

DIVING TITANIC'S

KEVIN DENLAY

With the early morning Mediterranean sunlight bathing *His Majesty's Hospital Ship Britannic* in a golden glow, the men and women concluded their church service and prepared for a leisurely breakfast. There were no high society passengers on board or hopeful immigrants packed into third class steerage as *Britannic* steamed effortlessly along. She was carrying military doctors and nurses to Mudros to embark the wounded that were being churned out by the savage fighting in the Turkish theater of World War I. It was November 21, 1916.

One of the nurses on board was none other than Violet Jessop, who only four

years before had survived the disaster that befell the *Britannic's* ill fated sister ship, *Titanic*. Little did she realize that for her, history was about to repeat itself! "Suddenly there was a dull deafening roar," she later recounted. "*Britannic* gave a shiver, a long drawn out shudder from stem to stern, shaking the crockery on tables, breaking things 'til it subsided as she slowly continued on her way. We all new she had been stuck!" (Quote courtesy of Jessop/Maxtone-Graham/Sheridan House.)

Captain Bartlett tried desperately to beach *Britannic* on the nearby Greek island of Kea. But her bow began to sink

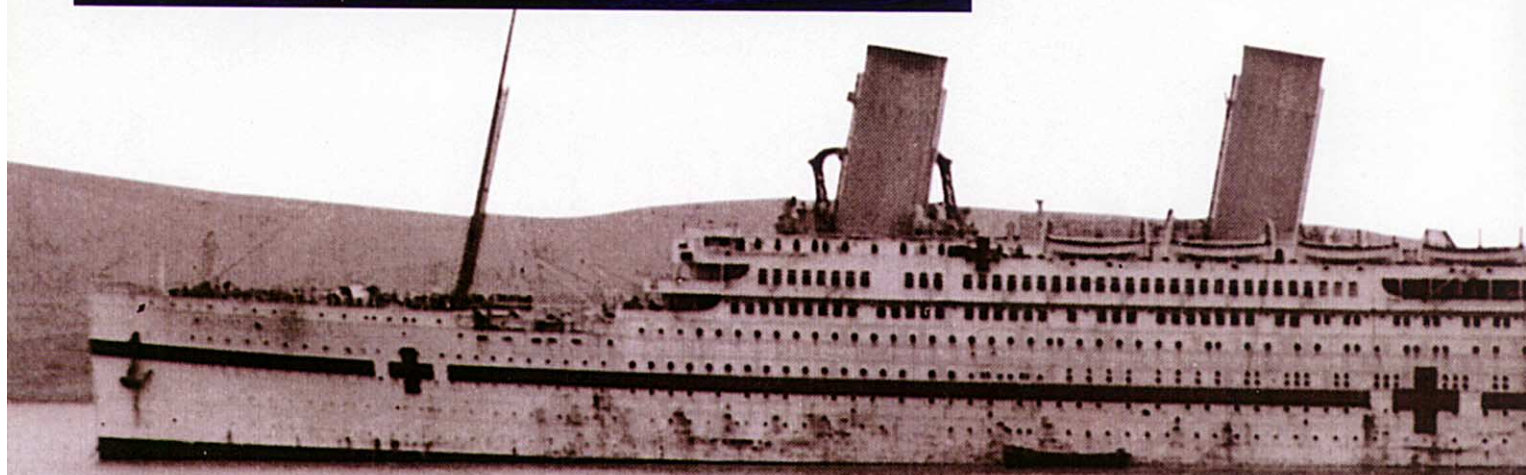
rapidly and within less than an hour *Britannic* had gone down. Of the 1100 men and women on board, miraculously only 30 perished. These had even made it into a lifeboat but were then sucked into the still-spinning, massive propellers.

