

# AMERICAN CAVING ACCIDENTS

1974

A REPORT OF  
THE NATIONAL SPELEOLOGICAL SOCIETY

*"The line which separates the difficult from the dangerous is sometimes very shadowy, but it is not an imaginary line. It is a true line, without breadth. It is often easy to pass, and very hard to see. It is sometimes passed unconsciously, and the consciousness that it has been passed is felt too lately. If the doubtful line is passed consciously, deliberately, one passes from doing that which is justifiable, to doing that which is unjustifiable."*

Edward Whymper



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# Introduction

This is the eighth annual report of the Safety and Techniques Committee of the National Speleological Society on caving accidents in North America. These reports, which have been arranged in chronological order, are intended to be used as potential teaching or training guides and are not attempts to indicate blame or find a scapegoat.

More than half the accidents during 1974 involved falling or stumbling from 10 to 180 feet. Fortunately, none of these were fatal. Two of the accidents, both in New Mexico, were caused by inexperienced persons relying on ladders or cables left in the cave by others. Many of the falls were due simply to carelessness or inexperience.

Unlike natural fiber ropes, nylon ropes are not subject to rot; however, they can be damaged by sunlight or any one of numerous chemicals. One accident was due to hydrochloric acid on the caver's rope. Another example of a fall caused by faulty (or possibly improperly used) equipment occurred when a bolt pulled out as a man began his rappel. These accidents could have been prevented had the cavers tested their equipment before committing themselves to the rappel.

Hardhats with elastic chinstraps are notorious for not staying on the victim's head during a fall. Hats came off in two of the falls, yet stayed on during another. People who do vertical caving should avoid using elastic chinstraps on their hard hats.

In addition to the injuries from falls, there were four cases where the cavers were not injured but could not ascend the pits they had descended. Four groups of inexperienced cavers became lost and had to be rescued. In two of these incidents, the group's flashlights went dead. The NSS has long recommended that each individual carry three independent sources of light.

1974 was the worst year for cave diving accidents in U.S. history. At least 23 people drowned in Florida's underwater caves. Only four of these accidents, involving nine victims, are reported here. Multiple deaths while *scuba* diving in caves are not uncommon. In one accident four men drowned; a similar tragedy was reported in the **1967 American Caving Accidents**.

This report is incomplete because information was not available on some accidents. For instance, seven accidents in the Garrison Chapel karst area of Indiana were briefly mentioned in the *NSS News*, yet no additional information was turned in to the NSS. It is not known how complete a record of caving accidents in North America is provided by this report. Those persons having information, either firsthand or through newspaper stories, are requested to send the information to the NSS office. We thank all those who did provide information and thus made this report possible.

Richard L. Breisch  
American Caving Accidents Editor  
NSS Safety and Techniques Committee

# Accident Reports

## Previously Unreported 1973 Accidents

### West Virginia, Organ Cave

Saturday, 8 December 1973

The second drop in the Humphrey's Section of Organ Cave is a 35-foot, partially-free rappel near a small waterfall. The rappel was rigged with Goldlon, which is a very stiff rope. Mike Dyas rappelled into the pit but was held under the falls a few feet above the floor when a long loop in the middle of the rope caught on the rough lip of the drop. The rope could not be shaken free, so Greg Thomas climbed down a parallel ladder to unhook the kink. Dyas had not been wearing his wet suit during the 10 minutes he was under the waterfall.

Undiscouraged, Dyas put on his wet suit and participated in further exploration which involved two duckings in a 75-foot near-siphon. This further sapped his endurance despite the exposure suit.

Returning to the waterfall, the only ascending gear in the party was a prusik-like rig employing two Jumars. With some difficulty, two of the cavers successfully ascended the pit. Dyas realized that this climbing method would overtax his arms so instead he tried climbing the ladder with a top belay. He did not have the strength to get over the sharp overhang about two-thirds the way up and had to be lowered back to the bottom. He again became soaked. Dyas attempted setting up a different Jumar ascending rig with the slings available but was not able to get it properly adjusted. On his final attempt to ascend, he became thoroughly hung up and was forced to cut one sling loose and jump to the floor.

The two cavers who had climbed out then left to fetch Dyas's own ascenders. Two and a half hours later they returned with the ascenders and four additional cavers. Using his own ascenders, Dyas was able to get out without help.

**Analysis:** Dyas had negotiated the Humphrey's Entrance previously on quite a few demanding trips and had never experienced difficulty. The basic problem this time was the fouled-up rappel and becoming soaked several times in succession. These soakings and a run down feeling due to a cold greatly reduced his endurance. For most of the time in the cave, Dyas was wearing a wet suit and a wool sweater. This was a major factor in averting advanced hypothermia during the wait for help to arrive.

To reduce bulk on survey trips, this group normally shares one or two sets of vertical gear. Difficulty arose when the cavers tried using gear which had been customized for another person.

Source: Dyas, Mike. (1974) "Safety Department: Fiasco in Humphrey's," *D.C. Speleograph*. Jan. issue, pp. 9-10.

## 1974 Accidents

### West Virginia, Canterbury Cave

Friday, 25 January 1974

At about 2:00 p.m., Pete Williams (25), Albert Ogden (23), and Scott Roth (24), all of the Mountain State Grotto, entered Canterbury Cave to make observations for Ogden's Ph.D. thesis. About 200 feet inside the cave is a 34-foot pit which Williams rigged with a 70-foot length of soft-lay rope similar to Goldline. The rope belonged to Ogden but had recently been returned to him by a fellow caver. Before beginning the rappel, Ogden stated, *Gee, this is so short, if I fell the worst that would happen is I'd break both ankles*. As Ogden began to rappel, the rope broke, dropping him 28 feet to a flat, gravel floor. Ogden yelled as he fell and may have struck a small ledge in the descent.

