

# DIVING GROUND ZERO

Divers investigate sponson gun emplacements on the starboard rail of the aircraft carrier *Saratoga*.

**I**t was designed and fabricated in an underground workshop near Manhattan, then packaged carefully for the long flight to the tiny South Pacific atoll of Bikini.

I witnessed the final preparations for its test firing from a secure position on the flight deck of the aircraft carrier *Saratoga*.

"Don't look directly at the flash," I reminded myself as the countdown began. But when the button was finally pushed, the ensuing wall of light was considerably smaller than anticipated.

**STORY BY  
PIERCE HOOVER  
PHOTOS BY  
BRADLEY SHEARD**

Apparently, only one of the three flashbulb pods had fired.

Long Island-based shipwreck photographer Brad Sheard had spent a lot of evenings in his basement working on a new underwater lighting system that would fire 32 flashbulbs simultaneously. But as is often the case with experimental devices, there were unforeseen complications.

Fifty years earlier, another group brought experimental devices to Bikini Atoll for testing. When triggered, these devices threw a much larger wall of light across the *Saratoga* and some 94 other warships anchored in the lagoon.

But instead of flashbulbs, these earlier devices used atomic fission ... and there were unforeseen complications.

**FOR THE FIRST TIME,  
RECREATIONAL DIVERS CAN  
VISIT THE ATOMIC WRECKS  
OF BIKINI ATOLL**

Depending on your historical viewpoint, the story of Operation Crossroads and the firing of the world's fourth and fifth atomic bombs at Bikini Atoll in the summer of 1946 was either a tale of militaristic arrogance and ignorance, a valuable insight into strategic planning and warship construction, a cry for world disarmament or the first act of the Cold War.

A half-century later, scuba divers are less concerned with the politics and particulars of these tests than with the aftermath, which left the most spectacular collection of sunken warships in history lying in the warm, clear waters of Bikini Lagoon. It is a wreck diver's paradise — that until recently was firmly off limits.

#### THE SACRIFICIAL FLEET

The waters of Micronesia are lit-

tered with nautical materiel lost during World War II. Truk Lagoon is famous for its collection of Japanese transports, and other islands boast combat artifacts ranging from aircraft, tanks and landing craft to cruisers and battleships.

Ironically, no single act of war sank or crippled as many capital ships as did the peacetime actions of Operation Crossroads. The ghost fleet of Bikini Lagoon includes some of the largest and most significant warships of this century.

The flagship of Bikini's sunken fleet is the "unsinkable" aircraft carrier *Saratoga*. The third carrier commissioned by the U.S. Navy, the "Sara" saw heavy wartime action throughout the Pacific, survived at least five kamikaze attacks and launched more combat missions than any carrier in history. Today, she sits upright in 180 feet of water,

a victim of the atomic bomb tests known as Able and Baker.

In the name of science and military research, a joint Army-Navy task force positioned a sacrificial fleet of some 95 American and captured Axis warships in a tight grouping at the eastern end of Bikini Lagoon, then dropped the Able bomb. Detonated overhead and somewhat off target, the Able blast still managed to damage or sink several ships.

But it was the second bomb, Baker, that would create long-term problems for the anchored ships. Detonated from 90 feet below the lagoon's surface, Baker threw a huge cloud of radioactive spray over the fleet, leaving many ships — including the *Saratoga* — too hot to handle. Her decks weakened by the blast and leaking at the seams, the *Sara* slipped under the

waves just seven hours after the blast.

At a time when "radioactivity" had little meaning to the average man, the Navy had sailors back on board and scrubbing the decks of surviving ships a few days after the Baker blast. But efforts to decontaminate the surviving fleet were largely unsuccessful, and a number of great warships such as the *New York*, *Independence*, *Nevada* and *Prinz Eugen* were towed from the lagoon and scuttled elsewhere.

For the next 50 years, a combination of radiation, isolation and politics kept Bikini Atoll closed to civilian visitors. Rumors of Bikini's opening swept the dive community for years, finally becoming fact in the spring of this year.

