



# **IDDO EQUIPMENT DEVELOPMENT PROJECTS**

**SAB MEETING 2014**

# INTERMEDIATE DEPTH DRILL

- Capable of
  - 1500 meter depth
  - 98 mm core diameter
  - Pieces transportable by Twin Otter or helicopter
- Continued from FFY 2013
- Fabrication completed this April and shipped for test in Greenland
- Use on SPICE Core Project starting 2014-15
- Alex Shturmakov – Project Manager

# BLUE ICE DRILL - DEEP

- **Modification of Blue Ice Drill**
  - Large Core – 9.5 inch diameter
  - Depth capability extended from ~25 to 200 m
- **Continues from FFY 2013**
- **Fabrication all but complete**
- **Ship for test in Greenland on Cosmogenic C-14 Project**
- **Use on Taylor Glacier Blue Ice Core Project in 2014-15**
- **Alex Shturmakov – Project Manager**

# DEEP LOGGING WINCH

- Capable of being used for logging to 4000 m
  - Winch completed and boxed ready for issue
  - Should procure some spares prior to field use
  - Alex Shturmakov – Project Manager
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- Gary Clow's winch transferred to IDDO and will be used at WAIS Divide in 2014-15

# SCALABLE HOT WATER DRILL

- Design started in PY 2014
- Science and Engineering Requirements completed
- Base requirements are
  - 50-1000 meter deep holes
  - Hole diameter vary – 10-30 cm
  - Modular and transportable by helicopter/ Twin Otter
- Conceptual design well along; refining and selecting equipment
- Chris Gibson – Project Manager

# AGILE SUB-ICE GEOLOGICAL DRILL

- Design started PY 2014
- Science Requirements finalized; Engineering Requirements defined but not formalized
- Base requirements are
  - Drill through up to 700 m of ice with short ice cores possible
  - Core 10 meters of rock with diameter ~ 33mm
  - Transportable by helicopter or Twin Otter
- Concept defined – similar to RAID
  - Utilize commercial available rock drill
  - Specialized ice drill bit; drilling fluid based on ice drilling requirements
  - Available 2015-16 for field project
- Don Lebar – Acting Project Manager

# AGILE DRILL MAINTENANCE AND UPGRADE

- **4-Inch Drill**
  - Migration to IDD style drill sonde
  - PICO style sondes being built to ensure availability of at least 2 drills
  - New control boxes in future
- **Badger-Eclipse Drill**
  - Two drills in pretty good shape – need additional cutter heads, etc.
  - Plan to standardize (desired by not crucial)
  - New control boxes in future
- **Jay Johnson – Maintenance and Upgrade Manager**

# HAND AUGER MAINTENANCE AND UPGRADE

- **PICO 3-Inch being replaced by IDDO 3-Inch**
  - Have had good testing by PIs in field
  - Feedback being used to continuously improve equipment and procedures
- **Plan 4-Inch version of IDDO Hand Auger – Will replace PICO 4-Inch**
- **Still maintaining PICO hand augers as necessary; SIPRE hand augers still seem to have a niche and are maintained**
- **Kristina Slawny – Project Manager**
- **Josh Goetz – Project Engineer**



# MORE INFORMATION ON EQUIPMENT

See IceDrill Website

[www.icedrill.org/equipment/](http://www.icedrill.org/equipment/)