

An American IO-117 Road Trip to Montana and Wyoming

June 11 – 16, 2024

After spending all spring refining a new mast and antenna system for IO-117 roving I was intent on hitting the road before the Summer Solstice to put the system to the test. My plan was to head to an area of Montana that I had never really explored previously and then activate grids beginning south of the Canadian border back down into Wyoming.

A couple days before the planned departure IO-117 went dark. I decided at that point that I was going no matter what. If the satellite came back to life then I would activate any grids that I could, if it didn't wake up, well then, I would just enjoy exploring what I could during the trip.

Day 1, June 11th

I woke up, checked Greencube Reporter and IO-117 was still off. I left at 08:30 hour's local time and headed north. My initial plan was to hit the DN65/DN66 gridline in Montana for activation that evening. It had been a beautiful day and most of it was spent on the interstate highway until I got to Sheridan, Wyoming. It was at that point that travel took place on the back roads of America. Upon arriving at the gridline a quick check of Greencube Reporter revealed that the satellite remained off. At that point I decided to keep driving north until dark.

As for the DN65/DN66 gridline on Hwy 39 at that location, well, it would have been okay for a daytime activation but in my opinion not good for spending the whole night there. Too much traffic and not far enough off the highway during the dark hours of the night to feel safe as well as a limited horizon.

