



JILL HEINERTH

Insights into Cave Diving

Lamar Hires

— Founder & Owner of Dive Rite

Text by Rosemary E. Lunn
Photos courtesy of Jason Brown, Jill Heinerth,
Lamar Hires, Rosemary E. Lunn, John McCain

In 1979, Lamar Hires was 23, living in Jacksonville, on the east coast of the US state of Florida, and harboring a dream from his childhood. As a child, his family had taken him to the Florida Keys and he had subsequently grown up watching television shows such as *Sea Hunt*, *Voyage to the Bottom of the Sea* and *Flipper*. The adventure of scuba excited him and he wanted to learn to dive.

Hires' roommate at the time, Mike Chapman, also wanted to take up diving. They quickly buddied up and did their Basic IDEA (International Diving Educators Association) Scuba Diver qualification at the American Dive Center in Jacksonville.

Back then, there weren't any dive boats going out of Jacksonville, said Hires, and the nearest dive destination was five hours away in West Palm Beach. He was not fond of diving off a boat, because he suffered from sea sickness, but Hires and Chapman were eager to get in the water as much as possible.

While rooting around the American Dive Center one day, the two came across Ned DeLoach's, *Diving Guide to Underwater Florida*. This book gave directions and descriptions to several spots in Florida that many people didn't know, covering a multitude of freshwater springs, wrecks and reefs.

Hires said they were very

happy to discover that the springs of North Central Florida were less than a two-hour drive away. This was an ideal solution for them. At the time, Hires was doing shift work at a chemical plant as an operator running distillation columns and reactors. So, Hires and Chapman started going over on their days off—diving midweek—when there weren't many divers around.

They soon realized that North Florida was riddled with flooded caves and springs. In fact, the Suwannee River watershed had some 253 identified springs, said Hires, the highest density of springs on the planet, and it didn't take long for the dive buddies to start checking off many of these dive sites.

Hires' first cave exploration dive was in one of them in 1979. He and Chapman came across Rock Bluff Springs while waterskiing on the Suwannee River. They went in as far as they could, using their only light to show them the way out. As you can

guess by this dive description, some of their dives were unorthodox and not without incident. They had a few "safe" diving accident dives. Looking back on these dives, Hires said he didn't think anything of it at the time, because they always made it out. At age 23, he said, you do believe you are immortal.

Meeting Wes Skiles

One fateful day, Hires and Chapman decided to stop at Pro Dive in Jacksonville to get their cylinders filled, simply because it was closer to their apartment complex than the shop where they got trained. It was on this day that they met Wes Skiles.

Skiles was working on the compressor when the two arrived and "it took forever to get our tanks filled," said Hires. In fact, it took such a long time that Skiles didn't charge them for the air fills. That gesture earned Pro Dive two new customers, said Hires, as the buddies started going



COURTESY OF LAMAR HIRES

Hires in dive gear in 1982; Early days, Hires discovers the value of a shovel when exploring Rock Bluff Springs (right)

so he added, "Next time we are in." Hires said Skiles looked at the two and said, "Read it. I'll give it to you, if you read it."

Chapman was driving that day, said Hires, so he started reading it out loud:

"Accident Report: On May 7, 1978, two young sailors from a nearby naval base arrived at Royal Springs. Neither Jim nor Mike had any training in basic scuba diving, much less cave diving, and had only been cave diving a couple of times previ-

ously. They entered the water without a line, and Jim did not have a light or submersible air pressure gauge.

"After quite some time had passed and the two had not surfaced, a friend became alarmed. The Sheriffs Department was contacted, who in turn called our NSS recover team. NSS divers quickly found Jim 53m (175ft) back in a small, silty cave at a depth of 9m (30ft), and Mike's body was found some 68.5m (225ft) further. There was no air in their tanks."

Read it. I'll give it to you, if you read it.

Hires and Chapman had done one of the dives in the book

where the divers died (Royal Springs) and one where divers had barely made it out with air in their tanks (Orange Grove Sink). That was a revelation, said Hires, that one could actually die going into overhead environments at the springs.

At the back of the book, Hires found Exley's *Blueprint for Survival*, which listed his ten recommendations for safe cave diving:

- 1) Always use a single, continuous guideline from the entrance of the cave throughout the dive.
- 2) Always use the 'third rule' in planning your air supply.
- 3) Avoid deep diving in caves.
- 4) Avoid panic by building up experience slowly and being prepared for emergencies.

- 5) Always use at least three lights per diver.
- 6) Always carry the safest possible scuba.
- 7) Avoid stirring up the silt.
- 8) Practice emergency procedures with your partner before going diving, and review them often.
- 9) Always carry the equipment necessary for handling emergencies, and review them often.
- 10) Never permit overconfidence to allow you to rationalise violating safety procedures.

The following week, Hires and Chapman returned to Pro Dive Center (it later became Aquifer Dive Center), sought out Skiles and said: "You have our attention. Where do we go from here?"

Skiles was an active, passionate Open Water instructor, cave diver and cave instructor, said Hires. It was his enthusiasm that encouraged Hires to take the path he did. Both Hires and Chapman completed their PADI Advanced Open Water course with Skiles and went on to do their cave training with him. Skiles had taught many cavern classes, but Hires said, he believes he and Chapman were his first two full cave students. "It was not your normal class," said Hires. "He was not just teaching us, but mentoring us to be his dive buddies."

A lot of digging

Following their cave certification, Hires and Chapman decided

that a return visit to Rock Bluff Springs was in order. It was 1981. They discovered this cave required a lot of digging and that a shovel was an essential exploration tool.

"We dug through a restriction at 60m (200ft) from the entrance where Sheck Exley's line stopped," said Hires. Exley had surveyed this cave with Paul DeLoach in January 1979.

Chapman stayed behind as Hires went through and explored around the corner to see if it continued. Hires described it as "exhilarating", having what open water divers would describe as "a strong current".

