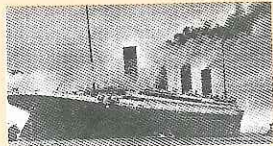


# THE TITANIC STORY



## THE DISCOVERY OF THE TITANIC

BY ROBERT D. BALLARD

“Lifeboats!” I said excitedly to Jean-Louis, pointing at the map on the plotting table. “We know that the *Carpathia* picked up the lifeboats right about here. The *Titanic* must be north of that point. If we start there and work north, we’re bound to find her.” My French partner and friend Jean-Louis Michel and I huddled over the maps and charts spread out before us. We were aboard the Woods Hole research ship, *Knorr*. Out in the middle of the Atlantic Ocean, in August 1985, we were plotting a new strategy in our search for the *Titanic*. After six weeks, we had found nothing. Now some new thinking was called for. I was also praying that our luck would finally turn.

In the dangerous stretch of the northwest Atlantic where the *Titanic* sank, there are only a few months during the year when the weather is likely to be good. Even then, terrible storms are possible. Now we had barely five weeks to complete our difficult mission. Five weeks not only to find the *Titanic* kilometres down in the middle of nowhere, but to bring back photographs of the wreck for the waiting world to

see. My dream of finding the *Titanic* was turning out to be a constant fight against time and nature.

The expedition I had waited so long for was a joint French-American undertaking. Jean-Louis Michel and I had spent the first six weeks on board the French ship, *Le Suroit*. We had used Jean-Louis’ brand-new SAR system, a sonar tracking instrument that looked like a red torpedo. But we had not found anything. We had covered a lot of ground, but the ocean currents had been very strong. They had often pushed us off course, wasting precious time. Already we were behind schedule.

Sonar is used to find underwater objects by bouncing electronic sound waves off them. Towing Jean-Louis’ SAR sonar “torpedo” underwater just above the ocean floor was a bit like towing a kite on a four kilometre string. And it had to be towed carefully back and forth so we wouldn’t miss anything. An 265 metre-long ship is only a tiny speck in the vast ocean depths, with its underwater canyons and crevices. Unless we covered every metre of our search area, we might





Jean-Louis Michel and I plot our strategy on board the *Knorr*.

miss our target. We called it "mowing the lawn." Being careful and thorough day after day with no results got to be very tiring, and boring.

For the first while, the weather had been good. Then storms blew in, and we were bounced around like a cork in a churning whirlpool. This was not only rough and unpleasant; it also meant wasted time as we were forced to stop searching.

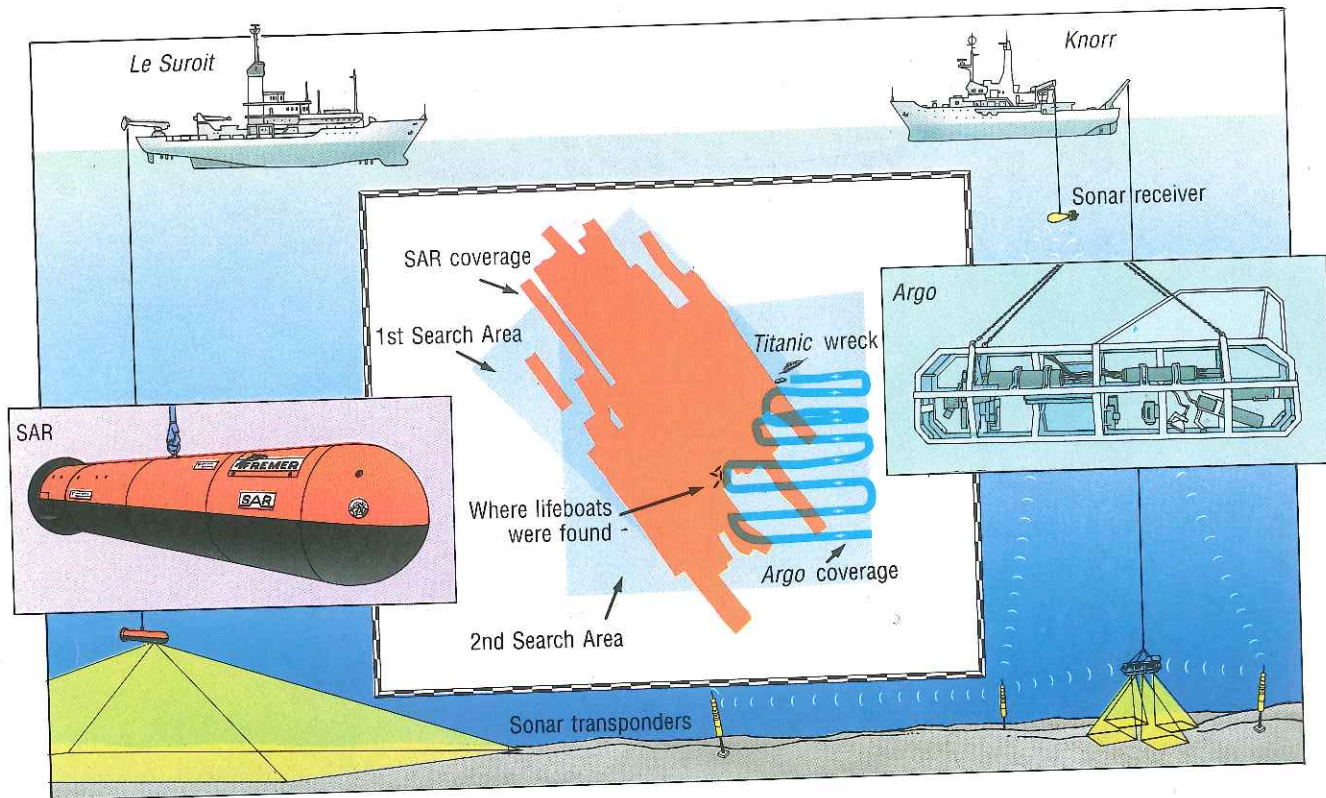
Jean-Louis and his crack French team had done their best, but, sadly, after six weeks we still hadn't found any sign of the *Titanic*. It was now up to the American half of the expedition, along

