IVISHAK FORMATION MEASURED SECTIONS
ARCTIC NATIONAL WILDLIFE REFUGE, NORTHEASTERN ALASKA

BY
NINA T. HARUN

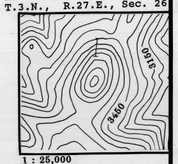
CENTRAL SADLEROCHIT MTS. EAST OF KATAKTURUK CANYON

STRATIGRAPHIC SECTION 86NH05
LAT. 69° 35' 30" N. LONG. 145° 27' 00" W.

EXPLANATION

Rip up Clasts; U Shaped Burrows; H Hematite Stained; Pebble Layer; Parallel Laminations; Bioturbated Tops; Ripples; Trough Crossbeds; Hummocky Crossbeds; Low Angle Crossbeds; High Angle Crossbeds; F Fossils; Erosional Scour; Tool marks; Sandstone; Siltstone; Shale; Conglomerate

MT. MICHELSON (C-3) QUAD.
T.3.N., R.27.E., Sec. 26



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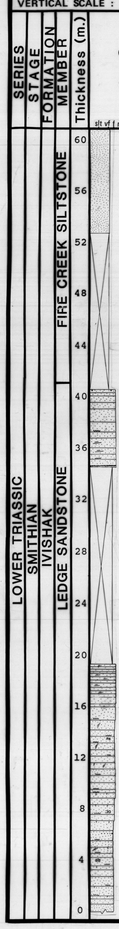
VERTICAL SCALE : 1 cm = 2 meters



LITHOFACIES	Lithologic Description	Interpretation
	Secondary questa unit- very fine grained, white quartz arenite with abundant pyrite.	
	covered interval- top of primary questa unit, distinctive orange soil.	
	Fine grained, white quartz arenite with abundant pyrite. At base of interval thin coarser (medium to coarse) grained layer with abundant chert and pyrite. Thick bedded, thinning upward, oscillation ripples and low angle crossbeds at base of unit. Bed at top of unit contains possible vertical burrows.	Reworked inner shelf to nearshore.
	covered interval	
	Very fine to fine grained, light blue quartz arenite, weathering beige with abundant pyrite. Rare thin interbeds of coarser (medium grained) grained quartz, chert and pyrite sometimes associated with crossbeds. Thick succession of thick beds with some medium beds. Beds thin up section. Bedding planes defined by oscillation ripples and some bioturbated tops. Abundant crossbeds, primarily high angle crossbeds, trough crossbeds and possible hummocky crossbeds. Low angle crossbeds predominate as beds thin towards the top of the interval.	Reworked inner shelf to nearshore. (foreshore to middle shoreface)

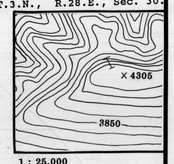
QUESTA NORTH OF IGNEK MESA

STRATIGRAPHIC SECTION 86NH04
LAT. 69° 34' 55" N. LONG. 145° 20' 30" W.

EXPLANATION

Rip up Clasts; U Shaped Burrows; H Hematite Stained; Pebble Layer; Parallel Laminations; Bioturbated Tops; Ripples; Trough Crossbeds; Hummocky Crossbeds; Low Angle Crossbeds; High Angle Crossbeds; F Fossils; Erosional Scour; Sandstone; Siltstone; Shale; Conglomerate

MT. MICHELSON (C-3) QUAD.
T.3.N., R.28.E., Sec. 30.



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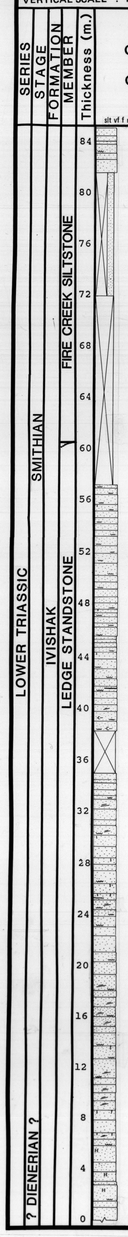
VERTICAL SCALE : 1 cm = 2 meters



LITHOFACIES	Lithologic Description	Interpretation
	Very fine grained white to beige quartz arenite weathering orange beige with abundant pyrite. Thick bedded with some ripple marks and bioturbated tops.	Reworked inner shelf to nearshore.
	rubblecrop	
	covered interval- top of main questa unit, orange soil	
		Reworked inner shelf to nearshore.
	Very fine to fine grained light gray-blue to light purple quartz arenite, weathering beige with abundant pyrite, base of unit is hematite stained. Occasional discontinuous interbeds of coarser grained (fine to medium grained) quartz and chert 2 to 5 cm thick 3 m wide that parallel bedding planes. Extremely regularly bedded thick beds thinning up section. Beds thicken and thin laterally. Abundant ripples increasing up section, Poorly exposed low angle crossbeds evident towards base of the section. Bioturbated tops of beds. Possible tool marks in middle of interval.	Reworked inner shelf to nearshore. (foreshore to middle shoreface)
cover		

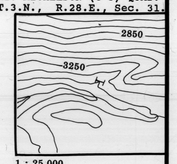
CENTRAL SADLEROCHIT MTS. NORTH OF IGNEK MESA

STRATIGRAPHIC SECTION 86NH03
LAT. 69° 34' 15" N. LONG. 145° 21' 00" W.

