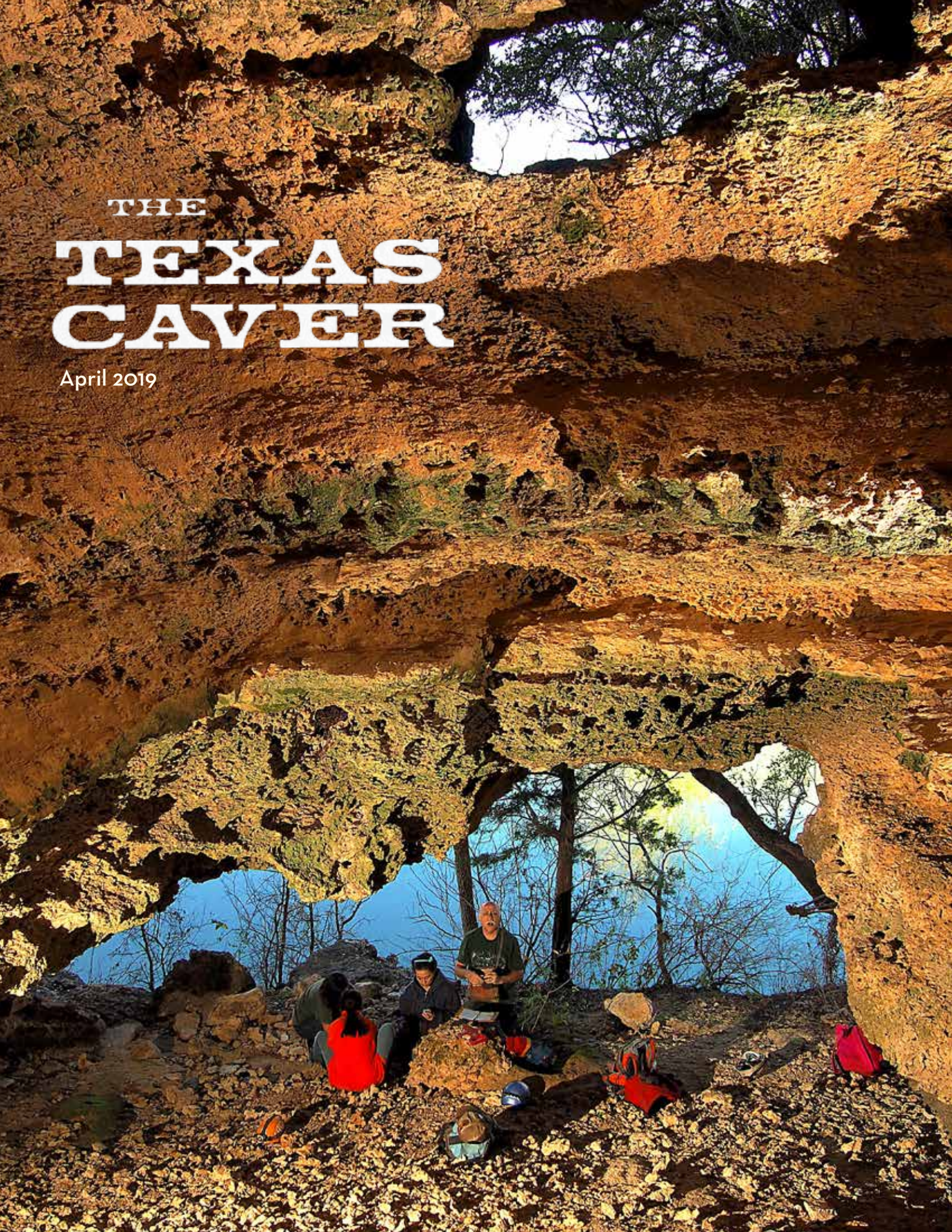


THE TEXAS CAVER

April 2019

The Texas Caver is a magazine written for cavers, by cavers. It is a publication of the Texas Speleological Association (TSA), an internal organization of the National Speleological Society (NSS).

The opinions and methods expressed in this publication are solely those of the respective authors and do not necessarily reflect the views of the editor, the TSA, or the NSS.

Checks for subscriptions, dues, and payments for ads should be made out and sent to:

The Texas Speleological Association
PO Box 8026
Austin, TX 78713-8026
www.cavetexas.org

TSA MEMBERSHIP & SUBSCRIPTIONS

	Digital only	Printed copy
Single	$15.00	$25.00
Family	$20.00	$30.00
Student	$10.00	$20.00
Libraries	$20.00	

Outside the U.S. add $10.00 for extra postage

SUBMISSIONS

Articles, announcements, artwork, photos, and other material for publication may be sent to *publications@cavetexas.org*. Images should be submitted separately in the highest resolution available.

The editor reserves the right to edit inappropriate material, errors in spelling, grammar, or punctuation, and to edit for clarity. In the event of significant changes, the author will be given an opportunity to review the changes prior to publication.

MAILED COPIES

Be sure to keep your subscription information up to date with TSA Membership, email *membership@cavetexas.org*.

COVER PHOTO *by Mark Ross*

The Miller family in the entrance of San Geronimo Sundown Cave

BACK COVER PHOTO *by Sean Lewis*

Jessica Gordon navigating through stunning formations in Pixan Bel in Quintana Roo, Mexico

EDITOR

Jessica Gordon

GRAPHIC DESIGNER

Grace Borengasser

PROOF READERS

Jim Kennedy
Ellie Watson
Brittiny Moore

2019 ELECTED TSA OFFICERS

CHAIR

Jessica Gordon
chairman@cavetexas.org

VICE-CHAIR

Amy Morton
vicechairman@cavetexas.org

SECRETARY

Liz Herren
secretary@cavetexas.org

TREASURER

Rachel "Ginger" Reddig
treasurer@cavetexas.org

table of contents

BECOMING A TEXAS CAVER
My Journey

BY JESSICA GORDON

What were pivotal moments in my life that guided me on my journey of becoming a Texas caver? Life is like an intricately woven web. Multiple paths can lead to the same place. Some life experiences are so momentous that it is as if they were bound to happen one way or another.

My passion for environmental education ignited while I was earning my master's degree from the University of Texas in Geography and the Environment. In 2003, I started working with the Environmental Science Institute's program to connect graduate students in the sciences with K-12 teachers. I had the opportunity to participate in a field training on the hydrogeology of the Edwards Aquifer led by Nico Hauwert. Nico's enthusiasm for cave education and hydrogelogy was contagious. I was immediately hooked, and there was no turning back. This experience inspired me to pursue a second graduate degree focused on outdoor environmental science education. During that time, I worked with the Jackson School of Geosciences' outreach programs, including GeoFORCE Texas, a program designed to inspire future geoscientists. Amongst many of the spectacular geology field trips, we took students to caves, including Inner Space Cavern with Jim Sansom (the second person to enter the cave when it was discovered in the 1960s), Dr. Ernie Lundelius (a vertebrate paleontologist who studies the bones/teeth that were discovered in the cave, including spectacled bear, mammoth, and saber-toothed tiger amongst other Late Pleistocene fauna), and Dr. Jay Banner (who studies the growth rate and geochemistry of speleothems to better understand climate change and hydrogeology). These experiences inspired me to pursue a career in aquifer and water quality education.

Jessica Gordon conducting a karst fauna survey in West Texas. ***Jean Krejca.***

Jessica Gordon floating through Pixan Bel in Quintana Roo, Mexico. ***Sean Lewis.***

The next major stepping stone on this journey was in 2009, when I started working with Earth Camp, a City of Austin Watershed Protection Department program that provides a four-day field experience for fifth graders related to water quality. Through this program, I took students into a small, wild cave on a weekly basis. My work with Watershed Protection continued to grow as I became involved in offering opportunities for middle and high school students to explore wild caves, creeks, and springs in Austin. I love seeing students overcome their fears (of spiders, scorpions, snakes, the dark, heights, small spaces, and even mud) and become intrepid explorers of the fragile underground world. I grew up exploring Austin's amazing network of creeks and springs, and it is a rewarding experience to provide opportunities for students to connect with their local environment and learn what they can do to be environmental stewards who help protect our water resources.

I ascended to the next level of caving in January 2015, when I participated in my first tank haul in Honey Creek Cave. One of my friends and co-workers, Justin Camp, encouraged me to join. Along the way, we experienced a few trials and tribulations. It was transformational experience. At the time, I did not fully realize what I was getting myself into. Honey Creek was my first water cave and my first time to be underground for a solid twelve hours. Fortunately, Ellie Watson did an amazing job of organizing the event and informing people what to bring. I was fascinated by the opportunity to be in a water cave in the Texas Hill Country and observe firsthand the complexity of groundwater flow paths. Entering the cave and leaving the cave was an entirely different experience. As we entered the cave, we were like to wide-eyed, young does – admiring the intricate rim-stone dams and specular cave formations. On the return trip, the beautiful rimstone dams had become nuisance hurdles we had to climb over. The process of exiting the cave involved attaching three people on harnesses to a rope and pulling them out with a tractor. It had been raining all day, so the tractor kept slipping in the mud. It was like taking one step forward and two steps back as we made upward progress and slid back down. Many of us were tempted to try to climb out, but the tractor eventually made traction and was able to get everyone out safely. Thanks to Pete Strickland, we were able to enjoy a hot fire in spite of the cold rain. He had set up his awesome contraption that included a fire pit surrounded by a huge canopy with ventilation in the center. When I returned to Austin, Lee Jay Graves gave me my first National Speleological Society (NSS) bat sticker. There was a glimmer in his eye as he enthusiastically said he heard I did the Honey Creek Tank Haul and I had earned the sticker, a badge of honor and recognition in the caving community.

My first vertical cave experiences were in early 2016. In January, I helped Mark Sanders with a karst fauna survey in Midnight Cave, which has a beautiful fifty-foot waterfall under southwest Austin. One month later, I helped with the See My Shovel (CM) Tank Haul. Fernando

Hernandez encouraged me to go and helped me acquire the necessary vertical skills. The water level was so high that the tank haul was almost canceled. It was my first experience to go through a cave with low air, and I was a little nervous because I had just met the people I was caving with. Fortunately, I ended up on a team with three stellar ladies: Grace Borengasser, Kathryn Huchton, and Sarah Cline. Jean Krejca named our team Las Chicas Fuertes. As a team, we successfully navigated through the low-air space from air pocket to air pocket. There were sections we had to take off our helmets and glide our lips along the muddy ceiling to breathe. I was relieved every time we saw flagging tape – reassurance that we were on the right path. My third vertical cave involved dropping 145 feet into Devil's Sinkhole for a cleanup trip led by Jim "Crash" Kennedy after the Texas Speleological Association Spring Convention in March 2016. After these experiences, I was ready to take my commitment to caving to new depths.

As I became more involved in the caving community, I started going on expeditions to Mexico. In August 2016, I went with Peter Sprouse and a team of people to map caves in Quintana Roo, Mexico. We chopped our way through the jungle and hiked to Camp Karin Ha in Jaguar Claw. Most of the main passage was large enough for us to hike through with our packs full of caving gear, camping gear, and several days of food. There were a few places we had to stoop walk. The tightest squeeze was through the jaguar's teeth. Our campsite was lovely. We camped next to a large collapsed sinkhole, which was like having a jungle island in the middle of our camp. There were iridescent motmots and howler monkeys. From cave camp, we traveled through the cave on blow-up expedition boats and inner tubes through the crystal-clear water. We added 2,526 meters to the map, making the cave 43.8 km long. I returned to the area the following two summers. In 2017, we hiked through six caves to camp five nights in Pixan Bel (see the Association for Mexican Cave Studies (AMCS) Activities Newsletter Number 41 for the trip report). In 2018, we returned to finish some work in Jaguar Claw. This time, we camped at Entrada Eden. I was given the opportunity to sketch my first cave maps and map some cenotes in the surrounding area. During the last couple of years, I have also been going on regular expeditions to northern Mexico to map caves, conduct karst faunal surveys, and search for blind catfish (see AMCS Activities Newsletters for trip reports). I strive to devote as much time as I can to the exploration and conservation of caves and springs.

Las Chicas Fuertes at the 2016 CM Tank Haul. ***Jean Krejca.***

As I start my next chapter on this journey as the new Chairman of the Texas Speleological Association, I look forward to finding ways to give back to the caving community that has guided me on this journey. I am excited to be working with such a stellar team of people dedicated to supporting cave exploration and cave studies by cavers in and around the state of Texas. I would like to dedicate this issue of The Texas Caver to Lee Jay Graves and Pete Strickland and give special thanks to the people involved in helping with this issue, including Grace Borengasser, Jim Kennedy, Logan McNatt, Brittiny Moore, Ellie Watson, and all others who contributed. I would also like to thank my family and the Texas caving community for their continued support and inspiration on this journey.

COLORADO BEND
The Rookie Years

BY LIZ HERREN

"Welcome to the world of the deep-where the strangest things are the people you meet." ***Hazel Barton, Cave Explorer.*** "I have found my tribe." ***Liz Herren.***

When I was twelve years old our school went on a field trip to Inner Space Caverns. I bought rock candy and a small brown teddy bear as a souvenir. From that day on I was hooked on caves. In my twenties I would visit Inner Space Caverns five to eight times a year. I'd stay at the back of the tour, silently absorbing all the information spewed by the tour guides. I could name all of the formations and answer all of the questions in my head. At that time in life I worked too much and had young children, so I never really thought about caving. I only dreamt about it. Every vacation I took I would make sure we visited a cave if possible. There were very few people I could talk to about caves. I would drag my mother and my bestie, Jeff, to every cave I could. I totally felt like I had a strange obsession that few understood.

In my mid-thirties, I'm pretty sure I had a mild mid-life crisis. I quit my well-paid job and took a year off to travel. During that time I did some soul searching and asked myself that existential question, what do you want to do when you grow up? What truly makes you happy? The answer was caves. I did not know how or why, just caves.

