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PALEONTOLOGY OF THE LIVENGOOD QUADRANGLE, ALASKA

by

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INTRODUCTION

Despite the few systematic paleontologic studies on fossils from the Livengood quadrangle, faunal reports and lists are available in the literature as far back as the early 1900s for Paleozoic and Mesozoic strata in the quadrangle; Mertie (1937) provides the most detailed data. Other references with faunal information for various units and areas in the Livengood quadrangle include Martin (1926), Mertie (1917), Prindle (1908, 1913), Prindle and Hess (1906), and Robinson (1983). This report includes all these older data with improved locality information and updated age assignments.

Paleozoic and Mesozoic fossils from the Livengood quadrangle are generally poorly preserved because the rocks are tectonically disrupted and sheared locally and have undergone at least lower greenschist facies metamorphism. The oldest recognized fossil, the trace fossil *Oldhamia*, occurs in olive-green slate of the ϵ Zwg unit, but can only be recognized where cleavage and bedding are parallel, or nearly so. Most of the carbonate rocks in the quadrangle are so recrystallized that recognition and recovery of fossils is difficult. Conodonts from rocks of Early Ordovician to Triassic age have color alteration indices (CAI) of 5 to 6, indicating that these rocks reached at least 300° to 400°C. One exception is a sample from the Lost Creek limestone unit (table 1, loc. 23, USGS colln. 11437-SD) which produced conodonts having a CAI value of 4. The most recrystallized carbonate rocks are in the Tolovana Limestone (Silurian to Middle Devonian). In this unit, the only megafossils easily recognizable in the field are corals and brachiopods. Shelly forms are hard to recover from the enclosing rock matrix and even generic determination is difficult. Upper Devonian limestone bodies near the base of the Quail unit are also locally recrystallized, particularly where the unit is thin bedded. Commonly, the only identifiable megafossils are crinoid ossicles and tectonically stretched tabulate corals. Extensive silicification of megafossils at locality 110 (field no. 87ABd10) allowed etching of rugose and tabulate corals. Thin sections of corals from unetched rock frequently show tectonically sheared but generically identifiable forms (James Sorauf, written communication, 1989).

Fine-grained siliciclastic rocks have yielded the best preserved Paleozoic fossils in this region. Rather well-preserved and identifiable fossils, most frequently as casts and molds, are known from the uppermost sedimentary beds of the Fossil Creek Volcanics (Upper Ordovician), as well as from the Cascaden Ridge unit (Middle Devonian).

Table 1 gives the approximate location of all paleontologic collections from the Livengood quadrangle that have been made since 1900. The faunal and floral identifications are the original determinations and have not been revised, except where noted. Taxonomic concepts and stratigraphic ranges have changed considerably during the last 100 years so that taxonomic and age determinations given for some samples are literally out-of-date. Many of the collections were not reevaluated either because they have disappeared or appropriate specialists were unavailable. Nonetheless, all paleontologic data are included here so that future investigators can understand the basis for the age assignment of stratigraphic units in the Livengood and adjacent quadrangles.

Fossil localities in table 1 are arranged roughly in order of decreasing geologic age. All localities are plotted on a geologic base map generalized from Weber and others (1992). The locations and analyses of fossil collections were taken from published reports and unpublished reports written chiefly by paleontologists of the U.S. Geological Survey, and a few paleontologists affiliated with private industry, universities, or other government agencies. Some collections have been examined by several paleontologists and many localities have been relocated and resampled. Multiple collections from the same locality have the same locality number on the map and table 1. The accepted age for each unit as used by Weber and others (1992) is based on the most biostratigraphically significant collections; these are marked by an asterisk in table 1. For various reasons, the accepted age may be broader or narrower than that suggested by paleontologists. Rarely, a single locality on the map appears with two numbers; these numbers represent individual collections that are too close to show separately on the map. Because of the constraints of map scale, some localities may appear to be plotted in an inappropriate unit. For the most accurate location, we suggest that latitude and longitude coordinates be used in conjunction with 1:63,360-scale topographic maps.

REMARKS AND AGE ASSIGNMENTS

CAMBRIAN

Specimens of the distinctive trace fossil *Oldhamia* (Mertie, 1937, pl. 9) are probably the oldest fossils known from the Livengood quadrangle. These forms occur on a mountain at elevation 3020 ft (now informally called "Mt. Oldhamia"), 1.5 miles southwest of VABM Ronald (loc. 1). This locality was thought by Mertie to be part of a Mississippian sequence, though no other fossils were associated with it (Mertie, 1937, p. 121). None of the other localities listed by Mertie as containing Mississippian fossils (1937, p. 120) is really close or clearly related to this site, especially as they are now known to be separated by a major thrust fault. The *Oldhamias* occur in olive-green slates containing very thin layers of gritty siltstone. The *Oldhamia* beds are mapped within the Wickersham unit (-CZwg) which, in this area, underlies a prominent sequence of maroon and green slate (-CZwa). Churkin and Brabb (1965) suggested that the Mt. Oldhamia locality was of Cambrian age, because other *Oldhamia*-bearing strata from east-central Alaska (e.g., in the Circle and Charley River quadrangles) were thought, but not proven, to be Early Cambrian. Although, no where in Alaska, is *Oldhamia* known to occur in beds of undisputed age the worldwide occurrences are nearly all Lower Cambrian (Lindholm and Casey, 1990; Hofmann and Cecille, 1981).

ORDOVICIAN

Sedimentary strata in the Fossil Creek Volcanics (Ofv) have also been dated by fossils. A collection made by Eliot Blackwelder in 1915 on the east bank of the southeast fork of Willow Creek (loc. 3) was identified as Early Ordovician by Edwin Kirk and E.O. Ulrich on the basis of one brachiopod and several trilobites. From Blackwelder's notes, the location of this site is quite clear, although later workers have failed to find additional fossils at this site. In 1972, M.E. Taylor and A.J. Rowell reexamined the old collection, revised the identifications, and confirmed the Early Ordovician age. In addition, J.W. Huddle recovered Early Ordovician conodonts from

the same sample. J.E. Repetski (1992, written communication) refined the age of Huddle's conodont faunule to middle or late Tremadocian. The fossils come are from the basal sedimentary unit of the Fossil Creek Volcanics. An earliest Ordovician (middle Tremadocian) age was confirmed by A.G. Harris and R.C. Orndorff (1988, written communication) on the basis of conodonts from another nearby site.

Late Ordovician fossils from the uppermost part of the Fossil Creek Volcanics were illustrated and discussed in three papers: corals by Oliver and others (1975, p. 24, pl. 4, figs. 1-6), a sphinctozoan sponge by Rigby and others (1988), and brachiopods and gastropods by Blodgett and others (1987). Other fossils (corals, trilobites, and conodonts) from this unit were discussed in the latter paper, but were not illustrated. One radiolarian occurrence of Ordovician age is recorded in table 1 (loc. 10).

The Livengood Dome Chert generally produces radiolarians that are too poorly preserved for useful age determination (table 1). However, graptolites (Chapman and others, 1980), conodonts, and sponges date the unit as Ordovician (table 1, locs. 14 and 15).

The occurrence of radiolarians and sponge spicules in the Amy Creek unit (table 1) suggests that at least part of this unit, as presently mapped, is of Paleozoic age. Other stratigraphic evidence suggests that the Amy Creek may be, in part, of Precambrian age. It is siliceous and dolomitic and contains algal-coated grains, features reminiscent of Tindir-type or lowest Paleozoic dolomites in the Charley River quadrangle (Brabb and Churkin, 1969). The precise age of the Amy Creek remains unresolved; it overlies the Livengood Dome Chert of Ordovician age, but the contact may be structural rather than stratigraphic.

SILURIAN-DEVONIAN

The age and correlation of rocks along the second tributary on the west side of Lost Creek in the Livengood C-4 quadrangle (loc. 23) have had a varied history, though these rocks contain fossils. The site was examined originally by Overbeck in 1918 who considered the rocks to be part of the Livengood Chert. Fossils from the site were considered nondiagnostic by G.H. Girty, U.S. Geological Survey; but these fossils, in addition to some from other localities, led to a tentative Mississippian age assignment for the Livengood Chert (Mertie, 1937, p. 110). Subsequently, the inclusion of these rocks in the Livengood Chert was questioned because they are not lithologically typical of the chert unit.

In 1962, Helen Duncan and W.A. Oliver, Jr. re-examined the corals from the original collection and assigned them a Silurian or Devonian age. New collections from locality 23, made in the 1960s and 1970s, confirmed a Silurian to Middle Devonian age.

By 1980, the Livengood Chert was redefined as the Livengood Dome Chert, a type section in a large borrow pit (table 1, loc. 14) about one mile north of the Lost Creek fossil site was chosen, and an Ordovician age was established on the basis of graptolites found in the type section. The Lost Creek fossil section was excluded from

the redefined Livengood Dome Chert. More recently, diagnostic Late Silurian brachiopods and trilobites were found in the Lost Creek unit (Blodgett and others, 1988). Another limestone in the vicinity of Lost Creek contains crinoid ossicles and is included within the Lost Creek unit (DSI) in this report.

The Schwatka unit (Dsl) produces a low-diversity fauna. The most biostratigraphically diagnostic elements are conodonts and the distinctive two-hole crinoid ossicle, *Gasterocoma? bicauli*. These forms indicate an Emsian to Eifelian (late Early to early Middle Devonian) age.

Silurian corals (mostly tabulates) from the Tolovana Limestone (DSt) of the White Mountains were briefly discussed and partly illustrated by Oliver and others (1975, p. 26, pl. 10, figs. 3-6). Early Silurian (early or middle Llandoveryan) conodonts were reported from the basal part of the Tolovana (Blodgett and others, 1987, p. 57; this report, table 1, loc. 26). No complete section of the Tolovana has been measured, but its thickness has been estimated to be "as much as 3,000 feet" (Mertie, 1937, p. 88) or "more than 1,200 m thick" (Blodgett and others, 1987, p. 54). Pentamerid brachiopods of late Llandoveryan and Wenlockian age have been identified from several localities.

Early Devonian faunas have not been found in the Tolovana Limestone. Middle Devonian corals from the uppermost part of the Tolovana were discussed and several species illustrated by Oliver and others (1975, p. 33, pl. 21, figs. 5-11). This Middle Devonian part of the Tolovana, not recognized in the type area in the White Mountains, may eventually be placed in a separate stratigraphic unit, although probable Middle Devonian fossils were recovered in the type area (table 1, loc. 55). This Middle Devonian unit occurs southwest of the White Mountains, near the Elliott Highway (north side of Globe Creek, Livengood B-3 quadrangle) at VABM Minto (5 miles east of COD Lake, Livengood A-4 quadrangle), and even farther southwest in the Dugan Hills area (Fairbanks D-6 and Kantishna River D-1 quadrangles). This unit is sparsely fossiliferous dark-gray lime mudstone and wackestone; it differs from the Silurian part of the Tolovana because it is darker colored and more distinctly bedded. No sections have been measured in this unit, but it is at least 1,500 ft (450 m) thick.

The Cascaden Ridge unit (lower Middle Devonian) is probably the most paleontologically productive unit in the Livengood quadrangle. Fossils are more diverse and more easily recovered from this unit than from any other in the quadrangle. McAlester (1962) described a new species of pteroid bivalve, *Actinopteria taberi*, from an abandoned borrow pit on the north side of the Elliott Highway (loc. 77). McAlester favored, but was not certain of, a Middle Devonian age for this species.

Fossils collected, chiefly corals and brachiopods, and stratigraphic work undertaken in the 1960s, suggested that the Cascaden Ridge unit was mostly of early Late Devonian (Frasnian) age. The fossils were later restudied and a probable Middle Devonian age assigned (J.T. Dutro, Jr., written communication, 1987). Ormiston (1972, p. 601) noted the occurrence of an Eifelian (early Middle Devonian) trilobite which he identified as *Dechenella* aff. *D. haldemani* (Hall) (loc. 87), 12.4 miles (20 km) west-southwest of the type locality of *Actinopteria taberi*. Additional, newly collected

specimens of this dechenellid trilobite indicate it is not allied to Hall's Appalachian species. Rather it is more closely related to *D. (D.) mclareni* Ormiston, known from the early Middle Devonian (Eifelian) of the Canadian Arctic Islands (A.R. Ormiston, oral communication, 1992).

