

A large, dark, mushroom-shaped cloud from a nuclear explosion dominates the sky. Below the cloud, a tropical beach with palm trees and a small boat is visible. The water is blue and calm. The text "DIVING THE NUCLEAR GHOST FLEET AT BIKINI ATOLL, OCTOBER 2012" is overlaid in yellow on the cloud.

DIVING THE NUCLEAR GHOST FLEET AT BIKINI ATOLL, OCTOBER 2012

by Lloyd Borrett — www.borrett.id.au

Great Expectations

2005: Peter Fear 1st

2007: Peter Fear 2nd

2007: Lloyd Borrett books for 2009

2008: Land based diving cancelled

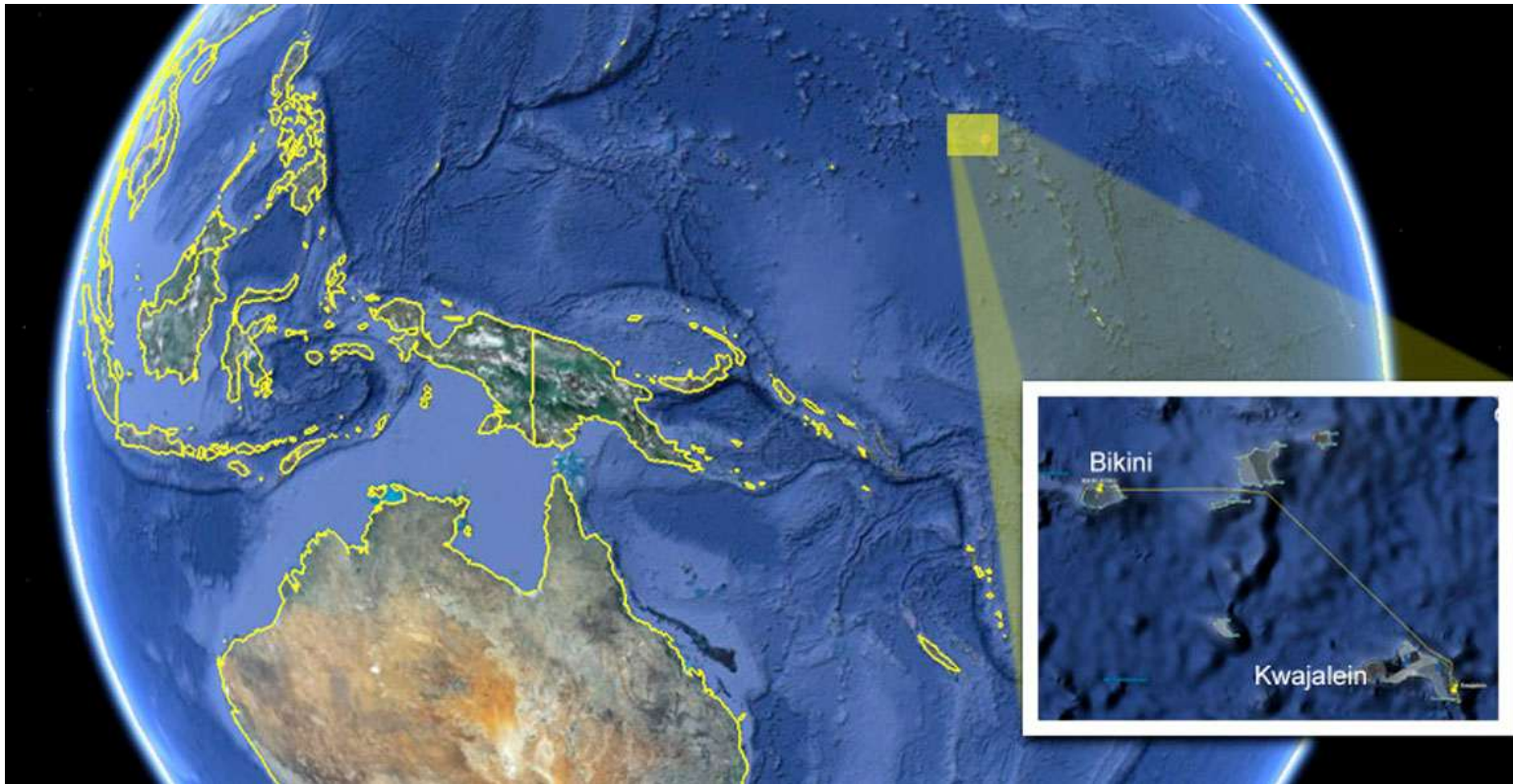
2010: Trial liveaboard, Peter Fear 3rd

2011: Lloyd cancels October booking
Peter Fear goes twice!

2012: Lloyd cancels Feb booking

2012: October 2012 — **SUCCESS!**

- **Nothing can top Bikini Atoll!**
- “Bucket list destination”
- Greatest sunken warship wreck museum in the world!
- **It's better than I expected!**



The Journey to Bikini Atoll

Remote. Just north of the Equator in the Marshall Islands.
Halfway between Australia and Hawaii.

The Journey to Bikini Atoll

Fly:

- Melbourne to Cairns
- Cairns to Guam
- Guam to Chuuk
- Chuuk to Pohnpei
- Pohnpei to Kosrae
- Kosrae to Kwajalein Atoll

Boat:

- 30 hour (450 km) steam from Kwajalein Atoll to Bikini Atoll



Are
we
there
yet?

Kwajalein Atoll

- Ronald Reagan Ballistic Missile Defence Test Site
- 13,500 Marshallese, most on Ebeye Island



MV Windward

- 12 divers + crew
- Bunk beds in one room
- 2 heads, 2 showers



Dive Preparation



Oxygen generators & storage cylinders.