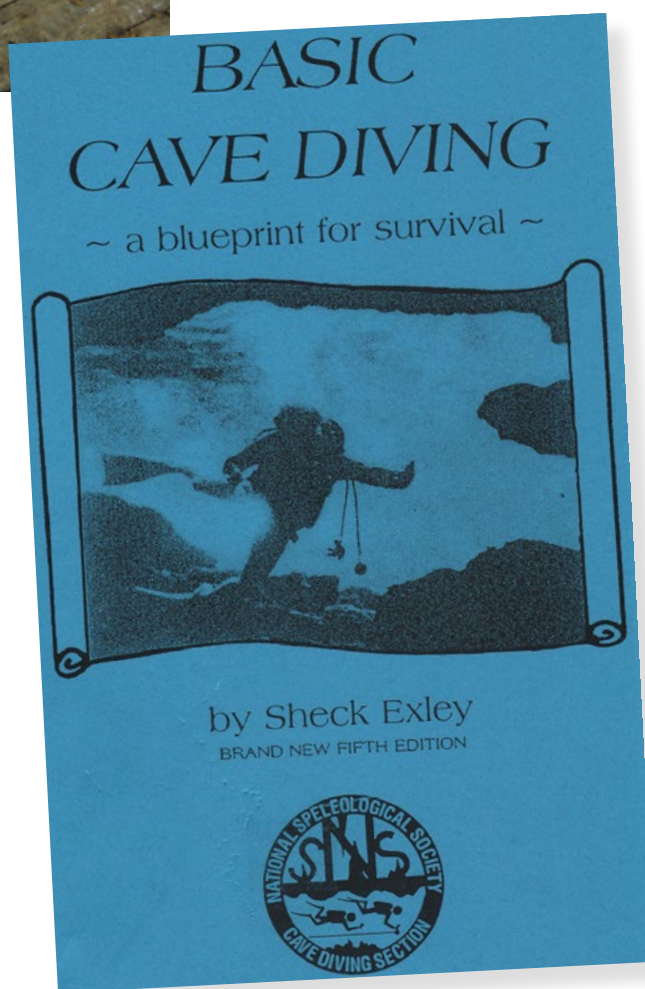
In cave diving terminology, water movement is described as "flow", said Hires. Rock Bluff Springs is a high flow cave, he added. Hires got stuck coming back out through the restriction, as the entrance was very tight for back-mounted cylinders, and Chapman had to pull him clear through the restriction they had dug out earlier.

Leaving a shovel

Hires and Chapman quickly learned that leaving a shovel inside the cave mouth was a



COURTESY OF LAMAR HIRES



Sheck Exley's iconic safety text for cave diving

there for all their air fills and diving needs.

"Maybe next time"

Months passed and the dive buddies would often talk to Skiles about their diving and what they were doing. One visit proved to be a turning point. Hires said he will never forget the day he and Chapman told Skiles that they were going back to Peacock to check out the cave system.

Skiles was very quiet, said Hires, then he pulled a book off the shelf and gave it to the pair. It was Sheck Exley's book, *Basic Cave Diving*, originally published in May 1979. Hires saw that it cost US\$5 and said, "Maybe next time." He and Chapman had just paid for air fills and needed fuel and beer money,

good idea, because they would often have to remove sediment that periodically choked up the opening. They would return to this cave many times in 1981, as Skiles, Hires, Chapman and Woody Jasper explored and surveyed over 1,200m (4,000ft) of virgin cave.

"You never forget your first kiss, car or set of diving equipment," said Hires. "When I was diving Rock Bluff, I wasn't in the mindset to figure out the gear; I just dived what I had." His first scuba set was a Cressi jacket-style BC with a Dacor Pacer 300 regulator. There

You have our attention.

Where do we go from here?"



COURTESY OF LAMAR HIRES

Hires cave diving at Little River Springs; Cave divers at Wes Skiles Peacock Springs State Park, Florida, USA (right)

Lamar Hires

divers get creative and clever with their hands.

Florida's ideal conditions are the epitome of what all cave divers would like to experience, he said, and, as a direct result of advantageous conditions, tremendous attention has been paid to the design and evolution of optimum equipment.

At the time, Hires did not know that an invention by Greg Flanagan two years earlier, in 1979, would have a positive impact on his future diving and his career.

Birth of the backplate

Flanagan was a college student at the University of Florida, said Hires. After experiencing the unwieldy "belly bags" combined with a jacket-style BCD during his cave training with Sheck Exley, Hires said Flanagan developed

the first metal backplate from a "liberated" aluminum "Stop" road sign and some webbing off a US Navy harness. The design Flanagan created remains relatively unchanged today. Flanagan's new back-mounted BC worked wonders, said Hires, and he soon became the envy of his cave classmates.

Flanagan was asked to create backplates for his fellow students as well as old timers such as Sheck Exley, Will Walters, Dale Sweet, Steve Straatsma and Tex Chalkley, said Hires. However, it was Flanagan's cave diving buddy, Bill "Hogarth" Main, through his relentless pursuit of cave diving, who made the backplate and harness a foundational component of what is now called the

"Hogarthian Rig", said Hires. Dive Rite was the first company to commercially manufacture the backplate in 1984, he added.

Beginnings of sidemount

Skiles, Jasper and Hires began to realize that there were two types of caves to explore. There were the big caves like Manatee Springs and Cathedral Canyon Spring where they would be competing with the likes of Sheck Exley for the end of the line. Or they could start exploring the caves, or "scraps", that these pros did not explore. But the scraps really told the true story of the Floridian Aquifer-karst, said Hires, plane by karst plane. And that is when Hires and his colleagues began playing with sidemount.

Mike Boon, a British diver, started sidemounting in 1962, said Hires. At the time, a number of British divers, including cavers, favored a small cylinder that they christened a "tadpole". This 3-liter (26 cu ft) tank was filled to 124bar (1,800psi). The Brits would scour military surplus shops for them, Hires said. Originally, tadpoles provided air crew on Lancaster Bombers with oxygen when they flew at higher altitudes.

Brit sidemount

The British style of diving was a starting point, said Hires, but his team had different criteria. The British setup really did not involve that much diving, he said. It was designed for crawling through tight dry bedding plains, climbing up rock piles and down gullies. It needed to cope with the caver climbing up or down sheer drops and vertical walls using ladders and lifelines. (SRTing or single rope technique didn't come into being in the United Kingdom until 1974). Finally, the caver

would reach a flooded muddy sump that they would dive through to reach the next dry cave and resume their exploration. Therefore, the British setup needed to perform in both dry and wet cave systems, Hires said.

