

SALSA Field Report: 14 Dec 2018. Compiled by Matt Siegfried.

SALSA Geophysics/SALSA EM, Location: Whillans Subglacial Lake

- We woke up to a strange sound today: flags flapping. After a few days of near still, warm weather, winds gradually picked up through the morning and temperatures cooled off a bit (Kerry's tent dropped down below 55F by the afternoon!).
- With winds near the threshold for data quality (15ish knots), we visited the first MT station eager to see if we could recover the site and move it on to the next location, or if we'd have to wait for the wind to slow down. We waited with bated breath, and soon found out, yes, we definitely had enough time before winds picked up to capture MT signals out to 100 or so seconds periods. We proceeded to recover the three stations we had deployed and moved them to the other side of the line to complete our second cross-flow line.
- As we finished up our final install of the day, winds ticked up above 20 knots, creating a beautiful scene of low blowing snow as we drove home to camp. A great way to finish another day at SLW. We now have 13 stations with data or currently occupied at SLW in our first five days camped here.
- We believe we have narrowed the problem causing one of our stations (Gentoo) to produce noisy data down to the power circuit on one of the pre-amps. We are continuing our delete-one test on Gentoo to fully isolate the problem.
- Kerry and Chloe surveyed in and flagged a 375 m x 375 m square that will serve as our transmitter loop for a controlled-source electromagnetic survey we plan on executing in the coming days as we deploy MT stations closer to camp. This will be the first of its kind on an Antarctic ice stream.
- We received great news from McMurdo today, via SALSA Project Coordinator Rebecca Ricards: our 1500 m fiber optic cable to be frozen into the SLM borehole for long-term temperature measurements of SLM and the ice column above arrived in McMurdo! Thank you to everyone who worked hard to make sure this cable arrived in Antarctica in time for SALSA Borehole Operations.
- After winds ramped up all day, peaking with gusts over 25 knots, they ramped back down during dinner. If winds stay low overnight, our days of turning three stations a day will continue. If not, we will service a nearby GPS station and potentially deploy three more MT stations to be ready for the next weather window for data collection.



Chloe, Kerry, and Meghan work to finish up installing MT station Q12 while Matt treks away to take a picture for the daily report.