

Say Good-Bye To Some Old Favorites

--And Two New Tips

Every so often we take a pause in our travel review routine to update as many destinations as we can. Relying mainly on questionnaires and letters from our readers, we try to indicate which of hundreds of destinations have provided great service and great diving -- and which have not.

There have been a number of changes in dive travel recently. More people are interested in more bottom time -- so live aboard dive boats are getting more customers. The quality of resort dive operations seems to be improving just about everywhere, due to a lot of corporations and private investors pumping in money. With improvement comes a continued increase in prices. It wasn't long ago when you could go just about anywhere in the Caribbean for a week with diving and lodging costs for under \$700, airfare from Miami included. Now, you're lucky to do it for \$1000. For a liveaboard, it's \$1000 plus airfare. Oh, what an expensive habit we have.

Which makes me wonder why more people don't take advantage of tax deductible dive trips. We ran a list in July. There are others. Earthwatch needs people for Australian Great Barrier Reef trips in November and December. The approximate \$1700 tab, plus airfare, is deductible (call Susan Halter at 617/926-8200 for information). Several public aquariums use volunteers to collect fish: San Francisco's Steinhart and the New England Aquarium are examples. If this appeals to you, try your local aquarium.

But, I digressed. Back to changes in dive travel. Consider the effect of politics and terrorism. If you leaf through those enticing advertisements in Skin Diver you may notice that a few places have disappeared in the last year. Haiti. The Red Sea. The Maldives. Even the Philippines is getting less play. American tourists are staying away from any nation where there is the slightest chance of violence. And some dive operations are suffering.

For many years we recommended one operation in Haiti for "aquarium diving." The proprietors, Alan and Eva Baskin, foresaw the potential fall of Baby Doc, so

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they closed shop and hightailed it to the British Virgin Islands. We also planned on-site reviews this year of a couple of "unknown" Haitian operations that were said to offer exceptional diving. No need to go now.

American tourists are avoiding the Philippines so boat dive bookings have fallen way off. Though politics is the primary cause, local fishermen are dynamiting reefs, shell merchants are dredging reefs, and fish collectors are poisoning reefs. Dive boats still can reach virgin diving, but the Aquino government will need to take action against the exploiters if it is to maintain the Philippines' national treasure. Marc Weiss of the International Marinelife Alliance tells Undercurrent that he believes the government will crack down on illegal dynamite fishing. Officials recognize the threat to future stocks of food fish. However, because shells and tropical fish attract foreign dollars, dredging and poisoning will most likely continue.

Business is suffering in Central America because of fighting in Nicaragua and El Salvador. That shouldn't be the case in Honduras, since the Bay Islands are far-removed from the revolutionary politics of its neighbors. Nonetheless, many proprietors have told us that dive travel has fallen by a third or more. Some operations (for one, the dive boat Heddy, booked by See and Sea) have shut down.

Americans are often a bit ignorant about foreign lands. Dick Batchelder, once involved with the Riding Rock Inn on the Bahamas' San Salvador island, told Undercurrent that "whenever an untoward event in El Salvador was mentioned by the news media, reservations dropped 20%. And when something drastic happened, like the killing of the nuns in El Salvador, cancellations ran as much as 30%." This, despite San Salvador being in the Bahamas and El Salvador in Central America -- with the entire Caribbean in between.

La Mer and See and Sea have canceled their trips to the Red Sea. They can't get the customers. Nancy and Bob French who operate Sea Safaris canceled their March trip. They told Undercurrent that services on the Sinai remain fully operational because there has been no drop in tourism from Europe or the United Kingdom.

Because most travelers change planes in Sri Lanka, off India's tip, to get

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to the magnificent Maldives, Maldivian travel has dropped due to the Tamil uprisings and the bombing of a Sri Lanka passenger jet. La Mer trips are routed through Singapore, so owner Amos Nachoum has been able to keep operating. See and Sea has dropped its trips.

The attitude of local people toward tourists, American or not, can be just as unsettling to some travelers as the threat of terrorism. People who can afford to take pricey dive trips are whisked away to their air-conditioned hotel and boat as soon as they exit from customs. Once sequestered on a dive boat or in a resort, one almost always finds a friendly attitude because business is at stake. But if one intends to see the sights, traveling in a country of hostile people is no fun. A vacation is to be relaxing, not filled with hostility and stress.

Are Women Divers Smarter Than Men?

Is there a typical diver? Does the personality profile of a sports diver differ from ordinary mortals? No doubt everyone has an opinion, so British researcher Jacky Sayers decided to find out by the administration of a questionnaire to 230 certified divers in Britain. This is a synopsis of those results, as reported in the British magazine *Diver*.

