

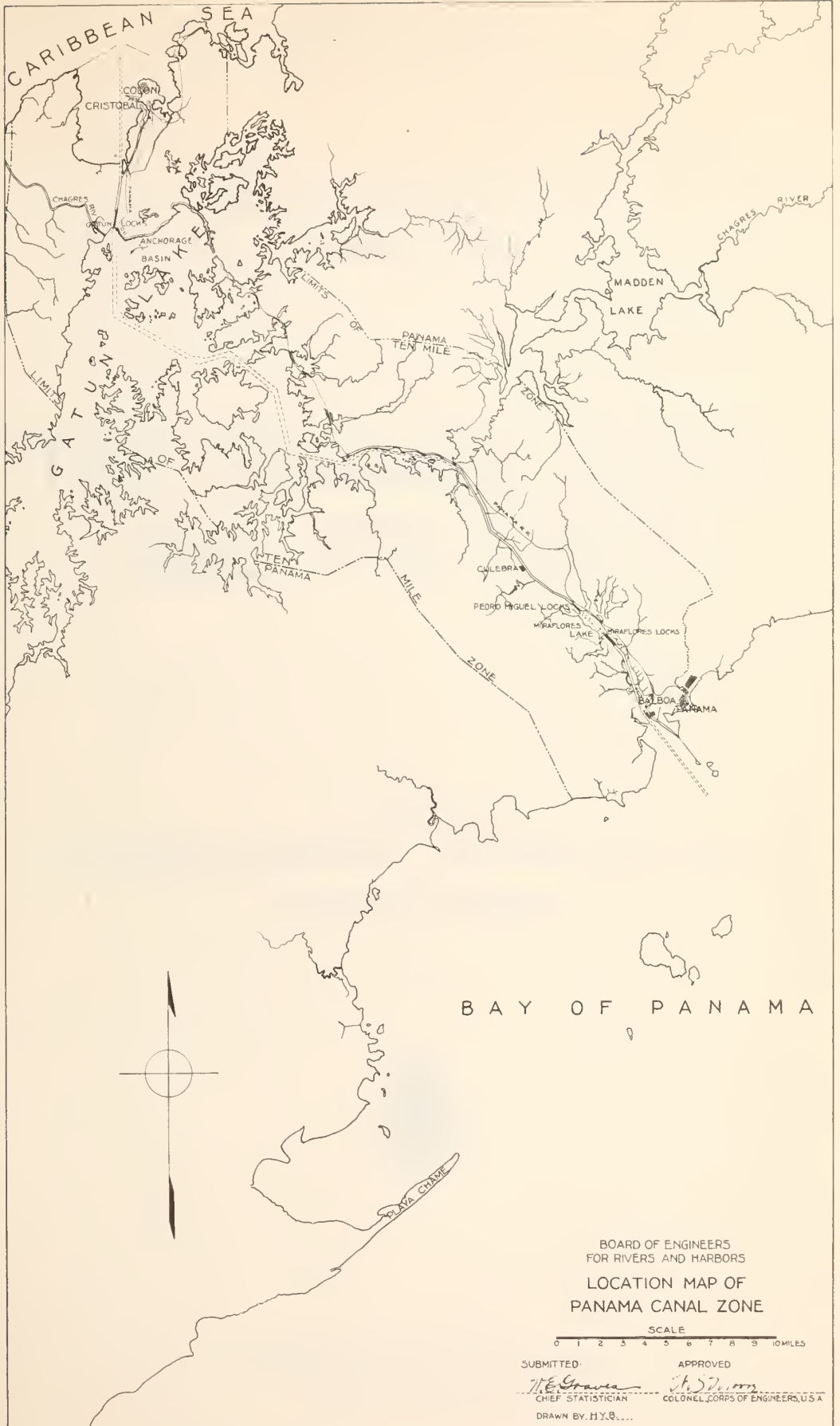
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THE PANAMA CANAL AND ITS PORTS

PORT SERIES No. 40

REVISED 1946

CORPS OF ENGINEERS
UNITED STATES ARMY



BAY OF PANAMA

BOARD OF ENGINEERS
FOR RIVERS AND HARBORS
LOCATION MAP OF
PANAMA CANAL ZONE

SCALE
0 1 2 3 4 5 6 7 8 9 10 MILES

SUBMITTED: *H. E. Grava*
CHIEF STATISTICIAN

APPROVED: *H. S. ...*
COLONEL, CORPS OF ENGINEERS, U.S.A.

