

SUB AQUA JOURNAL

February, 1993 Vol. 3, No. 2

The Forum for Atlantic Diving

\$1.95



"I request three months' furlough to look after personal affairs."

The admiral gave me leave, but he shook his head saying, "Cousteau this is hopeless. It will ruin your career." I left with no idea how I would make good my boast.

*Jacques Yves Cousteau —
The Living Sea, 1963*

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WHAT HAVE WE LEARNED?

In 1964 I put on my first mask. It was one of those goofy ones with the two snorkels that came out of the top. Remember those ping-pong balls in cages to keep out the water? I was five. Little did I know that scuba had only been around for about twenty years. That one "toy" changed my way of looking at things. How many others have been touched by that first breathless moment under the water?

This year we celebrate fifty years of scuba. In our half century we have placed men on the moon and satellites into orbit, made machines that can zip us to Paris in hours, and communications systems that link all parts of the world. And let's not forget TV. Yet man still is without gills. We still rely on one simple invention crafted out of a converted gas regulator by two brave and inquisitive men.

The dreams of Jacques-Yves Cousteau and Emil Gagnan have touched the lives of probably all in the civilized world. In their lifetime many enhancements and improvements have occurred in scuba. Perhaps the most important is that today most anyone can do it. An industry has developed for the average person to explore beneath the waves. We are still hampered by the bulk of equipment, but it is getting smaller.

In this issue we journey to Orlando, Florida to participate in some of the DEMA celebrations and a look at some hot new products. Barb Lander reviews tek.93 where she saw the future of underwater technology — rebreathers and communications gear.

For some, the winter doesn't stop the fun of diving. Dave Morton teams up with Captain Eric Takakjian for a dive on *The Mars*. It went down in chilly New England waters the same year Jacques and Emil were tinkering. Dan Berg keeps going back for more. It seems that since man first set out to sea he has seen fit to toss his bottles overboard. Dan finds some rare and historic beverage containers using some interesting techniques.

Dr. Stephen Lombardo, our medical editor, hops down to Key West to find out "How deep is deep?" Resting in 320 feet of water, the *USS Kendrick* has only been dived by a few. Barb Lander spends some time with a Massachusetts dive captain who spends his winters researching maritime history and piloting tug boats in New York's harbor — Captain Eric Takakjian.

This brings us to Kirby. This month he writes about a private yacht that was converted into a pilot boat which also ran in New York harbor. Today she rests 100 feet below the surface where only fish, a few divers, and Kirby's favorite crustaceans visit her.

We wrap up with reviews the Orca Phoenix computer and Gary Gentile's new novel, — *Peking Papers*. Plus we have Local Heroes, the Events Calendar and the Boat Schedule.

What will the next fifty years bring? Transporters? What have we learned in the fifty years? Perhaps far less than we know about space travel, yet every day some one new learns how to scuba dive, and the adventures continue beneath the waves.

Joel D. Silverstein, Editor

DEMA 1993

Celebrating 50 Years of Scuba

by Joel Silverstein

DEMA 1993 celebrated 50 years of Scuba innovation. Where would we be today if Jacques-Yves Cousteau and Emile Gagnan didn't invent the Aqua-Lung? This year's DEMA show in Orlando, Florida honored these great men who opened the seas for us to explore. The Diving Equipment Manufacturer's Association Trade show is where dive professionals learn about new equipment and servicing techniques. Each manufacturer this year put their best foot forward.

DEMA is open only to dive store owners, employees, instructors and dive-masters. The focus is not only to show and sell new lines of gear, but to reinforce the commitment to service. Through an extensive array of workshops and seminars, retailers learn to service your needs ranging from dry suit and regulator repair to emergency evacuation, to how to plan an exotic dive trip. The selling and celebrations centered around the Orange County Convention Center and usually continued late into the night after the convention floor closed.

The *Sub Aqua Journal* came to Orlando a few days before the show to attend **tek93**, an emerging dive technologies symposium, (see Barb Lander's article on page six). We also participated in the Scuba Diving Resource Group, **Deep Diving Forum 1993**. The meeting focused on the question that is on everyone's mind these days: "How Deep is Deep?" After many panel discussions which included the scientific issues, resort and charter operators, training agencies and publishers of diving magazines, the Forum came to a simple conclusion:

"We (the participants of the Forum) acknowledge the existence of Deep Diving. We recommend that regardless of the diving activity undertaken, the diver accept responsibility for obtaining adequate training, experience and equipment."

No matter how good your equipment is, without proper training and attitude, depth is a relative term on any dive. For some, 30 feet is deep. For others, 130 or more is deep. And so on... Although the Forum's statement is simple in nature, having almost 100 people agree on one position statement was a tremendous task. Chairman Richard Nordstrom put in countless weeks preparing this year's forum; he is to be commended. The industry is better off as a result of his efforts and those of the participants.

After setting up our display, *Journal* correspondents swam through miles of aisles in search of new products that could work well for Atlantic divers. We have focused here on some key products we think you will like.

DIVE COMPUTERS — This was the year of innovations. Let's go from the simple to the futuristic. **Ocean Edge's** newest innovation is their **Speed Reader**. The easy to read display and hands-free operation make the MC36 one of the most advanced, user friendly diving computers available. Color coded pictographs eliminate flashing screens, jumbled numbers and symbols that are hard to read. You get everything you want to know instantly. These instant "snapshots" give the diver vital data at a glance, while detailed information is continuously updated and displayed.



The MC36 also features automatic activation, nine dive log history, dive scrolling mode, and a user replaceable battery. The MC36 is available in wrist mount or gauge console configurations.

Dacor introduced its new air-integrated **Omni Pro** computer which is similar to the **Omni**. This one lets you know not only your remaining no-deco time or deco time but also the remaining air time which adjusts for your own breathing rate. An audible/visual alarm even warns you when your air supply is getting low—you get to adjust the level of minimum tank pressure.

ARE YOU A NITROX USER?

Now you have a choice of two really hot computers.

Dive Rite Manufacturing Co. has come out with the **Bridge** variable gas diving computer.

Continued on page 8

The Mars: A Commemorative Dive

by Dave Morton and Eric Takakjian

The morning of September 20, 1992, found 12 of us aboard the *Grey Eagle*, cruising north out of the Cape Cod Canal, on a 20-mile ride through 2-3 foot seas. We were participating in dives commemorating the *Mars*, on the 50th anniversary of her sinking.

She was built as a wrecking steamer and salvage tug in 1890, at the John H. Dialogue & Son Shipyard in Camden, NJ. Constructed for George Shepardson, Jr., of Philadelphia, her iron hull was 117 feet long. She had 23 feet of beam, a 16-foot draft, and displaced 278 gross tons. In addition to lending aid to disabled ships, the *Mars* also spent much of her time towing barges up and down the East Coast.