★ ★ ★ ★ ★ ★

There are many theories of personality and many methods of assessment. Because of the ease of administration, I chose to use Catell's 16PF questionnaire for my study. His questionnaire is destined to assess personality traits which he defines as structural entities "inferred from and expressing the character of relatively permanent feature of behavior."

Diving is classified by insurance companies as a "dangerous sport" and considerable work has been carried out to investigate the personality characteristics of such risk-takers.

Most of the few investigations involving divers in particular have found them to be sensation-seeking, masculine, stable and intelligent and to have low levels of anxiety. On the other hand, one study did find divers to show introverted tendencies and repressed aggressiveness. However, all these studies involved commercial divers and American sports divers; it appeared that no such investigation had ever been carried out on British sports divers.

Analysis of the scores in my study showed little departure from an average profile i.e., few extremes were seen in the profiles. However, the divers virtually were all above average intelligence. The female divers even had higher average scores,

than their male counterparts.

All the divers showed a tendency towards assertiveness; they were competitive, adventurous, unconventional and independent.

The divers also showed a tendency towards tough-mindedness. (This is a trait name used interchangeably with "masculinity", so it could be said that the divers showed a tendency towards masculinity.) Such individuals are self-reliant, responsible, practical, emotionally mature, non-nonsense types.

The females were on average more tough-minded than their male counterparts.

Masculinity and femininity tend to be culturally defined and extremely resistant to change. In other words, society has a distinct view of the "female" and "male" roles, and what characteristics are desirable in each sex. Dangerous sports are traditionally viewed (by men and women) as a male domain and, as such, unsuitable for females. It therefore requires a special type of woman to escape from the traditional female role stereotype, to overcome the all-too-common protests of friends, family and often other divers, and to begin the sport in the first place.

That female divers are a bit "special" is indicated by their high intelligence and tough-mindedness. The females in this study also had a lower than average regard for external values and social rules, and a carefree, adventurous nature. The findings of my study are in agreement with several others that have shown female athletes to possess personality characteristics more similar to the average male or the male athlete rather than the average female.

While some operations are hurt economically by unrest and terrorism, others are benefitting, especially in the Caribbean, Cozumel, and the Bahamas (although here the locals can be a bit surly). The reefs of Fiji, Micronesia and Australia are getting increased use from those with the big bucks. Overall, there has been no decline in dive travel, but a switch in destinations. People running trips from the States have generally not been hurt. It is those with the compressor or the dive boat at the other end who are getting hammered.

Now, what about this issue's travel review? While I'm waiting to collect all the questionnaires that are being sent in from the last issue, let me tell you of one dive boat that several of our readers have written effusively about: The Little Cayman Diver. Everyone who dives around the island of Little Cayman finds the diving legendary, that is the kind of Caribbean diving that presumably only lived in prescuba legends. It's been dived for a few years from the tiny hotels of Pirate's Point and the Southern Cross Club, from an occasional pass by the Cayman Aggressor Winston McDermott's day boats from Cayman Brac. Now, however, the Little Cayman Diver, a spanking brand new liveboard housing 16 people has become "everyone's" favorite way to dive Little Cayman. And Winston McDermott's in charge.

Now, I've not even seen this vessel, but our readers tell us it's the cat's meow: cabins with a single upper and a double lower. . . .individually air-conditioned. . . .a toilet and shower for every two cabins. . . .a large fantail for lying back. . . .an enormous diving platform. . . .excellent and plentiful food. . . .a crew that bends over backwards to help. . . .well, you get the picture. And the diving? In a word, super. Great drop offs, live reefs, and plenty of fish. . . .including some big babies. Let me just offer comments from two of several readers who traveled on the Little Cayman Diver.

Betty Oxford of Brandon, Mississippi, wrote: "I have stayed on several live aboard boats and have had lots of fun; this trip was excellent. . . .In six days, some of us made 32 dives, exploring the tunnels and caves, the hanging coral gardens, dramatically twisted reef formations, and amazing sites full of sparkling fish, sea fans, uncountable species of sponge, and much more. On a dawn dive we even saw eight spotted eagle rays sailing past the wall. . . .The crew did everything, even taking my gear when I got on the platform and rigging a new tank for the next dive."

Alexander Irving led a trip for the Atlantis 2 Dive shop in New York. He wrote: "Winston McDermott designed this boat from the bottom up; step aboard and you know it was designed for comfortable living and diving. . . .The diving was nonstop and world class: clouds of tropicals, many spotted eagle rays, occasionally browsing black tips, multi hued sponges, gorgonia, tunnels, chimneys. About the best diving I've done in my ten years. . . .Five stars for both beginners and experienced divers, as the dive sites offer both shallow and deep spots at the same place. . . .Lest this look like a paid advertisement, I'd better mention that the weather was unfortunately poor -- clouds and squalls almost the whole week, but it didn't spoil the diving."

