

# **DANGER BELOW!**

## **A RICK BRANT SCIENCE-ADVENTURE STORY, no. 23**

**BY JOHN BLAINE**

*AGAINST an authentic background of deep-sea diving, John Elaine tells a fast-paced, entertaining adventure.*

*To solve the mystery of a sunken oil-drilling platform, Rick Brant and his pal Don Scott must find out why their diving boat was sabotaged, fight their way through the menace of a blue shark pack, and use the technique of helium-oxygen diving from the submersible Sea Horse at a quarter of a mile below the surface of the Atlantic.*

*Clues above and below the sea and combat with a giant lobster-all figure excitingly in a nefarious plot that challenges the detective skills of Rick and Scotty.*

## **CHAPTER I**

### **The “Sea Horse”**

Torrential rains, forerunner of Hurricane Donna, lashed Spindrift Island. The gloom was that of twilight, although it was only midafternoon of an August day. Rick Brant, tall teen-aged son of the Spindrift Scientific Foundation Director, stood at the kitchen window in the big Brant home on the island's northeast corner and peered through the curtain of rain at the gray bulk of the laboratory building-

"It" was in the lab, waiting for him-whatever "It" was. He had been trying to guess, but he had no basis for guessing. Behind him, at the kitchen table, he knew that his pretty sister Barby was smiling to herself. One of Rick's principal characteristics was curiosity, as Barby well knew. Rick smiled as he turned away from the window. It wasn't often that Barby had a chance to keep him in suspense, and he didn't begrudge her the opportunity. But he did want to see the surprise she had promised.

His mother and the girls had met Scotty and him less than two and a half hours ago at Kennedy International Airport, and no sooner were the boys through Customs than Barby had burst out with her big news.

"Wait until you get home and see what's in the lab! You'll flip, honestly. It's the absolute, incredible end!"

She had refused to say any more, and she had sworn Jan and Mrs. Brant to secrecy.

Seated at the kitchen table with Barby were Mrs. Brant, Don Scott-who rated as a member of the family-and Jan Miller, daughter of one of the staff scientists. They were all watching Rick with knowing grins. He decided to be casual.

"Are you sure this surprise is important enough for us to get soaking wet? Won't it keep until Dad gets home from Philadelphia? Or until the rain stops?" He had been wondering, too, what business could have taken his father to the Pennsylvania city. He knew of no Spindrift interests there.

Barby, a slim, pretty blond a year his junior, matched the casualness with which he had asked the question. "Of course it will keep. We can look tomorrow." Her blue eyes were laughing.

Lovely, dark-haired Jan Miller added, "Of course, the rain may not stop for several days. This is hurricane weather, Rick."

Scotty, a husky, powerfully built boy slightly older than Rick, grinned with appreciation. "This silly dialogue sounds real. A stranger would never know that Rick is itching to get into raincoat and hat and run to the lab. Or that Barby and Jan can't wait until he does."

Rick sat down at the table and grinned at Scotty. "I'm glad you're so casual about it."

"Nothing bothers me," Scotty said airily.

"And that," Barby stated, "is as phony as Rick playing it cool. Mother, may we be excused? We've all had enough."

"The boys didn't eat very much," Mrs. Brant said.

"If you knew how much food we've stowed away in the past couple of weeks, you'd put us on a diet," Scotty told her.

Rick gave his mother a kiss. "We've had more than enough, Mom. After all, it's only a few hours until

dinnertime.”

Again he wondered what the laboratory held. Whatever it was, the project must have come up suddenly. A few weeks before, as he and Scotty had been winding up their plans for a trip to Europe, the Spindrift scientists had been planning to spend the summer completing reports, writing papers for publication, or teaching summer seminars at the nearby universities. No new projects were scheduled until fall.

Rick had been invited to an International Technological Youth Conference to give a report on his homemade rocket belt, which had played a key role in the adventure called *Rocket Jumper*. He had gone to the conference in Copenhagen, then had flown to the Netherlands for a meeting at Leiden University. After the meeting Scotty had met him in Amsterdam, where they had accidentally become involved in the case of *The Deadly Dutchman*. Then, while they were on a motor-scooter sightseeing tour across Belgium and France, something had happened at Spindrift, something about which both girls were obviously excited.

Jan looked up as she pulled on a boot and smiled. “I wouldn’t miss the expression on your face for anything, Rick.”

“It must be good,” he said noncommittally.

“It is,” Barby promised. “I’ll give you a hint. There’s a little sea animal that really knows how to put males to work. When mother lays a batch of eggs, father puts them in a pouch and keeps them there until the babies hatch and swim out. Know what it is?”

Rick did. He stared at her, puzzled. “A sea horse. Or perhaps a pipefish. Is it a live sea horse?”

“Sorry. Try again.”

“It’s a Trojan sea horse made of wood,” Scotty guessed. “We’re going to hide in it and get the Atlanteans to pull us into Atlantis, then we’ll swim out at night and steal all their smiggles.”

“What are smiggles?” Barby asked suspiciously.

“I don’t know,” Scotty admitted, “but I’ll bet they’re valuable. Anything from Atlantis would be.”

“Send him back to Holland,” Jan suggested.

“I’ll send him somewhere,” Barby threatened.

“Come on, Jan. Give me a clue,” Rick urged.

The girl gave him an impish grin. “All right. Barby only gave you half a clue. What’s the largest animal that ever lived on earth?”

“The blue whale,” Rick answered promptly.

“That’s it.” Jan had finished buttoning her raincoat and was pulling a rain hat over her dark hair. “I’ll tell you the secret, Rick.” She opened the door. “It’s a project to cross sea horses with blue whales so divers can have something big enough to ride.”

Rick groaned and reached for her, but she was already gone. He, Scotty, and Barby ran after her lithe figure, the rain beating into their faces. Jan could run like a doe. At the lab building, Rick made a feint, as though to cut her off, and she ran around the corner of the building, laughing. The three opened the door and went in. They peeled off the soaking rain clothes and hung them up, then waited for Jan to appear. After a moment Barby said, "She must have gone around to the back door. Come on, you two. It's in the main shop."

The Spindrift laboratory was divided into a number of workrooms, lab rooms, and office areas. At the west end was a single large room with the many tools and pieces of equipment necessary for making large models or full-scale experimental units. Barby led the way, pushed open the door with a dramatic flourish, and proclaimed, "There it is!"

Rick and Scotty stopped dead in the doorway. They stared, speechless.

It was about 40 feet long, cylindrical except for nose, tail, and hatch fairing, and gleaming white. The nose was streamlined, and slightly flattened, like the nose of a shovelnose shark. The sharklike effect was enhanced by two portholes inset where the eyes would be. Around the hull were otherports, and Rick saw a hatch on the bottom. The tail was like that of a small aircraft, with elevators and rudder. From just forward of the tail assembly, and just aft of the nose, steerable propellers jutted.

Rick's heart beat fast with pleasant anticipation. He smiled as he looked at the insignia painted on the upper hatch, a red sea horse. Under the image was lettered, also in red, *Sea Horse*.

When a sea horse opened his pouch, the children swam out, Rick thought. The name was appropriate. Although he had never seen this particular craft before, he knew instantly that it was a deep submersible designed to carry divers. The pouch of the sea horse was the hatch on the bottom.

"What a beauty!" Scotty breathed.

"Like my surprise?" Barby asked.

Rick put an arm around his sister and squeezed. "You couldn't have produced a nicer one, Sis."

"Don't get your hopes up," Barby warned. "It's here to have the sonoscope installed. There aren't any plans for dives."

So that was it, Rick thought. The Spindrift Submobile, a tethered submersible suspended from a cable, had been decommissioned and its pressure hull given to a university engineering department for ocean engineering experiments. Now Dr. Hartson Brant was selling or leasing the sonoscope from the Submobile to an industrial firm. The sonoscope was an extremely fine-grain sonar device that permitted seeing a very good image underwater. The image was projected on a tube, much like a TV screen. It was the only device of its kind.

Rick was naturally optimistic. He and Scotty might be able to work some kind of deal to get a dive in the *Sea Horse*, especially if they helped with the sonoscope installation. And, he thought, some plan ought to be worked out to get the girls a ride, too. He looked around suddenly. "Hey, where's Jan?" He started for the door without waiting for an answer.

Jan came in as he was getting into his raincoat. He stopped and looked at her as she wiped rain from her face. "How do you like *it*, Rick?"

“Just the way you were sure I would,” he said with a relieved smile. “What kept you, Jan?”

“The oddest thing,” she said as Barby and Scotty joined them. “When I ducked around the corner I caught a glimpse of a man on the oppositeshoreofPirate’s Cove. The visibility wasn’t very good, but I’m sure he was carrying a big pack on his back, and I thought I saw aluminum tent poles lashed to it. Anyway, they looked too thick to be a radio antenna. I got the impression he was looking for a place to camp.”

“More likely he was breaking camp,” Scotty suggested. “He may be a surfcaster who hated to give up, but finally had to fold up his tent and leave.”

“I don’t think so, Scotty. He seemed to be testing the ground with his heel as though looking for a place where his tent pegs would hold.”

“Did he start to set up camp?” Barby asked.

“No, Barb. He went into the woods.”

“Funny,” Rick said with a frown. “If he was leaving, he’d go along the cove shore toward Whiteside. If he is just setting up camp, he’ll be in trouble. He and his tent will fly away like stormy petrels.”

They had heard the latest weather report on Hurricane Donna on the car radio while driving home from the airport. Donna was now offCape Hatteras , on a path that would bring her inland nearAtlantic City , not far south of Spindrift. The island was directly in the path of the hurricane’s eye.

The Spindrifters weren’t worried. The island was already secure against the coming winds, and all the buildings had withstood hurricanes before. But no tent could survive the coming blasts.

What could bring anyone to the shore in the teeth of Hurricane Donna? Rick wondered.

# CHAPTER II

## The Hurricane Watcher

Hartson Brant returned fromPhiladelphia in time for dinner, and he was not alone. With him was Roger Pryor, a small, slight, brown-haired man with horn-rimmed glasses who looked far too young to have the important job of Director,Project *Sea Horse*, for Seafaring Industries, the big ocean engineering firm. The second newcomer was even more interesting to Rick. He was Dick Antell, a big, redheaded young man built like a football tackle, who was pilot of the deep submersible.

Rick and Scotty had learned from Barby and Jan that the two men would be guests at Spindrift until the sonoscope installation was completed. They had learned, too, that the *Sea Horse* had been landed at Pirate’s Cove on the south side of the island by the *Sea Beast*, a specially equipped mother ship and tender for the submersible. The *Sea Beast* had gone back toPhiladelphia .

The boys had already inspected the *Sea Horse* from the outside. Although the hatch had not been

locked, neither had risked damaging delicate electronic equipment by climbing inside without an advance briefing. Peering through the portholes with the aid of a portable work light, they had found that the pilot's compartment had seats for two, and the divers' compartment had room for four. From the hoses coiled inside the divers' section and tanks labeled Helium and Oxygen, Rick had also determined that the divers would be "saturated"-that is, they would enter the submersible already breathing a mixture of helium and oxygen, called heliox. That meant the divers could be carried down to continental shelf depths, to a thousand feet and more.

As the group sat down to one of Mrs. Brant's excellent dinners, Rick asked Roger Pryor, who was seated next to him, if it were possible to get a look inside the *Sea Horse*.

Hartson Brant smiled at his son from the head of the table. "You and Scotty will most assuredly get a good look inside, Rick. I've already committed the two of you to help us install the sonoscope."

Scotty let out a subdued yip, and Rick grinned at him. After all, the first step toward taking a dive was to get inside the submersible, even on dry land. And working side by side with the project officer and the pilot would be a rewarding experience.

"Your dad tells me you and Scotty are pretty good technicians," Roger Pryor said.

"We're learning," Rick replied. "We don't always understand why we're doing something, but we can follow instructions."

"Both Rick and Scotty are very good technicians," Barby said proudly. "You should see some of the things they've built."

The redheaded submersible pilot accepted a helping of Yankee pot roast from Mrs. Brant, then turned to Rick. "What I'd like to see is that rocket belt Barby has been telling us about."

The rocket belt had been left at Leiden for copying by the university's rocket club. It was due to be shipped back by air during the coming week. Rick took a deep breath and grasped the opportunity chance had offered. "I'll tell you what, Mr. Antell, the belt will be here within a week, probably by the time we're finished with the installation. And we can make a trade. I'll check you out on the belt, if you'll show Scotty and me how to pilot a deep submersible."

The pilot chuckled. "Call me Dick, Rick. With names that sound alike, we should have skills alike. I can't promise a thing, but I'll use my influence with Roger, here, if the opportunity arises."

Roger Pryor smiled. "He's pretty influential, I will admit. But seriously, I don't know what to say. We have no plans for a dive around here. Once the sonoscope is installed, we will take the *Sea Horse* to our test range in the Bahamas and check it out there."

"Shouldn't the installation be checked before you leave Spindrift?" Scotty asked.

"It will be, by instruments," Hartson Brant replied. "If we find it operates normally, we know it will work under water. That's why Seafaring Industries is leasing it from us. It's a proven instrument."

"That's right," Pryor agreed. "Anyway, if our plans change, we'll see what we can do. After all, I wouldn't want Dick to miss a chance to fly a rocket belt. I've always suspected he's a frustrated astronaut who got his directions mixed and went down instead of up."

Dick Antell grinned. "Those spacecraft aren't safe. You can't get out and swim home."

"Can you?" Barby asked curiously.

"Sure, as long as we're not more than a hundred feet deep. Any deeper than that and I'll have to walk home."

"Leaving footprints in the sea on the way," Barby finished.

Rick was interested in the conversation, but he was having a hard time keeping his eyes open. He and Scotty had left Paris that morning, arriving in New York in the early afternoon. Now the traveler's problem of time adjustment, caused by modern high-speed transport across the time zones, was catching up with him. He was suffering from a case of "jet lag." It was only seven-thirty in the evening in the Brant house, but his body was still operating on Paris time-and in Paris it was two-thirty in the morning on the following day. It would take him and Scotty about two days to adjust to the seven-hour time lag.

As soon after dinner as courtesy permitted, the boys excused themselves and went to bed. Rick's own bed felt wonderful after the variety of sleeping accommodations he and Scotty had had in Europe, but he couldn't drift off to sleep immediately. The thought of the man Jan had seen kept intruding. It was an oddity. No one went camping in a hurricane. When he finally fell asleep his mind was made up.

He would find out in the morning why the man was camping on an exposed piece of coastline in a storm.

Rick slept until noon -but noon Paris time. It was only five in the morning at Spindrift when he awakened. For a few moments he lay quietly, then he heard Scotty whisper through the door connecting their rooms.

"Slept enough, Rick?"

"I'm afraid so," he whispered back. "How about you?"

"I've been awake for quite a while. And I'm hungry. How about going downstairs and whomping up a nice big breakfast of bacon and eggs?"

Rick needed no urging. The boys washed up, being very quiet, then slipped into comfortable old clothes. Over a breakfast sufficient to feed an Army squad, Rick told Scotty about his decision of the night before. Once faced with a puzzle, it bothered him until he solved it.

"Scotty, let's go see if that man really was setting up camp on the other side of the cove."

His pal grinned. "Wish I'd had someone to bet with last night. I'd have put my fortune-the whole dollar-on your making that suggestion this morning. Trouble is, everyone here knows you too well. There wouldn't have been any takers."

"Skip the amateur psychoanalysis and answer my question," Rick said, returning the grin.

"I'm with you. Only we may have trouble getting there."

Rick knew what he meant. The boat trip from Whiteside Landing to the island had been pretty rough yesterday, and the seas would be even higher today. "The way to find out is to go see," he said.

They rinsed dishes and utensils and stacked them in the dishwasher, then got into foul-weather clothing

of waterproof outer pants, waterproof parka, and boots. When they went out into the heavy rain, it was still quite dark because of the thick clouds overhead. They could see without lights, but that was about all.

At the dock where the Spindrift boats were tied up they found the craft heaving violently on their restraining lines. The big winds from Donna had not yet reached Spindrift, but the high-piled waves and the surf breaking on the sea wall were evidence of their coming.

“We’ll have to haul the boats out today,” Scotty observed.

In stormy weather the Spindrift boats were pulled ashore and lashed down on cradles made for that purpose. Only five times within Rick’s memory had that been necessary—once before in a hurricane, and four times when prolonged cold spells had surrounded the island with ice on the landward side. When that happened, Rick and Barby hiked across the frozen tidal flats that connected the island with the mainland and walked to school at Whiteside, the nearest town. There had been no heavy freeze since Scotty, an orphan, had joined the Spindrift family after service in the Marines. But Scotty had been there for the previous hurricane.

“We can’t cross by boat, and we can’t hike,” Rick said.

“But you’re going, anyway,” Scotty replied with a grin. “And I know how. Under the waves. Too bad we can’t use the *Sea Horse*.”

“It would be nice,” Rick admitted. “Are you game to use the scuba gear?”

“Why not? It’s the safest and fastest way to get there. Also the warmest. Notice that it’s getting cooler?”

Rick nodded. “Let’s go and suit up.”

The boys hurried to the room on the cove side of the laboratory where the diving gear was stored. They turned on the lights and inspected the array. Neatly racked on hangers were several “wet” suits, most of them black. But one was blue and one was red. Those belonged to Barby and Jan, both expert divers, whom the boys had taught. One outsize suit belonged to big Hobart Zircon, the Foundation’s Associate Director, and a brilliant physicist. Others belonged to staff members of more normal size. In racks along the walls were scuba air tanks with harnesses, and a row of spare tanks. The girls’ tanks were easily identified by color, while the rest were black or silver. Above the tanks, regulators hung, and there was a rack for fins, face masks, life vests, and weight belts. There were shelves for hoods, gloves, and boots, made of foam neoprene for warmth, and a separate shelf for compasses, depth gauges, pressure gauges, spare weights, and knives in leg sheaths.

Rick and Scotty were proud of the gear room. They had planned and outfitted it themselves so that diving gear could be stored safely and neatly. They had built a rack for a series of big tanks, called a cascade, in which air was stored from which the scuba tanks could be recharged, and there was a place for the air compressor that filled the big tanks.

Rick took a pressure gauge, adjusted it to his own tank, and opened the tank valve. “Reads 1900 pounds. No need to recharge this one.” He transferred the gauge to Scotty’s tank. It was full, at 2400 pounds. “Tanks okay,” he reported. “Let’s suit up.”

They stripped, changed to swim trunks, then got into the neoprene suits, using powder liberally to make the skin-tight pants and jacket slip on easily. Each added boots, life vest, and hood, but left off the foam



gloves. It wasn't cold enough to require full gear, but the boots would be useful on the beach, and the hood would keep rain off their heads.

The boys attached regulators, strapped knives to their legs, and placed compasses and depth gauges on their wrists. By the time they swung the tanks to their backs and put on weight belts, daylight had penetrated the storm clouds. They picked up fins and masks and left.

Weighted down with gear they walked to Pirate's Cove, paused at the beach, and took a compass bearing on a strip of beach on the opposite side of the cove.

The water in the cove, usually calm, was very rough, with steep waves that crashed on the shore like miniature breakers.

"We'd better get in and under quick," Rick observed. "It will be calm below. Let's hold the fins until we're in, or we'll get pebbles in them."

They spat into their masks to keep them from fogging, rinsed them in the surf, and put them in place on their foreheads. The last step was to reach over their shoulders and turn on the tanks, then check the regulators. When Scotty nodded that his was working, Rick pulled his mask down into place, and holding tight to his fins, ran out and dove into the waves. The surf lifted him and almost turned him over, but he straightened out and swam, with Scotty close behind him. The beach got deeper gradually for about 20 yards, then dropped rapidly to about a 20-foot depth.

Rick swallowed to adjust his ears, noting that even on the bottom where he was swimming the pressure of the waves could be felt strongly. Visibility was poor, not more than three feet, because the storm was stirring up the bottom. He stopped and put on his fins, and saw dimly that Scotty was doing the same, within touching distance. Then, checking the luminous hand of the compass, they started out, side by side, so close that each could have reached out and touched the other. They had been diving together for so long that it was all automatic.

They swam a few feet above the bottom, following its contours. At the 50-foot depth, the water was clearer, but dark because of the overcast skies. Maximum depth in the cove was about 70 feet, and that was near the opposite shore. They reached it, and started up, knowing that the trip was almost over. To avoid any rocks or obstacles close inshore, they swam to the surface at Rick's thumbs-up signal, and the waves shoved them violently toward the beach. That was no problem. Each picked up a wave and body-surfed neatly into shallow water, then stood up and ran backwards to dry land, the only sensible way to move when wearing fins.

"Not a bad trip," Rick observed as he slipped out of his tank harness and dropped his weight belt. Then he removed fins and mask, used his life vest as a wrapper for mask and regulator, and placed the gear carefully above the high-water mark. Scotty did the same, and presently the two boys stood in their wet suits, comfortable even in the drenching rain, and feeling pounds lighter with the diving gear removed. The foam neoprene of the wet suits trapped a layer of water next to their bodies, and once their bodies had warmed the layer, cold crept in only very gradually. If anything, the suits were too warm when the wearer was not in the cool water.

The boys made their way along the edge of the cove toward the open Atlantic, staying on the narrow strip of cove beach. When they rounded the corner of the cove to the beach that faced the sea, they found heavy surf beating far up on shore.

"Great surfing weather," Scotty said jokingly. The waves were right, but that was all.

“Great camping weather, too,” Rick added. “Wonder if Jan’s stranger is really here?”

The question was answered within a minute. Scotty caught a glimpse of color and pointed. A few yards inside the scrubby woods, safely above the high-water line, was the tent. They couldn’t see it clearly because of some kind of obstruction. As they got closer, they saw why. The stranger had built a windbreak of heavy timbers from an old wreck of a fishing boat, spiking the wood to trees. His tent was protected from the wind to a large extent, and he had piled dirt on the tent edges so that wind couldn’t get underneath and lift the fabric up. Rick thought the setup might even survive Donna. Obviously, the occupant knew exactly what he was doing.

The tent had a zipper opening. It was closed. As they got within speaking distance, Rick said, “I wonder if anyone’s home.”

The zipper opened. A bearded face poked through and cool blue eyes surveyed them. The man said casually, “Hello, boys. Out bird watching?”

Rick grinned. It was a fair question. He had his answer prepared, anticipating it. “Not exactly, sir. We thought we’d see what it was like under the water in a storm, and when we got to the beach we saw your tent. We wondered why anyone would be camping in this weather.”

The man opened the tent zipper all the way down and stepped through. Rick had a quick look at equipment inside the tent, mounted on a tripod. The bearded man looked harmless enough, and he didn’t seem at all disturbed by their arrival. He wore foul-weather gear.

“You didn’t dive from a boat in this sea,” he stated. “Where did you boys come from?”

“We live on the island across the cove,” Scotty replied. “My name’s Scott, sir. This is Rick Brant.”

“Glad to meet you, boys. I’m John Cartwell. And since you’ve explained why you’re out in this weather, the least I can do is reciprocate. I’m a meteorologist from the University of Delaware. Right now I’m a hurricane watcher.”

“What are you watching for, Dr. Cartwell?” Rick asked.

“Changes in wind velocity and direction as a function of time. I’m only one of several idiots doing this. It’s a Weather Bureau project the university is conducting.”

Rick understood. “Automatic stations couldn’t record any short-duration shifts, is that it, sir?”

“Exactly. And the weather planes that fly through the storm can’t get the small, fast changes, either. We have to understand these storms if we ever expect to do anything about them, so I suppose it’s worth a little discomfort.”

“I should hope so,” Rick agreed. “Well, we’d better be getting back. Lots of luck, Dr. Cartwell. Your setup looks as though it could withstand the winds if the velocities don’t get too high.”

“I’ll know more about that after the storm passes. But the tent actually isn’t too important. My clothes protect me, and my food and water are safe in cans. I may be uncomfortable, and without a roof over my head, but I’ll get along.”

“Nice to meet you, sir,” Scotty said. “I hope it doesn’t last too long.”

They shook hands all around, and the boys walked back to their equipment. As they were putting on the diving gear, Scotty looked at Rick quizzically. “Even through the water pouring down your face, I can see a certain Brantish look that I recognize. Didn’t you believe the man?”

“He made sense,” Rick admitted. “There’s a lot of hurricane research going on, and about the only way to get detailed information is to have instruments in the path of the storm. Also, what I saw of his instruments inside the tent added up. He had a pelorus on a tripod at the ready to take bearings. And he must have had gauges and stuff in the boxes. Only. . .”

