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The Cauldron from Hell

Albuquerque sits at about six thousand feet on the valley floor of the Rio Grande River, with ten thousand-foot Sandia Peak towering above it just to the east. The city can grow only so far eastward before it's stopped by topography; Indian ownership of the lands at the base (and perhaps the face) of the mountain adds another barrier.

Access to Sandia Peak is made convenient by a tramway that hauls tourists, hikers, mountain bikers, and hang glider pilots up to the restaurant and launch at the top. The east side of the mountain is a gentle, tree covered ski area. The west is a precipice, the sharp edge of an up-thrusted plate.

As you look down from the windows of the tram car you see pinnacles and sharp ridges of rock with debris below. Amongst the trees below the rocks, pieces of a passenger jet that crashed into the mountainside years ago are still visible. You can't help but wonder whether searchers would find your remains if you were to meet a similar fate.

The hang glider launch next to the restaurant starts with a steep slope for thirty feet, then drops off sharply five hundred feet down a cliff face. The prevailing winds come out of the west, smashing against the cliff face. It often gets too windy to fly. Light winds — or no winds at all — are ideal for hang gliding here. You'd like the thermals generated from the valley floor to be guided gently to the mountainside and finally to the launch, maintaining a usable shape instead of being blown to shreds.

As you look out from the launch to your right, you see a series of pinnacles and rock faces that form the edge of a bowl and then march off to the west toward the bottom of the tramway. This line of pinnacles makes a natural thermal generator, even for pilots who are low. But being low behind those towers gives even experienced pilots pause. This is the cauldron from hell.

Tight, strong thermals forming on the pinnacles and mixing with the winds — especially when there is a bit of north in the winds — produce some of the most turbulent air that anyone hang glides in voluntarily. But all too often this is where you have to go if you want to get up at Sandia Peak. When there isn't a big thermal coming up the bowl in front of launch — and often there isn't — you fly off to the right if you want to stay up.

I was back in Albuquerque in June 1998 for my fifth time at the Sandia Classic, a national level competition, so I had no excuses about not knowing any better. I actively disliked flying Sandia's west face, but was more than happy to be up and over the back, flying east over the high desert flatlands of central New Mexico. In 1998 most pilots thought that terrible turbulence was the price we had to pay, to get high enough to fly in the areas really conducive to long cross-country flights. But the recent long flights in Florida were beginning to prove us wrong.

We were here in early June because later in July the monsoon rains would come to New Mexico. Moisture would swirl up from the south then, causing overdevelopment and dangerous thunderstorms. Even the desert has its comparatively rainy season. But June was the end of the dry season, and the desert was brown.

The setup area behind the launch was limited, so only sixty pilots could fly in the Sandia Classic — but this year only thirty pilots were competing. Since this was one of four U.S. national competitions, all the top competition pilots were here, hoping to earn enough points to make the U.S. National Team. Other pilots, having experienced Sandia's turbulence, had elected not to return.

Larry Tudor was here. So were Chris Arai and Jim Lee from the Wills Wing team. Brad Koji, another National Team pilot, was flying with Larry on the newly formed Icaro 2000 sponsored team. I had first met all these guys at the 1989 Manufacturer's League meet in Lakeview, and by now they were familiar faces.

This was the first big competition of the year. We were all having a good time, setting up our gliders down behind the launch, renewing our acquaintance with old friends we hadn't seen since the previous year. No one was in a hurry. Kari Castle took a photo of Brad and me talking strategy..

Brad was the star of the "Front Range" pilots, the guys who flew on the eastern side of the Rockies from sites near Golden and Boulder. Small and thin, the quiet spoken Brad had left his wife and two kids at home to join in the camaraderie found among the nation's top hang glider pilots. His jovial good spirits made light of the scary moments that we would face soon in front of the mountain.

On that first day the task was a dogleg over the back, northeast about thirty miles to the small town of Lamy, then south along Highway 285 to Clines Corners on Interstate 40. With a predicted wind of fifteen to twenty miles per hour out of the south later that afternoon, it would be hard for the competitors to get to goal from the turnpoint.

The trees on the back of Sandia Peak stop at the base of the mountain, where the brown desert takes over as you head to Lamy. In the higher spots you'll find thick patches of juniper, but mostly it's sagebrush and cholla cactus. The cacti are usually far enough apart that they don't present too great a hindrance if you have to land out.

