



A—DESCENDING INTO THE SHAFT BY LADDERS. B—BY SITTING ON A STICK. C—BY SITTING ON THE DIRT. D—DESCENDING BY STEPS CUT IN THE ROCK.



# *Cascade Caver*

Newsletter of the Cascade Grotto of the National Speleological Society

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# Cascade Caver

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## MEETINGS

Regular grotto meetings are held monthly at 7:00 p.m. on the third Friday of each month at the University of Washington, Room 119, in Johnson Hall. Please see the map on the back cover of this issue.

## UPCOMING EVENTS

Feb 20 Cascade Grotto Meeting  
Mar 20 Cascade Grotto Meeting  
Mar 21 Danner Ridge Walk 2.  
Search known limestone deposits (from Danner's book) for virgin caves.  
Steve Sprague (360) 387-3162  
ssprague@whidbey.net  
Apr 17 Cascade Grotto Meeting  
Apr 30 - May 2 Lint cleaning camp at Lehman Caves, NV.  
Dale Green (801) 277-6417  
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## COVER

Steve Sprague supplied this month's cover. It is a drawing from "De Re Metalica" by Georgius Agricola, a book on mining technology first published in 1556. It was translated from the original Latin by Herbert Hoover (yes, the H. Hoover who was a Mining engineer as well as a president) and his son Lou Henry Hoover in 1912.

It looks like vertical techniques haven't changed all that much in the past 400 years.

## Chilliwack River Valley

--Larry McTigue

This is the trip and time log that Dick Garnick kept as things were happening. The times are quite accurate. It is not a full dialog of what happened but, rather to log the times of events. (see the full report following this for the details of this unfortunate accident):

### Trip and Time Log

Sunday, Dec. 14th, 1997  
Chilliwack River Valley

12:15PM Larry McTigue, Mike Fraley and Dick Garnick leave vehicles to check on a sink feature reported by a logger in an area that is to be logged in the summer of 1998. The Ministry of Forest Chilliwack office wanted to know if this is a cave / karst feature that needed to be protected.

13:00 Larry is first to find the sink feature. Larry slides down the SW side of the sink dislodging a large boulder that follows him down the steep incline and hits him in the lower back.

13:05 Larry is given some Ibuprofen. We tried to make him comfortable and warm.

13:15 Dick leaves some water, food stuff, wool shirt for Larry, and his cave light and battery pack. Dick takes Larry's pack and heads out for help.

15:30 Dick arrives back at his car and begins trip down for help.

16:00 Dick arrives at the Mt Thurston Correctional Facility and requests Search and Rescue help. He was introduced to Dan McAuliffe, a corrections officer and Chilliwack SAR member. We called the RCMP to inform them of the problem and begin the official SAR call out.

17:00 We leave the correction facility after the arrival of many of the SAR members and a discussion of Larry's accident and the location and weather conditions.

17:15 We arrived at the Slease Creek quarry as a further rally point and vehicle consolidation and began the trip up to Larry's truck and the trailhead.

18:00 Arrive at Larry's truck and the trailhead.

18:05 After a short wait for others and getting ourselves ready Dick spotted 2 lights on the ridge. Began hike up to meet Mike and Larry.

18:15 Met Larry and Mike, Dan checked Larry. Larry hiked the rest of the way to the vehicles after being checked by paramedics one more time on the trail.

18:40 Larry arrives back at the parking area and is further checked. He declined the basket litter and felt better sitting up in the RCMP vehicle. He is transported down to the Slease Creek quarry.

19:20 Arrive at the quarry and Larry is transferred to the ambulance. Mike Fraley drove Larry's truck down and I picked up my car at the quarry. Larry was transferred to the Chilliwack General Hospital emergency room.

19:40 Arrive at Chilliwack General Hospital. Larry is checked.

(at approx.) 21:00 Larry is discharged from hospital after examination, x-rays, lab tests and pain killers are administered.

22:00 Leave Chilliwack for Bellingham after picking up some hot food at a local Dairy Queen restaurant.

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## Accident In Canada

--Larry McTigue

I had a little accident up in the Chilliwack Valley of southern British Columbia on December 14th, 1997.

Dick Garnick, Mike Fraley and I were trying to locate a large sinkhole reported to the Canadian Ministry of Forests by a timber cruiser in an area that would soon be logged. It was said to be taking a stream and at the time it was discovered this past Summer, it was blowing cold air out. Obviously, with a description like that, we were quite excited about the possibility of finding a big new cave system.