“Only what?” Scotty urged.

“What’s down the beach a few hundred yards from him?”

Scotty’s eyes widened. “A Coast and Geodetic tidal station, and it has a hut made of concrete blocks behind it for the recording equipment.”

“Right. And the Coast Survey is in the same federal agency as the Weather Bureau-the Environmental Sciences Service Administration. ESSA for short. Do you mean to tell me a scientist working for the Weather Bureau couldn’t use a Coast Survey hut?”

“It doesn’t make sense,” Scotty agreed. “But if his story isn’t true-and maybe it’s true because there was a bureaucratic foul-up of some kind-then what’s he doing there?”

“I’d like to know for sure,” Rick said thoughtfully. “Come on. Let’s get back. I’ve worked up an appetite for a second breakfast, and I’ll bet the family’s eating by now.”

## CHAPTER III

### Eye of the Hurricane

Hurricane Donna drove into the New Jersey coast as predicted, bringing winds of over a hundred miles an hour. The seas smashed against the shore, wrecking boats and buildings, and tearing up great sections of the famous Atlantic City boardwalk. At Spindrift, the storm’s onslaught was felt only a short time later, but all was in readiness. Plywood storm shutters barred the windows, the boats were lashed down, and all loose objects were stored.

Rick was grateful for the fortunate timing that had put his plane, the *Sky Wagon*, in a safe location. Just before leaving for Europe he had taken it to the regional dealer at Newark Airport, where it could be torn down for a thousand-hour check. It was safe in a hangar at the airport, waiting for him to pick it up.

While the hurricane neared the island, work in the lab continued. Getting from house to lab became an adventure for Rick and Scotty, clad in foul-weather gear and fighting winds that grew in intensity.

With Dick Antell as guide, the boys inspected the interior of the *Sea Horse*. It was a masterpiece of

compact design, with enough room for everything, but no room to spare. The control room had a wheel on a yoke, much like the control of Rick's plane. The control column changed the direction and pitch of the four propellers that both propelled and steered the undersea craft. The tail assembly was merely for stability and trim. The observer's seat was fitted with camera and instrument controls, and handgrips for an external flexible arm, very much like the device on the Spindrift Submobile with which a dragon had once been brought up from the depths, as described in *100 Fathoms Under*.

The divers' compartment was fully equipped with pressurization and mixed gas controls. The divers could either use a hookah system in which the breathing mixture was supplied to the divers' regulators by hoses from the submersible's gas tanks, or they could dive free, carrying their own tanks of gas.

The more Rick and Scotty saw, the more eager they became to make a dive in the *Sea Horse*. But all chances for an immediate dive looked dim.

Rick had moved his radio to the workshop so that the group could keep track of the storm's progress. While the sonoscope installation went on, they paused to listen now and then. Once, the announcer reported that Red Bank had registered winds of ninety-five miles an hour, and added that the hurricane was moving slightly east of north.

"Right toward us," Scotty commented.

"We'll work until the eye reaches us," Hartson Brant told the group. "According to the direction and speed of the storm, we should be in the eye in about an hour. We'd better go to the house, then, or we'll be stuck out here. Once the eye passes, the winds will shift. Until now, we'd have been blown inland where we could grab a tree or something if the wind knocked us off balance, but when the shift comes, anyone moving between here and the house would get blown toward the sea."

Rick had been wondering about the weather watcher on the other side of the cove. "Do you suppose Dr. Cartwell is weathering the storm?" he inquired.

"Let's hope so," Dr. Brant replied. "There's nothing we can do in any case. Rick, I've marked the place where the mounting brackets for the image tube are to go. Will you please drill evenly spaced 3/16th-inch holes to match up with those on the brackets? Then Scotty can help you put the brackets up with metal-tapping screws."

"Okay, Dad." Rick got busy at once, working carefully because precision was essential. But now and then he paused, thinking again of Cartwell. When he had reported to his father, and stated his doubts, the elder Brant had inquired if the boys had asked Cartwell whether someone else was using the Coast Survey hut. They admitted they hadn't.

The scientist had smiled at his son. "Always suspicious of behavior or situations that differ from what you naturally expect, aren't you? From the description, this project of Cartwell's would come under the heading of micrometeorology, which is to look for fine detail in a restricted geometrical situation. If that's true, there are probably several others close by.

Doing a good job of analysis means getting data from as many points as can be managed. I suggest that you reserve judgment until you find out where the others are located."

Rick knew his father was right, but he couldn't help wondering. It was the tent that bothered him, Cartwell had fixed it pretty securely, but it didn't seem reasonable either for a university or a government agency to give a hurricane investigator such a fragile shelter.

He put thoughts of the hurricane watcher aside and concentrated on his work. Scotty, meanwhile, was helping Pryor to unscrew the conical nose of the *Sea Horse*. The sensing unit would go in the nose, which had to be adapted to take the complex instrument. When complete, very high-frequency sound impulses would be sent out from the nose, and their echoes would be collected and turned into electrical impulses that would trace a picture on the image tube.

When Rick had first learned how the sonoscope operated, he had been amazed at its complexity, but his father had told him that the Spindrift scientists had merely duplicated a system that bats, porpoises, and whales had been using for millions of years- and the sonoscope was pretty rough compared with their sound-sensing equipment.

Although fully shielded from the hurricane inside the building, Rick had been conscious of its presence because of the continuous roaring, audible even through the insulated walls. Suddenly he was conscious that it had become quiet. He looked up from the bench where he was working on the aluminum brackets and saw that everyone else was listening, too.

Hartson Brant spoke. "We're in the eye of the hurricane."

"Let's go outside," Scotty suggested. "I've never been in a hurricane's eye before."

"I think none of us have," Hartson Brant replied. "Let's all go. First, though, turn off equipment and lights. We won't be coming back. Pick up foul-weather gear on the way."

It took only moments for Rick to secure his equipment and throw switches. Then he ran for the door, with Scotty close behind him. At the outer entrance, he opened the door and looked out. Sound flooded in, but it wasn't the wind. It was the surf, still breaking as violently as ever. But the wind had died to an occasional gust, and-wonder of wonders-the sun was breaking through!

Pryor, Antell, and Hartson Brant were in the gear room when the boys arrived. Rick asked, "How long will this last, Dad?"

"It depends on the diameter of the eye, Rick, and I don't know that. It may be anywhere from twenty to fifty miles, and the hurricane is moving at about twenty-five miles an hour. So we may have less than an hour, or more."

The group collected foul-weather clothing and walked out of the lab building onto the rain-sodden earth. The grass squished under Rick's feet as he moved out into the open to look. To the north, the cloud wall of Donna was visible, and he could see heavy clouds in the west. There were a few clouds high overhead, like faraway thunderstorms.

"Look!" It was Roger Pryor who called. Rick turned and saw that the Project Director was pointing out to sea.

About two miles offshore, rising and falling in the heavy seas, was what Rick identified from the silhouette as a large tugboat, the seagoing kind. It was hauling a strange-looking object that pitched violently. He thought that one side of the thing was far down, but he couldn't be sure.

"What is that thing?" Scotty asked.

Dick Antell had the answer. "It's a drill rig, the kind used for drilling oil wells in the Gulf of Mexico and

off California. I've taken divers down to work under those things when it was time to cap a well and put the piping on it. And it looks as though that one's in trouble. It should be riding much higher than that, and it should be more stable, even in a sea like this."

There was a hail from the Brant house. Barby and Jan were running toward them, carrying the big 10-power binoculars and Rick's equally powerful telescope.

They arrived breathless with excitement. "Did you see it?" Barby demanded. "It's sinking!"

"Let's see." Rick took the telescope and sighted out to where the tow was rising and falling in the sea. He got focused, and the drill rig leaped into view. It was huge, with a high tower on it from which drill pipe was lowered as the bit went into the subsea earth far below. Under the big platform were massive cylinders, undoubtedly the buoyancy tanks.

He handed the telescope to Dick Antell. Dr. Brant was using the binoculars. "Barby's right. It's sinking. One side is far down, and the platform is awash."

"I'm afraid so," Dr. Brant agreed, handing the binoculars to Pryor. "And I don't know what we can do about it, except to notify the Coast Guard. The tug skipper probably did so a long time ago, but we can't take the chance of his radio being out."

"I'll call them," Jan offered. "It looks as though they're about two miles offshore, perhaps a little more, and bearing about east-southeast from Spindrift. Is that good enough, sir?"

"Very close, I'd say," Dr. Brant approved.

Rick grinned. He was always a little astonished when a crisp, accurate assessment of a situation came out of such an attractive, feminine creature. Jan Miller was living proof that the old saying "beautiful but dumb" was nonsense. He put the thought aside and spoke to his father.

"Dad, do you think that skipper is going to lose the rig?"

"I'm afraid so, Rick, and pretty quickly, too. When the eye passes and he gets into high winds, he'll have to cut loose or risk the tug. I'm surprised he hasn't done it before now."

"Tugboat captains don't like to lose their tows," Roger Pryor observed. "He's probably hanging on, hoping for a miracle. But you're right. He'll have to drop the tow pretty soon."

"I was thinking that he's probably not sure of his position within a half mile or so," Rick said. "We could help by taking bearings. Then, if he does drop the tow, we can at least give a precise position."

"A good idea, Rick. We have one pelorus, but we'll need two for accurate triangulation."

"I still have my Boy Scout compass," Rick said. "It has a sighting vane. From the top of the lab, I can line up with the church steeple at Whiteside. That shows on the chart. Scotty can put the pelorus on the house porch. Let's go, boy."

"I'll help," Barby offered. She and Scotty ran to the boat cradles to get the portable pelorus and the boat compass. Rick hurried to the house and ran up the stairs to his room. He found the compass and started down again, then remembered that they would have to take simultaneous sightings to be really accurate. If the sightings were at different moments, the tug and tow would have moved a distance between their

sightings. He opened the drawer and got out two of the small transceiver units he and Scotty had built, which they called the Megabuck Network, a family joke based on the original idea from which the tiny units had grown.

As he reached the bottom of the stairs, Jan was just coming out of the library that served as Hartson Brant's office. "The Coast Guard had already received a message from the tug saying it was in difficulty," she reported. "I gave them the approximate position, and they said thanks and please keep them posted if anything developed, especially if we could see anything of the tow after it was dropped."

"We're going to take exact positions," Rick told her. "Scotty and Barby are setting up the pelorus on the porch. I'm going to the lab roof with my old compass."

"I'm coming with you," Jan stated.

Rick waited until Scotty and Barby arrived with the pelorus, a sighting device built on a compass rose, and the boat compass with which to align it. He handed Barby the Megabuck unit.

"Here, Barb. We'll have to take simultaneous sightings. You and Jan set your watches together, and you can be the time-tick twins."

The girls compared watches and set them as close as possible. Fortunately, both had watches with second hands. It was the style at Whiteside High for girls to wear boys' wrist watches instead of the tiny things most girls wore. Rick had received a watch for Christmas, although his old one was perfectly good, and he had loaned it to Jan. Barby had borrowed Scotty's watch, because the husky ex-Marine had assured her that time was meaningless to anyone as lazy as he was, and besides Rick had a watch.

While Scotty set up on the front porch of the Brant house, Rick and Jan hurried to the flat roof of the lab building. The boy knew that the compass wouldn't point to magnetic north with accuracy, because there were too many metallic objects on the roof and in the lab itself to throw the needle off, so he didn't bother aligning it the way he would have used it in the open. Instead, he used the steeple of the Whiteside Methodist Church and the exact center of the seaward side of the lab roof as his base line. Both were shown on the Coast and Geodetic chart of the area.

When Rick had first started cruising, he had been amazed at the detail shown on the charts. Not only were aids to navigation, depths, hazards, and other sea details shown, but also land objects visible from the water. He had been pleased to find that both the Brant house and the lab were landmarks on the chart.

With his base line established, he lay flat on his stomach and turned the movable sight ring of the compass until the sighting vanes were lined up on the drill rig. He could see that it was deeper in the water even in the short time it had taken to get ready for sightings.

Jan had gone downstairs while he was lining up the compass. When she came back she was carrying the binoculars and a pad and pencil. Rick had forgotten that he would need something to write on. He thanked her and put the pad down where he could write easily. The roof was damp, but it drained quickly and there was no standing water.

He looked through the binoculars, noting that the tug and tow had drawn nearly abreast of Spindrift. The entire deck of the drill rig was awash now, and it was canted heavily to one side. It was obviously sinking. He wondered why the tugboat skipper was waiting so long to cut it loose, or why he didn't head into land while he was still in the hurricane's eye.

“If I were hauling that thing, I’d want it to go down where I could reach it easily,” Rick told Jan.

“It will probably have to be salvaged,” Jan agreed. “When will you start taking sights, Rick?”

“I think we’d better start. See if Scotty is ready.”

Jan spoke briefly with Barby over the Megabuck unit, then reported, “They’re ready when you are.”

“Okay. Give them ten seconds, then five, then go.”

Rick realigned his sighting vane. When Jan called, “Go,” he read the scale. The tow was 8 degrees south of his base line. He jotted it down.

The sightings continued at five-minute intervals for about twenty minutes. Jan, who had been watching through the binoculars between counts, said excitedly, “The tug just dropped the towline!”

The drill rig was visible for only a few minutes longer. The tug circled it, and kept circling until no trace remained, then Rick saw the boat head out to sea. “He knows he can’t get into a safe port until the storm subsides, so he’s heading out where he has enough sea room to ride it out,” Rick guessed.

Jan asked, “Are we going to plot the bearings on a chart?”

“Sure. Look south and you’ll see the cloud wall approaching. The eye is nearly past, and we’ll be in the soup again very soon. We can spend the rest of the storm plotting points on the chart and then playing chess. Okay?”

“If you promise not to let me beat you.”

Rick winced. It was a sore point. Jan beat him at chess about six games out of ten, and she was convinced he was letting her win. Rick knew better.

As they walked to join Scotty and Barby, Rick said, “It felt funny, watching the rig sink. My stomach sank with it. I’ll bet the skipper feels pretty awful.”

# CHAPTER IV

## The Curious Skipper

While Rick and Scotty were plotting the track of the sunken tow on the chart of the coast, Hartson Brant gave the girls an informal lecture on hurricanes in response to a question Barby had asked.

“We don’t know yet what actually causes a hurricane, but there are indications that it requires a combination of a very warm sea—which is why they start in the tropics—and a cold mass of air high above the sea. This starts a convection current, which begins to rotate because of the earth’s rotation. As more heat energy from the sea is fed into the storm, it becomes a huge, whirling cylinder, rather like a wheel



spinning. In the center, things are relatively calm. That's the eye of the storm. Toward the outer edges, the highest velocity winds occur."

Barby nodded her understanding. "That's why it was not very windy when the eye passed us, and why it's windy now."

"Right. And the winds will get worse now, until the storm passes us completely."

Rick looked up from the chart. "Here it is, everybody!"

The group gathered around the library table where the chart had been spread. Rick and Scotty had drawn lines for each sighting, to where the sightings converged at sea. The points where the lines from lab roof and porch met had been connected, showing the track of the sunken tow. The last one was 2.4 miles from the island.

"What we don't know," Rick explained, "is what happened to the tow after it vanished from sight. When the tug cut loose, the forward motion of the tow would have decreased sharply, but there would still have been a little left. Probably the drill rig didn't go straight down."

"Undersea currents wouldn't have affected it much," Roger Pryor observed. "It's too massive for anything but a really powerful current to move, and none in this area is that strong. But we have to assume that surface waves moved it a little, probably inland. Then, it still had a little forward motion, residual energy from the tow." He put his finger on the chart. "I think it must be on the bottom about here."

Hartson Brant nodded. "That sounds about right, Roger. I'd bet on it, give or take a couple of hundred yards."

Rick frowned. "That couple of hundred yards could make all the difference. Look at the fathom readings."

The chart was liberally sprinkled with numbers, each one a depth reading. Together, they showed the contour of the ocean bottom. Off that part of the coast, the bottom was fairly even, with normal rise and fall like the land itself, except for a great undersea trench that began just north of Spindrift and continued to sea for nearly six miles. The average depth of the bottom near where the tow had gone down was about 300 feet, but in the trench, it dropped rapidly to nearly 1500 feet. Geologists believed the trench was the bed of an ancient river, cut into the land when it was above sea level.

Jan Miller spotted quickly what Rick had meant. "Depending on how accurate Mr. Pryor's estimate is, the drill rig is either on the edge of Tansey's Trench or down at the bottom!"

"It may be on the slope," Scotty observed.

"If old Tansey's discovery really claimed the rig, I don't see much hope of salvage," Rick said, referring to the oceanographer who had first plotted the trench outlines. "It's too deep. But if the rig isn't in the trench, it can be reached easily."

"Not easily," Antell said. "But it would be reachable. No one likes salvage work in these waters. The sea and weather are too unpredictable."

Jan marked off the distance with a pair of dividers to the spot Pryor had indicated, then used a parallel

ruler to get the exact bearing for the point where the tow had dropped, and for its estimated position on the bottom. The group listened while she called the Coast Guard.

“Hello, Duty Officer? . . . This is Spindrift again. We called earlier about the tow that was in trouble. What? . . . Oh, I see.” She listened for a moment. “Our figures are pretty close, but not exactly the same as the captain’s. We think it was cut loose 2.4 nautical miles from the northeast corner of Spindrift on a true bearing of 87 degrees 32 seconds. We estimate that it bottomed at about 2.35 miles, on a bearing of 87 degrees 30 seconds.”

“We’ll make it precise as soon as the weather clears,” Rick said.

“How?” Barby demanded. Her eyes widened. “You mean, dive and see?”

“Why not?” Scotty asked. “We can get close enough for a look!”

“Wonderful!” Barby exclaimed. “Jan and I will go with you.”

“So will I,” Dick Antell added.

Rick looked at Roger Pryor and grinned. “I don’t suppose we could go in the *Sea Horse*?”

Pryor grinned back. “You suppose correctly. Sorry, Rick.”

“Well, it didn’t hurt to ask,” Rick said philosophically.

The storm grew in intensity, while the Spindrift group remained in the big house. Not until the following day did they resume work on the sonoscope installation, and it wasn’t until two full days had passed that the seas began to subside and the clouds showed the breaks that presaged good weather. Rick and Scotty took time out from the sonoscope to put the Spindrift boats back into the water, then went back to work again.

On the first day of full sunshine, a phone call from the house interrupted work in the lab. Barby announced that a strange boat was coming into the Spindrift dock.

Hartson Brant stopped work to go meet the visitors, and Rick and Scotty trailed along. By the time they reached the dock two men were being greeted by Barby. Both wore business suits, but one had a craggy, weathered face and obviously was not someone who spent his life at a desk. The other would look more at home in an office than standing on a dock.

The businessman type introduced himself. “How do you do, Dr. Brant? I’m Robert Maxwell, vice president of Coastal Petroleum Corporation. This is Captain George Biggs, skipper of one of our tugs, the *Hester II*. We understand from the Coast Guard that you were kind enough to report the trouble Captain Biggs was having with our drilling platform, and that you took bearings when he had to cut the tow loose.”

So this was the unfortunate skipper! Rick looked at him closely. The seamed, weathered face was expressionless, but the blue eyes were very alert.

“Yes, we thought we could at least do that much,” Hartson Brant responded. “Unfortunately, there was nothing else we could do. I hope there was no loss of life.”

“No, nor bodily harm to anyone,” Maxwell said. “When Captain Biggs realized that the tow was in serious danger, he brought the men from the tow aboard the tug.”

Captain Biggs spoke up. “We were in the eye of the hurricane when I finally had to choose between cutting loose and losing my ship. You must have had a good view from here.”

“We did,” Dr. Brant agreed.

“How did it look to you?” the tug skipper asked.

Rick stared. That was an odd question. He interjected, “I’m sure your view was a lot better than ours, Captain.”

Glacial blue eyes returned his stare. “It was in one way, but with the tug heaving so badly, we couldn’t be sure whether the tow started listing by the stern, or by the portside. Perhaps you could tell us.”

“Does it make a difference?” Scotty inquired curiously.

“Yes, because it may give us a clue to whether it went down relatively straight, or on its side or stern,” Maxwell answered smoothly.

“It seemed to be listing heavily to port,” Hartson Brant told them. “But it didn’t seem to roll.”

Biggs nodded. “That was the way it looked from the deck, too. We’re trying to anticipate salvage problems, if the rig is in a salvageable position.”

“I may say that we’re also trying to anticipate insurance problems,” Maxwell put in. “Of course the first question that will arise is whether the captain, who is a company employee, did all within his power to save the tow. Because your helpful call to the Coast Guard put you in the picture, you may be asked for an opinion.”

“We are not qualified to give an opinion, and will so state if the question arises,” Dr. Brant said promptly. “No one watching from the land could give an opinion under those circumstances.”

“But at least you have no reason to question Captain Biggs’ actions?” Maxwell demanded.

“No reason whatever,” the scientist stated, and the men relaxed slightly, or so it seemed to Rick.

Captain Biggs switched to a new tack. “I’d been navigating by radio direction finder, and when the eye of the storm gave me good visibility, I took bearings on this island. But with the ship heaving so, the bearings couldn’t be very precise. We’d appreciate seeing how you plotted yours.”

“Certainly. Won’t you come into the library? Rick and Scotty took the bearings, and I’m sure they’ll be glad to go over the figures with you.”

In the library, the captain pulled a notebook from his pocket and read off his sightings. Rick jotted them down. Then, because the bearings were from the sea to the island, he plotted their reciprocals on the chart so that the Spindrift sightings and the captain’s could be compared directly. The bearings were very good, and Rick said so. “You were a lot closer than I would have thought anyone could be from a pitching boat, Captain. As you see, you’re less than five hundred yards north of our position, and less than that to seaward.”

“This will certainly show that Captain Biggs did everything he could to plot the precise location,” Maxwell said heartily.

Rick intercepted Scotty’s glance. His pal’s eyebrow went up an eighth of an inch. “I guess that’s so, sir,” he replied.

Maxwell and Biggs had apparently obtained the information they had come for. Dr. Brant and the boys escorted them to the dock, talking about the hurricane and the damage it had done to the coast, then waved good-bye as they shoved off.

“An odd pair,” Hartson Brant commented. “They could have called us on the phone without coming all the way out here.”

“I thought so, too,” Rick agreed.

Scotty didn’t comment until the two boys were alone in the submersible, fitting the sonoscope image tube into its holder. As Scotty drove screws home while Rick held the instrument in place, he observed, “Rick, old buddy, what interested me most was the place Captain Biggs chose to cut his tow loose.”

Rick grinned. “Yep. And that’s why I think there’s more to this business than meets the eye. Biggs must have known he was losing the tow when we first saw him. But what does he do? He waits before cutting it loose. He waits until he’s right over the deepest water on this part of the coast!”

# CHAPTER V

## Echo of the Wreck

There came a lull in the lab activity while Roger Pryor left the island to go to Philadelphia, home city of Seafaring Industries. While installation of the sonoscope was in progress, one of the company labs had been fabricating special watertight connectors through which wires from the nose were to reach the submersible’s interior. The small nose compartment containing the sonar device would be flooded when underwater.

Rick took advantage of the break to do a bit of telephone detecting. As he explained to Scotty, “Maybe everything’s on the up and up. But maybe not. Why wonder when a phone call or two will tell us?”

Captain Douglas of the State Police, commander of the local barracks, knew just about everything that went on in Whiteside. He was an old friend. Rick called him and asked, “Did our hurricane watcher get through the storm all right?”

“Both of them did,” Douglas replied. “Which one do you mean, Rick?”

“We only knew about one,” Rick explained. “He was on the beach just south of Pirate’s Cove. Where was the other one?”

“He put up his instruments in the old Rescue Service shack on the beach north of Whiteside Landing. Why? What are you looking for, Rick?”

“We just wondered, Captain. Scotty and I talked with Dr. Cartwell, who was south of us, but we haven’t had a chance to get back and see if he got what he was after.”

“You’d have missed him. He and his friend both pulled out of their stations right after Donna’s eye passed, before the winds got real bad again. They moved into a motel in town, and left when the winds subsided. So I suppose they got what they were after.”

Rick thanked the officer and hung up. He repeated the conversation to Scotty. “Pretty strange for weather observers to leave before the storm was over, don’t you think?”

Scotty agreed promptly. “I think they were a couple of phonies. Two stations, both closed after the eye passed the area. And what does that add up to?”

