

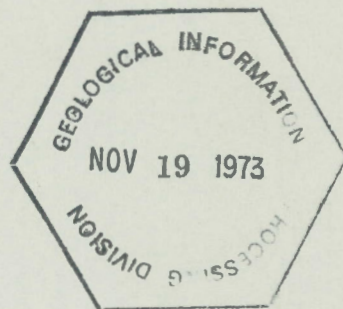
**GEOLOGICAL  
SURVEY  
OF  
CANADA**

**DEPARTMENT OF ENERGY,  
MINES AND RESOURCES**

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**MEMOIR 366**



**GEOLOGY OF  
FLAT RIVER, GLACIER LAKE, AND WRIGLEY LAKE  
MAP-AREAS, DISTRICT OF MACKENZIE  
AND YUKON TERRITORY**

**PART II: Measured Sections**

**H. Gabrielse, S. L. Blusson, and J. A. Roddick**

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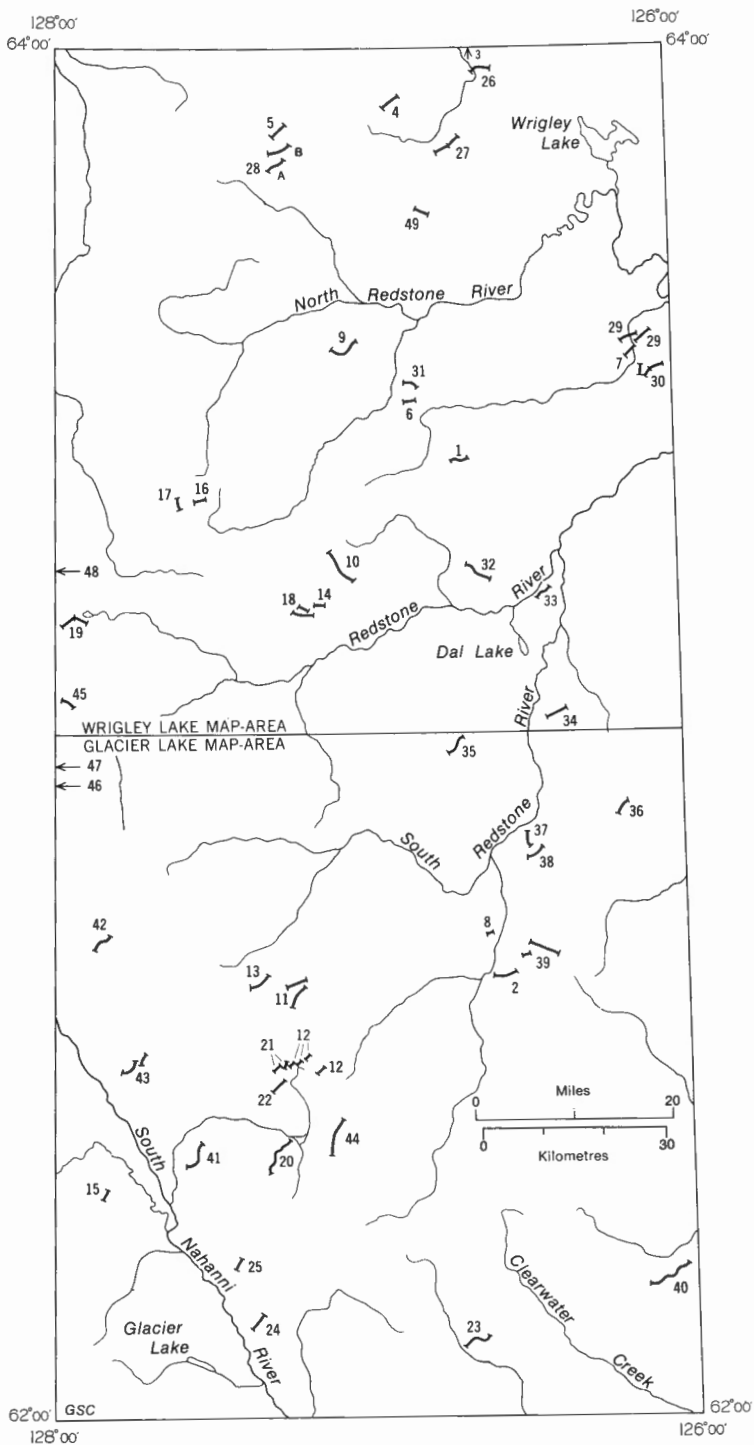


Figure 13. Index map showing locations of measured stratigraphic sections, Operation Nahanni.

## PART II

### INTRODUCTION

This volume presents descriptive data on 49 sections measured by members of 'Operation Nahanni' and supplements the report on the geology of the area which forms the first part of this memoir. It is illustrated by an index map and columnar sections.

### MEASURED SECTIONS

Section 1. Tsezotene Formation (type section).  
Along northeasterly trending creek, east flank of Tsezotene Range at lat. 63°24'N, long. 126°40'W. Four miles north of peak, elevation 7007 feet; Wrigley Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
TSEZOTENE FORMATION (type section)			
81	Quartzite, light grey, fine grained, some laminations of darker grey quartzite and green slate.	2	3600
80	Siltstone and very fine grained sandstone, argillaceous, micaceous, maroon, faintly laminated; minor light grey siltstone with dark maroon shale laminations, commonly mud-cracked.	45	3598
79	Quartzite and siltstone, white, fine grained.	3	3553
78	Argillite, red-purple to maroon.	67	3550
77	Dolomite, in part silty, light greenish grey, tan to brown weathering and pale green, cryptograined, faintly laminated tan-buff weathering.	3	3483
76	Interbedded maroon to red argillite, shale siltstone and dolomite; argillite, shale and siltstone are in part laminated; argillite weathers faint	40	3480

Unit	Description	Thickness (feet)	Total from base (feet)
76 (cont.)	light grey to purple; dolomite is partly pale purple, cryptograined, faintly laminated, buff-tan weathering and in part banded purple and light cream grey. At 3470, 2-foot bed of well laminated fine-grained black dolomite.		
75	Argillite, red to purple.	25	3440
74	Intercalated purple argillite and buff weathering dolomite; argillite is fissile to flaggy, dolomite is pale green and mostly very well laminated.	20	3415
73	Argillite, maroon, at 3370 and 3382, 2-3-foot beds of maroon and green thin-bedded quartzite, at 3372, 7-foot unit of dolomite, light green, crypto-to very fine grained, buff-brown to orange weathering, in 2 inch-1 foot laminated beds.	39	3395
72	Argillite, green; at 3338, 2-foot quartzite bed, medium green with dark green more argillaceous laminations, fine grained, laminated and flaggy; at 3340, 2-foot bed of buff weathering dolomite; at 3342, 1 to 2-foot bed of flaggy quartzite; at 3348, 3 feet of silty shale or siltstone; medium green, tan-brown weathering, faintly laminated, locally very silty and well laminated, medium brown, platy; at 3351, 1-foot bed of orange weathering dolomite.	21	3356
71	Dolomite, buff weathering, some thin beds of green argillite, platy to fissile.	20	3335
70	Argillite, maroon; at 3303, 2-foot bed of green argillite; at 3310, 3-foot bed of buff weathering dolomite.	15	3315
69	Siltstone and argillite, dark grey to green, has laminations of green micaceous slate; some maroon slate and buff dolomite; at 3295, 2-foot bed of buff weathering dolomite.	20	3300

Unit	Description	Thickness (feet)	Total from base (feet)
68	Dolomite, light greenish grey, cryptograined, silty and argillaceous, buff weathering, faintly laminated, platy at the base.	18	3280
67	Argillite, maroon, some thin beds of laminated quartzite; maroon, fine grained well laminated, has argillaceous laminations that are in part irregular; at base and top is a 2-foot bed of green argillite; at 3237, 3-foot bed of orange weathering dolomite.	47	3262
66	Dolomite, orange weathering, 1 1/2-foot massive bed at the top.	5	3215
65	Argillite, green.	5	3210
64	Dolomite and green argillite, some intercalated; minor dark to medium grey finely laminated shaly siltstone, has some light grey and dark grey argillaceous laminations and platy medium grey buff weathering cryptograined argillaceous dolomite.	17	3205
63	Argillite, green.	3	3188
62	Dolomite, medium to dark bluish grey, cryptograined, very fine faint lamination, buff-tan weathering, some light grey chert nodules; above 3182 mainly thin bedded, flaggy and locally finely laminated.	10	3185
61	Dolomite, argillaceous, light grey-green cryptograined, finely laminated, creamy buff weathering in part forms 6-inch to 1-foot massive beds; a few bands and thin beds of purple argillite; some light green, faintly laminated buffish weathering argillite with bands of maroon argillite.	30	3175
60	Argillite, purple, with several beds of orangish weathering dolomite a few inches thick; at 3110, 3-foot bed of green argillite; at 3085, 1-foot bed of	65	3145

Unit	Description	Thickness (feet)	Total from base (feet)
60 (cont.)	silty and sandy argillite and argillaceous sandstone; light grey, fine grained, with bands and laminations of green slate; sandstone weathers tan; overlain by band of green argillite.		
59	Slate and quartzite, purple to maroon, quartzite is argillaceous and has slate laminations, local 1- to 6-inch bands of orange weathering dolomite.	25	3080
58	Shale and argillite, purple; at top is 1 1/2 feet of green argillite.	19	3055
57	Argillite, purple; at 3019 and 3032, 2-foot beds of orange weathering, pale grey-green laminated cryptograined silty dolomite; at 3031 and 3034, 4-foot and 2-foot beds respectively of green argillite; at 3025, 1 1/2 feet of light tan and green quartzite, pyritic, faintly laminated, flaggy at the base, in part dolomitic.	21	3036
56	Intercalated green slaty argillite and light brown, in part laminated, shaly mudstone.	18	3015
55	Shale, brown.	3	2997
54	Quartzite, very fine grained, banded and laminated light grey and green, thin bedded to flaggy.	4	2994
53	Shale, light brown, mostly covered.	50	2990
52	Quartzite, fine grained, light greenish grey with brown limonite specks, tan-grey weathering, in 1-foot beds in part flaggy.	15	2940
51	Slate, black.	40	2925
50	Slate, dark grey, fairly competent.	5	2885
49	Dolomite, medium grey, very fine grained, orangish brown weathering; at base in 1 foot of intercalated black	10	2880

Unit	Description	Thickness (feet)	Total from base (feet)
49 (cont.)	slate and buff silty dolomite; slate is in part laminated dark grey and tan.		
48	Slate, black, papery.	25	2870
47	Dolomite, dark grey, locally black, in part very fine-grained, grey-brown weathering, finely laminated; also medium to coarsely crystalline, dark grey to black, dark grey weathering and irregularly laminated; mostly medium brown-grey weathering, flaggy to platy, in part brown weathering.	75	2845
46	Dolomitic siltstone or silty dolomite, fine grained, medium grey, orange-brown weathering, finely laminated, also dark grey, buff-orange weathering regularly laminated silty dolomite in part stromatolitic; upper part has some intercalated black slate; centre part of unit is thin bedded, upper and lower parts are laminated and platy, top is very platy, even fissile.	40	2770
45	Slate, intercalated brown and dark grey, a few flaggy more resistant beds; from 2655 becomes more shaly; at 2695, 2-foot resistant bed of shaly brown mudstone.	115	2730
44	Argillaceous siltstone or mudstone, green-grey faintly laminated, reddish brown weathering, in 2- to 6-inch beds with some shaly partings; at top is a 2-foot bed of light greenish grey siltstone, very finely and evenly laminated with dark grey slate.	5	2615
43	Slate green.	3	2610
42	Slate dark grey.	3	2607
41	Shale silty, medium greenish grey or grey-green, brown-tan weathering, mudcracked, a few flaggy beds of the more resistant mudstone; at 2585, 1-foot bed of dark grey slate.	40	2604



Unit	Description	Thickness (feet)	Total from base (feet)
40	Slate, mainly, dark grey, lowermost 15 feet contains some orange weathering dolomitic beds; at 2517, 7 feet of resistant shaly brown slate; at 2530, 10 feet of similar brown and silty slate capped by 1 foot of siltstone; from 2575 to 2560 slate is shaly and recessive and lower part is mainly brown; at 2510 and 2560 beds of resistant siltstone respectively 2 and 4 feet thick.	79	2564
39	Slate mainly, dark grey, at top and bottom are 5-foot units of resistant argillaceous siltstone or silty argillite, orange-brown weathering, upper one is mainly platy.	25	2485
38	Slate, dark grey, in part silty and greenish; at 2379, 1-foot bed of resistant argillaceous siltstone or silty argillite.	85	2460
37	Argillaceous siltstone or silty argillite, medium grey, finely laminated, as below, reddish to orange-brown weathering.	10	2375
36a	Shale, mainly dark.	20	2365
36	Slaty argillite, silty, olive-brown to green, mudcracked; some dark grey shale.	13	2345
35	Shale mainly, dark grey.	12	2332
34	Argillite, silty and siltstone, medium grey, orange-brown weathering, faintly and irregularly laminated, platy and flaggy.	45	2320
33	Slate, shaly and argillite, silty, dark grey, minor medium brown slate and dark greenish grey laminated silty slate.	35	2275
32	Quartzite, fine grained, greenish, creamy white and light grey, average 3-foot beds, some dark laminations, good crossbedding (flow from the east); from 2210 to 2240,	106	2240

Unit	Description	Thickness (feet)	Total from base (feet)
32 (cont.)	some 10-foot beds; uppermost unit of relatively resistant interval (1935-2240).		
31	Shale mainly, dark grey.	9	2134
30	Quartzite, thick bedded, as in unit 28.	60	2125
29	Shale, dark grey, minor dark grey slate.	10	2065
28	Quartzite, interbedded with dark silty shales and cross-laminated silty, argillaceous quartzite and siltstone, in 10-inch to 1-foot beds; lower part is mainly quartzite in 2-foot beds; near centre and at top are 10-foot units of fairly massive quartzite.	55	2055
27	Shale, mainly dark.	20	2000
26	Quartzite, very fine to fine grained, even grained, light grey to cream white, brown weathering, uniform, local very fine dark laminations, in planar 1- to 5-foot beds; at top is a 10-foot bed flaggy and with shaly partings in uppermost few feet; flaggy beds have symmetrical ripple-marks.		
25	Shale mainly, some thin beds of quartzite in lower part; at base is 1 foot of dark grey to black muscovitic slate.	11	1980
24	Quartzite, very fine grained, light grey, has abundant brown limonite specks plus medium grey slate chips, planar beds up to 2 feet thick, average 1 foot; minor medium greenish grey platy quartzitic siltstone.	14	1969
23	Quartzite, middle part mainly flaggy, with laminations of slate and siltstone, lower part is in 6-inch to 1-foot beds; at 1943 and 1952, beds of dark grey shale, 2 and 3 feet thick, respectively; lowest unit of relatively resistant rib (1935-2240).	20	1955

Unit	Description	Thickness (feet)	Total from base (feet)
22	Shale, dark grey, recessive; a few thin beds of medium grey, olive-brown weathering silty argillite and dark grey to black slate; at 1680, 1715 and 1722, beds of quartzite 2 to 3 feet thick; beds of dolomite 10 inches to 1 foot thick are present at 1735, 1807 and 1825, and a 4-foot bed with 1-foot parting occurs at 1800; the dolomite is medium grey, orange weathering and very fine to cryptograined. At 1865, 2-foot bed of medium grey, brown weathering argillaceous siltstone or silty argillite; at 1905, 10-foot bed of quartzite, fine grained, medium to light grey, some limonite specks, a few laminations of dark grey to black muscovitic slate, in 1-foot beds also flaggy with siltstone-slate partings.	265	1935
21	Quartzite, fine grained, medium to light grey, brown weathering, in 4-foot beds intercalated with 10-inch to 1-foot beds of dark shale.	15	1670
20	Shale, argillite and slate, dark grey to black, brown weathering; at 1570, 1-foot bed of orange weathering dolomite.	95	1655
19	Quartzite, as below, lower half in beds 1 foot thick, upper half in 1- to 6-inch beds in part flaggy, in part laminated with dark grey shale.	40	1560
18	Shale mainly, dark grey, some pale green argillite a few flaggy to thin beds of quartzite and minor pale coloured shales and siltstone; 4 beds of orange weathering dolomite 10 inches to 1 foot thick occur in the lowermost 45 feet and in the uppermost 60 feet, some symmetrical ripple-marks, resistant quartzite beds 2 to 4 feet thick occur at 1425, 1435 and 1455.	140	1520

Unit	Description	Thickness (feet)	Total from base (feet)
17	Quartzite, light to medium brown weathering, beds average 1 to 2 feet but range up to 5 feet, lower 20 feet has minor intercalated dark grey shale; near top the quartzite has numerous spherical pyrite concretions up to 3 inches in diameter.	60	1380
16	Quartzite, fine grained, lower part is white, thick-bedded with partings of dark grey to black shale; upper part is very uniform, medium to light green, tan weathering.	60	1320
15	Shale, silty and sandy near top.	10	1260
14	Argillite and mudstone, lighter coloured than that lower in section; with dark grey shale; argillite is medium grey, light brown grey weathering, in 2- to 3-foot beds; shale is silty, dark grey to black, deep brown weathering, in 6-inch to 1-foot beds with some lighter grey fine silty laminations; at 1015 and 1030, 10-inch to 1-foot beds of orange weathering vaguely laminated dolomite; argillite is in part grey-green in this interval 1015 to 1030; at 1105, 1- to 1 1/2-foot beds of orange weathering dolomite became abundant; the eleventh dolomite bed in this interval is at 1190; from 1190 to 1210, orange-brown weathering dolomite in 1-foot beds with 2- to 6-inch partings of black shale.	245	1250
13	Argillite, silty, both finely laminated and massive; at 925, two 3- to 6-inch bands of light orange-brown weathering medium to dark grey cryptograined dolomite, faintly laminated locally mud-cracked, 1- to 2-foot beds of dolomite occur at 935, 940 and 945.	108	1005
12	Dolomite, dark grey, cryptograined, finely laminated, orange weathering.	2	897

Unit	Description	Thickness (feet)	Total from base (feet)
11	Quartzite mainly, some shale; quartzite is very fine grained, medium and light grey banded, also laminated, fine grained, medium and dark grey, argillaceous and muscovitic laminations, a few 2- to 3-foot beds.	35	895
10	Shale, mainly, recessive.	20	860
9	Shale and thin-bedded argillite.	50	840
8	Black shale, recessive.	20	790
7	Argillite and shaly slate as below, about equal proportions in 1- to 2-foot beds, argillite is commonly laminated and with flaggy parting, also massive with no parting; slate is silty, dark grey to black in part with light grey laminations; bedding surfaces are commonly scalloped; from 430 there is a greater amount of shale and siltstone, more recessive, platy to flaggy; the siltstone ranges to very fine grained quartzite, light grey to white-brown weathering, rusty in part, the silty slate and argillite is dark grey and commonly mudcracked.	655	770
6	Shale mainly, dark grey, minor brown slate-flecked argillite and orange flaggy dolomite.	25	115
5	Dolomite, silty, medium grey, poorly laminated, weathers orange-brown and grey, resistant.	1	90
4	Argillite, dark grey mainly, some beds of medium grey, lighter medium brown weathering argillite-mudstone several feet thick, massive, platy, has flecks and chips of dark grey slate.	14	89
3	Argillite and shale, dark grey, beds several inches to 1 1/2 feet thick; argillite-mudstone is silty, in part finely laminated, dolomitic and medium grey weathering, mostly brown	60	75

Unit	Description	Thickness (feet)	Total from base (feet)
3 (cont.)	weathering in part rusty or light grey weathering, shale is silty finely laminated, fissile, green to brown weathering.		
2	Shale and argillite, dark grey, in part medium grey, brown weathering, several thin beds of dark grey very fine grained, buff-orange weathering dolomite, faintly laminated, pyritic, recessive.	15	15

Base of Tsezotene Formation

Underlying beds

- 1 Light grey weathering dark grey dolomite, cryptograined; has medium grey chert nodules, in part silty laminated and banded, 4-inch to 1-foot beds, minor intercalated dark grey shale, the uppermost bed is argillaceous, finely laminated and platy with dark shale partings; about 150 feet of section exposed above Tsezotene Fault.

Section 2. Tsezotene, Tigonankweine (type section), Little Dal (type section) Formations and Rapitan Group.

On generally east trending ridge about 6 miles southeast of Little Dal Lake. 0-9167 feet measured at lat. 62°38'N, long. 126°32 1/2' - 126°37'W, 8570 - 15224 feet measured over lat. 62°35'N, long. 126°26' - 126°38'W, Glacier Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
<u>Summary</u>			
	Rapitan Group	2425	(incomplete)
	Little Dal Formation	6762	
	Upper Member	4400	
	Lower Member	2362	
	Tigonankweine Formation	4268	
	Tsezotene Formation	1740	(incomplete)
RAPITAN GROUP (2425 feet measured)			
14	Sandstone, conglomeratic, slaty, brown to buff weathering, contains quartzite pebbles (85 per cent) up to 3 inches across, well rounded.	1650	15222
	Sandstone, fine, pebbly, grey-green buff weathering; purple beds end here; fragments are mainly quartzite, orange dolomite and siltstone; most are less than 1/8 inch across, largest about 1 inch, larger ones are mostly angular.	156	13572
	Siltstone, pebbly, purple, very similar to below but here it is competent fine grained, beds are 1 to 2 feet thick with lichen cover, dark grey weathering.	282	13416
	Siltstone, pebbly, shaly, purple, underlying a saddle; fragments are subrounded, ranging to 1/2 inch across though most are about 1/8 inch across; outcrop is sparse down dip-slope.	54	13134
	Sandstone, conglomeratic, purple; siltstone becomes sandy and locally pebbly with loss of slaty parting; thinly laminated with small fragments of green siltstone in some layers, blocky talus.	162	13080

Unit	Description	Thickness (feet)	Total from base (feet)
14 (cont.)	Siltstone, purple, very fine grained, slaty, grades into conglomerate below.	90	12918
	Conglomerate, red, slaty, sandy, contains scattered small fragments of orange dolomite and grey quartzite; fragments are subrounded, largest about 1 inch across.	60	12828
LITTLE DAL FORMATION (type section)			
UPPER MEMBER			
13	Dolomite, orange, medium grained, light grey and white; orange-buff weathering; outcrop poor; most beds are 1 to 2 feet thick, some platy, some range to 10 feet thick; bright red-orange beds stand out but most weather buff-orange; part of the unit has red-grey cast (commonly mottled); locally the dolomite is thinly laminated, though in most places it is not; sandy texture, but lacks quartz; dolomite has deep rusty weathering for about 50 feet from contact with overlying Rapitan Group.	60	12768
	Dolomite breccia, medium grey, fine grained; small percentage buff coloured matrix.	60	12708
	Dolomite, light grey with buff-orange weathering, fine grained to coarse grained; dolomite breccia, buff-brown weathering, pink and buff dolomite locally.	180	12648
	Dolomite, buff-white, fine grained to medium grained, buff-orange weathering; the uppermost interbeds of red slate are found here.	60	12468
	Dolomite, light grey with buff-orange weathering; fine grained, platy.	120	12408
	Dolomite, light grey with brilliant reddish orange weathering, fine grained to medium grained.	60	12288



Unit	Description	Thickness (feet)	Total from base (feet)
13 (cont.)	Dolomite, medium grey with reddish orange weathering, fine grained to medium grained.	60	12228
	Dolomite, medium grey with buff-brown weathering; fine grained although locally conglomeratic.	120	12168
	Dolomite, light grey with orange-buff weathering; very fine grained.	60	12048
	Dolomite, light pink with buff-red weathering, medium grained.	60	11988
	Breccia, angular fragments of dark brown dolomite up to 2 inches across, some quartz fragments, and a sandy dolomite matrix; brown weathering.	42	11928
	Dolomite, light buff with buff-orange weathering, fine grained.	18	11886
	Dolomite, light buff with reddish orange weathering fine to medium grained.	60	11868
	Dolomite, whitish with reddish orange weathering, medium grained.	60	11808
	Dolomite, whitish with buff-orange weathering, medium grained.	60	11748
	Dolomite, light buff with reddish weathering; medium grained, sandy texture; beds are 1 to 4 feet thick; at about 11660 beds weather very reddish to wine coloured.	60	11688
	Dolomite, buff-orange weathering, slaty.	42	11628
	Dolomite, light grey and white; weathers orange-buff, medium grained.	18	11586
	Dolomite, light grey, orange-buff weathering, very fine grained.	60	11568
	Dolomite, medium grey, orange-buff weathering, very fine grained, beds 3 to 10 feet thick.	60	11508

Unit	Description	Thickness (feet)	Total from base (feet)
13 (cont.)	Dolomite (11390-11398), dark grey, buff or reddish grey weathering, thinly laminated, fine grained, platy; this dolomite is overlain by buff-orange dolomite.	60	11448
	Dolomite, light grey, buff-orange weathering, cryptograined; beds are 2 inches to 2 feet thick and fairly uniform; thin wavy silty layers are a fraction of an inch apart.	20	11388
	Dolomite, buff-orange, beds 1 to 2 feet thick; minor green slate.	40	11368
	Dolomite, both buff-orange and red-orange weathering, beds 1 to 2 feet thick.	60	11328
	Dolomite, dark grey weathering to orange-buff, very fine grained beds up to 8 feet thick. From 11228 to 11260 dolomite is light grey with bright orange-red weathering, cryptograined, with beds 1 to 2 feet thick. From 11260 to 11270 dolomite weathers buff-orange.	60	11268
	Dolomite, medium grey weathering to a reddish orange colour; fine grained, thick-bedded (3-8 feet), some weathers a brilliant red though most is buff-orange; includes minor beds, about 3 inches thick weathering darker.	60	11208
	Dolomite, orange weathering, minor purple slate; only about 10 feet of beds are exposed.	42	11148
	Dolomite, slaty; in saddle are several varieties, some black, fine grained and weathering light purple, some dark purple-grey weathering orange, some non-slaty but slabby very dark grey, fine grained and weathers orange.		11106
12	Dolomite, dark grey, dark grey-brown weathering, fine grained; interbedded silty layers common over upper few feet.	18	11106

Unit	Description	Thickness (feet)	Total from base (feet)
12 (cont.)	Dolomite, dark grey weathering dark grey, fine grained becoming more platy toward the top; thin even laminations, beds are 2 inches to 1 foot thick, locally weathers a dull red.	60	11088
	Dolomite, dark grey weathering, thin wavy laminations, beds are 3 inches to 1 foot thick, and contain thin (2-inch) chert layers; dolomite is moderately fetid, 15 per cent is light buff weathering.	60	11028
	Dolomite, dark grey, weathers dark grey, fine grained, thin wavy laminations; beds 2 to 4 feet thick; to about 10940 is a buff-grey weathering dolomite, strata above are grey weathering.	60	10968
	Dolomite, medium grey, weathering buff-grey, cryptograined, a few inches of bright orange-buff slaty dolomite at about 10880; this adds colour to the talus; beds are 1 to 2 feet thick.	60	10910
	Dolomite, light grey with buff and grey weathering interbeds, cryptograined; medium to coarse grained, beds 3 inches to 2 feet, the alternation of grey to buff weathering beds occurs commonly every 5 to 10 feet.	60	10848
	Breccia, dolomitic, a few feet thick, dark grey, very fine grained dolomite fragments in a white medium to coarse grained crystalline matrix; the fragments are angular and as large as 1 inch across; below this are interbeds of dark grey and buff weathering dolomite, chert nodules and chert layers are common.	60	10788
	Dolomite, light grey weathering to grey-buff with pinkish cast, medium grained; most has a sandy texture, beds 3 to 15 inches.	60	10728
	Dolomite, medium grey, dark grey weathering, locally platy, beds are 3 inches to 1 foot thick, small grey chert nodules common.	60	10668

Unit	Description	Thickness (feet)	Total from base (feet)
12 (cont.)	Dolomite, light grey, weathers buff, very fine grained, some platy with dark grey weathering, beds 1 to 2 feet thick.	42	10608
	Dolomite, sandy, medium grey, weathers buff-grey, medium to coarse grained, thinly laminated to 5-foot beds, includes a few chert layers and nodules and minor buff weathering slaty dolomite interbeds.	83	10566
	Conglomerate, sandy dolomitic, fragments to 8 inches very similar to conglomerate at 10388.	13	10483
	Dolomite, medium grey, grey-buff and pinkish weathering, medium to coarse grained, sandy, thinly laminated.	64	10470
	Conglomerate, sandy, dolomitic, sub-angular fragments of grey dolomite, a few fragments of buff weathering dolomite up to 1 inch across, topis vaguely defined.	20	10406
	Siltstone and dolomite interbedded, buff, orange-red weathering, thinly laminated up to 2 inches, beds about 2 feet thick.	18	10386
	Dolomite, grey, buff-orange weathering, thinly laminated; beds approximately 3 feet thick, at 10360 is a few feet of porcellaneous medium grey, weathering pale buff dolomite.	90	10368
	Dolomite, black weathering to dark grey (some buff interbeds), fine to medium grained.	30	10278
	Dolomite, grey, mostly grey weathering, medium grained; beds are 1 to 10 feet thick, within are some 2-inch beds and laminations and minor beds of buff weathering dolomite, beds are thicker above 10130.	222	10248

Unit	Description	Thickness (feet)	Total from base (feet)
12 (cont.)	Quartzite and dolomite interbedded, medium to coarse grained and buff on fresh and weathered surfaces, beds are 2 to 3 feet thick.	36	10026
	Dolomite, black, banded here and there with white veins, medium grained, sandy layers common, beds 1 to 6 inches thick with wine coloured bedding surfaces; this locally contains a peculiar breccia which consists of dark dolomite fragments in an orange-red weathering matrix; dolomite forms competent beds, poor crossbedding at 9980 indicates beds are right side up.	42	9990
	Slate, dark grey, mainly orange weathering (some pink, looks dolomitic), thinly laminated.	40	9948
	Talus covered.	40	9908
	Slate, black, brilliant red weathering; forms a 20-foot saddle.	20	9868
	Quartzite, grey rusty brown weathering, thinly laminated (light grey-dark grey), contains minor black or dark grey slate interbeds, locally finely conglomeratic.	60	9848
	Siltstone, fairly massive, see below.	18	9788
	Siltstone, slaty, dolomitic, buff-grey and dark grey, buff-orange and grey weathering; member ends with several feet of green cryptograined mudstone which weathers very dark brown.	90	9770
	Dolomite, medium grey weathering, orange, cryptograined, thinly laminated; beds about 3 inches thick.	12	9680
	Talus covered, base of unit 12 in saddle.	54	9668
11	Dolomite, light grey to buff, thinly bedded, platy, some sandy.	504	9614

Unit	Description	Thickness (feet)	Total from base (feet)
11 (cont.)	Limestone, sandy, buff with buff weathering, forms basal 10 feet; remainder is light grey weathered limestone, finely sandy, light grey, beds 2 to 8 inches thick.	120	9110
	Quartzite, medium grey, grey weathering, fine grained; beds 1 to 4 inches thick.	20	8990
	Dolomite, whitish grey with orange-buff weathering surfaces, fine grained, platy.	100	8970
	Dolomite, light grey to a light grey-buff, weathering fine grained; beds 2 to 10 inches thick.	60	8870
	Dolomite, dark grey, weathers to a dull buff, fine grained, slaty.	60	8810
	Limestone, medium to light grey, weathers to light grey, fine grained, beds 3 inches to 1 foot thick.	180	8750
	Dolomite, light grey, weathers bright yellow-ochre, slaty, very fine grained; beds about 1/2 inch thick, rock forms a conspicuous unit in the grey limestone above and below.	140	8570
	Base of unit 11, light grey weathering limestone, light grey fresh surface, thinly laminated, very fine grained.	60	8430
LOWER MEMBER			
10	Limestone, dark grey to dull grey weathering, very fine grained; less competent than algal beds below; beds are 6 inches to 2 feet thick, locally limestone is oolitic and the uppermost 100 feet contains stromatolites.	920	8370
	Limestone, black, fine grained, platy.	50	7450
	Limestone, black oolites in white matrix, dark grey overall.	50	7400

Unit	Description	Thickness (feet)	Total from base (feet)
10 (cont.)	Limestone, black, dark grey weathering, fine grained, fetid.	100	7350
	Limestone, dark grey weathering fresh surface, fine to medium grained, platy, beds about 3 inches thick.	50	7250
	Limestone breccia, black fragments of silty limestone is a white, medium grained crystalline limestone, matrix is rarely greater than 30 per cent of the rock and in places is much less, many fragments are long and narrow (1/16 inch by 1 inch); overall the breccia is dark grey weathering and forms a competent layer.	190	7200
	Limestone as below, one 3-foot bed at 6995 contains algal growths, uppermost beds of limestone are more thinly bedded (6 inches) and more blocky.	10	7010
	Limestone, same as below. Beds are 6 to 10 feet thick.	50	7000
	Limestone, dark grey, buff-grey weathering, thick bedded fairly competent; looks similar to limestone at 6810.	50	6950
	Slate, bright orange, buff weathering; unit begins at 6890; limestone above this slate contains substantial beds of very fine grained, dark grey, weathering dark grey silty limestone, in places nodules of this have formed in the buff slate.	50	6900
	Slate, calcareous, very fine grained, dark grey, bright orange-buff weathering.	40	6850
	Limestone, dark grey, buff-grey weathering, fine grained; beds 1 to 3 feet thick.	60	6810
	Limestone, algal, very dark grey; some of the beds are as thick as 10 feet.	150	6750

Unit	Description	Thickness (feet)	Total from base (feet)
10 (cont.)	Limestone, medium grey, fine grained, abundant algal growths.	150	6600
	Limestone, medium grey, buff and grey weathering, fine grained; algal growths range up to about 3 inches across.	50	6450
	Limestone, grey, buff weathering, base of main cliff-former in this part of section.	10	6400
	Limestone, grey-buff weathering; at top limestone contains a few angular fragments of black silty limestone.	90	6390
	Limestone, dark grey, fine grained, no marked change, locally sandy, at top, limestone contains a few small algal growths.	50	6300
	Limestone, black, dark grey weather- ing, medium grained, some red areas on weathered surfaces; beds are about 6 inches thick and in most places is fetid.	60	6250
	Limestone, dark grey, dark grey weathering; 1-foot bed of black sheared slate.	40	6190
	Limestone, dark grey, dark grey weathering, fine grained, average bedding is 1 foot thick.	50	6150
	Siltstone, dull buff weathering, dark grey, fine grained, dolomitic for 20 feet then yellow-ochre beds which extend to 6100.	30	6100
	Siltstone, greenish grey, in saddle.	20	6070
	Siltstone, greenish grey, dolomitic, cryptograined, overlies red slate; beds are 1/2 inch to 6 inches.	42	6050



Unit	Description	Thickness (feet)	Total from base (feet)
TIGONANKWEINE FORMATION (type section)			
9	Quartzite, bright salmon-red, some thick beds but most 3 to 6 inches overlain by dull red, fine grained slates which, in places, are massive (mudstones).	53	6008
	Quartzite, salmon-red, medium grained, in places thinly laminated and cross-bedded, beds 1 to 6 feet thick.	305	5955
	Quartzite, pink, fine to medium grained.	50	5650
	Quartzite, deep wine in places, contains 3-foot interbed of brick-red fine grained slate.	50	5600
	Quartzite, excellent crossbedding shows beds are right side up.	5	5550
	Quartzite with spectacular thinly bedded, red and whitish pink laminations, cross-cleavage discolouration.	25	5545
	Quartzite with asymmetrical ripple-marks, beds are right side up.	15	5520
	Quartzite, pale pink, whitish pink weathering, fine to medium grained, fairly pure, beds 1 to 3 feet thick.	205	5505
	Quartzite, pink, clean, even grained, vague bedding; beds about 1 foot thick, few interbeds of brick-red slate.	50	5300
	Quartzite, pink, pink weathering, fine to medium grained.	50	5250
	Quartzite, dark grey, fine grained; beds are 3 inches to 1 foot thick, base of cherry-red weathering quartzite.	25	5200
8	Slate, black, 2-foot buff bed, fine to medium grained, rusty.	25	5175
	Slates, dark brown to dark olive-green weathering, very thin, some is black	115	5150

Unit	Description	Thickness (feet)	Total from base (feet)
8 (cont.)	slate, and some is more sandy and buffish.		
	Dolomite, weathers various shades of ochre from yellow to orange to reddish, at 5035 it is buff-grey weathering, thinly laminated, fine grained, dark grey dolomite.	35	5035
	Dolomite, very slaty (sheared locally), at 5000 it is more massive, sandy and mottled, red weathering, bedding is distinct but there are uneven fractures every 2 inches.	50	5000
	Slate, dark brown weathering, dark grey, at 4830 interbeds of brown and orange weathering, dark grey silty dolomite, saddle marks base of conspicuous orange cryptograined, dark grey dolomite.	20	4950
	Slate, dark brown, rusty brown weathering, thinly laminated, most of the cleavage plates are about 1/4 inch thick.	130	4930
7	Quartzite, whitish, pink or buff, speckled with rust in many places, fine to medium grained, fairly uniform (the main variation is in the rusty weathering of the rock) bedding varies from 3-inch sheets to 3-foot beds, rare slaty beds.	45	4800
	Quartzite, buff-grey weathering, patches of dolomite weather out to give a honeycomb effect, a few 1- to 2-inch beds of orange weathering dolomite are intercalated with the quartzite.	455	4755
	Quartzite, slaty, buff speckled with rusty patches, buff-grey weathering, beds are 6 inches to 2 feet thick at top of member, below 4250 are about 3 inches thick, and in the lower 20 feet the quartzite is slaty.	100	4300

Unit	Description	Thickness (feet)	Total from base (feet)
6	Quartzite, very uniform, locally even bedded with beds about 6 inches thick, below 4200 quartzite is very pure, fine to medium grained, pale pink, weathering whitish crossbedding at 4200 indicates beds are right side up, most beds 6 inches to 2 feet thick.	310	4200
	Dolomite, purple, overlain by 7 feet of dark purple slate.	140	3890
	Dolomite, dark purple, terracotta-brown weathering, fine grained.	12	3750
5	Quartzite, varying in colour, from light buff, to light pink and light grey, due to black lichen they weather dark, rock is fine to medium grained, beds 1 to 4 feet thick, top 20-foot bed is whitish but discoloured in most places by rust, here and there in the quartzite are dark purple slate beds, especially concentrated between 3318 and 3438 where they make up about 30 per cent.	732	3738
	Quartzite, buff, fine to medium grained, in beds 1 to 4 feet thick similar to strata above except in places rustier, 3-foot bed of dark purple shale at 2970.	258	3006
4	Quartzite, greenish grey, fine to medium grained; underlain by purple shale, blackish brown weathering.	52	2748
	Shale, cryptograined, slaty, green.	2	2696
	Shale, dark purple, black weathering, fine grained, sandy underlain by whitish quartzite, beds 3 inches to 1 foot thick.	12	2694
	Quartzite, much the same as below, but is whiter, and very pure, fine to medium grained, weathers white, vague laminations.	96	2682

Unit	Description	Thickness (feet)	Total from base (feet)
3	Quartzite, pinkish grey, weathers light grey, fine to medium grained, black and greenish lichen give it a dark green scraggly appearance, locally is a mottled dark purple and green argillaceous sandstone.	366	2586
	Quartzite, almost entirely, at 2220 it is whitish grey, weathering light grey, fine grained, the main beds are 1 foot thick but range from 2 inches to 3 feet.	60	2220
	Quartzite, mainly, at 2160 is purplish, fine grained argillaceous sandstone, some showing excellent ripple-marks which indicate the beds right side up.	60	2160
	Shale and slate with quartzite interbeds, at 2100 purple shale and reddish grey fine grained quartzite.	60	2100
	Quartzite mainly, 20 per cent interbedded purple, sandy slate, at 2040 about 50 per cent slate in the quartzite.	60	2040
	Quartzite, 90 per cent fine grained, pinkish grey. At 1980, quartzite is medium grained, light pinkish grey, weathering light grey, incompetent, beds are 1 to 3 feet thick.	240	1980
TSEZOTENE FORMATION			
2	Shale, dark purple, interbeds of fine grained, pink weathering grey quartzite, most beds about 1 foot thick.	54	1740
	Sandstone, slaty, purple, fine to medium grained, sheared parallel with bedding.	30	1686
	Shale, mainly, dark purple, interbeds of buff silty dolomite, 1656 green-grey quartzite, weathers light grey, vaguely bedded, in places thinly laminated, fine to medium grained.	72	1656

Unit	Description	Thickness (feet)	Total from base (feet)
2 (cont.)	Shale, dark purple, interbedded with green shale with pyrite octo- and dodecahedrons; orange weathering, light grey, fine grained dolomite; purple slate; buff weathering, light green and purplish fine grained dolomite, much of the rock is slaty, some thinly laminated, lithology changes are spaced 1 to 10 feet apart, upper 30 feet is dominated by purple slate.	264	1584
	Dolomite, orange weathering, medium grey, fine grained, below these beds are beds of dark grey, fine grained, thinly laminated shale.	24	1320
	Sandstone, dark grey, argillaceous, dark grey weathering, beds are 2 to 4 feet thick.	18	1296
	Shale, slaty, black, fine grained, conformably overlies orange weathering dolomite, looks dark when viewed from a distance.	20	1278
	Dolomite, medium grey, orange weathering, fine grained, fairly massive and sandy, beds 4 feet thick.	4	1258
	Dolomite, shaly and sandy, dark grey, weathering orange-buff, fine grained, thinly laminated, some black shale interbeds.	54	1254
	Contact with unit 1 is apparently conformable.		
1	Shale, slaty, light buff-grey, fine grained.	60	1200
	Shale, slaty, rusty, fine grained, light grey to buff, some interbeds of black slate.	54	1140
	Quartzite, light grey weathering; at 1080 it is very uniform.	6	1086

Unit	Description	Thickness (feet)	Total from base (feet)
1 (cont.)	Quartzite, less rusty and lighter grey weathering in lower beds.	60	1080
	Quartzite, light grey tiny clear crystals, fine to medium grained, with rusty patches 1/16 inch in diameter, beds are 1 to 3 feet thick.	60	1020
	Quartzite, with a few interbeds of black sheared slate up to 1 foot thick.	60	960
	Quartzite beds 2 to 4 feet thick at 900 feet; below this mainly dark grey, rusty to maroon weathering, fine grained shale, locally phyllitic, with scattered beds of orange dolomite.	60	900
	Shale, fine grained, dark grey weathering reddish rusty colours interbeds of medium grey, orange weathering, fine grained dolomite.	120	840
	Conglomerate, black fine grained matrix, slightly siliceous, orange- rusty weathering, fragments mainly black shale, subangular and about 1/4 inch long, beds about 4 feet thick, below is slightly phyllitic slate.	74	720
	Quartzite, dark grey-green, weathering grey, fine grained, beds are 2 inches to 1 foot thick.	10	646
	Shale, dark, and dark grey, orange weathering dolomite, 20 per cent of rock is dolomite.	36	636
	Shale, medium grey, weathering grey- brown, fine-grained, slaty in places, interbeds of orange weathering, light buff-grey, fine grained, platy, dolomite.	114	600
	Dolomite beds concentrated between 426 and 456, becoming sparser above, forming shale and dolomite interbeds.	60	486
	Shale, dark grey, buff to brown weather- ing, fine grained, rusty, uppermost beds	242	426

Unit	Description	Thickness (feet)	Total from base (feet)
1 (cont.)	of orange weathering dolomite; in beds from 4 inches to 5 feet thick and separated by 3 to 6 feet of dark shale, some of dolomite is light buff-grey, cryptograined and contains rusty pyrite cubes, beds are fairly competent and some sandy, a small per cent laminated; outcrop is scattered from 360 to 184 feet.		
	Shale, dark grey-green, fine grained, interbedded with thin beds of dark grey slate, commonly phyllitic, cleavage in the shale is fairly well developed; no outcrop between 182 and 48.	136	184
	Mudstone, dark green, fine grained, massive, competent, weathers dark olive-green, bedding poorly developed, parting planes 1 inch to 3 feet apart.	48	0
Base of section is on a grass ridge at elevation 4700. To elevation 5460, no rock outcrops, but a dark grey slate forms patches of fine scree.			

Section 3. Sub-Whittaker Strata.

On east trending ridge about 1 mile north of lat. 64°00'N and long. 126°35'W, Carcajou Canyon map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
SUB-WHITTAKER STRATA			
49	Covered interval; contact with overlying Whittaker Formation at 770.	15	770
48	Dolomite, grey, medium to thick bedded, medium grained, weathers light creamy grey, uneven bedding planes, resistant.	5	755
47	Covered interval.	17	750
46	Dolomite, grey, medium to thick bedded, medium grained, weathers light creamy grey, resistant.	18	733
45	Covered interval.	20	715
44	Dolomite, very light grey, thin to medium bedded, fine grained; weathers orange-creamy grey, smooth bedding planes, almost platy.	22	695
43	Dolomite, light grey, medium bedded, fine-grained; weathers mottled pink and grey.	22	673
42	Covered interval.	6	651
41	Dolomite, light grey, thin bedded (beds 3-5 inches thick), fine grained, oolitic (?), weathers pale orange-grey, produces coarse slabby tabs.	20	645
40	Covered interval.	23	625
39	Dolomite, purple, fine grained, weathers purple-orange.	2	602
38	Dolomite, grey, medium bedded, fine grained, weathers orange and yellow-orange; contains irregular cherty masses - some with concentric structure, 1 to 2 inches in diameter.	5	600



Unit	Description	Thickness (feet)	Total from base (feet)
37	Dolomite, grey, medium bedded, fine grained, weathers orange.	5	595
36	Dolomite, purple, thin bedded, fine grained, weathers mottled orange and purple.	10	590
35	Covered interval.	10	580
34	Dolomite, purple and green mottled, thin to medium bedded, fine grained, weathers orange and red-orange, moderately resistant, forms platy talus.	10	570
33	Covered interval.	13	560
32	Dolomite, grey, thin to medium bedded, in part laminated, fine grained, weathers brown-grey.	17	547
31	Dolomite, light grey, thin bedded, fine grained, weathers light to medium orange, resistant.	35	530
30	Dolomite, mottled green and purple, thin to medium bedded, fine grained; weathers orange-grey to pale orange, resistant.	10	495
29	Covered interval.	10	485
28	Dolomite, dark grey and light grey, medium bedded (beds 8-12 inches thick), fine grained; weathers dark grey-brown and light orange.	15	475
27	Covered interval.	5	460
26	Dolomite, dark grey and light grey, beds 2 to 4 inches thick, fine grained, weathers dark grey-brown and light orange.	25	455
25	Dolomite, light grey, beds 1 1/2 to 2 feet thick, crypto- to fine-grained, weathers orange-grey medium orange and pink-grey, lenses of medium to coarse grained sand 1 to 2 inches thick and several feet long, very resistant.	15	430

Unit	Description	Thickness (feet)	Total from base (feet)
24	Dolomite, light grey, thin bedded, cryptograined, weathers medium orange, recessive.	15	415
23	Covered interval.	32	400
22	Dolomite, dark and light grey, thin bedded, crypto- to fine-grained, weathers interbedded brown-grey and medium orange, locally stylolitic.	18	368
21	Covered interval.	30	350
20	Dolomite, light grey, thin bedded, weathers light to medium orange, contains a few stylolitic seams.	15	320
19	Dolomite, grey, thin bedded, fine grained, weathers dark grey-brown.	15	305
18	Covered interval.	15	290
17	Dolomite, medium to light grey, beds 8 to 18 inches thick, cryptograined, weathers medium orange moderately resistant.	10	275
16	Dolomite, grey-white, medium to thick bedded, weathers pale orange.	40	265
15	Dolomite, very light grey, thin bedded, cryptograined; weathers pale orange.	5	225
14	Dolomite, light grey, thin bedded, fine grained, weathers brown-orange, locally stylolitic.	5	220
13	Dolomite, very light grey, massive, fine to medium grained, weathers light orange.	7	215
12	Covered interval.	7	208
11	Dolomite, orange-grey, thick bedded, weathers medium orange, very sandy, sand lenses to 6 inches thick and several feet long.	4	201

Unit	Description	Thickness (feet)	Total from base (feet)
10	Dolomite, very light grey, thick bedded, very fine grained, weathers light orange to medium orange.	7	197
9	Covered interval.	10	190
8	Dolomite, light grey, beds 2 to 6 inches thick, weathers light orange, in part laminated, some slightly sandy interbeds about 8 inches thick.	20	180
7	Dolomite, grey, massive, cryptograined, weathers light orange, appears almost reefoid, upper surface uneven with relief of 6 to 10 inches.	5	160
6	Covered interval.	5	155
5	Mainly covered, talus of light orange weathering dolomite.	70	150
4	Dolomite, very light grey, thick bedded, weathers orange, includes sandy lenses 1/4 to 3 inches thick and several feet long.	18	80
3	Dolomite, very sandy, light grey, medium bedded, ridges of sandy beds locally show crossbedding, weathers light orange.	5	62
2	Covered interval, talus mainly orange weathering dolomite.	47	57
TIGONANKWEINE FORMATION (10 feet measured)			
1	Sandstone, quartzitic, white and purple, medium bedded, locally crossbedded, fine to medium grained, weathers alternating red and white, forms blocky talus.	10	10

Section 4. Sub-Whittaker Strata.

