

DEPARTMENT OF THE INTERIOR

U.S. GEOLOGICAL SURVEY

Triassic and Early Jurassic radiolarian faunas,
Brooks Range, Alaska

by

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conformity with U.S. Geological Survey editorial standards and
stratigraphic nomenclature

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INTRODUCTION

The appended faunal lists record the Triassic and Lower Jurassic radiolarian faunas recovered during U.S. Geological Survey investigations of the Otuk Formation on the north side of the Brooks Range. Numerous samples of radiolarian-bearing chert and silicified limestone were collected by geologists in the National Petroleum Reserve in Alaska (NPRA), while others were collected as part of biostratigraphic or mapping projects along the Brooks Range.

Radiolarian faunas and locality information for the measured sections are given in Table 1. Miscellaneous samples, their radiolarian faunas, and locality information are provided in Table 2. Table 3 lists radiolarian distributions for the various members of the Otuk Formation.

For an in-depth discussion of these samples as well as detailed lithostratigraphic information, refer to a chapter by Blome and others in the USGS Professional Paper (no. 1240, Part B; in press) which describes the geology of the Otuk Formation in and around the National Petroleum Reserves in Alaska.

CORRELATION OF RADIOLARIAN FAUNAS WITH LITHOSTRATIGRAPHIC SECTIONS

The Noyalik Peak section ranges in age from late Karnian to late Norian (Table 1). The stratigraphically lowest beds, exposed at beach level, contain both Capnuchosphaera De Wever and Sarla Pessagno. The uppermost beds containing identifiable radiolarians are in the chert and shale unit above Monotis marker beds and contain upper Norian Laxtorum Blome and Ferresium Blome.

The Otuk Formation cropping out along Ayugatak Creek ranges in age from Karnian (or older) to late Norian (or younger; Table 1). The lowest 85 ft of the section contains very little chert. Our lowest chert sample comes from beds just above Daonella-bearing float and contains Pseudostylosphaera Kozur and Mostler. The beds just below the Monotis marker beds contain both Pseudoheliodiscus Kozur and Mostler and Syringocapsa Foreman.

At Punupkahkroak Mountain, the radiolarians range in age from Ladinian or early Karnian to late Early Jurassic (Pliensbachian or Toarcian). These samples span the greatest age range of all the sections studied. The oldest fauna contains Pseudostylosphaera japonica (Nakaseko and Nishimura) 1979, Eptingium manfredi Dumitrica, 1977a, Triassocampe spp. and Tripocyclia sp., all of which occur in late Ladinian or early Karnian assemblages elsewhere. Taxa belonging to Pseudostylosphaera become more abundant in Karnian assemblages. A sample taken from the highest stratigraphic level in the traverse contains Bagotum spp., and Canutus izeensis Pessagno and Whalen, 1982. Bagotum is not known from strata older than Sinemurian in Alaska.

At the Otuk Creek section, the presence of taxa belonging to Yeharala Nakaseko and Nishimura, Triassocampe Dumitrica, Kozur and Mostler, as well as Pseudostylosphaera nazarovi (Nakaseko and Nishimura) 1979, in the upper part of the shale member indicates an late Karnian or early Norian age. Late Karnian to mid Norian radiolarian taxa, such as Capnodoce triassica Pessagno, 1979, Corum regium Blome, 1984, Xenorum largum Blome, 1984, and others occur in the lower part of the chert member. The co-occurrence of Capnuchosphaera lenticulata Pessagno, 1979, and C. sp. cf. C. mexicana Pessagno, 1979, in the

uppermost beds of the chert member indicates that these strata are as young as early late Norian (Table 1). In other measured sections, the radiolarian assemblages in the lower part of the chert member are of late Ladinian to early Karnian age (or older at Tiglukpuk Creek, according to Bodnar, 1984). At Otuk Creek, the radiolarians are significantly younger and may indicate that the section is partly repeated by a fault at this horizon.

The Akmalik Creek section ranges in age from Ladinian (?early Karnian) to Early Jurassic (late Sinemurian) (Table 1). Characteristic Ladinian forms, such as Tripocyclia(?) japonica (Nakaseko and Nishimura) 1979, and Triassocampe(?) scalaris Dumitrica, Kozur and Mostler, 1980, are present at a low stratigraphic position in the chert member. The youngest beds contain typical Lower Jurassic taxa such as Canutus rockfishensis Pessagno and Whalen, 1982, and Droetus laseekensis Pessagno and Whalen, 1982.

At Monotis Creek, radiolarians make it possible to date an exposure of the Otuk Formation that was tenuously dated by sparse megafossils. Seven radiolarian samples from the chert member indicate an orderly progression from late Ladinian into the early middle Norian at its top. The radiolarian data also suggests that the pecten Monotis at the base of the chert member was misidentified and probably is Daonella (Table 1). Radiolarians collected from the top of the limestone member include Pseudoheliodiscus sandspitensis Blome, 1984, Capnodoce crystallina Pessagno, 1979, and Capnuchosphaera triassica De Wever, 1979, all of which indicate a latest middle to early late Norian age. Some of these same taxa have been found in late middle Norian strata (Rail Cabin Mudstone; cf. Blome, 1984) in east-central Oregon.

Radiolarians from samples collected at the Tiglukpuk Creek section range in age from possibly Ladinian to late middle Norian. The lowest sample from the chert member contains Pseudostylosphaera japonica (Nakaseko and Nishimura) 1979, and Triassocampe sp. A. A chert sample from near the top of the limestone member contains Capnuchosphaera lenticulata Pessagno, 1979, and C. mexicana Pessagno, 1979, forms known only from the late middle to early late Norian of western North America.

For a discussion of the radiolarian zones used to date the Triassic samples from both the measured lithostratigraphic sections (Table 1) and miscellaneous samples (Table 2), refer to Blome (1984) and the chapter by Blome and others in the USGS Professional Paper (no. 1240; in press) on the geology of the NPRA. Refer to Pessagno and Blome (1980) and Pessagno and Whalen (1984) for references on Lower Jurassic spumellarians and nassellarians respectively.

Table 1.—Radiolaria and megafossils from seven measured sections, northern Alaska. The faunas for each section are listed from oldest to youngest regardless of the order of the field numbers. Collectors: AMY = B. Murchey; CM = W. Chamberlain; WR = R. Witmer; AKR = K. Reed. PPR = Denotes radiolarian fauna too poorly preserved for even generic assignment.