Why she sank in less than an hour (the *Titanic* took almost four hours) remains a mystery to this day, as after the *Titanic* disaster, the *Britannic's* construction was delayed while modifications learned from her sister ship's demise were incorporated into her design. These included watertight doors extending as high as B-deck, a double skin hull which increased her beam by about two feet and enormous davits capable of handling multiple lifeboats. Although speculation still abounds whether she was sunk by a torpedo or a mine, it is now generally believed that she struck a mine laid the previous day by the German submarine *U73*.

HMHS Britannic was the bigger sister of the legendary *RMS Titanic* and was intended to be another luxury liner, along with *RMS Olympic*, of the fabled White Star Line. Built by Harland and Wolff Ltd. of Belfast, Northern Ireland she was almost 900 feet (274m) long and weighed in at 48,158 tons and was capable of carrying 2,573 passengers. However, she



Divers deploy from "the mother ship."



HMHS Britannic. Built to be a luxury liner, she spent only a short time in service as a hospital ship during WWI before being sunk off the Greek island of Kea, probably by a German mine.

photos: bottom, Action Unlimited; inset, Kevin Denlay

FORGOTTEN SISTER

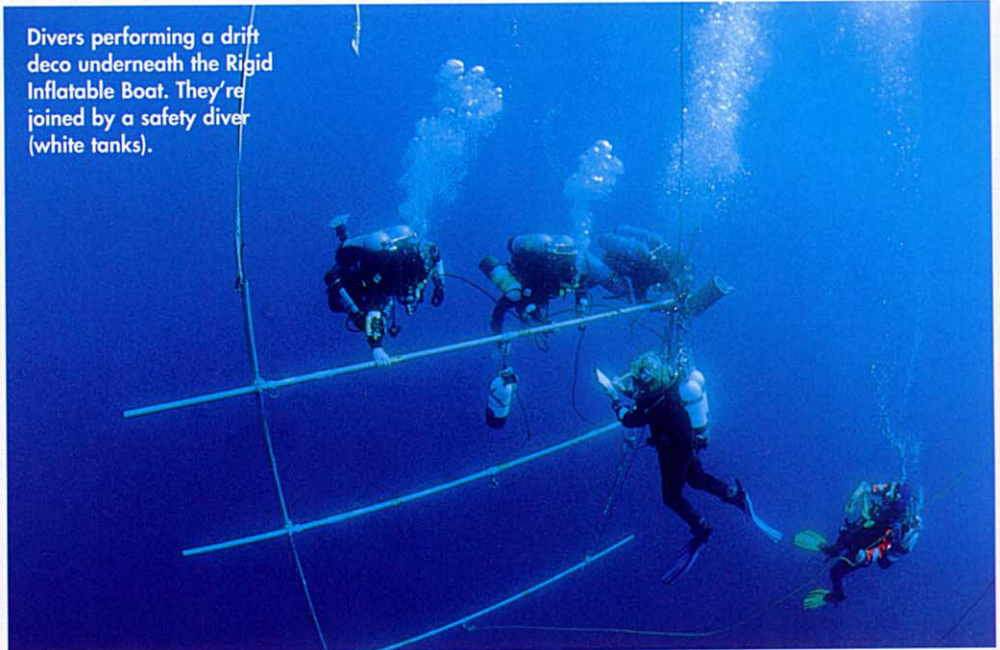
PROJECT BRITANNIC '97

never carried a paying customer as the British Admiralty enlisted her as a hospital ship in WWI. While beginning her sixth mission of mercy in this role, she sank in only 55 minutes in the channel opposite Port St. Nikolo off the Greek island of Kea.

In the annals of lost ships the majestic *Britannic* rates little more than a footnote, but to those who know and remember her she is sometimes lovingly referred to as "the forgotten sister." She now lays on her starboard side facing almost completely back the way she came (about 260 degrees or WSW) and is incredibly intact except for her missing funnels and a huge split just forward of the bridge that has almost torn the bow completely off.