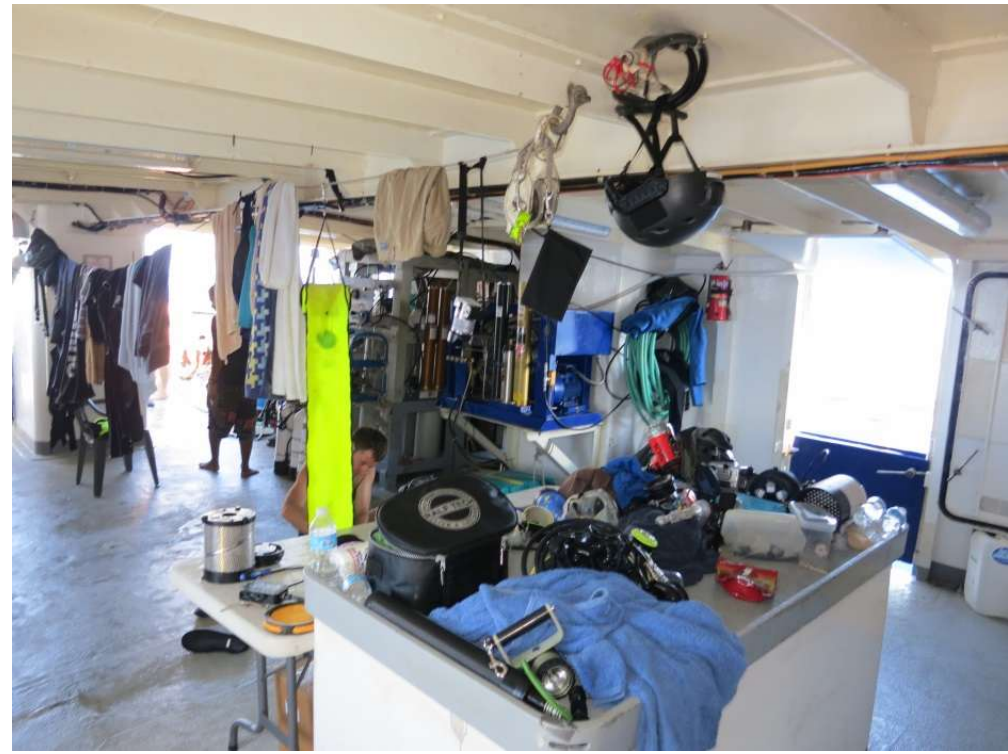


Photo workbench and gas panels.

Dive Platform



Dive deck.



Decompression chamber.

Operation Crossroads

1. Trinity “The Gadget”, 16 July 1945 (20 kt)
2. “Little Boy”, Hiroshima, 6 August 1945 (16 kt)
3. “Fat Man”, Nagasaki, 9 August 1945 (21 kt)

What about military targets?

Operation Crossroads

- 167 Bikinians relocated “for the good of mankind”
- 95 target ships, 242 naval ships, 156 aircraft
- 5,600 rats mice, goats, pigs & guinea pigs
- 42,000 military & civilian personnel (37 women)
- 18 tons of photo gear
- 50,000 still photos, 457 km of motion picture film
- 4 times larger than the forces that invaded Guadalcanal



