

I know that screens its guests to ensure they come for the diving and not for a week of alcoholic partying. The motto of the booking office — “No sleaze on the high seas” — is only half humorous. At least one passenger I regret knowing personally was removed from the *LCDII* mid-trip some time ago because of his obnoxious and crude behavior. He is now permanently blacklisted. Here is a boat that provides luxurious comfort, great crew, great diving, and — although there are no guarantees — great guests. I suspect that the repeat ratio on this boat is the highest in the industry.

## Details

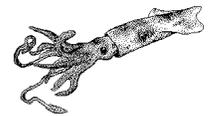
**Booking:** *Little Cayman Diver II*, P.O. Box 280085, Tampa, FL 33682-0058, telephone 1-800-458-BRAC or 1-813-932-1993, or contact a dive travel wholesaler. Total cost (except tips) is usually \$1,595 for a week. Check for specials for repeat guests or to fill the boat close to sailing dates.

**Travel:** *LCDII* boards passengers on Sunday (most a little after midnight, when the flight from Grand Cayman arrives). There are several options: (1) from the U.S. on Cayman Air via Grand Cayman (plan on a lengthy wait until the 11:30 p.m. departure for Cayman Brac; unless you are staying over on the Brac, departure is very early the following Sunday morning); (2) Gulfstream from Miami, two hours on a 19-seater with no toilet, overflying Cuba direct to the Brac (there have been reports of an excess baggage charge of \$45.00 by Gulfstream, although Gulfstream prices were very competitive when they started service); or (3) another carrier like American, USAIR, or Northwest to Grand Cayman and then Cayman Air or Island

Air in a very small plane to the Brac. Again, expect long wait time between flights in Grand Cayman.

**Accommodations:** There are five cabins with individual bathrooms on the cabin deck below, all of them different. They all have windows. Number One, forward, has less floor space, but has two long bunks. The washbasin area is separate from the toilet and shower, allowing shaves and showers simultaneously. Number Two, still forward, has the bathroom across a small hallway from the bedroom. Number Three is amidships, very roomy for two people, but — with an extra

upper bunk for a third person — could be the most crowded if the boat is fully booked. Number Three is also closest to the engine-room generator, so it has some noise at night. Number Four has a large double bed and large bathroom with bathtub. Number Five, aft, also has a double bed; it is very roomy, and well away from the engine noise. My suggestion for loving couples with considerable camera gear is Number Five. Two singles who are heavy sleepers would probably like Number Three.



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## How Safe Is Your Air? Or, How Well Do You Trust Your Dive Shop?

We've all been diving compressed air with confidence for years. We joke about “bad air” in some of the more remote dive destinations, but we generally take for granted that the air we get from our local dive shop is, somehow, certified as being — well, air. Are these warm fuzzy feelings about our air fills justified? What standards, if any, apply to compressed air quality?

The Compressed Gas Association (CGA) has published standard “G-7.1-1989 Commodity Specification for Air.” This is the reference standard for commercial compressed life-support air used by fire departments, hospitals, and industry. G-7.1-1989 (often called simply “CGA”) specifies limits for different “grades” of air that are

incorporated into compressed air standards set by the Occupational Safety and Health Administration (OSHA) for fire brigades, commercial diving, and many state fire agencies. Commercial divers and divers for the National Oceanic and Atmospheric Administration

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(NOAA) and the U.S. Navy can be assured that their air conforms to CGA Grade E or bet-

ter. Except for a few state jurisdictions, however, air fills for recreational diving are immune from mandatory conformance to any particular quality standard. For sport divers, air quality has been left entirely in the hands of the compressor operator.

Fortunately, this situation is changing. The technical diving community has led the way in establishing formal criteria for air quality. At the tek.93 conference in January 1993, the two most influential mixed gas agencies, American Nitrox Divers International (ANDI) and the International Association of Nitrox & Technical Divers (IANTD), agreed on the first-ever inter-agency testing standard — a criterion that is a good deal more stringent than CGA. The recently formed Technical Divers International agency (TDI) has been quick to establish its own, similar criterion.

Of the recreational certification agencies, only PADI has a formal air-quality program in place. All PADI 5 Star dive centers are supposed to have the results of quarterly tests by an independent laboratory maintained on file at PADI. Tested air must meet the CGA Grade E standards, which deal with air used at depths down to 130 fsw. When contacted for this article, the NAUI spokesperson was vague at best, referring us to “individual city and state regulations in your area.”

Just how well *do* dive shops control the quality of the air we depend upon at depth? The answer, it seems, is a resounding “It depends.” We did an informal survey of dive shops in Southern California and Florida. Of the 20 operations contacted, only 9 had formal

programs in place to do laboratory testing of their delivered air. One large PADI 5 Star facility claimed they test the air themselves every 6 months but were unclear about the standards. Of the 9 operations that actively tested, 7 were active mixed-gas facilities.