In October/November 1997, 81 years after she sank, an international team of technical divers consisting of individuals from the United Kingdom, Greece, Sweden, Finland and Australia successfully completed approximately 40 man dives to a maximum depth of 400 feet (120m) on *HMHS Britannic*. The team was lead and organized by Kevin Gurr, of Phoenix Diver Training (UK). The project

Divers performing a drift deco underneath the Rigid Inflatable Boat. They're joined by a safety diver (white tanks).



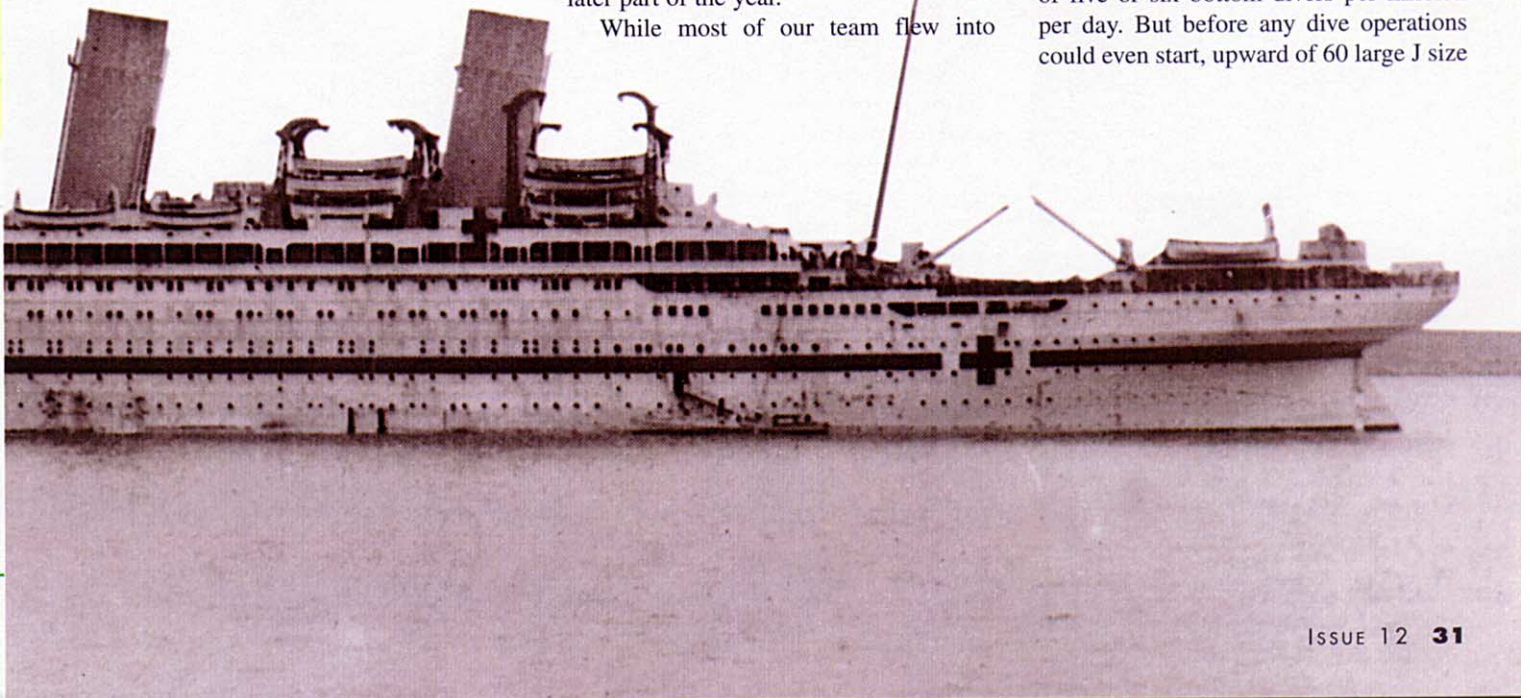
was Kevin's brainchild and he had spent the past couple of years assembling the data and various permits that would allow the team to dive the wreck. In June of 1997 he and two of the Greek team members did a single dive on the location where they believed she lay. Within moments of seeing her immense hull laying on her starboard side he was convinced that this was the *Britannic*, and the stage was set for a major expedition in the later part of the year.

