

# WINKIE DRILL - DEVELOPMENT AND DRILLING IN WEST ANTARCTICA

*Monday 15 September 2025 12:50 (20 minutes)*

The U.S. National Science Foundation (NSF) Ice Drilling Program (IDP) has upgraded two Winkie diamond coring drills for agile subglacial coring in polar environments. Over the past five years, the IDP Winkie Drills have been used in three subglacial coring campaigns in West Antarctica at Mt. Murphy, in the Hudson Mountains, and at Mt. Waesche. This presentation will detail the drilling lessons learned from these field campaigns and the resultant continued development of the IDP Winkie Drill. Specifically, this presentation will discuss implementation of a fluid chiller to mitigate warm drilling conditions, review upgrades to downhole tooling to improve coring performance in mixed media, and highlight successes using PDC drag bits for blue ice access hole drilling.

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