Visibility forever

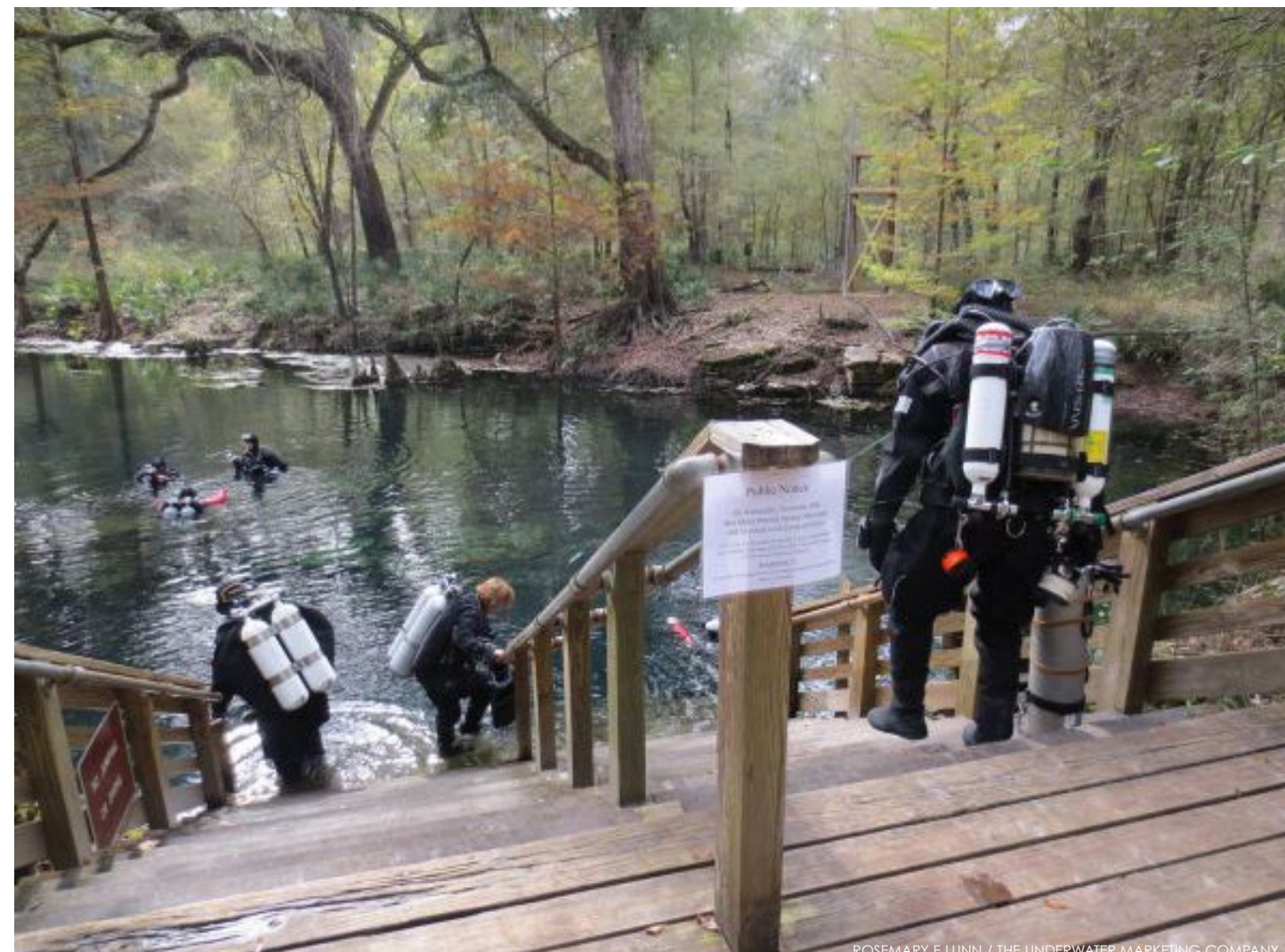
On the contrary, Hires and his buddies were diving "the blue ether of another world", just a few steps from where they parked the truck. These were stunning, fully-flooded cave systems, he said, with "visibility forever", which were so wondrous that many considered Florida to be the cave diving capital of the world.

Hires said that the passageways often had high flow and small places to negotiate, and they were usually full of clear water. The team wanted to keep it that way. "These were no muddy squalid

sumps," he said. "These were crystal clear flowing springs. Some were flowing so hard we could not swim against them—we had to pull our way in."

By now, Hires was using a Tabata jacket-style BCD, augmenting with an Ocean Dynamics wing. This wing had been designed to be dived with a single tank. But the combination didn't make for an optimal solution, he said. His jacket struggled to cope with carrying his back gas in heavy double 104's (approximately an 18-liter twinset). Hires added the wing because he required additional lift to dive his stages, for which he was using steel 72's (heavier than Ali 80's).

It was painfully obvious to the team, said Hires, that they needed equipment that was not being manufactured on a commercial basis. So Skiles, Jasper and Hires worked together as fellow crash



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was no octopus back then, he said.

Having a second regulator was still being debated in the open water community, said Hires. Instruction in the use of an alternate air source was not mandatory in all PADI courses until September 1986. The Dacor Pacer 300 became his second regulator when he started cave diving, and he purchased a Sherwood Magnum to serve as his primary regulator. This would later be upgraded to a Poseidon for deep air dives, said Hires.

Kit not up to snuff

Hires and Chapman soon found the kit was not matching the challenges cave exploration was throwing up for them. When that happens, said Hires, cave



profile

test dummies in a team effort to develop and refine the gear and techniques to get them where they are today.

Grandfather of sidemount

It would be fair to say that Woody Jasper was the grandfather, or inventor, of the Florida-style sidemount rigs as we currently know them, said Hires. Jasper had been diving double 72 cu ft cylinders when he got wedged in the back of Bathtub Spring off the Suwannee River. Then, the lights went out, said Hires. The switch on Jasper's butt-mounted light had been bumped off as he squeezed sideways through a tight spot in

the cave, and he couldn't reach his backup lights.

It was the words of Harry Houdini that helped him wriggle his way out said Hires: "There's always some slack somewhere." As Jasper drove home that night, the first of many sidemounted rigs began to take shape in his head, said Hires.

"Jasper was the first to realize that we needed to pull the neck of the cylinder in tight, snug into the armpit to get through the really tight places," said Hires. "Woody

used a bicycle inner tube across his back to pull the tanks in tight. Today, we use bungee to do the same thing."

Trial and error

The team put everything to the test and constantly refined it as they hit problem after problem, said Hires. They often had eureka moments, only to find out that "as soon as you applied water and took the system diving, it didn't work so well." Hires said that there was lots of development work in the early '80s as sidemount evolved into a tool for exploring flooded Florida.

Lamar Hires

Narrow escapes

There were many narrow escapes as the team pioneered dive gear development, according to Hires, during which he experienced some of his most memorable cave dives. "These close calls—and I have had a number of them—never really rattled me," he said.

"They were all learning experiences."

His most memorable tense dive was with Jasper at a place called Creature Sink, in the late '80s. It was one of the smallest sidemount caves he

had been in with flow, said Hires. It had a lot of silt, the kind that followed divers out because of the flow.

Their mission was to dig out the back and see if the cave continued. When they decided to give up and go back, their return was filled with silt. "We then did what was the slowest most technical exit I had ever done in low to zero visibility," said Hires.

The test experiences got Hires thinking. "I find it fascinating that divers often don't give a second thought about how the equipment they dive today came into being. They have no concept of the dives and mishaps that took place that directly shaped the gear we currently have."

Hires said he feels that there is always room to improve dive kit and gets a real kick out of solving problems that people don't realize they have—a zeal that continues to drive Dive Rite's success.

Into the dive business

By the fall of 1982, Hires decided to change jobs and get into the dive business. He went to work

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Hires and Wes Skiles going diving in 1983



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Hires in Jug Hole at Ichetucknee Springs State Park in Fort White, Florida, USA, 1985

Lamar Hires

with Wes Skiles, who had moved to the heart of North Florida cave country two years earlier, to manage the Branford Dive Center (BDC), located next to the Suwannee River. Because BDC was the only real training and equipment center for cave diving in the area, it was the right place to work and the best way to hear about who was diving with whom and where, said Hires.

