WISSARD BOREHOLE DRILL CONTRACTOR (WBDC)
DAILY REPORT FOR 21 NOVEMBER 2012
USAP Event C-524-M

1) Health, Safety & Environment
No reportable incidents today.

2) McMurdo Operations

- Personnel on Site:
  Dar Gibson, Graham Roberts, Chad Carpenter, Daren Blythe, Justin Burnett, Jeff Lemery, Dennis Duling

- Wet Test Summary:
  Testing goals ~90% Complete at end of testing.
  Electrical: ASC electricians continued work during test; cable trays on STU and HPUs installed. Both generators were running simultaneously for testing and ran normally. A manual pump switch unit was built to run the coffin pump and circumvent the need (for now) for the 24V relays. (It was determined that the relays in the motor control boxes were AC relays, and we were supplying them with DC power yesterday from the EAD control box. We will either need to order DC relays to replace the existing ones or supply the existing relays with AC power.)
  Water Supply: The main tank and coffin system operated normally during testing today.
  WFU: This was bypassed during today’s testing as it was tested yesterday. Air compressor and associated plumbing operated normally (used at end of testing to blow water out of system plumbing). A preliminary plumbing concept for bypassing the UV canisters was discussed; this would avoid further issues with their gaskets. Cursory research indicates that these canisters are only rated to about 80 psi instead of the 150 that the rest of the system is built for. We will need to carefully monitor water pressure in the WFU until this situation can be resolved.
  HPUs: Leaks in fuel and water manifolds tightened to the extent possible without removing them entirely. Alkotas 4 and 6 did not fire properly; Alkota 4 did not fire at all, and Alkota 6 would only run unsteadily as long as someone kept pumping the manual fuel primer. (We believe both of these were the result of fuel supply issues such as air in the fuel system, but these problems are in the early stages of diagnosis.) As a result, the burners on these units could not be tested. Alkotas 3 and 5 ran without any issues. Plumbing was pressurized to 1000 psi for each Alkota.
  General: Blowout/draining of system after testing went smoothly, although we ruptured another of the clear hoses during blowout. (These hoses have been officially retired from
further use in the drill system.) The entire post-shutdown process took about an hour and a half. The test was very useful in acquainting everyone with the procedural side of the drill system, including startup/shutdown of the Alkotas, general water and fuel routing, and procedures for draining/blowout and system shutdown. We were unable to test the system with all of the high-pressure pumps running simultaneously. This would have demonstrated whether or not the system can supply enough water to all of the high-pressure pumps at once. There was some concern during the Lincoln testing last year that pumps further down the line from the water supply may be starved by the pumps ahead of them. Assessment of this scenario will have to wait until we are set up at the MIS test site.

The RCU/crescent system combination was delivered back to SPoTSA today. We will leave this in its present configuration for transport to the MIS test site.

3) Upcoming Events/Tasking:
   - Ready system for transport to MIS test site. Troubleshooting of problems arising from test will have to wait until system is set up again at MIS.

4) General Issues:
   - Traverse of system components to MIS test site is scheduled for Sunday night/Monday morning, 25-26 November. There are currently no issues that would necessitate rescheduling this.

5) Weather Conditions
   - Temperatures ranged between 20 and 30ºF during the day. Overcast with wind increasing steadily through the day up to ~20 knots.

6) Vehicles/Generators
   - Vehicles in use: McMurdo van 412, Caterpillar 297 skid steer
   - Generators in use: Two WISSARD 50 kW generators; portable 3.5 kW and portable 1 kW from ASC.

7) ASC Interfacing
   - Two ASC electricians still on loan to help with electrical work. An ASC locksmith has been on site the past few days retrofitting the doorknobs on most of the containers (knobs on doors installed by Flat River were easily damaged by regular use; two of them broke completely).
8) Cargo

- No new drill system cargo delivered today.

Compiled by Daren Blythe for the WISSARD drill team