I had been dragging Jeff around to show caves with me for years, so in January 2014, I made him go with me to a Whirlpool Cave beginner trip. We never looked back. In February we went to our first Colorado Bend project weekend. The park and I bonded in the first five minutes after arrival. Setting up my tent, I backed into a patch of cactus. I was picking spines out of my backside for a week. That weekend the low dropped below freezing. We woke to ice on our tents. It was bone aching cold and I will never forget that weekend that I had dirt on my skin and picked twigs out of my hair after karst walking. I could not tell you what caves we went to that weekend. I just remember the laughter. We talked about caving all weekend, and I couldn't wait to go back.

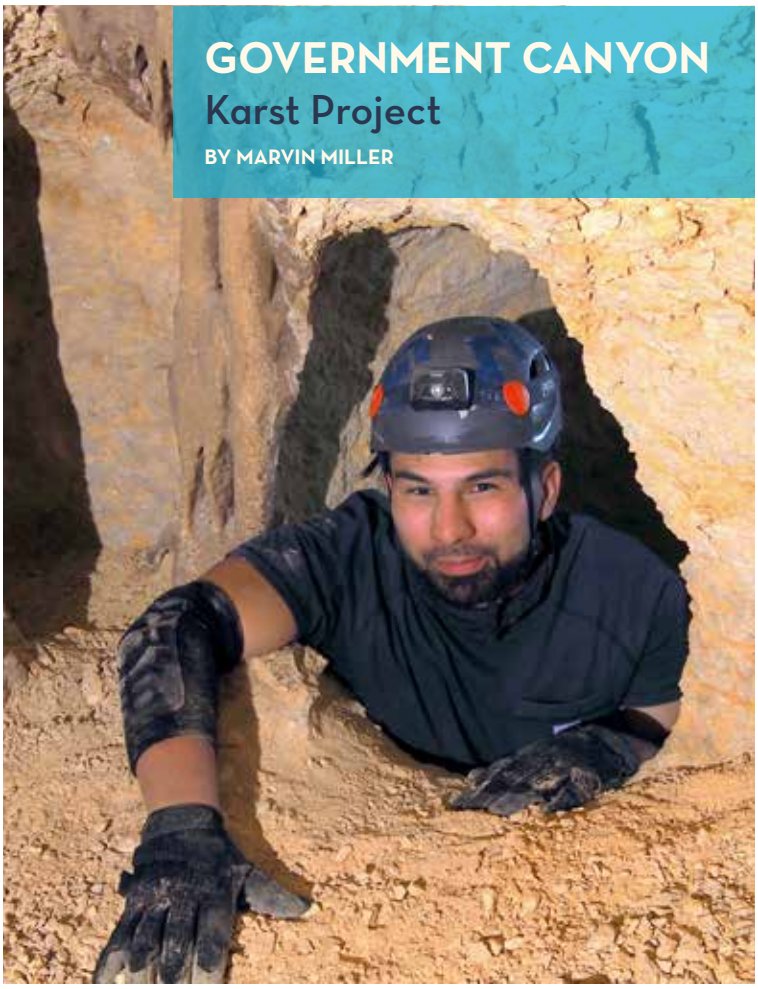
I spent the next few years going to every project weekend I could - absorbing the information, learning about the park, listening to the caving stories and following the pathway of the water. I learned vertical caving and surveying. I learned my limits and I learned about cave safety. I survived Quast Karst Quests. I warmed my soul around campfires and enjoyed spectacular meteor showers. I found some karst features. I found a few small caves. What I really found was my tribe. That's the thing with cavers. They have different backgrounds and different jobs, but you get them together and their eyes light up with tales of adventure and exploration, big and small. I found out where I belonged.

It has been five years since I started caving. I have so much more to learn. I still need to make it to Mexico. I will be taking National Cave Rescue Commission (NCRC) training this year. Whatever the future holds I know that I will continue to be a steward of the caves and learn as much as I can. I will cave as often as Oztotl allows. One thing I know for sure is that deciding to go to that beginner trip at Whirlpool was the best decision I ever made.

Each cave is different and holds a new adventure. ***Liz Herren.***

GOVERNMENT CANYON
Karst Project

BY MARVIN MILLER



Steven Gutierrez in the Feature 28-9 Cave. ***Mark Ross.***

Jessica Gordon sketching in Pentagon Fossil Cave. ***Mark Ross.***

The Government Canyon Karst Project trip on January 5, 2019 was a special day in that all 14 participants went to the same place. I divided everyone up into two survey teams, an exploration team, and a photo team, and we all headed to the Mayberry tract west of Hwy 211 to explore and document the caves along San Geronimo Creek that three of us had stumbled on during the December trip. For the record, these caves were not new to cavers. I found out that several people had visited the area prior to it becoming part of the State Natural Area, which happened in 2009. But they were unknown to the project and we were excited about them.

On December 2, 2018, Mark Ross, Richard Silver, and I were ridgewalking the area above the bluff that drops down to the creek. We stopped for lunch and I suggested we have a look to see if we could make our way down to the creek. I wanted to make a determination of the effort required to survey the steep bluff for caves. I thought that we would probably find a vertical cliff face. We did, but the place that Richard checked for a way down turned out to be a break in the cliffs. When he got to the bottom he found himself looking into a 10-meter-wide by 3-meter-tall cave entrance. The single room inside was 16 meters deep by about 15 meters wide by 10.5 meters tall. From about 5 meters inside the cave, a steep slope of powdery, cream-colored silt rose to almost touch the ceiling at the back wall. Large shelves of less soluble rock pushed out into the room above the entrance and along the sides, and a second entrance higher up in the cliff face let in ambient light. It was a beautiful cave. We spent several hours looking at this cave and exploring along the cliff face, and found several more shelters and caves. One of them, which we named Pentagon Fossil Cave, had a profusion of fossils in the walls and laying on the floor, and an impressive display of pentagonal boxwork. I found out from George Veni that these caves are probably formed in the Basal Nodular member of the Kainer Formation of the Edwards limestone, and that they are probably not true shelter caves. Shelter caves are formed by the erosive action of rushing water and usually do not have interior dimensions greater than the size of the entrance. These caves are probably solutional caves, although with a different formational process than the vadose or phreatic processes that are typical of the local area.

On January 5, 2019, we went back to start documenting these caves and to see what else could be found. There had been lots of rain the previous week and the creek was running well. We had to ford it twice to get to the cave area. A deep pool lies in front of the caves. Greg Mosier was in charge of the exploration team. John Young, Peter Anderson, and Steven Gutierrez were the other members. They quickly found an interesting cave hidden behind some brush about 10 meters above the creek level. A shallow shelter had a 1.5-meter pit at the farthest extent, and across the pit the cave opened into another room. The room was approximately 5 meters by 3 meters and at one end was another pit, approximately 3 meters deep. The cave had some nice formations. The team tagged Feature 28-9 but as of yet, the cave is unnamed. Further up on the cliff the team tagged another feature, 28-10, describing it as a small shelter cave, but the sketch shows two small entrances with a larger space inside, so it will probably qualify as a cave. The exploration team searched hard for the rest of the day up and down the length of the cliff but did not find any more significant features. Some obvious holes in the cliff face, however, can only be reached by rappelling from the top.

Jessica Gordon led a survey team composed of John Schneider and Kevin Pride. They surveyed Pentagon Fossil Cave and Kingfisher Shelter. Pentagon Fossil Cave, also a single room with a slope of silt up to the back wall, was surveyed to 11 meters deep and 12 meters wide, with an area of lower ceiling that extended another 4.6 meters. The ceiling was about 5 meters tall. Kingfisher Shelter taped out at 13.5 meters wide by 5.3 meters deep with a ceiling height of about 2 meters. It will not qualify as a cave since the width of the entrance is greater than the depth of the cave.

I led another survey team composed of Renee Dominguez and Lisa Miller. Leah Miller also helped with the survey. We first surveyed the large cave, San Geronimo Sundown Cave, and then I followed Renee, Christin Miller, and Leah high up to an airy perch on the cliff face. With Renee's help I did the single shot to survey the wonderful little Windows Cave. The name was suggested by Leah, who was inspired by the natural windows of the cave. The cave has the whitest limestone I have ever seen, and some interesting solutional shapes in the rock.

Jessica named Kingfisher Shelter for the kingfisher's call that rang out down the creek as she was sketching it. San Geronimo Sundown Cave was named in anticipation of the sunbeam that was expected to pierce into the cave as the sun set in the west. Unfortunately, during early January the sun's position is close to its southern terminus. Also, the main cave entrance is in a slightly north facing cliff face and the upper second entrance is turned even more that way. Hopefully we will be able to return to the cave on a date closer to the summer solstice to see if it lives up to the name. The setting sun did cast a rosy glow on the floor of Kingfisher Shelter through its upper entrance.

While the exploration and survey teams were doing their thing, the photography team led by Jesse Chadwick and Mark Ross, using Christin Miller and Leah Miller and everyone else for models, stayed busy documenting it all. When we first found Pentagon Fossil Cave we were amazed at the size of the boxwork and its regular pentagonal shape. Now after a closer look at the four caves along the base of the cliff, all of them have similar boxwork, though the formations found in Pentagon Fossil Cave are the best examples. San Geronimo Sundown Cave exhibits some nice calcite crystallization. It can be found in-situ at certain locations on the walls and also in loose pieces on the floor at the entrance. There are at least four more caves to survey, including one called The Burrows, right next door to San Geronimo Sundown Cave. The highest of its three entrances provides access to scramble up the rock to Windows Cave. There is potential to find more caves, or at least interesting interior spaces by climbing from below or rappelling from above. We are looking forward to returning to this fun area.

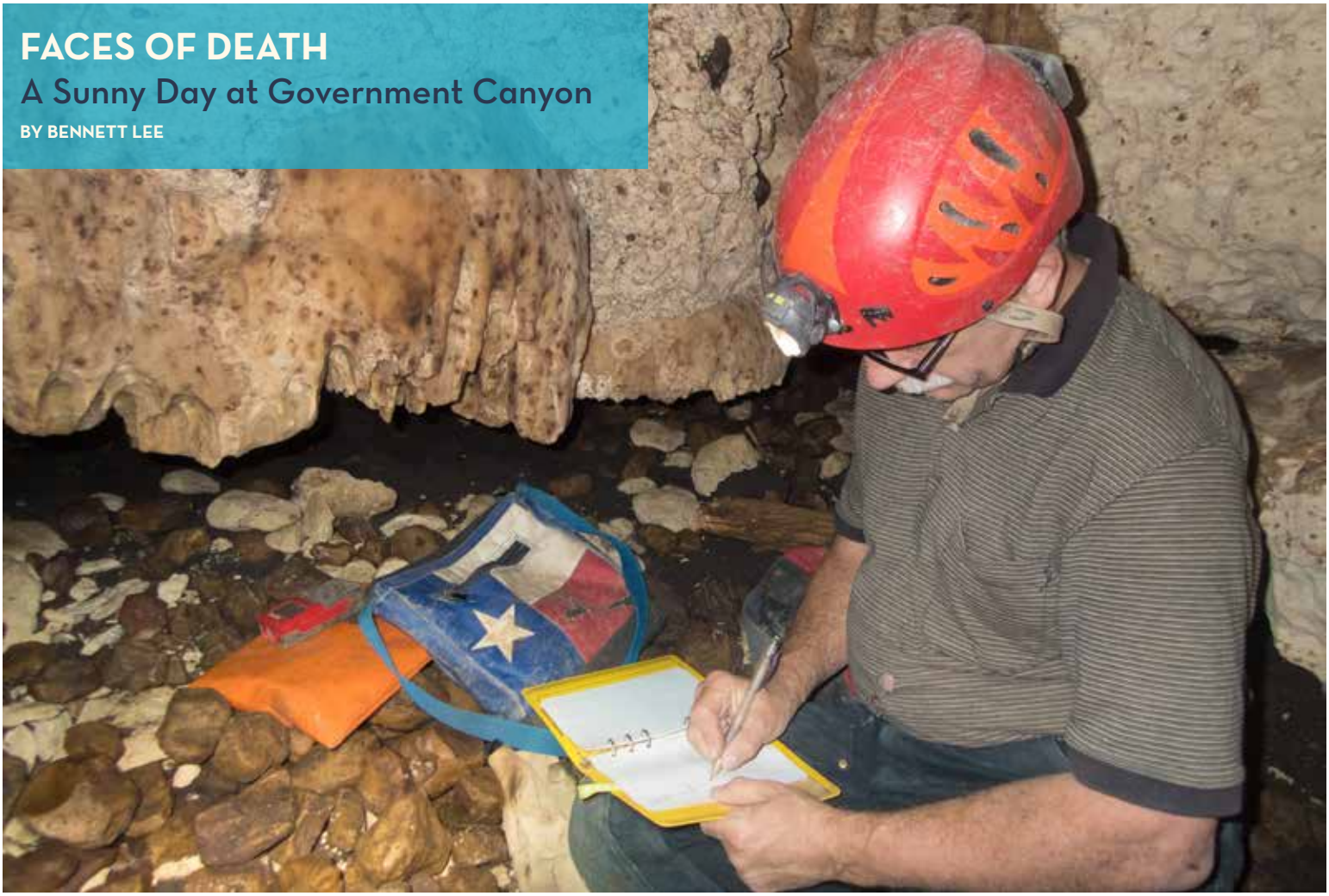
A view of caves across San Geronimo Creek. ***Jessica Gordon.***

Christin Miller examining the boxwork in Pentagon Fossil Cave. ***Mark Ross.***

FACES OF DEATH

A Sunny Day at Government Canyon

BY BENNETT LEE



Marvin Miller sketching at the bottom of the pit. ***Bennett Lee.***

With a photo and approximate GPS coordinates, Bennett Lee, Pam Campbell, Mauricio Flores, and Ethan Lee set off in search of karst feature "27-1" for the Government Canyon Karst Survey on Saturday, December 2, 2017. Don't let the feature's boring and unassuming name fool you. Little did I know that on this trip I would face death many times that day, not to mention the unbearable pain of pulled belly hair.