Aerial map of Bikini Atoll

Operation Crossroads target area off Bikini Island

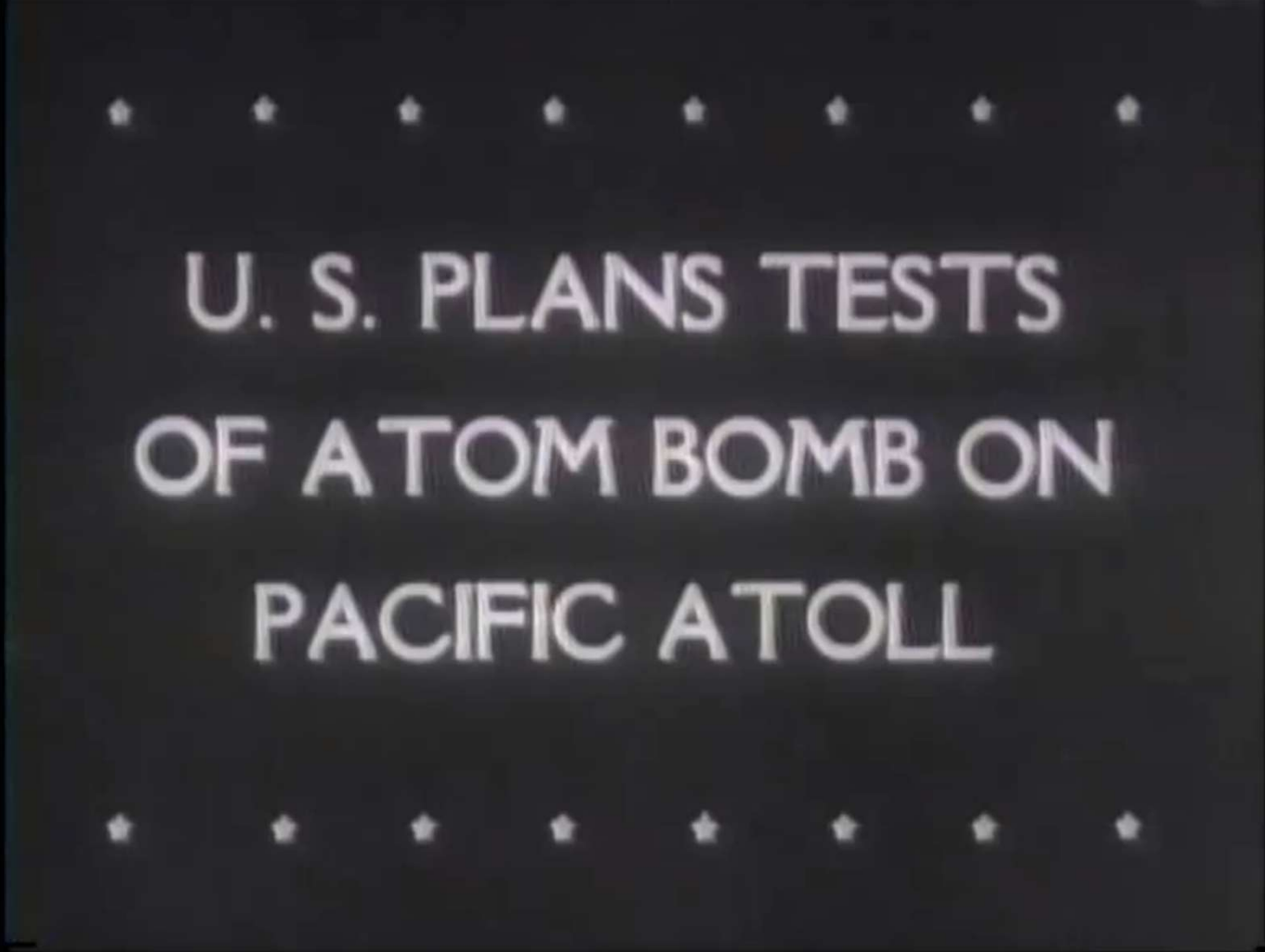
Airstrip on Enyu island

Bravo blast crater



Target fleet in Bikini Lagoon

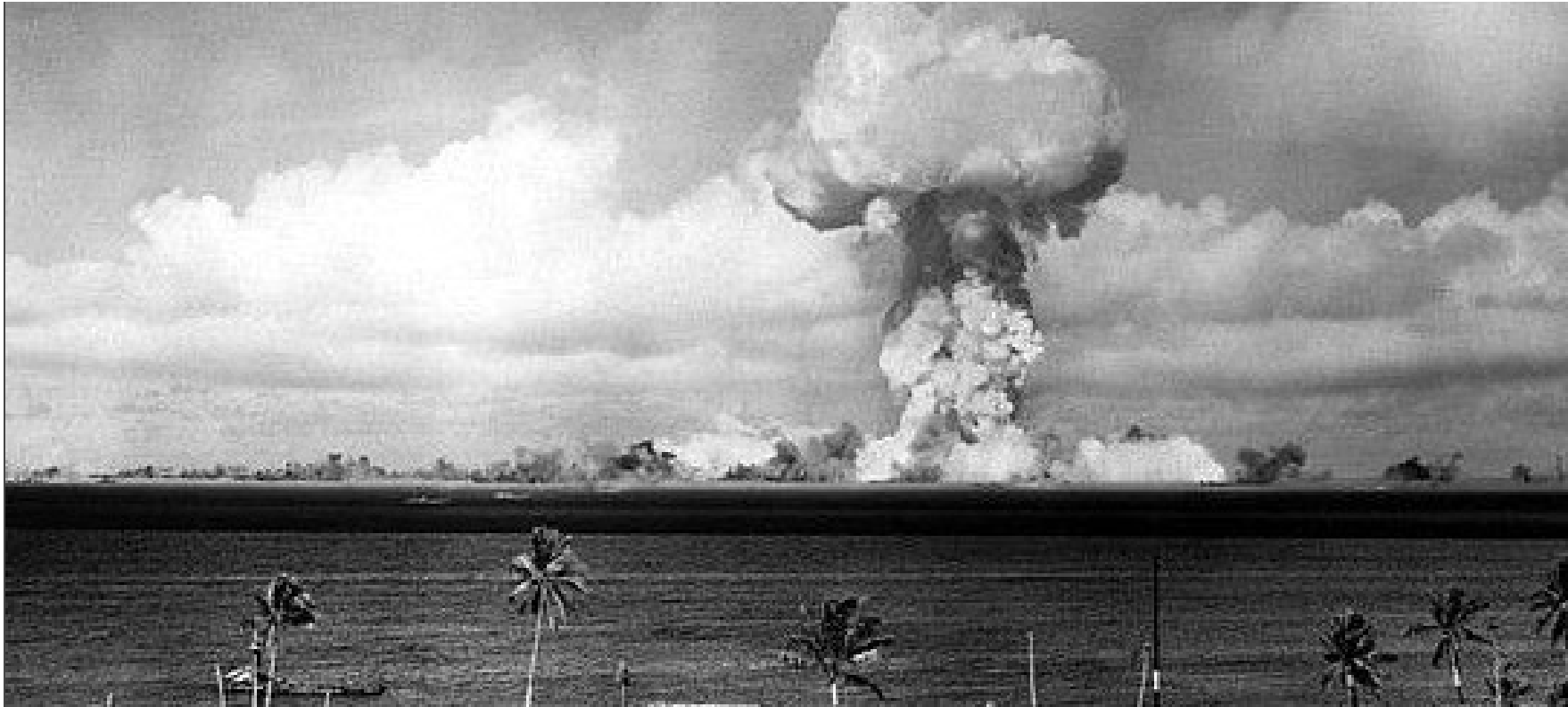
95 warships: 4 US battleships, 2 aircraft carriers, 2 cruisers, 11 destroyers, 8 submarines, surrendered German and Japanese warships, plus more...



U. S. PLANS TESTS
OF ATOM BOMB ON
PACIFIC ATOLL

2:49

US Plans Test of Atomic Bomb on Pacific Atoll



Test Able

1 July 1946: Altitude 158 metres. 21 kilotons. Missed target (USS Nevada battleship).
USS Anderson & USS Lamson destroyers, USS Gilliam & USS Carlisle attack transports,
IJN Sakawa light cruiser all sunk.



LSM-60 modified for Test Baker

Atomic bomb "Helen of Bikini" suspended below at a depth of 27 metres.



Test Baker

25 July 1946: 27 metres underwater. 21 kilotons. World's first nuclear disaster.
USS Saratoga aircraft carrier; HIJMS Nagato & USS Arkansas battleships;
USS Apogon, USS Pilotfish & USS Skipjack submarines;
YO-160 yard oiler; and ARDC-13 dry-dock all sunk. LSM-60 totally destroyed.



1:21

Atomic Weapons Tests

Where's Charlie?

- 3rd “Charlie” deep water atomic blast cancelled.
- 21 more blasts at Bikini Atoll including the 15 Mt “Bravo” shot.
- 80% of fallout from all US nuclear tests occurred at Bikini Atoll.



Diving the Prinz Eugen

- ❑ German heavy cruiser
- ❑ Length: 208 metres
- ❑ Displacement:
16,970 tons
- ❑ Survived Able & Baker
atom bomb blasts



Two great checkout dives!



Stern exposed. Bow at 38 metres.



Peter Fear under the bow of Prinz Eugen.

Island Paradise?



167 Bikinians relocated to Rongerik Atoll.



Islander canoe transported.