While most of our team flew into

Greece, three team members drove the 10 tons of necessary equipment from England in a large truck. Depending on whose version you accept, Hannibal may have had it better.

Initially getting off to a slow start because of very unseasonable weather affecting the area of operations in the Aegean Sea's Kea Channel, the group eventually managed to dive on seven days over a 20 day period, putting in a team of five or six bottom divers per mission per day. But before any dive operations could even start, upward of 60 large J size

photo: Dan Burton





BRITANNIC FLY BY

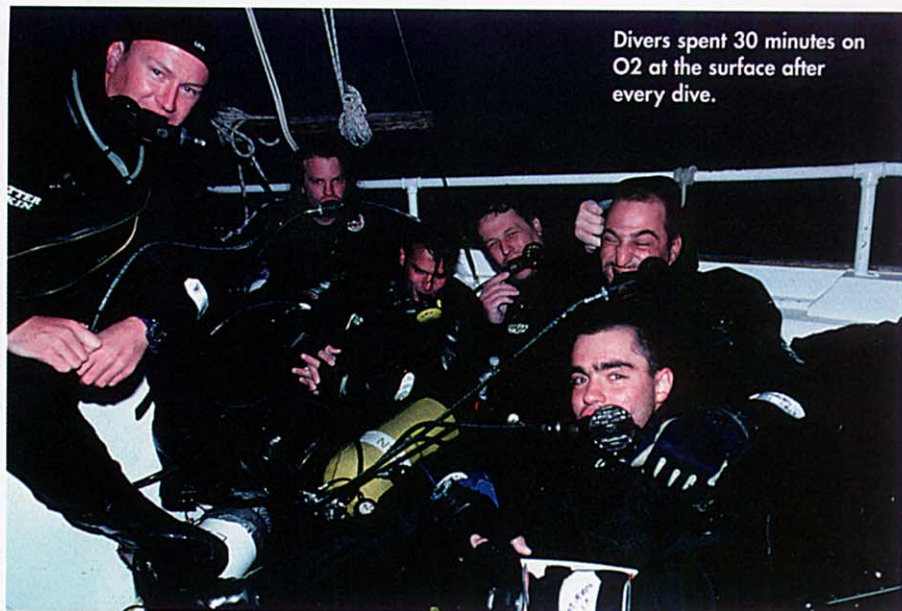
The *Kaptain Vassilis*, is loaded to her marks once more with diving gear, Aquazepp DPVs, cameras and hi-tech military sidescan equipment. The day before three of us on DPVs had aborted a dive on the forward section of the wreck due to a dragging shotline and very strong current, so today our six-member team we will be diving the stern for the first time.

Once on site the stern line is deployed and rechecked for position with the DGPS while the support divers rig and deploy the deco-station and surface-supplied deco gas from the RIB. After the free-swimming divers pull themselves down the line, my dive partner Dan Burton and I enter the water on our Aquazepp scooters (as Kevin Gurr does above) and motor down the line oblivious to the current.

Because of the incredible visibility the wreck first appears from about 270 feet (80m) and we can make out the huge aft lifeboat davit where the shot is secured. I touch down on the hull, and switch on and focus my video camera, which is mounted on the front nose cone of my 'Zepp. Danny is already motoring toward the stern as he wants to shoot some wide angle 35mm stills from off and away from the wreck, he is already 100 feet (30m) away and dwarfed by the sheer size of the *Britannic*.

