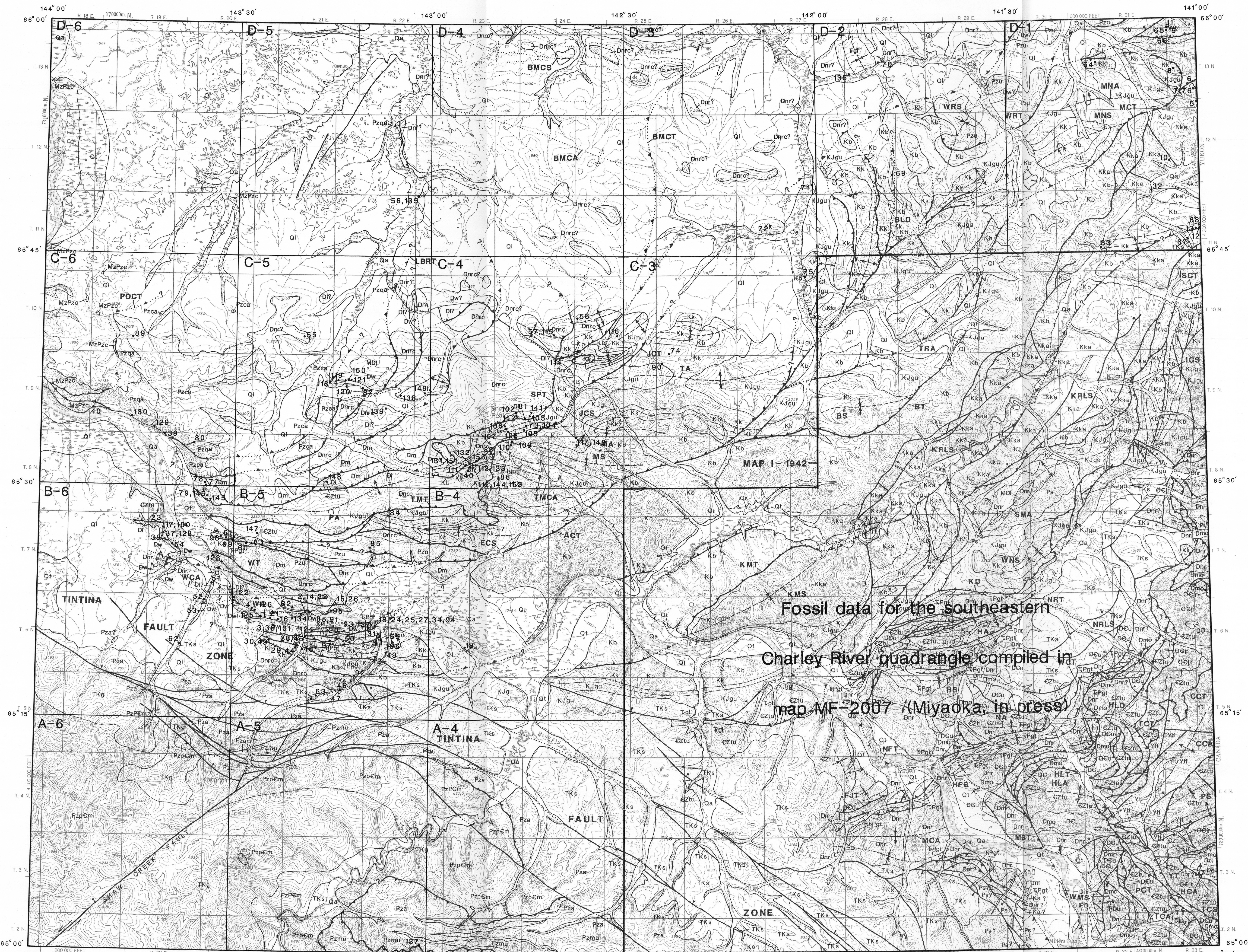
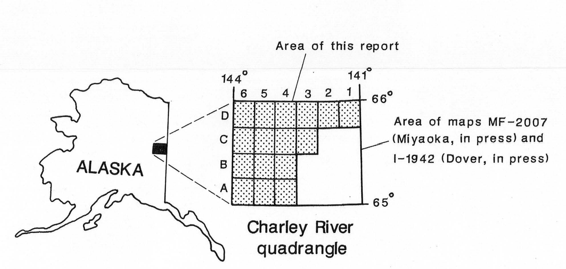


Base from U.S. Geological Survey, 1956.
Universal Transverse Mercator projection.

Geologic mapping modified extensively from Brabb and Churkin (1969) and unpublished geologic mapping in 1962 by British Petroleum Exploration Company, Alaska (R.Stoneley, party chief; B.R. Brown and K.F. Thompson, geologists; and R.B. Nelles, J.E. Dagenais, and P.E.K. Fuchs, assistant geologists), based on helicopter-supported reconnaissance mapping by the authors in 1982-85, and on re-examination of the original field notes and field sheets (1960-63, 1967-68, 1973) of Brabb and Churkin. Fossil data compiled by Ronny T. Miyaoka.