No reels, no wings in 1982

At the time, the lead cavern and cave instructor at BDC was Mark Leonard, said Hires. Leonard started making reels in his garage because cave divers needed reels to comply with cave training standards. Hires said that it might sound implausible today, but in 1982, “no one was commercially manufacturing reels in cave country... or wings... or backplates.”

Hires was always looking to

improve himself and the gear he used. Skiles saw this, and in 1983, asked Hires to take potential cave instructors on dives that encouraged them to push their personal limits, including exploration. He soon found out that mentoring was important.

Triple drowning

But in the summer of 1983, the tables were turned, and Hires received some mentoring he wasn't expecting.

On June 13, three men came into BDC to get their tanks filled. They were all in their mid-thirties, said Hires. None of them were certified divers, although Hires didn't know it at the time.

The next morning, reports reached BDC about a triple drowning at Royal Springs. The shop staff—who were all local divers—were asked to help, said Hires. The team included Leonard, Skiles, Gene Broome (the owner

of BDC) and Hires.

“I had butterflies that morning because I didn't know what to expect,” said Hires. “What had I got myself into?” He had never seen a dead body, except at a funeral. Hires knew the victims; he had filled their tanks and sold them a few accessories the day before.

Hires said the team found them in three different places at 23m (75ft), 46m (150ft) and 61m (200ft) into the cave. There was no line, no reel and they were all diving single 80 cylinders (approximately 11-liter cylinders). They had one light each. All were found with no air in their tanks, he said.

“This event changed the way I thought about training and community service,” said Hires. “I lived here. This was my home. I wanted to make a difference.”

A flood motivated Hires to act. In the spring of 1984, the second largest flood known to occur on

the Suwannee River in Lafayette County took place. Hires and Leonard decided it was time to start selling gear to other shops.

They knew that cave diving did not only take place in North Florida, and they saw that there were more instructors coming online at dive shops that wanted to sell direct to their students, rather than let Branford Dive Center get all the sales. There were at least 20 shops ready to buy on the East Coast. It was time to leave BDC, said Hires.

We had a very simple rule when we started Dive Rite: We were divers first. We therefore set out to build gear the way we needed the gear to be.

Starting Dive Rite

In May 1984, Leonard and Hires started Dive Rite. Before Leonard moved to North Florida, he had run a dive shop called Dive Rite in Speedway, Indiana. “We both liked the name,” said Hires. “It explained what we manufactured perfectly in two words.” Hires and Leonard split the jobs up: Leonard handled manufacturing while Hires managed sales and education.

“We had a very simple rule when we started Dive Rite,” said Hires. “We were divers first. We, therefore, set out to build gear the way we needed the gear to be.”

Everything was tested in the field for a specific mission or expedition,

to further divers' ability to explore, said Hires. And because gear was designed to “go where no one has gone before” (yes Hires is a

Trekkie), the two made sure the gear was built for the adventure—and built to last.

“Personally, I smile when I see an older piece of Dive Rite equipment in the field,” said Hires. “I really just want to tell the diver we have something better now—something that is more comfortable and will do the dives you might not have thought of doing yet.”

Products and certifications

Dive Rite's first products included a backplate, harness, primary reel, safety reel, jump reel, prima-

ry canister light, hardware (clips, D-rings and slides), a slate and lead weights, said Hires.

In August 1984, Hires got certified as a NAUI Open Water Instructor. His examiner was Jeff Bozanic. “Today, everyone thinks of Jeff as being a rebreather guru,” said Hires. “He and I think of him as a cave diver; that's where he started.”

Hires was not the typical NAUI instructor, however. By the time he qualified, he had already been involved in a number of body recovery operations, and had usually met the victims before their demise. For this reason, he is very passionate about training and education.

In November 1984, Hires became a NSS-CDS cave instructor. This was highly unusual, but then, he had already logged over 500 cave dives, which included exploration.



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Hires in Azure Blue Cave, Florida, USA, 1983



COURTESY OF LAMAR HIRES

Hires cave diving in 1989

Lamar Hires

Jasper had to check it out. "We were not going to let a Brit tell us a cave in our backyard ended," said Hires.

The two divers went to Georgia during the annual TAG Cavers event and spent 70 minutes chipping away at a restriction with Jasper's cave tool named "Go Forth". They

it moved underground. Skiles, Jasper and Hires made up the first team of divers and Jeff Stillo, Luis Menoiuo and Paul Smith made up the second.

The visibility in the basin was low, said Hires, so he ran a reel at the entrance, which was his safety reel. He led the other team in and they explored. They left the cave first. When Hires' team returned to the beach to prepare to leave, he saw the fins of the last member of the other team breaking the surface as he kicked down.

Hires was going to go first, but the line was slack, and the team was worried. Hires said he dropped down to find that the line was broken. It was held in place by a "T" created by a second line joined to the main line the team came in on.

Jasper had added this second line when he went off to check out where he thought the Brit had tried to get through. Hires could see into the restriction and automatically reached back for his reel to remember he had used it and promptly got entangled.

Dilemma

Meanwhile Jasper thought Hires was in the restriction and started down. Hires said, Jasper ran into him struggling and helped him clear the entanglement. They then surfaced and Jasper went down to start out and repair the line. In

"My exploration cave dives proved invaluable when I worked on one of our earliest products: the Dive Rite Classic Wing," said Hires. In 1984, the only wing available was a Seatec or Ocean Dynamics single wing with 35lbs of lift that cave divers used for additional buoyancy, said Hires. He knew from his own personal equipment struggles that there was a real need for a proper "grown up" wing with decent buoyancy or lift that could cope with exploration twinset or doubles diving.

Hires' BCD jacket had about 30lbs of lift and the Ocean Dynamics wing had about 35lbs of lift. Dive Rite's challenge was balancing size and lift. Hires said they figured that 60lbs would work. In 1985, the first tech wing—the Dive Rite "doubles only" 60lb wing—was launched. Today, 30 years later, this is a recognized standard size and many manufacturers produce a 60lb wing.

Bitten by the bug

"At key points in your life, you discover to your utter frustration that you are either too young or too old," said Hires.

"I was and am blessed by being part of an emerging aspect of diving: cave diving. Unfortunately, I was too late for the exploration of the more popular cave diving spots in North Central Florida." But that didn't stop him from logging thousands of dives in them.

Hires considers himself an explorer too. Once bitten, one never settles for "just making a dive" he said. Even today, when he goes cave diving, he constantly looks for new passages and thinks about what kind of gear it would take to get through a squeeze between two rocks or a sand slide.

Exploration is his drive, said Hires. The thrill of "on the fly" dive planning is something most divers never get to experience. Hires said his most worrisome dive was in the resurgence of Ellison's Cave at Bluebird Springs in 1985.

Bluebird Springs is located at the bottom of Pigeon Mountain in the US state of Georgia. Having heard that a British caver had dived this spring and observed that the cave ended in a slide and was impassable, Hires and

were able to scrape enough away to get through by "no mounting". Jasper was not only the first in north Florida to sidemount dive, said Hires, he was also known for his propensity to remove his tanks, if that was what was needed, and push them forward, butt-first, like a battering ram through a "no-mount" restriction.