The cave was on recently annexed parkland across Highway 211. We drove down rarely-used roads that were barely visible through the tall grass and parked in a clearing. As we gathered our gear I kept smelling the horrible stench of death. It would come and go as I walked around my car, and I finally tracked it down to my driver-side tires. Apparently, somewhere in the tall grass, I ran over a rotting carcass, and now bits of it were embedded in my tire with animal hair literally sprouting from the treads. Death was indeed with us this day, but we carried on, ignoring its putrid warning.

Once geared up, we started our hike. The karst feature was relatively easy to locate, especially after I remembered that I could zoom in on my phone's GPS map. ("Map shows we're right on top of it...oh wait...[zoom in]... [zoom in]...it's way over there somewhere.") Even easier was that it's in a low spot for the area, and had tiny, dry stream drains approaching it from all four directions, making a huge X-marks-the-spot. The feature itself was a fissure that runs almost perfectly east-west, about three meters long, 25–50 centimeters wide, and appearing to be at least five meters deep.

Its length and depth made it seem deceptively spacious, but it was tight. Irregular bulges and protrusions prevented entry from anywhere except the far east side. I stuck my feet into the widest section on the east side, made a bunch of loud thumps with my boots, and listened for snakes. I didn't hear any rattling, so I lowered into the crevice, then traversed west where it looked like I might be able to descend lower. The fissure was tight. I couldn't turn my head except in a few spots. I could not turn my hips and my legs could not cross over each other. When I got to the section above the lower area I made a few attempts to descend, but quickly realized there was no way I was going to fit.

This is what caving is all about to me—that thrill of being in new passages, not knowing what's beyond or if you'll be able to get in, and if you do, not knowing if you'll be able to get out. Plus, when it's so tight and awkward like this, no one can help. You're on your own. Sure, I was within arm's length of the surface, but if my foot gets stuck below me, I can't reach it and neither can anyone else. It's a rush.

I continued to the far west side where there was a small area just large enough to stand and rotate. It was the size of a tiny coat closet where the coat sleeves push against the door when you close it, but smaller. I was able to squat and poke my head into the fissure just below where I had tried from above. It was too tight here as well. There was a large rock jutting into the opening, and Pam suggested from above that I move it. I tried, but the rock was solid and did not wiggle even the slightest.

I focused my attention on the floor and managed to remove enough rocks at the edge to clear an opening. Turning sideways and lowering my legs into the opening I quickly realized that the fissure curved, and my legs could not bend that way. I turned around to face the left wall and once in that position the descent was tight but manageable. I found myself in a small area just tall and wide enough to sit up with my legs dangling in the opening of a pit about four meters deep.

The pit belled very slightly and its walls were covered with eroded formations of flowstone, curtains, stalactites and a shelf of tiny rimstone dams. The formations were likely once beautiful but were now deteriorated remnants of their former glory. I called up to the surface that I was above a pit, it goes and I was climbing down. The pit was an easy free climb. Even though it was far more spacious than the entrance fissure, it was still narrow enough to touch both walls without extending your arms fully.

Cave-adapted harvestman found in Not My Name Cave. ***Bennett Lee.***

The floor was slightly moist and densely packed, black dirt. I squatted down and could see a bellycrawl passage that appeared to extend about five meters before pinching off between a bedrock ceiling and the dirt floor. On the other side of the pit was another passage that curved down and behind a large pile of dirt. It was too tight to see around the dirt but appeared to be the direction of the water flow. Mauricio was just entering the cave when I called to him to bring the shovel and rock pick that Marvin Miller loaned us. He snaked his way down the fissure and climbed down the pit. I showed him both passages, and we decided to follow the potential water flow. I went first.

The dirt floor was as unyielding as the bedrock ceiling above it. Although I managed to get my chest through the entrance, I couldn't get my hips through. While I was jammed in the passage I focused my attention on removing the baseball-sized cobblestones strewn across the dirt. These were a smooth, shiny, tan color with angled ridges. My untrained eye had guessed they were some type of flint. They filled the streambeds on the surface and littered flat areas on the way down into the cave.

The passage was so tight that I couldn't move my arms in front of me to reach the rocks. I had to back out slightly to wiggle my arm above my head. I couldn't rotate my head, so I took off my helmet and jammed it to the left of me between the dirt pile and ceiling. At that point, I was able to hook my arm around the loose rocks and then squirm backward, one-handed, with the rocks in tow. After two or three times the rocks were mostly cleared and I turned things over to Mauricio to dig.

Mauricio crawled in the entrance and then promptly took a nap. At least, that's what it seemed like to me. I didn't hear any digging sounds. He wasn't moving. He didn't grunt or strain. While Mauricio was napping I turned my attention to my belly. It felt like it was sunburned. Turns out that each time I was backing out with a load of rocks, my shirt didn't come with me and repeatedly dragged my naked belly across the dirt, rubbing it raw.

While that may sound unpleasant, it wasn't nearly as unpleasant as what I'm about to tell you. Let me preface this by saying that I'm a hairy guy and my belly is no exception. As my exposed belly dragged across the dirt, the dirt clumped up into marble-sized mudballs densely caked around masses of belly hair. I tried pulling off the mudballs but having huge sections of belly hair pulled taut when the entire region is already rubbed raw is enough to bring any man to tears. I somehow managed not to scream in pain, and instead tried to break up the mudballs by squishing them instead of pulling them off. Unfortunately, this only seemed to compress them tighter around my belly hair. I stared at my belly and decided it would be best to just shave it all off when I got home. I hadn't done any manscaping in a while and this seemed to be the perfect impetus.

At about this time Mauricio awoke from his nap and emerged from the dig, well rested. I wiped away my tears of pain and crawled back into the unchanged passage. Again, my hips were stuck, so I spent my time using Marvin's rock pick to pry up large chunks of dirt and shove them behind me to the left. Eventually, I cleared enough to squeeze around on the right. Unfortunately, my hips were still wedged, so I backed out to dig open the entrance a bit.

I left my helmet and light wedged in the passage and asked Mauricio to shine his light on the entrance so I could see. Unfortunately, Mauricio's batteries were almost dead and his light was stuck in a dim low-power mode. I dug blindly for a bit and crawled in. Success at last! I was able to inch forward enough to see around the dirt pile. Even though the passage did dip below the far wall, it ended almost immediately in more dirt. Furthermore, there was no leverage or room to maneuver and thus the bulk of the large dirt pile to my left would have to be removed first to make this section accessible. Disheartened, I backed out.

Based on Mauricio's ephemeral battery charge and the size of the cave, I decided to return to the surface where Mauricio could change batteries and I could get survey gear to properly map the cave. Before we left I sent Mauricio down the other passage to do a quick check. He crawled in and moved a few large rocks about halfway back that blocked the passage. He claimed that it did indeed pinch off further back, even though he could barely see his hand in front of his face in the feeble light of his dying headlamp. In hindsight, that's probably why he didn't see the rattlesnake.

Mauricio climbed up the pit and up the squeeze that I had previously dug open. That's when he said he could hear a rattlesnake to his left. Sure enough, I could hear the angry buzzing of rattles somewhere above the pit. Mauricio scurried out above me. Once he was clear I climbed up the pit with the shovel and pick and then up the squeeze. When I stood in the tiny area after the squeeze, my headlamp lit up a rattlesnake that was poised to strike less than 30 centimeters away from my face.

I immediately put the shovel between my face and the snake as I quickly ducked back down. It was a small rattlesnake that was less than a meter long with a tiny head just a little bigger than a quarter. All that was little consolation to me as I tried to figure out how I was going to slip past an incensed rattlesnake in a fissure so tight that I couldn't even turn my head. Assuming he didn't bite me directly in my face, maybe he'd wait until my fleshy neck was exposed, my chest or my belly. What if he bit me in the groin? I've seen David Moore's mangled, rattlesnake-bitten leg. Just kill me now, please. As I was contemplating my potential death and discussing options with the surface, I kept an eye on the snake with an occasional glance around the shovel. During one of my glances, I saw that the snake was no longer pointed at my face in its strike pose. Instead, it was slithering behind the rocks in front of my chest. I took this opportunity to make my move.

I pushed up on the rock in front of me and BOOM! The entire wall in front of me collapsed. Probably 300 pounds of rocks crashed down in this confined coat closet. Amazingly, the rocks did not crush me or pin me. Instead, they plugged the entrance to the pit. Note that these were the rocks that I previously tried to move but were solid and that both Mauricio and I used to climb up and down the squeezes above and below. If they had fallen at any other time they could have easily crushed us or trapped us below. This is the largest rockslide that I have personally been next to, and considering the tight confines, I am frankly amazed to be alive and uninjured. However, the rocks did claim a victim - Marvin's rock pick. I dropped it during the collapse and it was buried beneath the rocks. Guess I'll be buying Marvin a new rock pick, flashed through my mind.

All that happened in a split second—the collapse, the horror, the joy at being alive, the thought of buying Marvin a new pick—and my mind immediately returned to the rattlesnake. Crap! These rocks were what the snake was slithering behind, and now they were gone. Where is the snake? The entire wall below the snake had disappeared, all except one small, flat rock about the size of my hand that perched vertically on the remaining wall. The snake hid behind this lone rock with rattles buzzing more furiously than ever. His head was just barely visible above the top of the rock, and his dark, forked tongue flicking rapidly only a few centimeters from my face.

The tongue was flicking straight upward, and I could see that the snake was at an awkward angle to strike with the top of his head facing me. To strike from that position, he would have to launch upward from behind the rock while simultaneously spinning 180° to rotate his fangs toward me. Seeing that the snake was no longer in a good position to strike and that I was partially shielded by the tiny rock, I made my move again using Marvin's shovel as an additional shield from the potential spinning fangs of death. I was able to squeeze my head, body and legs past the snake in this tight fissure without disturbing it further, getting bitten or dislodging the small rock. However, I had trouble exiting because I didn't want to extend my legs below me within striking distance of the buzzing snake. Pam and Mauricio grabbed my hand and pulled me up until I could get enough leverage with my arms to escape.

On the surface, we regrouped. I gave up all hopes of properly surveying the cave with the lower section plugged by rockfall and subsequently guarded by an angry, venomous snake. Thus, I settled for a sketch from memory. I was happy to escape death multiple times with only a lightly smashed knuckle, raw belly, and mud-laden hair on both my belly and head. Balls of black mud fell from my hair for a solid ten minutes in the shower.

I haven't had that much fun caving in a long time or had such profound experiences to make me rethink what I'm doing with my life. It's amazing how much soul searching you can do in just a few moments when literally staring death in the face. With that in mind, Pam, I love you. Will you marry me? No? There, Dad, are you happy now? She said no. I told you that we didn't want to get married. Now, will you drop it and let us live our lives together in peace?

EPILOGUE

I have since learned that 27-1 is named, Not My Name Cave, because the people who originally discovered it didn't want to be responsible for naming such a heinous crack. Marvin Miller and I returned to Not My Name Cave on March 10, 2018. No snakes were present, or at least not visible or audible. We cleared the rockfall that blocked the entrance to the lower level and did a proper survey of the cave. It turns out the low passage Mauricio checked out with his dying light did not end but instead opened into a large room with another pile of black dirt.

While Marvin sketched, I took photos and dug in the large room. I cleared a channel almost to the back of the room, which might reconnect to the previous room above the dirt pile there. We definitely need some more digging here to verify and exhaust all the potential leads. This cave takes a lot of water, and it's all draining somewhere.

I did find Marvin's rock pick under all the rubble. However, by then I had already purchased a new rock pick for him, so I kept his old one. It's my lucky rock pick now—survived death twice with it. Maybe it's unlucky because I faced a double-death whammy with it in my hand, and I only escaped after it was buried under a pile of rocks.

Marvin, do you want your unlucky tool back?

Sistema Estupido. ***Charlie Loving.***

Overview of Hueco Tanks SP&HS with pin at entrance to Siege Cave.

HUECO TANKS
Pseudokarst Survey Update

BY JOHN MOSES

The Hueco Tanks Pseudokarst Survey project is being done under a 2015 Memorandum of Agreement (MOA) between the Texas Speleological Society (TSS) and Texas Parks and Wildlife Department (TPWD).

The last visit to Hueco Tanks State Park and Historical Site on November 4, 2018, included a survey at Siege Cave with William Bass, Larry Foreman, Janice Tucker and John Moses. We finished the survey of the lower level. It included a climb at the end of the main passage. The surveyed length is now approximately 166 meters (540 feet), making it the longest cave in the Park. Based on descriptions of the upper level of the cave, we expected to finish the survey with this expedition. Instead, we found an extensive 3-D maze consisting of an estimated several hundred feet of passage. Several more trips will be needed to complete the survey and exploration. An interim map and report on the lower cave will be prepared.

Siege Cave is located at the south end of Mescalero Canyon on Hueco's East Mountain. Access to this area is by guided tour only. This was the first vandalized location at Hueco Tanks. A TPWD contractor, Conservation of Sculpture and Objects Studio, Inc. of Chicago, removed modern rock graffiti using a laser.

From a historical perspective, this may be the most significant cave in Texas. Siege Cave is named for its association with the siege of a Kiowa raiding party by Mexican militia in 1839. The pictograph panel at the head of Mescalero Canyon is interpreted as being a representation of the events of the Kiowa siege.

Previously, a final report was sent to TPWD and TSS on Cueva de Leon. Next plans for the project follow up include the survey of upper levels of Siege Cave and a survey of Cave Kiva, a small cave which contains several outstanding pictograph mask images.