SCALE 1:250 000

CONTOUR INTERVAL 200 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929



LOCATION MAP AND INDEX TO 1:63,360 QUADRANGLES (SHADED)

FOSSIL LOCALITY MAP

REINTERPRETED GEOLOGIC MAP AND FOSSIL DATA, CHARLEY RIVER QUADRANGLE, EAST-CENTRAL ALASKA

By
James H. Dover and Ronny T. Miyaoka
1988

INTRODUCTION

This table was compiled from fossil information collected within the Charley River A-5, B-4, B-5, B-6, C-3, C-4, C-5, C-6, D-1, D-2, D-3, and D-5 1:63,360 quadrangles. Absence of fossil information within the Charley River A-4, A-6, D-4, and D-6 quadrangles is mainly a result of unsuitability of rock types or lack of bedrock exposure. Fossil information for the southeastern part of the Charley River quadrangle is compiled in U.S. Geological Survey report MF-2007 (Miyaoka, in press). Sources of information for this compilation are primarily published reports of the U.S. Geological Survey, as well as unpublished fieldnotes, maps, and fossil reports of U.S. Geological Survey workers who have conducted geologic studies in the area. Collections and paleontologic determinations are by representatives of the U.S. Geological Survey unless otherwise noted.

The data in the table are keyed to a fossil location map (scale 1:250,000), and are listed chronologically by collector. Listed in the table for each locality is the fossil location map number, geologic map unit, and where available, collector's field number, USGS collection number, fossil lists, and age designation. Sources of information are keyed with superscripts and cited at the end of the table. Reports for most of the collections that have been assigned a USGS collection number are on file at the U.S. National Museum of Natural History in Washington, D.C. The fossil lists are reproduced as originally prepared by the paleontologists indicated. However, many of the older collections have been restudied by later workers, and because of improved taxonomic and biostratigraphic frameworks, restudy has resulted in revised indentifications, correlation, and(or) age designations for many collections. Consequently, the evaluations of the later workers are considered more reliable and care should be taken in using the appraisals of earlier workers. The locations of fossils collected prior to 1939 (locality numbers 1-30 on Map) are approximate due to the lack of precise location information.

The fossil location map is superimposed on a screened version of the geologic map.

Although much effort went into making the fossil information table and location map as complete as possible, some existing data were not available for inclusion and some data may have been omitted inadvertently.

ACKNOWLEDGEMENTS

I am indebted to Ellen White and Sue Booth of the U.S. Geological Survey's Technical Data Unit in Menlo Park, California, for their invaluable assistance in the recovery of archival information.

EXPLANATION

.34 Location of fossil collection--Locations 1-30 are approximate; numbers refer to collections listed in Table 1

A-4 1:63,360-scale topographic quadrangle

LIST OF MAP UNITS

Quaternary surficial deposits

- Qa Alluvium (Holocene and Pleistocene)
- Qt Terrace deposits (Holocene and Pleistocene)
- Ql Loess (Pleistocene)

Tertiary and Cretaceous sedimentary rocks

- Tks Sedimentary rocks (Eocene, Paleocene, and Upper Cretaceous)

Mesozoic sedimentary rocks

- Kandik Group
  - Kka Kathul Graywacke (Lower Cretaceous)
  - Kb Biederman Argillite (Lower Cretaceous)
  - Kk Keenan Quartzite (Lower Cretaceous)
- Ka Argillite (Lower Cretaceous)
- Kl Limestone (Lower Cretaceous?)
- Glenn Shale
  - KJgu Upper part (Lower Cretaceous to Middle Jurassic)
  - TR gl Lower part (Upper and Middle Triassic)

Mesozoic and Paleozoic sedimentary rocks

- TR Pgt Lower part of Glenn Shale (Upper and Middle Triassic) and Tahkandit Limestone (Permian), undivided
- MzPzc Circle Volcanics (Triassic and upper Paleozoic)

Paleozoic sedimentary and igneous rocks

- Pt Tahkandit Limestone (Permian)
- Ps Step Conglomerate (Permian)
- Pu Sedimentary rocks, undivided (Permian)
- Pzqa Quartzite and argillite (Upper Paleozoic)
- Pzca Chert and argillite (Upper Paleozoic)
- Pzu Clastic rocks, undivided (Paleozoic?)
- Pzmu Mafic and ultramafic rocks, undivided (Paleozoic)
- Pza Phyllitic argillite (Paleozoic)
- Pzp€m Metamorphic rocks (Paleozoic and Precambrian)
- MDf Ford Lake Shale (Upper Mississippian to Upper Devonian)
- PDu Calico Bluff Formation (Lower Pennsylvanian and Upper Mississippian)
- MDl Limestone and dolomite (Mississippian and Upper Devonian)
- Dnr Nation River Formation (Upper Devonian)
  - Dnrc Conglomerate (Upper Devonian?)
- Dwv Woodchopper Volcanics (Upper?, Middle?, and Lower Devonian)
  - Dwl Limestone (Upper?, Middle?, and Lower Devonian)
- Dl Limestone and dolomite (Devonian)
- Dm McCann Hill Chert (Upper to Lower Devonian)
- Dmo McCann Hill Chert and Ogilvie Formation of Clough (1980), undivided (Devonian)
- Do Ogilvie Formation of Clough (1980) (Middle? and Lower Devonian)
- DOu McCann Hill Chert (Upper to Lower Devonian) and Road River Formation (Lower Devonian to Lower Ordovician), undivided
- D€u Road River Formation (Lower Devonian to Lower Ordovician), Hillard Limestone (Lower Ordovician to Lower Cambrian), Adams Argillite (Lower Cambrian), and Funnel Creek Limestone (Lower Cambrian), undivided
- O€jr Jones Ridge Limestone (Upper or Middle Ordovician to Lower Cambrian)

