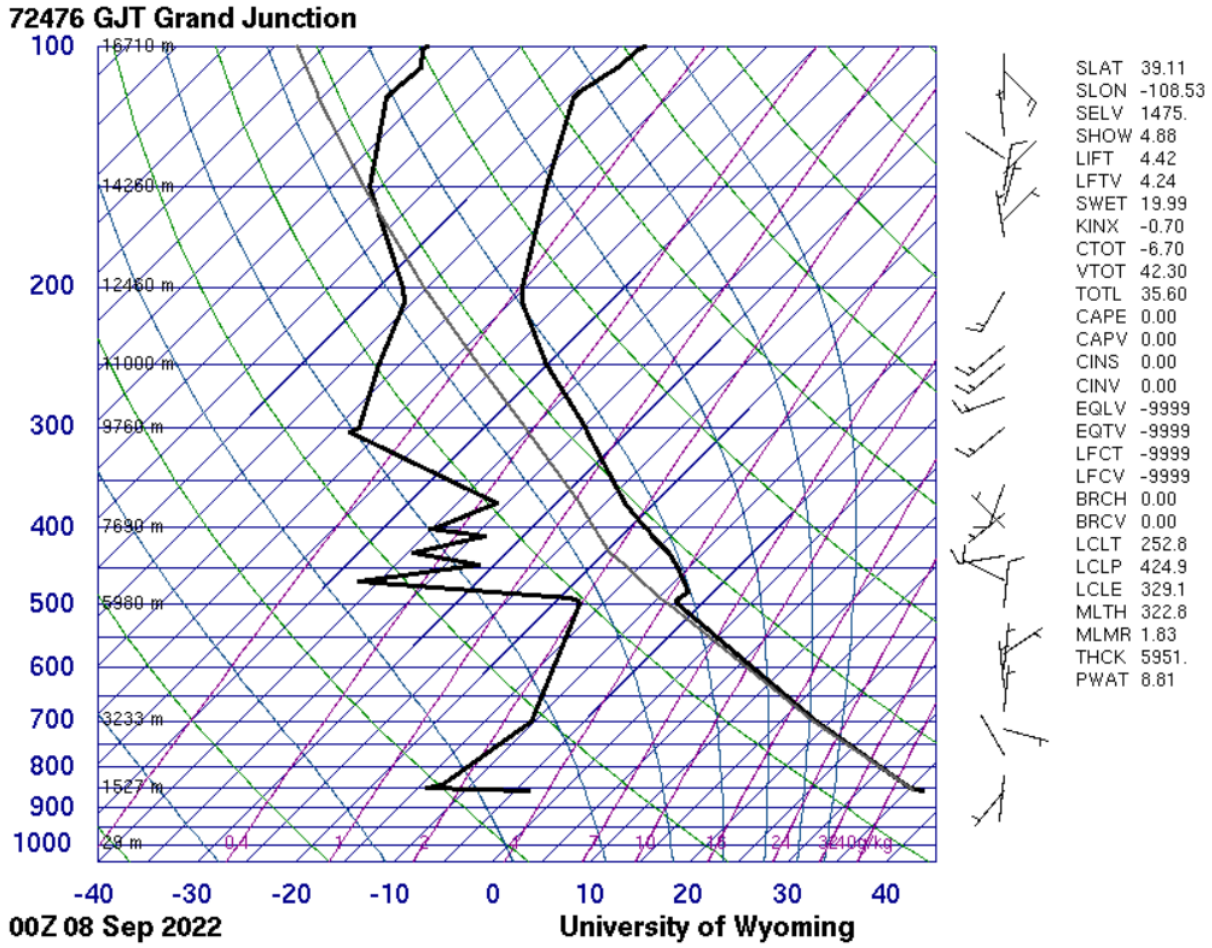
Clouds 1 Report: Alessandro Villain

9/07/2022 Section 1

Living in Andrews Hall has its perks, one of which being going outside occasionally. Over the years, I have honed my survival skills and have managed to view a sunset. Voila: a sunset over the mountains. It cost my left pinkie toe, but those are the sacrifices we make for art. Behold! The formidable rockies escorted by voluptuous clouds colored by a brilliant sunset. I wanted to capture this moment and the colors I love so much about sunsets.

I was in the Andrews lobby and looked outside to see some gorgeous clouds. I quickly grabbed my camera and ran out to take these photos before I lost the chance. I am looking up at a twenty degree angle in a north-westernly direction.

I suspect these are cumulus clouds because of the way that they are. They are sparse, quite small, and when looking at a larger picture of the sky that day, they are the only clouds present. They are coming over the front range towards the plains. This is also very conducive to cumulus clouds. It was a clear day, preceded by a clear two weeks, and proceeded by a clear two weeks. It was a gorgeous time of year, directly juxtaposing the winters. I hate winter so much. Looking at the skew-t, there is a pinch at about 5800 meters, which is where we'd expect cloud formation. Inspecting the photo reveals that this is about correct, seeing that the clouds are about 3000m, or three kilometers up. This is about eight and a half laps around the track. That's approximately thirty football fields. There was no wind this day, and the atmosphere was very stable. The light rays visible are from aerosolized particles being illuminated where the light is let through by the clouds.



The field of view of the camera is about 30 degrees, and the clouds are approximately 9 kilometers away. The lens has a focal length between 55 mm and 250 mm. This is great for dramatic photography, but not for landscape photography. However, I got lucky and found the perfect shot. I used a digital camera: the canon 250D. It has a 4000X6000 sensor. Tindependently. Eventually this stream degenerates into a steady flow with espresso. However, with water the flow maintains the Plateau-Rayleigh instability.

The specs for the photo are as follows:

Camera	Canon EOS 250D
Lens	Canon EF 55-250mm f/4-5.6 IS II
Aperture	f/5

ISO	100
Shutter Speed	1/400

This photo reveals the wonderful hues present in sunsets. I love how Boulder looks in the summer, and this photo exemplifies why. I want to know why don't we get these dramatic sunsets as often, and why they are not as saturated as they sometimes are. I would love to take a timelapse of a sunset.

Original photo (4000x6000)

Edited Photo (3000x6000)

Consider the person you love
Recall the simple brilliance of their words
The effortless way they achieve beautiful things
When you see them it is obvious
But when you try to explain it, it is impossible
They radiate
The room seemed so dark without them
Until they arrive to shoulder the darkness
They are soft and caring
Yet are harsh in their beauty and contrast
They are there for a moment
You think you'll never forget
And then they leave
And you cannot help but remember
Never exactly
Never quite able to explain it
Until they return the next day
Brilliant in the same, yet completely different
They are a sunset
They are orange
And violet
And brilliant
And never the same
Yet always familiar

References:
Sunset anonymous: https://lelit.com/

Equations for the minimal surface area were taken from the University of Chicago:
https://math.uchicago.edu/~may/REU2019/REUPapers/Zheng.SiqiClover.pdf

Information on Plateau-Rayleigh instability was found at:
https://ui.adsabs.harvard.edu/abs/1995PhFl....7.1529P/abstract
https://arxiv.org/abs/chao-dyn/9612025

Supplemented by wikipedia:
https://en.wikipedia.org/wiki/Plateau%E2%80%93Rayleigh_instability#cite_note-Papageorgiou1995-1