In the fall Ogden lost his lamp but the Fibre-Metal helmet with a chin strap stayed in place. Although in pain, he remained conscious and was able to report his condition to his companions. He had a broken right leg and a back injury but was not bleeding externally.

Since the only available rope was at the bottom of the pit, Williams left to seek aid while Roth remained at the top of the pit to keep Ogden company. Williams was able to notify the local doctor and rescue group and several cavers representing the VPI, Greenbrier, and Pittsburgh Grottos. By 4:00 p.m. Williams returned to the cave with rescue gear he had gathered. Williams and a medic from the local rescue group rappelled into the pit. Ogden was placed on a back board and wrapped in blankets.

Doctor Gewirtz arrived at the cave but was very claustrophobic. A rather small girl let him know that he was not going to leave until he had examined Ogden. The doctor descended by cable ladder and confirmed that the victim had a broken leg but did not have a back injury severe enough to hinder the rescue effort. With the use of the back board Ogden was raised from the pit, but was later placed in a Stokes litter for the last 120 feet.

**Analysis:** The rope broke near the top. Later inspection showed green spots on the rope at the break. The West Virginia University Chemistry Department analyzed them as being due to dilute hydrochloric acid. Ogden, a geologist, commonly carries a container of hydrochloric acid in his geological sampling kit.

The rope was not inspected before use. Routine inspection and testing of caving ropes is unfortunately not done as frequently as it should be.

The rescue was hampered by lack of proper rescue equipment such as pulleys. Since no leg splint was available, an inflatable arm splint was used on Ogden's leg. This caused his leg fracture to become compound. Much valuable time was lost waiting for the frightened doctor to enter the cave.

Sources: Report by P. Williams and J. Hempel.

Kyle, Jerry (1974) "Cave Accident." *Carabiner Wrap Up*, Vol. 3, pp. 3-4.

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### New Mexico, Bat Cave (Cable Cave)

Saturday, 26 January 1974

Clinton Theodore (Ted) Burke (15) and Lee Morgan climbed down a wire and cable into a 30-foot deep hole. Morgan was able to climb out of the cave, but Burke was not. Morgan went for help and brought back Burke's father. While Morgan was gone, Ted Burke tried once again to climb out, but the cable broke and he fell, injuring himself.

Burke's father returned to town and summoned the Roswell City Fire Department, who in turn contacted the Chaves County Sheriff's office. Two men were lowered into the cave. They splinted Burke's leg and placed him in a stretcher which was hauled out with ropes. Burke was admitted to St. Mary's Hospital for a leg injury and a possible back injury, but was discharged the next day.

**Analysis:** Burke was clearly too inexperienced to attempt a vertical cave. He unwisely relied on the safety of cables which had been previously placed in the cave.

Source: Hunter, Lynn. (1974) "Local Boy Rescued." *Roswell* (N.M.) *Daily Record*. (27 Jan. 1974), p.2.

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### Missouri, Antonia Pit

Saturday, 26 January 1974

Jeff Wallace (20), Todd Schmidt (22), Mike McGraw, R. Wood and Dale Smith learned about the 71-foot Antonia Pit from an *explorers' journal*. After leaving one man on top, the other four explored the pit. Two of the men climbed out of the pit, but when Wallace, a student at St. Louis University, tried, he became stuck about halfway up when ropes in his ascending system became tangled. Schmidt climbed up from below and freed Wallace's right foot, but Wallace remained caught. Schmidt was then pulled out with another rope, and he and his friends lowered Wallace about 30 feet to try to untangle him. Wallace had been hanging about 45 minutes, and he remained in the lowered position for another 45 minutes. He tried ascending again but it still did not work. The men on top contacted the Antonia Community Volunteer Fire Department, and they pulled Wallace out of the cave.

**Analysis:** Wallace was quoted as saying, *It won't stop me from going caving, but I'll practice ascending on a cliff first*.

Source: Marshall, Karen. (1974) "Youth Gets into Deep Trouble in Cave." *St. Louis Globe-Democrat*. (27 Jan. 1974), pp. 1-14.

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#### **Pennsylvania, J-4 Cave**

Wednesday, 20 February 1974

Four local teenagers, Blair Kennedy, Leroy and Wayne Warner, and John Perryman, trespassed and entered J-4 Cave about 4:30 p.m. They were looking for a flashlight which one of the boys had lost in the cave the previous day. Their flashlight went dim while searching for the other flashlight and they could not find their way out of the cave. The boys were found by local police and fire department personnel about 8:30 p.m.

**Analysis:** Each of the boys should have been carrying several sources of light.

**Source:** Anon. (1974) "4 Pleasant Gap Teenagers Found in Cave." *The Centre Daily Times*. 21 Feb. 1974, p. 14. (reprinted in *Nittany Grotto News*. Vol. XXII, No. 3, p. 78.)

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#### **Indiana, Eller's Cave**

Sunday, 10 March 1974

Shannon Dare (17), Mike Gannon (17), Phil Kwasny (18), Richard Geer (45) and Cindy Dare (18) entered Eller's Cave at about 1:45 p.m. A short time later the caving party split into two groups with Shannon Dare, Gannon and Kwasny in one group. They checked out several narrow passages with wet, mud-coated walls, but when one of the passages pinched out, they started retracing their steps. Gannon climbed safely down a muddy wall. At 3:30 p.m. Dare slid down on his stomach while holding onto a projecting rock. As he was searching for a foothold, his hands started slipping because of the heavy, bulky gloves he was wearing. He dropped about 4 feet onto the mud floor below, catching his right foot on a projecting rock.