We had good directions and a map from the timber cruiser that the MOF gave to us. Due to the many years we have spent searching for, exploring and mapping the caves of this area, we enjoy good relations with the Canadian government land managers. The Ministry of Forests wanted to know if it was a significant cave, in order to decide whether or not to protect it from any damage that might be caused by the future logging operation.



Snow was encountered on the road heading up into the area but, wasn't deep enough to high-center our 4x4's. We parked our vehicles and began to hike up a ridge and down the other side of it into a steep stream canyon. After crossing the stream, we ascended up the hill and bench area on the opposite side.

According to the map, we were very close to the sink. Dick and Mike headed downhill along the sloping bench, parallel and just a short distance south of the stream canyon. I followed parallel to them but, a bit further to the south.

Soon, I could hear water running and hoped it was the stream said to be flowing into the sink. About 150ft. downslope, I came upon a large, deep sink with a trickle of water flowing down into the west end of it. The sink was about 50ft. in diameter and about 25ft. deep. The end with the water flowing into it was less steep than the other sides of the sink but, it was covered with slippery mud, rocks, moss, thick 8ft. tall Devil's Club with sharp spines sticking out and treacherous, small boot-sized holes in the mud and between the rocks.

I looked around for an easier way down and spotted a grass and moss-covered slope on the opposite side of the sink. Hiking around, I reached the spot and it appeared to be more desirable than the other route. I yelled to Dick and Mike that I had found the sink but, before they arrived, I began to climb down the steep slope into the sink.

I dug in my boot heels to control my descent and reached for a handhold about 3ft. below the rim of the sink with my left hand, in order to lower myself to a small grass and moss-covered ledge 6ft. below me. The limestone projection I placed my hand on appeared to be a solid part of the bedrock rimming the top of the sink. But, as soon as I put a little weight on it, the rock instantly started sliding and tumbling down.

Apparently, it was just a large chunk of frost-fractured limestone held up only by the dirt and moss surrounding its base. It was so heavy that the ground beneath my feet gave way as it rolled onto my left foot. There was so much ground movement that I thought I had triggered a small landslide on that side of the sink and was about to be crushed to death by other large, loose boulders dislodged by the one I had touched. Dick later estimated its weight as about 100lbs.

Luckily, it was just that one large rock that came loose. I lost my balance and fell vertically (standing up) 6ft. to the ledge below with the rock tumbling down with me. When it hit the ledge, it apparently slowed down and when my feet hit the ledge, I bounced forward and tumbled head-first down the steep slope below the ledge with the rock in hot pursuit.

After sliding and tumbling another 15ft. down the 45 degree slope, the rock slammed into my back and left hand and put bloody skid marks across my back. Dick has a photo of my damaged back taken at his house when we got back to Bellingham, WA. later that nite. The boulder stopped rolling at that point but, the force of it hitting me and the steep slope sent me sliding head-first an additional 6ft. where I slammed into a jumble of boulders in the bottom of the sink.

The pain was incredible and I thought it may have broken my backbone. I immediately got severe muscle spasms and cramps in my lower back and left leg. My head was face down with my nose in the dirt and my feet and body pointed uphill at a 45 degree angle. It was such an uncomfortable position that I used my arms and legs to turn myself around so I could sit upright. In doing so, the pain was so severe that I thought sure I had broken my spine.

Mike heard the rock fall but hadn't emerged from the woods yet near the sink so, he didn't know what had happened. He saw me sitting upright in the bottom of the sinkhole among the rocks and asked me what I was doing. I was so stiff with pain, I couldn't turn around to tell him and my glasses had been knocked off so, I couldn't see him either. In a feeble voice I tried yelling that I had been hurt. He must have immediately sensed the urgency of the situation and screamed to Dick to come quick saying I had been injured.

They were able to locate my eyeglasses about 6ft. past where I finally stopped tumbling. Dick put a fleece jacket or some other type of clothing behind my head to make me more comfortable and Mike gave me a couple pills of ibuprofen in hopes of easing my pain. I rested as best I could for about 15 minutes while trying to decide if I could stand up or not.

Dick went around taking photos of the sink to document its size to show to the Ministry of Forests. Mike checked out the hole in the bottom where the water was going. He said it didn't appear to be blowing any air at that time of the year and there appeared to be no way on without some major excavation. Another one for me to dig on when I'm feeling better again. Certainly, not one to risk your life over though.

