HEARINGS
BEFORE THE
JOINT COMMITTEE ON THE INVESTIGATION
OF THE PEARL HARBOR ATTACK
CONGRESS OF THE UNITED STATES
SEVENTY-NINTH CONGRESS
FIRST SESSION
PURSUANT TO
S. Con. Res. 27
A CONCURRENT RESOLUTION AUTHORIZING AN
INVESTIGATION OF THE ATTACK ON PEARL
HARBOR ON DECEMBER 7, 1941, AND
EVENTS AND CIRCUMSTANCES
RELATING THERETO

PART 25
PROCEEDINGS OF ROBERTS COMMISSION

Printed for the use of the
Joint Committee on the Investigation of the Pearl Harbor Attack
JOINT COMMITTEE ON THE INVESTIGATION OF THE PEARL HARBOR ATTACK

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JERE COOPER, Representative from Tennessee, Vice Chairman
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JOHN E. MASTEN, Assistant Counsel
EDWARD P. MORGAN, Assistant Counsel
LOGAN J. LANE, Assistant Counsel
ARINGS OF JOINT COMMITTEE

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ROBERTS COMMISSION

(The original Exhibit to which each illustration relates is indicated in parentheses following the description)

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<td>2.</td>
<td>Map of the City of Honolulu, T. H., reflecting areas of the city to be evacuated and open areas available for trench and shelter construction. (Exhibit No. 11, Navy Packet 1.)</td>
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<td>Graph relating to German Activities in Territory of Hawaii. (Exhibit No. 15, Navy Packet 1.)</td>
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<td>35</td>
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37–38. Mooring and Berthing Plan of Pearl Harbor, showing air defense sectors. The original exhibit contained two marked copies of this plan. (Exhibit No. 10, Navy Packet 2.)

39. Graph showing air patrols as ordered for protection of the Task Force. (Exhibit No. 10, Navy Packet 2.)

40. Diagram of Zigzag Plan No. 60. (Exhibit No. 10, Navy Packet 2.)

41. Diagram of Zigzag Plan No. 61. (Exhibit No. 10, Navy Packet 2.)

42-43. Photographs showing bomber formations and illustrating “shorts” in antiaircraft fire and the altitude of attacking planes at Pearl Harbor on 7 December 1941. (Exhibit No. 24, Navy Packet 2.)

44. Rough sketch map of Pearl Harbor showing berthing plan for ships berthed inserted on the map. (Exhibit No. 33, Navy Packet 2.)

45. Diagram of Studlard Anti-Submarine Patrol for Single Aircraft on Escort Duty. (Exhibit No. 33, Navy Packet 2.)

46. Diagram attached to communication dated 18 December 1941 at Pearl Harbor, captioned “Air patrol plan for sortie and entrance No. 1.” (Exhibit No. 33, Navy Packet 2.)

47. Sketch showing location and number of sentries to man the Security Watch Posts. (Exhibit No. 83, Navy Packet 2.)

48. Military Map “BB,” showing a gridded basic square superimposed on a map of the Island of Oahu for location of positions in that area. (Exhibit No. 23, Navy Packet 2.)

49. Two Figures explaining the unified grid system for location of positions. (Exhibit No. 33, Navy Packet 2.)

50-53. Copies of Radar Plots furnished the Roberts Commission by Admiral Bellinger. (Exhibit No. 43, Navy Packet 2.)

54-57. Photographs taken during the attack and thereafter at Kaneohe Bay indicating damage done at the field. (Exhibit No. 44, Navy Packet 2.)

