

Mystery of the Opana Radar Site

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Topics

2

- ❑ Discuss what happened at the Opana Radar Site on the morning of December 7, 1941
- ❑ Demonstrate Opana radar site as a technological and strategic success.
- ❑ Clarify the issue of responsibility.

Development of Radar

3



- ❑ First radar experiments in the 1920s and the 1930s.
- ❑ Radar measured the time for radio waves to travel to an object, be deflected and return.
- ❑ Developed into a system that had the ability to detect long-range objects.
- ❑ Radar could detect enemy planes and ships long before they could be detected by other means.

Radar and the Battle of Britain 1940-41

4

- ❑ Britain installed a series of radar stations on the southern coast of England.
- ❑ Radar played a critical role in the Battle of Britain.
- ❑ Enabled the British to determine the direction, altitude, and speed on oncoming German aircraft.
- ❑ Radar allowed air command to concentrate their limited fighter forces against the Luftwaffe.



Radar and U.S. Military

5

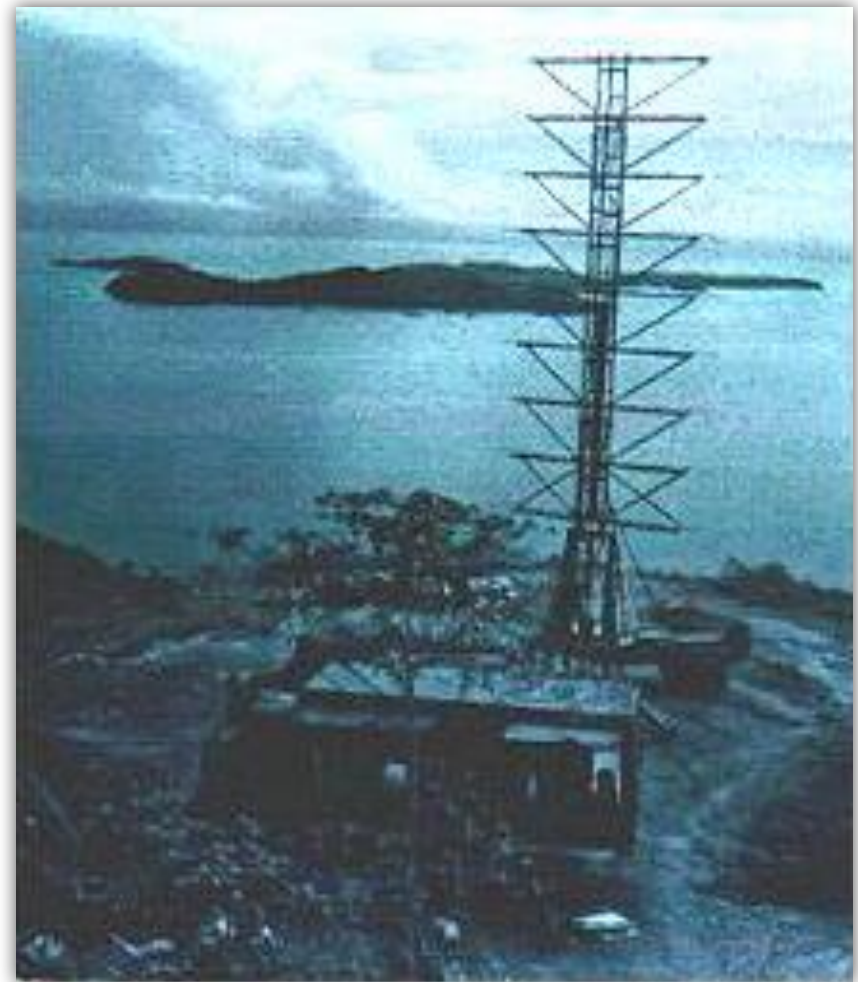
- ❑ Naval Research Laboratory carried out experiments from 1934 – 1936.
- ❑ The United States Army Signal Corps also started developing radar as early as 1930.
- ❑ In 1937 the test radar unit was demonstrated.
- ❑ Based on this test unit, in 1940, the SCR-270 became available for coastal defense.
- ❑ First deployed in Panama in the Fall of 1940
- early warning for the Army Air Corps, Pursuit Squadron.

Aircraft Warning Service - 1939

6

Opana Radar installed Thanksgiving Day 1941

- ❑ Mobile radar detector sets were installed in 6 sites on the island of Oahu by the Fall of 1941.
- ❑ The Opana Radar Site
 - 532 feet above sea level
 - unobstructed view of the Pacific Ocean



SCR-270 Radar Set

7

- The SCR-270 was one of the first operational early warning radars.
- Consisted of four trucks carrying:
 - ✓ transmitter,
 - ✓ modulator,
 - ✓ water cooler,
 - ✓ receiver, oscilloscope, operator,
 - ✓ generator and antenna.