My accident happened about 1PM in the afternoon. It was already starting to get dark due to heavy cloud cover which had moved in and was now beginning to dump some snow flurries on us. We all realized we had to get out of there but, I was in such pain I couldn't stand up. Every time I moved just a bit, it felt like someone was stabbing me with a knife in the left side of my lower back.

Finally, mustering all the courage I could, Mike and Dick helped me to my feet. The pain was incredible. Mike helped me take a few steps but the pain was so intense that I didn't think I could go any further. Dick said I had to climb out of the sinkhole so, with Mike's help, I took a few more steps. At that point, due to the pain, I became convinced that I wasn't going to even get out of the sinkhole, let alone back to the vehicles.

Dick decided to go for help while Mike stayed with me. Dick gave me his mittens so, he wouldn't have to waste time digging mine out of the bottom of my pack. He took some food and water out of his and my pack to leave with Mike and I. Then, he strapped on my pack as well as his own and began the steep climb up and out of the canyon to alert the search and rescue people. Once Dick had disappeared from view and we could no longer hear his footsteps crashing thru the woods, Mike and I were left quite alone to ponder our desperate situation.

Lucky for me, Mike is a very stubborn but caring young man. Very much like Rob Lewis who I used to cave with all the time. After Dick left, Mike continued to coax me to take a few more steps while I leaned on his shoulder or held onto his arm for support. Due to the pain, I couldn't lift my feet more than about a foot off the ground so, he had to scout ahead for a path that avoided large boulders, blown down trees and deep holes along our route out of the sink and back to our truck.

Yes, we did finally make it out of the sink, which we were both thankful for. Little did we know though, at that time, that the search and rescue people wouldn't arrive for another five hours, long after darkness had fallen. I could only take small steps as we moved slowly up the ridge. It was starting to snow a bit harder now and the temperature was dropping as the sun began to set.

We had warm clothing, raingear, some food, water and our electric headlamps. But, no carbide lamps for an emergency heat source and no dry wood to start a fire. So, in my condition, we weren't prepared to spend the night in the woods. If I hadn't been able to move, hypothermia would have probably killed me if the search and rescue people couldn't find us in the dark woods that night. As long as we were able to keep moving and eating and drinking we might have a chance. But, we didn't have much food and I was consuming all the water due to a severely dry throat, perhaps caused by fluid loss due to my injuries and perspiration from exertion in climbing out of the canyon.

We took frequent rest stops to ease the swelling in my back from hiking with bruised and torn back muscles. Eventually, we made it over to the stream canyon we had crossed earlier in the day and after wading across, began climbing the steep ridge on the opposite side back to the

log road where my 4x4 was parked. It was so steep and slippery with snow that we had to grab any trees or branches we could find to pull ourselves up a few steps at a time. Most of the time, of course, I was leaning on Mike for support but, even he was slipping and falling from time to time on the snow.

Halfway up the ridge, we had to start using our headlamps as it was now totally dark. Mike gave me a couple more tablets of ibuprofen but, the doctor that later treated me said it is ineffective unless taken over an extended period of time and I can vouch for that fact.

We had a compass to find our way back and apparently, Mike is a good navigator as we even ran across skid marks on the steep slope where Dick had slipped in the snow and fallen on his way out to call for the search and rescue people. We came across 3 different places where he had lost his footing. So, it was reassuring to know we were headed in the right direction.

Climbing the ridge was agonizing but, what a relief it was when we finally reached the top where it leveled off into a flat bench!!! Turning off our headlamps temporarily, we could see dim light through the trees on the far opposite side of the ridge. We headed toward it with our lamps on again and later found out that it was obscured moonlight shining through a thin cloud cover as the snowfall had begun to diminish at that time.

Mike went ahead looking for a trail that crosses this ridge which we had used earlier in the day. In short order, he found it and directed me toward it while he tried to ascertain where the light was coming from through the trees up ahead of us. I slowly followed taking short steps and finding it much easier crossing fairly level ground, despite the pain I was still experiencing. Once on the trail, it became a bit more easy. Mike returned to say that he saw what appeared to be vehicles down below the ridge where my truck was parked and he spotted what apparently was a couple of people with headlamps coming up the trail from down by the road.

We had a whistle with us and Mike blew on it every hour during this entire ordeal from the time we left the sinkhole until we topped the final ridge. But, to no avail. After several hours of hiking through the woods and up the steep ridges in the dark, we were beginning to think no one was coming to help us or if they had come then perhaps they had passed us and were now heading further away and deeper into the woods having missed us completely.