THE SORT-OF BUT NOT REALLY
Final Deep Cave Survey Trip

BY JOE MITCHELL
(based on reports written by members of each survey team)

Started in 1999, the Deep Cave Survey Project has been a long and fruitful effort, taking the cave all the way to becoming the 5th longest in the state with its current length of 6,691 meters. Jerry Atkinson led the project until 2008 and I resumed the project in 2011. Since then, there have been 19 trips that have added 4,127 meters to the cave. However, the number of leads has been gradually dwindling and other priorities including restoration and establishing better trails through the cave are increasing in priority. Although the cave is not done by any means, the weekend of January 26, 2019 was declared the "final" survey-only project trip. Future trips are planned to expand beyond just surveying to undertake a wider variety of activities in the cave, but we still continue to hope for new discoveries! The January 26 trip had 16 attendees from around the state who went into the cave, as well as an additional guest (Ariel von Raven) who stayed on the surface and generously had dinner ready for us when we came out!

TEAM: *Victoria Sommers, Aaron Wertheim, Marvin Miller (Lead)*
Marvin's team continued their survey of the Middle Earth area, following a north trending lead through two small rooms – the Unremarkable Room and the Muddy Butterscotch Room. In the Unremarkable Room were three leads, while in the Muddy Butterscotch Room were another three leads, two of which go to a lower level that has obviously been traveled but didn't appear in the Walls survey files, so they were unsurveyed. The Muddy Butterscotch Room has some beautiful butterscotch colored corals, spar, and stalactites, but a lot of the formations close to the floor are covered with mud. A small area close to the ceiling was found to be the source of the mud which flows over a slope that would be a beautiful "crystal waterfall" otherwise. Mixed in with the mud are numerous small bones and snail shells. After reviewing the line plot in Walls, it was found that most of the area surveyed passes under and north of the Entrance Hall, the likely source of the mud. There is no previously known cave on the north side of the Entrance Hall, so we hope this could lead to significant discoveries.

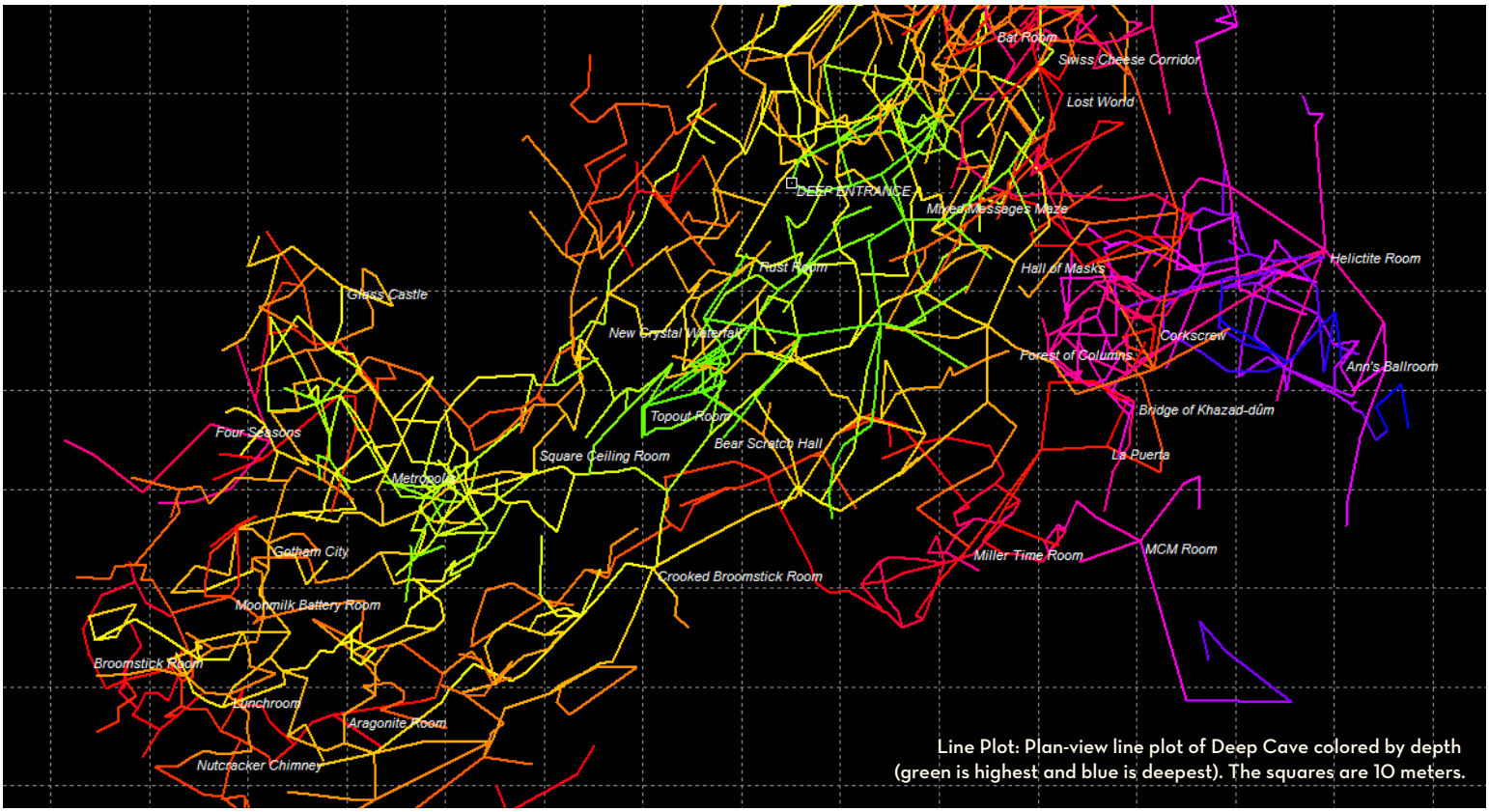
TEAM: *Pam Campbell, Tom Florer, Bennett Lee (Lead)*
Marvin dutifully led Bennett's team of intrepid explorers to the start of the survey and pointed out a few leads. Bennett, being afraid of the dark, and a bit of a chicken, had Tom and Pam push nasty, gnarly tight and pokey leads, which they did because they are AWESOME! Bennett's Attention-Deficit Disorder surfaced from time to time as he could not focus on the task at hand and kept wandering off to explore. He found big room after big room, but all was for naught as he merely rediscovered what was already surveyed and on the map. Tom and Pam soldiered on. At one point, Team Zappitello wandered within earshot and Tom took a break from being awesome and went to maintain inter-team relations. Meanwhile, Bennett continued to find that which had already been found. Tom and Pam continued to dominate the tight and gnarly crawls. It is statistically possible that they are the greatest cavers that ever lived. Meanwhile, Bennett's fear of the dark finally got the better of him and he started pressing the team to leave and go eat pot roast back at the Cabin. Tom and Pam had long since tired of listening to his whining, so they acquiesced and started the long trek out. They soon encountered team Marvin, and Marvin (who is also pretty awesome) said he would take the team out the exact same way he took the group in. Marvin has never been known to be full of shit, but there is a first time for everything. There is no way he took the team out the same way. Nooo way. Regardless, Marvin did get them out and they did live to cave another day. Even Bennett.

Cracked formations. ***Aaron Wertheim.***

TEAM: *Gerry Geletzke, Tom Rogers (TFR), Ellie Watson (Lead)*
Ellie's team surveyed off the Rust Room. They spent well over the hour trying to find their starting station, j43, and ended up realizing that j43 had been mislabeled j42. Three marked leads were investigated. One only went for two shots, and one was found to have been already surveyed into the Rust Room. The final lead was labeled "to large 3D boneyard". They set a few stations but it connected into an existing survey. This was a bummer because the room was big and nice with some nice flowstone and moonmilk. At another point they noticed candy-striped flagging below, and Tom went to find it was a station in the KJ survey. Tom observed that there were many leads near their next-to-last station.

TEAM: *Ginger Reddig, Matt Zappitello, Saj Zappitello (Lead)*
Saj's team surveyed the Popcorn Ripper Room back under Gregg's Despair Pit. Matt and Ginger lost a lot of skin and Saj earned some bruises. Ginger thoroughly explored the limits of the area where it gets too small for human passage but cheerfully named it the Sunshine Hellhole. One lead looked promising, but Matt (who is quite determined) could not fit. Crossing back under Gregg's Despair Pit, they continued on one of the many leads off of the RC survey, while Marvin's RC Cola team explored a different lead. Crawling through the Nut Choke Passage, Ginger took over sketching from Saj and Matt set stations to carefully capture side-leads. The survey popped out into a large borehole and tied into an unlabeled station on the tip of a boulder. A small spot of what looked like boxwork with calcite overgrowth was interesting. Some exploring for an easier exit from the cave was unfruitful, despite Bennett's assurances that they would end below the Forest of Columns. Therefore, they had to retrace their path, with much grunting, scraping, and pain. A tired but cheerful team clambered out of the cave.

TEAM: *Jessica Chadwick, Amy Morton, Greg Mosier, Joe Mitchell (Lead)*
Joe's team headed to the far west end of the cave to check out the few remaining leads. While admiring the scenery in Gotham City, they noticed a small lead near floor level that had been overlooked. Greg checked it out, but quickly found that it connected to an existing survey. After a quick sketch, they abandoned that area, heading up to Upper Metropolis where their main objective was located: a promising climb-down from the previous trip. Hopes were quickly dashed when after 3 short shots another survey marker was found. There was an unsurveyed lead from this point, which they further surveyed into a room with too-tight "leads", though they later found the other side of these connections. They retreated to another part of Metropolis where it appeared a few other leads might remain, but it turned out only one was unsurveyed. Jessica followed it down to a pretty window looking into Norm's Room and to an exciting-looking 4- to 5-meter pit to a large room that would require vertical gear. When later plotted in Walls, it was (you guessed it) previously surveyed passage. Saying farewell to Metropolis, they went to two leads near the Square Ceiling Room. One continued for a distance and up into a tight hole in the ceiling where Amy found … another survey. Greg followed another lead to a 4-meter pit but (you know the drill by now) it dropped into previously surveyed passage. Heading to their final lead, they were unable to initially locate it, but soon realized it was covered with a large boulder and that there were many fresh-looking boulders and rocks in the area. None of this was on the previous sketch, leading to the conclusion that there had been a major rockfall since 2012. Upon more careful examination, they noted further cracks throughout the ceiling in this area. Jessica found a dead-end lead under this rockfall zone which was quickly shot and hastily sketched, and they departed post-haste. They returned to the surface via Bear Scratch Hall, saddened by the knowledge that they had likely completed the survey of the west end of the cave – an area which had yielded discoveries of so many unusual, beautiful, and highly decorated rooms.



Line Plot: Plan-view line plot of Deep Cave colored by depth (green is highest and blue is deepest). The squares are 10 meters.

NCRC

Mock Rescue in Puberty Pit. *Kara Posso.*

THE NATIONAL CAVE RESCUE COMMISSION
Level One Experience

BY LINDSEY ADAMOSKI

From February 2nd through 9th of 2019, a motley crew of firefighters, paramedics, search and rescue personnel and good ol' cavers got together for an intense and grueling course in cave rescue operations and techniques through the National Cave Rescue Commission (NCRC). They came from around the country, as far away as Alaska. The Texas cavers included Dave Adamoski, Lindsey Adamoski, Carrey Bull, Patty Calabrese, Ben Dau, Chelsea Dau, Ken Demarest, Ken Flynn, Lucky Luetge, Jon Pixler, Kara Posso, Ginger Reddig, Ben Riley, Katie Shank, Bryce Smith, Cruz St. Peter, Drew Thompson, and John Young. The Texas cavers were there for a variety of training opportunities, including serving as instructors, NCRC Level One certification, NCRC Level Two certification, and Small Party Assisted Rescue (SPAR). This article will be primarily about the Level One NCRC experience.

Upon arrival at the Leaning Bluff Lodge, we really didn't know what we were getting ourselves into. After looking at the schedule, we learned it would be a demanding schedule of classes including above-ground training, in-cave training, and practices from 8 a.m. to 10 p.m., with the only downtime being during meals. Our first day eased us in with a morning of classes and introductions. We were divided into six squads of five students with one instructor per squad. In the afternoon we had to have our knot-tying and vertical skills checked off. This included a demonstration of our ability to independently tie a figure 8 on a bight, figure 8 follow through, double figure 8, a bowline with safety, Münter hitch, butterfly knot, clove hitch with safety, trucker's hitch, water knot, double fisherman's knot, prusik hitch and a square knot. After we proved our knot-tying skills, we demonstrated ascending thirty feet, changing to descending, changing back to ascending, climbing another ten feet and then downclimbing all the way back down to the ground. Somewhere in there we also learned how to stop a 600-pound load using a Münter. I did this correctly the first time, but the second time I got a nasty rope burn that went through various stages of healing and infection throughout the week. That evening, after dinner, we learned how to package a patient in both a flexible and rigid litter.

The next day, we learned all about communications during a rescue operation and were taught to operate and problem-solve field phones. We practiced the patient packaging we had learned the night before. The afternoon consisted of in-cave litter movement with a variety of problems to overcome. Each student had to serve as a patient for different in-cave obstacles. When it was my turn, I was packaged in a Sked and moved through a tight pancake tunnel during which my face was a mere one to two2 inches from the ceiling. My squad members had to turn me at an odd angle while keeping my face from scraping the ceiling and then push me up a "corkscrew" and pull me out the top. The most anxiety-provoking part of the experience was when I got hung up in the corkscrew and the Sked binding was pulling heavily against my chest making it difficult to breathe. I was impressed by how quickly my squad members worked to pull me out of that position. We were also tasked with pulling one of our 200-pound squad members from the very back of the cave - in bad air - to the entrance. This was physically demanding and involved a turtle walk in which his Sked traveled on the back of two bubbas, or beefy firefighters, as they crawled through a narrow tunnel. The in-cave training was exhausting, but a very good experience. After we went back to camp and had dinner, we spent another couple of hours practicing and getting checked off on skills.