When we arrived at the wreck site, the winds were still blowing steady, making it a bit tricky to grab the mooring buoy. As we prepared for the dive, surface visibility was reported as at least 20-25 feet, but was probably due to the surface current. We expected poor visibility and were ready for the worst, with wreck reels, lift bags, ascent lines, and spare lights.

It was a bit of a pull getting down the first 25 feet or so, but the current quickly subsided. The descent became comfortable and normal below 30 fsw, although with a reduction in the current came a reduction in the visibility. However, we were elated to see a shipwreck materialize through the green haze at around 85 feet and visibility on the wreck was about 15 feet. The mooring was tied in to part of the superstructure at around 90 fsw. We checked it as we glided past, and then gently settled on the wooden deck at 105 feet.

When conditions permit the *Mars* is a fun dive. The iron hull is mostly intact,

sitting upright on a silty bottom, with a maximum depth of 128 fsw at high tide. We began our tour by swimming forward, around and through what remained of her deckhouse. Much of the superstructure was broken up or had rusted away, leaving behind a skeletal framework now covered with a lush growth of anemones, an ideal backdrop for photography.

As we continued forward on the port side, we dropped over the side of the hull and came across the severed bow section, lying in silt. Large cod and hake were slipping in and out of the bow's wreckage, showing why this wreck is a popular fisherman's site. We swam forward to the break which had exposed the forward storage room. As our lights cut through the haze, we could see a beautiful field of large anemones covering everything in the room, making it appear pretty confining for a swim through.

Cautious of the abandoned lobster traps and monofilament that seemed to be everywhere, we continued our circumnavigation, and started aft along the starboard side. The currents had dug out a lot of silt along the keel, and large fish patrolled in the shadows. The roof of the wheelhouse, the stacks, and masts can be found in a debris field to the starboard side creating an abundance of hiding places for lobsters, flounder and large cod. We also swam over an old three-foot fluke anchor hidden in the wreckage, but left it for a future dive team.

Another short swim along the hull had us rounding the curved stern section, where the big four-bladed iron propeller and the large rudder came into view, backlit with ambient light. We swam between the rudder and rudder-post, an easy feat because it was hard-to-port. As we ascended to the deck, we passed the

row of empty portholes in the hull and envied the lucky divers who had been there ahead of us.

Back on the deck, with plenty of air and some time left in our dive profile, we decided to make a light penetration through the large open deck hatch at the stern. An initial look into the hole led us to believe it was an enclosed cable storage compartment. As we dropped down into the single level of the tug and looked forward around a collapsed bulkhead, ambient light was visible from another exit.

If you decide to penetrate, be aware that there are considerable amounts of silt and debris inside. While it is possible to swim through the entire wreck, from aft to forward, it's not a straight-line shot. There's a lot of machinery and debris along the way.

If the currents are running strong, or after a couple of days of steady winds and waves, the silt can get pretty stirred up, reducing visibility to less than three feet, both inside and outside the wreck. On other days, particularly in the spring and late fall, visibility can exceed 50 feet, with the whole wreck visible to the descending diver at 70 fsw.

We did extensive research with every available local newspaper of the day, but did not uncover a single word about the disaster. At the time of her loss, the *Mars* was chartered to the US Army Transportation Corps, and was operated as the *ST-56*. Due to the wartime news blackout concerning shipping losses, very little is known about her sinking. It is believed that the following scenario occurred:

Sometime on the 20th of September 1942, the *Mars* collided at nearly right-angles with the Sun Oil Tanker *Bidwell*, off of Manomet Point, in the Eastern side

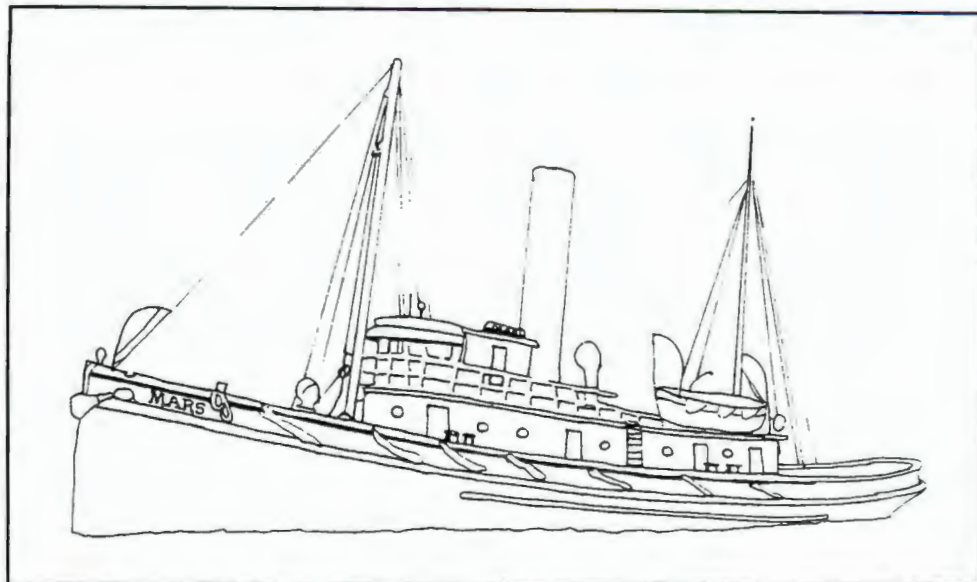
of Cape Cod Bay. She no doubt sank very quickly, as the forward six feet of her bow was sheared off cleanly down to the keel.

Because of two factors we assume that she was hit on her starboard side. First, the rudder remains in the hard-to-port position, indicating she was turning, or attempting to turn, to port at the time of the collision. Second, the sheared-off bow is lying flat on the bottom, adjacent to the port side of the hull. In order for an iron hull of this type to suffer such a clean break along a frame—from rail cap to keel on both sides—it would have to sustain a severe impact from a stronger steel hull of much greater tonnage, over a relatively small area, such as the *Mars'* bow.

The *Bidwell* arrived in Boston about the 20th of September without any reported damage to her hull. However, it is entirely possible that a 6,837-ton, steel-hulled tanker could collide with and sink a 278-ton, iron-hulled tugboat, and sail on unscathed. Although we searched, there was never any press in local newspapers regarding the deaths, or the rescue of the crew of the *Mars*.

Some artifacts are still recovered from the *Mars*, even after 50 years of submersion. Last year a porthole rim was recovered from the debris on the forward deck, and on this anniversary dive, an old medicine bottle was recovered from the silt inside the wreck. All the portholes have been stripped from the iron hull, but to the best of our knowledge, no one has ever publicly claimed to have recovered any of the wheelhouse artifacts. The bell, telegraph, compass, etc. may still be hidden underneath some of the wreckage and shifting silt, waiting for the lucky diver to look in just the right place.

After diving the *Mars*, we felt that sense of accomplishment that only comes after successfully completing all the objectives of a wreck dive, and we were sorry that the dive was over. Back on the surface, we all agreed to come back next year, and can't wait to see what the winter storms have uncovered, around the wreck of the *Mars*.