On northeast trending ridge at lat. 63°55'N, long. 126°54'W,  
Wrigley Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
SUB-WHITTAKER STRATA			
Overlain by Whittaker Formation			
20	Dolomite, light to medium grey, medium to thick bedded, fine to medium grained, weathers creamy grey.	92	572
19	Sandstone, quartzite, grey, dolomitic, weathers white to light grey.	15	480
18	Covered interval.	44	465
17	Dolomite, dark grey, medium bedded, fine to medium grained, weathers grey.	9	421
16	Dolomite, light grey, thin bedded, fine grained, weathers pale orange.	7	412
15	Covered interval.	15	405
14	Dolomite, light grey, thin bedded, fine grained, weathers pale orange.	10	390
13	Covered interval.	10	380
12	Dolomite, dark to medium grey, minor light grey, thin to medium bedded, fine grained, weathers various shades of grey, grey-brown, orange weathering 305-310.	75	370
11	Dolomite, light grey, thin to medium bedded, fine grained, weathers shades of orange.	80	295
10	Dolomite, light grey, medium bedded, fine grained, weathers medium orange, blocky talus; 200-215 - covered interval.	25	215
9	Dolomite, dark grey, medium bedded, fine grained, weathers medium brown-grey, wavy bedding planes.	8	190

Unit	Description	Thickness (feet)	Total from base (feet)
8	Dolomite, light to medium grey, thick bedded, coarse grained, weathers very pale orange, sugary texture on weathered surface.	12	182
7	Dolomite, light grey and dark grey, banded light orange, dark orange, and grey-brown weathering, dark orange band at 143-145 contains small lenses of sand, light coloured bands are very thinly bedded and rocks are light grey on fresh surface, darker weathering beds are dark grey on fresh surface.	28	170
6	Covered interval.	17	142
5	Dolomite, light grey, thin bedded, fine grained, weathers very pale orange, a few darker weathering beds.	29	125
4	Dolomite, grey, thin bedded, fine grained, weathers dark grey-brown, resistant.	4	96
3	Dolomite, light grey, medium bedded, medium to coarse grained, weathers light to medium orange.	47	92
2	Dolomite, sandy, grey, orange weathering, lenses of quartzitic, white, fine grained sandstone.	23	45
TIGONANKWEINE FORMATION (22 feet measured)			
1	Sandstone, quartzitic, white, blocky, fine grained, weathers white.	22	22

Section 5. Little Dal Formation and Sub-Whittaker Strata.

On northeast trending ridge on southwest flank of Tigonankweine Range at lat. 63°53'N, long. 127°16'W, Wrigley Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
WHITTAKER FORMATION (85 feet measured)			
25	Dolomite, medium to dark grey, thin bedded, fine grained, weathers alternating light grey and dark grey, upper part includes light grey dolomite, resistant.	85	1968
SUB-WHITTAKER STRATA			
24	Dolomite, grey, thin bedded (beds 1/2-4 inches thick), fine grained, weathers light cream-buff to pale orange.	65	1883
23	Dolomite, dark and light grey, medium bedded, bedding planes rough and uneven, fine grained, weathers alternating dark grey and light orange, dark grey dolomite not present above 1778.	87	1818
22	Dolomite, light grey to medium grey, thin to thick bedded, mainly fine to medium grained, weathers shades of orange and buff; mottled, very fine grained, orange weathering dolomite at 1575 becoming medium grained in higher beds and locally coarse grained at 1510; 1510-1676 light grey and light orange weathering; coarse grained, massive dolomite irregularly distributed laterally and vertically passing into finer grained, thinner bedded, darker orange weathering dolomite; laminated, stylolitic dolomite at 1685-1690, resistant.	196	1731
21	Dolomite, grey, medium to thick bedded, fine grained, weathers pale orange-buff; 1495-1498 dolomite faintly laminated; at 1503 an 8-inch bed of intraformational breccia, very resistant.	76	1535

Unit	Description	Thickness (feet)	Total from base (feet)
20	Dolomite, grey, medium bedded, fine grained, locally cryptograined, weathers buff-grey.	73	1459
19	Dolomite, grey, medium to thick bedded, very fine grained to cryptograined, weathers grey and creamy orange.	69	1386
18	Dolomite, grey, thick bedded to massive, (almost reefoid), fine to medium grained, weathers creamy orange, resistant; locally grey-orange weathering dolomite grades laterally into grey limestone.	153	1317
LITTLE DAL FORMATION (?)			
17	Limestone, dark grey, thick bedded, cryptograined; weathers light grey with patches of brown; minor orange weathering, resistant dolomite locally transecting bedding.	128	1164
16	Limestone, dark grey to black, thin to medium bedded, locally platy, in places laminated, cryptograined; weathers brownish grey, recessive and produces much talus.	237	1036
15	Limestone, dark grey to black, thin bedded, cryptograined, weathers brown-grey.	35	799
14	Covered interval; mainly talus of dark grey, brownish grey weathering, cryptograined limestone.	278	764
13	Limestone, dark grey to black, medium bedded, in part platy, cryptograined; weathers brownish grey, recessive.	22	486
12	Limestone, dark grey, locally thin bedded and platy, fine to cryptograined; weathers grey to yellow-brown, recessive and produces much talus.	98	464

Unit	Description	Thickness (feet)	Total from base (feet)
11	Covered interval; talus similar to that of unit 9; minor brown weathering limestone, limestone thin bedded and platy.	19	366
10	Covered interval; talus similar to that of unit 9; minor brown weathering limestone, locally laminated.	40	347
9	Limestone, dark grey, thin bedded and platy (beds 1/4 inch to 1/2 inch thick), cryptograined, weathers brown, laminated, recessive.	15	307
8	Limestone, dark grey, medium bedded and blocky, cryptograined, weathers grey.	6	292
7	Limestone, dark grey to black, platy fine grained, mainly talus.	58	286
6	Limestone, dark grey to black, medium bedded, weathers grey-brown, appears oolitic in places.	34	228
5	Limestone, dark grey, cryptograined, weathers brown-grey, appears clastic on fresh surface.	15	194
4	Dolomite, dark grey, crystalline, pisolitic, pisoliths to 1/2 inch long elongate parallel with bedding, weathers brown-orange.	30	179
TIGONANKWEINE FORMATION (149 feet measured)			
3	Mainly covered; talus of thin bedded, reddish weathering shale and minor orange weathering dolomite.	52	149
2	Shale, thin bedded, dark grey and red weathering, some green weathering calcareous shale and siltstone.	58	97
1	Sandstone, quartzitic, pink, thin bedded, very fine grained, weathers pink, forms slabby talus, abundant oscillation ripple-marks from 17-39.	39	39



Section 6. Sub-Whittaker Strata.

On ridge 3 miles southwest of Hayhook Lake, lat. 63°29 1/2'N,  
long. 126°50'W, Wrigley Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
SUB-WHITTAKER STRATA			
Overlain by Whittaker Formation			
20	Dolomite, medium grey, beds 3 to 6 inches thick, fine grained; weathers grey to pale buff.	45	675
19	Dolomite, medium grey, beds 6 to 10 inches thick, fine grained, weathers grey to mottled orange.	55	630
18	Dolomite, grey, beds 1 foot to 1 1/2 feet thick, fine grained, weathers orange and grey.	15	575
17	Dolomite, light grey, beds 1 foot to 1 1/2 feet thick, fine grained, weathers orange and grey.	40	560
16	Dolomite, medium grey, medium bedded, fine grained, weathers grey to mottled orange, irregular bedding planes.	40	520
15	Dolomite, purple-grey, beds 6 to 8 inches thick, fine grained, weathers light grey to buff-purple, well laminated to 465.	42	480
14	Covered interval; a few outcrops of orange and buff weathering fine grained dolomite.	8	438
13	Dolomite, purple, beds 1 to 3 feet thick, fine grained, weathers buff-orange to buff, resistant.	50	430
12	Dolomite, interbedded buff weathering, light grey, and purple weathering, grey-purple, beds 1 to 2 feet thick, fine grained.	30	380
11	Dolomite, in part brecciated, purple, massive, fine grained.	15	350

Unit	Description	Thickness (feet)	Total from base (feet)
10	Dolomite, purple, fine grained, mainly massive, weathers mottled purple and pink.	5	335
9	Dolomite, pink, thick bedded, medium grained, weathers light orange-buff, locally stylolitic.	10	330
8	Dolomite, purple, thick bedded, crypto- grained, weathers light orange-buff.	10	320
TIGONANKWEINE FORMATION (310 feet measured)			
7	Covered interval	85	310
6	Sandstone, quartzitic, light pink, thick bedded, in part laminated, fine grained and even grained.	20	225
5	Covered interval.	35	205
4	Sandstone, quartzitic, white, thick bedded, laminated, fine grained, weathers light grey to very light brown, slightly porous.	15	170
3	Dolomite, very light grey, thin bedded, very fine grained, weathers light orange to buff.	35	155
2	Covered interval.	105	120
1	Sandstone, quartzitic, white, massive, fine grained, weathers white to light grey, abundant rusty flecks, locally laminated and crossbedded.	15	15

Section 7. Sub-Whittaker Strata

On northeast trending ridge on east flank of Rouge Range at  
lat. 63°31 1/2'N, long. 126°06'W, Wrigley Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
SUB-WHITTAKER FORMATION			
13	Dolomite, light to medium grey, fine grained, thin to medium bedded, weathers grey and orange-grey.	70	690
12	Covered interval.	65	620
11	Dolomite, light to medium grey, fine grained, medium bedded, weathers orange-grey and orange; sandy in part.	40	555
10	Covered interval.	45	515
9	Dolomite, light grey, fine grained, medium bedded, weathers medium grey with a few interbeds of orange weathering dolomite.	75	470
8	Covered interval.	45	395
7	Dolomite, light grey, fine grained, medium bedded, weathers light grey-orange, some beds sandy.	105	350
6	Covered interval.	65	245
5	Shale, dolomitic, weathers red and green.	10	180
4	Dolomite, brown-grey, fine grained, thin bedded, weathers light orange-brown.	23	170
3	Dolomite, sandy in part, pyritic, medium grey, fine grained, medium bedded, weathers pink-orange.	52	147
2	Dolomite, fine grained, brownish grey, thin bedded, weathers light orange-brown.	25	95
1	Covered interval.	70	70
	Underlain by Tigonankweine Formation - quartzite, white, fine grained, medium bedded, weathers white, minor interbeds of red and green shale.		

Section 8. Coppercap Formation

On east flank of mountain, 2 miles east of the north end of Little Dal Lake; lat. 62°43'N, long. 126°37'W, Glacier Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
	Overlain by red weathering, locally conglomeratic siltstone and mudstones of Rapitan Group.		
	COPPERCAP FORMATION (type section)		
3	Limestone, black, fine grained, light grey weathering, resistant, bedding 1 to 3 inches in lower part and 6 inches to 1 1/2 feet in upper part; locally includes calc-arenite and calc-rudite with rose clasts of limestone as much as 6 inches long in a calc-arenite matrix, beds 2 to 10 feet thick; uppermost beds are limestones, sandy, light grey and buff weathering; upper and lower parts of unit resistant and middle part recessive.	275	675
2	Limestone, dark grey to black, fine grained, fetid, weathers dark grey to black, bedding 6 inches to 1 foot in lower part and 1/4 to 2 inches in upper part, laminated on scale of millimetres, blocky; interbedded with black, buff and grey weathering slate and calcareous slate in beds 1/2 to 2 inches thick; unit is generally recessive and forms platy talus.	225	400
1	Limestone, grey, fine grained, beds 1/2 to 3 inches thick, weathers buff, platy; interbedded with buff weathering calcareous siltstone, locally pyritic, unit generally resistant.	175	175
	Fault contact with pink and green weathering siltstones and argillaceous siltstones of Redstone River Formation.		

Section 9. Rapitan Group, and Keele Formation

On east and northeast trending ridge about 10 miles northwest of Hayhook Lake at lat. 63°34'N, long. 127°02'W, Wrigley Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
<u>Summary</u>			
	Keele Formation	365 (incomplete)	
	Rapitan Group	4330	
	Upper Rapitan	1860	
	Middle Rapitan	1130	
	Lower Rapitan	1340	
	Little Dal Formation	1610 (incomplete)	
KEELE FORMATION (365 feet measured)			
33	Siltstone, light to medium green, very fine grained, bedding 1/4 inch to 1 foot, weathers green-grey to buff and buff-red.	30	6325
32	Sandstone, light green-grey, very fine to fine grained, bedding 1 inch to 1 1/2 feet, weathers green-grey to grey, stained buff, crossbedded.	60	6295
31	Covered interval.	125	6235
30	Dolostone, light grey to whitish grey, fine grained, stromatolitic in part, weathers buff, orange and yellow-orange.	50	6110
29	Sandstone, light grey to whitish grey, fine grained, bedding 6 inches to 1 1/2 feet, weathers light grey, poorly developed crossbeds; minor black shale.	50	6060
28	Covered interval.	70	6010
Low-angle regional unconformity			

Unit	Description	Thickness (feet)	Total from base (feet)
RAPITAN GROUP			
UPPER RAPITAN			
27	Shale, black, siltstone, green-grey, very fine grained, bedding 1/2 to 6 inches, weathers dark green-grey and brownish green.	30	5940
26	Covered interval.	80	5910
25	Shale, blue-black, cryptograined, slightly silty, bedding 1/4 to 1 inch, weathers dark grey to dark greenish brown in small angular fragments; interbedded with thin lenses and beds of sandstone, light blue-grey to green-grey, very fine grained, laminated in part, some load structures, bedding 2 inches to 1 foot, weathers medium brown, greenish brown, whitish in places, platy.	475	5830
24	Covered interval.	185	5355
23	Sandstone, light blue-grey to dark grey, very fine grained, bedding 1 inch to 1 1/2 feet, finely laminated in part, minor ripple-marks, poorly developed crossbedding; load casts; as much as 40 per cent interbeds of shale, blue-black cryptograined, very slightly silty in places, fissile, weathers dark grey; minor shaly sandstone; shaly in upper part.	340	5170
22	Shale, blue-black, cryptograined, slightly silty in places, finely laminated, platy; top of unit more resistant and silty.	105	4830
21	Covered interval, shale talus.	645	4725
MIDDLE RAPITAN			
20	Covered interval, talus appears to be of similar lithology to unit 19.	375	4080

Unit	Description	Thickness (feet)	Total from base (feet)
19	Mudstone, conglomeratic, matrix grey to brownish grey, slightly silty, calcareous, 5 to 30 per cent pebbles, cobbles, and some boulders of grey limestone, dolostone, greenstone, black and grey chert, brown sandstone, minor granitic gneiss, a few pebbles and cobbles are striated and faceted with flat-iron shapes, most are subrounded to rounded and a few are well rounded; unit weathers brown, brownish grey, orange-brown, recessive; from 3280 to 3300 sandstone, calcareous, light grey, very fine grained, bedding 1 to 2 feet (?), minor pyrite cubes scattered throughout, weathers brown to grey.	755	3705
LOWER RAPITAN			
18	Mudstone, green, cryptograined, platy, weathers green-grey; minor greenish grey limestone near top of unit.	55	2950
17	Mudstone, reddish brown, cryptograined, finely laminated in part, bedding 1 inch to 1 foot or more, weathers dark reddish brown, resistant; few thin interbeds of reddish brown sandstone and fine pebbly conglomerate; pebbles are grey limestone and dolostone, grey chert, brown mudstone, green mudstone, some have thin skins of chlorite, matrix red-brown mudstone; in places isolated cobbles, pebbles and boulders in mudstone matrix; ripple-marks at 1975, 2310; mudcracks at 2440; somewhat platy near top of unit; from 2870-2900 interbeds of red and purple jasper, reddish brown mudstone and thin beds of grey hematite, weathers red, reddish brown and grey-brown, resistant.	1160	2895
16	Covered interval, red-brown mudstone talus.	85	1735
15	Covered interval, laminated red-brown mudstone talus.	40	1650

Unit	Description	Thickness (feet)	Total from base (feet)
Unconformity			
LITTLE DAL FORMATION (1610 feet measured)			
14	Dolostone, light to medium grey, crypto-grained, very fine grained, bedding 1/4 to 2 inches, platy in part, minor chert, weathers light to medium grey, stromatolitic at 1580.	75	1610
13	Limestone, dark grey to black, very fine grained, crystalline, bedding 1/4 to 1 inch, platy, weathers very dark grey, recessive; minor dolostone.	40	1535
12	Dolostone, light to medium grey, very fine grained, crystalline, bedding 1/4 to 1 1/2 inches, platy, weathers light orange to yellow-orange; minor black limestone interbeds in upper 10 feet.	115	1495
11	Conglomerate, coarse cobbles and boulders, subrounded and well rounded; mainly dolomite and chert; matrix sandy dolostone, weathers grey.	75	1380
10	Dolostone, light to purplish grey, cryptograined, bedding 1/2 to 10 inches, weathers orange, yellowish orange and reddish brown.	60	1305
9	Dolostone, light to medium grey, crypto-grained to very fine grained, crystalline, bedding 8 inches to 1 foot, laminated in places, weathers medium grey, minor chert nodules and lenses.	95	1245
8	Dolostone, light grey to buff, crypto-grained to very fine grained, crystalline, bedding 1 to 10 inches, laminated in places, minor chert, stromatolitic at 1125 to 1145, weathers light grey to light buff.	90	1150
7	Dolostone, light grey, very fine grained, bedding 10 inches to 1 foot, laminated in places, weathers grey; minor orange dolostone interbeds; stromatolitic at	150	1060



Unit	Description	Thickness (feet)	Total from base (feet)
7 (cont.)	945 to 949, 1030 to 1060; a few nodules of purplish chert.		
6	Dolostone, light to yellowish grey, very fine grained to cryptograined, bedding 4 inches to 10 feet, laminated, weathers orange, grey, reddish orange; dark grey chert lenses made up 20 per cent of rock; stromatolitic at 898 to 902, 904 to 905.	55	910
5	Dolostone, light grey, bluish grey and grey, cryptograined to very fine grained, crystalline, bedding 1/2 to 10 inches, wavy, finely laminated in part, weathers orange, buff, reddish brown and grey; mudcracks at 500.	440	855
4	Dolostone, light blue-grey and grey, pisolitic, very fine grained, weathers light grey.	20	415
3	Dolostone, light blue-grey, cryptograined, bedding 1/2 inch to 1 foot, weathers orange.	30	395
2	Dolostone, blue-grey, cryptograined, bedding 1 to 3 feet, weathers grey with pink and buff stains; stromatolitic at 220 to 228, 305 to 320.	255	365
1	Dolostone, dark grey to blue-grey, cryptograined, bedding 1 to 4 feet, weathers light to dark grey; stromatolitic from 18 to 22; minor black shale from 22 to 52; quartzite from 52 to 92, white to greenish white, fine grained, bedding 1 to 3 feet, laminated in part, weathers light grey.	110	110

Plateau Fault

Section 10. Little Dal Formation, Rapitan Group, and Keele Formation.

On southeast trending ridge 6 miles north of Redstone River  
at lat. 63° 14'N, long. 127° 05'W, Wrigley Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
<u>Summary</u>			
	Keele Formation	400 (incomplete)	
	Rapitan Group	5290	
	Upper Rapitan	3845	
	Middle Rapitan	1220	
	Lower Rapitan	225	
	Little Dal Formation	1700 (incomplete)	
KEELE FORMATION (basal 400 feet measured)			
35	Limestone, medium to dark grey, very fine grained to medium grained, crystalline, bedding 1/4 to 2 inches, wavy, weathers buff-grey from 7234 to 7290 and grey from 7290 to 7400; shaly siltstone from 7380 to 7398, green-grey, very fine grained, weathers brown to buff-brown.	165	7400
34	Covered interval, talus of shale and dark grey shaly limestone.	40	7235
33	Dolostone, light to medium grey, crystalline, bedding 1 to 2 feet, weathers orange; limestone from 7085 to 7090, 7133 to 7174, medium to dark grey, very fine to medium grained; green shale from 7090 to 7095, 7115 to 7130, 7174 to 7189, bedding 1/2 to 2 inches; minor sandstone from 7095 to 7115, light grey, very fine grained, bedding 6 inches to 1 foot.	120	7195
32	Sandstone, light grey, very fine to coarse grained, bedding 6 inches to 2 feet, weathers light grey, slightly recessive, locally crossbedded.	85	7075

Unit	Description	Thickness (feet)	Total from base (feet)
RAPITAN GROUP			
UPPER RAPITAN			
31	Mudstone, green-grey, cryptogained to very fine grained, silty, finely laminated locally, bedding 1/4 to 6 inches, platy, weathers green-grey, stained brown; minor sandstone from 6280 to 6310, fine to coarse grained, green-grey, bedding 1 to 4 inches, weathers light to medium grey.	715	6990
30	Partly covered interval; minor grey to black limestone, very fine grained, bedding 6 inches to 1 foot, weathers grey to buff-brown to orange, recessive.	160	6275
29	Shale, green-grey, silty, cryptogained to very fine grained, bedding 1/2 to 2 inches, platy, weathers green-grey; dolostone from 6035 to 6040, grey, very fine grained, stromatolitic, weathers orange and reddish orange; minor green-grey shaly siltstone.	95	6115
28	Sandstone, medium green-grey, very fine grained, bedding 10 inches to 1 1/2 feet, weathers green-grey; resistant, minor green-grey shale interbeds, recessive.	160	6020
27	Shale, dark grey to green-grey, cryptogained to very fine grained, silty, bedding 1/4 to 4 inches, platy, finely laminated in part, weathers grey and green-grey; numerous sandy and silty lenses, nappe-like slump folds in shale at 4785 and 5165; from 4150 to 4230, 4525 to 4535, 4550 to 4575, 4685 to 4700, 4704 to 4709, light grey to green-grey, very fine grained, bedding 1 to 4 inches, platy, weathers greenish brown, greenish grey and grey, many shale interbeds; load casts fairly common, a few convolute laminations in thinner sand beds, ripple-marks at 5577; sandstone commonly occurs as lenses.	1815	5860

Unit	Description	Thickness (feet)	Total from base (feet)
26	Shale, black to green-black, bedding 1/4 to 1 inch, fissile, weathers dark green-grey to brownish green, forms thin plates, at 4045 silty, green weathering and resistant.	165	4045
25	Sandstone, light grey to green-grey fine grained, feldspathic, bedding 8 inches to 1 1/2 feet, weathers light grey to light green-grey in large 6 to 10 inch fragments.	120	3880
24	Shale, grey to green-grey, crypto-grained, silty in places, bedding 1/4 to 3 inches, finely laminated in places, weathers green-grey, locally yellow, platy and recessive, minor conglomerate at 3505, shale casts in sandy matrix.	585	3760
23	Covered interval, shale talus.	30	3175
MIDDLE RAPITAN			
22	Conglomeratic mudstone, grey to green-grey, matrix sandy and calcareous, very fine grained, bedding not apparent, mainly massive, contains 4 to 35 per cent clasts greater than 1/4 inch and as much as 2 feet in diameter; pebbles, cobbles, and boulders are limestone, grey dolostone, brown sandstone, greenstone, grey and black chert, sub-rounded to rounded very few striated and faceted; weathers grey, green-grey, buff-brown in platy fragments; minor sandstone from 2440 to 2442, green-grey, very fine grained, slightly calcareous, lens-shaped.	1220	3145
LOWER RAPITAN			
21	Mudstone, buff-brown, maroon, green, cryptograined, bedding 1 inch to 4 feet, locally finely laminated, weathers grey, green and dark reddish brown; thin interbeds and lenses of conglomerate, fine to coarse, clasts of grey limestone,	215	1925

Unit	Description	Thickness (feet)	Total from base (feet)
21 (cont.)	dolostone, green mudstone, sandstone, subangular to subrounded; matrix sandy mudstone, beds 1/2 to 10 inches, uppermost 150 feet are mudstones with a few isolated, scattered pebbles.		
20	Limestone, black, medium grained, crystalline, bedding 2 feet, contains a few mudstone clasts.	10	1710
LITTLE DAL FORMATION (1700 feet measured)			
19	Dolostone, light grey, fine grained, 20 per cent chert nodules, grey and black, weathers buff.	35	1700
18	Limestone, light grey, crystalline, very fine grained, laminated in part, weather light grey.	35	1665
17	Dolostone, light grey, very fine grained, crystalline, laminated in places, minor chert nodules, partly stromatolitic, weathers buff to orange.	75	1630
16	Covered interval.	95	1555
15	Limestone, dark grey to black, very fine grained, crystalline, laminated in part, bedding 6 inches to 1 foot, weathers light grey to medium grey.	20	1460
14	Covered interval.	120	1440
13	Dolostone, light grey, very fine grained, laminated in part, weathers buff, mudcracks in places.	20	1320
12	Dolostone, reddish brown, very fine grained, laminated in places, bedding 6 inches to 1 1/2 feet, weathers dark red-brown; shaly near top.	25	1300
11	Covered interval	120	1275
10	Dolostone, light greenish grey, very fine grained, bedding 4 to 10 inches; interbedded with shaly red-brown	155	1155

Unit	Description	Thickness (feet)	Total from base (feet)
10 (cont.)	dolomite, bedding 1/4 to 1/2 inch, fissile, recessive, weathers yellowish grey and reddish brown.		
9	Dolostone, light grey, fine grained, slightly silty, weathers buff to yellow- brown.	45	1000
8	Sandstone, light grey, very fine grained, bedding 4 inches to 1 foot, weathers grey, buff, yellow.	10	955
7	Dolostone, medium grey, very fine grained, laminated in part, bedding 1 to 10 inches; about 10 per cent black chert nodules and lenses; weathers buff to yellowish, slightly sandy.	155	945
6	Dolostone, light grey to blue-grey, very fine grained, bedding 4 inches to 1 foot, weathers light grey, minor black chert nodules and lenses.	120	790
5	Covered interval.	70	670
4	Dolostone, light grey, very fine grained, crystalline, bedding 2 to 10 inches, minor black chert, weathers grey.	65	600
3	Covered interval.	85	535
2	Dolostone, light grey, very fine grained, crystalline, laminated in part, bedding 4 to 8 inches, weathers grey to slightly buff.	200	450
1	Dolostone, light blue-grey, very fine grained, bedding 2 inches to 1 1/2 feet, laminated in part, weathers light grey, buff in parts.	250	250

Basal part of Little Dal Formation poorly  
exposed.

Section 11. Sheepbed and Keele Formations (type sections)

In stream cut and adjacent ridge to south, immediately east of crest of Backbone Ranges about 3 miles southeast of peak, elevation 8,217 feet at lat. 62° 37'N, long. 127° 17 1/2'W, Glacier Lake map-area. Outcrop of Sheepbed Formation is relatively poor; the rocks are very recessive weathering and produce abundant, fine grained talus.

Unit	Description	Thickness (feet)	Total from base (feet)
	Overlain by cliff-forming sandstone of Backbone Ranges Formation.		
	SHEEPBED FORMATION		
17	Interbedded mudstone, siltstone, and fine grained sandstone, thin bedded, fissile, locally blocky where sandstone is prominent, weathers rusty red to orange, cliff-forming.	10	4380
16	Interbedded siltstone, fine grained sandstone, and black and brown shale; shale possibly forms less than 50 per cent of these beds; siltstone and sandstone are greenish grey; very minor rusty orange-buff weathering dolomitic sandstone, fine grained, medium greenish grey; at 3535 red and green shales interbedded with lithologies noted above; sandstones and siltstones are cliff-forming members or form resistant ribs in recessive shales.	1175	4370
15	Shale, black and brown, non-calcareous, highly fissile and forms glistening talus, slightly silty and thus more resistant than non-silty shales below.	495	3195
14	Covered interval, talus indicates interbedded siltstone and shale; from 1765 to 2700 mainly dark grey and brown fissile shale.	1045	2700
13	Siltstone, greenish grey to dark grey, non-calcareous, thin bedded, platy.	85	1655

Unit	Description	Thickness (feet)	Total from base (feet)
12	Mainly covered interval, at 1540 outcrop of very thin bedded shale interbedded with beds ranging to 6 inches thick of fine grained, greenish grey sandstone; talus mainly black and brown, non-calcareous, highly fissile, very uniform shale.	45	1570
11	Shale, dark grey, black and brown, non-calcareous, locally weathers rusty red but mainly dark brown, beds 1/4 to 1 inch thick, highly fissile, forms thin plates.	45	1525
KEELE FORMATION			
10	Dolomite, pale blue-grey, crypto-crystalline, beds 3 inches to 1 foot thick, weathers light yellow-buff, laminated; forms conspicuous resistant member of Keele Formation beneath Sheepbed Formation throughout region; in many places upper surface is a stripped dip-slope.	35	1480
9	Basalt flow, dark brown, agglomeratic rusty light brown on weathered surface, contains angular fragments of limestone and dolomite a fraction of an inch to blocks 3 feet long and 1 foot wide most abundant near base of flow; rock with abundant fragments is generally recessive; lowermost 20 to 25 feet have weathered and fractured into rubbly lumps; uppermost part has closely spaced, planar fractures more or less parallel with surface of flow.	75	1445
8	Dolomite, massive, pale blue-grey to green-grey, medium to fine grained, beds 6 inches to 3 feet; weathers cream-buff to orange-buff, resistant.	225	1370
7	Covered interval.	45	1145
6	Dolomite, light grey to cream-buff; medium to fine grained, massive to beds 6 inches to 1 1/2 feet thick,	175	1100



Unit	Description	Thickness (feet)	Total from base (feet)
6 (cont.)	averaging about 1 1/2 feet thick, weathers yellow-to reddish buff; cliff-forming.		
5	Limestone, medium dark grey, fine to medium grained, laminated, no places fissile, beds from 1/4 to 3 inches thick, platy, weathers dark buff and grey.	95	925
4	Mainly covered interval, talus of massive, homogeneous, medium to coarse grained dolomite grading into limestone in upper 25 to 30 feet.	211	830
3	Dolomite, massive, medium to coarse grained, weathers bright ochre and yellow-buff, locally a rose-pink; from 578 to 597, limestone, cryptocrystalline, dark grey, beds 1 to 2 inches thick, weathers light grey; 597 to 602, very fine grained porcellaneous dolomites cream-buff, weathers orange-buff, conchoidal fracture.	239	619
2	Sandstone, coarse grained, slightly dolomitic.	15	380
1	Dolomite, cream to white, medium grained, homogeneous, massive, weathers medium brown to rusty brown, sugary texture; from 220 to 240, silty member, beds 2 inches to 1 foot, well developed current ripples indicate beds are right side up; 240 to 325, very massive dolomite; above 325, bedding better developed with beds 6 inches to 4 feet thick.	365	365

Underlain by shaly rocks of Rapitan Group.

Section 12. Backbone Ranges Formation (type section)

Lower part measured near base of steep east flank of ridge in Backbone Ranges at lat. 62°30'N, long. 127°11'W, upper part in glacially scoured valley 2 miles to northwest at lat. 62°31'N, and long. 127°15'W, Glacier Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
Overlain by varicoloured carbonates of Avalanche Formation.			
BACKBONE RANGES FORMATION (type section)			
UPPER MEMBER			
14	Sandstone, quartzitic, pink, brown, purple, grey, mainly thick bedded to massive, medium to coarse grained; minor interbedded maroon, green, and brown siltstone locally thin bedded and silty, in places crossbedded, resistant.	840	4720
13	Sandstone, quartzitic, grey, thin bedded, very fine grained, interbedded with light brown and grey, thin bedded, fissile, brown weathering siltstone, recessive.	65	3880
12	Sandstone, quartzitic, pink, purple, grey, brown, thick bedded to massive, in part thinly laminated, mainly medium grained; interbedded with minor purple and maroon siltstone, locally crossbedded; resistant.	425	3815
11	Sandstone, quartzitic, light brown, pink, purple, thin to medium bedded, in part laminated, fine to medium grained, 3185 to 3390 fairly recessive, medium to thick bedded; 3055 to 3090 interbedded purple mudstone, fine-grained quartzitic sandstone and medium grained quartzitic sandstone, thin to medium bedded; 2975 to 3055 grey, thin bedded, fissile siltstone, weathers light grey and brown; interbedded with thin bedded, quartzitic sandstone at top; 2965 to 2975 silty,	435	3390

Unit	Description	Thickness (feet)	Total from base (feet)
11 (cont.)	grey, fine grained, medium bedded, laminated dolomite, weathers brown; platy.		
10	Sandstone, quartzitic, light grey to pink, thick bedded to massive, medium to coarse grained, some quartz-pebble conglomerate in lower part, well developed asymmetrical ripple-marks near top, weathers grey in lower part and pink in upper part.	790	2955
MIDDLE MEMBER			
9	Dolomite, light grey, cream, pale purple, pale green, thin bedded and laminated, cryptograined to fine grained, weathers orange, brown, cream, in part platy; minor dolomitic siltstone weathering orange and orange-brown; forms distinctive colour-banded unit that is a conspicuous marker-unit throughout the Backbone Ranges.	480	2165
LOWER MEMBER			
8	Sandstone, brown, grey, laminated, very fine grained interbedded with white, medium grained quartzitic sandstone and shaly, brown-maroon, recessive, buff-brown weathering siltstone; thin, orange weathering, dolomite band near top of unit; unit appears banded, dark and light grey from a distance; sandstones resistant and silty beds recessive.	230	1685
7	Sandstone, quartzitic, white, thick bedded, coarse grained, weathers white with pitted surface; minor interbedded argillaceous siltstone; unit generally resistant and appears massive and grey from a distance.	180	1455
6	Dolomite, silty and sandy, grey and brown, thin to medium bedded, very fine grained and medium grained, weathers orange-brown and brown, recessive; 1235 to 1260 white, medium grained, cross-bedded, quartzitic sandstone.	90	1275

Unit	Description	Thickness (feet)	Total from base (feet)
5	Sandstone, quartzitic, grey-white, thick bedded, medium grained, weathers light grey to white; minor interbedded, brown siltstone; white, coarse grained, pitted quartzite, in part crossbedded near base; asymmetrical ripple-marks well developed near base.	289	1185
4	Dolomite, silty, brown, laminated, conspicuous marker.	1	896
3	Sandstone, quartzitic, brown, medium bedded, medium grained, weathers light grey; interbedded with light brown-grey siltstone, thin-bedded and recessive and thick bedded, in part crossbedded, quartzitic sandstone, weathers white with pitted surface; 545 to 570 recessive, grey, platy, thin bedded siltstone.	430	895
2	Siltstone, brown, thin bedded, fissile, weathers brown; platy; interbedded with very fine grained, medium bedded, brown, quartzitic sandstone; unit generally recessive and brown weathering.	205	465
1	Sandstone, quartzitic, white, medium bedded, medium grained; weathers light grey with smooth surfaces; interbedded with medium to coarse grained quartzitic sandstone that weathers white with pitted surfaces and brown, thin bedded, platy siltstone; 43 to 70 brown, thin bedded, platy siltstone, recessive; 0 to 43 white, quartzitic sandstone, medium to coarse grained; weathers white with pitted surfaces; crossbedded.	260	260

Overlies recessive glossy, black shales of Sheepbed Formation.

Section 13. Backbone Ranges Formation, lower two members

On steep east slope of ridge at crest of Backbone Ranges immediately west of peak, elevation 8,217 feet at lat. 62° 32'N, long. 127° 10'W, Glacier Lake map-area.

Upper Member continues

BACKBONE RANGES FORMATION

UPPER MEMBER (10 feet measured)

Unit	Description	Thickness (feet)	Total from base (feet)
19	Sandstone, quartzitic, white, pure, coarse grained; interbedded with shale, fissile, platy, dark brick-red; oscillation ripple-marks in sandstone with wave length of 1 to 1 1/2 feet and amplitude of 3 to 4 inches; crests of ripple-marks tend about N10 degrees W when beds rotated to horizontal.	10	2190
MIDDLE MEMBER			
18	Dolomite, coarse grained, pale pink, weathers brown to pink-buff, massive, in part may be slightly silty.	70	2180
17	Dolomite, pale pink, brown, purple, very fine grained, crystalline, beds 1/2 to 4 inches thick, in part faintly laminated, well bedded, weathers yellow-buff.	105	2110
16	Dolomite, pale pink, medium to coarse grained, crystalline, bedding 6 inches to 5 feet, averages about 1 1/2 to 2 feet, weathers pale tan to buff.	20	2005
15	Dolomite, fine grained to cryptograined and porcellaneous, pastel pink, cream, brown, beds 1 to 9 inches thick, in part platy and locally fissile, weathers striped orange-buff, buff, pastel red, cream; minor shale, brick-red to purple weathering; dolomite locally grades laterally into limestone, cream with dark brick-red slightly dolomitic laminae, aphanitic and porcellaneous.	460	1985

Unit	Description	Thickness (feet)	Total from base (feet)
LOWER MEMBER			
14	Interbedded sandstone, quartzitic dull grey to purple-grey, fine grained, thin bedded, and minor dark, brick-red shale.	135	1525
13	Sandstone, quartzitic, white, pure, beds 6 inches to 4 feet thick, weathers white.	60	1390
12	Sandstone, quartzitic, white to grey, coarse grained, well sorted and pure, beds 1 to 3 feet thick, weathers white, rusty, and dull brown; interbedded with fine to medium grained, pale brown, finely laminated sandstone in beds 1 to 6 inches thick, weathers dark brown; pure sandstone in units 8 to 15 feet thick and finer grained sandstones in units 6 to 8 feet thick.	70	1330
11	Sandstone, quartzitic, white and grey, medium to coarse grained, thin bedded, platy, commonly with fine laminations, weathers rusty or dull brown, light grey-white; blocky from 1180 to 1210, more blocky sandstone is pale blue-brown-grey on fresh surface.	160	1260
10	Sandstone, quartzitic, forms two massive units 20 to 25 feet thick separated by sandstones unit in beds 2 to 3 inches thick.	55	1100
9	Sandstone, quartzitic, greenish grey to grey-white, fine to coarse grained; interbedded with grey, very fine grained creamy buff weathering dolomite; each lithology in units 10 to 20 feet thick.	225	1045
8	Dolomite, medium grey, very fine grained to cryptograined, beds 6 inches to 1 1/2 feet thick, weathers cream-buff.	40	820
7	Sandstone, quartzitic, greenish grey, medium to coarse grained, laminae and crossbeds of coarse and very coarse sand, weathers orange-buff and brown.	270	780

Unit	Description	Thickness (feet)	Total from base (feet)
6	Dolomite, medium grey, cryptograined to very fine grained, weathers alternating dull medium grey or dull orange-buff.	55	510
5	Interbedded dolomite, cryptograined to very fine grained, grey, weathers grey or orange-buff and quartzitic sandstone (about 65 per cent); quartzitic cross-bedded.	130	455
4	Sandstone, quartzitic, fine to coarse grained, some slightly dolomitic, forms fairly massive units 7 to 8 feet thick.	85	325
3	Dolomite, medium grey, cryptograined to very fine grained, weathers alternating grey or dull orange-brown.	80	240
2	Sandstone, quartzitic, interbedded green, pink-purple, and tan, fine to very coarse grained, beds 1 to 4 feet thick; minor orange-buff weathering dolomite.	110	160
1	Interbedded sandstone, quartzitic coarse to very coarse grained, well rounded glassy quartz grains, pale pink-grey, beds 1 to 4 feet thick, weathers light grey, and dark red, quartzose shale.		50

Section continues, mainly quartzitic sandstones.

Section 14. Backbone Ranges Formation

About 6 miles north of Redstone River at lat. 63°10'N,  
long. 127°11'W

Unit	Description	Thickness (feet)	Total from base (feet)
	Overlain by nodular limestone of Rockslide Formation.		
BACKBONE RANGES FORMATION			
UPPER MEMBER			
22	Siltstone, dark reddish maroon, very thin bedded and thinly laminated, slaty talus, resistant, slightly calcareous; 1818 to 1823, nodular shale.	110	1824
21	Siltstone and shale, interbedded, slaty and platy, weathers maroon, brown, yellow-green, 1458 to 1464 green weathering siltstone with calcareous concretions as much as 3 1/2 feet long and 1 foot thick; 1478 to 1485 thick bed of coarse-grained, brown weathering sandstone; overlain by 3 to 4 feet of purple weathering, medium to coarse grained sandstone. GSC loc. 68967 at 1473 <u>Fremontella</u> sp. <u>Olenellus</u> sp. GSC loc. 68964 at 1714 <u>Olenellus</u> sp.	255	1714
20	Covered interval.	10	1459
19	Dolomite, medium grey, fine grained, weathers grey, 7 feet thick, overlain by calcareous quartz sandstone, medium to coarse grained, thin bedded, weathers white and is white on fresh surface, some yellow-brown staining; quartz grains subangular to rounded; dolomites slightly recessive.	25	1449
18	Sandstone, quartzitic, purple, medium to coarse grained; thin bedded in upper part and medium bedded in lower part.	20	1424



Unit	Description	Thickness (feet)	Total from base (feet)
17	Sandstone, quartzitic, light grey, fine to medium grey, medium to thick bedded, weathers medium to dark grey, locally hematitic; 1328 to 1330 maroon weathering shale.	75	1404
16	Covered interval. On trend with quartzitic sandstone beds.	265	1329
MIDDLE MEMBER			
15	Dolomite, pale purple, thin to medium bedded, fine grained, weathers light orange to red-orange; forms prominent cliff.	160	1064
14	Covered interval.	10	904
LOWER MEMBER			
13	Sandstone, quartzitic, lower 2 feet purple, remainder pale green-grey, purple and pale green on fresh surface, smooth bedding planes; resistant.	12	894
12	Covered interval.	19	882
11	Sandstone, quartzitic, purple, medium bedded, coarse grained, weathers purple, locally grains as much as 6 mm. subangular to subrounded; in part fine grained.	20	863
10	Covered interval, talus of coarse grained white, quartzitic sandstone.	40	843
9	Sandstone, quartzitic and hematitic.	5	803
8	Sandstone, quartzitic, white, medium bedded, fine to medium grained; 758 to 760 bed of strongly hematitic sandstone, locally with fairly pure hematite.	40	798
7	Sandstone, quartzitic, white and purple, thin to thick bedded, fine to coarse grained; 718 to 719 1/2 beds of hematite persists laterally for at least 125 feet, hematite variably sandy and grades to hematitic sandstone; 719 1/2 to 723 1/2 very coarse grained, hematitic sandstone;	40	758

Unit	Description	Thickness (feet)	Total from base (feet)
7 (cont.)	723 1/2 to 728 1/2 feet pale green-white, thin bedded, quartzitic sandstone; 733 to 734 very thin bedded, purple, shaly sandstone.		
6	Sandstone, mainly white, fine grained to very coarse grained and gritty, thick bedded with smooth bedding planes, weathers white to rusty brown; 613 to 638 very coarse grained sandstone speckled with limonite; 638 thin layer of grit.	201	718
5	Sandstone, quartzitic and shales; sandstones are micaceous, thinly laminated, and form beds 1 foot thick; shales are very thin bedded and weather rusty brown; 489 to 500 fine grained, light grey to white, quartzitic sandstone, medium bedded.	28	517
4	Covered interval.	44	489
3	Sandstone, quartzitic, white to grey, medium bedded, fine grained, thinly laminated in part, weathers brown to medium grey.	42	445
2	Covered interval. Probably thin to medium bedded sandstone interbedded with shale.	358	403
1	Dolomite, light grey, medium to thick bedded, fine grained, weathers light grey-buff.	45	45

Overlies Sheepbed Formation

Section 15. Sekwi and Broken Skull Formations

On southwest limb of South Nahanni Anticline about 4 1/2 miles northwest of peak, elevation 7,209 feet, at lat. 62° 19'N, and 127° 53'W, Glacier Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
Section continues with thick sequence of carbonates.			
BROKEN SKULL FORMATION (215 feet measured)			
24	Dolostone, light grey, medium grained, sugary, beds 2 to 3 feet thick, lower part weathers orange, upper part light and dark grey.	100	1535
23	Limestone, grey, weathers grey, coarse grained. GSC loc. 68950 <u>Conaspis</u> sp. ? <u>Sinuella</u> sp.	5	1435
22	Dolostone, medium grey, fine grained, beds 2 to 3 feet thick, weathers orange and buff-orange.	25	1430
21	Siltstone, dolomitic and minor silty dolomite, alternating light purple and pink layers from fraction of an inch to 3 inches thick, weathers dark red-brown to maroon, worm trails abundant.	85	1405
Angular unconformity			
SEKWI FORMATION (1285 feet measured)			
20	Dolostone, light grey, fine grained, somewhat sandy in places beds range from 1 inch to 1 foot thick and average about 6 inches, weathers orange to buff-orange.	45	1320
19	Siltstone, purple, laminated, beds 2 to 3 feet thick, locally thin bedded, weathers purple; interbedded with dolostone, light grey, thick bedded, weathers orange.	95	1275

Unit	Description	Thickness (feet)	Total from base (feet)
18	Dolostone, light grey, fine grained, thick bedded, beds 1 to 10 feet thick, sandy, weathers orange.	34	1180
17	Sandstone, quartzitic light purple, medium grained, medium to thick bedded, weathers purple-grey.	51	1146
16	Dolostone, light grey, fine grained, medium to thick bedded, in part sandy, weathers orange.	93	1095
15	Siltstone, purple, sandy, thin bedded, weathers purple.	17	1002
14	Dolostone, light grey, fine grained, silty, laminated, medium bedded; thin partings of purple siltstone; dolomite weathers orange.	20	985
13	Dolostone, grey brown, fine grained, medium bedded, weathers brown.	50	965
12	Limestone, fine grained, beds 6 inches to 1 1/2 feet, weathers brown to orange.	25	915
11	Dolostone, medium grey, fine grained, beds 1 to 5 feet thick, weathers orange-grey; laminated on weathered surface.	25	890
10	Limestone, medium grey, fine grained, thin to medium bedded, weathers brown to grey.	150	865
9	Covered interval.	10	715
8	Siltstone, greenish grey, laminated, thin bedded, weathers light brown. GSC loc. 68949 at 695 <u>Olenellus</u> sp.	24	705
7	Covered interval.	34	681
6	Siltstone, yellow-green to greenish grey, thin bedded, weathers purple, yellow, and green; at 550. GSC loc. 68947 ? <u>Wanneria</u> sp.	202	647

Unit	Description	Thickness (feet)	Total from base (feet)
5	Dolostone, sandy in part, pale purple-grey, medium to thick bedded, weathers orange and purple.	124	445
4	Dolostone, light grey, fine grained, sandy, medium bedded, weathers grey to brownish grey.	65	321
3	Siltstone, pale green-grey, thin to medium bedded, weathers brown. GSC loc. 68948 at 220 <u>Olenellus</u> sp. <u>Paedeumias</u> sp.	66	256
2	Dolostone, sandy, light grey, fine grained, thick bedded, weathers light grey to silver grey.	90	190
1	Limestone, "Swiss-cheese" texture, limestone pods medium grey, fine grained, weather medium grey in a matrix of calcareous siltstone, medium grained, fine grained, thin bedded, weathers brown. GSC loc. 68970 at about 60 <u>Olenellus</u> sp. Archaeocyathid		100
	Overlies brown to buff weathering quartzitic, fine to medium grained sandstones of Backbone Ranges Formation.		