“They weren’t interested in weather. They were doing a triangulation on the tug and the drill rig. It can’t be anything else.”

Scotty shook his head. “I agree, but we can’t be sure. Better make a couple of other checks-or at least one.”

“Okay. Here goes.”

Rick called theUniversityofDelaware and asked for Dr. Cartwell. After some confusion, the university switchboard said no such person was on the faculty. Did he want someone else? Rick asked to speak to the university’s Research Coordinator, then inquired about aUniversityofDelaware project in conjunction with the United States Weather Bureau to measure certain aspects of the hurricane.

The Research Coordinator didn’t know what Rick was talking about. There was no such project atDelaware . Rick thanked him and rang off.

“Does that settle it?” he asked.

“Looks so,” Scotty admitted. “And would you care to make a small wager?”

“Such as?”

“That both those observers had radio transmitting and receiving units.In other words, walkie-talkies on the Citizen’s Band.”

“No bet,” Rick said with a shake of his head. “What you’re saying is that they were giving Captain Biggs the precise position so that he could dump the drill rig into Tansey’s Trench.”

“Doesn’t it look that way?”

“It sure does.But why?”

“How do I know?” Scotty asked.

Rick rubbed his chin thoughtfully.“Insurance, maybe? Anyway, if we’re right, the only reason Maxwell

and Biggs called on us was to see if we'd noticed anything funny about how the tow was handled."

"Big question," Scotty said. "Is the rig in the trench?"

There was only one way to answer that big question, and that was to go and see. To do so, help was needed. Rick went to the bottom of the stairs and called up to Barby. She and Jan were going over clothes in Barby's room.

"What is it, Rick?"

"We need help from you and Jan. Can do?"

"Can and will." In a moment the girls joined them. Briefly Rick reported his telephone conversations and the conclusion, and ended by saying, "Scotty and I will go out in the boat and use the echo sounder to see if we can find the rig. But you two will have to take positions on the porch and labroof, and line up the pelorus and compass, then tell us when we're on station. Navigating that precisely from the water would be difficult with the instruments we have on the boat."

There were three instruments in the Megabuck Network. Rick got them from his room, gave one to Jan, and one in the form of an ornamental hair band to Barby. It had been made for her originally. He kept the third. While the girls started for their stations with the communications units, Barby with the pelorus and Jan with the Boy Scout compass, the boys hurried to the dock.

Aboard the largest Spindrifft boat was an echo sounder that Scotty had put together from a kit. Its purpose was to give depth, both as an aid to navigation and for finding fishing spots. It wouldn't register small variations in the undersea terrain, but the drill rig was plenty big enough to register-if they could find it.

"We may have trouble if it's really in the trench," Scotty said as they cast off. "The deeper the water, the less precise this gadget. The maximum useful depth is about 500 feet. After that, the sound scatters too much and you get false returns."

"If it's in Tansey's Trench, we'll have to go after it in the *Sea Horse*," Rick retorted. He engaged the gears, and the motorboat backed out of the landing cove, turned, and headed for sea.

The height of the waves still showed evidence of the storm's passing, but the weather had quieted down nearly to fair-weather normal, and the sea wasn't too rough for comfort. Rick steered by compass, compensating slightly for drift caused by the waves. About a mile from shore he spoke into the Megabuck unit. "Can you read me?"

"Loud and clear," Jan replied, and Barby chimed in, "Of course we can hear you."

Rick grinned. He asked, "Could you have heard me if you hadn't turned on the unit?" Barby had once forgotten to turn on her Megabuck set at a crucial time.

"Like an elephant, he never forgets," Barby retorted. "Unless, of course, he happens to be wrong. Then his memory fails."

"I've trained it," Rick said. "Stand by."

The boat bounced through the waves, throwing spray. Rick enjoyed it, as he always did getting out

on-or under-the sea. When he estimated they were nearly on station, he called again.

“How are we doing?”

Jan replied, “You’re north of my line.”

“And south of mine,” Barby reported.

“That means we’re not far enough out,” Rick answered. “Watch, and call in when we’re about there.” In a moment Barby spoke up. “Dead on.” “Still a bit north,” Jan said. “Correct slightly as you go—”

Rick adjusted the wheel a fraction.

“Steady as she goes,” Jan called. “Stop! You’re dead on.”

“Dead on for me, too,” Barby agreed.

“Okay. How are you reading, Scotty?”

“A bit less than 295 feet.”

“Okay. Search starts. We’ll head for the direction where Roger estimated it went down. Keep track of us, girls.”

He held the boat at slow speed while Scotty watched the face of the echo sounder, which showed depth as a green blip on an illuminated screen.

Scotty read off the depths: “290, 295, 300, 305, 300, 310, 300, 340, 350, 370, 400. Hey, we’re over the trench!”

Rick stayed on course for a few minutes longer, then turned 90 degrees to head seaward, held the course for a count of twenty, then turned 90 degrees again. “Heading back to the starting point,” he told the listening girls. “Vector us correctly.”

“Give it about 2 degrees west,” Jan said quickly.

“It looks the same to me,” Barby agreed.

Rick corrected slightly, moving the wheel slowly so as not to overcompensate. “How’s that?”

“Good. Steady as she goes,” Jan reported.

In a moment Barby spoke up. “Dead on.”

“Agree,” Jan said.

Rick turned the boat in its own length, and set a course a bit northward and eastward of the previous run. It was a repetition of the first. Slight variations in the bottom, and then the fast drop over Tansey’s Trench. He made the run five times more, returned to the starting point where the tow had been cut loose, then started searching closer inshore. After another five runs he was beginning to wonder if the currents had moved the drill rig in another direction completely. Then, on the return to the starting point,

Scotty called the depths.

“Over the trench. Fuzzy reading. Still fuzzy. Clearing at 550, 500, 450, 425, 400, 370, 325, 300, 310, 210, 195. Hey! We’re over it!”

Rick reversed his engines and called into the unit, “We’ve got it! Get bearings!”

In a second Barby spoke. “I’m on.”

“Locked tight,” Jan agreed. “Wonderful, Rick! Did you take a buoy?”

He berated himself for being thoughtless. “No, and I don’t know if there’s one aboard.”

The resourceful Scotty came to the rescue. “Don’t worry, Rick. Just hold station.” He dove into the forward locker and tossed out a coil of quarter-inch nylon line, then disappeared and came up with a coil of half-inch line and a small patent anchor. Working quickly, he tied the two lines together and affixed the five-pound anchor to an eye splice on the end of one.

“Ask the girls if we’re still on station.”

Rick did so. “Slightly off,” Barby reported. “Go south about three boat lengths.”

Jan spoke up. “That puts you off for me. You’re about two lengths too far out”

Rick corrected as directed, until the girls spoke together. “You’re on, Rick!”

“Now,” he said.

The anchor plummeted into the depths. Scotty payed out line until only half the remaining half-inch coil was left, then he began “fishing.” He explained, “I’m trying to see if I can feel it. It ought to feel different from the bottom.” He let out more line, then said, disappointed, “Feels like soft bottom. Check with the girls.”

“Anchor on the bottom, but not on the wreck,” Rick told them. “Recheck your bearings.”

“Still on,” Jan said. “Maybe a hair north.”

“You’re a couple of lengths north on the pelorus,” Barby called. “Rick, the wind and current are pushing you.”

He had known that, but he couldn’t estimate how rapidly he was drifting, nor did he know whether the slowly turning propeller was pushing him too hard against the drift. “I must have been drifting north,” he said. He gave the boat a bit more throttle and moved slowly toward the south, into the main thrust of the light wind. Scotty let out a yell. “Caught!” He threw figure eights around a cleat, then hurriedly attached a pair of bright, high-visibility orange life jackets to the end of the line, released the figure eights from around the cleats, and tossed the jackets into the sea.

“Wreck now buoyed properly, sir,” Scotty reported, saluting like a British sailor.

“Well done, Scott. For this you shall be promoted to Able-Bodied Seaman,” Rick stated kindly. “You are a credit to the Spindrift Navy.”



“Thankee, Captain,” Scotty said modestly. “I does my best to oblige, sir, that I does.”

“I will note this devotion to duty in the ship’s log, Scott.”

“If the captain doesn’t mind, sir, I’d prefer that he note it on a table napkin, sir. It’s almost chow time ashore, sir.”

“Well put, Scott. Pipe all hands to chow whilst I set a course for the homeland.”

Barby’s voice sounded in Rick’s hearing-aid-type earphone. “What on earth are you and Scotty muttering about? I thought we’d accidentally tuned in on an old movie.”

“Captain Brant speaking, madam,” Rick said stiffly. “Your Royal Highnesses will be pleased to know that your gallant naval forces have accomplished the mission. The wreck is buoyed.”

“Buoy oh buoy!” Jan exclaimed.

“The Navy will maintain radio silence from now on,” Rick said sternly. “Bad puns overload the ship.” He shut the unit off and grinned at Scotty. “Dive tomorrow?”

“Weather permitting,” Scotty grinned back. “Maybe we can set up shop on the rig and drill for oil right here off Spindrift.”

# CHAPTER VI

## The Dive Plan

Rick and Scotty studied the coastal chart on which the positions of tug and drill rig had been plotted. The night before, they had added the actual position of the wreck before reporting to the laboratory for an evening’s work on the sonoscope installation.

“I see something interesting,” Scotty observed.

Rick nodded. “So do I. If the girls sighted accurately last night while we were hunting the wreck, our original sightings must have been off by a couple of hundred feet.”

“Oh, I’m sure the girls were accurate,” Scotty assured him. “They’re very careful about things like this. You can bet they were as accurate as we were when we made the original sights.”

“You’re being diplomatic again,” Rick accused with a grin. “What you mean is, they were as accurate as I was. If there was an error, it must have been mine. I was using that little Boy Scout compass, and it isn’t the finest instrument in the world. If my sight was off even by the width of one line on the sighting ring, then the position we charted was at least 250 feet off. And it looks as though that’s exactly what happened.”

“Which leads to another interesting conclusion,” Scotty said. “Captain Biggs had the position more accurately than we did.” He pointed to the lines marking the tugboat captain’s position data.

“Uh-uh. If he really intended to dump the drill rig into Tansey’s Trench, he didn’t miss by much.”

Scotty rubbed his chin thoughtfully. “What I can’t understand is how he missed at all.”

Rick shrugged. “Little things. The drill rig was low in the water, its portside dipping. I’ll bet the twin screws on that big tug were really churning. Also, the sea was high. Captain Biggs could have misjudged his true speed through the water. In fact, I don’t see how he could have known it precisely, even with watchers helping him from ashore. Then, it wasn’t easy to guess how far forward the rig would travel once he cut it loose. It sank pretty fast, remember. Maybe it went under a minute sooner than he estimated.”

“True,” Scotty agreed. “He couldn’t have been sure whether the tug’s pull was helping to keep the rig afloat or not. And it’s nearly impossible to judge the effect of underwater currents accurately. Actually, if our original position had been exactly on, Roger Pryor’s guess about where the wreck settled would have been very close.”

Rick had been pondering the mystery of the drill rig ever since the captain’s visit with his boss. He tossed out a guess he didn’t believe at all. “Maybe the tugboat skipper didn’t intend to dump the rig in Tansey’s Trench. Maybe he wasn’t paying any attention to the depths.”

“Yep. And maybe fish can’t swim and birds can’t fly,” Scotty jeered. “With two men plotting positions, which must have been arranged in advance, and with the tug getting lower while the seas got higher, and with fairly level ground everywhere outside of Tansey’s Trench, it turns out to be nothing but a simple coincidence.”

Rick laughed. “Okay. I was just wondering what you thought.”

“I think what you think. The drill rig was deliberately dumped! But why? That’s what I’m wondering.”

It was a wonder that Rick shared. Roger Pryor had told him that the big offshore drilling rigs cost anywhere from ten to fifty million dollars, depending on size and capability. With the amount of oil drilling taking place around the continental shelves of the world, such rigs were worth their weight in gold. If one was lost, it was replaced in a hurry. The idea that the rig had been sabotaged to collect insurance had occurred to him, but he knew that such big rigs were never covered up to their full value by insurance, if full value meant replacement value. Usually the insurance covered some percentage of their market value, which grew less with age. The insurance company might pay for part of the replacement cost, but the company would have to pay the rest. Meanwhile, the company was losing thousands of dollars for every day the rig could have been operating.

“There have been signs of oil off George’s Bank, east of Cape Cod,” Rick recalled. “Do you suppose the drill rig was being towed there?”

“Search me. And I don’t know how we can find out until the Coast Guard report is published. Eventually we’ll get more information. But right now, what I want to know is what we’re going to do.”

“We’re going to take a look,” Rick said promptly. He glanced at his watch. “It’s only eight-thirty. If we start now, we can have everything ready by ten, and be over the wreck before eleven. We’d be back in time for lunch, if Mom delayed it a half-hour. If we dive while the sun’s high, the visibility will be better.”

“Okay. We’ll have to alert the troops.”

“You do that while I make some notes. I’ll have to figure down time and decompression time.”

Scotty left, and Rick sat down at the library desk and began jotting down notes on what they would need. He was too experienced a diver to leave anything to chance. For a first look, a short time on the wreck would be sufficient. He based his plan on a maximum of ten minutes on the wreck, at a depth of 200 feet.

The dive was close to the limit for compressed-air scuba, and even beyond the limit for some divers. The nitrogen in the air became a poison at that depth, and the way it reacted on the diver depended on how long he stayed and his individual tolerance. No two divers were alike. Rick knew that he and Scotty had good tolerance, and that on a brief dive neither would feel the effects of nitrogen narcosis, the strange physical change that made a diver mentally incompetent. Some sufferers had even removed their mouthpieces and offered their precious air to a passing fish. Others had thrown off tanks entirely and swam blithely into the depths, not even conscious that they would never return.

The poetic French had named nitrogen narcosis “Rapture of the Deep.” It was appropriate. Rick had no intention of ever experiencing it. He took out a copy of the official Navy diving tables and found decompression time. He and Scotty, and maybe Dick Antell, would need a minute’s wait at 20 feet, then four minutes to decompress at 10 feet. That was to allow nitrogen absorbed by their tissues to escape harmlessly. A too-sudden ascent would release large bubbles of nitrogen, causing painful, serious, or even fatal injury to the diver from “the bends,” so-called because the diver often doubled up in pain.

Curiously, aside from the danger of permitting the nitrogen to escape in big bubbles by a sudden ascent, its absorption by the body did not cause nitrogen narcosis at depths less than about 180 feet. Few divers felt it at lesser depths, and some didn’t even get the symptoms as deep as 300 feet. It was a highly individual matter, and a diver’s tolerance could vary from day to day.

Rick rechecked the tables and noted the decompression times and stops needed if they stayed more than ten minutes on the wreck, or went deeper than 200 feet. That done, he planned the positions for those who would dive, then went on to complete his list of supplies.

He decided that the best boat for their purpose would be the big scow the island’s tenant farmer used for fishing. It was an oversize, flat-bottomed rowboat, about 18 feet long, and very wide and stable. It had a low freeboard, which made it easy for divers to enter and leave the water. Five divers with gear wouldn’t crowd it uncomfortably. A 10-horse-power outboard motor pushed it along at a good speed.

The first step was to get the boat. He went to the farm and made sure the Huggins family didn’t plan to use the boat that morning, then took it from its mooring in a small creek behind the barn and chugged to the main dock. The gas tank was only half full. He filled it and pumped up the pressure.

From a locker on the dock Rick took a coil of quarter-inch nylon line and a bright-orange plastic buoy. They would be used for buoying the wreck permanently. He secured the buoy to one end of the line, then began measuring with the aid of a yardstick kept on the dock to measure the length of fish. It was a highly optimistic measuring tool. Only a few times had the full length been necessary, and none of those had been fish caught by Rick. He thought wryly that a simple foot ruler would have served for most of his catch.

He made loops just big enough for a hand at the 10-, 20-, 30-, 40-, and 50-foot marks, then skipped to

100, 150, and 200. The line was 250 feet long. It would rise at an angle once he secured it to the wreck, but that didn't matter. Herecoiled the line and placed it in the boat.

Scotty was already in the diving-gear room when Rick arrived. He was filling tanks from the big cascade of large tanks. Rick got to work. As Scotty finished topping off a tank, Rick put on a pressure gauge and rechecked. For himself, Scotty, and Dick Antell, they filled two-tank units. For Barby and Jan, they filled the colored single tanks.

Dick Antell came in as they were working and looked around with appreciation. "Very neat," he approved. "Whose bright-colored bottles?"

"The red one is Jan's, and the blue one is Barby's. The twin blocks are for us."

"Singles for the girls?" Dick asked.

Rick nodded as he applied the pressure gauge to Jan's tank. "We stick to the old adage-which isn't strictly true, of course-that you can't get into trouble on a single tank. I won't let them go down to the wreck on this first dive. Maybe we'll take them down for a five-minute look on the second dive."

"And a single tank is good enough for a five-minute look," the submersible pilot finished. "But suppose something happens on that second dive and they use up too much air?"

"In that case," Scotty told him, "they'll have to buddy-breathe with Rick and me."

Dick chuckled. "If they have to share your tanks, you'll have them where you can keep an eye on them?"

"On the button." Rick grinned. "They're bright, and they're sensible, both of them. But they're also a shade more adventurous than we like, so we've learned to take precautions. Just in case, though, we'll have a spare tank in the lowest safety position."

"This one." He selected a single tank, which Scotty filled. Rick gave it a final check.

"Now for my problem," Dick Antell said. "What can I do for a suit? I didn't bring my own gear. I didn't expect to dive."

Only one suit on the rack would fit the big pilot, and that was Hobart Zircon's. Rick explained that the physicist was teaching a summer course at Cal Tech, and added, "He's a great guy, and if he were here he'd lend you the stuff himself. Use all his gear. His fins have adjustable heel straps, so they should fit, too. How much weight do you use in a wet suit with two tanks?"

"I think ten pounds should be enough."

"Then you'll have to take some weights off Zircon's belt. He uses twenty-four pounds. Help yourself. The belt is marked with his name."

Rick and Scotty busied themselves loading the tanks into the old coaster wagon that had been modified to haul diving gear, then took the wagon to the scow and put the air bottles carefully in place on the deck.

Back in the gear room, Scotty collected equipment while Rick read from the list. "Weight belts for all hands. Yours ready, Dick?" The pilot nodded and handed the corrected belt to Scotty, who put it in the

wagon.

Rick continued through the list. Life vests, knives, masks, snorkels, depth gauges, compasses, fins. He called for three watch cases, designed to hold watches safely under pressure. The ordinary “diver’s watch” was waterproof only to about 60 feet. He, Dick, and Jan would need to put their watches in protective cases. Barby, who would be at 50 feet, could use Scotty’s regular diver’s watch, which she already wore.

As Rick continued, Scotty added a small staff to the growing pile in the wagon. Wound around it, ready to unfurl when needed, was the bright-red flag with a diagonal white stripe that meant “Divers below. Stay clear.”

Finally Rick went to a drawer and took out a foot-long metal rod to which a plastic-covered cylinder was attached. Dick Antell looked at him in surprise. “Sharks in these waters?”

“More than we need,” Rick said. “Mostly blues, with a mako or hammerhead now and then for good measure. And once Scotty and I saw a Great White. Scared us to death. But it wasn’t hunting, I guess. It just swam away. I’ll bet it was bigger than a Navy submarine.”

Scotty chuckled. “That white shark grows five feet every time Rick tells the story. Shucks, I’ll bet it wasn’t an inch over 50 feet long.”

Dick Antell grinned with understanding. “Actually, the big whites do grow to 40 feet, and that’s a lot of man-eater. I saw one once that was about 20 feet long, and believe me, it looked bigger than a blue whale.”

“I’d guess ours was about 15 feet,” Rick said. “Anyway, we didn’t try to make a pet of it.”

“No,” Scotty agreed. “We were down on a wreck not far from here, and we hid behind what was left of the railing and didn’t even breathe for fear our bubbles would attract the beast.”

Rick removed the protecting plastic and checked his implement. Inside the cylinder was a shotgun shell. When the cylinder was driven against an object—such as a shark—it slammed the cartridge down onto a firing pin. The explosion would kill a shark of reasonable size, and stun a big one. But, Rick thought, it would probably give a 40-foot man-eater only a slight headache. It also gave the diver a headache, because the effect of the explosion was felt by the user. The greater the depth, the more the explosive effect because of confinement by the water pressure. It wasn’t a weapon to be used lightly on a short rod. A longer rod could be attached, but then it had to be carried in the hand. Rick preferred to hang the powerhead, as it was called, from his belt. There was a safety that prevented accidental explosions.

Barby and Jan had timed themselves perfectly so that all work would be accomplished by the time they arrived. They came in as Rick added the power-head to the wagonload. Both girls were in swimsuits.

“Not taking a camera, Rick?” Jan asked, surveying the load.

He shook his head. “Not this time. We’ll just make a brief survey. I may take pictures on the next dive.” He, Scotty, and Dick Antell retired to undress and put on swim trunks, the pilot using big Hobart Zircon’s. They were too large around the waist, but suitable for use under a wet suit. When they returned to the gear room, Hartson Brant was there with Roger Pryor. The girls were already getting into their suits, and as the three joined in the process of pulling on the tight neoprene garments, Hartson Brant questioned Rick about the dive plan. Rick stated it briefly, then gave the assignments.

“Barby at top safety, 50 feet. Jan next at 100 feet. Dick Antell at 150. Scotty and I will go down to the wreck. He and I will flip, and the winner will swap places with Dick after five minutes. Maximum down time will be ten minutes. The spare tank and regulator will be at 150 feet.”

“How much rise time will you have to allow?” Jan asked.

It was essential not to rise too fast, and Rick had figured the proper ascent speed into his plan. “Scotty, Dick, and I will have to take three and a half minutes to go up to the 20-foot stop. You won’t need to decompress at 100 feet, Jan, but we’ll pick you up on the way and you ascend with us. Our speed will be fine for you.”

Actually, rise time could take a bit less than three and a half minutes, but Rick always built in a safety factor.

“The plan sound all right to you, Dick?” Dr. Brant asked.

The submersible pilot grinned. “I’ve been watching and listening like a suspicious squid. You see, I’m mighty particular about the kind of buddies I dive with, being somewhat fond of this oversize hide of mine. But Rick and Scotty have acted like pros, so far, and I’m happy about the whole thing.”

Everyone was fully suited now except for headgear and gloves. Barby drew herself up in her blue suit and said loyally, “You couldn’t do better than to dive with Rick and Scotty.”

“Oh, I don’t know,” Antell replied. “I dive with topnotch professionals all the time. But very seldom do I have a chance to dive with girls who look like the diving-gear advertisements in *Skin Diver* magazine.”

Rick grinned. Dick Antell’s comment was appropriate. The two girls did look like models for magazine ads.

Barby and Jan rewarded the pilot with smiles. Jan commented, “If you’re as good a safety man as you are a flatterer, Rick and Scotty are in good hands. Shall we go see?”

Take your own regulators and fins,” Rick said. “And let’s get going. There’s a wreck out there that needs our attention!”

## CHAPTER VII

### Dive One

Scotty manned the outboard on the big scow while Rick got busy putting regulators on the tanks, then checking them. When the tanks were ready he passed out life vests with a reminder to be sure the valves were closed and the carbon dioxide bottles properly seated. The girls put on their vests, and he held their tanks while they got into them and secured the heavy bottles with quick-release belts. He passed out weight belts, knives in leg sheaths, and snorkels.

As the scow neared the orange life jackets that served as a temporary buoy, Dick and the girls put on headgear and fins. The girls added gloves. Rick checked the three, turned on their air, and watched while they rechecked the regulators. Then he got into his own gear. By the time he was fully equipped except for fins, Scotty was slowing the boat down so as not to overrun the life jackets. Rick reached out, caught the jackets, and hauled them aboard. He untied the line and secured it to a ring on the boat's bow. Now they were anchored to the wreck. Scotty cut off the motor and got into his own gear.

There was a socket on the scow's bow. Rick placed the diver's flag and unfurled it. The wind snapped the red banner with its diagonal white stripe so that it stood out, clear and unmistakable. As Scotty re-checked his regulator and reached over his shoulder to turn on his own air, Rick secured the free end of the new buoy line to his belt, then hung the power-head in place and put on fins. They were ready.

He repeated the dive plan, then instructed, "Go down the anchor line. Barby and Jan together. Barby stops at 50 feet by her gauge. Jan waits for Dick. When he arrives, they go down together. Jan drops off at 100 feet. Scotty and I will pick up Dick on the way down, then leave him with the spare air bottle at 150 feet. I'll be carrying the new buoy line, which has loops to mark the footage. Scotty will carry the spare tank and hang it at Dick's stop. Any questions?"