Lower Cambrian? and Precambrian sedimentary and igneous rocks

- Tindir Group
  - €Ztu Upper part (Lower Cambrian? and Late Proterozoic)
  - Ytl Lower part (Middle Proterozoic)

Intrusive igneous rocks

- TKg Granitic rocks (Lower Tertiary and(or) Cretaceous)

LIST OF NAMED STRUCTURES

Thrust faults

- ACT Andrew Creek thrust
- BLD Black River duplex
- BMCT Bear Mountain Creek thrust
- BT Bly thrust
- CCT Cathedral Creek thrust
- FJT Fourth-of-July Creek thrust
- HLD Hard Luck duplex
- HLT Hard Luck thrust
- JCT Judge Creek thrust
- KD Kandik detachment
- KMT Kathul Mountain thrust
- MCT Midnight Creek thrust
- NFT Nation Reef thrust
- NRT Nation River thrust system
- PCT Pass Creek thrust
- PDCT Paddle Creek thrust
- SCT Sitdown Creek thrust
- SPT Snowy Peak thrust
- TCT Three Castle Mountain thrust
- TMT Threemile Creek thrust
- TT Tatonduk thrust

Normal faults

- KRLS Kandik River listric fault system
- NRLS Nation River listric fault system

Folds

Contact--Dotted where concealed; queried where uncertain

Trace of bedding or marker bed

Fault--Dotted where concealed; queried where uncertain

Highangle or listric normal fault--Bar and ball on down-thrown side. Letters refer to LIST OF NAMED STRUCTURES

Strike-slip fault--Arrows show sense of relative slip

Thrust fault--Sawteeth on upper plate. Letters refer to LIST OF NAMED STRUCTURES

Axial trace of major fold--Dotted where concealed. Arrow shows direction of plunge, where known. Letters refer to LIST OF NAMED STRUCTURES

Anticline

Syncline

Overturned anticline

Overturned syncline

Table 1.--Fossil data for the Charley River A-4, A-5, A-6, B-4, B-5, B-6, C-3, C-4, C-5, C-6, D-3, D-4, D-5, and D-6 1:63,360-scale quadrangles, Alaska
[Footnotes at end of table]

