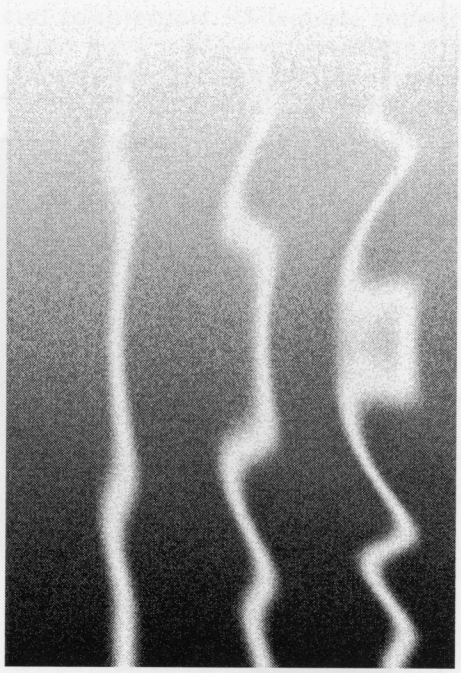
There's a lot of talk these days about the need for experience in conducting technical dives without an real clarification of what being an "experienced diver" really means. Some equate it to an individual's years in diving. Others equate it to the number and types of dives the conducted or certifications earned. Ultimately perhaps it is a measure of a diver's ability to function effectively under pressure when everything goes wrong.

When Bill Gavin's account of the freak accident that resulted in Parker Turner's death first appeared in the NACD Journal (Vol. 23 No. 4, 4th Qt. 1991) it caused a number of us to reexamine our own experience in light of the circumstances that were put to Gavin and Parker. Their skill and experience as a team was probably the only thing that prevented this tragedy from turning into a double fatality.

This article has now become a part of the training manual at the Key West Technical Diving Center where it is required reading for everyone beginning a gas course. How do you rate something as elusive as experience? Read on. M^2



THE ACCIDENT REPORT FROM

Indian Springs

by Bill Gavin

This is an account of the diving accident at Indian Springs on November 17, 1991, that resulted in the death of Parker Turner. It is an account of the experiences of the dive team and not of the surface personnel or support divers that were present that day. That information is included in a separate report.

Our dive at Indian Springs was the first in a series of exploration dives that had been in the planning stages for nearly two years. Because of the unique profile of the cave and the extreme depth at the point at which actual exploration would take place special decompression tables had been generated by Dr. R.W. Hamilton. The dive plan consisted of a 40 minute transit at 140 FSW while breathing an EAN 27 travel mix (27% oxygen, balance nitrogen), a descent and exploration at 300 FSW using trimix 14/44 (14% O_2, 44% He, balance N_2) followed by the return 40 minute transit to exit the cave. The deep working phase of the dive was expected to last 20 to 25 minutes. The 140 FSW penetration and exit was done using two 80 cubic feet "stage" bottles, while the deep portion was accomplished using back mounted double 104's.

The dive went almost exactly according to plan during the penetration. The deep section known as "Wakulla Room" was explored in three different directions. None of these yielded any going tunnel or evidence of flow. We began our exit at 63 minutes into the dive. At this time I had 2300 psig in my double 104's and I assume that Parker had the same or slightly less. We reached our nitrox bottles at the top of the room in two to three minutes, began breathing them, and did not use our doubles again until we encountered the obstruction at what is known as the "Squaws Restriction." After picking up our second stage bottle during the exit, Parker signalled that his Diver Propulsion Vehicle seemed to be running slow. We linked up via a tow strap and I increased the speed setting on my DPV to maximum. We were only about 1500 feet from the entrance, so this did not present a serious problem.

