



Scott Earl • Idaho Cave Survey • 1965 Van Circle • Idaho Falls, ID 83404 • (208) 524-4005

Dave Clark  
Craters of the Moon N.M.  
P.O. Box 29  
Arco, ID 83213

Dear Dave,

I have been battling my conscience about getting you some info for the King's Bowl area for quite a while. I finally gave in and set aside other projects and got on it. There is so much good stuff in one of Ron Greeley's publications and some other stuff I have that I have decided to do something I have never done before, which is to send you my only copies. They are close to priceless to me. I hope you will treat them well and return them intact. They were obtained personally from the people who wrote them and who had a spare copy at their home and gave it to me.

These articles and book contain gobs more stuff than you wanted, but I am not sure what will grip your curiosity and what won't. The blue flags on the book are things of interest in the Great Rift area. The yellow flags are chapters 9 & 11, Crystal Ice Cave, and King's Bowl surface geology. These are probably the best source for getting information for the geology of the area for your signs.

Dave, you need to know that there are discrepancies about a few things in the modern history of the King's Bowl area. Most of this is due to advertising hype by operators of the cave, and I have ferreted out the true stories, at least, I am 90% sure.

1. Papadakis always told the same story of the discovery of Crystal Ice Cave. You will see it in the articles that his x-wife Peggy Papadakis wrote and it was in his fliers. He says that in 1956 David Fortsch (an ISU geology student) and Perry Fenstermaker (an Aberdeen school teacher) discovered the cave in 1956. After much reading and then talking with the local folks in Aberdeen about 15 years ago, I believe it is true that they were the first to document the find, but several locals, including E. W. Landvatter (the retired fire chief and Ford car dealer) claim to have been there many years before, perhaps as early as 1929. Landvatter claims to have used small rocks to spell out his initials in the floor of the cave in the 1940's and that for many years afterward they were visible through the ice. Papadakis always claimed the same 1956 discovery story, but the Lindsheids who bought the cave from him in 1975 used the fuller version. Be aware that there were some strong animosities between the Papadakises and the Aberdeen folks, so much so that the Papadakises chose to live in American Falls. Much of it was over the county's slow response to requests for maintenance and improvements to the dirt road to the cave. Road grading needed to be done when the moisture conditions were just right in the Spring, and you can imagine how important that would be.
2. The true depth of the Great Rift is quoted again and again as -800 feet at South Grotto. This is wrong. I tracked back to the geologists who were making the claim

(King, Greely, and Prinz) and who everyone currently is quoting. It turns out that cavers from Boise, led by Jerry Thornton, went to South Grotto twice in 1968 (personal communication). They explored South Grotto quite a bit and made a sketch map. (Their pitons are still in place!) They estimated distances and used a wire dropped down alongside their ropes to estimate depth. The wire didn't stretch like their ropes did. Keep in mind that Single Rope Technique (SRT) was in its infancy at that time and they climbed stretchy Gold-Line rope using prussik knots rather than ascenders like we use now. It was quite a feat! I have compared their sketch map to the much higher accuracy surveyed map that we made and the features in the rift match up real well, except that the distances are off (too long) by a consistent percentage, leading me to think they used something stretchy, or failed to account for the extra distance the wire traveled over and around various obstacles in the drop. At any rate, they were stopped briefly on both trips at a place they called "the funnel," which is about -320 feet. This spot choked with loose rock and they had to clear it each time they got to it before going deeper. I have been to the spot and it is no longer passable due to ice which has frozen the loose rock into a solid floor. I do, however, believe that it will open up again as I am sure the ice is sublimating out from beneath the plug. Well, after they removed the debris, they continued down to an ice floor (my calculations show it to be at about -650 feet). After the second trip they climbed out and never returned. Why? While Jerry Thornton was on rope down past the funnel, a huge slab of lava came off the wall above him and came hurling down. He heard the wind rush as it gained speed and closed his eyes, believing he was a dead man. It passed him within inches, without hitting him or cutting his rope above him, and continued down the drop crashing against the sides of the rift as it went. The cavers reported back to Jim Papadakis what they had seen at the bottom (the ice floor) and Jim passed this information on to Martin Prinz who thought it was the top of the water table which was -774 feet at Crystal Ice Cave, a mile north of South Grotto, so Martin stated the depth was -800 feet. Martin was quoted by Greely et al, and so you have it. The main point is that CURRENTLY the maximum depth at South Grotto (still deeper than anywhere else on the Great Rift that I am aware of) is -347 feet.

So then, keep in mind that I will be a stickler to try to debunk the 800 foot depth error.