Corals, mostly tabulates, were briefly discussed and listed by Oliver and others (1975, p. 33). A single unnamed species of *Heliolites* (Oliver and others, 1975, pl. 20, figs. 11, 12) was illustrated from this unit. Eifelian gastropods are especially diverse in the Cascaden Ridge unit. A gastropod faunule (USNM 38775) from a roadcut on the north side the Elliott Highway, 5.3 miles (3.3 km) S. 40° E. from Livengood (loc. 80) produced 35 species (Blodgett, 1992). Several of these species also occur in the coeval upper part of the Cheeneetnuik Limestone in the McGrath quadrangle, west-central Alaska. Conodonts from two samples of limestone in the Cascaden unit near USNM 38775 indicate an *australis* Zone age (middle Eifelian). In summary, the most diagnostic fossils, including gastropods, trilobites and conodonts, indicate an early Eifelian to Givetian age for the Cascaden Ridge unit.

The Troublesome unit (Dt), a recrystallized chert and siliceous argillite, probably stratigraphically underlies the Quail unit (Dq). Thus far, the only fossils recognized from this unit are recrystallized radiolarians seen in thin sections (locs. 96-99). Lithologically, this unit is comparable to the McCann Hill Chert of the Charley River quadrangle (Brabb and Churkin, 1969) and may be part of the same facies belt which was offset along the Tintina fault system.

The Quail unit (Dq) overlies the Troublesome unit stratigraphically. Limestone buildups (Dql) immediately above the Troublesome unit have yielded conodonts and rugose corals of early Late Devonian (Frasnian) age. A diverse, silicified, coral-rich fauna occurs at locality 110. This biostratigraphically diagnostic assemblage is of late Frasnian age (J. Sorauf, written communication, 1989). The remainder of the Quail unit is of Frasnian age or younger, comparable to the Nation River Formation of east-central Alaska (Brabb and Churkin, 1969). Carbonate clasts from an areally restricted conglomerate in the Quail unit produced Middle to Late Ordovician conodonts (loc. 104).

UPPER PALEOZOIC

Only a few fossil localities, mostly of Permian age, are known from the upper Paleozoic sequence (PDms). This sequence includes one small area that produced diagnostic late Famennian conodonts that may be either indigenous or redeposited (loc. 113).

A number of collections contain invertebrate fossils, mainly bryozoans and mollusks, that indicate a possible Early Permian age for a dominantly clastic sequence in the western part of the quadrangle (B-6 quadrangle). All but two of these localities are from the Ps map unit (Permian sedimentary rocks). The two localities from the PDms unit (locs. 114 and 115) contain elements of the same fauna and at least this part of the unit is probably Permian. Most of these collections were called Mississippian by G.H. Girty in the 1930s. These collections were restudied and reevaluated in the 1970s by Dutro who suggested the Permian assignment. The Rampart Volcanics also have yielded Permian fossils, but some collections of

radiolarians and conodonts from sediments interbedded with the volcanics are Middle or Late Triassic. The Circle Volcanics in the Circle quadrangle are coeval with the Rampart Volcanics and have yielded radiolarians of Mississippian age (D.L. Jones, written communication, 1981).

MESOZOIC

Five Mesozoic units are shown on the geologic map of the Livengood quadrangle (Weber and others, 1992). Few fossil localities have been found in these units. The oldest unit (aside from the Rampart Volcanics) consists of Triassic sedimentary rocks (Ts) and is known only from two outcrops that are fortuitously exposed beneath the Beaver Creek thrust fault. One of these lies along Beaver Creek and the other is on strike with the first, about 21 miles (34 km) to the northeast, near the boundary of the Livengood and Circle quadrangles. Conodonts from both localities are of Permian or Triassic age (locs. 132 and 133). The unit is assigned a Triassic age because of its striking lithologic resemblance (phosphatic, calcareous black shale, calcareous sandstone, and sandy limestone) to both the lower Triassic part of the Glenn Shale and the Shublik Formation (Triassic) widespread, respectively, in east-central and northeastern Alaska.

Thus far, no fossils have been found in the Vrain unit which ostensibly overlies the Triassic unit. The Vrain is lithically comparable to the upper Glenn Shale of the Charley River area (Brabb and Churkin, 1969).

The Vrain unit, however, appears to grade up into the Wolverine quartzite unit which is of Late Jurassic or Early Cretaceous age. Several fossil collections from the Wolverine quartzite unit produced an indeterminate pelecypod coquina. One collection, made by J.B. Mertie in 1922 (loc. 134) and reexamined by D.L. Jones in 1980, contains forms which Jones considered possibly Jurassic. Another collection (loc. 140) contains pelecypods indicative of an Early Cretaceous age. Some of the early collections were reexamined by Imlay and Reeside (1954, p. 236) who state that "Earliest Cretaceous not younger than Valanginian is possibly represented in the Hot Springs-Rampart districts, as indicated by some small aucellas (Mes. locs. 11390, 11391, and 15981) similar to *A. sublaevis* Keyserling (now *Buchia sublaevis* (Keyserling)). The preservation of the aucellas does not permit positive identification, but their plump shape suggests an Early Cretaceous rather than a Jurassic age." Thus, in the Livengood quadrangle, the Wolverine quartzite unit may straddle the Jurassic-Cretaceous boundary.

The most diagnostic Mesozoic fossil is from the Wilber Creek flysch unit. For many years the only fossils found in this unit were poorly preserved *Inoceramus*? fragments of Jurassic or Cretaceous age and poorly preserved gastroplicated ammonites. In 1989, Samuel Dashevsky collected a well-preserved gastroplicated ammonite from the Wilber Creek unit and donated it to the U.S. Geological Survey (loc. 148). The specimen, identified as *Paragastroplices flexicostatus* by J.W. Miller, is a middle Albian form known also from northern Alaska.

Various collections of invertebrate fossils from the Wilber Creek unit in the vicinity of Wolverine Mountain have been assigned a Late Cretaceous age (Mertie,

1937). Late Cretaceous plant fossils have also been described from Wolverine Mountain. The localities for most of these old collections are uncertain. Some sites seem to be very close to those known to be Early Cretaceous. Some collections may have been misidentified as Late Cretaceous. There is, however, a thin stratigraphic unit (Minto unit, Km) of shallow-water origin that is less altered than the Wilber Creek. These beds have an irregular areal distribution, are inferred to lie unconformably on older rocks, and may be the source of at least some of the younger Cretaceous collections. In 1987, indeterminate plant fragments (locs. 150 and 151) were collected from this unit from a basin south of Wolverine Mountain.

TERTIARY

Between 1896 and 1906, Tertiary plants were collected by U.S. Geological Survey geologists in the Livengood quadrangle, notably from coal-bearing strata on the Yukon River at the mouth of Hess Creek (Livengood C-6 quadrangle). Coal was mined there for use on sternwheeler steamships plying the river. The site was known as the Drew mine, a name which still appears on some topographic maps, although mining operations ceased many years ago with the demise of the big river boats. The macrofossils were listed by Hollick (1936) in his summary of the Tertiary floras of Alaska and were discussed by Mertie (1937). More recently, these rocks were sampled for pollen. The floras are of early Tertiary age (loc. 156), probably Eocene, and indicate a relatively warm temperate climate (T.A. Ager, written communication, 1989).

Although the Livengood quadrangle area probably contains widespread poorly consolidated gravel deposits of late Tertiary age (part of QTg), only one exposure has recently been dated by fossils. Pollen of Pliocene or possibly late Miocene age were recovered from an organic-rich silt layer in gold-bearing gravel from the Livengood Creek valley (Karl and others, 1988; this report loc. 158). This deposit of limited extent is shown as Qg on the accompanying map because the valley sediments have been greatly disturbed by placer mining.

QUATERNARY

Literally tons of Pleistocene mammal bones, both large and small, have been recovered from interior Alaska, including the area of the Livengood quadrangle, but most of the material was not documented by local placer miners. However, from the late 1920s to the 1950s, extensive mammalian collections were made by O.W. Geist on behalf of the American Museum of Natural History and the Museum of the University of Alaska. Faunal and floral lists and a summary of the earlier work are given in Péwé (1975).

Two Pleistocene sample sites documented by Péwé (1975) are listed in table 1 (locs. 159 and 160). In 1948, a frozen and mummified head and foreleg of a baby mammoth were found on Fairbanks Creek in the Livengood A-1 quadrangle. This much publicized discovery was rescued and preserved by O.W. Geist.

Also found on Fairbanks Creek in the Livengood quadrangle were: the mummified foot of a young mammoth, a female bison, and a rabbit. Other mummified

prehistoric finds include: a large bull steppe bison on Dome Creek; legs of a stag moose on Little Eldorado Creek; legs of a bison on Cleary Creek; legs of a bison and caribou on Upper Cleary Creek; and parts of two moose in the Livengood area at Mile 60.5 on the Elliott Highway (Guthrie, 1990, p. 37-44).

The best preserved, well-described find is a large male *Bison priscus*, called the "Blue Babe" after Paul Bunyan's ox; it is colored by blue vivianite, a common coating found on Alaskan Pleistocene bones (Guthrie, 1990). This discovery was made on Pearl Creek in the Fairbanks Creek area, just south of the boundary of the Livengood quadrangle. Guthrie's book on "Blue Babe" addresses many of the problems of late Pleistocene faunal and floral distributions in Alaska.

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Table 1. Fossil collections from the Livengood quadrangle

All localities listed below are shown on the accompanying map by a numbered black triangle; open triangles shown on the map indicate barren conodont samples that are not listed below.

STRATIGRAPHIC UNIT (AGE AND MAP SYMBOL)	MAP NO.*	FIELD NO. (USGS COLLN.)	LATITUDE N/ LONGITUDE W. (QUADRANGLE)	FOSSILS	AGE	IDENTIFIED BY
Wickersham unit (late Proterozoic and earliest Cambrian; GZwg)	*1	21AM152	85°53'42"/ 147°43'12" (D-2)	Trace fossils: <i>Oldhamia</i>	Precambrian-Cambrian	R. Ruedemann, pre-1937; Michael Churkin, 1968
Wickersham unit (late Proterozoic and earliest Cambrian; CZwa)	2	88ACn(?)	85°17'38"/ 148°10'49" (B-3)	Stromatolites	Biostratigraphically nondiagnostic	M.A. Semichatov, 1969
Fossil Creek Volcanics (Early to Late Ordovician; Otv)	*3	15AB211 (1519A)	85°37'30"/ 147°11'42" (C-1)	Brachiopods: <i>Lingulella</i> sp. Trilobites: <i>Agnostus</i> sp., <i>Bathyruretus</i> ?, <i>Hemigyraspis</i> ? sp., <i>Megalaspis</i> ? sp.	Early Ordovician	Edwin Kirk and E.O. Ulrich, pre-1937
		(7359-CO)		Brachiopods: <i>Schizambon</i> sp., acrotretoid gen. and sp. indet., <i>linguloid</i> , gen. and sp. indet. Mollusks: * <i>Pelagiella</i> ? sp. Problematica: cf. <i>Hulshes</i> sp. Trilobites: cf. <i>Bellefontia</i> sp., <i>Clelandia</i> sp., <i>Geragnostus</i> sp., ? <i>Praepelotrochus</i> sp., <i>Pseudagnostus</i> sp., asaphoid, gen and sp. indet., olenoid, gen and sp. indet.	Early Ordovician	M.E. Taylor and A.J. Rowell, 1972
			Conodonts: <i>Acanthodus</i> aff. <i>A. lineatus</i> , <i>Cordylodus angulatus</i> , <i>C.</i> <i>intermedius</i> , <i>Drepanodus</i> ? sp., <i>Pelodus spurius</i> , * <i>Oistodus</i> ? <i>triangularis</i> , <i>Parapanderodus gracilis</i> , <i>Scolopodus</i> cf. <i>S. filiosus</i> , <i>Variabiloconus bassleri</i> CAI=5	Early Ordovician (middle or late Tremadocian)	J.E. Repetski, 1976 (revised, 1992)	
	*4	87ABd66 (10855-CO)	85°39'35"/ 147°08'30" (C-1)	Conodonts: <i>Cordylodus lindstromi</i> , <i>Eoconodontus nachpeakensis</i> , * <i>Oistodus</i> ? <i>triangularis</i> , <i>Rosodus tenuis</i> , <i>Teridontus</i> <i>nakamurai</i> , <i>Variabiloconus</i> aff. <i>V. bassleri</i> CAI=5.5	Early Ordovician (early or middle Tremadocian)	A.G. Harris and R.C. Omdorff, 1968
	*5	87ABd69 (10856-CO)	85°39'32"/ 147°11'09" (C-1)	Conodonts: <i>Cordylodus intermedius</i> , <i>Eoconodontus nachpeakensis</i> , * <i>Oistodus</i> ? <i>triangularis</i> , <i>Teridontus</i> cf. <i>T. nakamurai</i> , <i>Utahconus utahensis</i> or <i>Rosodus tenuis</i> CAI=5-5.5	Early Ordovician (middle Tremadocian; <i>C. angulatus</i> Zone)	J.E. Repetski, A.G. Harris, and R.C. Omdorff, 1968
	6	15AB262 (1520D1)	85°32'08"/ 147°31'58" (C-2)	Corals: <i>Streptelasma</i> sp. Brachiopods: <i>Dalmanella</i> sp. <i>Rhynchotrema</i> sp.	Middle Ordovician according to Edwin Kirk [probably Late Ordovician by 1983 concepts]	Edwin Kirk, pre-1937
		88ACh296 (6709-CO)		Conodonts: <i>Belodina</i> sp., <i>Drepanodus</i> sp., <i>Pelodus</i> sp., <i>Panderodus</i> sp. CAI=5.5	Middle or Late Ordovician	J.W. Huddle, 1969
	7	09AJ70 09AP87 (1519C)	85°37'17"/ 147°21'15" (C-1)	Brachiopods: <i>Dinorthis</i> sp., <i>Plectambonites</i> <i>sericeus</i> , var., <i>P.</i> sp., <i>Rafinesquina</i> sp., <i>Rhombotrypa</i> sp., <i>Rhynchotrema increbescens</i> , var., <i>Triplecia</i> sp. Corals: <i>Streptelasma rusticum</i> , <i>S.</i> sp., <i>Columnaria</i> (<i>Paleophyllum</i>) <i>thomi</i> , <i>C.</i> ? sp., <i>Halykites gracilis</i> , var. Gastropods: <i>Maclurea</i> ? sp., <i>Raphistomina</i> sp. Trilobites: <i>Isotelus</i> sp.	Middle Ordovician (Trenton) according to Edwin Kirk [probably Late Ordovician by 1983 concepts]	Edwin Kirk, pre-1937

*Biostratigraphically diagnostic collection.