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tek.93

an emerging technologies conference

by Barb Lander

When tek.93 convened in Orlando this year just before DEMA, it was overheard that seldom in diving was there an assemblage of so many persons who needed no introduction. Indeed, the movers, the shakers, and doers of the technical diving industry gathered to review their accomplishments, set new goals, as well as to identify and address their problems as a community.

Authorities in the field of commercial and scientific diving — like Jean-Pierre Imbert of Comes, and Lad Handleman founder of Oceaneering International — shared their accomplishments and insights with a crowd of over 500 participants.



Decompression models, full face masks, and underwater communication systems were among the hot topics, as well as the evolution of nitrox. But the show-stealer by far was rebreather technology. National Draeger and Cis-Lunar presented their latest developments. Quiet, gas-efficient, and increasingly reliable, rebreathers are possibly the future for technical diving.

New Technology . . . the show-stealer by far was rebreather technology. National Draeger and Cis-Lunar presented their latest developments. Quiet, gas-efficient, and increasingly reliable, rebreathers are possibly the future for technical diving.

Workshops were conducted on a wide variety of "tek toys." Participants got up-close and personal with Draeger's rebreather, Dive Comm's sideband underwater communication system, Dive Rite's variable gas computer, and SOS' portable recompression chamber, to name just a few.

On day two, a full afternoon was devoted to operational safety within the context of the here and now. Diver rescue and evacuation, thermal

considerations, fluid management, drift decompression and surface support, were a few of the issues addressed.

Operational differences aside, the tek community was in whole-hearted agreement as Dr. Bill Hamilton received the Tekkie Award to a standing ovation for his contribution to the development of personalized dive tables and safety.



Dr. Bill Hamilton

Divers came away from tek.93 with a sense of community; many learning for the first time that there are others "out there" sharing their drive to explore the

edge of the envelope.

Congratulations to Michael Menduno and the staff of tek.93 for an outstanding program and unparalleled educational opportunity. If you missed this conference, tek.93 Proceeding will be available from Best Publishing Company, 800-468-1055.

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GARVIES POINT MOORING AREA

by Dan Berg

During the winter months, when the frigid weather and strong winds prevent or at least slow down most offshore wreck diving, many divers continue to explore the depths by beach diving. The *Garvies Point Mooring Area* is the perfect winter beach dive location.

First, *Garvies Point* is in a protected cove and is therefore sheltered from even gusty winds. Second, visibility is usually better here during the winter months. And finally, this is truly one of the most productive bottle dives on Long Island.

I was first taken to *Garvies Point* almost ten years ago. During those days we'd swim out and selectively pick up dozens of blob top bottles dating back to the 1800's. We're not entirely sure why the bottles are here; possibly this site was used as a dump or they could be from the centuries of activity as a mooring area.

For almost five years we would periodically visit the site and drag two or three overloaded bags out of the water, each containing only the choicest bottles found during the dive. Over the years as the site became better known and more divers reaped the harvest of old bottles, the productiveness of the area dwindled, as did my interest.

A month ago I revisited *Garvies Point* with Howard Rothweiler and was pleasantly surprised to still find a wide variety of ancient bottles. It's not like the old days but I don't think anyone will be disappointed. Howard and I spent almost an hour in the water and each came up with a half dozen nice bottles. We even found torpedo and round bottom blob top bottles.

To get to *Garvies Point* take the Long Island Expressway to Exit 39 North, Glen Cove Road. Take this to the end where it changes into Pratt Boulevard. Make a left on Glen Cove Avenue and then the first right onto Charles Street. Take this to the end and make a left onto The Place Road, then make the second left onto McLoughlin

Street. Drive to the end and park.

Water access is obtained by walking through the wildlife preserve on the left side of the street. I have not had any parking or access problems in the past, but as usual, I recommend that divers go in small groups and use common courtesy.

Walk through the gate and down the path to the small beach house. Most diving is done to the left or west of this house due to a mud hole located to the right. Plan to dive here at high tide. There is not much of a current but visibility will be significantly better during the end of the incoming tide.

After swimming out a short distance, divers should find some large rocks that lie parallel to the beach. As you proceed out, the bottom will change from sand to

hard mud, and then finally to soft silty mud. Remember to stay neutrally buoyant, off the bottom and try not to kick up any silt.

Another good idea is to keep moving. By continuing to swim, divers can stay ahead of whatever silt they have stirred up. Of course, this also means that you must be able to recover and bag bottles without stopping.

Another recommendation is to be very selective with the bottles you pick up. Anyone can fill a bag with bottles but most will be modern. I try to take only old cork top and blob top bottles. I would highly recommend doing some reading and learning about bottles before diving this site. It will not only help you to be

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The **Bridge** also integrates with your personal computer to give you additional planning information. By downloading your dive log entries you can learn from your previous dives and log a permanent record of conditions, locations and other pertinent information. It is truly a revolution in DC's.

ORCA - the manufacturers of the original **Edge** and now the **Marathon** and **Phoenix** (see review on page fourteen) have made the **Phoenix** in a nitrox version. In its simplest terms this unit works only with nitrox 32% O₂ mixtures which will allow for a maximum PO₂ of 1.6 ATA's at 132 fsw. The **Phoenix Nitrox** measures gas consumption and no deco and decompression times and displays them on a large easy to read panel. Like its air brother, the **Phoenix Nitrox** can be mated with a PC based

download feature which allows for permanent logging and planning of dives.



Parkway's **Legend Dive Computer** delivers the data. The **Legend** starts automatically when submerged past four feet. Digital readouts and symbols display on an easy-to-read luminous LCD screen. The **Legend** also warns if limits have been exceeded, such as ascent rates (33 ft./min) and missed deco stops. It can operate to depths of 330 feet and for total times reaching 199 minutes. The **Legend** continues to display your maximum depth, no-deco time remaining and deco time required.

The future is almost here. **Mares** has developed a no-hose air integrated dive computer called **The Genius**. A small transmitter device pops into the high pressure outlet of your regulator and transmits signals through six million calculations to a computer that you wear on your wrist. Each unit carries its own transmitting "signature" so yours won't get confused with your dive partners'. **The Genius** provides full function no-deco and deco capabilities plus air integration with no hose. We can't wait to get our hands on this one. Unfortunately no photographs were available at this time but we expect the unit for a full review by May.

SERIOUS ABOUT UNDERWATER PHOTOGRAPHY? HASSLEBLAD SWC HOUSING — Victor Hasselblad Inc. announced its new underwater housing designed and built exclusively for the Hasselblad Superwide 903SWC, a unique camera, with the Biogon 38mm T* f/4.5 (90° coverage) lens, perfectly suited for underwater photography.