Now then, a brief timeline:

- ~1929 Crystal Ice Cave is probably discovered by local spelunkers.
- 1956 David Fortsch and Perry Fenstermaker document the discovery (or rediscovery) of the cave.
- 1961 Jim Papadakis (prior developer of Cavern of Sonora, Texas) hears of the discovery (while vacationing in the area) and gets a couple of local cavers to take him in via ropes tied to a log in a notch in the rift.
- 1963 Jim starts negotiating with BLM to get a concessionaires license
- 1964 Jim gets his license and begins blasting a trail down into King's Bowl. He builds wooden stairs in the north end of King's Bowl down to an ice floor and blast through to Great Cavern (the next cave north in the rift, but still south of Crystal Ice Cave. This is another error in the writings. The initial visits that

- tourists paid to see were NOT Crystal Ice Cave, but rather to an ice lake in Great Cavern. See map of King's Bowl, Great Cavern, and Crystal Ice Cave on p. 155 of the accompanying book.)
- 1965 Tours of Great Cavern begin. Jim and his father locate the spot on the surface directly over Crystal Ice Cave and begin blasting a sloping tunnel to the north just east of the Rift. After going 600 feet they cross the rift to the south side, turn around and continuing blasting south 600 feet to Crystal Ice Cave (see map of the tunnel on p.156.) At various points along the tunnel they break through to the rift so visitors will be able to see the rift. All blasting debris is removed to the surface daily with a motorized vehicle and a one cubic yard bucket. Electric lighting is added. Thermopane windows are installed between the tunnel and Crystal Ice Cave in three places.
- ~1967 Jim opens the cave to tourists. The Papadakis family (Jim, his wife Peggy, and his father) run the cave and do all they can to advertise and promote it.
- 1968 The Great Rift is declared a National Landmark, much credit to Jim for advancing the awareness of the rare beauties of the area. Also, cavers from Boise go to the bottom of South Grotto.
- 1969 NASA astronauts visit King's Bowl, Crystal Ice Cave, and the Wapi flow in preparation for their trip to the moon later that year. Although most of the news at the time said the astronauts were at Craters of the Moon, in fact they spent most of their time on the Wapi flow with Jim as their guide. Peggy Papadakis has numerous photos of them with their helicopter as they pick up Jim for the day's adventure.
- 1975 Jim sells his license (Peggy calls it a concessionaires license, but BLM has another name for it) to Arthur Lindscheid, of Aberdeen, who runs the cave with his family until 1982. They make several upgrades, including a wooden room that sticks out into the cave with windows for better viewing of the ice formations. They have trouble keeping the ice in good shape, as did Papadakis before them. They also have trouble getting enough visitors to the cave to make a profit. The dusty, hot, dry, rutted dirt road to the cave and the increasing tendency throughout the U.S. to travel on Interstate Highways to major vacation destinations without side stops along the way contribute to the problem.
- 1982 Arthur Lindscheid sells the license to Ralph Metcalf who keeps Denver and Dallas Lindscheid as employees for one and two years respectively. Metcalf continues to have trouble keeping the ice, lighting, windows, and tunnel in good repair.
- ~1985 Metcalf turns the operation over to an unknown owner who managed the cave for a short period of time between Metcalf's operation and the closing of the cave. Rapid deterioration of the ice at this time is due to an ice/snow plug which forms in the discovery hole which stops the winter inflow of cold air.
- ~1988 The cave is abandoned. BLM gates the cave to protect the cave and the public.
- 1991 On about November 1 a hole opened up in the back (south) end of the cave floor and out into Great Cavern over a ledge. The rush of dry air through Crystal Ice cave quickly evaporated the thick layer of ice crystals on the back wall.

This area was thoroughly examined and has continued to dramatically change over the next 9 years. The hole is now 8-10 feet in diameter and the ice and rock matrix shelf below it has eroded through sublimation to a near vertical drop into Great Cavern and continues down through a very dangerous area of huge unstable boulders to a room that goes back north below Crystal Ice Cave. This room slopes downward to a depth of -302 feet and has a solid ice ceiling with a few rocks scatted through it. This shows that the floor of Crystal Ice cave is solid ice and 150 feet thick!

- 2000 The ice in the room at the south end of Crystal Ice Cave has almost all been melted and evaporated. We have photos showing the changes. Airflow in Crystal Ice Cave is now dramatically different from that which allowed the large formations of ice to build in the 1950's. Even if the discovery hole opens, this will not restore the ice since there will be two openings and airflow between.

*Scott Earl*

Scott Earl, director  
Idaho Cave Survey