Field number	Radiolarian fauna	Megafossils	Age (Based on radiolarians)
<u>Noyalik Peak, lat 68°45'20", long 166°11'30"</u>			
82AKr-10	<u>Capnuchosphaera</u> sp. <u>Capnuchosphaera costorta</u> Kozur and Mostler?, 1979 <u>Sarlia</u> sp. <u>Sarlia plena</u> Blome, 1983 <u>Pachus</u> sp.	<u>Balobia zittelli</u> , N. sp. (N. J. Silberling in L. L. Tailleux, written commun., 1982)	Late Karnian to middle Norian
82AKr-12	Barren		
82AKr-14	<u>Capnuchosphaera</u> sp.		Late Karnian to early late Norian
82AKr-15	Barren	<u>Monotis acutiformis</u> (middle Norian)	
		<u>Monotis</u> sp. indet.	
82AKr-18	? <u>Lactorum</u> sp. <u>Pseudoheliodiscus</u> sp.		Late middle or late Norian
82AKr-22	<u>Lactorum atlensis</u> Blome, 1984 <u>Lactorum</u> (?) <u>kulense</u> Blome, 1984 <u>Livarella densiporata</u> Kozur and Mostler, 1981 <u>Ferresium</u> sp. <u>Pseudoheliodiscus</u> sp.	<u>Monotis</u> cf. <u>M. subcircularis</u> <u>M. cf. M. ochotica</u> (late Norian)	Late Norian

Ayugatek Creek, lat 68°46', long 165°48'

82Akr-46	<u>Pseudostylophaera japonica</u> (Nakaseko and Nishimura) 1979	Karnian
82Akr-47	PPR	
82Akr-48	PPR	
82Akr-49	<u>?Pseudostylophaera</u> sp. <u>?Eptingium</u> sp. Heavily ribbed primary spines	Karnian
82Akr-52	<u>Sarlia</u> sp. <u>?Capnodoce</u> sp. <u>Batrachium(?) inobatum</u> Blome, 1984	Late Karnian or early Norian
82Akr-53	<u>Pseudoheliodiscus sandspitensis</u> Blome, 1984 <u>Syringocapsa</u> sp.	Early late or late Norian

Punupkahkroak Mountain, lat 68°06', long 163°21'

79CM-13	<u>Pseudostylophaera japonica</u> (Nakaseko and Nishimura) 1979 <u>Eptingium manfredi</u> Dumitrica, 1977 <u>Triassocampe</u> sp. aff. <u>T. scalaris</u> Dumitrica, Kozur and Mostler, 1980. <u>Triassocampe</u> sp. (undescribed)	Ladinian to early Karnian
79CM-12	<u>Pseudostylophaera helicata</u> (Nakaseko and Nishimura) 1979 <u>Pseudostylophaera hellenica</u> De Wever?, 1979 <u>Pachus</u> sp. <u>Triassocampe</u> sp. <u>Yeharalia japonica</u> Nakaseko and Nishimura, 1979	Late Karnian
79CM-11	<u>Capnodoce asapetes</u> De Wever, 1979 <u>Capnuchoephaera triassica</u> De Wever, 1979 <u>C. tricornis</u> De Wever, 1979 <u>Sarlia</u> sp.	Late Karnian or early Norian

79CM-10	<u>Xipha pessagnoii</u> (Makaseko and Wisthura), 1979 <u>Acanthocircus harrisonensis</u> Blome, 1984 <u>Betracccium incubatum</u> Blome?, 1984 <u>Canoptum laxum</u> Blome, 1984 <u>Capnuchoosphaera lenticulata</u> Pessagno, 1979 <u>Capnodoce anapetes</u> De Wever, 1979 <u>C. traversi</u> Pessagno, 1979 <u>Canoptum(?) browni</u> Blome, 1984 <u>Capnuchoosphaera colemani</u> Blome, 1983 <u>C. mexicana</u> Pessagno, 1979 <u>C. smithorum</u> Blome, 1983 <u>Corum regium</u> Blome, 1984 <u>Capnuchoosphaera lenticulata</u> Pessagno, 1979 <u>Capnuchoosphaera</u> sp. <u>C. sp. aff. C. lenticulata</u> Pessagno, 1979 <u>C. triassica</u> De Wever, 1979 <u>Acanthocircus</u> sp. <u>Sarla plena</u> Blome, 1983 Barra	Early or middle Norian
79CM-9	<u>Betracccium deveveri</u> Pessagno and Blome, 1980 <u>B. sp. aff. B. deveveri</u> Pessagno and Blome, 1980 <u>B. yakounense</u> Pessagno and Blome, 1980 <u>Ferresium lassekense</u> Blome, 1984 <u>Lactorum hindei</u> Blome, 1984 <u>Pseudoheliodiscus sandapitenais</u> Blome, 1984 <u>Betracccium deveveri</u> Pessagno and Blome, 1980 <u>B. yakounense</u> Pessagno and Blome, 1980 <u>Cantalum alium</u> Blome, 1984 <u>C. globosum</u> Blome, 1984 <u>Canoptum</u> sp. <u>Ferresium lassekense</u> Blome, 1984 <u>Pantaneillum fosteri</u> Pessagno and Blome, 1980	Middle Norian
79CM-8	<u>Betracccium deveveri</u> Pessagno and Blome, 1980 <u>B. sp. aff. B. deveveri</u> Pessagno and Blome, 1980 <u>B. yakounense</u> Pessagno and Blome, 1980 <u>Ferresium lassekense</u> Blome, 1984 <u>Lactorum hindei</u> Blome, 1984 <u>Pseudoheliodiscus sandapitenais</u> Blome, 1984 <u>Betracccium deveveri</u> Pessagno and Blome, 1980 <u>B. yakounense</u> Pessagno and Blome, 1980 <u>Cantalum alium</u> Blome, 1984 <u>C. globosum</u> Blome, 1984 <u>Canoptum</u> sp. <u>Ferresium lassekense</u> Blome, 1984 <u>Pantaneillum fosteri</u> Pessagno and Blome, 1980	Middle Norian
79CM-7	<u>Betracccium deveveri</u> Pessagno and Blome, 1980 <u>B. sp. aff. B. deveveri</u> Pessagno and Blome, 1980 <u>B. yakounense</u> Pessagno and Blome, 1980 <u>Ferresium lassekense</u> Blome, 1984 <u>Lactorum hindei</u> Blome, 1984 <u>Pseudoheliodiscus sandapitenais</u> Blome, 1984 <u>Betracccium deveveri</u> Pessagno and Blome, 1980 <u>B. yakounense</u> Pessagno and Blome, 1980 <u>Cantalum alium</u> Blome, 1984 <u>C. globosum</u> Blome, 1984 <u>Canoptum</u> sp. <u>Ferresium lassekense</u> Blome, 1984 <u>Pantaneillum fosteri</u> Pessagno and Blome, 1980	Middle Norian
79CM-6	<u>Betracccium deveveri</u> Pessagno and Blome, 1980 <u>B. sp. aff. B. deveveri</u> Pessagno and Blome, 1980 <u>B. yakounense</u> Pessagno and Blome, 1980 <u>Ferresium lassekense</u> Blome, 1984 <u>Lactorum hindei</u> Blome, 1984 <u>Pseudoheliodiscus sandapitenais</u> Blome, 1984 <u>Betracccium deveveri</u> Pessagno and Blome, 1980 <u>B. yakounense</u> Pessagno and Blome, 1980 <u>Cantalum alium</u> Blome, 1984 <u>C. globosum</u> Blome, 1984 <u>Canoptum</u> sp. <u>Ferresium lassekense</u> Blome, 1984 <u>Pantaneillum fosteri</u> Pessagno and Blome, 1980	Late Norian
79CM-5	<u>Betracccium deveveri</u> Pessagno and Blome, 1980 <u>B. yakounense</u> Pessagno and Blome, 1980 <u>Cantalum alium</u> Blome, 1984 <u>C. globosum</u> Blome, 1984 <u>Canoptum</u> sp. <u>Ferresium lassekense</u> Blome, 1984 <u>Pantaneillum fosteri</u> Pessagno and Blome, 1980	Late Norian