Dare realized he had broken his leg. They improvised a splint from two flashlights, a T-shirt and a piece of rawhide cord. Dare left the cave without assistance from outside his group.

**Analysis:** Had the group been more experienced, they might have been able to climb down instead of dropping to the floor. After Gannon got down safely, he should have assisted Dare. The heavy, loose-fitting, winter work gloves were not suited for caving. All members of the group showed ingenuity and calmness in handling the situation once they were faced with the problem.

**Source:** Report by Shannon Dare and Richard P. Geer.

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#### **Florida, Mefert's Cave**

Wednesday, 1 May 1974

Mitchell Busker and Trace Ann Kelter (19), both Santa Fe Junior College students, became lost in Mefert's Cave about 45 minutes after they entered. At 1:30 a.m. the Marion County Sheriff's Office was notified that the couple was missing. Two deputies located the students, who had been lost about 12 hours. They had no food or water, and their

flashlight batteries had died several hours after they had entered the cave.

**Analysis:** Inexperience.

**Source:** Anon. (1974) "Couple Lost in Cave 12 Hours, Unafraid, Figured Help Near." *SI Advance*, 3 May 1974.

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#### **Florida, Peacock Slough**

Saturday, 11 May 1974

Peter C. Pinson (39) and John Edward Beam (21) both Navy enlisted men, scuba dived into Peacock Slough at approximately 11:45. When the divers did not return, their two nondiving companions contacted the Suwanee County Sheriff's Department.

The bodies of both divers were found about 200 feet from the entrance at a depth of 50 feet. They had both run out of air.

**Analysis:** Experienced cave divers recommend that one third of the diver's air supply be used entering the cave, the second third exiting, and the final third kept as a reserve for emergencies.

**Source:** Newspaper clipping.

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#### **Kentucky, Goochland Cave**

Saturday, 22 June 1974

Larry Baldwin (38), and Kathryn Baldwin and Ron Schwing started exploring a new section of Goochland Cave at 10:00 a.m. While walking over breakdown on the way out, Larry Baldwin slipped on the blue clay at about 5:00 p.m. When he tried to catch himself, his left ring finger was bent completely backwards resulting in a compound fracture. Baldwin was assisted out of the cave by the others. A back ailment showed up about 3 weeks later.

**Analysis:** The clay was very slippery but everyone had proper footwear. Baldwin momentarily did not look where he was stepping. Since much time and effort had been exerted while exploring the new passage, fatigue may have been a contributing factor.

**Source:** Report by Kathryn Baldwin

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#### **Pennsylvania, Hosterman's Pit**

Sunday, 23 June 1974

Lee Critchlow, Ellen Raber and Dave Spencer had descended the 75-foot entrance pit of Hosterman's Pit. Critchlow and Raber were waiting in a small room adjoining the entrance shaft while Spencer was at the bottom of the pit. After receiving an *off rope* signal, Russell Turner climbed the short metal ladder down to a wooden platform located at the top of the shaft and rigged into the rope. Apparently a

rock that had been wedged under the platform worked itself free and fell. Since the pit is essentially free there was no warning. Spencer was sitting at the bottom of the pit removing his prusik safety when the rock hit his leg a few inches below the knee. The rock was several inches across and shaped like an ax head. Direct pressure was applied to the wound for 10 minutes, but upon removing the bandage, the wound started bleeding again. It was then noted that a blood vessel had been cut and stitches would be required. Spencer decided to ascend under his own power, but when he attempted to move he suffered intense pain. This was the first indication that the victim had a broken leg.

Although the three cavers could have pulled Spencer out of the pit, they decided that additional help and equipment would reduce the possibility of further injury and provide a better safety factor in case of any unforeseen problems. Three members of the Nittany Grotto Rescue Team responded within 45 minutes. Spencer's leg was splinted to a rappel rack. The victim was placed in a Stokes litter, but because of the narrowness of the pit, the litter had to be pulled vertically up the shaft.

**Analysis:** "This accident, like most, need not have occurred. Although Dave is one of the most careful cavers that I have been associated with, he should not have given an *off rope* signal until he was clear of the pit. In addition, I should not have entered the pit until making sure that he was clear. Both of us took the pit too lightly. Since Hosterman's Pit is one of the cleanest pits that I have ascended (free of loose debris), this experience should demonstrate the need to remain clear of a pit when it is being either ascended or descended." (Turner)

**Source:** Turner, Russell. (1974) "Accident Report." *The Nittany Grotto News*. Vol. XXII, No. 5, pp. 149-150.

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**Florida, Little River Springs** Monday, 22 July 1974

Joseph Slack (25) and Robert W. Kottemier (27), both of Ontario, Canada, went scuba diving in Little River Springs. As they were exiting, Kottemier unhooked his safety line from the cable leading to the surface. He then began to swim to a *false exit* which appeared to lead to the surface but actually was a dead end. As Kottemier swam upwards, he stirred up large amounts of silt, thereby severely reducing the visibility. Kottemier panicked and swam erratically, twice bumping into Slack. Slack left the cave, changed air tanks and returned to look for his companion.

It took 25 dives over the next 2½ days before divers found Kottemier's body which was about 120 feet from the entrance. His air tank was completely empty.

**Analysis:** Although Kottemier was a certified lifeguard, had been scuba diving for 6 years, and had been to Little River Springs on three occasions, he was not a certified cave diver. He drowned because he panicked after he stirred up silt.

**Sources:** Anon. (1974) "Diver Drowns Monday—Still Down." *Suwanee Democrat*. 25 July 1974, pp. 1-2.

Anon. (1974) "Diver's Body is Recovered." (Newspaper clipping.)