Section 16. Rockslide Formation (type section)

East facing ridge 1 1/2 miles north of Rockslide Pass at  
lat. 63°21'N, long. 127° 32'W, Wrigley Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
	For overlying strata of Broken Skull Formation see section 17.		
	ROCKSLIDE FORMATION (type section)(1640+feet)		
35	Limestone, dark grey to black, well bedded, relatively resistant, not examined.	200+	1950+
34	Limestone, black, thick bedded, cryptograined, weathers dark grey, resistant.	25	1750
33	Limestone, dark grey, thin bedded, fine grained, weathers medium grey, fairly resistant. GSC loc. 68925. <u>Bathyriscus</u> cf. <u>B. rotundatus</u> Rominger, 1887 <u>Elrathina cordillerae</u> (Rominger), 1887 <u>Ptychagnostus</u> cf. <u>P. burgessensis</u>	40	1725
32	Covered interval; some talus of brown-grey weathering limestone as unit below.	225	1685
31	Limestone, medium grey, bioclastic, oolitic in part, thin bedded; weathers light grey and brown, recessive.	55	1460
30	Limestone, dark grey, very thin bedded (beds 1/10 to 1/4 inch) fine grained, weathers brown with grey patches, moderately resistant and platy. GSC loc. 68924 <u>Elrathina brevifons</u> <u>Pagetia bootes</u> <u>Peronopsis</u> cf. <u>P. montis</u>	25	1405
29	Limestone, dark grey, thin bedded and platy, cryptograined; weathers grey-brown, recessive.	45	1380

Unit	Description	Thickness (feet)	Total from base (feet)
28	Limestone, dark grey, thin bedded, cryptograined, weathers grey-brown, resistant, forms platy talus. GSC loc. 68923 <u>Corynexochides</u> sp. <u>Pagetia bootes</u> <u>Peronopsis montis</u>	10	1335
27	Limestone, dark grey, thin bedded, cryptograined; weathers brown-grey.	65	1325
26	Sandstone, banded dark grey and light pink-grey, light bands 2 to 4 inches thick, dark bands 1 inch thick, fine to medium grained, resistant, good marker.	7	1260
25	Limestone, dark grey, thin bedded, cryptograined, weathers brownish grey, talus is shaly. GSC loc. 68922 <u>Elrathina parallela</u> <u>Peronopsis columbiensis</u> <u>Pagetia bootes?</u>	128	1253
24	Limestone, sandy, dark grey, medium bedded, includes small pods of almost pure sandstone to 3 inches long, sand is medium grained.	5	1125
23	Limestone, dark grey, thin bedded and argillaceous, platy from 1085 to 1120. GSC loc. 68921 at 1005 <u>Bathyruriscus?</u> sp. <u>Elrathina?</u> sp. cf. <u>Elrathina brevifrons</u> <u>Peronopsis</u> sp. GSC loc. 68920 at 1075 <u>Kistocare?</u> sp. <u>Pagetia fossula?</u> <u>Peronopsis</u> sp.	55	1120
22	Limestone, sandy, dark grey, with pods of medium grained sandstone, medium bedded, slightly recessive.	10	1065

Unit	Description	Thickness (feet)	Total from base (feet)
21	Sandstone, light grey and medium grey, thick bedded, fine to medium grained, weathers grey to brown; shaly interbed at 1045 to 1046, black, calcareous; good marker.	55	1055
20	Limestone, fine grained and platy, interbedded with calcareous sandstone that contains fragments of limestone 3 to 5 inches long, unit weathers shades of brown, slightly recessive.	13	1000
19	Limestone, black, beds 1/2 to 4 inches thick; fine grained; thin beds of dark grey shale; some lenses of calcareous shale in limestone; strongly resistant.	35	987
18	Shale, calcareous, black, thin bedded, platy, weathers black, recessive.	12	952
17	Limestone, dark grey, cryptograined, interbedded with shale; limestone beds 2 to 6 inches thick and shale beds 1 to 2 1/2 inches thick, limestone weathers dark grey with buff patches, bedding planes wavy between shale and limestone. GSC loc. 68919 at 930 <u>Pagetia fossula</u> <u>Caborcella</u> sp. <u>Pagetia</u> aff. <u>P. resseri</u>	10	940
16	Covered interval mainly with moderately resistant dark grey, cryptograined limestone that weathers brown from 890 to 895 and brown-grey weathering, medium bedded, dark grey, oolitic, dark grey limestone from 915 to 916. GSC loc. 68918-915-916 <u>Amecephalus</u> sp. <u>Athabaskia</u> sp.	40	930
15	Covered interval.	40	890
14	Limestone, dark grey, thin bedded, cryptograined, weathers brown-grey, smooth bedding planes, resistant. GSC loc. 68917 <u>Glossopleura</u> sp. <u>Amecephalus</u> sp.	20	850



Unit	Description	Thickness (feet)	Total from base (feet)
13	Covered interval.	185	830
12	Limestone, dark grey, thin bedded, platy, fine grained, weathers dark grey with brown patches, smooth bedding planes, resistant. GSC loc. 68916 <u>Albertella?</u> sp. <u>Pagetia clytia?</u>	15	645
11	Covered interval.	70	630
10	Limestone, dark grey, thin to medium bedded, crypto to fine grained, weathers brownish grey; a few dark shale interbeds 3 to 4 inches thick; limestone contains as much as 5 per cent pyrite cubes. GSC loc. 68914 at 545 <u>Pagetia clytia?</u> <u>Kootenia</u> sp. <u>Peronopsis lautus?</u>	20	560
9	Covered interval.	60	540
8	Limestone, dark grey, medium bedded, fine grained, weathers grey to buff, resistant. GSC loc. 68913 <u>Dolichometopsis?</u> sp. <u>Wenkchemnia</u> sp.	9	480
7	Covered interval; probably mainly black shale.	26	471
6	Shale, black, fissile, calcareous.	5	445
5	Siltstone, medium grey, fairly massive, calcareous; rare pods of brown-grey weathering, fine grained, dark grey limestone; slightly recessive-intermediate between recessive unit above and resistant unit below.	35	440
4	Siltstone, calcareous, grey, well bedded to massive, weathers grey with brown-grey weathering pods, in lower part pods of brown-grey weathering	95	405

Unit	Description	Thickness (feet)	Total from base (feet)
4 (cont.)	limestone are 1 to 3 inches long and 1/2 to 1 inch thick, at 350 pods are 3 to 4 feet long and 1 inch thick, siltstone is shaly at 350, many fewer limestone pods above 355 ; pods thicker in upper part (2 to 3 inches) and are more widely spaced vertically (8 inches to 1 foot). GSC loc. 68912 at 340 <u>Ehmaniella?</u> sp. <u>Fieldaspis</u> aff. <u>F. furcata</u> GSC loc. 68911 at 330 <u>Amecephalus</u> sp. <u>Fieldaspis</u> aff. GSC loc. 68910 at 314 <u>Fieldaspis</u> aff. <u>F. furcata</u> <u>Prototreta</u> sp.		

BACKBONE RANGES FORMATION (310 feet measured)

3	Siltstone, grey-green, thin bedded, finely laminated, weathers brown-buff, some rusty nodular patches, thin (less than 1/10 inch) layers of pyrite crystals, very resistant.	17	310
2	Mainly covered but talus of green-grey, green and maroon weathering siltstone; laminated.	288	293
1	Sandstone, quartzitic, white, thin bedded, fine grained, weathers green-grey.	5	5

Section 17. Rockslide and Broken Skull Formations

On south-facing ridge, north side of Rockslide Pass,  
lat. 63°21'N, long. 127°37'W, Wrigley Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
BROKEN SKULL FORMATION (2,070 feet measured)			
40	Dolomite, light grey, thick bedded, fine to medium grained, weathers grey-buff to orange, resistant.	20	2365
39	Covered interval, talus is mixture of grey and orange dolomite and grey limestone.	55	2345
38	Limestone, grey, thick bedded, fine grained, weathers light grey, very resistant.	10	2290
37	Covered interval, talus is light grey-buff weathering, blocky dolomite.	60	2280
36	Limestone, sandy, grey, medium grained, oolitic in part, weathers light grey, sand occurs in sandy lenses and layers, sand is fine to coarse grained.	40	2220
35	Covered interval.	10	2180
34	Limestone, medium grey, silty, medium bedded, weathers medium grey with some brown mottling, silty bands to 1 inch wide, resistant.	55	2170
33	Covered interval, probably limestone as in unit below.	65	2115
32	Limestone, medium grey, thin bedded, platy, bioclastic, weathers grey. GSC loc. 68929 <u>Billingsella</u> sp. <u>Eoorthis</u> sp. <u>Dokimocephalus?</u> sp.	35	2050
31	Limestone, medium grey, medium bedded, fine to medium grained, weathers grey; orange weathering dolomite	40	2015

Unit	Description	Thickness (feet)	Total from base (feet)
31 (cont.)	1982 to 1982 1/2; top of dolomite is an edgewise conglomerate, 5 inches thick; dolomite displays well developed mudcracks, irregular silty laminae locally form network.		
30	Covered interval.	23	1975
29	Dolomite, grey, thin bedded, fine grained, weathers orange; interbedded with medium bedded, grey, oolitic limestone; dolomite has well developed mudcracks.	7	1952
28	Covered interval.	10	1945
27	Limestone, white, massive, fine grained; weathers light grey, very resistant.	10	1935
26	Limestone, dark grey, thick bedded, cryptograined; weathers light grey; brownish weathering silty laminations; interbedded with cryptograined, orange weathering, dolomite.	183	1925
25	Covered interval, probably orange weathering dolomite.	12	1742
24	Limestone, sandy, light grey, thin to medium bedded, fine grained, weathers grey, in places sand comprises 50 per cent of rock occurring as discontinuous lenses and thin layers, resistant.	15	1730
23	Limestone, light grey, thin to medium bedded, fine grained, weathers light grey, sandy and oolitic in part; 1675 to 1676 creamy dolomite, fine grained; above 1676 the unit is heterogeneous including interbedded very sandy limestone, oolitic limestone and fine grained, pure limestone; moderately resistant.	110	1715
22	Covered interval.	5	1605
21	Limestone, medium grey, medium bedded, fine grained, locally oolitic.	40	1600

Unit	Description	Thickness (feet)	Total from base (feet)
20	Covered interval.	15	1560
19	Dolomite, interbedded light grey and dark grey, thick bedded, fine grained, weathers light pale buff and dark grey, very vuggy, dark grey dolomite at 1515 and 2-foot bed of light buff, oolitic dolomite at 1540.	65	1545
18	Covered interval, possibly light orange and dark grey weathering fine grained dolomite.	25	1480
17	Limestone, medium to dark grey, thin bedded, fine grained, weathers medium grey, oolitic in part.	25	1455
16	Dolomite, pale purple, medium bedded, fine grained, weathers light brown-orange, a few beds weather grey, locally laminated, at 1325 rocks are cryptograined and pale violet on fresh surface, above 1412 weathers light grey with orange ribs (1/10 to 1/4 inch thick), resistant.	105	1430
15	Dolomite, dark grey, thin bedded, fine to medium grained, laminated, weathers pale buff-grey with silty laminations weathering brown, rocks are locally vuggy.	115	1325
14	Covered interval.	130	1210
13	Dolomite, purple, finely laminated, fine grained between 1070 to 1072 and 1075 to 1076; purple dolomite with grey laminations, thinly bedded, recessive, between 1076 and 1080.	10	1080
12	Dolomite, light grey, medium to thick bedded, locally finely laminated, uneven, wavy bedding planes, medium grained; at 1040 shaly siltstone, greenish grey on fresh surface and weathering brown, 1 foot thick overlain by medium grained sandy dolomite, slightly pyritic; very resistant.	95	1070

Unit	Description	Thickness (feet)	Total from base (feet)
11	Covered interval.	30	975
10	Dolomite, variably sandy, light grey, medium to thick bedded, medium grained; thin sandy layers, parallel with uneven bedding planes, weathers very light grey, moderately resistant.	305	945
9	Dolomite, very sandy, light grey, clastic dykes in part parallel with bedding but locally crosscutting; sand is fine grained, resistant.	50	640
8	Dolomite, slightly sandy, medium grained, slightly vuggy, light grey weathering.	140	590
7	Dolomite, variably sandy, very light grey, massive, medium grained, sand grains are fine grained sand layers 1/16 inch to 3 inches thick, this unit and units 8 to 10 appear silvery grey from a distance, resistant.	155	450
ROCKSLIDE FORMATION (295 feet measured)			
6	Covered interval.	20	295
5	Dolomite, grey, medium to thick bedded, fine grained; weathers medium grey; very resistant.	20	275
4	Dolomite, calcareous, greenish grey, thin bedded, beds 1/2 to 1 inch thick, cryptograined, weathers orange.	13	255
3	Covered interval, on trend with thin bedded, platy, dark grey limestone.	17	242
2	Limestone, dark grey, thin bedded, cryptograined, weathers grey to brown, locally oolitic; 205 to 210 very thin bedded, platy, dark grey, fine grained limestone. GSC loc. 68928 at 200 to 210 <u>Corynexochides?</u> sp. <u>Ehmaniella</u> sp. <u>Ptychagnostus</u> sp.	75	225

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Unit	Thickness	Thickness (feet)	Total from base (feet)
1	Limestone, dark grey to black, thin bedded, fine grained, weathers black; interbedded with black calcareous shale; 0 to 10 beds 2 to 3 inches thick, resistant, mottled grey and tan; 10 to 60 lenses of limestone to 1 1/2 inches thick and 1 1/2 feet long in shaly beds. GSC loc. 68927 at 70 <u>Bathyriscus?</u> sp. <u>Ptychagnostus</u> sp. <u>Zacanthoides</u> sp. GSC loc. 68926 at 30 <u>Pachyaspis</u> <u>Peronopsis</u> sp.	150	150

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Section 18. Backbone Ranges, Rockslide and Broken Skull Formations

On ridge south of small lake about 6 miles north of Redstone River at lat. 63°11'N, long. 127°13'W, Wrigley Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
BROKEN SKULL FORMATION (435 feet measured)			
30	Dolomite, very light grey, medium bedded, fine grained, weathers orange, laminated, moderately resistant; interbedded with two beds of thinly laminated purple dolomite 1 to 1 1/2 feet thick.	5	1370
29	Dolomite, very light grey, medium bedded, fine grained, weathers pale orange below 1335 and medium orange above, well laminated in part; thinly bedded, pale green weathering siltstone and shale at 1355; moderately resistant.	50	1365
28	Dolomite, medium grey, medium bedded, fine grained to coarse grained, weathers grey; calcareous dolomite at 1180 to 1220; in part oolitic 1220 to 1275.	175	1315
27	Dolomite, grey, medium bedded, fine grained to coarse grained, irregular bedding planes, resistant, in places oolitic.	75	1140
26	Dolomite, dark grey, thick bedded to massive, coarse grained, weathers light grey, locally vuggy, vugs in places filled with coarse dolomite, appears reefoid; dark grey, grey weathering, thin bedded, nodules limestone 965 to 970.	130	1065
ROCKSLIDE FORMATION (815 feet)			
25	Limestone, dark grey, thin bedded, fine grained, weathers grey, in part oolitic, bedding surfaces irregular, forms clinker-like talus.	170	935



Unit	Description	Thickness (feet)	Total from base (feet)
24	Limestone, dark grey, thinly bedded, nodular, fine grained, weathers dark grey to pinkish grey and locally brown-buff; very thin bedded, slightly silty, light brown weathering limestone 728 to 733.	37	765
23	Limestone, medium grey, thin to medium bedded, fine grained, weathers medium to dark grey with some brown bands, clinker-like talus; interbedded with slightly recessive limestone forming units 5 feet thick.	48	728
22	Shale, dolomitic, dark grey, weathers dark grey, very thin bedded and recessive.	8	680
21	Dolomite, medium grey, medium bedded, fine grained, weathers medium to dark grey; in part laminated, locally oolitic; very resistant, strongly oolitic 605 to 610, recessive unit of finely laminated, medium grey weathering dolomite 665-668.	67	672
20	Dolomite, dark grey, thin bedded, fine grained, weathers dark grey with wine mottling, recessive 540 to 568, well laminated on fresh surface above 550, more resistant above 568 and weathers slightly darker than below, vuggy dolomite with coarse grained dolomite in vugs 604 to 605.	65	605
19	Limestone, and minor dolomite, dark grey, thin bedded, weathers mottled grey, dark grey, wine and cream; resistant.	40	540
18	Limestone, dark grey, thin bedded, fine grained, weathers medium grey with purple-wine patches, uneven, nodular bedding surfaces.	15	500
17	Limestone, grey, thin to medium bedded, fine grained, weathers brown-grey with grey splotches, uneven bedding planes, locally oolitic, resistant.	45	485

Unit	Description	Thickness (feet)	Total from base (feet)
16	Limestone, grey, thin to medium bedded, fine grained, grey weathering, nodular bedding surfaces, recessive.	35	440
15	Limestone, grey, thin to medium bedded, fine grained, brown-grey weathering, in part nodular.	15	405
14	Covered interval.	10	390
13	Limestone, grey, thin to medium bedded, fine grained, brown-buff weathering, smooth bedding surface, resistant. GSC loc. 68966 at 350 <u>Syspacephalus?</u> sp.	60	380
12	Covered interval.	5	320
11	Limestone, silty, greenish grey, thin bedded, fine grained, green-grey weathering; nodular brownish weathering fine grained, pyritic limestone 280 to 283.	45	315
10	Covered interval.	5	270
9	Limestone, grey, thin bedded, fine grained, weathers light brown-buff; slightly pyritic, nodular. GSC loc. 68965 to 260 <u>Caborcella?</u> sp. <u>Micrometra</u> sp. <u>Syspacephalus?</u> sp.	10	265
8	Limestone and siltstone; 175 to 177 silty greenish weathering limestone, 177 to 187 thin bedded, brown-maroon weathering calcareous siltstone with smooth bedding planes, 187 to 190 slightly brownish weathering, nodular, recessive limestone, 190 to 235 reddish maroon thin bedded, calcareous siltstone, 235 to 255 very recessive greenish weathering limestone.	80	255

Unit	Description	Thickness (feet)	Total from base (feet)
7	Limestone, medium to dark grey, thin bedded, fine grained, weathers mainly brown with dark grey nodules.	25	175
6	Covered interval.	8	150
5	Limestone, grey with rusty spots, thin bedded, weathers brown-grey, very nodular in lower part.	7	142
4	Covered interval.	8	135
3	Limestone, grey, thin bedded, fine grained, weathers brown, nodular and resistant, nodules commonly dark grey.	7	127
BACKBONE RANGES FORMATION (130 feet measured)			
2	Siltstone, dark reddish maroon, very thin bedded and thinly laminated; slaty talus; resistant; slightly calcareous, 105 to 110 nodular shale.	110	120
1	Siltstone, calcareous, pale green, thin bedded, weathers yellow-green, slightly pyritic; 8 to 10 fine to crypto-grained limestone, weathers pale yellow, contains angular fragments of limestone 1/4 to 1/2 inch thick and 3 to 4 inches long parallel with bedding. GSC loc. 68964, 110 feet below top of Backbone Ranges Formation ? <u>Fremontella</u> sp. <u>Olenellus</u> sp.	10	10

Section 19. Sekwi, Rockslide, Broken Skull, Sunblood, Whittaker, Delorme, and Camsell Formations.

On east trending ridge at and near peak, elevation 7,257 feet, at lat. 63° 10'N, long. 127° 53'W, Wrigley Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
<u>Summary</u>			
	Camsell Formation (?)	350 (incomplete)	
	Delorme Formation	800	
	Whittaker Formation	1145	
	Sunblood Formation	565	
	Broken Skull Formation	2830	
	Rockslide Formation	835	
	Sekwi Formation	115 (incomplete)	
CAMSELL FORMATION?			
23	Poorly exposed interval, dolomite talus.	350	6560
DELORME FORMATION			
22	Dolomite, light grey, light buff and buff-grey, cryptograined, bedding 4 inches to 1 1/2 feet, very finely laminated in places, weathers orange, buff, yellow-orange, pale yellow-green, good outcrop ends at 6210.	75	6210
	Dolomite, light grey, creamy grey, finely laminated in part, cryptograined, bedding 2 to 10 inches, weathers light grey to buff-grey, less than 15 per cent calcareous grey weathering interbeds.	25	6135
	Limestone, cryptograined, black, shaly, weathers medium grey in very small 1 to 2 inch chips, recessive, finely laminated in part.	20	6110
	Dolomite, light grey, cryptograined, very fine grained, crystalline, laminated in part, weathers light to dark grey, bands of black dolomite.	65	6090

Unit	Description	Thickness (feet)	Total from base (feet)
22 (cont.)	Dolomite, light grey, buff-grey, cream, minor dark grey, cryptograined, bedding 2 to 10 inches, platy to slabby, weathers pale yellow, orange and yellowish orange, uniform lithology.	15	6025
	Limestone, black, cryptograined, finely laminated in part, bedding 1 to 8 inches, 3-to 4-foot bands, weathers light-medium grey, slightly laminated; about 25 per cent dolomite weathers orange and yellow-orange, dolomite interbedded with limestone.	8	6010
	Dolomite, light grey to buff-grey, cryptograined, bedding 1 to 4 inches, weathers orange and yellow, finely laminated in part rather recessive, platy, some thicker beds up to 1 1/2 feet thick, forms blocky talus.	62	6002
	Dolomite, light grey to buff-grey, cryptocrystalline, bedding 4 inches to 1 1/2 feet, weathers orange and yellow-orange, finely laminated in part, minor shale, outcrop rubbly.	45	5940
	Dolomite, light grey to buff-grey, cryptocrystalline, bedding 6 inches to 1 1/2 feet, weathers orange, resistant, forms 65 per cent of rock; interbedded with dolomitic shales, recessive, weathers greenish brown, cryptograined, bedding 1/4 to 2 inches, in 2-to 3-foot units.	50	5895
	Dolomite, light grey, greenish grey, creamy grey, shaly, bedding 1/2 to 2 inches, weathers orange and yellow-orange, a few grey limestone lenses filled with brachiopods and fish fragments. GSC loc. 69033 at 5810 to 5812 <u>Meristella</u> sp. fish fragments	50	5845

Unit	Description	Thickness (feet)	Total from base (feet)
22 (cont.)	Dolomite, light grey, greenish grey, weathers orange and yellow-orange, bedding 10 inches to 1 1/2 feet, fairly thick bedded.	15	5795
	Dolomite, shaly, grey-green, weathers yellowish green, bedding 1 to 4 inches, recessive. GSC loc. 69010 at 5772 to 5780 well preserved part of dorsal shield of small cyathaspid.	8	5780
	Dolomite, light grey to grey-brown, cryptogained, slightly calcareous in lower 40 feet bedding 6 inches to 1 1/2 feet weathers into blocks, orange and yellow-orange, uniform, a few beds weather slightly greyish.	192	5772
	Base of Delorme Formation, orange and yellow weathering calcareous dolomite talus.	70	5580
WHITTAKER FORMATION			
21	Limestone, 20 per cent light grey, very fine grained, slightly laminated in part, bedding 1 inch to 1 1/2 feet, weathers light grey; dolomite, 80 per cent, light medium grey, fine grained, crystalline, weathers medium grey, few interbeds of dark grey dolomite with poorly preserved silicified fossils, weathers dark grey.	80	5510
	Dolomite, medium grey, fine grained, crystalline, a few poorly preserved silicified fossils, corals, weathers dark grey, bedding massive, beds 1 to 6 feet thick.	10	5430
	Dolomite, light-medium grey, fine grained, crystalline, bedding 1 to 6 feet, laminated, few thin 1-to 2-foot interbeds of buff weathering thinly bedded dolomite beds 1 to 3 inches slightly recessive.	65	5420

Unit	Description	Thickness (feet)	Total from base (feet)
21 (cont.)	Dolomite, medium to dark grey, fine grained, crystalline, with poorly preserved silicified fossils, some laminations, bedding massive 2 to 6 feet, weathers medium to dark grey.	37	5355
	Dolomite, very fine to fine grained, light grey, laminated, weathers light to buff-grey.	43	5318
	Dolomite, dark grey, with silicified poorly preserved fossils, laminated in part, weathers medium-dark grey.	50	5275
	Dolomite, very fine grained, light grey, bedding 2 to 6 feet, weathers light grey.	25	5225
	Dolomite, medium grey to black, slightly mottled, few poorly preserved silicified fossils, weathers dark grey, bedding 1 to 6 feet, blocky, minor white chert nodules.	48	5200
	Dolomite, light medium grey, very fine to fine grained, crystalline, bedding 2 to 6 feet weathers light grey, uniform, no fossils or chert, slightly buff weathering near 5130 to 5140.	77	5152
	Dolomite, black, medium grained, crystalline, bedding massive, a few black chert nodules and silicified, poorly preserved fossils, brachiopods, corals, weathers dark grey, grades to light grey dolomite without fossils or chert nodules at 5050.	115	5075
	Dolomite, black, medium grained, crystalline, bedding massive beds more than 6 feet thick, a few dolomite blebs white, weathers dark grey, very few poorly preserved fossils, tabulate corals.	25	4960
	Poor outcrop, dolomite, talus, brecciated in part, near 4760 white dolomite matrix, clasts of black dolomite, small 1- to 2-inch fragments, approximately	180	4935

Unit	Description	Thickness (feet)	Total from base (feet)
21 (cont.)	70 per cent of outcrop and talus are brecciated, remainder is medium grained, dark and light grey dolomite weathering medium grey.		
	Dolomite, light-medium grey, very fine to fine grained, crystalline, weathers light grey, bedding massive, 1 to 6 feet with white blebs of chert and limestone, some black bands, bands are 20 to 30 feet thick in places, poorly preserved <u>Halysites</u> sp. dolomitized.	50	4755
20	Limestone, black, cryptograined, bedding 1 to 4 inches, wavy, black chert nodules 20 to 25 per cent, weathers grey; appears rather recessive since limestone weathers into small fragments, fossiliferous tabulate corals.	45	4705
	Limestone, black, cryptograined, bedding 1 to 4 inches, wavy, approximately 25 per cent chert nodules, black, recessive, weathers grey and wine-purple between bedding planes.	20	4660
	Limestone, black, cryptograined, bedding 1 to 4 inches, weathers medium grey, few colonial corals, many brachiopods weather out, very few chert nodules.	90	4640
	Limestone, black, few black chert nodules less than 10 per cent, rock weathers grey, slightly more resistant in places, fossiliferous throughout. GSC loc. 69032 at 4530 <u>?Glyptorthis</u> sp. <u>?Resserella</u> sp. <u>Thaerodonta</u> sp. <u>?Bumastus</u> sp. <u>Cybeloides</u> sp. <u>Otarion</u> sp.	40	4550
	Limestone, black, cryptograined, bedding 1 to 4 inches, shaly, weathers medium grey, with brown stains, bedding wavy, weathers into crumbly fragments, very fossiliferous, fossils silicified.	85	4510



Unit	Description	Thickness (feet)	Total from base (feet)
20 (cont.)	GSC loc. 69009 at 4430 to 4434 <u>Bighornia</u> sp. <u>Lobocorallium</u> sp. <u>Catenipora</u> sp. <u>Thaerodonta</u> sp.		
	Limestone, dark grey, black crypto-grained, bedding 4 to 10 inches, weathers light grey to medium grey.	60	4425
	SUNBLOOD FORMATION (?)		
19	Limestone, interbedded medium grey and blue-black, cryptograined to very fine grained, crystalline, medium grey limestone, weathers buff to light buff-grey bedding 4 inches to 1 foot, blue-black limestone, shaly, bedding 1 to 6 inches, fossiliferous, slightly recessive, weathers dark grey, bands are about 2 to 6 feet thick. In upper 60 feet dark to light beds in ratio at 30:70, in underlying beds ratio 50:50. GSC loc. 69001 at 4210 ? <u>Bathyurus</u> sp.	160	4365
	Banded unit, of alternating light and dark grey dolomite, very fine grained, crystalline, bedding 1 to 6 inches, bands generally 4 to 10 feet thick, weathers light and dark grey.	84	4205
18	Dolomite, light to medium grey, very fine grained, crystalline, bedding 6 inches to 1 foot, weathers buff and buff-grey in small 6- to 8-inch blocks.	111	4121
17	Dolomite, light grey, very fine grained, crystalline, bedding 4 inches to 1 foot, weathers buff and orange-brown, also grey, finely laminated in part, 90 per cent of dolomite weathers light grey, dolomite is cherty, buff and light grey, chert nodules from 3805-3910, chert makes up only 10 per cent of rock, dolomite is uniform in this interval, except in upper 50 feet where a few dark grey dolomite beds are present.	220	4010

Unit	Description	Thickness (feet)	Total from base (feet)
BROKEN SKULL FORMATION			
16	Limestone, dark grey, cryptograined to very fine grained, crystalline, bedding 10 inches to 1 1/2 feet, resistant, weathers medium grey, a few buff, wavy argillaceous laminations, blocky talus; below 3660 limestone, thinly bedded 1/2 to 2 inches, platy; at 3710 many silicified brachiopods weather out, in limestone, very good preservation. GSC loc. 69045 at 3710 to 3711 <u>Diparelasma</u> sp. <u>Hesperonomia</u> sp.	155	3790
	Dolomite, medium to dark grey, slightly mottled, vaguely banded, slightly vuggy, few specks of white crystalline dolomite; at 3510 poor calcified straight cephalopod 2 1/2 inches long in black very fine grained dolomite talus recessive unit.	75	3635
	Dolomite, light grey, very fine grained, crystalline, bedding 10 inches to 1 1/2 feet, weathers light grey, slightly vuggy, porous, less than 5 per cent.	100	3560
	Dolomite, medium grey, very fine grained, crystalline, bedding 4 inches to 1 foot, numerous wavy argillaceous buff laminations, minor chert nodules, weathers greyish buff.	50	3460
15	Limestone, blue-black, dark grey, cryptograined to very fine grained, crystalline, bedding 1/2 to 2 inches, wavy, very shaly, platy, weathers medium grey, some buff streaks, also sheared in places into fragments 3 to 4 inches long and 1/2 inch wide, crinoid columnals at 3255 in 6-inch bed, worm borings at 3260, a few buff argillite laminations in places; from 3360 to 3410 limestone slightly thicker bedded (6 inches to 1 foot) with argillite laminations, buff coloured.	170	3410

Unit	Description	Thickness (feet)	Total from base (feet)
15 (cont.)	Limestone, black cryptograined to very fine grained argillaceous, bedding from 6 inches to 1 1/2 feet; weathers light grey, fresh surface dark grey-buff, wavy laminations in places, slightly mottled in places, bedding wavy.	35	3240
	Limestone, platy, shaly, with buff and buffish grey weathering on some bedding planes, poorly preserved trilobite fragments, mainly genal spines. GSC loc. 69027 at 3115 ? <u>Kayseraspis</u> or ? <u>Trigonocera</u> sp.	100	3205
	Limestone, medium to dark grey and bluish black, cryptograined, bedding 6 inches to 2 feet, shaly, platy, weathers medium grey, poorly preserved trilobite pygidium at 3110.	25	3105
	Dolomite; from 3060 to 3080, light buff, laminated, very fine grained crystalline, weathers buff-orange, recessive, from 3080 to 3095, grey, very fine grained, crystalline, bedding 6 inches to 1 foot, weathers grey, resistant.	20	3080
	Limestone, dark grey to blue-grey, cryptograined, bedding 2 to 10 inches, weathers medium grey, rather platy; poorly preserved brachiopods and crinoid columnals at 3060.	30	3060
14	Dolomite, fine to medium grained, light grey, laminated, a few wavy argillaceous buff laminations; from 3005 to 3015 rather shaly, platy, recessive dark grey dolomite, weathers dark grey.	20	3030
	Dolomite, fine to medium grained, light grey, few darker beds from 3005 to 3010 of rather shaly, platy, recessive dark grey dolomite, weathers dark grey, laminations in the light grey dolomite.	50	3010

Unit	Description	Thickness (feet)	Total from base (feet)
14 (cont.)	Dolomite, few dark grey beds 1 to 2 feet thick weathers dark grey less than 10 per cent, a few worm burrows in darker dolomite.	50	2960
	Dolomite, light grey, very fine grained to medium grained less than 5 per cent drusy cavities weathers light grey, very few wavy argillaceous buff laminations.	50	2910
	Dolomite, light grey, very fine grained to medium grained, crystalline, bedding 2 inches (wavy) to 1 foot (rather massive in places) weathers light grey, some buff, from 2816 to 2840, drusy cavities parallel with bedding, filled with clear to slightly milky calcite crystals, about 15 per cent of rock.	44	2860
13	Alternating 2-to 3-foot beds of dark grey dolomite, very fine grained, crystalline, weathers dark grey, slightly mottled, and light grey dolomite, very fine grained to cryptograined, laminated in part, weathers light grey to buff-grey, appears banded, dark grey dolomite has minor chert nodules, black and light grey chert, also a few blebs of white dolomite (up to 25 per cent).	56	2816
12	Dolomite, light grey, very fine grained, crystalline, few darker beds of dolomite, banded appearance due to darker weathering of dark beds, light grey and buff dolomite is finely laminated, while dark grey dolomite appears more massive, vuggy at 2730 to 2740, vugs filled with white dolomite crystals.	50	2760
11	Dolomite, dark grey, very fine grained, crystalline, bedding 6 inches to 1 1/2 feet, weathers dark grey, with creamy chert nodules (less than 10 per cent of rock), slightly mottled, some of dolomite is lighter grey and buff, finely laminated in part.	70	2710

Unit	Description	Thickness (feet)	Total from base (feet)
10	Dolomite, light grey to light buff-brown, very fine grained, crystalline to cryptograined, weathers light whitish grey and light buff, bedding 6 to 10 inches.	55	2640
9	Dolomite, medium-dark grey, very fine grained, crystalline, weathers medium-dark grey forming dark band between units 8 and 10, slightly laminated in part, bedding 8 inches to 1 foot.	35	2585
8	Dolomite, light grey, very fine grained crystalline, bedding 10 inches to 1 1/2 feet, weathers light grey; distinctive band, slightly buff weathering from 2540 to 2550, minor chert, grey nodules.	60	2550
7	Dolomite, bedding 10 inches to 1 1/2 feet, appears rather massive, weathers light to dark grey, vaguely banded; at 2490, dolomite is dark grey, slightly fetid, very fine grained, crystalline.	80	2490
	Dolomite, light to medium grey, very fine grained, crystalline, beds 6 inches to 1 1/2 feet, weathers grey, vaguely banded; from 2385 to 2394 oolitic dolomite, matrix of white dolomite, recessive, weathers dark grey, bedding 6 inches to 1 1/2 feet, generally massive, blocky, uniform.	200	2410
	Dolomite, light grey, very fine grained, crystalline, weathers light grey and medium grey, some beds of buff weathering laminated dolomite (less than 10 per cent of rock) bedding 4 to 10 inches, very few argillaceous laminations.	40	2210
	Dolomite, light buff, very fine grained, crystalline, weathers yellowish orange, with minor limestone bands up to 1 foot thick, weathers grey, bedding 2 to 10 inches.	15	2170

Unit	Description	Thickness (feet)	Total from base (feet)
7 (cont.)	Limestone, medium to dark grey, cryptograined, bedding 2 to 10 inches, platy to blocky, weathers light grey, a few argillaceous laminations.	30	2155
	Dolomite, light buff, very fine grained, crystalline, some wavy argillaceous laminations, weathers yellow-orange grades upward to limestone.	10	2125
	Limestone, light-medium grey, cryptograined, bedding, 2 to 6 inches, weathers light grey, some argillaceous wavy laminations.	5	2115
	Dolomite, light-medium brownish grey, very fine grained, crystalline, bedding 2 to 8 inches, weathers orange-brown.	10	2110
	Limestone, light-medium grey, cryptograined, bedding 2 to 6 inches, argillaceous wavy laminations, weathers light grey.	25	2100
6	Mainly covered interval, limestone talus, lithology similar to underlying beds thin orange weathering dolomite bed 3 feet thick at 2070 to 2073.	40	2075
	Limestone, grey to black, cryptograined, grey weathering, bedding 1 to 4 inches, weathers grey to buff.	75	2035
	Limestone, medium grey to black, cryptograined, bedding 1 to 4 inches. GSC locs. 69002, 69040 at 1950 to 1951 <u>Finkelburgia</u> sp. <u>Briscoia</u> sp. <u>Pseudoagnostus</u> sp. <u>Lingulella</u> sp.	100	1960
	Limestone, medium-dark grey to blue-black, cryptograined, bedding 1 to 4 inches, weathers grey and buff to yellow-brown, buff on bedding surfaces, uniform throughout.	50	1860

Unit	Description	Thickness (feet)	Total from base (feet)
6 (cont.)	Limestone, bedding 1 to 4 inches, cryptograined, buff to light brown weathering with argillaceous laminations and partings.	50	1810
	Limestone, argillaceous laminations, weathers mottled grey.	50	1760
	Limestone, medium to dark grey and blue-grey, cryptograined, bedding 1/2 to 3 inches, wavy, weathers buff to yellow-brown, in plates, uniform.	50	1710
	Limestone, bedding 1/2 to 2 inches, buff weathering on bedding surfaces, also grey weathering. GSC loc. 69039 at 1615 <u>Elkia?</u> sp. <u>Idahoia?</u> sp. <u>Macelloura?</u> sp. <u>Prosaukia?</u> sp. GSC loc. 6900 at 1655 <u>Angulotreta</u> sp. aff. <u>Asaphopsis</u> sp. <u>Finkelburgia</u> sp. <u>Homagnostus</u> sp. <u>Richardsmella</u> sp. <u>Tostonia</u> sp.	50	1660
	Limestone, bedding 1/2 to 2 inches, platy, bedding surfaces buff to orange-brown, argillaceous, from 1595 to 1610 bedding thickens to 6 inches, weathers grey, argillaceous laminations, slightly stylolitic in places.	50	1610
	Limestone, blue-black to black, cryptograined, bedding 1/2 to 6 inches, platy, with yellowish brown and purplish red weathering on bedding surfaces, platy, weathers grey, also buff and purplish red, fossiliferous, trilobite fragments, brachiopods, and worm borings in talus.	30	1560

Unit	Description	Thickness (feet)	Total from base (feet)
5	Dolomite, light grey to light buff-grey, very fine grained, crystalline to cryptograined, has wavy silty laminations, appears stylolitic in part, weathers reddish, yellowish to orange-brown and buff, bedding 4 to 8 inches.	55	1530
4	Dolomite, light to medium grey, very fine grained to cryptograined and medium grained, crystalline, slightly laminated in places, bedding 4 inches to 1 foot, rather uniform weathering light grey, white, some buff to light brown in places, sandy in places with a few quartz grains weathering out, from 1460 to 1475 slightly vuggy, a few white dolomite crystals in vugs.	370	1475
	Sandstone, light grey, silvery, fine grained to medium grained, quartz grains subrounded, matrix dolomite, rather crumbly, bedding 6 inches to 1 foot, weathers very light grey and white.	145	1105
ROCKSLIDE FORMATION			
3	Dolomite, light to medium grey, very fine grained to medium grained, crystalline, bedding 2 to 10 inches, weathers light grey, buff in places; stylolitic around 810, reddish brown stains on stylolite surface.	250	960
	Limestone mottled, finely laminated in part, weathers grey and buff-grey, also orange-grey, light to dark grey and black, cryptograined to very fine grained, crystalline, shaly and recessive near 700. GSC loc. 68999 at 698 1/2 to 710 "Helcionella" sp. <u>Hemirhodon</u> sp. <u>Lingulella</u> sp. <u>Modocia</u> sp.	70	710



Unit	Description	Thickness (feet)	Total from base (feet)
3 (cont.)	Limestone, dark grey, cryptograined to very fine grained, bedding 1 to 4 inches, wavy, platy, weathers grey with yellow-brown bedding surfaces, fossiliferous throughout. GSC loc. 69008 at 535 <u>Bolaspidella</u> (?) sp. <u>Lingulella</u> (?) sp. <u>Modocia</u> sp. GSC loc. 69007 at 490 <u>Balagnostus</u> sp. <u>Hemirhodon</u> sp. <u>Hypagnostus</u> sp. GSC loc. 69005 at 380 <u>Eldoradia</u> sp. <u>Hypagnostus</u> sp. <u>Modocia</u> sp. <u>Ptychagnostus</u> sp.	300	640
	Limestone, dark grey, blue-black, very fine grained, bedding 6 to 8 inches, weathers light grey, minor buff weathering limestone, less than 15 per cent black chert nodules in upper part of limestone.	65	340
	Shale, calcareous, platy, fissile, recessive, black, cryptograined.	70	275
	Limestone, dark blue-grey, medium grained, sandy, bedding 6 to 12 inches, weathers brownish grey, surface reveals resistant quartz grains.	10	205
	Shale, black, cryptograined slightly limy in places, very fossiliferous from 127 to 130, weathers dark grey, recessive, mainly talus except along contact with limestone very well preserved; minor grey weathering sandy limestone. GSC loc. 68992 at 127 to 130 <u>Caborcella</u> sp. <u>Chancia</u> sp. <u>Pagetia clytia</u> <u>Pagetia resseri</u> <u>Yohoaspis</u> sp.	70	195

Unit	Description	Thickness (feet)	Total from base (feet)
SEKWI FORMATION			
2	Limestone, dark grey, very fine grained, slightly mottled, bedding 2 to 10 inches, wavy, weathers grey, slightly recessive.	20	125
	Limestone, mottled, blue-grey and buff, very fine grained, bedding 1 to 2 inches, rather shaly, weathers yellowish to orange-grey. GSC loc. at 95 to 97 <u>Fremontia</u> sp. <u>Oncocephalus</u> sp. <u>Paedeumias</u> sp.	10	105
1	Dolomite, light brownish grey, crypto-grained, finely laminated in part, bedding 1/4 to 4 inches, weathers yellow-brown to light brown, in part platy, slight greenish tinge, pyrolusite dendrites on some surfaces, poorly developed mudcracks.	10	95
	Talus, dolomite, light grey, crypto-grained, thinly bedded, finely laminated in part, weathers yellowish orange-brown, also red-brown; minor siltstone buff to orange-yellow-brown weathering, chlorite blebs in red-brown dolomite.	85	85
Sekwi Formation underlain by thick sequence of quartzitic sandstones of Backbone Ranges Formation.			

Section 20. Backbone Ranges, Avalanche, Broken Skull, Sunblood, and Road River Formations.

On northeast limb of Broken Skull anticline at lat. 62°21'N, long. 127°20'W, Glacier Lake map-area. Section measured by B.S. Norford.

