

GREENDRILL PROJECT –SUBGLACIAL ROCK CORING IN GREENLAND

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A subglacial rock coring project called GreenDrill was completed over the course of two Greenland summer field seasons starting in 2023 and completing in 2024. The U.S. National Science Foundation (NSF) Ice Drilling Program (IDP) supported this project with two subglacial coring drill systems: the Agile Sub-Ice Geological (ASIG) Drill and the Winkie Drill. The ASIG Drill was used the first season in northwest Greenland near Prudhoe Dome to drill through 510 m of overlying ice and recover 3 m of basal sediment and 4.5 m of granitic bedrock. The Winkie system drilled through 97 m of ice to recover approximately 2 m of mixed sediment and rock from the subglacial region. During the second season of GreenDrill, the ASIG Drill did not make it to the field site due to aircraft and logistical limitations. However, the Winkie Drill system was able to deploy with reduced logistics and drilled two holes through 47 m and 21 m of ice, respectively, and recovered over 14 meters of subglacial bedrock.

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