobite, *Micromitra* sp. (GSC loc. 84278); at 174': aff. *Albertella* sp., *Micromitra* sp. (GSC loc. C1763), both collections from Middle Cambrian *Albertella* Zone	5	174
10	Shale, greyish green, recessive; interbedded with limestone, micritic, grey, weathering greenish grey, nodular. At 167': *Albertella* sp., *Amecephalus* sp., cf. *Kochaspis chares* (Walcott) 1917, *Micromitra* sp., *Spencia* sp. (GSC loc. 84277), Middle Cambrian *Albertella* Zone	13	169

Unit	Lithology	Thickness (feet)	Height Above Base (feet)
	Remarks on fauna: Collections from GSC localities 84277 to 84283 and C1763 belong to the *Albertella* and *Glossopleura* Zones. The transition between the two zones is not abrupt, and the boundary is placed below the lowest collection (GSC loc. 84281) containing trilobites that can unquestionably be assigned to the genus *Glossopleura*.		
9	Sandstone, very fine to medium grained, calcareous, argillaceous, greyish green, in part nodular; interbedded with shale, greyish green, recessive. Top 6' of unit consist predominantly of micritic limestone, greyish green, argillaceous, quartzose. Unit slightly resistant	17	156
8	Sandstone, fine grained, greyish green, weathers prominent rusty yellowish brown, argillaceous, much evidence of reworking by infauna; bottom markings prominent on base of sandstone units indenting shales; thin to thick bedded. Minor interbeds of shale, greyish green, recessive; and micritic limestone, grey, containing trilobites. Top 6' of this unit comprise a massive, rusty weathering sub-unit, resistant. At 127': *Olenellus* sp., *"Paedeumias"* sp. (GSC loc. 84276), late Early Cambrian *Bonnia-Olenellus* Zone. Fritz (1970, p. 72) postulates an unconformity at 128' (321' *in* Fritz, 1970) based upon the apparent absence of the *Plagiura-Poliella* and early *Albertella* Zones in strata occupying the interval between 127' and 231' above the base of the section	16	139
7	Limestone, micritic, dark greyish green, weathers greyish green, recessive; contains abundant very fine to fine-grained glauconitic grains, and "floating" well-rounded fine- to coarse-grained quartz sand (mud supported). Glauconite is closely associated with, and partly replaced by, small pyrite euhedra; unit contains trilobites; interbedded with shale, greyish green, quartzose, calcareous, recessive. Unit is 40% limestone, 60% shale. Unit forms recessive notch on cliffside. At 116': *Onchocephalus* sp. (GSC loc. 84275); at 123': *Olenellus* sp. (GSC loc. C1762); both collections late Early Cambrian *Bonnia-Olenellus* Zone	14	123
6	Limestone, micritic, dolomitic, argillaceous, greyish olive-green, glauconitic and with scattered well-rounded, fine- to medium-grained quartz grains; thin bedded; interbedded		

Top	Unit	Lithology	Thickness (feet)	Height Above Base (feet)
		with sandstone, fine to medium grained, calcareous, weathers rusty yellowish orange, thin bedded; minor interbeds of shale, calcareous, papery weathering. Unit is about 85% limestone/sandstone, 15% shale	34	109
706	5	Limestone, micritic, dark grey, weathers rusty brownish grey to light yellowish grey, thin bedded; basal one foot contains abundant fine quartz grains, well rounded; skeletal fragments (trilobite?) in upper part; dolomite euhedra	13	75
719	4	Covered interval	28	62
747	3	Sandstone, generally coarse grained, pale olive to greyish olive, weathers same; locally rusty; abrupt changes vertically in grain size from fine to coarse grained; sharp contacts. Quartz arenite with well-rounded quartz grains; rare glauconitic grains	2	34
749	2	Dolomite, very finely crystalline, calcareous, argillaceous, dark grey, weathering greyish orange; thin to very thin bedded; minor interbeds of shale, calcareous, dark grey, papery. Unit is 80% dolomite	7	32
756	1	Covered interval; talus suggests similarity with overlying unit (marine)	25	25
		Contact with underlying unnamed Helikian unit is covered.		
		(Unconformity)		
		Unnamed map-unit H5 (Proterozoic, Helikian?)		
		"Dead End Shale" sub-unit		
781	6	Shale or mudstone, generally poor fissility; moderate red to dark reddish brown; contains abundant calcareous nodules; similar to unit 3. Unit is last prominent red mudstone exposed and was used as a marker to move approximately 3/4 mile upstream to resume section	5	193
786	5	Limestone, micritic, grey, weathering light grey to pale yellowish brown; thin bedded; interbedded with shale, calcareous, greyish green with local red zones; in part rusty weathering. Unit has a rhythmic character, and is slightly resistant. Limestones dominant in upper half of unit	49	188

Top	Unit	Lithology	Thickness (feet)	Height Above Base (feet)
835	4	Shale, calcareous, greyish green, weathering pale green with 4 thin, moderate red bands, 1/2' to 1' thick; contains poorly formed calcareous nodules, partly boudinaged; unit very thin bedded, recessive	9	139
844	3	Mudstone, moderate red to dark reddish brown; abundant well-formed calcareous nodules; thin greyish green zones, 2 to 5 cm thick; similar to unit 1	58	130
902	2	Limestone, micritic, argillaceous, dark grey; weathers dark grey; laminated, platy weathering, and slightly resistant. A sub-unit of red mudstone with scattered poorly formed calcareous nodules occurs from 13' to 17' above base of unit. Unit is thin to very thin bedded	25	72
927	1	Mudstone, moderate red to dark reddish brown, lacks fissility; abundant well-formed calcareous nodules about 1" to 1' in diameter, and occurring in discrete beds; concretions are boudinaged, and some show contortion in plane of bedding; minor zones of greyish green colouration which occur as colour mottling and cut across bedding; green zones locally have abundant pyrite; in bands to 1/2' thick; interbedded with shale, moderate red to dark reddish brown, fissile, non-calcareous. A band 1/2' thick of greyish green, platy-weathering shale occurs 30' above base of unit	47	47
974 (Bottom)		Lowest beds exposed in core of anticline at this locality. Beds below were sampled and described by Usher (section U-12, this report) at a locality upstream in Dodo Canyon, on west side of anticline.		
		Top of unit 3 of this section is equivalent to top of highest beds measured at section U-12 (this report).		

SECTION MQ-20. TRIBUTARY TO LITTLE HORNADAY RIVER (97A)

Located on Horton Plain, on north side of tributary to Little Hornaday River, about 6 miles from confluence of tributary creek with Little Hornaday River (indicated on GSC Map 5-1969, Erly Lake, 97A); Latitude 68°24'N, Longitude 120°53'W; aerial photograph A12813-452; base of section at photo co-ordinates X=-5.3, Y=-1.5; top of section at photo co-ordinates X=-4.4, Y=+2.4. Measured and described by R.W. Macqueen assisted by R.E. Moulton, July 13, 1968; from base of Franklin Mountain Formation cyclic unit through Saline River Formation and Mount Cap Formation, to uppermost beds of Old Fort Island Formation. Flat-lying.