

Appendix A: Records of Thermal Drilling in Ice

0.8 m	Largest-diameter ice hole drilled with a “plain” hot point to study Antarctic lakes
18 mm	Smallest-diameter hot points: Department of Atmospheric Sciences, University of Washington (USA) and the LGGE (France)
756 m	Deepest hole drilled using an electrically heated hot point, Granduc Mines Ltd., Salmon Glacier, Canada (1956)
952.5 m	Deepest open hole drilled with a TELGA-14 M thermal drill at Vostok Station, East Antarctica (1972)
200 mm	Largest-diameter ice core recovered with the ANARE large-diameter electrothermal drill (known colloquially as the “Errol drill”)
2201.7 m	Ice-core drilling record achieved with the TBS-112VCh thermal drill at Vostok station, Antarctica in August 1985 (it was beaten by the GRIP hole in Greenland in August 1991)
871.5 m	Deepest borehole drilled with an ethanol–water solution at Komsomolskaya Station, Antarctica using the ETB-5 thermal drill (1981–1983)
2755.3 m	Record depth for ice-core thermal drilling, achieved using the TBZS-132 thermal drill at Vostok station, Antarctica in September 1993
2500 m	Record depth for hot-water drilling within the IceCube project at the South Pole (2004–2011)
125–200 m/h	Fastest (in clear ice) hot-water drilling system of the Geological Survey of Greenland

Appendix B: Abbreviations of Institutes, Organizations and Projects

AARI	Arctic and Antarctic Research Institute, St. Petersburg, Russia
ANARE	Australian National Antarctic Research Expedition
ANDRILL	ANtartic geological DRILLing project
AINA	Arctic Institute of North America, University of Calgary, Canada
AMISOR	Amery Ice Shelf Ocean Research project
APL-UW	Applied Physics Laboratory, University of Washington, Seattle, USA
ARA	Askaryan Radio Array, large neutrino detector at South Pole
AWI	Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research, Bremerhaven, Germany
BAS	British Antarctic Survey, Cambridge, UK
BGR	Bundesanstalt für Geowissenschaften und Rohstoffe (Federal Institute for Geosciences and Natural Resources), Hannover, Germany
BPRC, BPCRC	Byrd Polar Research Center at The Ohio State University, USA in 2014 renamed to the Byrd Polar and Climate Research Center
Caltech	California Institute of Technology, Pasadena, California, USA
CRREL	US Army Cold Regions Research and Engineering Laboratory, Hanover, USA
DLR	Deutsches Zentrum für Luft- und Raumfahrt (German Aerospace Center), Cologne, Germany
DREP	Defence Research Establishment Pacific, Esquimalt, Canada, research agency of the Department of National Defence (agency was closed in 1994)
EGIG	Expédition Glaciologique Internationale au Groenland (1967–1968)
ETH	Swiss Federal Institute of Technology Zurich (German: Eidgenössische Technische Hochschule Zürich)
FISP	Filchner Ice Shelf Project
GISP	Greenland Ice Sheet Program (1971–1981)
GRIP	Greenland Ice Core Project (1989–1995)
IGSFE	Institute of Geography of Siberia and Far East, Irkutsk, USSR/Russia (in 2005 renamed to V.B. Sochava Institute of Geography)
IceCube	IceCube Neutrino Observatory, Amundsen–Scott Station, Antarctica
IDDO	Ice Drilling Design and Operations group, University of Wisconsin-Madison
IGAS	Institute of Geography, USSR Academy of Sciences (since 1991 IGRAS-Institute of Geography Russian Academy of Science)
IGSFE	Institute of Geography of Siberia and Far East, USSR Academy of Sciences (now Institute of Geography named after V.B. Sochava, RAS Siberian branch), Irkutsk
IWF	Institut für Weltraumforschung (Space Research Institute), Graz, Austria
JLU	Jilin University, China
JPL	Jet Propulsion Laboratory, California Institute of Technology, Pasadena, USA
ILTS	Institute of Low Temperature Science, Hokkaido University, Japan
JARE	Japanese Antarctic Research Expedition
HSD	Hydrological Service Division, National Energy Authority, Iceland
KOPRI	Korea Polar Research Institute

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LGGE	Laboratoire de Glaciologie et Géophysique de l'Environnement, CNRS, Grenoble, France
LMI, SPSMI	Leningrad Mining Institute (since 1991 SPSMI—St. Petersburg State Mining Institute; now—St. Petersburg Mining University), Russia
NRC	National Research Council of Canada
NSF	US National Science Foundation
PICO	Polar Ice Coring Office was established in March 1974 at the University of Nebraska-Lincoln University. In August 1989 PICO contract is awarded for University of Alaska-Fairbanks; PICO ended activities at University of Alaska-Fairbanks in March 31, 1995
RAE	Russian Antarctic Expedition
RISP	Ross Ice Shelf Project (1973–1979)
SAE	Soviet Antarctic Expedition (1955–1992); in the beginning, three first expeditions (1955–1959) were referred as Complex Antarctic Expedition (CAE); since 7 August 1992 SAE became Russian Antarctic Expedition (RAE)
SAFIRE	Subglacial Access and Fast Ice Research Experiment
SakhalinNIPImorneft	Sakhalin Research, Design, and Survey and Institute of Oil and Gas, Russia
SALSA	Subglacial Antarctic Lakes Scientific Access
SCINI	Submersible Capable of under Ice Navigation and Imaging project
SIRG	Snow and Ice Research Group, University of Nebraska-Lincoln, USA
TRS	Tarfala Research Station, Sweden
UAF	University of Alaska-Fairbanks, USA
UI	University of Iceland
USGS	US Geological Survey
UW	University of Washington, USA
WISSARD	Whillans Ice Stream Subglacial Access Research Drilling