These aren't isolated comments. Everyone sends their accolades. So, if you're inclined, call La Mer at 800/348-3669 for reservations. The price for six days and nights aboard the Little Cayman Diver is \$895.

And how about a mountain diving resort? We once found one on the Caribbean island of Saba, where one stays in cool accommodations high in the hills and is trucked down the slopes to some pretty fine diving. There's a similar place on Lanai, an undeveloped Hawaiian island with 2,100 residents.

To seasoned Hawaiian divers, Lanai has some of the best diving in the islands. Although several shops on Maui advertise great diving, they get to it by traveling up to an hour to cross the channel to dive off Lanai. Here, one doesn't find colorful hard and soft corals or beautiful sponges and gorgonia. The background is often bleak, the scenery rugged, the water surging. But drifting through the beautiful Cathedrals is breathtaking and just about anywhere one drops in are a good number of multihued Pacific tropicals (butterflies, tangs, parrots, surgeons, triggers, moorish idols and even lion fish) and occasional white tipped reef sharks. Some people who have cut their teeth on the easy diving of the Caribbean don't like Hawaiian diving; a little too rugged and not enough color in the underwater terrain. That's all true, but I still find it exciting, especially around Lanai.

So I can vouch for the diving, but not the diving operation which has been operative less than a year. Several of our readers, however, say it's terrific. One beds down at the Hotel Lanai, 1600 feet above sea level, nestled in the pines, not the palm trees, where the evenings can be foggy and chilly. The Hotel, built in 1923, is now being leased by Ocean Activities Center in Maui, which has done some refurbishing of the quarters. Still, it's a simple retreat with ten rooms and, until the developers hit the beaches, it's the only hotel and restaurant on the island. To get to the dive boat, a van takes you down the hill. But, let me tell you what our readers say:

Paul Magnuson of Washington, D.C. writes: "Lanai offers terrific lava tubes filled with all manner of sea life. I spotted a 3 ft. whitetip reef shark napping under a ledge. The area abounds in morays, some of which have been fairly domesticated. I saw many lobster, red banded shrimp, spectacular nudibranchs, and a spotted eagle ray which allowed me very close approaches. There are a lot of fish and few people -- it's not overrun with tourists. The hotel food is surprisingly good and the service friendly. The rooms were clean, attractive, and cheap. The bar closes at 9:30 p.m., and at 7 a.m. a loud whistle blows to beckon the pineapple workers to their jobs."

Byrd Gleason, the divemaster and hotel proprietor, gets good marks from our readers. One respondent wrote: he "is outstanding; he gives thorough briefings, dives the plan, and delivers on his promises -- and he's easy going, too!" Karen York, of Crystal Lake, Illinois, writes: he was very knowledgeable about the dive sites, pointing out many things we might have missed. We did 2 dives each morning from his 22 foot open boat, then spent the afternoons hiking and exploring the mountains around Lanai. This has a much different atmosphere than any resort I've ever visited -- it's intimate, friendly and totally enjoyable. The food was wonderful, the staff great, and the residents of Lanai City friendly and outgoing."

To a person, this little outpost gets good comments. I'm going to look it over myself before too much longer, but in the meantime I wondered what happens if they have too many divers and fill up their 22 footer. I called Byrd, who said "we haven't had any problems so far; we can bring a 30 foot boat over Maui if we have notice." For information write: Hotel Lanai, Lanai City, Hawaii, 96763 or call 800/624-8849. Six nights accommodations and five, two-tank dives run \$399/person. Add another \$150-\$200 for food, bar bill and incidentals and you get away for under \$100/day plus airfare. Take a wet suit top; water in the winter can be in the mid-70s or lower.

C.C., Travel Editor

Three Brothers Flaunt Florida's Death Trap

--Cave Diving Fatalities Now In The Hundreds

Isn't it sickening that 273 divers have died in Florida's freshwater springs and caves since 1960?

That's the figure reported recently by the *Miami Herald* and there's no reason to disbelieve it.

After all, since 1970, nearly 40 divers have died in just one system, Ginnie Springs. Sixteen of those have died in just one area, a place called Devil's Ear.

Three died in mid-August -- three brothers. Gary Fuller, age 36, lived in Jacksonville, Florida; Michael, 31, lived in Coal City, Illinois. Dennis, age 29, lived in Davenport, Iowa. They had done some cave diving before, and had been diving at the Bonn Terre Mines in St. Louis. They were experienced open water divers.

But, they were not certified cave divers.

Billboards beckoning divers to Ginnie Springs line the approaching roads. To dive, you have to register and pay \$14. You don't have to be a certified cave diver to go diving, but if you're not there are warnings and cautions all over the place.