Below the choke

Hires and Jasper cleared a 3m (10ft) long section and surfaced in the bottom of Ellison's Cave. Hires said that no one had been there. They were below the choke that stopped cavers from making it to the sump. "We explored it and then left to tell our friends," said Hires. Word spread quickly and the two divers arranged another trip to dive the cave, while dry cavers went in the top to put dye in the stream to help trace the water as



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Lamar Hires

Hires in Gator Cave in 1995 (left) and in Cow Springs (below), Florida, USA

Chairmanship, to ensure that the cave community would continue to have access to this superb site.) Cow Springs, which is located near Luraville, is not really a spring at all, said Hires. It is actually an in-line sinkhole that provides diver-access to an underground river, which surfaces for the last time at nearby Running Spring.

Hires said his team had been exploring upstream when they experienced “a heck of a time just getting into the cave proper.” It was such torture getting through the first restriction that they soon named this section “The Hellbender”.

Although this restriction was only 6m (20ft) deep, it would take the team around 25 minutes

just to get five cylinders a piece through it, he said. The flow was so strong that Jasper installed “a poor man’s scooter”—which is a heavy polypropylene line or ski rope—in the big section, giving the team something to pull on. It saved time, energy and considerable gas because the divers just couldn’t swim this section.

Hires said that Cow Springs was quite a scenic cave, so the team did not want to pull on parts of the cave and destroy it. Today, Jasper’s line has been replaced, said Hires, and it runs parallel to the main gold line.

Instant attraction

Hires said that when the team was exploring Cow Springs, he

met “a significant lady.” During the week, he was working at Dive Rite, and on the weekend, he was teaching classes at Spring Systems Dive Center, later known as Dive Outpost in Live Oak. “One day, this very pretty blonde walked into my Open Water course,” he said.

It was July 1986. She was a local girl with a business head on her shoulders, he said. Hires soon discovered that she ran a bicycle shop in Lake City and her name was Lee Ann. The attraction was instant and mutual, he said, but Hires was training her, so he had to remain professional. The course went smoothly, and in August, she was a certified Open Water diver.

And then the team made a

the low visibility, Hires said Jasper got confused and went down the second line he laid earlier. He returned and surfaced.

Hires said they now had a dilemma. Jasper and Hires were both down to under 100bar (1450psi) in a single steel 72 cu ft cylinder (roughly equivalent of a 9-liter tank) with a 91m (300ft) swim through a small passageway complete with a “no mount restriction”. They looked to Skiles and told him he had to go through the restriction, repair the line and return to let them know it was done, said Hires. They did not have the gas to do anything but swim out.

Skiles returned. “We saw his light and as he surfaced he held up a cave pack (tackle bag) with the straps cut. He’d found it in the restriction,” said Hires. “All we could imagine was that one

of our friends was dead. Then we realized if one was dead, he would be blocking our exit. Not good. We just did not have the gas to deal with it.”

Skiles started out. In the meantime the other team made it out. Stillo had broken the line. This stranded Smith, who lost his pack in the restriction, said Hires. The sharp rock cut it away from him. Menoiuo knew the line needed to be repaired, so he went back in and arrived at the restriction at the same time Skiles was grabbing the rock to pull himself free of the restriction, said Hires.

Menoiuo saw a non-moving hand and grabbed it. Skiles freaked and pulled back, said Hires. Menoiuo, now knowing the team was on the move, left the cave. Skiles had a slow exit, wondering where the hand had come from. Hires exited behind

Skiles, wondering if he would hit a passage blocked by his friends. Jasper followed. “Everything worked out but it was probably the most intense dive I have ever done,” said Hires.

This dive had a profound effect on Hires. He felt it was time he put his knowledge and experience to good use to help train future divers. So in 1987, Hires sat down and wrote the first NSS-CDS side-mount course.

The Hellbender

In 1986, Hires and his team were pushing and surveying a system called Cow Springs. It is a system he said he is quite fond of for a number of reasons and he is proud it became part of his legacy as chairman of the NSS-CDS. (The National Speleological Society Cave Diving Section purchased Cow Springs during Hires



COURTESY OF LAMAR HIRES



Peacock Springs is a popular destination for cave divers all over the world and is extensively used to train new cave divers

big discovery at Cow Springs. The team enthusiastically planned to push it again the following weekend, until Hires reminded them it clashed with his first date with Lee Ann.

"We need to postpone this dive a few days," Hires told the team. They smiled and replied, "We are diving with or without you next weekend, Lamar." Hires took a huge risk. He postponed his first date with Lee Ann and went diving.

The following weekend, Hires spent his entire week's wages taking Lee Ann out to dinner. He said he was truly fortunate to find a person who understood just how important cave diving and exploration was to him. "I knew she was a keeper and we married one year later in August 1987," he said.

Sworn to secrecy

The next big project was Telford Springs in 1989. Jasper and Hires were exploring the end of the line at Telford. "It had gotten so small it was ours—you could only sidemount it," said Hires.

At the same time Jasper was also exploring Luraville Springs with a friend, Tom Morris. Jasper was sworn to secrecy; it was the code, not to share exploration until one was ready to publish it, said Hires. "We didn't have Facebook or social media then, so it was easier to keep secrets."

Jasper, Morris and Hires eventually got together to share the survey data collected separately at Telford and Luraville springs. They found that they were only about 30m (100ft) apart. With this revelation, the three decided to enter

Luraville Springs.

Hires went first, since the second and third divers were going to have low to zero visibility in the mazes, especially in the 121m (400ft) section called "Woody's Wallow." After exiting the second maze, Hires continued on a north by northwest heading on the compass, regardless of what the passage looked like. The team connected the two caves just 27m (90ft) later.

"It was a short-lived underwater traverse World Record of 2,194.5m (7,200ft), and quickly reclaimed by the Brits," said Hires. "But we aren't competitive."

When Hires first started cave diving the North Florida sites, there was no logistical support there as there is today, he said.

Several visiting British divers have

remarked that it is almost "red carpet treatment" at the popular springs, said Hires, because a lot of well thought out, robust wooden construction has been put in place, making diving fun, not a chore. There are bespoke built wooden benches for assembling gear and easy kit up, for example. Divers can then walk along flat wooden walkways through the springs, down to large wide wooden steps, before standing on a large stable platform, said Hires.

This configuration is ideal for attending to minor details before hitting the water. "One such beautiful spring that has all these site logistics in place is Peacock," said Hires. "It is located near Branford and it's probably Florida's leading killer cave—more than 30 people have died there." Hires said it was no wonder that Skiles had handed him Exley's *Blueprint for Survival*, back in the early days.

In Florida, logistical support has been extended underwater as well. Most caves have a permanent guidelines installed by local cave diving groups, said Hires. The lines are set far back past the entrance so untrained divers will not see them and be tempted to follow. This wasn't always the case, said Hires.