Unit	Description	Thickness (feet)	Total from base (feet)
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Summary

Road River Formation	2166 (incomplete)
Sunblood Formation	ca.3175
Broken Skull Formation	2695
Avalanche Formation	1305
Backbone Ranges Formation	40 (incomplete)

ROAD RIVER FORMATION

56	<p>Limy shales, dark grey and greyish black, weather dark grey, grey, and light olive-grey, with yellowish grey stains, recessive, bedding 1 foot to massive; banding and lamination in some beds; poorly to moderate fissility at angles to bedding; subordinate shaly limestones at 8892 to 9094, 8410 to 8440, 8357, and 8025, aphanitic to very finely crystalline, dark grey, weather light olive-grey and pale yellowish brown; thin limestone beds of crinoidal debris, not graded, 1 to 12 inches thick, at 9148, 8974, 8954, 8953, 8944 and 8943; covered intervals at 9202 to 9272, 8284 to 8357, and 7945 to 7970; poor outcrop of similar rocks continuous above top of section; poorly preserved graptolites throughout; fragments of corals and echinoderms in the crinoidal limestones GSC locs. 58487 at 8481 0 to 3 inches; echinoderm fragments stromatoporoid solitary coral (with dissepiments) GSC loc 58486 at 8472 0 to 2 inches; graptolite fragments GSC loc. 58485 at 8030 to 8050 from talus of steeply dipping beds <u>Monograptus</u> cf. <u>M. spiralis</u> (Geinitz)</p>	1396 <sub>±</sub>	9341
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Unit	Description	Thickness (feet)	Total from base (feet)
55	Dolomites, some beds argillaceous and slightly siliceous very finely to finely crystalline, dark grey, weather light grey, grey, light olive-grey, pale yellowish brown, and dull brownish grey, bedding 1 to 12 inches; many beds finely laminated; bedded cherts, amounting to 20 to 55 per cent of rocks, greyish black and dark grey, weather greyish black and dark grey with lichen stains, bedding 1/2 to 2 inches, and as thin layers and rare nodules within dolomite beds; barren.	476	7945
54	Limy shales, greyish black and dark grey, weather dark grey, greyish black; fissility poor to good; very minor limestones, very finely crystalline, dark grey, weather grey, in beds 1 to 6 inches thick, many laminated, and as concretions; covered interval at 7453 to 7465; barren.	92	7469
53	Dolomites, argillaceous and siliceous, dark brownish grey, weather grey, light grey, and olive-grey, bedding 1/2 to 8 inches, and as rare concretions; cherts greyish black and dark grey, bedding 1/2 to 1 inch; limy shales weather dark brownish grey; argillaceous limestones, bedding 1/2 to 6 inches; barren.	57	7377
52	Shales, most beds limy, greyish black, and dark grey, weather greyish black, grey, and light grey, recessive, bedding 1 to 6 inches, fissility poor to very good, commonly at angle to bedding; very minor argillaceous limestones, very finely crystalline, dark grey, weather light olive-grey, light grey, and grey, bedding 1 to 8 inches, some beds poorly laminated. Rare slaty shales; at 7230-7238 elongate limestone nodules; at 7190, black chert bed 1 inch thick; at 7175-7180, very rare chert nodules; graptolites;	145	7320

Unit	Description	Thickness (feet)	Total from base (feet)
52 (cont.)	GSC locs. 58483 at 7174 to 7215; loc 58484 talus from same interval ? <u>Glyptograptus</u> sp. <u>Climacograptus</u> cf. <u>C. bicornis</u> (Hall)		
SUNBLOOD FORMATION			
51	Shaly limestone, aphanitic to very finely crystalline, dark grey and grey, weather light grey, recessive, bedding 1/2 to 5 feet; most beds poorly fissile parallel with bedding, some fissility planes stained reddish brown at 7168 to 7174, limestones very finely crystalline with abundant biogenic fragments, light grey, weather grey, bedding 3 to 10 inches, at 7060 to 7085, platy weathering aphanitic limestones amount to about 50 per cent of interval. Covered intervals at 7174 to 7175 and 7136 to 7168; echinoderm fragments, bryozoans, brachiopods, solitary corals, trilobites, straight cephalopods, clams, gastropods. GSC loc. 58482 at 7171 to 7174 <u>Cryptolithus</u> sp.	205	7175
50	Limestones, very finely crystalline to aphanitic dark grey, weather light grey with yellowish grey stains, somewhat recessive, bedding 2 to 24 inches, many beds weather flaggy, platy, and rubbly; covered interval at 6905 to 6910; brachiopods, bryozoans, gastropods, straight cephalopods, clams, fragments of trilobites and fish. GSC loc. 58481 at 6937 to 6950 ? <u>Rafinesquina</u> sp. ? <u>Rhynchotrema</u> sp.	65	6970
49	Dolomites, siliceous, very finely to finely crystalline, dark grey, weather dark grey, recessive, bedding 1/2 to 6 inches, some beds weather platy; echinoderm fragments.	10	6905

Unit	Description	Thickness (feet)	Total from base (feet)
48	Dolomites, siliceous, very finely crystalline to aphanitic, dark grey and brownish grey, weather light grey, yellowish grey, light greyish orange, and very pale orange, bedding 2 to 18 inches, some beds laminated; subordinate dark dolomites, some siliceous, aphanitic to very finely crystalline, greyish black and dark grey, weather dark grey and grey, recessive, bedding 1/4 to 6 inches, weathers platy, some beds laminated; greyish black and dark grey elongate chert nodules at several horizons; rounded yellowish brown cherty aggregates (some hollow) at 6550 and 6542 to 6543, may represent drusy cavity fillings; covered intervals at 6891 to 6895; 6650 to 6691; 6635 to 6645; 6627 to 6732; 6574 to 6582; and 6455 to 6459; barren.	440	6895
47	Dolomites, slightly siliceous, dark grey, weather light grey and yellowish grey, resistant, bedding 1/2 to 2 feet; some beds poorly laminated; with minor irregular pods of coarsely crystalline calcite that weather light grey; barren.	12	6455
46	Dolomites, slightly siliceous, some beds slightly limy, very finely crystalline, dark grey, grey, and brownish grey, weather light grey, yellowish grey, and pale greyish orange, bedding 2 to 24 inches; subordinate dark dolomites, some slightly siliceous, very finely to medium crystalline, dark grey, weather dark grey, dull grey, light grey and dark brownish grey, recessive, bedding 1 to 12 inches, mostly platy, some beds laminated; limestones common in interval 6072 to 6105, very finely crystalline, grey, weather light grey and pale yellowish brown, bedding 1/4 to 6 inches platy; at 6397 to 6405, rare chert nodules, dark bluish grey; at 6325, 3 per cent content coarse quartz sand in light dolomite; at 6190 15 per cent content	371	6443

Unit	Description	Thickness (feet)	Total from base (feet)
46 (cont.)	<p>coarse dolomite-filled vugs in light dolomite; covered intervals at 6410 to 6415; 6333 to 6336; 6230 to 6253; 6193 to 6207; 6112 to 6115; and 6080 to 6089. Colonial and solitary rugose corals, brachiopods, bryozoans, gastropods, stromatoporoids, clams, straight cephalopods, echinoderm fragments, and trilobites at top and base of unit.</p> <p>GSC loc. 58480 at 6390 to 6400;  <u>Hesperorthis</u> sp.  <u>Favistina</u> spp.  <u>Streptelasma</u> sp.                      GSC loc. 58479 at 6072 to 6080  <u>Calliops</u> sp.                      rhynchonellid brachiopod                      ?<u>Strophomena</u> sp.</p>	10	6072
45	<p>Dolomites, siliceous, finely to medium crystalline, dark brownish grey, weather brownish grey, bedding 6 to 18 inches; with quartz silt and sand content; barren.</p>	10	6072
44	<p>Dolomites, siliceous, some argillaceous, very finely crystalline, dark grey, weather dark yellowish orange and greyish orange, recessive, bedding 1 to 10 inches, many beds weather platy. Covered interval at 6049 to 6062; barren.</p>	32	6062
43	<p>Dolomites, some siliceous, very finely to coarsely crystalline, light grey and grey, weather light grey, yellowish grey, and pale yellowish orange, resistant, bedding 1 to 10 feet; at 5983 to 5998, sparse irregular chert nodules, weather grey; gastropods, stromatoporoids, echinoderm fragments, straight cephalopods.</p> <p>GSC loc. 58478 at 5957 to 5977                      echinoderm columnals                      straight cephalopod  <u>Maclurites</u> sp.</p>	73	6030

Unit	Description	Thickness (feet)	Total from base (feet)
42	Dolomites, some siliceous, very finely to finely crystalline, grey, dark grey, and light grey, weather grey, greyish orange, yellowish grey, light olive-grey, and pale yellowish brown, bedding 1 inch to 4 feet, rare beds weather platy; tabulate corals and bryozoans in middle part of unit. GSC loc. 58477 at 5921 to 5924 ? <u>Lichenaria</u> sp.	88	5957
41	Dolomites, siliceous, very finely to finely crystalline, light grey, grey, and light brownish grey, weather very pale orange, light greyish orange, light grey, and pale yellowish orange, somewhat resistant, bedding 2 to 24 inches, some beds rudely laminated; barren.	107	5869
40	Dolomites, some slightly siliceous, some limy, very finely to finely crystalline, dark grey, and dark brownish grey, weather light orange-grey, light brownish grey, and light greyish orange-pink, bedding 1/2 to 2 feet; with minor recessive dolomites that weather dark grey and yellowish orange, bedding 1 to 6 inches; covered intervals at 5753 to 5756; 5743 to 5751, barren.	51	5762
39	Limestones, aphanitic to very finely crystalline dark grey, weather light grey, bedding 1/4 to 12 inches, most beds weather platy, recessive; some beds with dolomitic mottling; many beds change laterally to dolomite that weathers light orange brownish grey; barren.	77	5711
38	Dolomites, slightly earthy, finely to medium crystalline, dark grey, weather brownish grey, recessive, bedding 1 to 24 inches; slightly fetid; with dolomite stringers. Covered intervals at 5616 to 5662; 5604 to 5615; 5582 to 5586; 5547 to 5580; gastropods, in float at base of unit.	87	5634



Unit	Thickness	Thickness (feet)	Total from base (feet)
37	Dolomites, siliceous, very finely to medium crystalline, dark grey, brownish grey, and light grey, weather yellowish grey, light grey, pale orange, light orange-grey, light yellowish brown, light reddish orange, light brownish grey, and light greyish orange-pink, bedding 2 to 24 inches; some beds rudely laminated; about 5 per cent content quartz silt in a few beds; dolomites, slightly earthy, very finely to finely crystalline, dark grey and dark brownish grey, weather dark grey and brownish grey; limestones present in lower beds, weather light grey, bedding 6 to 18 inches. Covered intervals at 5481 to 5497; 5453 to 5456; barren.	157	5547
36	Limestones, aphanitic to very finely crystalline, dark grey, weather light grey, light bluish grey, and yellowish grey, recessive, bedding 1/2 to 6 inches, most beds weather platy. GSC loc. 58476 at 5380 to 5381 brachiopods trilobites; GSC loc. 58475 at 5335 to 5355 gastropod straight cephalopod.	85	5390
35	Dolomites, siliceous, very finely to medium crystalline, dark grey and brownish grey, weather light grey, pale yellowish brown, very pale orange, pale yellowish orange; brownish grey, and greyish orange, bedding 1 to 18 inches, some beds laminated; some beds with light brown weathering silty partings, a bed at 5200 has 8 per cent content quartz silt. Minor dolomites, very finely to finely crystalline, dark grey, weather dark grey, recessive; with gastropods and stromatolites.	130	5305

Unit	Description	Thickness (feet)	Total from base (feet)
34	Limestones, some slightly siliceous, others argillaceous, aphanitic, dark grey, weather light grey with light red stained bedding planes, recessive, bedding 1 to 3 inches; many beds weather platy, a few beds laminated, some with irregular networks of light brown weathering silty material; barren.	38	5175
33	Dolomites, siliceous, very finely crystalline, light grey and grey, weather light grey, yellowish grey, and very pale orange, bedding 1 to 8 feet; some beds rudely laminated; with rare light brown weathering silty partings at 5125; with rare irregular chert nodules at 4900; minor slightly siliceous dolomites, very finely crystalline, dark grey, weather dark grey and grey, bedding 1/2 to 3 feet, some beds laminated; covered interval at 5005 to 5010; barren.	247	5137
32	Dolomites, slightly siliceous, aphanitic to very finely crystalline, dark grey and grey, weather dark grey and light grey, somewhat recessive, bedding 1 to 12 inches, weather platy, a few beds laminated; minor siliceous dolomites, very finely to finely crystalline, dark grey, weather light grey, bedding 1 to 6 feet; barren.	61	4890
31	Dolomites, siliceous, very finely to finely crystalline, grey and dark grey, weather light grey, resistant bedding 2 feet to massive; grey and light brown weathering chert nodules amount to about 1 per cent of interval 4782 to 4829; rare at 4736 to 4742. GSC loc. 58474 at 4701 chaetid coral tabulate corals straight cephalopod.	161	4829

Unit	Description	Thickness (feet)	Total from base (feet)
30	Dolomites, finely to medium crystalline, dark grey and grey, weather grey and light grey, resistant, bedding 1 to 10 feet; about 1 per cent fine vuggy porosity at 4475; barren.	198	4668
29	Dolomites, siliceous, finely to medium crystalline, dark grey, grey, and light grey, weather light grey, some beds mottled, resistant, bedding 1/2 to 6 feet; some beds slightly fetid. Sparse light brown and creamy white weathering chert nodules at 4421 to 4470; irregular silicification at 4465. At 4281 to 4286 recessive, platy dolomites, weather dark grey, mottled; barren.	189	4470
28	Dolomites, siliceous, very finely to medium crystalline, grey and dark grey, weather light grey, moderately resistant, bedding 1 to 10 feet; some beds slightly fetid; rare dolomite stringers; covered interval at 4129 to 4131. GSC loc. 58473 at 4140 to 4161 sponge straight cephalopod.	164	4281
BROKEN SKULL AND SUNBLOOD FORMATION (Boundary at about 4,000)			
27	Dolomites, siliceous, very finely to medium crystalline, grey, dark grey, and light grey, weather light grey, yellowish grey, and grey, moderately resistant, bedding 1/2 to massive; with rare light brown weathering silty partings at 3875 to 3950 and 3675 to 3750; with sparse chert nodules at 3570; 3505 to 3515; 3491 to 3492; 3483 to 3484; pisolitic dolomite beds with concentric pisoliths 1/4 to 1 1/2 inches in diameter, amounting to 20 to 60 per cent of rock, from 10 to 70 per cent of interval 3623 to 4000; and 40 to 90 per cent of interval 3455 to 3570; rare beds present at 4100; 4025, 3440; 3415. At 3975, minor recessive dolomites, dark grey, weather dark	702	4117

Unit	Description	Thickness (feet)	Total from base (feet)
27 (cont.)	<p>brown-grey and platy, bedding 1/4 to 2 inches; at 3910 to 3940 another recessive interval; at 3850 a minor erosion surface and finely cross-laminated calcarenites. At 3800, 3 per cent fine vuggy porosity in fetid dolomites; very rare straight cephalopods, gastropods, sponge and echinoderm fragments, brachiopods.            GSC loc. 58472 at 4040 to 4050  <u>Archaeorthis</u> sp.            GSC loc. 58471 at 3957 to 3954            gastropod and sponge (?) fragments.</p>		
BROKEN SKULL FORMATION			
26	<p>Dolomites, siliceous, very finely to finely crystalline, grey, dark brownish grey, and light grey, weather light grey and light olive-grey, bedding 1/2 to 5 feet; some beds with light olive-grey weathering silty partings; dark grey weathering chert nodules at several horizons; barren.</p>	75	3415
25	<p>Dolomites, siliceous, very finely to coarsely crystalline, grey and dark grey, weather yellowish grey, light olive-grey, light brownish grey, greyish orange, pale orange-brown, and light orange-pink, some beds mottled, bedding 2 to 24 inches; certain beds with irregular silty partings; a few beds in lower part are laterally limestones; covered interval at 3301 to 3304; barren.</p>	103	3340
24	<p>Limestones, aphanitic to very finely crystalline dark grey and grey, weather light grey with yellowish grey stains, bedding 1/4 to 4 feet; some beds weather flaggy; rare beds with wispy silty or argillaceous partings that weather light brown; rare pyrites in several of the upper beds.            GSC loc. 58470 at 3100 to 3149            inarticulate and orthid brachiopods            trilobite fragments.</p>	424	3237

Unit	Description	Thickness (feet)	Total from base (feet)
23	Dolomites, siliceous, very finely to finely crystalline, light grey and dark grey, weather light grey, yellowish grey, and grey, bedding 1/4 to 12 feet; with light brown weathering wispy silty partings. A few beds are laterally limestones; rare greyish black weathering chert nodules at 2711; barren.	108	2813
22	Limestones, aphanitic very finely crystalline, dark grey, weather light grey, grey, and yellowish grey, some bedding planes with light pinkish grey stains, bedding 1/2 to 3 feet, certain beds laminated, some weather flaggy; barren.	31	2705
21	Dolomites, siliceous, very finely to finely crystalline, grey, light grey, and dark grey, weather light grey, grey, and light olive-grey, with reddish, and yellowish grey stains, bedding 1/4 to 8 feet; some beds with wispy silty partings; at 2635 to 2636, laminated grey and light grey dolomites; at 2551, laminae on light brown-white coarsely crystalline dolomite. At 2542 to 2551, limestones, aphanitic to very finely crystalline, dark grey, weather light grey with light greyish red stains, bedding 2 to 4 feet, rather flaggy; greyish black weathering chert nodules at 2635; 2632; 2626; barren.	136	2674
20	Limestones, some siliceous, aphanitic to very finely crystalline, dark grey, weather light grey and yellowish grey, with greyish red, light mauve-brown, and orange-pink stains on bedding planes, bedding 1/2 to 36 inches; some beds weather flaggy, some beds laminated; dolomites, interbedded, some siliceous, very finely to medium crystalline, brownish grey and grey, weather yellowish grey, light grey, orange-yellow, very pale orange, light brown greyish orange, and light olive-grey, bedding 1/2 to 7 feet; rare beds with light brown weathering silty laminae; at 2467 to 2469, about	190	2538

Unit	Description	Thickness (feet)	Total from base (feet)
20 (cont.)	1 per cent content dark grey weathering chert nodules; at 2381, dark red argillaceous parting; barren.		
19	Limestones, most beds siliceous, aphanitic to finely crystalline with very rare coarser fragmental or oolitic content, dark grey, grey, and brownish grey, weather light grey, light olive-grey, and grey, with reddish brown, greyish orange, and red stains on bedding plane, bedding 1 inch to 3 feet, some beds platy, some flaggy; rare beds with floating rounded quartz sand and silt; rare beds with wispy silty partings; some beds change to dolomite laterally; minor interbedded siliceous dolomites, very finely to medium crystalline, brownish grey, olive-grey, and grey, weather light yellowish orange, reddish orange, orange-pink, yellowish grey, pale reddish brown, and light grey, bedding 1/2 to 3 feet, some beds laminated; some beds with rounded quartz sand and silt, a number of these beds crosslaminated; rare limestone conglomerate beds in interval 1950 to 2164, dark grey, weather light grey bedding 3 to 12 inches, matrix very finely crystalline, pebbles, fine to coarse, monomict of similar rocks to adjacent limestone beds, some pebbles lath-shaped; at 1725 to 1728, limy impure siltstones, light grey, weather yellowish orange and reddish brown, bedding 3 to 18 inches; covered intervals at 2169 to 2215 and 2008 to 2020; rare brachiopods, trilobites, gastropods. GSC loc. 58469, 2217 to 2218; GSC loc. 58468, at 1913 to 1917 - Upper Franconian orthid brachiopod <u>Ptychaspis</u> sp. ? <u>Saukiella</u> sp.	628	2348

Unit	Description	Thickness (feet)	Total from base (feet)
18	Siltstones, argillaceous, limy siliceous, greenish grey, weather dark greenish grey and light olive-grey, bedding 2 to 8 feet, some beds banded; at 1712 to 1714, more resistant limy siliceous dolomites very finely crystalline, weather yellowish orange, bedding 2 to 3 inches; barren.	28	1720
17	Dolomites, siliceous, very finely to medium crystalline, rare beds in part fragmental, dark grey, yellowish brown, yellowish grey, and greyish orange-pink, weather greyish orange, reddish orange, light yellowish brown, and light grey, bedding 1/2 to 2 feet; some beds laminated; many beds with content rounded quartz silt, sand and fine pebbles; some beds with silty partings; rare beds with layers of irregular silicification; interbedded siliceous limestone very finely to medium crystalline, some beds in part fragmental, dark grey and light grey, weather light grey, greyish orange, and dark grey with reddish stains, bedding 1 inch to 10 feet; some beds platy and rubbly; at 1578 to 1590, limestones with about 25 per cent content pisoliths, other pisolitic beds within interval 1670 to 1678; at 1561 to 1565 and 1548 to 1549, siliceous dolomites weather vivid orange; at 1480, 0 to 6 inches, shaly mudstones, weather greyish green and light brown; covered intervals at 1682 to 1692; 1565 to 1569; 1554 to 1561; 1511 to 1530; barren.	236	1692
16	Covered interval.	55	1456
15	Dolomites, siliceous, aphanitic to finely crystalline, dark grey and pale yellowish brown, weather yellowish grey, greyish orange, yellowish orange, and light grey, moderately resistant, bedding 1 to 8 feet; some horizons with rounded quartz sand and silt; rare beds with wispy silty partings, weather light orange-brown;	52	1401

Unit	Description	Thickness (feet)	Total from base (feet)
15 (cont.)	at 1358, dark argillaceous band, 3 inches thick; at 1356 green argillaceous band, 6 inches thick; barren.		
14	Mudstones, siliceous, purple-grey, greyish red and reddish purple, weather dark purple-grey, bedding 1 to 2 feet, most beds banded; inter-banded and interbedded with siliceous dolomites, weather light greyish orange and yellowish grey, with quartz silt and sand content; and with light brown weathering dolomitic quartz siltstones; locally, pyrite crystals from 1/4 to 2 inches in diameter; mudcracks at 1340; barren.	44	1349
AVALANCHE FORMATION			
13	Dolomites, siliceous and argillaceous, aphanitic to finely crystalline (rare beds with pellets of aphanitic dolomite), light grey and very pale orange, weather greyish orange, yellowish orange, and moderate orange-pink, bedding 2 to 8 inches, commonly coarsely laminated; interbedded with shaly mudstones, some siliceous, greenish grey, light grey, and greyish purple, weather greenish grey, light olive-grey, and pale yellowish brown, bedding 1/4 to 24 inches; and with dolomitic and silty cherts, light brownish grey and yellowish grey, weather greenish orange and pale orange, bedding 1 to 5 inches, poorly laminated; at 1280 to 1285 somewhat conglomeratic nodular dolomites; at 1260 mudcracks; at 1227 casts of cubic crystals, probably of halite; at 1150 rare pyrites in mudstones and coarsely crystalline calcite in drusy cavities; barren.	155	1305
12	Siltstones, dolomitic and cherty, light grey, weather creamy light grey, resistant, bedding 1 to 24 inches; commonly laminated; barren.	12	1150



Unit	Description	Thickness (feet)	Total from base (feet)
11	Mudstones, some limy, some dolomitic, some silty, light greenish grey and yellowish greyish orange, weather yellowish orange and greenish grey, bedding 3 to 24 inches, weather blocky, rare beds shaly; interbedded with siliceous dolomites, very finely to medium crystalline, light grey weather light grey, bedding 2 to 6 inches with rare light grey weathering chert nodules; and with quartz siltstones, light grey weather pale greyish orange, bedding 1 to 3 inches; barren.	113	1138
10	Mudstones, weather green, brownish green, and mauve.	20	1025
9	Mudstones, some silty, some dolomitic, light greenish grey, green and light greyish orange, weather greenish grey, yellowish orange, light green, light red, pale orange, mauve, light reddish orange, light reddish brown, and light olive-grey, recessive, some beds shaly, bedding 1/4 to 12 inches, some beds weather blocky; with pyrites in some beds, interbedded with dolomitic quartz siltstones, some argillaceous, pale orange-pink, off-white, light brown, and light greenish grey, weather light brown, light red, greyish orange, orange-pink, light grey, and light reddish orange, bedding 1/4 to 18 inches; siliceous dolomites, very finely to finely crystalline, greenish grey, and light olive-grey, weather pale yellowish orange, yellowish grey, orange-pink, and light pink, bedding 1/2 to 4 feet, a few beds laminated, most beds with content quartz silt and quartz sand, some beds with rare quartz filled drusy cavities; mudcracks in shaly mudstones at 875, 860, 825, 613; covered intervals at 543 to 594, 502 to 504; barren.	530	1005

Unit	Description	Thickness (feet)	Total from base (feet)
8	Covered interval, with float similar to Unit 7. Outcrop at 460 to 461 at silty mudstones, pale olive with yellowish brown partings, weather greyish orange and pale yellowish orange, recessive, bedding 3 to 8 inches, laminated; barren.	60	475
7	Dolomites, siliceous, aphanitic to finely crystalline, dark grey and light grey, weather light grey, yellowish grey, and grey, bedding 2 to 36 inches, with very rare coarse calcite filled vugs, some beds with up to 15 per cent content pisoliths; with rare breccia beds; barren.	74	415
6	Limestones, aphanitic, some beds partly fragmental, aphanitic to medium crystalline, dark grey and grey, weather light grey, grey, and dark grey, with some reddish stains, moderately resistant, bedding 3 inches to 3 feet; rare pisoliths at 340; calcite filled vugs at 225; covered interval at 273 to 279; rare inarticulate brachiopods.	120	341
5	Limestones, aphanitic to very finely crystalline, dark grey, weather grey and light grey, with reddish stains on bedding planes, bedding 1 to 24 inches, poorly laminated; with calcite veins and vugs; stromatolites common in some beds; at 216 to 219, slightly siliceous limy dolomites, aphanitic to very finely crystalline, light grey, weather yellowish grey, blocky, bedding 3 to 10 inches, some beds laminated; covered interval at 219 to 221; rare trilobites.	13	221
4	Dolomites, siliceous, very finely to finely crystalline, grey and dark grey, weather dull light grey, bedding 6 to 18 inches; with rare yellowish grey weathering beds, 1 to 2 inches thick; barren.	56	208

Unit	Description	Thickness (feet)	Total from base (feet)
3	Covered interval with grey carbonate float; outcrop at 139 to 140, limestone, very finely crystalline, dark grey weathers bluish grey with greyish orange mottles, bedding 2 to 6 inches; barren.	23	152
2	Mudstones, silty, limy, olive-grey, bluish grey, light greenish grey, and pale yellowish brown, weather yellowish brown, light olive-grey, greenish grey, pale yellowish brown, and yellowish grey, bedding 3 inches to 3 feet, weather blocky; at 95 to 114, interbedded nodular limestone beds amount to about 20 per cent of interval, very finely crystalline, dark grey, weather light olive-grey; at 114 to 116, limestones, very finely crystalline, bedding 1/4 to 1 inch, weather light greenish grey, flaggy; covered interval at 54 to 60; lower Middle Cambrian trilobites and brachiopods in lower part of unit. GSC loc. 58467 at 35 to 50 <u>Fieldaspis</u> spp. <u>Kochiella</u> sp. ? <u>Onchocephalus</u> sp.	95	129
1	Limy quartz sandstones and siltstones, pale orange, weather greyish orange, pale yellow-orange, light orange-brown and light grey, bedding 1/4 to 8 inches; quartz sand well rounded; interbedded silty mudstone, greyish orange and greyish yellow, weather yellowish orange and pale orange, bedding 2 to 6 inches; with rounded quartz silt and sand; covered intervals at 33 to 34, 6 to 8; barren; contact with subjacent rocks not well exposed, concordant.	34	34

#### BACKBONE RANGES FORMATION

Quartzites, very finely to finely crystalline, off-white and pale bluish grey, weather off-white, very pale orange, light brown, and greyish orange, bedding 2 to 10 inches; with minor slightly siliceous mudstones, dark grey weather grey and greyish orange, bedding 1/4 to 2 inches, some beds poorly laminated; barren; very thick succession, only uppermost 40 feet examined, with a covered interval extending from 2 to 35 feet below zero footage.

Section 21. Avalanche and Broken Skull Formations

In glacier-scoured valley about 7 miles north-northwest of Avalanche Lake, lat. 62° 32'N, long. 127° 10'W, Glacier Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
BROKEN SKULL FORMATION			
(basal 1485 feet measured)			
41	Limestone, medium grey, thin bedded, fine grained, oolitic in part, minor orange-grey and grey-brown dolomite, fine grained. GSC loc. 69096 at 2210 lingulid and orthid brachiopods <u>Kainella</u> sp. <u>Leiostrigium</u> sp. GSC loc. 69094 at 2185 <u>Kainella</u> sp. agnostid trilobite <u>Leiostrigium</u> sp.	225	2210
40	Dolomite, light to medium grey, thin to medium bedded, fine grained, weathers light to medium grey, pale yellow-orange bed 1885 to 1888, orange-yellow dolomite beds at 1920 to 1922 and 1927 to 1930, bedding plane surfaces typically wavy.	105	1985
39	Dolomite, light to dark grey, medium to thick bedded, weathers dark grey to black.	50	1880
38	Dolomite, silty, light grey, medium bedded, weathers light yellow to creamy grey, silty dolomite with silty laminations spaced 5 to 10 mm weathers almost white (slightly yellow) 1793 to 1799.	37	1830
37	Dolomite, light to medium grey, medium to thick bedded, laminated, medium to coarse grained, weathers light orange-grey.	70	1793

Unit	Description	Thickness (feet)	Total from base (feet)
36	Dolomite, dark grey, medium bedded, fine grained, pisolitic, weathers pale orange-grey.	7	1723
35	Dolomite, silty, medium grey, thick bedded, laminated, fine grained, weathers grey and brown-grey.	95	1716
34	Dolomite, sandy, light grey, mainly thick bedded, fine grained, sand in laminae 2 to 10 mm. thick with variable spacing up to 4 to 5 inches, sand is medium grained, weathers light orange-grey.	10	1621
33	Dolomite, light to medium grey, medium to thick bedded, fine grained, weathers mainly orange and grey-orange.	85	1611
32	Limestone, sandy, dark grey, medium bedded, coarse sand grains in laminae up to 1 cm thick and spaced 5 mm to 2 cm apart.	6	1526
31	Covered, recessive interval, probably limestone.	10	1520
30	Limestone, medium grey, medium bedded, crypto-to fine grained, oolitic in part, weathers light grey to mottled grey and orange, resistant.	66	1510
29	Dolomite, sandy, medium bedded, weathers yellow, marker bed, contacts above and below gradational, upper part contains angular clasts of yellow dolomite in dolomitic sandstone matrix ("rip-up" clasts).	3	1444
28	Dolomite, in part sandy, light grey, thick bedded, weathers orange-grey and brown-orange; in places sand content approaches 50 per cent.	156	1441
27	Dolomite, in part sandy, light grey, thick bedded, fine grained, weathers alternately grey and orange, commonly laminated; some of dolomite is pale purple on fresh surface; orange units 5 to 10 feet thick.	258	1285

Unit	Description	Thickness (feet)	Total from base (feet)
26	Limestone, silty, bioclastic, and oolitic in part, medium grey, medium bedded, fine to cryptograined, weathers mottled grey and orange, commonly pods and lenses of grey limestone in an orange matrix. GSC loc. 68945 ? <u>Dunderbergia</u> sp. <u>Elburgia</u> sp. <u>Irvingella</u> sp.	7	1027
25	Dolomite, variably silty, light grey, medium to thick bedded, fine grained, weathers yellow to yellow-orange, minor grey; grey weathering beds locally medium to coarse grained; in places laminated and mottled with resistant silty ridges irregularly spaced to 1 foot apart; vuggy bed 979 to 980, locally pyritic.	50	1020
24	Covered interval.	10	970
23	Dolomite, sandy, light grey, medium to thick bedded, sand medium to coarse grained, weathers light orange; sand grains in layers and discontinuous lenses as much as 1 to 1 1/2 inches thick in lower part; upper part less sandy and more orange weathering, "floating" sand grains common, dolomite cryptograined to fine grained, purple-grey on fresh surface.	40	960
22	Covered interval; talus mainly orange weathering sandy dolomite.	40	920
21	Dolomite, medium to dark grey, medium bedded, fine grained, weathers pink-grey and medium grey, slightly vuggy in places.	57	880
20	Sandstone, dolomitic, light grey, cross-bedded, medium to coarse grained, weathers yellow-orange, resistant.	8	823

Unit	Description	Thickness (feet)	Total from base (feet)
19	Dolomite, sandy, light grey, thin to medium bedded; dolomite is crypto-grained, sand is medium grained to coarse grained, wavy bedding planes common, locally laminated, sandy beds interbedded with non-sandy dolomites.	90	815
AVALANCHE FORMATION (713 feet)			
18	Dolomite, silty, maroon and minor light grey, medium bedded, weathers maroon and orange; fine to cryptograined and laminated 701 to 705, fresh surface purple with dark purple lenses; 723 to 725 purple bed underlain by orange weathering dolomite.	24	725
17	Dolomite, mainly light grey, some maroon, thin to medium bedded, fine grained, weathers alternately orange and maroon; bedding planes smooth, in part thinly laminated, locally very vuggy; laminated orange dolomite with laminae 1 mm. to 5 mm thick and spaced as much as 5 mm to 1 cm apart 598 to 640; purple units generally about 1 foot thick and orange units 10 to 15 feet thick; greenish silty beds about 1 foot thick; salt casts at 645; stromatolitic laminations at 695.	108	701
16	Covered interval, on trend with maroon, orange-yellow and green-grey weathering dolomites.	63	593
15	Dolomite, light grey to yellow-green, mostly thin bedded, fine grained, weathers yellow and yellow-orange.	30	530
14	Dolomite, sandy, maroon, thin bedded, fine grained weathers purple and yellow-orange some greenish weathering bands; mudcracks.	10	500
13	Dolomite, light grey to very light grey, mostly thin bedded, fine grained, weathers yellow to yellow-orange; intra-formational breccia at 322 with purple	170	490

Unit	Description	Thickness (feet)	Total from base (feet)
13 (cont.)	chips in orange matrix; silty laminations common locally, in places beds are platy.		
12	Dolomite, pale greenish grey to maroon, thin-bedded, beds less than 1/2 inch thick, weathers yellow-buff in lower part to maroon and mottled green in upper part; mudcracks at 315 in purple bed.	13	320
11	Covered interval.	25	307
10	Dolomite, cherty, medium grey, medium bedded, grained, weathers light grey; chert lenses and pods as much as 2 feet long and 6 inches thick in lower part; chert masses from 3 to 5 feet long and 1 foot thick from 278 to 282.	19	282
9	Dolomite, dark grey, thick bedded, fine to medium grained, weathers dark grey to black; pisolites to 1/2 inch in diameter between 234 to 240; some beds have large vugs.	29	263
8	Covered interval.	14	234
7	Dolomite, strongly pisolitic, medium grey, thin to medium bedded, fine to medium grained, weathers light grey to brownish grey; dark grey weathering pisolites range from very elongate to almost spherical and as much as 1/2 inch in diameter, large pisolites occur in intervals 176 to 180, 195 to 205, 208 to 212.	44	220
6	Dolomite, light grey, thin bedded, fine grained, weathers yellow and light grey, mottled; wavy bedding planes; beds 5 to 6 inches thick between 145 and 153, 2 to 6 inches thick 153 to 176.	31	176
5	Dolomite, interbedded dark brown, yellow-white, medium grey, fine grained, light orange weathering beds 1 to 2 feet thick.	45	145



Unit	Description	Thickness (feet)	Total from base (feet)
4	Dolomite, medium grey, thin to medium bedded, fine grained, weathers buff-orange, brown, pink; minor grey and orange mottled dolomitic limestone.	30	100
3	Dolomite, light to medium grey, very thin bedded and forms platy talus, fine grained, weathers grey to pink-grey; at 65 feet beds 1/4 to 1/2 inch thick.	25	70
2	Dolomite, medium grey, thin to medium bedded, fine grained, weathers brown to orange-brown; in part silty, silt-rich beds weather chocolate-brown; weathered surface very rough because of irregular anastomosing layers of resistant siltstone. GSC loc. 68946 at 30 cf. <u>Amecephalus</u> sp. cf. <u>Albertella</u> sp. or <u>Fieldaspis</u> sp. <u>Micrometra</u> sp.	33	45
BACKBONE FORMATION			
1	Sandstone, quartzitic, medium bedded, beds average 8 inches thick, relatively smooth bedding planes, fine grained light grey with rusty spots, weathers white; at 7 feet grain size increases to 4 mm.	12	12

Section 22. Broken Skull and Sunblood Formations. On northeast-facing slope about 6 miles north-northwest of Avalanche Lake; lat. 62°31'N, long. 127° 17'W, Glacier Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
WHITTAKER FORMATION (195 feet measured)			
27	Limestone, medium grey, thin bedded and platy, fine grained; weathers medium grey silicified fauna. GSC loc. 69098 <u>Glyptorthis</u> sp. <u>Lepidocyclus</u> sp. <u>Thaerodonta</u> sp.	30	3010
SUNBLOOD FORMATION			
26	Limestone, grey, thin to medium bedded, fine grained; weathers light and dark grey, in part mottled grey and pink; moderately recessive. GSC loc. 69051 <u>Strophomena</u> sp. illaenid trilobite solitary coral	65	2980
25	Limestone, dark grey, thin to medium bedded, fine grained; weathers mottled grey and pink; recessive.	35	2915
24	Dolomite, light and dark grey, medium bedded, fine to medium grained, in part laminated; weathers interbedded dark and light grey in part vuggy, vugs filled with coarse grained, white dolomite.	235	2880
23	Dolomite, dark grey, thin bedded and platy, medium grained, weathers dark grey.	10	2645
22	Dolomite, light grey, thin to medium bedded, medium grained; weathers cream, silver, light grey and pale yellow.	135	2635

Unit	Description	Thickness (feet)	Total from base (feet)
21	Dolomite, light grey, thin to medium bedded, medium grained, weathers yellow-buff; 2485 to 2500 orange-brown, thick bedded, silty and sandy dolomite, in part laminated.	115	2500
20	Dolomite, light grey, medium bedded, medium grained; weathers light grey and silver-grey; thin bedded above 2365.	135	2385
19	Dolomite, grey, medium bedded, in part laminated, medium grained; in part vuggy, vugs filled with white chert and quartz; minor dark grey, pisolitic dolomite; generally recessive.	170	2250
18	Dolomite, medium to light grey, medium to thick bedded, in part laminated; weathers light grey; recessive.	45	2080
17	Dolomite, dark grey, massive, medium grained; grey limestone 1780 to 1795.	255	2035
16	Dolomite, medium to dark grey, medium to thick bedded, in part laminated, medium grained; weathers medium to dark grey; locally pisolitic.	125	1780
15	Covered interval; grey dolomite talus.	30	1655
14	Dolomite, dark grey, thin to medium bedded, in part with silty laminations, medium grained; weathers dark grey, mottled with grey; in part pisolitic; poorly preserved gastropods and brachiopods; resistant, cliff-forming.	115	1625
13	Dolomite, light grey, medium bedded, medium grained, crystalline; weathers pale brown, mottled grey; in part pisolitic and laminated; crystalline, slightly recessive; poorly preserved silicified brachiopods.	180	1510
12	Dolomite, very light grey, medium bedded, medium grained; weathers silver-grey.	10	1330

Unit	Description	Thickness (feet)	Total from base (feet)
11	Dolomite, grey, medium to thick bedded, in part laminated, medium grained; weathers medium to dark grey; in part pisolitic; banded.	200	1320
10	Dolomite, grey, medium bedded to massive, medium grained; weathers grey-brown and mottled grey and brown; in part pisolitic; silty laminations common near base but decreasing upward.	200	1120
9	Dolomite, medium grey, medium bedded, medium grained; weathers brown-grey and buff; fetid; pisolitic; in part silty.	5	920
BROKEN SKULL FORMATION			
(915 feet measured)			
8	Dolomite, light grey, medium bedded to massive, medium grained; weathers grey-brown; in part with silty laminations; apparently grades laterally into yellow-buff and grey-brown weathering, silty, laminated limestone.	95	915
7	Limestone, light and medium grey, thin bedded with common silty laminations, crypto-to fine grained; weathers brown-grey; minor pods of black chert 705 to 735; poorly preserved fauna including <u>Lingula</u> sp.	415	820
6	Limestone, medium and light grey, medium bedded, fine grained to crypto-grained; weathers light grey and mottled buff-grey; interbedded with fine grained, dark grey, platy limestone. GSC loc. 69095 orthid and lingulid brachiopods straight cephalopod <u>Leiostegium</u> sp.	40	405

Unit	Description	Thickness (feet)	Total from base (feet)
5	Limestone, dark grey, thin bedded, silty laminations, fine grained, weathers grey and buff; platy 1-foot bed of orange weathering dolomite 350 to 351. GSC loc. 69094 at 330 agnostid trilobite <u>Kainella</u> sp. <u>Leiostegium</u> sp. GSC loc. 69096 at 355 lingulid orthid brachiopods <u>Kainella</u> sp. <u>Leiostegium</u> sp.	45	365
4	Dolomite, medium grey, thin to medium bedded, medium grained; weathers light grey and buff.	50	320
3	Limestone, cryptograined to very fine grained, thin bedded with wavy banded brown weathering silty laminations; weathers mottled and banded buff and grey with some purple silty bands; poorly preserved gastropods.	140	270
2	Limestone, dark grey, thin to medium bedded, fine grained, brown and grey weathering with brown silty patches and laminae; buff-yellow weathering dolomite beds 40 to 41; 50 to 51.	125	130
1	Dolomite, dark grey, medium bedded, medium grained; weathers dark grey with pitted surface.	5	5

Underlying rocks are brightly coloured silty, orange, brown, yellow and grey weathering, laminated dolomites.

Section 23. Sunblood Formation (Standard Reference Section). On sharp ridge 1 to 2 miles northeast of Flood Creek, at lat. 62°07'N, long. 126°42'W, Glacier Lake map-area.

SUNBLOOD FORMATION (Standard Reference Section)

Member 12 may include basal beds of Whittaker Formation

Overlain by argillaceous, dark grey, silvery light grey weathering limestones of Road River Formation.

Unit	Description	Thickness (feet)	Total from base (feet)
12	Dolomite, black, very fine grained, crystalline, medium grained, bedding 6 to 10 inches, weathers dark grey, resistant, blocky fragments, minor chert nodules, black, cryptograined.	75	4860
	Dolomite, medium grey, very fine grained, crystalline, bedding 6 inches to 1 1/2 feet, weathers buff-orange with interbeds of slightly calcareous grey dolomite, weathers buff-grey; at 4785 shaly limestone interbeds, black, weathers dark grey, recessive; the interval as a whole is rubbly.	80	4785
	Dolomite, black, very fine grained, few cryptograined beds, bedding 1 to 3 feet, resistant, weathers dark grey with a few buff beds, dark grey dolomite slightly mottled.	25	4705
	Dolomite, black, fine grained, crystalline bedding 8 inches to 1 1/2 feet, weathers dark grey, recessive from 4655 to 4680 a few white dolomite veinlets up to 1 inch wide in black dolomite.	40	4680
	Dolomite, finely laminated, bedding 1 to 4 inches, mudcracks, crumbly outcrop, weathers medium grey, recessive.	5	4640
	Dolomite, cherty, black, fine grained.	15	4635
	Dolomite, black, very fine grained to fine grained, crystalline, bedding 1 to 10 inches, rather platy, weathers dark	45	4620

Unit	Description	Thickness (feet)	Total from base (feet)
12 (cont.)	grey, at 4620 cherty, black chert nodules 1 to 4 inches long less than 10 per cent of rock.		
	Limestone, shaly, interbedded with yellow-orange weathering dolomitic limestone, interbeds 5 to 6 feet thick, approximately 60 per cent limestone, grey weathering, 40 per cent dolomite, yellow-orange weathering.	20	4575
	Limestone, medium dark grey, very fine grained, shaly bedding 1/4 to 3 inches, weathers medium to dark grey, very few interbeds, less than 20 per cent dolomitic limestone, very fine grained, crystalline, grey, weathers yellowish orange.	70	4555
	Dolomite, medium grey, fine grained, crystalline, bedding 2 inches to 1 foot, rather platy, weathers orange-brown.	15	4485
	Limestone, medium to dark grey, medium grained, crystalline, bedding 6 inches to 1 foot, weathers medium grey into 2-to 6-inch fragments, minor orange-brown weathering dolomite, less than 10 per cent.	35	4470
	Dolomite, dark grey, very fine grained to fine grained, crystalline, bedding 10 inches to 2 feet, weathers light buff and yellowish grey, also medium grey; less than 15 per cent limestone interbeds in upper 30 feet. GSC loc. 58796 at 4420 ? <u>Streptelasma</u>	55	4435
11	Limestone, light to dark grey, crypto-grained, bedding 3 inches to 1 foot, platy in parts, weathers light grey, interbedded with light cream-grey weathering slightly dolomitic limestone, also light cream coloured, crypto-grained, buff weathering platy limestone, finely laminated in part, from about 4140 to 4230, dolomite, alternating	350	4380

Unit	Description	Thickness (feet)	Total from base (feet)
11 (cont.)	dark and medium grey, beds 1 to 2 feet thick, fine grained, unit generally weathers light grey to whitish grey trilobite fragment at 4270		
10	Dolomite, dark grey, fine grained, weathers dark grey, slightly flaggy, minor chert nodules, black, a few thin 10-inch bands of black limestone, weathers dark grey. GSC loc. 58744 at 4015 <u>Hesperorthis</u> sp. <u>Oepikina</u> sp.	85	4030
	Dolomite, black, medium grained, weather dark grey.	35	3945
	Dolomite, medium grey, medium grained, crystalline, massive beds more than 6 feet thick, weathers light grey. GSC loc. 58743 at 3905 ? <u>Streptelasma</u> sp.	20	3910
	Dolomite, black, fine grained to medium grained, crystalline, bedding 6 inches to 2 feet, weathers dark grey, slightly mottled.	35	3890
9	Dolomite, medium grey to dark grey, fine grained, crystalline, finely laminated in part, bedding 8 inches to 2 feet, weathers buff to buff-brown, a few black dolomite interbeds 1 foot thick.	75	3855
	Limestone, medium to dark grey, crypto-grained to very fine grained, slightly bioclastic in places, mottled buff and wine, weathers medium grey, bedding 8 inches to 1 foot; at 4015 to 4025 dolomite, black, fine grained, crystalline, bedding 2 to 4 feet, weathers dark grey.	95	3780
	Dolomite, dark grey, fine grained, crystalline, finely laminated in places, bedding 8 inches to 1 1/2 feet, weathers yellow-brown and orange-brown.	25	3685



Unit	Description	Thickness (feet)	Total from base (feet)
9 (cont.)	Limestone, black, cryptograined, weathers medium to light grey, sheared, massive.	25	3660
8	Dolomite, dark grey, fine grained, crystalline, mottled, argillite laminations, weathers slight brownish grey, rubbly, blocky talus, poor outcrop; very poorly preserved frag- ments of brachiopods and bryozoa.	55	3635
	Dolomite, light grey, fine grained, crystalline slightly siliceous, mainly talus, weathers brownish grey.	25	3580
	Limestone, light to medium grey, cryptograined bedding 1 to 2 feet, weathers light grey, small yellow- orange flecks in limestone locally, except for lower 10 feet all of lime- stones, black, sheared into shaly chips, weathering grey.	105	3555
7	Sandstone, siltstone, and dolomite; dolomite medium grey to black, very fine to medium grained, crystalline, slightly siliceous, bedding 1 to 3 feet, platy, weathers bright orange-brown; minor shale, black, cryptograined, weathers brown, recessive; some of dolomites very silty and sandy, seems restricted to a few 10-inch to 1 1/2- foot beds; sandstone in part coarse grained, calcite matrix, wavy lamina- tions, weathers dark orange-brown very distinctive marker unit.	130	3450
6	Limestone, rather shaly, could be cleaved fragments; dolomite, light to medium grey, fine grained, crystalline, bedding 6 inches to 1 1/2 feet; weathers buff-orange and grey, finely laminated in part, minor pyrite cubes (less than 5 per cent) up to 1/4 inch, in diameter, interbedded with limestone, medium grey, cryptograined, bedding 6 inches to 2 feet, weathers light grey to buff- grey; at 3230 mottled yellowish buff,	210	3320

Unit	Description	Thickness (feet)	Total from base (feet)
6 (cont.)	argillite; minor wine staining on limestone; 3315 to 3320 very distinctive dolomite, medium to dark bluish grey, slightly silty and calcareous weathers cream-buff.		
5	Limestone, light to medium grey, cryptograined to very fine grained, crystalline, argillaceous, mottled vaguely in places, reddish and purple, bedding 4 inches to 6 feet, fairly massive cliff-forming, resistant, weathers dark grey; lithology is uniform except in upper 200 feet chippy weathering; upper part recessive, mottled light grey and buff.	225	3110
4	Limestone, dark blue-grey to black, cryptograined, bedding 6 inches to 1 1/2 feet, very finely laminated; wine coloured mottling, weathers medium reddish grey; yellow staining due to top bed which weathers yellow-orange, platy and flaggy, upper 5 feet of limestone interbedded with bright yellow argillaceous limestone, thinly banded, 1/4-to 1-inch bands.	155	2885
3	Dolomite, light grey, medium grained, crystalline, bedding 2 to 6 inches, weathers light grey, distinctive bed.	20	2730
	Limestone, grey, cryptograined, wine stained, bedding 2 to 6 feet, weathers medium to dark grey.	210	2710
	Dolomite, light grey, fine grained, crystalline, bedding 1 to 2 feet, weathers light yellow-orange, distinctive on air photos lowermost of three light bands, finely laminated limestone and buff argillaceous limestone in the lower part.	5	2500
	Limestone, medium grained, bioclastic in places, weathers wine-grey more resistant in upper part, blocky 4-to 8-inch fragments.	110	2495

Unit	Description	Thickness (feet)	Total from base (feet)
3 (cont.)	Limestone, wine mottling very evident, rock weathers grey to wine stained grey, platy.	200	2385
	Limestone, very chippy, weathers into small buff and wine stained fragments.	100	2185
	Limestone, chippy, slightly recessive, weathers to small 1/4-to 2-inch fragments.	110	2085
	Limestone, wine mottling, light yellowish brown, a few very poorly preserved fossil fragments, a few scattered pyrite cubes, in limestone (less than 3 per cent of rock).	90	1975
	Limestone, blue-grey to black, cryptograined, bedding 2 inches to 1 foot, weathers grey but much wine (red) mottling resulting in a brownish to wine appearance from a distance.	150	1885
	Covered interval, talus blocky (1 to 3 inches) grey weathering, cleaved limestone, very fine grained.	45	1735
	Limestone, dark blue-grey to black, cryptograined to very fine grained, bedding 4 inches to 1 1/2 feet, mottled with buff argillite, patchy, weathers medium grey with wine (red) and buff patches on fragments, fairly resistant and fairly blocky above 1675	30	1690
	Dolomite, dark grey to black, fine grained, crystalline, bedding 1 to 3 feet, weathers dark grey, pastel brownish tinge.	50	1660
	Limestone, dark blue-grey, cryptograined, weathers dark grey with wine (red) coloured bedding surfaces, cleaved in small, shaly fragments, recessive.	90	1610

Unit	Description	Thickness (feet)	Total from base (feet)
3 (cont.)	Dolomite, dark grey, fine grained, crystalline, bedding 1 to 2 feet, weathers dark grey, 80 per cent dark grey, 20 per cent light grey dolomite, both finely laminated in part.	117	1520
2	Dolomite, light and dark grey, interbedded, not mottled, both finely laminated in part, bedding 6 inches to 2 feet, weathers light and dark grey, 75 per cent light grey dolomite, 25 per cent dark grey dolomite.	163	1403
	Dolomite, light grey, medium grained, crystalline, rather porous, much pyrite in 4-to 6-inch blebs or as crystals, pyritohedrons, from 1/16 to 2 inches in diameter beds weathers light buff-grey, some yellow streaks, fairly recessive; this bed can be traced to valley because of large amount of pyrite (15 to 20 per cent of rock).	5	1240
	Dolomite, light grey, fine grained, crystalline interbedded with dolomite, slightly mottled, weathers light grey, some orange staining, minor pyrite crystals.	35	1235
	Dolomite, dark grey, fine to medium grained, locally spaghetti-like tabules form 20 per cent of rock.	55	1200
	Dolomite, dark grey, fine to medium grained, minor medium grey chert nodules, chert less than 10 per cent up to 3 inches long.	80	1145
	Dolomite, light grey, very fine grained, crystalline, slightly mottled, bedding 10 inches to 1 1/2 feet, weathers light grey, a few interbeds of darker grey weathering dolomite, giving banded or zebra appearance; lower 65 feet mottled light to medium grey; a few poorly preserved corals in dolomite.	80	1065

Unit	Description	Thickness (feet)	Total from base (feet)
1	Dolomite, medium grey, medium grained, crystalline, bedding 2 to 4 feet, weathers medium grey, straight cephalopod, gastropods, brachiopods. GSC loc. 58742 at 800 orthid and rhyconellid brachiopods <u>Receptaculites</u> sp.	205	985
	Dolomite, medium to dark grey, fine to medium grained, crystalline, few vugs of white dolomite, bedding 1 to 6 feet, weathers medium to dark grey, slightly fetid.	7	780
	Dolomite, medium grained crystalline, slightly vuggy, porous, recessive.	3	773
	Dolomite, fine-medium grained, crystalline, weathers medium grey, little or no chert, resistant unit.	70	770
	Dolomite, medium grey, medium grained, crystalline, bedding 1 foot to more than 6 feet, weathers medium to dark grey, uniform; minor chert nodules and stringers parallel with bedding; at 650, bedding is 4 to 10 inches, laminated in part, slightly recessive.	100	700
	Dolomite, crumbly outcrop, numerous 1/4-inch white dolomite stringers, weathers dark grey; from 400 to 440 light to medium grey weathering dolomite, fresh surface dark grey, fine grained, crystalline; very few chert nodules, less than 3 per cent of rock. GSC loc. 58741 at 550 ? <u>Lichenaria</u> sp.	200	600
	Dolomite, medium and dark grey, weathering, beds vaguely laminated in places, black chert nodules appear at 370; parallel bands with bedding, form 5 to 10 per cent of rock.	100	400

Unit	Description	Thickness (feet)	Total from base (feet)
1 (cont.)	Dolomite, black to dark grey, medium grained, crystalline, beds more than 6 feet thick, weathers dark grey, vague light grey mottling, appears to be present only on weathered surface, minor white dolomite stringers, fetid.	100	300
	Dolomite, black to dark grey, fine grained, crystalline, bedding 1 to 5 feet, weathers dark grey, resistant; numerous blebs and 1/8-to 1/4-inch stringers of white crystalline dolomite, minor black chert nodules, less than 5 per cent, slightly fetid.	50	200
BROKEN SKULL FORMATION			
	Limestone, blue-black, cryptograined, bedding massive, beds more than 6 feet thick, weathers light grey, at a distance appears brownish grey, slightly mottled, light grey in places.		150

Section 24. Sekwi, Broken Skull, and Sunblood Formations.