The new housing will allow the use of the A12, A24 and 70 mm film magazines. The standard 120 film size is almost four times that of a 35mm frame, providing finer grain images. The unit has a corrected optical dome, optical viewfinders, built-in flood detector and will accept all common strobe connectors and strobe arms. The housing is practically weightless underwater and is pressure tested to 400 fsw. I can't wait to see the images we can get with this machine. Combine the large format with some of today's high speed films and your imagination can run wild.

REGULATORS — Dacor has added an addition to their line of Extreme and Extreme plus regulators — **The Extreme Ice**. They have added a teflon coating to the second stage internal housing and lever. This will aid in preventing freeze up in extremely cold water. The ultralight second stage has a user adjustable air injection knob to help you fine tune your

breathing effort. The first stage has a unique pressure sensing device that compensates for deeper depths to provide you with more air as the external pressure increases.



John Stella with the Dacor Extreme Regulator

Sherwood has made some significant changes to its **Blizzard** regulator. First they have added a third heat sink in the second stage exhaust area away from the incoming cool air which transfers heat to the lever assembly. This feature helps prevent freeze up in very cold water. The metal parts are further enhanced with a teflon coating.



Sherwood's first stage has been designed to provide full volume delivery at intermediate pressures of 120 - 135 psi. This lower IP combined with the dry air bleed system makes the **Blizzard** an excellent choice for cold water diving. Featuring five low pressure ports and one high pressure port, hose configuration is almost limitless. It has been a tried and true workhorse for years, and these new improvements will make the **Blizzard** a regulator of choice for the cold water diver.

Poseidon regulators are now distributed in America by Parkway. The Poseidon Odin has become a mainstay of the technical community. Its unique venturi

assist balanced diaphragm eliminates the moving o-rings found in traditional piston regulators.



Constructed from chrome plated brass with stainless steel springs, the first stage is completely sealed against water and contaminant entry. The second stage is made from lightweight high impact plastics with a side mounted diaphragm exhaust system. This design prevents "air surge" sometimes experienced in strong currents. A desensitizing switch on the second stage is used to prevent free flow on the surface.

Please — a note of caution for these and all regulators that are used in cold water or on demanding dives. You need to be careful when inflating dry suits and bcd's. While breathing and inflating at the same time the demand on the low pressure ports can drop the intermediate pressure and cause a super cooling effect on the orifice. As a result, when one function is finished a new burst of air pressure could cause your regulator to free flow under water.

NAVIGATIONAL TOOLS

Aqua Explorers Inc. released their new **Wreck & Cave Reel #RA5**. Uniquely constructed from anodized aluminum and all stainless steel hardware, the spool glides on a solid delrin core that spans the entire width of the spool. Other benefits include a larger five-inch diameter spool with approximately 300 feet of heavy 1/8 inch diamond braided nylon line. This heavier line is perfect for wreck diving because it is less susceptible to abrasion.

Divers will also like the unique location of the locking screw located on the outside diameter of the spool instead of the side. Rather than pushing against the side wall, which causes lock-up and unnecessary wear, the pressure is applied downward eliminating unnecessary core wear. We were impressed with the attention to detail on the small stuff such as precision stainless steel screws instead

of plastic. On special orders Aqua Explorers can respool the reel with upwards of 800 feet of thinner line for cave applications. Perfect in size, the **RA5 Dive Reel** will solve real problems.



Digital Dive Research Corporation premiered probably one of the hottest dive tools ever, the **Seagate Digital Compass (SDC 360)**. This is a true digital compass with an easy to read LCD, user programmable for navigational courses and headings. It features an automatic return for back-tracking where you came from and will time each leg of your tour.



The **SDC/360** uses tilt compensating magnet sensors to maintain a high degree of accuracy. The unit can neutralize itself against all of your metal dive gear. It is suggested that it would work well over the metal debris field of a wreck with much greater accuracy than a regular compass. Some other neat features are the ability to program a specific search pattern, squares, rectangles, zig zags etc. This product will be available in March.

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HOW DEEP IS DEEP?



USS KENDRICK

by Stephen J. Lombardo, MD

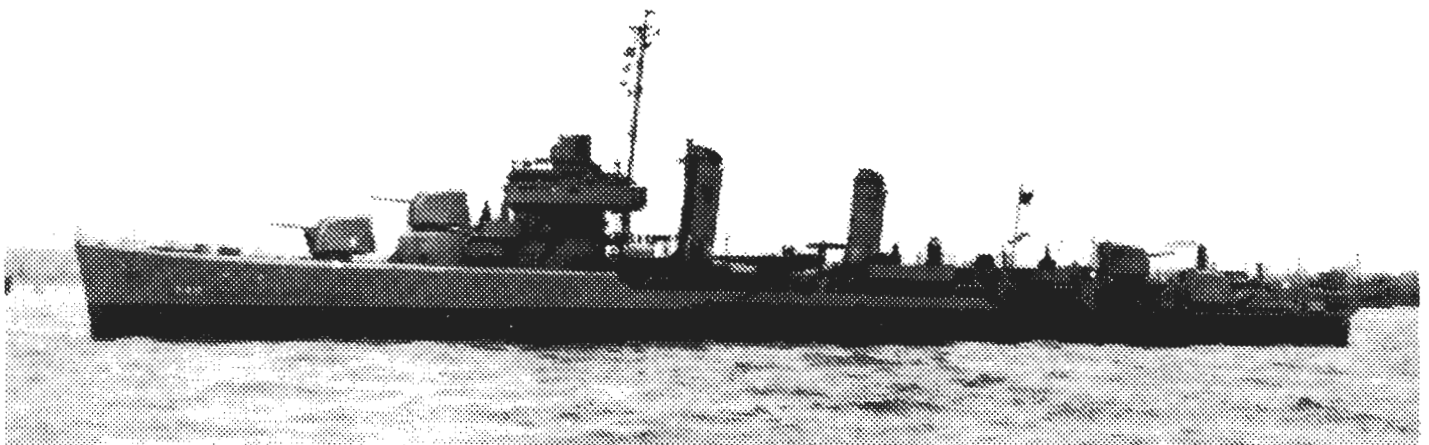
On January 17 a dive was made to the wreck of the *USS Kendrick*, a destroyer sunk by the US Navy during explosives testing in 310 fsw south of Key West, Florida. The dive team was led by Captain Bill Deans of Key West Diver, whose name has become identified

made several years ago by Deans. As we neared the end of the week of preparation, specific dive plans were elaborated, complete with contingencies. We wanted no surprises.

Although the weather had been perfect all week, 25-knot winds visited

attempt, which was successful. After removing seventy feet of scope from the descent line and securing it to the stern of the *Key West Diver IV*, it was our turn to dive.

My dive partner Bob Raimo and I gave each other a final OK as we



with the cutting edge of deep, mixed gas dive technology and whose high tech dive center provides some of the finest support and training for divers who want to dive deep with as much safety as possible. For us, this expedition represented the culmination of ten months of steady training and preparation. We felt ready.