Wrong turn

In September 1989, on Labor Day weekend, a couple went in for a third dive of the day. They were trained cave divers. Tragically light failure led to them to make a very bad decision, said Hires.

At the time, all lines looked the same, he said. The couple ended up taking a wrong turn and dived into the cave instead of out of it. When they realized what they had done, said Hires, the woman

bolted further into the cave while the man made it out.

He was devastated, and Hires knew he and his colleagues needed to do something about it. "Usually an accident claims everyone on the team," said Hires. "Having the opportunity to talk to a survivor helps us improve safety."

Hires was then Training Director of the NSS-CDS and thought that color-coding the mainline would be a start to a solution. The board of NSS-CDS supported his

idea unanimously and immediately funded replacing the mainline in popular caves with 3mm yellow or gold line to help prevent the Labor Day tragedy from being repeated in the future.

Within a month, Peacock Springs was relined and then work started on the other caves.

What has been frustrating yet fascinating to watch has been the recent explosion in sidemount diving. Especially when I see 'experts' make the same mistakes we did years ago.

Today, this concept has travelled overseas, said Hires. Gold line has been laid in other countries including Australia's Tank Cave. "It is an internationally recognized standard that I am quite proud of," said Hires. "It helps save lives and prevents mistakes."

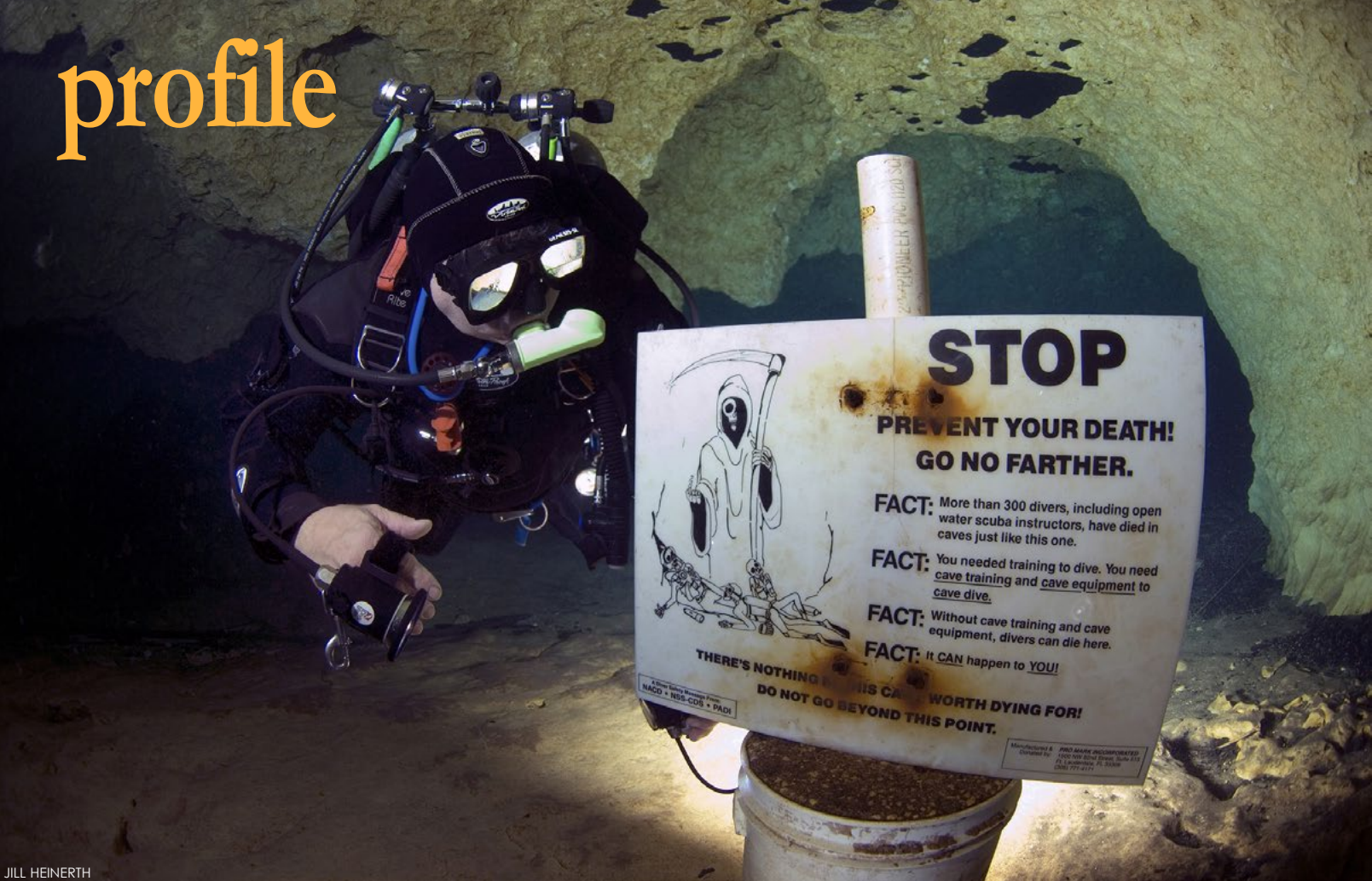
The growth of sidemount

"What has been frustrating yet fascinating to watch has been the recent explosion in sidemount diving," said Hires. "Especially when I see 'experts' make the same mistakes we did years ago." This includes the great bungee versus the "metal to metal" debate, he added.

All sidemount cylinders should have a metal to metal option for safety on boats and when walking with cylinders attached, said Hires. "Originally we used bicycle inner tube (from Lee Ann's bike shop) across our backs," Hires said. "We found out more than once we needed a safety clip on the neck of the cylinders when



Hires suggested the initiative to establish a main 'gold line' in the North Florida caves



JILL HEINERTH

The cave diving community actively promotes safety at sites throughout Florida warning open water divers not to dive the springs and caves; Hires on a cave expedition in Japan in 1996 (below)

Lamar Hires

tem. "They find it a really simple way of integrating sidemount bailout gas onto their rebreather," he said. "And for those who are concerned about 'metal to metal' in a rescue scenario, we attach the top clip to the cylinder via webbing, so that the stage can be cut away in an emergency."

Planning for self-rescue

Hires said hose routing also seems to be a major current topic, with back mounters wanting sidemount to follow their rules of long and short hose. "We didn't do that because we were going into solo diving country," he said. "We planned everything for self-rescue. There was no sharing gas drills because we knew we would most likely never see the other guy in the tight spots."

When it comes to securing regulators, said Hires, one regulator on a necklace is the standard for the most part, but the other must be on a breakaway clip. "We found more than once on an exploration dive that a gas switch didn't go as planned with a regulator breathing wet or worse, getting a mouth full of silt," said Hires, "so we had to get the other regulator back in our mouths quickly."