The third day involved a morning of learning rescue rigging and anchoring which included learning the basket hitch, the wrap 3 pull 2, back-up anchors, tensionless hitches, fixed brake lower, 2:1 haul, 3:1 haul with progress capture (z-rig), 2:1 piggyback, and edge protection. We spent the day alternating between practicing rigging up the Ferno, lowering and raising a manned Ferno into a crevice, and working as edge attendants during the haul. In the evening we had classes on psychological considerations during a cave rescue and had more practice with rigging. Then were checked off on our rigging skills.

On the fourth day, we had classes on medical assessment and hypothermia, which you'll hear about again during the discussion of our mock rescue. After our class, we went to a literal hole in the ground with a heavy metal gate. This cave had three drops following the entrance drop. We stopped at the second drop and set up a haul system to get a patient out of the cave. This went very smoothly, so then my squad went to the bottom to work on another scenario while I stayed up top to manage the edge. The air at the bottom was very bad, so our crew came up pretty quickly. After we ascended the first drop while attending to another patient, we had to haul up a third patient in a Sked which proved to be pretty easy with the high-help Jon Pixler set up. Finally, after leaving the cave we used an Arizona Vortex system to haul Ken Demarest up in a Ferno from the bottom of the 2nd drop, and all the way out of the cave. That was a challenging task and we were tired at the end of all of this. Was it time to crash? Nope! It was time to eat dinner and have more classes and practice until 10 p.m.

On the fifth day, we had classes on water problems and hazardous atmospheres of which we had already encountered some. After class, we hiked out to a different cave and we practiced some in-cave rigging using natural anchors on one side and chocks, cams and hexes on the other side. We also learned to do some high-help in the middle. In this scenario, I was tasked with rappelling to the patient who was stuck on a rope in a tight crevice. It was beautiful and quiet at the bottom. I attached him to the haul system and got him off his rope and then frogged up next to him while commanding the haul team on speed and movement. It was an amazing experience that I will never forget. He reached the top efficiently and safely without any head bumps along the way. Of course, we had more classes and review that evening after dinner. By now we were running on empty. This was around the first time I ever experienced being too tired to eat, but I did out of sheer necessity.

On the sixth day, we had to take a written test on all of the skills we had learned. Fortunately, everybody passed and we moved on to our walkthrough of the mock cave rescue. This mock walkthrough actually involved practicing more rescue scenarios in-cave. We had to find a patient in the back of a cave, with bad air, and get her out quickly. I was on the communications team for this operation and had to run a phone wire from the surface all the way back to the patient. Right before the patient was moved, I had to run the wire back up to a different point in the cave to stay in communication with command. This operation was relatively smooth despite the bad air in this cave. We were all breathing heavily.

On the final day of the training, we had our real-life mock rescue. It was about 29 °F outside, and we were ready to get into the warm cave. Our squad (A2) and another squad (B) left around 10 a.m. after the other four squads had already been deployed. Upon arrival, we had to haul a patient with a broken ankle out of a tight hole. We independently set up the haul system and hauled her out without incident. Then, my squad leader told me and two others to rappel into a tight crevice to find another patient and scout an evacuation route. After I went through the crevice entrance I knew our other team member - one of the bubbas - would not fit through, so he stayed on the surface to act as entrance control. My squad member, Landon, and I squeezed through a

long narrow passageway, which necessitated removing our vertical gear. Eventually, we made our way to the patient, who had come in through another entrance. He was already being attended by medics, and they were waiting for a Sked. Landon and I pushed onward to find a better evacuation route, but there was nothing to be found. We could barely fit our heads through the narrow crawl-ways and knew that this was not the way out. When we came back from our task of slithering around in the mud, we were then told to go back into the muddy pancake area and find the other patient. We searched for forty-five minutes before being told she had been found in another area. At this point, the patient was being packaged into a Sked, so Landon and I laid in the mud and waited so as not to be in the way. Unfortunately, this is where my problems began.

The frigid air was flowing in the cave, and we were very close to a couple of vertical entrances so it was already quite cold. I was not prepared for that in my t-shirt and pants. After lying in the mud for about an hour, I decided to lay on a pack because I was getting cold. This helped some. I didn't want to interfere with the packaging since there was no room for me to help, so I stayed put. Finally, once the patient was packaged, I moved into a spot where I could sit and get out of the cold mud. However, this was closer to the entrance and not any warmer. A fellow rescuer gave me his jacket, which provided some relief, but my pants were wet with mud, and I was getting colder. I told the leader that I needed to be the first one out after the patient and she agreed. However, as we started the movement, she noticed that I was having a case of the umbles: bumbles, grumbles, fumbles and stumbles. One of the first signs of hypothermia.

After being unsuccessful at moving the Sked out of the cave, they decided to remove the patient from the Sked to get him out. At this point, our leader commanded me to leave the cave as she realized I was not demonstrating strong decision-making skills. I went up a different rope that only one other caver had been through so that I could get up ahead of the patient and get warm. The other caver told me it would be tight and I acknowledged this. However, when I got to the top it was seemingly too tight to even operate my hand ascender and I lost my foot loops. I was in a tough spot and my critical-thinking skills were impaired. Fortunately, I was within arm's length of a group of instructors to whom I relayed my situation. They acted quickly to set up a haul system while another instructor tried to help me get into my foot loops. However, I couldn't move my head to see my foot loops, and there was nowhere to put my feet. They threw down a rope that I attached to my harness and proceeded to haul me out. Unfortunately, a poorly placed rock crushed into my chest as they tried to pull me up, so they had to lower me back down. From my angle I knew that I had to be turned around in order to have a chance at being extricated, but I was tensioned on my croll and unable to remove myself from the original rope.

Therefore, the rescuers, a group of the best cave rescue instructors in the country, had to lower me down even more so that they could release the tension from my rope and allow me to remove my croll. I was able to do so and turn around. They quickly began to pull me up and we encountered another problem. My buttocks were unfortunately firm due to all my gym visits lately and they got stuck tightly at the top. They pulled and pulled and I went nowhere. An instructor or two had to push it down while the others pulled me up with the rope and I eventually popped out. They quickly got me into a dry shirt and into the command tent where I sat in front of a heater, and steam from my wet pants evaporated rapidly from my legs. I was as good as new in no time. In the meantime, the other two patients were evacuated safely from the cave.

The NCRC experience was a rollercoaster of emotions. For those of us who had never rigged a rope before in our lives, it was cognitively exhausting and challenging. It was physically exhausting for every single student there, and it was emotionally trying as we were put into intense and very real scenarios that we had to problem-solve. We quickly became close to our squad members and other members of the team. We relied on each other to rig safe lines for ascending and descending throughout the entire week. We grew close quickly and forged life-long friendships that will continue to grow. NCRC training was one of the toughest weeks of my life, but one that I want to go back to. I fully intend to do levels Two, Three and SPAR. I highly recommend this training to anyone who wants to be the safest caver they can be.

Edge tending and hauling. ***Drew Thompson.***

NCRC LEVEL ONE TRAINING
South Central Region 2019

BY KARA POSSO

Mock Rescue in Liberty Ranch Cave. ***Kara Posso.***

The National Cave Rescue Commission (NCRC) training held in Texas is an intense and hands-on week of technical rope work, rigging, and patient care, but it is also a great time spent strengthening the caving community. As a dedicated caver in central Texas, I was given the opportunity to be a student and attend Level One training by the 2019 Texas Cave Rescue Training Scholarship. My initial interest in NCRC training stemmed from recent opportunities to participate in some radical caving expeditions and wanting to have a working knowledge of what to do if a caving trip went sideways, but as the week went on I realized that the course offered much more.

The training is held in several caves around Colorado Bend State Park where cavers and agency-associated students work on teams to solve complex rescue scenarios. Topics covered include patient assessment, packaging, and transport using techniques such as person-to-person movement and haul systems. The course was incredibly mentally and physically demanding, requiring students to work from 7 a.m. to 10 p.m. on a daily basis in real-world, life-safety situations. The learning environment was unparalleled to any other training event I've attended previously, with some of the most qualified and dedicated instructors in the nation. Coordinators did a wonderful job at giving one-on-one attention to each student and designed multiple evolutions of a rescue to ensure everyone had the chance to get their hands on every role in the rescue. Debriefs and feedback were always provided, allowing students to learn and absorb the concepts in practice. The immersive methods and styles utilized by the course instructors provided the ability to recognize your own personal strengths and weaknesses so that you can decide where to focus your developmental growth in the world of caving and rescue.

Beyond all of the personal learning opportunities, one of my greater goals in attending the training was to make connections with agency personnel, such as Fire Department and Search and Rescue teams, to help diminish the gap between those officials and the caving community. It was fascinating to work with these trained professionals and see the dynamics play out when the two communities came together under stressful, technical conditions. I loved watching these interactions and seeing what each side had to offer and what we can learn from each other. Being thrown together for a week of constant high-level communication and team building provided so much positive interaction that can ultimately result in the ability to utilize all of the knowledge and cooperative efforts that are available to help someone who may be having the worst day of their life. I found it extremely rewarding to grow these bonds and know that I was helping break down the barrier between the two groups. I have so much gratitude toward everyone who came together to make the event happen including the instructors, coordinators, the students and the Texas Cave Rescue Scholarship donors. One last thanks goes out to the kitchen staff who kept everyone exceedingly well fed and caffeinated for the week. Thank you all!

NOT A MOCK!
My First Real Rescue After NCRC Training

BY BRYCE SMITH

FACT: Caving can be dangerous. So, what do we do when accidents happen? An average caver might have a decent idea of the order of operations during an injury or accident in a cave, but a National Cave Rescue Commission (NCRC) certified caver will be much more prepared in those situations. I started caving when I was fourteen, and until last year, I paid less attention to rescue preparedness and more to enjoying caving. This changed when I received the Texas Cave Rescue Scholarship and attended Level 1 training from NCRC. In January of 2018, four other Texas cavers and I attended a week's worth of cave rescue training, from basic medical training to creating and using haul systems, courtesy of the scholarship. The experience was eye-opening to the training necessary to rescue people from caves, and I could immediately see the utility in such training. The truth is, having skills of this kind will make you a safer caver. Not only that, but these skills will increase your usefulness in rescue situations, allowing you to be rescue asset. Trip leaders recognize the importance of these skills, and you'll likely be a "known good" rigger after taking NCRC training. Cavers and rescue personnel alike respect the knowledge gleaned from NCRC, so it is definitely something to add to your "caving resume" if you plan on sticking around the community.

Regrettably, I had to use my newfound NCRC skills in a cave rescue in Arkansas over a winter break trip. My friend, Amanda (Mandy) Comer, fell roughly 20 feet in a cave near the town of Yardelle. We were, 4,000 feet back in a tight, technical, wet, cold, vertical cave. I was first to reach Mandy. She had fallen feet in front of me. Although we didn't know it immediately, Mandy had broken her arm, pinky, and separated her clavicle. Had this happened before my NCRC training, I may have been at a loss for what to do next. Due to my training, I immediately did my best to stay calm and comfort my friend, reassuring her that she'd be okay and wasn't going to die. We also took immediate steps to keep her warm, as I then knew she'd be in the cave for a long time. After the rest of the group joined up at the scene of the fall, we hatched a plan to send a fast group of cavers out, myself included, to fetch help and muster a full-on rescue. As we began our three-hour journey out, we left Mandy with five or so others (including one combat medic) to keep her warm and tend to her. Upon exiting the cave at 11pm or so, Kara Posso and I began making calls to get in touch with the NCRC regional coordinators, and our fellow Arkansas cavers did the same, gathering anyone who could help that night and the following day.

Within hours help arrived, and at 2am I re-entered the cave along with some fresh cavers to flag the route to the patient, as the mazey nature of the cave made it impossible for anyone new to know the way. We were joined by more reinforcements halfway to the back and reached Mandy around 7am. We brought lots of warm supplies, food, medicine, and a stove to brew tea/coffee. While the fresh cavers' role was to assist Mandy in getting out, my role was to extract the cold cavers, who had stayed with Mandy all night along the route we just flagged. On our way back we made contact with the communications team, who were bringing in cave phones to relay information to the top. We eventually exited the cave and I passed out from tiredness, having been in the cave for 26 hours. Later that evening, we unexpectedly got a call from Jon Pixler that Mandy was an hour from the surface! This came as a shock as we didn't expect Mandy to exit the cave for hours, but due to her fierce tenacity and burning desire to be out of the cave, she powered her way out with expert assistance from the team with her. Having left for a hotel room, we rushed back just in time to be useful again. Kara and I manned the safety lines capturing the progress of hauling Mandy from the entrance pit. Soon we were greeted by the sweet sight of our friend on the surface.

Overall, I count myself very lucky to have received this crucial training before experiencing a live rescue. Because of my training I knew what needed to be done, who to call, how I could help, how to operate haul systems, how I needed to handle things, and was generally much more prepared for the event than I would have been - vastly increasing my utility to the rescue. Anyone who gets NCRC trained is immediately more useful, prepared, level-headed, skilled, and desirable to have on trips. I urge anyone interested in caving, especially if you're going to put yourself in risky, dangerous situations, to take the time and the money to prepare yourself for the worst, because someone might need to rely on your skills to help them during their worst day. The Texas Cave Rescue Scholarship enabled me, a college student working two jobs, with no means to take a week off AND pay for a training course, to attend a class that not only shifts your perspective in caving, but prepares you to help your fellow cavers in their time of need. So next year, consider applying for a scholarship that will alter the course of your caving career.

