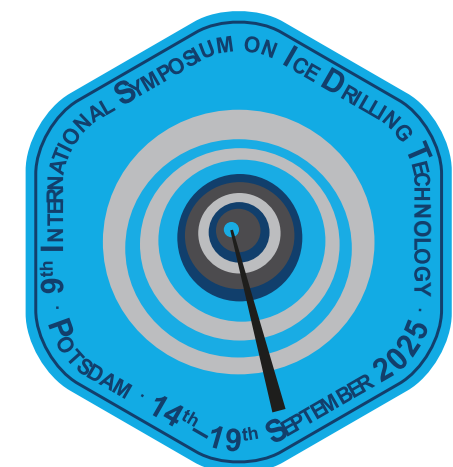




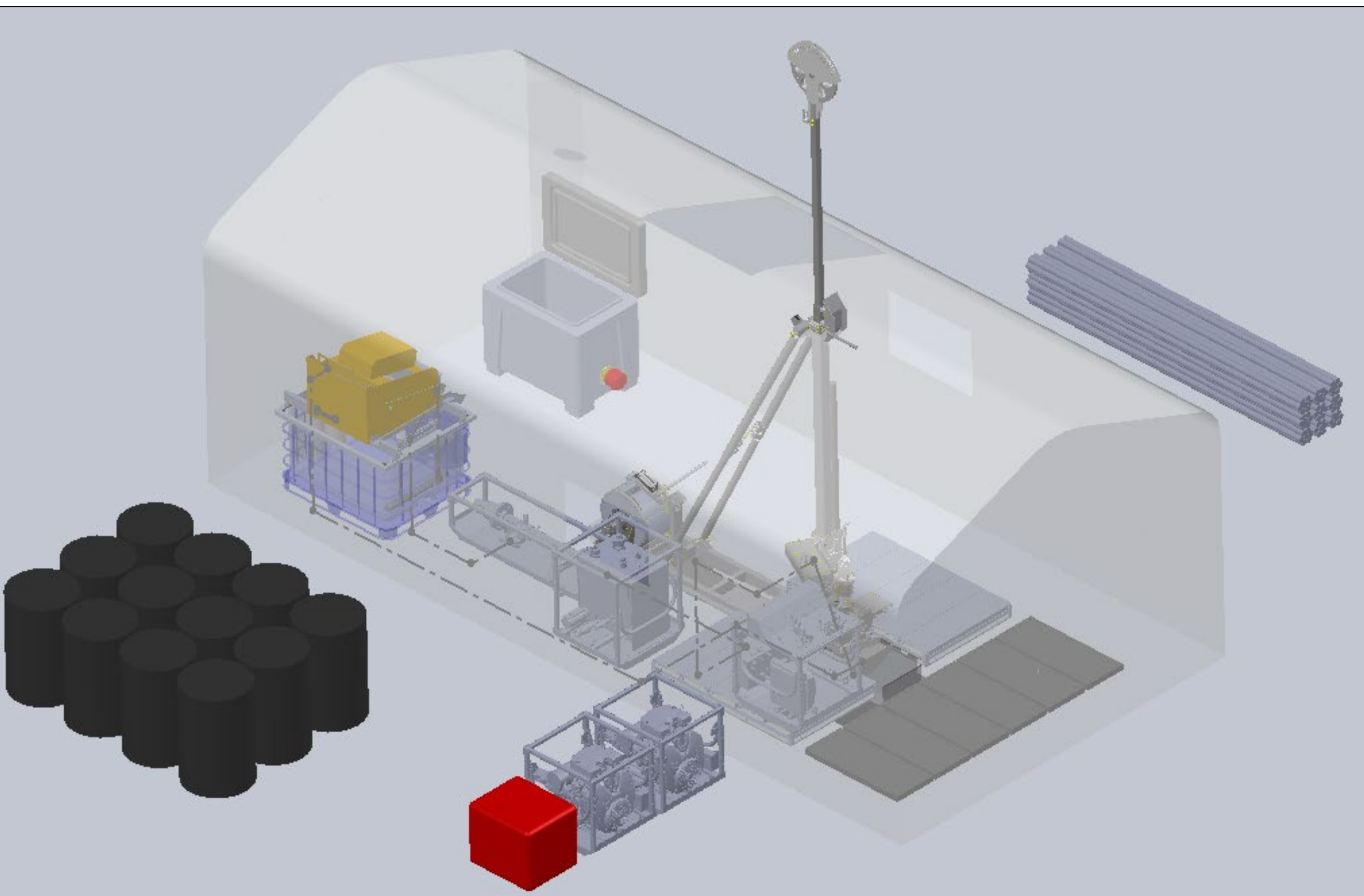
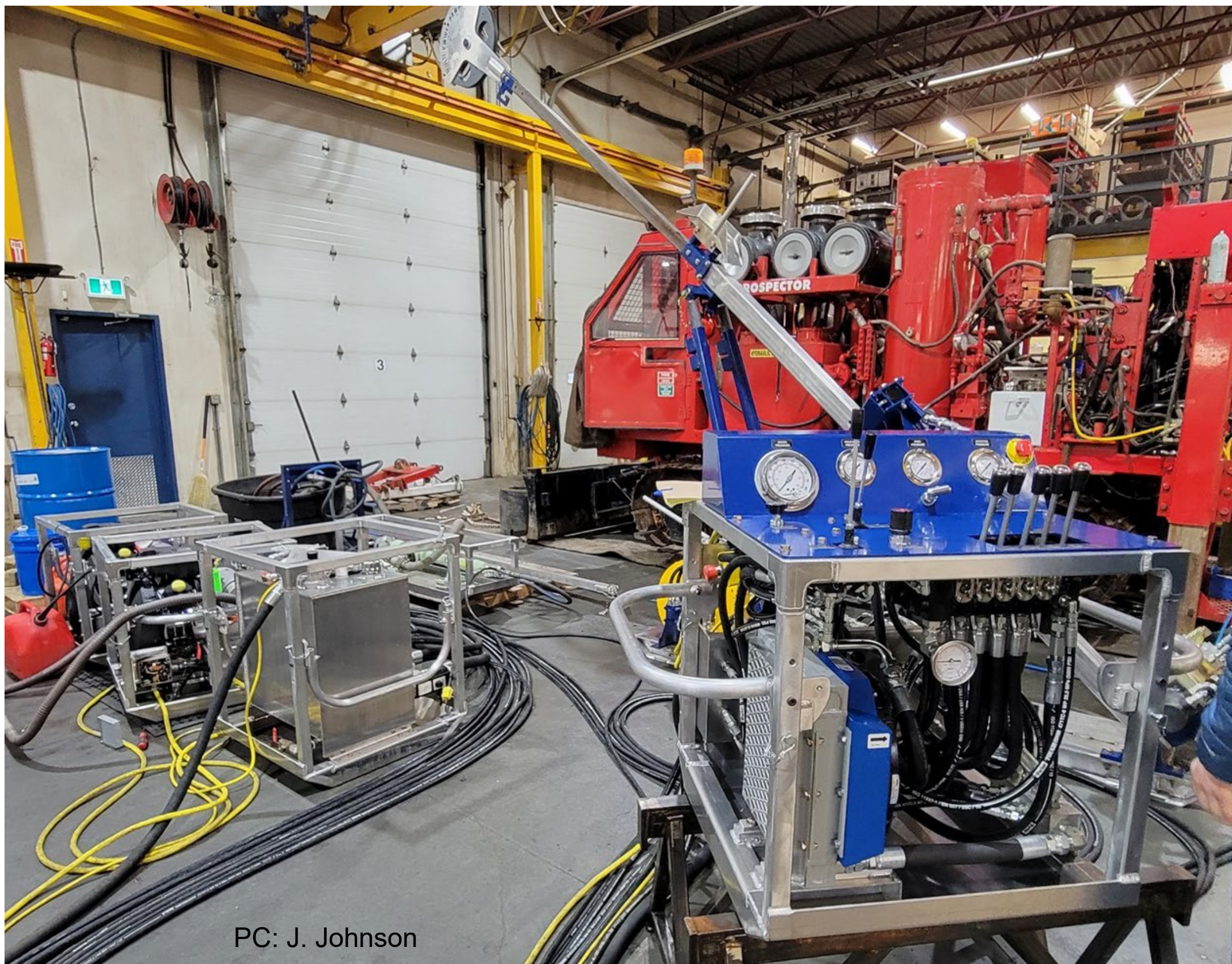
New IDP Basal Access Subglacial Exploration (BASE) Drill System