Map number-map unit	Location[1]	Field number	USGS collection number	Fossils	Fossil age
Collections of A.J. Collier[2]					
1 - TKs	B-5 (A)	Collier 27		Plants	Eocene(?)[10]
2 - Dwl	B-5 (A)	2 AC 90		Crinoid columns Monilopora	late Middle Devonian[11]
3 - Dwl	B-5 (A)	2 AC 96		Zaphrentis sp. Chaetetes sp. Crinoid columns Fistulipora sp. Schizophoria sp. Atrypa reticularis?	late Middle Devonian[11]
4 - Dw	B-5 (A)	2 AC 97		Favosites sp. Crinoid columns	late Middle Devonian[11]
Collections of D.D. Cairnes[2] (Geological Survey of Canada)					
5 - Kka	D-1 (A)	XIV j 22[3]		Brachiopods, belemnite casts?	
6 - Kka	D-1 (A)	XIV j 25[3]		Pelecypods, brachiopods	
7 - Kka	D-1 (A)	XIV k 25		Nucula sp. Astarte? sp. Panopaea? sp. Undet. pelecypod casts	Early Cretaceous[13]
8 - Kk	D-1 (A)	XIV q 31		Aucella crassicollis Keyserling	Early Cretaceous[13]
9 - Pzu	D-1 (A)	XIV r 43[3]		Brachiopod, crinoid stem, corals	
10 - Kka	D-1 (A)	XIV s 4[3]		Brachiopods, bryozoa?	
11 - Pzu	D-1 (A)	XIV s 43		Favosites sp. Zaphrentis sp. Crinoidal fragments Fenestella, several sp. Hemitrypa? sp. Spirifer cf. S. marcoui Martinia? sp.	Mississippian(?)[12]
12 - Kk?	D-1 (A)	XV j 30		Aucella crassicollis Keyserling	Early Cretaceous[13]
13 - Kk?	D-1 (A)	XV l 30		Aucella crassicollis Keyserling	Early Cretaceous[13]
Collections of E.M. Kindle[2]					
14 - Dwl	B-5 (A)		841-SD	Favosites sp. Crinoid columns Schizophoria striatula Stropheodonta cf. S. calvini Chonetes sp. Gypidula comis Camarotoechia sp. Atrypa cf. A. hystrix Proetus sp. Bollia sp.	late Middle Devonian[11]
15 - Dwl	B-5 (A)		842-SD	Cyathophyllum Dalmanella sp. Rensselaeria? sp. Atrypa cf. A. hystrix Atrypa reticularis Spirifer sp.	late Middle Devonian[11]
E.M. Kindle (cont)[2]					
15 (cont)				Ambocoelia cf. A. umbonata Conocardium sp. Cyclonema sp. Diaphorostoma sp.	
16 - Dw	B-5 (A)		846-SD	Crinoid columns Stropheodonta sp. Camarotoechia sp. Atrypa reticularis Conocardium sp.	late Middle Devonian[11]
17 - Dl?	B-6 (A)		847-SD	Favosites sp. Alveolites sp.	Devonian[11]
18 - TR Pgt	B-5 (A)		2448-PC	Polypora sp. Rhombopora sp. Streptorhyncus cf. S. pelargonatus Productus cf. P. koninckianus Productus cf. P. transversalis Avonia cf. A. porrecta? Marginifera cf. M. splendens Marginifera? cf. M. splendens Camarophoria margaritovi Spirifer cf. S. cameratus Spiriferella arctica Spiriferella cf. S. artiensis Squamularia cf. S. perplexa Aviculipecten sp. Fish tooth	Permian[12]
19 - Ka	B-4 (A)		3784-Mes.	Inoceramus sp. Aucella sp.	Early Cretaceous[13]
Collections of E. Blackwelder[2]					
20 - Dw	B-5 (A)		156-SD	Favosites cf. F. limitaris Atrypa reticularis	late Middle Devonian[11]
			168-SD	Cyathophyllum sp. Favosites cf. F. hemisphericus Atrypa reticularis	late Middle Devonian[11]
			169-SD	Cyathophyllum sp. Favosites sp. Alveolites sp. Actinostroma sp.	late Middle Devonian[11]
			170-SD	Favosites cf. F. limitaris Schizophoria sp. Stropheodonta sp. Orthothetes? sp. Atrypa reticularis Spirifer sp. Reticularia fimbriata var Proetus sp.	late Middle Devonian[11]
21 - Dw	B-5 (A)		171-SD	Favosites cf. F. hemisphericus Favosites cf. F. limitaris Actinostroma sp. Crinoid columns	late Middle Devonian[11]
22 - Dwl	B-5 (A)		172-SD	Atrypa cf. A. flabellata	late Middle Devonian[11]
23 - Dl	B-6 (A)		173-SD	Favosites sp. Syringopora? sp. Crinoid columns Favositella sp.	Silurian[11]
			174-SD	Diphyphyllum Cladopora Syringopora	Silurian[11]
24 - TR Pgt	B-5 (A)		1801-PC	Batostomella sp. Stenopora? sp. Phyllopora sp. Spiriferella arctica	Permian[12]
Collection of G.H. Girty[2]					
25 - TR Pgt	B-5 (A)		2543-PC	Fossils	Permian[12]
Collections of J.B. Mertie[2]					
26 - Dwl	B-5 (A)		2065-SD	Cyathophyllum sp. Schizophoria striatula Gypidula comis Camarotoechia sp. Atrypa cf. A. hystrix Atrypa reticularis Reticularia sp. Proetus sp.	late Middle Devonian[11]
27 - TR Pgt	B-5 (A)		5841-PC	Spiriferella? arctica	Permian[12]
28 - Kk	B-5 (A)	25 AMt 227	13429-Mes.	Aucella cf. A. crassicollis Aucella sp. Belemnites sp.	Early Cretaceous[13]
29 - Kl	B-5 (A)	38 AMt 91	18068-Mes.	Lingulid brachiopod Terebratulid brachiopod Rhynchonellid brachiopod Gervillia sp. Inoceramus sp. or Pinna sp., fragments of a thick prismatic shell Oxytoma sp., surface not seen Ostrea sp., small simple species Entolium sp. Camptonectes sp. Lima sp., broad form with fine sculpture Lima sp., slender form with medium sculpture Lima? sp., broad form with coarser sculpture Cardium? sp. Anixomyon? sp.	Jurassic or Cretaceous[14]
30 - Kl	B-5 (A)	38 AMt 94	18069-Mes.	Oxytoma sp.	Mesozoic[14]
Collection of D.M. Hopkins[4]					