Measured on steep southwest-facing slope of ridge northeast of South Nahanni River at lat. 62°08'N, and long. 127° 23'W, Glacier Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
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Summary

Sunblood Formation	1725 (incomplete)
Broken Skull Formation	1640
Sekwi Formation	585 (incomplete)

Overlain by upper part of Sunblood Formation

SUNBLOOD FORMATION (1725 feet measured)

12	Limestone, black, dark grey, crypto-grained to very fine grained, thin to medium bedded, beds a few inches to a few feet thick, locally platy, weathers dark grey, grey and buff, buff mottling conspicuous in places.	150	3950
11	Dolomite, alternating light and dark grey on fresh and weathered surface, light grey dolomite is fine to medium grained, slightly calcareous and slightly silty, weathers light grey to pale buff; dark grey dolomite is fine to medium grained, silty and only very slightly calcareous; laminae are very fine and perfectly planar; very minor dolomite, almost white, fine grained, finely laminated, slightly silty and calcareous, weathers pale yellow-buff; from 3570 to 3600, limestone, medium grey, fine grained, silty mottling stands out in relief and weathers grey-buff, some silty laminae weather brick red; at 3600 to 3605, gastropods in dark grey dolomite; at 3725, dark and light bands about 5 to 6 feet thick; above 3570 strata are possibly correlative with the lower part of Member 3 in the standard reference section of Sunblood Formation near Flood Creek ('wine beds').	575	3800

Unit	Description	Thickness (feet)	Total from base (feet)
10	Dolomite, alternating light and dark grey beds, beds 6 inches to 2 feet thick, medium grained, lower few feet slightly recessive, contrasts to dark weathering dolomite below, silty laminae conspicuous in upper beds; at 3055 to 3080, pisolitic; this unit and part of unit 11 to 3570 possibly correlative with Member 2 of standard reference section of Sunblood Formation near Flood Creek.	195	3225
9	Dolomite, medium to dark grey, medium grained, weathers medium to dark grey; from 2225 to 2430 beds 3 to 9 inches thick, slightly calcareous, slightly recessive; from 2430 to 3030, dolomite, dark grey, medium grained, beds 2 to 8 feet thick to massive; minor faint silty laminations; from 2775 to 2800 a slightly recessive interval, highly fractured and recemented with network of white dolomite veinlets; unit possibly correlative with Member 1 of standard reference section of Sunblood Formation near Flood Creek.	805	3030
BROKEN SKULL FORMATION			
8	Dolomite, from 1780 to 2225, coarsely crystalline, very light grey, slightly calcareous, thick bedded to massive, weathers light buff-grey, forms conspicuous, light coloured massive bluffs, vuggy porosity locally; 1870 to 1875, band of darker grey dolomite; 1930 to 1950 medium grey dolomite with abundant stringers and blebs of chert; 2055 to 2060, band of medium to dark grey dolomite; 2080 to 2225, light grey weathering dolomite forms conspicuous bluffs, beds 2 to 6 feet thick, form jagged crags in gullies.	445	2225



Unit	Description	Thickness (feet)	Total from base (feet)
7	Dolomite medium grained, medium grey on fresh and weathered surface, much calcite in stringers parallel with bedding planes, locally striping produced by alternating beds of dark grey dolomite and coarsely crystalline white dolomite strips 1/4 to 1/8 inch thick; fairly massive and blocky above 1550.	445	1780
6	Dolomite, major cliff-forming unit, conspicuous buff and orange-buff weathering from a distance; in detail alternating orange-buff and grey-buff, bedding 2 to 3 feet; from 585 to 640, dolomite, orange and buff weathering, silty, sandy, and calcareous, some beds are brownish weathering dolomitic sandstones and siltstones; 640 to 850 mainly limestone but generally dolomitic, bright orange and red weathering, beds 3 to 9 inches thick, minor intervals beds to 18 inches thick, limestone is cryptograined, dark grey, silty, stylolitic, stylolitic parting surfaces commonly brilliant brick red; 850 to 1250, buff and orange weathering beds less conspicuous, bedding 1 to 1 1/2 feet, forms units of resistant strata 30 to 40 feet thick; pisolites at 1060 to 1061; 1250 to 1235, buff of streaky, silty, argillaceous limestone.	750	1335
SEKWI FORMATION			
5	Limestone, cryptograined, light grey, pearly, weathers medium to light grey, some buff patches, beds 3 to 4 feet thick; alternates with thinner bedded argillaceous and silty limestone in beds 1 to 9 inches thick; uppermost 20 feet contain medium to coarse rounded sand grains.	90	585
4	Limestone, very fine grained, beds 1 to 9 inches thick, rubbly weathering, minor buff and red weathering silty	120	495

Unit	Description	Thickness (feet)	Total from base (feet)
4 (cont.)	layers; at 465 limestone contains fine to coarse, rounded grains of quartz.		
3	Limestone and dolomite, beds 1 to 9 inches thick, in alternating bands - dolomite to 2 feet and limestone to 3 feet; limestone is silty and argillaceous, fine to medium grained, grey, weathers pale buff, silt in streaks and flecks parallel with bedding; dolomite, very fine grained, grey, weathers orange-buff.	35	375
2	Dolomite, ranges from blue-grey, very fine grained and weathering orange-buff to glossy grey-white, containing abundant fine to very coarse rounded quartz grains; from 260 to 340 dolomite is silty rather than sandy.	110	340
1	Sandstone, quartzitic, medium grained, white, weathers orange-buff to dull brown, slightly calcareous, beds 2 to 6 inches thick but poorly defined, quartz grains well rounded; rocks appear to be folded here in core of anticline.	230	230

Section 25. Sunblood Formation

On steep ridge facing South Nahanni River trending southwesterly from peak, elevation 6552 at lat. 62°12 1/2'N, long. 127°29'W, Glacier Lake map-area. Units are numbered consecutively with those of Section 24.

Unit	Description	Thickness (feet)	Total from base (feet)
Overlying carbonates of Sunblood Formation form dip-slope.			
SUNBLOOD FORMATION			
22	Limestone, silty and argillaceous, fine to cryptograined, bedding 1 to 6 inches, flaggy; from 2320 to 2370 brick red weathering in places, silty undulating partings. GSC loc. 58580 at 2350 <u>?Dinorthis</u> sp. <u>Rafinesquina</u> sp. <u>Streptelasma</u> sp.	230	2430
21	Limestone, silty and argillaceous, medium to coarsely crystalline, bedding 1 to 5 inches, blocky to flaggy, weathered surface streaky in black and buff; from 2025 to 2040 parting planes are pinkish red weathering; 2100 to 2200 mainly covered interval, talus more blocky, and black and red weathering. GSC loc. 58583 at 2090 <u>Sowerbyella</u> sp. GSC loc. 58578 at 1940 <u>?Dinorthis</u> sp.	270	2200
20	Mainly covered interval, brachiopods in talus at 1810 to 1820.	165	1930
19	Dolomite, light grey, buff weathering, flaggy, bedding 1 to 2 feet; interbedded with limestone, medium to dark grey to black, grey weathering; minor buff, rusty and pinkish red weathering, rubbly weathering; dolomite above 1640. GSC loc. 58578 at 1625 to 1627 <u>Rhyncotrema</u> sp. <u>?Dinorthis</u> sp.	180	1765

Unit	Description	Thickness (feet)	Total from base (feet)
18	Dolomite, dark grey to black, very fine grained, thin bedded and flaggy, contains abundant calcite speckles.	30	1585
17	Dolomite, very fine grained, dense and tough but weathers thin bedded to flaggy, beds 1 to 6 inches thick, averages 2 inches, fresh surface blue-grey, weathers yellow-buff, forms conspicuous and persistent recessive unit above cliff-forming limestone along range.	15	1555
16	Limestone, pale pearly grey, weathers grey to white, minor pale buff; entire unit massive and most resistant in entire section.	50	1540
15	Dolomite, light grey and dark grey, fine to medium grained, weathers light grey to dark grey and black; 1385 to 1386 limestone, weathers light and dark grey, boudin structure; at 1395 straight-shelled cephalopod.	155	1490
14	Dolomite, pale blue-grey, fine grained, very slightly silty and argillaceous, finely laminated, weathers pale yellow-grey-buff.	105	1335
13	Limestone, dolomitic, limestone, calcitic dolomite and dolomite; 1280 to 1230 calcitic dolomite more abundant than dolomitic limestone; limestone forms thinner beds a few inches thick, in numbers up to 2 and 3 feet thick, dolomite members much more massive and form members several tens of feet thick; 1060 to 1080, dolomitic limestone, silty; 965 to 1060, dolomite dark grey, to black, weathers dark grey, 940-965, limestone; 910-940, dolomite, dark grey to light grey, fine to medium grained weathers dark grey with brown and rusty red, also pale yellow-buff, laminated; gastropods in talus.	320	1230

Unit	Description	Thickness (feet)	Total from base (feet)
12	Limestone, argillaceous and slightly silty, dark grey to black, crypto-grained, weathers medium to light grey with buff patches and streaks; from 820 to 840, limestone, black and buff weathering; bedding 2 to 6 inches, fairly resistant; covered interval 700 to 720; 835 to 836, poorly preserved echinoderm fragments and straight cephalopod. GSC loc. 58586 at 835 ? <u>Maclurites</u> sp.	190	910
11	Dolomite, light and dark grey alternating, well banded, bedding a few inches to 2 1/2 feet, silty laminations, buff mottling, some brick-red weathering; gastropods at 395 to 396.	500	720
10	Dolomite, fine to medium grained, dark grey weathering; slightly silty and calcareous, bedding 3 inches to 4 feet; from 190 to 200 slightly recessive saddle; strata correlative with upper part of Member 1 in standard reference section (see Section 23). GSC loc. 58578 at 0 to 1 ? <u>Receptaculites</u> sp.	220	220

Underlain by dark grey weathering dolomites of basal Sunblood Formation.

Section 26. Whittaker, Delorme/Camsell and Sombre/Arnica/Bear Rock Formations.

West flank of Canyon Ranges in stream cut west of peak, elevation 5119, lat. 63°57'N, long. 126°36'W, Wrigley Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
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Summary

Sombre/Arnica/Bear Rock Formations	1430 (incomplete)
Delorme/Camsell Formations	770
Whittaker Formation	1430

Overlain by dark grey, fine to medium grained, in part laminated dolomite of Arnica Formation.

SOMBRE/ARNICA AND BEAR ROCK FORMATIONS

36	Limestone, light grey, very fine grained, brecciated, massive, pitted weathering surface, weathers light grey, cavernous in part.	305	3614
35	Limestone, light grey, very fine grained, massive, weathers light grey, forms prominent resistant rib.	35	3309
34	Mainly covered, talus of limestone breccia.	65	3274
33	Limestone, fine grained, light grey, brecciated, weathers light grey, forms resistant rib.	50	3209
32	Dolomite, dark grey, fine to medium grained, laminated, medium bedded, includes "spaghetti-stone", weathers very dark grey, recessive.	25	3159
31	Limestone, light grey-brown, fine to medium grained, thin bedded to massive, in part brecciated, weathers medium grey, limestone breccia stands out in bands; interbedded with recessive, dark grey dolomite typical of Arnica Formation.	175	3134

Unit	Description	Thickness (feet)	Total from base (feet)
30	Covered interval, talus of dark grey dolomite and grey limestone.	120	2959
29	Dolomite, silty, fine grained, grey-brown, shaly, weathers yellow-buff.	35	2839
28	Dolomite, light grey, very fine grained to fine grained, thin to medium bedded, laminated in part, weathers buff to brown, slightly recessive.	50	2804
27	Dolomite, light and medium grey, cryptograined to fine grained, medium bedded, weathers medium grey and minor light buff.	25	2754
26	Dolomite, light and medium grey, cryptograined to very fine grained, laminated, medium bedded, weathers medium grey to light buff.	175	2729
25	Limestone, breccia, matrix very fine grained, light brown and grey, massive, weathers grey and brown, pitted surface, resistant.	40	2554
24	Covered interval, talus of dark grey, fine grained dolomite and limestone breccia.	4	2514
23	Limestone breccia, grey, very fine grained, grey, weathers medium grey, grades laterally into dark grey dolomite.	70	2510
22	Dolomite, light to medium grey, fine to medium grained, laminated in part, medium bedded to massive, weathers medium grey.	55	2440
21	Dolomite, light grey, medium grey and light brown, very fine grained to fine grained, laminated in part, thin to medium bedded, weathers medium grey, some dark grey talus.	205	2385

Unit	Description	Thickness (feet)	Total from base (feet)
DELORME/CAMSELL FORMATIONS			
20	Mainly covered interval, talus of brown, shaly dolomite, very fine grained, thin to medium bedded, ochre, yellow and brown weathering.	350	2180
19	Dolomite, medium grey, very fine grained, thin to medium bedded, weathers yellow-buff, in part siliceous, recessive weathering.	120	1830
18	Dolomite, medium grey, cryptograined, very fine grained, laminated in part, medium bedded, in part calcareous, weathers medium grey to buff, resistant.	100	1710
17	Covered interval, talus of light grey, fine grained, laminated dolomite, weathers buff.	105	1610
16	Dolomite, light grey, fine to medium grained, thin bedded, shaly, silty, weathers buff and light grey, mudcracks locally.	15	1505
15	Dolomite, light grey, fine to medium grained, thin to medium bedded, in part laminated, silty, weathers buff and light grey, interbedded.	80	1490
WHITTAKER FORMATION			
14	Dolomite, medium grey, medium grained, thin to medium bedded, weathers medium grey, interbedded with dark grey cherty dolomite.	90	1410
13	Dolomite, light medium grey, fine grained, medium bedded to massive, weathers light and dark grey; interbedded medium and dark grey weathering dolomite, interbedding in units from 5 to 15 feet thick, mostly medium grey, dolomite laminated in part, appears well banded from a distance; very cherty horizon at 1275.	365	1320



Unit	Description	Thickness (feet)	Total from base (feet)
12	Dolomite, dark grey, medium grained, medium bedded, slightly cherty, weathers medium grey; at 950 halysitid and horn corals, poorly preserved.	75	955
11	Dolomite, light medium grey, medium grained, laminated in part, medium bedded, weathers medium grey, bedding becomes thinner towards top of unit.	25	880
10	Dolomite, dark grey, medium grained, crystalline, thin to medium bedded, weathers dark grey contrasting sharply with underlying unit, brachiopod sections exposed on weathered surface; interbedded with dolomite, medium grey, fine to medium grained, vuggy, weathers medium to light grey with slight buff mottling; in part laminated.	60	855
9	Dolomite, medium and dark grey, medium to coarse grained, medium bedded to massive, weathers light and dark grey, talus light grey, buff tinge on cliff faces, vuggy, coarse grained calcite in vugs, possible fault at 750.	65	795
8	Dolomite, dark grey, medium grained, thin bedded with irregular bedding planes, massive from a distance, fetid, black chert nodules, weathers dark grey, vuggy, white dolomite crystals in vugs, resistant.	25	730
7	Dolomite, light grey, medium grained, locally brecciated and calcareous, resistant, fairly massive, minor light buff mottling, thickness seems to vary laterally along strike.	80	705
6	Covered interval, talus of fetid, dark grey, medium grey dolomite, contains halysitid corals.	130	625
5	Dolomite, light to medium grey, fine to medium grained, medium bedded, slightly banded from a distance; at 440 coquina of poorly preserved brachiopods, weathers light and dark grey, variable along strike.	115	495

Unit	Description	Thickness (feet)	Total from base (feet)
4	Dolomite, very cherty, medium grey, slightly brownish, medium banded, weathers light to medium grey, locally poorly preserved favositid corals, at 290 slightly recessive.	110	380
3	Dolomite, medium grey to grey-brown, fine to medium grained, medium bedded, weathers light to medium grey and slightly brown, fossil debris abundant in some beds, favositid and halysitid corals, very cherty in places, resistant.	30	270
2	Dolomite, medium to dark grey, medium grained, medium bedded, weathers light grey to medium grey, fetid, cherty, horn corals at 160, unit more recessive toward top.	150	240
1	Dolomite and dolomitic limestone, brownish grey, fine grained, medium bedded to massive, weathers light medium grey to slightly brown-grey, silicified brachiopods, horn corals locally abundant, black chert nodules common, fetid, resistant.	90	90

Overlies Sub-Whittaker sandy and silty dolomite and dolomitic sandstone.

Section 27. This section was measured to check thicknesses of the post-Whittaker formations between Tigonankweine and Canyon Ranges; lat.  $63^{\circ}52'N$ , long.  $126^{\circ}43'W$ , Wrigley Lake map-area.

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Unit	Description	Thickness (feet)	Total from base (feet)
FORMATION			
	Nahanni	100	
	Headless	260	
	Landry	800	
	Arnica/Bear Rock/Sombre	1490	
	Camsell/Delorme	845	
	Whittaker*	1474	

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\* The Whittaker Formation was measured by B.S. Norford about 8 miles to the northwest of section 27 at lat.  $63^{\circ}56'N$ , and  $126^{\circ}54'W$ .

Section 28 B. Whittaker, Delorme/Camsell, Sombre, Arnica, Landry, Headless and Nahanni Formations.

Measured on limbs of Tigonankweine Syncline on southwest side of Tigonankweine Range, lat. 63° 51'N, long. 127° 13-15'W, Wrigley Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
<u>Summary</u>			
	Nahanni Formation	135	
	Headless Formation	255	
	Landry Formation	840	
	Arnica Formation	355	
	Sombre Formation	390	
	Delorme/Camsell Formations	235	
	Whittaker Formation	975	
 NAHANNI FORMATION			
13	Limestone, dark grey, fine grained, medium bedded to massive, weathers light grey, weathered surfaces and bedding planes rough, jagged, resistant.	135	3195
 HEADLESS FORMATION			
12	Limestone, dark grey, very fine grained, medium bedded, nodular weathering, resistant.	50	3060
	Covered interval, Headless lithology, fossiliferous.	55	3010
	Limestone, medium to dark grey, very fine grained, thin to medium bedded, weathers brown, resistant, fossiliferous.	20	2955
	Covered interval, Headless lithology; fossiliferous.	35	2935
	Limestone, dark grey, very fine grained, medium bedded, nodular weathering, resistant, fossiliferous.	25	2900
	Mostly covered interval, contains some limestone, dark grey, very fine grained, thin bedded, talus extremely fossiliferous, fossils silicified in part.	70	2875

Unit	Description	Thickness (feet)	Total from base (feet)
LANDRY FORMATION			
11	Limestone, black, very fine grained, thin to very thin bedded (not shaly), weathers brownish, bedding planes very irregular, fossiliferous, resistant; interbedded with about 50 per cent limestone; dark grey, fine grained, thin to medium bedded and limestone, shaly, dark grey.	60	2805
	Limestone, black, very fine grained, thin to very thin bedded (not shaly), weathers brownish, bedding planes very irregular, fossiliferous, resistant.	65	2745
	Limestone, dark grey and brown, fine to medium grained, thin bedded, weathers light grey, light rusty yellowish brown (Landry colour) on cliffs, recessive.	220	2680
10	Covered interval.	495	2460
ARNICA FORMATION			
9	Conglomerate, limy, weathers medium grey and reddish brown, brecciated in part but boulders primarily limy, 4 to 8 inches in diameter but may be up to 2 feet, boulders dominantly limestone, dark grey, very fine grained, some boulders shale, laminated dolomite, 5 to 15 per cent rounded boulders weather medium grey like Arnica lithologies, appears thin bedded in places due to layers of 1/2-to 2-inch pebbles, very resistant; basal 10 feet limestone, medium grey, medium grained; conglomerate probably sink-hole filling.	40	1965
	Dolomite, medium grey, fine to medium grained, thin to medium bedded, weathers light grey, weathered surfaces smooth.	135	1925

Unit	Description	Thickness (feet)	Total from base (feet)
8	Dolomite, dark grey, fine to medium grained, medium bedded (well bedded), grades down into lithology seen from 1710 to 1750 "spaghetti-stone" seen in float, but not in outcrop.	40	1790
	Dolomite, dark grey, medium grained, massive, weathers dark grey, in part brecciated, in part laminated, grades upward to lithology seen from 1750 to 1790, basal contact sharp, fault (?), no breccia or gouge on contact.	40	1750
7	Dolomite, dark grey, medium grained, thin irregular bedded, weathers medium grey, in part siliceous, in part laminated.	85	1710
	Dolomite, light grey to medium grey-brown, very fine grained, medium bedded, weathers medium grey, in part siliceous.	15	1625
SOMBRE FORMATION			
6	Dolomite, medium grey, brownish in part, fine to very fine grained, thin to medium bedded, blocky, weathers silvery grey to slightly buff in upper part, entire unit looks light grey from distance.	210	1610
	Dolomite, siliceous, medium grey, thin to medium bedded, weathers light grey to slightly buff, in part laminated.	10	1400
	Breccia, dark brown, weathers dark brown, composed of 1/2-to 1-inch fragments of dolomite.	5	1390
	Dolomite, light to medium grey and brownish, medium grained, medium bedded, weathers silvery grey, weathered surfaces rough, in part slightly siliceous, in part fetid.	70	1385

Unit	Description	Thickness (feet)	Total from base (feet)
5	Dolomite, light to medium grey and brownish, medium grained, medium bedded, weathers light to medium grey-buff, weathered surfaces smooth to irregular, from a distance appears mottled grey, in part laminated.	95	1315
DELORME FORMATION			
4	Dolomite, siliceous, light grey and brown, very fine grained, thin to medium bedded, weathers mottled buff, bedding planes smooth, joint planes smooth, in part laminated, thick bedded.	90	1220
	Dolomite, siliceous, light grey and brown, very fine grained, thin to medium bedded, weathers mottled buff, bedding planes irregular, joint planes smooth, in part laminated, thick bedded.	70	1130
	Sandstone, quartzitic, dolomitic, cream, medium to coarse grained, medium bedded, weathers buff, bedding planes irregular.	5	1060
	Dolomite, siliceous, silty; light brown and grey, medium bedded, laminated; interbedded with dolomite; shaly, fissile, light brown and grey; contains minor beds shale, slightly dolomitic, dark grey, weathers buff, locally contains pyrite nodules and mudcracks, contains some fish remains.	30	1055
	Dolomite, siliceous, light blue-grey, fine grained, thin to medium bedded, weathers buff (Delorme colour), in part laminated.	40	1025
WHITTAKER FORMATION			
3	Dolomite, light brown, medium to coarse grained, medium to thick bedded, weathers mottled buff, weathered surface vuggy, in part cherty, fossiliferous.	3	985

Unit	Description	Thickness (feet)	Total from base (feet)
3 (cont.)	Dolomite, dark grey, fine to medium grained, weathers medium to dark grey, weathered surface mottled white, brown, and dark grey.	2	982
	Dolomite, light grey and light brown, fine to medium grained; thin to medium bedded, weathers light grey-buff to buff, in part laminated, in part silty, becomes yellow-buff and cherty near top.	40	980
	Dolomite, dark grey, fine to medium grained, thin to medium bedded, weathers medium grey, in part laminated, in part cherty, fossiliferous, has very light buff tinge toward top.	40	940
	Banded unit composed of: 80 per cent dolomite, laminated, light grey, medium grained, medium bedded, weathers light grey and very light buff; 15 per cent dolomite, cherty, dark grey, medium grained, medium bedded, weathers medium to dark grey; 5 per cent dolomite, laminated, light grey, medium grained, medium bedded, weathers medium brown, fossiliferous, stromatoporoid corals.	65	900
	Covered interval, mainly dolomite, weathers light to medium grey, darker than unit from 765 to 815, some chert, white and grey, fossiliferous, stromatoporoid corals.	20	835
	Dolomite, light to medium grey, fine to medium grained, weathers light buff, in part laminated, contains minor quartz-filled vugs; at 780 is a prominent 2-foot bed of dolomite very cherty, dark grey, medium grained, weathers black, contains poorly preserved corals.	50	815
	Dolomite, fetid, very cherty, dark grey, medium grained, medium bedded, weathers dark grey and brown, dark grey weathering material in places has	30	765



Unit	Description	Thickness (feet)	Total from base (feet)
3 (cont.)	white stringers, brown weathering material has quartz-filled vugs at top, fossiliferous, contains brachiopods, corals, and cephalopods as in units below but not as well preserved.		
	Dolomite, laminated, light grey, medium grained, medium bedded, and dolomite, medium grey, medium grained, medium bedded, weathers medium brown; unit composed of 3 members of approximately equal thickness with the light grey dolomite on the top and bottom and the medium grey dolomite in the middle.	15	735
	Dolomite, cherty, dark grey, medium grained, thin bedded, weathers medium to dark brown, weathered surface ragged, fossiliferous, especially at 710; contains many well preserved, silicified halysitid and favositid corals and a few horn corals. GSC loc. 69020 at 710 <u>Cystihalysites</u> sp.	20	720
	Mainly covered interval with minor dolomite, medium to dark grey, medium grained, medium bedded; weathers buff and light grey.	35	700
	Partly covered interval, partly outcrop of dolomite, dark grey and brown, medium grained, medium bedded. GSC loc. 69021 at 650 ? <u>Favosites</u> 2 spp. <u>Cystihalysites</u> 2 spp.	35	665
	Dolomite, dark grey and brown, medium grained, medium bedded, weathers medium brownish grey, weathered surfaces and bedding planes rough, cherty, fossiliferous; contains well preserved silicified halysitid and favositid corals.	30	630

Unit	Description	Thickness (feet)	Total from base (feet)
3 (cont.)	Covered interval, talus of dolomite, dark grey.	35	600
	Dolomite, light to medium grey, medium grained, thick bedded to massive, weathers light to medium grey and slightly buff, weathered surface rough, very porous, mostly due to weathering of joints and vugs.	10	565
	Dolomite, cherty, porous, dark grey, medium grained, medium to thick bedded, weathers dark grey with white and light grey surface stringers.	30	555
	Covered interval, talus of: 80 per cent dolomite, porous, dark grey, with white chert, medium grained, weathers medium to dark grey, rough, 20 per cent dolomite, light to medium grey, fine grained, weathers light grey, smooth.	65	525
	Dolomite, dark grey, medium grained, medium bedded, weathers medium to dark grey with white surface stringers, weathered surface rough, contains up to 10 per cent white chert and black chert.	55	460
	Dolomite, light grey, medium grained, medium bedded, weathers light grey- buff, weathered surface smooth.	5	405
	Dolomite, dark grey, medium grained, thin to medium bedded, weathers dark grey with slight brownish to medium grey mottling in places, weathered surface has "swiss-cheese" appearance, bedding planes very irregular, contains some black chert, fossiliferous, contains pentamerid cross-sections.	40	400
	Dolomite, dark grey, medium grained, thin to medium bedded, weathers dark grey, bedding planes very irregular, contains white chert, fossiliferous, contains silicified corals.	25	360

Unit	Description	Thickness (feet)	Total from base (feet)
2	Dolomite, medium to dark grey, fine grained, thin to medium bedded, weathers light grey, bedding planes and joint surfaces smooth, joint porosity.	20	335
1	Dolomite, very porous, dark grey, medium grained, thin to medium bedded, weathers dark grey, rubble has "swiss-cheese" appearance.	30	315
	Dolomite, bioclastic, very porous (vuggy), medium to dark grey, medium grained, massive, weathers light to medium grey, fossiliferous, contains poorly preserved brachiopod debris.	10	285
	Dolomite, porous (vuggy), fetid, medium to dark grey, medium grained, thin to medium bedded (but weathers in thick blocks), weathers medium to dark grey, bedding planes rough, contains white chert, fossiliferous, weathered surface shows silicified favositid corals and sections of brachiopods.	20	275
	Dolomite, porous (vuggy), fetid, medium to dark grey, medium grained, thin to medium bedded (but weathers in thick blocks), weathers medium to dark grey, bedding planes rough, fossiliferous, contains silicified corals.	15	255
	Dolomite, porous (vuggy), fetid, medium to dark grey, medium grained, thin to medium bedded (but weathers in thick blocks), weathers medium to dark grey, bedding planes rough.	60	240
	Covered interval, talus dolomite, dark grey, medium grained, medium bedded, weathering light to medium grey and medium grey-brown, similar to interval below.	105	180

Unit	Description	Thickness (feet)	Total from base (feet)
1 (cont.)	Covered interval, talus dolomite, fetid, dark grey, medium grained, medium bedded, weathers dark grey mottled, bedding planes rough, contains minor white chert, minor rusty talus of same lithology at base, fossiliferous; contains silicified halysitid and horn corals, brachiopods and cephalopods.	75	75
	Underlain by dolomite, brownish grey, medium grained, thick bedded, weathers mottled yellow-brown.		

Section 29. Whittaker, Delorme, Camsell, Sombre/Arnica, Landry, Headless and Nahanni Formations.

Measured on northeast flank of Rouge Range at lat. 63° 37'N, long. 126° 10'W, Wrigley Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
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Summary

Nahanni Formation	115-160
Headless Formation	750-795
Landry Formation	585
Sombre/Arnica/Bear Rock Formations	2371
Camsell Formation	2254
Delorme Formation	1055
Whittaker Formation	1845

NAHANNI FORMATION

47	Limestone, light to medium, greyish brown to grey cryptograined with beds 2 to 6 feet thick, generally massive, a very resistant unit weathering light grey, minor calcite veinlets less than 2 per cent rock, near top of unit bedding 1 to 2 feet.	115	9212
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Contact with the Nahanni is gradational over the last 30 feet, typical Headless limestone becomes thicker bedded, few fossils seen in outcrop in last 30 feet of Headless Formation.

HEADLESS AND NAHANNI FORMATIONS

46	Limestone, medium to dark brownish grey, cryptograined, bedding 1 to 2 feet, very wavy, irregular bedding surfaces, rock disintegrates into 3-to 4-inch fragments, fossil brachiopods in talus, poorly preserved.	45	9097
45	Mainly covered, recessive limestone buff weathering, thin bedded, argillaceous, wavy bedding.	40	9052

Unit	Description	Thickness (feet)	Total from base (feet)
44	Limestone, light grey, cryptograined, traces of argillite, rather massive bedding greater than 6 feet, bands of knobby, crumbly limestone, very fossiliferous, weathers dark grey, generally resistant. GSC loc. 69055 at 8957 to 8962 <u>Digonophyllum rectum</u> <u>Favosites sp.</u> <u>Schuchertella adoceta</u> <u>Spinulicosta stainbrookii</u> <u>Emanuella meristoides</u>	55	9012
43	Covered interval, mainly	80	8957
42	Limestone, medium brownish grey, cryptograined; bedding 3 to 6 inches, wavy, knobby bedding surfaces, very irregular, argillaceous, especially on bedding surfaces, fossils at contact with shaly, calcareous interbeds, poor preservation; rock weathers grey-brown, also orange-buff, some beds show poorly developed mudcracks and worm-tubes (1/4 inch diameter); upper 10 feet of unit is more argillaceous slaty, and more recessive.	50	8877
	Limestone, light to medium grey-brown, 4 inch bedding, shale interbeds 1/8 to 1 inch wavy, irregular, unit weathers brown to buff, also grey, mudcracks at 8790.	45	8827
41	Limestone, 90 per cent, most in 3-to 4-inch beds, well bedded, slightly recessive, wavy bedding surfaces, appears slightly argillaceous, shale, black, calcareous, 10 per cent in very thin interbeds.	55	8782
	Limestone, medium to dark brownish grey, in some places bluish black, cryptograined, shaly limestone interbeds 6 inches to 1 foot less than 10 per cent.		
	Limestone, medium to dark grey-brown, bedding 4 inches to 1 foot laminated in places, less than 5 per cent shale.	50	8677

Unit	Description	Thickness (feet)	Total from base (feet)
41 (cont.)	Limestone, medium to dark grey, cryptograined, very well bedded, 3 to 6 inches; minor (about 20 per cent) shaly limestone, recessive, fossils in a 2-foot shale bed, black, calcareous, recessive. GSC loc. 69019 at 8623 to 8624 <u>Lingula</u> sp. <u>"Cornellites"</u> sp.	50	8627
	Limestone, medium to dark grey, cryptograined, well bedded, bedding 3 to 6 inches, wavy, with shaly, calcareous interbeds at places, limestone 65 per cent, shaly limestone 35 per cent, mudcracks on many bedding planes in this interval.	50	8577
	Limestone, about 50 per cent, medium to dark greyish brown, cryptograined, weathers grey, interbedded with recessive, black calcareous shale; units generally each about 10 feet thick; some shaly interbeds about 6 inches thick, weathers dark grey, trilobite pygidia at 8515 mudcracks in limestone at 8525.	50	8527
	Limestone, cryptograined, thinly bedded, 45 per cent shaly limestone, dark grey to black, recessive, bedding 1/8 to 1/4 inch, 55 per cent weathers dark grey, a few poorly preserved pelecypod fragments in shale.	50	8477
	Limestone, medium to dark greyish brown, cryptograined, wavy bedding, well bedded, beds 2 inches to 6 inches thick, shaly interbeds are recessive weathering, dark grey in contrast to light medium grey of limestone.	35	8427
	Limestone, dark grey, cryptograined, with a few specks of calcite, bedding 6 inches to 1 foot, weathers light grey with rusty bedding surfaces, some shaly, calcareous, black, very fine grained interbeds, about 25 per cent of	50	8392

Unit	Description	Thickness (feet)	Total from base (feet)
41 (cont.)	rock, up to 5 feet wide, recessive weathering, darker grey, poorly preserved fossils on weathered surface, mudcracks at 8355 in thinly bedded shaly limestone beds 1/8 to 1/4 inch, finely laminated, weathers buff.		
	Limestone, shaly, black, recessive, weathering dark grey, interbeds of more resistant argillaceous limestone, fossils on weathered bedding planes, poorly preserved, bedding planes wavy.	40	8342
LANDRY FORMATION			
40	Covered interval.	85	8302
	Limestone, dark grey-brown, crypto-grained, bedding 10 inches to 1 1/2 feet, weathers light grey, very resistant.	30	8217
	Limestone, shaly, platy, finely laminated, dark grey very fine grained, weathers medium grey, recessive.	3	8187
	Limestone, medium brownish grey, cryptograined, very well bedded, thin bedded, beds 4 to 10 inches thick, weathers light grey, slightly recessive.	22	8184
	Covered interval.	10	8162
	Limestone, medium brownish grey, cryptograined, bedding 1 to 1 1/2 feet, weathers light grey.	15	8152
	Limestone, very fine grained, platy, finely laminated, weathers light grey to slightly brown in places, recessive.	20	8137
	Limestone, bedding 1 to 1 1/2 feet, weathers light grey, resistant.	25	8117
	Limestone, dark brownish grey to medium brownish grey, crypto-crystalline, platy, thinly bedded, finely laminated, 60 per cent bedding 1 to 1 1/2 feet,	25	8092



Unit	Description	Thickness (feet)	Total from base (feet)
40 (cont.)	40 per cent beds slightly recessive, more resistant beds weather light grey.		
	Limestone, light brownish grey to medium brownish grey, cryptograined to very fine grained, bedding 2 inches to 1 1/2 feet, thinner beds tend to be finely laminated, weathers light grey with some yellow patches, resistant.	50	8067
	Limestone, dolomitic in places, light brownish grey, finely laminated in places, thinly bedded, rather platy, weathers light grey, mudcracks at 8005.	25	8017
	Limestone, light grey, laminated in places, bedding 6 inches to 2 feet well defined, weathers dark grey to light grey becoming lighter near top of the unit, top of the unit beds 4 inches to 1 foot with platy talus fragments.	28	7992
	Dolomite, dark grey, very fine grained, 2-foot bed, weathers dark grey.	2	7964
	Limestone, dark grey, cryptograined to very fine grained, thin beds 2 inches to 1 foot, laminated, weathers medium to light grey.	20	7962
	Dolomite, and dolomitic limestone, locally stylolites, 4 inches wide at a maximum, mostly a laminated dolomite, weathers dark grey.	75	7942
	Dolomite, limy in part, dolomitic limestone, light to dark grey, laminated in places, very fine grained, bedding 6 inches to 1 foot, weathers medium to dark grey.	50	7867
	Dolomite, slightly calcareous in parts, also dolomitic limestone(?) weathers dark grey, yellowish where calcite on surface.	50	7817

Unit	Description	Thickness (feet)	Total from base (feet)
40 (cont.)	Dolomite, medium dark grey, finely laminated in part, very fine grained, bedding 6 inches to 1 foot, weathers dark grey, calcareous along fractures slightly vuggy near 7765	40	7767
	Dolomite, medium grey, slightly limy, very fine grained, bedding 10 inches to 1 1/2 feet, weathers dark grey. At 7722 worm-like tubes, some radially arranged, some joined to a bedding surface, stylolites at 7725, a resistant.	10	7727
SOMBRE/ARNICA/BEAR ROCK FORMATIONS			
39	Covered interval, mainly.	135	7717
38	Dolomite, dark grey, laminated in places, well bedded, beds 6 inches to 1 foot thick, medium to dark grey weathering.	73	7582
	Dolomite breccia, fragments dark grey 1/4 inch to 3 inches, matrix of light grey dolomite, very fine grained, also white dolomite.	2	7509
	Dolomite, limy in places, finely laminated, medium to dark grey well bedded, beds 6 inches to 1 foot thick, weathers thick medium to dark grey.	105	7507
	Dolomite, limy, partly laminated, platy near 7400, weathers light to dark grey, bedding excellent, beds 6 inches to 1 foot.	20	7402
	Dolomite, limy, light grey, fine grained, crystalline to cryptocrystalline, well bedded, bedding 6 inches to 1 1/2 feet, vaguely banded, weathers light grey and whitish grey.	130	7382
37	Limestone breccia, limestone, and limy dolomite, generally medium to dark grey, massive, vaguely banded, weathers light grey to medium grey with yellowish streaks, attitudes vary a great deal.	720	7252

Unit	Description	Thickness (feet)	Total from base (feet)
36	Limestone breccia, 75 per cent, 25 per cent interbeds of dark grey dolomite, fine grained, slightly vuggy, in places difficult to distinguish from limestone, weathers grey.	60	6532
35	Dolomite, dark grey, fine grained, crystalline, slightly calcareous.	20	6472
	Limestone breccia, similar to that from 6374 to 6424	6	6452
	Dolomite, dark grey, finely laminated in part.	22	6446
	Limestone breccia, massive, fragments from 1 inch to 1 foot or greater, some appear dolomitic others limestone, matrix of fine grained limestone, light grey, massive, weathers grey to yellowish grey, forms hoodoos.	50	6424
34	Dolomite, medium to dark grey, very fine grained to finely crystalline, bedding 6 inches to 1 foot, weathers light to medium grey, stained yellowish.	85	6374
33	Dolomite, dark grey, fine grained, crystalline, less than 5 per cent cavities, weathers dark grey, seems to be truncated by limestone breccia.	45	6289
	Dolomite, black, cryptograined, massive, drusy, cavities filled with calcite less than 10 per cent, some vugs filled with calcite, weathers dark grey, slightly brecciated near upper part of unit, fractures filled with calcite.	60	6244
32	Dolomite, medium to dark grey, finely crystalline, bedding 10 inches to 1 1/2 feet, well bedded, weathers medium to dark grey, a few light bands, drusy cavities less than 5 per cent, generally small, at 1 1/2 feet band of whitish weathering dolomite, good marker.	67	6184
	Dolomite, mainly dark grey, fine grained, weathers dark grey, in part	53	6117

Unit	Description	Thickness (feet)	Total from base (feet)
32 (cont.)	laminated, bedding 6 inches to 1 foot, drusy, 15 per cent of rock filled with cavities lined with small white calcite crystals.		
	Dolomite, medium-light grey, fine grained, crystalline, bedding 2 to 4 feet, vaguely laminated in places, at 6059 dolomite has some drusy cavities, 15 per cent of rock, generally parallel with bedding, at 6062 approximately 6-inch horizon of calcite blebs, elongate but rounded in cross-section, rock weathers medium to light grey, dark grey dolomite 25 per cent.	25	6064
	Dolomite, medium to dark grey, very fine grained to finely crystalline, bedding 6 inches to 1 1/2 feet (average 1 foot), rather massive, weathers dark grey, light grey dolomite 15 per cent also massive, at 6039 a 1-foot bed of breccia, angular fragments of black dolomite, 1/4 to 1 inch, matrix light grey dolomite, weathers light grey.	25	6039
	Dolomite, dark grey 90 per cent, light grey dolomite 10 per cent, several fossil corals, very poorly preserved.	35	6014
	Dolomite, dark grey, fine grained, crystalline, laminated in part, bedding 2 to 5 feet, appears massive, light grey dolomite 20 per cent, weathers light grey, spaghetti-like tabules at 5944.	35	5979
	Dolomite, sheared in part, minor calcite along fractures, small poorly preserved colonial corals, 80 per cent dark grey dolomite.	65	5944
	Dolomite, medium to dark grey, 80 per cent, light grey, 20 per cent, some movement between beds, rocks sheared, slightly folded at 5844, minor flecks of calcite and very small vugs.	75	5879
	Dolomite, medium to dark grey to black, fine grained to medium grained, crystalline, finely laminated, bedding 2 to 4 feet, appears massive, weathers dark grey, few light grey bands, stylolites (1 inch wide).	35	5804

Unit	Description	Thickness (feet)	Total from base (feet)
32 (cont.)	Dolomite, medium grey to dark grey, very fine grained, crystalline, finely laminated in places, bedding 8 inches to 2 feet (average 1 1/2 feet), weathers medium to dark grey, vaguely banded, at 5725 dolomite, light grey, weathers light grey, minor calcite veinlets less than 1/16 inch.	45	5769
	Dolomite, slightly limy, dark grey, very fine grained, finely laminated in part, weathers dark grey, bedding 2 to 4 feet to massive.	35	5724
31	No outcrop, covered by river gravels.	110	5689
30	Dolomite, shaly, light to medium brownish grey, cryptograined, bedding 6 inches to 1 foot, weathers light to medium grey; minor breccia some beds, fragments of dolomite, matrix dolomite, laminated finely in part.	45	5579
	Dolomite, shaly, medium dark grey, cryptograined, bedding 1/8 to 1/2 inch platy, recessive, weathers medium grey to slightly brown, rock appears vaguely banded.	70	5534
	Dolomite, light grey to brownish grey, cryptograined, bedding 4 inches to 1 foot sheared, with calcite in fractures and shears, weathers light to medium grey, slightly brecciated 5359 to 5364 appears to be in lenses, finely laminated in places, generally well bedded, with smooth flat bedding planes, a few interbeds between 5394 to 5419 where dolomite is shaly, recessive with lenses and pods of more resistant dolomite.	120	5464
CAMSELL FORMATION			
29	Covered interval.	504	5344
28	Breccia, clasts of dark grey dolomite and limestone, range from 1/4 to 2 inches,	75	4840

Unit	Description	Thickness (feet)	Total from base (feet)
28 (cont.)	sparsely distributed, 35 per cent of rock, massive, no evident bedding, weathers a light grey, matrix fine grained limestone, vuggy, porous, large caves in rock.		
	Dolomite breccia, massive, clasts, dark grey dolomite, 1/4 inch to 2 inches, some calcite veinlets, bedding appears massive, weathers medium to dark grey; resistant, forms prominent knobs.	158	4765
27	Dolomite breccia, clasts, generally small, dark grey, angular 1/8 to 1 inch, matrix light grey dolomite, crypto-grained, weathers dark grey, massive.	397	4607
	Dolomite, very limy in places, light grey and brownish grey, cryptograined, uppermost bed 5 feet thick but generally 8 inches to 1 foot weathers light grey, small, less than 1/16 inch veinlets of calcite in places, brecciated.	85	4210
	Covered interval.	15	4125
	Dolomite, limy, light grey, very dolomitic limestone from 4105 4110, weathers light grey.	10	4110
	Covered interval.	45	4100
	Dolomite, light grey, cryptograined, bedding 10 inches to 1 foot, weathers light grey.	5	4055
	Recessive unit, mainly covered.	20	4050
26	Dolomite, shaly, reddish brown, very fine grained, slightly limy, bedding 1/8 to 1/2 inch, weathers reddish brown, recessive; from 3965 to 4030, dolomite, limy in places, light grey, crypto-grained, bedding 8 inches to 1 foot, weathers light grey brownish; from 3945 to 3965, limestone light grey, very fine grained, bedding 8 inches to 1 foot, weathers light grey; from 3900	170	4030

Unit	Description	Thickness (feet)	Total from base (feet)
26 (cont.)	to 3945, dolomite, light to dark grey, very fine grained to cryptograined, bedding 6 inches to 1 foot weathers light to dark grey; from 3880 to 3900, limestone and dolomitic limestone, light grey, cryptograined to very fine grained, bedding indefinite 10 inches to 1 foot, weathers light grey; from 3860 to 3880, dolomite, light grey, cryptograined, bedding 4 inches to 1 foot, weathers light grey, appears vaguely brecciated in part.		
25	Limestone breccia from 3825 to 3860 slightly porous, clasts limestone, 1/4 to 4 inches, angular weathers grey, matrix very fine grained limestone, bedding 4 to 8 inches; from 3775 to 3825; limestone, cryptograined, brecciated in part, though not obvious on weathered surface, small 1/4 to 1 inch angular grey limestone clasts, limestone matrix, rough difficult to break, bedding 4 inches to 1 1/2 feet, weathers grey, slightly recessive; at 3765, limestone breccia, very massive, bedding not visible, very resistant, weathers light grey, very resistant, appears slightly dolomitic at from 3615 to 3,765 limestone breccia, very fine grained, light grey, with sparsely distributed clasts of dark grey limestone, angular, 1/4 to 2 inches, matrix light grey limestone which weathers light to dark grey.	245	3860
24	Limestone 3415 to 3615, light grey, very fine grained, powdery, bedding 4 to 6 feet, weathers dark grey, not brecciated (?); from 3240 to 3415 limestone breccia, some fragments in breccia, black limestone, finely laminated, fragments to 3 inches long; from 3080 to 3240, limestone breccia, fragments of limestone, generally very small 1/4 to 1 inch up to 2 inches, matrix of limestone, weathers light brownish yellow and grey, unit forms	535	3615