The week immediately prior to the "big dive" was spent diving progressively deeper wrecks, performing multiple gas analyses and fine tuning equipment configurations. Tables, which had been customized for 310 fsw by Dr. Bill Hamilton, were copied onto slates for 15-, 20-, and 25-minute bottom times. The run-time schedules were double checked almost to the point of memorization.

Actual Bristol Class Destroyer models were built and studied, together with the one videotape of the first dive

us on the scheduled dive day, making a layover mandatory. When the next day's dawn broke clear and calm, we knew it was a go. The trip to the wreck passed rapidly, and the impressive profile of the destroyer on the bottom finder served only to heighten our anticipation. We were there.

A grappling hook was sent down, marked with a large orange Gloucester ball, and several passes later we knew that we had hooked the bow of the *Kendrick*. At this point, Captain Marcus Neese and diver George Irvine were sent down the line on scooters to secure the downline. However, Murphy was there when Irvine's DPV imploded at 200fsw, carrying him rapidly to 250fsw before he was able to cut it free. Both he and Captain Mark safely ascended to the surface to re-group before their second

dropped into the clear blue water, amazed to be buoyant despite the 300 pounds or so of equipment each of us was carrying. The swim from the surface to 110 fsw was made on EANx 36, carried in one tank of five each of us was wearing. After switching to bottom mix and continuing our rapid descent, we reached 235 fsw only to be met by a ripping two-plus-knot current. This made the rest of the descent a hand-over-hand position as we resembled flags in the wind. Our computers read 297 when we finally reached the foredeck of the *Kendrick*.

The hook indeed was securely positioned in the bow, and a strobe was immediately attached to it. After giving each other another OK signal, it was time to drop over the side towards the sand. After we reached the 300 plus mark we completed a brief exploration of the

wreck, up the forecastle to view the forward stack, then past the barrette which had provided support for the destroyer's twin 5-inch 38-caliber guns, reaching the anchorline and beginning our ascent at exactly 15-minute mark.

Our decompression stops began at 140 fsw, and were uneventful except for a fleeting thought that *SD Magazine* should be here. The comment made by their editor, "if you go below 130 feet, you die" will live in infamy.

Although the switch to EANx 51 at 70 fsw represented the highest PO₂ we were exposed to, at 1.56 ATA, there was not even a hint O₂ toxicity symptoms. The final switch was made at 20 fsw to the 100% O₂ in our wing tanks. Surface supplied O₂ was rigged, and before we knew it, the digital readout was "99 minutes," signalling the end our decompression ceiling. The "big dive" was over.

This is not an article to glamorize deep diving. Many people have done much deeper on mixed gas, some even on air, with just as much preparation and safety. The intent of this article is to share my dive with the readers of the *Journal*. All of the divers who participated enjoy diving to *any* depth, and find satisfaction in overcoming the challenges inherent in *any* dive. We felt confident because our equipment, preparation and training were appropriate to the dive, and this should be true of any dive.

No one on the expedition had made fewer than a thousand dives, and some significantly more, in environments which represented their own matrix of challenges. And the surface support given by Captain Deans and his staff have become legendary, due to their excellence and comprehensiveness . . . but now I'm being redundant.

What are the medical implications to a dive of this depth? Firstly, carbon dioxide toxicity was thought to be more of a consideration than oxygen toxicity, since we always kept the PO₂ well below 1.6 ATA. At 310 fsw it was 1.35 well below the 1.45 working level.

Further, we made it a point not to exert ourselves to any extent greater than that necessary to accomplish a limited tour of the wreck. Safety dictated extreme conservatism, especially in light of the fact that nearby Special Forces chamber was down, and no one wanted

to have to take a chopper ride anyway.

Another consideration in CO₂ production is fitness. Captain Mark dives for a living and is in excellent shape, plus he had an Aqua Zep! George Irvine is a master swimmer who exercises constantly. Bob Raimo and I both work out exhaustively—if not, we couldn't have stood up with our rigs, much less get down the descent line. The greater the fitness level, the less the CO₂ production for a given level of work. A physically fit diver is a confident diver.

Narcosis is always a consideration at depth. But with the use of Trimix 13/50, we felt as if we were on air at 130 fsw despite our depth of 300+ fsw. In addition, the extensive training and preparation led to a confident attitude which I find the most potent weapon against narcosis. The Mount-Milner Test, described in Bret Gilliam's book, *Deep Diving*, show how one's mind set can largely control the level of narcosis experienced.

In summary, a dive to 310 fsw was made, after extensive preparation and with excellent surface support. The dive was a great success, and perhaps can serve as an example of how real obstacles can be honestly overcome if a team is

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determined to do so. The physiology behind the tables we used is real. The obstacles we had to overcome were real, as were the contingencies we established for emergencies.

It is important to realize, however, that a dive in the clear calm Caribbean, is very different from the cold, dark Northeast, and more training and preparation is needed before a dive to an equal depth up North. But, regarding the deeper parts of Wreck Valley or the Graveyard of the Atlantic, one can truly say that "Getting there is half the fun!"

HEALTHY RESPECT

Whether you're minutes or many hours from the surface, attitude is every bit as important as the equipment you're carrying. The fact is, your safety, and the safety of your team depend on it.

Caution: **Humility**. A healthy respect for the risks involved. And the commitment to minimize them. Appropriately. Daring may take you there but it won't necessarily get you home.

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TANK BRACKETS

What do you do with a pony bottle, "stage bottle" or accessory that you want to mount to a tank? Three manufacturers have come out with interesting designs that give you a choice of mounting positions and price ranges.

The simplest unit was the **Scuba Duba**, manufactured by **Dive Inc.** This unit loops around your tank valve and is secured with an elastic band. It's so simple and inexpensive that if you like to travel with a small pony, this is the unit for you. Don't let its light weight fool you, it is strong enough to handle tanks up to 40 cu. ft. in the rough Atlantic.

Reef Scuba Accessories has redesigned their famous **Pony Tamer** with a stainless steel insert pin that allows for a smoother connection and no bending of the bracket. For the larger ponies there is a second pin that mounts at the bottom of the tank, securing it. Priced in the \$60. range, it's a quality product.

Next we found the **Murray Tank Coupler**, made completely from solid marine stainless steel machined to standard aerospace tolerances. This unit appears indestructible.