In fact, the park has a rule to prevent mishaps. *Divers not specially certified for cave diving are not allowed to carry any lights into caves.* Said Wes Skiles, one member of the team who recovered the bodies of the Fuller brothers: "There is no temptation in a human being to penetrate into an environment void of light. The powerfulness of darkness in a cave is enough to make anyone turn back if they don't have a light."

But the rule wasn't enough for the Fuller brothers. They forged ahead, challenging the worker at the park desk who first apprised them of the rule and told them that without proper training they should not go into a cave. Next, they questioned one of the grounds people and asked again why they couldn't take lights in the water and were told again they were not trained for cave diving and should not go in.

But in they went. And they took lights. One each. Not the high intensity lights for cave diving, but small diving lights, considered only to be back up lights by trained cave divers. They used no lines to guide them.

All in all, they were to encounter five warnings prior to their dive, including a sign underwater at the entrance of the cave. After the deaths, one of the brother's girlfriends was quoted as saying that all three were "experienced and cautious divers." But it was the wrong experience and not enough caution.

Keith Reccius, a certified cavern diver training to be a cave diver, wrote to us about the tragedy:

"Virtually all of the deaths at Ginnie Springs can be attributed to fundamental errors. Every dead diver was using a single 71.2 or 80 cubic foot tank.

The National Association of Cave Divers has established strict safety procedures, including a minimum of 160 cubic feet of air. Most had no line; NACD requires two reels. Most had one light; the rules say at least three. Some of these divers had one regulator, the rules say two.

"Down there in a deep, dark hole, buried up to your ass in slime with no visibility, you can't read the dial on your watch if it's flat against your faceplate."

"I could go on and on, but *the first rule is only go cave diving if you're a certified cave diver.* Certified cave divers don't drown in caves. Open water divers do because they believe their open water expertise will save them. It won't. Down there in a deep, dark hole, buried up to your ass in slime with no visibility, you can't read the dial on your watch if it's flat against your faceplate. With no line and no light, it's nothing but total disorientation and panic. I don't know what we folks in Florida have to do to keep the untrained and ill-prepared diver out of caves. One death is horrible. Three brothers on a single day unspeakable. And forty?"

A cave diver without a line is a candidate for death. If a light goes out, following the line can get you out. If you forget which branch of a cave you took, following the line can get you out. If you get disoriented, following the line can get you out. Divers not fully equipped and not fully trained, just make too many mistakes to survive.

Skiles recovered the Fuller brothers about twenty feet from one another. He was quoted as saying that "if they were determined on going in, they should have taken a line, and, if they had saved two thirds of their air, I think they would have been able to make it. The line would have brought them back to the entrance and the air would have given them the time. They were not following the fundamental rules of cave diving that keep cave divers alive.

"He had left this message on his slate: 'I got lost. Tell my wife and kids that I love them very much.'"

Just think of how tragic that sort of death is. In 1976 rescue divers went in search of a lost diver in a cave beneath Peacock Slough. They found him, as they always do, but he had left this message on his slate: "I got lost. Tell my wife and kids that I love them very much."

A lot of people have argued that the caves should be shut off to divers. Organized cave divers have fought off those who want to close the caves, arguing that not a single certified cave diver has ever died in one of the caves. Only the foolish succumb. The state regulates caves that are on state property and suspended diving in a cave at DeLeon Springs after two men died last December. But no statewide regulations deal with cave diving on private property.

Many local property owners have tried to keep divers out of their caves. The owner of Peacock Slough, where twelve divers have died, mounded up dirt at the entrance, but enterprising divers just blazed a new trail. People who own the land have taken to guarding them with clubs and guns to keep divers from going exploring. Only three well-known places, Ginie Springs being one of them, remain open for diving. Still, the land is dotted with some 2,000 springs, nearly all of which have at one time or another tempted an adventurous or ignorant diver to explore the pitch black honeycombs below the surface.

Those who own the land fear liability suits from the estate of dead divers, no matter how ill-prepared the divers were. That's surely something to fear. Ginie Springs has kept away from trouble by requiring substantial waivers to be signed by divers. Apparently a couple of suits have been thrown out of court on the strength of the waivers. That doesn't help the poor private landowner who is unable to patrol his property 24 hours a day.

No doubt more and more caves will be shut down to diving. Every year Florida newspapers express outrage about the deaths and every year more and more restrictions and closures appear. We can sym-

pathize with the desire of the certified cave diver to have his playground. At the same time, one has to wonder just how long that playground can remain open to the rest of the diving public.

Ginie Springs and others could restrict diving only to certified cave divers. But, it's unlikely that would be economically feasible -- there probably aren't enough cave divers around. The state could pass a law prohibiting cave diving, which would effectively close down the public parks. But there will always be hundreds of private sinkholes and springs that anyone with a flashlight can find in the middle of the night. Mother nature has created what the courts call an "attractive nuisance" and it looks like the owners of the land and unsuspecting divers and their families will suffer the consequences for now and forever.