Akka

As an explorer, Hires' dream destination is a place in which no one has been. He said he wants to lay line, map it and clear the trail for others to follow. Hires loves to travel and dive because he always sees something new and soaks it in. "Knowing that I am the first to see it makes it the dream

site!" said Hires. "I like dark and scary places and not knowing what is down that hole."

Probably the most memorable cave diving experience he has had was in Japan partly due to the fact that it entailed trail blazing and discovering a virgin cave, he said. Between 1995 and 1997, Hires and his team went on three expeditions to the Iwatee Prefecture to explore some caves in the remote mountain village of Akka. The town and Japan Caving Club wanted his team to focus on Akka Cave, their tourist attraction. "It had some short sumps, but for me it wasn't real exploration," said Hires. "This was found down the road at a cave called Shigawatawi and it was this cave that inspired the TransPac."

the bungee broke, or we lost control of the cylinders."

Hires decided he needed to integrate this safety feature into a practical application. Before sidemount became mainstream, Hires had just a rope loop around the neck of the cylinder to which he could attach a double ender as a safety, for when or if a bungee broke. These days, the arrangement has evolved into the "ring loop bungee system" as an alternative to the classic sidemount bungees, said Hires.

The stage cylinder is rigged with a "choker" holding the top stage clip firmly in place next to the neck of the cylinder. "Then you simply attach this clip to the round metal ring on the ring loop bungee system running beneath your arm, rather than stretching the bungee over the valve," Hires said. "This ring loop bungee system allows the diver to use any cylinder size or choice of thermal

protection without having to adjust anything." The diver can then fit this ring loop bungee system to pretty much any harness within a minute, and also with the choker on a stage cylinder.

Hires said that depending on the entry, sometimes one has to get in or out of the water with the sidemount (or stage) cylinders attached. While one may not consider this relevant, it is when diving a cylinder just secured using bungee.

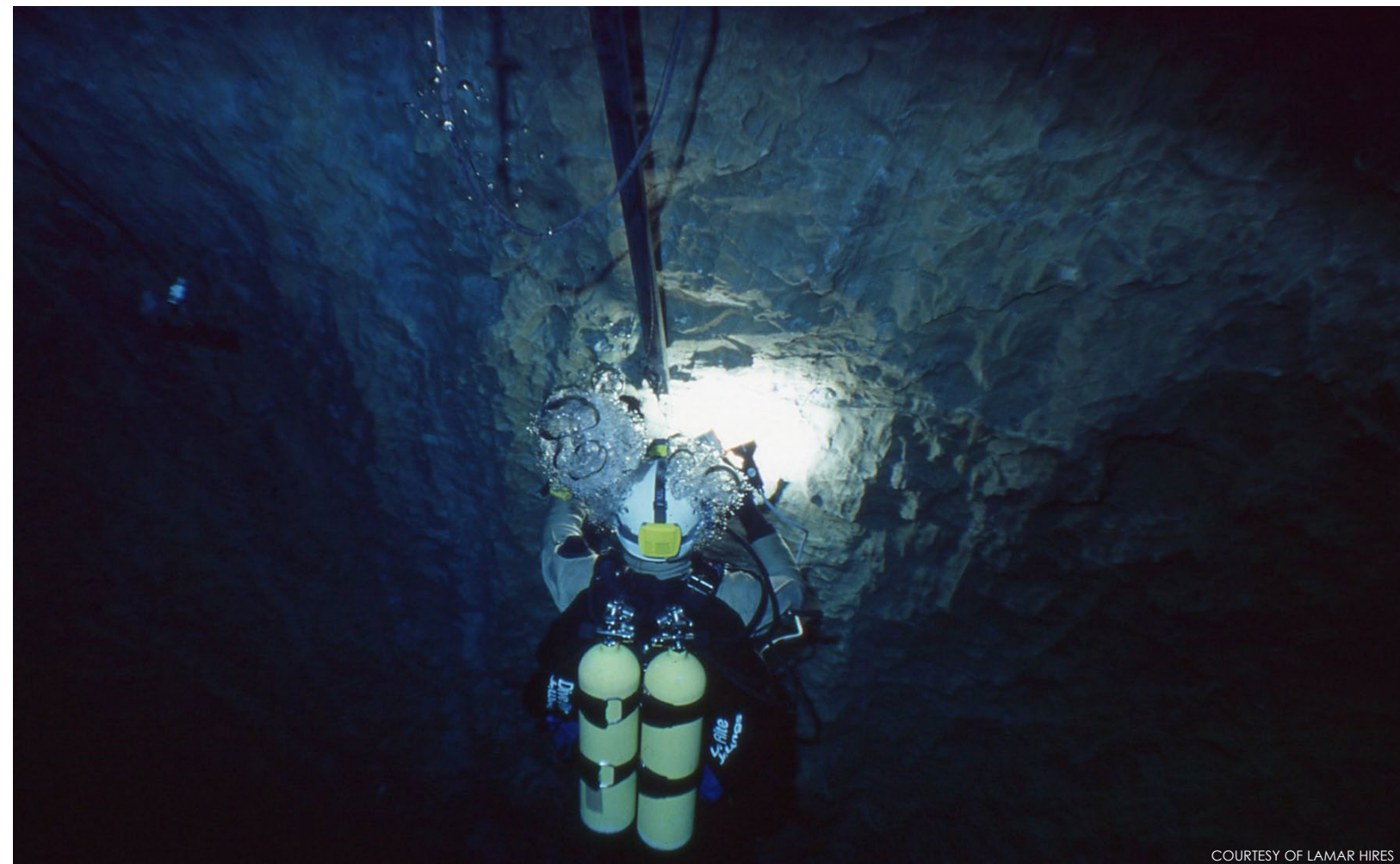
"When we started doing sidemount clinics several years ago, divers would routinely walk out of the water with their cylinders attached," said Hires. "This was disturbing. The divers had been meticulous about taking everything to the water's edge to gear up for the dive; however the same approach was not being used for the exit." Divers were not thinking, he said. Instead they were blithely relying solely on the

bungee to hold their heavy steel cylinders in place while walking.

"This is why I am such a big advocate of 'metal to metal' today," said Hires. "This simple attachment method prevents divers from hurting themselves."

There are two other advantages with this system, he said. "The problem with wrapping bungee around a cylinder is that it needs to be a specific length to suit a particular size cylinder," said Hires. "Proper bungee length is determined by diver size, thermal protection and cylinder selection. When traveling you are invariably wearing different thermal protection and you never know what cylinders you will get allocated." Hires said this "double whammy" means that the bungees need to be adjusted accordingly, leading to unnecessary hassle and time.

It is not surprising to Hires that rebreather divers have embraced Dive Rite's ring loop bungee sys-



COURTESY OF LAMAR HIRES





COURTESY OF LAMAR HIRES

On the first trip in the summer of 1995, diving conditions were not optimal and there were flash flood warnings. Hires' team stopped at a temple, one day, on the way to Akka. There they burned incense and the priest prayed for their health and protection on their journey, he said. "He gave each of us a charm, a small piece of wood in gift-wrapping and told us to keep it on our person," said Hires. "It would protect us from danger." The team

thanked the priest and put the charms into their caving helmets.