79CM-4	<u>Canoptum</u> sp. aff. <u>C. poissoni</u> Pessagno, 1979 <u>Droetus</u> sp. aff. <u>D. hecatensis</u> Pessagno and Whalen, 1982 <u>Pantanellium kluense</u> Pessagno and Blome, 1980 <u>P. tanuense</u> Pessagno and Blome, 1980 <u>Pseudoheliodiscus</u> sp. (undescribed)	Early Jurassic (Hettangian)
79CM-3	<u>Canoptum</u> sp. <u>Pseudoheliodiscus</u> sp. (undescribed) <u>Veghicyclis</u> sp.	Late Triassic (late Norian) to Early Jurassic
79CM-2	<u>Canoptum</u> sp. aff. <u>C. merum</u> Pessagno and Whalen, 1982 <u>Droetus hecatensis</u> Pessagno and Whalen, 1982 <u>Pantanellium browni</u> Pessagno and Blome, 1980 <u>Relanus reefensis</u> Pessagno and Whalen, 1982	Early Jurassic (Hettangian)
79CM-1	<u>Canoptum dixonii</u> Pessagno and Whalen, 1982 <u>Pantanellium browni</u> Pessagno and Blome, 1980 <u>P. tanuense</u> Pessagno and Blome, 1980 <u>Pseudoheliodiscus</u> sp. aff. <u>P. yaol</u> Pessagno and Poisson, 1979 <u>Relanus reefensis</u> Pessagno and Whalen, 1982	Early Jurassic (Hettangian-Sinemurian)
79CM-0	<u>Bagotum</u> sp. aff. <u>B. maudense</u> Pessagno and Whalen, 1982 <u>Bagotum</u> sp. <u>Canutus izeensis</u> Pessagno and Whalen, 1982 <u>Parvicingula</u> sp.	Early Jurassic (late Pliensbachian or Toarcian)

Otak Creek, lat 68°35', long 155°46'

Megafossils below -1.60
Halobia sp. indet.
H. cordillerana
H. cf. H. cordillerana (latest Karnian)
H. zitteli or superba

79Wr-1.60	<u>Capnuchosphaera</u> sp. aff. <u>C. theloides</u> De Wever, 1979 <u>Xenorum</u> sp. cf. <u>X. largum</u> Blome, 1984 <u>Paronaella</u> sp. <u>Pseudostylosphaera nazarovi</u> (Kozur and Mostler) 1979 <u>Yeharsia</u> sp. cf. <u>Y. annulata</u> Nakaseko and Nishimura, 1979 ? <u>Canesium lentum</u> Blome, 1984 ? <u>Corum</u> sp. cf. <u>C. regium</u> Blome, 1984 ? <u>Xipha</u> sp. <u>Triassocampe deweveri</u> (Nakaseko and Nishimura) 1979		Late Karnian or early Norian
79Wr-1.58	<u>Paronaella</u> sp. <u>Pseudostylosphaera nazarovi</u> (Kozur and Mostler) 1979 <u>Yeharsia</u> sp. cf. <u>Y. annulata</u> Nakaseko and Nishimura, 1979 <u>Orbiculiforma</u> sp. ? <u>Canesium lentum</u> Blome, 1984 <u>Triassocampe deweveri</u> (Nakaseko and Nishimura) 1979	<u>Halobia</u> cf. <u>H. dilutata</u> and cf. <u>cordillerasana</u> (low or middle Norian; Swain, 1981)	Late Karnian or early Norian
79Wr-1.54	? <u>Pseudostylosphaera nazarovi</u> (Kozur and Mostler) 1979 ? <u>Yeharsia</u> sp. cf. <u>Y. annulata</u> Nakaseko and Nishimura, 1979 ? <u>Xipha</u> sp. <u>Triassocampe deweveri</u> (Nakaseko and Nishimura) 1979 <u>Capnodoce anapetes</u> De Wever, 1979 <u>C. traversi</u> Passagno, 1979 ? <u>C. vetusta</u> Passagno, 1979 <u>Syringocapsa</u> sp.	<u>Halobia</u> cf. <u>H. lineata</u> and cf. <u>halorica</u> from interval between -1.54 and -1.58 (low or mid Norian; Swain, 1981)	Late Karnian to late middle Norian
79Wr-1.40	? <u>Yeharsia</u> sp. cf. <u>Y. annulata</u> Nakaseko and Nishimura, 1979 <u>Canesium lentum</u> Blome, 1984 <u>Corum</u> sp. cf. <u>C. regium</u> Blome, 1984 <u>Triassocampe deweveri</u> (Nakaseko and Nishimura) 1979 <u>Capnodoce anapetes</u> De Wever, 1979	<u>Halobia</u> cf. <u>H. lineata</u> (lower or mid Norian; Swain, 1981)	Late Karnian to late middle Norian

	<u>C. traversi</u> Pessagno, 1979 <u>C. vetusta</u> Pessagno, 1979 ?Corum sp. <u>Latium</u> sp. cf. <u>L. paucum</u> Blome, 1984	
79Wr-1.39	?Canesium lentum Blome, 1984 Corum sp. cf. <u>C. regium</u> Blome, 1984 Capnodoce <u>traversi</u> Pessagno, 1979 Capnuhosphaera sp. <u>Acanthocircus elegans</u> (Kozur and Mostler) 1972 ?Corum <u>perfectum</u> Blome, 1984	Early or middle Norian
79Wr-1.14	<u>Canesium lentum</u> Blome, 1984 <u>Corum</u> sp. cf. <u>C. regium</u> Blome, 1984 <u>Triassocaupe deweveri</u> (Nakaseko and Nishimura) 1979 <u>Capnodoce traversi</u> Pessagno, 1979 <u>Syringocapsa</u> sp. <u>Capnuhosphaera</u> sp. cf. <u>C. schenki</u> Blome, 1983 <u>C. sp. aff. C. triassica</u> De Wever, 1979 ?Corum sp. <u>Latium</u> sp. cf. <u>L. paucum</u> Blome, 1984 <u>Acanthocircus elegans</u> (Kozur and Mostler) 1972 ?Corum <u>perfectum</u> Blome, 1984	Early or middle Norian
79Wr-1.13	<u>Paronaella</u> sp. Corum sp. cf. <u>C. regium</u> Blome, 1984 <u>Capnuhosphaera</u> sp. cf. <u>C. schenki</u> Blome, 1983 <u>C. triassica</u> De Wever, 1979 <u>C. sp. cf. triassica</u> De Wever, 1979. ?Corum sp. <u>Latium</u> sp. cf. <u>L. paucum</u> Blome, 1984 <u>Acanthocircus elegans</u> (Kozur and Mostler) 1972 Corum <u>perfectum</u> Blome, 1984 <u>Capnuhosphaera</u> sp. cf. <u>C. silviesensis</u> Blome, 1983 <u>C. tricornis</u> De Wever, 1979	Early or middle Norian
79Wr-1.12	?Corum sp. cf. <u>C. regium</u> Blome, 1984 <u>Capnodoce</u> sp.	<u>Halobia</u> cf. <u>H. halorica</u> (Swain, 1981) Late middle Norian