This article was prepared with the assistance of several correspondents in Northern Florida, as well as reports from the Miami Herald Wire Service, the Daytona Beach News Journal, the Gainesville Sun, and the Florida Times Union.

The Next Issue

We'd like to remind our subscribers that the next issue will be the joint November-December issue. It will arrive about six weeks after this issue has arrived. The January issue will arrive about six weeks later, after which they'll resume their monthly schedule.

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Equipment Problems Questionnaire

So that *Undercurrent* can continue to remain on top of problems occurring with diving equipment, we are including this brief questionnaire to help you inform us about any problem with your diving gear that might need attention by the manufacturer.

Too often individual problems go unreported. Your assistance will help us see that we can uncover any shortcomings in specific pieces of equipment before they create problems for others.

1. What piece of equipment has had a problem: _____
2. Brand _____ Model # _____
3. Year purchased _____ Bought new [] used []
4. Number of dives using that piece of equipment _____

OVER PLEASE

The Revolution In Diving: Part I

--A Review Of Two Decompression Computers

Dive Computers

The technological revolution in diving is underway. No longer does one have to rely solely on his bottom timer, depth gauge and watch to know when to leave the water. Technology can now do all that for you -- and then some. New computers can give a continuing readout of no decompression limits, signal when you're ascending too fast, give the water temperature, tell you the depth at which you must decompress, and so on.

The EDGE and the Deco Brain 2 have been available for a couple of years. Both are relatively compact and priced around \$600. U.S. Divers has advertised a new meter, though it won't be ready for the market place until next year.

These new computers are based on theories of multi-level diving. If one dives to a specific depth and stays there, the rate of nitrogen build up can be easily determined. But the first thing a sport diver realizes during his first few dives is that he never stays at a single depth and, therefore, the U.S. Navy tables establish too severe limits on bottom time. As the diver rises he absorbs less nitrogen. Shouldn't he get more bottom time?

Of course. And that's why two companies have been able to develop electronic computers which, mathematically, adjust for depth and permit divers,

depending upon the dive profile, to as much as double bottom time.

That, indeed, is a revolution in sport diving.

Are the Meters Safe?

So far as we can tell, the two meters on the market are as safe as using a watch and depth gauge. But people do get bent using them correctly, just as people get bent following the Navy Tables. Bodies are different and each of us, in his own way, has his very own predilection toward the bends, depending upon our age, our physical condition, and a number of other factors that may even include whether we had anything to drink the night before. So, it should be no surprise that two people, diving together, following exactly the same profile, can complete a dive with one person experiencing a bends symptom and the other being perfectly ok.

In fact, in preparing this story we learned of exactly such an incident. We called a number of decompression computer users. In our discussion with Stanton Waterman, underwater photographer extraordinaire, he told us of recently diving with *Jaws* author Peter Benchley in the British Virgin Islands. Both men were using the EDGE and dived the same profile. Benchley, who has had back operation, got bent and Waterman didn't. He's okay, but that "soft spot"

-----cut here-----

5. What was the problem? (Be as specific as possible)

6. Were you or anyone else injured because of the problem? Yes [] No []

7. If so, please describe the injury

Name _____ Business phone _____ Home phone _____

Address _____

Return to: Ben Davison, Undercurrent, P.O. Box 1658, Sausalito, CA 94966

on his body apparently increased his susceptibility to the bends.

So, these meters aren't foolproof -- even though both have been programmed to tables more conservative than the U.S. Navy tables. Jim Fulton, president of ORCA Industries, told *Undercurrent* that of 100,000 recorded dives with the ORCA, they have only 4 documented cases of the bends. No doubt, there are others related to following either the EDGE or the DB2. And if divers rely entirely on the computers without any consideration of their own condition, there will be more. Nonetheless, there is a revolution in diving instrumentation and it seems all for the good.

So good, that once one begins diving with a decompression computer he's hooked. We interviewed a number of users and they all had the same story. They don't want to do without them.

Gary Gentile, who authored *Undercurrent's* two-part story on decompression diving, is typical. He has a DB2 which he bought to cover the deep dives he was doing on the Andrea Doria. "I almost can't dive without it,"

he told *Undercurrent*. Stan Waterman says that "I have two EDGE units and won't leave home without them."

Noreen Rouse, who runs charters out of Fort Lauderdale, says of her EDGE, "I love it. It breaks my heart to think of all the bottom time that I have missed over the years. I got bent following the Navy tables and taking a dive to 70 feet for 40 minutes. I trust the EDGE more than the tables.