Unit	Description	Thickness (feet)	Total from base (feet)
24 (cont.)	a cliff face, massive, some colour bands visible but bedding is indistinct, basal 35 to 40 feet is talus covered.		
DELORME FORMATION			
23	Covered interval.	560	3080
22	Dolomite, limy, light grey, finely laminated in part, very fine grained to cryptograined, bedding 1/2 to 6 inches, average 3/4 inch, weathers light brown and orange-brown, greyish in places, outcrop rather poor.	20	2520
21	Covered interval, grey dolomite talus.	290	2500
20	Limestone, light grey, cryptograined to very fine grained, bedding 2 to 4 feet, weathers light grey with a rough surface.	10	2210
19	Covered interval, orange-brown weathering dolomite talus.	75	2200
18	Dolomite from 2105 to 2135, laminated in part, limy in places, light grey, cryptograined, bedding 2 to 10 inches, weathers light grey and buff-brown; limestone, light grey, cryptograined, 3-foot bed, from 2102 to 2105 wavy, undulating, weathers light grey with rough pitted surface; from 2090 to 2102 dolomite, light grey, cryptograined, bedding 1 to 4 inches, rather platy, weathers light orange-brown, ripple-marks at 2096; from 2087 to 2090, limestone, light grey, cryptograined, 3-foot bed, wavy, undulating, weathers light grey, with rough pitted surface; from 2085 to 2087 dolomite, laminated finely, bedding 3 inches, light grey, cryptograined, weathers grey to brown; from 2074 to 2085 dolomite, light grey, cryptograined, bedding 1/4 to 1/2 inch, extremely platy, weathers light brown, slightly recessive, very slightly limy, mudcracks on weathered surface of bedding plane at 2074 and 2070;	100	2125



Unit	Description	Thickness (feet)	Total from base (feet)
18 (cont.)	from 2025 to 2074, dolomite, light grey and light bluish grey, cryptograined to very fine grained, bedding 1/2 to 6 inches, weathers light yellowish brown to orange, some beds are limy weathers into platy fragments, mudcracks and worm burrows in talus near 2045.		
WHITTAKER FORMATION			
17	Dolomite from 2005 to 2025, medium grey, very fine grained, crystalline to fine grained crystalline, bedding 6 inches to 1 foot, weathers dark grey, vague mudcracks near top; from 1995 to 2005, covered interval, platy buff weathering dolomite talus, recessive; from 1905 to 1995, dolomite, light grey, dark grey, very fine grained crystalline, bedding 5 inches to 1 foot, weathers medium grey, light grey, mudcracks at 1935; from 1900 to 1905, dolomite, light grey, cryptograined to very fine grained, bedding 1 to 3 inches, platy, weathers orange-brown, mudcracked from 1800 to 1900, dolomite, light grey to dark grey and black, very fine grained to fine grained crystalline, bedding 6 inches to 1 foot average 6 inches, weathers medium to dark grey, fairly resistant, ripple-marks in talus at 1875	225	2025
16	Dolomite, from 1675 to 1800, light grey to dark grey and black, very fine to fine grained, crystalline, bedding 1 to 5 feet, weathers light grey to dark grey, light grey dolomite about 35 per cent generally resistant, vuggy and porous in places, especially from 1750 to 1765 fossiliferous but dolomitized and preservation poor; from 1660 to 1675, dolomite, medium grey, very fine grained, crystalline, weathers light to medium grey, slightly recessive, bedding 1/2 to 1 foot, with silica blebs slightly laminated in part; from 1640 to 1660, dolomite, light grey, very fine	360	1800

Unit	Description	Thickness (feet)	Total from base (feet)
16 (cont.)	<p>grained, bedding 6 inches to 1 1/2 feet, weathers light grey, upper 5 feet porous, vuggy, slightly recessive; from 1580 to 1640 dolomite dark grey to black, very poor outcrop, siliceous blebs, weathers dark grey; from 1560 to 1580, dolomite grades into thinly bedded (3- to 6-inch beds) rather porous, fossiliferous dolomite, fossils dolomitized, poorly preserved, weathers medium to dark grey; from 1550 to 1560, dolomite, light grey, very fine crystalline, bedding 2 to 3 feet, weathers light grey, non-fossiliferous, overlain by black, fine grained crystalline dolomite, with silica blebs, very little chert, bedding 6 inches to 1 1/2 feet, weathers dark grey; from 1540 to 1550 dolomite, dark grey to black, very fine to fine grained, crystalline, bedding 1 to 3 feet, with silicified, very poorly preserved fossils, brachiopods, corals, also algal mats, resistant, weathers out slightly; from 1545 to 1510, dolomite, fine grained, crystalline, light to medium grey, bedding 1 to 4 feet, weathers light grey, slightly mottled, few poorly preserved corals, overlain by dark grey dolomite; from 1440 to 1445, dolomite, medium to dark grey to black, fine grained, crystalline, bedding 1 to 4 feet, weathers dark grey, minor chert, both dark and light grey, slightly banded, very few light bands, mostly dark grey.</p>	35	1440
15	<p>Dolomite, light grey, fine to medium grained, crystalline, porous and vuggy, bedding massive, indistinct, weathers light grey, small 1- to 2-inch fragments and rubble, slightly recessive.</p>	35	1440
14	<p>Dolomite, dark grey to black, very fine grained to medium grained, crystalline, bedding 1 to 4 feet, weathers dark grey, minor dolomite vugs, veinlets, from 1375 to 1405, medium grained crystalline, vuggy, porous, a few poorly preserved fossils, brachiopods, corals scattered throughout, distinctive unit.</p>	100	1405

Unit	Description	Thickness (feet)	Total from base (feet)
13	Dolomite, slightly fetid, light grey to medium grey, cryptograined to medium grained, crystalline, rather coarse grained from 1260 to 1265, vuggy and porous, especially around 1260; drusy cavities filled with white crystalline dolomite and some calcite crystals, weathers light grey, slightly recessive, bedding 2 to 6 feet, on average 3 feet.	90	1305
12	Dolomite, fetid, dark grey to black, fine grained, crystalline to medium grained, crystalline, bedding 2 feet to massive, porous, vuggy, some vugs up to 6 inches in diameter filled with white crystals of dolomite, weathers dark grey to black, resistant unit.	125	1215
11	Dolomite, porous, vuggy near top of unit, laminated, slightly fossiliferous, a few poorly preserved dolomitized corals; from 1015 to 1080 dolomite, slightly fetid, medium grey to light grey, very fine grained, bedding 1 to 3 feet, finely laminated in parts, cherty, light grey to buff chert in very irregular splotches, up to 50 per cent of rock in places, dolomite weathers medium grey but chert gives a light grey overall appearance, minor dolomite in vugs.	75	1090
10	Covered interval.	35	1015
9	Dolomite, fetid, dark grey to black, very fine to fine grained, thinly bedded (2 to 8 inches, some up to 1 foot) cherty, black and light grey, chert nodules and pods parallel with bedding, weathers dark grey, resistant, from 950 to 960 dolomite, slightly fetid, dark grey to black, fine grained, bedding 10 inches to 2 feet, weathers dark grey, slightly mottled appearance, fossiliferous, brachiopod fragments oriented parallel with bedding, calcareous, some halysitid corals, very little chert, minor dolomite vugs.	60	980

Unit	Description	Thickness (feet)	Total from base (feet)
8	Dolomite, dark grey to black, very fine grained, fetid, slightly cherty, weathers light to dark grey, poor outcrop.	270	920
7	Dolomite, dark grey to black, very fine grained, cherty in places, fetid, weathers dark grey, fossiliferous, silicified fossils, corals, brachiopods throughout, poorly preserved and not abundant.	85	650
6	Dolomite, light grey, slightly fetid, very fine to fine grained, bedding 1 to 2 feet, weathers light grey, fossiliferous, siliceous corals, some brachiopods poorly preserved, very few chert nodules.	60	565
5	Dolomite, dark grey, very fine to fine grained, many irregular shaped dark grey or black chert nodules, weathers dark grey, fossiliferous, corals, brachiopods, slightly fetid, bedding 6 inches to 1 1/2 feet, undulating; from 425 to 505 white quartz stringers and irregular blebs, in fetid dolomite, weathers medium to dark grey; at 350 smaller chert nodules (1 to 4 inches), poorly preserved silicified solitary corals; at 325 black chert nodules and pods up to 1 1/2 feet long, 4 inches wide, seem to be arranged parallel with bedding.	215	505
4	Dolomite, medium to dark grey, fine grained, bedding 6 inches to 1 1/2 feet, weathers light grey, resistant; poor silicified corals from 230 to 235; from 250 to 290 dolomite, medium grey, very fine grained, bedding 1 to 4 inches, undulating, fossiliferous, poorly preserved colonial and solitary corals, weathers medium grey.	60	290
3	Shale, dolomitic, dark grey, bedding 1/4 to 1/2 inch, weathers medium grey, recessive.	18	230

Unit	Description	Thickness (feet)	Total from base (feet)
2	Limestone, dark grey, cryptograined, bedding 4 to 6 inches, nodular appearance, slightly recessive, weathers light grey, basal 10 feet weathers grey but stained a distinct reddish, form a definite horizon, fossiliferous, calcareous shaly interbeds, weather light grey. GSC loc. 69030 at 150 to 155 ? <u>Hesperorthis</u> sp. <u>Streptelasma</u> <u>Catenipora</u> <u>Plasmopora</u>	67	212
1	Dolomite, light grey, fine grained, top 2 feet dark grey-black, very fine grained, weathers dark grey.	20	145
	Dolomite, light grey, fine grained, stylolites at several horizons 100 to 102, a few quartz grains on weathered surface in places, weathers light grey.	25	125
	Dolomite, medium grey, fine grained, bedding 6 inches to 1 1/2 feet, weathers light grey.	18	100
	Dolomite, light grey, very fine grained, bedding 1/4 to 1 inch, slightly recessive, weathers light orange-brown.	4	82
	Dolomite, light grey, very fine grained, weathers light grey.	6	78
	Dolomite, light grey, very fine grained, resistant, at 65 small thin (1/4 to 1/2 inch) elongated (2 to 6 inches) medium grey chert nodules, resistant.	7	72
	Dolomite, siliceous, light grey, very fine grained bedding 6 inches to 1 1/2 feet, bedding surfaces wavy, weathers light grey, some brown streaks, few vugs with clear quartz crystals less than 1 per cent.	50	65

Unit	Description	Thickness (feet)	Total from base (feet)
1 (cont.)	Dolomite, siliceous, light grey, very fine grained, bedding 1/2 to 1 inch, weathers yellow-orange, mudcracked, saltcasts at 12.5, laminated.	3	15
	Dolomite, light grey, very fine grained, laminated, brown silty laminae, stromatolitic (?).	7	12
	Dolomite, light grey, very fine grained, finely laminated, wavy laminations, weathers orange-brown, minor 4-to 6-inch beds of intraformational conglomerate and breccia.	5	5
	Underlain by dolomite, light grey, slightly siliceous, very fine grained, bedding 4 to 8 inches, weathers light grey to brown.		

Section 30. This section was measured to check thicknesses with those obtained in section 26; in stream cut at lat. 63°21'N, long. 126°04'W, Wrigley Lake map-area.

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Unit	Description	Thickness (feet)	Total from base (feet)
FORMATION			
	Nahanni	195	
	Headless	523	
	Landry	600	
	Arnica/Bear Rock/Sombre	2200	
	Camsell	1960	
	Delorme	1150	
	Whittaker	1900	

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Section 31. Whittaker, Delorme, and Sombre Formations.

Measured in stream cut 1 1/2 miles west of Hayhook Lake,  
lat. 63°31'N, long. 126°48'W, Wrigley Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
SOMBRE FORMATION (405 feet measured)			
19	Dolomite, light grey, thick bedded to massive, weathers medium grey to dark grey, commonly thinly laminated.	90	2303
18	Dolomite, light grey, thick bedded, fine grained, weathers medium grey, thinly laminated.	10	2213
17	Covered interval.	95	2203
16	Dolomite, light grey, medium bedded, very uniform in lithology and bedding, fine grained, weathers light and medium grey, moderately resistant.	210	2108
DELORME/CAMSELL FORMATIONS			
15	Dolomite, light grey, thin bedded, fine grained, weathers orange-buff, recessive.	230	1898
14	Covered interval, probably thin bedded, orange-weathering dolomite.	55	1668
13	Dolomite, light grey, mostly thin bedded, very fine grained, weathers orange and buff.	95	1613
12	Dolomite, light grey, uniformly thin bedded, fine to very fine grained, weathers mainly grey.	60	1518
11	Dolomite, light grey, mainly thin bedded, very fine grained, weathers pale orange to buff.	160	1458
10	Dolomite, light grey, beds range from 4 to 8 inches in thickness, bedding surfaces wavy; fine grained, weathers light grey; alternating buff and grey weathering beds in upper part, resistant.	150	1298



Unit	Description	Thickness (feet)	Total from base (feet)
WHITTAKER FORMATION			
9	Dolomite, dark grey, thick bedded mainly, fine grained, locally black chert nodules are abundant, higher in unit light and dark grey weathering beds alternate, uppermost beds are buff weathering.	360	1148
8	Dolomite, medium grey, thin bedded, fine grained, weathers light grey, laminated.	40	788
7	Dolomite, dark grey, fine grained, thick bedded in lower part and massive in upper part, weathers dark grey, chert bed 1 1/2 feet thick at 390, abundant. <u>Pentamerus</u> sp.	360	748
6	Dolomite, medium grey, thin bedded and platy, beds 1/2 to 3 inches thick, weathers medium grey.	112	388
5	Dolomite, brachiopod coquina in dark grey weathering, fine grained dolomite.	1 1/2	276
4	Dolomite, dark grey, fairly massive, fine grained, weathers dark grey, poorly fossiliferous, approximately 2 per cent vuggy porosity.	24 1/2	274 1/2
3	Dolomite, dark grey, medium bedded, fine grained, abundant chert layers, large favositid corals.	115	250
2	Dolomite, dark grey, medium bedded, fine grained, weathers medium to dark grey, discontinuous chert layers as much as 1 foot thick, halysitid corals abundant.	85	135
1	Limestone, dark grey, medium bedded, fine grained, weathers medium to dark grey, slightly fetid; abundant solitary corals and brachiopods.	50	50

Underlain by sub-Whittaker stromatolitic limestone and dolomite.

Section 32. Little Dal, Whittaker, Delorme, Sombre, Arnica, and Landry Formations.

Measured in an east-west canyon in southern Tsezotene Range approximately 4 miles north of the Redstone River, at lat. 63°40'N, long. 126°15'W, Wrigley Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
<u>Summary</u>			
	Landry Formation	580	
	Arnica Formation	560	
	Sombre Formation	750	
	Delorme/Camsell Formation	1070	
	Whittaker Formation	1080	
	Little Dal Formation	300	
	Overlain by Headless Formation		
	LANDRY FORMATION		
10	Limestone, light grey, crypto-grained, bedding 1 foot to massive, weathers light grey; interbedded with limestone, light brown-grey, as above except weathers medium grey.	380	4340
9	Limestone, light grey-brown to light grey, cryptograined, bedding massive, greater than 6 feet, weathers light grey, resistant.	200	3960
	ARNICA FORMATION		
8	Dolostone, light grey, medium grained, bedding massive, weathers medium grey, resistant.	50	3760
7	Dolostone, brecciated, breccia fragments dolostone, angular, up to 6 inches or more, matrix white crystalline dolomite, vugs of calcite, weathers medium to dark grey, with few black stains; from 3360 to 3400, light and dark interbedded dolostone, very fine to cryptograined, laminated in places, weathers light grey, unit is extremely brecciated from 3600 to 3700.	510	3710

Unit	Description	Thickness (feet)	Total from base (feet)
SOMBRE FORMATION			
6	Dolostone, light and medium grey, vaguely banded, very fine grained crystalline, almost cryptocrystalline in places, bedding 1 to 3 feet, vugs with dolomite in places (up to 5 per cent of rock), dolomite veins in places, white, 1/4 inch wide; weathers light grey to dark grey; banding rather noticeable near base of formation.	750	3200
DELORME FORMATION			
5	Dolostone, light grey to light brown and medium grey, very fine grained to cryptograined; bedding 1/4 to 6 inches, and up to 1 1/2 feet in places, weathers light grey, buff, buff-orange and grey in platy fragments, calcareous in places, some beds recessive, others resistant, slightly vuggy in places.	1070	2450
WHITTAKER FORMATION			
4	Dolostone, light and dark grey, very fine grained, bedding 6 inches to 5 feet, weathers light to medium grey, vague banding, vuggy in places, minor calcite in vugs, <u>Favosites</u> sp. at 1150.	610	1380
3	Dolostone, dark grey to black, very fine grained to medium grained, bedding massive, weathers dark grey, slightly vuggy in places, some white calcite; from 720 to 760 black chert nodules in dolostone, flattened, 4 to 5 inches in length, make up approximately 10 to 15 per cent of rock.	170	770
2	Dolostone, medium grey to dark grey, very fine grained crystalline, bedding 1 foot to massive, weathers dark grey, resistant; near base of unit minor limestone, black, silty, poorly bedded from 1/2 inch to 1 foot; weathers medium grey, black chert nodules in limestone from 330 to 340.	300	600

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Unit	Description	Thickness (feet)	Total from base (feet)
LITTLE DAL FORMATION			
1	Limestone, stromatolitic, blue-black, very fine grained, bedding 1/2 to 5 feet, weathers light brown, stromatolites from 3 to 4 inches high, 1 inch wide, appear silty, weather brownish.	300	300
Underlain by Tigonankweine Formation.			

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Section 33. Sombre, Arnica, Landry, Headless, and Nahanni Formations.

Section measured in stream-cut 5 to 6 miles north-northeast of Dal Lake at lat. 65°12'N, long. 126°25'W, Wrigley Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
<u>Summary</u>			
	Nahanni Formation	265	
	Headless Formation	535	
	Landry Formation	505	
	Arnica Formation	1205	
	Sombre Formation	1290	
Overlying beds noncalcareous, black, fissile pyritic shale			
NAHANNI FORMATION			
8	Limestone, black, medium grained, thin bedded to massive, weathers medium grey. GSC. loc. 58759 at 3694 to 3695 <u>Billingsastraea?</u> sp.	265	3800
HEADLESS FORMATION			
7	Limestone, black, fine grained, thin bedded, shaly, weathers buff to brown, highly fossiliferous. GSC loc. 58762 at 3534 <u>Spinatrypa</u> cf. <u>S. andersonensis</u> GSC loc. 58758 at 3530 <u>Spinatrypa coriacea</u> GSC loc. 58760 at 3152 <u>Atrypa aperanta</u> GSC loc. 58761 at 3025 <u>Microcyclas kirbyi</u> GSC loc. 58763 at 3020 <u>Schuchertella adoceta</u>	535	3535
LANDRY FORMATION			
6	Limestone, black, cryptocrystalline, thin bedded, weathers dark grey, poorly fossiliferous.	305	3000

Unit	Description	Thickness (feet)	Total from base (feet)
5	Limestone, black, cryptocrystalline, thick bedded, weathers dark grey, some cryptograined dolomite interbedded with limestone.	200	2695
ARNICA FORMATION			
4	Dolomite, medium grey, fine grained, massive, weathers medium grey.	145	2495
3	Dolomite, medium grey, fine grained, massive, weathers medium grey; interbedded with minor limestone, grey, fine grained, thick bedded, weathers grey; local dolomite and limestone breccia.	400	2350
2	Dolomite, medium grey, fine grained, medium bedded to massive, weathers medium grey.	660	1950
SOMBRE FORMATION			
1	Dolomite, medium grey, fine grained, thick bedded, weathers alternately light and dark grey.	1290	1290
Underlying beds, limestone, white to yellow-buff, medium grained, medium bedded, brecciated in part, weathers orange-buff; Camsell Formation.			

Section 34. Delorme, Camsell, Sombre, Arnica, Landry, Headless, and Nahanni Formations.

Section exposed in a canyon east of South Redstone River approximately 7 miles southeast of Dal Lake at lat. 63°02'N, long. 126°22'W, Wrigley Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
<u>Summary</u>			
	Nahanni Formation	214	
	Headless Formation	845	
	Landry Formation	690	
	Arnica Formation	1120	
	Sombre Formation	1170	
	Camsell Formation	955	
	Delorme Formation	410 (incomplete)	

Overlain by poorly exposed, black, pyritic shale

NAHANNI FORMATION

95	Limestone, dark blue-black, very fine grained, crystalline, weathers light grey, massive, fossiliferous.	19	5434
94	Limestone, dark grey to black, very fine grained, crystalline, weathers light grey, thick bedded to massive, very fossiliferous. GSC loc. 58728 at 5390 to 5400 <u>Favosites</u> sp. <u>Spongophyllum</u> sp. <u>Gypidula</u> sp.	25	5415
93	Limestone, light grey to blue-grey, very fine grained, crystalline, in part medium grained, massive, resistant.	25	5390
92	Limestone, light grey, very fine grained, crystalline, poorly preserved corals and trilobite fragments.	50	5365
91	Limestone, light brown-grey, massive, resistant, weathers light grey, a few large colonial corals present. GSC loc. 58739 at 5278 to 5284 <u>Atrypa</u> cf. <u>A. aperanta</u> <u>Emanuella?</u> sp.	50	5315

Unit	Description	Thickness (feet)	Total from base (feet)
90	Limestone, light grey to blue-grey, very fine grained, crystalline, beds more than 6 feet thick to massive, weathers light grey, cliff-forming, forms base of steep cliff.	10	5265
89	Limestone, light blue-grey, crypto-grained to very fine grained, beds to 3 feet thick.	15	5255
88	Limestone, light blue-grey, crypto-grained to very fine grained, bedding 2 to 6 inches, weathers light grey, some silty laminations, undulatory bedding planes, very fossiliferous. GSC loc. 58737 at 5238 to 5240 <u>Favosites</u> sp. <u>Spinulicosta stainbrooki</u> <u>Atrypa</u> cf. <u>A. arctica</u> GSC loc. 58732 at 5210 <u>Aulophyllum?</u> <u>richardsoni</u> <u>Spinulicosta stainbrooki</u> <u>Atrypa</u> cf. <u>A. arctica</u> <u>Spinatrypa coriacea</u>	20	5240
HEADLESS FORMATION			
87	Covered interval.	33	5220
86	Limestone, light grey, argillaceous, slightly recessive, beds 3 to 6 inches thick, wavy bedding, weathers grey-brown. GSC loc. 58736 at 5145 to 5150 <u>Favosites</u> sp. <u>Spinulicosta stainbrooki</u> <u>Atrypa aperanta</u> <u>"Pseudomicroplasma"</u> sp. <u>Hexagonaria atypica</u> <u>Charophyta</u>	42	5187
85	Covered interval.	65	5145
84	Limestone, light blue-grey, crypto-grained to very fine grained, excellent bedding, 2 to 8 inches, argillaceous, particularly in uppermost beds.	15	5080



Unit	Description	Thickness (feet)	Total from base (feet)
83	Limestone, from 5040 to 5054 and from 5060 to 5065, light blue-grey, cryptograined to very fine grained, bedding 3 to 6 inches, fairly resistant, slightly argillaceous; from 5054 to 5060 very well bedded and recessive, weathers light to medium grey-brown. GSC loc. 58736 at 5052 to 5060 <u>Spinulicosta stainbrooki</u> <u>Atrypa cf. A. arctica</u>	25	5065
82	Limestone, light blue-grey, very finely crystalline to cryptograined, partings of calcareous shale in beds 2 inches to 2 feet thick, wavy bedding, well bedded, weathers dark grey-brown.	25	5040
81	Limestone, light blue-grey, cryptograined to very fine grained, slightly argillaceous, bedding 2 inches to 2 feet, silty layers along some bedding planes, well bedded and resistant, weathers light grey-brown, many small fragments of fossils, a few large, colonial corals weather out. GSC loc. 58738 at 5009 <u>Emanuella sp.</u>	6	5015
80	Covered interval.	17	5009
79	Limestone, light grey to blue-grey, cryptograined, to very fine grained, argillaceous, beds 2 to 6 inches thick, resistant, shale possible 15 per cent, occurs as a few thin interbeds.	27	4992
78	Limestone, light grey, cryptograined, argillaceous, bedding 3 inches to 6 inches, weathers light brown-grey, resistant, shaly, interbeds 1/2 to 3 feet thick, recessive, calcareous.	25	4965
77	Shale, light grey, calcareous, undulatory bedding planes, limestone, light grey, very fine grained and cryptograined, weathers light grey, bedding in shale 1/8 to 1/4 inch, in limestone 1/2 to 4 inches.	7	4940

Unit	Description	Thickness (feet)	Total from base (feet)
77 (cont.)	GSC loc. 58735 at 4939 to 4940 <u>Alveolites</u> sp. <u>Favosites</u> sp. ' <u>Phillipsastrea</u> 'sp.		
76	Covered interval.	143	4933
75	Limestone, argillaceous, very fine grained, bedding 1/2 to 3 inches, undulating bedding surfaces, weathers light brown, fairly resistant.	5	4790
74	Limestone, light grey, cryptograined to very fine grained, bedding 1/4 to 3 inches, weathers light brown; interbedded with shale, light grey, calcareous, irregularly bedded, crumbly, recessive, bedding 1/8 to 1/2 inch, weathers light brown and light grey; limestone very fossiliferous. GSC loc. 58731 at 4757 to 4765 <u>Schuchertella adoceta</u> <u>Spinulicosta</u> <u>Actinopteria</u>	28	4785
73	Covered interval	47	4757
72	Limestone, slightly laminated, light grey, very fine grained, crystalline, bedding 1 inch to 1 foot, platy, weathers light brown-grey, shaly in part.	10	4710
71	Covered interval.	85	4700
70	Limestone, light grey, cryptograined, bedding 2 to 6 feet to massive, weathers light grey, rough, pitted surface; interbedded with about 40 per cent limestone, dark grey to blue-black, cryptograined, bedding 2 to 6 feet to massive, weathers medium to light grey, slightly recessive.	50	4615
69	Limestone, light grey, cryptograined, massive and resistant, weathers grey, surface rough and pitted; interbedded with about 20 per cent limestone, blue-grey, weathers dark grey, recessive.	25	4565

Unit	Description	Thickness (feet)	Total from base (feet)
68	Limestone, blue-grey, light brown-grey resistant beds 1 to 3 feet thick, bedding surfaces irregular, nodular; interbedded with about 30 per cent limestone, blue-grey, cryptograined, thinly bedded, weathers medium to dark grey, recessive, poorly preserved but abundant brachiopod remains.	23	4540
67	Limestone, blue-black, cryptograined to very fine grained, generally massive, weathers into nodular platy blocks, resistant, weathers light brown; from 4512 to 4517, limestone, blue-black to dark grey, very shaly, weathers dark grey, recessive, a few poorly preserved fossils.	27	4517
66	Limestone, blue-black, cryptograined to very fine grained, beds 2 inches to 3 feet thick, weathers light brown, in places finely laminated and almost shaly, weathers to platy fragments as much as 2 inches thick; from 4465 to 4485, poor exposures of similar lithology.	25	4490
65	Limestone, blue-black, cryptograined, thin, platy beds, weathers light brown-grey, a few poorly preserved fragments of brachiopods and bryozoa.	25	4465
64	Limestone, from 4425 to 4430, massive, filled with poorly preserved brachiopods and gastropods, from 4430 to 4440, limestone, medium grey, cryptograined, thin interbeds of platy, blue-grey, cryptograined recessive limestone, bedding 1/2 to 6 inches, poorly preserved, silicified fossil fragments on surface of massive limestone.	25	4440
63	Limestone, dark grey, cryptograined to very fine grained, weathers light grey with brown to buff stains, in places recessive (where beds 3 to 4 inches thick), elsewhere resistant (beds 2 to 4 feet thick).	25	4415

Unit	Description	Thickness (feet)	Total from base (feet)
62	Limestone, light brown, cryptograined, weathers grey, resistant, beds 2 to 4 feet thick; interbedded with about 30 per cent limestone, blue-grey, weathers dark grey with buff stains, thinly bedded (2 to 4 inches), weathers into irregular platy fragments, recessive.	15	4390
LANDRY FORMATION			
61	Limestone, light brown, cryptograined, weathers grey, interbedded with about 30 per cent blue-grey limestone, cryptograined, weathers grey, upper beds from 2 to 4 feet thick form top of resistant cliff.	35	4375
60	Limestone, light brown-grey, cryptograined, weathers light grey, beds 1 to 8 feet thick; interbedded with about 30 per cent blue-grey, cryptograined limestone, weathers light grey. GSC loc. 58734 at 4339 to 4340 ostracods.	25	4340
59	Limestone, light medium and dark grey, cryptograined, weathers light grey, beds 1 to 8 feet thick, resistant, forms base of vertical cliff-face that extends to top of Landry Formation.	50	4315
	Limestone, medium to dark grey, cryptograined, weathers medium grey, bedding 1/2 to 6 feet, platy in places, platy beds less than 1 foot thick weather dark grey.	17	4265
58	Dolomite, dark grey to grey-black, very fine grained, crystalline, contains blebs of light grey limestone, weathers dark grey, recessive.	6	4248
57	Limestone, light to medium grey, cryptograined, beds 2 to 4 feet thick, weathers light grey, resistant.	5	4242

Unit	Description	Thickness (feet)	Total from base (feet)
56	Dolomite, blue-black, very fine grained, crystalline, weathers dark grey, recessive, thick bedded, vuggy in part, vugs filled with white dolomite crystals.	9	4237
55	Dolomite, light grey, very fine grained, crystalline, weathers light grey, finely laminated, massive, slightly recessive, from 4220 to 4225 light grey, crypto-grained blebs of limestone elongate parallel with bedding; from 4225 to 4228 blue-black limestone, cryptograined, weathers light grey.	15	4228
54	Limestone, light grey, cryptograined, weathers medium grey; interbedded with about 80 per cent limestone, dark grey, cryptograined, weathers light grey, bedding 2 to 6 feet.	23	4213
53	Limestone, from 4142 to 4175, light to medium grey, cryptograined, weathers light grey, interbedded with about 30 per cent dark blue-grey limestone, cryptograined, weathers dark grey; strata well banded; from 4175 to 4182, massive bed of dolomite, blue-black, very fine grained, crystalline, includes blebs of light grey, cryptograined limestone, weathers dark grey, slightly recessive; 4182 to 4190, light to medium grey limestone, cryptograined, weathers light grey, rough pitted surface.	38	4190
52	Limestone, alternating light and dark grey, cryptograined to very fine grained, locally laminated, bedding 2 feet to massive, weathers light and dark grey; interbeds of dolomite, dark grey, cryptograined to very fine grained, in part laminated, weathers dark grey, slightly recessive relative to limestone, beds 1/2 to 4 feet unit as a whole well banded.	287	4152

Unit	Description	Thickness (feet)	Total from base (feet)
51	Dolomite, from 3840 to 3855, dark grey at 3840 grading into dark grey at 3855, very fine grained and cryptograined, weathers dark grey, recessive, massive; at 3859 to 3862, light brown-grey, cryptograined, light grey weathering limestone, resistant; from 3862 to 3865, slightly laminated, cryptograined dolomite, weathers dark grey, recessive.	25	3865
50	Limestone, from 3790 to 3815, light brown-grey, cryptograined, beds 2 to 6 feet thick, weathers light grey; interbedded with dark grey limestone, cryptograined, beds 2 to 4 feet thick, weathers medium grey; at 3790, 10-inch bed of dark blue-grey limestone, rather platy, cryptograined, weathers dark grey, recessive; from 3815 to 3840, mainly dark grey to black limestone, cryptograined, weathers medium grey, rough, pitted, weathered surface; at 3837 to 3839, blue-black, fine to medium grained dolomite, weathers dark grey; very minor light to brown-grey dolomite, dolomite recessive weathering.	50	3840
49	Limestone, light brown-grey, weathers light grey; from 3785 to 3789 and 3778 to 3782, dolomite, blue-black, fine to medium grained, weathers dark grey, slightly banded on weathered surface.	25	3790
48	Limestone, interbedded light and dark grey to brown-grey, cryptograined, bedding 2 to 6 feet or more, weathers light and dark grey, forms blocky fragments, generally resistant and cliff-forming, excellent bedding and outcrops well banded.	80	3765
ARNICA FORMATION			
47	Dolomite, medium to dark grained, generally medium grained but locally cryptograined or coarse grained, bedding 2 to 4 feet commonly but in	110	3685

Unit	Description	Thickness (feet)	Total from base (feet)
47 (cont.)	places massive, weathers dark grey, upper part of unit has a few light grey interbeds giving a banded appearance to outcrops, vuggy in places, coarse-grained dolomite in irregular beds veined with dolomite, veins to 1/4 inch wide and parallel with bedding.		
46	Dolomite, dark grey, very fine grained to medium grained, finely banded and laminated, in places fetid; interbedded with about 20 per cent light grey dolomite, very fine grained, crystalline, to medium grained, banded, weathers light grey and imparts banded appearance to outcrop; dolomite extremely brecciated, some blocks of breccia to 2 feet in diameter but average 4 to 5 inches, in places vuggy, vugs filled with white dolomite; in places blocks of white crystalline dolomite in a dark dolomite matrix.	110	3575
45	Dolomite, dark grey, medium grained, weathers dark grey, fetid, massive; interbedded with about 35 per cent dolomite, light to medium grey, medium grained, in beds 1 to 3 feet thick, outcrop vaguely banded.	25	3465
44	Dolomite, dark grey, very fine grained, crystalline to medium grained, brecciated in places and extremely veined with thin veinlets of white crystalline dolomite, generally massive, resistant; minor light grey dolomite in beds 1 foot thick.	50	3440
43	Dolomite, very resistant unit forming steep cliff; from 3090 to 3115, interbedded light and dark grey dolomite, light grey dolomite to 30 per cent of outcrop, very fine grained, bedding indistinct, light grey bands 1 to 3 feet thick; lighter bands slightly brecciated with most dolomite veinlets perpendicular to bedding, some	300	3390

Unit	Description	Thickness (feet)	Total from base (feet)
43 (cont.)	parallel with bedding; similar light and dark grey interbedded dolomite from 3115 to 3130, thick bedded; locally light grey dolomite is finely laminated; dolomite very massive in upper part of unit, locally extremely veined and locally brecciated by criss-crossing white crystalline dolomite veins, breccia patches from 2 to 10 feet wide with fragments of dolomite from 1/8 to 6 inches across; throughout unit light grey dolomite is subordinate, commonly markedly, to dark grey dolomite.		
42	Dolomite, dark grey, cryptograined to very fine grained interbedded with 20 to 30 per cent light grey, cryptograined to medium grained dolomite, vugs in places comprise 5 to 10 per cent of rock, bedding generally massive, unit slightly recessive; in places, some beds have dark grey weathering dolomite tubules comprising up to 50 per cent of rock; from 3030 to 3035 poorly preserved colonial coral, stropheodontid? and echinoderm ossicles with single axial canals.	75	3090
41	Dolomite, interbedded dark grey (80 per cent) and light grey (20 per cent), cryptograined to very fine grained, massive; vuggy, vugs range from 2 to 10 per cent of rock and in size from 1/4 to 5 inches in diameter, many beds contain up to 50 per cent small tubules, about 1/8 inch in diameter and 1/2 and 1 1/2 inches long, stylolites at 2990	50	3015
40	Dolomite, dark grey, very fine grained, weathers dark grey, thick bedded to massive, interbedded with from 25 to 45 per cent light grey dolomite, cryptograined to fine grained, massive, rocks are well banded; from 2870 to 2877, very vuggy, 3 to 4 per cent	125	2965



Unit	Description	Thickness (feet)	Total from base (feet)
40 (cont.)	of rock, vugs filled with white crystalline dolomite; dolomite fetid in places - particularly dark grey variety; at 2897 abundant dolomite tubules 1/8 inch in diameter and from 1/2 to 1 1/2 inches long.		
39	Dolomite, about equal amounts of interbedded light and dark grey, imparts well developed banding to outcrops, locally stylolitic, numerous calcite vugs, minor breccia.	25	2840
38	Dolomite, 70 per cent blue-grey, cryptograined, beds 2 to 4 feet thick, weathers grey to almost black, 30 per cent light grey, weathers medium grey.	25	2815
37	Dolomite, lower part about equal amounts of light and dark grey interbedded, well banded, cryptograined to very fine grained, beds average 2 to 4 feet thick but some parts are massive; vugs filled with white calcite are common, dolomite breccia present locally; at 2739 rock is filled with small white weathering rod-like structures from 1/2 to 1 1/2 inches long, unit fairly resistant.	215	2790
SOMBRE FORMATION			
36	Dolomite, light grey, cryptograined to very fine grained, vuggy from 2530 to 2540, vugs partly filled with calcite, also in part vuggy from 2540 to 2565, outcrop poor over this interval.	50	2575
35	Dolomite, light grey, cryptograined, weathers light grey, bedding indistinct; interbedded with 25 per cent medium grey dolomite, cryptograined, weathers light to medium grey.	25	2525
34	Dolomite, light to medium grey, slightly brownish in lower beds, cryptograined, very vuggy at 2359 to 2360, in part finely laminated, bedding 6 inches	150	2500

Unit	Description	Thickness (feet)	Total from base (feet)
34 (cont.)	to 3 feet, fairly uniform lithology throughout, resistant.		
33	Dolomite, mainly light grey, crypto-grained, weathers light to medium grey, beds 1 to 3 feet thick; interbedded with 20 to 65 per cent medium to dark grey, cryptograined dolomite, gives rock a banded appearance, minor vugs locally.	75	2350
32	Dolomite, light grey, cryptograined to very fine grained, crystalline, beds 1 to 4 feet thick, weathers medium grey, very uniform, weathered surface shows faint banding, lower part slightly recessive.	225	2275
31	Dolomite, about 75 per cent light grey, cryptograined, beds 3 inches to 1 foot thick but indistinct, weathers light grey; about 25 per cent medium to dark grey dolomite, cryptograined, weathers dark grey.	59	2050
30	Conglomerate, rounded to subrounded to subangular pebbles and cobbles of dolomite as much as 5 inches in diameter in a calcareous dolomite matrix, many small pebbles 1/4 to 1 inch in diameter, dolomite above conglomerate much lighter weathering than that below.	3	1991
29	Dolomite, very dark blue-grey, crypto-grained, bedding 1 to 3 feet but indistinct and parts are massive, weathers dark grey, very resistant; at 1948, light grey dolomite bed contrasts markedly to enclosing dark grey dolomite.	63	1988
28	Dolomite, blue-grey, very fine grained and cryptograined, slightly calcareous in places, entire unit weathers dark grey; at 1924 to 1925, breccia, matrix light grey, slightly calcareous, fragments of dolomite from 1/8 to 1/2 inch.	75	1925

Unit	Description	Thickness (feet)	Total from base (feet)
27	Dolomite, light grey, cryptograined to fine grained, beds 1/2 to 2 feet thick, fairly uniform, resistant, weathers light grey, slightly banded, locally laminated, from 1750 to 1800, slightly recessive.	175	1850
26	Dolomite, about 70 per cent light grey, cryptograined well defined bedding 1/2 to 2 feet, weathers light grey to light brown; about 20 per cent dark grey or blue-grey dolomite, weathers dark grey; about 10 per cent light grey, banded dolomite in beds 6 to 10 inches thick, slightly recessive.	50	1675
25	Dolomite, mainly light grey, very fine grained to cryptograined, minor calcareous dolomite and dolomitic limestone interbeds, poorly bedded, beds 3 inches to 2 feet thick, in part laminated.	245	1625
CAMSELL FORMATION			
24	Breccia, limestone and white calcite matrix, fragments of calcareous dolomite, blue-black, very fine grained, crystalline, from 1 to 10 inches long, poorly bedded, massive, resistant, weathers grey; interbedded with slightly calcareous dolomite, blue-black, weathers dark grey, bedding 1/2 to 1 foot, slightly less resistant than breccia.	15	1380
23	Limestone, reddish, contains a few vugs filled with calcite, weathers brown-grey to about 1355; above 1355, dolomite, slightly calcareous, very finely crystalline to cryptograined, weathers dark grey, bedding 1/2 to 2 feet, somewhat recessive, interval poorly exposed.	30	1365
22	Covered interval.	7	1335

Unit	Description	Thickness (feet)	Total from base (feet)
21	Dolomite, blue-black, very fine grained, weathers dark grey to nearly black, bedding 1 to 2 feet.	13	1328
20	Limestone, reddish, weathers light grey to buff in a few places, in part brecciated, fragments 1/4 to 2 inches mainly but a few to 6 inches long, fragments mainly dolomite, some limestone, matrix calcareous, recessive.	30	1315
19	Dolomite, dark blue-black, crypto-grained, weathers dark grey, massive, resistant.	6	1285
18	Limestone, cryptograined, greenish, reddish stain.	1	1279
17	Dolomite, dark blue-black, crypto-grained, weathers dark grey, massive, resistant.	13	1278
16	Dolomite, light grey, cryptograined, weathers light grey, finely laminated, poorly developed breccia in upper beds, stained reddish brown.	15	1265
15	Dolomite, light and dark grey, beds 1 to 4 feet thick, light grey dolomite commonly laminated, strata weathers light grey and dark grey to nearly black.	85	1250
14	Breccia, dolomite fragments in matrix of crystalline calcite and limestone, seems to grade laterally into well bedded, blue-black, cryptograined dolomite that weathers dark grey; breccia thus in part transgresses bedding but mainly parallel with bedding.	25	1165
13	Dolomite, light grey, dark grey, cryptograined finely laminated in some beds, bedding 2 to 4 inches from 1075 to 1080; 2 inches to 1 foot from 1080 to 1140, resistant, weathers mainly light grey with some dark grey interbeds.	65	1140

Unit	Description	Thickness (feet)	Total from base (feet)
12	Dolomite, light buff weathering, light grey, finely laminated, some laminations silty, bedding 2 inches to 2 feet but generally massive, very resistant, weathers light grey in places, dark grey in others, dark grey weathering dolomite slightly calcareous.	25	1075
11	Dolomite, light and dark grey weathering; 1030 to 1031, light grey, poorly bedded, slightly recessive limestone, 5 per cent vugs filled with calcite, dolomite in beds 4 to 8 inches thick; 1045 to 1047, massive, porous, light grey dolomite, very resistant, weathers dark grey, laminated on weathered surface.	25	1050
10	Dolomite, alternating light and dark grey, bedding 4 to 10 inches, most of dolomite is calcareous, resistant; at 990 to 991, silty calcareous bed.	50	1025
9	Dolomite, light grey, fine grained, massive, resistant, bedding 6 inches to 4 feet, weathers light grey.	15	975
8	Breccia, upper 75 feet very deeply weathered, buff-brown, recessive; from 850 to 855, well bedded calcareous dolomite; 855 to 875, beds of breccia and finely laminated, fairly porous limestone, fragments in breccia from 1/8 to 6 inches long, mostly angular and subangular, weather brown to grey; from 875 to 886, calcareous dolomite, blue-black, finely laminated; 880 to 900, breccia fragments of variable size, highly weathered, weathers buff; grades upward into banded light grey, light grey weathering limestone overlain by finely banded calcareous dolomite, weathers dark grey; breccia beds 1 to 2 feet thick, limestone beds 1 to 2 feet thick, calcareous dolomite beds 2 to 4 feet thick, imparts banded appearance to outcrop.	110	960

Unit	Description	Thickness (feet)	Total from base (feet)
7	Interbedded dark blue-grey, crypto-grained calcareous dolomite, breccia, and limestone-breccia fragments variable size; bedding in dolomite, 1/2 to 1 foot, dolomite finely laminated.	25	850
6	Dolomite, blue-black, cryptograined, weathers light grey, massive in places, elsewhere beds 6 inches to 2 feet; from 790 to 791, breccia, angular fragments from 1/8 to 5 inches, matrix light grey limestone, weathers buff and brown; also a few beds of light grey limestone, cryptograined and finely laminated, weather buff.	47	825
5	Breccia, light grey, calcareous, calcite matrix, fragments 1/8 to 1/2 inch, poorly bedded, porous, vuggy, weathers grey, buff, and buff-brown, recessive; interbedded with limestone, light grey, very silty, porous, forms small hoodoos, poorly developed mudcracks on some surfaces, beds 2 to 6 inches thick, limestone in part laminated; entire interval very recessive; covered intervals 410 to 595; 605 to 645; 680 to 705; 750 to 770.	368	778
DELORME FORMATION			
4	Limestone, light grey, cryptograined to fine grained, bedding 1/4 to 8 inches, platy, laminated near top of unit, porous in places, weathers grey to buff-brown; minor dolomite, light grey, very fine grained to crypto-grained, laminated, in part finely laminated, weathers light grey at 396, silty limestone displays well developed crossbedding, mudcracks and salt casts at 377, 352, 347; at 347 salt casts 1/4 to 1/2 inch; mudcracks in limestone at 260; a few shaly dolomitic interbeds.	150	410
3	Covered interval.	35	260

Unit	Description	Thickness (feet)	Total from base (feet)
2	<p>Dolomite, calcareous, light grey, cryptograined, thinly bedded, in part laminated, platy, weathers light buff-brown to light grey; a few thin interbeds of black, noncalcareous, fissile shale, recessive, interbeds mainly 1 to 2 inches thick, bedding in dolomite 2 to 10 inches; some beds weather orange-yellow; pyrite cubes in some shaly interbeds.            GSC loc. 58725 at 143  <u>Cypricardella?</u> sp.</p>	115	225
1	<p>Dolomite, blue-black, fine grained to cryptograined, finely laminated, bedding 2 to 4 inches, well developed, silty; some platy, silty dolomite on shaly beds 1/8 to 2 inches thick, minor very fine grained to cryptograined limestone; locally contains pyrite nodules, unit weathers buff to buff-brown, yellow-orange and grey, generally recessive, poorly preserved costate pelecypod and fragment of brachiopod at 60.            GSC loc. 58727 at 41 to 45  <u>Coenites rectilineatus</u>            straight cephalopod            woody tissue impression.</p>		110

Section 35. Little Dal, Whittaker, Delorme, Sombre, Sombre/Arnica, Laundry, Headless and Nahanni Formations.

Measured on northwest trending ridge at lat. 62°59'N,  
long. 126°42'W, Glacier Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
Overlain by fissile, black, locally pyritic shale			
NAHANNI FORMATION			
13	Limestone, dark grey to black, very fine grained, massive, weathers light grey.	115	5365
HEADLESS FORMATION			
12	Limestone, dark grey to black, fine to medium grained, thin to medium bedded, nodular, wavy bedding; shaly weathers buff-grey to yellow-buff; covered in part; highly fossiliferous.	425	5250
LANDRY FORMATION			
11	Limestone, light to medium grey, cryptocrystalline, thin to medium bedded, weathers light grey to brownish grey, well banded	665	4825
ARNICA/SOMBRE FORMATIONS			
10	Dolomite, light grey, fine grained to very coarse grained, massive, weathers light to medium grey, brecciated in part.	170	4160
9	Dolomite, light grey with brownish cast, medium to coarse grained, thick bedded to massive abundant pore spaces; weathers light to medium grey.	615	3990
DELORME/CAMSELL FORMATIONS			
8	Dolomite, pale grey to buff-grey, cryptocrystalline to coarse grained, thin bedded, weathers creamy buff to bright orange-buff.	835	3375



Unit	Description	Thickness (feet)	Total from base (feet)
WHITTAKER FORMATION			
7	Dolomite, medium to dark grey, fine to medium grained, massive, weathers medium to dark grey, <u>Halysites</u> sp. and other fossils abundant; covered in part.	1170	2540
LITTLE DAL FORMATION			
6	Sandstone, dark brownish red to dark grey, fine to coarse grained, medium bedded, weathers brown, minor siltstone; covered in part.	130	1370
5	Dolomite, medium grey, cryptocrystalline, medium bedded, weathers grey-buff to orange-buff; covered in part.	460	1240
4	Dolomite, sandy in part, medium grey, cryptocrystalline, thin to medium bedded, weathers grey-buff to orange-buff.	290	780
3	Limestone, dolomitic in part, dark grey, cryptocrystalline, thin bedded, weathers medium grey.	305	490
2	Dolomite, medium grey, coarse grained, thin bedded, weathers grey to buff.	155	185
1	Limestone, dark grey, cryptocrystalline, thin bedded, weathers medium grey.	30	30

Section 36. Whittaker Formation.