with Jean-Louis and two of his team, to try to find our target.

When we moved from *Le Suroit* to the *Knorr*, we also moved from using sonar technology to using video cameras. The *Knorr* was geared to tow one of my pet pieces of equipment, *Argo*. *Argo* is basically a steel sled with video cameras that film the ocean floor. Its moving images are sent up the tow cable to video screens on the ship, so we could see instantly what *Argo* was seeing on the bottom.

As we settled into the new ship, tension began to mount. We all knew that time was fast running out. To have any chance at all now,





The French ship *Le Suroit* covered 80 percent of the 240-km target search area. The American ship *Knorr* worked north in wide arcs, hoping to locate debris from the *Titanic*.

we had to push really hard in our hunt for the *Titanic*.

And that's why I decided on a new search plan. I knew that when things fall in deep water, they tend to be scattered by ocean currents. The result is usually a long comet tail of debris that settles on the sea floor. I thought that this must have happened when the *Titanic* sank. A long trail of objects would have scattered out of her as she plunged to the bottom. And because the trail would cover a wider area than the ship itself, it would be easier to find. So to save time and make the search easier, I decided to look for the debris field, instead of the *Titanic*. I also hoped that cameras would succeed where sonar had

failed. Starting just south of where the lifeboats were found in 1912, we decided to work north and run *Argo* in east-west lines over the search area.

With our new plan in place, it was time to swing into action. Our search team poured into the control room to take their stations. *Argo* was ready to dive. The smell of hot buttered popcorn filled the room. We were relaxed, but concentrating on the job ahead. After the long slow trip out to the site, we were finally getting down to business.

But as *Argo* reached the ocean bottom at a depth of 3 807 m from the surface, its cameras revealed only faint tracks of deep-sea slugs etched in the mud. Otherwise, nothing. For the next several days all we saw was a gently rolling countryside made up of hills of mud.





A celebration breaks out in the control room after we realize that we have found the *Titanic*.

Towing *Argo* was a delicate balancing act. If the *Knorr* went too fast, *Argo* would lift too high off the bottom for its cameras to see anything. If the ship's speed was too slow, *Argo* might crash to the bottom. Keeping a tight balance between *Knorr* and *Argo* was very tough and very tiring work. And it went on hour after hour, day after day.

Then we had only five days left to go. The crunch had come. Suddenly the ocean seemed huge, and our doubts began to grow. Was the *Titanic* really in our carefully plotted search area? If so, surely something would have shown up on our monitor screens by now. Were we looking in the wrong place? Would we return empty-handed? I began to feel a rising panic.