Both computers are more conservative than the U.S. Navy tables. The accompanying chart demonstrates that. But a diver gets more bottom time because he begins deep and gradually moves to more shallow waters, using maneuvers too complicated to compute in one's head during the course of a dive, but simple enough for a decompression computer.

We'll talk more about specific problems with the meters in the next issue. We should mention, however, that if there is at all a pattern to injuries while using the devices, it seems that it involves repetitive dives to more than one hundred feet. Where we have been able to get information about bends cases, that seems to be a thread and should be

NO-DECOMPRESSION LIMITS, MINUTES

DEPTH, fsw	EDGE	DECO-BRAIN II	U.S.N.	SPENCER	BASSETT	ROYAL NAVY
30	234	NONE?	NONE	225	220	
33	189	NONE?				232
40	136	99	200	135	120	137
50	77	79	100	75	70	
53	67					72
60	53	55	60	50	50	57
68		41				
70	40		50	40	40	
73	37					38
78		28				
80	31		40	30	30	32
88		21				
90	24		30	25	25	
92	23					23
98		18				
99	20					20
100	19		25	20	20	
110	13		20	15	15	
112	13					16
120	11		15	10	12	
125	10					12
130	9		10	5	10	
132	9					11
140	7		10			
150	7		5			
160	6		5			
165	6					7

NOTES

1. The DECO-BRAIN II scrolls only from 40 to 98 feet.
2. The Royal Navy tables are in meters sea water, but converted to feet here.
3. The Spencer and Bassett tables stop at 130 fsw.
4. Princeton Tectonics was only able to provide DB2 readouts in meters.

seen as a caution to divers using them for deep dives to wrecks or in other situations.

Coming Up:

One of our writers has taken the EDGE and DB2 off for underwater testing and we'll provide his comments on both units in the next issue. Indeed he, and we, have a clear preference.

The U.S. Navy has been testing the accuracy of the hardware and we hope to carry their report in a subsequent issue. Our officer responsible for the testing said the tests so far show highly accurate depth readings, most always within ± 2 fsw and no greater than ± 4 ft. That's far superior to standard depth gauges which can give widely different readings, being off by ten feet or more.

We'll tell you more in the next issue.

Sanitary Napkins And The Air You Breathe

--The Case Of Three Sick Divers

If you've been diving very long, then chances are you've had more than one tank of air pumped by a compressor using a sanitary napkin for the air filter.

Sanitary napkins have been used as a filter by many people in the industry for a couple of decades. Elmer Munk, who owns Elmer's Water Sports in Evanston, Illinois, told *Undercurrent* that "the gauze in sanitary napkins is wonderful. I used them for 20 years until I got my new compressor. I never had one problem with them. They did the job." Many other dive store compressor operators reported the same results.

David Barney, service manager of Mako Compressors, told us that use of sanitary napkins in the filtration system is "very widespread in the industry. They're used quite often when someone runs out of chemicals."

Compressors generally have a three stage filtration system: (1) the air goes through aluminum powder to trap moisture, then (2) through charcoal to trap odors, and (3) through cotton balls, gauze, or some other material, including sanitary napkins, to filter out any charcoal dust.

Newer compressors use a cartridge containing all of these. In older compressors, the operator replaces each item separately. In some models, a cloth-type filter is placed between the aluminum powder and the charcoal to reduce potential aluminum contamination.

To some readers, the use of sanitary napkins as compressor filters might seem like a full story itself. But wait. There's more to it.

On September 7, we received the following notice from Ron Young, an insurance agent who serves much of the diving industry:

The use of sanitary napkins should be discontinued immediately as a filter in the filling of any dive tank cylinder.

Apparently, the napkin manufacturer has recently changed the product and the new napkin omits toxic carbon monoxide which will cause harm to all users.

Please do your part to notify all parties in sport diving who may presently use sanitary napkins and are not aware of this new dangerous hazard.

We learned that a problem had occurred at one dive operation in Florida (the name of which we had to agree not to disclose in order to pursue this story). On one dive boat, one out of seventeen divers became ill; on a second boat, two of eleven divers became ill.

All had used air from the same compressor -- a compressor which had a Modess sanitary napkin as a primary filter.

The divers were sent to the hospital for observation, then released. The hospital analyzed the air and found a high degree of carbon monoxide, saying that the plastic wrap on the sanitary napkin may have been the contaminant.

A BC With Bladder Problems Recalled

Thanks to telephone calls alerting U.S. Divers to a serious problem with its new Mistral Buoyancy Compensator, a national recall has been issued. U.S. Divers attorney Leslie Wolf told *Undercurrent* that a couple of shops called to report bladder problems with the BC. After an investigation by the company, it halted distribution and asked that all models sold be returned.

Brian Miller, Director of Customer Service, says there were no reported failures while the Mistral was in use.