**Eventually radar was
deployed around the world.**

How radar was supposed to work

8

Aircraft warning
communications net:
6 radar sites



Aircraft Information
Center at Fort Shafter



Army Pursuit Squadrons

How radar was supposed to work

9

- The Army Air Corps was changing its pursuit squadrons into interceptor squadrons for a planned Interceptor Command.
- The Army Anti-Aircraft Artillery batteries were undergoing modernization to employ their new SCR-268 radar.
- The radar sets on Oahu were one component of the intended integrated air defense system.

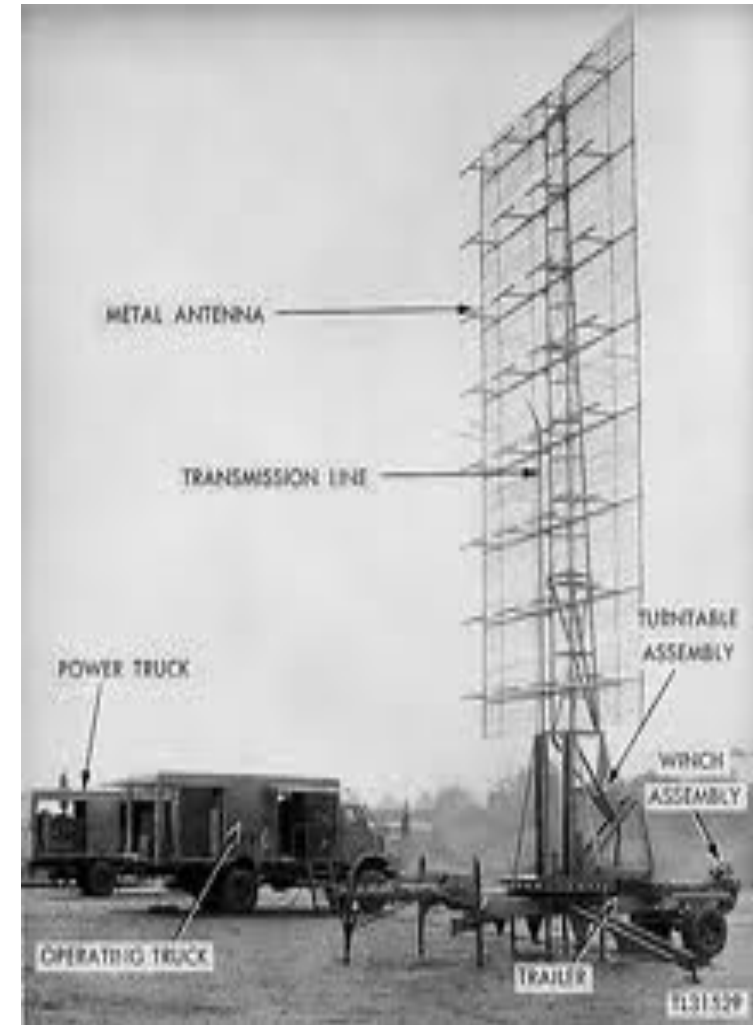
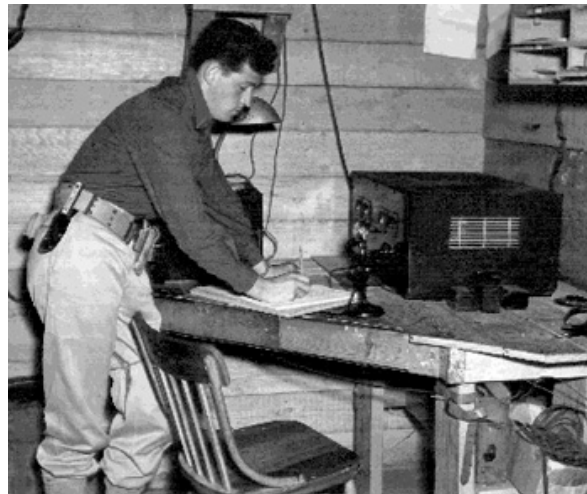
The integration of the commands was not complete by 7 Dec 1941.