There were none. The last step was to rinse face masks and put them on. The two girls did so, then sat down on the gunwale, backs to the water, and waited for Rick's signal.

He nodded. "Go."

The two went over backwards into the water in the standard diver's entry, managing to look graceful in spite of the weight of gear. For a moment they surfaced, put mouthpieces in place, then did perfect surface dives and started down the anchor line like a pair of matched mermaids, one red and the other blue.

"You're next, Dick."

Antell simply stepped over the side, putting mouthpiece in place as he went. Under water, he turned and went down the anchor line headfirst.

Scotty picked up the spare tank, looped his arm through the harness, then stepped over the side. He put his mouthpiece in place and waited for Rick.

Rick gave a last quick look around. They were alone on the sea. He pulled the mask down over his face, adjusted his mouthpiece, then picked up line and buoy and jumped in. He released the buoy and started paying out line. The anchor rope went down at a steep angle into green water, and he couldn't see more than a few feet. He hoped visibility would be better below. Feet moving slowly, He and Scotty swam into the depths.

The water was always murky after a storm, but often the suspended matter that ruined visibility was in a surface layer. That was the case today. Ten feet down, the water cleared, and Rick could see Barby holding to the anchor line, a still-vague blue image 40 feet below. At 20 feet he had to clear his ears and snort into his face mask to equalize pressure. After that, adjustment was nearly automatic. He kept swallowing as the pressure increased, to allow his Eustachian tube to open and admit air under higher pressure. As always, he felt the wonderful sense of lightness and freedom he experienced when diving. With his buoyancy balanced by his tanks and weight belt, he was as nearly weightless as he could ever be without making a space flight.

At 50 feet they reached Barby. She reached out and took the buoy line Rick was carrying, found the 50-foot loop and moved upward a few feet to grasp it. Rick put his face mask close to hers and winked. She winked back. With a hand on each line, she hung suspended, watching them as they went down.

Dick and Jan were waiting at the 100-foot level. The reds had filtered out, leaving the underwater world a dark blue-green. Jan's red suit looked black. Rick held up thumb and forefinger closed in a circle, and Jan gave him the signal back, indicating that she was fine. She pointed. Rick turned and saw a small school of fish passing. They looked like jack mackerel. Rick looked up. He could just see Barby, silhouetted against the light coming from the surface. He waved, and she waved back. Good. She could see Jan, then, and be ready to swim down if an emergency should develop and Jan summoned her by banging on her air tank with her knife handle.

Rick tapped Dick on the shoulder and continued down, Dick and Scotty beside him. He payed out line until he felt the 150-foot loop, then stopped. Scotty hung the spare tank in the loop by passing the regulator through it. Dick Antell gripped the line to hold himself in position. Rick looked up. He could just barely see Jan as a dim silhouette. She couldn't see Dick, but she would be able to hear his summons if he banged on his tank.

Rick and Scotty followed the anchor line into the depths. It was silent, except for the sigh of the regulator and the sound of bubbles as the boys breathed, and it was getting darker. Rick knew their eyes were adjusting to the diminishing light, but it would still be pretty dim at 200 feet.

Scotty tapped him on the arm and pointed. Rick turned his head and saw the tower of the drill rig, a latticework of steel from which pipe was suspended when the drill was operating. The tower was canted about 15 feet from the vertical at the top. That meant the entire rig was at a slight angle on the ocean floor.

As they continued down, Rick saw the deck of the big rig, a geometric blackness in the darkening water. They swam down to it, reversed themselves, and stood on the deck. It was always a thrill to Rick to land on a structure under the sea, and he felt it now. This was the huge object they had watched in the eye of the hurricane. He looked at the luminous dial of his watch and noted the time, then at the depth gauge. They were a couple of feet short of the 200-foot mark.

The anchor was hooked under racked sections of drill pipe. He freed it and moved it into a clear space so it could be hauled up without catching, then untied the buoy line from his belt and secured it to the pipe rack. He was vaguely aware of a distant sound, like the purr of a motor. Must be company overhead. They'd have to keep eyes open on the way up if another boat was in the vicinity.

With Scotty at his side, he began swimming toward the looming bulk of a deckhouse at one side of the platform, then stopped suddenly. There was a sharp clang, then a series of them! One of the three divers above was banging for attention!

Rick and Scotty shot upward, following the buoy line. They could move rapidly to where Dick Antell was waiting, then they'd have to slow down. Rick peered upward through the blue-green gloom. Were the girls all right? Which one was banging? He didn't think it was Dick. The sound wasn't loud enough.

They reached the pilot, and Rick clapped him on the shoulder and jerked his thumb upward. Dick nodded and made his fins move. He shot upward, away from the two boys. Scotty disengaged the spare tank, and he and Rick followed more slowly.

Rick estimated quickly, looking at his watch. They hadn't been down more than three minutes. Hurrying



a little more wouldn't hurt if they were careful to exhale fully. He speeded up a bit and saw that Scotty was keeping pace.

What had happened? Ahead, he saw Dick reach Jan, saw the two of them move upward toward Barby. It was his sister who had called for attention and help, then.

At that moment a flash in the water caught his eye from the corner of his mask. He whirled, and was in time to see the faint gleam of light on chrome. Their outboard motor, whirling because a big piece of wood was still attached to it, revolved downward into the depths. The board was the scow's transom.

Rick stared upward, not believing it. Their boat had been wrecked!

## CHAPTER VIII

### Hit-and-Run?

Dick and the girls were waiting at the 50-foot level when the boys arrived. Rick looked into his sister's face mask anxiously. She winked, realizing that he was worried, took his hand in hers and gave it a reassuring squeeze. He breathed more easily.

At Rick's signal, the five swam up to the 20-foot level, first decompression stop for the boys. While Rick timed the one-minute wait, Barby made gestures. One of her gloved hands represented the scow. The other hand became a boat that smashed into the scow, backed off, veered, then kept going. Barby held both hands out, palms up, in the query signal. She shrugged expressively.

A boat had run down their scow, and Barby couldn't understand why. Rick shook his head. He didn't understand, either. Granted that the scow was low in the water, the diver's flag was clearly visible.

The minute up, the group moved to the 10-foot level where the boys had to wait for another four minutes to complete their decompression. Rick wished he could talk with his friends. It would help to pass the long minutes if they could discuss what had happened. Underwater communications devices did exist, but he had never added them to the Spindrift diving gear. He had never felt the need before. Now he began to wonder if the expense, extra trouble, and extra weight might not be worth it.

When the four minutes were up, he gave the thumbs-up signal that meant to go on up to the surface. The five emerged into the air almost at once. Rick let his mouthpiece fall away and called, "Inflate vests." He pulled the cord on his and the vest swelled instantly. "Drop weight belts, too," he added. "It's a long swim to shore, and there's no point in hauling extra weight."

Five hands pulled quick-release buckles, and weight belts dropped into the depths. Rick gritted his teeth. He hated to lose equipment, even though it was made to be expendable. The belts and weights could be replaced for a few dollars each, but it was the principle of the thing. Someone else's stupidity, carelessness, or viciousness had upset the dive plan. He hoped the person responsible could be found, but he wasn't optimistic.

"Grab the life cushions and jackets," he called to Barby and Jan. They were nearest the jackets and cushions that had floated free when the boat was splintered. There was a fairly substantial piece of bow

floating nearby, but it was mostly boards that remained.

Jan retrieved the two orange jackets and tossed one to Scotty. Barby collected cushions. There had been four in the scow-floatable types filled with kapok. She passed them out to Dick Antell and Rick and kept two.

“We’ll form a line and stay abreast,” Rick said. “Jan and Barby, if you find yourselves tiring, we’ll take your tanks and tow them. If you get really tired, we’ll tow you, too.”

Jan replied, a shade too sweetly, “Thank you, Rick. And if you get tired, either Barby or I will tow your tanks for you. If necessary, we’ll tow you.”

“But be sure and call for help before you’re a dead weight,” Barby added. “It will be easier for us if you can help a little.”

Dick Antell chuckled. “And that cuts you down to size, Rick. I’ll bet those two mermaids can follow anywhere you lead.”

“No bet,” Rick returned. “I know they can. I was only trying to be gallant.”

“At the moment it’s more important to be buoyant,” Jan said, giving him her impish grin. “So lead on, my gallant buoyant.”

“One more pun out of you and I’ll feed you to the starfish,” Rick threatened.

Scotty spoke up. “Speaking of feeding, we’d better keep an eye out for fins. Fins no funs, especially when fins marks sharks.”

“Clowns,” Rick said with anguish. “Two miles at sea and surrounded by clowns.” But he knew he couldn’t possibly be surrounded by better companions. All of them were upset at the loss of the scow, although by tacit consent they were waiting until they were ashore to talk it over. But none was the least bit panicky, or afraid of the long swim. With only the life vests, they would have used snorkels and masks, but the cushions and life preservers gave them ample buoyancy and it was only a matter of settling down for the long pull. “Let’s go,” he said.

The line moved through the water shoreward, each resting chest and arms on cushion or preserver, using only legs for propulsion. The waves weren’t high, and it was easy going. Rick was on the extreme left, with Jan next to him. Next to Jan was Barby, then Scotty, with Dick Antell on the right flank.

Barby, with two cushions and the least weight in the group, was highest out of the water. Suddenly she raised up as far as she could, then called, “Hold it! Never mind swimming. Here comes the Spindrift cavalry.”

In a moment Rick saw it, too. Speeding toward them was the largest Spindrift boat.

The divers held position, floating in comparative comfort until the boat reached them. Roger Pryor put the swimming ladder over the side, then caught the cushions and life jackets that were tossed to him. Hartson Brant was at the boat controls.

Barby and Jan went up the ladder, followed by Dick and Scotty. Rick was last up. He dropped mask, fins, and snorkel on a boat seat and slid out of his harness, then walked to his father’s side.

“Did you see what happened?” he asked. The others were gathering around to hear the answer, too.

“No, son. I looked out now and then, and I could see the flag, then suddenly the flag wasn’t there any more when I took another look. I got the glasses, and I could see a bit of debris, then you all surfaced. Roger and I ran for the boat. What did happen?”

“Barb was top safety man,” Rick said. “She’s the only one who saw anything, I guess. What did you see, Sis?”

“As I told you with gestures under the water, a boat came along, ran into the scow, backed off, and kept going. That’s the whole story. Except that I had to duck the outboard when it sank.”

“How big a boat was it?” her father asked.

Barby thought it over. “I’d say half as long again as the scow. That would make it about a 25-footer. It had twin screws. I could see the twin wakes, but I can’t be sure if it was an outboard or inboard.”

“Type of hull?” Rick inquired.

“I couldn’t tell, Rick, except that it was a single hull, not a catamaran or a Boston whaler type. It left a smooth wake.”

“No one could have missed seeing the diver’s flag,” Scotty stated.

“You mean, no one who was looking,” Roger Pryor corrected. “How many times have you seen careless pleasure-boaters who didn’t pay the slightest attention to where they were going?”

“I’ve dodged a few,” Scotty admitted.

“Do you think it was deliberate?” Jan asked.

Hartson Brant shook his head. “We haven’t sufficient data to make a judgment, Jan. But if deliberate, who stood to gain? Anyone who recognized a diver’s flag would have known that crashing the boat would only mean inconvenience and hard work getting ashore. The divers wouldn’t be harmed, and would have life vests, and if necessary they could drop equipment. I think we’d have to know motive before we can conclude that it was deliberate.”

Rick had to agree with his father’s estimate of the situation. He knew from personal experience that the waters were crowded with pleasure boatmen who hadn’t the faintest idea of seamanship or rules of the road, and he knew that too few people recognized a diver’s flag. It was only that he had learned to suspect coincidences, and a boat running down the only other boat in sight was stretching coincidence pretty far. Still, who had anything to gain?

“We’ll call it hit-and-run,” he observed.

Jan’s dark eyes met his. She had an uncanny and sometimes uncomfortable knack of following his thought processes accurately. “Only you’ll add a mental question mark,” she stated.

He grinned at her. “I guess I will,” he admitted. “Hit-and-run, question mark.”

# CHAPTER IX

## Dive Two

Rick was all for making another dive on the following day, but Dick Antell had other plans. Dick and the two boys were stowing gear when Rick said, "I'll run over to the Dive Shop at Whiteside and pick up some new weight belts, then we can go back tomorrow. Only this time we'll take the big boat. If any ocean hot-rodder slams into that one, he'll wreck himself-as well as us."

"I'm working on a different idea," Antell said. "Listen, Rick and Scotty. After diving with you and the girls today I'm convinced that you know what you're doing. And Barby and Janare as cool a pair in an emergency as I've ever seen. Most girls would have automatically gone into shock with their boat gone, and plenty would have had the screaming meemies. But they assessed the situation, relaxed, and even joked about it."

"They're plenty good under fire," Scotty agreed.

"Okay. So I suggest we make a prolonged dive and really go over that wreck, and we can take the girls with us. If we're properly outfitted, we won't need safety men at the upper levels. We can station Jan and Barby alternately at the 100-foot level. By making them safety men, we'll be sure they get a little rest. I know they have plenty of stamina, but extended time on the bottom is hard work and there's no need to put them through it."

"Sounds good," Rick said with interest. "How do we do this?"

"I'm not sure yet. It depends on what equipment I can beg or borrow. I'm going back to the home office in the morning, and stay overnight in Philadelphia. But I'll be back in plenty of time for a dive the next day, weather permitting. Just leave it to me."

Rick and Scotty had learned that Dick had graduated to submersible pilot from being chief diver for Seafaring Industries. They were very happy to leave all plans to such an expert.

The sonoscope installation had reached a point where Hartson Brant had to do most of the work, with Roger Pryor assisting so that he could follow all details. Once the submersible was back in operation again, Pryor would be responsible for sonoscope maintenance, and he was anxious to learn all that he could.

That left the boys at loose ends on the day following the hit-and-run accident. They went into Whiteside and bought new belts and weights, then Rick began the search for a suitable boat to replace the big scow. It wasn't easy, because the big, old wooden boats that were so stable and comfortable just were not being made any more. He gave up as dinnertime approached. The hunt for a replacement would have to continue elsewhere. There was nothing suitable near Whiteside.

When Rick and Scotty picked up Dick Antell at Whiteside Landing the following morning, the submersible pilot carried with him an unusual load in the back of the station wagon. There were five tanks, with harnesses, heavy aluminum bottles larger in diameter than normal tanks.

“What are they?” Rick demanded.

“Navy Nineties,” Antell replied. “Blown up to 5000 psi .”

Rick pursed his lips in a whistle. The standard scuba tanks contained a little over 70 cubic feet of air compressed to a maximum of 2400 pounds per square inch. These contained 90 cubic feet at more than double the pressure.

“That’s a lot of air,” Scotty commented.

“Ah, but it isn’t air. It’s a balanced mixture of oxygen, nitrogen, and helium. I wasn’t sure the tanks would be available. That’s why I wasn’t more specific. But they were in the shop with no dives planned, so I borrowed five and charged them to maximum. We can have an hour on the bottom if we need it, with no danger of nitrogen narcosis and only about ten minutes’ total decompression time on the way up. We won’t even need to decompress unless we’re down more than fifteen minutes.”

“That’s great!” Rick exclaimed. “Let’s get going. I’m anxious to try it.”

At the dock they transferred the tanks into the large boat. Then Dick opened a box he had carried and said, “Here’s something else.” He lifted out a small, odd-shaped rubber device. “The skirt is designed to fit over the mouth. You’ll recognize this leaf-shaped gadget as a one-way duckbill valve. The white piece on the front is a membrane. To use it, you take a breath, remove the mouthpiece, hold this tightly over your mouth, blow the water out through the valve, and then talk. Simple words, few Y sounds . They’re good at about 200 feet. The question is, can the girls take mouthpieces out and use them?”

“Sure,” Rick assured him. “We’ve practiced buddy-breathing and the other techniques, and they’re not afraid to get away from the air supply. These are great, Dick. Can they be bought?”

“Not yet. They’re experimental models. I brought one for each of us.”

“Let’s get busy,” Scotty begged. “I want to get underwater and try this gear.”

The girls were waiting at the lab. They had put the proper number of two- and four-pound weights on the new belts and were in swimsuits, ready to dress for the dive. After suits were on, each diver took his own gear, with Rick carrying another diver’s flag and the powerhead, while Scotty lugged the spare tank. In a half-hour they were over the wreck.

Rick had put the regulators on the big tanks, but had been noncommittal about the diving plan. No one had mentioned to the girls that the Navy Nineties contained a special gas mixture. Rick waited until Scotty had put the swimming ladder over the side and lashed it in place, then he called his sister.

“Barb, check this regulator, please.” He handed it to her and opened the tank valve.

Barby took the mouthpiece between her lips and breathed two or three times, then removed it and said, “It’s fine, Rick.” Only the sound didn’t come out quite as she expected. Instead, her voice sounded like that of a plaintive chipmunk, high, reedy, and a little breathless.

The girl’s blue eyes opened wide and her face registered shock. Then, as Rick, Scotty, and Dick doubled up with laughter, she said angrily, “I don’t know what’s so funny!” Again, her voice was high and thin.

Jan, who had been staring in amazement, began to laugh, too. “Exhale, Barb,” she urged. “Get rid of the lungful from the tank. It’s helium.”

Barby blew out violently, then tried her voice gingerly. It was back to normal. She glared at her brother. “You might have warned me. No, I guess you mightn’t. It wouldn’t have been any fun if I’d known, would it?” Then Barby began to laugh, too.

Human vocal cords function under normal gas pressure of 20 percent oxygen and 80 percent nitrogen. But helium is the lightest gas of all, and permits the vocal cords to operate much more rapidly. The faster the vibration, the higher the pitch. So, as Rick explained, the tankful of mixed gas had made Barby sound like a soprano mouse.

“We’ll all sound that way when we start breathing the mixture,” he concluded. “Now, I’ll describe the dive plan while we get into harnesses. Watch the weight, girls. These tanks are much heavier than you’re used to.”

He held Jan’s tank while she slipped her arms through the harness and adjusted the straps to fit. Scotty helped Barby, then the boys helped each other and Dick. Weight belts followed. All had put on knives, gauges, watches, and life vests on the way to the wreck.

Dick opened the box he had brought and distributed the experimental communications devices. He showed the girls how to hang the gadgets around their necks so they’d be within reach, then gave instructions. “Take a good lungful of air, then remove your regulator mouthpiece and hold it in your right hand. Use your left to press the communicator over your mouths so you get a good air seal. Blow the water out and talk. Use short words, talk slowly and as distinctly as you can.”

“There’s no electronic circuitry at all,” Jan observed. She had been examining her communicator carefully. “They’re just mechanical gadgets. The voice vibrates the membrane, which transmits the impulses through the water. I don’t see how they can be very efficient, Dick.”

“They’re not,” the pilot agreed. “By experimenting with the kind of membrane that would be most effective, its dimensions and shape, and the size and shape of the resonating chamber, we’ve produced about the most efficient combination we can, but as you say, it’s all mechanical. So what we have is a pretty good, very inexpensive gadget that’s a whole lot better than no communication except banging a tank. I think you’ll be surprised at how well they work, especially at short distances.”

“We’ll try them as soon as we’re in the water,” Rick said. “Now, here’s the dive plan. We go down together, all the way. After ten minutes, Barby goes to the 150-foot safety marker and stays there as safety man until Jan relieves her after another ten minutes. Barby rejoins us on the wreck. We stay down ten minutes more. For the first ten minutes, we all stay together. I’ll take left flank, and Dick right flank, and both of us keep an eye on those in the middle. When Barby goes up to safety position, Jan and I buddy up, and Dick and Scotty. When Jan relieves Barby, she comes down and joins me at the bottom of the buoy line. Dick, what’s the decompression time?”

“Two minutes at 30 feet, three minutes at 20 feet, and four minutes at 10 feet. Take three minutes to ascend to 30 feet.”

“Okay. Any questions?” There were none. “Good. Into the water, then, and assemble at the buoy.”

The boat rode at anchor on the buoy, which was directly below the bow. Scotty was first into the water,

followed by Barby and Dick. Rick paused for a look around while Jan was adjusting a fin. There was smoke on the horizon to the north, and a large ship was passing several miles to the east. He could barely make it out. The diver's flag fluttered from the masthead, and all was secure. The sea was quiet, not even a whitecap showing.

Jan was waiting for him at the open section of rail above the swimming ladder. She said softly, "Thanks for bringing us, Rick. And I know why you're sending Barby and me up to the safety position when you don't really need a safety man. It's to keep us from getting too tired."

Rick grinned at her. "Sometimes you're too smart for my own good."

Jan winked and stepped into the water. Rick joined her and they finned to the buoy. Dive Two had begun!

# CHAPTER X

## On the Wreck

Scotty led the way down the buoy line, and by previous understanding with Rick, stopped at the 20-foot marker. The five clustered around the line, and Rick took his communicator in his left hand, breathed deeply, removed the mouthpiece with his right and clapped the communicator over his mouth. He blew, and water jetted out of the duckbill valve, leaving the chamber over his lips clear.

"Testing," he announced. "How do you read me?" His voice, high-pitched and reedy from the helium and amplified in the little chamber, sounded so funny that he laughed, broke the seal on the communicator, and gulped a mouthful of sea water. Instantly his trained reflexes took over. His throat muscles tensed, locking his air passage. He swallowed the sea water, stuck his mouthpiece back in, pushed the purge button that cleared it of water, then took a deep breath.

Dick's voice sounded in his ears. The pilot had the communicator over his mouth. "I heard you loud and clear and funny, Rick. But laughing is dangerous."

Rick had recovered after a couple of breaths. He inhaled again and exchanged mouthpiece for communicator. "You're right, Dick. Laughing is dangerous. But the helium actually makes the gadgets work better because it makes the sound higher."

Scotty tried it. He didn't sound like Scotty, but his words were clear as he said, "The thing works fine."

Jan put her gadget in place. "Just don't take a breath between sentences." She sounded like a record played too fast.

"I hear you all fine," Barby contributed.

Rick had been watching closely as each tried the gadget. He was satisfied. The girls handled the exchange of air supply and communicator easily, without fumbling. He tapped Scotty and gave the thumbs-down signal to go deeper.

Scotty nodded and led the way, followed by Barby, Dick, and Jan. Rick brought up the rear where he could keep an eye on all of them. In each group dive one person must be in charge, and he was the divemaster. He felt the responsibility keenly.

The water was much clearer today, and visibility was excellent. He watched the colors change as they went deeper. Before him, Jan's suit darkened from bright red to black as the water filtered out the reds and yellows of the color spectrum. Scotty paused at 50 feet to give everyone a chance to equalize the pressure in their ears if need be. No one held their noses through the mask nose inserts to blow their ears clear, so Rick knew that everyone was handling the increasing pressure without problem. Scotty continued down into deepening gloom.

The drill-rig tower loomed through the rising air bubbles. Then they were on the rig's tilted deck. Rick looked at his watch and noted the time, then checked his depth gauge. The rig hadn't moved any deeper. Depth was still a bit less than 200 feet.

The five stood on the deck and looked around. Suddenly Jan gave a little jump. Rick looked down in time to see an eel slither rapidly away. It had been under the pipe rack next to Jan. He thought that not many days would elapse before all kinds of sea life took up habitations on the wreck.

He pointed. The group fanned out into a line with Rick on one end and Dick Antell on the other, and they finned slowly across the sunken rig toward the high bulk of the deckhouse.

Scotty tried the door. The knob turned, and he pulled it open. He went in, Barby following. Jan looked at Rick for permission, and he nodded. The girl went in, too, with Dick following. Rick paused in the doorway, where he could keep an eye on all hands. He could see his friends poking around, but he doubted that they would find much of interest. He had been down on many wrecks off the coast, usually lobster hunting. Few of them contained anything of immediate value. It would be necessary to salvage their cargo to find any real treasure.

He soon discovered that treasure was strictly in the eye of the beholder. Jan and Barby had gotten together and were consulting by signals. He watched, grinning to himself, as Barby unsheathed her knife and sliced a piece of cord from a Venetian blind. Then she and Jan methodically collected ten-cent-variety-store coffee mugs, the heavy kind, and strung them on the cord. They found six, which Barby tied to her weight belt. Then the two girls collected saucers to match, and Jan set the example by putting the saucers around her slim waist, under the weight belt.