Bikini Island today



Bikini Island beach.



Don't eat the coconuts!

Enjoying Bikini Island



Diver accommodation block.



Bikini Sunset Bar BBQ bonfire.

Bikini Island Village



Bikini Island village houses.



Theatre / Briefing room.

Old “Sara”

- Length: 270 metres
- Displacement:
38,746 tons
- **BIGGER** than the
SS President Coolidge
and the **Titanic!**
- Sunk by Test Baker



USS Saratoga (CV-3) aircraft carrier.

It's BIG!



USS Saratoga launching planes (1941).

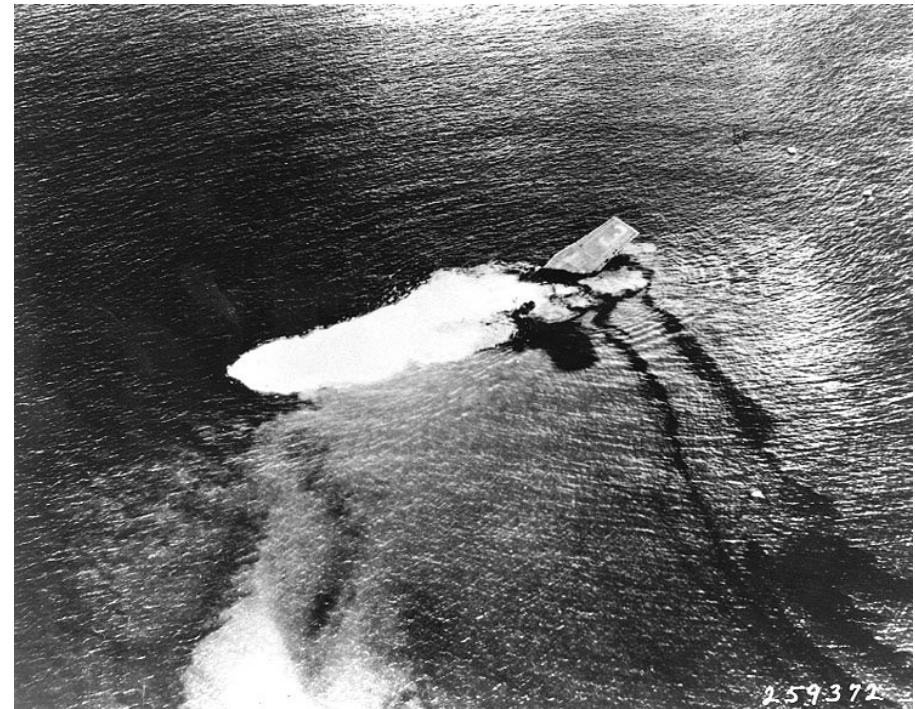


Kamikaze hit (21 February 1945).

It's BIG!



29,204 vets via Magic Carpet voyages (1945).



Sinking after "Baker" blast (25 Jul 1946).

Diving “Sara”

Multi-level diving

- ❑ Superstructure: 18 m
- ❑ Flight deck: 28 m
- ❑ Hangers: 39 m
- ❑ Sand: 50 m



History lesson & dive briefing on MV Windward.



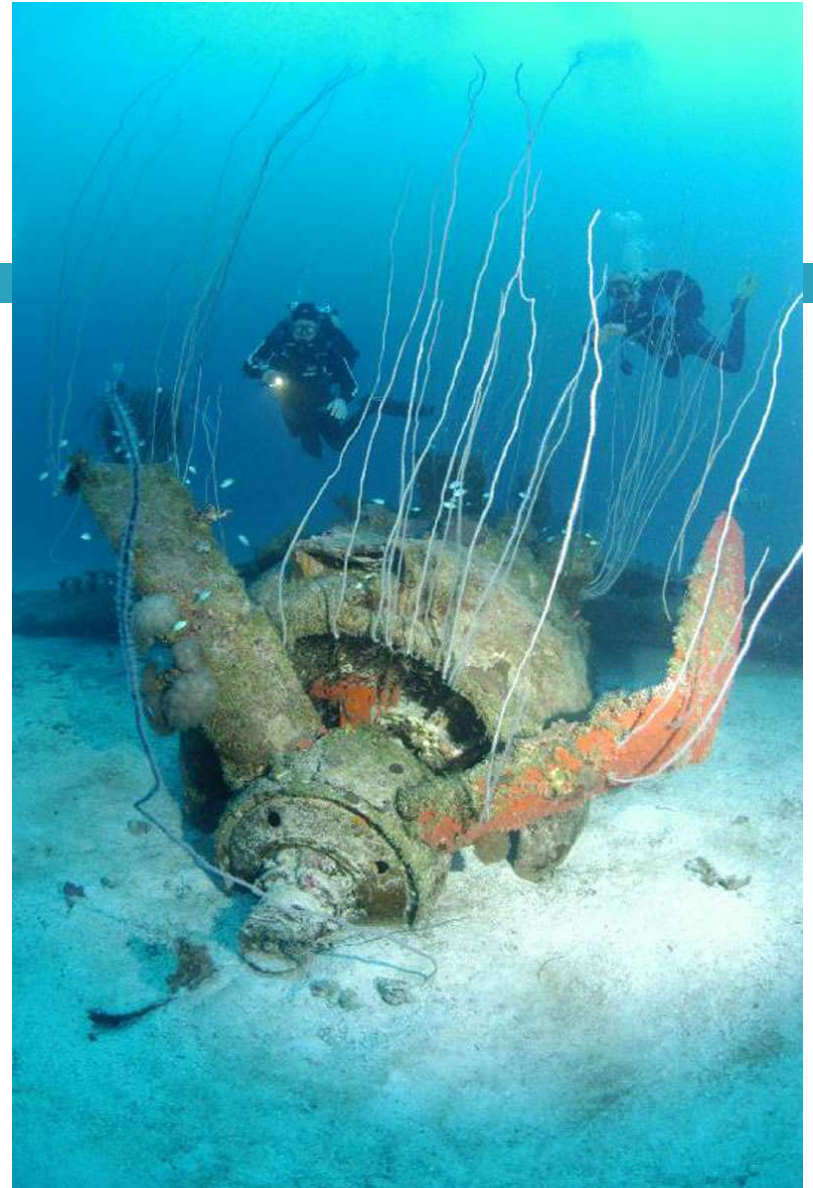
Bow of USS Saratoga (CV-3)