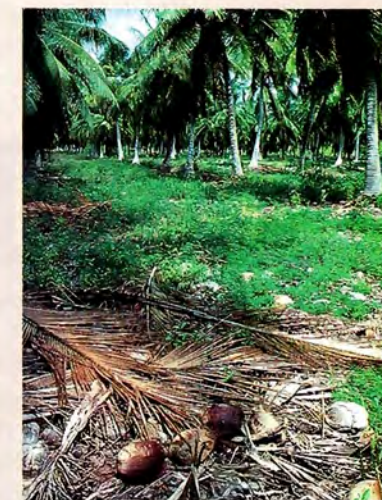
#### CHECKING IN AND OUT

In June, Brad Sheard and I were

## PARADISE CLOSED

The long-term effects of radiation exposure on the 40,000 participants in Operation Crossroads were debated for decades, but there is no disputing the test's impact on the 147 native inhabitants of Bikini. Uprooted by the U.S. government prior to the tests, the citizens of Bikini are still waiting for their homecoming 50 years later.

For centuries, the Bikinians had enjoyed a lifestyle that many of us dream about on cold winter days: sailing and fishing in the lagoon, harvesting coconuts and shellfish, falling asleep to the sounds of surf and the caress of trade winds. The Navy changed all that by "relocating" the islanders to an adjacent atoll with the promise that they could return to Bikini once the U.S. was through detonating



Above: Coconut groves are monitored for cesium contamination. Left: A Helldiver SBF-4 aircraft aboard the *Saratoga*.



atomic weapons in their lagoon.

Weeks turned into years, however, and eventually the Bikinians were moved to Kili, a small island with no lagoon and limited agricultural potential. Meanwhile, the U.S. government touched off the world's first hydrogen bombs at Bikini Atoll in the early 1950s, vaporizing the nearby island of Elugelab in a cloud of radioactive coral dust that contaminated the soil of Bikini with cesium.

A government-sponsored resettlement program undertaken in 1969 was aborted in 1978 when it was determined that the coconuts and native fruits of Bikini contained concentrations of cesium that would — and did — cause health problems when ingested in sufficient quantities. Lawsuits filed on behalf of the displaced and injured Bikinians resulted in the creation of a trust fund for the decontamination of the islands and eventual permanent resettlement of its former residents. Meanwhile, no one ate the coconuts.

In addition to making the soil safe for crops, the current resettlement plan, administered by the Bikini Council rather than the U.S. government, includes the development of limited tourism at Bikini Atoll — and that's great news for divers anxious to gain access to the lagoon's previously off-limits fleet.

among the first guests to visit the new Bikini dive operation. Four plane rides and two overnights past Los Angeles, we were loading our bags on a skiff for the run across the lagoon from Eneu to Bikini.

There was plenty of time for an afternoon warm-up dive with staffers Fabio Amarla, Scott Herman and

Edward Maddison, and no need to rush to make the 3-mile run from the wharf to the cluster of mooring buoys, each clearly labeled with a vessel's name.

East trade winds blew 10 to 15 knots during our visit, keeping topside temperatures pleasant while kicking up only a mild chop on the

sheltered eastern end of the lagoon. Underwater visibility, we were warned, was somewhat deteriorated compared to how it would be during the flat, hot months of the coming rainy season.

Stepping overboard, we could just make out the upper portions of the *Saratoga* through a plankton-rich surface layer that limited visibility to perhaps 60 feet. Once below 100 feet, however, the water cleared significantly, providing greatly improved vertical and horizontal visibility.

Compared to the 200-plus-foot conditions found on local oceanside reefs, one might call it "bad vis," but for a veteran Northeast wrecker like Sheard, the lagoon's clarity and warmth were an unexpected luxury.

Penetrating the hangar deck of the *Saratoga* at 110 feet, we found three Helldiver aircraft with wings folded and cockpits open. Farther forward, we encountered a row of aerial torpedoes balanced precariously against the gunwale. We finished our "checkout" dive with a leisurely swim up the bridge, having seen a significant portion of the carrier's midsection without passing the 130-foot mark, and just barely edging our computers into decompression.