There wasn't much light in the cabin, but Scotty was going through a stack of papers he had found on a table. Dick was just watching, as Rick was.

Rick glanced at his watch. It was time. Ten minutes had gone by quickly. He moved to his sister's side and beckoned. She nodded, and followed as he led the way out onto the deck and to the buoy line. He watched as she went up 50 feet to the first safety position, the coffee mugs dangling from her waist like the greatest treasure of the Caribbean. He knew how she and Jan felt. The mugs had no value except as souvenirs, but as souvenirs they would be prized and used, as relics of the girls' first deep dive. He decided that he and Scotty would take them "bug hunting," as lobster dives were called, on wrecks more interesting than this one. He could see Barby silhouetted against the light from above, and far beyond her he could even see the dark blotch of the boat hull. Visibility was unusually good. Satisfied, he finned back to the deckhouse.

Jan was waiting for him with Scotty and Dick. Dick switched to his communicator and said, "Second



deck may be more to see. Rig controls there. We go look?"

Rick gestured for Dick to lead, then he and Jan fell in behind the pilot and Scotty, swimming close together. Dick led the way over the deck's edge and down a girder. The light was poor, and Rick wished he had brought lights. Next time he would. He would bring his camera, too. The wreck had to be examined closely if they were to solve the mystery of why it had gone down.

He and Jan followed the two leaders into the gloom of the second deck, then paused. He could see a huge cylinder close at hand. One of the buoyancy tanks. He thought he heard, and almost felt, a pulsating in the water, and stayed still to listen. He saw that Jan was listening, too. There must be a boat of some kind nearby, and possibly a big one. No matter. It wouldn't attempt to hit the Spindrift boat. Not even the most stupid skipper could avoid seeing that.

The deck was a clutter of equipment. He took Jan's gloved hand in his. He wouldn't risk losing her among the debris. They moved slowly after Scotty and Dick, passing over a huge winch wound with hundreds of yards of heavy cable.

His name echoed faintly in his ears, high-pitched but recognizable. Then Scotty's name. "Quick! Sharks! Come quick!"

Instantly Rick turned, holding tight to Jan. He finned as fast as he could toward the light and open water. Once clear, he looked upward.

Barby's slim figure clung to the buoy line. Above her, milling and circling, were the torpedo shapes of sharks. Big ones! He counted seven, then, as he watched, another four arrived!

Jan detached her hand from his and shot upward toward Barby. Rick turned to check on Scotty and Dick. They were close behind. He gave the thumbs-up signal and followed in the wake of Jan's fast-moving fins.

This was real trouble, he thought. The sharks were between them and the boat. They were trapped!

# CHAPTER XI

## The Blue Menace

It was difficult to estimate the actual depth of the shark pack, but Rick thought they were probably between 30 feet and the surface. He wondered what had brought them, and in the same moment realized that a large boat was barely visible as a dark shadow on the water at the distant edge of visibility. Had the fools dumped garbage overboard in the vicinity of a diver's flag?

He knew that sharks often followed ships, just to collect the garbage jettisoned a couple of times each day, and he couldn't think of any other solution. It didn't matter, anyway. The sharks were about. Somehow they had to get into their boat.

He put his communicator in place. "We go up to 100 feet. Slow. Do not get close to each other. We

should not bang tanks or make strange noise. Sharks are curious. I lead. Scotty last.”

The five strung out on the buoy line. Rick finned upward, keeping an eye on the sharks. He saw that they came and went. The area directly overhead was not the focus of their attention; that was beyond, out of sight. He hoped whatever it was would go away.

At the 100-foot marker he stopped, while the others clustered around him. The distance to the sharks was still considerable; he could see that the animals were close to the surface. He debated the next move, then took a deep breath and switched to his communicator.

“Dick, you stay with girls just in case. Scotty come with me.”

Jan swiftly changed to her communicator. “What are you going to do?”

Rick had returned to his mouthpiece. He changed back. “Go to the 50-foot level and see. Don’t worry.”

With Scotty close behind him he moved up the buoy line. As the distance to the sharks lessened he could see their white bellies and pointed snouts. Then, as one rolled, he saw the deep, indigo blue of its back. As he had suspected, they were blues.

Swiftly he reviewed everything he knew about the Great Blue shark, also called Blue Pointer. He didn’t like any of what he remembered. He had killed a baby blue once with his powerhead when it had hung around almost beyond air reserve limits while he and Scotty were lobster hunting. The baby was about eight feet long. The adults ranged from twelve to fifteen feet in length, and the blues above were all adults.

There were not many records of attacks on people by the blues, but that was because most shark attacks took place near shore and on bathing beaches. The big blues roamed the high seas, and they were plentiful in North Atlantic waters. He had read old whaling stories about how blue sharks continued feeding on a whale carcass even after they had been cut almost in half by keen, pole-handled blubber knives. They were not particular about their food, either. When in a feeding frenzy, after garbage tossed over by a ship, they had been seen to consume chunks of wood, old boots, tin cans, and anything else dropped into the water.

As they neared the 50-foot level, he could see the sharks more clearly. There was no mistaking them. The pectoral fins were unusually long, and their bodies were slender and perfectly streamlined.

He stopped at the 50-foot loop, and Scotty joined him. The husky ex-Marine shook his head. They had a real problem. Unless the sharks went away before their air ran out, they’d have to go right through the pack to get to the boat.

Rick watched one engulf a piece of something, and knew the sharks were feeding. But on what? They weren’t in a feeding frenzy, competing, slashing at each other. Instead, they were cruising like living torpedoes, picking up a bit here and there. He estimated their average depth as 20 feet.

While he watched the sharks, he went over the information in his head. With the big tanks under high pressure, they could stay down for over an hour at a good depth. But the longer they stayed deep, the longer the decompression time. If they remained at the 50-foot depth, their air time was greater, and decompression less. He knew the decompression tables for normal air. They could spend two hours at 50 feet, and need only five minutes decompression at 10 feet. With the helium-nitrogen-oxygen mixture, they probably had at least two hours at the shallow depth. Even the standard tank would be good for nearly forty minutes at that depth.

But with time came another problem. Even the best breathing apparatus requires an effort by the diver, and the relentless pressure of the water tires chest muscles and diaphragm. There would come a time when the girls were simply too tired to breathe properly, and not long after, Scotty, Dick, and he would be in the same shape.

Unless the sharks went into a wild feeding frenzy, Rick knew the five could probably move up through the pack without too much danger. He had studied the attack patterns of sharks, including the remarkable pictures of sharks feeding made by Peter Gimbel of New York, featuring the big blues, and by Al Tillman and Dewey Bergman of California, featuring grays, white tips, and black tips. The blues started the pattern with slow, probing runs, gradually increasing in tempo until they tried the first bite. It took a little time to build up to the bite stage when they were attacking a good-sized animal that might bite back.

There was also a strong possibility that if a feeding frenzy started because of more food dumped into the sea, being at 50 feet wouldn't help. The sharks would attack anything in sight with straight rushes, not following the slow pattern of probing. A feeding frenzy, Rick knew, was a kind of group insanity. The sharks would attack each other and anything else in the water.

Scotty tapped his arm and pointed. The ship hull was clearly visible now, and most of the sharks were near the ship. Rick could see bubbles as something plummeted into the water. A big blue grabbed it and swallowed, then writhed, rolling and twisting. Slowly, relentlessly, the blue was hauled to the surface-and then through it into the air. The boys looked at each other, horrified.

The boat was fishing for sharks, only yards from their boat!

He motioned down, and he and Scotty went back along the line to where Dick and the girls waited. Rick filled his lungs and switched to his communicator. "Boat fishing sharks. It could get worse. I think we better go up."

Dick Antell spoke. "Decompress one minute at 30, but need two minutes at 10. Not down long."

Rick nodded. That was some help. He had gone over their alternatives while coming down the line. They could swim toward land to get away from the shark area, but that would mean surfacing without a boat, and getting pretty exhausted. Also, there was no assurance the sharks wouldn't be around when they surfaced. They could stay at the 50-foot level for a while and see what happened before moving. The latter had been his choice until he neared the 100-foot level. Then he had noticed that Jan and Barby had increased their breathing rate. That meant that they were using up air faster, and also tiring faster.

He knew why. The girls were naturally apprehensive. So was he, and he knew Dick and Scotty were, too. But all three of them had encountered sharks before and were more confident of getting through. The girls remained steady and cool, not losing their nerve, but their apprehension was causing a physical reaction that they couldn't control.

Rick moved in between the girls, put an arm around each and gave them a reassuring squeeze. Then he released them and used his communicator again. "Sharks make runs. Don't worry. Keep nerve. We handle."

Barby pointed to the powerhead hanging from his belt. Rick nodded. Actually, he wouldn't use the powerhead except as a last resort. Against a single shark it was an excellent weapon, but it was like having a rifle with one cartridge to use against a wolf pack. If the powerhead drew blood, a feeding

frenzy would result. That didn't often happen, because the explosion acted like a blow with a blunt object. But it could happen, and he wouldn't risk it.

He led the way up the line to the 50-foot level and paused while the others gathered around. He used his communicator to say, "Very slow to 30 feet." He set the pace, looking back to see that Scotty was bringing up the rear, then keeping his eyes upward, on the sharks. The big animals roamed back and forth, so that he couldn't count accurately, but he estimated that more than two dozen were in the vicinity, with perhaps six to ten moving around the buoy line.

The nearest sharks were only about 12 feet above them when they paused at the 30-foot mark. Rick looked at his watch and waited until the second hand swept a full minute, then he switched to his communicator. "Girls take rope. Boys even spaced, face out. Moveslow to 20." He put his mouthpiece back in place and took a deep breath. He, Scotty, and Dick formed a triangle-shaped screen around the girls, facing away from the buoy line.

Rick felt a hand on his shoulder as they began the slow rise, and knew that one of the girls was giving him a guide by which to stay even with them. They might be scared, but they were using their heads.

As they reached the 20-foot level a big blue, easily 12 feet long, passed Rick so close that he could have touched it. The shark was interested, but not anxious. A big, black eye examined him, as though wondering whether this creature was edible. They paused at 20 feet. Now the going would be harder, because the sharks would be around them and under them. If one made a pass from underneath, they might not see it in time.

Rick used his communicator. "I go upside down. Scotty tow. One each in front of girl."

Scotty signaled that he understood. Rick moved head downward, and felt Scotty's hand on his ankle. He was getting in position to keep a downward lookout when something brushed him. He whirled and his face mask almost banged into Jan's. She was upside down, too. He bent double and looked up. Barby had Jan's ankle.

He winked at the girl, then made a motion of pressing his chest hard while he exhaled. He wanted to be sure she understood that they would have to work harder to clear their lungs after every breath while in the upside-down position, otherwise their decompression wouldn't be complete. She nodded to show she understood, then winked back.

Above them on the line, Scotty, Barby, and Dick began the ascent to the 10-foot level. Rick and Jan, facing in opposite directions, kept watch. By tilting his head toward his chest now and then, Rick could see any sharks below the knees of the three moving upright. By tilting his head until his neck stretched, he could see straight down. It wasn't an uncomfortable position. Divers spend a good bit of time upside down in normal diving.

The blues were curious, but keeping their distance. They circled about twenty feet out. Rick couldn't help admiring their grace and fluidity in the water. Killers they were, but also magnificent animals.

Jan grabbed his arm. Rick twisted in time to see a big blue making a run from below, and only feet away. He did the only thing he could do. As the pointed nose came within reach, he cupped his hand over it and shoved the shark to one side. It flashed past.

Rick took a deep breath. He had seen Peter Gimbel do that in his blue shark movie, and it had made his hair stand on end. He had never expected to do it himself. One thing was certain. It would never become

his hobby.

They reached the 10-foot level and stopped. Two minutes to wait. Most of the sharks were below them now, and only one or two were paying much attention. A 15-footer that looked like a Navy submarine under the water made a slow run. Rick waved his hands and the shark veered, not hurrying. This was the pattern. The next run would be a little more serious. He looked at his watch, then began to count to himself. One thousand, two thousand, and so on. The big shark was about 30 feet away now, apparently thinking things over. Having decided, he started his run, not moving fast. Rick waited, every nerve alert. The shark probed in, almost gently.

Rick was glad the vicious mouth was well under-slung, far behind the conical nose. The shark moved in. Rick grabbed the nose and pushed hard to one side, feeling the roughness of the skin under his hand. He twisted as the shark went by, and saw it move away, probably to get ready for another run. He looked at his watch. The two minutes were almost up. He took Jan's arm and swung her upright until the two of them were even with their friends, then he tapped Dick Antell and motioned to him to keep an eye open below. Dick nodded and reversed position.

There was slack in the buoy line that Rick could use. He began to haul in, looping the rope through his hands until he had about a dozen feet. He made a circle in the doubled rope and passed the looped end through. Then drawing his knife from the leg sheath, he cut the loop free, leaving the buoy line safely tied.

He used his communicator. "I tie line to swim ladder. We must hang below hull. All swim, stay at 10 feet."

The most dangerous part of the escape would be when the divers went from water into air. They could no longer see the sharks clearly then, and with body half in and half out of water, they were highly vulnerable. With Rick leading the way they abandoned the buoy line and swam to a point 10 feet below the swim ladder. They could see its lower rung in the water, directly overhead. Dick Antell, using his arms to swim backwards so that he could keep an eye out to the rear, joined them.

Rick made a 360-degree turn to size up the situation. His unwanted pal, the big 15-footer, was circling in the distance, but the boy could see the huge liquid eye watching the group. No matter. The blue wasn't making a run. Holding the end of the rope tightly, he swam up to the ladder, passed the end over the rung and quickly tied it with half hitches. When he turned at a shout from below, the big blue was moving in on him. Rick lunged, holding to the rope with one hand, and the blue shied away.

He rejoined his friends, feeling like a matador in a ring full of wild bulls, but without the protection of cape and sword. It took a moment for his breathing to return to nearly normal.

When he thought he could dispense with his mouthpiece long enough for a few words, he inhaled deeply and switched to his communicator. "We go up just far enough to see under boat." He had to switch back to breathe again, then resumed. "When I slap, Barby go up into boat." Time out for another breath. He blew the water from the communicator and went on. "Jan go on second slap."

Staying in a tight cluster, boys facing outward, they moved up the line until their heads were only a foot below the boat's hull. Rick heard the high-pitched roar of a racing motor, but paid no attention. One of the smaller blues was making a trial run. This time Scotty used the hand-on-nose technique, and as the shark veered, Barby helped it with a strong push with her fin. Rick surveyed quickly. The big blue was still interested, but not yet starting a run. Rick turned and slapped Barby on the shoulder. Instantly the girl went up the line, reached out of the water for a handhold, pulled one knee up onto the lowest rung, and then was gone.

The motion had attracted the big blue. He was coming, and faster. Rick braced, but Dick Antell moved, hauling himself up on the line. As the big blue nosed in, Dick slammed both feet down on the beast's head, driving it underneath them. Rick slapped Jan on the arm. She went up the line with fins driving, and in a moment she, too, was safe.

Rick breathed deeply. He pointed to Dick Antell, who shook his head. Scotty shook his head, too. Rick took a quick look around and saw no sharks making runs. They were ah, circling at a good distance. He slapped Dick across the chest and jerked his thumb upward in a no-nonsense gesture. Dick was too much a professional to argue with a dive master. He went up the line, caught the ladder, and was gone into the air.

For the first time, Rick unsnapped the powerhead from his belt. The sharks were closer, but the big blue had grown a bit cautious. He was moving nervously, but keeping his head toward them. Rick slapped Scotty on the arm and motioned upward.

Scotty went, and Rick moved up on the line, getting ready. He made a 360-degree turn. The aggressive smaller shark was about to make a pass from one side, and the biggest blue was showing signs of restlessness on the other. Rick slid the safety catch off the powerhead. This was the worst moment.

The smaller shark came first, not too rapidly. Rick kept his head swiveling. If they made simultaneous runs, he was cooked-or eaten uncooked. But there was no cooperation among the blues. The little one reached him. Rick grabbed the pointed nose and shoved, swinging on the line from the energetic push. The shark accelerated in a wide circle.

The big blue arrived. It was now or never. Rick moved to one side and jammed the powerhead into the animals' gill plate. The concussion jarred him, but he was moving on the echo, seeing the big blue, half-curved, floating limply downward. Rick reached the ladder, grabbed for the second rung.

Hands grasped his wrist and pulled. He was lifted up bodily, and as his feet left the water, he saw the flash of a fin. A shot echoed in his ears, and the fin rolled, blood spurting. Rick fell in a heap on the deck, safe.

## CHAPTER XII

### The Warning

Rick rolled over, and Scotty helped him to his feet. Rick took in the situation at a glance. While he had concentrated on the sharks, the fishing boat had moved closer-and the boat was the *Hester II*, the seagoing tug commanded by Captain Biggs.

On the tug's bow was a man with a rifle, watching the churning of water where the sharks had gone into a feeding frenzy because of the blood from a rifle shot that had smashed into the fin of a shark just as Rick had made his grab for safety.

Coming alongside the divers' boat was Hartson Brant, and the scientist's face was white with anxiety.

Not until the two Spindrift boats were tied together and the scientist had counted those on deck and inquired if they were all right did color return to his face.

"The tug was chumming," Hartson Brant said grimly.

Rick nodded. "They were fishing for sharks," he said.

"So I saw. When I first saw the tug I put the glasses on it, and I could see chum being thrown over the side. I ran to the boat and came out here at top speed, and I could see them pulling sharks in."

The tug was moving closer now, and they watched silently as it hove to only a few feet away. Captain Biggs came down from the wheelhouse and leaned on the deck rail.

"Everyone all right?" he called.

"Yes, no thanks to you," Hartson Brant said coldly. "Tell me, Captain, what kind of extreme stupidity or viciousness would make a man chum for sharks in the vicinity of divers?"

"Now, hold on!" Biggs retorted icily. "It was neither. As soon as I saw a diver come out of the water, I stationed a rifleman on the bow to protect anyone else. I didn't know there were any divers down."

Rick pointed to the flag waving from the masthead. "What do you think that is?"

"It's not a signal I recognize. Is it supposed to mean something?"

"It means that divers are working in the vicinity and to stay clear," Rick snapped.

"I didn't find it in my book of signals," Biggs returned.

"Then you'd better get a new book," Rick shot back. "It's a standard signal."

"For inland and near-shore waters, probably," Biggs said. "It's not among the international signal flags. A seagoing captain couldn't be expected to recognize it. Look, I'm sorry. All right? I'm sorry."

"I think you're a liar," Scotty said flatly. "When the diver's flag was adopted it was included in Notices to Mariners. It may not be in the old books, but as a licensed captain you're responsible for knowing *all* officially recognized signals."

"I said I was sorry," Biggs returned testily.

Dick Antell spoke up. "If you ever accidentally get within my reach, you'll be a whole lot sorrier. I agree with Scotty. You're a liar, and not a very convincing one. What did you think this boat was doing here with no one in sight?"

"Boats are not my business, except to avoid them. For all I knew, everyone aboard might have been taking a nap."

Hartson Brant was controlling his anger with an effort. "You can enlighten me, Captain. What is a tugboat doing fishing for sharks?"

"Oh, we go after them all the time. It's extra income for the crew, and we have the company's

permission, so long as it doesn't interfere with the job."

"What are you doing back here?" Rick demanded.

"Why, I'm here to get the exact position of the wreck and buoy it. Then I'll test its buoyancy. The next step will be to send down a diver to look it over, although we won't do that for a while. However, I see you've already buoyed it for us. I want to thank you for that. Now, I suggest you stay away from the wreck in the future. It would be safer. We'll be working around here, and I wouldn't want any accidents to happen."

"I'm sure you wouldn't," Hartson Brant said coldly. "I intend to report this incident, Captain Biggs."

"You do that," Biggs said indifferently.

"Let's get going," Rick said. "This conversation is getting us nowhere, and I'm overheating in this suit. Pull up the ladder, Scotty, while I get the gear stowed so the tanks won't roll around."

"I'll see you at home," Hartson Brant said. "Anyone want to ride with me?"

Both girls accepted the invitation. As Rick helped his sister over the side into the smaller boat, he asked, "All okay, Sis?"

"Just fine. Will you teach me to use a powerhead, Rick?"

"That's a promise," he told her. He turned to give Jan a hand. "How about you?"

"Back to normal," the girl told him. "I was scared, Rick."

He smiled at her. "Join the club, Jan. We all were."

The three watched as Hartson Brant cast off and started the run back to Spindrift, then Dick Antell helped Rick block the tanks so they wouldn't roll when the boat got under way. Scotty stowed the swim ladder, then walked to the bow. He pulled out his knife and cut the buoy away before untying the boat from the buoy line.

Rick grinned as Scotty held up the buoy so Captain Biggs could see it. "Do your own dragging for the wreck!" he snapped. "You'll get no help from us!"

Captain Biggs sounded aggrieved. "You'd think I was trying to harm you instead of minding my own business. I told you I was sorry."

"You'll be sorrier," Scotty promised. "Let's go, Rick."

Rick took the boat controls and started the engines, then backed off to clear the sinking buoy line, turned the boat and headed for shore.

Dick Antell and Scotty joined him.

"Chumming for sharks right over us was deliberate," Scotty said flatly.

"Sure it was," Dick Antell agreed. "I don't think he intended the sharks to get us, otherwise he'd have



tossed meat right where we were. But he certainly intended to scare us off.”

“There’s something about that wreck he doesn’t want us to know,” Rick said thoughtfully. “If we’d stayed down a little longer, we might have found out. Did he just happen to arrive on time, or is someone keeping track of us?”

“The hurricane watchers?” Scotty queried.

Rick shrugged. “Maybe.” He waved his arm at the length of shore before them. “It would only take one man with a telephone to keep an eye on the wreck location, and he could be anywhere along the shore for a distance of three or four miles. But my guess is that Captain Biggs arrived accidentally. I saw smoke on the horizon just before I went down, and it must have been the tug. He couldn’t have arrived in time, otherwise. I’ll bet he saw us, too, just as we tied up, and he probably shoved those big engines to full speed ahead.”

“Do you suppose he and his crew really fish sharks as a regular thing?” Antell asked.

“He must. They had the chum and the bait, and they wouldn’t have carried it just in case divers were around.”

Scotty looked back at the tugboat. “So he used what he had. I’d like to get my hands on him for a few seconds. It wouldn’t have shaken me so much if the girls hadn’t been with us,”

“Same here,” Rick agreed. “And do you know what his stunt is going to get him?”

“Disaster,” Scotty said grimly. “We’re going to find out what he doesn’t want us to know, even if we have to dive at night.”

“And I’ll be with you all the way,” Dick Antell promised.

## CHAPTER XIII

### Beyond Reach

By the time equipment was stowed properly and the divers had showered and changed, Mrs. Brant had a hearty lunch prepared. At Rick’s suggestion, the five famished divers, with Mr. and Mrs. Brant and Roger Pryor, took their plates to the big front porch, where they could watch the tugboat over the wreck.

Rick grinned at the girls. Both were as slim and trim as professional models in tailored slacks and blouses, but both had plates as heavily laden as his own.

“Are you sure you two don’t want some of that canned liquid gunk for lunch?”

Barby and Jan frequently had a liquid diet lunch, which Rick and Scotty thought ridiculous. Both were far too active to put on weight, even if they ate far more than they did.

“Of all sports, diving consumes far more calories than any except the most strenuous,” Barby said solemnly.

Rick recognized the statement as a paraphrase of one in a book about scuba diving.

“Besides,” Jan added, “if we ever get eaten by sharks, we want to be remembered as a good, healthy mouthful.”

Barby looked at her reproachfully. “How can you say such a thing, when we almost were?”

“But we almost weren’t,” Jan said. “I mean, we didn’t even come close to getting eaten. The boys wouldn’t have allowed it.” She looked at Rick. “The first time I saw you grab that shark by the nose and push him away I almost dropped my mouthpiece. Where on earth did you learn that trick?”

Rick explained about the movie. “I’d never tried it before,” he admitted, “and I’d rather not make a career of it, but it certainly works. At least it works on sharks that have an attack pattern like the blues.”

“What did happen?” Mrs. Brant asked. “Was it really serious, Rick?”

“It could have been, Mom, but the chunks of fish or meat that the tugboat was using weren’t dropped directly over us. Most of the sharks stayed with the boat. Only a few got interested in us.”

“Wouldn’t it have been better to hit the sharks on the nose, rather than just steering them away?” Barby asked.