DRAWN BY: H.Y.R....

WAR DEPARTMENT
CORPS OF ENGINEERS, UNITED STATES ARMY

PORT SERIES No. 40
(REVISED 1946)

THE PANAMA CANAL AND ITS PORTS

PREPARED BY
THE BOARD OF ENGINEERS FOR RIVERS AND HARBORS
WAR DEPARTMENT



UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON: 1946

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WAR DEPARTMENT
THE BOARD OF ENGINEERS FOR RIVERS AND HARBORS
WASHINGTON

11 September 1946

SUBJECT: Report on the Panama Canal and its Ports

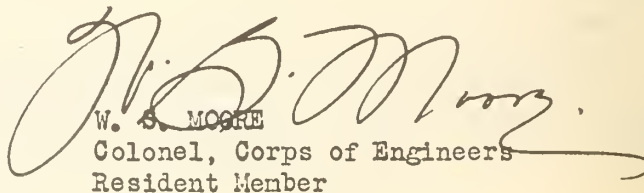
TO: The Chief of Engineers, United States Army

1. There is transmitted herewith a revised report on the Panama Canal and its ports, prepared by the Board in furtherance of the objects entrusted to the War Department by section 500 of the Transportation Act of 1920.

2. The present report is published as No. 40 of the Port Series and supersedes Port Series No. 22, published in 1938. The information contained in this report relative to the Canal and its two important terminals was made available to this office largely through the courtesy of the Governor of the Panama Canal. The report was compiled in this office under the supervision of Mr. Warren E. Graves, chief statistician, and was then reviewed by the Governor of the Panama Canal.

3. On account of the value of the information contained in this report to commerce and shipping, and to the successful operation of the merchant marine, it is recommended that it be published, with the accompanying illustrations.

FOR THE BOARD:



W. S. MOORE
 Colonel, Corps of Engineers
 Resident Member

OFFICE OF THE CHIEF OF ENGINEERS

11 September 1946

TO: The Board of Engineers for Rivers and Harbors, Washington, D. C.

Approved.


R. A. WHEELER
 Lieutenant General
 Chief of Engineers

I N T R O D U C T I O N

This report on The Panama Canal and its Ports, published as No. 40 of the Port Series, supersedes Port Series No. 22, issued in 1938. The reports of the Port Series cover the principal ports of the United States and are prepared to meet the needs of the War Department in its study and development of harbors and its encouragement of port facilities and to furnish information needed by commercial and shipping interests in the promotion and expansion of trade.

The Panama Canal is a route from one ocean to the other, some 10,000 nautical miles shorter than the distance around South America, through which vessels may, with a maximum of safety and a minimum of delay, transport the cargo offered. The ports of Cristobal and Balboa are adjuncts of the Canal and their functions are different in many respects from the functions of ports in continental United States. They provide facilities for bunkering and repair of vessels transiting the Canal, for the unloading and reloading of cargoes transhipped from one vessel to another, and for the receipt of supplies and provisions for the maintenance of the Canal or for use by Canal personnel.

While this report necessarily differs somewhat in scope and outline from others in the Port Series, it is believed that shipping interests, importers, exporters, and others having occasion to use the route either for through business or for cargo to be transhipped at the Canal terminals will find it a convenient source of reference. The report contains information relative to the Canal and its traffic, the rules, regulations, and charges governing transit of the Canal, and the facilities available, the services offered, and the charges assessed at the two terminal ports.

Much of the information for the report was obtained from current tariffs and publications of The Panama Canal, which also supplied data regarding the facilities at the ports. The final report has been reviewed by the Governor, The Panama Canal.



