

PS Alaskan Unconventional Shale Core Characterization*

Dustin Crandall¹ and Shuvajit Bhattacharya²

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Abstract

The Computed Tomography (CT) facilities at the National Energy Technology Laboratory (NETL) in Morgantown, West Virginia were used to characterize unconventional shale cores from Alaskan formations, including a sample from the North Slope. As most of the wells on the North Slope target conventional sandstone reservoirs, these samples have not been well characterized previously. The work to be presented is an early glimpse to the potential of these formations

Alaskan Unconventional Shale Core Characterization

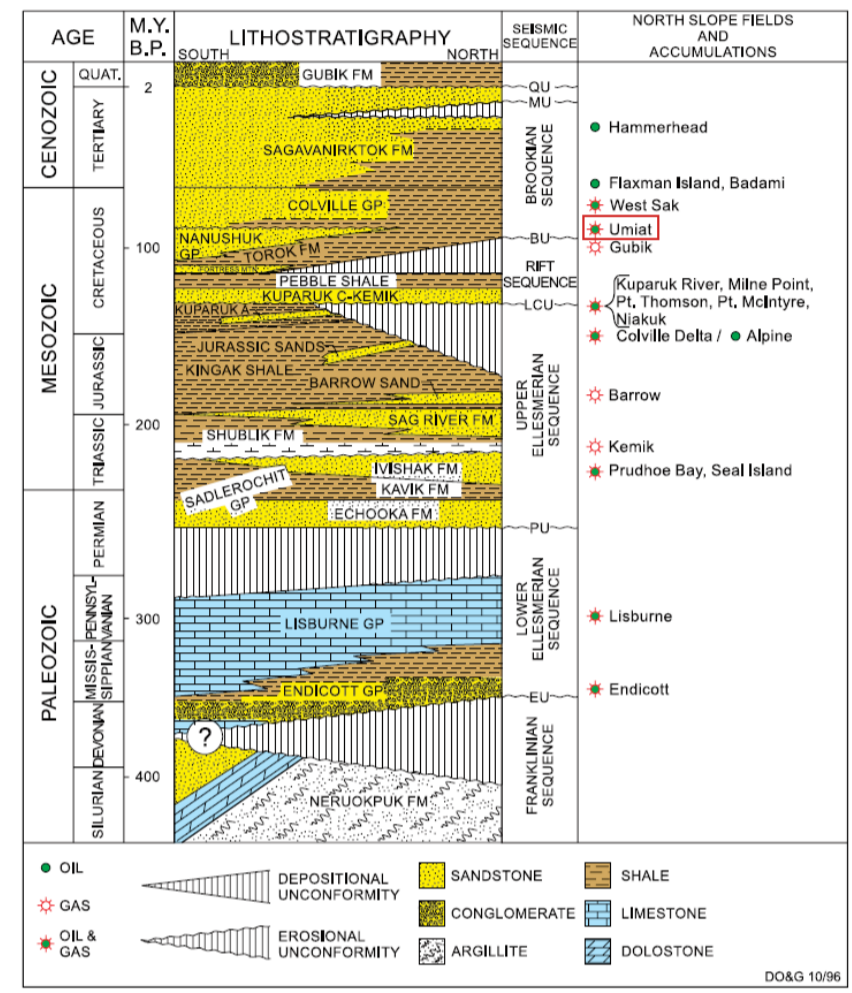
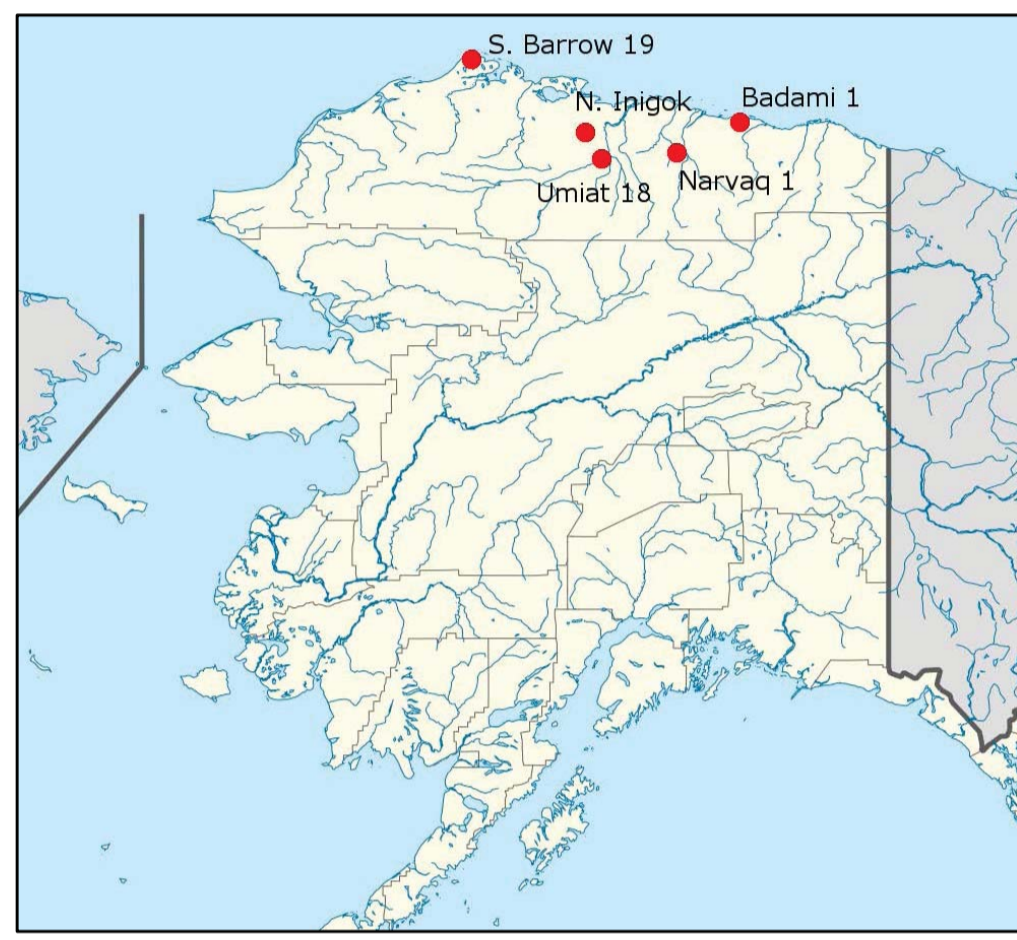
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ABSTRACT