I motor for a few minutes and reach the sand behind the stern, touch down on the seabed and slowly motor along below the counter stern. It's like entering a huge cave, above me the huge rudder hangs with 10 degrees or more of port helm still applied. I dismount my trusty scooter and try to capture the three enormous propellers on my video cameras. But both time and my meager gas supply are running out. I motor on up to the top rail, past the aft winches and steering gear and along the port promenade deck to the lifeboat davit and the all important upline to the deco station. Danny and I meet up and leave the wreck after a 20-minute bottom time. It was an unforgettable visit to the wreck of the *HMHS Britannic*.

— by DPV team member Alan Wright



Divers spent 30 minutes on O₂ at the surface after every dive.

photos: far left, Dan Burton; top, Mirco Denlay

helium and oxygen supply cylinders still had to be brought over to Kea from the Greek mainland, a operation in itself.

With wind, rain and large seas affecting the general area and offshore dive site, the first ten days were spent fine tuning equipment and running various "what if" scenarios while diving in the confines of the harbor. A rather unwieldy deco station was assembled and tested with numerous bets made on how long it would last. Unbelievably, it made it through any treatment the weather handed out and the rigors of daily deployment. For the actual dive operations we used a small Greek fishing boat as the "mother ship" from which the divers would deploy and the deco station (with bars at 30 feet (9m), 20 feet (6m) and 15 feet (4.5m) would hang below a 20-foot-long (6m) RIB (Rigid Inflatable Boat) that was tethered daily to one of the down lines on the wreck. From this RIB, surface-supplied EAN80 would be fed on whips to the decompressing divers and this same RIB would also be the base from which the safety/support divers would deploy.

We quickly learned that nothing could be left moored to the wreck overnight when, two days in succession, we lost our marker buoys. This development necessitated relocating and "shooting" the wreck each day. It also meant that the dive teams never knew where they would arrive on the wreck from one day to the next. A highly accurate DGPS (Differential Global Positioning System), brought especially from England for the expedition at least made the relocating part easy. The dive teams were broken up into free swimming divers and DPV (diver propulsion vehicle) jockeys. (See sidebars,

pages 32, 34.) The DPVs were fitted with a bracket on the front where a digital video camera was mounted and usually the free swimming divers carried another digital video camera along with lights and still cameras also. But with a wreck the size of *Britannic* it was the DPV jockeys who got the best view, although no one who dived her will ever forget her.

With depths of up to 400 feet (120m), a trimix of 11% oxygen and 60% helium was chosen to keep the PO₂ acceptable and narcosis levels as low as practical because of the filming tasks that required a high level of mental awareness. Since the *Britannic* lays in a major shipping lane, decompression safety was a prime concern. A one-mile shipping exclusion zone around the wreck had been granted by the Greek government during our dive operations window. And generally this was observed, except for the occasional errant tanker or two! Initially we planned to remain secured to the wreck during the three to four hour decompression. This proved unfeasible because of the strong surface current that, once all the bottom divers were on the deco-station, would tend to "blow" the tethered bars up higher than their required deco stops mandated — definitely not conducive to a safe decompression! So more often than not, once all divers were reported on the deco bars (all safety divers except the deep

safety diver wore AGA masks with communications to the surface supervisor) the down line would be cut free and we would drift for the next few hours or so, well outside the exclusion zone, sometimes ending up many miles from where we started. In this instance the mother ship was used as a "blocking force" between the deco RIB and any shipping transiting the channel. Some evenings the sun would be well down before all the divers were out of the water.

Bottom divers carried two deco mixes with them at all times; for any stops below 180 feet (54m) bottom mix (trimix 11/60) was used for deco, air was used from 170 feet (51m) to 110 feet (33m), EAN40 from 100 feet (30m) to 40 feet (12m) and surface supplied EAN80 from 30 feet (9m) to the surface. Safety divers met the dive teams at each gas switch stop depth and they also carried with them two extra bottles of the required deco gas as a backup. The deep safety divers also took the