Beam: 33 metres

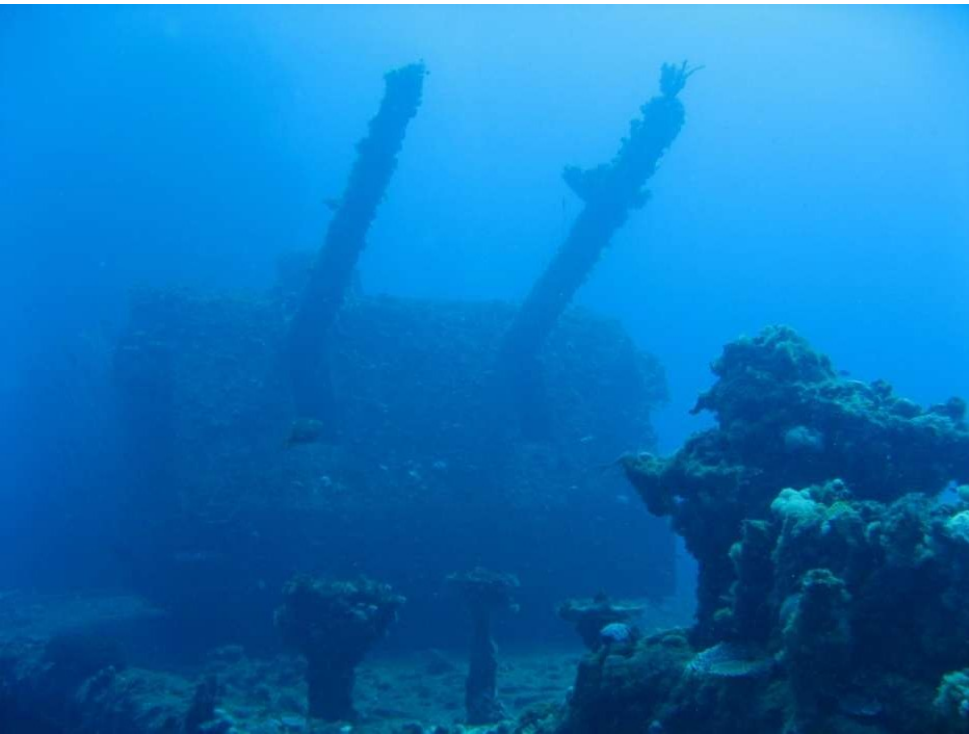
USS Saratoga planes



Above: Hangar. Right: Off starboard bow.



Guns & Divers



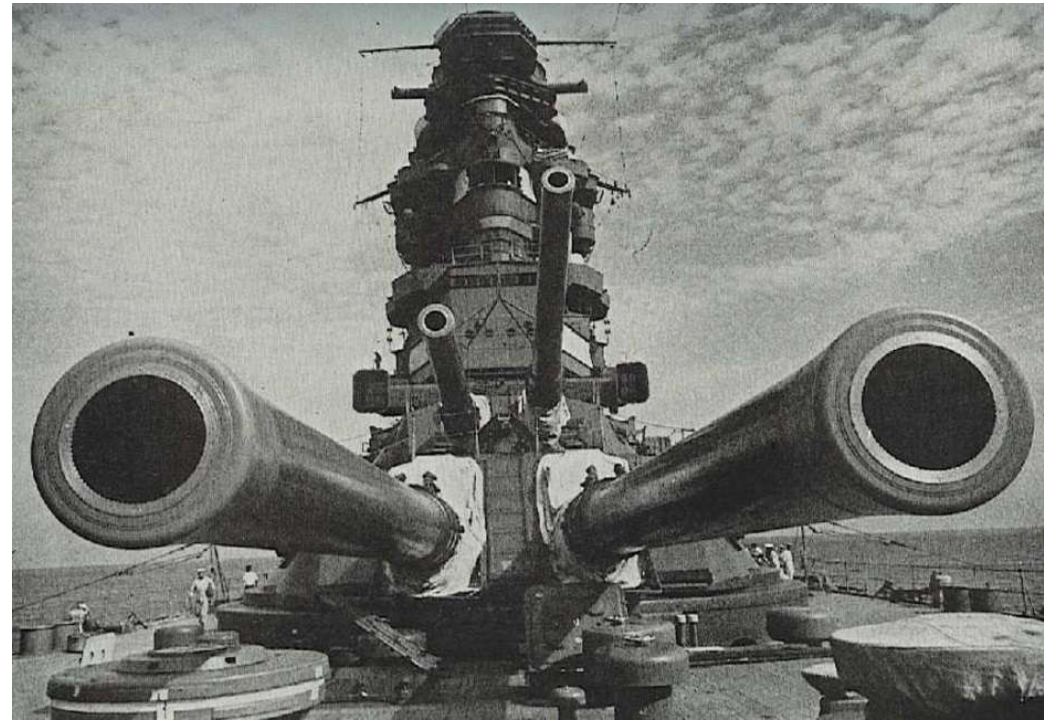
USS Saratoga deck guns.



Diver's helmets in the dive locker.

It's a BIG battleship!

- Length: 221 metres
- Displacement:
42,850 tons
- 410 mm (16 inch) guns
- Sunk 5 days after
Test Baker
- Depth: 55 metres



Japanese battleship HIJMS Nagato.

“Climb Mount Tiitaka”



Nagato bridge.



Underwater Stonehenge:
Nagato props and rudders

Another battleship!

- ❑ Length: 171 metres
- ❑ Displacement:
27,680 tons
- ❑ Twelve 12-inch guns
- ❑ Sunk by Test Baker
- ❑ Depth: 54 metres



USS Arkansas (BB-33) battleship (1944).

Buckled 12-inch steel plate



Waves of buckled hull plates.

Divers L to R: Lloyd Borrett, Peter Fear, Fiona Edwards.



12-inch armour vs atomic blast.

Diver: Peter Fear.