STRATIGRAPHIC UNIT (AGE AND MAP SYMBOL)	MAP NO.*	FIELD NO. (USGS COLLN.)	LATITUDE N./ LONGITUDE W. (QUADRANGLE)	FOSSILS	AGE	IDENTIFIED BY
Fossil Creek Volcanics (Early to Late Ordovician; Ohv)	7	15A230 (1519C)	85°37'17"/ 147°21'15" (C-1)	Brachiopods: <i>Dalmanella</i> sp., <i>Dinorthis</i> sp., <i>Leptaena</i> near <i>L. unicosata</i> , <i>Platystrophia</i> sp., <i>Plectambonites sericeus</i> , var., <i>Rhombotrypa</i> sp., <i>Triplecia</i> sp. <i>Rhynchotrema</i> <i>increbescens</i> , var. Corals: <i>Streptelasma?</i> sp., <i>Columnaria (Paleophyllum)</i> <i>thomi</i> , <i>C.?</i> sp., <i>Helysites</i> sp. Trilobites: <i>Calymene</i> sp., <i>Isotekus</i> sp.	Middle Ordovician (Trenton) according to Edwin Kirk [probably Late Ordovician by 1993 concepts]	Edwin Kirk, pre-1937
		09AP87 (7092-CO)		Corals: "Chaetoptora" sp. cf. "C." <i>ellesmerensis</i> , <i>Sarcinula</i> sp.	Late Ordovician	W.A. Oliver, Jr., 1972
		88ACn1751 (7093-CO)		Corals: "Chaetoptora" sp. cf. "C." <i>ellesmerensis</i> , <i>Palaeofoveosites</i> sp., ceratoid rugose coral	Late Ordovician	W.A. Oliver, Jr., 1972
		*86ABd5; 86ABd60 (10429-CO)		Brachiopods: <i>Holorhynchus</i> n. sp., <i>Platystrophia</i> sp., Inarticulate brachiopods (both linguloids and trimereilids), ortho and strophomenoid brachiopods Conodonts: <i>Belodina</i> sp. indet. CAI=5 Corals: <i>Chaetoptora</i> sp. Gastropods: <i>Liospira</i> sp., <i>Maclurites</i> sp., <i>Trachonemella</i> sp.	Late Ordovician (Ashgillian)	R.B. Blodgett, A.G. Harris, and K.E. Denker, D.M. Rohr, 1986
		86AWr142A (10430-CO)		Conodonts: <i>Amorphognathus</i> sp. indet., <i>Anasalis</i> sp., <i>Belodina</i> sp., <i>Depsilodus?</i> sp., <i>Panderodus</i> sp. CAI=5.5	late Middle to Late Ordovician (Blackriveran to Garnachian)	A.G. Harris, K.E. Denker, 1986
		87ABd64 (10837-CO)		Conodonts: <i>Panderodus</i> sp., <i>Protopanderodus?</i> sp., <i>Pseudobelodina</i> cf. <i>P. dispersa</i> CAI=5-5.5	late Middle to Late Ordovician (Blackriveran to Garnachian)	A.G. Harris, 1988
	*8	86ABd4 (10428- CO)	85°37'23"/ 147°20'38" (C-1)	Brachiopods: <i>Holorhynchus</i> n. sp. Conodonts: <i>Belodina</i> sp. indet. of Late Ordovician morphotype CAI=8-8.5 Trilobite: <i>Anastrophus?</i> sp. <i>Denella</i> n. sp.	Late Ordovician (Ashgillian)	R.B. Blodgett, A.R. Ormiston, A.G. Harris, and K.E. Denker., 1986
	9	86ABd2 (10427-CO)	85°38'34"/ 147°19'02" (C-1)	Conodonts: <i>Belodina</i> sp., <i>Protopanderodus?</i> sp. CAI=5	Middle to Late Ordovician	A.G. Harris and K.E. Denker, 1986
	10	82ACH53B (3402)	85°03'37"/ 149°38'05" (A-6)	"Good roads."	Ordovician	D.L. Jones, 1984(?)
Livengood Dome Chert (Ordovician; Old)	11	79ACn543 (2023)	85°48'12"/ 147°19'50" (D-1)	Radiolaria, poor spheres, sponge spicules	?	D.L. Jones, 1982(?)
	12	87ANK123B (10880-CO)	85°42'48"/ 147°43'42" (C-2)	<i>Scalopodus bolter?</i> CAI=5-5.5	Early to earliest Middle Ordovician	A.G. Harris and R.C. Orndorff, 1988
	13	87ASK224A	85°42'48"/ 147°47'18" (C-2)	Phosphatized ostracode steinkerns	Ordovician to Recent	A.G. Harris and J.M. Berdan, 1988
	*14	71ACn391 and others, Univ. Alaska	85°31'51"/ 148°50'40" (C-4)	Graptolites: <i>Amplexograptus</i> n. sp. A. A. n. sp. B. A.7 sp., <i>Climacograptus</i> aff. <i>C. supernus</i> or aff. <i>C.</i> <i>bicornis tridentatus</i> , <i>C.</i> <i>inornatus</i> s.l., <i>C. ex gr. C.</i> <i>scalaris</i> , <i>C. spp.</i> , <i>Diplograptus</i> sp., <i>Glyptograptus</i> aff. <i>G.</i> <i>tenuissimus</i> , <i>G. spp.</i>	Late Ordovician	Claire Carter and W.B.N. Berry, 1971
		70ACn238		Sponge spicules, including monaxon, oxyhexactine, and club-shaped forms	Paleozoic	Bonita Murchey and Paula Jefferies
	84AWr97		Siliceous sponge related to <i>Zitelia</i> or <i>Anthospidella</i> and indeterminate Radiolaria	Ordovician	J.T. Dutro, Jr., 1985	
	15	83AWr80	85°38'00"/ 148°21'50" (C-3)	Radiolaria, poor spheres	early Paleozoic	D.L. Jones, 1982(?)

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Livengood Dome Chert (Ordovician; Old)	18	71AWr523B	65°35'28"/ 148°27'30" (C-3)	Radiolaria, poor spheres	?	D.L. Jones, 1982(?)
Amy Creek unit (Proterozoic? to Silurian?; SZA)	17	15AB338 (1522A)	65°46'16"/ 147°09'20" (D-1)	Stromatoporoid: <i>Stromatopora?</i>	Paleozoic	Edwin Kirk, pre-1937
	18	79ACh95 (1344)	65°46'37"/ 147°07'17" (D-1)	Radiolaria, poor spheres	?	D.L. Jones, 1981(?)
	19	79ACh104 (1210)	65°47'14"/ 147°13'09" (D-1)	Poorly preserved Radiolarians, spheres and cones	?	D.L. Jones, 1981(?)
		79ACn572 (2024)		Radiolaria, spheres	?	D.L. Jones, 1981(?)
	20	85AWr64A	65°32'18"/ 148°26'44" (C-3)	Radiolaria observed in thin section, indeterminate	Paleozoic	C.D. Blome, 1960
	21	63AWr87	65°30'23"/ 148°33'08" (C-4)	Radiolaria, recrystallized, indeterminate	?	D.L. Jones, 1982(?)
	22	80AWr13	65°30'27"/ 148°36'40" (C-4)	Radiolaria observed in hand specimens	Paleozoic	F.R. Weber, 1990
Lost Creek unit (Silurian and Devonian; DSI)	23	18AOF8	65°30'54"/ 148°51'17" (C-4)	Crinoid stems Bryozoans: <i>Bolotomella</i> sp. Brachiopods: <i>Athyris</i> sp. Corals: Branching favositids, <i>Zelophyllum?</i>	Mississippian(?)	G.H. Girty, pre-1937
		62AHP216		Brachiopods: <i>Atrypa</i> sp. Corals: <i>Heliolites</i> sp. Gastropods: Pleurotomariacean?	Silurian or Devonian	Helen Duncan, 1982
		64AWr292		Conodonts: <i>Panderodus</i> sp., <i>Ozarkodina?</i> sp. Crinoid stems	Silurian or Devonian	J.M. Berden, W.A. Oliver, Jr., and E.L. Yochelson, 1963
		71ACn21		Conodonts: <i>Distacodus</i>	Ordovician to Devonian	J.W. Huddle, 1963
		85AWr2 (11148-SD)		Conodonts: <i>Panderodus</i> sp., peltodiform elements	Early Ordovician to middle Silurian	J.W. Huddle, 1965
		86ABd28 (11437-SD)		Brachiopods: <i>Glossia?</i> sp., <i>Lissatrypa</i> sp., <i>Plectatrypa?</i> sp.	Middle Ordovician to Silurian	A.G. Harris, 1976
		*87ABd79		Brachiopods: <i>Ancillotoechia</i> cf. <i>A.</i> <i>shannonensis</i> , <i>Eospinatrypa</i> sp., <i>Gypidulia</i> sp., gypidulinid aff. <i>Gypidulia</i> sp., n. gen.? gypidulinid (aff. <i>Gypidulina</i>), <i>Jenius?</i> sp., <i>Leptaena</i> sp., <i>Lingula</i> sp., <i>Lissatrypa?</i> sp., <i>Metaplasia</i> sp., <i>Seberella</i> cf. <i>S. magnificiformis</i> , <i>Spirigerina?</i> sp., <i>Spirinella</i> sp.	middle Silurian(?)	J.T. Dutro, Jr., 1976
				Conodonts: <i>Panderodus</i> sp., indet. bar fragment of post-Ordovician morphotype CAI=4	Silurian to Middle Devonian	K.S. Schindler, 1985
				Conodonts: <i>Ozarkodina excavata</i> CAI=4	late Early Silurian to Early Devonian (Wenlockian to early Emsian)	A.G. Harris and K.E. Denkier, 1986
				Trilobites: <i>Contracheilurus</i> n. sp.	late Early to early Late Silurian (Wenlockian to Ludlovian?)	R.B. Blodgett and Ning Zhang, 1987
				24	87SK192A	65°38'48"/ 148°28'00" (C-3)
Tolovana Limestone (Early Silurian to Middle Devonian; DSI)	25	86ABd1	65°38'33"/ 147°20'02" (C-1)	Conodonts: <i>Kocklesia</i> sp. or <i>Oulodus</i> sp., <i>Panderodus</i> sp. CAI=5-5.5 Smooth pentameroid brachiopods, favositid corals, undetermined solitary rugose coral	Silurian	R.B. Blodgett, A.G. Harris, and K.E. Denkier, 1986
		15AB262 (152002)		Corals: <i>Favosites</i> sp.	Silurian	Edwin, Kirk, pre-1937
		68ACh296 (8302-SD)		Corals: <i>Heliolites</i> sp. Stromatoporoid?	Silurian	W.A. Oliver, Jr., 1968
		71AWr521-68		Brachiopods: <i>Pentamerus</i> or <i>Pentameroides</i> <i>Pentameroid coquina</i>	Silurian	J.T. Dutro, Jr., 1972