There is a distinctive arrow marker at the upstream/downstream junction which is about 500 feet from the entrance. As this arrow came into view, I remember estimating that our bottom time was going to be somewhere between 105 to 110 minutes. We made the left turn at this arrow and immediately noticed that the visibility in the cave had decreased. The floor was completely obscured by billowing clouds of silt, but the line was still in clear water near the ceiling. As we got closer to the entrance, the visibility got progressively worse. Finally, we had to stop using the DPV and swim while maintaining physical line contact. When we got to where I thought the restriction should be, the line disappeared into the sand on the bottom of the cave. We began pulling the line out of the sand, but some reached a point where it was buried too deep. Visibility in this area was 1 foot or less. I heard Parker shout into his regulator, *"What's this?"* We backed up out of the low area and removed our stage bottles and scooters. At about this time, the second bottle that I had been breathing during the exit ran out. Realizing that the situation was not going to be quickly resolved, I elected to switch immediately to my doubles, which still had about

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2000 psig of gas. There were two lines running parallel in the cave at this point. We tried following both of them, but each time got to a point where the line could not be pulled from the sand which had covered it.

I secured the line from the reel that we had carried with us to the end of the permanent line (where it was buried) and tried to search for a way out. The restriction seemed to be completely blocked with sand and perhaps rock. The visibility was so bad that we could not really figure out exactly where we were or what had happened. However, there was flow and I tried to follow that. After finding no way past the blockage, I began to have doubts about our exact location. It seemed as though we must have made some mistake. While Parker continued to search, I swam about 300 feet back into the cave until I saw the upstream/downstream arrow marker. Though this marker is quite distinctive, I had to stare at it for a few seconds to convince myself that I really knew where we were. I swam back to the point where we had left our bottles and scooters. Parker was waiting there.

I am not sure how many attempts we made to retrieve the buried line, but at least 45 minutes passed while we sought in vain for some way out. At one point Parker showed me his pressure gauge which indicated about 400 psig of gas remaining in his doubles. He wrote on his slate, *"What do we do?"* I knew he was hoping I had some idea, but the only thing I could think to write back was *"Hold on. I'll go look."*

I went back to search using my reel and sweeping left and right. Finding no exit, I decided to return to the stage bottles, which at least had a little more gas to offer. I had been gone for less than five minutes. When I returned to the bottles, Parker was not there. I found my second stage bottle, which had about 600 psig left in it. I began breathing it while trying to think of some plan. After about four minutes it ran out and I switched back to my doubles, which now had less than 300 psig of gas. With no other alternative, I decided to try one last effort at finding an opening. As I started back out I saw that another line had be "Tee'd" into the permanent line. I followed it without really understanding how it had gotten there. I reached a point at which the cave seemed to open up and saw something hanging down on the edge of my vision. As I swam under the object it dimly occurred to me that it was the second stage of a scuba regulator. By now my doubles were almost empty and the regulator caught on my manifold as I passed. I rolled to my left to free it. At this point, I looked up and saw the permanent line rising at a sharp angle. I realized that I had cleared the restriction and raced to our decompression bottles, which were hung at 100 feet. I was almost holding my breath by the time I unclipped the second stage and began breathing from my first decompression bottle. Parker was not at the bottles and I realized at this time that he had drowned.

The regulator that had caught on my manifold was from his doubles, which he had removed and dragged through the small opening. I had no idea where Parker was and the visibility was still less than two feet. Numbly, I waited for support personnel to find me. In the confusion that followed, many lines were laid throughout the cavern area by our support divers in attempt to locate Parker's body. Despite their efforts, he was not found until the following morning when visibility had increased to about 10 feet. It had been 60 feet or better when we started our dive.

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"Technical diving is to recreational diving, what recreational diving is to snorkeling."

Jim Baden, owner
Scuba Adventures

During the four hours of decompression that followed, I was gradually filled in on the situation by our support crew. Without their efforts, I think I would have gone mad wondering what had happened. For a long time I did not know if the entire entrance to the cave had collapsed or if anyone else was missing. I also had no idea what kind of decompression to follow. Though I fully expected to suffer decompression sickness, I emerged from the water with no physical damage. Apparently the fact that we had been shallower than expected during our deep exploration saved me from that malady.

