

# Chapter 4 - Field Camp, Snakes, and Cacti

*“Being negative only makes a negative journey more difficult.  
You may be given a cactus but you don’t have to sit on it.”*

—Joyce Meyer

Once I truly had set my mind on becoming a geologist, there were a number of prerequisites I had to take to complete a Bachelor of Science degree—field camp was one of them.

My field camp was in the Wasatch and Uinta Mountains of Utah. We were stationed in Park City, the land of ski bums, craggy mountains, and Mormons. Immediately upon arrival we were informed that the resort did not tolerate drinking, parties, or any participation in sexual escapades. As young students from the land of cheese curds and beer, the strict liquor laws did not quite cut it for us. Not that there were many opportunities for extensive partying. The girls shared rooms together, and the boys shared rooms with their male “guardian” graduate students. It seemed the girls were more trustworthy than the guys. *Go figure*. Besides, this was a serious learning time, with little “playtime.”

Serious, indeed. It was seriously hot—and seriously dangerous. The late afternoon temperatures in Park City exceeded the mid-90s Fahrenheit, even at an elevation of 7,000 feet. The news of the day was to “stay hydrated or go home sick.” Altitude sickness could be problem at that elevation, especially if you were dehydrated from a previous night of partying. *Yes, there were ways around the rules*. And, if

you were from a relatively low-lying state like Wisconsin, it might take days for you to acclimate.

There are three types of altitude sickness: Acute Mountain Sickness (AMS) is the mildest and most common form of altitude-related sickness and can result in a hellacious headache; High Altitude Pulmonary Edema (HAPE) is the condition where your lungs fill with fluid and medical attention needs to be sought immediately; High Altitude Cerebral Edema (HACE) results in swelling of the brain—clearly not something to aspire to, although a typical college hangover may indeed feel like HACE. However, in this case, HACE stands for “**H**ad **A**lcohol ... **C**omatose **E**xperience.”

At Park City’s elevation, AMS is the most likely altitude problem you will encounter. However, AMS can turn into HAPE, which can turn into HACE. HAPE and HACE typically affect high mountain climbers such as those scaling Mount Everest, where the oxygen level is low and the body doesn’t have time to adjust as the climber ascends. According to the Cleveland Clinic, “HAPE can be deadly within 12 hours. HACE can be deadly within 24 hours.” Thankfully, none of us suffered from HAPE or HACE. There were other ailments awaiting us.

Each morning we would wake up, shower, and don field clothes that typically consisted of full-length khaki jeans to mitigate the potential for spiders and ticks crawling up our legs, long-sleeve T-shirts to help avoid scratches from the heavy thicket, and floppy, wide-brimmed hats to protect our faces from the glaring sun. We would then have a breakfast of vanilla yoghurt and granola (*typical “Earth Muffin” fare*), scrambled eggs and toast, and, of course, a large cup of the “Nectar of the Gods,” rich, burnt-umber-colored java. Geologists don’t start their day without at least one or two cups of coffee.

After stuffing our faces, we were off to the hotel’s conference room for classroom instruction—led by a gruff UW geology professor (*more on him later*). Our briefings included descriptions of that day’s required field mapping activities and a listing of potential problems we might encounter while on the mountain.

We were warned about the heat on a daily basis—that was a given. Hot conditions can result in heat exhaustion, the first warning sign of impending heat stroke. Symptoms of heat exhaustion can include heavy sweating, weakness or tiredness, cool clammy skin, weak pulse, muscle cramps, dizziness, confusion, nausea, vomiting, headache, swollen ankles, and fainting. Heat exhaustion can turn into heat stroke, a potentially fatal condition in which the body temperature can rise above 103 degrees F. The symptoms include hot, red, dry or damp skin, rapid and strong pulse, fainting, and loss of consciousness. And death. *Is death considered a symptom or a result?*

Later in life, I was on the path to heat stroke during a work trip—and it wasn't fun. It happened a couple of years into my geology career in the environmental industry. I was sent into the field in the mountains of North Carolina to drill and sample soil—in the middle of summer.

On this particular occasion, the temperature was well into the 90s and the humidity was about 80%. The site had known contamination and I was required to wear the big white coverall known as a Tyvek® during all drilling activities. Donning a Tyvek® was known to raise the temperature inside the suit by several degrees, so for all intents and purposes, I was working in a temperature of nearly 100 degrees. My drillers, affectionately known as Bubba and Boo (*I kid you not*), were from the area and were used to drilling in hot conditions. I was not.