Opana Point, December 7, 1941

10

The radar unit at Opana Point
manned by Pvt. George Elliot and
Pvt. Joseph Lockard

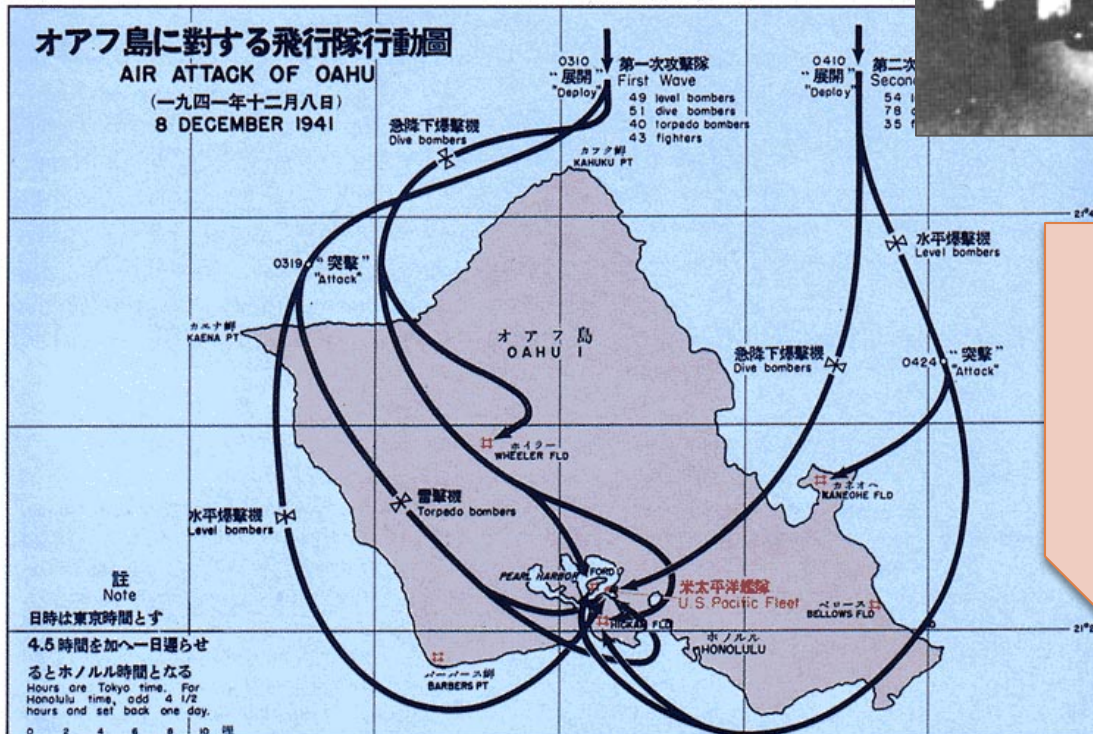
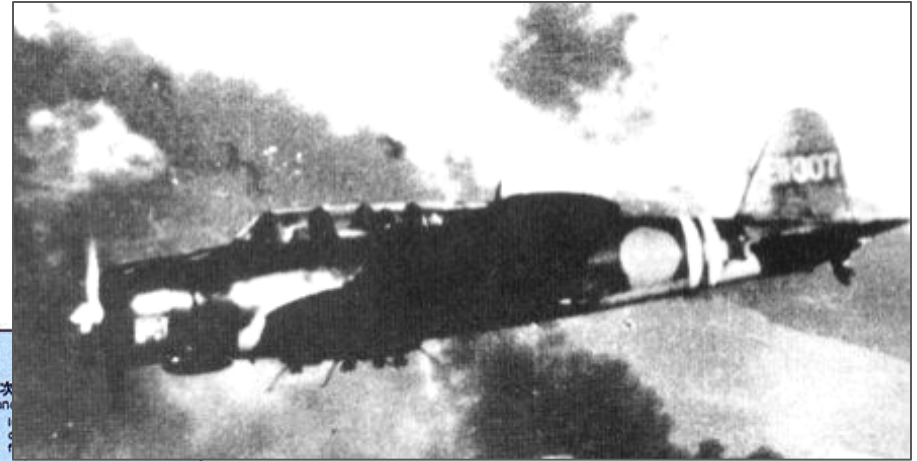
- That morning the set was supposed to be shut down
- Elliott decided to get in additional training time



Opana Point, December 7, 1941

11

At 7:02 they detected the Japanese aircraft approaching Oahu at a distance of 130 miles.



Lockard telephoned the information center at Fort Shafter: "Large number of planes coming in from the north, three points east".

December 7, 1941 at Fort Schafter

12



“Don’t worry about it.”