The first response team, the Mandy, and the cold cavers who stayed in with her all night. ***Bryce Smith.***

MAIN DRAIN CAVE IN UTAH
Injury Report

BY CLAIRE GOUGEON

Claire Gougeon on rappel at the entrance of Main Drain. ***Jean Krejca.***

On August 31, 2018, I was one of six cavers who entered Main Drain Cave in northeastern Utah to support a cave diving expedition. Our task was to haul out over a dozen cave bags full of cave diving gear from the Main Drain sump after the cave dive push had been completed Three pairs of cavers entered the cave between 10:30am and 11:30am. Amy Morton and I were the last pair to enter. We descended into the cave at a leisurely pace in order to avoid creating congestion with the four cavers ahead of us. We carried very little gear – just a 2-liter side bag each containing warm layers and snacks – as we would be collecting a full-sized caving bag of dive gear down below to haul out of the cave. There were three first aid stations at the base of each of the three longest pitches in the cave.

Within the first hour, my partner mentioned that she was suffering from a headache, which was not very surprising since her home in Texas lies 650 feet above sea level, and she was now caving at 9,000 feet. At the base of the 300 feet Leaky Faucet pitch, the first of the three big drops, we were pleased to find Tylenol at the aid station. Amy took two. After a meandering canyon, known as the Meanders, and several more pitches, including the longest, ledgy pitch called Frayed Knot, the 2nd of the big drops, we arrived at a seven foot nuisance drop about 800 feet below the entrance. Here, a rope can be used as a handline to assist in downclimbing, or a descender can be used to treat the short drop as a full rappel. I went ahead and "flying angeled" down the rope, mostly using it as a handline. Amy, impressed with the technique, asked for guidance to descend it the same way. I encouraged her to wrap the rope around her arms and to get her torso low as she descended, but having been her first time trying it, her feet got too far below her and she slipped. Still hanging onto the rope, her torso swung and hit the wall of the drop. She cried out, then slid down the rope, which wrapped her arms, hitting the floor eight feet below.

Illustration of the 'flying angel' move.

I watched as the impact occurred. I felt bad for my friend, whom I suspected would have a bruised hip as we continued our way down to collect the dive gear. She crawled up a little from the bottom of the short drop on the rocks and sat hunched over. "I'll be fine, I just need a minute," she moaned. But she continued to display a fair amount of pain for another ten to fifteen minutes, at which point she groaned, "I need to get out". I was a little surprised and disappointed, but I did my best not to show any of it. "OK. We'll go at your pace, slow and steady until we're out," I agreed. "No one's in front of us. You're not leaving here alone." She didn't move for a few more minutes and I prompted, "Would you like to start heading out now, while your adrenaline is numbing you a bit?" She nodded her head and painfully got to her feet, slowly inching her way back the way we had come. She got on the rope and reported that resting in her harness was, thankfully, not that painful. Unfortunately, I could see that every movement and every other position was. That was the only time I encouraged her to keep moving during the next five hours of self-rescue. I have eleven years of caving experience, I am a Registered Nurse, I work as a cave guide in Canmore part-time and I'm a member of the Alberta Cave Rescue Organization, but none of this made me feel certain of a smooth exit.

Resting before the big Frayed Knot ascent, she mentioned that she had heard a "pop" on impact and that she was now finding it difficult to breathe. She had hit her rib cage and not her hip. I envisioned a

possible worst-case scenario: a broken rib that had punctured her lung. She apologized for turning us around early, but I commended her for recognizing the seriousness of her injury and making the right call on exiting early. Any step further into the cave was clearly a step in the wrong direction. As she ascended Frayed Knot, groaning with each upstep, I wrote a note to the four cavers below us on survey paper from the aid station stating that my partner was seriously hurt, that we were making our way up slowly and the time, 14h00. I also raided the Ibuprofen from the second first aid station. Ibuprofen and Tylenol can be taken simultaneously for increased effect. I dismissed the aspirin. Nobody with potential internal bleeding needs a blood thinner.

She ascended surprisingly fast. Once I had ascended Frayed Knot behind her, it took me some time to catch up to her in the Meanders. There, I attempted to lead the way through the confusing section to avoid her traveling any unnecessary mileage, but I was more moral support than anything else. Her pain level seemed to be increasing with time. I asked her if a rib cage wrap to immobilize her chest a little would help. She emphatically refused this offer. Not only did she feel that something compressing her ribs would increase her pain level, but she wanted to minimize stopping time. I encouraged her to take a double dose of 400mg Ibuprofen, which she did, and bravely pushed on through her pain. Her groans turned into cries of pain with each movement and she ascended Leaky Faucet, a narrow, undulating rift of smooth bedrock. She later admitted that the pain she experienced going up that pitch exceeded that of childbirth.

I waited below her in the drippy, drafting cleft, on the rope. At 33 degrees Fahrenheit, my hands became numb enough that I felt quite nauseous and was unable to use my hands to get off rope once I got up to the pitch head until I had shaken them out for a few minutes. Amy said that she was glad that it was a Canadian waiting for her - someone who was used to being cold. It is true that my body temperature had been quite comfortable, overheating in fact, except for that one event at the pitch head.

Amy was well ahead of me through the entrance pitch series by then, spurred on by "the light at the end of the tunnel." Daylight was visible for the first time since descending. Despite incredible pain, humor was present throughout the day. I was so impressed by her perseverance and positive attitude through so much pain.

She also had the presence of mind to try calling one of the cave divers by cell phone from the cave entrance, up high on the ridge. The cave entrance and downtown Logan are the only 2 locations with cell service. Base camp, the hike to the cave and the drive from Logan, all had no cell service. As luck would have it, the cave diver happened to be in Logan at that moment. She would meet us at the parking lot, as close as a vehicle could get to the cave.

Amy's pain level was much lower once we were out of the cave and she was able to hunch protectively over her injured side without restriction. Perhaps the endorphins and relief that rescue was at hand overrode pain signals at that point. The 1.5-hour hike down to the parking lot went smoothly despite difficulty finding the route and extending the distance by at least a half mile.

Amy was finally allowed to sit down and rest. She was driven straight to the emergency room in Logan. There, she learned that she had indeed cracked a rib and that her lung had collapsed - approximately 70 percent based on our lay estimate looking at her X-ray. Her physician commended her speedy exit and arrival at the hospital as, had it been delayed by a few hours, lung collapse may have been complete and alveoli damage irreversible. She never would have regained complete lung function.

Amy Morton on rappel at the entrance of Main Drain. ***Jean Krejca.***

LESSONS LEARNED

***Always practice new techniques**, like flying angel, **outside of a cave** before attempting in cave.*

***Don't underestimate the risk of injury,** even on a short pitch.*

***First aid stations** are invaluable.*

*Having a **positive attitude** makes a **huge difference** in a rescue!*

Amy Morton and Bev Shade enjoying Main Drain before Amy's injury. ***Jean Krejca.***

The Muzquiz crew beneath Tres Picos. ***Bryce Smith.***

MUZQUIZ
Thanksgiving 2018 Trip Report

BY KARA POSSO

Our rollercoaster of a trip began with a long first day of travel from Eagle Pass to Muzquiz, Coahuila on November 16, 2018. The scenic dirt road to the ranch caused escalating excitement and rowdiness. Our convoy was full of trucks loaded to the brim. We giggled in the sun and wind for hours while we drove into the Sierra del Burro mountains towards Los Ojos de Gabriela ranch. When we finally arrived at the ranch house after dark, we still had a half hour of driving to find our camp at the foot of Fiesta Mesa. The scouting event turned when we took a corner too fast, too tight, and too loaded down. The truck flipped on its side down a slope off the narrow two track. Galen Falgout, Jon Pixler, and I astonishingly walked away unscathed. Emotions were high, but the whole group of cavers and their get-it-done attitude kicked in quickly. Within three hours of the rollover the truck was turned upright, had been driven out of the arroyo, and was parked at the new camp, aptly named Rock Bottom. The night ended with Galen, Jon, Bryce Smith, and I in a tight cuddle puddle in the back of the busted truck.

On our first day of caving, a chilly morning turned into a glorious day as we set up camp kitchen and drank coffee. As it was the first year camping at this specific camp, a trail up to the mesa needed to be established. Bryce left to scout the trail with his machete and came back with good news. The cows and a few hours of cutting had resulted in a nearly cat-claw free, shorts-wearing, thirty-minute hike right up to the center of the mesa. The immediate proximity of the trailhead to camp was an added bonus. We divided into groups but still climbed the canyon together. I got to spend the first day of caving with Amy Morton, Chris Campbell, Dylan Beeler, and Stephen Kandra. Chris rigged his first virgin pit with guidance from Amy and I. He did wonderfully and had the biggest grin and sparkle in his eyes. Jokingly, Amy and I named the pit Ojos Estrellas, after Chris' starry eyes. We took turns descending the 33-meter pit due to little space free from potential rock fall. Amy and I were the last two in the cave and decided to survey our way out. The late morning start meant that we didn't have time for a second cave that day. On the hike out Chris and I picked up a cow skull and crossbones which became a marker and a mascot for the gear stash. Back at camp everyone gathered for Amy's delicious cooking and swapped stories about the day's cave booty.

The next morning we got up and split into teams. Feeling fortune and adoration for the people we got to spend the day with, we openly called ourselves the dream team. Tom Rogers, Bryce, Jon, Galen, Amy, and I all trekked up the hill on to the dense desert mesa together. We planned to split into smaller teams to knock out two caves at a time. The first cave we came across was a point previously marked as twenty-meter pit. At a shallow depth, the group decided to quickly knock it out and move on to something bigger. Amy and Galen stayed to do a natural rig and quick survey. Tom, Jon, Bryce, and I went on to a cave marked as a fifty-meter pit. By time Tom rigged the cave and half our group had repelled in to the pit, we began to wonder why Galen and Amy hadn't turned back up. We continued to rig down until the pit was narrow enough to get off rope and chimney to the lowest level. Tom hollered about some kind of dead animal but couldn't make out if it was a bear or just another cow. He came up, and I crawled down to a strange oral reaction from the rotting flesh. The small animal was difficult to distinguish until I looked at the evidence on the walls. Covered with scratch marks, it was evident that the poor bear had survived the thirty-five-meter fall. As terrifyingly sad as it was, such a preservation of natural history was astonishing. From above we heard Amy call into the

The entrance of Ojos Estrellas. ***Kara Posso.***

pit at us. Turns out their twenty-meter pit had been plugged with dirt at seven meters and Galen had been on rope digging for the last hour. Most of us ascended to move on to the dig pit while Bryce and Amy stayed behind to survey what we called Pozo de Oso Muerto, or Dead Bear Pit.

At the other cave, Galen had been getting dirty, looking like a true Travis County caver. He removed four feet of mud and soil, letting it fall straight down into the pit. Switching off, Jon went down to finish gardening and do the rest of the rigging, but before he could finish his task he saw a death boulder looming above his head and quickly returned to the surface. The next day Galen, Brittany Stamps, and I returned to the pit we name Pozo de Esparza España, or Spanish Dagger Pit, after the three massive Spanish Daggers lining the entrance. Galen knocked the death boulder down and finished up the rigging while Brittany and I set up on top practicing knots and going over the basics of rigging. Galen called up to us excitedly and I jumped up to stuff a second rope into my pack. After running short with the first rope, our cave went sixty-three meters deep. Galen and I surveyed on the way out and Brittany derigged her first cave. As we hiked home we passed a new pit that had not been marked before. Galen, Brittany, and I made plans to come back together the next day. Coming off the mesa and walking back into camp I distinctly recall being elated and having a full feeling. I remember thinking that I felt like my best self; the hiking, the caving, the discussions, the endless bushwhacking, and all of the love from this caving family incite an uncompromising joy and confidence.

By day four my Muzquiz expedition flow was really on. Late nights together and early mornings around the campfire with coffee were becoming a norm. Again Galen, Brittany, and I caved together, returning to the cave we had found the day before. Brittany wanted to learn how to rig, so we taught her how to set the first bolt on the surface after gardening and clearing vegetation. I took over rigging the rest of the pit and put up a redirect that reached nearly all the way down with one final rebelay to prevent rope rub. I hollered "off rope" and Galen began his descent. Not long after he shouted "ROCK", but there was nowhere to go. This tiny pit end had zero shelter from rock fall, so I threw the rope bag over my head and was lucky to only get hit in the shoulder. Galen arrived and informed me Brittany wasn't feeling well so she would stay at the top. All and all this was good since the pit was so narrow. We named it Cuarto para Dos, or Room for Two, as we sat thirty-five meters below ground sharing the little space and air we had. Galen sketched his way up as we surveyed. As he derigged and surfaced, Galen had the biggest smile. He was so excited and pleased with his sketch. For the rest of the night he seemed full and happy. I remember him saying that he just forgot how much he loved sketching and talking about how he loved everything about caving. I could see his love and smiled watching my friend find parts of his best self as well.