Welcome to Montana

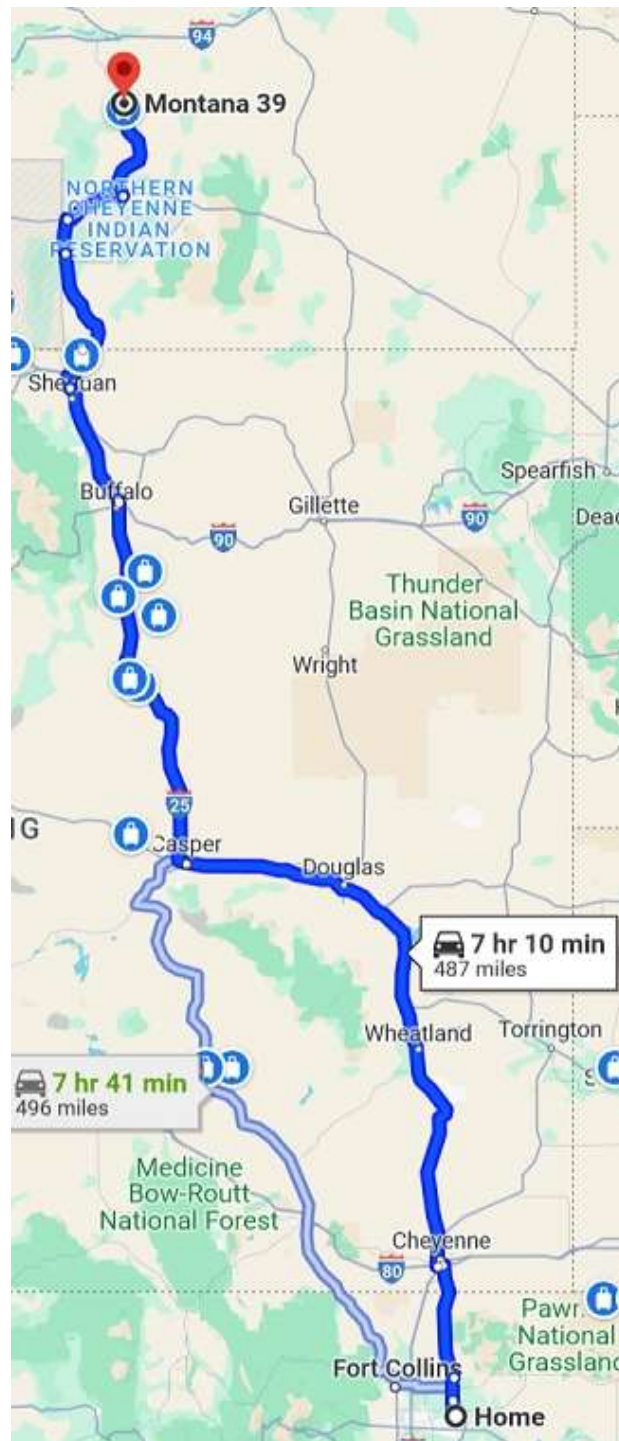




DN65/DN66 Gridline, Hwy 39 Montana

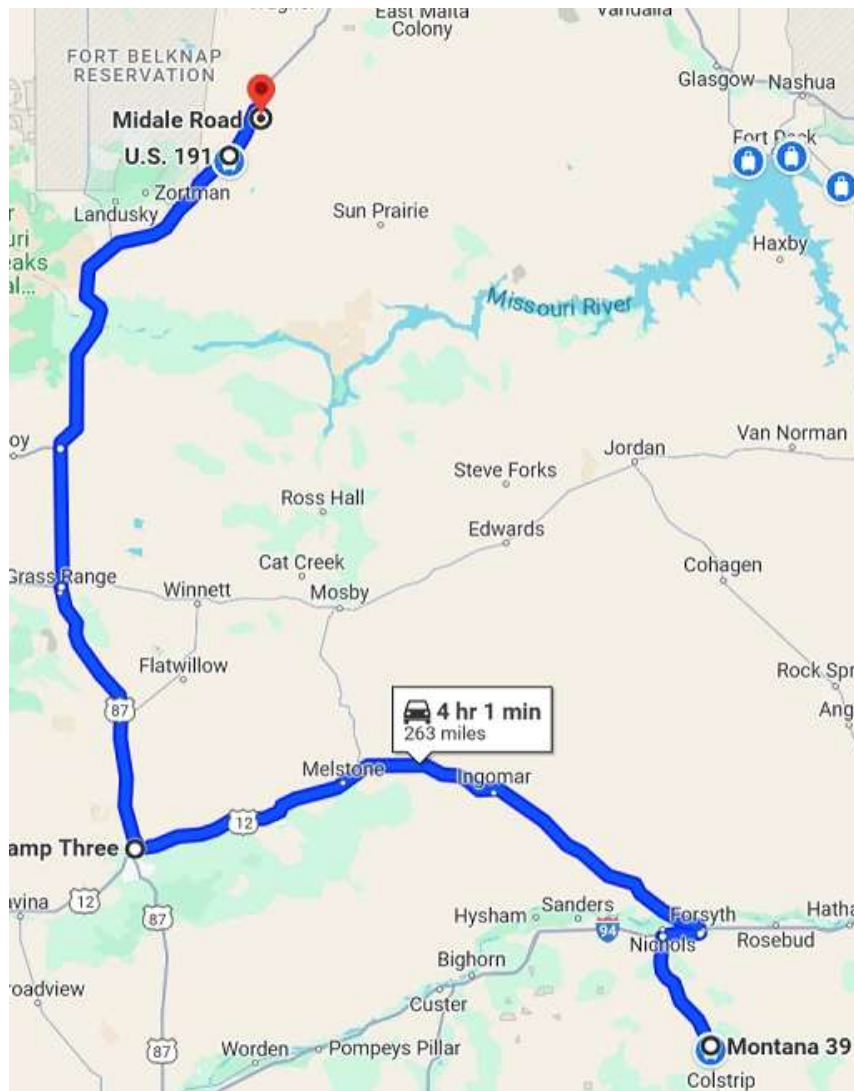


The best place to setup here would have been on the other side of the road which went down to some railroad tracks. **The other issue here, as well as a lot of places in Montana, as I would soon find out, was that the surrounding terrain was not ideal for all passes if you had spent the night there and tried to run three or four IO-117 passes.**



Colorado to the DN65/DN66 Gridline in Montana

On my drive north I decided to head to the Missouri Breaks National Monument area of Montana which is in DN57.



That area of Montana is beautiful. Crossing the Missouri River was absolutely impressive to see. On the north side of the Missouri River there were several places that appeared good for roadside activations but GC was still not digipeating at that time.

At this point the drive had been over 700 miles that first day and the sun was starting to set. It sets about 9PM up there this time of year and is not completely

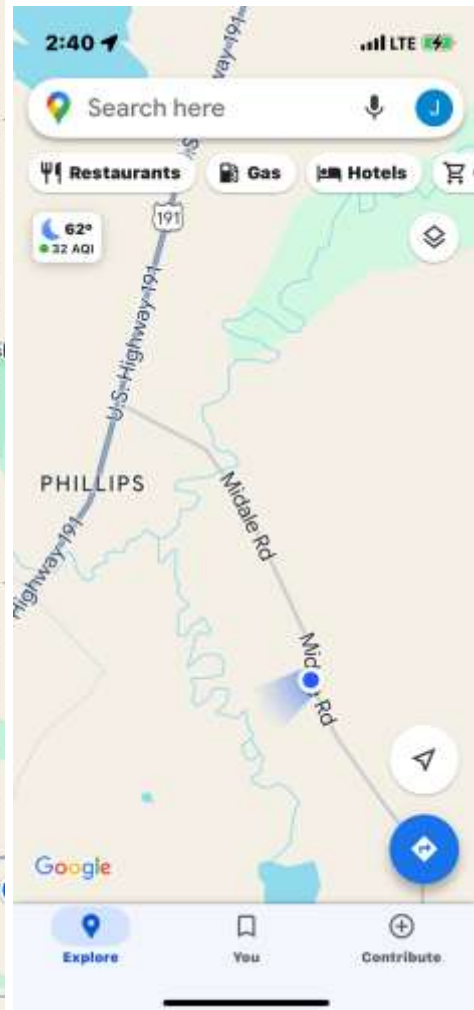
dark until after 10PM. It was time to start looking for a place to sleep the night away.



SUNSET JUNE 11, 2024 MONTANA HWY 191 DN57



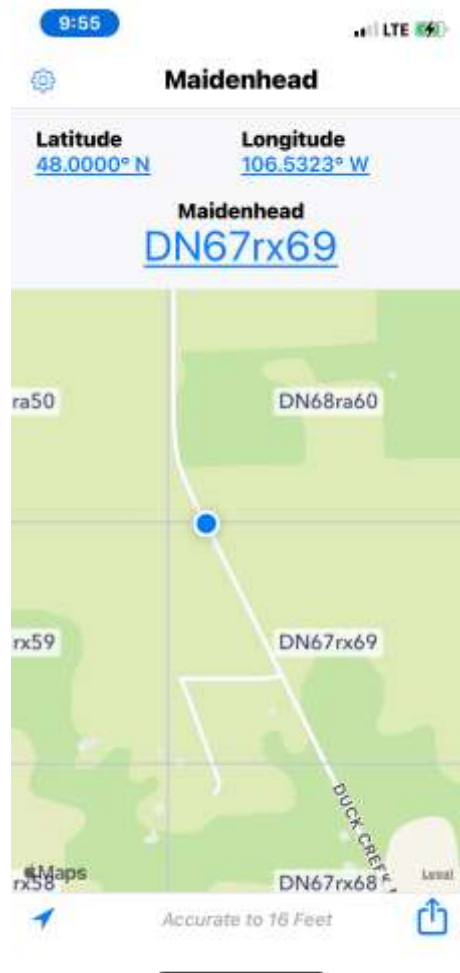
I drove a little further and found a forest service access road, Midale Road and went in about two miles at which point I shut it down for the day. GC was still off and day one was now finished.



DAY 2, JUNE 12TH

I woke up around sunrise although I woke up several times that night to check Greencube Report which continued to show that IO-117 was off. I decided it was time to head over to the DN68/DN67 area around Fort Peck Lake. It was probably around 9:30AM local time when I got the text I had been waiting for, GC is back on! I had pretty much missed the only viable daytime pass at that point. I had just passed a road that I knew crossed the gridline so I drove back and checked it out. It was a bust for a any activation. I ended up finding and checking out three more gridline crossing which all had one issue or another for my setup requirements. It was at that point that I knew these were going to be individual grid activations.