Subsequent dives took us to depths ranging from 140 to 180 feet, but conditions and depths were far more benign than originally anticipated, and with virtually no current and plenty of surface-supplied oxygen for decompression, we were never cold and seldom tired after dives that averaged 60 to 90 minutes including hang time.

#### NEITHER TECH NOR REC

To see the best of Bikini's wrecks, divers must pass the 130-foot "recreational limit" suggested by most training agencies and resort operations, and may find themselves involved in stage decompression stops of moderate duration.

This does not mean that the wrecks are limited to hairball tech divers. Drysuits, uplines, wrecking tools, argon bottles and backups to

## WHAT TO EXPECT

**E**xpect to spend eight to 10 hours on a plane from the U.S. mainland, with probable overnights in Hawaii and Majuro Atoll.

Expect to have limited luggage capacity on the charter flight to Bikini and pack accordingly.

Expect simple but clean rooms with private baths and air conditioning, set on a gorgeous palm-fringed beach with a scattering of heavy construction equipment in the background.

Expect simple, filling meals and the chance at fresh seafood. No MTV, no disco, but plenty of books

in the field station library.

Expect a trained, experienced staff who can teach deep-air and wreck diving, and who will preview each dive with thorough briefings on the history and logistics of the wreck.

Expect to make two

ambitious dives a day, with total times of up to 90 minutes including decompression stops.

Expect to pay \$3,500 to \$4,000 for the trip (7-day land plus flight time), including airfare. (The land package runs around \$2,700.)



Top: MK13 aerial torpedoes lie undisturbed in the hangar deck of the *Saratoga*. Above: This 5-inch gun turret stands near the *Saratoga*'s island.

## GEARING FOR DIVERS

**L**ong-term development plans call for lengthening and paving the grass runway on Eneu Island and developing a 100-guest luxury resort. In the near-term, however, the Bikini Council recognized that the group most motivated to visiting the atoll in its present condition would be scuba divers.

A survey by the U.S. National Park Service's Submerged Cultural Resource Unit determined the positions and conditions of 10 major warships sunk near the blast sites. Most

were remarkably intact and no longer a source of significant radiation. But there were other obstacles to overcome.

Bikini is remote. Serviced by once-a-week charter flights and occasionally by ocean-going barges, the atoll hosts a seasonal Department of Energy field team, and the only full-time residents are the small construction crews at work on Bikini and Eneu Islands.

Emergency evacuation procedures could place an injured diver in the military recompres-

sion chamber on Kwajalein Island in as little as four to six hours. But given the nature of Bikini's underwater environment, it was understood that a proposed dive operation would require more extensive infrastructure than the typical resort.

Marshall's Dive Adventures was granted a three-year exclusive diving contract at Bikini, and to date has invested more than \$100,000 in equipment and training. At the time of this writing, the dive staff was undergoing technical training from IANTD

president Tom Mount and will soon be qualified to teach wreck penetration, deep-air, technical nitrox and tri-mix use.

The on-site dive facility is now equipped with single and double OMS 85 steel tanks, along with Dive Rite 104 double tanks and a wide assortment of steel and aluminum stage and decompression bottles. Twin compressors and an oxygen supply bank will soon be augmented with a membrane system to generate custom nitrox blends.

your backups are not required at Bikini. In years gone by, native dive master Edward Maddison toured these wrecks with a single aluminum 80 and a hand-me-down regulator.

On the other hand, Bikini is not

the place for the newly certified diver with a couple of Caribbean reef excursions in the log book. Divers who lack the experience, attitude and aptitude needed to extend their personal diving capabilities

need not apply.

If your willingness to learn the basics of deep-air diving and stage decompression is backed up by solid water skills and a reasonable base of advanced diving skills, you may consider Bikini the perfect place to take that "next step" into truly advanced diving.

#### VISITING HISTORY

A significant chunk of 20th-century naval history lies at the bottom of Bikini Lagoon, and we felt privileged to be among the first sport divers to come face to face with these iron ghosts.

Dropping to 165 feet on the Japanese battleship *Nagato*, we floated through the bridge where Admiral Yamamoto stood to launch the attack on Pearl Harbor. Later we swam under the ship's massive props and gawked at the 18-inch main guns — so big they almost seemed unreal as they emerged from the gloom of the capsized stern.