Dick Antell answered. “No, Barby. I know that many people think a shark’s nose is sensitive, but it isn’t. No one can hit hard enough underwater to hurt a shark.”

“At first I wondered why Rick didn’t use the powerhead,” Barby said. “Then I realized. He had only one shot. It was pretty exciting,” she finished.

Jan nodded. “It certainly was. When I first saw how many sharks there were, I wondered if we would make it, but I grew more confident when I saw how the boys handled them. All three of them pushed the sharks aside. But weren’t they the most beautiful animals you’ve ever seen?”

“They are beautiful, Jan,” Hartson Brant agreed. “They’re beautiful as only an animal perfectly adapted to its environment can be. They must have adapted very early, too, because the sharks haven’t changed very much in millions of years. In a sense, they’re living fossils.”

“Pretty active fossils,” Scotty remembered.

“A little too active,” Rick agreed.

Roger Pryor changed the subject. He pointed out to sea. “Looks as though your shark-fishing friend is getting down to business.”

The tugboat had continued its shark fishing. Rick could imagine the concentration of big blues under the boat. He wondered if the blues had been joined by other species, and was glad that no hammerheads or makos had been in the pack. Neither species had the same attack pattern with its slow-building tempo, and neither had the long pointed nose that fit a diver’s hand so conveniently. With hammerheads, makos,

whites, tigers, or grays the story might have had a less satisfactory ending.

Now the shark fishing apparently was over. The tugboat crew was doing something at the very stern. Rick borrowed the glasses from his father, and focused on the tug. They were putting over a big grapnel. He watched as it splashed into the water, pulling a heavy hawser after it.

“That doesn’t look much like a buoy anchor,” he observed. He handed the glasses to Scotty, who took a look and handed them to Antell.

When enough line had been payed out to reach bottom, the tugboat moved slowly ahead. The big hawser continued to feed over the stern block for a moment, then stopped. The tug continued to move.

Rick was watching as the big boat was pulled up short, as though the captain had somehow applied brakes.

“What’s he doing?” Pryor exclaimed.

“Testing the drill rig’s buoyancy,” Barby offered. “Isn’t that what he said?”

“Funny way to do it,” Scotty muttered. “He must have caught that grapnel on the wreck.”

The tug’s stern settled in the water. Even without the glasses, which Hartson Brant was using, Rick could see the plume of water thrown up by the boat’s churning screws. He aligned his vision by using the corner post of the porch, and saw that the tug was slowly moving ahead.

“He’s moving the drill rig!” Rick exclaimed.

Apparently the tugboat had overcome the rig’s inertia, and was moving ahead a shade faster.

All eyes on the porch were now intent on the tug. They watched as the boat forged ahead, stern down, white foam churning the sea to milky froth. “Letting out more hawser,” Hartson Brant reported.

The tug continued to move. Rick watched, speechless. He knew what the tugboat skipper was doing. Testing buoyancy was the excuse he would use. He would say that the rig had been more buoyant than he had expected, and so he had miscalculated the effect of his pull. He would be terribly chagrined, but everyone would understand how easily mistakes could happen when one is attempting to prepare for salvage.

It didn’t take magnification to witness the final effect of the captain’s action. The stern went down sharply until it was almost awash, then a figure moved on the stern, swinging something in its hands. The stern popped upward so violently that the wildly turning screws came completely clear and the big tug slewed, then settled to its normal trim.

Hartson Brant lowered the glasses, his face stern.

“That was an ax, wasn’t it?” Scotty asked.

“Yes. Could you all see what happened?”

Rick summed it up for all of them. “He hooked onto the rig and towed it into Tansey’s Trench. When the rig was really moving downward he had the hawser chopped free to keep the tug from being pulled

down with it.”

“So now it’s beyond reach of divers with too much curiosity,” Scotty said. “The secret is now in about 200 fathoms of water, where we can’t get at it!”

# CHAPTER XIV

## The Bug Hunt

Scotty manned the echo sounder, with Barby, Jan, and Dick Antell looking over his shoulder while Rick maneuvered the boat. Because the little echo sounder was not effective at more than about 500 feet, Rick had little hope that they would be able to discern the return from the drill rig. But it cost nothing to try, and so the five divers had paused on their way to a purely recreational dive to see what could be found.

The sounder showed the trench clearly, so it was not necessary for someone ashore to give them position readings. Instead, Rick simply ran back and forth along the trench’s contours as shown on the sounder, hunting for an irregularity that would indicate the rig’s location.

“Got something,” Scotty said suddenly. “Turn and try again, Rick. It’s hard to tell, but I think the blur wavered a little just then.”

Instead of a sharp blip, the distance to the bottom was producing a signal like a green blob on the scope. Rick turned the boat in its own length by reversing one engine, then started back again. In a moment Scotty called, “I think that’s it. What do you think, Dick?”

“I think you’re right, but let’s try one more run. Move a little bit to windward, Rick. About a boat length.”

Rick turned the boat again and made another run. This time Jan and Barby grew excited.

“It was much sharper,” Barby cried out.

“That must be the wreck!” Jan exclaimed.

Dick Antell nodded. “It has to be. The steel deck gave a much sharper return than the soft bottom. It’s a better surface for the echo to bounce from.”

“But not hard enough to give a precise reading,” Scotty told Rick. “The best I could do was to read something between 1200 and 1400 feet. Split the difference and say the wreck is at 1300. Not quite at the very bottom of the trench, but pretty close.”

“Call it 216 fathoms,” Rick said. “Or call it 2016. It makes little difference. We’ll never see it again unless . . .” He looked at Antell.

The pilot grinned. “Wish I could say that we could use the *Sea Horse*, guys and lasses. But it costs

money to operate that thing, and the Seafaring Industries' stockholders insist on our making a profit."

"Selfish of them," Scotty commented.

"Aye. But that's how it is. What say, dive master? Shall we go bug hunting?"

"That we will." Rick spun the wheel and put the boat on course to the south.

With the big tanks available and very little of their gas mixture used, it had seemed a shame not to do some more diving. So Rick had proposed a lobster dive. There were a number of good spots in the area, including two wrecks not far from Spindrift in fairly shallow water. The wrecks were just beyond Smugglers' Reef, where the boys had once solved a mystery. The ships had piled up on the reef, then had been swept into deeper water by storms. They lay now in about 60 feet, not far from the end of the long reef where an automatic navigation light had been placed.

The others joined him at the conning position as he headed for the diving spot.

"Any sharks around?" Barby inquired.

"Pretty unlikely," Scotty replied. "There's nothing to attract them. Maybe one is cruising in the vicinity, but we don't worry about one."

They had brought a plastic-foam cooler with them. Jan opened it and handed around canned soft drinks. Rick accepted a Coke and pulled the top tab loose. He took a long drink. It was hot in the wet suit, but they had agreed it was easier to suit up in the gear room than to struggle into suits on the boat.

"Don't sharks ever travel in packs?" Jan asked, sipping her drink.

"They gather when there's food," Dick Antell answered, "but mostly they hunt alone."

"And we never worry about loan sharks," Rick said solemnly, "unless we have to borrow money from one."

The other four groaned in unison. Jan said sternly, "Never complain about my puns again!"

"I'm sorry," Rick said contritely. "I'm hot, and I'm cross, and hot cross puns aren't very tasty."

The four stared at him in mock horror. That one was too bad even to groan at, their expressions said. Then Barby giggled and they all laughed.

Dick Antell said philosophically, "Anyway, in a few more days I'll be able to go down into the lovely, cold, darkness, safe from this kind of thing."

"Is it really cold and dark?" Barby asked.

Antell nodded. "You wouldn't want to dive from the *Sea Horse*. We work in temperatures that are often near the freezing point of fresh water, and it's always dark. We have to use lights. And there's always that feeling that something is watching you just outside the cone of light from the big lamps we use. The divers keep looking over their shoulders."

"They keep remembering what happened to Willy Wooster," Scotty said sadly.

Barby looked at him. "What happened to Willy Wooster, whoever he was?"

"He disagreed with something that ate him," Scotty said.

It took Barby a moment to reverse that into the cliché about "eating something that disagreed with him," then with a yell she jumped forward and pushed Scotty down onto the bench at the cockpit railing. She held her drink over his head threateningly. "Take it back!"

"I apologize," Scotty said meekly.

"There must be something in the air at Spindrift," Antell said, chuckling. "Don't you know puns are supposed to be the lowest form of humor?"

"Punctual puns puncture pundits," Jan observed.

Rick slowed the boat. "We're nearly on station, praise be. I couldn't stand any more of this. Scotty, how about dropping the anchor?"

"On my way," Scotty said. He climbed out on the bow, lowered the patent anchor and secured it, then waited until Rick backed the boat to make sure it would hold. When he returned to the cockpit he looked closely at Rick, then grinned. "It really bothers you, doesn't it? Having the wreck out of reach?"

Rick returned the grin. "Who says it's out of reach?"

"Meaning?"

"I've been thinking. We still have the Submobile cable, and we have lights. Also, I have a camera case that could be pressurized to withstand the depth. At least we can take a series of pictures."

Dick Antell shook his head. "You'd be photographing blind, Rick. You might get something, but chances are you wouldn't."

"I know," Rick agreed. "But it's better than doing nothing. We owe Captain Biggs a small debt, and not only for the sharks. Odds are he either wrecked our scow or arranged for it. It's just too much coincidence-more than I can swallow. So I'm going to keep plugging until something gives. Preferably Biggs and company."

Barby told Dick, "He'll do it, too."

"He and Scotty won't give up," Jan agreed. "Captain Biggs didn't know how much trouble he was buying when he took on this pair."

And there the matter rested. The five got into their gear and went into the water. The wrecks below made an excellent shelter for lobster, and within an hour they had collected a baker's dozen. The smallest was just over legal size, but the largest weighed eighteen pounds and there were several over four pounds. There was a tear in Scotty's suit sleeve from a lobster's cutting claw, and both Rick and Jan nursed bruised hands. The lobsters had to be taken alive-and they objected.

Rick gave four long blasts on the boat horn as they rounded Spindrift. They were met at the dock by Rick's parents and Roger Pryor. Dr. and Mrs. Miller joined the group and announced that they had

invited themselves to the lobster dinner in order to see their daughter. Rick grinned. It was true that Jan spent much more time at the Brants than she did at home, even though home was only a few dozen yards away. He thoroughly approved of the arrangement, and he knew the Millers didn't really mind.

The lobsters were dumped from the catch bags into two big washtubs. Jan dextrously scooped out a nice five-pounder and showed it to her parents. "My very first lobster," she announced. "I caught it while Rick held the bag."

Barby matched it with one of nearly equal size, her first.

"The girls caught on quickly," Rick said. "There's a knack to catching the beasts without them catching you."

"A nice catch," Hartson Brant approved. "Enough lobster there for a dozen people, even with Scotty eating double portions. Turn to, my brave bug hunters, and let's prepare to cook these creatures. Company's coming for dinner."

"Who?" Rick asked quickly.

Hartson Brant smiled. "An old friend, Rick. And one who's interested in your wreck. Did you locate it by the way?"

"In about 1300 feet," Rick replied. "Who's coming, Dad?"

"Wait and see, Rick. You'll be pleased, I promise."

## CHAPTER XV

### The Investigator

Delicious food from the sea was a regular feature at the Brant home. Rick and Scotty were the principal suppliers, but some of the scientists also enjoyed going after sea game, and the girls were good spear-fishermen who had brought home their share of striped bass, bluefish, flounder, and Atlantic halibut. But this was the first time the boys had taken them on a lobster dive, and they were especially excited.

The outdoor barbecue at the edge of the orchard was set up for all kinds of cooking. Fish fillets were broiled, and clams and crabs were steamed. For the lobsters, two 20-gallon cans were reserved. While the boys got wood fires going, the girls collected rock-weed at the shore and placed a thick layer in the cans with a pail full of fresh seawater. When the fires were going well enough, the boys put the big cans in place over them. Lobsters, separated by size, were put in one can, covered with more seaweed, and the cover put on. The second can was loaded with two dozen ears of corn, fresh picked from the field behind the barn.

Rick and Scotty suddenly realized that the girls were missing, and at the same moment they heard the motor of the smallest boat.

Hartson Brant came from the house as they started running for the dock. He waved them down. "Easy, boys. You'll have to keep tending fires. Barby and Jan will be right back."

"You sent them to get our visitor at the Landing instead of Scotty and me," Rick accused.

"Yes, just to keep you in suspense a few minutes longer." The scientist smiled. "I'm trying to teach you patience, Rick. It isn't easy."

Scotty grinned. "Don't be too optimistic, sir."

"I'm not, Scotty. How's the lobster coming?"

"About twenty minutes more," Scotty replied. "They're pretty big. The corn is on low heat, so it should be ready in about ten minutes. We can eat corn while we wait for the bugs."

"Good. Your mother is nearly ready with the salad and drinks. Give her a hand with plates and utensils, Rick."

The long picnic table was set and the corn removed from the fire by the time Rick heard the motorboat returning. He was busy transferring hot corn to a serving bowl and could not go to meet it, nor could Scotty, who was adding wood to the fire under the lobsters. But both kept one eye directed toward the dock, and presently they saw a familiar figure, flanked by Barby and Jan, walking toward them.

Rick let out a yell of delight. "Mike!"

Mike Curtis, whom the boys had met first during the *Sea Gold* adventure, shook hands all around. The big, blond investigator was a favorite at Spindrift. He sniffed appreciatively. "Talk about perfect timing! When do we eat?"

"Right now," Mrs. Brant said. "Sit down, Mike. We're so glad to see you. Why, it's been nearly a year!"

"Far too long," the big detective agreed. He winked at Rick.

Rick grinned at his friend. So Mike was working on the case of the lost drill rig! There could be no other answer, because Hartson Brant had said Mike was "interested in your wreck." Rick was about to burst with curiosity, but he held his questions. It wasn't hospitable to bombard a guest with demands for information in the first moments of his arrival. He would have to be patient, whether he liked it or not.

The group gathered, and Mike was introduced to the Millers and Pryor and Antell, then all settled down to eat. By the time the corn had pretty much disappeared, along with creamy coleslaw and fresh-baked bread, the lobster was ready. Rick and Scotty used their divers' knives to prepare the hot delicacies, and served all hands. Rick identified the girls' first catches by marks on their claws, and placed the proper lobster in front of each.

"These are the ones you caught," he told them. "And I'll treat you both to hot fudge sundaes tomorrow if you can eat all the meat."

Barby surveyed hers dubiously, then shook her head. "You're safe. I'll make two meals out of this one. Maybe three."



“At least three,” Jan said with a sigh. “Isn’t it beautiful?”

By the time everyone had eaten more than enough, and the uneaten lobster meat placed in the refrigerator for later use, the picnic table was littered with shells and smeared with melted butter. Rick and Scotty cleaned up by simply rolling up the paper that had been used as a tablecloth, placing paper, shells, corncobs, and other debris in the fire. The girls, meanwhile, brought coffee for those who wanted it.

Big Mike Curtis, a contented smile on his face, leaned back and sighed. “This is a bonus I didn’t expect. It makes the whole job worth while.”

“Tell us,” Barby urged.

“All right. As most of you know, I’m hired pretty regularly by insurance companies to investigate claims. This time it’s a claim for a drill rig lost off Spindrift Island. During my sniffing around I paid a visit to the Coast Guard, and guess what!”

“You found out that we saw the rig go down,” Rick stated.

“On the nose. And what better excuse to visit old friends than to find out what they saw.”

“As though you needed an excuse,” Jan scoffed.

“Well, I needed an opportunity. I’ve been pretty busy.”

“Do insurance companies always investigate claims like this one?” Scotty asked.

“Usually, because big sums are involved. When you’re paying out four million, which is the amount claimed in this case, it’s best to make sure everything is in order. The investigations are mostly routine, but the company wanted a careful look this time.”

“Why?” Hartson Brant asked.

“Loss of the drill rig was just a little too convenient for Coastal Petroleum.”

Rick demanded impatiently, “Too convenient?”

Mike gave him a knowing grin. “All right. I’ll give you a rundown on the investigation. The drill rig was an old one, actually one of the pioneering models. So much has happened in deep-sea drill-rig design that it was out of date, and not very efficient. What’s more, its depth capability was limited to a few hundred feet, and most of the drilling is now in deep water. It couldn’t be modified or improved, because the design was wrong. Well, as a result, Coastal Petroleum had a white elephant on its hands. They couldn’t write it off, because it cost too much, and they couldn’t operate it at a profit, because it was too inefficient.”

Rick summed it up. “So the best thing that could have happened was to lose it in deep water where it couldn’t be salvaged. Then the insurance company would have to pay the full policy amount.”

“Right. But I thought it was in fairly shallow water, within salvage depth?”

“It was, until yesterday. Now it’s in 1300 feet. We found it today with our echo sounder, on the way to collect lobsters.” Rick hesitated. “Mike, the rig was sabotaged!”

The detective sat up straight. “Proof?”

Rick shook his head. “All circumstantial, so far.”

“But convincing,” Hartson Brant added. “Tell Mike what we know, and what we surmise.”

“Okay.” Rick stood up and began to pace as he tried to recall all pertinent details. Scotty added other details. They described the order of events from the time Jan had seen the hurricane watcher to the pulling of the rig into Tansey’s Trench.

When they had finished, Mike stared out to the darkening sea and thought it over. “Pretty conclusive,” he said at last. “They were obviously desperate and took some chances. But everything you’ve told me could have a legitimate explanation, even though it would be pretty thin. The question is, How can we get proof that will stand up in a court of law?”

“Only one way,” Scotty stated.

“Which is?”

“Go down and get it,” Rick finished.

# CHAPTER XVI

## The Deep Scheme

Mike Curtis studied the boys for a long moment. “The rig is at 1300 feet, you said?”

Rick and Scotty nodded.

“And just how do you propose to go down and get evidence?”

Rick countered with a question. “What’s it worth to your insurance company to find out?”

“Plenty, obviously. If you could prove sabotage, or barratry, it would mean the company wouldn’t have to pay four million dollars. Don’t worry about cost, Rick. What’s the method?”

Barby interrupted. “What is barratry, Mike?”

“Negligence or fraud on the part of a ship’s crew that causes loss. A lawyer would have to decide whether this is barratry or not, so we needn’t worry about that. All we have to do is gather all the facts and the evidence.”

Rick gestured toward the lab building, then to Pryor and Antell. "In there is Seafaring Industries' deep submersible, *Sea Horse*. Roger is Project Director, and Dick Antell is Chief Pilot. The *Sea Horse* can carry divers down to the wreck."

Mike looked at Pryor. "Could it be done?"

"Technically, yes. The obstacles might be availability of divers and other commitments that I don't know about. I doubt there are any, because the company would have to have made them within the past few days while I've been here. So far as I know, we're not due to make a commercial dive for another month. Of course your insurance company might not want to pay the price."

"I don't think that will be a problem," Mike said. "When I report what you here at Spindrift have seen, I think they'll want answers at nearly any cost. But how about divers?"

Jan said quickly, "There are divers right here at Spindrift."

Roger Pryor shook his head. "Saturation diving isn't the same as sport diving, Jan. I'm sure the company will want to use professional divers who have worked from *Sea Horse* before."

"Rick and Scotty figured out the whole thing!" Barby exclaimed. "It would be absolutely terrible if they couldn't go! And what's so great about saturation diving? Every diver has to do it the first time, doesn't he?"

Dick Antell grinned. "She has you there, Rog. If the company insurance liability can be worked out, I'll back Rick and Scotty as divers."

Pryor's eyebrows went up. "That's a pretty high recommendation, Dick."

"I know it. And that's not all. I've got a stake in this drill-rig mystery, too. I propose we use Charley Martin as pilot, and I'll dive with the boys."

Rick and Scotty looked at each other, both grinning widely. Things were shaping up!

"Who's Charley Martin?" Barby asked.

"One of our pilots. He's had almost as many dives as I have. I trained him myself, and he's good."

Pryor hesitated, then looked at Hartson Brant. "How would you feel about Rick and Scotty making a saturated dive at 1300 feet? I'm sure you know what they'd be up against."

"I do." Hartson Brant sipped coffee thoughtfully. "What does it take to make a deep diver? Perfect physical condition, first of all. I doubt you'd find two young men in any better condition than Rick and Scotty. Second, coolness in an emergency and the ability to think under stress. Dick, you've had two dives with them. What do you say? I ask you because I might be accused of prejudice."

"They qualify," Antell said promptly.

"I think so, too. Third, they need the necessary diving skills, and they have those. Fourth, they should be able to perform the tasks called for. In this case, that's inspection and observation, and probably photography. You've seen them at work, Roger, and I can vouch for Rick's ability with a camera. He

can show you some of his underwater stills and movies. So, the answer to your question is that I feel perfectly comfortable about the prospect of their making a deep dive, provided they have an experienced diver with them on the first attempt.”

Dick Antell spoke up. “The company needs divers, Roger. If Rick and Scotty are willing to make contract dives for us, you have the authority to sign them up right now.” He explained to the group, “We have only two divers on salary. The rest of our crew is composed of contract divers that are called in, according to their special skills, when we need them.”

“How about it?” Roger Pryor asked. “Aside from any dive on the drill rig, would you two be available now and then to dive on contract? It wouldn’t be a formal contract in the legal sense; just a statement of hourly rates, insurance, liability, working conditions, and similar details.”

Rick and Scotty looked hopefully at Dr. Brant. He smiled understandingly. “School comes first,” he reminded them.

“That says it,” Rick told Pryor. “We couldn’t dive when we were in school, but we’d be available at other times.”

“All right. The first step is a complete physical exam, which our company doctor will give you. Then we’ll see.”

Rick and Scotty shook hands.

“I don’t suppose you need any girl divers?” Barby asked wistfully.

Pryor grinned. “Nope. But I’ll tell you what we could use. Two very attractive and shapely girl divers for publicity photos. Would you be interested?”

Barby sat back, open-mouthed. She didn’t believe it.

“We’re very much interested,” Jan said swiftly. “And what’s more, you wouldn’t even have to pay us, if we could make a dive in the *Sea Horse* as observers. Especially if we could watch Rick and Scotty and Dick from the submersible.”

Pryor laughed outright. “This is the greatest gang I’ve ever seen for making deals. Look, Mr. Curtis, I’ll phone Philadelphia in the morning and see about availability of the *Sea Horse* and the tender, the *Sea Beast*. You check with your company and find out if they’re interested. If so, I’ll put you in touch with our Vice President for Operations to make the necessary contractual arrangements.”

“It’s a deal,” Mike said.

“Good. As to the other deals you’ve proposed, I can only say that we’ll see.”

## CHAPTER XVII

# Prepare to Dive!

Rick and Scotty had been subjected to physical exams before, but they were nothing compared to the scrutiny they got from Dr. Kenneth Hermann, medical supervisor of Project *Sea Horse*. He pounded, probed, listened, ran lab tests, and asked dozens of questions. He ran them up and down a flight of stairs with electrodes strapped to their bodies, checked their hearing for frequency sensitivity, injected dyes into their sinus cavities, shoved wires into their Eustachian tubes, made them breathe against tightly constricting rubber chest bands while they inhaled pure oxygen, and finally dressed them in dry suits with helmets, put electrodes on shaved patches on their heads, and put them in a tank where they floated weightless in total darkness and silence for two hours.

When Dr. Hermann had finished, he sat them down in his Philadelphia office and asked gently, "Still want to be divers?"

The boys said they did.

The physician smiled. "Then go dive. You've qualified physically."

Dick Antell was waiting in his own office. He led them to where the *Sea Beast* was bobbing gently at her dock in the Delaware River and showed them around the tender. The *Sea Horse* entered the tender from the open stern and was lifted to deck level on a platform. At deck level, a flexible tube extended from a huge cylindrical chamber to connect to the *Sea Horse's* diving hatch.

"You go into the chamber," Antell explained, "after breathing a heliox mixture from portable tanks for an hour or so. That gets most of the nitrogen out of your lungs, plus any residual nitrogen in your tissues. As soon as you're in the chamber it's flushed clear with heliox. Then you take off masks and tanks and start breathing. When tests show no nitrogen left in the chamber, we start increasing pressure. You're breathing pure heliox, of course. The partial pressure of oxygen is automatically adjusted to exactly what you need by a sensing device. When you're down to the required pressure, which in this case is about six and a half tons per square inch, you transfer through the tube into the *Sea Horse* diving compartment. Tube and compartment are at the same pressure."

"You keep saying 'you,'" Rick pointed out. "Won't you be with us?"

