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To: EDGES Group

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Subject: Reconnaissance of Skull Creek Reservoir area located in Catlow Valley, Oregon.

Introduction

Based on a previous exploratory trip and expected FM Radio signal values derived from Fmfool.com, the Skull Creek area (Figure 1) in Catlow valley was evaluated for locations suitable for the placement of the EDGES 3 experiment with a 30-meter square ground-plane.



Figure 1. Skull Creek area in Catlow valley.

Upon arrival at Fields, a trial run to Roaring Springs Ranch before the scheduled meeting with Ranch staff the next day was conducted. The route was along the Catlow Valley road, also known as Route 202. Road conditions were fine until arrival at Long Hollow summit where conditions rapidly deteriorated.



Figure 2. Long Hollow summit where conditions rapidly deteriorated.

On the other side of the summit conditions improved and FM radio reception was monitored until arrival at Roaring Springs Ranch. Intermittent FM radio receptions were detected at 94.9, 92.9, 89.1, 97.9, and 101.9 with the 101.9 station the strongest but still very sporadic. The monitoring continued on the return trip to Fields with the same results.

After checking in at the Alvord Inn the RF monitoring system and antenna was setup. The Signal Hound BB60C, a Windows based software defined radio, reported USB issues and was restarted multiple times. The Signal Hound necessitates the use of two USB ports due to the power requirements of the hardware and the laptop power settings need to be set to performance mode. In addition, the system appears to be sensitive to which USB port's are plugged in where. This was not a recognized issue when set up at Haystack. Right before departure from Haystack a mandatory Windows upgrade was instituted and may have had an impact. Eventually, repeatable operation was achieved.

The following morning I met with Andrew at the Roaring Springs Ranch. The road conditions on the Long Hollow summit were actually worse than the day before and temperatures were in the single digits. I followed Andrew back to the Skull Creek access road where we parked the rental car and loaded the equipment into his truck. The access road is blocked to the general public with a locked gate controlled by Roaring Springs Ranch personnel. It is a gravel road and this time of year had patches of snow and ice making it navigable with a high clearance, SUV but not the Nissan Sentra rental car. In dryer conditions,

a vehicle with higher clearance would probably be sufficient but due to the lack of communications, no cell phone service, a SUV would be my recommendation.

The area of interest at Skull Creek is about 5 miles from the gate. There were three locations that were to be evaluated based on the viewing of Geographic Information System software. We proceeded to the primary area of interest, later determined to be called the “branding area”. This is an area located on the South-South west of the Skull Creek reservoir area (42.387056, -118.761454). It is flat, surrounded by a barbed wire fence. The nearest hill is located about 0.5 miles away to the Northeast with the peak about 11 degrees above the horizon (Figure 3). The hill is the highest elevation obstruction, everything else is below 11 degrees. There is a farmhouse located on the other side of the hill unoccupied except for visits from the Roaring Springs Ranch owners. The power lines are about 0.6 miles from the branding area.



Figure 3. Branding area with Northeast peak, hill, about 11 degrees above the horizon.

The Signal Hound and antenna were set up and spectra taken (Figure 4.). Due to the temperatures, in the teens and power draw of the Signal Hound, the measurement capability was limited. After the spectrum data was taken we assembled the directional antenna with a Wideband receiver and traveled to the other potential sites monitoring the power lines with the receiver set to the AM band. No power line interference was detected with either the system brought from Haystack nor the system that Andrew brought, an antenna tuned to 160 MHz.

The other two locations, while possibly useable, were located on areas irrigated for use for grazing. They are also located closer to the power lines and within view of the farmhouse.

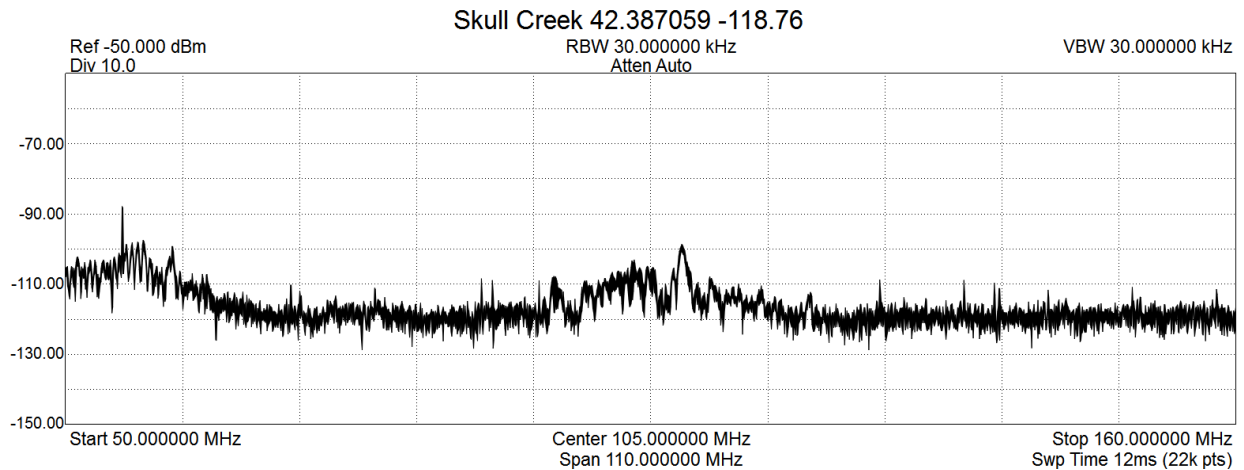


Figure 4. Skull creek branding area spectrum.