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Tolovana Limestone (Early Silurian to Middle Devonian; DS)	26	*86ABd27 (11438-SD)	65°32'08"/ 147°31'58" (C-2)	Pentameroid brachiopods Corals: <i>Streptelasma</i> sp. Conodonts: <i>Distomodus</i> sp. or <i>Icriodella</i> sp., <i>Oulodus?</i> sp., <i>Ozarkodina</i> <i>hesli</i> , <i>Ozarkodina</i> cf. <i>O.</i> <i>oldhamensis</i> , <i>Ozarkodina</i> sp., <i>Panderodus</i> sp., <i>Walliserodus</i> sp. CAI=5-5.5	Early Silurian (early or middle Llandoveryan)	A.G. Harris, K.E. Denker, R.B. Blodgett, and R.J. Elias, 1986
	27	09AJ82; 09AP94 15AB237 (1520A)	65°38'03"/ 147°23'13" (C-1)	Brachiopods: <i>Conchidium?</i> sp. Brachiopods: <i>Conchidium?</i> sp. Crinoid columnals	Silurian	Edwin Kirk, pre-1937
	28	60REC F-4, Univ. Alaska	65°37'27"/ 147°26'50" (C-1)	Corals: <i>Favosites</i> sp. Brachiopods: <i>Pentamerus</i> or <i>Conchidium</i>	Silurian or Devonian	W.A. Oliver, Jr., 1961
	29	60REC F-3, Univ. Alaska	65°37'43"/ 147°26'47" (C-1)	Corals: <i>Syringopora?</i> sp.	Silurian to Carboniferous	W.A. Oliver, Jr., 1961
	30	60REC F-2, Univ. Alaska	65°38'58"/ 147°17'42" (C-1)	Corals: <i>Favosites</i> sp.	Silurian or Devonian	W.A. Oliver, Jr., 1961
	31	60MCD F-1, Univ. Alaska	65°34'18"/ 147°29'05" (C-1)	Corals: <i>Favosites</i> sp., <i>Favosites?</i> sp.	Silurian or Devonian	W.A. Oliver, Jr., 1961
	32	60REC F-1, Univ. Alaska	65°37'58"/ 147°19'10" (C-1)	Corals: <i>Favosites?</i> sp.	Silurian or Devonian	W.A. Oliver, Jr., 1961
	33	86ABd22	65°37'28"/ 147°21'40" (C-1)	Pentameroid brachiopods and stromatoporoids exposed in cross section	Silurian	R.B. Blodgett, 1986
	*34	15AB215 (1519B)	65°37'36"/ 147°13'40" (C-1)	Brachiopods: <i>Atrypa?</i> sp., <i>Conchidium</i> sp., <i>Trimerella</i> sp. Corals: <i>Cyathophyllum</i> sp., <i>Diphyphyllum</i> sp. Crinoid columnals Mollusks: <i>Megalomphala?</i> sp., <i>Modiomorpha</i> sp.	Silurian (middle or Late)	Edwin Kirk, pre-1937
	*35	86ABd13 (11432-SD)	65°37'45"/ 147°12'58" (C-1)	Brachiopods: <i>Atrypa</i> sp., ribbed pentameroid Favositid coral Conodonts: <i>Ozarkodina excavata</i> , <i>Panderodus</i> sp. CAI=5.5	middle to Late Silurian	R.B. Blodgett, A.G. Harris, and K.E. Denker, 1986
	36	15AB256 (1520B)	65°32'39"/ 147°28'39" (C-1)	Brachiopods: <i>Clorinda?</i> sp.	Silurian	Edwin Kirk, pre-1937
	37	60MCD F-2, Univ. Alaska	65°34'20"/ 147°30'34" (C-2)	Corals: <i>Favosites?</i> sp.	Silurian or Devonian	W.A. Oliver, Jr., 1961
	38	88ACn1861B (8920-SD)	65°33'50"/ 147°30'02" (C-2)	Corals: <i>Mesofavosites</i> sp., <i>Palaeofavosites</i> sp.	Ordovician to Devonian, probably Silurian	W.A. Oliver, Jr., 1972
		88ACn1861C (8921-SD)		Corals: <i>Catenipora?</i> sp., favositid, <i>Helicolites?</i> sp.	Silurian	W.A. Oliver, Jr., 1972
	39	71AWr520A	65°33'02"/ 147°30'54" (C-2)	Brachiopods: <i>Pentamerus</i> sp.	Silurian	J.T. Dutro, Jr., 1972
	40	60MCD F-3, Univ. Alaska	65°32'49"/ 147°30'40" (C-2)	Corals: cf. <i>Palaeophyllum</i> , favositid coral	Late Ordovician to middle Silurian, probably Silurian	W.A. Oliver, Jr., 1961
	*41	88AGk431 (8300-SD)	65°32'25"/ 147°31'40" (C-2)	Corals: <i>Favosites</i> sp., <i>Halsites</i> sp. Brachiopods: <i>Pentamerus</i> or <i>Pentameroides</i> Conodonts: <i>Oulodus</i> sp. Indet., <i>Panderodus</i> sp. CAI=4.5-5	Silurian	W.A. Oliver, Jr., 1968
					Early Silurian (Llandoveryan or Wenlockian)	J.T. Dutro, Jr., 1972
					Middle Ordovician through Middle Devonian	A.G. Harris, 1986
	*42	86ABd6 (11431- SD)	65°30'57"/ 147°34'36" (C-2)	Conodonts: <i>Distomodus</i> sp. or <i>Icriodella</i> sp., <i>Panderodus</i> sp. CAI=6.5	Early Silurian (Llandoveryan or Wenlockian)	A.G. Harris and K.E. Denker, 1986
	43	86ABd8	65°30'53"/ 147°34'33" (C-2)	Lamellar stromatoporoids exposed in cross section in dolostone	Silurian or Devonian	R.B. Blodgett, 1986
	44	53ABe25 (6383- SD)	65°17'18"/ 148°09'00" (B-3)	Corals: <i>Columnaria</i> sp. Stromatoporoids: <i>Amphipora</i> sp.	Middle to Late Devonian?	W.A. Oliver, Jr., and Helen Duncan, 1959
	63AWr135 (7162-SD)		Stromatoporoids: <i>Amphipora</i> sp.	Middle to Late Devonian	W.A. Oliver, Jr., 1963	

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Tolovana Limestone (Early Silurian to Middle Devonian; DS1)	*44	64AWr314 (7341-SD)	85°17'16"/ 148°08'09" (B-3)	Corals: <i>Dendrostella (Columnaria)</i> <i>rhenana</i>	Middle Devonian	W.A. Oliver, Jr., 1966
		67AWr170 (8922-SD)		Corals: <i>Dendrostella</i> or <i>Palaeophyllum</i> , <i>Lyrietasma?</i> , <i>Syringopora</i> Tentaculites Ostracodes?	Probably Middle Devonian	C.W. Merriam, 1972
				Corals: <i>Dendrostella</i> sp. cf. <i>D.</i> <i>rhenana</i> , <i>Syringopora</i> sp.,	Middle Devonian	W.A. Oliver, Jr., 1972
		71AWr189		Corals: <i>Dendrostella</i> sp. cf. <i>D. rhenana</i>	Middle Devonian	W.A. Oliver, Jr., 1971
	*45	76ACH206 (9894-SD)	85°17'38"/ 148°09'04" (B-3)	Corals: <i>Cladopora</i> sp., <i>Dendrostella</i> sp. Stromatoporoids: <i>Amphipora</i> sp., massive stromatoporoid	Middle Devonian	W.A. Oliver, Jr., 1976
	46	60ATb178	85°05'31"/ 148°55'49" (A-4)	Corals: "Microplasma" sp. Brachiopods, undet.	Devonian	W.A. Oliver, Jr., 1966
	47	86ABd42	85°29'18"/ 147°32'57" (B-2)	Undetermined dendroid tabulate corals	Silurian or Devonian	R.B. Blodgett, 1986
	48	86ABd41 (11442-SD)	85°29'07"/ 147°33'05" (B-2)	Conodonts: <i>Ozarkodina</i> sp. indet., <i>Panderodus</i> sp. indet. CAI=5-5.5 Gastropod, undet.	Silurian to Early Devonian	A.G. Harris, K.E. Denker, and R.B. Blodgett, 1986
	49	60MCD F-57, Univ. Alaska	85°28'53"/ 147°35'10" (B-2)	Brachiopods: <i>Pentamerus</i> sp. Corals: <i>Favosites</i> sp.	Probably Silurian	Helen Duncan and J.M. Berdan, 1960
	50	04P240-346	85°28'34"/ 147°35'41" (B-2)	Brachiopods: <i>Conchidium?</i> sp. Corals: <i>Cyathophyllum</i> sp., <i>Favosites</i> cf. <i>F. favosus</i> , <i>F. cf. F.</i> <i>niagarensis</i> , <i>F. sp.</i> , <i>Zaphrentis</i> sp.	Silurian	Edwin Kirk, pre-1937
51	04AP192-195	85°27'51"/ 147°36'45" (B-2)	Ostracodes: <i>Cytherella</i> sp. Bryozoans: <i>Ptilodictya</i> cf. <i>P. frondosa</i> Corals and stromatoporoids: <i>Cladopora</i> sp., <i>Favosites</i> cf. <i>F.</i> <i>limitaris</i> , <i>Stromatopora</i> sp.	Silurian or Devonian	Edwin Kirk, pre-1937	
52	04AH186	85°27'48"/ 147°36'33" (B-2)	Corals: <i>Favosites</i> sp., <i>Cladopora</i> sp.	Silurian	Edwin Kirk, pre-1937	
53	21AM133	85°27'08"/ 147°44'10" (B-2)	Brachiopods: <i>Clorinda?</i> sp.	Silurian	Edwin Kirk, pre-1937	
54	86ABd58	85°22'17"/ 147°55'53" (B-2)	Undetermined dendroid tabulate corals	Silurian or Devonian	R.B. Blodgett, 1986	
*55	86ABd44	85°29'30"/ 147°32'50" (B-2)	Ostracodes: <i>Briartina</i> sp. Gastropods: <i>Straparolius</i> (n. subgen.) sp. aff. <i>S. (Serpulospira)</i> , indet. high-spired form	Devonian (possibly Middle)	J.M. Berdan and R.B. Blodgett, 1986; J.M. Berdan, 1987	
Schwatzka unit (Early and Middle Devonian; Dsl)	56	29AM154	-85°53'08"/ -147°15'35" (D-1)	Corals: <i>Alveolites</i> sp., <i>Cladopora</i> sp., <i>Cyathophyllum</i> sp., <i>Favosites</i> sp.	Devonian	Edwin Kirk, pre-1937
	57	29AM164	-85°53'22"/ -147°16'02" (D-1)	Crinoid columnals	Devonian	Edwin Kirk, pre-1937
	58	70AWr181	85°55'57"/ 147°10'05" (D-1)	Stromatoporoids: <i>Amphipora</i> sp.	Devonian (Eifelian to Frasnian?)	W.A. Oliver, Jr., 1971
	59	69ACH231 (8735-SD)	85°55'43"/ 147°12'10" (D-1)	Stromatoporoids: <i>Amphipora</i> sp.	Devonian (Eifelian to Frasnian?)	W.A. Oliver, Jr., 1971
	60	69ACH233 (8736-SD)	85°55'55"/ 147°13'20" (D-1)	Stromatoporoids: <i>Amphipora</i> sp.	Devonian (Eifelian to Frasnian?)	W.A. Oliver, Jr., 1971
	61	86ABd37 (11440-SD)	85°55'49"/ 147°10'50" (D-1)	Two-hole crinoid ossicles, indet. conodont fragments CAI=5.5	Early or Middle Devonian (Emsian or Eifelian)	A.G. Harris and K.E. Denker, 1986
	62	86ABd38 (11441-SD)	85°55'53"/ 147°10'52" (D-1)	Conodonts: <i>Panderodus</i> sp., <i>Pandorinellina</i> sp., <i>Pelatygnathus</i> sp. CAI=5.5 Two-hole crinoid ossicles	Early or Middle Devonian (Emsian or Eifelian)	A.G. Harris and K.E. Denker, 1986
	63	70ACH30f (8737-SD)	85°56'00"/ 147°11'00" (D-1)	Stromatoporoids: <i>Amphipora</i> sp.	Devonian (Eifelian or older to Frasnian?)	W.A. Oliver, Jr., 1971