## Boulder Cave Gets Gates

By Katrina Ostby

September 1997

Boulder Cave is a large talus cave located in Eastern Washington about 50 miles west of Yakima. The cave was formed after a small river eroded through a layer of basalt to a layer of softer material. The river stopped eroding down and began eroding to the sides, undercutting a large area of the basalt. When the basalt fell, a long tube, or cave, was formed. Boulder cave has the largest room in the state of Washington. In addition to the main passage, there are small offshoots, including one that makes it to the surface. Due to air circulation patterns, this offshoot is thought to have been a maternity colony for Townsends big eared bats in the early 1900's. Historical records show that there was a maternity colony in the cave, but do not include the location.

The Civilian Conservation Corps (CCC) built a trail to, and through, the cave in the early 1950's. The subsequent increase in human visitation to the cave may have resulted in the bats abandoning the maternity site. Despite the visitation, the cave continued to serve as both a day roost and a hybernaculum for small numbers of bats. The bats hibernate in many different areas within the cave.

Boulder Cave is located on US Forest Service (USFS) land. It is a 1/2 mile hike from the trailhead to the cave. While the Forest Service has tried to manage the cave as bat habitat, warning signs are not always effective at keeping people out of caves. In an effort to help the Townsends bats, a number of agencies and organizations got together. The American Cave Conservation Association (ACCA), Bat Conservation International (BCI), and the USFS were all involved. It was decided that the "offshoot" needed 2 gates, one at the entrance, and another inside the cave about 150 feet. BCI provided the funds to purchase the steel. USFS provided tools and equipment. ACCA organized things.

For those of you who have helped gate caves, you know that normally a call goes out for volunteers, and most of those who show up carry steel, sleep in their tents, and cook over camp stoves. That didn't happen this time. What did happen was that a call went out to governmental agencies to send their workers to a training session in building zero airflow reduction cave gates. And you know what? Agencies paid to send their people out to build the gate.

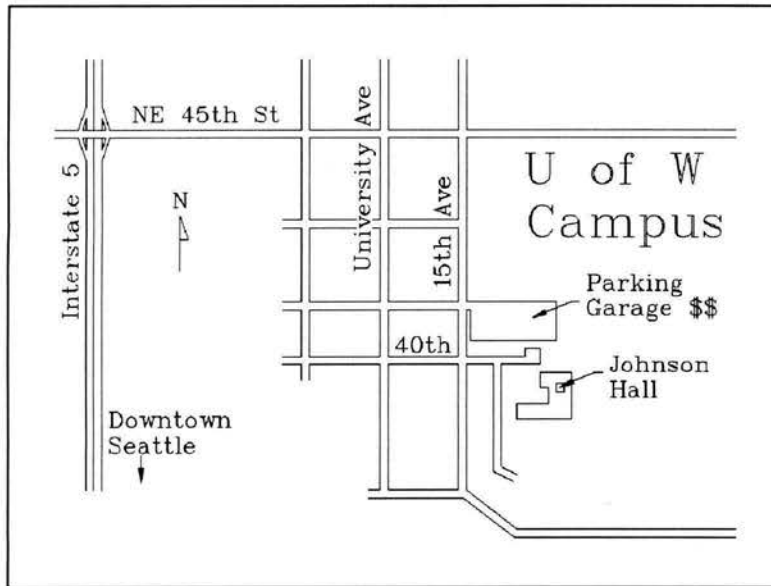
All of the students learned how to weld and how to use a cutting torch. There were lectures on building the ACCA design gate, on other gate designs which are currently in use, and on devices to monitor cave usage by humans. There were field trips to identify bat habitat. The students

learned how to measure for gates and to estimate the amount of steel needed. When these folks left, they took with them the knowledge to build effective gates in their own districts, and some ability to determine whether or not they were necessary.

You may be wondering how I know all this, well, I was the camp cook. We all stayed at a Camp Fire Boys and Girls Camp which was about a mile from the trailhead. There were dormitories, hot showers, flush toilets, and a modern kitchen. The training was divided into two 5 day sessions. Between the two there were 20 students and 5 instructors. Don't laugh, but I had never cooked for more than 6 people. In spite of leaving my alarm clock at home, and in spite of a couple of power failures I managed to keep the whole crew fed. What an experience!

Now we wait to see if those mama bats will come back. I sure hope so.





The Cascade Grotto meets at 7:00 pm on the third Friday of each month in room 119 in Johnson Hall on the University of Washington campus.

We look forward to seeing you at one of our meetings

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