After a long, arduous day of drilling, I was utterly exhausted and drove to a Motel 6 for the night. The towering red and blue sign read, “\$29.99—Single.” It was in the middle of nowhere and a bit on the sketchy side, but the thought of lying down overcame my trepidation. *I'll take it.*

I checked in and slowly made it to my room, unlocked the door, and plopped my tired body down on the stained polyester bed cover. Within a few moments, my head began to throb and my heart rate increased to the point where I felt my heart would burst through my chest. My skin was dry and I began to throw up. Clearly, these were symptoms of intense heat exposure. I had learned about it in my 40-hour OSHA HAZWOPER training for working on hazardous waste sites.

As I lay in bed, all alone in the crappy motel room, I wasn't sure if I would wake up in the morning. The nearest hospital was over 75 miles away and I wasn't strong enough to get out of bed, let alone drive myself through winding mountainous roads in the middle of the night. I had not traded accommodation information with Bubba, the lead driller, so the only person in the world who could save me from a tragic stroke or death was the 50-something motel clerk.

I will call her Eunice. She looked like a stereotypical Eunice. Somehow, Eunice, with her scratchy, smoke-impaired voice and a "rode hard and put away wet look" didn't seem to be someone I could rely on for CPR. I had visions of the housekeeper knocking on the door at 10 am the next morning, "Housekeeping. Housekeeping!" Without a response from inside the room, she opens the door to find my body, stiff with rigor mortis. *I just have to hydrate and rest. Hydrate and rest ... and hope for the best.* Clearly, I survived to relate this story to you, but to this day, my tolerance for heat is next to nil. That is my excuse for losing 40/Love on the tennis court on any given hot summer day.

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Back at field camp, the professor went on to tell us that one of the poisonous plants we might run into included Myrtle Spurge, a bush that could cause skin irritation, blisters and rashes ... and blindness. Also included on the list of "Don't touch them if you see them plants" were more familiar: poison ivy and poison oak, stinging nettles, and mushrooms. "*Never eat wild mushrooms!*" he warned. This also should have been a given—even for moronic undergraduates. Not that there weren't more than a few fellow students that appeared to be quite familiar with a select group of mushrooms. "*Shrooms*" in *collegiate vernacular*.

Toward the end of the morning's lecture, the instructor continued on to an examination of local snake habitation and behavior. *Great. Snakes.*

Apparently, the Great Basin rattlesnake makes its home in the Wasatch and Uinta mountains. It is a venomous pit viper (*Crotalus viridis*) that reportedly can grow to 3 feet 3 inches long. Who comes up with these numbers? *I am sure there is a Great Basin snake out there*

*that measures in at a whopping 3 feet 4 inches. He is just hiding in his hole and chooses not to be disturbed.*

From what we learned, the scaly serpentine creatures typically emerge from their winter dens during the late spring to early summer and are most active at dusk and dawn. As students, we were never up as early as dusk (*unless we had been up all night partying*), and were most likely cooling down in the pool by dawn. Consequently, our sleeping and lounging routines should have kept us safe from the snakes. *Right?*

Unfortunately, snakes were known to bask on rocks during the middle of the day, which happened to be prime field mapping time. As cold-blooded (ectothermic) animals, snakes are unable to regulate their body temperature and, thus, take long snaky naps on southern exposures among rocks and boulders—to take in the sun’s heat. *And work on their tan.*

It just so happened that the rocks and boulders our lecturer referred to as “snake ledges,” were, in fact, the structures we were studying on a daily basis.

At 5 feet 3 inches tall, I was, and continue to be, a relatively short person. In actuality, I am 5 feet 2.5 inches tall, but rounding up seems acceptable to the Internal Revenue Service, so I am just following convention.

Because of my vertical challenges, the steepness of the Wasatch range required a bit too much actual rock climbing for my liking. At nearly every new outcrop, I had to blindly reach one hand up and over a sharp cliff to boost myself onto the next ledge—where snakes were likely in quiet repose. This dangerous and exhausting maneuver was conducted in the name of



describing rocks that had previously been described by numerous other students. And many USGS (United States Geological Society) geologists over the years. *So what was the point of us doing it all over again?*

Although we were not producing ground-breaking discoveries of new rock types, our assignment was clear: identify the rocks (igneous, sedimentary, or metamorphic), their color and inclusions, their induration (hardness), and their orientation relative to horizontal. By the time we were in our senior year and at field camp, we should have been able to distinguish one rock type from another, but sometimes it was not easy to tell the difference. As most of my readers are likely non-geologists, I will provide succinct, yet incomplete, descriptions of the three rock types in a later chapter.