31- TR Pgt	B-5	57 AHpw 23		Crinoid columnals Euryphyllum sp. Indet. bryozoan fragments Indet. orthotetid brachiopod (perhaps Derbyia) Spiriferella? sp. Indet. brachiopod fragments	Permian[15]
Collections and observations of E.E. Brabb[4]					
32 - Kka	D-1	60 ABa 791	M1021[5]	Gastropods Pelecypods, poorly preserved	Indeterminate[16]
33 - Kk?	D-1	60 ABa 797	M1022[5]	Buchia cf. B. crassicollis	Early Cretaceous (Valanginian)[16]
34 - TR Pgt	B-5	60 ABa 1054		Fossils, including bryozoa	
35 - Dwl	B-5	60 ABa 1063	6446-SD[6]	Favosites? sp.	Middle Devonian[17]
			6446-SD	Indet. echinoderm debris Schizophoria sp. (large) "Camarotoechia" sp. Plethorhyncha? sp. (may be undetermined uncinuloid)	"probably Middle Devonian"[15]
36 - Dwl	B-5	60 ABa 1064	6447-SD	Indet. echinoderm debris Indet. fenestrate bryozoans Schizophoria sp. "Camarotoechia"? sp. Undet. uncinuloid Atrypa sp. Undet. trilobite pygidia	"probably Middle Devonian"[15]
			6447-SD[6]	Favosites? sp. Plasmophyllum (Mesophyllum) sp.	Middle Devonian[17]
37 - Dw	B-6	60 ABa 1075		Crinoid columnals	
38 - Dw	B-6	60 ABa 1081		Crinoids, bryozoa	
39 - Pzca	C-6	60 ABa 1096		Brachiopod	
40 - TR Pzc	C-6	60 ABa 1153		Possible diatoms	
41 - KJgu	B-5	60 ABa 1191		Fossils, including productids, in float	
42 - Kb?	B-5	60 ABa 1195		Forams	
43 - Kk	B-5	60 ABa 1201		Forams	
44 - Kl	B-5	60 ABa 1203	M1025[5]	Inoceramus sp.	Jurassic or Cretaceous[16]
45 - Kk	B-5	60 ABa 1206	M1023[5]	Buchia "sublaevis"	Early Cretaceous (Valanginian)[16]
46 - TKs	B-5	61 ABa 1672		Fossil wood	
47 - TKs	B-5	61 ABa 1673		Fossil wood	
48 - Kl	B-5	61 ABa 1683		Corals, pelecypods	
49 - Kl	B-5	61 ABa 1714		Inoceramus prisms	
50 - TR Pgt	B-5	61 ABa 1732	M1266	Pelecypod: Monotis sp. indet. Hydrozoan coelenterate: Heterastridium sp.	late Late Triassic (middle or late Norian)[18]
51 - Dl?	B-6	61 ABa 1742		Stromatoporoids?	
52 - Dw	B-6	61 ABa 1753		Plant hash	
53 - Dw	B-6	61 ABa 1762		Bryozoa, atrypid brachiopods, crinoid columnals, horn corals	
			6454-SD[6]	Corals: Acanthophyllum sp. Disphyllum sp. Indet. stromatoporoid	Middle Silurian-early Late Devonian[17]
54 - Dw	B-6	61 ABa 1802		Fossils in thin section	
55 - Dnr?	C-5	62 ABa 2128		Fossil fragments in conglomerate	
56 - Pu	D-5	62 ABa 2224		Fossils	Permian(?)
57 - Dnrc?	C-4	62 ABa 2251		Plant fragments	
58 - Dnrc?	C-4	62 ABa 2252		Plant fragments	
59 - KJgu?	B-5	62 ABa 2353	M1763[5]	Buchia sp., (Buchia "sublaevis"?)	Early Cretaceous (Valanginian)[16]
60 - TR Pgt	B-5	62 ABa 2362		Crinoidal limestone	
61 - Ka	B-6	62 ABa 2363		Brachiopods	
62 - TKs	B-6	62 ABa 2381A, 2381B	D1930A, D1930B	Pollens: Picea, Pinus, Tsuga, cf. Seradopitya, cf. Taxodium, Betula, and Alnus	Late Tertiary (post-Oligocene?)[19]
63 - TKs	B-5	62 ABa 2502	D1932	Pollens: Carya, Pterocarya, Sterenliaceous, Caprifoliaceous, Tiliaceous, Anacardiaceous	early Tertiary (late Eocene? or Oligocene?)[19]
E.E. Brabb (cont)[4]					
64 - Kk	D-1	62 ABa 2571		Pelecypod fragments	
65 - Pzu	D-1	62 ABa 2581		Crinoids Poorly preserved brachiopods	
66 - Kk	D-1	62 ABa 2582		Poorly preserved pelecypods(?)	
67 - TKs	D-1	62 ABa 2594	D1935	Pollens: Betula, Pinus, Picea, Lycopodium, Ulmus (Zelkova?)	late Tertiary[19]
68 - Kk?	D-1	62 ABa 2601	M1764[5]	Buchia "sublaevis"	Early Cretaceous (early Valanginian)[16]
69 - Kb?	D-2	62 ABa 2613		Forams	
70 - Pt	D-2	62 ABa 2623		Productid and crinoid fragments Bryozoa	
71 - KJgu?	D-3	62 ABa 2631		Plant fragments	
72 - Kk	D-3	62 ABa 2632	M1765[5]	Buchia "sublaevis"	Early Cretaceous (early Valanginian)[16]
73 - Kk	C-4	62 ABa 2646	M1766[5]	Buchia "sublaevis"	Early Cretaceous (early Valanginian)[16]
74 - Kk	C-3	63 ABa 3882	M2057[5]	Buchia "sublaevis"	Early Cretaceous (early Valanginian)[16]
75 - Kb	C-3	63 ABa 3883		Foraminifera (Bathysiphon)	
76 - Kka	D-1	63 ABa 3933	M2058[5]	Pholadomya sp.	no age significance[16]
77 - Pu	C-6	63 ABa 4111		Plant fragments	
78 - Pu	C-6	63 ABa 4112	22360-PC[5]	Calliprotonia? sp. Horridonia sp. Liosotella? sp. Linoproductus sp. Indet. linoproductid Indet. punctate spiriferoid Stenoscisma sp. (large)	Permian[20]
79 - Pu	B-6	63 ABa 4121	22352-PC[5]	Derbyia? sp. Licharewia sp. Liosotella sp. Megousia sp. Orthotichia sp. Pterospirifer sp. Streptorhynchus sp.	mid-Permian[20]
80 - Pzqa	C-6	63 ABa 4133		Bryozoa, crinoids	
81 - KJgu	C-4	63 ABa 4136		Plant stems?	
82 - Dwl	B-5	63 ABa 4146		Crinoid columnal?	
83 - TR Pgt	B-5	63 ABa 4152		Crinoids in rubble	
84 - KJgu	B-5	63 ABa 4164		Plant impressions?	
85 - Pzu?	B-5	63 ABa 4176		Worm borings Plant fragments?	
86 - KJgu	C-4	63 ABA 4184		Plant stems?	
87 - Qa	C-5	63 ABa 4224		Contains pollen of such genera as spruce, birch, and alder	late Tertiary-Quaternary (Miocene-Pleistocene)[19]
88 - Pt	C-4	63 ABa 4244		Coral, spirifer, brachiopod?	