EXPLANATION

Rip up Clasts; U Shaped Burrows; H Hematite Stained; Pebble Layer; Parallel Laminations; Bioturbated Tops; Ripples; Trough Crossbeds; Hummocky Crossbeds; Low Angle Crossbeds; High Angle Crossbeds; F Fossils; Erosional Scour; Sandstone; Siltstone; Shale; Conglomerate

MT. MICHELSON (C-3) QUAD.
T.3.N., R.28.E., Sec. 31.



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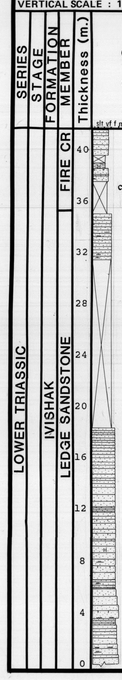
VERTICAL SCALE : 1 cm = 2 meters



LITHOFACIES	Lithologic Description	Interpretation
	covered interval- top of questa	
	Very fine grained quartz arenite weathering beige with abundant pyrite, thick to medium bedded. Fire Creek Member-Light gray very fine grained quartz arenite to siltstone weathering red brown with hematite staining.	
	White to gray very fine grained quartz arenite. Evenly bedded medium beds contain rare ripples. Low angle or planar laminations define by slightly coarser grained (fine to medium grained) chert.	Reworked inner shelf to nearshore.
	covered interval	
	Very fine to fine grained light blue quartz arenite weathering beige with pyrite and sporadic hematite stain. Oscillation ripples in lower portion of interval. Low angle crossbeds in thicker beds, bioturbated tops. Medium to thick beds form four distinct fining and thinning up packages Interval thins and fines overall.	Reworked inner shelf to nearshore.

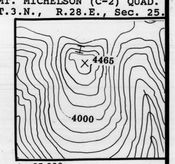
ONE DRAINAGE WEST OF FOSSIL CREEK

STRATIGRAPHIC SECTION 86NH13
LAT. 69° 35' 10" N' LONG. 145° 9' 30" W.

EXPLANATION

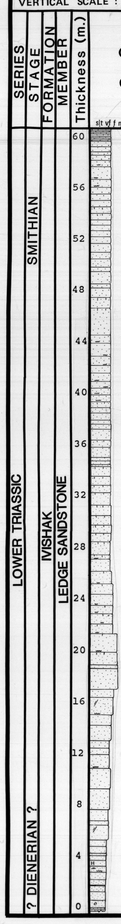
Rip up Clasts; U Shaped Burrows; H Hematite Stained; Pebble Layer; Parallel Laminations; Bioturbated Tops; Ripples; Trough Crossbeds; Hummocky Crossbeds; Low Angle Crossbeds; High Angle Crossbeds; F Fossils; Erosional Scour; Sandstone; Siltstone; Shale; Conglomerate

MT. MICHELSON (C-2) QUAD.
T.3.N., R.28.E., Sec. 25.



1 : 25,000

VERTICAL SCALE : 1 cm = 2 meters



LITHOFACIES	Lithologic Description	Interpretation
	Thick succession of thick-bedded, light gray, very fine to medium-grained quartz arenite. Grain size increases in thicker bedded intervals but averages fine-grained.	
	Beds lense laterally and fracture into lensing interbeds.	
	Bedding sequence form discrete thickening-thinning up packages with thicker bedded packages towards base of the section and thinner bedded packages towards top of the section.	Reworked inner shelf to nearshore.
	General thickening then thinning up section.	(foreshore to middle shoreface)
	High angle crossbeds in lower part of interval. Numerous bedding planes contain oscillation ripples. Bioturbated bedding surfaces.	
	Hematite stained, light gray very-fine quartz arenite, circular 3 cm long horizontal burrows, spheroidal weathering, medium to thick-bedded thickening up, shale drape near base.	

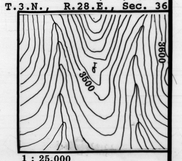
WEST OF FOSSIL CREEK

STRATIGRAPHIC SECTION 86NH12
LAT. 69° 34' 30" N. LONG. 145° 9' 00" W.

EXPLANATION

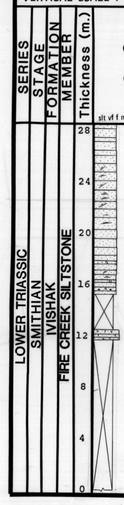
Rip up Clasts; U Shaped Burrows; H Hematite Stained; Pebble Layer; Parallel Laminations; Bioturbated Tops; Ripples; Trough Crossbeds; Hummocky Crossbeds; Low Angle Crossbeds; High Angle Crossbeds; F Fossils; Erosional Scour; Sandstone; Siltstone; Shale; Conglomerate

MT. MICHELSON (C-2) QUAD.
T.3.N., R.28.E., Sec. 36



1 : 25,000

VERTICAL SCALE : 1 cm = 2 meters



LITHOFACIES	Lithologic Description	Interpretation
	Very fine to fine-grained, light gray quartz arenite with occasional medium-grained chert concentrated towards base of beds, pyrite, hematite staining and spheroidal weathering. Shale rip ups at base of interval. Medium to thick-bedded mostly thick, increasing up to top of section. Planar laminations overlain by tangential crossbeds. Tool marks on top of some bedding surfaces. Abundant crossbedded interval- primarily low angle crossbeds, alternating with planar laminations, tangential and hummocky crossbeds. Beds show lensing hummocky fracture.	Reworked inner shelf
	Fine-grained, olive gray quartz arenite, highly weathered. Medium to thick-bedded with vertical burrows and bioturbated surfaces.	
	Fire Creek Siltstone Member - secondary questa unit-	
	covered interval - orange soil	