scooter jockey's DPVs and attached them to a separate up line so they could be pulled back aboard the RIB and not encumber the divers during decompression. On the mother ship was a roving safety diver, geared up and ready to go, and two buoyed drop lines with deco gases attached at the required depths. If a bottom diver did not make it back to the main up-line (they all did) they would shoot a lift bag and the roving safety diver would deploy with the emergency drop line. Also on board were numerous cylinders of EAN80, ready in case the surface supply system failed. But even the surface supply was somewhat redundant as we used two large-supply J cylinders with four whips per cylinder. EAN80 was chosen as the final deco mix over pure oxygen so as to keep the theoretical oxygen clock down, although as anyone with a calculator can work out, extreme dives of this nature will always generate a higher than generally acceptable oxygen clock loading. As most of the final deco was conducted at a PO2 of 1.4ata or less, this never proved to be a problem.

Five days of diving were conducted on the forward section of the wreck, around

the bridge area and the huge split in the bow. One of the ancillary objectives of the mission was to see if *Britannic's* newly fitted watertight doors had closed prior to sinking, but because of the massive damage to this section near the break, this was not achievable. The final two days were spent diving the stern. It was here that the dive team placed a brass plaque to honor the late Jacques Cousteau, who with his team of aquanauts had been the first and only other non-commercial dive team to visit the *Britannic*. (Cousteau and his team were the first to discover her in 1976, and dove her using experimental heliox tables) Since then only oceanographer Dr. Robert Ballard in 1995 (using the U.S. Navy's nuclear research submarine *NR-1* and ROVs) and, reportedly, a hush-hush French Navy team in 1996 have visited the sunken liner. Ours was the very first group to use non-commercial free swimming technical divers to explore *Britannic*.

These propellers caused the only loss of life when a lifeboat was sucked into them. The scrolled armrest of a *Britannic* deck bench (below).



Our team was able to make some 40 dives with more than 800 minutes of bottom time in excess of 300 feet (90m). The expedition was a success as never before seen digital video images were captured and large areas of the wreck and surrounding area mapped with a side scan sonar.

Our team doctor, Dr. Tristan Cope, conducted Doppler trials and recorded scores at the end of every day and this helped to validate the decompression schedules and assist in making any "fine tuning" thought necessary on a day-to-day basis. The decompression tables (all the team used identical tables) were cut using the latest version of ProPlanner (version 7), with an extra micro bubble stop included at 240 feet (70m). And yes, a return is being planned for the year 2000, possibly using closed circuit rebreathers and a bell lockout system. **DI**

PROJECT BRITANNIC 97 TEAM MEMBERS

UK: Kevin Gurr (Project Leader), Alan Wright, John Thornton, Dan Burton, Tristan Cope, Dave Thompson, Gary Sharp, Ian Fuller, Kevin Murphy, Gerry James, Caroline Matthews, Philippa Howard,

Greece: Vangeleis Sotiriou, Alex Sotiriou, Manthos Sotiriou, Kyriakos Kavalaris, George Tzanakis

Sweden: Ingemar Lundgren, Richard Lundgren, Uffe Erickson

Australia/Finland: Kevin Denlay, Miria Denlay

The entire team would like to thank Simon Mills who is the current owner of the *Britannic* and the Greek government for their permission to dive on the wreck, along with all our other sponsors. Interested parties can visit the Project Britannic web site at (www.wdi.co.uk/pb/welcome).

The author Kevin Denlay, was originally tasked to be one of the lead DPV video divers. An accident prior to the trip relegated him to the role of Surface Supervisor/Safety Diver Coordinator. He can be reached at altdive@iaccess.com.au or by ph/fax on 6-17-55907477.

For more information on *His Majesty's Hospital Ship Britannic* see;

Lost Liners

by Dr. Robert Ballard and Rick Archbold

HMHS Britannic, The Last Titan

by Simon Mills

Titanic Survivor

by Violet Jessop/Sheridan House

DIVING TITANIC

Well, . . . not quite.