Many of the agencies we talked with are putting increased emphasis on air-testing

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criteria. Both PADI and TDI currently have their programs under review, with more stringent requirements expected to be implemented soon. Most of the dive shops in our survey that weren't already testing indicated that they were in the process of implementing some sort of air-testing program.

With more and more government rumbling about scuba air-quality legislation and the ever-increasing threat of litigation, smart operators are getting their acts under control.

Typical of this new awareness is Sport Chalet, a chain of 17 shops in the metropolitan Los Angeles area and San Diego. Sport Chalet's dive training director Gordon Boivin has already installed 12 of 17 scheduled new state-of-the-art Bauer high-filtration compressor systems equipped with NYAD-CO inline carbon monoxide protection. These systems shut down the compressor

when carbon monoxide levels exceeding CGA Grade E are detected in the supply air. Boivin claims that this happens quite often in summertime Los Angeles. In addition, Boivin has recently reinstated a quarterly independent laboratory testing program.

Nitrox divers, by the way, generally have a slight edge when it comes to CO-contaminated air. Physiologically, carbon monoxide acts as a function of the proportion of oxygen in a mix. The higher oxygen percentage in enriched-air nitrox might provide an additional margin of safety to a diver against the effects of minor carbon monoxide contamination.

But the most important protection offered by the nitrox diving community — even to conventional compressed air divers — is that mixed-gas dive stores which meet the leading technical agencies' criteria for air quality have met the most rigorous standards in common use for compressed air quality. For example, CGA Grade E, used by PADI 5 star centers, allows 10 parts per million of carbon monoxide; the U.S. Navy standard allows 20. By contrast, the standards agreed to by the leading technical agencies (IANTD and ANDI) allow only 2 ppm.

If you plan on diving *below* 130 feet, you'd better be very careful about your air quality. Increased partial pressures tend to multiply the toxic effects of contaminants, and the effects of some contaminants are cumulative. Maximum short-term exposure to CO (15 minutes in 24 hours) is 400 ppm.

So how do you know if the air

in your tank is safe to breathe? It isn't easy. Detector-tube test kits are available to test for carbon monoxide, but they're generally only accurate to within 20-30% — and they don't tell you anything about condensed hydrocarbons or methane.

The best thing you can do at this point is to talk to your dive-shop operator. Find out what he does to assure safe, high-quality air fills. Ask to see his last quarterly testing record. Trace Analytics of Austin, Texas, and Lawrence Factor of Hialeah, Florida, both offer quarterly testing programs for under \$300 per year. Trace's special PADI pricing is about half that, so there's really no

excuse for a shop not having its air tested. And while quarterly testing doesn't insure that every air fill is safe every day, it does imply a certain level of care and integrity on the part of the operator. The bottom line? Don't take your air fills for granted.

For further information, contact one or more of the following organizations:

Trace Analytics, Inc.  
Ruby Ochoa  
(800) 247-1024  
fax (512) 328-4122

Lawrence Factor, Inc.  
Michael Casey  
(800) 338-5493

PADI  
Roger Josselyn  
(714) 540-7234

IANTD  
Patti Mount  
(305) 751-4873

TDI  
Dave Sipterly  
(305) 853-0966

CGA  
1725 Jefferson Davis Hwy., Ste.  
1004  
Arlington, VA 22202



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# Close Encounter of the Shark Kind

## Running with the Bulls off Florida

*The letter below argues that you don't have to travel to exotic locations to get major thrills from the underwater world.*

Dear *In Depth*:

Near West Palm Beach, there is a dive called "The Cave." It's usually reserved for advanced divers, since it's 140 feet down with occasional strong current. Bottom time is but 10 minutes. The idea is to hit the water, head for the bottom, swim quickly through the 60-foot tunnel, and beat feet for the surface. My dive buddy and our divemaster, a retired Navy Seal, normally refrain from such depth; besides being 10 feet beyond the recre-

ational limit, there's just no bottom time.

However, one particularly beautiful morning we decided to splurge. We are all advanced divers and experienced as a team.

After the usual details of time and terrain, our divemaster advised, "Expect to encounter something large." My buddy and I looked at each other, shrugged, and rolled backwards. We hit bottom in under a minute, squared away our equipment, and checked computers. The visibility was fantastic as we swam along the side of the underwater mountain. I had already forgotten our

divemaster's closing remark.

Within a minute we came upon the entry to the cave (really a tunnel). As previously agreed, the divemaster pointed at the entry and then swam over the top of the mountain to wait for us at the tunnel's exit. I looked, my buddy looked. No sweat, I thought, since we could see the other end clearly.

When we were no more than 25 feet in, a 7-foot blacktip shark shot out with lightning speed. *Wow, how exciting . . . Interesting — sharks run away from you . . . What incredible speed. . . .* Then it occurred to me that the black-tip was the