58. Chart of Pearl Harbor showing location of various units of the Fleet. (Exhibit No. 48, Navy Packet 2.)

59. Vertical photograph of Wheeler Field. (Exhibit No. 1, Army.)

60. Vertical photograph of Haleiwa Field. (Exhibit No. 1, Army.)

61. Vertical photograph of Bellows Field. (Exhibit No. 1, Army.)

62. Progress map relating to bunker construction, Wheeler Field. (Exhibit No. 1, Army.)

63. Secret “OPN Map Annex 1 to accompany FO1 Fixed Installations,” Island of Oahu, T. H. (Exhibit No. 1, Army.)

64. Secret map of “Hawaiian Defense Project, 1941—Antiaircraft Dispositions.” (Exhibit No. 1, Army.)

65. Map showing military reservations of the Island of Oahu, T. H. (Exhibit No. 1, Army.)

66. Special Military Map “AA” of the Hawaiian Islands. (Exhibit No. 1, Army.)

67. Map showing ground defenses at Hickam Field. (Exhibit No. 5, Army.)

68. Chart of Hickam Field showing the disposition of aircraft at the time of the attack. (Exhibit No. 5, Army.)

69. Map showing Communications Installations, Island of Oahu, T. H. (Exhibit No. 7, Army.)

70. Map showing Bridges, Police Districts and other important Installations, Island of Oahu, T. H. (Exhibit No. 7, Army.)

71. Map showing electrical installations, Island of Oahu, T. H. (Exhibit No. 7, Army.)

72. Layout map showing general plan of Bellows Field. (Exhibit No. 12, Army.)

73-104. Maps and Overlays relating to landing and dispersal of aircraft, Bellows Field. (Exhibit No. 14, Army.)

105. Sketch showing location of aircraft in Hawaiian Air Depot Shops on 7 December 1941. (Exhibit No. 15, Army.)

106. Diagram showing the location of various aid stations. (Exhibit No. 16, Army.)


108. Map of Island of Oahu, T. H., showing communications installations. (Exhibit No. 28, Army.)

109. Map of Island of Oahu, T. H., showing various important installations. (Exhibit No. 28, Army.)
110. Map of Island of Oahu, T. H., showing electric power installations. (Exhibit No. 28, Army.)
111. Map of Island of Oahu, T. H., showing supply and evacuation installations. (Exhibit No. 28, Army.)
112. Partial Road Map, Schofield Barracks. (Exhibit No. 28, Army.)
113. Map of Island of Oahu, T. H., showing communications installations. (Exhibit No. 29, Army.)
114. Map of Island of Oahu, T. H., showing various important installations. (Exhibit No. 29, Army.)
115. Map of Island of Oahu, T. H., showing electrical installations. (Exhibit No. 29, Army.)
116. Map of Island of Oahu, T. H., showing communications installations. (Exhibit No. 30, Army.)
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120. Map of Island of Oahu, T. H., showing communications installations. (Exhibit No. 32, Army.)
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123. Radar Chart, Opana station, 7 December 1941. (Exhibit No. 33, Army.)
124. Special Military Map “AA,” of the Hawaiian Island. (Exhibit No. 35, Army.)
125. Chart showing a method of searching 5-degree sectors through 360 degrees to a radius of 333 miles from Oahu employing 72 B-17 airplanes. (Exhibit No. 35, Army.)
126. Graph showing relation of 25-mile visibility to distance. (Exhibit No. 35, Army.)
127-128. Charts showing the radius of action of B-17D airplane under various load conditions in relation to possible plans for a carrier group attacking Oahu. (Exhibit No. 35, Army.)
Fig. 3
Fig. 4
AIR RAID SHELTER
FOR 6 PERSONS
OFFICE OF THE CHIEF OF ENGINEERS
WASHINGTON, D.C.
NOV. 21, 1935