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A new subglacial coring drill called the Basal Access Subglacial Exploration (BASE) Drill is currently under development at the U.S. National Science Foundation (NSF) Ice Drilling Program (IDP). Based on the proven design of the IDP Agile Sub-Ice Geological (ASIG) Drill, the new drill system is designed to quickly penetrate overlying ice and sediment to reach bedrock at up to 200 m total depth. The BASE Drill consists of a modified commercial minerals exploration drill rig that uses off-the-shelf downhole tooling and includes equipment for rapid ice drilling, drilling fluid circulation, and filtration. Both coring and non-coring bits can be used depending on project requirements. Primary core size is 39 mm diameter and 1.5 m length, although the drill rig can also use other tooling sizes. The completed system is scheduled to be field-ready in 2026.



BASE Drill System Specifications

Drill Type	Top Drive Rock Coring Rig
Power Unit	2ct. 38 hp Kohler gas engines (Can run on one engine)
Drill Sting	Rigid, Single Wall Drill Rod (Sandvik WL56)
Rod Tripping Mechanism	Rig mast hydraulics
Drill Fluid	Isopar K (Exxon-Mobil)
Fluid Filtration	Continuous - shaker table, secondary filter, chip melter
Rod/Core Barrel Configuration	Sandvik WL56 thin-kerf metric
Core Size [mm]	39 (larger core possible with different drill rod)
Maximum Core Length [m]	1.5
Available Bit Configuration	Hardened Steel (ice), Diamond-impregnated, GeoSet, PDC
Depth Capacity [m]	200
Drill Rod Material	Steel
Rod Weight [lbs/m]	8.5 (for 39 mm core)