## MILKY RIVER

## STRATIGRAPHIC SECTION

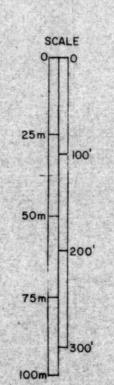
Secs. 33, 34, T. 48 S., R. 69 W. MAP LOCATION NO. 205

JULY 1977

MEASURED BY: W. LYLE
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and the state of t	-	1					Porosity Permed or or Age Enviro	ability or onment
		Sample no.		VOLCANI	IC SEQUENCE			
-	-		JUN-	75'est.	SANDSTONE	- Orange, weathering, crossbedded.		
						(2500' elevation, helicopter altimeter)		
			805	90'	SANDSTONE	- Muddy, with pebbles. Top 3 feet has pelecypods and gastropods.		
		*103-WL-77-	0 5 5	62'	SANDSTONE	- Muddy wassive frights with slavetone sense 2 feet see a large to 1		
		102-WL-77 101-WL-77				- Muddy, massive, friable, with claystone zones. 3-foot zone of pelecypods in sandy mudstone at top.	Marine?	
				61'	SANDSTONE	- 85%, with mudstone beds 6 inches to 2 feet.		
			00000000000000000000000000000000000000	COL	SANDSTONE	- Massive, with concretions to 1 foot 5 inches, friable, poorly sorted, volcancic floating pebbles. 3-foot conglomerate at base, 1-foot conglomerate at top and 1 1/2-foot conglomerate 18 feet from top.		
			500 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	42	SANDSTONE, MUD	STONE AND CONGLOMERATE - Alternating.		
		4	/ 000g	33' 63'	SANDSTONE SANDSTONE	- Friable with thin mudstone stringers and 6-foot bed at top.  '- assive, with abundant petrified logs and chunks. 2 1/2-foot claystone at top. Partially covered.		
				-00'				
	z		00,000,000	90	SANDSTONE	- With mudstone and conglomerate. 70% sandstone. Penecontemporaneous swirled bedding.		
		100-WL-77 _ 99-WL-77		21'	MUDSTONE	- Gray-brown (5YR3/2), hackly fracture, rust stained.		
	0	¥98-WL-77¬		35	SANDSTONE	- Massive, muddy, friable, concretionary bed 22 feet from bottom.  - Weathers yellow-brown, massive, friable. Calcareous resistant crossbeds in 1 1/2 to 3-foot sets. Conglom-		
		97-WL-77 96-WL-77 95-WL-77	000000000000000000000000000000000000000	22'	SANDSTONE INTERBEDDED CO	erate pubble to cobble lens of channel fill at top.  - With thin pods of pebble conglomerate, crossbedded, pelecypods and gastropods in top 6 inches.  NGLOMERATE AND SANDSTONE - Conglomerate: Pebble to cobble, sandstone matrix, volcanic clasts, jarosite-		
		* 94-WL-77} 93-WL-77 -		25	SANDSTONE	stained. Sandstone: moderate olive-brown (5Y4/4), medium- to coarse-grained, friable and indurated beds, 1-inch burrows.  - Medium- to coarse-grained, floating pebbles, low-angle crossbeds in 3-foot sets. 6-inch mudstone at too.	17.7% 53	SmD
	-	92-WL-77 91-WL-77 90-WL-77		28'	SANDSTONE SANDSTONE, MUD	- Olive-gray-green, fine- to medium-grained, highly crossbedded in 2 1/2 to 8-foot beds. Weathers to grains 85%, with thin mudstone stringers and 3 feet of claystone at top with low-angle crossbeds in 13-foot sets. Sandstone crossbedded also		
	4	89-WL-77)		50'	-SANDSTONE AND	MUDSTONE - Sandstone and pebbly sandstone in top 15 feet, medium-dark-gray (N5), poorly sorted, crossbedded, graded beds. Sandstone and mudstone alternate in top 10 feet, 60% mudstone.	Ma Open Ma	arine arine
				96'	SANDSTONE ALTERNATING SAI	- Massive; with concretions, 1 foot through long axis of ellipsoid; worm borings random on bedding planes.  4-foot sandstone and 2-foot mudstone at base.  NDSTONE AND MUDSTONE - Sandstone, 85% in 4 to 10-foot beds; mudstone laminae 1/32 to 1 inch wide. Locally		
	Σ		.0000000			conglomeratic lenses. Mudstone lenses 6 inches to 1 foot thick. Petrified logs at top.		