Measured on southwest facing slope of ridge 18 to 19 miles northeast of Little Dal Lake in Painted Mountains at lat. 62°52 1/2'N, long. 126°12'W, Glacier Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
DELORME FORMATION			
16	Dolomite, medium blue-grey, fine grained, thick bedded, weathers yellow-buff to grey-buff; interbedded with limestone, medium to dark grey, very fine grained, thin bedded, finely laminated, weathers medium grey.	390	3005
WHITTAKER FORMATION			
15	Limestone, light grey, very fine grained, very thin to thick bedded, weathers light grey.	150	2615
14	Dolomite, light grey, coarse grained, thick bedded to massive, weathers grey and yellow-buff; covered from 2400 to 2465.	197	2465
13	Dolomite, medium grey, fine to coarse grained; thin to thick bedded, weathers to alternating layers of dark and light grey. GSC loc. 58621 at 1747 to 1748 <u>Syringopora</u> cf. <u>S. verticillata</u>	522	2268
12	Dolomite, dark grey to black, medium to coarse grained, thin bedded, weathers dark grey.	101	1746
11	Dolomite, light blue-grey, medium grained, thin bedded, weathers light grey to light creamy buff.	70	1645
10	Dolomite, light blue-grey, medium to coarse grained, thick bedded to massive, weathers light grey to creamy buff.	155	1575

Unit	Description	Thickness (feet)	Total from base (feet)
9	Dolomite, medium grey, medium to coarse grained, weathers light grey to buff.	112	1420
8	Dolomite, alternating light and dark grey, medium grained, thin bedded, becoming massive near top, weathers dark grey.	163	1308
7	Dolomite, light grey, medium to coarse grained, medium bedded, weathers grey to yellow-buff.	55	1145
6	Dolomite, dark grey, medium grained, thick bedded, weathers dark grey, colonial and solitary corals scattered throughout the unit. GSC loc. 58618 at 810 to 870 <u>Streptelasma</u> sp. <u>Palaeophyllum</u> sp. ? <u>Catenipora</u> sp.	310	1090
5	Limestone, dark grey, fine to coarse grained, thick bedded, some chert near base, weathers medium to light grey. GSC loc. 58620 at 760 to 763 <u>Palaeophyllum</u> sp. <u>Palaeofavosites</u> sp. <u>Catenipora</u> sp.	85	780
4	Dolomite, dark grey to black, fine to coarse grained, thin bedded, cherty in part, weathers dark grey, some covered intervals.	220	695
3	Limestone, dark grey to black, cryptocrystalline to fine grained, thin bedded, weathers medium grey. GSC loc. 58619 at 470 to 472 <u>Favistina</u> sp. <u>Streplelasma</u> sp. <u>Lobacorallium</u> sp. <u>Bighornia</u> sp.	170	475
2	Dolomite, medium to dark grey, fine to medium grained, thin bedded, weathers dark grey to cream-buff, covered in part.	105	305

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Unit	Description	Thickness (feet)	Total from base (feet)
SUB-WHITTAKER STRATA			
1	Dolomite, light blue-grey, very fine to fine grained, thin bedded, sandy in part, weathers buff-grey.	200	200

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Section 37. Little Dal, Whittaker, and Delorme Formations.

The section is exposed in the northwest face of a mountain at lat. 62°50'N, long. 126°30'W, just southeast of Redstone River at the north end of Thundercloud Range, Glacier Lake map-area. Section measured by B. S. Norford.

DISTRICT OF MACKENZIE

Unit	Description	Thickness (feet)	Total from base (feet)
<u>Summary</u>			
	Delorme Formation	413 (incomplete)	
	Whittaker Formation	1369	
	Little Dal Formation	1468	
DELORME FORMATION (basal 413 feet measured)			
24	Dolomites (most beds siliceous), very finely crystalline to aphanitic, dark grey, dark brownish grey, and light olive-grey, weather yellowish grey, light grey, greyish yellow, olive-grey, yellowish brown, dull grey, light olive-grey, pale yellowish orange, and dull brownish grey, somewhat recessive, bedding 1 to 24 inches; some beds poorly laminated, some beds weather platy, some bedding surfaces with greyish red stains; mudcracks in talus at 3075 and 2990; possible trails or worm tubes at 2878; rare shale interbeds within interval 3075 to 3125, fissile, non-limy, greyish black, weather greyish black with greyish red stains, bedding 1/8 to 1 inch; at 3225, rare drusy cavities, calcite-lined; at 3050, medium grained fragmental dolomite; covered intervals at 3237 to 3239, 3214 to 3219, 3156 to 3159, 3146 to 3148, 2964 to 2975; barren except for lingulid brachiopods at 3000 to 3020. GSC loc. 58497 at 3015 to 3020 <u>Vernonaspis</u> sp. <u>Dikenaspis</u> sp.	383	3250

Unit	Description	Thickness (feet)	Total from base (feet)
23	Covered interval.	9	2867
22	Dolomites, slightly argillaceous, dark brownish grey, weather light brownish grey, light grey, and yellowish brown, somewhat recessive, bedding 1/4 to 8 inches; some beds weather platy; barren except for small club-shaped favositid corals at 2854.	15	2858
21	Covered interval, float includes dark grey, non-limy shales.	6	2843
20	Dolomites (most beds siliceous), very finely to medium crystalline, dark grey and dark brownish grey, weather dark grey, dark brownish grey, dark olive-grey, and grey, resistant, bedding 3 feet to massive; with stromatoporoids; dolomites, some beds siliceous, very finely to finely crystalline, brownish grey, dark grey, and light olive-grey, weather light grey, and yellowish grey, bedding 6 inches to 6 feet; some beds poorly laminated; with rare favositid, halysitid, and solitary corals; irregular chert nodules at 2750, 2700, 2550, 2375, 2325, and 2275; rare layers of irregular silicification; locally abundant dolomite and calcite filled vugs and stringers; coarse vuggy porosity amounting to 1/2 to 2 per cent of rock at 2800 to 2825, 2425 to 2475, and 2275; covered intervals at 2774 to 2777, 2712 to 2716, 2444 to 2449, and 2435 to 2438; undulatory contact with Unit 19; Silurian corals. GSC loc. 58496 at 2240 to 2241 <u>Favosites</u> sp. <u>Halysites</u> or <u>Cystihalysites</u> sp.	598	2837
19	Dolomites (most beds siliceous), very finely crystalline to aphanitic, light olive-grey and light grey, weather yellowish grey, light grey, and pale orange, bedding 3 to 24 inches, most beds laminated, dolomite filled vugs	34	2239

Unit	Description	Thickness (feet)	Total from base (feet)
19 (cont.)	present; minor interbedded dolomites, weathered dark grey; barren.		
18	Dolomites, siliceous, very finely crystalline, dark grey, weather dark grey and dark brownish grey with yellowish brown stains, resistant, bedding 2 to 6 feet, dolomite filled vugs and stringers; barren.	24	2205
17	Dolomites, siliceous, very finely to finely crystalline, dark grey, weather grey and dark grey, some beds mottled, bedding 1 to 5 feet; barren.	9	2181
16	Dolomites (rare beds siliceous), very finely to finely crystalline, dark grey, greyish black, and dark brownish grey, weather dull dark grey, dark olive-grey, and dark brownish grey, resistant, bedding 5 feet to massive, dolomite stringers, veins, vugs, and drusy cavities common, some beds slightly fetid, most beds with 1 to 2 per cent coarse vuggy porosity, creamy white chert nodules at some horizons; Silurian halysitid, favositid, and solitary corals, brachiopod cross-sections, and stromatoporoids. GSC loc. 58495 at 2035 <u>? Pentamerus</u> sp. GSC loc. 58494 at 2019 <u>Cystihalysites</u> sp.	187	2172
15	Dolomites (most beds siliceous), very finely crystalline, dark grey, light brownish grey, and light olive-grey, weather yellowish grey, dark brownish olive-grey, and dark grey, bedding 2 to 24 inches, some beds finely laminated; some beds platy and recessive; brachiopod cross-sections at 1958.	51	1985
14	Dolomites, very finely to finely crystalline, dark grey, weather dark grey, olive-grey, and grey, resistant, bedding 2 feet to massive, most beds	56	1934

Unit	Description	Thickness (feet)	Total from base (feet)
14 (cont.)	with dolomite stringers and small vugs, some beds slightly fetid; halysitid and solitary corals, stromatoporoids, cross-sections of pentamerid brachiopods (probably Silurian).		
13	Dolomites, siliceous, very finely to finely crystalline, dark grey, weather light grey and dull olive-grey, resistant, bedding 3 feet to massive, most beds with dolomite stringers and vugs, very rare chert nodules at 1858 to 1875; barren.	93	1878
12	Dolomites (most beds slightly siliceous), very finely to finely crystalline, dark grey, dark brownish grey, and dark olive-grey, weather olive-grey, grey, dark grey, and brownish grey, resistant, bedding 2 feet to massive; most beds with very minor content greyish black chert nodules; Upper Ordovician corals. GSC loc. 58493 at 1735 to 1755 <u>Palaeophyllum</u> spp. <u>Paleofavosites</u> sp. <u>Manipora</u> sp. GSC loc. 58492 at 1695 to 1720 <u>Palaeophyllum</u> spp. <u>Catenipora</u> sp. GSC loc. 58491 at 1605 ? <u>Palaeophyllum</u> sp.	215	1785
11	Limestone (some beds slightly siliceous), very finely crystalline to aphanitic, dark grey, weather light grey and yellowish grey, resistant, bedding 6 inches to massive, basal beds weather somewhat rubbly, greyish black chert nodules present in most beds; contact with Unit 10 an erosion surface up to 6 inches deep; Upper Ordovician corals, brachiopods, and echinoderm fragments. GSC loc. 58490 at 1563 to 1567 <u>Lobocorallium</u> sp. <u>Paleofavosites</u> sp.	102	1570



Unit	Description	Thickness (feet)	Total from base (feet)
11 (cont.)	<u>Catenipora</u> sp. GSC loc. 58489 at 1487 to 1491 <u>Rhynchotrema</u> sp. <u>Strophomena</u> sp. <u>Catenipora</u> cf. <u>C. rubra</u> GSC loc. 58488 at 1468 to 1480 <u>Resserella</u> sp. <u>Thaerodonta</u> sp. <u>Favistina</u> 2 spp.		
LITTLE DAL FORMATION			
10	Dolomites, siliceous, very finely to finely crystalline, dark grey and light brownish grey, weather yellowish grey, light olive-grey, and greyish orange, bedding 2 to 24 inches, some beds laminated, some bedding planes stained greyish red and greyish orange; rare dark grey elongate chert nodules at 1435; dolomite stringers common at 1425; at 1368 to 1380, more resistant siliceous dolomites, dark brownish grey, weather yellowish brown and greyish orange, bedding 5 to 8 feet; covered intervals at 1400 to 1407 and 1347 to 1349; barren.	145	1468
9	Dolomites, siliceous, very finely to finely crystalline, light brownish grey, weather yellowish grey with greyish orange stains, somewhat resistant, bedding 6 to 12 inches; most beds contain about 10 per cent ooliths; barren.	22	1323
8	Oolitic dolomites (most beds siliceous), ooliths about 50 to 70 per cent of rock, fine to very coarse grained, matrix very finely crystalline, grey, weather yellowish grey, greyish orange, and very pale yellowish brown, slightly resistant, bedding 3 inches to 4 feet, some beds poorly crosslaminated; interbedded dolomites (most beds siliceous) amount to about 50 per cent of unit, dark grey, weather yellowish grey and greyish orange, bedding 1 to	91	1301

Unit	Description	Thickness (feet)	Total from base (feet)
8 (cont.)	10 inches, some beds laminated; covered interval at 1299 to 1301; barren.	91	1301
7	Dolomites (some beds siliceous) very finely crystalline to aphanitic, dark grey, grey, and brownish grey, weather pale yellowish brown, greyish orange, light olive-grey, yellowish grey, and light grey, with yellowish brown stains, slightly recessive, bedding 1 to 18 inches, some beds poorly laminated, many bedding planes undulatory, some bedding planes stained pale reddish brown and light greyish red, dolomite stringers in some beds, rare stylonites; at 1025 rare thin platy argillaceous dolomite interbeds; at 875 to 975 rare interbeds of medium to coarsely crystalline dolomite, light grey and grey, speckled, weather pale yellow- ish brown; at 1185, 875, and 838, minor erosion surfaces; at 1000 and 725, argillaceous partings, weather reddish brown; at 715 very recessive greyish black limy mudstone bed, 1/2 inch thick; minor faults at 984 and 978; basal beds of Unit 7 change laterally to limestone, barren.	495	1210
6	Oolitic limestones, ooliths about 75 per cent of rock, fine to medium grained, matrix aphanitic, dark grey, weather grey and yellowish brownish grey, bedding 3 to 5 feet; very minor platy dolomite interbeds; contact with Unit 5 an erosion surface up to 1 inch deep; barren.	19	715
5	Limestones, aphanitic with minor finely crystalline fragments, dark grey, weather olive-grey, pale yellow- ish brown, dark grey, and brownish grey, recessive, bedding 1/2 to 24 inches, some bedding planes with greyish pink stains, some bedding planes undulatory; at 650 and 649	106	696

Unit	Description	Thickness (feet)	Total from base (feet)
5 (cont.)	thin beds of non-fissile limy mudstone, brownish black, very recessive, covered intervals at 627 to 629, 611 to 612, and 590 to 598; barren.		
4	Limestones, aphanitic, dark grey, weather light grey, light olive-grey, and yellowish grey, with yellowish orange stains, resistant, bedding 2 feet to massive, stromatolitic beds abundant; rare beds with 10 to 20 per cent fine to medium grain crystals set in the aphanitic matrix; at 225, bed of penecontemporaneous conglomerate; undulatory contact with Unit 3 but no signs of erosion; barren.	402	590
3	Limestones, aphanitic to very finely crystalline, dark grey, weather grey and dark grey with yellowish orange stains, bedding 4 to 10 inches, with minor beds of penecontemporaneous monomict limestone conglomerate, pebbles similar to limestones, discoid, with long axes at 10 to 25 degrees to bedding; at 185, two 3-inch beds of argillaceous limestone, weather greyish orange-pink and platy; barren.	39	188
2	Covered interval.	65	149
1	Mudstones, greyish red, weather pale reddish brown, recessive, bedding 2 to 12 inches, break down into 1/4 to 1 inch partings; argillaceous dolomites, aphanitic to very finely crystalline, dark grey, weather greyish orange, recessive, bedding 1 to 8 inches; impure quartz siltstones with mudstone matrix, very pale orange, weather greyish orange and yellowish brown, bedding 1 to 3 inches, about 60 per cent content quartz silt and fine quartz sand; mudstones, greyish green, weather greyish yellow-green and greyish orange, recessive, bedding 2 to 6 inches, break down into 1/4-to 1/2-inch	84	84

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Unit	Description	Thickness (feet)	Total from base (feet)
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1 partings; unit poorly exposed at 45 to  
(cont.) 84; covered interval at 0 to 5; contact  
with subjacent rocks covered, concordant;  
barren.

TIGONANKWEINE FORMATION

Quartzites, finely crystalline, greyish  
red, weather pale reddish brown,  
greyish red, light brown, and dark  
yellowish orange, resistant, bedding  
6 inches to 3 feet, some beds poorly  
laminated; barren about 200 feet of  
quartzite outcrop in the core of the  
anticline, only uppermost 10 feet  
examined.

Section 38. Delorme Formation.

In northernmost Thundercloud Range about 9 1/2 miles northeast of Little Dal Lake at lat. 62°48'N, long. 126°28'W, Glacier Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
	Overlain gradationally by well-bedded, grey weathering dolomites of Sombre Formation.		
	DELORME FORMATION		
28	Dolomite, light grey, cryptograined, bedding 3 inches to 1 1/2 feet, finely laminated in part, in part buff weathering but mainly grey weathering, blocky to slightly platy; contact taken at top of highest buff weathering bed.	120	1960
27	Dolomite, about equal amounts of light brown-grey, weathering light buff-brown and light blue-grey, weathering medium grey, cryptograined, locally laminated on scale of millimetres, forms talus of blocky and platy fragments, bedding 6 inches to 2 feet.	100	1840
26	Dolomite, light grey, cryptograined, laminated, beds 1/2 to 6 inches thick, weathers grey; interbedded with about 20 per cent light brown-grey dolomite, cryptograined, laminated, beds 1/4 to 1/2 inch thick, weathers orange-brown; at 1650, 1 1/2-foot bed of breccia with dolomite fragments from 1/4 to 1/2 inch in limestone matrix; some mudcracks on light brown weathering dolomite.	105	1740
25	Covered interval.	25	1635
24	Dolomite, light grey, cryptograined, slightly banded, weathers very light grey, platy fragments.	5	1610
23	Covered interval.		

Unit	Description	Thickness (feet)	Total from base (feet)
22	Dolomite, very fine grained to crypto-grained, laminated, calcareous.	15	1605
21	Covered interval.	15	1590
20	Dolomite, light grey, calcareous, very fine grained to cryptograined, weathers very light grey, bedding 6 inches to 1 1/2 feet, laminated; interbedded with dark grey dolomite, calcareous, weathers dark grey, laminated.	25	1575
19	Dolomite, light grey, cryptograined, bedding 3 inches to 1 1/2 feet, slightly laminated in places, slightly calcareous, blocky, weathers light grey, interbedded with chert 20 per cent light brown-grey dolomite, bedding 1 to 10 inches, weathers brown-orange, forms platy fragments; breccia 1548 to 1551, light grey porous limestone matrix with porous fragments less than 1/8 inch in diameter.	62	1550
18	Mainly covered interval, small chippy fragments of dolomite and a few narrow bands of breccia near 1373.	295	1488
17	Dolomite, light grey, cryptograined, bedding 1/2 to 3 inches, well bedded, weathers light orange-brown, platy fragments; interbedded with 20 per cent medium grey dolomite, finely laminated in places, mudcracks locally.	15	1193
16	Covered interval.	60	1178
15	Dolomite, light grey, very fine grained to cryptograined, thin bedded, weathers light medium grey, at 1116 to 1118 thin bed of breccia, light grey, porous limestone matrix with a few small fragments of dolomite (?) from 1/4 to 1/2 inch.	25	1118

Unit	Description	Thickness (feet)	Total from base (feet)
14	Dolomite, light grey, weathers bright yellow-buff, beds 2 to 6 inches thick, platy weathering; at 1048 large blocks of limestone breccia in talus.	120	1093
13	Covered interval, talus similar to unit below.	90	973
12	Dolomite, light grey, very fine grained to cryptograined, weathers light grey, beds 6 inches to 2 feet, fragments angular, blocky and platy; interbedded with 10 per cent light grey, cryptograined dolomite, weathers bright orange-brown.	33	883
11	Covered interval.	135	850
10	Dolomite, light to medium grey, beds 6 inches to 2 feet, weathers grey, blocky fragments; interbedded with about 40 per cent light grey, thinly bedded, light brown-orange weathering dolomite; fairly resistant, forms sharp knob; upper part (675 to 715) poorly exposed.	90	715
9	Dolomite, light grey, cryptograined, weathers light orange-brown, bedding 1 to 10 inches in part finely laminated; interbedded with about 20 per cent light grey cryptograined light grey weathering dolomite.	75	625
8	Dolomite, light grey, cryptograined, finely laminated, weathers light brown-grey, ranges from 50 to 90 per cent; interbedded with light grey, medium grained, light grey to medium grey weathering dolomite, forms platy fragments.	100	550
7	Covered interval.	170	450
6	Dolomite, light medium grey, cryptograined to very fine grained, well bedded; weathers light grey; interbedded with about 60 per cent light grey-brown,	70	280

Unit	Description	Thickness (feet)	Total from base (feet)
6 (cont.)	cryptograined, light orange-buff weathering, platy dolomite; outcrop generally poor, interval recessive.		
5	Covered interval.	15	210
4	Interbedded dolomites, light grey, very fine grained, light grey weathering (40 per cent); light blue-grey dolomite, cryptograined to very fine grained, weathers bright orange-buff, platy (40 per cent); and dark grey dolomite, weathers dark grey (20 per cent); at 175 2-foot bed of medium to coarse grained, light grey dolomite, weathers light to medium grey.	55	195
3	Covered interval, striped talus.	35	140
2	Dolomite, light grey, very fine grained, bedding 2 inches to 2 feet, very well bedded, light grey to buff weathering, platy talus; minor dark grey dolomite.	25	105
1	Dolomite, light grey, very fine grained, slightly laminated on scale of millimetres, beds 2 to 4 feet thick, weathers light grey to light buff; interbedded with about 50 per cent dark grey dolomite, weathers dark grey, beds 2 to 6 feet, contains about 2 per cent vugs filled with white calcite.	80	80

Underlain, apparently conformably by dark grey to black dolomites of Whittaker Formation.



Section 39. Sombre, Arnica, Manetoe, Landry, Headless, and Nahanni Formations.

On east-west trending ridge in Thundercloud Range about 14 miles east of Little Dal Lake at lat. 62°42 1/2'N, long. 126°29'W, Glacier Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
	Nahanni Formation	277	
	Headless Formation	970	
	Landry Formation	460	
	Manetoe Formation	200	
	Arnica Formation	1540	
	Sombre Formation	1690	
	Upper Member	1135	
	Middle Member	140	
	Lower Member	415	
	Shale, black, slaty, in part pyritic, interbedded with black, argillaceous, cryptograined limestone in beds to 6 inches thick.	60	4251
NAHANNI FORMATION			
	Limestone, dark grey, cryptograined to fine grained, bedding 1 to 5 feet, in part massive, blocky, resistant, weathers medium grey, forms conspicuous flat-iron on west slope of Thundercloud Range in this locality. GSC loc. 58671 at 4004 <u>Longispina?</u> sp. <u>Spinulicosta?</u> sp. <u>Spinatrypa</u> sp. <u>Leiorhynchus awokanak</u>	277	4191
HEADLESS FORMATION			
	Limestone, fine grained, grey, platy and nodular, bedding 3 to 6 inches, grey weathering recessive relative to overlying Nahanni Formation, abundantly fossiliferous. GSC loc. 58672 at 3709 Alveolites sp. Coenites sp. 'Phillipsastrea' sp.	330	3914

Unit	Description	Thickness (feet)	Total from base (feet)
(cont.)	<u>Atrypa aperanta</u> <u>Spinatrypa</u> sp. <u>Plectospirifer</u> sp.		
	Limestone, dark grey, cryptogained to fine grained, platy, nodular, bedding 6 inches to 1 foot, weathers grey with some buff-brown, most resistant beds in upper part of Headless Formation, basal beds form a conspicuous cliff, abundantly fossiliferous. GSC loc. 58667 at 3529 to 3530 <u>'Phillipsastrea'</u> sp. <u>Atrypa</u> cf. <u>A. arctica</u> <u>Atrypa</u> cf. <u>A. aperanta</u> <u>Carinatina</u> <u>dysmorphostrota</u>	55	3584
	Limestone, grey to dark grey, fine grained, platy, nodular argillaceous.	35	3529
	Limestone, grey to dark grey, fine grained, hackly fractured, buff to grey weathering, highly fossiliferous, some beds are coquinis. GSC loc. 58664 at 3494 <u>Emanuella</u> <u>meristoides</u>	170	3494
	Limestone, dark grey, fine grained, in places argillaceous and slaty, beds 6 inches to 1 foot thick, weathers orange-buff to buff-brown, very fossiliferous, excellent preservation of fossils; recessive, partly covered interval. GSC loc. 58666 at 3314 <u>Michelinoceras</u> sp. <u>Actinopteria?</u> sp.	105	3324
	Limestone, grey, argillaceous, fine grained, slaty, weathers buff to buff-brown. GSC loc. 58665 at 3219 <u>Microcycles</u> <u>kirbyi</u> <u>Schuchertella</u> <u>adoceta</u> <u>Spinulicosta</u> <u>stainbrookii</u> <u>Spinatrypa</u> <u>coriacea</u>	85	3219

Unit	Description	Thickness (feet)	Total from base (feet)
	Limestone, argillaceous, grey to grey-brown, nodular, platy, beds 1/2 to 1 inch thick, almost slaty, partings parallel with bedding. GSC loc. 58663 at 3134 <u>Atrypa</u> sp. <u>Actinopteria?</u> sp.	15	3134
	Limestone, argillaceous and silty, nodular, beds 1 inch to 1 foot thick; at 3115 strata are resistant, bedding 1 to 10 inches, very silty, some buff-brown calcareous siltstone, silt encloses lenses and pods of dark grey limestone, includes cup coral fragments and gastropods at 3119.	75	3119
	Mainly covered interval, probably basal part of overlying slightly to very recessive buff-brown argillaceous and silty limestone unit.	100	3044
	LANDRY FORMATION		
	Limestone, medium to dark grey, cryptograined to fine grained, grey weathering; beds 3 inches to 2 feet thick.	144	2944
	Limestone, black, fine grained, orange-brown weathering, conspicuous bed.	1	2800
	Limestone, cryptograined, dark grey to black, platy, locally laminated, slightly buff-brown weathering in contrast to light grey weathering beds below.	80	2799
	Limestone, medium grey to black, platy to thick bedded, beds 1 to 4 feet thick, locally fractured, weathers light grey.	131	2719
	Limestone, medium grey, mottling of medium to dark grey dolomite to about 50 per cent of rock.	4	2588

Unit	Description	Thickness (feet)	Total from base (feet)
	Limestone, grey, cryptograined, bedding 1 to 5 feet, nonlaminated, blocky, weathers grey.	140	2584
MANETOE FORMATION			
	Dolomite, white mainly massive, coarsely crystalline, creamy white weathering, very porous and cavernous, some caverns as much as 2 feet in diameter, lined with crystals of dolomite to 1 inch long, most cavities elongate 3 to 6 inches long and 1 inch wide; local interbeds of medium grey weathering cryptograined, grey and black limestone in beds to 4 feet thick, limestone beds appear discontinuous along strike; in places coarse breccia forming large angular blocks; forms resistant cliff, lower 5 feet of beds in cliff are 3 to 6 inches thick and laminated.	160	2444
	Dolomite, creamy white, coarsely crystalline; interbedded with fine grained, fetid, black dolomite and light grey dolomite; light grey dolomite in beds 6 inches to 2 feet thick; coarsely crystalline dolomite in beds 2 feet to 6 feet thick.	40	2284
ARNICA FORMATION			
	Dolomite, fine grained, medium to dark grey, very well bedded, beds range from 6 inches to 4 feet, in places markedly banded, alternating light to medium grey weathering and dark grey weather beds impart a striped appearance to outcrops, in general thinner bedded, more banded or striped, and much darker weathering than underlying dolomites of Sombre Formation; uppermost beds are laminated, coarsely crystalline to medium grained grey to dark grey dolomites apparently gradational with overlying strata of Manetoe Formation; locally, coarse	1450	2244

Unit	Description	Thickness (feet)	Total from base (feet)
	<p>breccia of dark grey dolomite cemented by white weathering dolomite, angular fragments range up to 6 inches long and 3 inches wide; breccias are generally concordant with bedding; dark weathering, fetid dolomites in places contain abundant rod-like organic structures "spaghetti-stone"; locally rocks are very porous with vugs 1 1/2 inches long and 3/4 inch across lined with white dolomite crystals; well developed lamination is common.</p>		
	SOMBRE FORMATION (704 feet measured)		
	<p>Dolomite, fine grained, grey, conspicuously bedded in beds 1 to 6 feet thick, alternating light and medium to dark grey weathering, some beds are delicately laminated, rare slightly buff to grey weathering, cryptograined to fine grained dolomite; three distinct members of the Sombre Formation are present, a lower, well bedded, resistant, light to medium grey weathering unit 415 feet thick (thickness scaled from air photographs), a middle, dark grey weathering unit 140 feet thick, and an upper, light grey to silver weathering, slightly recessive dolomite unit 1135 feet thick; the middle member is a conspicuous marker throughout this region of Mackenzie Mountains.</p>	704	704

Section 40. Delorme, Camsell, Sombre, Arnica, Landry, and Headless Formations.

Section measured on southwest trending ridge south of the North Nahanni River from lats. 62°12'00" to 62°13'30"N, longs. 126°00'00 to 126°10'00"W., Glacier Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
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Summary

Landry Formation	1160
Arnica Formation	2611
Sombre Formation	2317
Camsell Formation	1192
Delorme Formation	2278

LANDRY FORMATION

9	Limestone, medium to coarsely crystalline, cryptocrystalline in part, fresh surface medium grey, weathered surface very light grey; minor chert, in thin 6 inch beds at 8828; globular chert at 8900, coarser limestone appears bioclastic; crinoids, brachiopods and bryozoa at 9252, 9228, bedding 6 to 18 inches; corals at 8814; minor fissile laminated calcareous shale at 8428, fresh surface black, weathered surface light to dark grey; covered interval 9252 to 9558. GSC loc. 58542 at 9252 <u>Spinatrypa</u> sp. <u>Plectospirifer</u> ? sp. <u>Coenites</u> sp. GSC loc. 58539 at 9228 echinoderm ossicles with double axial canals GSC loc. 58535 at 8814; <u>Favosites</u> sp. <u>Sociophyllum</u> sp.	1160	9558
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ARNICA FORMATION

8	Dolostone, calcareous in places, fine to medium grained, porous, fresh surface light brownish grey, weathered surface grey, slightly recessive, laminated and slightly siliceous from 7962 to 7966.	436	8398
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Unit	Description	Thickness (feet)	Total from base (feet)
7	Dolostone, very fine to fine grained, fresh surface dark grey to black, weathered surface medium grey to very dark grey and black, siliceous in part, minor chert in beds up to 3 inches, bedding 2 to 6 inches.	442	7962
6	Dolostone, fine to very finely crystalline, weathered surfaces light or medium grey to light grey and dark grey, bedding from 4 to 5 feet to 2 inches, averaging 9 inches, some buff weathering on closer spaced bedding surfaces, weathered surface rough, commonly irregularly honeycombed.	1011	7520
5	Dolostone, banded, very finely crystalline to fine and medium crystalline, fresh surface light to dark grey, weathered surface very light grey to dark grey and black, finely laminated in part, bedding 2 inches, 2 and 3 feet, averaging 6 to 9 inches. GSC loc. 58534 at 6377 to 8 <u>Coenites</u> sp. GSC loc. 58538 at 6088 to 6114 <u>Coenites</u> sp.	722	6509
SOMBRE FORMATION			
4	Dolostone, light and dark banded, generally darker overall character than overlying unit; differences from Unit 5, bands are more gradational, possibly thinner, contains more buff weathering dolostone, dark bands contain more siliceous and argillaceous material; darker bands predominate in lower part of unit, lighter in upper part.	2317	5787
CAMSELL FORMATION			
3	Dolostone, transitional from Unit 4, interbedded buff and grey weathering; darker bands minor, but thicker and tend to be cliff forming, buff beds acquire more orange tint at 2270.	1192	3470

Unit	Description	Thickness (feet)	Total from base (feet)
3 (cont.)	GSC loc. 58536 at 2459 to 2461 stromatoporoid <u>Striatopora</u> sp. GSC loc. 58540 at 3167 <u>Favosites</u> sp.		

DELORME FORMATION

2	Dolostone, finely crystalline to crypto-crystalline, calcareous in part, siliceous in part, fresh surface bluish grey and maroon, weathered surface pinkish to reddish yellow-buff and bright yellow-buff, minor interbeds of cliff forming, resistant limestone, cryptocrystalline, massive but in 2 to 6 foot beds, fresh surface white, weathered surface light grey with buff patches; shale, from 2058 to 2104, fresh surface dark blue-grey, weathered surface bright brick red, fissile; interbedded with dolostone, as above, in 3 to 4 foot members; toward base of unit dolostone tends to lose more brilliant red and yellow-buff tints, becomes and remains a duller buff.	2278	2278
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WHITTAKER FORMATION

1	Dolomite, dark grey to medium grey, fine grained, crystalline, cherty.		
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Section 41. Road River Formation.

On northeast and north-trending ridge east of Black Wolf Creek at lat. 62°22'N, long. 127°34'W, Glacier Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
	Overlain by grey weathering, dark grey, noncalcareous shale, in part cherty.		
31	Limestone, blue-black, very fine grained, silty and shaly; slate, calcareous, entire unit a distinctive buff-orange and buff-tan weathering; platy, in places forms slaty sheets 3 feet wide, 6 feet long, and 1/8 to 1/4 inch thick; rocks are commonly sheared parallel with trend of strata and bedding is indistinct; strata contain abundant <u>Styliolina</u> sp. and <u>Michelinoceras</u> sp.; straight cephalopods at 2351, 2396, 2441, 2522 and 3771.	1645	3860
ROAD RIVER FORMATION			
30	Limestone, black, vuggy with calcite, coarse grained, white, conspicuous, forms 1-inch fragments and cement to very dark limestone fragments.	15	2215
29	Limestone, black, more recessive here, with indication of tight repetitions in folds overturned to the east, suggestion of a fault at the upper contact, fragments are less than 1 inch in diameter, fissile, equal size.	35	2200
28	Limestone is blacker and perhaps more siliceous than in underlying beds, much of it weathers to fragments of fairly equal size about 2 inches in diameter.	39	2165
27	Dolomite, medium grey weathering, fine grained, dark grey bed at 2087 to 2089, 8 feet above this is a bed of massive dark grey to black limestone (1 foot thick) with discontinuous black chert lenses 1 inch wide and up to 1 foot long.	39	2126

Unit	Description	Thickness (feet)	Total from base (feet)
26	Limestone, shaly; calcareous shale, light grey to tan weathering.	65	2087
25	Limestone, shaly, fissile, in part platy, black.	49	2022
24	Limestone, shaly, weathering tan-buff, lighter than underlying beds, fissile, in part platy, contain brachiopods.	134	1973
23	Limestone, shaly, buff to tan weathering, fissile, platy at 1839 are brachiopods, graptolites, tentaculitids and cephalopods. GSC loc. 69090 at 1750 tentaculitids <u>Monograptus</u> sp.	98	1839
22	Limestone, black, fissile, shaly, as though in underlying beds fewer resistant ribs; graptolites, tentaculitids and brachiopods abundant. GSC loc. 69089 at 1736 Tentaculitids clam(?) lingulid brachiopod <u>Monograptus</u> sp. GSC loc. 69088 tentaculitids graptolite fragment (?) GSC loc. 69087 at 1644 tentaculitids.	102	1741
21	Limestone, black, shaly. GSC loc. 69086 at 1639 tentaculitids GSC loc. 69085 at 1626 tentaculitids.	87	1639
20	Limestone, fissile, platy, black, shaly, with a few resistant ribs, generally recessive.	41	1552
19	Dolomite, laminated, buff, fissile occur up to about 1468, above that is light grey weathering, shaly limestone, mostly platy with more resistant beds of purer limestone 1 to 2 feet thick and several feet apart.	93	1511

Unit	Description	Thickness (feet)	Total from base (feet)
18	Dolomite, buff weathering, laminated, resistant, from 1322 to 1370; above is shaly limestone, platy, light grey weathering, more resistant beds of purer limestone 1 to 2 feet thick form ribs several feet apart.	96	1418
17	Limestone, fissile, at bottom of unit rock becomes buff, tan, light grey and appears more shaly than underlying strata, beds are 6 inches to 1 foot thick, generally weather light to medium grey; a few buff weathering, laminated dolomite beds form a minor part of the unit.	84	1322
16	Limestone, shaly, black, mostly platy, in beds a few inches thick, some light grey to buff weathering limestone beds are a few feet apart, these make up 5 to 10 per cent of the unit, the remainder is black, fissile and platy.	222	1238
15	Shale, slaty, tile-like, black, fissile, in part rusty weathering, top and bottom 20 feet are shaly limestone.	39	1016
14	Limestone, shaly; shale, calcareous, black, platy to fissile, weathers grey to light grey. GSC loc. 69084 at 962 <u>Monograptus</u> sp. GSC loc. 69083 at 937 <u>Monograptus</u> cf. <u>uncinatus</u> var. <u>orbatus</u> Wood GSC loc. 69081 at 917 <u>Monograptus</u> <u>roemeri</u> (Barrande) <u>Monograptus</u> sp. (with biform thecae) GSC loc. 69080 at 912 <u>Monograptus</u> <u>roemeri</u> (Barrande)	136	977
13	Limestone, shaly; limy shale, black, platy to fissile, weathers light grey. GSC loc. 69079 at 828 <u>Monograptus</u> sp. GSC loc. 69078 at 821 <u>Monograptus</u> cf. <u>dubius</u> (Suess)	110	841

Unit	Description	Thickness (feet)	Total from base (feet)
12	Limestone, shaly, black, crypto-grained. GSC loc. 69077 at 731 <u>Monograptus</u> cf. <u>priodon</u> (Bronn) GSC loc. 69076 at 580 <u>Monograptus</u> cf. <u>priodon</u> (Bronn)	171	731
11	Limestone, shaly, black, platy. GSC loc. 69075 at 540 <u>Monograptus</u> cf. <u>spiralis</u> (Geinitz) <u>Monograptus</u> cf. <u>priodon</u> (Bronn)	50	560
10	Limestone, black, argillaceous, platy; several 1 to 2 foot beds of laminated limestone near the top, grey weathering.	42	510
9	Limestone, argillaceous, fine grained, black, weathers light grey.	61	468
8	Limestone, shaly, black, platy to flaggy, in part fissile, purer limestone in a few beds 4 to 6 inches thick, weathers light grey.	40	407
7	Limestone, black, shaly; local bed of less argillaceous limestone up to 1 foot thick, weathers light grey, almost white, mostly fissile.	20	367
6	Limestone, argillaceous, in beds up to 1 foot thick, in part platy, some chert near the top of the interval, weathers light to medium grey.	58	347
5	Limestone, black, fine grained, platy, flaggy beds about 6 inches thick, chert rare; 260 to 280 almost no chert, less than 1 per cent in upper beds; beds not fissile as those underlying.	29	289
4	Shale, calcareous and limestone, argillaceous, black, platy, fissile, sooty.	29	260
3	Shale and argillaceous limestone, light grey to black, platy, fissile, well laminated, chert locally reaches	72	231

Unit	Description	Thickness (feet)	Total from base (feet)
3 (cont.)	20 per cent of talus; some limy black concretions up to 2 feet in diameter; some shaly siltstone.		
2	Shale; upper part is fissile to platy, light grey to white weathering, dark grey to black on fresh surface, calcareous and well laminated; shaly siltstone forms about 15 per cent of the talus.	72	159
1	Dolomite, talus, dark grey to black, fine grained, platy to flaggy, with minor black chert; chert forms 1/2 to 6 inch discontinuous bands 6 to 10 feet apart in poorly laminated dolomite; some 1 foot beds of dolomite, but most are less than 6 inches thick; chert forms about 10 per cent of the rock; interval is recessive.	87	87

Section 42. Sunblood, Whittaker, Road River, Camsell/Sombre/Arnica, Grizzly Bear, Funeral, Landry, Headless, and Nahanni Formations.

On ridge northwest and west of Grizzly Bear Lake at lat. 62°42'N, long. 127°50'W, Glacier Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
<u>Summary</u>			
	Nahanni Formation	200	
	Headless Formation	900	
	Landry Formation	390	
	Funeral Formation	725	
	Grizzly Bear Formation	845	
	Camsell/Sombre/Arnica Formations	2154	
	Road River Formation	841	
	Whittaker Formation	650	
	Sunsblood Formation (base not exposed)	3140	
19	Shales, black, noncalcareous; porcellanite, recessive.		
	NAHANNI FORMATION		
18	Limestone, mostly medium to coarsely crystalline, abundant bioclasts, fresh surface and weathering surface medium to light grey, thick bedded macrofossils sparse, bryozoa at 10002 to 10003. GSC loc. 58576 at 10002 to 10003 <u>Alveolites</u> sp.	200	10110
	HEADLESS FORMATION		
	Limestone, finely crystalline to cryptocrystalline, some coarse, medium to dark grey and tan weathering, with buff patchy weathering in upper 100 feet, largely thin bedded, alternately nodular and argillaceous, slaty, bedding 3 inches to 2 feet, averaging 6 inches from 9730 to 9910; covered interval 9250 to 9450; highly fossiliferous, minor phyllitic limestone and noncalcareous black shale, 9560 to 9575.	900	9910

Unit	Description	Thickness (feet)	Total from base (feet)
	<p>GSC loc. 58571 at 9297 to 9250  <u>Alveolites?</u> sp.  <u>Favosites</u> sp.  <u>Billingsastraea</u> sp.                      GSC loc. 58572 at 9300  <u>Favosites</u> sp.                      GSC loc. 58573 at 9449 to 9454;                      58574 at 9449  <u>Emanuella</u> sp.  <u>Dechenella</u> sp.                      ostracods                      GSC loc. 58575 at 9740 to 9742  <u>Orbiculoidea</u> sp.  <u>Nervostrophia</u> sp.  <u>Dechenella (Dechenella)</u> sp.</p>		
	LANDRY FORMATION		
16	<p>Limestone predominantly, slightly shaly at base, fresh surface medium to dark grey or blue-grey, beds 1 1/2 inches to 2 feet, averaging 6 inches; from 9105 to 9240, beds 2 feet, coarsely crystalline with bioclasts, from 9090 to 9105, slightly phyllitic, fissile limestone, minor black slate, noncalcareous; from 8620 to 9010 bedding 3 inches to 1 foot, averaging 6 inches, highly fractured, rubbly-weathering; covered interval from 9010 to 9090.                      GSC loc. 58570 at 9105 to 9107  <u>Spinatrypa</u> sp.                      pelecypod</p>	390	9010
	FUNERAL FORMATION		
15	<p>Shale, calcareous, minor shaly limestone, from 7980 to 8620 shale is black on fresh surface, yellow-buff to darker brownish grey on weathered surface, the two rock types alternate gradationally, bedding 1 to 2 inches, slabby, flaggy, limestone proportionately greater than shale from 8440 to 8530; from 7895 to 7980, shale fissile to very finely fissile; 7955 to 7980, weathered surface pinkish grey;</p>	725	8620

Unit	Description	Thickness (feet)	Total from base (feet)
15 (cont.)	7915 to 7955 weathered surface brownish grey; 7895 to 7915 weathered and fresh surface black. GSC locs. 58577 at 7895 to 7915; 58569 at 7915 to 7955. <u>Coenites</u> sp. - large form <u>Michelinoceras</u> sp. <u>Styliolina</u> sp.		
GRIZZLY BEAR FORMATION (type section)			
14	Limestone, massive, cryptocrystalline to very coarsely crystalline, fresh surface black and dull grey to medium grey, weathered surface, light grey to pinkish light grey; bedding 1 to 4 feet, few 6 inch interbeds, from 7450 to 7895 partly or mostly crinoidal; from 7300 to 7400 built up of biostromal layers of colonial tetracorals; from 7050 to 7400, limestone, or marble, cryptocrystalline to very coarsely crystalline, contains abundant coarsely porous, rusty leached material, may be locus of fault. GSC loc. 58567 at 7200 to 7300 <u>Loyolophyllum</u> cf. <u>L. creswelli</u> Chapman <u>Grypophyllum</u> cf. <u>G. vermiculare</u> (Goldfuss) <u>Hexagonaria</u> sp. GSC loc. 58568 at 7894 to 7895 <u>Coenites</u> sp. - large form <u>Styliolina</u> sp.	845	7895
CAMSELL/SOMBRE/ARNICA FORMATIONS			
13	Dolostone, cryptocrystalline, fresh surface pale blue-grey, weathered surface light grey to white, slightly siliceous, with subconchoidal fracture, virtually massive.	950	7050
12	Dolostone, massive or thick bedded, coarsely bioclastic; mostly talus with occasional outcrop.	200	6100



Unit	Description	Thickness (feet)	Total from base (feet)
11	<p>Dolostone, coarse to very coarsely crystalline, finely laminated in part, abundant crinoid fragments and bioclasts, fresh surface light to medium grey, some bedding planes stylolitic, weathered surface light grey to buff; minor amounts of thin-bedded fissile mudstone or siltstone, yellow-buff weathering, silty shale from 4945 to 4970, laminated, bedding 1/2 to 2 inches, weathered surface conspicuous reddish and pinkish brown; covered intervals at 5760 to 5900, 5500 to 5740, 4990 to 5010.</p> <p>GSC loc. 58565 at 5010</p> <p><u>Orbiculoidea</u> sp. <u>Michelinoceras?</u> sp. <u>Conularia</u> spp.</p> <p>GSC loc. 58566 at 5740 to 5760</p> <p>bryozoa</p> <p>echinoderm ossicle with 5 star-shaped axial canal.</p>	1004	5900

ROAD RIVER FORMATION

10	<p>Limestone from 4450 to 4615, shaly, fresh surface dark grey, weathered surface buff, thin bedded, fissile to blocky; from 4615 to 4619 and 4675 to 4680, limestone is very coarsely crystalline, bioclastic, highly fossiliferous; from 4370 to 4450 and 4120 to 4350, shale, and shaly limestone, fissile, thin bedded, weathered surface rusty black to pale grey with buff laminae <u>Monograptus</u> sp. from 4130 to 4132; covered intervals from 4701 to 4865, 4680 to 4695, 4350 to 4370, 4055 to 4120.</p> <p>GSC loc. 58564, 4675 to 4680</p> <p><u>Coenites</u> sp. cf. <u>C. rectilineatus</u> (Simpson)</p> <p>Solitary rugose coral</p> <p><u>Gypidula</u> sp.</p>	841	4896
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Unit	Description	Thickness (feet)	Total from base (feet)
WHITTAKER FORMATION			
9	Dolostone, thin to very thin bedded (1 to 3 inches), fresh surface dark grey, weathered surface dark to medium grey, platy fracturing.	265	4055
8	Dolostone and chert, very finely crystalline, weathered and fresh surface medium grey; chert is black, in beds from 1/4 to 6 inches, and as fine black laminae in the dolostone; from 3655 to 3790, chert forms 20 to 25 per cent of rock, from 3450 to 3635, 50 to 60 per cent of rock, from 3390 to 3450 up to 10 per cent of rock; from 3655 to 3690 dolostone is coarsely crystalline and light grey; covered interval 3635 to 3655; forms conspicuous dark weathering marker along with units 6, 7, and 9.	450	3790
7	Limestone, very fine to cryptocrystalline, fresh surface dark blue-grey, weathered surface streaky and banded, bedding 1 to 3 inches, abundant chert nodules; covered interval 3250 to 3265.	90	3340
6	Dolostone, massive, fine to coarsely crystalline bedding 1 to 1 1/2 feet, minor 2 to 3 inch interbeds of laminated silty layers, chert generally minor but abundant at 3245 to 3248; covered interval 3140 to 3150.	110	3250
SUNBLOOD FORMATION			
5	Limestone, very fine to cryptocrystalline, fresh surface blue-grey, weathered surface light buff and grey, bedding 6 inches to 3 feet, massive above 3050, becoming thinner bedded near top of unit.	130	3140
4	Dolostone, very finely crystalline to cryptocrystalline, commonly laminated, banded, alternating light grey to creamy buff weathering and dark weathering,	570	3010

Unit	Description	Thickness (feet)	Total from base (feet)
4 (cont.)	bedding 2 inches to 2 feet, averaging 1 foot; minor quartzitic sandstone, from 2441 to 2445, medium to coarse rounded grains, well sorted, pure, crossbedded; minor siltstone, non-calcareous finely laminated, fissile, 2440 to 2441; covered interval 2445 to 2452; units 4 and 5 comprise an excellent creamy weathering marker in the region of Grizzly Bear anticline.		
3	Dolostone, medium crystalline, becoming coarsely crystalline upwards in section, fresh surface light to medium grey, weathered surface medium to light grey, buff, from 1645 to 1690, bedding 3 inches to 2 feet, averaging 1 foot, slightly porous in places, cavities up to 4 mm in diameter, commonly fetid; minor chert at 2270; covered interval 1575 to 1587.	1445	2440
2	Limestone, from 850 to 995, very fine to cryptocrystalline, fresh surface medium grey, weathered surface buff grey with fine buff streaks; generally massive but thin bedded and fissile in places; dolostone, medium crystalline, fresh surface medium grey, undulatory laminae, grades into limestone at 740 to 800.	255	995
1	Dolostone, medium to coarsely crystalline, fresh surface very light grey to light blue-grey, medium grey and dark grey, weathered surface medium grey, dark grey, and buff; minor dolomitic limestone; brecciated at 580 containing brecciated blocks of same lithology as matrix, up to 2 feet by 1 foot recessive to resistant.	740	740

Section 43. Whittaker, Road River, Sombre, Grizzly Bear, Funeral, Headless, and Nahanni Formations.