	<u>Syringocapsa</u> sp. <u>Capnuchosphaera</u> sp. cf. <u>C. schenki</u> Blome, 1983 <u>Corum</u> sp. <u>Latium</u> sp. cf. <u>L. paucum</u> Blome, 1984 <u>Acanthocircus</u> sp. <u>Corum perfectum</u> Blome, 1984 <u>Capnuchosphaera</u> sp. cf. <u>C. silviesensis</u> Blome, 1983 <u>Capnuchosphaera</u> sp. cf. <u>C. sockensis</u> Blome, 1983 <u>Sarla</u> sp. <u>Capnuchosphaera lenticulata</u> Pessagno, 1979 <u>C. mexicana</u> Pessagno, 1979 <u>C. sp. aff. C. mexicana</u> Pessagno, 1979 <u>Pantanellium tozeri</u> Pessagno, 1979 <u>Plafkerium hindei</u> Pessagno, 1979 <u>Sarla natividentis</u> Pessagno, 1979	
79Wr-1.11	<u>Syringocapsa</u> sp. <u>Capnuchosphaera</u> sp. cf. <u>C. schenki</u> Blome, 1983 <u>Acanthocircus</u> sp. <u>Capnuchosphaera</u> sp. cf. <u>C. sockensis</u> Blome, 1983 <u>Sarla</u> sp. <u>Capnuchosphaera lenticulata</u> Pessagno, 1979 <u>C. mexicana</u> Pessagno, 1979 <u>C. sp. aff. C. mexicana</u> Pessagno, 1979 <u>Pantanellium tozeri</u> Pessagno, 1979 <u>Plafkerium hindei</u> Pessagno, 1979 <u>Sarla natividentis</u> Pessagno, 1979	Late middle or early late Norian
79Wr-1.10	<u>Capnodoce traversi</u> , Pessagno, 1979 <u>C. vetusta</u> Pessagno, 1979 <u>Capnuchosphaera</u> sp. <u>Corum</u> sp. <u>Capnuchosphaera</u> sp. cf. <u>C. silviesensis</u> Blome, 1983 <u>C. sp. cf. C. sockensis</u> Blome, 1983 <u>Pachus</u> sp. <u>Sarla</u> sp. <u>Capnuchosphaera lenticulata</u> Pessagno, 1979 <u>C. sp. aff. C. mexicana</u> Pessagno, 1979	Late middle to early late Norian

Pantaneillum toreri Passagno, 1979
Plafkerium hindei Passagno, 1979
Sarla natividadensis Passagno, 1979

Above sample -1.11, in descending
order, from Mull and others, 1982:
Monotis cf. H. subcircularis
Monotis sp. indet.
"Halobia cf. H. fallax" of Silberling
(1963), Monotis sp. indet.
Monotis (Eomonotis) pinensis, "H. cf. H.
fallax" of Silberling (1963)
Halobia sp. indet., Monotis
sp. indet., H. fallax Mojsisovics
H. cf. H. lineata

(oldest megafossils in succession = late mid Norian)
Monotis (Eomonotis) sp. indet., Halobia
cf. H. fallax Mojsisovics, Halobia sp.
indet., "H. cf. H. fallax" of Silberling
(1963), H. cf. H. plicosa
(middle Norian)

Akmalik Creek, lat 68°35', long 155°46'

- | | | | |
|----------|------|---|-----------------------------|
| 83Aky-28 | 48.2 | = <u>Tripocyclia</u> (?) <u>japonica</u> Nakaseko and
Nishimura, 1979
<u>Triassocampe</u> (?) <u>scalaris</u> Dumitrica, Kozur, and
Mostler, 1980
<u>Triassocampe</u> sp. | Ladinian;
?early Karnian |
| 83Aky-25 | 39.4 | = <u>Emiluvia</u> (?) <u>cochleata</u> Nakaseko and Nishimura, 1979
<u>Pseudostylosphaera compacta</u> (Nakaseko and
Nishimura) 1979
<u>Triassocampe</u> sp. | Karnian |
| 83Aky-28 | 37.4 | = <u>Pseudostylosphaera hellenica</u> (De Wever) 1979
<u>P. helicata</u> Nakaseko and Nishimura, 1979
<u>P. nazarovi</u> Kozur and Mostler, 1979 | Karnian |

83Aky-28	32.0 m	<u>Xenorhynchus</u> <u>largo</u> Blome?, 1984			Late Karnian to late middle Norian
83Aky-28	22.7 m	<u>Triassocampe</u> <u>immaturus</u> Blome, 1984 <u>Capnodoc</u> sp.			Late Karnian to late middle Norian
83Aky-28	19.6 m	<u>Rensium</u> <u>webergorum</u> Blome, 1983 <u>Capnodoc</u> <u>anapetes</u> De Wever, 1979 <u>Capnuchoephaera</u> (?) <u>colemani</u> Blome, 1984			Late Karnian to late middle Norian
83Aky-28	14.9 m	<u>Xipha</u> <u>striata</u> Blome?, 1984 <u>Capnuchoephaera</u> sp. <u>Corum</u> sp.			Late Karnian or early late Norian
83Aky-28	12.5 m	<u>Capnuchoephaera</u> sp. <u>Capnuchoephaera</u> <u>smithorum</u> Blome?, 1983			Late Karnian to early late Norian
83Aky-28	11.3 m	PPR	<u>Monotis</u>		Late Triassic (Norian)
83Aky-28	8.1 m	PPR			
83Aky-28	7.7 m	PPR			
83Aky-28	6.5 m	<u>Pseudoheliodiscus</u> sp.	<u>Monotis</u>		Late Triassic (Norian)
83Aky-28	3.5 m	<u>Livarella</u> <u>densiporata</u> Korur and Mostler, 1981 <u>Pseudoheliodiscus</u> sp.			Late Norian
83Aky-28	0.2 m	<u>Canoptum</u> <u>dixonii</u> Passagno and Whalen, 1982 <u>Droplitus</u> <u>lessekensis</u> Passagno and Whalen, 1982 <u>Canutus</u> <u>rockfishensis</u> Passagno and Whalen, 1982 <u>Livarella</u> <u>densiporata</u> Korur and Mostler, 1981			Early Jurassic (Hettangian to late Sinemurian)
80Amy 03 27		twisted spine and <u>Triassocampe</u> sp.			?Karnian
80Amy 03 22		Numerous twisted spines <u>Triassocampe</u> sp.			Middle Ladinian to early Karnian