The hunt was on! I had about 7 hours to find them.



There was a Lewis & Clark pull out site just east of the dam with a large parking lot. It was on the highest point around so it looked perfect for DN68. I ended up finding an even better spot at DN67 off a dirt road, so that was it, I had my locations. DN68 had some horizon issues to the NE/E but there were two high elevation passes where that would not be an issue. DN67 had no horizon issues so it could handle a couple of lower elevation passes just fine.



MY BIG MISTAKE AT DN68

My first activation attempt at DN68 was a complete failure. In my desire to make a pass I opted to get on the low elevation pass. The problem was it was lower than I realized and it was almost 100% into the hill and trees in that direction. I misjudged all of it. Mia Culpa.



That first attempt yielded no contacts! The second higher elevation pass from the same location yielded 57 contacts. What a difference a few degrees makes.

DN68ta Stats

Pass 1 Attempt 0 Contacts

Pass 2 Attempt 57 Contacts

Pass 3 Attempt 32 Contacts

Pass 4 Attempt 64 Contacts

A quick move to DN67 to setup for two more passes that morning after sunrise.

This was a beautiful high elevation location with nice horizons for the next two passes. On top of that it was a beautiful morning.





DN67vw Stats

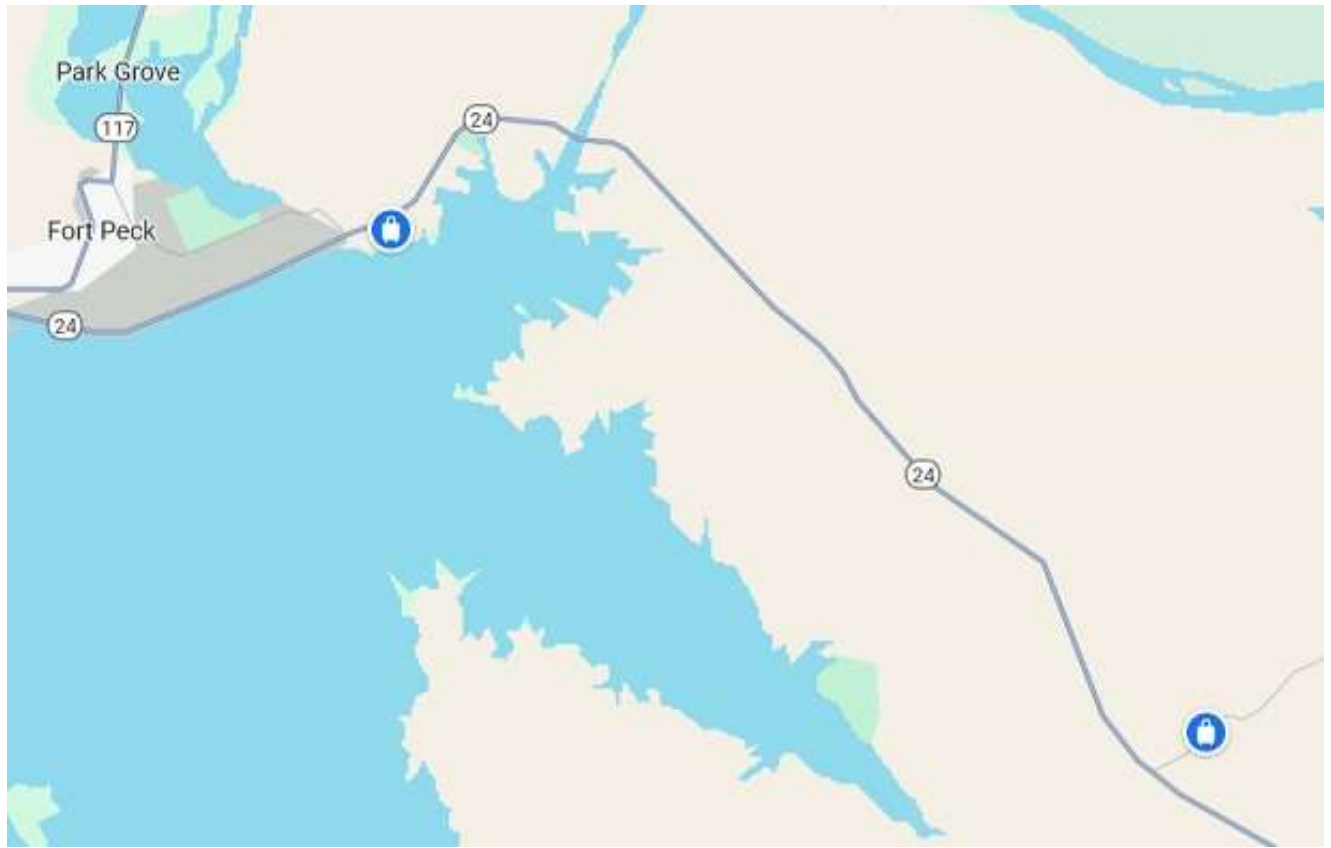
Pass 1 Attempt 41 Contacts

Pass 2 Attempt 27 Contacts

It was during the first attempt at DN67 that I experienced issues with transmission. I had excellent reception, all my transmission numbers on the rig looked nominal and everything “sounded” normal with respect to my transmission. By the time I hit 40 degrees elevation I started rebooting my soundmodem and GC Terminal program but still could not get a digipeat. At that point I rebooted the whole laptop. After that I was able to digipeat at will. That salvaged half of the pass with NA and some EU but I had lost all of Asia on that pass not being able to confirm one QSO with them. The second pass made up for some of that loss but not completely.

I had never experienced that issue before so it was new to me but in the future I will take action sooner if I ever think I am a laptop malfunction victim again.