The Computed Tomography facilities at the National Energy Technology Laboratory in Morgantown, West Virginia were used to characterize unconventional shale cores from Alaskan formations, including a sample from the North Slope. As most of the wells on the North Slope target conventional sandstone reservoirs, this these samples have not been well characterized previously. The work to be presented is a glimpse to the potential of these formations.

Samples

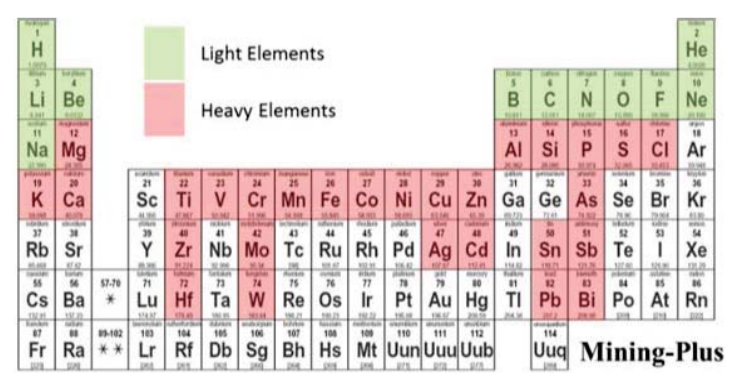
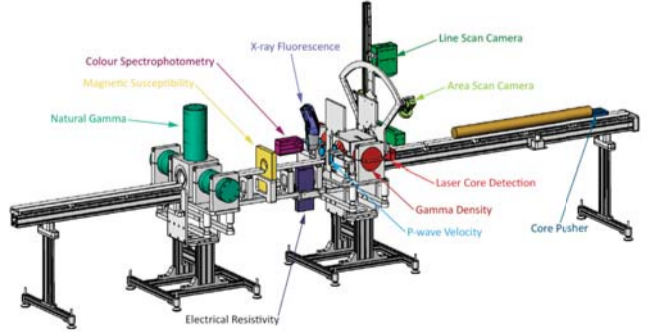