			22361-PC	Pterospirifer sp.	probably Permian[20]
Collections and observations of M. Churkin, Jr.[4]					
89 - Pzca	C-6	62 ACn 34		Crinoid columnal, brachiopod	
90 - KJgu	C-3	62 ACn 55		Foraminifera	
91 - Dwl	B-5	62 ACn 321		Corals, bryozoa, crinoid columnals, stromatoporoids	
			6831-SD[6]	Alveolites sp. Thamnopora sp. Keriophyllum? sp. Indet. breviseptate horn coral Bryozoans	Silurian or Devonian (probably Middle Devonian)[17]
92 - TKs	B-5	62 ACn 391e	D1938A	Pollens: Betula, Ulmus (Zelkova?), Lycopodium, conifers and fern spores	Late Tertiary[19]
		62 ACn 402	D1938B	Pollens: ?Salix sp., Betula-cf. Myriophyllum, Ulmus-Zelkova and Pistillipollenites	Early Tertiary (Eocene?)[19]
93 - TR Pgt	B-5	62 ACn 421		Bryozoa, crinoids, small corals	
94 - TR Pgt	B-5	62 ACn 441		Corals	
95 - Dw	B-5	62 ACn 453		Fragments of: corals, bryozoa, crinoids, gastropods, stromatoporoids	
			6828-SD[6]	Indet. receptaculitid fragment Actinostroma sp. Clavidictyon? sp. Favosites sp.	Silurian or Devonian[17]
96 - KJgu?	B-5	62 ACn 471		Buchia (in concretions)	
97 - TR Pgt	B-5	62 ACn 514		Corals, crinoids	
98 - Ka	B-6	62 ACn 722	M1767	Small fragments of Aucella?	Early Cretaceous[16]
99 - Ka	B-6	62 ACn 724	M1768	Inoceramus sp.	Early Cretaceous[16]
100 - Dl?	B-6	63 ACn 2001		Colonial corals, crinoid columnals	
			7186-SD	Favosites sp. A (squamulate)	probably Middle Devonian[17]
101 - Dwl	B-5	63 ACn 2013		Abundant corals, bryozoa, stromatoporoids	
			7187-SD[6]	Corals: Massive stromatoporoid Alveolites sp. Aulocystis? sp. Cladopora sp. Favosites sp. D Thamnopora sp. Pseudochonophyllum sp. Undet. horn corals	probably Middle Devonian[17]
			7187-SD	Conodonts: Panderodus sp. Scolecodonts Drepanodontiform element	Middle Ordovician-Middle Devonian[21]
102 - Dl?	C-4	63 ACn 2481		Stromatolites	
103 - Dl?	C-4	63 ACn 2483		Stromatolites	
104 - Kk	C-4	63 ACn 2505		Buchia "sublaevis"	Early Cretaceous (early Valanginian)[16]
		63 ACn 2511		Worm markings?	
105 - Kk	C-4	63 ACn 2512		Pelecypods	
106 - KJgu	C-4	63 ACn 2532		Conical, tube-shaped fossils Spirophyton-like cast	
107 - KJgu	C-4	63 ACn 2533		Black worm-like trails	
108 - Kk	C-4	63 ACn 2541		Pelecypods, beleminite phragmacone	
			M2061[5]	Buchia "sublaevis"	Early Cretaceous (early Valanginian)[16]
109 - Kk	C-4	63 ACn 2545		Worm tube casts	
110 - Kk	C-4	63 ACn 2546		Brachiopod mold	
111 - Dl?	C-4	63 ACn 2573		Stromatolites? in float	
112 - Dl?	C-4	63 ACn 2581		Stromatolites	
113 - Dl?	C-4	63 ACn 2583		Fenestellid bryozoa Orthid brachiopods Atrypa sp. Proetid trilobite Favosites sp. Macgeea-like corals with distinctive horseshoe-shaped dissepiments Solitary coral of undet. genus	Devonian (probably Late Devonian)[22]
114 - Dl?	C-4	63 ACn 2591A		Crinoid	
115 - Dnrc?	C-4	63 ACn 2601		Small plant stems	
116 - Kk	C-4	63 ACn 2604		Worm tubes	
117 - Kk	C-4	63 ACn 2623	M2062[5]	Buchia "sublaevis"	Early Cretaceous (early Valanginian)[16]
118 - Pzca	C-5	63 ACn 2632		Worm-like casts	
119 - MDl?	C-5	63 ACn 2635		Crinoids, brachiopods, gastropods	
120 - MDl?	C-5	63 ACn 2642		Spirifer cf. s. centronatus Chonetes? Rhynchonellid brachiopod Straparollus sp. Small solitary coral of undet. genus	probably Mississippian[22]
121 - MDl?	C-5	63 ACn 2643		Abundant fossils in float	
122 - Dl?	B-5	68 ACn 1292	10079-SD	Corals: Haplothecia? sp. A (astreoid) Phillipsastraea sp. (very small corallites)	Late(?) Devonian (Frasnian?)[17]
		68 ACn 1371	10082-SD	Corals: Favosites sp. Haplothecia? sp. A (astreoid)	Late(?) Devonian (Frasnian?)[17]
		80 ACn 11	10581-SD	Conodonts: 4 mid-platform spathognathodiform fragments 1 Belodella resima (Philip) 1 Belodella triangularis (Stauffer) 17 Panderodus sp. elements 2 elements of Panderodus n. sp. of Lane and Ormiston (1979, pl. 1, fig. 42) 2 S_2 elements 6 A_1 or S_1 elements 1 indet. M_2 element 36 indet. simple cone, bar, blade and platform fragments	Early-Middle Devonian (probably Early Devonian)[23]
123 - Dw	B-6	80 ACn 41B	MR1843	Recrystallized, very poorly preserved Radiolaria	not determined[24]
				Tentaculatids resembling Nowakia sp.	
124 - Dw	B-5	80 ACn 72	MR1845	Radiolaria: Spumellariina with simple spines, internal structure not preserved	probably Ordovician-Early Devonian[24]
125 - Dw	B-5 (A)	80 ACn 121[7]		Monograptus yukonensis Jackson and Lenz	Early Devonian
M. Churkin, Jr. (cont)[4]					
126 - Dwl	B-5	80 ACn 131	10582-SD	2 P elements of Polygnathus cf. P. webbi Stauffer 2 Polygnathus cf. P. linguiformis Hinde 3 platform fragments of Polygnathus sp. indet. 6 A_1 or A_2 elements 2 A_3 elements 36 indet. bar, blade, and platform fragments	Middle-earliest Late Devonian[23]