That night we got a text from the other camp on Barracho Mesa saying that plans had changed a bit. That they weren't going to come to us for our delayed Thanksgiving on Friday, but instead that we would all break camp Friday and caravan to Muzquiz to eat and celebrate with our ranch hosts at their finca. That meant that the next day, Thanksgiving, would be our last day of caving. We all hit it hard, with the objectives of doing a photo trip for a Fiesta Mesa Muzquiz calendar. Bryce, Britany, Galen, and I headed to a pit we had found the previous day. The entrance was beautiful and intimidatingly inviting. Bryce cleared brush and rigged the cave, nearly running out of rope on the sixty-meter pit. For hours our team set lights and posed for rad and beautiful photos of each other. Bryce's photography skills and professionalism showed through his grin as did parts of his best self. Getting late and feeling drained, Brittany and Galen surveyed ascending from the bottom to the first drop ledge while Bryce and I followed derigging. Galen spotted a bat in the cave and installed one of Brittany's logging devices. Bryce and I stopped for his photos at the top of the forty-meter free hanging pit. I remember getting a second wind watching him stand over this massive void and being struck by his confidence on rope and ability to be playful and light after such a long day. So satisfied with the day of caving, yet emotionally stirred and exhausted, I drank a warm beer and had a smoke with friends as I shoved my pack full of gear and my pocket full of beef jerky. We made our final bushwhacking trek over to the gear stash tree to find that our angel friends had already hiked all the remaining group gear down the mesa. Removing any trail flagging that remained as we left the mountain on the final pass, things felt bitter sweet, but even in my zombie state parts of me still felt strong and pleased with the full week of adventure. In five days of caving, seventeen people on Fiesta Mesa surveyed eighteen caves, the deepest reach greater than 150 meters.

Finally back at camp we were welcomed with our rowdy group of loving compadres and a thick dinner. Knowing it was our last night, the need for space in the vehicles the next morning inspired a real push to finish consuming all the remaining alcohol. Well into our stumbles, Jon revealed that he had been saving a surprise and decided now was the time. Jon, Bryce, Amy, Galen, Tom, and I snuck around to the side of the truck, wrapped ourselves in the LED string lights he had stashed away and blasted music before running over to the group to foolishly dance and giggle by the fire. With music still blaring and bottles draining fast, our whole group ended up in a squirming huddle, bouncing to the DJ's desires. Until 3 a.m. there wasn't a seat taken as we were all on our feet grooving around together, loving and laughing. The organic coalescence of the dance party speaks to the true wild nature of the group and the comradery of the caving family. There are no other beasts like us, flailing gloriously into the night.

Skull and crossbones. ***Kara Posso.***

IN MEMORY OF

compiled by Logan McNatt

Our family of Texas cavers has lost many members over the decades, and a lot of them have not been formally recognized. The following list includes only those we know of who died in 2018 and early 2019, with a brief description and references when known. The best source for stories and photos of many of these cavers is the book *50 Years of Texas Caving* by Carl Kunath.

LEE JAY GRAVES

NSS #30591

Fern Cave, Val Verde County, Texas, Nov 2012. ***Geoff Hoese.***

From *The Ozona Stockman*, 11-28-2018: *Lee Jay Graves, the youngest child of long-time Ozona residents Lee and Joycelyn Graves, died in Austin on November 24, 2018. He was born in Fort Stockton, Texas, October 29, 1959. Lee Jay lived in Austin, Texas, where he was a prominent figure in cave research and exploration in Texas and Mexico. He traveled widely in pursuit of his interests.*

He is survived by his siblings, Jackie Graves and George Crone of Southhaven, Mississippi, Buddy Graves of Austin, Texas, Laura Graves and David Etheredge of Levelland, Texas, and Joyce Graves and Jeff Purkeypile of Lubbock, Texas, and many nieces and nephews.
A family memorial will be held at the ranch in December where Lee Jay will remain as part of the land, he so loved and cherished.

From Justin Shaw's email to the Texascavers Mailing List on 11-24-2018: *At 9:15 this morning, Lee Jay Graves moved on to his next big adventure. Mimi Alexander, myself, and two of his sisters were there to pass on everyone's warm regards and wish him well on this new journey. Lee Jay held a fascination for the world that drove his thirst for knowledge and attention to detail, and he touched the lives of many with his kindness and conversation. We will miss you, friend.*

From George Veni's email to the Texascavers Mailing List on 11-24-2018: *Lee Jay and I never caved much together recreationally. We worked together for many years on countless karst consulting projects until I moved to Carlsbad 12 years ago. Everyone knows he is a talker, and more than once I had to tell him "Enough talking. We need to get to work." But I found that when I listened to him, he was amazingly well read and informed on a diverse range of topics. Lee Jay is a generalist who finds all that's in the world interesting. That is probably what makes him most valuable on a caving team. He has an eye for detail because he is fascinated by everything. He would produce great sketches and notes that were key to making good decisions on how to evaluate and manage a certain cave or karst feature. This attention to minutia allowed him to discover one of the tiniest and probably rarest spiders in Texas in a Williamson County cave.*

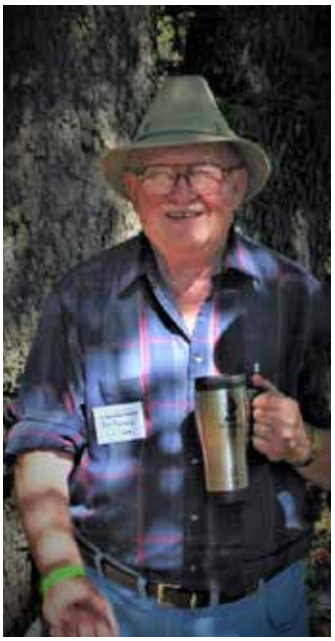
As a generalist, I could count on him for pretty much whatever was needed on our team. Once I asked him to bring his rifle for a karst evaluation. He thought I was joking but I assured him I serious. When we met in the field, we walked to an abandoned well that I needed to assess with my downhole camera, except that a rock was jammed in the well bore about 7 m down. Three shots from his rifle down the well shattered the rock and allowed us to look with the camera into a cave, which remains unexplored for lack of a humanly accessible entrance.

I find myself at the moment on the wrong side of the planet to go visit him in the hospital and tell him how much I appreciate his friendship and comradery. Perhaps more sad is that like with too many lost friends, we make time for final goodbyes at bedsides and funerals when it is too late, and not when they are alive and well to truly appreciate our words. The last time we saw each other, I knew I needed to visit with him more. It had been too long, but there was always "tomorrow."

Lee Jay's final lesson to me and many us may be to remind us that sometimes there are no tomorrows, and to let those you care about know today how you feel.

JOE C. PEARCE

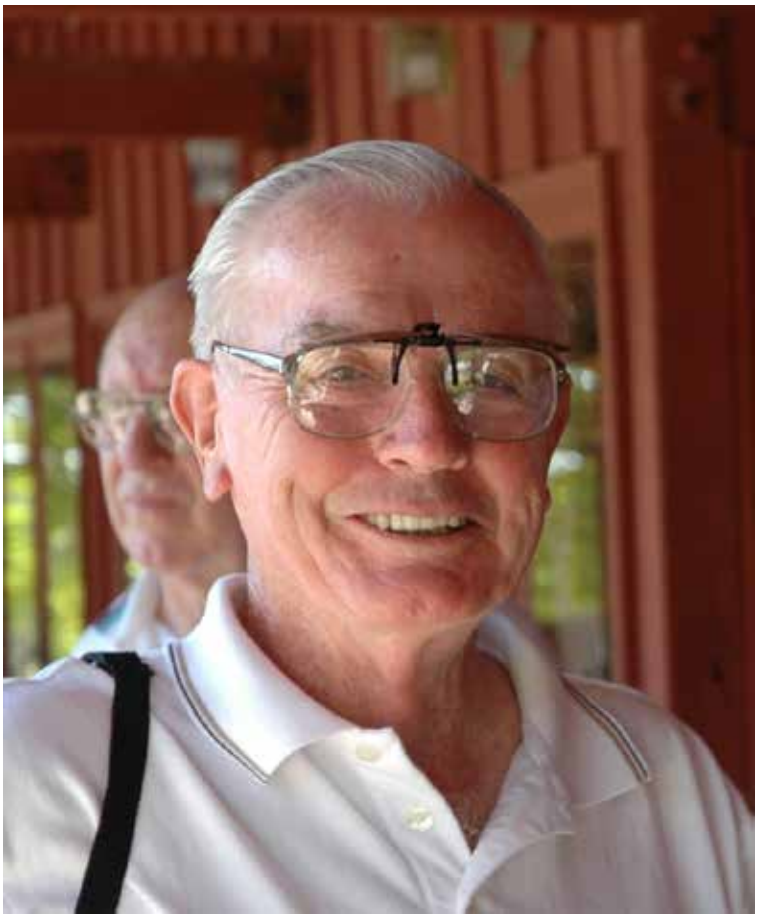
NSS #2903



Joe Pearce at the Texas Cavers' Reunion. ***Carl Kunath.***

From Carl Kunath's message to the Texascavers Mailing List on 2/24/2018: *Joe Pearce passed away January 20, 2018 just three days short of his 91st birthday. One of the founders of the original Balcones Grotto (Austin) and a principal in getting the Texas Caver off the ground. He was listed as one of the production staff on the masthead of issue #1 (October 1955). That historic first issue carried a nice essay about early Grotto lore from Joe's memory. Joe was far more than a production staff member of the Texas Caver. He was a faithful contributor. Joe was an early advocate for safe and conservation-minded caving. He authored many articles about conservation and cave owner relationship. Joe's bio appeared in the Texas Caver in May 1956.*

CLARENCE (JACK) PRINCE
NSS #3213



Jack Prince at the 50th Anniversary of the Discovery of the Caverns of Sonora. ***Carl Kunath.***

Jack Prince passed away in Austin, Texas on November 19, 2018, one month shy of his 90th birthday. His service as a Marine radio operator in the Korean War led to a B.S. in Electrical Engineering at Southern Methodist University in Dallas. While there, in the spring of 1955, he learned about the NSS and was put in contact with cavers Bob Hudson in Waco and brothers Bob and Bart Crisman in Abilene. They told him about a potential lead they had seen on a recent June 1955 trip to Mayfield Cave in Sutton County west of Sonora, Texas.

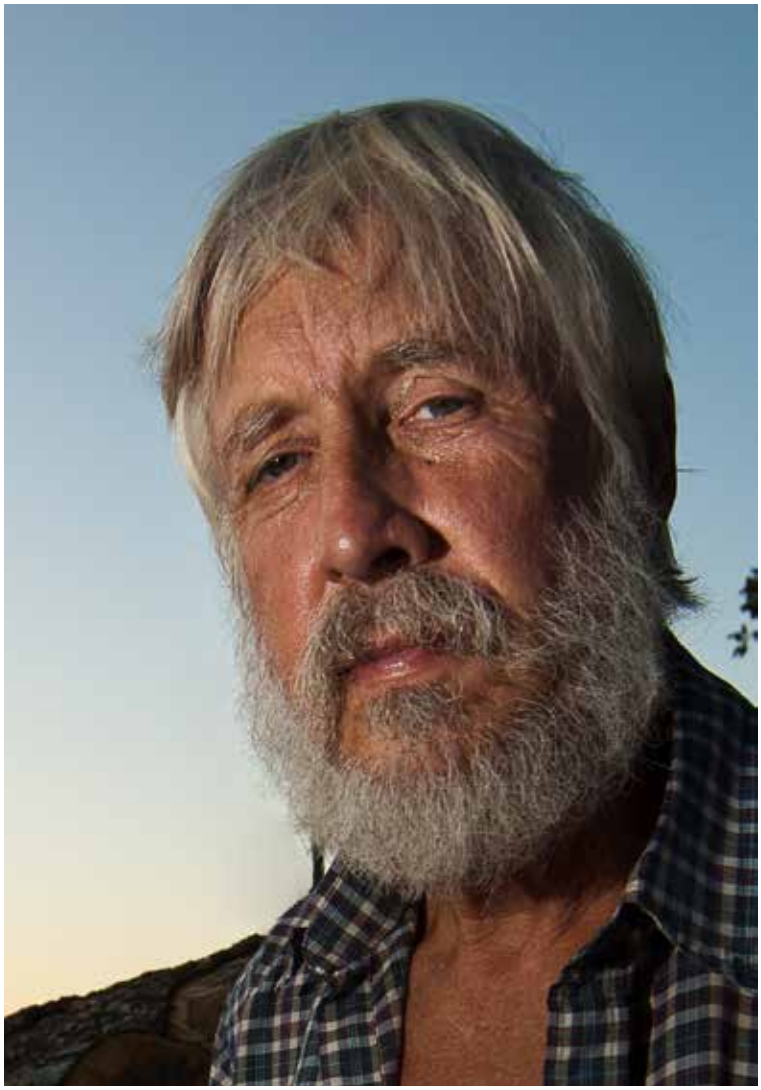
In September 1955 Jack Prince, Claude Head, Jack Allen, Peter Cobb, Allen Cain, and Daniel Sheffield headed west. It was Cain and Sheffield's first caving trip. They camped the first night at the Devil's Sinkhole, a massive abyss compared to the 18-inch entrance of Mayfield Cave. The cave had been known since around 1900 and had large undecorated passage, but all exploration had stopped at what is now known as the "Pit Room". The Crismans had unsuccessfully attempted to scale the left wall to reach a ledge that led to a high potential continuation of the cave. "Prince and his group reached the Pit Room by a route much higher and on the opposite side of the pit from the ledge that the Crisman brothers had noticed. Here, a 'ledge' ran along the wall and out of sight around the corner but did not present a credible path for it sloped alarmingly toward an undercut drop to the rocky floor of the pit pore than 40 feet below. None of the early explorers seriously considered crossing the ledge without protection for to slip was to die. These days, cavers would drag in their battery-powered hammer drills and set a path of expansion bolts as needed--but we are talking about 1955 and cavers whose total experience was meager at the time. One can only guess at the motivation that caused Jack Prince to cross that precipitous ledge, soon named the 'Devil's Delight'. There was no prior hint of the mind-boggling cave that lay beyond" (Kunath, 2007, p. 404).