Once again, I digress ... snakes. Back in Park City, the “strike and dip” of the rock beds was required to prepare geologic cross-sections that were due by the next morning’s lecture. Heaven forbid we missed the “geologic contact” the professor said was required for us to map that hot sticky day. The fear of accidentally clutching onto, or striding upon, a poisonous snake was palpable. *Look up. Look down. Was that a snake or a twisted tree branch? Make noise, a lot of noise.*

In February 2023, the University of Queensland, Australia, concluded in their research that snakes can hear you scream. *Screaming is always an option.* It also helps scare away black bears and mountain lions. I forgot to mention them. They are also in Park City. I am happy to report that although many snakes were observed, none nibbled on any undergraduate student that trip.

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The field days continued, and every week we had a field mapping exam. We were told by our professor that if we were seen within 100 yards of another student, we would receive an “F.” Failure was not an option if you wanted to become a geologist. The mandatory “lack of proximity” of one student to another in dangerous conditions hails back to my previous discussion of University of Wisconsin insurance underwriters in the 1980s. Did they truly not understand that, in the land of rocky slopes, venomous snakes, black bears, mountain lions, and excessive heat and altitude,

inexperienced geology students were ordered to slog about by themselves? Not even within earshot of one another?

I don't know if it was the arrogance of this particular professor-in-charge, or standard procedure. I will call him Professor GDA, as in "god damn asshole." *Please excuse the language. I think he is dead now, so I can write about him candidly.* Professor GDA taught mineralogy and petrology at the U-Dub. He was a tall, lanky man with graying hair, long bushy eyebrows, and beady brown eyes. He was the gatekeeper to a BS degree in geology and took the liberty during microscope work of leaning over the gals' shoulders, one hand on their lower backs (sometimes burnishing their spines for a minute or more), under the guise of explaining the "petrology" of the thin section under the scope. His breath stank of coffee and cigarettes, a combination at closeup enough to drop a rhino in its tracks. I cringe as I am writing this recalling the numerous assaults on my personal space and spinal column. Where was the "Me Too" movement when I needed it?

It was my understanding that several years earlier, Professor GDA left his wife for one of his *undergraduate* students. Rumor? I'll never know. Regardless, the wife was better off without him.

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I think it was the third or fourth week of field exams when I sat on a cactus. Exhausted by the heat and constant climbing, I decided I needed a short moment of relaxation to collect my thoughts and write down my observations from the previous hours of mapping. *Big mistake.*

On their exterior areoles (the small nipple-like protrusion, not to be confused with that which is found on a woman's breast), cacti contain barbed, hair-like spines called "glochids." Sitting on a cactus is like situating your behind on a bed of exceedingly small fishhooks. Once attached, they are a one-way trip into the rear end.

According to Popsci.com, "You're extremely unlikely to die from getting speared by cactus spines, but they can do some damage." Apparently, the spines can be transferred to another part of your body. Pull one out of your ass, and it is in your finger. Touch the tears streaming from your eye, and it is in your eyelid. "Most

people are going to do okay,” Dieter reportedly said. “They’ll get over it in a few days or a week or two, but in some people it goes on a long time.” I didn’t have a week or two to “get over it.” I had to be fully functional in five minutes.

My friend Jean and I had an agreement, that, despite the warnings of test failure by Professor GDA, we would keep an eye on each other during the solo field exams. “Jean! Jean!” I cried in a loud whisper (*another oxymoron?*). “I need your help!” Jean drifted over to me, picking up rocks and casting furtive glances all around—in case someone was looking. After quietly explaining to her my prickly predicament, the only thing left to do was “drop trou” (*another way of saying pull your pants down*).

There I was on the side of a spectacular mountainside, hanging my snowy white, bare-naked ass in the wind in broad daylight, so my dear, dear, *dear* friend could take out her field tweezers (*typically reserved for picking up small crystals*) and one-by-one, pluck the larger, more visible spines from my butt. It was a somewhat fruitless, but much appreciated, effort. There were just too many spines and they were small. Plus, there wasn’t enough time. We each had to complete our exams. Let’s just say, there was no sitting down during the rest of the exam, and there was a day (or three) of extreme discomfort, thereafter. Cold compresses and a numbing agent assisted in the recovery.

There were about two weeks of field camp remaining when I blew out my knee sliding into first base during a softball game. I heard one of the guys say, “She sure is fast for a girl with such short legs.” *That was one way to get out of field camp*. Professor GDA said I could author an essay on the geology of the Wasatch and Uinta ranges in lieu of the missing field work.

He gave me a “B-.” Truly a *GDA*.

By now, you might be getting the idea that I am accident prone. It is a cross I have borne all of my life. Someone has to keep the doctors in business.