STRATIGRAPHIC UNIT (AGE AND MAP SYMBOL)	MAP NO.*	FIELD NO. (USGS COLLN.)	LATITUDE N/ LONGITUDE W. (QUADRANGLE)	FOSSILS	AGE	IDENTIFIED BY
Schwarka unit (Early and Middle Devonian; Dsl)	*64	85AWr67 (11170-SD)	85°55'53"/ 147°11'55" (D-1)	Conodonts: <i>Belodella</i> sp., <i>Icriodus</i> sp., <i>Neopanderodus</i> sp. or <i>Panderodus</i> sp., <i>Ozarkodina</i> sp. or <i>Pandorinellina</i> sp. CAI=5.5-6	Early or Middle Devonian (late Emsian or Eifelian)	A.G. Harris, 1988
	*65	87ABd52 (11876-SD)	85°56'08"/ 147°07'45" (D-1)	Conodonts: <i>Panderodus</i> sp., <i>Pelekysgnathus</i> sp., <i>Polygnathus</i> cf. <i>P. parvonus</i> , redeposited <i>Belodina</i> sp. (Middle-Late Ordovician) CAI=5-5.5	Early Devonian (middle Emsian)	A.G. Harris, 1988
	66	87ABd48 (11909-SD)	85°55'42"/ 147°08'29" (D-1)	Conodonts: <i>Belodella devonica</i> , <i>Ozarkodina</i> sp., <i>Panderodus</i> sp., <i>Pelekysgnathus</i> sp. CAI=5-5.5	Early Devonian	A.G. Harris, 1988
	*67	87ABd54 (11910-SD)	85°54'54"/ 147°00'35" (D-1)	Conodonts: <i>Belodella devonica</i> , <i>Panderodus</i> sp., <i>Pandorinellina exigua</i> , <i>Polygnathus</i> sp. CAI=5.5 Two-hole crinoid ossicles	Early Devonian (Emsian)	A.G. Harris, 1988
	66	86ABd33 (11438-SD)	85°55'23"/ 147°11'05" (D-1)	Conodonts: <i>Belodella</i> sp., <i>Pandorinellina</i> sp., <i>Panderodus</i> sp., <i>Pelekysgnathus</i> sp. CAI=5.5	Early Devonian (Emsian- Givetian, probably Emsian)	A.G. Harris, 1988
	69	87ABd62	85°53'23"/ 147°14'10" (D-1)	Crinoid ossicles including two-hole ossicles of <i>Gasterocoma? bicauli</i>	Early or Middle Devonian (Emsian or Eifelian)	R.B. Blodgett, 1987
		*87ABd62 (11913-SD)		Conodonts: <i>Panderodus</i> sp., <i>Pandorinellina exigua</i> aff. <i>P. e.</i> <i>philipi</i> , <i>Pelekysgnathus</i> sp. CAI=5.5-6	Early Devonian (Emsian)	A.G. Harris, 1988
	*70	87APr137A (11916-SD)	85°48'17"/ 147°48'05" (D-1)	Conodonts: <i>Belodella</i> sp., <i>Ozarkodina?</i> sp., <i>Panderodus</i> sp., <i>Pandorinellina exigua</i> aff. <i>P. e.</i> <i>exigua</i> , <i>Pelekysgnathus</i> sp. CAI=5-5.5	Early Devonian (Emsian)	A.G. Harris, 1988
	*71	87ABd61 (11912-SD)	85°53'33"/ 147°16'09" (D-1)	Crinoid ossicles (including two-hole ossicles of <i>Gasterocoma? bicauli</i>)	Early or Middle Devonian (Emsian or Eifelian)	R.B. Blodgett, 1987
				Conodonts: <i>Panderodus</i> sp., <i>Pelekysgnathus</i> sp. CAI=5.5	Early or Middle Devonian (Emsian or Eifelian)	A.G. Harris, 1988
	72	87ABd60 (11911-SD)	85°53'34"/ 147°16'18" (D-1)	Crinoid ossicles	Early or Middle Devonian (Emsian or Eifelian)	R.B. Blodgett, 1987
				Rugose corals Conodonts: <i>Ozarkodina</i> sp. or <i>Pandorinellina</i> sp., <i>Polygnathus</i> sp. CAI=5.5	Early or Middle Devonian (Emsian or early Eifelian)	A.G. Harris, 1988
	*73	87ABd72 (11914-SD)	85°52'57"/ 147°18'31" (D-1)	Conodonts: <i>Belodella devonica</i> , <i>Pandorinellina</i> sp. CAI=5.5-6 Two-hole crinoid ossicles	Early or Middle Devonian (Emsian or early Eifelian)	A.G. Harris and R.C. Orndorff, 1988
74	86ADo138 (11443-SD)	85°52'55"/ 147°18'27" (D-1)	Conodonts: <i>Panderodus</i> sp., <i>Polygnathus</i> sp. of Eifelian morphotype CAI=5.5	Middle Devonian, probably Eifelian	A.G. Harris and K.E. Denkier, 1986	
*75	86ABd35 (11439-SD)	85°55'35"/ 147°10'48" (D-1)	Conodonts: <i>Belodella</i> sp., <i>Icriodus</i> sp. of Middle to Late Devonian morphotype, <i>Pandorinellina</i> sp., <i>Polygnathus</i> <i>linguiformis</i> , <i>P.</i> spp. of late Eifelian-Givetian aspect CAI=5-5.5	Middle Devonian, probably Eifelian	A.G. Harris and K.E. Denkier, 1986	
			Conodonts: <i>Belodella devonica</i> , <i>Icriodus</i> sp. of Middle Devonian morphotype, <i>Panderodus</i> sp., <i>Pandorinellina</i> aff. <i>P. expansa</i> , <i>Polygnathus</i> aff. <i>P. costatus</i> <i>costatus</i> , <i>Polygnathus</i> sp. CAI=5-5.5	Middle Devonian (early Eifelian)	A.G. Harris and R.C. Orndorff, 1988	
*76	87ABd74 (11915-SD)					
Cascaden Ridge unit (Middle Devonian; Dc)	77	53ABo(?)	65°29'06"/ 148°21'54" (B-3)	Polycypods, trilobite pygidium	Middle Devonian	A.L. Bowsher, 1953

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Cascaden Ridge unit (Middle Devonian; Dc)	77	*60ATb85 (140873)	65°29'08"/ 148°21'44" (B-3)	Pelecypods: <i>Actinopteria taberi</i> , crinoid stem plate	Middle Devonian(?)	A.L. McAlester, 1960
		88ACn971		Tentaculitids: <i>Dicriconus</i> n. sp.	Devonian	Claire Carter, 1969
		76ACh?		Pelecypods: <i>Actinopteria</i> cf. <i>A. taberi</i>	Late(?) Devonian	J. Pojeta, Jr., and J.T. Dutro, Jr., 1976
	78	87AF117 (8059- SD)	65°29'32"/ 148°27'40" (B-3)	Pelecypods: <i>Actinopteria</i> spp., ?Goniophora, <i>Murchisonia</i> sp.	Devonian(?)	J. Pojeta, Jr., and E.L. Yochelson, 1967
		82WG1, Alaska D.G.G.S.		Pelecypods: <i>Actinopteria</i> cf. <i>A. taberi</i> Crinoid ossicles	Middle Devonian (late Eifellian to early Givetian)	R.B. Blodgett, 1982
		82WG2, Alaska D.G.G.S.		Mollusks: <i>Bellerophon</i> sp., <i>Murchisonia</i> sp., fragmentary bivalves indet.	Middle Devonian (late Eifellian to early Givetian)	R.B. Blodgett, 1982
		82WG3, Alaska D.G.G.S.		Mollusks: Bellerophonacean, fragmentary bivalves indet.	Middle Devonian (late Eifellian to early Givetian)	R.B. Blodgett, 1982
	79	82WG4, Alaska, D.G.G.S.	65°29'35"/ 148°27'20" (B-3)	Brachiopods: <i>Variatrypa</i> sp., Dendroid tabulate corals Low-spired gastropods Pelecypods: <i>Actinopteria</i> cf. <i>A. taberi</i> , <i>Murchisonia</i> sp., indet. bivalves	Middle Devonian(late Eifellian to early Givetian)	R.B. Blodgett, 1982
	*80	82AWr30 (10947-SD)	65°29'18"/ 148°28'02" (B-3)	Corals: <i>Temnophyllum?</i> sp.	Devonian (Givetian?)	W.A. Oliver, Jr., 1984
		* (38775)		Brachiopods: <i>Schizophoria</i> sp. Gastropods: <i>Actisina?</i> sp., <i>Alaskozygopleura</i> <i>crassicostrata</i> , <i>Bellerophon</i> (<i>B.</i>) <i>chapmani</i> , <i>B. (B.)</i> <i>ilvengoodensis</i> , <i>Bambaxia</i> sp., <i>Bucanopsis sullivanii</i> , <i>Buchella nodosa</i> , <i>Callistadia?</i> sp., <i>Clathronema cloughi</i> , <i>Euryzone</i> n. sp., " <i>Goniasma</i> " <i>plumleyi</i> , <i>Gyronema</i> <i>ormistoni</i> , <i>Hypomphalocirrus</i> cf. <i>H. rugosus</i> , <i>Loxonema</i> sp. 1, <i>L.</i> sp. 2, " <i>Loxonema</i> " cf. <i>L.</i> <i>cingulatum</i> , <i>Mastigospira</i> <i>weberae</i> , <i>Murchisonia (M.)</i> sp., <i>Naticopsis (N.) bowsheri</i> , <i>N. (Jedria) deckeri</i> , <i>N. (N.)</i> sp., <i>Palaeozygopleura</i> sp., <i>Peruviaspira churkini</i> , <i>Pseudomphalotrochus</i> <i>linsleyi</i> , <i>Ptychomphalina</i> sp., <i>Reticospira</i> sp., <i>Stegocoelia?</i> (<i>Taonia</i>) sp., <i>Straparotus</i> (<i>Euomphalus</i>) <i>bundtzeni</i> , <i>S.</i> (<i>Serpulospira</i>) sp., <i>Strobeus</i> aff. <i>S. pulchella</i> , <i>Subulites</i> (<i>Fusispira</i>) sp. Orthoconic nautiloids Scaphopods: <i>Plagioglypta</i> sp., <i>Prodentalium</i> sp. Tentaculitids: <i>Dicriconus</i> sp. Trilobites: <i>Dechenella</i> sp. Echinoderms: <i>Pholidocleria</i> n. sp., Calcareous algae: <i>Coelotrochium</i> sp. Solitary rugose and dendroid tabulate corals	Middle Devonian (early Eifellian). Twelve of the cited gastropod species are conspecific or very close to species in lower Eifellian beds of the Cheenestruk Limestone and Whirlwind Creek Formation of west- central Alaska	Blodgett (1982); A.R. Ormiston and J.W. Durham <i>in</i> Blodgett (1992)
		*84AWr96A (11016-SD)		Conodonts: <i>Polygnathus costatus costatus</i> , <i>P. linguliformis linguliformis</i> , <i>P.</i> sp. CAI=5	Middle Devonian (early Eifellian)	A.G. Harris, 1984
		*84AWr98B (11017-SD)		Conodonts: <i>Polygnathus parawebbi</i> CAI=5	Middle Devonian (early Eifellian)	A.G. Harris, 1984
81		86ABd51-53		65°29'20"/ 148°27'49" (B-3)	Trilobites: <i>Dechenella (Dechenella)</i> sp. Pelecypods	Devonian
82	21AM152	65°30'37"/ 148°32'28" (C-4)	Bryozoans: <i>Fistulipora</i> sp. Corals: <i>Cyathophyllum?</i> sp.	Mississippian	G.H. Girty, pre-1937	