We briefly scanned the FM band with the truck radio but focused more on the handheld unit monitoring the AM band for power-line interference. No FM reception were detected during the brief monitoring period.

After returning to the Alvord Inn the spectrum data was sent to Alan where he immediately detected an issue, misinterpreted by myself, at both the low and midband of the data. Once the laptop batteries were recharged the system was setup outside the Inn and spectrum taken. It appears that the USB GPS receiver, taken to get accurate position data was a source of RFI. This data was sent to Alan and after reviewed the plan was to head back to the site the next morning.

Unfortunately, weather conditions the following day made travel back to the site problematic and the trip was cut short.

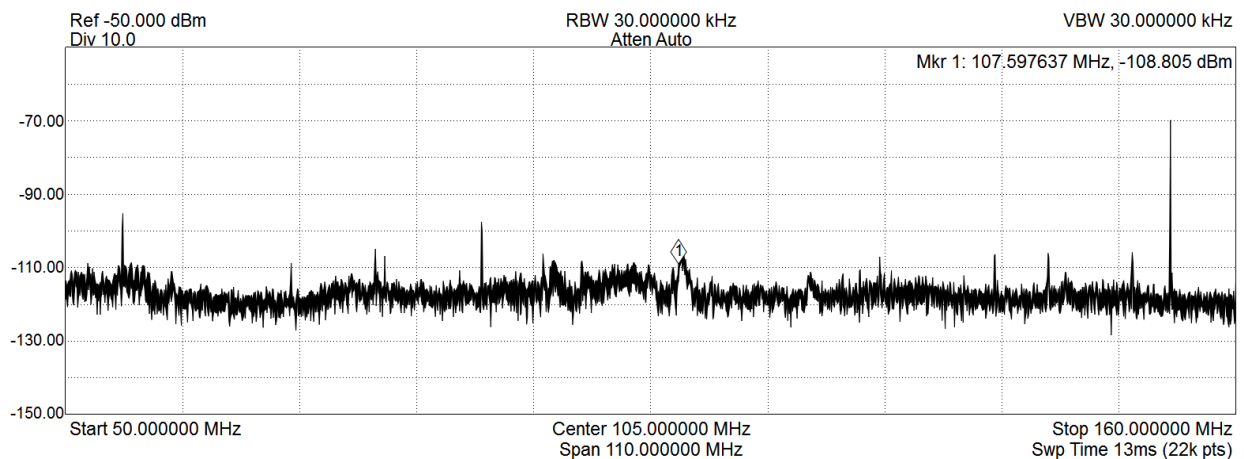


Figure 5. Fields Alvord Inn with USB GPS.

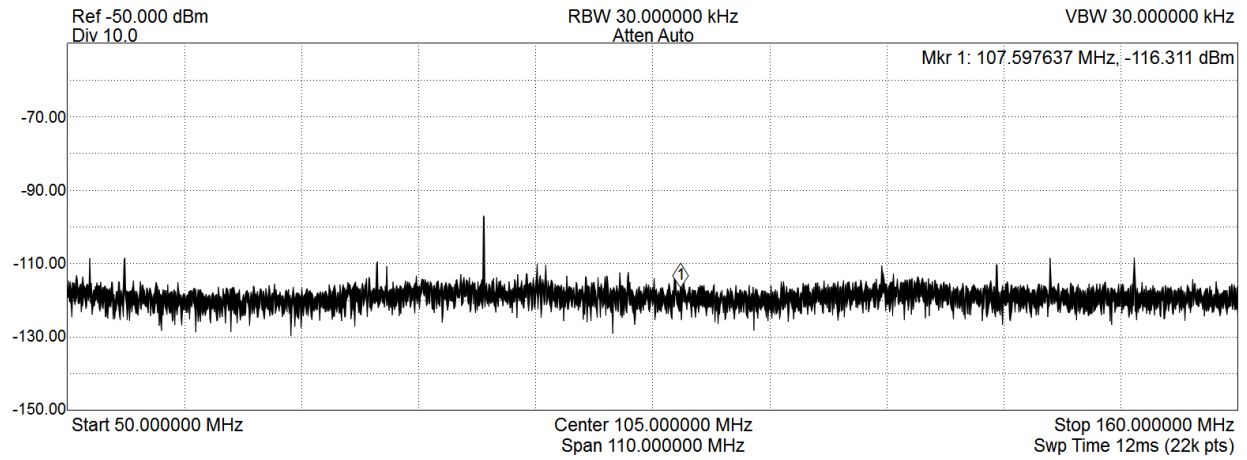


Figure 6. Fields Alvord Inn without USB GPS.