	æ	87-WL-77 }_ *86-WL-77 }_		48'	SANDSTONE AND I	MUDSTONE - 60% sandstone in lower half, medium- to coarse-grained, well-indurated, concretions, wood chips and carbonaceous debris. More mudstone in upper half in 1 to 6-inch beds. Sandstone in 1-inch to 2-foot		
[ "		85-WL-77	0000	71.'	SANDSTONE AND	beds, pelecypoids and gastropods.  CONGLOMERATE - In alternating 10 to 15-foot beds. Some crossbeds, some parallel beds. Sandstone from 15 to  30 feet from top is indurated. Reeds and pelecypods in float at top.		
z	0	84-WL-77- 83-WL-77	2000	25'	ALTERNATING SAM	NDSTONE AND MUDSTONE - 50% sandstone, thin beds 2 inches to 1-foot thick, crossbedding to 30°; mudstone 1/2- inch to 8 inches. Local conglomerate at top. Soft-sediment deformation, load casts in shale, clay rip-up clasts.	17.5% 0.	. <b>8</b> 6n
		82-WL-77	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	23'	SANDSTONE	- With pebbles and conglomerate stringers, massive, moderately friable, with concretionary layer. Upper 4 feet is conglomerate zone, matrix supported, subround volcanic clasts. Oxidized layer 3 to 4 inches at top.		
- ш	<b>L</b>		0 0 0 0	55'		ND SANDSTONE - Mostly conglomeratic sandstone with pebble conglomerate zones and a 2-foot pebble-cobble zone at top. Sandstone: gray-olive (10Y4/2). Clasts 1/4 to 2-inches, round to subround. Channel cut-and-fill, graded bedding sequence upward.		
U				21'	SANDSTONE	<ul> <li>With mudstone stingers, crossbedded, very friable. 2-foot mudstone at tops, moderate brown (5YR3/4),</li> <li>1 to 1-1/4 inch burrows.</li> <li>Fine-grained, well-sorted, crossbedded up to 15-foot sets, petrified wood and carbonaceous fragments.</li> <li>Lenses of pebble to cobble conglomerate and 2 1/2-foot mudstone at top.</li> </ul>		
		81-WL-77-		27'	SANDSTONE SANDSTONE	- With thin conglomerate and mudstone zones. Sandstone beds 4 to 10 feet thick. Pebble conglomerates.  - Fine- to coarse-grained, poorly sorted, iridescent, very dusky purple (5P2/2). 2 1/2-foot conglomerate and 2-foot mudstone at top. Mudstone: olive-black (5Y2/1), platy fracture, friable.		
0	Ш	79-WL-77/ 78-WL-77-	\$ 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	30'	SANDSTONE AND A	- Gray-olive-green (10GY3/2), fine-grained, massive bedding, indurated in calcareous concretion layers.  Mudstone stringers, 1/4 to 1 1/2 inches, increases in number upward. 2-foot pebble-cobble conglomerate at base.  MUDSTONE - Sandstone: 60%, light olive-brown (5Y5/6), fine-grained, extremely friable. Mudstone: 6 inches to 1		m D
-	×	77-WL-77 76-WL-77 75-WL-77)	00000000	24'	SANDSTONE	foot thick beds Moderate olive-brown (5Y4/4), fine to very fine grained, symmetrical ripples to 5 inches wavelength and 1/2-inch amplitude.	17.6% 72r 16.8% 0.05r	mD imD
-		A72-WL-77 -	ac n a <b>a a c a a c</b>	_18' _26'		MUDSTONE - Sandstone: 60%, thin bedded, wavy zones and ripple marks. 1 1/2-foot conglomerate zone at top.  STONE AND CONGLOMERATE - Cyclic deposits 3 to 4 feet thick. Mudstone: dark-yellowish brown (10YR4/2).  - Moderate olive-brown (5Y4/4), fine-grained, moderately friable, 1/2 to 1 inch thick, harder calcareous lenses.	12.8% 0.	.26m
Σ	A	103A-WL-77- 104-WL-77- * 105-WL-77-		45'	MUDSTONE AND SA	- Fine- to medium-grained, very friable, with concretionary zones near base.  NDSTONE - Sandstone: 35%, as above. Mudstone, as below. A 1-inch, fossiliferous, fine- to medium-grained,		
	L			68'	MUDSTONE	hard sandstone at top Olive-brown (5Y4/4), thin bedded.		