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Cascaden Ridge unit (Middle Devonian; Dc)	82	70ACh310f	65°30'37"/ 148°32'28" (C-4)	Pelmatozoen debris (crinoid stem plates)	?	W.A. Oliver, Jr., 1971
		70ACh311f (8718-SD)		Corals: <i>Favosites</i> sp., thamnoporoids, <i>rugosans</i>	Silurian to Late Devonian	W.A. Oliver, Jr., 1971
		70ACh312f		Pelmatozoen debris (crinoid stem plates)	?	W.A. Oliver, Jr., 1971
		*70ACh313f (8717-SD)		Corals: <i>Cladopora</i> sp., <i>Helolites</i> sp., <i>Stringophyllum</i> (<i>Sociophyllum</i>) sp., <i>Thamnopora</i> sp.	Middle Devonian	W.A. Oliver, Jr., 1971
		73E457, 73E494 Alaska D.G.G.S.		Corals: <i>Acinophyllum</i> sp., Indeterminate coral debris	Probably Devonian	C.W. Merriam, 1974
		*82AWr3 (10431-SD)		Corals: <i>Grypophyllum</i> sp. cf. <i>G.</i> <i>aquilonium</i> , <i>Sociophyllum</i> sp.	Middle Devonian	W.A. Oliver, Jr., 1984
		83ARb2 (10949-SD)		Corals: <i>Alveolites</i> sp., <i>Aulocystis?</i> sp., <i>Pachyfavosites</i> sp., <i>Thamnopora</i> sp., <i>rugosans</i> - Massive bryozoans	Early or Middle Devonian	W.A. Oliver, Jr., 1984
83	73E114R Alaska	65°30'23"/ 148°31'15" (C-4)	Crinoid columnals	middle or late Paleozoic	C.W. Merriam, 1974	
84	16AM164a	-65°30'58"/ -148°31'35" (C-4)	Brachiopods: <i>Atrypa reticularis</i> , <i>Camartoechia</i> sp. Corals: <i>Cyathophyllum caespitosum</i>	Middle Devonian	Edwin Kirk, pre-1937	
			Gastropods: <i>Murchisonia</i> sp., <i>Straparolus?</i> sp. Bivalves indet. Large crinoid ossicles	Middle Devonian(?)	R.B. Blodgett, 1982	
			Indeterminate pelecypod coquina	Devonian	R.B. Blodgett, 1984	
*85	79ACn181	65°31'04"/ 148°31'52" (C-4)	Plants: <i>Dawsonites</i> sp., <i>Hostinella</i> sp.	Devonian (latest Early or early Middle)	S.H. Memay, 1980	
			Conodonts: Bar fragment of Ordovician- Triassic morphotype Scolecodonts, tentaculitid of Silurian through Frasnian morphotype, Ichthyoliths	Silurian to early Late Devonian	A.G. Harris, 1983	
			Poorly preserved bryozoans	Paleozoic	O.L. Karklins, 1983	
			*Ostracodes	Middle Devonian (Eifelian)	W.K. Braun, 1983	
	83AWr3, 83RB5 (10950-SD)		Corals: <i>Cladopora</i> sp., <i>Grypophyllum</i> sp. cf. <i>G. aquilonium</i> , <i>Neostriingophyllum?</i> sp., <i>Thamnopora</i> sp. Massive bryozoans Massive stromatoporoids	Middle Devonian (probably Givetian)	W.A. Oliver, Jr., 1984	
86, pit 10	60ATb85E, 94A	65°27'14"/ 148°42'04" (B-4)	Brachiopods: Linguloid, indet. fragments	Devonian(?)	J.T. Dutro, Jr., and J. Pojeta, Jr., 1986	
			Pelecypods: <i>Actinopteria</i> sp., ?schizodont, Bellerophonacean gastropod (possibly <i>Knightites</i> (<i>Retispira</i>))	Middle Devonian	J.T. Dutro, Jr., J. Pojeta, Jr., and E.L. Yochelson, 1988	
			Tentaculitids: <i>Nowakia?</i> sp.	Devonian	Claire Carter, 1969	
87, pit 9	60ATb83A-C, 83F, G	65°26'50"/ 148°46'09" (B-4)	Brachiopods: <i>Crurithyrus?</i> sp., <i>Lelorhynchus</i> cf. <i>L. carya</i> , rhynchonelloids Pelecypod fragments, echinoderm fragments, thamnoporoid corals, crinoid columnals	Middle(?) Devonian	J.T. Dutro, Jr., and J. Pojeta, Jr., 1986; J.T. Dutro, Jr., 1987	
			Brachiopods: <i>Crurithyrus?</i> sp., <i>Lelorhynchus</i> cf. <i>L. carya</i> , <i>Warrenella</i> sp., fragments Low-spired gastropod, echinoderm fragments, thamnoporoid corals, ?cypricardiniid pelecypods	Middle(?) Devonian	J.T. Dutro, Jr., J. Pojeta, Jr., and E.L. Yochelson, 1988; J.T. Dutro, Jr., 1987	
			Tentaculitids: <i>Striatozytkolina</i> cf. <i>S.</i> <i>roemeri</i>	Middle Devonian (early Eifelian to early Givetian)	Claire Carter, 1969	
			Trilobites: <i>Dechenella</i> aff. <i>D. haldemari</i>	Middle Devonian	A.R. Ormiston, 1977	
			Trilobites: <i>Dechenella</i> aff. <i>D. haldemari</i>	Middle Devonian	A.R. Ormiston, 1982	
	*88ACn1602					
	82AWr32					

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Cascaden Ridge unit (Middle Devonian; Dc)	*87, pit 9	82AWr32	65°26'50"/ 148°46'09" (B-4)	*Brachiopods: <i>Lelothynchus</i> (<i>Ypsilothynchus</i>) <i>miriam</i> ?, <i>Warrenella</i> cf. <i>W. kirki</i> (Merriam), ambocoelid	Middle Devonian (late Eifelian)	J.G. Johnson and R.B. Blodgett, 1986
		*82AWr32		Trilobites: <i>Dechenella</i> cf. <i>D. mcClareni</i> Ormiston shows affinities to Canadian Arctic Islands species rather than to <i>D. haldemani</i> of New York	Middle Devonian (Eifelian?)	A.R. Ormiston, 1982
	88, pit 8 vic	62AWr160, 162, 165, 178	65°26'37"/ 148°47'25" (B-4)	Brachiopods: <i>Schizophoria</i> sp., <i>Spinatrypa</i> sp., <i>Echinocoelia</i> sp., Corals: <i>Favosites</i> sp., thamnoporoids Gastropod strobilum, ?Cypricardiniid and ?schizodont pelecypods, large pelmatozoan columnals, echinoderm fragments	Middle Devonian	J.T. Dutro, Jr., J. Pojeta, Jr., and E.L. Yochelson, 1968; J.T. Dutro, Jr., 1987
		*88ACn1621 (9173-SD)		Corals: <i>Atrypa</i> sp., <i>Chostophyllum</i> sp., <i>Cladopora</i> sp., <i>Favosites</i> sp., thamnoporoids Stromatoporoids: <i>Amphipora</i> ? sp.	Middle Devonian	W.A. Oliver, Jr., 1973 and 1984
	89, pit 7	60ATb80D	65°26'24"/ 146°47'53" (B-4)	Possible organic burrow	Devonian(?)	J.T. Dutro, Jr. and J. Pojeta, Jr., 1986
		62AWr136, 142, 145, 150, 152, 154, 156		Thamnoporoids and horn corals Gastropods: <i>Liospira</i> ? sp., <i>Naticopsis</i> ? sp., bellerophonacean, various indet. gastropods Pelecypods: <i>Grammysia</i> sp., ? <i>Nuculoides</i> sp., mytilacean, ?Cypricardiniid Echinoderm columnals	Devonian	J.T. Dutro, Jr., J. Pojeta, Jr., and E.L. Yochelson, 1968; J.T. Dutro, Jr., 1987
		88ABd32B		Gastropods, pelecypods, and orthocones cephalopods	Devonian	R.B. Blodgett, 1980
	90, pit 6	60ATb79B, C, D	65°26'28"/ 148°48'25" (B-4)	Thamnoporoid corals Pelecypods: ?Cypricardella sp., ?Grammysia sp., ?Goniophora sp., ?Cypricardiniid, ?schizodont	Devonian(?)	J.T. Dutro, Jr., J. Pojeta, Jr., and E.L. Yochelson, 1968; J.T. Dutro, Jr., 1987
		62AWr115, 118, 125, 127		Gastropods: bellerophonacean Pelecypods: <i>Actinopteria</i> sp., ?Cypricardella sp., ?Deceptrix sp., ?Cypricardiniid, ?schizodont	Devonian	J.T. Dutro, Jr., J. Pojeta, Jr., and E.L. Yochelson, 1968; J.T. Dutro, Jr., 1987
	91 pit 5	60ATb78A-D	65°26'14"/ 148°49'15" (B-4)	Thamnoporoid corals, pelecypods, gastropods, crinoid columnals	Devonian(?)	J.T. Dutro, Jr., J. Pojeta, Jr., and E.L. Yochelson, 1968
		62AWr74, 76, 80, 83, 85, 92, 95, 97, 98, 100, 104, 105, 107- 109		Thamnoporoid corals, echinoderm columnals Gastropods: pleurotomariacean, gastropods indet. Pelecypods: <i>Actinopteria</i> sp., ?Cypricardinia sp., <i>Goniophora</i> sp., aff. <i>Liospira</i> sp., <i>Murchisonia</i> sp., <i>Palaeonilo</i> sp., ? <i>Straparollus</i> (<i>Euomphalus</i>) sp., Cypricardiniid, murchisonid, nuculoid, ?schizodont, pteriacan indet. plant fragments	Middle Devonian	J.T. Dutro, Jr., J. Pojeta, Jr., and E.L. Yochelson, 1968; J.T. Dutro, Jr., 1987
	92 pit 4	62AWr55, 67, 71, 72	65°26'13"/ 148°50'00" (B-4)	Echinoderm columnals Pelecypods: <i>Actinopteria</i> sp., ?Cypricardella sp., ?Cypricardiniid, nuculoid, ?schizodont indet. plant fragments	Middle Devonian	J.T. Dutro, Jr., J. Pojeta, Jr., and E.L. Yochelson, 1968; J.T. Dutro, Jr., 1987
93, pit 3	60ATb76D	65°26'02"/ 148°51'05" (B-4)	?Cypricardiniid pelecypod	Devonian	J.T. Dutro, Jr., and J. Pojeta, Jr., 1988	

STRATIGRAPHIC UNIT (AGE AND MAP SYMBOL)	MAP NO.*	FIELD NO. (USGS COLLN.)	LATITUDE N/ LONGITUDE W. (QUADRANGLE)	FOSSILS	AGE	IDENTIFIED BY
Cascaden Ridge unit (Middle Devonian; Dc)	93, plt 3	82AWr24, 28, 31, 34, 39, 41, 46, 47, 51, 53	85°26'02"/ 148°51'54" (B-4)	Cephalopods: orthoceroid fragment Gastropods: <i>bellerophonacean</i> Pelecypods: <i>Actinopteria</i> sp., ? <i>Palaeoneilo</i> sp., ? <i>Cypricardinid</i> , nuculoid, schizodont, pelecypod fragments	Middle Devonian	J.T. Dutro, Jr., J. Pojeta, Jr., and E.L. Yochelson, 1968; J.T. Dutro, Jr., 1987
	94, plt 2	82AWr5, 8, 9, 9A, 10, 11, 15, 17, 20	85°25'52"/ 148°51'54" (B-4)	Gastropods: <i>Bellerophon</i> sp. Pelecypods: <i>Actinopteria</i> sp., <i>Murchisonia</i> sp., ? <i>Mytilarca</i> sp., ? <i>Palaeoneilo</i> sp., ambonychiaean, cypricardinid, ?grammysioid, mytilacean, ?nuculoid, schizodont	Middle Devonian	J.T. Dutro, Jr., J. Pojeta, Jr., and E.L. Yochelson, 1968; J.T. Dutro, Jr., 1987
	95, plt 1 vic	71AWr223	85°25'27"/ 148°53'15" (B-4)	Solitary rugose coral, indet.	Devonian(?)	J.T. Dutro, Jr., 1972
Troublesome unit (Devonian?; Dt)	96	69AWr187A	85°23'00"/ 149°50'58" (B-6)	Recrystallized Radiolaria observed in thin section	Paleozoic(?)	F.R. Weber, 1988
	97	87ADc22	85°23'38"/ 149°48'46" (B-6)	Recrystallized Radiolaria observed in thin section	Paleozoic(?)	F.R. Weber, 1988
	98	82AWr189	85°24'02"/ 149°45'58" (B-8)	Recrystallized Radiolaria observed in thin section	Paleozoic(?)	F.R. Weber, 1988
	99	87ARm14	85°23'48"/ 149°44'01" (B-8)	Recrystallized Radiolaria observed in thin section	Paleozoic(?)	F.R. Weber, 1988
Quail unit, clastics (Late Devonian; Dq)	100	02AP26	-85°23'12"/ -149°42'21" (B-6)	Corals: <i>Acarvularia</i> sp., <i>Cladopora</i> sp. Stromatoporoids: <i>Stromatopora</i> sp.	Devonian	Edwin Kirk, pre-1937
		04AP301		Corals: <i>Acarvularia</i> sp., <i>Cladopora</i> sp. Stromatoporoids: <i>Stromatopora</i> sp.	Devonian	Edwin Kirk, pre-1937
	101	04AP303	-85°21'19"/ -149°46'48" (B-6)	Corals: <i>Cyathophyllum</i> sp.	Devonian	Edwin Kirk, pre-1937
		07AP268		Corals: <i>Cyathophyllum</i> sp., <i>Cladopora</i> sp.	Devonian	Edwin Kirk, pre-1937
	102	88AKw127f	85°21'33"/ 149°38'20" (B-6)	Trepotomatid bryozoen. echinoderm debris	Ordovician to Permian	R.B. Blodgett, 1988
	*103	87ABd75 (10657-CO)	85°25'55"/ 149°04'09" (B-5)	Conodonts: <i>Belodina</i> sp., <i>Panderodus</i> sp., <i>Pseudobelodina dispersa</i> CAI=5.5-6 (from clast in conglomerate)	Middle or Late Ordovician (late Blackriveran to Garnachian)	A.G. Harris and R.C. Orndorff, 1988
87ABd75A (10658-CO)		Conodonts: <i>Erraticodon?</i> sp., <i>Periodon</i> <i>aculeatus</i> CAI=5.5-6 (from clast in conglomerate)		Middle or Late Ordovician (late Blackriveran to Garnachian)	A.G. Harris and R.C. Orndorff, 1988	
87ABd75B (10659-CO)		Conodonts: " <i>Oistodus</i> " <i>venustus</i> , <i>Phragmodus</i> sp. or <i>Periodon</i> sp., <i>Pseudobelodina dispersa</i> CAI=5.5-6 (from clast in conglomerate)		Middle or Late Ordovician (late Blackriveran to Garnachian)	A.G. Harris and R.C. Orndorff, 1988	
Quail unit, limestone (Late Devonian; Dql)	*104	82ACh46A (10621-SD)	85°25'38"/ 149°49'38" (B-6)	Conodonts: early <i>Ancyrodella?</i> sp. indet., <i>Icriodus</i> cf. <i>I. brevis</i> , <i>Polygnathus</i> cf. <i>P. varcus</i> , <i>P.</i> spp. CAI=5-5.5 Crinoids present	early Late Devonian (Frasnian)	A.G. Harris, 1982
		87ABd20 (11872-SD)		Conodonts: <i>Ancyrodella</i> sp., <i>Icriodus</i> sp. of Middle to Late Devonian morphotype, <i>Polygnathus</i> spp. of Givetian to Frasnian morphotype CAI=5	early Late Devonian (Frasnian)	A.G. Harris, 1988
	*105	87ABd28 (11878-SD)	85°24'27"/ 149°50'45" (B-6)	Conodonts: <i>Belodella</i> sp., <i>Icriodus</i> sp., <i>Palatolepis</i> sp. indet., <i>Polygnathus</i> spp. of Frasnian morphotype CAI=5 Crinoid ossicles	early Late Devonian (Frasnian) Devonian	A.G. Harris, 1988 R.B. Blodgett, 1987