Later on an excursion, one of the team's Japanese friends took a 4.5m (15 ft) fall from a ledge and landed on his back. "I knew he was seriously injured," said Hires. "He had to be. I hurt just watching him fall." But the man was fine and had no injuries; however, the piece of wood in his helmet had been broken in half. "To this day, that charm is still in my caving helmet," said Hires.

THIS PAGE: Hires on a cave expedition in Japan in 1996, using the first TransPac by Dive Rite

The first Japanese expedition proved to be an exploratory trip. "You never know if the people briefing you about the cave diving site actually know what they are talking about, especially if they don't cave dive," said Hires. "We were told the first sump was over 42m (140ft) deep and still going. This sump was 640m (2,100ft) from the entrance, so we had 15-liter cylinders shipped to Japan, since they didn't have anything that size."

Hires said he bottomed out at 9m (30ft) but starting up. "I couldn't get out of the water at a sheer ledge," he said. "I was solo on that dive." The team then spent time exploring Akka and another cave called Rysendo.

On the next trip, Hires shipped over 5-liter steel cylinders. It was February and the water temperature was 4°C (39°F) said Hires. He had with him the latest lightweight sidemount rig upon which he and Jasper had been working. The two had tested the rig with large cylinders, so they assumed it would work well with small cylinders. "Big mistake," said Hires. "The only thing that made it work was the heavy cylinders, so all we did was make it to the second sump."

On the third trip in February 1997, Hires decided to bring Dive Rite's latest product—the TransPac—in order to cope with the diving, climbing and exposure. Hires and his team were in 4°C (39°F) water/air for more than eight hours, and they finally had some luck. Indeed, the expedition eventually proved to be influential in sidemount diving in North Florida caves.

The team explored six sumps and stopped only because they ran out of duct tape to patch the

holes in their drysuits. The brands Apollo and Mobby's were sponsoring the team with suits. Hires said he would receive a new suit from the sponsors, dive it for a year and then trash it during the expeditions. Mobby's created a "Lamar Hires signature drysuit," based on these expeditions.

"To this day my adventures in Japan are my most challenging and memorable expeditions, with some of the friendliest people in the world," said Hires. "I want to go back, and hopefully will in 2017."

I question why training standards haven't kept pace with equipment development. With all the advancements in equipment, training has been watered down and standards seem lower.

Hunger for knowledge

While the Japan expeditions and two rescues have been career high points for Hires, the recovery of 22 bodies and other close calls have been the low points. Exploration is still his primary drive, said Hires, but he continues to teach and share his experiences with other avid divers.

"Today, I see the excitement and hunger for knowledge in a young diver's eyes and I mentor them," said Hires. "I'm never too busy to dive with someone and help them develop."

Lamar Hires

From the equipment point of view, Hires said that teaching helps him devise and develop equipment people actually need, want and will most likely use. "Simply by diving with people of different experience levels, I get to see what is easy for them and what is difficult," he said. "You would be amazed at what experienced divers take for granted that frustrate new divers."

Interaction with divers is really important to Hires. To facilitate this interaction, Dive Rite attends and exhibits at several shows around the world. "They come to us with questions and thoughts and we value their input," said Hires. "Where we can, we test out their suggestions."

Dive Rite is a family business for Hires, whose family members work



COURTESY OF LAMAR HIRES





Hires exploring a cave in 2006 (left) and showcasing Dive Rite equipment at the EUROTEK.2014 exhibition, with his son, Jared (below)

Lamar Hires receiving the 2014 EUROTEK Lifetime Achievement Award "for his consistent contributions and discoveries that have advanced the field of technical diving"

standards.

Hires does not dismiss standards. On the contrary, he said standards are important and should be understood and followed. "I helped write the training standards for cave diving in the mid-'80s

A Deceptively Easy Way to Die. Hires was the current NSS-CDS Chairman so became the face of the safety video. Seventeen years later, the documentary quickly started trending on social media over the winter holiday season.

Silent night

It was the news of a cave dive that went terribly wrong, which spurred large numbers to view the safety video online.

In 2013, on Christmas morning, a 35-year-old man took his 15-year-old son for a dive. They were trying out new scuba equipment unwrapped earlier that day. It all sounds quite normal until you hear the facts: the father was not a diving instructor; the son had no scuba training; neither of them had cave diving training; and they decided to dive Eagles Nest—a very advanced cave dive requiring a minimum qualification of Full Cave certification, a Trimix ticket and appropriate experience with deep cave diving to dive it.

The dive ended tragically. The two bodies were recovered before midnight on Christmas Day. As the world questioned why it happened, *A Deceptively Easy Way to Die* appeared on Google searches and was watched.

"This film brings back memories for me of what we dealt with to educate divers and stop needless deaths," said Hires. "Every time I teach, even now, I do it without thinking

about past recoveries and what they did wrong."

Safety culture

After several decades in the dive industry, attitudes towards safety and standards remains a concern to Hires. "I question why training standards haven't kept pace with equipment development," he said. "With all the advancements in equipment, training has been watered down and standards seem lower."

Hires believes that divers are using equipment to compensate for lack of experience. "When you do that," he said, "it will come back and bite you hard one day."

Hires does like the idea of divers perfecting their form and trim and keeping skills up to date, but he finds it worrisome when divers think they are ready for real diving after only a few experiences in a pool or quarry. "They have not experienced currents, waves, flow, boats, challenging entries and exits," said Hires.

He added, "One of the things that helps you be a better safer diver is to choose your friends and dive buddies who support a culture of safety."

Dive, travel, see the world

Hires still believes that diving is the most rewarding sport on earth. "The pace is whatever you want it to be and you can see things that non-divers don't see," he said. "It's the best reason to travel and be part of a community that cares about the environment and friends. I would not

when I was the fourth Training Chairman for the NSS-CDS," said Hires. Forrest Wilson was the first training chairman of NSS-CDS, followed by Wes Skiles and Joe Prosser. "Wes, Joe and myself shaped cave diving education and our work is still used today." Their accumulated knowledge in cave diving was hard earned, stemming from personal experience in dealing with recovery operations and diving activities of the day. "We used a variety of channels to get key messages out," he said.

A short documentary on cave diving safety was one such venue, which was compiled in 1997 by the cave diving community. It was entitled,

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have visited 90 percent of the places I have been to if not for diving."

Hires continues to encourage people to take up diving and he advises new divers to gain experience with people they trust. "If you're learning to dive, be ready for the adventure of your life," he said. "But please listen to those who went before you and remember training and experience are two separate things."

He shared some wisdom and advice for those who want to pursue a career in the dive industry too:

"Do it because you like the adventure and friendships, but don't do it for the money. You will never get rich diving, but you will have rich memories most will never have." ■