DN68ta on left marker DN67vw on right marker



DAY 3, JUNE 13TH

So it's been a long drive north, a couple of nights sleeping in the 4Runner and two grid activations on 5 passes with 1.5 fail pass attempts. It was now time to head back south to Buffalo, Wyoming to get a shower and a good nights rest. Having to split the DN68 and DN67 activations made me extend the operation into the late morning on the 13th at DN67. I was out of there around 1PM in the afternoon.

That was a rather long drive that took me 6 hours with a stop or two along the way. I pulled into Buffalo around 7PM and checked into the hotel. After a shower and a snack I passed out and woke up 9 hours later refreshed and ready to go again.

Route from DN67vw, Montana to Buffalo Wyoming



The top half of this drive is absolutely beautiful. Large sweeping green rolling plains as far as the eye can see. Slow undulations, almost as if you are riding the calm swells of the ocean in open water. It reminded me of the travelling across western Iowa but seemingly more isolated.

Day 4, June 14th

After waking up, eating breakfast and filling the gas tank I had the entire day to look for activation sites in DN64 and DN63. I took off heading south and the first gridline crossing was an obvious bust for an all night activation. I then headed back north a bit and got on a county road that looked promising the night before for several possible sites. This road was paved, then it turned into a nice two lane dirt road for quite a ways. After passing a turn off to a Uranium Mine the road became a single lane affair. This took me to a site in DN64 next to a small reservoir that ended up being a perfect spot for night time passes.

After marking that spot on my phone map I figured there had to be a DN63 spot somewhere further south on a road like this. I eventually came to it on a rise with a beautiful 180 degree flat horizon. I also marked that spot on my phone. I then travelled this road as it traversed back westward and caught the interstate back to Buffalo. That ended up being a 120 mile grid hunting trip.

Back in Buffalo I gassed up again, got fresh ice for the cooler and bought a Subway sandwich for that evening's meal. I explored the historic town of Buffalo for awhile and then headed back south to DN64.

DN64

This was a beautiful isolated spot but it did have some low elevation issues toward Europe. With my low elevation disaster at DN68 I opted to pass on the low elevation pass in the late afternoon and subsequently ran two later high elevation passes and did quite well. The last lower elevation pass of the night would be done in DN63 given it's flat horizon.

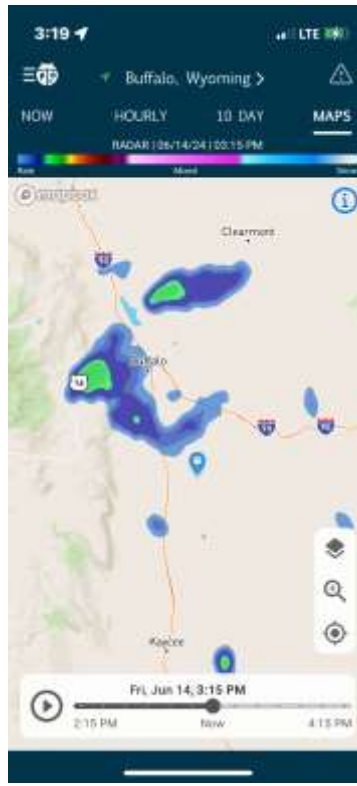
These were the hills at DN64 that made me decide not to go with the low elevation pass at that location into Europe.



The rise to the left below would not be an issue on the high elevation passes coming up later.



The Afternoon Weather Watch at DN64



As the afternoon progressed so did the surrounding weather pattern.





At some point it appeared to me that all of these large cells were going either north or south of me and then it started clearing toward the west so I started the setup process but kept the antenna on the ground until about 30 minutes before the first pass. At that point I felt safe raising the antenna for my first DN64 pass.