STRATIGRAPHIC UNIT (AGE AND MAP SYMBOL)	MAP NO.*	FIELD NO. (USGS COLLN.)	LATITUDE N/ LONGITUDE W. (QUADRANGLE)	FOSSILS	AGE	IDENTIFIED BY
Quail unit, limestone (Late Devonian; Dql)	*106	87ABd27 (11907-SD)	65°24'23"/ 149°50'22" (B-6)	Conodonts: <i>Ancyrodella</i> sp., <i>Palmatolepis?</i> sp. indet., <i>Polygnathus</i> spp. of Givetian to Frasnian morphotype CAI=5	early Late Devonian (Frasnian)	A.G. Harris, 1988
	*107	87ABd24A (11873-SD)	65°24'00"/ 149°50'36" (B-6)	Conodonts: <i>Crinodus</i> sp. of Middle to Late Devonian morphotype, <i>Polygnathus</i> sp. CAI=5	early Late Devonian (Frasnian)	A.G. Harris, 1988
		87ABd24B (11906-SD)		Crinoid ossicles	Devonian	R.B. Blodgett, 1987
		Conodonts: <i>Belodella</i> sp., <i>Palmatolepis</i> sp. of Frasnian morphotype, <i>Polygnathus</i> spp. of Givetian to Frasnian morphotype CAI=5		early Late Devonian (Frasnian)	A.G. Harris, 1988	
			Abundant crinoid ossicles, stromatoporoids	Devonian	R.B. Blodgett, 1987	
	*108	87ABd23 (11874-SD)	65°23'53"/ 149°50'37" (B-6)	Conodonts: <i>Palmatolepis</i> sp. of <i>P. gigas</i> Zone to <i>P. triangularis</i> Zone morphotype, <i>Palmatolepis</i> spp., <i>Polygnathus</i> spp. CAI=5	early Late Devonian (Frasnian)	A.G. Harris, 1988
				Recrystallized corals	Devonian	R.B. Blodgett, 1987
	*109	87ABd25 (11875-SD)	65°22'16"/ 149°49'36" (B-6)	Conodonts: <i>Palmatolepis</i> spp. of Frasnian morphotype, <i>Palmatolepis</i> sp. indet., <i>Polygnathus</i> spp. of Givetian to Frasnian morphotype CAI=5	early Late Devonian (Frasnian)	A.G. Harris, 1988
	110	07AP277	65°21'55"/ 149°46'20" (B-6)	Corals: <i>Acervularia</i> sp., <i>Amplexus?</i> sp., <i>Cladopora</i> sp., <i>Streptelasma?</i> sp., <i>Syringopora</i> sp. Pelecypods: <i>Megalomus?</i> sp., <i>Pneurotomaria?</i> sp.	Devonian	Edwin Kirk, pre-1937
		22Am1133		Corals: <i>Helysites?</i> sp.	Devonian	Edwin Kirk, pre-1937
		31Am1132		Corals: <i>Cladopora</i> sp.	Devonian	Edwin Kirk, pre-1937
*87ABd10 (11877-SD)		Conodonts: <i>Ancyrodella</i> sp., <i>Belodella</i> sp. <i>Palmatolepis</i> aff. <i>P.</i> <i>triangularis</i> , <i>P.</i> spp., <i>Polygnathus evidens</i> , <i>P.</i> <i>pacificus</i> , <i>P. planarius</i> , <i>P.</i> spp. CAI=5-5.5		early Late Devonian (late Frasnian)	A.G. Harris, 1988	
		Rugose and tabulate corals, lamellar stromatoporoids		Devonian	R.B. Blodgett, 1987	
		Corals: <i>Smithicyathus</i> sp. aff. <i>S.</i> <i>tublensis</i> , <i>S. meridianum</i> , <i>S.</i> sp. aff. <i>S. occidentale</i> , <i>S.</i> <i>ampum</i> , <i>Frechestraea</i> sp., <i>Macrosea</i> sp.		early Late Devonian (late Frasnian)	J.E. Sorauf, 1989	
111	87ABd9 (11559- SD)	65°21'55"/ 149°46'09" (B-6)	Conodonts: <i>Polygnathus</i> sp. Sponge spicules Rare tabulate corals	Middle or Late Devonian	K.E. Denkler, 1987	
112	85AWr49	65°22'26"/ 149°44'40" (B-6)	Recrystallized crinoid ossicles	Devonian(?)	F.R. Weber, 1985	
Upper Paleozoic (Devonian? to Permian?; PDma)	113	1982? D.G.G.S.	65°44'15"/ 148°03'27" (C-3)	Corals: <i>Syringopora</i> sp.	Silurian to Mississippian	W.A. Oliver, Jr., and W.J. Sando, 1982
	87ABd8	Corals: <i>Syringopora</i> sp. colonies		Silurian to Mississippian	R.B. Blodgett, 1987	
	87ABd8b (11557-SD)	Conodonts: <i>Polygnathus</i> sp. of Middle to Late Devonian morphotype CAI=5-5.5		Middle to Late Devonian	K.E. Denkler, 1987	
	*87ABd8c (11558-SD)	Conodonts: <i>Ozarkodina</i> sp., <i>Palmatolepis</i> sp. of Famennian morphotype, <i>Polygnathus</i> cf. <i>P. perplanus</i> , <i>P.</i> sp. indet. of the <i>P.</i> <i>nodocostatus</i> group CAI=5.5		late Late Devonian (late, but not latest Famennian)	K.E. Denkler, 1987	

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Upper Paleozoic (Devonian? to Permian? PDms)	114	04AP277 (2557-PC)	85°41'35"/ 148°23'00" (C-3)	Brachiopods: <i>Productus cf. P. longispinus</i> Bryozoans: <i>Archimedes?</i> sp., <i>Fistulipora</i> sp., <i>Polypora?</i> sp., <i>Rhombopora</i> sp. Corals: <i>Lithostrotion?</i> sp. Gastropods: <i>Euomphalus</i> sp.	Mississippian(?)	E.M. Kindle and G.H. Girty, pre-1937
				Echinoderm debris Bryozoans: <i>Archimedes?</i> sp., <i>Polypora</i> sp., rhomboporoids, stenoporoids Horn corals, productoid brachiopods, euomphalid gastropods	late Paleozoic (Early Permian?)	J.T. Dutro, Jr., 1970
		04AH213 (2553-PC)		Brachiopods: <i>Productus</i> sp. Bryozoans: <i>Fenestella</i> sp., <i>Rhombopora</i> sp., <i>Stenopora</i> sp. Mollusks: <i>Lima?</i> sp.	Mississippian(?)	E.M. Kindle and G.H. Girty, pre-1937
				*Echinoderm debris, fenestellid, rhomboporoid, and stenoporoid bryozoans, rhipidomellid productoid fragments	late Paleozoic (Early Permian?)	J.T. Dutro, Jr., 1970
	115	18AOF7 (2594-PC)	85°40'33"/ 148°27'41" (C-3)	Brachiopods: <i>Spirifer cf. S. arcticus</i> Bryozoans: <i>Balostornella</i> sp., <i>Fenestella</i> sp., <i>Rhombopora</i> sp., <i>Stenopora</i> sp. Crinoid columnals	Mississippian	G.H. Girty, pre-1937
			Brachiopods: <i>Spiriferella?</i> sp. Echinoderm debris, bryozoan debris	late Paleozoic (Early Permian?)	J.T. Dutro, Jr., 1970	
Sedimentary rocks (late Paleozoic; Pzs)	118	87ABd30	85°27'12"/ 149°43'54" (B-6)	Recrystallized crinoid ossicles, indet. brachiopods	Paleozoic	R.B. Blodgett, 1967
Permian sedimentary rock unit (Permian; Ps)	117	07AP318	85°24'28"/ 149°58'35" (B-6)	Brachiopods: <i>Camerothoria?</i> sp., <i>Chonetes?</i> sp., <i>Deltthyris?</i> sp., <i>Rhipidomella</i> sp., <i>Stropheodonta</i> sp. Echinoderms: <i>Platycrinus</i> sp.	Mississippian?	E.M. Kindle and G.H. Girty, pre-1937
				*Brachiopods: <i>Chonetinella</i> sp., <i>Marginifera?</i> sp., <i>Spiriferinella?</i> sp., <i>Stenoscisma?</i> sp., rhipidomellid Bryozoans: rhomboporoids and stenoporoids Echinoderms: <i>Platycrinites?</i> sp., echinoderm debris Horn corals, high- and medium-spined gastropods	late Paleozoic (Early Permian?)	J.T. Dutro, Jr., 1970
	118	07AP320	85°25'42"/ 149°58'46" (B-6)	See 07AP318 above, J.B. Mertie combined P318 and P320 although they are different localities		
				Echinoderm debris, echinoid spine, fenestellid, rhomboporoid, and stenoporoid bryozoans, punctate spiriferoid fragment, euomphalid gastropod	late Paleozoic (Early Permian?)	J.T. Dutro, Jr., 1970
		69AWr232B		Echinoderm ossicles, fragmentary bryozoans	late Paleozoic (Early Permian?)	J.T. Dutro, Jr., 1970
	119	18AOF2 (2575-PC)	85°28'54"/ 149°55'05" (B-6)	Brachiopods: <i>Spiriferina?</i> sp., <i>Spirifer</i> sp. Bryozoans: <i>Balostornella</i> sp., <i>Fistulipora</i> sp., <i>Rhabdomesart?</i> sp. Corals: <i>Zaphrentis?</i> sp. Crinoid columnals	Mississippian	G.H. Girty, pre-1937
				Echinoderm debris, bryozoan debris, brachiopod fragment, punctate spiriferoid	late Paleozoic (Early Permian?)	J.T. Dutro, Jr., 1970