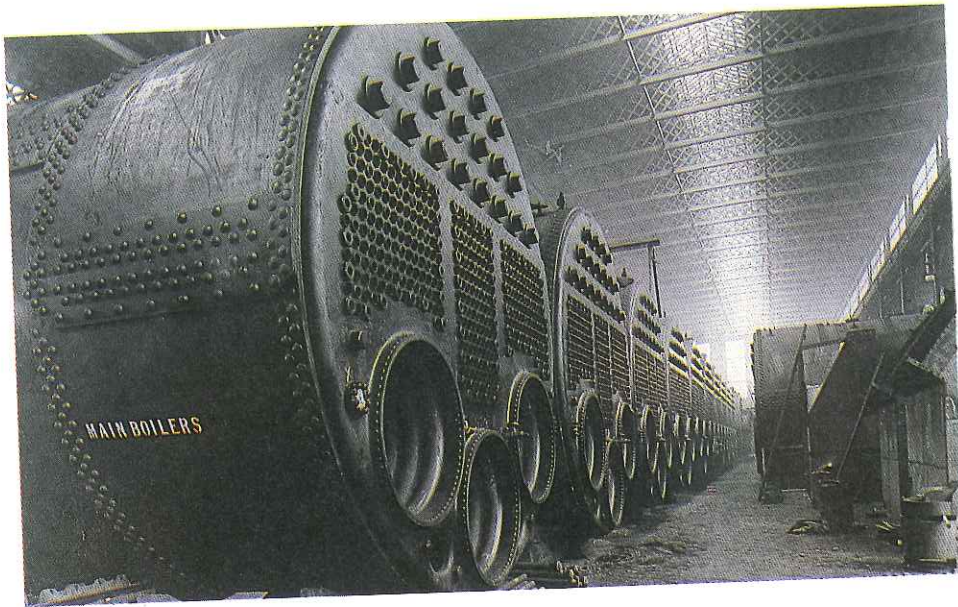
In a last-ditch effort, we decided to check out a tiny portion of ocean bottom that Jean-Louis

and his SAR sonar system had missed because of strong currents. We headed to that spot 16 km away.

But as we began to tow *Argo* back and forth across the new search area, our hopes really began to fade. There was nothing down there. By now the routine inside our control room had become mind-numbing: hour after hour of staring at video images of flat bottom mud. On top of that, we were exhausted. The strain of it all was getting to us, and the boredom was becoming unbearable. Then, with a bad turn in the weather and only four days left, we reached our lowest point. I began to face total defeat.

Just after midnight, on September 1, I went to my bunk for some rest, and the night shift led by Jean-Louis took their stations. About an hour into their watch, one of the team members asked the others, "What are we going to do to keep ourselves awake tonight?" All they'd seen so far was mud and more mud, an endless stretch of





(Above) One of the *Titanic's* boilers lying on the ocean floor.

(Left) This 1912 photograph of boilers being assembled helped us identify the large round object we saw on *Argo's* video screen.

nothing. Stu Harris, who was busy flying *Argo*, didn't answer. His eyes were glued to the *Argo* video monitor.

"There's something," he said, pointing to the screen. Suddenly every member of the sleepy watch was alive and alert. No one could believe it wasn't just another false alarm, or a joke. But, no, there on the screen were clear images of things man-made. Stu yelled, "Bingo!" The control room echoed with a loud "Yeah!" from the whole team, and then wild shrieks and war whoops. All sorts of wreckage began to stream by on the screen. Then something different appeared—something large and perfectly round. Jean-Louis checked in a book of pictures of the *Titanic*. He came across a picture of the ship's massive boilers, used to burn coal and drive the engines. He couldn't believe his eyes. He looked from book to video screen and back again. Yes, it was the same kind of boiler!

I scrambled out of my bunk when I got the news and ran to the control room. We replayed

the tape of the boiler. I didn't know what to say. I turned to Jean-Louis. The look in his eyes said everything. The *Titanic* had been found. We'd been right all along. Then he said softly, "It was not luck. We earned it."

Our hunt was almost over. Somewhere very near us lay the R. M. S. *Titanic*.

Word had spread throughout the ship. People were pouring into the control room. The place was becoming a madhouse. Everyone was shaking hands and hugging and slapping each other on the back.

It was now almost two in the morning, very close to the exact hour of the *Titanic's* sinking. Someone pointed to the clock on the wall. All of a sudden the room became silent.

Here at the bottom of the ocean lay not only the graveyard of a great ship, but of more than 1 500 people who had gone down with her. And we were the very first people in seventy-three years to come to this spot to pay our respects. Images from the night of the disaster—a story I



now knew by heart—flashed through my mind.

Out on the stern of the *Knorr*, people had started to gather for a few moments of silence in memory of those who had died on the *Titanic*. The sky was filled with stars; the sea was calm. We raised the Harland & Wolff flag, the emblem of the shipyard in Belfast, Ireland, that had built the great liner. Except for the shining moon overhead, it was just like the night when the *Titanic* had gone down. I could see her as she slipped nose first into the glassy water. Around me were the ghostly shapes of lifeboats and the piercing shouts and screams of passengers and crew freezing to death in the water.

Our little memorial service lasted about ten minutes. Then I just said, "Thank you all. Now let's get back to work."

In the short time remaining, I planned to get as many pictures of the wreck as possible. I wanted to show the world what condition the *Titanic* was in after seventy-three years on the bottom. A million questions flew through my mind. Would the ship be in one piece or broken up? Were the funnels still standing upright? Would the wooden deck be preserved in the deep salt water? And, a darker thought—would we find any remains of the people who had died that night? Photographs would give us the answers.