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**New Mexico, Fort Stanton Cave** Saturday, 24 August 1974

Lee H. Skinner (34) changed the carbide in two lamps and then shoved the plastic bag, containing the mixture of dry and soupy carbide, into a pocket of his coveralls. After hiking a few hundred feet, he discovered that the heat generated by the carbide had already given him a second degree burn about the size of a quarter on his leg.

**Analysis:** *Spent* carbide can easily generate minor burns or explosions. This would have been prevented had Skinner put the plastic bag into his pack. It is best not to clean a carbide lamp until the charge is completely used. This can be assured by unscrewing the bottom slightly and wiggling it to open a path for free water flow into the caked carbide.

**Source:** Report by Lee H. Skinner

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**Kentucky, Blue Grass Grotto** Sunday, 8 September 1974

Scott Schillereff (19), Martin Hackworth, and Jim and Deb Currans dug into a cave at the bottom of a small pit. While descending one particular climb for the second time, Schillereff slipped and fell about 10 feet, landing on his right knee and outstretched hand. Jim Currans blocked the fall, preventing Schillereff from landing on his head. The victim was in a great deal of pain and unable to flex his knee. Using a two-man carry, Schillereff was transported a half mile in an hour. A medical examination later showed he had a possibly fractured right hand and a severely bruised knee.

**Analysis:** Schillereff fell a short distance because of the slippery rock. The cavers thought this short climb did not require a belay.

**Source:** Report by Martin Hackworth.

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**Florida, unidentified cave** September 1974

Four Florida men, Thomas Bennett Crowder (19), James Barten Bennett (23), Eric Allen Sedwick (23) and Henry Louis Nielsen (22), drowned while scuba diving in a cave near Branford.

**Analysis:** The Suwanee County sheriff speculated that the men did not keep track of their diving time, and ran out of air as a result. Multiple fatalities are not at all uncommon in scuba caving accidents. In 1967 four men drowned in Jenny Spring, Florida.



Source: Anon. (1973) "4 Divers Drown in Florida Cave." *The Atlanta Journal and Constitution*. (22 Sept. 1974), p. 9-B.

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#### Kentucky, Livingston's Cave

Saturday, September 1974

Arvil West (24), Dick Simpson (27), Henry Robertson (19) and Tommy Wilburn entered Livingston's Cave about 7:00 p.m., intending to stay only 2 hours. The four became lost. They had no water with them and only a couple of candy bars.

Dr. David Livingston, the owner of the cave, knew the group had planned to be in the cave only a few hours. When he saw their car Sunday morning, he contacted the police, the sheriff's office and the local rescue squad. Members of the Cave Country Grotto participated in the search. Thirty minutes after the search began the four were found unharmed by Tommy Livingston, the owner's 17-year-old son. The group emerged about 1:00 p.m. Sunday to an anxious crowd of about 250 people.

**Analysis:** The group was fairly inexperienced, although at least one of them had been caving previously. They should have paid closer attention to landmarks on their way into the cave.

Source: Williams, Bill. (1974) "Lost in a Cave." Bowling Green newspaper.

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#### Florida, Peacock Slough

Friday, 15 March 1974

Larry Liles and William D. Steele, Jr. (20), both of Memphis, Tennessee, were scuba diving in Peacock Slough when Liles' tank ran out of air at about 1 p.m. Steele took off his air tank and the two began moving to the surface taking turns breathing from Steele's tank. This tank also ran out of air. Liles let go and floated to the surface about 25 feet away, but Steele evidently swam in the wrong direction. His body was found 125 feet inside the cave.

**Analysis:** The divers knew enough to share their air supply, but unfortunately neither man had reserved enough air to take care of emergencies. On 11 May 1974, two other divers ran out of air in the same cave.

Sources: Anon. (1974) "Policeman's Son Drowns in Cave." *The Commercial Appeal* (Memphis), 16 March 1974.

Anon. (1974) "Police Officer's Son Drowns in Florida." *Memphis Press-Scimitar*. 16 March 1974.

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#### Kentucky, "Cascade Falls Cave"

Saturday, 16 March 1974

Larry Novikoff, Jenny Meinhart, Ken Tankersley, and Robin Martin

(18) entered the cave at 5:30 p.m. to deposit fluorescein dye for a hydrology experiment. The group caved for 5 hours, ate a snack, and then started to depart. They had left a safety line in an 8-foot chimney about 800 feet from the entrance. Each caver used a prusik sling and a figure-eight chest harness of 2-inch webbing for a self-belay. Martin was the last person to climb out. Although he had been caving for over 4 years, he did not have much experience with chimneys of this type. Martin's foot slipped because he failed to maintain enough pressure against the wall while raising the harness. He was immediately caught by the chest sling which came over his nose and mouth, knocking off his helmet and glasses which he caught. The chin strap in his helmet had been broken in the fall.

Robin Martin was hanging in a vertical position and was unable to regain a foothold. He was not able to tie a loop in the rope in which to stand. Attempts at pulling him out also failed. Tankersley climbed down into the pit and offered his shoulder as a foothold. He then untied Martin's safety harness and lowered him to the base of the pit. A candle and a butane lighter provided some warmth as Tankersley and Novikoff left for additional prusik slings in their car. Upon returning, they found Martin in a weak condition due to the cold. It was necessary for them to move the prusik knots for him.

**Analysis:** "The circumstances which led to this accident were my weakened condition, the belled-out shape of the pit, and the choice of a wrong ascending set-up. Since I had not been in this cave before, I didn't know it would be as strenuous as it was. Had I known, I probably wouldn't have gone. ... As shown by this accident, we should each have brought the equipment we felt safe with; even for an 8-foot pit." (Martin)

"The most direct cause was one of exhaustion. Robin had done strenuous work and climbing before entering the cave. ... As also observed, he did not have knowledge of chimneying and did it wrong even after on-the-spot instructions. He chimneyed on an angle instead of being perpendicular to the walls, resulting in foot slippage and the fall.