Monotis Creek, lat 68°22.5', long 152°56'

Eptingium manfredi Dumitrica, 1977
Pseudostylosphaera tenue (Nakaseko and
 Nishimura) 1979

80Amy 03 19	Broken entactinids and <u>Eptingium</u> -related forms (mounted SEM s-72)		Triassic
80Amy 03 15	<u>Pseudostylosphaera japonica</u> (Nakaseko and Nishimura) 1979 <u>Pseudostylosphaera</u> sp. <u>?Yeharaia japonica</u> Nakaseko and Nishimura, 1979 <u>Staurocontium minoense</u> Nakaseko and Nishimura, 1979		Karnian
80Amy 03 12	<u>Triassocampe deweveri</u> (Nakaseko and Nishimura) 1979 <u>?Tripocyclia japonica</u> Nakaseko and Nishimura, 1979 <u>?Eptingium</u> sp.	* <u>Entomonotis subcircularis</u> (Patton and Tailleir, 1964) (late Norian if correctly identified, see asterik below)	Late Ladinian or early Karnian
80Amy 03 8	PFR		
80Amy 03D	<u>Capnuhosphaera tricornis</u> De Wever, 1979	<u>Halobia</u>	Late Karnian to middle Norian
80Amy 03C	<u>Capnodoce miniscula</u> Blome, 1983		Late Karnian to middle Norian
80Amy 03 B	<u>Capnodoce crystallina</u> Pessagno, 1979 <u>C. vetusta</u> Pessagno?, 1979 <u>Pseudoheliodiscus</u> <u>Capnuhosphaera triassica</u> De Wever, 1979 <u>C. (?) colemani</u> Blome, 1983 <u>Pseudoheliodiscus sandspitensis</u> Blome, 1984	<u>Entomonotis subcircularis</u> "abundant" in levels of samples 03C and D (I. L. Tailleur in note and Patton and Tailleir, 1964; the age of the radiolarians indicate that these may be true <u>Monotis</u>)	Late middle or early late Norian probably the younger part of this range

* Subsequent reidentification by Norm Silberling (footnote,
 p. 437, Patton and Tailleir, 1964) indicate Daonella frami and
D. cf. D. degeeri of Ladinian age.

Tiglukpak Creek, lat 68°20', long 151°21'

80Amy 05 40	PPR	
80Amy 05 35	<u>Triassocampe</u> sp. <u>Pseudostylosphaera japonica</u> (Nakaseko and Nishimura?) 1979 <u>?Gorgansium</u> sp.	Ladinian to middle Karnian
80Amy 05 30	PPR	
80Amy 05 20	<u>Triassocampe deweveri</u> (Nakaseko and Nishimura) 1979 <u>Emiluvia(?) cochleata</u> Nakaseko and Nishimura, 1979	?Karnian
80Amy 05B	twisted spine <u>?Canoptum</u> sp.	<u>Halobia</u> sp. Karnian or Norian
80Amy 05A	<u>Canesium lentum</u> Blome, 1984 <u>Corum perfectum</u> Blome, 1984 <u>Syringocapsa turgida</u> Blome, 1984 <u>Capnuchosphaera deweveri</u> Kozur and Mostler, 1979. <u>C. mexicana</u> Pessagno, 1979. <u>C. lenticulata</u> Pessagno, 1979. <u>C. schenki</u> Blome, 1984	Late middle Norian
		<u>Monotis subcircularis</u> about 15 m above a normal fault)

Table 2.--Miscellaneous radiolarian samples from localities in and near National Petroleum Reserve in Alaska.
Collectors: ACh = M. Churkin, Jr.; Cr = S. Curtis; Ek, EK = I. Ellerslecker; Hd = C. Hayfield; Abe = W. Broege;
Abe = J. Boere; WR, (W) = R. Wilmers; AXK = W. Kollberg; AKr = K. Reed; Any = B. Purchev; RD = J. Reed, Jr.;
Aby = Vlckery. Taxa for each site listed in alphabetical order. Siksikpak Formation as used in this table
refers to strata originally assigned to that formation, but now probably part of the Otuk Formation as revised
by Hall and others (1982).

Field Number	Latitude	Longitude	Radiolaria	Notes
78ACn-921	68°20'00"	151°50'00"	Age: Early Triassic (latest Spathian) or (Anisien)	Both the Spumellaria and Triassic Nassellaria are nondistinct and exhibit very few features. The radiolarians have been independently dated using conodonts. Many of the spumellarians have 2 to 5 or more simple rodlike primary spines and nodose cortical shells. Conodonts: <u>Neogondolella</u> sp. cf. <u>N. regale</u> Mosher (B. Wardlaw, written commun., 1980).
78ACn-431	68°12'16"	161°55'40"	Age: Middle Triassic (Ladinian)	Nearly all forms in these samples are undescribed.
78ACn-453	68°28'39"	161°44'40"	Gen. et sp. nov.	
78CX-376	68°27'45"	160°22'42"	<u>Eplingium</u> <u>maufredi</u> Dumitrica	
78CX-1858	68°28'12"	160°05'24"	<u>Trissocampe</u> sp.	
78ER-1198	68°22'00"	162°57'40"	<u>Oertlispongia</u> sp.	
78MD-338	68°14'53"	159°06'00"	<u>Poulinus curvifolius</u> Dumitrica, Kozur and Mosher	Siksikpak Fm., Key Creek seq.
78MD-61B	68°17'36"	159°36'00"	<u>Trissostephandium laticornis</u> Dumitrica	Otuk Fm., Ektivuk Group
78MD-147C	68°22'42"	161°53'00"		Siksikpak Fm., Key Creek seq.
78Tr-90B	68°26'00"	160°04'45"		
78Tr-235D	68°36'31"	156°34'21"		
78W-6	68°10'19"	163°11'30"		Siksikpak Fm.
78ACn-852	68°53'00"	151°20'55"	Age: Late Triassic (Karnian; nearly Norian).	