"Yes, and so will Dr. Hermann. I'll change the pronoun. The compartment is sealed, and down we go. When on station, we go out and do our job, then return. *Sea Horse* comes back to the mother ship and we transfer back into the chamber. From then on, all we have to do is decompress for about three days."

"Three days!" Scotty stared, disbelieving.

"Well, maybe only two and a half. But decompression is what takes the longest."

"I suppose we're in the chamber when the *Sea Beast* gets under way to reach the dive station?" Rick asked.

"Right."

"Does the doctor actually dive with us?" Scotty wanted to know.

"No, he doesn't leave the compartment. He's a diver, but only for observation. We'll be wired up to his

instruments, and he'll give us some tests as soon as we return to the compartment. It's part of a research project on diver physiology. Hope you don't mind being experimental animals."

"We don't," Rick assured him.

When examination of the *Sea Beast* was over, Antell took them to the administrative office where they filled out employment forms, read and signed a work order assigning them as divers to Project 117, and noted with interest that they were to collect very high wages for their work. Rick commented to Scotty, "Imagine doing exactly what we want to do most and being paid for it at the same time, How lucky can you get?"

"Pretty lucky," Scotty said, grinning.

But there was much more to be done. Antell turned them over to one of his assistants, who briefed them on equipment and procedures, then put them through dry runs until they were groggy. They spent the night in Philadelphia, falling into bed exhausted after a light supper. Early the next morning they were back at Seafaring Industries, hard at work again.

In case there were pieces to be removed from the drill rig, they had to practice the use of special underwater cutting tools, wrenches, screwdrivers, and pry bars. Once proficient on dry land, they suited up in a Keller-type dry suit and went into the tank to use the tools there. The tank was fitted with gadgets on which the tools could be tried. Their instructor watched through glass ports.

As soon as he was satisfied that the boys could handle the tools, the instructor introduced them to camera cases designed for extreme pressures. Rick's own cases wouldn't withstand the great pressure to which they would be subjected. The company cases were of steel, good to a depth of 10,000 feet. They learned how to load and install the cameras in the cases, how to set focus and aperture, and how to advance the film. They loaded and unloaded and operated the devices until they could have done it in their sleep.

The lights came next. They were relatively simple, and the boys mastered them easily and quickly.

Rick thought the indoctrination must be almost over, but no. Communications equipment was waiting. Included was a device that turned the helium sound into normal frequencies, so the divers could talk to each other and to the submersible. There were also signals for use in case of electronics failure.

Again, they fell into bed, exhausted, this time without even bothering to eat. The next day they covered the same ground over again in the morning, until the instructor was satisfied they had really mastered the equipment. Then he introduced them to a type of scuba they had read about but never used. It was cryogenic scuba, using liquefied gases. In use, the tanks would be charged with helium and oxygen, both in liquid form.

"The gear is much lighter, and gives more down time," the instructor told them. "One thirty-pound unit is good for about two hours at the depth where you'll dive."

"Do you mean we'll be free diving?" Rick asked.

"Only partially. You'll be on a tether to the sub, and the tether line will contain your communications wires. But because you'll be in and out among girders and heavy equipment, you'll use the cryogenic tanks for breathing to avoid any possible damage to your air supply. On simple jobs with no danger of fouling, you'll use the hookah system, breathing from the tanks on the sub."

“It makes good sense,” Scotty observed. “If the tether line gets tangled or cut, we can still survive. But if air lines are cut, it’s all over.”

“That’s it. Now, let’s take one of these cryogenic rigs apart so you can see what makes it go.”

Dick Antell took them to dinner that night, and with him was Charley Martin, the submersible pilot who would take them down. They spent an enjoyable evening, but got to bed early.

On the following morning Antell personally reviewed what they had learned, watching them go through each operation step by step, answering difficult questions that he threw at them. By lunchtime, he announced that he was satisfied.

“Back to Spindrift,” he said. “We’ll eat lunch on the way. This afternoon and tomorrow we spend on the diver system in the *Sea Horse*. And, on the following day, the *Sea Beast* arrives at dawn. We dive late that afternoon!”

## CHAPTER XVIII

### The Deep, Deep Dive

The *Sea Beast* plowed steadily outward from Pirate’s Cove toward the drill rig’s ultimate resting place. On the upper deck, Dr. and Mrs. Brant, Dr. and Mrs. Miller, and Mike Curtis and an official of the insurance company that had hired him stood at the rail and enjoyed the sea breeze.

On the lower deck, Barby and Jan were looking into the pressure chamber where Rick, Scotty, Dick Antell, and Dr. Hermann were comfortably seated in sling-back chairs. Rick and Scotty held microphones through which they could talk to the girls. A converter turned the helium sound into normal voice. The boys sounded squawky to themselves, but natural to people outside the chamber. The girls used a microphone set into the chamber wall.

“You look hot,” Barby informed them.

“We are,” Rick agreed. He and the others wore swim trunks, but they were sweating freely.

“Well be cold soon enough,” Scotty informed them. “The water will be icy, and the heat will drain off quickly, even through the dry suits. We’re not really uncomfortable.”

“Can’t they air-condition the chamber?” Jan asked.

“It is air-conditioned,” Rick replied. “Dr. Hermann let the temperature rise because he wants to check whether we feel the cold sooner after being warm. He’s already measured divers who have gone out from lower temperatures.”

“How does it feel to be a guinea pig?” Barby queried.

“Guinea pigs are well fed and comfortable,” Scotty told her. “So are we. It’s not bad, being a guinea pig.”

The four in the chamber had been breathing a pure helium-oxygen mixture since breakfast time, and Dr. Hermann’s last analysis of their exhalations, made with a kit he carried, had shown no nitrogen residues. In the language of diving, the four were “saturated,” and were now under a pressure of 13,215 pounds per square inch, as compared with the normal 14.7 pounds per square inch at sea level. They felt no differently, except that the heliox mixture had a tendency to dry throats and mouths. The physician was compensating for the low humidity by introducing more water vapor into the chamber through a valve control.

Both Rick and Scotty understood the reason for saturation and for bringing them down to working pressure in the chamber. With all body cavities, chiefly lungs, inner ear, and sinuses filled with neutral helium and oxygen at proper pressure, they could swim into the ocean pressure without danger from the pressure itself. They had learned during their early diving instruction that human tissue is very near seawater in density, and is virtually incompressible. Gas, however, is highly compressible, and the gas cavities in the body must have a pressure equal to that of the water, or a partial vacuum is created which can only be filled by tissues collapsing.

Saturation meant being protected from the poisonous effect of nitrogen, and from the pressure. The amount of oxygen they received also was carefully regulated, because life-giving oxygen itself becomes poisonous under pressure if breathed in too-great quantities. The simple-appearing chamber in which they waited for the dive actually was a highly complex affair that permitted automatic gas-mixing according to pressure. After the dive, the chamber would return them to normal at a computer-regulated pace.

“I wish we were going with you,” Jan said.

Rick didn’t know how to answer. Roger Pryor had decided that having one or both of the girls in the pilot compartment was not in accordance with good practice on a working dive. But he had promised that they could actually make dives as a part of the planned publicity series, and that was really far more than either of the girls had expected.

It wasn’t as much as Jan and Barby wanted, though. Rick knew that although both liked being girls, there were times when they resented being excluded from exciting activities just because they were girls. He and Scotty both sympathized, but were also a little relieved. They preferred not to have the girls exposed to real danger.

Charley Martin, dressed in simple coveralls, looked through the port next to Jan and Barby.

“Coming up on station,” he announced. “The sonar is scanning for the wreck now.”

The sonar with which the *Sea Beast* was equipped could locate the drill rig precisely, Rick knew. Then, on the bottom, the sonoscope would give the pilot and observer an excellent picture with which to navigate. Until the precise depth of the wreck was located, the divers wouldn’t transfer to the submersible. It might be necessary to adjust pressure a little.

Rick wasn’t as calm as his outward appearance indicated. It was pretty exciting, exiting from a deep submersible a quarter of a mile under the sea. He was apprehensive, not for his own safety, but because he was afraid he might not do an adequate job. He was to be chief photographer. Scotty would carry a camera, too, but principally for back-up. Barring some completely unforeseen accident, they would be



safe enough.

“We’re going to stay right with you until the *Sea Horse* leaves,” Barby announced.

“And we’ll be looking in when you come back into the chamber,” Jan added.

Dick Antell chuckled. He borrowed Rick’s microphone and spoke into it. “No wonder these two have such high morale.”

“We mean you, too,” Barby told him. “And Dr. Hermann.”

The physician smiled his thanks. “I think we’d better change our base of operations to Spindrift,” he told Antell.

Out on deck, the bullhorn sounded. “All hands.

We have located the rig at 1254 feet. No pressure change will be required. Prepare to launch submersible.”

Dick Antell rose to his feet. “That’s us. Time to move.”

A voice spoke in the chamber speaker. “Diver chamber at pressure. Transfer tube locked and pressurized. Go when ready, Dick.”

Antell undogged the pressure-type door into the transfer tube and motioned. “You first, Doc. I’ll bring up the rear.”

Dr. Hermann bent and crawled into the tube, which was about a yard in diameter. Scotty waved at the girls and followed. Rick winked at the two excited faces at the porthole, and went after Scotty. He crawled through the tube and emerged in the spherical divers’ chamber. He sat down on a canvas seat slung from the wall and saw that his dive mates were doing the same. Through the tiny porthole between the two spheres that formed the sub’s pressure compartments he could see Charley Martin’s head turn as he looked over at Roger Pryor in the observer’s seat. Rick guessed they were going through the pre-dive checklist. In a moment Charley picked up a microphone and spoke to the divers through a speaker at the front of the diving compartment.

“Communications test. Do you read, Dick?”

Antell spoke without getting up. A sensitive microphone above the speaker picked up his words. “Loud and clear, Charley.”

“Okay. *Sea Horse* to *Sea Beast* Control. Come in, Bill.”

“Loud and clear, Charley.”

“How’s the target?”

“We’re directly over it, holding station.”

“Very well. Check all pressure seals.”

Dick Antell rechecked each of the locking dogs on the divers' compartment door. "Dive door locked and sealed."

Roger Pryor reported, "Main hatch sealed."

There was a whine of electric motors starting up. "Electrical system check okay," Charley reported. "All motors normal." Then, "Mercury trim servomotor up to rpm. Hydro-trim controls normal. Stand by. We are flooding ballast tank. Droppable ballast signal is green. Lower us when ready, *Sea Beast* Control."

Rick felt an elevator-going-down sensation and saw green water rise past the outer porthole slightly below eye level. His pulse speeded.

"Dropping umbilical," Charley said. "Switch over to corn-channel on five count. Five, four, three, two, one, switch."

The voice quality from the *Sea Beast* changed perceptibly. "Do you read, *Sea Horse*?"

"All normal," Charley responded.

"Flood outer fairing when ready, Charley."

"Flooding now."

Rick heard the gurgle of water all around him. Despite the submersible's streamlined shape, only the two pressure spheres were watertight. The space between the spheres and the outer hull was flooded during a dive. The huge batteries on which the vehicle operated were protected by being submersed in oil. All else was designed to get wet.

Presently the gurgle stopped, and Charley announced, "Stand by to clear lines. *Sea Horse* departing on ten count." He counted down from ten, and on zero Rick felt the submersible move.

"You are free of *Sea Beast*," the tender's voice stated. "Good trip, Charley and all."

"Thanks, Bill. We are diving on a course of 92 degrees, going into helical descent pattern B in thirty seconds. Vector us as necessary."

Antell's voice was loud in the steel sphere. "Let's suit up, gang."

Rick noted that it was cooler already. He could feel the submersible banking like a plane as it went into the spiraling descent pattern that would bring them out close to the drill rig. He stood up and took his suit from the hook above his seat. It was patterned after the original Keller suit, created by the famous Swiss diver, Hannes Keller. Unlike his wet suit, it was complete. He put his legs into it through the long back zipper and fitted his feet into boots very much like shoes. The suit was easy to get into, thanks to a waffle-weave insulated lining. He pulled it up and pushed his arms through the sleeves, leaving the headpiece hanging on his chest.

His weight belt, fitted to him in the Seafaring Industries' tank, was hanging on the hook. He pulled it around his waist and locked it in place. Unlike the scuba weight belt, this one could not be taken off with the simple pull of a safety strap. It would be extremely dangerous to lose his weights and rise into lower pressure. If that happened, his saturated body would rupture under the pressure in his lungs and sinuses as deep-sea fish did when brought to the surface.

He sat down again, reached into the canvas pocket dangling from his seat, and brought out a tube of anti-fogging compound. Working carefully, he coated the inside of his face plate with it, smoothing it so that the thin layer would not produce distortion. The face plate was built into the headpiece, and covered his whole face like a porthole.

Scotty grinned at him. "I still don't believe it."

"You will very soon," Dr. Hermann informed him. "Come here, Scotty. You can be first."

Scotty knelt before the physician, who affixed a series of electrodes, first rubbing the spots with a salt paste, then taping them in place with a pressure tape developed for wiring astronauts in the same way. Scotty received electrodes in four places on his head, two on his chest, and two under his shoulder blades. The wires were plugged into a connector inside his suit, just above his waist on the right side.

Dr. Hermann took a connector that was hooked to an instrument panel and plugged it into the corresponding connector on the outside of the suit. He watched his instruments for a moment, then told Scotty, "You're alive. My instruments say so."

"That's a relief," Scotty told him. "I wasn't certain."

Rick was next. When the readings also proved him alive, Dick Antell took his turn. Then the three divers waited until Charley switched on their speaker again. "We're at 1100 feet, all normal. We have the rig on the sonoscope, at about maximum distance. Get ready, divers."

"Suits on and wired," Antell reported. "We'll be ready when you are."

Charley's voice had sounded amazingly deep through the speaker, and Rick knew he had been getting used to the quacky helium speech. Dick Antell sounded weird, compared with Charley. Of course Charley Martin and Roger Pryor were in normal pressure in the other sphere, but the communications system would have made them sound natural anyway, even had they been breathing helium.

"Fins on," Antell squeaked.

The fins fitted over the shoes on the suit and locked into place with a stainless-steel snap.

"Turn around, Rick." The boy did so, and Antell zipped him up to the neck. "Okay, tanks on."

Antell zipped up Scotty, and Dr. Hermann zipped up Antell. The light cryogenic tanks were on the deck under the seats. Rick swung his to his back and secured the straps, then fitted the special regulator to a screw fitting on his headpiece. Scotty and Dick were doing the same.

At the side of each diver's seat was a spring-loaded reel of thick black cable. Inside the cable was a steel-cord nylon safety line, and the bundle of wires that connected them to Dr. Hermann's instruments and the sub's communications system. The free end of the cable was in the shape of a Y. One arm of the Y had a stainless-steel safety snap; the other arm had the instrument connector and also carried the communications line. Dr. Hermann locked the safety snaps to their weight belts, plugged in the connectors, and screwed them down tight.

"Coming up on the wreck," Charley announced. "The sonoscope is a marvel. It's like watching on TV. I'm going to put down on the deck. It's canted a little, so when you emerge go uphill."

“Understood,” Dick Antell acknowledged.

Rick sat down and picked up his camera. It was very heavy, but he knew it would become weightless once he was in the water. It wouldn’t lose its inertia, though, and he knew it wouldn’t be easy to steer. He rechecked the closure, then swung out the powerful lamps on their folding arms. The batteries were one reason for the weight.

Dr. Hermann glanced at his instruments, then looked at Rick. “Nice, fast pulse, Rick. Shows you’re excited. How do you feel?”

“Half scared, hah0 excited, and half hot,” Rick replied.

“Good. If a diver isn’t operating at 150 percent I worry about him. You, Scotty? Your pulse is a shade under Rick’s, but your respiration is a bit higher.”

“I’m half breathless, half frightened, and all hot,” Scotty answered.

The physician grinned. “Normal reactions, both of you. Even Dick is operating at high speed, although he’s a bit more blasé than you two.”

The sub’s motors changed tone, slowed, speeded, slowed, then slowed even more. Rick felt the bump as the long support fairings under the boat settled to the deck.

“Divers out when ready,” Charley stated. “All clear on deck except for the equipment that was there. Water temperature 39 degrees. A reception committee of one lantern fish, a monster two whole inches long. He’s studying Roger.”

Dick Antell turned on Rick’s cryogenic unit, waited until the boy had pulled the headpiece into place, then completed pulling the waterproof zipper up tight. Rick continued to breathe normally, except that he was now breathing from his supply of liquid helium and liquid oxygen. Antell finished Scotty’s preparation, then Dr. Hermann completed Dick’s outfitting.

The three divers sat down. Scotty held his camera on his lap, as did Rick. Dick Antell hung a fitted tool kit from his belt and picked up a length of stainless steel that could serve as a pry bar, a probe, or a spear.

“Communications check,” Antell said. His voice was clear and normal in Rick’s ears because it passed through the wires into the ship’s system where the “helium honking” was changed to natural frequency.

“I read you loud and clear,” Rick reported.

“Same here,” Scotty said.

“And I read you both,” Antell said. “Charley, did you read us?”

The pilot’s voice came through Rick’s suit speaker. “All fine.”

“All breathing normally?”

“Yes,” Rick replied, and Scotty echoed him.

“Good. Open the hatch, Doc.”

Rick drew in his breath as Dr. Hermann undogged the hatch, half expecting water to flood in. But it was like opening the door on a mirror. The water stayed at the edge of the sphere, the inside light reflecting from it.

“Fit safety lines,” Antell ordered.

Rick passed his line through the opening on top of a fitting in which the line could run freely on roller bearings. Scotty and Antell did the same.

“Divers departing,” Dick reported.

“Good hunting,” Charley replied. “Divers out at 1252 feet. Clock set at zero.”

The three divers sat on the edge of the hatch, feet in the water. Rick felt his pulse rate increase and looked up at Dr. Hermann. The physician checked his instrument panel, grinned, and winked at Rick. Rick felt better. At least the speeding up of his pulse was normal.

Dick Antell dropped into the water and stood on the deck of the drill rig, with only his head and shoulders projecting out of the well. He motioned to Rick, who dropped in, hugging his camera. Rick felt his fins hit the deck. Scotty joined him.

“Let’s go,” Dick said, and submerged.

Rick followed, moving left to keep his line clear. He was surprised to find himself in light, then remembered. The sub’s brilliant lights would naturally be on. Scotty joined them and took his place in the middle. From now on they would have to watch positions to avoid tangling the lines.

“Follow plan,” Dick Antell instructed.

The sub had landed facing the deckhouse from which Barby and Jan had collected coffee mugs. The plan called for moving across the deck, parallel with the deckhouse, then going down to the lower deck. Dick Antell had prepared the search plan, based on his knowledge of drill rigs. If sabotage had taken place, it would be around the controls or the buoyancy tanks, not on the drill deck.

Rick switched on his lights as they left the sub’s illumination. The twin beams cut through the dark water. No light ever reached this depth. For the first time he felt the impulse to look behind him. He had to grin. He understood now what Antell had meant, and Scotty’s joke about the diver who disagreed with something that ate him became much less funny!

# CHAPTER XIX

## The Evidence

The divers reached the edge of the rig's deck. Dick Antell said, "Hold here a minute." He reached into his kit and brought out three roller units, which he spaced on the edge. They had magnetic bottom plates, and snapped into place on the steel. Each diver fitted his safety line into one of the units. The lines would now follow smoothly, passing over the rollers.

At Dick's command, the three finned over the edge. Rick's brilliant beams were cones in the blackness. Around him, he suddenly realized, were little winking lights. He tilted his beam at the nearest, and a tiny fish sped into the sheltering gloom. He recognized it as a lantern fish.

Dick Antell placed three more roller units on the lower rim of the deck, then the three continued into the deck where they had been swimming when Barby warned that sharks had come.

The deck was a clutter of equipment, much of it thrown out of place by the violent pitching of the rig during the hurricane.

"Watch it," Antell warned. "Don't get your lines caught in the junk."

To the submersible, Antell reported, "We're on the lower deck, about to begin searching."

Charley Martin replied, "All readings normal. Proceed as planned."

Rick moved off to the left, while Scotty and Antell went to the right, following a search pattern that would bring the three together again on the opposite side of the rig. The control panel was on Rick's side. Keeping his safety line clear, he began to hunt for it.

He could see Scotty's bright lights clearly, and he saw Dick Antell switch on the smaller light he carried in his kit. Even so, Rick suddenly felt terribly alone. The enormous pressure didn't bother him at all; he couldn't even feel it. But there was the knowledge that a quarter mile of water was over his head, that he was by himself in a depth where sunlight had never penetrated. He shook off the feeling. He had work to do.

His lights picked out a steel structure that looked something like a desk. He moved to it, taking it easy, as he had been instructed, in order to conserve his energy. It was the control console. He found the panel with its dials and lever handles, and a bewildering array of toggle switches.

"I'm at the control console," he reported. "I can't make any sense out of it."

"Don't worry about it," Dick Antell replied. "We'll have experts study the pictures later. Get some good ones."

"Will do," Rick responded. He backed off until the entire panel was framed in his viewfinder, a plastic sheet marked in rectangles. He set the distance control for six feet, glanced at the built-in illuminated light meter, and set the camera's aperture, then steadied the case and took a shot. Then he moved in, reset aperture and distance, and took a series of close-ups of various sections of the panel, being sure they overlapped.

The voices of his dive mates rang in his ears. Dick Antell asked, "What'd you find?"

"A heavy machinist's hammer," Scotty replied. "It was caught under the edge of this rack."

"Odd that they'd leave a hammer adrift in a hurricane. Someone must have dropped it."

“But what was he using it for?” Scotty asked.

“Maybe tightening down something.”

“Such as what?”

“Who knows? Put it back where you found it, in the identical position, and take a picture of it. It could mean something or nothing.”

Rick finished his photographs of the control panel, then inspected it closely. He could tell nothing from the inspection. He reached back and pulled on his safety line. It was clear. He continued on around the deck, moving inward to clear the top of one of the big buoyancy tanks. The tank had a high-pressure line attached. He followed it, and found the powerful compressor that had pumped air into it. Both the compressor and electric motor that ran it seemed to be in good condition. He went back to the tank and circled it completely, then retraced his steps to keep his line from fouling. The tank seemed undamaged.

He had half-expected to find it ruptured in some way.

Dick Antell’s voice sounded again. “Here’s the diesel generator. Looks normal. Scotty, take a picture.”

An odd-looking fish swam through Rick’s light beams. It wasn’t anything he recognized. Then, as it passed into darkness, he saw a Line of fluorescent dots along its side.

Rick waved a gloved hand at the fish and it spurted off behind another of the buoyancy tanks. He checked the tank carefully. There were no breaks in it. But if the rig had sunk, it had lost buoyancy. How could it have done that if the tanks were intact? He swam to the top of the tank. There were three air lines fitted to the top. Two ran down the tank to the deck. He traced them. One ran to the compressor, the other to the control console. That made sense. One was for air input, the other to give the rig operator a pressure reading. He would have to keep the tanks equalized to maintain the deck on a level plane.

The third line ran upward along a girder and disappeared into a fitting in the deck above. That must be the exhaust line. “Just checked another buoyancy tank,” he reported. “Looks normal. No breaks anywhere.”

“The ones we’ve inspected are normal, too,” Antell replied. “We’re approaching the corner tank. Where are you?”

“Approaching the tank in my corner.”

“Very well. Continue.”

Rick did so. He reached the corner of the deck, checked the tank, then turned. There were buoyancy tanks at each corner and in the center of each side. He met Scotty and Antell at the tank in the middle of the side. They had now completed a circuit of the deck, with zero results.

“Thirty minutes,” Charley Martin said.

“Thirty minutes,” Antell repeated. “We’ve drawn a blank, Charley and Roger. Suggest we retrace and return to *Sea Horse*. If the tanks are damaged, it must be below the deck.”

“Very well. Divers return to *Sea Horse*.”

To avoid tangling lines, it was necessary to retrace their paths around the rig deck. The spring reels took up the slack as they moved, and it was only necessary to follow the safety lines back.

Rick worried as he went. He was certain the rig had been dumped deliberately, but how? It could only have been done by losing buoyancy. The big tanks looked normal, and he couldn't imagine an accident that would have ruptured all of them at once. Had one or two been damaged, the rig would have turned over. But it hadn't. That meant air had been lost uniformly.

He met his mates at the tank in the center of the side through which they had entered the lower deck.

“Something's wrong,” he stated. “How did the tanks lose air?”