"A more efficient belay system could have been used, or simply bring[ing] ascenders may have resulted in the event not taking place. These were not brought due to ignorance in thinking it was easy because it was only 8 feet." (Tankersley)

"This situation could have been completely avoided if proper precautions and equipment had been used. A safety knot and chest harness should never have been used. Although everything we could think of was done, even with our knowledge of climbing, conditions proved to be very difficult. Although Robin was removed successfully, it is quite evident now that there were many things which could have been done had they been thought of at the time. Even with knowledge of rescue, it becomes almost useless when unprepared. All my equipment was in a different car.

"The entire incident was a result of improper equipment and preparation on the part of the leader, and disregard of what could result. People tend to disregard safety procedures just because the situation

looks safe and easy. The potential danger—although it may be recognized—is disregarded as being not likely to happen. Had this been a vertical trip, proper equipment would have been used." (Novikoff)

Many cavers and climbers seem to believe they are safe if they have either an upper belay or else a prusik self-belay. Often thought is not given to where a person would come to rest should he fall. A belayer can usually, but not always, lower the victim to a ledge or the floor. If this is not possible or if a self-belay is used, the victim hangs by the rope until he can be freed either by himself or by one of his companions. This is not only uncomfortable but dangerous. Hanging by a rope around the chest can cause a person to lose consciousness within minutes, and in some situations, be fatal within an hour. Several tragic accidents of this type have been reported in the mountaineering literature. Some methods for reducing the danger to the victim of a belayed fall are: 1) climbers should carry spare prusik slings or jumars for self-rescue, 2) belayers should be able to lower (or raise) the victim to a safe position, and 3) slings and harnesses should be made of wide material in order to spread the weight and increase comfort.

Robin Martin had been under severe strain from the pressure on his chest, causing his strength to fail and his hands to go numb. In addition, spray from a waterfall contributed to loss of body heat. Under these conditions, someone should have stayed with the victim to keep him warm. When Tankersley returned with a set of prusiks, he found Martin shivering and *pale as a sheet*. Martin stated later that his temperature had dropped to a point where he could no longer feel the cold; he was beginning to feel very comfortable and was starting to fall asleep. Although the victim was instructed on what he should do, he could not think to put his foot in the sling. All these symptoms indicate that the victim had developed hypothermia—a lowering of the body's inner core temperature. If not diagnosed and treated quickly, hypothermia can be fatal. The symptoms, treatment, and prevention of hypothermia are discussed in many recent mountaineering and caving books such as:

Ferber, Peggy (Ed.) (1974) *Mountaineering, The Freedom of the Hills*.  
Halliday, William R. (1974) *American Caves and Caving*.  
Lathrop, Theodore G. (1970) *Hypothermia: Killer of the Unprepared*.  
Mitchell, Dick. (1972) *Mountaineering First Aid*.

Sources: Martin, Robin. (1974) "Accident Report I." *Electric Caver*. Vol. 10, No. 3, pp. 25-26.

Tankersley, Ken. (1974) "Accident Report II." *Electric Caver*. Vol. 10, No. 3, pp. 27-28.

Novikoff, Larry. (1974) "Accident Report III." *Electric Caver*. Vol. 10, No. 3, pp. 29-30.

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#### Wyoming, unidentified cave

April 1974

Alan Hunt (21) and Ralph Calvin (21) spent several hours trying to find their way out of a cave after becoming lost. They consumed about 1/2

pound of candy while in the cave. The men were found after a friend alerted a search and rescue team in Big Horn County.

**Analysis:** When asked what he had learned from the experience, Hunt stated, *We better mark our cave passages better, and oh yes, get some more candy*. A much better idea is to learn to be more observant while travelling through a cave. Candy provides quick energy but is not sufficient for prolonged stay in a cave.

**Source:** Cravens, Tom. (1974) "Caves in the News." *NSS NEWS*. Vol. 32, No. 11, pp. 228-229.

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#### Alberta, Canada, Castleguard Cave

April 1974

Over 20 highly experienced cavers spent several weeks making a documentary movie of the exploration of Castleguard Cave in Banff National Park. On the last day of the expedition, a member of the acting/filming team, Ralph Ewers, slipped while traversing the 4000-foot-long First Fissure. He sustained a hairline fracture of his ankle, but was able to get out of the cave without outside help.

**Analysis:** "The Fissure is tricky traversing and had been made muddier during 3 weeks of filming by the passage of hundreds (literally) of cavers. A number of people fell short distances—Ralph was unlucky to slip awkwardly and "turn" his ankle." (Shawcross)

**Sources:** Report by Mike Shawcross.

Shawcross, Mike and others. (1974) "The Castleguard Cave Movie." *The Canadian Caver*. Vol. 6, No. 1, pp. 36-47.

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#### California, Black Chasm

Tuesday, 30 April 1974

Bruce McMilian (23), John Frasier (23), Tom Gorday (24) and Danny Lancaster (24), all novice rock climbers, had crawled under the cement cap and locked steel lid that covered Black Chasm. The cave had been closed by its owner, the American Cement Company. The group was considering descending the pit but decided that it looked too treacherous, and so they agreed to leave. McMilian, the last to pull back from the rim of the shaft, lost his grip on his flashlight and fell 180 feet when he lunged to retrieve the light. McMilian slid and bounced off ledges and the cave wall as he fell. He narrowly missed plunging into the lake at the bottom of the pit. Remarkably, he lived through the experience, suffering only compressed fractures of the spine and numerous bruises and lacerations. The accident occurred about 3:00 p.m. The Blue Mountain Search and Rescue Team removed the victim by 9:15 p.m.