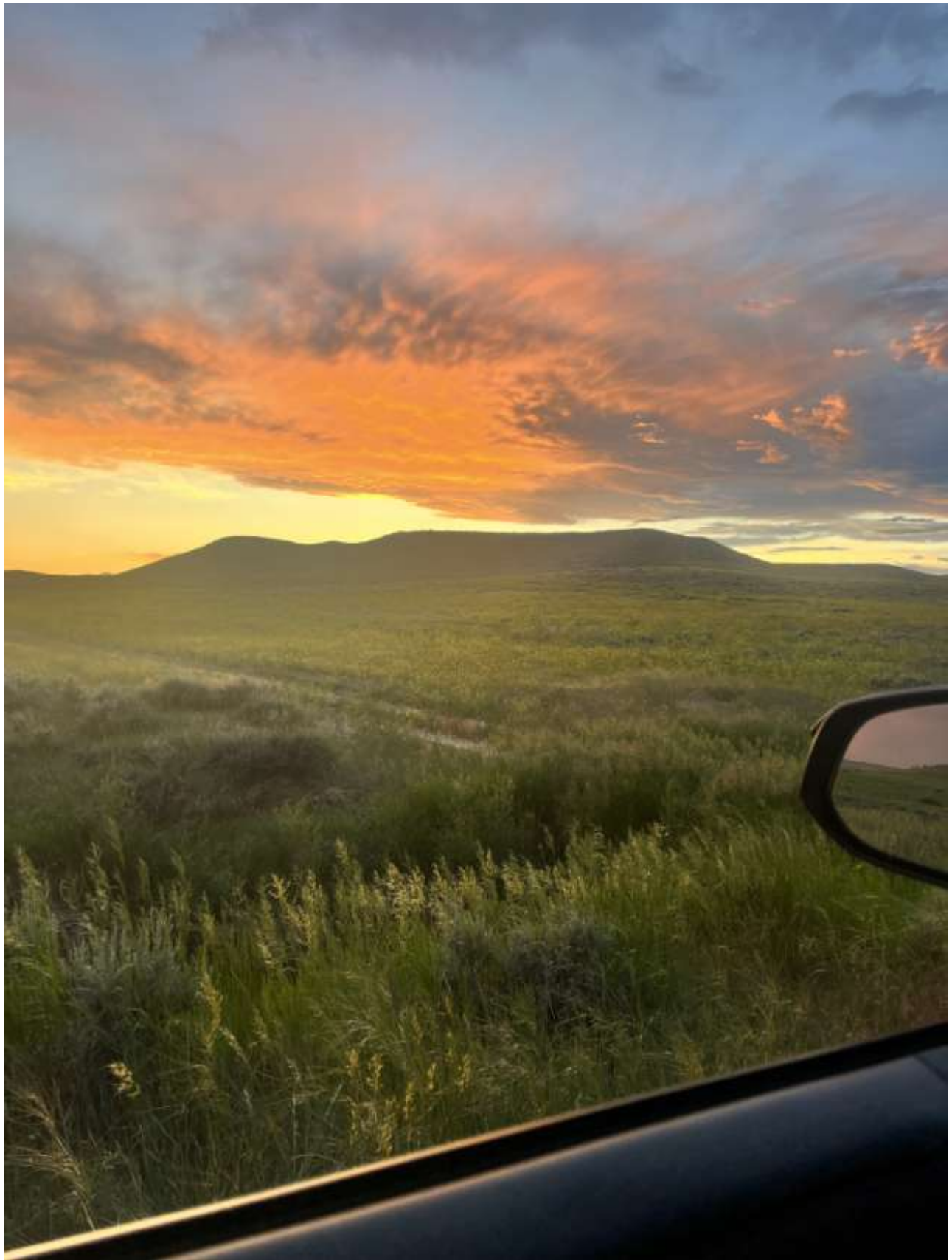




DN64rc Stats

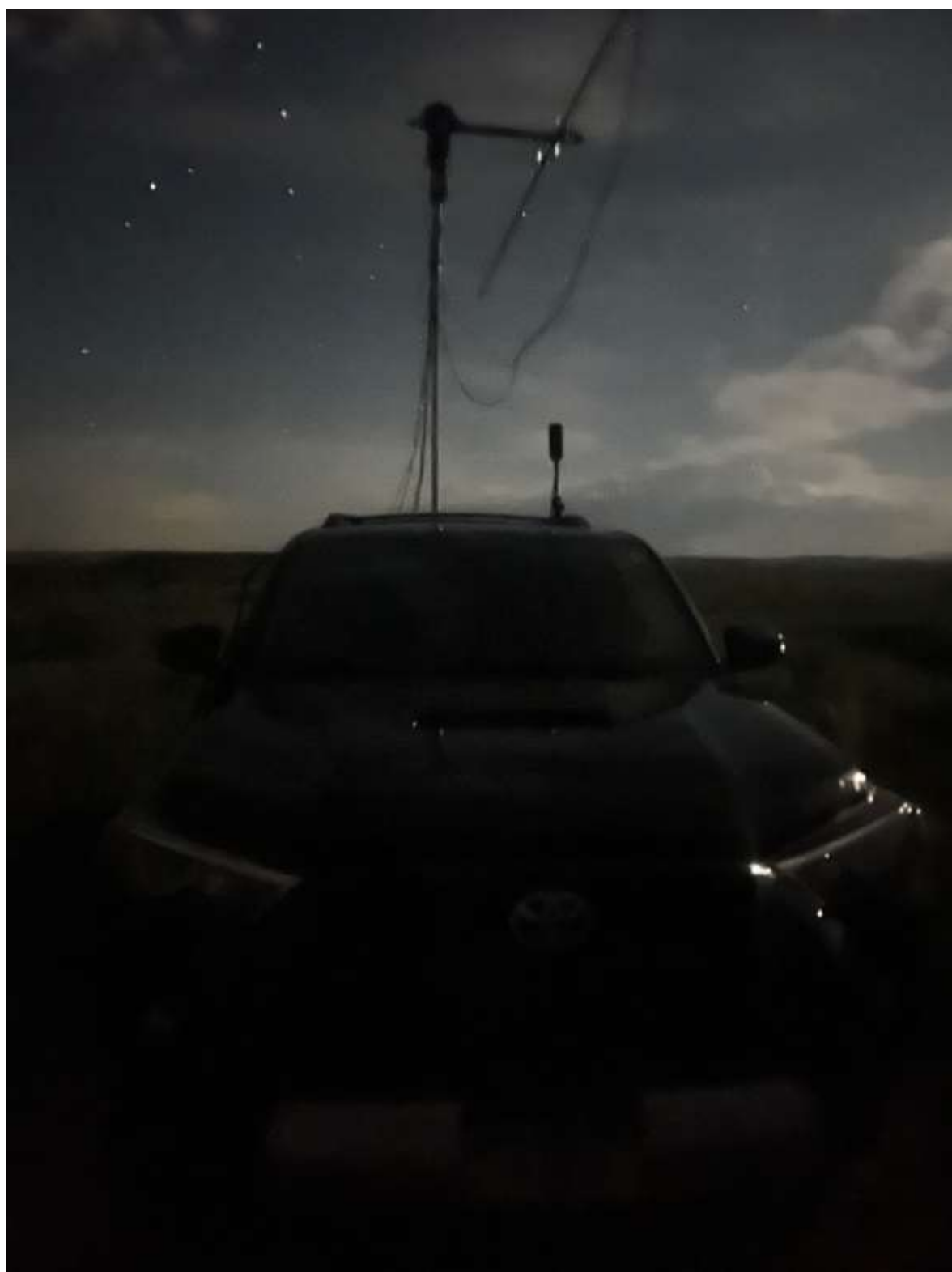
Pass 1 60 Contacts

Pass 2 32 Contacts



It ended up being an absolutely beautiful night in DN64. There was a bright half moon out to start with. After it set it was absolutely black out with a beautiful sky full of stars and believe it or not, no wind at all which is pretty unsual for Wyoming.