Note: End plates are conical or spherical surface, 9/16 in. thick

3/16" removable plate for escape exit
(Trenches and excavating tools to be provided)
AIR RAID SHELTER
SPLINTER PROOF
10-12 PERSONS
Fig. 210.—Types of above ground bombproof shelters as recommended by the French Government for protection against direct hits of medium weight high explosive bombs.
Fig. 119.—Details of a very strong and simple type of pre-cast concrete tubular shelter affording a high degree of protection and suitable for extension to accommodate fifty persons.
Fig. 123.—Improved tubular shelter affording a high degree of protection. Note the sand filling of the emergency exit as interior protection of the outlet (always somewhat vulnerable).
Fig. 174.—Pre-cast trench lining systems.
PLATE III
DEPTH PENETRATED BY EXPLOSION ON SURFACE OF VARIOUS MATERIALS
RACIAL COMPOSITION OF THE TERRITORY OF HAWAII

- JAPANESE 37.3%
- CAUCASIAN 24.5%
- HAWAIIAN & PART-HAWAIIAN 15.2%
- FILIPINO 12.4%
- CHINESE 6.8%
- PUERTO RICAN 2.0%
- KOREAN 1.6%
- OTHER 4.2%

1940
JAPANESE CONSULAR ORGANIZATION IN HAWAII

CONSULATE STAFF
- Nagao Kita
- Consul-General

CONSULAR AGENTS
- Hawaii
- Maui
- Kauai
- Oahu

UNOFFICIAL SPOKESMEN
- Hawaii
- Maui
- Kauai
- Oahu

REGISTERED AGENTS OF FOREIGN PRINCIPALS
- Hawaii
- Maui
- Kauai
- Oahu

CONSUL-GENERAL

ADVISORY COUNCIL

MOLOKAI
- 4 Agents

LANAI
- 1 Agent

NOTES:
- A list of registered agents of foreign principals in Hawaii, Maui, Kauai, and Oahu.
- An organizational chart showing the consular agents and their respective areas.
- The advisory council and unofficial spokesmen for the consulate.
MAJOR FOREIGN CONTROLLED JAPANESE CORPORATIONS IN HAWAII

CONTROL OF HOME OFFICES & BRANCHES IN JAPAN

JAPANESE CONTROL OF ITS NATIONALS

AUTHORITY OF JAPANESE GOVERNMENTAL BUREAU REGULATING BUSINESS

GOVERNMENTAL CONTROL OF EXPORTS AND FUNDS FROM JAPAN

JAPANESE CONSUL GENERAL HONOLULU

MERCANTILE HOUSES

BANKS

STEAMSHIP LINES

NOTES:
ALIEN JAPANESE CONTROLLED CORPORATIONS IN HAWAII

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**ALIENS CONTROLLED BY ALIENS IN HAWAII**

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**ALL OTHER**

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**LEGEND**

- [ ] Importing & Merchandising
- [ ] Banking & Finance
- [ ] All Other
JODO-SHU ORGANIZATION IN THE TERRITORY OF HAWAII

JODO SECT
JAPAN

JODO-SHU HAWAI KAIKYOUIN
(HOME TEMPLE OF THE JODO SECT)
HONOLULU, HAW.
1965-1981
KYOKUJO KUBOKAWA, BISHOP

JAPANESE CONSULATE
HONOLULU, HAW.
65-414

OTHER DIVISIONS

TEMPLES

SCHOOLS

HAWAI KAIKYOUIN
HONOLULU, HAW.
65-583
COMMUNIST ACTIVITIES IN THE TERRITORY OF HAWAII

COMMUNIST PARTY
DISTRICT 13
SAN FRANCISCO, CAL.

COMMUNIST SYMPATHIZERS

COMMUNIST INFILTRATED
UNIONS

FLOW OF
PROPAGANDA-
LITERATURE

COMMUNIST SEAMEN
(100-B7)

COMMUNIST PARTY
DISTRICT 13
SAN FRANCISCO

COMMUNIST FRONT
ORGANIZATION

NOTES
GERMAN ACTIVITIES IN THE TERRITORY OF HAWAII
ANNEX "H"

AIR PATROLS (AS ORDERED)

AT EVENING TWILIGHT:
ALL STATION UNITS TAKE NIGHT CRUISING STATIONS IN 6L, RETIRING WITH THE LOWERING VISIBILITY WITHOUT ADDITIONAL ORDERS.