**Analysis:** Inexperience and carelessness.

Sources: Anon. (1974) "Sacramentan Breaks Back in Cave Fall." *Amador Dispatch*, p. 1., 8 May 1974.  
Dunne, Michael. (1974) "Capital Man Rescued after 180-Foot Plunge."  
(clipping from unknown newspaper).

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**West Virginia, Sinnott-Thorn Mountain Cave** Saturday, 19 October 1974

A group of five novices from the Walt Whitman High School in Bethesda, Maryland, entered the Sinnott entrance of the Sinnott-Thorn Mountain Cave. While climbing above the connection squeeze, one girl in this group, Shelly Burch (16), lost her footing and fell down the crumbly, semi-vertical fissure and mud slope. She fell and tumbled about 100 feet. She sustained a back injury, broken teeth, and deep lacerations of her face and the back of her head.

The Franklin Volunteer Fire Department was notified about the accident around 5:00 p.m. Of the eight firemen responding, only two had first aid training. One of these two men, Richard Harding, entered the Thorn Mountain entrance pit even though he had no caving experience. The victim was lodged in a crevice too tight for Harding. Luckily the girl was not in deep shock or suffering from hypothermia, and was able to move herself to the rescuer. She was removed by Stokes litter by 10:30 p.m.

**Analysis:** The high school students were ill-equipped and had little if any previous caving experience. Since the other students were wearing hard hats, Harding surmised that the victim had also been wearing one but had lost it in the fall. Elastic chin-straps have repeatedly proven ineffectual in holding on hard hats during a fall.

Harding was aware of the Cave Rescue Coordination Network of the Virginia Region of the NSS but felt he could handle the situation. Although this rescue was successful, the authorities in many small towns are probably unqualified to handle all but the simplest cave rescues. The State Police in Franklin did not know the CRCN phone number.

Sources: Report by Frank O'Hara

Nalls, Chuck and Frank O'Hara. (1974) "Sinnott-thorn Mountain." *D.C. Speleograph*.

Anon. (1974) "Girl Injured in Fall While Exploring Cave Near Moyers." *The Pendleton Times*. Vol. 61, No. 42, 24 Oct. 1974.

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**West Virginia, Hellhole**

Sunday, 20 October 1974

"On October 20, a party of five from Pittsburgh went to Hellhole. The group consisted of an experienced (?) leader and four novices. The first person down the entrance drop, a girl who had been in a cave once before and had rappelled once before, found the rope to be 10 feet short of the bottom. The leader went down on another rope alongside hers. His rope was 40 feet short of the bottom, but he was able to talk with her from his

position on the second rope. (It is difficult to shout any but the simplest of phrases up and down the drop.) The eventual solution to the girl's dilemma was for her to jump the remaining distance to the floor. (The floor consists of reasonably flat gravel underneath the entrance.) She made her jump with no injury. The leader then tried to transfer an ascender, which he was using for a safety, and himself, to the first rope. In attempting to switch, he fell from his rope. There were no knots tied in the end of either rope. He suffered a badly fractured ankle with splintering of the bones.

"Members of the party went to a nearby climbing shop for help. There they got a Stokes litter (which the Forest Service provides for climbing accidents) and a rescue team consisting of seven climbers who happened to be available. A rope was rigged for hauling, using a sling to keep a pulley (or carabiner?) over the entrance in a conventional manner. Two people, one rescuer and one of the original party, went down to secure the victim in the litter. The pulling was done with a Land Rover that was driven into the field next to the entrance. Some difficulty was experienced with the litter catching on small projections, but it always freed itself as more force was applied. There were not enough people to haul efficiently with only manpower.

"Of course only one person knows exactly what went wrong in the attempted transfer. The general impression to the rescuers was that he was holding himself in rappel while transferring an ascender from one rope to another and lost his grip." (Thrun)

**Analysis:** "Any one of a number of things could have prevented the accident—a longer rope, a knot tied in the end of the rope, training the girl to change from rappel to prusik, a better technique for switching ropes, or not attempting to enter the cave." (Thrun)

Source: Thrun, R. (1974) "Accident and Rescue." *D.C. Speleograph*, Dec. issue, p. 3.

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**Tennessee, unidentified cave**

October 1974

Roger Cole (14) broke a wrist in a 20-foot fall in a cave near Nashville. Rescuers, mistakenly believing the victim had a broken back, took over 2 hours to get Cole to the entrance.

Source: Newspaper clipping.

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**Texas, unnamed cave**

Sunday, 3 November 1974

Mauricio Suarez (22), Nacho Urias and Juan Hinojos thought they had discovered a cave containing a treasure of gold. They attempted to enter the nearly vertical shaft using only a handline composed of various lengths of assorted rope tied together. By 2:00 p.m. the group had gotten several hundred feet below the entrance when Suarez tried the



next descent. He slipped but grabbed the rope and stopped himself after a fall of 30 to 50 feet. He was on a 1 by 10-foot ledge about 80 feet down the pit but still 100 feet from the floor. Saurez had severe rope burns and cuts on his hands and had injured his knee.

Saurez's companions went for help. The Culberson County (Texas) Sheriff's office failed on two rescue attempts. They then notified the Eddy County (New Mexico) Rescue Squad, which has in its membership several members of the Guadalupe Grotto. Nineteen rescue squad and grotto members travelled to the west Texas cave. When the rescue team reached Saurez, he had been standing on the small ledge for 11 hours without food or water and with very little light. Besides having badly cut hands and a sore knee, he was starting to show the first signs of hypothermia.

The victim spoke Spanish but no English, while all the rescuers spoke only English. So the victim was rigged in vertical gear and given repeated demonstrations on how to use the inchworm ascent system. The victim reached the surface about 5 hours after the rescuers had reached him.