Generalized North Slope Stratigraphic Column

Analysis Techniques and Tools

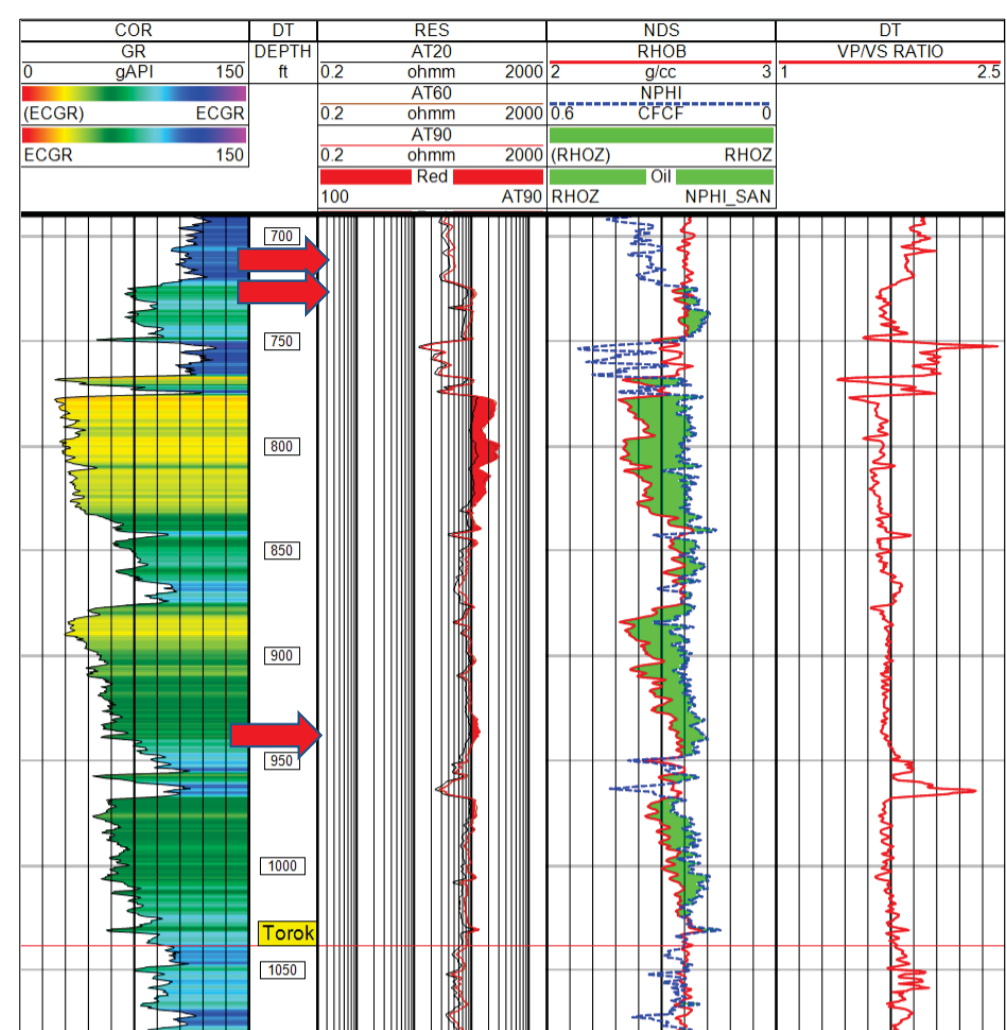


Medical and Industrial CT Scanners
0.43 x 0.43 x 0.5 mm and ~10 - 50um resolutions

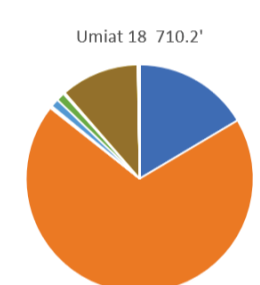
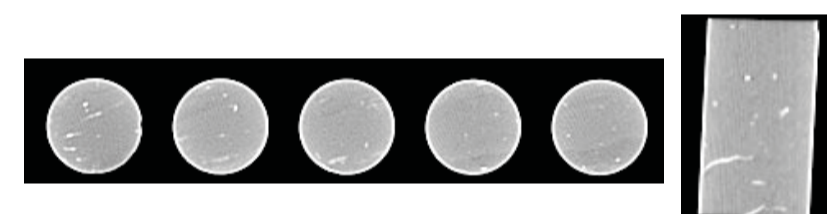