Sunken nuclear ghost fleet

of Bikini Atoll

USS Lamson (DD-367) destroyer

- ❑ Length: 104 metres
- ❑ Displacement:
1,460 tons
- ❑ Sunk by Test Able
- ❑ Heavily damaged
- ❑ Depth: 46 metres



Diving the USS Lamson



USS Lamson bow.
Diver: Lloyd Borrett.



USS Lamson gun and torpedos.
Diver: Lloyd Borrett.

Diving the USS Lamson



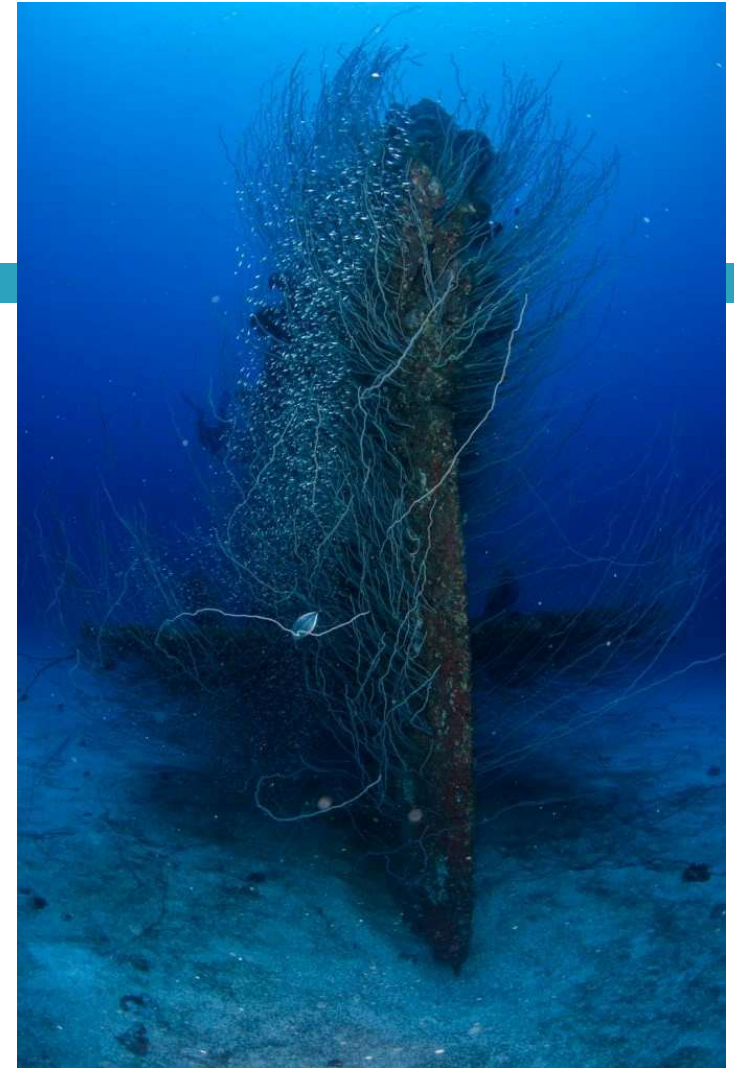
Peter Fear with USS Lamson torpedo.



USS Lamson anti aircraft gun.

USS Apogon (SS-308)

- Length: 95 metres
- Displacement:
2414 tons
- Sunk by Test Baker
from keel depth of
30 metres
- Depth: 52 metres



USS Apogon submarine bow.

Subs have torpedoes!



USS Apogon torpedo tube.

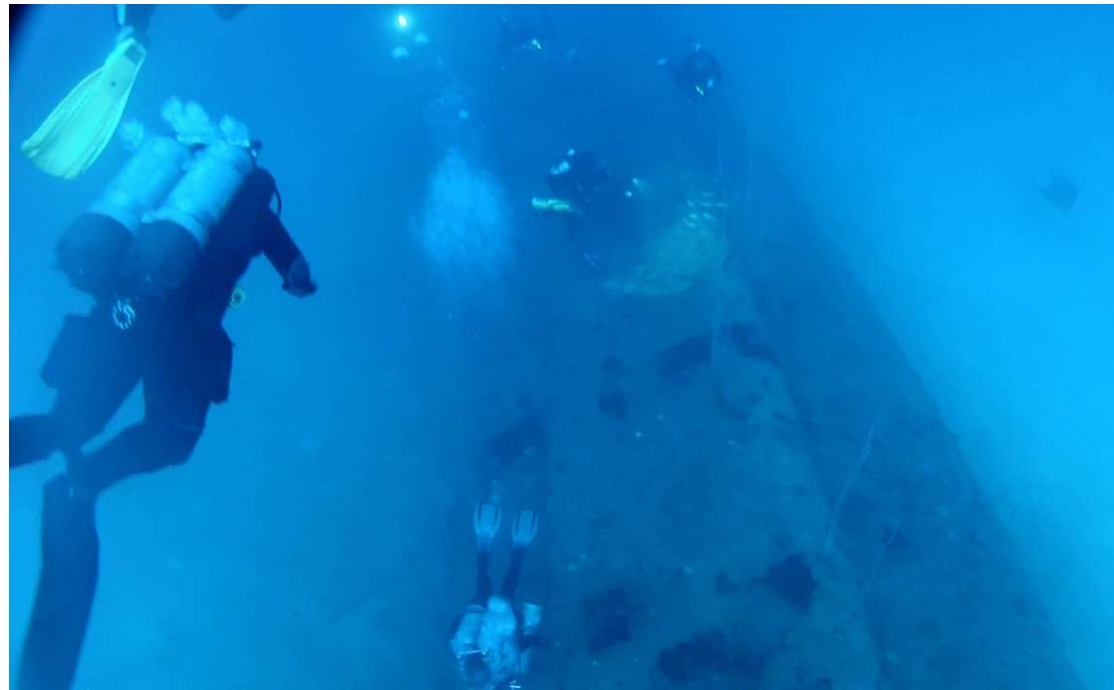
Diver: Lloyd Borrett.



USS Apogon torpedo in tube.