The week before our arrival, a 76-year-old veteran off the *Arkansas* made a supervised deep dive to visit his former ship on the 50th anniversary of its sinking. It was, he said, the best dive of his life.

For us, each day seemed to bring a new "best dive." One day, it was squeezing into the command bridge of the submarine *Apogon*, the next, a visit to the twisted superstructure of the destroyer *Lampson*, then the fish-covered remains of the *Gilliam*.

And of course, the *Saratoga*. Five dives weren't nearly enough to see all of this massive ship, but each was unforgettable nonetheless: the view of the bow silhouetted 100 feet above from the lagoon bottom, a penetration of the hangar deck, a swim along the coral-encrusted rail where gun platforms hung cantilevered into blue space as the sheer man-made iron

**The 1946 Baker blast dwarfs the warships that it would soon cover with a cloud of radioactive spray and water.**



The massive 18-inch guns of the Japanese battleship *Nagato* are almost 40 feet long.

wall faded into the depths beyond.

You need not be a nautical warfare scholar or a grizzled technical diver to appreciate the wrecks of Bikini Atoll — although a bit of prior reading and advanced diving skills will help maximize your experience. Depth, distance and associated costs may discourage the neophyte or casual enthusiast but should pose no barriers to motivated divers with solid water skills and the necessary time and resources to pursue this unique diving adventure.

Those who make the effort will be rewarded with one of the more memorable — and perhaps exclusive — diving experiences in the

world: the chance to visit a historic fleet of warships in benign conditions, and the opportunity to witness firsthand the traumas of an atomic explosion.

And if you happen to see a pho-

tographer positioning flashbulb pods in the hangar deck of the *Saratoga*, please move back from ground zero to stay out of the frame ... and remember not to look directly at the blast. ▀

## BIKINI'S TOP 10 WRECKS

### ANDERSON

(U.S.) 349-foot destroyer. Lying on port side with visible damage from Able blast.

### APOGON

(U.S.) 312-foot *Balao*-class submarine. Highlights include deck gun, bridge with intact rangefinder.

### ARKANSAS

(U.S.) 562-foot battleship, now lying on port side with minimal blast damage. Highlights include big guns, superstructure and props.

### CARLISLE

(U.S.) 426-foot *Gilliam*-class attack transport. Sitting upright with heavy blast damage.

### GILLIAM

(U.S.) 426-foot attack transport. Sitting upright with extensive midship damage. Highlights include distinct rear gun, fish life.

### LAMPSON

(U.S.) 341-foot destroyer. Sitting upright with significant blast damage to superstructure. Highlights include torpedoes, AA gun, torpedoes.

### NAGATO

(Japan) 708-foot battleship lying on port side. Flagship of the Japanese navy during Admiral Yamamoto's Pearl Harbor raid. Highlights include bridge, 18-inch deck guns and props. Buoys amidships and on the stern.

### PILOTFISH

(U.S.) 312-foot *Balao*-class submarine. Lying on side with extensive damage.

### SARATOGA

(U.S.) 890-foot *Lexington*-class aircraft carrier. Sitting upright. Keel at 190, superstructure to 40 feet. Highlights include *Helldiver* planes in hangar deck, bow section, stern, and deck gun emplacements. Buoys on the bow, midship and stern.

### SAKAWA

(Japan) 550-foot *Agano*-class cruiser. Positioned 500 yards from ground zero of Able blast. Sitting upright with extensive blast damage.



## BOOKING BIKINI

As of this writing, Central Pacific Dive Expeditions is the exclusive North American and primary worldwide booking agent for Bikini Atoll dive packages, and works closely with Marshalls Dive Adventures. The 1996 season remains open until mid-November, and the 1997 season will begin April 15.

For more information on diving Bikini Atoll, contact Central Pacific Dive Expeditions, 29 Blazing Star, Irvine, CA 92714. Phone 800-U-GO-DIVE (714-846-3438); fax: 714-851-3111. E-mail: cpde@aol.com