After going over the incident countless times we were able to deduce what probably happened during those last minutes. While waiting for me, Parker must have decided to take his tanks off and try to squeeze through the blockage. Running short on gas, he probably decided that he couldn't wait any longer. He Tee'd in his safety spool and, dragging his tanks, was able to find a way through the blockage. Perhaps in doing so he caused the sand to shift enough that I was able to pass through a few minutes later with my doubles still on. After making it through the restriction he ran out of gas just 30 feet short of our decompression tanks. When he passed out, he dropped his doubles and floated to the ceiling about 15 to 20 feet above. His tanks landed on the permanent line and hung there. The line from the safety spool was tangled around his tanks. Whether this contributed to his death is impossible to say. Certainly it would have been difficult to lay line while dragging tanks and fighting extreme positive buoyancy from his drysuit. Miraculously, this combination of events, the line tangling on his tanks which then caught on the permanent line, placed the line from his spool in the only location large enough for a diver in doubles to squeeze through. I believe that even a one minute delay in my exit would have been enough to prevent me from ever reaching the decompression bottles.

It is still a mystery as to what caused the collapse at Indian. The actual physical event was that an unstable debris slope slid downhill filling the small restriction with sand. At about the same time, surface personnel witnessed a drop in the water level in the basin of approximately one foot, and a reversal of the spring run leaving Indian. Within 30 minutes, the water had dropped and returned to its normal level. Perhaps 100,000 gallons of water has rushed into the cave and several tons of sand had moved downhill several yards. The rush of water into the cave was great enough both in magnitude and duration to affect visibility 500 feet from the entrance.

Bill Gavin is a veteran cave explorer and one of the individuals responsible for pioneering the use of mix technology in cave diving. He can be contacted at: 2113 Pebble Beach Blvd, Panama City, FL 32407.

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I will not attempt to describe the effect this accident has had on myself or Parker's many friends and family. To say that we have lost a good friend, that we will miss him, that his place in our lives can never be filled is all true and also inadequate. Grief is a personal emotion, difficult to completely comprehend, and for me, not easily shared. To the many friends that have helped me through this, I offer a thanks, the depth of which only you can understand. In all times to follow, whether diving together or in moments shared on other pursuits or when far apart, I will not forget any of you. — Bill Gavin.

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Our thanks to the NACD Journal *for letting us reprint this important report.*

Avoiding Techno — Confusion

by Karl Shreeves

Terms such as "advanced diving" can have more than one meaning, depending upon the context and the groups using them. When terms are applied across contexts and user groups, confusion often results which can create uncertainty and possibly compromise safety. The solution is to apply precision to avoid ambiguity. This is especially true when using terms common to both recreational and technical diving, beginning with applying these terms correctly:

Recreational diving versus technical diving — Confusion arises here because both technical and recreational diving are pursued for non-commercial purposes. Although both are recreational in this sense, "recreational diving" connotes *well established* dive limitations and equipment requirements and the two should not be confused. To avoid ambiguity use ***recreational diving:*** No stop diving within 130 feet of the surface, and if involving penetration, within 130 linear feet of the surface and within the light zone. ***technical diving:*** Diving beyond the established recreational limits through the application of special equipment, methods and training. ***natural selection:*** Diving beyond the limits of recreational diving without the benefit of the appropriate equipment, methods and training.

"Advanced" versus technical diver — Confusion arises from the tendency by a few to call tekkies "advanced divers." Though the technical diver may be very experienced and utilize advanced equipment and methods compared to his or her recreational counterpart, the term "advanced diver" is already well established in the dive community as the certified "advanced" recreational diver.

Deep diving — Deep is a subjective term that not only depends on the specific environment but on the diver's experience and the equipment and methods to be utilized. When confusion over "deep" is possible, use this