**Analysis:** The victim had no knowledge of vertical caving techniques. The belief that he had discovered a cache of gold undoubtedly affected his judgement.

**Sources:** Report by Frank Young  
Young, Frank (1975) "Thar's No Gold in Them Thar Caves."  
*Southwestern Caver*. Vol. 12, No. 5.  
Various other newspaper clippings.

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**Florida, Deadman's Drop** Saturday, 30 November 1974  
Wayne Kircher (18) and Bobby Shaver (19) told a friend they were going cave exploring and left home with a large coil of 3/4-inch nylon rope. Using hand lanterns for light, the boys climbed hand-over-hand down the 55-foot pit on the thick rope, but subsequently found they could not ascend the rope.

When the boys failed to come home for dinner, the Alachua County Sheriff's Department was notified. The police found the boys' car and the cave entrance. The owner of the land then notified members of the Florida Cave Rescue Team. One team member rappelled into the pit and found the uninjured boys. Only one cable ladder was available to the rescue team. Using a bowline rescue harness, one at a time the boys were tied into the Bluewater rope and given quick instructions on how to climb a cable ladder. A tight belay was maintained on the boys until they reached the top of the ladder, whereupon they were hoisted bodily out of the cave by the large group of people which had congregated. Both boys were out of the cave within an hour after the rescue team arrived. The rescue was quite successful in spite of being hampered by poor communications and having only about half the rescue team members present over the Thanksgiving weekend.

**Analysis:** Inexperience and lack of proper equipment.

**Source:** Report by Bill Oldacre

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**West Virginia, "X" Cave** Sunday, 22 December 1974  
About 4000 feet inside "X" Cave, Jim Borden, Tom Shifflett and Mike Dyas placed an expansion bolt so they could rig a line away from the worst spray of a 45-foot waterfall. The bolt used was a 3/8-inch by 2 1/4-inch Star model. This bolt is a masonry-type anchor which is set by an expander plug inserted into the base and pounded in.

As Borden began the initial descent, the bolt abruptly pulled out, sending him into a free fall. Fortunately, the 3/8-inch Goldline had been backed up to a small stalagmite just above the fall. Borden's plunge was partially arrested barely inches above the water-filled bottom. No significant injury was sustained.

Borden's companions were able to rerig the rope over a chert projection. Borden was able to ascend without assistance, although lightless and hampered by the waterfall spray.

**Analysis:** The bolt had been placed in sound rock, and there is no obvious explanation for the failure of the bolt. It is possible that the plug was not driven in far enough to adequately expand the shank when the bolt was set. If possible, bolts and pitons should be placed so that the pull on them is perpendicular to the shaft. In any case, single bolts and pitons should not be trusted but instead should be backed up with an additional bolt, piton or natural anchor.

Borden's hard hat, a Fibre-Metal type, was lost during his fall when the elastic chinstrap snapped. Hard hats which are better suited for caving are on the market.

"The fall could have been prevented by having belayed the rappeller with a secondary line. However, the small party involved was already burdened with one rope, a kit of bolting hardware, hammer, surveying gear, vertical equipment, wet suits, and normal caving paraphernalia. For this reason, no consideration was given to hauling in a second rope." (Dyas)

**Source:** Dyas, Mike. (1975) "Narrow Escape!", *D.C. Speleograph*. Feb. issue, p. 5.

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**New Mexico, Queen of the Guadalupe** Sunday, 29 December 1974  
Mr. and Mrs. Harley Temple and George (27) and Judy Wood were on an outing in the Guadalupe Mountains when Mr. Wood decided to enter the Queen of the Guadalupe. The Queen is a cave which had been significantly enlarged by a treasure-hunting miner. An old, 80-foot metal ladder led down to the first ledge, but the cave continues to another shaft about 150 feet deep.

At about 2:30 p.m., Wood was about half way down the ladder when it

began to collapse. Wood held on until it had almost stopped, but a second collapse began. The ladder fell to the opposite wall with Wood hanging from the underside. The impact shook him off and he fell 15 to 20 feet, apparently landing on his feet. He fell forward compressing two lumbar vertebrae and receiving a minor abrasion to his forehead. He was knocked unconscious but after recovering his senses, managed to move to a slightly protected wall where he remained until rescued.

Harley Temple broke into a forest ranger cabin and attempted to use the radio to call for help. His distress call was received but he did not realize this. He then drove 3 miles to a ranch to get help. On the way he met three Texas cavers. At about 3:40 one of them rappelled into the cave with a blanket and a first-aid kit.

Around 5:15 members of the Eddy County Rescue Squad and the Guadalupe Grotto arrived from Carlsbad, about 70 miles away. Wood was placed in a Stokes litter and pulled out of the cave about 5 hours after his fall.

**Analysis:** The victim had no knowledge of caving techniques nor the condition of the ladder he attempted to climb.

**Sources:** Denton, Perry (1975) "Queen of the Guadalupe Rescue." *Southwestern Caver*. Vol. 12, No. 5.  
Grimes, Ron. (1974) "Injured Man Rescued from Cave on Sunday." *Carlsbad Current-Argus*. 30 Dec. 1974, p. 1.  
Wisener, Alicia (1975) "Accident Report." *The Texas Caver*. Vol. 20, No. 3, pp. 36-38.

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#### **New Mexico, Sandia Caverns** December 1974

Sandia Caverns is entered through a vertical borehole 24 inches in diameter and 126 feet deep. The top 80 feet of the hole is protected with a 20-inch-diameter steel casing. An alternate foot method of ascending is used on a rope rigged in the borehole.