“I've been wondering that myself,” Antell answered. “Did you notice that an exhaust line runs to the upper deck?”

“Yes. I think we'd better check for a valve on top.”

“So do I. Let's go.”

They moved out of the lower deck, stopping to collect the rollers over which their lines had run on the way, then rounded the upper edge and saw the *Sea Horse*, illuminated by its own floodlights.

The three clustered around the upper deck directly over the buoyancy tank. Scotty called their attention to a hole in the deck's edge. “Could this be the exhaust port?”

“It could be,” Antell agreed. “But where's the control valve?”

Rick found it, under a hinged section of metal directly above the hole Scotty had noticed. Antell inserted his steel bar in a finger hole and pried the section up. The valve was inside, the bronze handle in the proper position. The valve was closed.

“No air got out through this,” Scotty observed. “Shall we check the others?”

“Not now. If one valve is closed, they'll all be. The rig came down straight. It couldn't have, if the tanks had been unequal.”

Rick objected. “When we saw the rig, it was tilted to one side.”

“Yes,” Antell agreed. “But not badly. Come on. Let's get back inside.”

Dick snapped off the roller gadgets and stowed them in his kit, then led the way back to the open hatch of the *Sea Horse*.

“Stay buttoned up,” Antell ordered. “We'll be going out again.” They climbed into the submersible.

Dr. Hermann closed the hatch as the divers took their seats. He reported, “Divers' compartment sealed.”



“Very well,” Charley responded. “We are lifting.”

The submersible motors whined as the little ship lifted from the rig deck, then changed in tone as Charley backed the craft into open water. The next part of the plan was to put the *Sea Horse* on the bottom so that the divers could inspect the underside of the rig and the lower part of the buoyancy tanks.

Dr. Hermann asked, “Anyone cold?”

Rick suddenly realized that the chill had penetrated his suit. He hadn’t even noticed when they were out in the water. “I’m beginning to be,” he responded.

“I wondered if you’d noticed,” the physician said. “All of you have lost about 10 degrees of skin temperature. You’ve regained a degree just by coming inside. Any loss of function?”

Rick flexed his fingers. They were a little numb, and he could feel a chill in his feet. “Fingers a bit stiff,” he reported. Scotty and Antell echoed him.

“All right. Hands out,” the physician ordered. As the divers extended hands, he unsnapped the O-rings that held their gloves over ridges on their suit wrists and pulled the gloves off. At his instructions, they dried the sleeves of their suits so water wouldn’t drip, then enfolded their chilled hands in an electric heating pad. It felt hot to Rick, and he said so.

“That’s because your hands are colder than you thought,” the physician said. “The pad is merely warm. Keep your hands in it until it’s time to go out again.” He consulted his instruments. “You’re regaining heat rapidly.”

Charley Martin spoke. “We’re down the rig.

Muddy bottom. To keep from stirring it up, Roger is going to take a grip on a girder with the manipulator and hold us in position. How long before you can go out again?”

“Give us five minutes,” Dr. Hermann requested.

“Will do.”

The five minutes were enough to bring their skin temperatures up 6 degrees and to warm their hands. The physician snapped their glove seals over the suit ridges again, then opened the hatch.

“Divers departing,” he reported.

“Very well. We are holding steady.”

Rick looked up as he swam from under the submersible. A big steel arm terminating in a claw like a dinosaur’s jaws had a tight grip on a horizontal girder. It was holding the sub about ten feet above the ocean floor. As the divers got oriented, Rick saw that the big buoyancy tanks ended in feet like big plates. Bolted to the circular plates were big lead blocks.

Below them, the floor of the sea sloped toward the deepest part of Tansey’s Trench. Rick wondered why the drill rig wasn’t at more of an angle. “The rig’s pretty even in spite of the slope,” he commented. “What’s keeping it level?”

“Let’s go see,” Antell replied. He angled downward, and Rick moved abreast of Dick and Scotty, shooting his bright beams ahead. On the sea floor was a starfish, easily two feet from arm tip to arm tip. It wasn’t the ordinary five-pointed variety, either. Rick counted a dozen arms. In the brilliant light the starfish gleamed like new copper.

“Take a picture,” Antell said. “Okay.” Rick adjusted his camera. “One of you get down there, so we’ll have something to gauge its size.”

Scotty did so, and Rick took a picture.

“Turn 90 degrees,” Antell said. “We’ll examine the lowest legs of the rig.”

The three swam abreast to where the lowest of the leg plates rested. There was a mound under it, one that rose about 20 feet above the sea floor. Antell swam to the mound and used his probe to scrape debris away. Under the accumulation of sea life was the red of rusted steel.

“Well, I’ll be doggoned,” Antell muttered. “It landed on an old shipwreck.”

Scotty let out a yell and pointed.

Instantly Charley Martin spoke. “What is it?”

Rick stared, unbelieving. Antell replied for all of them. “We disturbed a lobster under the old wreck the rig is on.”

“What’s so exciting about a lobster?” Charley demanded.

“The beast is at least four feet long, not counting forelegs and claws!”

Charley whistled. “That’s a lot of lobster stew.”

“Can we collect it?” Rick asked eagerly. “What a trophy!”

“We have a job to do,” Antell replied sternly. “Let’s get at it.” Then he relented a little. “When we’ve finished with the rig we’ll see about the lobster.” Working together the three divers moved from tank to tank, checking each for its full length, which meant swimming upward nearly a hundred feet. The tanks were intact. There were dents and scratches, but no breaks that they could find.

“Results negative,” Antell reported at last. “No sign of damage, and certainly none of sabotage.”

“There has to be something,” Rick insisted. “The air got out of the tanks. We’ve missed something, somewhere.”

Roger Pryor’s voice spoke. “He’s right. Divers return, and let’s go topside again. Have you examined every inch of the tanks?”

“Yes. Results negative from top to bottom,” Antell stated flatly. “We are returning to *Sea Horse*.”

They got back into the sub and Dr. Hermann closed the hatch. The claw released its grip and the motors whined as they moved upward to the top of the drill rig once more. Rick was grateful for the chance to get a little warmth into his cold body. He began to appreciate that cold, not pressure, is the working

diver's greatest enemy.

The *Sea Horse* settled on the deck again, while the three consulted.

"There has to be another valve somewhere," Rick said. "I didn't see one, but there's just got to be. How else could the air get out?"

"We didn't see the valves on the upper deck until we looked for them," Scotty pointed out.

"How about an identical setup on the lower deck?" Rick asked.

"That would mean the tanks weren't emptied," Antell said. "There's about six feet of tank between the two decks, and opening valves at the lower-deck level would have left plenty of air in the upper section."

"It figures," Rick said quickly. "With a little air left, the rig would ride fairly level, but would still tilt under the drive of the hurricane wind. I'll bet that's it!"

The three exited quickly and swam to where they had found the valve chamber on the upper deck. Antell took a tool from his kit, fitted it over the valve handle, and turned. Air poured out in great bubbles from the port on the deck's side. He shut the valve off again.

"That's it," he said triumphantly. "Come on. Lines in the blocks and we'll go down." He fitted the rollers in place again and they went over the side to the deck below.

On the outboard side of the buoyancy tank, set into the lower deck, they found another hinged plate. Antell pried it open, and for a long moment they all stared.

The valve handle was aligned with the tube leading out to the hole in the deck's edge. The valve was open.

Rick photographed it, then they moved around the deck, checking each of the tanks. All had open valves. All valves were manually operated. All had been opened by hand. This was positive, undeniable proof of sabotage.

To show beyond doubt that the photographs were not all of the same valve, because they were identical, Antell used a pointed tool to scratch numbers in the deck next to the valve chambers. Rick shot each one, and Scotty took cover shots, just in case those taken by Rick did not turn out.

"It's in the bag," Antell reported. "Or, in the cameras, to be precise. Divers returning to *Sea Horse*."

Once inside the divers' compartment, Dr. Hermann started to unzip Antell's hood. The big pilot stopped him. "Just a minute, Doc. Hey, Charley, do you really like lobster stew?"

"Love it," Charley replied promptly. "How about you, Rog?"

"I've been known to eat it," the Project Director admitted. "In fact, I usually overeat it. Go on, Charley. Let's collect that oversize appetizer. Can you do it without getting chewed up, Dick? He must have claws like bear traps."

"We'll work it out," Antell replied. "Take us down, Charley. Only this time, you'd better bottom about 15 feet out. We can't bring the beast into the compartment. He'll have to ride up in the claw."

Antell rummaged in a box of equipment and brought out two stainless-steel cables, formed into loops about ten inches in diameter. One end of the cable went into a toothed bar called a rack. The other terminated in a screw gear called a pinion. The gear was operated by a lever.

“We get these over each claw,” Antell told the boys, “then tighten them with the levers. But don’t tighten too much or you’ll break the claws.”

“I can imagine the beast holding out his claws just to be helpful,” Scotty commented.

“No doubt,” Antell replied. “But we won’t risk it just in case he’s uncooperative.” He brought small billets of wood from the equipment box. They were two inches square in cross section, and about ten inches long. “We use these when there’s something to be picked up by the arm which needs protection from the steel. They’re balsa. We’ll give the lobster one in each claw to chew on.”

Quickly he outlined the plan of operation, then grinned at them. “Loads of luck, chums.”

The lobster was backed into the hole he had made under the old wreck. Rick studied the claws. They looked like toothed catcher’s mitts. A mistake could mean a broken hand, or worse.

“I’ve heard that the larger the lobster, the tougher the meat,” he commented.

Scotty chuckled. “If that were true, cattlemen would raise only calves for veal, not the biggest steers.”

Antell had brought a tool for his own use. It was two steel pipes fitted together, one inside the other, so that the length could be adjusted. A heavy screw with a lever handle would lock the two pipes at the proper length. At the outer end of each pipe a bar had been welded to form a T. The device was used as a brace in salvage work, and Antell intended to use it as a brace now.

Rick moved left, and Scotty moved right. Antell stayed in the middle, practically nose to nose with the lobster, his brace ready. When the boys were in position, Antell asked, “Ready?”

“Ready,” Rick returned.

“Same here,” Scotty agreed.

“Okay. Set. Go.”

Rick and Scotty simultaneously held out their billets of balsa. The lobster spread his claws to defend himself against both menaces at once. The boys fitted the balsa between the wide-open claws, which instantly clamped down.

Instantly Rick grabbed the foreleg just under the claw with one hand, braced himself, and pulled. On the other side, Scotty did the same. Antell shoved his brace between the two forelegs, quickly adjusted the length, and locked the brace at the proper length. Then, moving swiftly and surely, he passed a line around both forelegs and pulled it tight, locking the forelegs in place against the brace. The giant lobster could not move its forelegs now, but the great claws were still menacing. It had dropped the crushed billets of balsa wood and had both claws open wide, ready to grab anything that came within reach.

Rick extended his steel tie-loop to its fullest and maneuvered it over the open claw. Antell took the upper side of the claw in one hand and the underside in the other and squeezed with all his strength. Like

an alligator's jaws, the strength of the claws was mostly in gripping action. They were not made to resist a force pressing them together. Rick quickly levered his loop until it was tight. He let go and watched. The claw was immobile. Antell did the same on Scotty's side, and in a moment the lobster was weaponless.

The capture wasn't over, though. With Rick pulling on one side and Scotty on the other, they hauled the lobster from its hole, the powerful tail threshing. The force of the beating tail turned them over, and Rick felt it strike with numbing force against his thigh muscle.

"Hold him," Antell ordered.

"I'm trying," Rick gritted. It wasn't easy.

Scotty swung around and actually got on the lobster's back, locking his muscular legs under the animal. He pressed back with his fins against the flailing tail, hampering its movement.

Antell passed a line around the lobster's middle and pulled it tight, tying it firmly on the back just behind the carapace. Then, with Scotty still riding his strange mount, Antell and Rick towed the lobster and Scotty to the submersible. Dick lashed the line to the steel arm, Scotty moving just enough to let the line pass under him.

"Hold him, Scotty," Antell requested. "Stand by, Rick."

Antell swam to the hatch, and Rick heard him say, "Hand me that biggest loop in the equipment box, Doc. The steel one. Can you find another? There should be one slightly smaller. Okay, thanks."

Antell returned carrying the loops. He opened one, and while Rick pushed and Scotty squeezed, he got it around the flailing tail and the steel arm, reconnected it, and pulled it tight. With a sigh Scotty dismounted.

"That thing is stronger than a bull elephant," he reported.

Dick Antell passed the other steel loop around the lobster's carapace, just behind the eyes, and drew it tight. "That does it!" he said happily. "Only no one will believe it, even when they see it."

Charley and Roger had been watching through the portholes. "My mouth is watering," Charley said.

"Tell you what," Rick offered. "I'll cook it and get the meat out, if I can have the shell."

"It's a deal," Antell replied. "We'll eat and you work. Come on, gang. Let's go home."

"Only let's untangle our lines first," Scotty suggested. "I'm wound up like a kitten in a ball of yarn." He grinned at Rick. "Happy, O Great Detective?"

"Joyful, O Great Eater. We return with eats and evidence. Who could ask for more?"

## CHAPTER XX

# Color It Red

Decompression took nearly seventy-two hours. The divers and Dr. Hermann lazed inside the deck chamber, slept a great deal, conducted an elimination gin rummy tournament, ate copiously from excellent food passed through the lock, and read. Rick also played chess with Jan, looking through the porthole while she sat outside on the *Sea Beast's* deck with the chess set on a table, making moves for both of them.

Rick first realized that the decompression time was coming to an end when he heard Scotty speak in almost a normal tone. Inside the chamber they didn't use the communications channel, and their voices had the helium squawk. Now nitrogen was being fed in gradually; their air was returning to normal.

The cameras had been taken from the submersible chamber after the divers passed into the pressure chamber, and Mike had gone off with the film. The lobster had been taken from the claw and arm and was tethered to the Spindrift dock, where the *Sea Beast* was tied up.

The giant lobster was a big attraction. Photos had been taken by Seafaring Industries' public relations men rushed to the island for that purpose. And, in the way of all publicity men, they had featured Jan and Barby with the *Sea Horse* even more than the lobster.

The divers had watched the proceedings through portholes, and after an hour of photography, Dick Antell had asked, "What is advertising?"

He answered his own question. "Advertising consists of lovely girls eating, drinking, buying, selling, or using something. Or, in this case, just looking at something."

Rick laughed. "Would you have it any different, Dick?"

"Nope. I was just making a philosophical observation."

Then came the moment when Dr. Hermann announced, "Back to normal. We can leave now. And thanks, all three of you, for being so cooperative."

They had been given nearly hourly examinations, with blood and breath samples taken, and had answered questions until they were dizzy. Dr. Hermann was the only one who had been really busy, and his notes covered many pages. All the information would be compiled, translated into digital information to be stored in a computer, and finally compared with data from other dives. The end result would be a better understanding of diver physiology and greater safety for the deep divers.

The divers were greeted with hugs from the girls and a resounding welcome on their return to the great world from all those on Spindrift. They retired at once for prolonged showers and a change to normal clothing.

Mike phoned as all were assembling for dinner. Rick and Scotty both got on the line.

"The company lawyers have been at work, boys. They consider the evidence conclusive, but it will have to be backed by your stories in person. When can you meet with the lawyers?"

"Any time now," Rick answered for both of them. "We're through with decompression."

“Tomorrow morning? We’ll send a helicopter to deliver you to the Port Authority Building in New York . I’ll meet you there. How about ten o’clock ?”

“That’s okay,” Rick answered. “What will this be, Mike? A civil action or a criminal action?”

“Both. The details aren’t worked out yet, and Biggs and Coastal Petroleum don’t even know about it. They’ll get a surprise and they won’t be pleased.”

The publicity pictures, by previous arrangement, would be withheld until the insurance company had made its move.

“It couldn’t happen to a more deserving tug captain,” Scotty said. “I’d like to see that stone face when Biggs gets the word.”

“He’ll regret those blue sharks,” Rick agreed. “Come on. Let’s go eat. I’m starved.”

“And you call me the Great Eater,” Scotty jeered.

By the time the boys returned from New York on the following day, the chartered helicopter landing them on Spindrift, the insurance company had acted. Biggs and all principal officers of Coastal Petroleum had been served with summonses for preliminary hearings in a civil suit, and the New Jersey State Police had notified New York authorities that the same men were wanted for criminal action. The sabotage had taken place in New Jersey waters.

It was time for the *Sea Beast*, with the *Sea Horse* aboard, to move, first back to Philadelphia , then to southern waters. But there was Charley and Roger’s lobster stew to be taken care of first.

Rick had already planned how he would do it. The principal problem was finding a container big enough for the lobster. He had found one in the barn, a tank that had been used for watering the cows before automatic pumps had been installed. Before going to New York , he and Scotty had lugged it to the dock, where Jan and Barby had spent a good part of the day scouring it clean.

As soon as they were back the boys moved it to the picnic area, propped it up on rocks, and built a fire under it. The girls had collected seaweed and five gallons of seawater. Rick got his movie camera and documented the procedure. Scotty and Dick Antell hauled the lobster out of the water and carried it to the tank, and Rick recorded the moment when it went into the steaming water.

He wasn’t sure how long to cook the creature, but after consultation with his parents and a heated discussion with Scotty and the girls, settled on an hour. If it turned out to be undercooked, it wouldn’t matter. The lobster was to be turned into chowder, which meant more cooking.

While Scotty kept watch on the fire, Rick collected tools. His principal one was a saber saw with a hacksaw blade. He also had a chisel and hammer, heavy tinsmith’s snips, a coping saw, and wood gouges normally used on the lathe.

Meanwhile, Mrs. Brant, with help from Barby and Jan, got her largest cooking kettles ready. They were normally used for canning fruits. She had prepared by getting extra gallons of milk, and quantities of butter, spices, and vegetables. This was to be a gargantuan stew, and she planned that each of the *Sea Beast* crew should have a quantity to take home. When the entire Spindrift group was in residence, there were many mouths to feed, and it was customary to buy food in quantity. Now gallon jars that had once

held pickles, relishes, and similar foods would come in handy.

When the time was up, Dick Antell and Scotty, using loops of cable, brought the big lobster out of the tank. The cooking had turned it bright red. They carried it to the picnic table, fortunately made out of heavy planks, and deposited it upside down while Back continued his movie coverage. At his request, Barby and Jan stood behind the huge creature, knives and forks held at the ready.

“That’s going to be the silliest picture of the decade,” he observed. With claws outstretched, the lobster was actually longer than either of the girls was tall. “But Dick Antell says beautiful girls are a necessity in pictures.”

The girls advanced on him. Barby said, “Rick Brant! Do you know that’s absolutely the first time you’ve ever acknowledged that we’re anything more than passable in appearance?”

Rick grinned. “Have to watch my tongue.”

“Why?” Barby demanded.

“Well, if I say what I think, that you’re prettier than any sister has a right to be, and that Jan’s the loveliest girl I’ve ever seen, you’ll get swelled heads and become absolutely unbearable.”

Jan turned as scarlet as the lobster. Barby took her by the hand. “Come on, Jan. Let’s go help Mother.” She smiled at Rick. “Besides, I want to tell her what a nice brother I have.”

Rick watched them go, grinning. He had seldom felt so good. Everything had worked out perfectly, even to the unexpected bonus of the big lobster. And he knew his words had made Jan and Barby feel good, too.

When the lobster had cooled enough, he got to work. Barby and Jan emerged from the house and called that they were going to pick up Mike Curtis. Rick nodded, and with Scotty helping, he used his saber saw to cut along the inner edges of the lobster tail, finally lifting off the entire inner surface, which he put carefully aside. The watching group exclaimed over the huge amount of pure-white lobster meat.

Working carefully, Rick and Scotty cut the meat free and lifted it out. By slicing it into sections, they managed to fit it on three large turkey platters. Dick Antell and Roger Pryor helped Hartson Brant to carry the platters into the house, where the meat was to be cut into bite-size lumps with an electric carving knife, and put in the stew.

Rick went to work on the lobster’s body, carefully cutting it open and cleaning it out. Then, using a bent piece of wire, he fished as much meat as he could out of the legs along each side of the lobster.

Only the claws and forelegs remained. He used the chisel to punch holes in the underside of the claws and leg joints, then cut out sections of shell with his saber saw. That made it easy to extract the meat, which he put on a smaller platter his mother had provided. As he finished, the girls returned, bringing Mike Curtis.

“Some lobster,” Mike said. “I had word just before I left, boys. Biggs and company have waived extradition, and I’ll bet that the skipper’s face is redder than this lobster. He never expected to have the Spindrift twins chase down his secret at the bottom of Tansey’s Trench.”

“We didn’t quite get to the bottom of the trench,” Rick corrected.



“Don’t be so literal.”

“Red is the color of the day,” Scotty observed. “Red lobster, red-faced Captain Biggs, and a pair of blushing girls.”

Barby and Jan had at once gotten busy cutting up the lobster claw meat and were passing tidbits around.

“I didn’t blush,” Barby protested.

Jan had turned scarlet again.

Barby observed her friend critically. “Never mind,” she amended. “Scotty was right in principle. Jan’s blushing enough for both of us.”

The lobster shell dried, and the cleaning was finished by an assortment of ants at the edge of Pirate’s Field. The process took over a month, and the leaves were turning when Rick got ready to complete operations on the shell. He replaced the sections he had cut out, using epoxy glue. The underside wouldn’t show, anyway. Then he sprayed the reassembled shell, which now looked exactly like the original lobster, except for color. The protective spray dried, and he gave it several more coats. It gleamed redly, a giant among lobsters, a perfect souvenir of the deep dive.

He obtained a sheet of heavy plywood and cut out a six-by-four-foot piece in the shape of the *Sea Horse*. Then he sanded it and gave it three coats of white paint. When it was dry, he mounted the lobster shell, claws widespread and reaching for prey.

One touch remained. He had ordered a brass plaque inscribed:

## **CAPTURED BY DICK ANTELL**

DON SCOTT

RICK BRANT

DIVERS ABOARD THE “SEA HORSE,” IN

1300 FEET OF WATER TWO MILES OFF

SPINDRIFT ISLAND

In smaller type were the date and the lobster’s dimensions.

Rick picked up the plaque on the way home from the preliminary hearings held in Newark. He, Scotty, and Dick Antell had testified as witnesses for the prosecution, and would have to give further testimony at the trial.

At one point, the Prosecutor had asked Rick, “Wasn’t it unusual for two young men to show so much determination in getting evidence on an act of sabotage that didn’t concern them directly?”

Rick had replied, “That’s true, sir. But, you see, we were involved indirectly. Captain Biggs isn’t on trial

for deliberately luring sharks to where we were diving, or for wrecking our boat, but we're convinced he did both deliberately, and we intended that he should pay for it."

The Defense Counsel had yelled, "Objection!"

"Sustained," the judge had said, and ordered Rick to stick to pertinent matters. But Rick had made his point, and when Captain Biggs had stared at him, stone-faced, Rick had merely smiled.

The brass plaque was screwed into place, and Rick and Scotty hung the big lobster on the wall of the gear room, a permanent memento of their first deep dive.

On a Saturday afternoon Dick Antell, Roger Pryor, and Charley Martin came to Spindrift. After the three had admired the finished lobster display, Rick kept a promise he had made by teaching Dick Antell to use the rocket belt.

The big submersible pilot landed from his first free flight grinning from ear to ear.

"It's great!" he announced.

"Does it beat piloting a submersible, Dick?" Jan Miller asked.

"They're not comparable," Antell returned. "Each to its own element, I'd say. I like both."

"Maybe I'd like both, too," Rick said. "If I could get a chance to pilot the submersible, that is."

Roger Pryor chuckled. "I think he's trying to tell you something, Dick. When are you going to let him try the controls of the *Sea Horse*?"

Antell smiled. "When we go after the rig again, this time to put on air lines and salvage it."

"When will that be?" Scotty demanded.

"Next spring. We've just negotiated a contract with the new owners of Coastal Petroleum. Want to dive on the job with us?"

Rick and Scotty replied with an enthusiastic affirmative just as Mrs. Brant rang the dinner bell.

As the group walked to the big house, Rick looked seaward. The ocean was calm, and glinting with gold from the setting sun. There was no indication that the big drill rig rested in darkness a quarter mile deep. There it would stay, while myriad sea organisms coated the steel with a living patina, until spring came around once more and the *Sea Horse* returned to Spindrift.

## THE END

DANGER BELOW!

A RICK BRANT SCIENCE-ADVENTURE STORY, no. 23

BY JOHN BLAINE