DD'S TAKE STATION AHEAD OF HEAVY SHIPS WITHIN EASV VISIBILITY RANGE AND ILLUMINATE DD'S FOR HEAVY SHIPS.

AT MORNING TWILIGHT STATION UNITS ON CIRCLE 7 IN CRUISING DISPOSITION 6V PROCEED TO STATIONS WITH EXPANDING VISIBILITY WITHOUT FURTHER ORDERS.

AIR PATROLS AS ORDERED
**ITEM NO. 40**

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78716 0-46 RC
ITEM NO. 43

79716 O-46 BC
A is the position of head of surface vessels at the beginning of the first circuit by the aircraft. The diagram shows 3 consecutive circuits.

Scale - 5 miles to 1 inch.
INTERMEDIATE AIR PATROL
4 - 30 miles

INNER AIR PATROL

Fleet Course

(1)

(2)

(3)

(4)

(5)

(6)

2 mi

340°

290°

020°

070°

000°

5000 yards
## HAWAIIAN ISLANDS

### BASIC SQUARE

![Basic Square Diagram]

### ANY REGION

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<td>J7</td>
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Any Odd Multiple of 50,000 yds

### Fig. 2

Each Region: 100,000 yards to a side
Each Area: 10,000 yards
SECRET

HAWAIIAN DEFENSE PROJECT-1941
ANTIAIRCRAFT DISPOSITIONS
A.A.GUNS AND AAAIS OPS
INCLOSURE NO-2.

LEGEND

A A GUN BATTERY - FIXED.
A A GUN BATTERY- MOBILE
AAAS OP

GUN BATTERIES

<table>
<thead>
<tr>
<th>NUMBERS</th>
<th>MANNED BY</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2-3</td>
<td>95TH C.A.</td>
<td>3</td>
</tr>
<tr>
<td>4-6</td>
<td>16TH C.A.</td>
<td>2</td>
</tr>
<tr>
<td>5-7</td>
<td>55TH C.A.</td>
<td>2</td>
</tr>
<tr>
<td>8-9-10-11-12-13</td>
<td>64TH C.A</td>
<td></td>
</tr>
<tr>
<td>5-8-10-11-18-22</td>
<td>97TH C.A</td>
<td></td>
</tr>
<tr>
<td>14-20-21</td>
<td>361ST C.A.</td>
<td>3</td>
</tr>
<tr>
<td>23-24-25-26-27-28</td>
<td>98TH C.A</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>20</td>
</tr>
</tbody>
</table>

ALL BATTERIES ARE FOUR GUNS EACH EXCEPT NO'S 4 AND 5 WHICH ARE THREE GUNS EACH.
BATTERIES NO'S 18-17-10 ARE PROPOSED DEF.

ISLAND OF OAHU

EROWNED BY THE DEPT ENGINEER MAP REPRODUCTION PL ANT
MILITARY RESERVATIONS
ISLAND OF OAHU

1. Aiea Heights
2. Aiea Heights
3. Aina
4. Armstrong Pt
5. Ashley
6. Anahulu Flats
7. Awarui
8. Barbers Point
9. Barrette Pt
10. Browns Camp
11. De Russy Pt
12. De Beach
13. Hawaii Arsenal
14. Hickam Field
15. Honolulu (Malekole Camp)
16. Kanaka
17. Kaneo Point
18. Kahe Point
19. Kahuku
20. Kahuku Heights
21. Kahuku "R"
22. Kalakaua
23. Kaimana
24. Kamehameha Pt
25. Kapahulu
26. (Pumping Site)
27. Kapalama
28. Kawailoa E
29. Kawailoa C & L
30. Kamehameha Pt
31. Keaau
32. Keaau Ridge
33. Kokee Ridge
34. Kokee Ridge
35. Kokee Ridge
36. Kula
37. Kuwalei
38. Kaelehu
39. Lala "R""
40. Lualualei
41. Makakilo
42. Makalapa
43. Makapuu
44. Waimauk
45. Manawatu
46. Makanui
47. Oahuula
48. Paladou
49. Punchbowl
50. Punchbowl
51. Punchbowl
52. Punchbowl
53. Puukulah
54. Puu-o-Hulu
55. Quadrapod
56. Round Top
57. Rucker Pt
58. Sand Island
59. Schofield Barracks
60. Shafter Pt
61. Sugar Leaf
62. Walu
63. Walanae Kai
64. Waianae Lilo
65. Weaver Pt
66. Wheeler Field
**LEGEND**