The Japanese-made Mistral has only been on the market since May. By the end of August 50% of those sold had been accounted for. Most of these were still on dive store shelves or in rental programs.

U.S. Divers is replacing the faulty BC with its proven Calypso BC, which retails for roughly \$100 more. The bladder used in the Mistral is not used in any other U.S. Divers product, says a company spokesman, and they will discontinue the Mistral line entirely.

If you own a recalled Mistral, *don't use it*. The bladder may come apart or burst. Return it directly to the store at which you bought it for a free replacement. A Mistral is easy to identify -- "Mistral" appears on the lower right hand pocket.

If you have any questions about the product or where to return it, you may call U.S. Divers collect at 714/540-8010.

The compressor operator immediately shut down the compressor, cleaned it completely, and switched to another filtration system. He, however, did not believe that the sanitary napkin caused the problem because so few people had been affected.

"I've used these for years," he said, "and never had a problem. Never."

The divers were out of the hospital quickly, but a lawsuit may be in the offing. An insurance investigator began checking into the claim and concluded that Modess was to blame. He conveyed that information to Young, claiming that the manufacturer had changed the product and it was no longer suitable for filtration.

Young, relying on that information, acted conscientiously and quickly conveyed the problem to the industry, hoping to prevent any additional injury to divers.

We called Modess and the people there claimed no such changes were made in the product. Ellie Trimboli of the Consumer Affairs Department of Personal Products Company (a division of Johnson and Johnson) said "to the best of my knowledge nothing has been changed in the production of the pad in the past five years or more. Sales and production have been declining since the introduction of beltless pads so it doesn't make sense to us to change the product."

She claimed no knowledge that the pads were being used as compressor filters.

Morgan Wells, Director of the NOAA diving program in Washington, D.C., questions whether the napkin is the culprit. "These things have been used for bandages in Viet Nam as well as being used for air filtration since they came on the market. They are often used in surface-supplied air because they pick up moisture as well as oil. They have been used for decades with no problems. I would have to see the gas analysis before I could believe this was caused by use of the sanitary napkin."

Undercurrent could uncover no evidence that the napkin was at fault. Shop personnel have since concluded that the increased carbon monoxide content was probably attributable to the compressor overheating. The compressor had overheated and it was shut down as soon as that was discovered. A few tanks apparently got filled and those found their way to the dive boat.

All in all it was a scare. And apparently without much harm.

But it does raise a significant issue.

Compressed air for breathing under pressure is being filtered, in the final stage, with a product that was never intended for that purpose.

At least one manufacturer of sanitary pads claimed not to know of this use. It's conceivable that others don't know either.

Sanitary napkins contain synthetic materials. The people who manufacture Modess told us what goes into their product, from the inside out: a paper pulp filter, a tissue paper insert, a plastic moisture proof layer, another tissue paper insert, and a nonwoven rayon cover, all held together by some sort of adhesive.

Some sanitary napkins are treated with chemicals to retard odors or deal with other problems.

What does this mean to the quality of air? How do these materials respond to increased pressure? To increased heat? Could it be that the increased heat in the compressor caused the synthetic materials or chemicals in the sanitary napkin to produce toxic gases?

Furthermore, as the manufacturers get new ideas about what makes a good product for the purpose for which it was originally intended, they will make changes in the materials and the chemical additives. There's not much of a reason, here, to inform the dive industry -- or even consider it when the changes are being made.

We can't find anyone who has tested sanitary napkins and the air they deliver under compressor conditions. You can't expect the manufacturers to conduct those tests. After all, their product is not intended to be used as a compressed air filter.

The truth is that no one *has* to use a sanitary napkin to filter air. It's just that they're cheaper and easier to obtain than standard filters. Wouldn't it seem prudent for anyone pumping air to use a product whose contents are subject to specifications for air filtration rather than for napkin use?

Watching Your Portfolio Go Up

--While You Go Down

Picture yourself stretched out in the warm sun at one of the Caribbean's better resort hotels. You've had a fine morning dive. A good book, a bottle of suntan lotion and an empty glass rest on the little table to your left. A good friend dozes in the chaise near yours. Should you order two more rum punches? Maybe the cold lobster and a bottle of chilled chablis for lunch? Why not? After all, you own a piece of the place where you're staying. Or at least you could.

Over the years, *Undercurrent* has occasionally reported to our subscribers on potential investments which might earn back some of the dollars we divers spend on our sport. Each has been a diving-related enterprise. Here, we offer another such investment idea, perhaps the best. But who knows? We can only assure you that what follows is -- as the brokers say -- "based on information we believe to be correct." But we assume no responsibility. You're on your own. We can only assure you that we mean well. As

this is written, we haven't made this investment ourselves. But we probably will.

