PROJECT SITUATION REPORT
DISC Drill 08-09 Season

Project:	T-350-M				
Project Principal Investigator:		Dr. Charles Bentley			
Report No:	8	**for period**	1-12-09	**through**	1-18-09
Prepared by:	Jay Johnson			**Date:**	1-18-09

ICDS Personnel on Site:	Kristina Dahnert Jay Johnson Bill Mason Paul Sendelbach John Robinson Patrick Cassidy Elisabeth Morton Dave Ferris Bill Neumeister Nicolai Mortensen Tanner Kuhl

ACTIVITIES DURING PERIOD

- A total of 198.259m were drilled this week. The final bore hole depth as of 12:00AM Monday was 1373.744m
- Drilling went much smoother this week!
- The ice has become less brittle throughout the week.
- On Friday, at a depth of 1320m, we drilled a continuous 2.5m core. The core handlers were able to cut it without a problem! We are now drilling 2.5m cores with only one core break per run.
- On Wednesday we tried the front shoes again. They are working well so we have continued to use them due to there more stable cutting characteristics. With input from the core handlers, it was decided that a shoe height of .192" gave the best balance between core quality and penetration speed. With the current ice conditions we are running a penetration speed of ~3.8mm/s.
- The pressure sensors between the seals on the instrument section bulk heads started reading the bore hole pressure (~1700psi) which means the seals have seeped. The interesting thing is that some days they will read very low pressure and other days high. The internal pressure sensor continues to read its normal ~11.4psi, so we aren't going to mess with anything.
- We haven't had any electrical problems with the motor section since the modifications were made to it last week.
- The rotating seal on the "X" motor section has started to leak. We are keeping a watch on the oil level and plan on continuing to run it to the end of the season.
- I helped Bruce V. and Brian B. realign the NICL saw table before we started cutting core.

- I fabricated a 2” wide piece that fills the void between the bottom of the ice core and core tray. This piece is mounted under the saw blade at the cutting station to support the core on either side of the blade as it is being cut. It seems to be effective at preventing the core from blowing out on the bottom as it is cut.
- Changed out the cutters and resharpened the ones we had been running.
- Dave F. was unable to put a figure on how much or if there is ethanol in the bore hole. The melted chips created an emulsion with the 141b (density of the liquid was over 1), so with two unknowns he was unable to determine if ethanol was present.
- Everyone took Sunday (Saturday for second shift) off. This will be our last day off for the season.

COMMENTS
(Problems, Concerns, Recommendations, Etc.)