- **•** Numerals indicate Cable Huts (existing).
- **○** Numerals, circled, indicate Cable Huts planned but not yet constructed.
- ___ Heavy lines, between huts, indicate the general trace of cable lines (existing).
- ---- Broken lines, between huts, indicate the general trace of proposed cable lines.

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**INCLOSURE NO. 1**
Revised July 7, 1941
SECRET
Black
6,047, 2,047 before 1st attack
11 P-40s
Red 6,047 after 1st attack
Red prior to 2nd attack
11 P-40s were also dispersed
area included in red
prior to second attack.
ITEM NO. 107

JAPANESE NAVY SINGLE SEAT (PURSUIT PLANE) 1941 MODEL

TOP VIEW

SIDE VIEW

FRONT VIEW

70718 0-46 BC
ITEM NO. 108

COMMUNICATIONS INSTALLATIONS

LEGEND
- Numerals indicate Cable Huts (existing).
- Numerals, circled, indicate Cable Huts planned but not yet constructed.
- Heavy lines, between huts, indicate the general trace of cable lines (existing).
- Broken lines, between huts, indicate the general trace of proposed cable lines.

For location of terminals see Current Signal Operating Instructions.

INCLOSURE NO. 1
Revised July 1, 1941

73716 C-48 RC
ITEM NO. 113

COMMUNICATION INSTALLATIONS

LEGEND

• Numbers indicate Cable Huts (existing).
• Numbers, circled, indicate Cable Huts planned but not yet constructed.
• Heavy lines, between huts, indicate the general trace of cable lines (existing).
• Broken lines, between huts, indicate the general trace of proposed cable lines.

INCLOSURE NO. 1
Revised July 7, 1941
70716 O-46 RC
ITEM NO. 116

INCLOSURE NO. 1
Revised July 7, 1941

NUMERALS INDICATE CABLE HITS (EXISTING).
NUMERALS, CIRCLED, INDICATE CABLE HITS
PLANNED BUT NOT YET CONSTRUCTED.
HEAVY LINES, BETWEEN HITS, INDICATE THE
GENERAL TRAVERSE OF CABLE LINES (EXISTING).
DOTTED LINES, BETWEEN HITS, INDICATE THE
GENERAL TRAVERSE OF PLANNED CABLE LINES.
1. These curves apply to the search out miles.

2. This explanation is based on the 60° search sector. The principal concept is described by the 30° sector on the search coverage of the sphere for the 3° and 4° search sectors.

3. In practice 60° be the ideal for a 3° search. This is 100 nautical miles or 185 miles. Since the area that can be searched by one plane at any time with 21° wheels in 3° search is 25 miles or 1200 feet, 4° search or 100° search may be worked on if a plane can be searched at a search out between the 100° miles in 60° nautical mile. Therefore at 1200 miles, 60° search is obtained.

4. From the solution above the formula: mileage can be applied to plot the curves:

   \[
   \text{60 nautical miles} \times \frac{\text{search radius in nautical miles}}{\text{search sector in search sector}}
   \]

   If the answer is greater than one, it indicates an area in excess of 100% and, therefore, overlap.

   For example at 600 miles:

   \[
   \frac{60}{600} = 1 \text{ or, 100% overlap.}
   \]