Conditions that day had started out uninspiring, with cloudbase a thousand feet below the launch at the peak, putting us in fog as we had set up. We expected cloudbase to rise during the day, but it looked as though it wouldn't be getting very high. We were used to climbing up to almost eighteen thousand feet out to the east of Sandia. This was normally a place where we used a lot of oxygen.

It wasn't until late in the day, around three PM, that pilots were able to get up to thirteen thousand feet — only three thousand over launch — and head east over the back toward Lamy. At about five o'clock Oleg Bondarchuck, a top Ukrainian pilot, and Brad Koji were near Lamy at about ten thousand feet.

Where they were flying near Lamy, ten thousand feet was the top of a strong temperature inversion. The wind was southeast at fifteen miles per hour below the inversion, but northwest at about twenty miles per hour above it. Brad's superior thermaling skills had allowed him to get up high into this mixing zone around the inversion while most other pilots could not.

Brad was known to fly slowly in thermals with his control bar pushed out, to maximize his climb rate and get as high as possible. His thermaling skills were part of what made him such a strong competitor. But this technique has a big downside: it's easy for the glider to get going too slow with a high angle of attack and then suddenly tumble with the nose going straight down and then glider going over on this back. This had already happened to Brad twice before in his flying career, causing him to have to deploy his parachute. Now, as he rose into the mixing layer, his hang glider was pitched over and he tumbled once again.

When you're tumbling, your hang glider is rotating around you. This puts a lot of extra forces on the glider. In this case Brad's leading edges, the aluminum tubes that formed the front of his wing, broke inboard of the junction where the carbon fiber crossbar met and held out the leading edges. The keel, from which Brad was hanging, broke forward of the rear flying wires, a couple of feet behind him.

On a hang glider the parachute, pilot and glider are designed to come down together — the pilot doesn't "jump out" of the hang glider to throw the 'chute. Brad's parachute bridle was attached not to his glider, but to his harness behind his neck. This was not the normal configuration, but some pilots had begun experimenting, with the idea that this might let the glider hit the ground before the pilot. The glider could potentially absorb more of the impact, allowing the pilot himself to land at a slower speed.

Brad and his glider probably attained speeds of about fifty miles per hour while falling and tumbling. The opening shock of the parachute would have reduced that speed to about twenty miles per hour in about a second and a half. This would mean that he experienced at least a three-G deceleration.

Brad's parachute bridle cord would later be found to be melted on its surface, at the end that would be near the pilot. This indicated that the bridle cord was pulled tight around Brad and the glider as the parachute opened. It is likely that Brad's glider tumbled multiple times, winding the parachute bridle around him and the glider.

The pathologist with the Albuquerque Medical Examiners office who performed the autopsy on Brad's body wrote,

"The cause of death was the bridle chord for the parachute wrapped around his body or neck during the deployment sequence and when the parachute opened the bridle pulled tight around his neck causing two vertebrae to separate by approximately 1 inch severing the spinal chord. Death was instantaneous."

Brad had connected his parachute bridle to his harness instead of to his glider. Brad, instead of the glider, had absorbed the opening shock of the parachute. That opening shock broke his neck.

I was in at the campground on the east side of Sandia Mountain when Dave Sharp, a local pilot, and US national team member came by to tell me what had happened to Brad earlier that afternoon. We had a hard time believing that someone so skilled had been killed by something so simple. He had been our friend for almost ten years, and no one in the meet wanted to fly. It was hard to believe he was gone.

So we didn't fly for the next few days. Dave and I continued talked about how Brad's death affected us, about the times we'd flown with him and the things we'd learned. I'd known Dave for quite a few years having flown with him in previous Sandia Classics. He, like Brad, had a wife and two young kids.

I was reminded of a time when I was flying near Dave in a previous Classic out by Clines Corner climbing strongly in a good thermal. He flew nearby but didn't join me right away and I asked him later why not. He said, "I already knew how well the air was going up where you were, and I thought I might look around for even stronger lift." Dave was using me as a wind dummy.

After a couple of days the pilots and meet organizers decided to continue the competition. We got a few days of flying in, but no one was really interested in flying. Right after the meet many of us traveled north to Brad's home near Denver for a tearful memorial. This would turn out to be the last Sandia Classic.