The Big Dipper



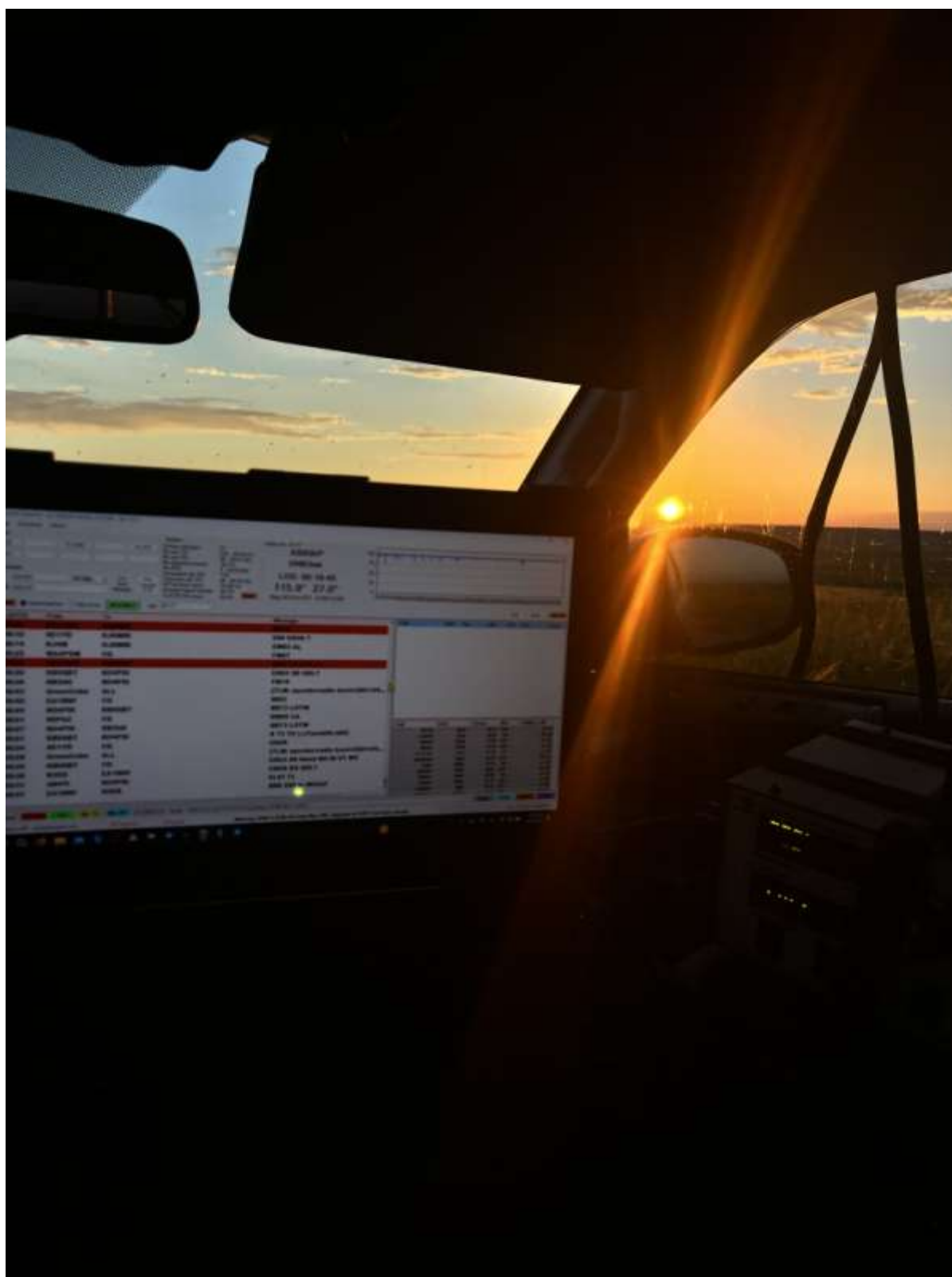
After the second pass in DN64 it was time to move to DN63. It was as dark as it gets at this point with no light pollution and no moon. The drive to DN63 was pretty slow at 20mph on the single lane dirt road. Numerous rabbits and foxes led the way for me. They would run down the road for quite a ways before finally darting off into the dark. I also saw a couple of antelopes run across the road. I was glad I had marked the spot on my map the day before, otherwise I may have just driven right past it in the dark. I finally made it there and got set up and ready to go for the one and only pass in DN63. This ended up being the most productive pass of the trip.



DN63sw Stats

Pass 1 83 Contacts

As the pass finished the sun was just coming up and it was a beautiful sight to see. I now had to break it all down and make a dash south to DN61/DN62 to meet up with N6UA on the gridline for more fun to come.



2:47

LTE



Maidenhead

Latitude

[43.9212° N](#)

Longitude

[106.4586° W](#)

Maidenhead

[DN63sw41](#)



Accurate to 15 Feet



Having to move during the night between grids does not offer you much sleep time so the 3 hour drive to DN61/DN62 seemed more like 5 hours but I finally made it. Sure enough Doug, N6UA was on site and operating. He had run the morning IO-117 pass as well as another FM satellite pass and was setting up his 6M station at that time.

Six meters was hopping and he was knocking off a lot of gridline contacts. I actually made one QSO for him as he walked away to adjust the antenna direction and I clicked on the call he got and logged it... Yeah!

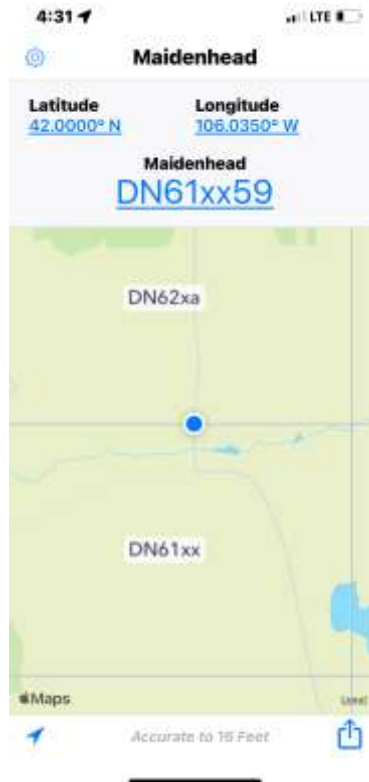
About 1PM I finally had to go to my truck and take an hours nap since I was pretty exhausted from the night before.