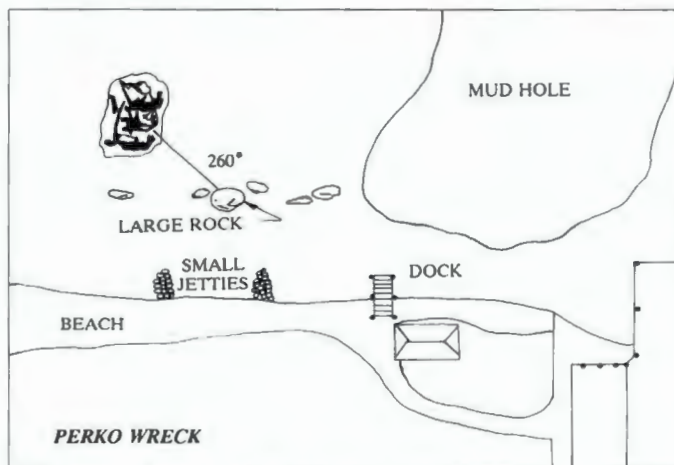


The stainless steel bands mount the machined steel groove to your main and pony cylinders. The two units are then mated to each other tongue-and-groove style and secured with a quick-release stainless steel pin. The **Murray Tank Coupler** is completely versatile and made for rugged use.

Each manufacturer who attended DEMA has built their products upon one basic tool, the aqua-lung, and each has its place in the sea. Use your gear wisely. Your equipment may be excellent but it's not responsible for you. Safe diving in '93. See you at Beneath the Sea next month!

DIVE WRECK VALLEY

continued from page 7



Garvies Point Mooring Area with location of Perko wreck.

each, take only the old ones, and continue your dive. It seems that beneath the silty bottom is a nearly endless supply of bottles. During high winds the vessels moored above cause the mushroom anchors to drag and in doing so they plow up bottles that would have otherwise been buried.

The water might be cold and the wind may be blowing. But with a dry suit and a little motivation, winter beach diving is an excellent way not only to stay in shape and maintain your diving skills, but obtain an excellent bottle collection. I know that Howard and I will be returning. Maybe we'll see you there, in an area known as Wreck Valley.

more selective while diving but in many case it will save you the work of dragging a bag full of worthless bottles back to your car. One so-called trick of the trade for finding bottles here is whenever you cross a mooring anchor chain, follow it to the mushroom anchor. Around it will be a pile of bottles. Carefully look at

each, take only the old ones, and continue your dive. It seems that beneath the silty bottom is a nearly endless supply of bottles. During high winds the vessels moored above cause the mushroom anchors to drag and in doing so they plow up bottles that would have otherwise been buried.

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SURFACE
INTERVAL
WITH:

Captain Eric Takakjian

by Barb Lander

Some people take to the sea as if they were born to it; others truly are. So it is with Captain Eric Takakjian. Raised in Piermont, NY, he doesn't remember a time when boats were not part of his life.

Eric was ten when he owned his first boat, at eleven he started working in a boat yard during the summer. Fresh out of High School he worked a four and a half year stint with the Coast Guard as a boatswain's mate. Eric explained how he ran 44-foot motor lifeboats, mostly on search and rescue missions that culminated in towing boats that had broken down.

After the Coast Guard he became a Merchant Marine officer. Currently, he spends his winters as a captain or mate on a tugboat, docking big ships and handling barges, in New York Harbor.

But from May first through October, he and his wife, Lori, run his dive vessel, the *Grey Eagle*. For six seasons, Eric has been exploring the wrecks off Massachusetts. I asked him to tell me about the *Grey Eagle* and his voice took on a note of almost paternal pride. "It is a 36-foot Mannino, and it was built for wreck diving. We are certified for 18 divers, but never carry more than 14."

When Eric mentioned he'd been diving for 20 years, I did a double-take. He explained that he was certified at age twelve and made his first wreck dive at fourteen, on the *Black Warrior*. It took a few minutes to reconcile this fresh-faced "kid" with an experienced captain and diver. Surprisingly missing are the marks that life on the open water leaves on a person. Smooth-faced and clear-eyed, Eric doesn't sport the weathered appearance and crow-footed squint characteristic of those who have made their lives on the sea.

Even the 37-42 degree water off Massachusetts has not left its mark on Eric. I asked him to share his secrets for keeping warm. He explains that it



is a lot of little things like being well rested, eating a big dinner the night before, and a good breakfast. Eric continues his advice, warning not to get cold before you get in the water, he wears insulated coveralls and suits up below. Staying dry is essential and when there is no thermocline, Eric suggests limiting your bottom time, keeping the length of decompression in mind.

Eric admits to being stymied when I asked him to pick his favorite wreck. He says, "It's hard to say; you like different wrecks for different reasons." He mentions the *Pinthis*, a Shell Oil tanker in 105 feet of water, the steam tug *Mars* with lots of brass and big cod fish in 130 feet of water, and the *June K* scuttled in 1959 in an area of good visibility, but he can't pick one as his favorite.

He admits to really liking the *Bass*, more for its size than anything, and the *U-853* yielded one of his favorite artifacts this year, a roll of well-preserved charts. Eric concludes, "You never know what you're going to find."

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ORCA's PHOENIX DIVE COMPUTER

a product review

Just as the mythological Egyptian bird rose from its ashes after 500 years to enjoy a renewed life so has ORCA with the Phoenix Air-Integrated dive computer. Unlike its predecessor the Delphi, which was a little ahead of its time when introduced, the Phoenix has been designed to provide flawless performance on even the most demanding dives.

Using a decompression algorithm that has been in use for over nine years and over five million manned dives, on square profiles the Phoenix is more conservative than the U.S. Navy Table limits. After use on deep dives (150 - 210 fsw), the decompression model

proved to be as conservative if not more than some custom tables we used.

Now the fun stuff. It's big, easy to read, and simple to use. Attach it to the high pressure port on your regulator, turn on the valve and within ten seconds it comes to life. After fifteen seconds the screen will light all functions and go through a self diagnostic mode.

The Phoenix will scroll your previous three dives and then begin the dive-plan mode for no-decompression limits, an excellent planning tool. As you descend and begin breathing the microprocessor goes to work monitoring your breathing rate and cross-referencing it with the no-deco limits. The Air/Nitrox limit shows you how long your gas will last based on tank size and pressures.

Other features of the Phoenix include a temperature gauge, and a graphic nitrogen bar indicating the rise and fall of your nitrogen level as you compress and decompress. For

decompression diving the screen will show a ceiling limit and a total ascent time allowing you to know where to stop and for how long.

We liked using the Phoenix — its simple easy to read screen puts it all in front of you. The Phoenix is available as both an Air unit and a Nitrox 32% O₂ version, from your ORCA dealer.

For a dealer near you contact: ORCA at (703) 478-0333



As with all dive computers you must use the initial limits as guidelines and build in your own personal safety factors when you plan your dive. Your equipment is not responsible for you.

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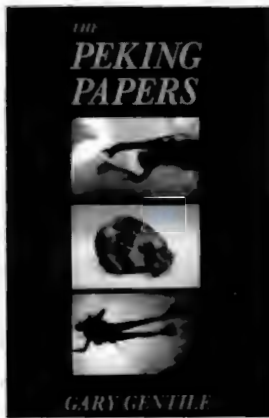
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NEW BOOK

The Peking Papers

by Gary Gentile

a review by Barb Lander



Prolific author, Gary Gentile, adds a new twist to his offerings, an action-adventure novel entitled *Peking Papers*. Not surprisingly much of the action takes place underwater as William Waldo Hutchinson II tracks down the remains of the Peking man, reported to have been lost in a shipwreck during World War II.