We started to make our first run with *Argo* over the major piece of wreckage we'd just found. But there were dangers lurking below. If *Argo* got caught in tangled wreckage, it would take a miracle to free it. It could mean the end of our mission.

As *Argo* neared the bottom, no one moved in the control room. Not a word was spoken. Now *Argo* was passing over the main hull of the *Titanic*. It was time to take a close look.

"Take it down farther. Go down to five metres."

"Roger."

On the video screen, I could see the dim outline of a hull. "It's the side of the ship. She's upright!"

Suddenly, out of the gloom the Boat Deck of the ship came into view. "Keep your eyes peeled for funnels."

But there were only gaping holes where funnels had once stood. Then as we crossed over the middle of the ship, we could see the flattened outline of the bridge. Was this where Captain Smith had stood bravely to the end?

Before we knew it, *Argo* had safely passed over the wreck and back into the empty murk.



(Above) We begin the task of lowering *Argo* down to the *Titanic*.

We had made it safely after all. All at once the crowded control room exploded. People were whooping, hugging, and dancing around while Jean-Louis and I quietly stood there thinking about what we had just seen. We now knew that the *Titanic* had landed on the bottom upright, and that a major piece of her appeared to be intact.

I wanted to make more passes over the wreck with *Argo*, but first it was time to clear the control room. I needed my team as rested as possible for the next sixty-four hours, which was all the time we had left. "Hey, we've got too many people up. You'll be exhausted when your watch comes up. Let's get some of you back in bed. This is a twenty-four operation."

During the rest of that afternoon and evening, we managed only two more *Argo* passes over the wreck because of bad weather. But we did discover to our surprise and sadness that the ship was broken in two — her stern was missing. Where the back of the ship should have been, our video images faded into a confusing mass of twisted wreckage.

By now the storm had reached its peak. We could no longer use *Argo*. For ten hours the wind howled across our rolling deck as the *Knorr* pitched and heaved in the rough sea. Well, I thought finally, if we can't use *Argo* and the video system, then we'll work with ANGUS.

ANGUS was quite like *Argo*, except that it was an older camera sled that took still photographs instead of video as it was towed over the sea floor. Our nickname for ANGUS was the "dope on a rope." Now we would bring our old friend to the rescue. After all, I had used ANGUS in rougher seas than this.

But our first runs over the wreck with ANGUS only produced blurry images. The cameras were working properly, but we had come over the

wreck too high to get good pictures. We were now down to our final hours, and I felt victory slipping away. At that moment I just wanted to go home. My leg was sore from a fall on the deck, and I hadn't slept in days. We had found the *Titanic*. Wasn't that good enough? Who said we had to bring home pretty pictures?

But somehow I found the strength to continue. I was not going to leave the *Titanic* without trying one last time. We had four and a half hours left before we had to start back. The *Knorr* had to be back in port for another expedition.

I was so tired that I had to lie down or I would fall down. So I lay down in the control room and gave the commands for the last-ditch attempt. What we were about to do in these rough seas was even crazier than the risky ANGUS passes we had just made. We had to get our cameras within close range of the *Titanic's* decks. On the surface the seas were heaving up and down at least three to four metres. That motion would travel down our 3 750 m cable and make ANGUS hard to control. But what the heck, it was now or never.

"Down to four metres," I croaked.

"Four metres? Are you crazy?" said the pilot.

"Four metres," I repeated.

For the next three hours hardly a word was spoken as we made pass after hair-raising pass over the *Titanic*. One slip and ANGUS would be lost forever in the wreckage below. Outside, the wind rattled the walls of our control room as the storm blew itself out. Then, at about six in the morning, a simple message boomed over the *Knorr's* intercom from the captain: "You have to start up now."

Right on time, ANGUS was pulled back on deck. A few hours later, news came from our photo lab that we had good, clear photographs of the *Titanic*. We'd made it! By a whisker.



Now, finally, I went to my bunk to get some sleep. When I awoke, it was nighttime, and the good ship *Knorr* was steaming quietly and steadily to our home port.

On the clear, warm morning of September 9, 1985, as we steamed down Nantucket Sound, Massachusetts, the *Knorr* was mobbed by helicopters, small planes, and pleasure craft running circles around us and blowing their horns. News of our discovery of the *Titanic* had made headlines around the world.

Then a small boat with a welcoming party including my wife and two sons, Todd and Douglas, approached our ship. Having my family there was really important to me. They had paid a big price over the years during my long months away from home, but they'd never once complained.

As we came into port, I couldn't believe my eyes. The dock was a mass of people filling every centimetre of space. There was a platform bristling with television cameras and reporters. Banners were flying, a band was playing, schoolchildren hung on to balloons, and a cannon boomed out a salute.

What a victory welcome!