USS Pilotfish (SS-386) submarine

- Length: 95 metres
- Displacement: 2414 tons
- Sunk by Test Baker from keel depth of 17 metres
- Depth: 53 metres



Divers on the USS Pilotfish.

Oh no it's the USS Anderson!

- ❑ Length: 106 metres
- ❑ Displacement:
2,300 tons
- ❑ Sunk by Test Able
- ❑ Depth: 52 metres



USS Anderson (DD-441) destroyer (1939).

Diving the USS Anderson



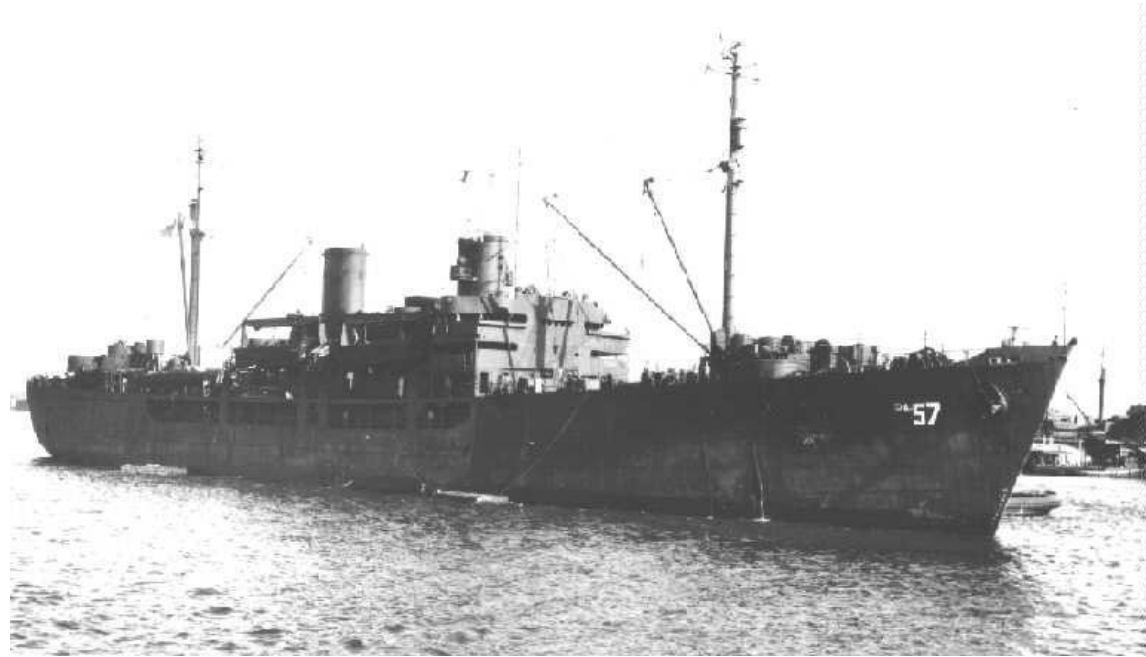
USS Anderson bow.



USS Anderson props.

Atomic chaos and destruction!

- ❑ Length: 130 metres
- ❑ Displacement:
7,080 tons
- ❑ Sunk by Test Able
(Ground Zero)
- ❑ Depth: 52 metres



USS Gilliam (APA-57) attack transport.

USS Carlisle (APA-69) attack transport

- Length: 130 metres
- Displacement:
7,080 tons
- Sunk by Test Able
- Depth: 51 metres



USS Carlisle (APA-69) attack transport.

Diving the USS Carlisle



USS Carlisle gun.



USS Carlisle destruction.

Japanese light cruiser Sakawa

- Length: 162 metres
- Displacement:
8,534 tons
- Sunk by Test Able
(+1 day)
- Depth: 55 metres



IJN Sakawa light cruiser (1944).

Massive nuclear damage!

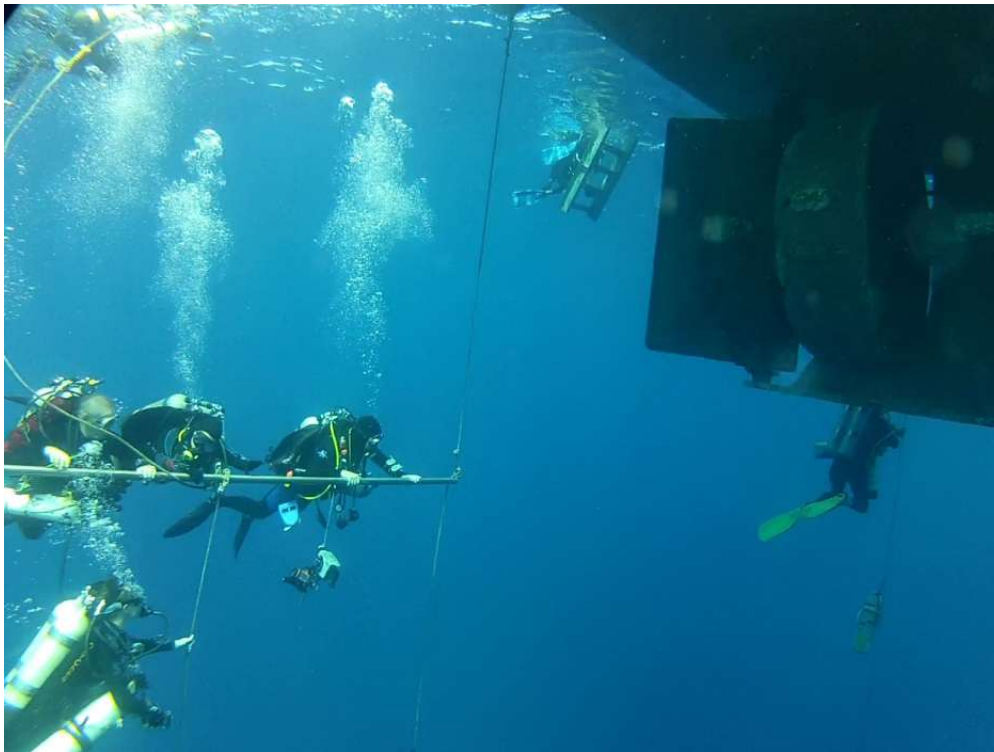


IJN Sakawa took a day to sink.