Hutch, a peach-loving academic who wrote his doctoral thesis on the Peking man can't understand why he has been abducted to spearhead the search. But the attempts of the terrorists to blow him out of the water offer him little recourse but to co-operate with his abductors, a wise-cracking, gun-toting secret agent, and a seductive Naval Intelligence officer. International intrigue results as terrorist factions compete to attain the secrets of the Peking man. Plot twists abound as Hutch and his companions fight for survival. What secrets does the Peking man hold? The thrilling conclusion will leave you breathless.

So if the winter seems just too long, and too cold to dive and a trip to warmer climates is out of the question pick up *Peking Papers* for a \$20 trip to the South China Sea and the dive adventure of a lifetime. Available from Gentile Productions, P.O. Box 57137 Philadelphia, PA 19111 or ask for it at your professional dive retailer.

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MARCH

- 6-7 BOSTON SEA ROVERS 39th Annual Underwater Clinic. Two days of films, presentations, workshops on U/W photography, tech-diving, O₂ administration and dry suit repair. The oldest dive show in the nation. Copley Plaza Hotel, Boston, MA, Contact: (603) 432-1997

- 26-28 Beneath The Sea 17th Annual Dive Show See The Titanic in 3D plus 50 other spectacular programs. Plus over 140 exhibitors from dive centers, clubs and equipment manufacturers. Westchester County Center White Plains NY.

- 26 Extended Range Diving Organization Second Quarter report and discussion of the issues of extended range diving. A 1 1/2 hour workshop at Beneath the Sea for information contact: (516) 889-1208

APRIL

- 1 Delaware Underwater Swim Club is sponsoring their 20th Annual Swap Meet at the Delaware Association of Police Building, 2201 Lancaster Ave. Wilmington Delaware. The Swap Meet is open to the public for a \$1 admission fee. 7 pm - 11 pm Contact: Lois Impagliazzo (302) 571-5920

JULY

- 10 Second Annual Undersea Hyperbaric Medical Society Recreational Diving Symposium. The focus this year: "Physiology of Diving Injuries." Featured speakers are: Surgeon Commander Francis of the British Royal Navy, Dr. Carl Edmonds, Australia, and others. The specially selected faculty will present the latest medical information about decompression sickness, neurophysiology, lung injuries etc. Halifax, Nova Scotia, Canada. Contact: Dennis Graver (206) 387-8043 fax (206) 387-6683

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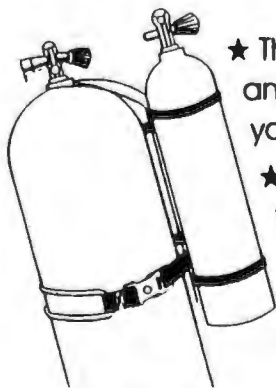
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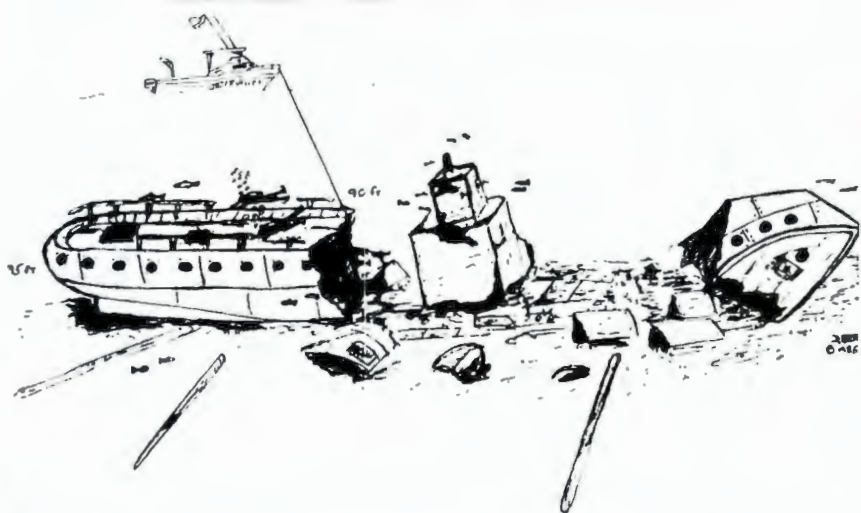
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The Pilot Boat

by Kirby Kurkomelis



The Sandy Hook rests in 100 fsw just east of Ambrose Tower. Sketch by Dan Berg.

Pulling myself down along on the granny-line was like doing chin-ups at the gym; my triceps were bulging. The current was fierce and my mask straps were straining to stay on. Finally, the anchorline. Dropping slowly, I felt the cold water entering the tiny cracks in my gloves on this cold November morning. The visibility was dark but clear. At 30 fsw I could still hear the waves crashing on the surface. Looking down, the only images I saw were divers' bubbles disturbing the beam from my light. The closer I came to the bottom the more excited I felt. Below me, the *Pilot Boat*.

On my the boat ride out to the site I was thinking about the *Sandy Hook*, also known as *Pilot Boat #2*. Her history was very strange. She started out a private yacht built in 1902, christened several times over the next 12 years, in 1914 renamed the *Sandy Hook*. She was 168 feet long by 24 feet wide. Her duties were to sail into the Atlantic to meet incoming ships, guide them back to New York Harbor, and to escort ships out of the harbor.

On a warm morning in April of 1939, she waited in a dense fog, seven miles outside New York Harbor. With her training crew of apprentice pilots aboard, the *Sandy Hook* was rammed by the Norwegian ocean liner *Oslofjord*. The *Pilot Boat* sank in 100 fsw.

Once on bottom I noticed the large debris field. A large mast lay broken twisted in the sand with smooth brown algae growing on its surface. Porgies fed on shrimp hiding in the algae. Swimming towards the bow I saw two divers working on catching a four-pound lobster. Swimming by them I smiled. Not enough food for three divers.

In the distance an anchor still hung fastened to her deck. Swimming towards the bow I saw that the hull was tight in the mud, ribs sticking up filled with fishing line. Below, I flashed my light inside a hole where a porthole once kept out the wind and sea. There was room for me to explore, maybe find an artifact.

Trying to enter the bow ever so carefully, I reached inside to grab a bottle lying in the mud. The bubbles from my regulator exhaust and the dislodged bottle disturbed the silt, blinding my vision. Reminding myself that I hadn't told anybody that I was going to penetrate the bow I backed out.

I headed back along the starboard side towards midships; the two divers finally got that lobster. Looking down at my gauges I had 15 minutes into the dive. (As always, I checked my alternate air source too.) The wheel house was easy to find. There were six lights flashing the way.