78Md-164	68°16'50"	161°16'30"	<u>Castrum perornatum</u> Blome	Originally assigned as Kuna Fm., Key Creek seq.
78Tr-828	68°29'35"	160°07'45"	<u>Gorgonius</u> sp. <u>Sarla</u> sp.	
77EK-39	no data		Age: Late Triassic (late Karnian to early	Poor preservation prohibits more precise age determinations. Otuk Fm., Etivluk Group Etivluk Group, Key Creek seq. Siksikuk Fm. or Shublik Fm.
78EK-136A ₃	68°18'36"	160°49'24"	late Norian)	
78Md-90A	68°29'00"	160°05'00"	<u>Capnuhosphaera</u> sp.	
78Md-191B	68°18'18"	161°18'00"		
78W-28	68°03'47"	162°50'07"		
RD-227	68°03'47"	162°50'07"		
78ACn-851	68°53'00"	151°12'30"	Age: Late Triassic (late Karnian?; early	
78EK-50A ₂	68°34'10"	159°59'30"	to late middle Norian)	
78EK-92	68°21'03"	160°11'54"	<u>Acanthocircus</u> sp.	
78EK-119E	68°22'05"	162°59'10"	<u>Canoptum</u> sp.	
78EK-133D	68°24'42"	161°28'18"	<u>Capnuhosphaera colemani</u> Blome	
78ANK-095A	no data		<u>C. contorta</u> Blome	
78Tr-232A	68°36.5'	157°20'00"	<u>C. sp. aff. C. schenki</u> Blome	
79Avy-190	no data		<u>Capnuhosphaera</u> sp.	
78WR-1.20	no data		<u>C. triassica</u> De Wever	
			<u>Capnodoce</u> sp. aff. <u>C. baldiensis</u> Blome	
			<u>Capnodoce</u> sp.	
			<u>Corum perfectum</u> Blome	
			<u>C. sp. aff. C. perfectum</u> Blome	
			<u>Corum</u> sp.	
			<u>Pseudohaglastrum</u> sp.	
			<u>Sarla</u> sp.	
			<u>Syringocapsa turgida</u> Blome	
			<u>Xipha turgida</u> Nakaseko and Nishimura	
78ACn-911	68°50'15"	151°12'08"	Age: Late Triassic (middle Norian)	Bastille seq., Etivluk Group
78Md-160D	68°26'15"	160°57'20"	<u>Capnuhosphaera contorta</u> Blome	
72ABe-157	no data		<u>C. lenticulata</u> Pessagno	
			<u>C. mexicana</u> Pessagno	
			<u>C. sockensis</u> Blome	
			<u>C. triassica</u> De Wever	

Capnuchosphaera sp.
Corum perfectum Blome
C. speciosum Blome
Latium sp.
Syringocapsa sp. aff. S. turgida Blome

78Tr-100 68°23'45" 160°14'20"
 78W-7 no data
 78W-38780 68°04'42" 163°04'12"

Age: Late Triassic (late Norian)
Canoptum sp.
?Cantalum sp.
Capnuchosphaera sp.
Ferresium sp.
Laxtorum sp.
Pantaneillum sp. aff. P. dawsoni Pessagno
 and Blome
?Plafkerium sp.
Pseudohaliolodiscus sp.
Saria sp.

Siksikpuk or
 Shublik Fm.
 Siksikpuk Fm.

78ACn-722 68°27'06" 161°47'20"
 78ACn-723 68°27'04" 161°47'12"
 78Cx-89B 68°16'27" 160°08'30"
 78EK-113d 68°20'18" 161°46'30"
 78Md-73B 68°29'25" 159°15'45"
 76Tr-35A 68°34'30" 159°37'24"

Age: Late Triassic (Karnian or Norian)
?Capnuchosphaera sp.
?Capnodoce sp.
Triassocampe sp.
Eptingium sp.
?Plafkerium sp.

Ipsavik seq.
 Shublik or Siksikpuk Fm.
 The poor preservation precludes

78ACn-664 68°28'12" 161°50'42"
 78EK-4F 767°60'05" 7162°06'10"
 78EK-124C 68°23'54" 161°32'18"
 78W-38774 68°09'14" 162°58'54"
 Lisburne 68°29'05" 155°41'33"
 No. 1
 Well

Age: Triassic (?Late Triassic)
Canesium sp.
?Capnuchosphaera sp.
?Capnodoce sp.
Plafkerium sp.
?Saria sp.
?Triassocampe sp.

Siksikpuk Fm.
 Fortress Mtn. Fm.

The poor preservation prevents
 more precise age determinations.

78Tr-66A 68°31.6' 159°58.5'
 78Tr-236D 68°28.28" 155°34.70'
 78Tr-241A 68°27'92" 155°40.8"
 78W-38775 68°09'03" 162°58'36"

Age: Mesozoic (?Triassic)

The faunas are too poorly preserved for more precise age determinations. 78Tr-66A and 241A are from the Blankenship member of the Otuk Formation, Brooks Range sequence. 78W-38775 is from rocks originally assigned to the Siksikpak Formation.

78Md-113B 68°09'45" 160°18'30"
 78Md-132B 68°28'50" 161°18'00"
 78Tr-68B 68°31'18" 159°27'24"
 78Tr-235I₃ no data

Age: Mesozoic (Triassic or Jurassic)

Key Ck. seq., Etivluk Group

Bastille seq., Etivluk Group
 Shublik or Siksikpak Fm. (as originally assigned)
 The faunas are too poorly preserved for more precise age determination.

78ACn-872C 68°52'50" 151°20'50"

Age: Late Triassic (Norian) or early Jurassic. Gen. et sp. nov.

Radiolarian faunas poorly preserved

78Tr-235I₄ 68°28'28" 156°34'50"

Age: Late Jurassic
Parvicingula sp.
Ristola hui (Pessagno)

Originally assigned to the Blankenship member of the Otuk Formation

78ACn-631 no data
 78ACn-731 68°27'03" 161°47'06"
 78Md-140 68°15'30" 161°40'00"
 78Tr-233B 68°36.4' 156°33.4'
 78W-3 68°10'34" 163°11'00"
 78W-31 68°01'12" 164°37'24"
 78W-38783 68°09'40" 163°22'18"

Age: Mesozoic. Unidentifiable nassellarians

Ipsavik seq.
 Lisburne Fm., Brooks Range seq.
 Siksikpak or Shublik Fm.
 Unknown—Siksikpak or Kagvik Fm.
 Unknown—Siksikpak or Shublik Fm.

Lisburne No. 1 Well cuttings

7425-7440 ft
11,095-11,100 ft
11,100-11,105 ft
11,105-11,110 ft

Age: Triassic (late Karnian
to late middle Norian)
?Triassocampa sp.
Capnuchoosphaera sp.
Canesium lentum Blome
Capnuchoosphaera sp.
Sarla sp.
Capnodoce sp. aff. C. anspetes De Wever
Capnuchoosphaera mexicana Pessagno
Capnuchoosphaera sp.
?Canoptum sp.
Xipha sp.

Forty-one samples from other
depth intervals in the well were
barren.

82AKr-75 68°08' 165°56'

Age: Triassic (Late Ladinian)
Eptingium manfredi Dumitrica,
Staurocontium granulosum Dumitrica,
Kozur, and Mostler?, 1980
Poulpus sp.

Zeneegiksook Ch.

82AKr-72 as above

Age: Middle to late Karnian
Gorgansium sp.
Pseudostylosphaera japonica Nakaseko and Nishimura

82AKr-70 68°08' 165°56'

undescribed spongy form

Agate Rock

82AKr-69 as above

Age: Late Norian or younger
Acanthocircus sp., twisted spines

82AKr-61 as above

Miliolid (porcellaneous benthic Foraminifera)
undatable

79Md-93 no data

Age: Late Norian
Pseudoheliodiscus cf. P. sandapitensis Blome,
Betracium sp. aff. B. deweveri Pessagno and Blome

79Md-146B 68°18'54" 163°19'33"

Age: ?Early Jurassic
?Canutus sp. or ?Droltus sp.