We both watched the weather building up from the west as the afternoon progressed. We decided it would be a good idea to pack his station up and head into Medicine Bow, Wyoming to get some dinner.



After a great dinner and a long discussion on a lightening experience that Doug has had we parted ways. Doug headed back to Cheyenne and I back to DN61/DN62 to get ready for some night IO-117 passes.



Back on the gridline I started getting setup for the first pass of the evening. The weather had all moved to the east and the skies were clearing.





A dirty vehicle and 5 sections of the 42 element antenna waiting to be mounted.



After the first pass on the gridline the sun had just set and I was ready for a good 2 hour nap before round 2 was to start.



DN61/DN62 Stats

Pass 1 60 Contacts

Pass 2 35 Contacts

Pass 3 **ZERO CONTACTS**

Pass 4 60 Contacts



ZERO CONTACTS on Pass 3? What happened?

Weather is what happened. I let my guard down after pass 2. Pass two was relatively quiet given its pass over the Pacific and having worked much of NA on the first pass. Japan was not in the footprint for that pass. It did, however, start off very nicely with a contact with Murray in New Zealand, ZL3MH.

04:29:53 ZL3MH K10KB/P RRR E-QSL CUL 73

After the pass was over I shut everything down and set my alarm for 20 minutes and 15 minutes before the third pass was to start. That's my routine as it takes me at least 5 minutes to figure out where I am and what I have to do after I wake up on these roves. The second alarm is in case I miss the first alarm.

So I wake up and start the process by turning on the cell signal booster then booting up the laptop and making sure I'm connected to the internet. After that the rig is turned on and then the rotor controller. I fire up the soundmodem and make sure it's waterfall looks right then I fire up PST Rotator. I engage IO-117 and make sure it's communicating with the rig. I then fire up GC-Terminal and make sure it's numbers look right and correlate with the projected pass numbers on PST Rotator. So that's what I did.

At this point the moon had long since set. I got the 3 minute pass warning announcement from GCT and I had done test transmission to make sure everything sounded right and the numbers on the 9700 all looked nominal. Just before AOS I saw the first signs of rain on my windshield. WTF? Where did that come from?

I stepped outside but couldn't see anything. It was pitch black except for flashing red lights in the far distance out west on the wind turbines out there. When you are sitting in the vehicle with the laptop screen lit up you really can't see anything outside in the dark. Stepping outside takes awhile to get your eyes adjusted to the dark. What I did feel was the light rain on my face. I got back in the vehicle and pulled up the local radar on my weather app on the iPhone. At that point the 4Runner sounded like someone was throwing rocks at it and pea sized hail showed up on my windshield for about 30 or 40 seconds. I saw on the radar map I was underneath a rather large cloud area. I stepped outside again and that was the first time I saw cloud flashes of light. I never heard any thunder or saw any ground strikes but the clouds were definitely alive with electricity.

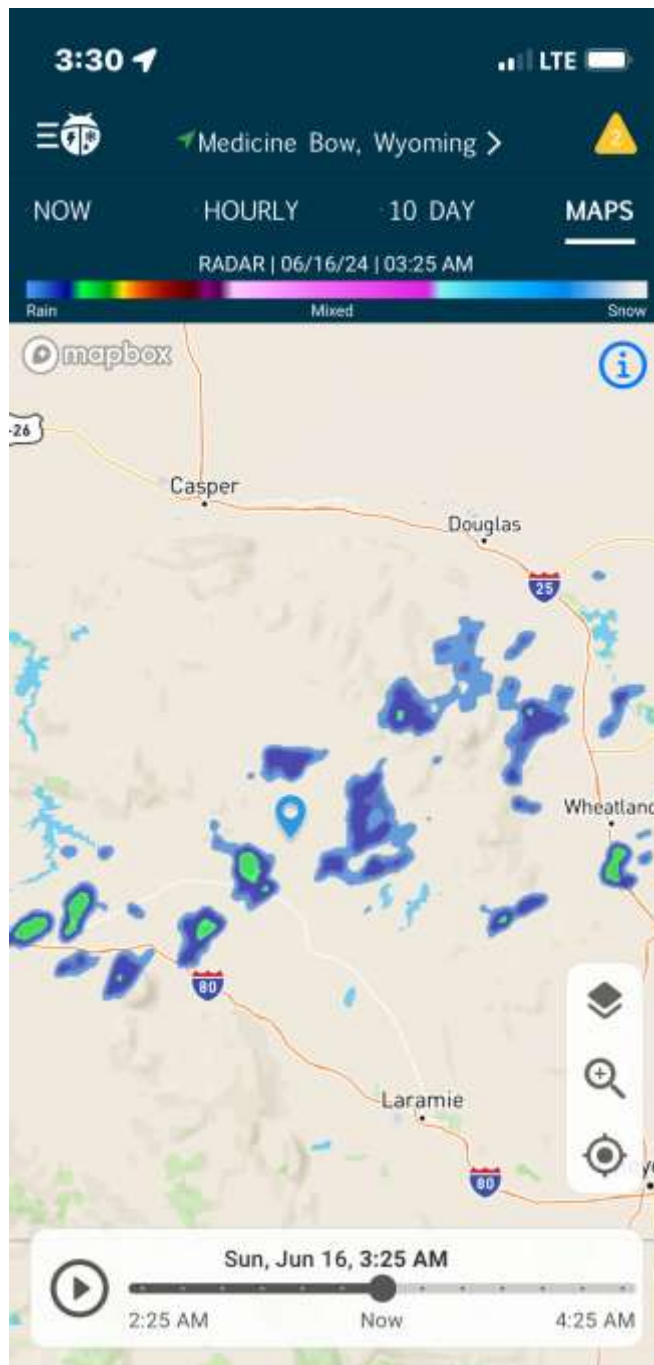
I went back in the vehicle and shut off the 9700 and disconnected the antenna. I usually rotate the antenna up to 90 degrees to lower it so it's horizontal to the ground when lowered. That didn't seem like a particularly smart idea at this point so I left the rotor control on and went out to lower the antenna. As the antenna

got close enough to the ground I went out and removed one section at a time as I continued to lower it until the entire front of the antenna was off. At that point I raised the rotor to 90 degrees and lowered it the rest of the way. I removed to two end sections and then rested the whole antenna onto a multiuse portable chair, desk, toilet to let it rest without any tension on the winch. The real kicker to this whole procedure was that during that time frame it started raining for at least 5 minutes. I spread the antenna sections around in various random locations and got back in the vehicle. I turned the rotor controller off, disconnected those cables and I was done.

