

## REPLACEABLE CUTTER INSERTS –PRELIMINARY RESULTS

In recent years the U.S. National Science Foundation (NSF) Ice Drilling Program (IDP) has dry drilled numerous shallow cores in areas with rocky and silty ice. This leads to significant degradation in core quality as the drilling conditions rapidly dull hardened steel cutters, often within the first few meters. In the past, the only remedy was to have drillers spend hours each day sharpening cutters in the field, adding burden to the season and limiting drilling hours. To make better use of the limited field time available, IDP has developed and implemented replaceable cutter inserts, allowing inexpensive carbide and steel cutters to be quickly swapped as they dull. Presented here are the results of IDP's initial efforts utilizing these inserts, showing both core quality and production rate improvements.

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