79Md-160C	68°25'15"	160°57'20"	Age: Mesozoic Nassellarians
78Md-68C	68°29'10"	159°46'	Age: Late Karnian to late middle Norian <u>Capnuchosphaera</u> sp.
78Ek-92	68°21'03"	160°11'54"	Age: ?Early Jurassic Bagiastrid, ? <u>Canutus</u> sp.
79Md-75C	no data		Age: Mesozoic Nassellarians
78Md-30d	68°31'54"	179°17'00"	Age: Karnian ?Pseudostylosphaera sp., <u>Triassocampe</u> sp.
78Md-178B	68°14'28"	161°19'30"	Age: Karnian ?Staurodoras sp., <u>Gorgansium</u> sp. <u>Pseudostylosphaera</u> sp.
79Md-179d	no data		Age: Triassic ?Khaleosphaera sp.
79Tr-163D or B	no data		Age: Late Karnian to late middle Norian <u>Castrum perornatum</u> Blome, <u>Capnodoce</u> sp., <u>Canoptum</u> sp. aff. <u>C. laxum</u> Blome, <u>Capnuchosphaera</u> sp.
79Md-61E	68°18'06"	162°37'00"	Age: Karnian <u>Gorgansium</u> sp., <u>Pseudostylosphaera tenue</u> (Nakaseko and Nishimura), <u>Triassocampe</u> sp.
79Ek-291C	68°24'50"	156°52'10"	Age: Norian <u>Latium longulum</u> Blome, <u>Capnuchosphaera</u> sp.
79Ek-193d	68°24'30"	163°03'24"	Age: Probably Early Jurassic <u>Pseudoheliolodiscus</u> spp., <u>Paronella</u> sp., ?Canutus sp., ?Canoptum sp., <u>Napora</u> sp.
79Ek-194d	68°25'22"	163°31'00"	Age: Karnian <u>Eptingium</u> sp., <u>Staurodoras variabilis</u> Nakaseko and Nishimura, <u>Pseudostylosphaera hellenica</u> De Wever, <u>Triassocampe</u> sp.

79Md-109B	no data		Age: Early late or late Norian <u>Pseudoheliodiscus</u> sp., <u>Sarla</u> sp., <u>Ferrasin</u> sp., <u>Petrascium</u> sp.
79Md-106B	68°25'15"	163°21'33"	Age: Early to late middle Norian <u>Pseudoheliodiscus</u> sp., <u>Icrion</u> sp. cf. <u>I. geometrica</u> Blome, <u>I. cf. I. praecipua</u> Blome, <u>Catoma</u> sp.
79Gk-193C	68°29'00"	163°03'24"	Age: Probably Karnian <u>Pseudostylosphaera compacta</u> (Nakaseko and Matsuura)
78Ek-54	68°29'00"	159°03'30"	Age: Late Ladinian or Karnian <u>Pseudostylosphaera</u> sp., <u>Triassocampe</u> sp.
79Md-164B	68°08'45"	162°29'00"	Age: Mesozoic Naselleriens only
79Gk-182C	68°18'15"	163°03'06"	Age: ?Early Jurassic <u>Canutus</u> sp.
79Gk-11B	68°05'42"	162°54'12"	Age: Late Karnian to late middle Norian <u>Capnuchosphaera</u> sp., <u>Capnodoce</u> sp., <u>Poulpus</u> , <u>Corum</u> , <u>Sarla(?) externa</u> Blome, <u>Acanthocircus</u> sp.
82Tr-04A	no data		Age: Ladinian or Karnian <u>Eptingium</u> sp., <u>Pseudostylosphaera</u> sp.
79Tr-88C1	68°11'17"	162°12'18"	Age: Probably Early Jurassic <u>Canutus</u> sp., <u>Droltus</u> sp.
79Md-204D	68°25'00"	155°34'00"	Age: Late Karnian to late middle Norian <u>Capnuchosphaera deweveri</u> Kozur and Mostler, <u>C. schenki</u> Blome, <u>Corum perfectum</u> Blome, <u>Latium longulum</u> Blome, <u>Sarla prietoensis</u> Passagno <u>Capnodoce</u> sp.
75Ck-210D	68°15'30"	163°20'00"	Age: Probably Triassic <u>Sarla</u> sp., <u>Pseudostylosphaera</u> sp.
79Md-156C	68°21'28"	163°44'50"	Age: ? Karnian <u>Corum</u> sp., <u>Pseudostylosphaera</u> sp.

79Md-148C	68°18'00"	163°15'00"	Age: Probably Late Triassic <u>?Capnuhosphaera</u> sp., <u>?Eptingium</u> sp.
79Ek-204h	68°10'55"	163°19'10"	Age: Triassic <u>?Triassocampe</u> sp., conodont fragment
79Md-65C	68°13'45"	162°49'55"	Age: Late Triassic <u>?Capnuhosphaera</u> sp., <u>?Canoptum</u> sp.
79Cx-209G3	68°28'09"	162°37'20"	Age: Mesozoic Poorly preserved nassellarians
79Md-15A	68°21'28"	163°44'50"	Age: Early Jurassic (Sinemurian/Pliensbachian) <u>Canutus</u> sp. aff. <u>C. isensis</u> Pessagno and Whalen, <u>Pantanellium</u> sp., <u>Canoptum dixonii</u> Pessagno and Whalen
79Cx-203C	68°30'30"	162°12'36"	Age: Late Karnian to middle Norian <u>Acanthocircus</u> sp., <u>Pachus firmus</u> Blome, <u>Capnuhosphaera</u> sp.
77ACn-1421	no data		Age: Mesozoic Poorly preserved nassellarians
79Cx-73C	no data		Age: Early Jurassic <u>Canutus</u> sp. aff. <u>C. hecatensis</u> Pessagno and Whalen, <u>?Lupherium</u> sp., <u>Canoptum</u> sp., <u>Livarella</u> sp.
79Tr-88C.1	68°11'17"	162°12'18"	Age: Probably Early Jurassic <u>?Droetus</u> sp.
77ACn-611	no data		Age: Probably Late Triassic <u>?Pseudohelliodiscus</u> sp., <u>?Sarla</u> sp.
82Tr-04E	no data		Age: Early or Middle Jurassic <u>?Canutus</u> sp., <u>Paronaella</u> sp., <u>?Emiluvia</u> sp.
77ACn-362	68°33'25"	161°09'30"	Age: Probably Norian <u>Canoptum</u> sp., <u>Livarella</u> sp., <u>?Cepnodoce</u> sp.
79Ek-262e	68°15'48"	163°16'00"	Age: Ladinian or early Karnian <u>Eptingium</u> sp., <u>Pseudostylosphaera</u> sp.
79Cx-73G.1	68°23'33"	162°12'18"	Age: Possibly Late Triassic <u>?Capnodoce</u> sp. aff. <u>C. anapetes</u> De Wever; Foraminifera

