

DSES Plishner Site Work Trip Report 9-14/9-16-2018 by Bill Miller and Gary Agranat

Location: Plishner Radio Astronomy and Space Science Center, Haswell, Colorado

Attendance: Gary Agranat, Paul Berge, Ed Corn, Hans Gaensbauer, Dave Molter, Steve Plock, Francis Royo, John Royo, Rich Russel, Alex Schor, and Bill Miller

Next Trips to site: Observing Trip Scheduled for 9/22/2018, and the regularly scheduled 3rd Saturday of the month, Saturday 10/20/2018.

Meeting Schedule:

DSES Technical and Operations Meeting- 2nd Monday of Every Month, next on 10/8/2018

DSES Science Meeting – 4th Monday of Every Month, next on 9/24/2018

Accuracy: As always if I have misstated, omitted or misrepresented anyone please feel free to correct me. WKM. I did not bring my camera but thanks to Gary for taking all the photos. We didn't get pictures of everyone so my apologies if we missed you.

Work Trip Report:

Bill Miller arrived on site at 1:30 PM Friday and Steve Plock came shortly after. Paul Berge came in at about 5:00 PM Saturday, making the long trip from Lyons, Co. and picking up equipment from Ed Corn in Ellicott.

Friday Afternoon Bill and Steve unloader 20 eighty-pound bags of concrete that Steve had purchased for the ramp wall project.

Bill then worked on the comm. trailer to clean all the table and benchtops.

Paul Berge and Steve proceeded to work on the dish mount limit switch system.



Figure 1 Dish Mount Azimuth, Limit Switch Mechanism

Once they finished in the control deck that evening, Bill went to work there and reinstalled the fine azimuth synchro transmitter on the 72:1 shaft that was displaced from the synchro on the 50:1 shaft by the limit switch mechanism. The azimuth synchro indicators on the rack panel now work very well.



Figure 2 Dish Mount Fine 72:1 Azimuth Synchro Transmitter

Paul cooked some chicken and we talked and listened to the Ham radio in the Underground and turned in for the night there.

The next morning, on Saturday, Ed Corn brought down the trencher that he had rented from Blue Line Rentals the day before.



Figure 3 36 Inch Trencher Ed rented from Blue Line Rentals

Two students from a Denver high school, Alex Schor and Hans Gaensbauer, came down to tour the facility and were recruited to help with the work items. John and Francis Royo came in late that morning as did Gary Agranat. Dave Molter and Rich Russel also came in.



Figure 4 Railroad Signaling Cabinet repurposed as a storage locker

Steve dragged one of the Rail Road signaling cabinets from the outhouse area to the bunker with his truck. Steve, Paul and Bill removed the switch board and contents of the cabinet to convert it into a tool storage cabinet at the Underground ramp.

When Alex Schor and Hans Gaensbauer arrived, we enlisted them to help push the heavy cabinet into position, put the doors back on and clean up the electrical debris removed from it. There is still a pile of this

material near the Underground parking that will need to be hauled off and the soil will

need to have a magnet dragged over it to pick up any remaining loose hardware and screws.

Ed Corn unloaded the 36-inch trencher from his trailer and Francis and John Royo and Rich Russel helped him dig the trench for the RV hookup wiring.

Francis Royo, John Royo, Rich Russell, Alex Schor and Hans Gaensbauer all pitched in to help install the wire and cover the trench and help Ed reload the trencher onto the trailer. This completed the RV power hookups project in the dish park.



Figure 5 The RV Power Hookups wiring trench was dug and buried.

Paul and Steve worked in the tower to unwind and redress the dish cable wrap and decide on the best center position for the dish azimuth travel and cable wrap. This turned out to be due south. They then installed and adjusted the azimuth limit switch positions to about ± 20 deg from north. This will limit the dish rotation to a total of 400 degrees preventing the cables from over wrapping.

While they were doing this Bill monitored the pointing system computer and adjusted the azimuth course and fine synchro indicators to match the dish position relative to the system 1 controller.



Figure 6 Bill monitors the pointing system and adjusts the synchro indicators in the comm trailer while Paul and Steve adjust the cable wrap and limit switches in the tower

John and Francis Royo came in and labeled all the power outlets and breakers in the comm. trailer while they cooled off from their outdoor work on the trench. This labeling will make it much easier to trace the circuits and shut off the correct intended loads.



Figure 8 Francis Royo tracing down and labeling power outlets



Figure 7 John Royo labeling the Comm Trailer circuit breakers



Figure 9 Hans Gaensbauer and Alex Schor mixing concrete for the bunker ramp wall



Figure 10 Dave Molter working on his ramp wall replacement project

Dave Molter spend a long day in the hot sun on his project to replace the cinderblock wall at the bunker ramp. Hans Gaensbauer and Alex Schor spent the afternoon helping him. This new wall will prevent the mud from erosion of the adjacent incline from flooding into the ramp and the sump pumps that keep the Underground dry.



Figure 11 Dave, Alex and Hans building the ramp wall

The ramp wall project replacement is an important project for the operation of the bunker or “Underground” and needs a lot of resources. Anyone who would like to contribute labor or money for materials to this project would be greatly appreciated.

Just before the open house the local phone company had buried a hard phone line into the facility and terminated it at the Comm. Trailer. Ed Corn installed the phone outlet boxes and wiring for the phone line on this trip. Steve paid the install fee and we have received two monthly bills from them which Myron has paid. Unfortunately, the line has power, but no dial tone and the phone company will have to be called to fix it.



Figure 12 Ed Corn installing the hard phone line outlets in the comm. trailer



Figure 13 Ed Corn installing the tower base section

Ed Corn and Gary Agranat installed a 5-foot section of Rohn 25 tower on the existing buried base mount above the bunker. This tower will be built up to 40 feet in height on future work trips and used for the club ham station, K0PRT.



Figure 14 Ed Corn working on the tower mount



Figure 15 Gary Agranat Operated the club station, K0PRT

When Gary Agranat wasn't helping work projects or taking photos, he was getting K0PRT on the air. There were several QSO Parties going on. He participated in three, on 20 and 40 meters, on CW (most of the contacts) and SSB phone:

- Iowa - 3 CW contacts on 40 meters
- Washington State - 26 contacts
- New Jersey - 10 contacts

Several of the New Jersey contacts mentioned that we were their 1st Colorado contact for their party. And so there might not have been many

Colorado stations making it across the country for them. They seemed nicely surprised we were there. He only contacted 3 Iowa stations, on 40 meters CW. Perhaps more were on 20 meters and their skip propagation went over us. But some states don't get a large turnout for their QSO Parties, and Colorado is one of those.

Gary also made two CW DX contacts, to a Ukrainian maritime mobile, location unknown, and a genuine CW chat on 15 meters to LU4HK in Argentina. He also made contacts to two Route 66 special event stations: on 20 meters SSB in Los Angeles, and on 15 meters CW to Kingman, Az. He added the 80- and 160-meter contacts Steve gave him from the previous morning to the log.

Gary brought and hung on the cabinet door the QSL cards we received for the Open House (20 cards).



Figure 17 Sunset and end of some long days of the work trip with Pike Peak on the distant horizon.



Figure 16 Paul Berge's truck while working on the tower

Most of the crew left on Saturday evening, but Steve and Paul stayed on for the night and another day on Sunday. They had plans to finish the limit switch system and cable wrap in the tower.