PETER STRICKLAND
NSS #8298

An abbreviated version of Peter Strickland's obituary from the November 2018 issue of the NSS News compiled by John Strickland, Jocie Hooper, Jay Jorden, Sherry Graham, and Logan McNatt:

On July 3, at home with his family by his side and caver-songwriter and Mayan expert Barb MacLeod's cave ballads playing, Peter Strickland, NSS 8298 (FE), opened the door to his next unexplored passage. To chronicle a life so well-lived really requires tales from the many for whom Peter made a difference – as a caver, mentor, volunteer, friend, and family member. In more than a half-century of NSS membership, he helped drive vertical cave exploration, strengthened organized caving and developed many "newbies" into strong cavers. While some of these tales are posted on Facebook and expressed in cards and conversations, much of what we know and love about Peter lives in our hearts and memories—from where we share a snapshot of his life.

Born in 1946 in San Francisco, where his dad had been stationed during WWII, Peter then moved with his family back to their home state of New York to live outside Niagara Falls and Buffalo. As a kid, he liked to find cracks between rocks and climb around in them... In 1964, Pete's older brother, John, read about the NSS in a National Geographic, and joined to get the NSS News. The brothers attended their first NSS Convention in Bloomington, Indiana, in 1965. Pete decided to join for $2, as an associate member, in order to get into the convention cheaper (a lifelong monetary trait!). This event was their first interaction



Pete Strickland at the Texas Cavers' Reunion, 2011. ***Geoff Hoese.***

with cavers and caves—and also Pete's introduction to vertical caving, learning about climbing systems and rappel devices, seeing his first Goldline rope and Jumar ascenders. The International Exploration session consisted primarily of descriptions of trips by the Underground Texas (UT) Grotto to Mexico's large and deep caves, such as Sótano de Tlamaya and Ventana Jabali (which pushed Surprise Pit in Fern Cave, Alabama, into second place as deepest pit in the Western Hemisphere). Pete realized that Austin, Texas, was the place to be...

In 1969, Pete made his way to San Marcos, Texas, with its active Southwest Texas Student Grotto. There he made many friends and caved with Blake Harrison, Thomas Moore, Joe Sumbera, Jimmy Jarl, Sam Billings and Logan McNatt, among others. There were close caving ties between the central Texas cavers, and in August, 1971, he moved into "The" Kirkwood House (1307·) in Austin. No rooms being available, he was offered a narrow hall at the top of an unused stairwell. Having grown up helping his father remodel the old farm house the family owned, Pete had acquired many construction skills. He devised a platform extending a landing halfway down, slept there and stored his gear under the platform. And thus began the creation of many unorthodox sleeping cubbies such as in the attic, over a porch, and by a greenhouse built out of the garage. Eventually, as cavers moved in and out, Pete became the "landlord." During the 70s, Austin, and the UT Grotto, became known as "the center of the Texas caving universe." The Kirkwood neighborhood, where a half-dozen or more houses were rented by cavers—anchored by 1307·—became a stopping-off, consulting, and pickup point for exploration into Mexico. The inhabitants were surrounded with conversations and activities involving planning trips, showing slides of previous exploits and working on vehicles for the next cave trip. The motto was "work little, cave much!"

Peter had become a talented and committed vertical caver. He helped explore some of Mexico's deepest and longest caves, where his technical climbing and rigging skills came in handy. This included the first descent of Sótano del Barro in 1972 with the 1,500-foot rope he had acquired while in Germany. Some remnants of it still live in his truck as "work rope." Crewing with other Texans to chop through the jungle of the El Abra, they explored Cueva de Tanchipa, Sótano de la Cuesta, and Guaguas. Many trips across Mexico led him to Golondrinas, Huautla, El Arroyo, the river caves of Zoquitlan, and the Cuetzalan area, among many others un-named and but unforgotten. Pete knew all the best camping spots, and the best rigging points for his favorites. In the USA, besides the many pits and caves he did around the Huntsville area, Pete was on several trips to the Silvertip system in Montana's Bob Marshall wilderness. He wasn't too keen on some of the "small groad holes", which he felt constituted many Texas caves. Notable exceptions: Midnight (near Carta Valley), H. T. Miers Cave, Powell's Cave (which he helped stabilize with a new entrance culvert), and Honey Creek Cave. He continued using the Inchworm climbing system, which worked especially well getting past overhung lips, when others had switched to Ropewalker or Frog. And, he never tired of wetsuit caving—always letting the UT grotto know when the end of season sale at Tom's Dive Shop was coming up. Many a UT caver got their first used suit there.

In spring 1977, when Pete was living in the 1307· Kirkwood house, Jocie Hooper went to a rope practice in his front yard. She had been caving in the late 60s and early 70s while married to Mills Tandy... She was trying to get back into caving after their separation. A friend, Terry Sayther, then the UT Grotto president, had told her about the rope session. Pete spied her, called up a mutual friend to get Jocie's phone number, and the rest is history... Pete was completely comfortable that she had a child, 3-year-old Amara, as he wanted some of his own. They soon discovered things in common, like having learned to play the baritone ukulele before taking up the guitar, and knowing all the words to many, many Bob Dylan, Joan Baez, and Peter, Paul, and Mary songs, which they spent evenings playing and singing in Jocie's kitchen. Once Pete and Jocie were together, Pete introduced her to Barb's caving ballads.

An ardent NSS supporter, Pete urged Jocie to become a member. It seemed like the Hand of Fate when her NSS number came back as 18298 ... and Pete's was 8298. The two were married in 1979; they left Kirkwood (at that point living with Gill Ediger down the street), and moved to property Pete's folks had bought near Lake Travis. By this time, the whole Strickland clan had abandoned New York and moved to Austin. Through many caving adventures, construction adventures, moves about the property, and the birth of two sons, Colin and Evan, Pete and Jocie were together for 41 years. They and the three kids traveled the U.S. and Mexico, on caving trips and attending NSS conventions. Amara eventually married a British caver, Dave Brook, meeting in Austin while on his post-doctoral assignment. Colin married Guin McDaid, another Austin caver, and they have another wee caver on the way.

To many newer cavers, Pete was known primarily for his portable hot tub, which was a feature at two International Speleology Congresses, 15 NSS Conventions, and 39 Texas Caver Reunions. This invention first appeared at the Texas Speleological Association spring convention in 1978 as a test run for the Texas NSS Convention that year in New Braunfels. It was an instant hit. At the 1981 International Congress of Speleology in Bowling Green, Kentucky, it was introduced to cavers from all over the world. At the conclusion of the Congress, Pete invited some cavers from Switzerland, France, and Hungary to come to Austin, and he and Blake Harrison took them to Golondrinas. Many lasting friendships were forged on that trip...

Pete's technical and construction skills were unmatched. He liked to joke about his "calibrated eyeballs," which could measure 1/8- or 1/16-inch gaps! Whether building a bridge, dam, house, hot tub, sauna, or cave gate; making cave entrance access, clearing trees, finding firewood for the Groad Hollow (Texas) convention camp each year—or critical details of executing any plan—Pete was there with his equipment and expertise to help make it go smoothly and safely. Always among the first to volunteer to help solve caver-related problems... For several years, he was involved with the Bustamante Project led by Orion Knox and Rune Burnett, to help the town of Bustamante, Nuevo Leon, Mexico prepare Gruta del Palmito for commercialization. This involved cleaning up graffiti, installing safe steps into the entrance room, trail work, and designing and installing signs along the trail from the parking lot to the cave entrance. Pete always felt the future of caving was getting new people involved, and over the years, he led many a newbie caver on weekend trips through this, one of his favorite caves. His free-climb to place a handline for the Birthday Passage left a lasting impression.

As Pete was providing much of the infrastructure that cavers gathered around ... and under ... to build friendships, he became known for understanding the meaning of caver hospitality. Along with his contributions to conventions and congresses, he and Jocie started hosting Sunday Swims and an annual Pond Party at "Stricklandia," near Lake Travis in Austin... There, along with his brother John and Bill Stone, he had designed a large concrete dam across a creek running through the property... The result: a large, beautiful pond for wildlife and people. At his last Swim Party, a baby shower for Colin and Guin, on June 10, Pete had his "damn" construction slides out, chronicling the event for any viewers interested. Fittingly, family and friends gathered on August 25 for the Peter Strickland Memorial Pond Party. More than a hundred people, including guests flying or driving in from three coasts, the Rockies, New Mexico and all over Texas, spent an afternoon, night and morning of hot tubbing, swimming, camaraderie and merriment in his honor. Pete would have loved it.

CAVING ORGANIZATIONS

ASSOCIATION OF MEXICAN CAVE STUDIES – AMCS *www.mexicancaves.org*
A volunteer, non-profit organization dedicated to supporting the exploration, study, and conservation of the caves of Mexico, through a program of publication.

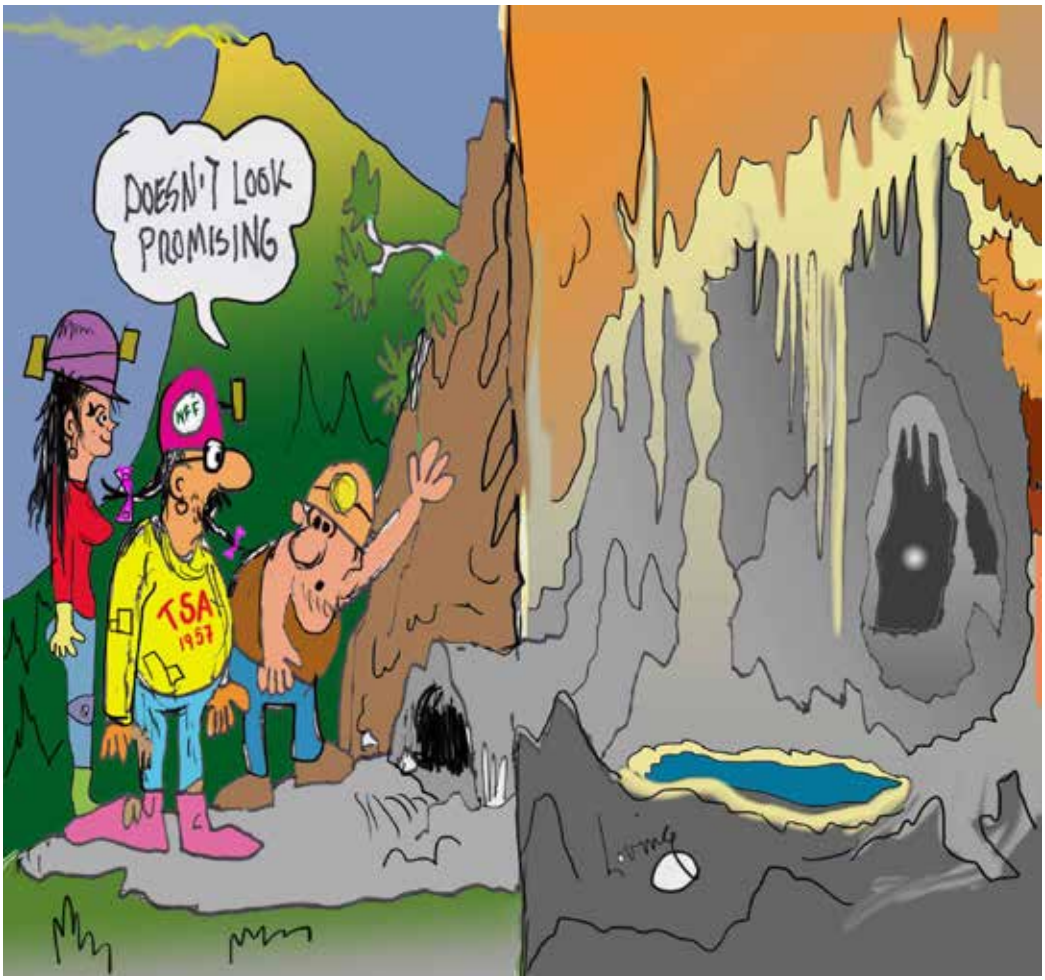
BAT CONSERVATION INTERNATIONAL – BCI *www.batcon.org*
Education and research about the value and conservation of bats and bat habitat.

INTERNATIONAL UNION OF SPELEOLOGY – UIS *www.uis-speleo.org*
International organization fostering and promoting cave exploration, science, education, management, and fellowship of cavers internationally.

NATIONAL CAVE AND KARST RESEARCH INSTITUTE *info@nckri.com*
Congressionally formed institute to advance cave and karst science, research, promotion, education and development of environmentally sound practice of management of caves and karst.

NATIONAL SPELEOLOGICAL ASSOCIATION – NSS *www.caves.org*
Non-profit membership organization dedicated to the scientific study of caves and karst, the protection of caves, the responsible exploration of caves, the fellowship of cavers, and the conservation, stewardship, and ownership of caves.

TEXAS CAVE MANAGEMENT ASSOCIATION – TCMA *www.tcmacaves.org*
Non-profit organization existing to acquire, conserve and manage caves and to promote research and education regarding caves and karst while providing responsible access to our preserves.



Doubters at the entrance of Promise Cave. ***Charlie Loving.***

TEXAS GROTTOS

AUSTIN
Underground Texas Grotto (UT Grotto)
www.utgrotto.org

BRYAN – COLLEGE STATION
Aggie Speleological Society (A.S.S.)
https://cavetamu.com

DALLAS – FORT WORTH
DFW Grotto
https://dfwgrotto.org

EL PASO
Guad Grotto
http://www.vcrux.com/grotto

HOUSTON
Greater Houston Grotto
http://greaterhoustongrotto.org

LUBBOCK
Lubbock Area Grotto
www.lubbockareagrotto.org

MIDLAND – ODESSA
Permian Basin Speleological Society
www.caver.net/pbss/pbss.html

SAN ANTONIO
Bexar Grotto
www.bexargrotto.org

WITCHITA FALLS
North Texas Speleological Society

EMERGENCIES

For cave assistance, call the closest county number:

Bexar 210.865.2061
Collin 214.202.6611
Hays 512.557.7965
Midland 432.438.5076
Sutton 325.450.3905
Travis 512.663.2287

For life threatening emergency:
CALL 911