]				23'	SANDSTONE	- Light olive-brown (5Y5/6), fine- to medium-grained, many pelecypods. Grades into banded mudstone and mud-		
			76.25.25.25.25.25.25.25.25.25.25.25.25.25.	45'	SANDSTONE CONGLOMERATE	stone at top. Hard 1-foot concretionary bed at bottom.  - Light olive-brown (5Y5/6), fine- to medium-grained, lavered concretions, crossbedded, with mudstone partings, very itiable. Mudstone at base: 4-1/2 leet, moderate office-brown (5Y4/4), friable.  - Pebble to boulder; clast supported, clay to 5-foot boulders, 80% volcanic, 20% quartz and plutonic. Well-	4.5% 10r	mD
	œ	· 42-GB-77-				indurated, ridge former, pelecypods at base, tuffaceous matrix.  MUDSTONE - Sandstone: light grayish olive (10Y5/2) at bottom and dark olive-gray (5Y3/1) at top, both very  fine to medium grained; calcareous layers in bottom, pebbles to conglomerate in top. Mudstone: 8 feet	17.0%	
-		41-GB-77 40-GB-77	000000000	57	SANDSTONE AND N	in center of interval, dark olive-gray (5Y3/1), calcareous in layers, locally pebbly, abundant pelecypods Moderate olive-brown (5Y4/4), muddy. Fine- to medium-grained, abundant shale partings, jarosite-stained. MUDSTONE - Sandstone: yellowish-brown (10YR6/4), muddy, fine- to medium-grained, calcareous concretions	17.6% 721	mD
	A		0000000000	20'	SANDSTONE	in layers. Mudstone: dark yellowish brown, laminated. Both jarosite-stained.  - Grayish black (N2), muddy, fine- to medium-grained, local shale partings, pebbles in layers, crossbedded sequences 5 to 10 feet thick with 6-inch to 1-foot pebble-cobble conglomerate at base. Foresets indicate transport to northeast. Calcareous concretions, coal fragments, some jarosite stain.	72.8%26	SmD
	ш	39-GB-77-	00000000	31'	SANDSTONE	- Grayish olive (10Y4/2), muddy, very fine to fine-grained; 2 to 8-inch beds with mudstone, olive-gray (5Y4/1) in 1/4-inch to 3-inch wavy beds. Layered calcareous concretions in sandstone. Jarosite-stained Light olive-brown (5Y5/6), silty, very fine to medium-grained, in laminations with mudstone, olive-		
		38-GB-77) 37-GB-77)	B 9	_35 <sup>'</sup>	MUDSTONE SANDSTONE	<ul> <li>black (5Y2/1) above basal 6 feet. Jarosite-stained.</li> <li>Olive-black (5Y2/1), laminated, with pebbly sandstone and conglomerate in lenses and at top 7 feet of bed, medium light gray (N6) and light olive-brown (5Y5/6). Crossbedded at top.</li> <li>Light olive-brown (5Y5/6), fine- to medium-grained, pebbly in layers, mudstone stringers, pebble to cobble</li> </ul>	4.0% 1.831	mD
	8		B 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	64'	SANDSTONE	conglomerate in lenses, crossbedded, jarosite-stained Moderate olive-brown (5Y4/4) (moist), silty, very fine to medium-grained, with lenses of pebble to cobble conglomerate, coal and shale stringers, calcareous concretions in layers, wavy cross-laminations. 3-		
			900	44'	SANDSTONE	to 6-foot beds of conglomerate and mudstone at top.  - Olive-gray (5Y3/2), silty, very fine to fine-grained, thin coal stringers, some shale laminae, pebble to conglomerate layers, very friable, jarosite.		