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A month later I traveled up to Chelan Butte in Washington State to compete in the Chelan Cross-Country Classic, the week after the Fourth of July. This had always my favorite meet because I got to compete with my best flying buddies at the site where I first had learned to hang glide. I wanted to see if I could get that feeling of joy back.

On Wednesday, July 7th, Willi and Vincene Muller from Cochrane, Alberta, Canada, came up the Butte with a couple of carloads of Canadian paraglider pilots, on their way to the U.S. National Paragliding Championships in Lakeview, Oregon. I was delighted to see them again. The Mullers had long been a mainstay of Canadian hang gliding and paragliding, teaching and sponsoring many new pilots over the last two decades. They even owned their own flying site at Cochrane, and could go for a flight just by stepping outside their doorstep.

Willi loved a good joke. One year he had sent Chris and the rest of the Canadian team to Sandia in an old stretch limousine, Maple Leaf flags flying. He loved hearing how the crowd of gathered pilots had applauded as the car arrived at registration, a high-heeled chauffer rolled out a red carpet, and out stepped the four young guys.

Willi and Vincene had not only taught most of the hang glider and paraglider pilots in Canada, but their son, Chris, was the top hang glider pilot in Canada and a world class paraglider pilot. When I had last seen them in Golden, B.C. we were all flying together in the Western Canadian Championships, camping on the Kicking Horse River, and getting our butts kicked on the tops of the ridges above Mountain Seven.

I got to speak with Willi for a few minutes, and it was great to be with him again. He kidded me about the Oz Report, an electronic newsletter I'd begun publishing a few years before, and all the trouble I'd been causing the hang gliding powers that be. After our chat he and some of the paraglider pilots wandered off toward the launch area on the south side of the Butte, and we hang glider pilots went over to our gliders to suit up and get ready to go. I lost track of the paraglider pilots and didn't know what Willi was up to.

It turned out that Willi and a few of the other paraglider pilots had decided that conditions were good and they were going to launch. Willi was flying a high performance prototype paraglider. He launched off the Ants-in-the-Pants launch, to the left of the main hang glider

launch, which is known as Between-the-Rocks. Right away those watching Willi could tell this was a radical paraglider with an ultra-high aspect ratio, i.e. it was thin and long. This gave the wing high performance, but also made it unstable.

I didn't know who was who flying the paragliders, and it looked to me like some hot young kid flying right above the rocks and working the light thermals. We hang glider pilots were waiting in line getting ready to launch as the paraglider pilots flew above us. As I looked up I saw this paraglider not more than two hundred feet over the rocks suddenly go into a negative spin with an almost fully collapsed sail. I could see the pilot working the lines, trying to reinflate the sail, but he continued to spin backwards.

We'd seen lots of action like this before at the Butte — paragliders were collapsing all the time, it seemed. The pilot quickly disappeared out of sight in front of the rocks to the left of the hang glider launch, descending down the steep hillside. Because they are so steep, the slopes of Chelan Butte will often soften an impact. It looked to me as though he might have landed without undue damage on the hillside, a few hundred feet below and to the left of our launch. We didn't think much about it at the time.

I launched right after the paraglider collapse, and as I looked down I could see various people gathered around the pilot, far down the hill below the rocks.

A few hours later I was to learn that Willi had been the paraglider pilot I saw in a negative spin, and that he had been unable to reinflate the paraglider before hitting the hillside below. Instead of a softened impact he had been pendulumed into the hillside by the wildly spinning paraglider and died soon after, in Vincene's arms.

If only Willi had not tried to reinflate his paraglider, but thrown his reserve 'chute instead. If only Willi had been flying a more stable paraglider that wasn't susceptible to negatives spins. If only.

The deaths of both Brad and Willi hit the hang gliding community hard. Many pilots had known both of them well, and everyone appreciated their achievements and their many contributions to our sport. We missed our friends. And if these experienced and highly skilled pilots could be killed so easily, it seemed that we must be just as vulnerable.

Later in August I flew with Chris in the Canadian Nationals held at Sun Peak Ski Resort north of Kamloops, B.C. Vincene was there to drive for Chris and help with the competition. We were all missing Willi and at the same time we were all happy to be flying together in the incredibly beautiful Canadian Rockies.