- ❑ Lt. Kermit Tyler, a pilot with the 78th Pursuit Squadron, stationed at Wheeler Field, HI,
- ❑ Pvt. Joseph McDonald, U.S. Army, telephone operator.
- ❑ This was only the 2nd time Lt. Tyler had duty at the Information Center.
- ❑ After receiving Lockard’s report, Tyler reasoned that the radar blip was a flight of Army B-17 bombers due in that morning.

Opana Point Dec. 7, 1941

13



- Elliot and Lockard continued to plot the incoming Japanese planes until 7:40 a.m.
- Contact was lost in the background interference as the planes approached Oahu.
- Both men then secured the Opana radar shortly before 8 a.m. and headed down to Kawaiiloa for breakfast.

Tyler and the Chain of Command

14

America
was at
peace.

Tyler had
no reason
to expect
an attack.

There was
no alert.

- ❑ Kermit Tyler was on duty as an observer and was not in the chain of command.
- ❑ Tyler has no direct line to General Short or Admiral Kimmel.
- ❑ Next man in the chain of command was Major Bergquist, operations officer of the Hawaiian Interceptor Command.

Would an alert have mattered?

15

Time Line

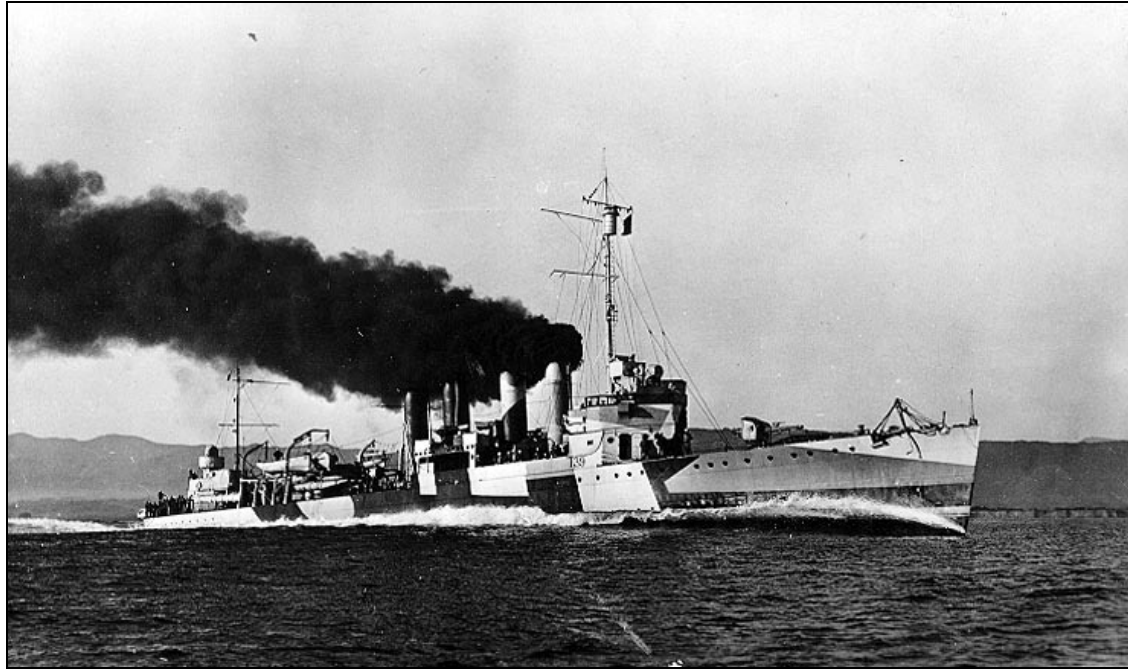
- ❑ First wave spotted at 7:02
- ❑ Lt. Tyler receives message at 7:20
- ❑ Bombing begins at 7:53 a.m.

Actions that would have been needed

- ❑ Interpret the radar blips
- ❑ Contact Berquist, Operations Officer
- ❑ Commanders determine response
- ❑ Give orders to ships
- ❑ Give orders to planes