It was now 57 degrees outside, I was soaking wet and cold as hell. I turned the heater on and blasted myself with warm air. I couldn't believe what just happened. I must admit, I felt a tad vulnerable when I was out there lowering the antenna. The driver compartment was now dark with the laptop and equipment off and I could see ongoing flashes of light up in the clouds.

At that point I pulled up the radar again and at some point figured I capture some of it on a screen shot or two.





I believe this was just under an hour from when the pass started. I pulled up GoSat Watch on my phone and there was some pass left but I was done for the moment. As the evening progressed I took a few outside pictures.





I wear a red headlamp when working outside at night to preseve my night vision.



So, at that point I figured I'd better get something out on ""X"" to inform stations of the current situation. I know it's an investment in time and energy for everyone involved to make a pass for a new grid and depending on where you are at in the world it can be any hour of the day or night. It looked like there was speculation that I was tired and had missed the pass. Tired for sure, sleeping nope. It was at that point that I decided to make the next pass since it was a similar pass for Asia assumming this freak weather event just moved on and nothing else followed it.

So, that's what we did and it was a good pass with 60 contacts.

I think in the future after finishing each night pass I will look at the weather radar before going to sleep. I don't have any idea if I would have had a clue earlier in the evening or not that something was building in my direction on this occasion but it's easy enough to check. And perhaps it's a good idea on a moonless night to do that before each pass.

So the rove was finished with many challenges but overall a successful rove which included six grid activations, DN68, DN67, DN64, DN63 and DN61/DN62.

The final 3 hour drive home was uneventful.





Elk Mountain Wyoming

MONTANA WYOMING ROVE STATS

DN68

Pass 1: 00

Pass 2: 57

Pass 3: 32

Pass 4: 64

DN67

Pass 1: 41

Pass 2: 27

DN64

Pass 1: 60

Pass 2: 32

DN63

Pass 1: 83

DN61/DN62

Pass 1: 60

Pass 2: 35

Pass 3: Aborted

Pass 4: 60

TOTAL CONTACTS

551

BONUS PICTURES



180 Degree Panoramic of the Lewis & Clark Overlook of Fort Peck Lake DN68
looking primarily south.



A good roadside activation site in DN57. Greencube was still off at this location.

A feeder stream for the Trabing Reservoir site at DN64. Bullfrogs were very noisy here after dark.



1:49

LTE



Maidenhead

Latitude

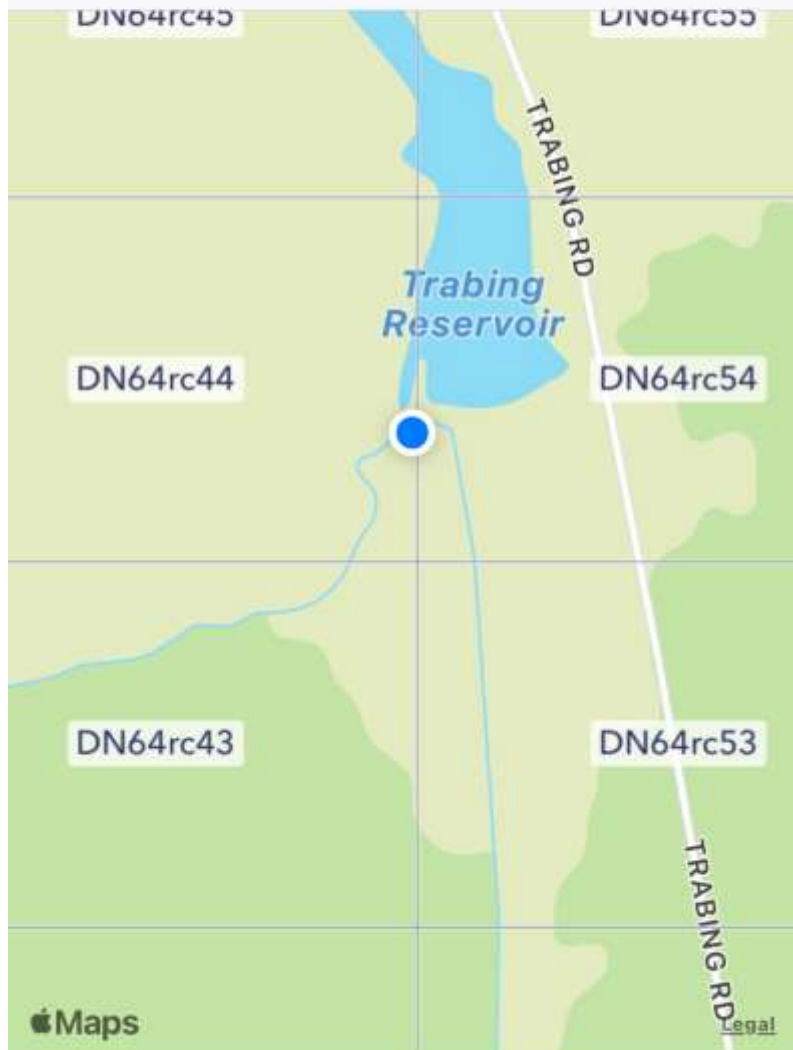
[44.1015° N](#)

Longitude

[106.5417° W](#)

Maidenhead

[DN64rc44](#)



Accurate to 16 Feet





UNTIL NEXT TIME

73 DE K10KB/P