On ridge northeast of Broken Skull River at lat. 62° 33'N, long. 127° 25'W, Glacier Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
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Summary

Nahanni Formation	100 (incomplete?)
Headless Formation	565
Funeral Formation	2315
Grizzly Bear Formation	265
Sombre Formation	475
Road River Formation (transitional facies)	1335
Whittaker Formation	490 (incomplete)

Top of exposed section forms dip-slope into covered areas

NAHANNI FORMATION

18	Limestone, blue-grey, medium grained, bedding massive, weathers medium dark grey, resistant.	75	5370
	Limestone, blue-grey, very fine grained to cryptograined, bedding 2 to 6 inches, weathers medium grey, resistant.	25	5295

HEADLESS FORMATION

17	Talus covered, mainly platy, argillaceous buff weathering, nodular, dark grey, very fine grained limestone.	75	5270
	Limestone, blue-black, cryptograined, bedding 2 to 8 inches, reddish stain on wavy bedding planes.	60	5195
	Limestone, blue-black, cryptograined, bedding 2 to 8 inches, wavy, some buff weathering on bedding planes, weathers into rounded fragments, resistant.	80	5135
	Recessive, covered interval.	35	5055

Unit	Description	Thickness (feet)	Total from base (feet)
17 (cont.)	Limestone, blue-black, cryptograined, platy, nodular, argillaceous, resistant, forms knobbs, weathers dark grey, some buff streaks.	25	5020
	Limestone, blue black, very fine grained, shaly, bedding 2 to 6 inches, wavy, bedding surfaces buff-brown coloured, sheared, weathers medium to dark grey, buff staining, some fossils, badly sheared. GSC loc. 69061 at 4840 to 4842 <u>Digonophyllum rectum</u> <u>Atrypa cf. A. arctica</u>	290	4995
FUNERAL FORMATION			
16	Shale, dark grey, calcareous, and limestone, fine grained, argillaceous, laminated, badly sheared, weathers buff to orange-brown, bedding 1/4 to 2 inches, uniform, folded in places, in some areas cleavage seems to conform with bedding but in others transects bedding.	1360	4705
15	Shale, black, calcareous, very fine grained, bedding 1/4 to 2 inches, weathers black, recessive, slightly sheared.	65	3345
	Covered interval, very recessive, black shale talus.	185	3280
GRIZZLY BEAR FORMATION			
14	Limestone, medium grey-blue grey, cryptograined to very fine grained, finely laminated in part, weathers medium to dark grey, slightly recessive, bedding 6 inches to 1 foot, some slightly shaly beds 1/4 to 1 inch.	45	3095
	Limestone, bioclastic, many crinoid columnals, sparry calcite, medium to coarse grained, bedding massive, appears to be one unit pinching and swelling from 20 feet, weathers light	45	3050

Unit	Description	Thickness (feet)	Total from base (feet)
14 (cont.)	grey very resistant, steep cliff face, fossils fragmental, calcified, poorly preserved.		
	Limestone, dark grey, very fine grained, crystalline in places, bedding 2 to 4 feet, weathers light grey, 5 per cent black chert nodules also lenses of chert to 3 feet long in basal 30 feet; upper 20 feet, interbeds of recessive limy shale, black, platy, weathers dark grey very resistant.	40	3005
13	Dolomite, limy, blue-grey, fine laminated, bedding 1/4 to 6 inches, weathers light grey, platy to blocky, resistant.	135	2965
	FUNERAL(?) FORMATION		
12	Shale, limy, platy with black chert beds, shale 65 per cent, chert 35 per cent, very few thin limestone interbeds, poor fossil preservation.	330	2830
	Shale, black, very fine grained, dolomitic, bedding 1 to 6 inches, weathers dark grey, blue-black, chert interbeds, 3 to 4 inches thick, and 4 to 6 feet long fairly uniform.	440	2500
	SOMBRE FORMATION		
11	Dolomite, medium grey to blue-grey, clastic, very fine grain, bedding massive, beds more than 6 feet thick, stylolitic, finely laminated in part, weathers light grey, resistant; a few parts lightly bioclastic, very small fragments, in places fragments of slightly darker dolomite in clastic dolomite matrix, subangular, 1 to 4 inches, generally elongate.	110	2060
	Dolomite, light grey weathering, finely clastic, interbeds of dark grey dolomite laminated, shaly, recessive, approximately 50:50 ratio.	55	1950

Unit	Description	Thickness (feet)	Total from base (feet)
11 (cont.)	Dolomite, bioclastic, interbeds of dark grey, laminated, very fine-grained, crystalline, shaly, recessive dolomite; upper part is talus covered; light grey dolomite about 65 per cent, shaly dolomite 35 per cent.	55	1895
	Dolomite, weathers light grey, medium bluish grey, clastic, medium grained, clasts very small less than 1/16 inch bedding massive, beds more than 6 feet thick, stylolites every several feet, up to 1 inch wide, paralled with bedding; at 1730 to 1740, dolomite is fragmental, rather sub-angular to rounded (poorly), fragments of light grey weathering dolomite, in fine clastic dolomite matrix difficult to see because both matrix and clasts weather light grey, approximately 50:50 ratio matrix: clasts.	155	1840
TRANSITIONAL FACIES, WHITTAKER/DELORME/ CAMSELL - ROAD RIVER FORMATIONS			
10	Dolomite, black shaly, weathers medium grey to brownish grey, recessive.	35	1685
	Dolomite, medium grained, crystalline, slightly bioclastic, weathers light grey, minor less than 3 per cent black chert nodules, bedding 1 to 2 feet, resistant.	75	1650
	Dolomite, bioclastic, uniform, platy, finely laminated, grained to crypto-grained, blue-grey, weathers orange-brown.	47	1575
	Dolomite, medium blue-grey, finely laminated, cryptograined to very fine grained, crystalline, bedding 1 to 3 inches, platy to slabby, weathers orange-brown, very uniform.	122	1528
	Dolomite, grey, bioclastic, coarsely crystalline, weathers grey.	1	1406

Unit	Description	Thickness (feet)	Total from base (feet)
10 (cont.)	Dolomite, medium grey to blue-grey, very fine grained, crystalline, bedding 1/2 inch to 1 foot, weathers dark orange-brown, platy fragments, from 1350 to 1360 weathers grey, rather massive, finely laminated in part.	55	1405
	Limestone, blue-grey, cryptograined, shaly, finely laminated in part, weathers light buff-grey to orange-brown from 1310 to 1212 abundant well preserved fish fragments, in laminated, shaly and pyritiferous dolomite. GSC loc. 69014 GSC loc. 69060 at 1302 to 1203 <u>Orbiculoidea</u> sp. <u>Grammysia</u> sp.	50	1350
9	Limestone, massive, bioclastic, medium to coarse grained, crystalline, dark grey, weathers light grey, resistant, bed pinches and swells, overlain and underlain by black limy, fissile shale, very conspicuous unit.	10	1300
	Shale, blue-black, limy, very fine grained, platy, bedding 1/4 to 1 1/2 inches, weathers medium to dark grey, some brown staining; inter-bedded every 5 to 10 feet with limestone, coquinoid, mainly bryozoa, crinoid columnals, fragments; bedding 6 inches to 2 feet, resistant, weathers medium grey, fresh surface medium to dark grey, where not coquinoid then bioclastic; limy shale 60 per cent recessive, limestone 40 per cent. GSC loc. 69059 at 1174 <u>Coenites</u> sp. <u>Schizophoria</u> sp. <u>Carinatina</u> sp.	125	1290
	Dolomite, grey, bioclastic, very resistant, medium grained, crystalline, full of small fragments of fossils, also a few angular fragments, dolomite	20	1165



Unit	Description	Thickness (feet)	Total from base (feet)
9 (cont.)	weathers light grey, above this unit rock weathers dark grey.		
	Covered interval, shaly limestone talus.	30	1145
	Limestone, coquina in part, silificied corals, brachiopods, bryozoa, crinoids, in a light to medium grey matrix, few angular fragments (25 per cent) rather platy (up to 4 inches) in the coquina with fossils, weathers light grey, fairly resistant, matrix blue grey crystalline limestone. GSC loc. 69062 <u>Coenites</u> sp. <u>Favosites</u> sp. ? <u>Lissatrypa</u> sp. <u>Howellella</u> sp.	25	1115
7	Limestone, dark grey-black, very fine grained, shaly, poorly indurated, weathers buff-orange, bedding 1 to 3 inches, platy.	45	1090
	Covered interval.	65	1045
6	Limestone, blue-grey, medium grained, crystalline slightly bioclastic, bedding 2 to 6 inches, wavy, weathers light greyish brown, a few interbeds of shaly limestone, generally recessive.	65	980
	Limestone, blue-grey, cryptograined, sheared, laminated, resistant.	35	915
	Limestone talus, lithology similar to underlying beds.	30	900
	Limestone, blue-grey, cryptograined, finely laminated, bedding obscure, appears fairly massive, sheared, weathers light brownish grey, in sheared, sharp flakes 2 to 4 inches, slightly recessive.	15	850
5	Covered interval.	45	835

Unit	Description	Thickness (feet)	Total from base (feet)
4	Limestone, blue-black, cryptograined, buff to light brown weathering, finely laminated, resistant, interbedded with shaly blue-black limestone, slightly recessive, beds are 4 to 8 inches thick, uniform lithology, few poorly preserved brachiopods in talus, strongly sheared.	135	790
	Limestone, blue-black, cryptograined, shaly, finely laminated in places, wavy, sheared, weathers grey, in places stained light brownish, graptolites fairly abundant.	90	655
	Shale, dark grey-black, very fine grained to cryptograined, not well indurated, dolomitic, bedding 1/4 to 2 inches, weathers in sharp plates, with curved somewhat conchoidal surfaces, weathers dark grey, slight buff staining. GSC loc. 69063 at 538 to 540 <u>Monograptus cf. vomerinus</u> <u>Monograptus ex. gr. M. priodon</u>	40	565
3	Covered interval, shale, black, dolomitic, poorly indurated.	45	525
WHITTAKER FORMATION			
2	Dolomite, medium grey to dark blue-grey, very fine grained crystalline, bedding 4 to 6 inches, shaly in places, recessive at shaly intervals, weathers grey with reddish stain; minor less than 3 per cent black chert nodules up to 4 inches long.	105	480
	Dolomite, medium grained to very fine grained, bedding 2 to 10 inches, rather shaly, more resistant, finely laminated in part, weathers medium grey with some buff stain; slightly recessive from 375 to 350.	50	375
	Dolomite, medium grey, very fine grained, shaly, bedding 1/4 to 4 inches, very recessive, weathers dark grey to black, a few graptolite fragments in talus.	20	325

Unit	Description	Thickness (feet)	Total from base (feet)
2 (cont.)	Dolomite, breccia, massive 5 foot bed, clasts of dolomite, elongate angular black, 3 to 8 inches, platy, matrix is rather porous grey dolomite, fine grained crystalline, few vugs containing white quartz crystals.	5	305
	Dolomite, black, rather shaly, bedding poorly developed, folded.	15	300
	Dolomite, light to medium grey, very fine grained, crystalline, slightly vuggy, less than 3 per cent vugs filled with white crystalline dolomite, weathers medium to dark grey.	20	285
	Dolomite, light to medium grey, very fine grained, crystalline, finely laminated in part, bedding 2 inches to 1 foot, weathers medium grey, slightly recessive, crumbly outcrops; very little (less than 5 per cent) or no chert, nodules, small (1 to 4 inches), ellipsoidal in cross-section.	10	265
1	Dolomite, medium grey, very fine grained, crystalline, finely laminated in places, bedding massive, beds more than 6 feet thick, with thin 2 to 4 inches chert, beds and lenses black, interbeds; alternating chert and dolomite, every 2 to 6 inches giving a finely banded appearance, resistant, rock is very uniform, chert is commonly not continuous, wavy, knobby, bedding surfaces.	120	255
	Dolomite, as in underlying beds, chert beds get thinner upwards until at 135, thin 1/4 to 1 inch (or less) laminae in dolomite, resistant, weathers black, dolomite is massively bedded, beds more than 6 feet thick.	20	135

Unit	Description	Thickness (feet)	Total from base (feet)
1 (cont.)	Dolomite, medium to dark grey, very fine grained crystalline, bedding 2 to 4 inches, yet appears rather massive, forms resistant face at base of cliff, with black, cryptograined chert nodules, small elongated lenses, weathers medium to dark grey, some chert in distinct wavy bands parallel with bedding; at 75 chert and dolomite are 50:50 in 2 to 6 inch bands, very uniform rock.	115	115

Section 44. Sunblood, Whittaker, Delorme, Camsell, Sombre, Arnica, Grizzly Bear and Funeral Formations.

In glacially scoured valley about 2 1/2 miles east of Avalanche Lake at lat. 62°25'N, long. 127°09'W, Glacier Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
<u>Summary</u>			
	Funeral Formation	1340	
	Grizzly Bear Formation	85	
	Arnica Formation	450	
	Sombre Formation	1615	
	Upper Member	500	
	Middle Member	100+	
	Lower Member	1015	
	Camsell Formation	1190	
	Delorme Formation	2110	
	Whittaker Formation	2589	
	Sunblood Formation	836 (incomplete)	
FUNERAL FORMATION			
25	Limestone, shaly, bedding very obscure, appears to be folded into structures parasitic to main syncline, rock becomes almost phyllitic at top of gulley.	175	10215
	Limestone, shaly, dark grey, fine grained, weathers yellowish brown, platy, laminated in part, apparently isoclinally folded in places, pyrite cubes to 1/16 inch locally; more argillaceous in lower beds, much talus.	1165	10040
GRIZZLY BEAR FORMATION			
24	Limestone, dark grey, fine grained, thin to medium bedded, weathers light blue-grey, coarse grained where crinoidal; rocks not as resistant here as elsewhere.	85	8875

Unit	Description	Thickness (feet)	Total from base (feet)
ARNICA FORMATION			
23	Dolomite, light grey, medium to cryptograined, medium to thick bedded, weathers silver to dark grey, mostly crinoidal, becomes laminated, fine to medium grained about 8610, interbed of dark grey dolomite at 8720; near 8720 light grey dolomite is thin to medium bedded.	330	8790
22	Dolomite, dark grey, medium grained, medium bedded, weathers medium to dark grey.	10	8460
	Dolomite, dark grey, fine to medium grained, thin to medium bedded, weathers medium grey, brecciated dolomite above with dolomite fragments to 2 inches, light grey, weathers mottled light and dark grey, crinoid debris in dark grey dolomite, contains echinoderm ossicles with double axial canals.	110	8450
SOMBRE FORMATION			
UPPER MEMBER			
21	Dolomite, light grey, fine grained, mostly massive, weathers light silvery grey, some silicified stylolites; at 7950 becomes medium bedded to massive, in part laminated.	500	8340
MIDDLE MEMBER			
20	Dolomite, dark grey, fine grained, medium bedded to massive, weathers dark grey, coarse-grained dolomite in vugs, appears thicker on ridge to west (possibly as much as 200 feet) very conspicuous dark weathering marker.	100	7840

Unit	Description	Thickness (feet)	Total from base (feet)
LOWER MEMBER			
19	Dolomite, fine grained, medium grey, laminated in part, thin to medium bedded, weathers uniformly, light grey, in places weathers very slightly buff, flecks of coarse-grained dolomite; minor beds in Unit 19 have slightly porous, weathered surfaces, are not laminated, probably due to weathering of coarse grained crystals, slightly yellow to buff weathering interbeds, very minor.	430	7740
	Dolomite, in part brecciated, mainly well bedded, fine grained, grey weathering; coarse-grained dolomite veins up to 6 inches wide	460	7310
	Dolomite, cryptograined to fine grained, medium grey, in part laminated, flinty, medium bedded to massive, weathers light grey; minor interbedded dolomite, laminated as above but weathers very light buff-brown, thin to medium bedded, in part fetid.	125	6850
CAMSELL FORMATION			
18	Dolomite, fine grained, mostly light grey, some dark grey to very light brown, medium to thick bedded, weathers interbanded light buff, light grey, overall very light buff, in part laminated, coloured interbeds on a 5 to 15 foot scale, slightly fetid; at 6430 minor buff colouring, unit weathers mostly silvery grey; gradational contact to very light grey dolomite of Unit 19.	725	6725
	Dolomite, medium bedded, well bedded, cryptograined, weathers buff and light creamy grey, interbedded.	370	6000

Unit	Description	Thickness (feet)	Total from base (feet)
18 (cont.)	Dolomite, medium to dark grey, very fine to fine grained, crystalline, bedding 10 inches to 2 feet, weathers light to medium grey, blocky, few white dolomite flecks, minor quartz crystals on some surfaces; dolomite breccia, at 5630 minor, fragments 13 inches, white crystalline dolomite matrix; overlain by buff-grey and orange-grey weathering dolomite.	95	5630
DELORME FORMATION			
17	Dolomite, bedding 6 inches to 2 feet, weathers grey and light buff-yellow-grey.	175	5535
16	Dolomite, light grey, buff-grey, and cream, cryptograined to very fine grained, crystalline, bedding 6 inches to 1 1/2 feet, blocky, weathers orange to orange-brown.	240	5360
15	Dolomite, light grey, fine to medium grained, crystalline, bedding 6 inches to 2 feet, weathers light grey, some yellowish stain.	240	5120
14	Dolomite, light buff-grey to buff, cryptograined to very fine grained, crystalline, bedding 1 inch to 1 1/2 feet, weathers orange to yellowish orange to yellow-brown, slabby to blocky, slightly recessive, outcrop fair to good.	225	4880
13	Dolomite, similar to that from 4455 to 4540.	45	4655
12	Dolomite, light buff-grey, very fine grained, crystalline, bedding 2 inches to 1 foot, weathers orange and medium brown.	70	4610
11	Dolomite, light grey, medium grained, crystalline, bedding 1 to 4 feet, rather porous, weathers light yellowish grey, distinctive grey band.	85	4540



Unit	Description	Thickness (feet)	Total from base (feet)
10	Dolomite, 85 per cent is orange to yellowish brown weathering, bedding 2 to 10 inches, slabby to blocky.	395	4455
	Dolomite, orange weathering, platy, thinly bedded, beds 1 to 6 inches thick, also some brown weathering slaty dolomite comprising less than 10 per cent of rock; at 4050, dolomite, medium to coarse grained, crystalline, porous, vuggy, crumbly, weathers light yellow-grey.	150	4060
	Dolomite, medium to buff-grey, very fine grained crystalline, to medium grained, crystalline, porous, bedding 4 inches to 1 foot, weathers orange and light buff-grey, recessive, outcrop fair to good; approximately 60 per cent orange weathering dolomite, 40 per cent greyish weathering dolomite.	130	3910
	Dolomite, orange weathering to the east, grey weathering to the west, at 3650, a few outlines of pentamerid brachiopods?	295	3780
	Dolomite, light grey, very fine to fine grained, crystalline, bedding 3 to 6 feet, weathers light grey rather recessive at 3475. Dolomite, light brownish grey, very fine grained, crystalline, bedding 4 to 10 inches, weathers orange-buff.	60	3485
WHITTAKER FORMATION			
9	Dolomite, medium to light grey, medium to coarse grained, crystalline, bedding massive, beds more than 6 feet thick, weathers light grey, porous, vuggy, in upper part, dolomite, medium grained crystalline, light grey, weathers light grey, bedding more than 6 feet, crumbly, poorly preserved <u>Pentamerus</u> sp., unit is conspicuously massive and light grey weathering, appears reefoid.	1060	3425

Unit	Description	Thickness (feet)	Total from base (feet)
8	Dolomite, light to medium grey weathering, bedding 6 inches to 1 1/2 feet, thicker bedded toward the top, contains a few <u>Favosites</u> sp., <u>Pentamerus</u> sp., bioclastic and medium to coarse grained near the top.	200	2365
	Dolomite, medium grey, very fine grained, crystalline, bedding 1 to 6 inches, weathers medium grey contains <u>Favosites</u> sp., <u>Halysites</u> sp., straight cephalapods, echinoderm columnals, platy to blocky, interbeds of bioclastic platy, dark grey limestone, shaly.	75	2165
	Limestone, medium to dark grey, medium grained bioclastic, shaly, bedding 1 to 3 inches wavy, weathers medium to dark grey, many echinoderm fragments, a few <u>Favosites</u> sp., <u>Halysites</u> sp., minor less than 10 per cent chert nodules, dark grey to black, cryptograined, above 1930, chert is interbedded with limestone, and forms as much as 40 per cent of the lithology, limestone, platy, shaly, contains a few corals and <u>Pentamerus</u> sp., weathers medium to dark grey.	305	2090
7	Dolomite, medium grey, medium to coarse grained, bioclastic, vague crossbedding 6 inches to 2 feet, weathers medium grey, rather massive, resistant, a few (to 30 per cent in places) shaly dolomite interbeds.	80	1785
	Dolomite, dark grey, very fine grained, crystalline, thinly bedded 1/2 to 2 inches, with black chert nodules forming as much as 35 per cent of the lithology, rock weathers dark grey.	15	1705
	Dolomite, dark grey, thinly bedded, very fine grained, crystalline, with large mounds on bedding planes, corals partly dolomitized.	15	1690

Unit	Description	Thickness (feet)	Total from base (feet)
6	Dolomite, light grey to light buff-grey, very fine grained crystalline, massive, weathers light grey, porous, poorly preserved corals, vuggy, crumbly, upper 70 feet covered.	185	1675
5	Chert, medium grey and dolomite, grey; outcrop in section and on cliff show conspicuous interbanding of resistant light grey chert to 50 per cent and grey, less resistant dolomite; chert is light grey to buff in upper 50 feet; chert and dolomite beds average about 1/2 to 1 inch thick, chert commonly forms anastomosing veins that include lenses of dolomite.	190	1490
	Dolomite, blue-black, cryptograined to very fine grained, bedding 1/4 to 3 inches, weathers dark grey with lenses, nodules, and interbeds 1/4 to 1 inch of black chert, well bedded, weathers dark grey, resistant, forms cliff.	230	1300
	Limestone, black, very fine grained, bedding 1/4 to 1 inch platy, weathers dark grey, finely laminated in part, recessive, minor chert nodules (less than 5 per cent).	80	1070
4	Dolomite, dark grey to black, very fine grained, crystalline, bedding 2 to 6 inches, weathers dark grey, with black chert lenses and nodules, a few interbeds (less than 25 per cent) chert, recessive unit, few good outcrops.	154	990
SUNBLOOD FORMATION (836 feet measured)			
3	Mainly a covered section, limestone, blue-black, cryptograined to very fine grained, bedding 1/2 to 6 inches, shaly, weathers dark grey forms angular chips, sharp, uneven, recessive, most of limestone was bedding 1/4 to 1 inch, platy to chippy.	351	836

Unit	Description	Thickness (feet)	Total from base (feet)
2	Limestone, thin beds, slightly recessive.	70	485
	Limestone, bedding 3 inches to 1 1/2 feet, mottling hardly noticeable, weathers light grey, resistant, contains very few poorly preserved gastropods and trilobite fragments in the talus.	20	415
	Limestone, thinly bedded, shaly, mudcracked, weathers light grey, slightly mottled.	105	395
	Limestone, medium to dark grey, mottled, bedding 4 to 10 inches, wavy, weathers light grey and buff-brown, contains a few poorly preserved gastropod and trilobite fragments; at 175, mottling due to presence of black cryptograined chert, 40 per cent chert content; minor interbeds of buff weathering dolomite, less than 5 per cent.	175	290
1	Limestone, slightly mottled, light grey and buff.	25	115
	Limestone, dark grey, cryptograined to very fine grained, bedding 1/4 to 6 inches, wavy, weathers medium grey; as much as 35 per cent interbeds of dolomitic limestone, medium to light grey, cryptograined, bedding 4 to 10 inches, weathers buff to orange, fairly resistant.	90	90

Section 45. Camsell(?), Sombre and Arnica Formations.

On ridge including peak, elevation 7251 feet, at lat. 63°03'N,  
long. 127°57'W, Wrigley Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
ARNICA FORMATION (459 feet measured)			
17	Dolostone, fetid, dark grey, fine grained, medium bedded, weathering dark grey, interbedded in beds from 1 to 5 feet thick with dolostone, siliceous, light grey, fine grained, medium bedded, weathering light grey, similar to dolostone from 1775 to 1950, dark grey, fetid dolostone dominant.	108	2234
16	Dolostone, siliceous, light grey, fine grained, medium bedded, weathering light grey, in beds 1 to 5 feet thick interbedded with dolostone, fetid, dark grey, fine grained, medium bedded, weathering dark grey, platy, similar to dolostones from 1775 to 1950, light grey, siliceous dolostone dominant.	31	2126
15	Covered interval.	87	2095
14	Dolostone, siliceous, light grey, fine grained, medium bedded, weathering light grey, in 2 to 10 foot beds, interbedded with dolostone, fetid, dark grey, fine grained, medium bedded, weathering dark grey, similar to dolostones from 1775 to 1950, banding mostly as dark grey stripes on light grey background.	38	2008
13	Covered interval.	20	1970
12	Dolostone, siliceous, light grey, fine grained, medium bedded, weathering light grey, in beds 2 to 10 feet thick, interbedded with dolostone, fetid, dark grey, fine grained, medium bedded, weathering dark grey, banding mostly as dark grey stripes on light grey background.	175	1950

Unit	Description	Thickness (feet)	Total from base (feet)
SOMBRE FORMATION			
UPPER MEMBER			
11	70 per cent dolostone, sandy, in part laminated, light to dark grey, fine to medium grained, thin to medium bedded, weathering light, medium, and dark grey; 30 per cent sandstone, quartzitic, dolomitic, in part laminated, buff, very fine to fine grained, thin to medium bedded, weathering light and dark grey.	405	1775
10	Dolostone, in part very siliceous, in part laminated, light to medium grey, fine to medium grained, thin to medium bedded, weathering light silvery grey.	95	1370
MIDDLE MEMBER			
9	Dolostone, in part crinoidal, in part fetid, dark grey, fine grained, medium to thick bedded and partly massive, weathering dark grey, becoming medium grey toward top; at 1060 is a coarse grained, white, vuggy dolostone; at 1160 is a 10 foot coarse grained fault breccia, minor fault may thicken dark band by about 30 feet this unit is a conspicuous dark weathering marker throughout the region.	365	1275
LOWER MEMBER			
8	Dolostone, medium grey, fine to medium grained, medium bedded, weathering alternating light, medium and dark grey.	80	910
7	Dolostone, laminated, silty, medium grey, fine to medium grained, medium bedded, weathering very light brown.	45	830
6	Dolostone, vuggy, medium grey, medium grained, medium bedded, weathering light grey.	75	785

Unit	Description	Thickness (feet)	Total from base (feet)
5	Dolostone, siliceous, laminated, light and medium grey, medium grained, medium bedded, weathering light grey to silver-grey, weathered surface smooth and hackly, similar to dolostone from 525 to 695, contains minor, very light buff, laminated interbeds as much as 5 feet thick.	15	710
4	Dolostone, cryptograined to very fine grained, siliceous, laminated, light and medium grey, medium bedded, weathering light grey to silver-grey, weathered surface smooth and hackly, contains some apparent intraformational breccia of small fragments, in thin beds.	170	695
3	Dolostone, siliceous, very tough, in part laminated, light grey in places slightly brownish, very fine grained, medium bedded, weathering silver-grey (50 per cent of outcrop); interbedded with dolostone, siliceous, very tough, fetid, in part laminated, dark grey, very fine grained to fine grained medium bedded weathering medium grey (40 per cent of outcrop) and dolostone, siliceous, very tough, fetid, in part laminated, dark grey, very fine grained to fine grained, medium bedded, weathering dark grey (5 to 10 per cent of outcrop); 525 at base of cliffs.	275	525
CAMSELL FORMATION?			
2	Dolostone, in part slightly fetid, in part laminated, medium to dark grey, fine to medium grained, thin bedded, weathers dark grey, in beds 2 to 10 feet thick, interbedded with dolostone, calcareous, in part vuggy, light to medium grey, medium to coarse grained, medium bedded, weathering mottled light grey and light brown; similar to dolostones from 0 to 100 but slightly more resistant; contains	150	250

Unit	Description	Thickness (feet)	Total from base (feet)
2 (cont.)	minor beds of vuggy, possibly pisolitic dark grey dolostone; contains 2 feet by 10 feet breccia pods in light weathering unit.		
1	Dolostone, in part slightly fetid, in part laminated, medium to dark grey, fine to medium grained, thin bedded, weathering dark grey, interbedded with dolostone, calcareous, in part vuggy, light to medium grey, medium to coarse grained, medium bedded, weathering mottled light grey and light brown; generally recessive. Beneath section is dolostone, light grey, fine grained, thin to medium bedded, weathering yellow-brown, weathers smooth, blocky.	100	100



Section 46. Landry, Headless, and Nahanni Formations.

In creek canyon at head of Broken Skull River at lat. 62° 55'N,  
long. 128° 04'W, Nahanni map-area.

Middle Devonian	Nahanni Formation	145 feet (complete?)
Early Givetian	Headless Formation	695 feet
	Headless and/or Landry	555 feet
	Landry Formation	510

Unit	Description	Thickness (feet)	Total from base (feet)
NAHANNI FORMATION			
36	Limestone, medium to dark grey, fine grained, thick bedded to massive with minor thin bedded intervals, weathering medium grey, only slightly brown, shows minor silty banding, contains bryozoa.	145	1905
HEADLESS FORMATION			
35	Limestone, dark grey, thin to medium bedded, weathering brown, bedding planes irregular; on smooth face perpendicular to bedding shows brown, silty, 2 to 4 inch bands between dark grey, 1/4 to 1 inch bands; some poorly preserved bryozoans in talus.	195	1760
34	Limestone, silty, medium to dark grey, fine grained, thin to medium bedded, weathering mottled buff and grey.	45	1565
33	Covered interval.	140	1520
32	Limestone, medium grey, fine grained, becoming very fine grained toward top, thin to medium bedded, weathering grey brown, similar to limestone from 1225 to 1240.	140	1380
31	Limestone, medium grey, fine grained, thin bedded, weathered surface mottled silty grey-brown.	15	1240
30	Limestone, shaly, medium grey, very fine grained, shaly to thin bedded, weathering light brown, recessive; contains crinoid fragments, trilobites, corals.	130	1225

Unit	Description	Thickness (feet)	Total from base (feet)
29	Poor outcrop of shale, limy, fissile, medium grey, weathering light buff-brown.	30	1095
28	Covered interval.	45	1065
HEADLESS AND/OR LANDRY FORMATION			
27	Limestone, crinoidal in part, dark grey, fine to coarse grained, thin to medium bedded, weathering brownish grey; interbedded with limestone, silty, medium blue-grey, medium grained, thin to very thin bedded, weathering brownish grey.	35	1020
26	Limestone, silty, dark grey, fine grained, thin bedded with minor shaly beds, weathering brown-grey, moderately recessive.	145	985
25	Limestone, silty, dark grey and brown, fine grained, thin bedded, weathering mottled brown and grey, recessive, similar to limestone from 695 to 785.	30	840
24	Limestone, fetid, dark grey, fine grained, massive, becoming medium bedded near top, weathering medium grey to brownish, resistant.	25	810
23	Limestone, silty, dark grey and brown, fine grained, thin bedded, weathering mottled brown and grey, recessive. GSC loc. 69049 at 775 <u>Schuchertella adoceta</u>	90	785
22	Limestone, in part crinoidal, dark grey, fine to medium grained, thin to medium bedded, weathering grey with brownish tinge, resistant.	35	695
21	Limestone, fetid, dark grey, fine grained, massive, becoming medium bedded toward top, weathering light grey, resistant.	25	660

Unit	Description	Thickness (feet)	Total from base (feet)
20	Limestone, dark grey, fine grained, thin to medium bedded, weathering brown, resistant. Similar to limestone from 525 to 580.	55	635
19	Limestone, dark grey, fine grained, thin bedded, weathering medium grey to brownish on bedding planes, recessive. GSC loc. 69046 at 560 <u>Spinulicosta stainbrooki</u> <u>Schuchertella</u> sp. <u>Schizophoria</u> <u>Dechenella (Dechenella)</u> sp.	55	580
18	Covered interval, probably recessive brownish weathering limestone.  LANDRY FORMATION	15	525
17	Limestone, medium to dark grey, fine grained, thin to medium bedded, weathering medium to light grey, contains a few brachiopods.	55	510
16	Limestone, medium to dark grey, fine grained, massive, weathering light grey, has irregular silty banding on polished surface.	20	455
15	Limestone, crinoidal, fossiliferous, dark grey, coarse grained, medium bedded, weathering light to medium grey; interbedded with limestone, crinoidal, unfossiliferous, dark grey, coarse grained, medium bedded, weathering light to medium grey, and limestone, fine grained.	60	435
14	Limestone, crinoidal, dark grey, coarse grained, thick bedded to massive, weathering dark grey; interbedded with limestone, fine grained.	50	375
13	Limestone, slightly fetid, dark grey, fine grained with coarse grained patches, thin to medium bedded, weathering	55	325

Unit	Description	Thickness (feet)	Total from base (feet)
13 (cont.)	light to medium grey. GSC loc. 69048 at 305 <u>Atrypa</u> sp. cf. <u>A. arctica</u> <u>Atrypa</u> sp. cf. <u>A. aperanta</u> <u>Spinatrypa</u>		
12	Covered interval, limestone, dark grey, fine grained, medium bedded, weathering light grey, forms two resistant ribs, similar to limestone from 205 to 250.	20	270
11	Limestone, dark grey, fine grained, medium bedded, weathering light grey, weathered surface smooth, shows almost conchoidal fracture in places, contains poorly preserved corals and brachiopods.	45	250
10	Limestone, crinoidal, dark grey, medium to coarse grained, thin to medium bedded, weathering light to medium grey.	30	205
9	Limestone, dark grey, medium grained with coarse grained fossil fragments, thin to medium bedded, weathering light to medium grey, similar to limestone from 135 to 150, contains silty blebs and very irregular beds on 2-foot scale.	25	175
8	Limestone, dark grey, medium grained with coarse grained fossil fragments, thin to medium bedded, weathering light to medium grey, contains echinoderm columnals and a few brachiopod fragments.	15	150
7	Mainly covered interval, some rubbly outcrop of limestone, dark grey to black, fine grained, thick bedded to massive, weathering medium grey, contains a few corals, similar to limestone from 110 to 125.	10	135

Unit	Description	Thickness (feet)	Total from base (feet)
6	Limestone, dark grey to black, fine grained, thick bedded to massive, weathering medium grey, contains a few corals, shows cherty sworls.	15	125
5	Limestone, dark grey, fine grained, thin to medium bedded, weathering medium grey, similar to limestone from 0 to 5, contains some echinoderm columnals.	15	110
4	Covered interval, rubble of limestone, dark grey, fine grained, thin to medium bedded, weathering medium grey, similar to limestone from 0 to 5.	15	95
3	Limestone, dark grey, fine grained, thin to medium bedded, weathering medium grey, similar to limestone from 0 to 5.	40	80
2	Covered interval.	35	40
1	Limestone, dark grey, fine grained, thin to medium bedded, weathering medium grey, slightly fetid, possibly graphitic, contains one fossiliferous zone with corals, brachiopods, and trilobite fragments. GSC loc. 69047 at 0 <u>Favosites</u> sp. <u>Schuchertella?</u> sp. <u>Atrypa</u> sp. cf. <u>A. aperanta</u> <u>Spinatrypa</u> sp. <u>Bactrites?</u> sp.	5	5

Section 47. Arnica, Natla, Landry, and Headless Formations.

On west-northwest trending ridge in Nahanni map-area centered at lat. 62°57'N, long. 128°03'W. Section begins almost on the boundary between Glacier Lake and Nahanni map-areas.

Unit	Description	Thickness (feet)	Total from base (feet)
Middle Devonian			
Early Givetian	Headless Formation	400 feet (incomplete)	
Late Eifelian and? Early Givetian	Landry Formation	1280 feet	
Early and Late Eifelian	Natla Formation	1455 feet	
Early Eifelian	Arnica Formation	260 feet (incomplete?)	

HEADLESS FORMATION

18	Limestone, dark to medium grey, fine grained, beds 6 inches to 2 feet thick, weathers light grey; interbedded with dark grey, thin bedded limestone, weathers light grey and mottled buff-brown, light grey weathering limestone contains echinoderm ossicles; upper part forms slightly resistant rib, lower part very thin bedded and slightly recessive.	175	3395
17	Limestone, medium to dark grey, fine grained, massive, weathers light grey, massive and very resistant.	40	3220
16	Limestone, dark grey, fine grained, silty, thin to medium bedded, weathers mottled brown and grey, recessive. GSC loc. 69108 at 3130 <u>Digonophyllum rectum</u> <u>Spinatrypa borealis</u> <u>Warrenella franklini</u>	50	3180
15	Covered interval, talus of mottled brown, buff and grey weathering platy limestone with abundant brachiopods.	60	3130

Unit	Description	Thickness (feet)	Total from base (feet)
14	Limestone, dark grey, fine to medium grained, thin bedded, nodular, wavy, weathers mottled brown and grey, very fossiliferous, includes a few resistant ribs but interval generally recessive. GSC loc. 69105 at 3040 <u>Favosites</u> sp. <u>Spinatrypa</u> sp. cf. <u>S. lata</u> dechenellid pygidium	75	3070
LANDRY FORMATION			
13	Limestone, dark grey, fine to medium grained, slightly fetid, thin to thick bedded but mainly medium bedded, outcrops well banded because of alternating light grey and brown weathering, includes corals and brachiopods; from 2980 to 2995, limestone, fine to medium grained, dark grey, distinctly thin bedded, weathers light grey in marked contrast to buff-brown weathering in beds above.	600	2995
12	Covered interval.	25	2395
11	Limestone, dark grey, fine grained, fetid, thin to medium bedded, very well bedded, resistant.	55	2370
10	Covered interval, rubble of lithology similar to Unit 9.	85	2315
9	Limestone, dark grey, fine grained, fetid, thin and medium bedded, well bedded, weathers light grey to reddish brown on cliffs, resistant. GSC loc. 69110 at 2175 <u>Favosites</u> sp. <u>Cystiphylloides</u> sp.	110	2230
8	Limestone, dark grey, medium to coarse grained, medium bedded, weathers light grey (dark grey on cliffs), fetid, crinoidal slightly less resistant than Unit 9.	85	2120
7	Covered interval.	135	2035

Unit	Description	Thickness (feet)	Total from base (feet)
6	Limestone, medium grey, medium grained, cherty, in part fetid, reefoid in part, laminated, weathers light grey and reddish brown, forms resistant ridge. GSC loc. 69107 at 1790 <u>Favosites</u> spp. <u>Hexagonaria</u> sp. <u>Spinatrypa</u> sp.	185	1900
NATLA FORMATION			
5	Limestone, dark grey to brown-grey, fine grained, shaly, platy, and thin bedded, weathers medium to dark grey (sooty); interbedded with about 20 per cent limestone, dark grey, fine grained, thin to medium bedded, blocky, dark grey weathering; medium bedded blocky limestone interbedded with platy limestone in upper part of unit; at 855 shaly, dark grey limestone is very fissile, limestone in part laminated, interval as a whole very dark weathering. GSC loc. 69109 at 1660 <u>Lingula</u> sp. "Cornellites" sp. GSC loc. 69103 at 1630 <u>Schizophoria</u> sp. <u>Atrypa</u> sp. cf. <u>A. aperanta</u> "Camarotoechia" sp. <u>Leptodesma</u> sp. <u>Dechenella (Dechenella)</u> sp. GSC loc. 69102 at 590 <u>Favosites</u> sp. echinoderm ossicle with double axial canals	1090	1715
4	Limestone, shaly dark grey, fine grained, thin bedded, platy, weathers medium grey; interbeds of limestone, fetid, dark grey, fine grained, medium bedded.	145	625
3	Limestone, shaly, dark grey, fine grained, thin bedded, interbedded with limestone, dark grey, fine grained, medium bedded, outcrops well banded.	80	480



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Unit	Description	Thickness (feet)	Total from base (feet)
2	Limestone, shaly, dark grey, very fine grained, thin bedded, weathers medium to dark grey, minor medium bedded limestone and minor argillite.	140	400
ARNICA FORMATION			
1	Dolomite, in part cherty, dark grey, fine to medium grained, laminated, thin to medium bedded, weathers medium to dark grey, in part banded light, medium, and dark grey weathering.	260	260

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Section 48. Arnica, Natla, Landry, and Headless Formations.

On east trending ridge south of Natla River at lat. 63°14'N,  
128°06'W, Sekwi Mountain map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
Middle Devonian			
	Early Givetian	Headless Formation	230 feet (incomplete)
	Early Givetian and Late Eifelian	Landry Formation	1610 feet
	Early and Late Eifelian	Natla Formation (type section)	1435 feet
	Early Eifelian	Arnica Formation	475 feet
HEADLESS FORMATION (230 feet measured)			
6	Limestone, dark grey, fine grained, thin bedded, nodular and platy, appears gradational with underlying rocks; boundary drawn at change from dominantly buff-brown weather- ing above to dominantly grey weathering below. GSC loc. 69050 at 4580 <u>Spinulicosta stainbrooki</u> <u>Schuchertella</u> <u>Spinatrypa lata</u> <u>Emanuella?</u> sp. <u>Athyris?</u> sp.	230	4750
LANDRY FORMATION			
5	Limestone, medium to dark grey, medium to coarse grained, very well bedded and banded, blocky weathering, light grey with brownish tinge on cliffs, slightly recessive relative to underlying beds but more resistant than overlying unit.	285	4520
4	Limestone, light to dark grey, fine to very fine grained, in part crinoidal, medium and dark grey weathering, coralline in part; above 4110 becomes medium bedded to massive, dark grey, medium grained, medium bedded;	1325	4235

Unit	Description	Thickness (feet)	Total from base (feet)
4 (cont.)	<p>unit as a whole very resistant and cliff forming; 2910 to 3060, limestone is dark grey, fine grained, fetid, weathers medium to dark grey, well bedded, in places on cliffs weathers reddish brown, includes minor interbeds of crinoidal limestone; at 3060, base of very resistant rib of limestone, light to medium grey, fine grained to coarse grained where crinoidal, weathers light grey; at 3520 base of darker banded unit within resistant rib, consists of dark grey, fine grained, medium bedded, light and dark grey weathering limestone, forms fine blocky talus; above 3855 beds are light grey weathering; at 4010 beds are very fossiliferous. GSC loc. 69044 at 4050</p> <p><u>Spinulicosta stainbrookii</u>  <u>Schuchertella?</u> sp.  <u>Spinatrypa</u> sp.  <u>Cyrthoceratites</u> sp.                      GSC loc. 69042 at about 3520</p> <p><u>Favosites</u> sp.  <u>Syringopora</u> sp.  <u>Utaratuia</u> sp.</p>		
NATLA FORMATION (type section)			
3	<p>Limestone, dark grey, very fine grained, shaly to thin bedded in part laminated, weathers platy, dark grey, sooty, very recessive; minor interbedded coarse grained crinoidal limestone; above 2600 limestone as above interbedded with slightly thicker bedded dark grey, fine grained limestone, giving banded appearance; tentaculitids(?) in many beds.</p>	720	2910
2	<p>Limestone, grey, fetid, coarse grained, crinoidal, medium bedded to massive, weathers light grey, very resistant; forms conspicuous ribs from 1475 to 1850, 1900 to 1935, 1995 to 2015, 2075 to 2095, and 2115 to 2190; intervening bands consist of dark to medium grey,</p>	715	2190

Unit	Description	Thickness (feet)	Total from base (feet)
2 (cont.)	very fine grained, thin bedded, platy, recessive, medium to dark grey weathering limestone; tentaculitids(?) abundant in recessive bands; the resistant ribs of the Natla Formation pinch and swell along strike from 0 to several hundred feet.		
ARNICA FORMATION			
1	Dolomite, dark grey, fine to coarse grained, in laminated, in part crinodial, locally fetid, in part brecciated, medium bedded to massive, generally well bedded and banded or striped particularly in basal beds bands weather light, medium, and dark grey; "spaghetti-stone" abundant near 250 and poorly preserved brachiopods from 250 to 305; very vuggy at 775; "spaghetti-stone" conspicuous near 1190; unit as a whole less resistant than overlying crinoidal limestone of Natla Formation but more resistant than sooty, thin-bedded limestone of Natla Formation.	1475	1475

Section 49. Frasnian and Famennian clastic strata.

Measured on east flank of Tigonankweine Range at lat. 63°45'N,  
long. 126°45'W, Wrigley Lake map-area.

Unit	Description	Thickness (feet)	Total from base (feet)
4	Shale, green-grey, very slightly silty, in part slumped, weathers green-grey, slickensided on some surfaces.	5	1475
	Siltstone, red-brown, very fine grained, calcareous, 6 inch coquina bed, mainly brachiopods, a few crinoid columnals. GSC loc. 69029 at 1470 <u>Sinotectirostrum</u> sp. <u>Cyrtospirifer</u> sp.	1.5	1470
	Shale, green-grey, slightly silty; at 1425 to 1427 siltstone, grey-green, calcareous, weathers reddish brown.	163.5	1468.5
	Siltstone, green-grey, calcareous, bedding 4 to 10 inches, weathers reddish brown.	2	1305
	Shale, green-grey, slightly silty.	14	1303
	Siltstone, very fine grained, green- grey, finely laminated, weathers green-grey, slightly brownish near top, contains a few very poorly pre- served brachiopods; limestone, light greenish grey, weathers reddish brown, fossiliferous. GSC loc. 69101 at 1285 <u>Sinotectirostrum</u> sp. <u>Cyrtospirifer</u> sp.	6	1289
	Shale, grey-green, with a few very thin limestone interbeds, weathers brown; limestone fossiliferous. GSC loc. 69026 at about 1265 <u>Leiopteria</u> sp. <u>Cyrtospirifer</u> sp.	203	1283

Unit	Description	Thickness (feet)	Total from base (feet)
3	Siltstone, light medium grey, very fine grained, bedding 4 to 6 inches, weathers greenish grey, resistant.	10	1080
	Shale, green-grey, resistant in places, possibly where more silty.	95	1070
	Shale, interbedded with limestone, weathers brown, forms top of resistant unit. GSC loc. 69028 at 975 <u>Cyrtospirifer</u> sp. <u>Sinotectirostrum</u> sp.	5	975
	Siltstone, with shale interbeds, very fine grained, medium grey, weathers buff to brown.	25	970
2	Shale, green-grey, recessive, little outcrop, a few thin limestone beds near 905.	40	945
	Limestone, dark grey, very fine grained, fossiliferous, coquinoid, bedding 6 inches to 2 feet, weathers buff to yellow-brown, some shaly intervals, forms very distinctive marker, contains abundant brachiopods. GSC loc. 69031 at 905 <u>Chonetes</u> sp. <u>Grünewaldtia</u> <u>Cyrtospirifer</u> sp. <u>Theodossia</u> <u>Tentaculites</u> sp.	10	905
	Shale, recessive.	25	895
	Shale, dark grey, very fine grained to cryptograined, slightly silty in places, greenish grey to dark brown weathering, brachiopods in 6 inch limestone lens.	45	870
	Shale, green-grey, with 40 per cent 4 to 10 inch siltstone interbeds, weathers medium grey to brownish green.	60	825
	Covered interval, shaly talus.	75	765

Unit	Description	Thickness (feet)	Total from base (feet)
2 (cont.)	Siltstone, very fine grained, medium to dark green-grey, bedding 2 to 8 inches, interbedded with dark greenish and grey shale, weathers greenish grey to dark grey, shale 40 per cent of unit in lower half and about 80 per cent in upper half; brachiopods, pelecypods, worm-burrows common in upper 200 feet in lenses of calcareous siltstone, preservation poor.	393	690
1	Shale, greenish grey, slightly silty in upper parts, bedding 1/4 to 2 inches, weathers to platy fragments, fairly resistant.	200	297
	Mudstone, greenish, cryptograined, calcareous concretions, mainly round and flattened parallel with bedding, some have well developed cone-in-cone structure.	22	97
	Shale, green-grey, very fissile, bedding 1/4 to 1/2 inch or less, weathers grey to greyish brown, minor calcareous concretions to 9 inches in diameter and 3 inches thick, concretions display spectacular cone-in-cone structure, axes of cones perpendicular to bedding.		
	Base not exposed.		