127 - TR Pgt	B-5	80 ACn 152	D502-PC	Neogondolella idahoensis (Youngquist, Hawley, and Miller)	Early Permian (Leonardian)
				Crinoid and bryozoan fragments	
128 - Dw	B-6	80 ACn 241	10583-SD	5 P elements of Polygnathus cf. P. costatus costatus Klapper 1 P element of Polygnathus robusticostatus Bischoff and Ziegler 3 P elements of Polygnathus of the P. robusticostatus Group 2 P element fragments of P. linguiformis Hinde 28 indet. platform fragments of Polygnathus sp. indet. 8 I elements of Icriodus sp. indet. 1 element of Panderodus sp. 1 I element of Pelekysgnathus sp. indet. 2 O elements 6 A_1 and A_2 elements 1 N element 1 acodiniform element 1 mid-platform fragment of a spathognathodiform element 45 indet. bar, blade, and platform fragments	early Middle Devonian (P. costatus costatus Zone)[23]
129 - Pzca	C-6	80 ACn 271A		Abundant Radiolaria in hand speciman	
			MR1836	Sponge spicules	not determined[24]
		80 ACn 271B	MR1837	Very poorly preserved spherical Spumellariina Sponge spicules common	not determined[24]
		80 ACn 271C	MR1838	Very poorly preserved spherical Spumellariina Sponge spicules	not determined[24]
130 - Pzqa	C-6	80 ACn 292A	MR1840	Radiolaria: Spongotripus? fragment Lanceolate Albaillella fragment "Parahagiastriid" fragment Spumellariina with robust tri-bladed spines	Late Mississippian-Pennsylvanian[24]
		80 ACn 292B	MR1841	Radiolaria: Spongotripus sp. Spongodiscaceid, gen. nov. (Tetrahedral) (Holdsworth and Jones, 1980)	latest Late Mississippian-Pennsylvanian[24]
Collections and observations of D.L. Giles[4]					
131 - Dl?	C-4	63 AGs 496		Stromatolites?	
132 - Dl?	C-4	63 AGs 501		Corals?, crinoids?	
			7188-SD	Scolecodont	uncertain[21]
			7188-SD[5]	Corals: Aulocystic sp. Thamnopora sp.	probably Middle Devonian[17]
133 - Dl?	C-4	63 AGs 502		Brachiopods, bryozoa, corals, crinoid stems, sponge?	
Collections and observations of private industry[4]					
134 - Dw	B-5	Amoco 3-14[8]		Conodonts: Indet. A_1 element Polygnathus sp. (P) Indet. S_2 element Indet. M_2 element Polygnathus dehiscens (P) Panderodus unicostatus Belodella resima Pandorinellina exigua (P) Pandorinellina exigua (A_2) Belodella triangularis Peleksygnathus furnishi (I) Peleksygnathus furnishi (S_2) Peleksygnathus furnishi (M_2) Indet. simple cone A Peleksygnathus cf. P. furnishi (I) Peleksygnathus cf. P. furnishi (S_2) Coelocerodontus sp. Belodella devonica Ozarkadina sp. indet. (P) Megafossils: Ogilviella n. sp. Nucleospira sp. Coenites sp. Clathrocailona sp. Xystriphyllum n. sp. Schizophoria sp. Heteratrypa sp. Trupetastroma sp. Trupetastroma cf. T. ideale Favosites sp. A. Favosites sp. Desquamatia sp. Spongophyllum halysitoides Pseudamplexus sp. Canutrypa sp. Linguapugnoides n. sp. Indet. orthid Indet. ostracods Indet. bryozoans	Early Devonian (Emsian)
135 - Pu	D-5	Mobil 159	22059-PC	Gastrioceratid-like ammonoid, indet.	Permo-Carboniferous[25]
136 - Pt	D-2	Shell Y-406		Eoasianites	Permo-Carboniferous[25]
Collections and observations of J.H. Dover[9]					
137 - Pza	A-5	83 ADo 313A		Radiolaria	
138 - Dl?	C-5	83 ADo 364		2 Panderodus sp. indet. fragments 1 indet. bar fragment	Middle Ordovician-Middle Devonian[26]
139 - Dl?	C-5	83 ADo 366B	10890-SD	1 Neopanderodus sp. element	Early-Middle Devonian[26]
140 - Dl?	C-4	84 ADo 303		Stromatolites?	
141 - Dl?	C-4	84 ADo 305		Burrows, Planulites?	
				Conodont blade fragments	Ordovician-Triassic[23]
142 - Dl?	C-4	84 ADo 307		Stromatolites	
143 - Kk	C-4	84 ADo 309a	M7959	Pelecypods: Buchia crassicollis solida (Lahusen) Buchia sublaevis Keyserling Pleuromya sp.	Early Cretaceous (Valanginian)[27]
144 - Dl?	C-4	84 ADo 313a		Trace fossils?, sponge spicules, shell fragments	
		84 ADo 313b		Sponge spicules	
145 - Pu	B-6	84 ADo 314		Worm tubes, plant stems	
146 - Pu	B-6	84 ADo 320		Plant fossils Shell?	
147 - €Ztu	B-5	84 ADo 389		Spiney acritarchs	Cambrian or Precambrian[28]
148 - Dl?	C-5	85 ADo 206		Crinoid columnal?	
149 - Dl?	C-5	85 ADo 212		Conodont: 1 bar fragment	Middle Ordovician-Permian[29]
150 - MDl?	C-5	85 ADo 214b	11390-SD	Conodonts: 2 Apathognathus sp. elements 2 Pa elements of Bispathodus aculeatus (Branson and Mehl) 4 P and 2 S elements of Icriodus? raymondi Sandberg and Ziegler 1 Pa element of Polygnathus sp. of the P. nodocostatus group 6 Pa elements of Polygnathus communis Branson and Mehl 1 M and 1 Sc elements 22 indet. bar, blade, and platform fragments	Late Devonian (Famennian; Middle Expansa Zone)[23]
Collections and observations of R.T. Miyaoka[9]					
151 - Dl?	C-4	85 ARm 30		Stromatolitic float	
152 - Dl?	C-4	85 ARm 31		Brachiopod, ostracodes, trilobite free cheek, Favosites-type colonial coral	
153 - Dl?	C-4	85 ARm 32a		Brachiopod fragment	
				3 ichthyoliths?	Phanerozoic[23]