79Md-187B	68°32'08"	156°14'25"	Age: Late Karnian to late middle Norian <u>Capnuchosphaera deweveri</u> Kozur and Mostler, <u>Capnuchosphaera</u> spp., ? <u>Pseudostylosphaera</u> sp.
79Md-11F	68°03'24"	162°47'25"	Age: Late Karnian to middle Norian <u>Capnuchosphaera</u> sp.
79ABe-257	67°57'10"	145°41'40"	Age: Possibly Late Triassic ? <u>Capnuchosphaera</u> sp. fragment
79Md-11B	no data		Age: Early Jurassic (probably Sinemurian) <u>Canutus rockfishensis</u> Pessagno and Whalen?, <u>Droetus</u> sp. aff. <u>D. lyellensis</u> Pessagno and Whalen, ? <u>Emiluvia</u> sp.
79Cx-191B	no data		Age: Possibly Middle Jurassic ? <u>Hsuum</u> sp., ? <u>Parvicingula</u> sp.
79ABe-273	68°32'50"	143°25'30"	Age: Late Karnian to middle Norian <u>Capnuchosphaera</u> sp., <u>C. deweveri</u> Kozur and Mostler; <u>Acanthocircus</u> sp. aff. <u>A. usitatus</u> Blome
78Tr-2351 ₄	68°32'50"	156°34.9'	Age: Triassic Foraminifera, conodonts; poorly preserved Nassellarians
79Md-200E	68°31'24"	155°38'30"	Age: Early to late middle Norian <u>Capnuchosphaera lenticulata</u> Blome, <u>Corum perfectum</u> Blome, <u>Capnodoce</u> sp., <u>Canoptum</u> sp., <u>Canesium</u> sp. cf. <u>C. lentum</u> Blome
79Ek-100B	no data		Age: Late Karnian to late middle Norian <u>Canesium lentum</u> Blome, <u>Capnuchosphaera</u> sp., <u>Capnodoce snaspeter</u> De Wever

Barren samples

78ACn-221	78ACn-461	78ACn-611	78ACn-663	78ACn-781	78ACn-861	78ACn-912	78ACn-1421
78EK-17D	78EK-5621	78EK-58	78EK-55B	78EK-139B	78ARe-040A	77Md-64	78Md-68C
78Md-84A	78Tr-68B ₂	68Tr-78A	68Tr-78B	64Tr-207	78W-9	78Avy-382	

Table 3. Stratigraphic Distribution of Radiolarians from the Otuk Formation, northern Alaska. Measured Sections: A = Akmelik Creek; Ay = Ayugatak Creek; M = Monotis Creek; N = Noyalik Creek; O = Otuk Creek; P = Punupkehkroak Mountain; and T = Tiglukpuk Creek.

RADIOLARIAN TAXA	Chert Member		Limestone Member		Blankenship Member
<i>Acanthocircus elegans</i>					
<i>A. harrissonensis</i>					
<i>Acanthocircus</i> sp.					
<i>Bagotus manducos</i>					
<i>Bagotus</i> sp.					
<i>Betraccius deweveri</i>					
<i>B. lacobatus</i>					
<i>B. yakounensis</i>					
<i>Cassius lentus</i>					
<i>Cassius lentus</i>	10 0	0 0	0	T	
<i>Cassius browni</i>					
<i>C. dixonii</i>					
<i>C. latus</i>					
<i>C. serus</i>					
<i>C. polemoni</i>					
<i>Cassius</i> sp.					
<i>Cassius alium</i>					
<i>C. globosus</i>					
<i>Cassius isenensis</i>					
<i>C. rockfishensis</i>					
<i>Capnodoc aspates</i>					
<i>C. crystallina</i>					
<i>C. minutula</i>					
<i>C. traversi</i>					
<i>C. retusa</i>					
<i>Capnodoc</i> sp.					
<i>Capnuchosphaera colesoni</i>					
<i>C. costata</i>					
<i>C. deweveri</i>					
<i>C. lenticulata</i>					
<i>C. mexicana</i>					
<i>C. schenki</i>					
<i>C. silvianensis</i>					
<i>C. smithsoni</i>					
<i>C. sockensis</i>					
<i>C. triassic</i>					
<i>C. tricornata</i>					
<i>Capnuchosphaera</i> sp.					

RADIOLARIAN TAXA	Chart Member	Limestone Member	Blankenship Member
<i>Corus perfectus</i>		0 0 0 T	
<i>C. regius</i>	0	0 0 0 P	
<i>Corus</i> sp.	0	0 0 0 OA	
<i>Droplitus hecatensis</i>			P
<i>D. lascekenensis</i>			A
<i>Euluvina cochleata</i>	A		
<i>Eptingius masfredi</i>	P M		
<i>Ferresius lascekenensis</i>			P P
<i>Ferresius</i> sp.			N
<i>Gorgonellus</i> sp.	T		
<i>Latium paucum</i>	0	0 0 0	
<i>Lextorus atlensis</i>			N
<i>L. biodei</i>			N
<i>L. kulense</i>			N
<i>Lextorus</i> sp.			NA
<i>Liverella densiporata</i>			A
<i>Orbiculiformis</i> sp.	D		
<i>Pachus</i> sp.	P	N OI	
<i>Pentanebellium browni</i>			P
<i>P. fosteri</i>			P
<i>P. kulense</i>			P
<i>P. tenuense</i>			P
<i>P. toseri</i>		P P P	
<i>Peronaeella</i> sp.	0 0	0	
<i>Parvicingula</i> sp.			P
<i>Plattherium biodei</i>		0 0 0	
<i>Pseudoheliodiscus sandepitensis</i>			
<i>P. yaoi</i>		M Ay	P
<i>Pseudoheliodiscus</i> sp.			N
<i>Pseudostylosphaera compacta</i>			A P NA
<i>P. belicatus</i>	A		

HABITOLARIAN TAXA	Chert Member				Limestone Member	Blankenship Member
<i>P. hellenica</i>		P	A	T		
<i>P. japonica</i>	P		Ay	A		
<i>P. nasarovi</i>	O	O		A		
<i>P. tenue</i>				M		
<i>Pseudostylosphaera</i> sp.		M		Ay		
<i>Relatus reefensis</i>						P P
<i>Rensium webbergorum</i>				A		
<i>Serla natividadensis</i>					O O O	
<i>S. plena</i>				N		P
<i>Serla</i> sp.			P	Ay N	O O O	
<i>Staurocontium minoense</i>		M				
<i>Syringocapsa turgida</i>					T	Ay
<i>Syringocapsa</i> sp.		O			O O O O	
<i>Triassocampe deweveri</i>	O	MO		O	O	
<i>T. immatum</i>					A	A
<i>T. scalaris</i>	P					
<i>Triassocampe</i> sp.		O	AP	TM	T	
? <i>Tripocyclia japonica</i>		O				
? <i>Tripocyclia</i> sp.	P	M		Ay		
<i>Vaghiocyclia</i> sp.						P
<i>Xenorua largum</i>	O			A		
<i>Xipha pessagnoii</i>			P			
<i>X. striata</i>					A	
<i>Xipha</i> sp.	O	O				
<i>Yeharala japonica</i>			M			
<i>Y. annulata</i>	O O	O		O		