Report of Investigation 2021-4A
LePain and Helmold, 2021
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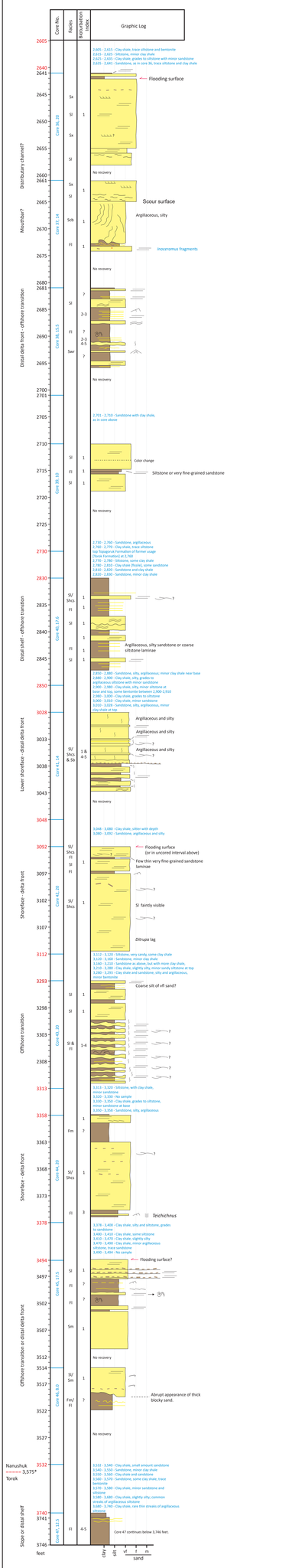
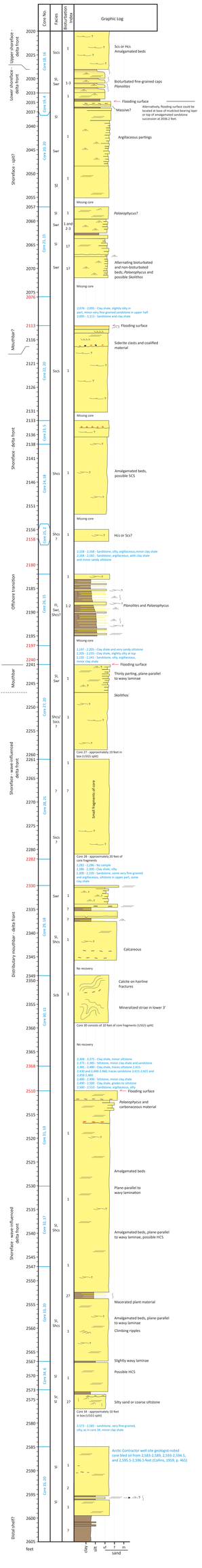
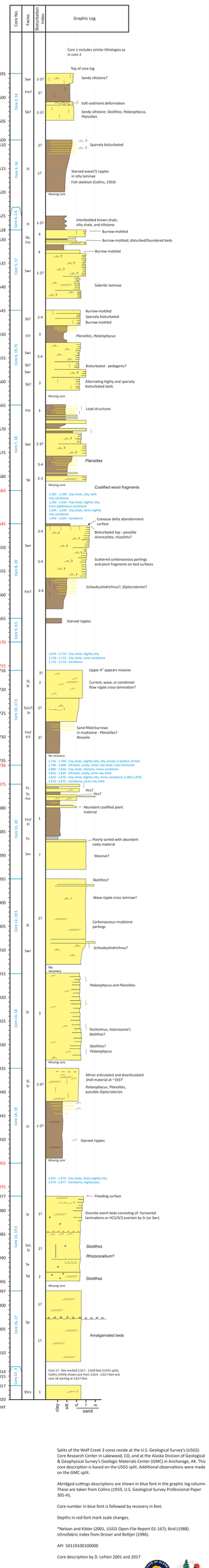
Discontinuously-cored topsets of the Nanushuk Formation (Albian-Cenomanian), Wolf Creek Test Well 3, National Petroleum Reserve-Alaska: Deposition in wave-influenced delta front and bayfill settings







Key to Lithologies and Symbols

- Sandstone
- Mudstone
- Carbonaceous mudstone
- Horizontal lamination
- Cross-bedding (trough and planar)
- Current ripple cross-lamination
- Climbing current ripple cross-lamination
- Wave ripple cross-lamination
- Low-angle, planar laminae
- Hummocky cross-stratification (HCS; question mark denotes uncertainty in identification)
- Swaley cross-stratification (SCS; question mark denotes uncertainty in identification)
- Soft-sediment deformation (convolute bedding)
- Bioturbation
- Mudstone rip-up clast
- Sideritized clast
- Coal spar or coalified plant fragment
- Pelecypod fragment
- *Teichichnus*

Splits of the Wolf Creek 3 cores reside at the U.S. Geological Survey's (USGS) Core Research Center in Lakewood, CO, and at the Alaska Division of Geological & Geophysical Survey's Geologic Materials Center (GMC) in Anchorage, AK. This core description is based on the USGS split. Additional observations were made on the GMC split.

Abridged cuttings descriptions are shown in blue font in the graphic log column. These are taken from Collins (1959, U.S. Geological Survey Professional Paper 305-H).

Core number in blue font is followed by recovery in feet.

Depths in red font mark scale changes.

*Nelson and Kibler (2001, USGS Open-File Report 01-167); Bird (1988). Ichnofabric index from Droser and Bottjer (1986).

API 5011910100000

Core description by D. LePain 2001 and 2017