IJN Sakawa gun emplacement.

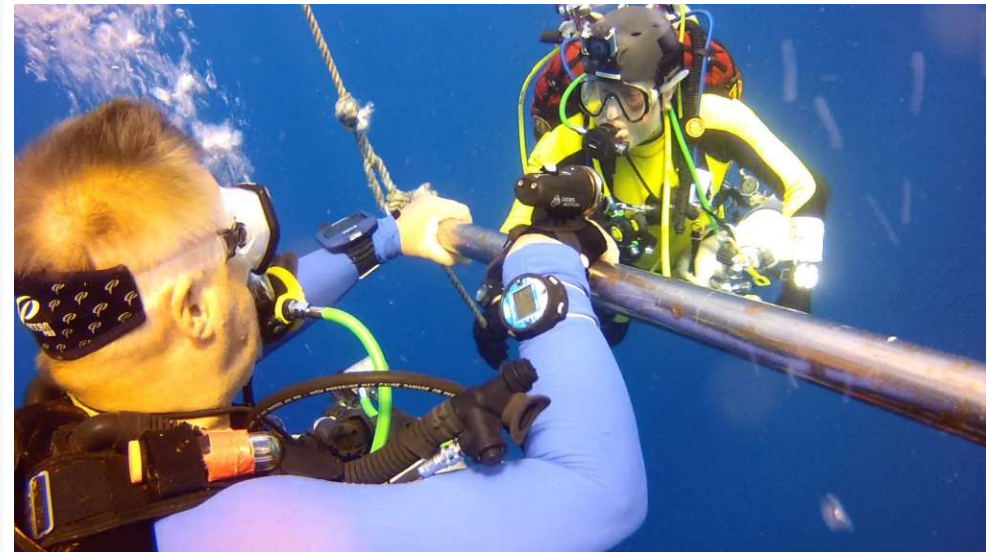
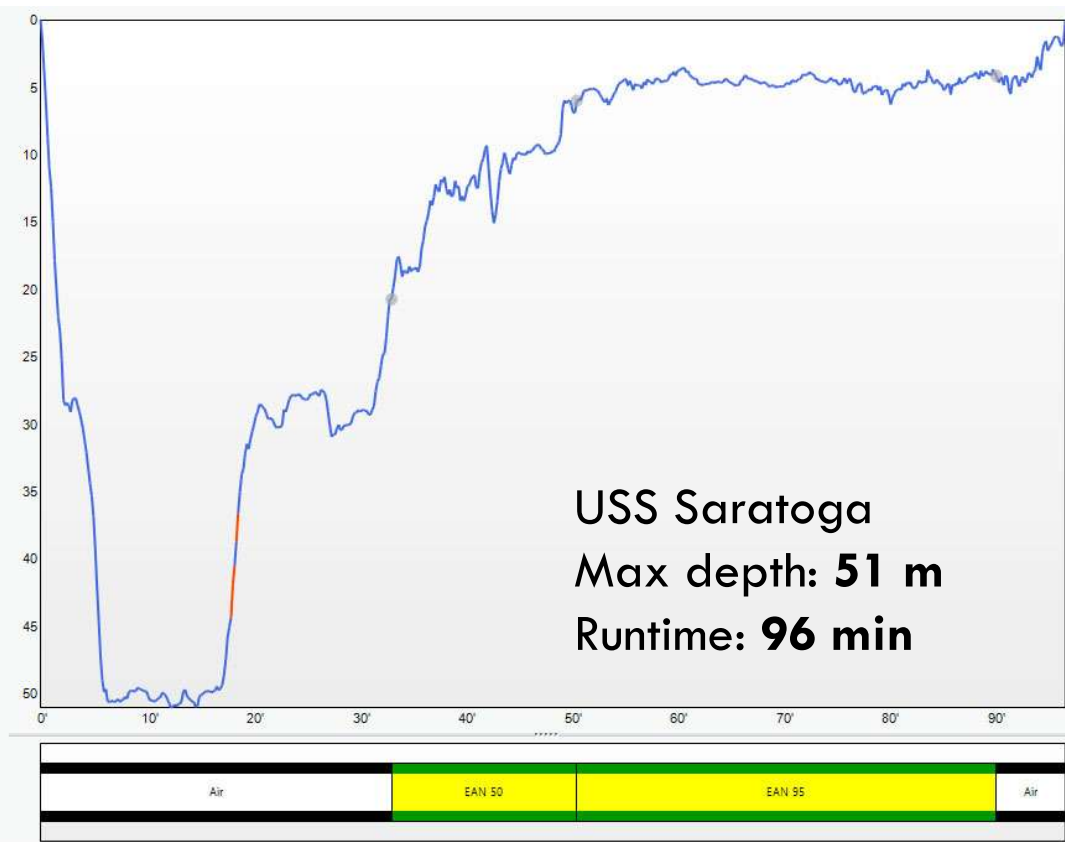
Diving at Bikini Atoll



Divers doing deco on “Sara”.

- Certifications required:
Advanced Nitrox,
Decompression Procedures.
- Two dives per day.
- 70 to 100 minute
run times.
- 4+ hour surface interval.
- Tie up on “Sara”,
Live drop elsewhere.

“Deco Dog”



- Back: Air, 250 bar, Twin 12L steel
- Stage: EAN50, 200 bar, 11L ali
- Deco: EAN95, 200 bar, 7L steel



I'm going back!

- October 2013
- A\$7,900 ex Cairns
- Allow A\$1200 for extras
- **Go while you can!**



Lloyd Borrett at Bikini Atoll.



Questions?



OPERATION
CROSSROADS
UNDERWAY

—Ed Herlihy—

3:31

Operation Crossroads Underway



5:54

Underwater Atom Blast Rocks Bikini

24:35

Operation Crossroads: Able and Baker Day Tests

2:38

Atom Bomb – Movie of the Month

PROJECT CROSSROADS
Test ABLE

BIKINI ATOLL

1 JULY 1946

41:31

Nuclear Test Film – Project Crossroads

Widescreen Test Pattern (16:9)

Aspect Ratio Test

(Should appear
circular)

4x3

16x9