The Chain of Command

16

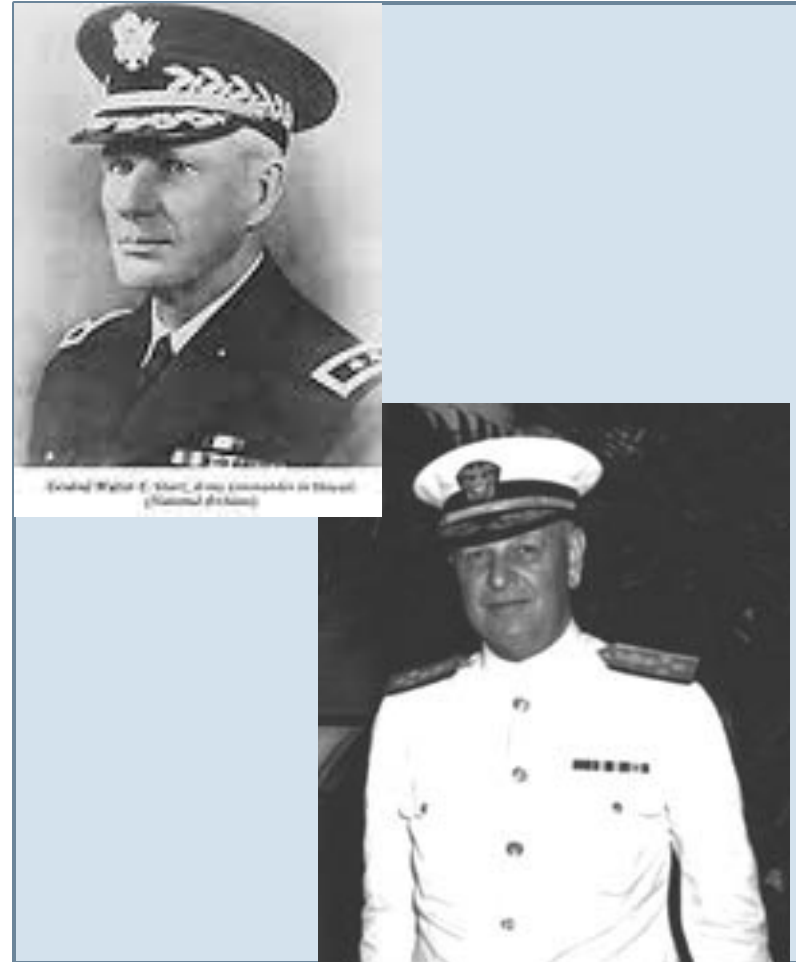


- ❑ USS Ward sighted and attacked a Japanese midget submarine at 6:53 in the morning.
- ❑ The information on this attack does not reach Kimmel until 7:45 AM, just a few minutes before the attack.

Who was responsible?

17

- Both Admiral Husband E. Kimmel and General Walter Short, commanding officers in Hawaii were held responsible for the attack on Pearl Harbor.
- No blame was assigned to George Elliott, Joseph Lockard or Kermit Tyler.



Did Radar Work?

18

The failure to warn the Army command was not a failure of the technology as much as it was a failure of organization.

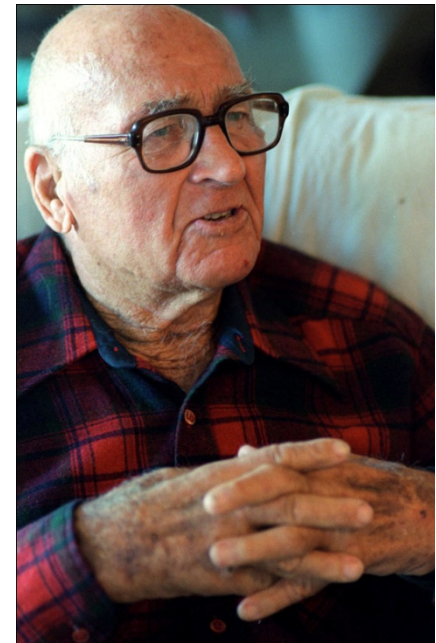
- ❑ Yes, radar did work as intended.
- ❑ The use of radar was not fully incorporated into an integrated air defense system.
- ❑ There was no way to accurately assess the information and communicate this knowledge to those in command.
- ❑ The Army aircraft remained on the ground and Army high command did not learn about the Opana radar sightings until after the attack.

Kermit Tyler

19

- Kermit Tyler was singled out forever as the man who told Elliott and Lockard “don’t worry about it”.
- Tyler went on to have a long and distinguished career in the Air Force but always had to explain his role in the events of December 7, 1941.
- In December 2006 Tyler made his last public appearance on this matter.

<http://www.c-spanvideo.org/program/HarborAt>



Historic Significance of Opana Site

20



National Park Service,
Opana Radar Site, NHL
nomination, 1994

- ❑ Illustrated the immediate value of technology in modern warfare.
- ❑ Radar was quickly developed and incorporated into U.S. military operations.
- ❑ Demonstrated advanced weaponry that would give the United States the edge to secure victory.