While John J. Corcoran was ascending the shaft, a foot sling came untied from one of his ascenders. Because the shaft is so narrow, Corcoran could not reach his foot to retie the ascender. The cavers on the surface rigged the rope as a hauling line and pulled Corcoran up the shaft. He was being pulled up quickly when his hard hat struck the bottom of the casing causing the hard hat to slip down and cut his nose.

**Analysis:** "A more secure tie to the ascender, or a spare ascender or prusik knot would have prevented the accident."

"Several persons have been pulled out of this shaft. Because the borehole is so restricted and decreases in diameter part way up, any problems caused by slack or improper rigging are magnified." (McLean)

**Source:** Report by John S. McLean

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#### **Pennsylvania, Laurel Caverns**

Sunday, 1974 (?)

Bill Brock (20) and two friends were exploring the unlighted, non-commercial portion of Laurel Caverns when Brock fell about 10 feet and broke his hip. The passage was so tight rescuers had to pull him by his shoulders. Brock was about 1/4 mile inside the cave, and it took three rescuers 4 hours to get him out.

**Source:** Newspaper clipping.

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#### **Kentucky, Sloans Valley Cave**

Saturday, 1974

Jim and Susan J. Reeves and another couple entered the Post Office Entrance of Sloans Valley Cave at about 2:00 p.m. When they left the cave, one couple climbed out the 20-foot entrance shaft. The people on top pulled Mrs. Reeves up about 15 feet when she reportedly became very tired and had difficulty breathing. She turned loose of the rope and fell to the bottom of the shaft. Her husband attempted to catch her. Mrs. Reeves lost consciousness when she hit.

The couple on top went for help. The Pulaski County Rescue Squad was able to raise Mrs. Reeves with a makeshift stretcher after a standard stretcher would not fit in the shaft.

**Analysis:** The vertical techniques described in the newspaper article, indicate that no one in the group knew safe caving techniques.

**Source:** Anderson, Bob (1974) "Spelunker Rescued." (reprinted in part in *COG Squeaks*, Vol. 17, No. 5, p. 51.)

# Summary

This issue of American Caving Accidents contains the reports of 30 incidents involving 44 persons.

The summary tables have been divided into two parts. The first part gives statistics on the type of cave accidents. For each accident report there is one entry under situation, month, and day of the week. Classification of accidents by cause and contributory cause is open to a lot of subjective interpretation of the individual reports since often an accident occurred only after a combination of events had taken place.

The second part of the summary tables deals with the accident victims. In each category, there is one entry for each victim.

Suggestions for improvement or modification of the summary or any part of this report are welcome and should be addressed to the National Speleological Society, Safety and Techniques Committee, Cave Avenue, Huntsville, Alabama 35810.

ACCIDENTS	1967-1974	1974
<b>Situation</b>		
General .....	92	11
Vertical .....	70	15
Diving .....	15	4
<b>Immediate Cause</b>		
Fall .....	61	14
Falling rock or object .....	16	1
Failure of rappel or prusik .....	16	5
Stumble .....	10	2
Exposure and/or exhaustion .....	10	1
Burns .....	6	1
Asphyxiation .....	3	0
Illness .....	5	0
Drowning .....	20	4
Animal attacks .....	1	0
<b>Contributory Causes</b>		
Climbing unroped .....	23	8
Caving alone .....	3	0
Exceeding abilities (inexperience) .....	65	12
Inadequate equipment .....	34	3
Worn equipment .....	6	2
Bad weather (including flooding) .....	8	0
Exposure and/or exhaustion .....	10	2
Loosing way .....	17	4
Light failure .....	11	0
Party too large .....	6	0
Party separated .....	5	0

Contributory Cause (cont'd)	1967-1974	1974
Getting stuck .....	14	2
Hurry .....	2	0
Poor judgement .....	25	2
<b>Month</b>		
January .....	12	3
February .....	11	1
March .....	18	3
April .....	13	3
May .....	14	2
June .....	14	2
July .....	9	1
August .....	10	1
September .....	9	3
October .....	17	3
November .....	11	2
December .....	20	4
Unknown .....	7	2
<b>Day of Week</b>		
Monday .....	8	1
Tuesday .....	3	1
Wednesday .....	11	2
Thursday .....	4	0
Friday .....	16	2
Saturday .....	52	11
Sunday .....	49	8
Unknown .....	22	5
<b>ACCIDENT VICTIMS</b>		
<b>Sex</b>		
Male .....	208	40
Female .....	24	4
Unknown .....	12	0
<b>Age of Individuals</b>		
"Boys" .....	5	0
Under 15 .....	11	1
15-20 .....	79	17
"Young or college age" .....	16	2
21-25 .....	40	10
26-30 .....	17	4
31-35 .....	7	1
Over 35 .....	9	2
Unknown .....	44	7



<b>Affiliation with Caving Group</b>		<b>1967-1974</b>	<b>1974</b>
Unaffiliated .....		99	13
Member of caving group .....		58	12
Unknown .....		64	19
<b>Estimate of Experience</b>			
None or little .....		115	21
Moderate .....		20	5
Experienced .....		38	8
Unknown .....		48	10

"Tom, Tom, we're lost! We never can get out of this awful place! Oh, why **did** we ever leave the others!"

She sank to the ground and burst into such a frenzy of crying that Tom was appalled with the idea that she might die or lose her reason. He sat down by her and put his arms around her. She buried her face in his bosom, she clung to him, she poured out her terrors, her unavailing regrets, and the far echoes turned them all to jeering laughter. Tom begged her to pluck up hope again, and she said she could not.

Tom kissed her, with a choking sensation in his throat and made a show of being confident of finding the searchers or an escape from the cave. Then he took the kite line in his hand and went groping down one of the passages on his hands and knees, distressed with hunger and sick with bodings of coming doom.

**Mark Twain, The Adventures of Tom Sawyer**