Geotek Multi-Sensor Core Logger
Mining Plus Suite with handheld Innov-X® X-Ray Fluorescence Spectrometer

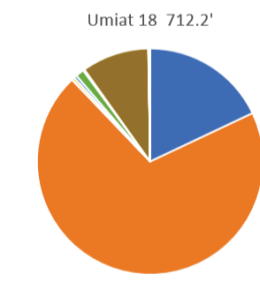
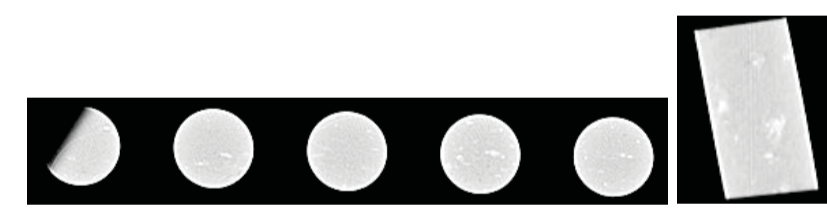
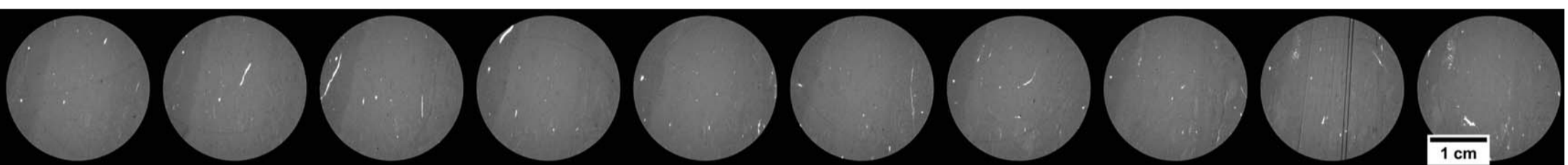
Results – Umiat 18



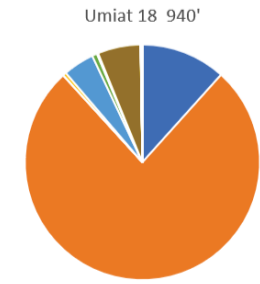
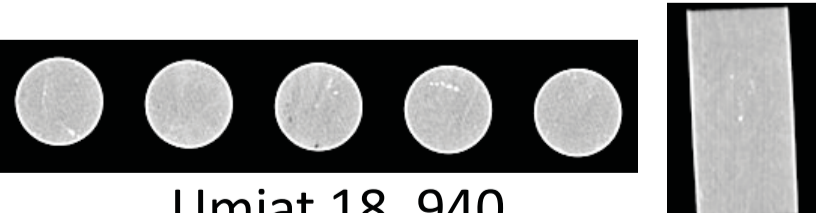
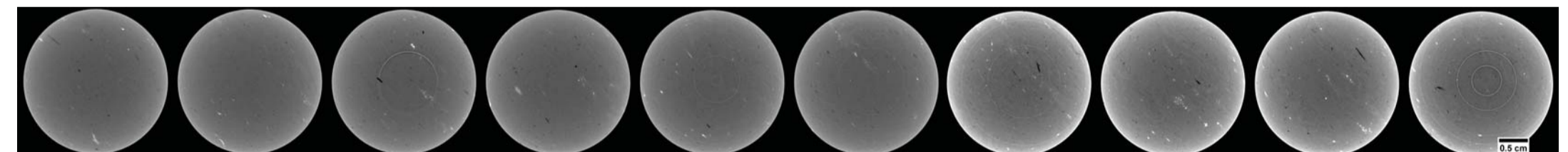
Conventional log display from the Umiat 18 well. Low Vp/Vs ratio is associated with hydrocarbon in the Nanushuk-Torok shaly-sand intervals.