Enough caveats.

The investment opportunity we're talking about is Divi Hotels, N.V. Divi is one of the largest independent owners and operators of resort hotels in the Caribbean, with six hotels located on the islands of Aruba, Bonaire, Barbados and Cayman Brac. The company operates scuba diving facilities on Bonaire, Cayman Brac, Barbados and Curacao, and gambling casinos in Aruba and Bonaire. In addition, on Aruba (where Divi is the largest employer), it recently completed construction of an entertainment complex, nightclub/conference center, and 27 retail stores. In three of its locations it owns and operates timeshare interests in apartments adjacent to its hotels.

Quite an extensive operation, wouldn't you agree? You may have even stayed at a Divi Hotel. In fact, *Undercurrent* reviewed Divi's Tiara Beach Hotel at Cayman Brac very favorably last May.

What makes Divi particularly interesting to divers is that last year Peter Hughes was appointed Vice President of Marine Sports. In the early '70s Peter began running dive operations on Cayman, then began to open services at hotels on other islands -- the Flamingo Beach on Bonaire, Anthony's Key in Roatan, and elsewhere. He is highly skilled in bringing slow moving operations up to speed, capable of handling scores of divers efficiently. No doubt, that's why Divi wanted him. Through clever marketing, Peter has personalized his dive operations (just as did Bob Soto) so his name brings business. Now that business comes to Divi.

In early 1985, Divi Hotels N.V. first sold stock to the public. The issuing price was 7½; several months later there was a 3 for 2 stock split. The price on September 5 was 8½, right after it went on AMEX. On October 1 it was 6½.

But it all began in the 1960s when Walter Wiggins, now President and CEO of Divi, visited Aruba to acquire property for his own use. He wound up leasing land with a group of friends and constructing a hotel. Wiggins, who holds a law degree, is a highly-regarded chief executive.

The company operates under the umbrella of the liberal tax incentives available for hotel development in the Caribbean. But, obtaining financing in the Caribbean is not always easy -- and is always expensive. So, in July of this year, through L.F. Rothschild Unterberg Towbin, they sold \$50,000,000 of 12¼% notes to institutional investors. It was highly advantageous since it replaces local mortgages, typically short-term, high interest notes, requiring immediate principal pay-backs. The new financing requires no principal repayment until maturity in 1996.

The government on each of the islands in which the company operates is considered stable -- "stable

democracies," as one broker said. And in each market, Divi is making impressive progress. In Bonaire, the company raised year-round occupancy to the high 80% level. At Cayman Brac, the occupancy rate was about 50% when Divi took over. It is now 80%, and there is discussion about expanding its facilities. Because excellent diving is available at both locations, Hughes' presence has helped make a difference -- as has the competent hotel development and management team of Divi.

In its fourth fiscal quarter ending April 30, 1986, earnings were \$1.23 a share on revenues of \$15 million. For the year, earnings were \$.44 a share on about \$40 million in revenues, compared with earnings the previous year of \$.92 a share on revenues of \$29 million. The earnings decline, according to management, was the result of one-time costs associated with opening two new hotels and the entertainment center in Aruba. Properties are said to be carried on the company's books at values probably half their present worth.

For their first quarter of the current fiscal year, ending July 31, Divi had a net loss of \$.46 per share, as compared to \$.33 in the previous fiscal year. The company says that the hotel business in the Caribbean is seasonal, which has "historically resulted in losses during the first two quarters of the Company's fiscal year....and profits during the Company's third and fourth fiscal quarters." President Wiggins said that "our loss was principally due to the expansion of the Company's properties, lower occupancy rates in Aruba due to a six-week halt in inter-island flights to Aruba, and the expansion of corporate activity."

According to Walter Wiggins, "We have nearly tripled our assets and nearly doubled our revenues over the past two years, and believe our earnings will nearly parallel our overall gains as our new acquisitions mature."

In its Annual Report, the company states that it will concentrate this year on the successful development of its newly acquired properties.

But, that doesn't mean Divi will sit still. They're looking at hotel possibilities on Antigua, St. Maarten, St. Kitts, Grenada and Montserrat. And, they will soon commission the *Sea Dancer*, a 110 foot live-aboard to roam the waters of the Turks and Caicos Islands, 550 miles southeast of Miami. Another live-aboard is scheduled for Bonaire.

Should you buy the stock? An investment banker we're in touch with, who's in a position to know, considers it "highly attractive for aggressive investors." As always, however, wherever there is rapid expansion, there is an element of risk. But then, isn't life itself a risk?

For a copy of Divi Hotels N.V. annual report write Divi at 520 West State Street, Ithaca, N.Y. 14850. If you've dived with Peter Hughes, you may be surprised at his picture. He's wearing a coat and tie.