**I. Thermistor String Calibration**

Thermistor cables were calibrated in a precise isothermal bath for temperatures ranging from 5°C to 30°C. We calibrated the data using the following empirical formula:

T= 1/(A + B\*ln(R/2-R0) + C\*[ ln(R/2-R0) ]2) - 273.15,

where T is the temperature (°C) in the isothermal bath measured by a high-precision quartz thermometer; R is the data logger reading (= 2\*resistance in ohm); R0 is the resistance of lead cable (in this case up to 170 m two-way, depending on the position of the sensors); and A, B, and C are the coefficients determined for each thermistor. Temperature differences between the measured and calculated values (dT) is primarily attributed to actual temperature fluctuation in the isothermal bath. The absolute accuracy is estimated as ~10 mK.

**II. Swellable packer**

The swellable packer (Halliburton, P/N 101938037) (Figure **F1** in the Expedition 380 methods chapter) is ac non-mechanical borehole seal that begins to swell upon contact with sea water, up to 350% of its original volume (depending on pressure and temperature conditions). The swellable packer was installed on the 3-1/2 inch tubing to correspond to a depth of 68 mbsf in Hole C0006G to isolate a pre-defined section for pore pressure measurements. The swellable packer’s initial outer diameter is 200.5 mm and its length is 1.5 m. The inner diameter of the 9-5/8 inch casing is 220.5 cm. Anti-extrusion end rings with the same OD as the packer were attached to each end of the packer. These rings expand radially against the casing inner diameter, so that the packer seal elements are not able to extrude above or below. A packer mandrel (3-1/2 inch OD and 4.5 m length) was connected to the 3-1/2-inch tubing while the packer was covered with a diffusion barrier (8L), a low-permeability material that retards water migration into the packer. Based on previous swelling simulations at JAMSTEC at 4 °C, the 200.5 mm OD packer with an 8 L diffusion barrier should swell to 205.5 mm after 1 week and 207.5 mm after 2 weeks. At 40 °C, the packer is expected to swell to 206.2 mm after 1 week, and 208 mm after 2 weeks; therefore, the packer swelling-rate is slightly slower at lower temperatures.

The sensor cables and hydraulic flatpack (28 mm x 12 mm) were fed through the swellable packer on the working cart in the moon pool during a pause in lowering the sensor assembly. The clearance around the cable through the packer was set at 2.5 mm (5 mm total). This clearance is needed to reduce any risk of cable damage due to cable pull force and slack while the packer is lowered into the borehole. The packer was cut four times length-wise (each slit 90° apart) to feed-through the three sensor cables and the flatpack. After cable installation, the anti-extrusion end rings with the cable slit cover were tightened, and the cables were fixed with stainless steel bands to the 3-1/2 inch tubing above and below the packer.

**III. Additional PSU Information**

The pressure sensing unit (PSU) is equipped with three Paroscientific Digiquartz pressure transducers, a high-precision Pressure Period Counter with a 12.8 MHz real-time clock (RTC-PPC system, resolving ~10 ppb of full-scale pressure, or ~0.7 Pa), a 24-bit/channel analog-to-digital converter and data logger and associated “Paroscientific Intelligent Module” analog-to-digital converters (ADCs). The Paroscientific gauges prove accurate and reliable, with accuracy within ±0.01% of the full-scale range and pressure resolution to ±1 ppb of full scale (Becker and Davis, 2005).

**Reference**

Becker, K., and Davis, E.E, 2005. A review of CORK designs and operations during the Ocean Drilling Program. *In* Fisher, A.T., Urabe, T., Klaus, A., and the Expedition 301 Scientists, *Proc. IODP*, 301: College Station, TX (Integrated Ocean Drilling Program Management International, Inc.). doi 10.2204/proc.301.104.2005