

Alpha Ridge Test of Appurtenance (ARTA)

Newsletter #15

Today is Saturday, April 12. It's just after breakfast, and the weather looks bad. There is fog all round, and we can't even see the mountains to the south. There may be no flying again today.

Yesterday was very slow. The fog surrounded us all day, and no aircraft flew. We didn't even get a Twin Otter out from Eureka. We spent the day doing little chores, talking, reading and playing computer games. We're hoping that the weather isn't settling into the same miserable routine that has bugged arctic work for the last couple of years – fog, low cloud, and then more fog.

One project that has kept up people's interest is the shower – will it, or will it not come into existence? The Hydrographic Survey bought a shiny new shower stall, and John Mercuri built a nice elevated stand for it in the small tent set aside for toilets and washroom. (See right.)

The problem has been in providing hot water for the shower. A very fancy propane-fired hot water on-demand heater was purchased for this task, and Aaron Carpenter plumbed it in with every expectation that it would work as advertised. To his annoyance, he's had nothing but problems. First of all, the propane regulators wouldn't deliver propane to the unit, and it took him a long time to figure out why. It turned out that once the back-pressure had completely shut the valve in the regulator, the opposing spring wasn't strong enough to open it again when the back-pressure had been removed. The so-called 'regulator' was permanently shut. An identical back-up regulator was brought into service, but it, too, had the same problem. It appears that we were the victims of either a bad design or a bad batch.



So, Aaron switched to a different type of regulator, which, as you might expect, was for an entirely different pipe size. However, with a handful of couplings and nipples he managed to plumb it in. It worked. It provided propane on demand. However, the problems weren't over. Although the propane got to the water heater, the burner would still not operate. Its design is such that you don't get any propane until the water is running. When you turn on the shower, the water flow spins a little propeller (or turbine) which produces enough electricity to activate a solenoid that opens a valve for the propane. (You follow all that?) The electricity also produces a spark to ignite the gas. Well, the spark worked, but the solenoid didn't. As near as we could tell, the water flow was too low to produce the necessary voltage.

'Well', we thought, 'maybe it's a faulty unit. Let's try the other water heater'. (Yes, there was a spare.) So, the first one was dismantled, and the new one was plumbed in. Same problem. The voltage was too low. The water flow was not sufficient. 'Enough', he said, 'is enough'. The fancy on-demand water heaters were put away permanently.

We now turned to 'low-tech' to rescue us from badly designed 'high-tech'. John Mercuri put a bucket of water on the stove, and when it was hot enough he pumped it over himself in the shower. What could be simpler? I understand, however, that the water wasn't quite hot enough, and he had to suffer through a 'cold' shower. Aaron, too, had a shower that was a bit

on the cool side. However, getting the water temperature right is just a detail. I think that we have a system that works.

Later – after supper.

Well, it appears that in spite of my morning worries and down-in-the-mouth attitude we did put in a productive flying day. A Twin Otter, which was coming out anyway, flew off to the north of us to get a proper pilot report for the helicopters. He said that the fog was quite thin, and it lasted only out to the near fuel cache.

So, by 1230 two helicopters were in the air. Lloyd Litwin and Kirby Kleiter were with Orin in helicopter CFCNG, and Alain Belzile and I were with Gerard in CFPHO. We went out to the cross track to install all the explosives for the third and final major seismic run. It was a long day, especially for Lloyd and Kirby, who did the hole drilling and the installation. Alain and I transported all the explosives and found suitable locations. Although this wasn't trivial, it didn't take as long as the job the others had to do. Both helicopters were back at the Icecamp by 10:30.

Jon Biggar also had two helicopters out. John Mercuri and Knut Lyngberg were doing bathymetry and gravity. They were moderately successful, but they had trouble with deep snow and with ice that wouldn't couple well to the acoustic transponder. John said he had a lot of trial locations that he had to abort because the ice was too rough and the surface had too many air bubbles.

The following two pictures were taken a few days ago, but they give an idea of what goes on when the measurements are being taken. The picture on the right shows Rob Morrison making a gravity measurement on the ice.



This picture shows John Mercuri taking a depth measurement with an acoustic sounder. John says that deep snow is one of the big problems this year. Some places the snow is two feet deep, and he has to remove a lot of it before he can even see whether the ice is smooth enough even to attempt to make a measurement. (At the spot shown in the picture the ice is unusually free of snow.)

His transducer is substantially larger than the one we used many years ago, so I asked him why it is so big. He said it's a low-frequency device (12 kHz). Higher frequencies are not capable of sounding the depths in which they are working. (The lower the frequency, the bigger the unit.)



Best Wishes,
Ron Verrall.

We'd like to hear from you. Send your comments to:

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One of these days I'll get back to Eureka to answer them.