Location

[1]A-4, A-5, A-6, B-4, B-5, B-6, C-3, C-4, C-5, C-6, D-3, D-4, D-5, and D-6--1:63,360-scale quadrangles within the Charley River 1:250,000 quadrangle; (A)--station approximately located

References cited

[2]Fossil information published in one or more of the following:
Mertie, J.B., 1930, Geology of the Eagle-Circle District, Alaska: U.S. Geological Survey Bulletin 816.
_____, 1932, the Tatonduk-Nation District, Alaska: U.S. Geological Survey Bulletin 836-E.
_____, 1937, The Yukon-Tanana Region, Alaska: U.S. Geological Survey Bulletin 872.
_____, 1942, Tertiary deposits of the Eagle-Circle District, Alaska: U.S. Geological Survey Bulletin 917-D.

[3]Cairnes, D.D., 1914, The Yukon-Alaska international boundary between Porcupine and Yukon Rivers: Canadian Geological Survey Memoir 67.

[4]Fossil information from unpublished field notes and maps of E.E. Brabb, M. Churkin, Jr., and co-workers, 1960-80, from U.S. Geological Survey fossil reports, and, where noted, from published sources.

[5]Brabb, E.E., 1969, Six new Paleozoic and Mesozoic formations in east-central Alaska: U.S. Geological Survey Bulletin 1274-I, 26 p.

[6]Oliver, W.A., Jr., Merriam, C.W., Churkin, Michael, Jr., 1975, Ordovician, Silurian, and Devonian corals of Alaska: U.S. Geological Survey Professional Paper 823-B, 43 p., 25 pls.

[7]Churkin, Michael, Jr., Trexler, J.H., Jr., and Carter, Claire, 1982, Graptolites discovered in the Woodchopper Volcanics, in Coonrad, W.L., ed., The United States Geological Survey in Alaska--Accomplishments during 1980: U.S. Geological Survey Circular 844, p. 53-56.

[8]Lane, H.R., and Ormiston, A.R., 1976, The age of the Woodchopper Limestone (Lower Devonian), Alaska: Geologica et Paleontologica 10:101-108, 2 figs., 1 table, 1 pl.

[9]Fossil information from unpublished fieldnotes and maps of J.H. Dover and R.T. Miyaoka, and from U.S. Geological Survey fossil reports.

Fossil age determinations by U.S. Geological Survey, except where noted

- 10 A. Hollick
- 11 E. Kirk
- 12 G.H. Girty
- 13 T.W. Stanton
- 14 J. B. Reeside, Jr.
- 15 J.T. Dutro, Jr.
- 16 D.L. Jones
- 17 W.A. Oliver, Jr.
- 18 N.J. Silberling
- 19 R.A. Scott
- 20 R.E. Grant
- 21 J.W. Huddle
- 22 C.W. Merriam
- 23 K. Denkler and A.G. Harris
- 24 D.L. Jones and B.L. Murchey
- 25 M. Gordon, Jr.
- 26 A.G. Harris and K.M. Reed
- 27 J.W. Miller
- 28 C. Allison (University of Alaska)
- 29 K. Denkler