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Permian sedimentary rock unit (Permian; Ps)	120	18AOF5 (2593- PC)	85°26'58"/ 149°55'05" (B-6)	Bryozoans: <i>Batozomella</i> sp. Brachiopods: <i>Spirifer</i> sp. Corals: <i>Lophophyllum</i> sp. Crinoid columnals Echinoderm debris, bryozoan debris, brachiopod fragment, horn coral	Mississippian late Paleozoic (Early Permian?)	G.H. Girty, pre-1937 J.T. Dutro, Jr., 1970
	121	18AOF3 (2592- PC)	85°26'28"/ 149°55'24" (B-8)	Bryozoans: <i>Batozomella</i> sp., <i>Fistulipora</i> sp., <i>Stenopora</i> sp. Crinoid columnals Bryozoan debris, chestiform coral	Mississippian late Paleozoic (Early Permian?)	G.H. Girty, pre-1937 J.T. Dutro, Jr., 1970
	122	18AOF4 (2591- PC)	85°26'02"/ 149°56'08" (B-6)	Bryozoans: <i>Batozomella</i> sp., <i>Fistulipora</i> sp. Crinoid columnals Echinoderm debris, rhombopoid and stenopoid bryozoans, chestiform coral	Mississippian late Paleozoic (Early Permian?)	G.H. Girty, pre-1937 J.T. Dutro, Jr., 1970
	123	80ATb380	-85°23'32"/ -149°58'18" (B-6)	Bryozoan debris	Permian(?)	Helen Duncan, 1960
	124	89AWr215, 87AKw73	-85°26'15"/ -149°55'38" (B-6)	Echinoderm ossicles, fragmentary bryozoans	late Paleozoic (Early Permian?)	J.T. Dutro, Jr., 1970
	125	18AOF6 (2591- PC)	85°28'20"/ 149°40'38" (B-6)	Echinoderm and bryozoan debris	late Paleozoic (Early Permian?)	J.T. Dutro, Jr., 1970
	*126	73ACh59 (29935-PC)	-85°24'57"/ -149°56'41" (B-6)	Foraminifers: <i>Nodosaria</i> spp. Conodonts: <i>Neogondolella</i> sp. of Permian morphotype CAI=5	Permian Permian (but not earliest or latest)	A.K. Armstrong, 1974 A.G. Harris, 1986
Rampart Volcanics (Mississippian to Triassic; EMrs)	127	87ACa10	85°41'40"/ 148°55'28" (C-4)	Phosphatized stenkerna of <i>"Deceptrix"</i> spp. (pelecypod)	Middle Ordovician to Early Devonian(?)	J. Pojeta, Jr., 1986
	128	04AP268 (2551- PC)	-85°52'50"/ -147°53'50" (D-2)	Brachiopods: <i>Hustedia</i> cf. <i>H. compressa</i> , <i>Spirifer</i> sp. Bryozoans: <i>Fistulipora</i> sp., <i>Rhombopora</i> sp., <i>Stomatopora?</i> sp. Echinoderm debris, rhombopoid and stenopoid bryozoans, horn corals, <i>Hustedia</i> sp.	Mississippian(?) late Paleozoic (Early Permian?)	E.M. Kindle and G.H. Girty, pre-1937 J.T. Dutro, Jr., 1970
Rampart Volcanics (Mississippian to Triassic; EMrv)	129	82S1054 (29105-PC)	85°44'46"/ 149°49'08" (C-6)	Brachiopods: <i>Pseudoeryingothyrus?</i> sp.	Permian	J.T. Dutro, Jr., 1983
	130	82S1051 (M33085)	85°41'09"/ 149°50'06" (C-6)	Conodonts: <i>Neogondolella navicula</i> , <i>Xaniognathus</i> sp.	late Middle or Late Triassic	B.R. Wardlaw, 1984
	*131	87ATM184A (DR580)	85°44'56"/ 149°20'50" (C-5)	Radiolarians: <i>Canoptum macoyense</i> , <i>Capnodocce traversi</i> , <i>C. sp.</i> , <i>Capruchoosphæra doweveri</i> , <i>C.</i> <i>schenkli</i> , <i>C. sp.</i> , <i>Latium</i> <i>paucum</i> , <i>Pachus</i> sp., <i>Triassocampe</i> sp.	Late Triassic (late Karman or early Norian)	C.D. Biome, 1988
Triassic (Triassic; Ets)	*132	88AWr83b	85°42'09"/ 147°01'30" (C-1)	Conodonts: <i>Neogondolella</i> sp., <i>Xaniognathus</i> sp. CAI=5	Permian or Triassic	A.G. Harris, 1989
	*133	87ADu3	85°31'32"/ 147°39'08" (C-2)	Conodonts: <i>Neogondolella</i> sp. CAI=5 Phosphatized gastropod stenkerna	Permian or Triassic	A.G. Harris, 1988
Wolverine unit (Late Jurassic and (or) Early Cretaceous; KJw)	*134	22AM113 (11390)	85°21'13"/ 149°51'25" (B-6)	Echinoderms: <i>Pentacrinus</i> sp. Mollusks: <i>Aucella crassicoilla</i> , <i>Pecten?</i> sp. Echinoderms: <i>Pentacrinus</i> sp. Mollusks: <i>Buchia?</i> sp. indet., <i>Lima</i> or <i>Pseudolima</i> , <i>Oryzoma?</i> sp.	Early Cretaceous Late Jurassic	T.W. Stenton, pre-1937 D.L. Jones, 1960
	135	87ADo48a	85°27'00"/ 149°42'28" (B-6)	Coquina, bivalve shells	Late Jurassic or Early Cretaceous	J. Dover, 1987

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Wolverine unit (Late Jurassic and (or) Early Cretaceous; KJw)	136	87ARm42	65°26'45"/ 149°47'12" (B-6)	Coquina, bivalve shells	Late Jurassic or Early Cretaceous	Collector's identification, 1987
	137	80ATb359	65°22'39"/ 149°55'49" (B-6)	Bivalve molds	Late Jurassic or Early Cretaceous	Collector's identification, 1980
	138	80ATb353	65°22'25"/ 149°53'42" (B-6)	Bivalve molds	Late Jurassic or Early Cretaceous	Collector's identification, 1980
	139	87AKw41	65°21'22"/ 149°51'43" (B-6)	Fossil hash, bivalve molds	Late Jurassic or Early Cretaceous	Collector's identification, 1987
	140	22AM185	~65°22'16"/ ~149°53'40" (B-6)	Pelecypods: <i>Aucella?</i> sp., pelecypods indet.	Early Cretaceous	T.W. Stanton, pre-1937
	141	11AE5	Quell-Little Minook Creek divide (B-6)	Mollusks: <i>Aucella crassicolis</i> , <i>Aucella</i> sp.	Early Cretaceous	T.W. Stanton, pre-1937
Wilber Creek unit (Early Cretaceous, Albian; Kwc)	142	15B312 (1521A)	65°43'43"/ 147°24'10" (C-1)	Pyritized wood?	?	Collector's identification, 1915
	143	78ABdL1	65°19'40"/ 149°18'28" (B-3)	Pelecypods: <i>Inoceramus?</i> sp.	Jurassic or Cretaceous	R.B. Blodgett, 1976
	144	Univ. Alaska, pre- 1960	65°28'32"/ 149°16'18" (B-3)	Pelecypods: <i>Inoceramus?</i> sp.	Jurassic or Cretaceous	D.L. Jones, 1980
	145	59Ahp8B (A-60- 2M)	65°03'43"/ 149°59'20" (A-6)	Pelecypods: <i>Inoceramus?</i> sp.	Jurassic or Cretaceous	D.L. Jones, 1980
	*146	22AMt105A (11392)	~65°20'48"/ ~149°49'40" (B-6)	Gastropilid ammonite	Early Cretaceous (early or middle Albian)	D.L. Jones, 1971
	147	59Ahp761	65°20'35"/ 147°46'33" (B-6)	Mollusks: <i>Inoceramus</i> n. sp.?, gastropilid ammonite	Early Cretaceous(?) (Albian?)	D.L. Jones, 1980
	*148	89AWr12	65°20'12"/ 149°45'38" (B-6)	Ammonites: <i>Paragastropilites flexicostatus</i>	Early Cretaceous (middle Albian)	J.W. Miller, 1989
	149	Marin, 1914 (9800)	65°20'43"/ 149°46'06" (B-6)	Echinoderms: <i>Hemister?</i> sp. Mollusks: <i>Cuculidae</i> sp., <i>Natica</i> sp., <i>Nemodon</i> sp., <i>Nucula</i> sp., <i>Pachydiscus?</i> sp., <i>Pecten</i> sp.	Late Cretaceous	T.W. Stanton, pre-1937
				*Mollusks: Gastropilid ammonite, <i>Gaudryceras</i> sp., clams, snails	Early Cretaceous (Albian)	D.L. Jones, 1980
	Minto unit (Late Cretaceous?; Km)	150	87AKw54	65°18'28"/ 149°53'59" (B-6)	Unidentified plant fragments	Late Cretaceous(?)
151		87AKw53	65°18'08"/ 149°54'55" (B-6)	Unidentified plant fragments	Late Cretaceous	K.W. Wheeler, 1987
(Km?)	152	59Ahp763	65°20'30"/ 149°47'10" (B-6)	Mollusks: <i>Cuculidae</i> sp.	Cretaceous	D.L. Jones, 1980
(Km)	*153	7AP271	65°20'32"/ 149°48'09" (B-6)	Echinoderms: <i>Hemister?</i> sp. Mollusks: <i>Cuculidae</i> sp., <i>Inoceramus</i> cf. <i>I. labiatus</i> , <i>Lucina</i> sp., <i>Pachydiscus</i> sp., <i>Pachydiscus?</i> sp., <i>Pecten</i> sp., <i>Pleuromya</i> sp. Plants: <i>Ginkgo</i> sp., <i>Texodium</i> sp., dicotyledonous plant fragments	Late Cretaceous	T.W. Stanton, pre-1937
					Late Cretaceous	F.H. Knowlton, pre-1937
Tertiary (Eocene; Tvs)	154	70Ach210f (11293)	65°47'24"/ 149°25'00" (D-5)	Plants: <i>Metasequoia</i> sp.	Tertiary	J.A. Wolfe, 1977
	155	70Ach205f (11292)	65°47'37"/ 149°27'00" (D-5)	Plants: <i>Metasequoia occidentalis</i> , cf. <i>Planera microphylla</i> , * <i>Platanus?</i> sp.	Paleogene	J.A. Wolfe, 1977
	*156	Spurr, 1896 Collier, 1902 Hollick, 1903 Bennett, 1906	65°40'05"/ 149°49'22" (C-6) (Drew mine vicinity as reported by Hollick, 1936)	Plants: <i>Equisetum arcticum</i> , <i>Populus</i> <i>richardsoni</i> , <i>Hicoria</i> <i>magnifica</i> , <i>Sophora</i> <i>multiformis</i> , <i>Cassia glennii</i> , <i>Pithecolobium ceterum</i> , <i>Paulinia alaskana</i> , <i>Celastrus</i> <i>comparabilis</i> , <i>Juglans</i> <i>acuminata latifolia</i> , <i>Crataegus</i> <i>yukonensis</i> , <i>Grewia</i> <i>orbiculata</i> , <i>Ficus?</i> <i>alaskana</i>	Eocene	Arthur Hollick, pre- 1936; T.A. Ager, 1989

STRATIGRAPHIC UNIT (AGE AND MAP SYMBOL)	MAP NO.*	FIELD NO. (USGS COLLN.)	LATITUDE N/ LONGITUDE W. (QUADRANGLE)	FOSSILS	AGE	IDENTIFIED BY
Tertiary (Eocene; Tvs)	*157	89ACh130 (D4744A)	85°40'05"/ 149°49'22" (C-8) Drew mine	Pollen: <i>Tilia</i> cf. <i>T. henryana</i> , <i>Tricolporopollenites</i> , <i>Castanopsis</i> type, <i>Ulmus</i> p4, <i>Juglans</i> , <i>Taxodiaceae</i> , <i>Taxodium</i> type, cf. <i>Acer</i> , <i>Pinus</i> , <i>Juglandaceae</i> , <i>Carya</i> ? and <i>Pterocarya</i> , <i>Quercus</i> , cf. <i>Cycas</i> , <i>Keiskeeria</i> or <i>Abies</i> , <i>Triumfetta</i> type of the <i>Tillaceae</i> ?, <i>Tricolpites</i> and <i>tricolpites</i> indet., fungal spores, cf <i>Polypodiaceae</i> , large trilete fern spores	Eocene or Oligocene	E.B. Leopold, 1974
Tertiary and Quaternary (Pliocene? to Holocene; QTg)	*158	87ASk1	85°31'54"/ 148°32'40" (C-4)	Plants: <i>Ainus</i> sp., <i>Betula</i> sp., <i>Cyperaceae</i> , <i>Gramineae</i> , <i>Picea</i> sp., <i>Pinus</i> sp., <i>Polemonium</i> sp., <i>Tsuga</i> sp., sphagnum moss spores and several types of fern spores	late Miocene or Pliocene	T.A. Ager, 1987
Quaternary (Holocene; Qsu)	159	P6w6	85°05'35"/ 147°43'50" (A-2)	Mammals: <i>Citellus undulatus</i> , coprolites	Pleistocene	?, pre-1975
Quaternary (Holocene; Qg)	160	P6w6	85°03'40"/ 147°09'10" (A-1)	Mammals: <i>Bison crassicornis</i> , <i>Mammuthus primigenius</i> , <i>Ovibus</i> sp.	Pleistocene	?, pre-1975