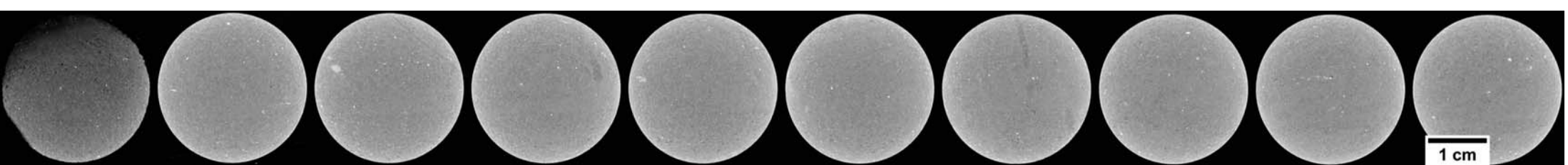
Umiat 18, 710.20



Umiat 18, 712.20



Umiat 18, 940

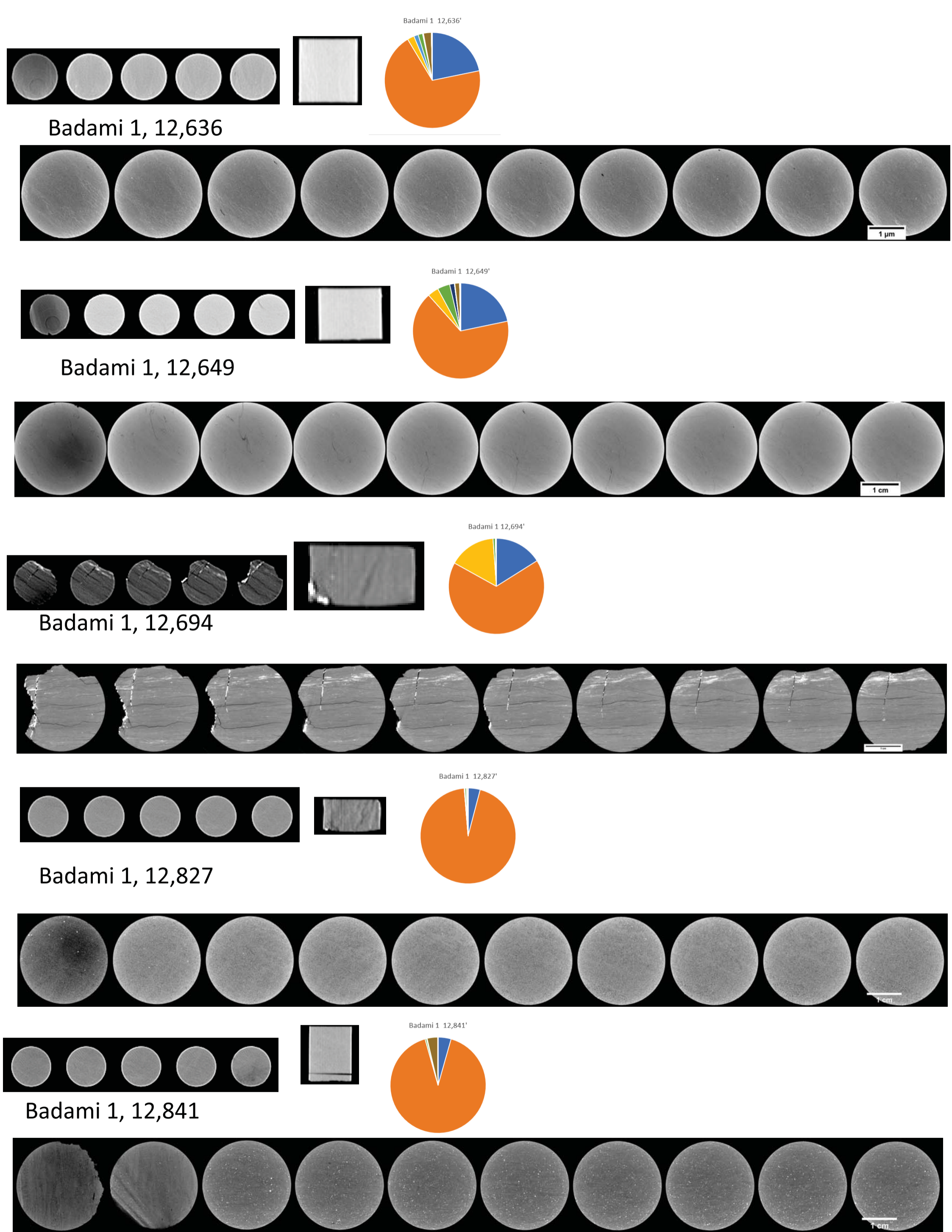


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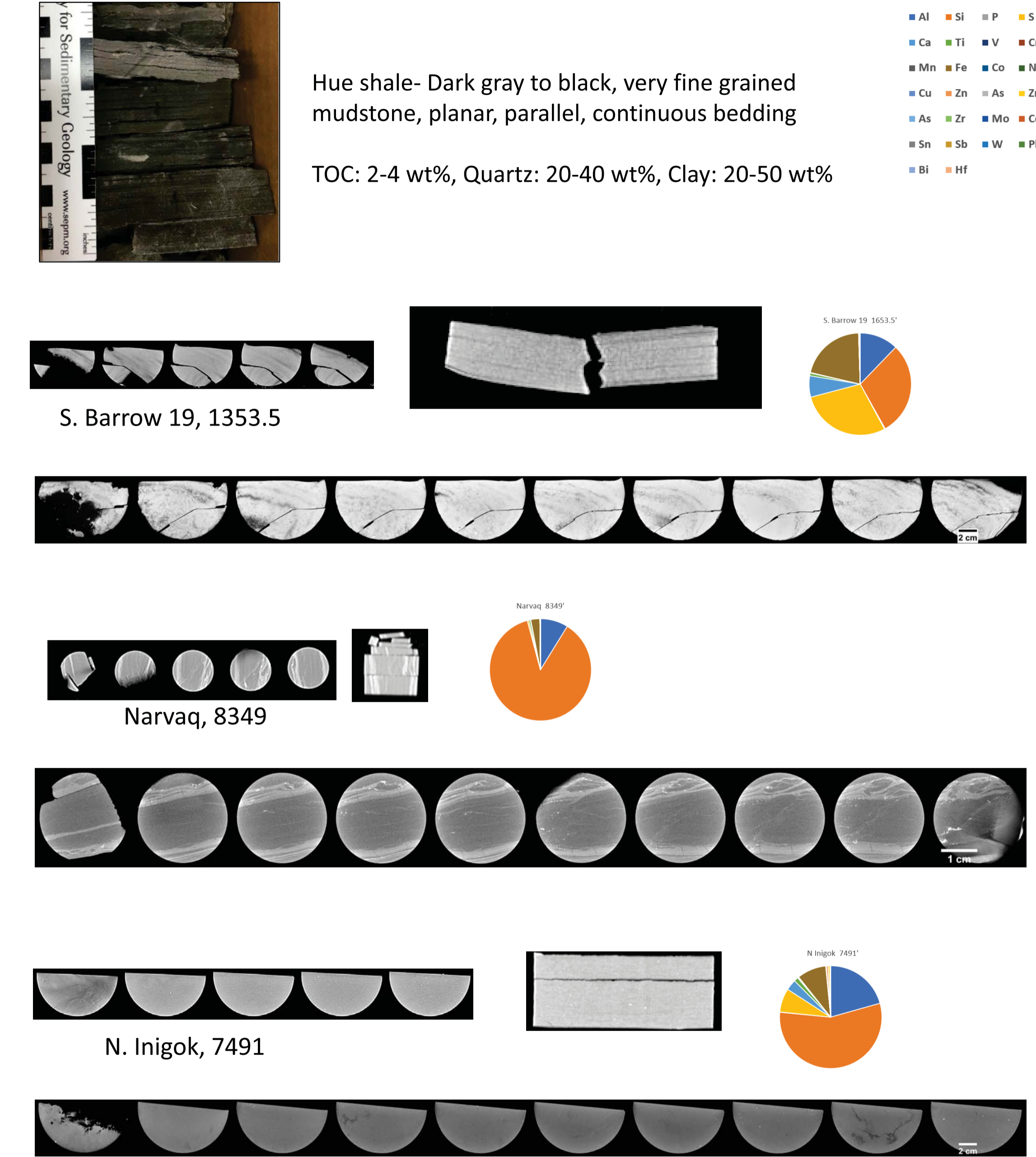
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Results – Badami 1



Results – S, Barrow 19, Narvaq, and N. Inigok



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