I examined the structure where the glass was blown out. No wheel in sight, plus it was too small for me to penetrate. Inside there was a large spider-crab waiting for someone's mask to pull. As I looked at the remains of the wheel house, I wondered how the Captain and crew could not have seen or heard the ocean liner *Oslofjord* in the fog.

Dropping down to the sand to look for bottles I could see a lobster hiding under a piece of debris. At this point I reached for my first lobster, a two-pounder. I'll take it. Making my way towards the stern, I saw my second lobster hiding at the end of the broken smoke stack. While grabbing the lobster my hand went into the silt and kicked up a storm. But I didn't let go of the lobster.

Checking my gauges once more it was time to head back to the anchorline. Looking back it was a good dive. The *Pilot Boat* has many more artifacts to uncover. At 15 fsw I began my safety stop. The current was still ripping. I was sharing the line with six divers; it was as if someone was giving out doughnuts. Lunch would be waiting after the hang. And soon after, another dive. . .



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JANUARY 1993



SUB AQUA JOURNAL begins the *Dive America Tour '93* in Key West heading out to the Wilkes Barre, with Key West Diver.



Evelyn Dudas and John Chatterton at tek.93.



Jim Cleary and Bob Raimo at the SSI party.



Captain Steve Bielenda present Dick Long and Pam Oliva from DUI with USS San Diego Artifact Verification plaques, plus a special artifact for Pam.



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Capt. Steve and Janet inspect their new Live-Aboard the WAHOO TWO!



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Capt. Tom Conlon
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Fishing & Diving Charters
Captree

Southern Cross*

Capt. Phil Galletta
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Babylon Village Dock

Wahoo*

Capt. Steve Bielenda
Capt. Jonet Bieser
(516) 928-3849
Heated Cabin & Hot Soup
Captree

1993 SPECIALTY TRIPS

Apr	4	USS San Diego
	17	Eureka Tug
May	5	Coimbra 180'
	11	U-521 ??? 230' overnight trip
	21	Lillian 140'
	22	Texas Tower 80-180'
June	11	Coimbra 180'
	12	Texas Tower 80-180'
	24	Andrea Doria 170-250' Expedition
July	16	Andrea Doria 170-250' Expedition
	19-22	75th Anniversary USS San Diego
	24	Texas Tower 80-180'
	26	Republic Expedition 220' (516) 889-1208
Aug	6	Coimbra 180'
	14	Texas Tower 80-180'
	19	Oregon Overnight

NORTH CAROLINA

Margie II*

Capt. Art Kirchner
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Cape Hatteras

Scuba South I & II

Capt. Wayne Strickland
(919) 457-5201
Year Round Diving
Southport

RHODE ISLAND

Thunderfish

Capt. Bill Palmer
(203) 269-0619
U-853 & More
Rhode Island & Conn.

VIRGINIA

Rudee Inlet

Capt. John Conway
(804) 425-2997
Virginia Beach

Sundowner*

Capt. Nike Seamans
Capt. Trueman Seamans
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Virginia Beach



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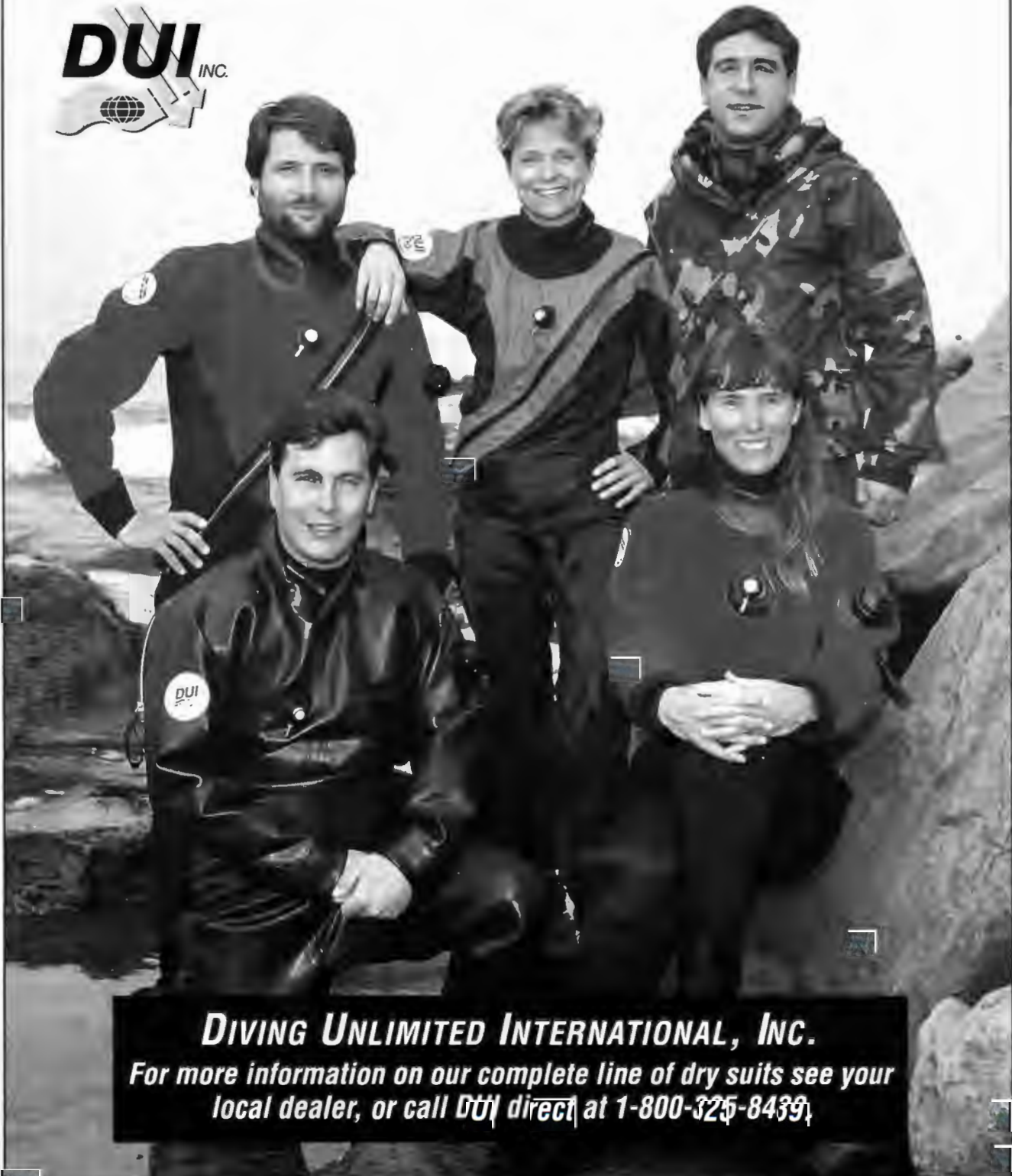
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