



Fossil Collections	
2-1	<i>Zoophycus</i> sp.
2-2	<i>Martinita</i> sp., <i>echinoderm</i> and <i>brachiopod</i> fragments
4-1	<i>Martinita</i> sp., <i>Spiriferella</i> sp., <i>Limnoproductus</i> ? sp., <i>Straparollus</i> (<i>Euomphalus</i>) <i>alaskensis</i> , horn corals
5-1	<i>Zoophycus</i> sp.
5-2	<i>Martinita</i> sp., <i>Eosianites</i> ? sp., <i>brachiopods</i> and worm burrows
5-3	<i>Martinita</i> sp., <i>Spiriferella</i> sp., <i>Anidanthus</i> sp., <i>Agathiceras</i> sp., <i>echinoderm</i> and <i>brachiopods</i>
6-1	<i>Horridonia</i> sp., <i>Kuvvelousia</i> sp., <i>Spiriferella</i> sp., <i>Punctospirifer</i> sp., <i>bryozoa</i> and trilobite
6-2	<i>Timaniella</i> ? sp., <i>Neophrictodithys</i> ? sp.
6-3	<i>Brachiopod</i> fragments (indet.)
6-4	<i>Zoophycus</i> sp.
7-1	<i>Martinita</i> sp., <i>Anidanthus</i> ? sp., <i>echinoderm</i> fragments, worm burrows
8-1	<i>Martinita</i> ? sp.
8-2	<i>Martinita</i> ? sp., <i>Spiriferella</i> sp.
9-1	<i>Zoophycus</i> sp.
9-2	<i>Derbyia</i> sp., <i>Yakovlevia</i> sp., <i>Spiriferella</i> sp., <i>Chelthyridina</i> ? sp.
9-3	<i>Derbyia</i> sp., <i>Yakovlevia</i> sp., <i>Horridonia</i> sp., <i>Kochliroductus</i> sp., <i>Spiriferella</i> sp.
9-4	<i>Waagenoconcha</i> sp., <i>Rhynchopora</i> sp., <i>Cleiothyridina</i> sp., <i>Tomiopsis</i> ? sp.
9-5	<i>Septospirifer</i> ? sp.
9-6	<i>Martinita</i> sp.

DISCUSSION

Measured sections of the Sadlerochit Group and Siksikuk(?) Formation were obtained during reconnaissance geologic mapping of the Arctic and Table Mountain quadrangles, Alaska. Sections 6 and 9 were obtained as part of the Denarcation Point quadrangle mapping project (Reiser and others, 1980), and section 9 is at the type locality for the Joe Creek Member of the Echooka Formation, Sadlerochit Group (Detterman and others, 1975). The remaining sections were obtained during reconnaissance mapping of the Table Mountain and Arctic quadrangles (Brosge and others, 1976).

Exposures of the Sadlerochit Group in the Arctic and Table Mountain quadrangles represent a distal facies of the sequence present on the north side of the Brooks Range (Detterman, 1974). Dark gray to black siliceous siltstone and shale constitute the main part of the Ivishak Formation at the top of the Sadlerochit. These rocks are included as part of the basal facies of the transgressive Kavik Member of the Ivishak Formation. A thin sequence of the regressive Ledge Sandstone Member of the Ivishak Formation is preserved only in the northeastern part of the Arctic quadrangle, where it represents a distal facies of the southward propagating deltaic system that was mapped in the Denarcation Point quadrangle to the north (Reiser and others, 1980; Detterman and others, 1975; Detterman, 1974).

Most of the Sadlerochit Group exposed in the Arctic and Table Mountain quadrangles is a part of the Echooka Formation, and represents an intertonguing sequence of transgressive Joe Creek Member and regressive Ikiakpaurak Member. The Ikiakpaurak Member consists mainly of fine-grained quartzitic sandstone and dark gray siliceous to micaceous siltstone. The Joe Creek Member is characteristically calcareous with thin to thick light yellow to tan siltstone and shale. A black chert interval is present in the type

section on Joe Creek. This interval increases in thickness to the southwest, and is herein locally considered to be a part of the basal facies characteristic of the Siksikuk Formation. Rocks of the basal Siksikuk facies are generally more brightly colored than the drab olive-gray to tan of the Echooka Formation. Orange, yellow, pale-green to black siltstone, shale, and chert are characteristic of the Siksikuk Formation, and shale and claystone are generally more abundant than in the Echooka Formation.

Fossils are locally abundant, but are restricted almost entirely to the open shelf facies limestone and calcareous siltstone of the Joe Creek Member. Brachiopods form the bulk of the fauna and have been identified as lower Permian (Salamanian to Ufianian) by J.T. Dutro, Jr. (written commun., 1971, and 1982). Several ammonites in section 5 (5-2 and 5-3) were identified by McKenzie Gordon, Jr. (written commun., 1982) as ranging from late Pennsylvanian to early Permian. Consequently, some of these rocks may be as old as Pennsylvanian, but the preponderance of evidence suggests a lower Permian age for the Echooka Formation. A few specimens of the trace fossil *Zoophycus* were found in the Ikiakpaurak Member; they are found commonly in the member on the north side of the Brooks Range. Worm burrows were the only evidence of life forms in the Ivishak Formation in the Arctic and Table Mountain quadrangles. North of the Brooks Range the formation contains a moderately abundant ammonite fauna characteristic of the lower Triassic (Detterman and others, 1975).

References cited

Brosge, W.P., Reiser, H.N., Dutro, J.T., Jr., and Detterman, R.L., 1976, Reconnaissance geologic map of the Table Mountain quadrangle, Alaska: U.S. Geological Survey Open-File Report 76-546, 2 sheets, scale 1:250,000.

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Sections of Sadlerochit Group and Siksikuk(?) Formation from Arctic and Table Mountain Quadrangles, Alaska
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