The mother ship turns towards the down line where the RIB is moored. We are sitting on the railing fully-equipped in drysuits, the weight and heat making us fatigued, and we wonder if the Greek Catholic priest's blessing we got before coming out will help.

Finally, the order comes, "Go, Go, Go!" and we hit the water simultaneously. The current is strong so we start the descent immediately and the team meets up and performs the safety check at 20 feet (6m). The ripping current makes us use our hands to pull down the line. Water starts to leak into one of my drysuit cuffs. Back home in Sweden this would have been reason enough to turn the dive due to cold water but I quickly decide that here in this 64 degrees F (18 C) environment it won't be a problem, either for me or for the overall safety of the team. We shift to our travel gas at 100 feet (30m) and go on to our bottom mix of trimix 11/60.

At 215 feet (65m) I think I see something deep down there. The visibility is awesome, at 240 feet (70m) we can just make out the wreck so I start shooting video. We are still descending and finally hit the wreck at 300 feet (90m), just in front of the bridge. The *Britannic* rests on her side, beautifully lit by the ambient light and we can actually see the bottom down at 400 feet (120m), unbelievable! I feel as though I am on the *Titanic*, and while not completely true, it's close enough! I recognize every line and the shape of the bridge from old *Titanic* movies and pictures.

Time passes quickly, already seven minutes of the planned 20 minutes of bottom time have passed. We swim toward the damaged section in front of the bridge and pass down through the 330 feet (100m) mark. I notice that one of my bottom timers has stopped working — it can't handle the pressure. My UWATEC computer is still along for the ride and the video camera keeps rolling. My brother Ingemar, who holds the video lights, and Kirk Kavalaris the "model" for this shoot, begin their work. We keep on swimming through the damaged bow section, a disaster zone with bent plates, metal and the ship's inventory everywhere. It looks as if a giant violently ripped something out of the very heart of the *Britannic*.

We now turn the dive and swim up towards the bridge again. The shelter deck looks appealing so we swim in and follow it some distance before we turn up and follow



A view of *Britannic's* stern from out in the sand. Note diver in center.

photo: Dan Burton

the side of the hull towards the shot line. We see the open portholes that Dr. Ballard had indicated during his earlier expedition. (The *Britannic* had steamed with open portholes to let fresh air in) just before picking up her new patients and some think this may have contributed to her rapid demise.

We have now reached the time limit set for this dive and begin our ascent. We have earned some serious decompression time and now face a total of almost three and a half hours "on the hang." We complete our first deco stop at 240 feet (70m) on bottom mix and then meet up with the deep safety diver, Gary Sharpe, at 170 feet (51m) where we switch to air. Although we carry all our own deco gas he carries two back up stage cylinders of our first deco gas (air), just in case. At 100 feet (30m) we meet the mid-range safety diver, who is also the team doctor, Dr. Tristan Cope. He wears an AGA full face mask with communications so he can talk with the dive supervisor, Kevin Denlay, who is stationed in the RIB. He also checks that we are okay gas wise as he now carries two extra cylinders of our second deco gas, EAN40. We continue slowly ascending and the current gets stronger.

After hanging on our Jonlines in the stiffening current we finally reach the decompression station where it feels good to be on surface-supplied EAN80 and on a stable platform. The shallow support diver, Miria Denlay has taken over now and is also in an AGA full face mask with coms, while Tristan has departed for the surface to prepare the Doppler equipment, etc. Once the whole dive team is on the 30 foot (9m) bar, she instructs the dive supervisor to cut loose the RIB from the shot line and we start drifting with the current. We still have to stay down a long time yet, but this makes for a much more relaxed decompression, and the time goes quickly after this kind of dive anyway. Vivid impressions and deep feelings about the wreck keep coming up. We read some books, drink fluids and play a "Game Boy" that have all been brought to us by our ever present safety diver. Finally we get out of the water and up into the mother ship. Everybody chatters simultaneously. Life can't be any better!

— by team member Richard Lundgren