		36-GB-77 35-GB-77		55	SANDSTONE	- Dusky yellow (5Y6/4), muddy, very fine to medium-grained, 2 to 8-foot beds, lensy, wavy laminations, locally pebbly, with mudstone interbeds.		
			000000	15'		SANDSTONE AND MUDSTONE - Interbedded, sandy conglomerate. Sandstone: dusky yellow (5Y6/4), muddy, very fine to medium-grained. Mudstone: olive-black (5Y2/1). Friable, calcareous concretions with limonite nodules in sandstone and conglomerate, cross laminations, beds, jarosite-stained.		
		34-GB-77) 33-GB-77)	 		SANDSTONE	- Greenish gray (5GY6/1), muddy, very fine grained, shale partings, laminations, locally cross-laminated, friable, calcareous concretions with limonite nodules in layers. In upper half, shale partings become so numerous as to constitute interbeds of laminated mudstone, olive-gray (5Y4/1). Jarosite-stained.		
			B	/	INTERBEDDED SAM	NDSTONE AND MUDSTONE - Sandstone: greenish gray (5GY6/1), muddy, very fine to fine-grained, with interbeds of medium-dark-gray (N4) sandstone, very fine to medium-grained. Mudstone: olive-gray (5Y4/1) and black (N1). All beds 4 feet, jarosite-stained. Calcareous concretions		
				104'	SANDSTONE	in sandstone layers.  - Greenish gray (5GY6/1), muddy, very fine to medium-grained, very friable, shale partings, coal stringers, cross-laminations, locally pebbly. Contains lenses of sandstone light olive-gray		
,				+		(5Y6/1), fine- to medium-grained, cross-laminated, locally pebbly.		
				59'	SANDSTONE	- Greenish gray (5GY6/1), very fine to medium-grained; with interbeds of mudstone, olive-gray (5Y4/1), coal fragments, jarosite-stained. Sandstone beds to 12 feet; mudstone beds to 3 feet.		
		32-GB-77)		<b>35</b> '	SANDSTONE	- Greenish gray (5GY6/1), muddy, very fine grained, laminated, very friable; grades upward to		
		31 -GB-77) 30-GB-77	• • • •	18'	- SAKISTONE	laminated olive-gray (5Y4/1) mudstone and then back to sandstone. 2-foot sandstone at top, light olive-gray (5Y6/1), fine- to medium-grained, cross-laminated, calcareous, pebbles in layers.	5.1% 2.0im	.2
		29-GB-77-	85 6 8 8 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	25	SANDSTONE .	gray (5Y6/1), very fine to fine-grained, calcareous, cross-laminated.  - Light olive-gray (5Y6/1), very fine to coarse-grained, friable, pebbles in layers define cross-  'laminations, pebble conglomerate lenses, calcareous concretions in layers, coal fragments, jarosite-stained.		
			<del>6</del> 6 6	77	CONGLOMERATE	- Pebble to cobble; with sandstone, olive-gray (5Y4/1), thin bedded, conglomeratic, very fine to coarse-grained. Angular coal fragments, shale rip-ups, pebbles in layers define cross-laminations. Chert, quartz, volcanic rock fragments in conglomerate. Calcareous concretions, friable.	10.1% 0.12 m	nD
			COVERED		SANDSTONE	- Medium dark gray (N4), very fine to medium-grained, very friable, calcareous concretions in layers, carbonaceous debris, coal stringers to 1/16-inch, jarosite stains; shale partings, olive-gray (5Y4/1).		

\* SEE TABLE 8 FOR IDENTIFICATION OF MACROFOSSILS AND U.S.G.S. CENOZOIC LOCALITY NUMBER.



STATE OF ALASKA
DEPT. OF NATURAL RESOURCES
Div. of Geological & Geophysical Surveys