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THE PANAMA CANAL AND ITS PORTS

PORT AND HARBOR CONDITIONS

BRIEF HISTORY

As early as 1550 the nations of Europe had considered a passageway through the Isthmus of Panama as a short cut to the Orient. Portugal, Spain, Holland, and France all made plans to cut a canal, but all were forced through circumstances to relinquish their hopes. The French, under Count Ferdinand de Lesseps actually started operations but, on account of insufficient funds and the ravages of tropical fevers, were obliged to desist. Finally, in 1902, the United States upon the advice of the Isthmian Canal Commission, offered the French \$40,000,000 for their concession and equipment. This offer was accepted and, after having made treaties first with Colombia and subsequently with Panama, work on the Canal was finally started in 1904. It was opened to commercial vessels on August 15, 1914 and in 1920 President Wilson declared the work formally completed. Up to that time a total of 240,000,000 cubic yards of earth had been excavated and a total of \$366,650,000, exclusive of appropriations for defense, had been expended.

GENERAL DESCRIPTION

The Canal Zone is a strip of land and water extending a distance of approximately five miles on either side of the center line of the Panama Canal. The Canal Zone begins in the Caribbean Sea three marine miles from the mean low water mark and extends to and across the Isthmus of Panama into the Pacific Ocean to a distance of three marine miles from the mean low water mark. In addition to the above area, the Canal Zone includes Gatun Lake and all its shore line up to the 100-foot contour, an extension of the Fort Sherman Military Re-

servation at the mouth of the Chagres River, and the Madden Lake area in the upper Chagres Valley including its shore line up to the 260-foot contour and the land in the vicinity of Madden Dam. The treaties exclude from the Canal Zone the city of Colon and its harbor on the Atlantic side and, on the Pacific side, the city of Panama and its harbor and the "Sabanas Land" (located north-east of Panama City) excepting Paitilla Point Military Reservation. The total area of the Canal Zone is approximately 553 square miles, composed as follows:

	<u>Square Miles</u>
Land area- - - - -	362.18
Water area (excluding water within the 3-mile limits)- -	190.94
	<hr/>
Total area of the Canal Zone - - - - -	553.12

The noncontiguous Canal Zone area comprising Paitilla Point Military Reservation is included in the above area. There are several small noncontiguous areas used for various outlying lighthouses, radio stations, etc., including Fort de Lesseps in the city of Colon, which are not part of the Canal Zone or included in the above area.

In transiting the Canal from the Atlantic to the Pacific a vessel passes through a dredged channel 500 feet wide, 41.6 feet deep at mean low water, and 6.36 nautical miles long, leading to the Gatun Locks, the first of a series of three locks. The Gatun Locks, which consist of three flights of chambers, raise the vessel from sea level to Gatun Lake, a lift of 85 feet. These locks are double, being 1.01 miles long and 110 feet wide. Each chamber is 1,000 feet long, with intermediary gates which can shorten the length for smaller vessels and thus conserve water. All operations are performed from a central control station. The ship is moored to electrically-operated towing locomotives which run on tracks on both sides, pulling the ship through and keeping it in position so that it will not injure itself or the mechanism of the locks.

Once out of the Gatun Locks, the vessel proceeds under its own power



Atlantic Entrance and Cristobal Harbor.



Gatun Locks.



Photo by U. S. Army Air Service

Gaillard Cut, General View.



Gold Hill, Gaillard Cut.

through a channel in Gatun Lake. This channel varies in width from 1,000 to 500 feet and from 85 to 45 feet in depth. It does not run in a straight line through the lake, but follows the former valley of the Chagres River, the waters of which have been impounded to form Gatun Lake. Having passed through the lake, the vessel enters Gaillard Cut (Culebra Cut), a distance of 20.58 nautical miles from Gatun Locks. This cut is 300 feet wide, 45 feet deep, and 6.96 miles long.

At the Pacific end of Gaillard Cut the ship passes through Pedro Miguel Locks, a single flight of double chambers. This flight of locks is 0.72 mile long, with a drop of 31 feet to the level of Miraflores Lake.

After passing through Miraflores Lake in a channel 750 feet wide, 45 feet deep, and 0.91 mile long, the ship enters Miraflores Locks, consisting of two flights of double locks 0.90 mile long, with a drop of 54 feet, more or less, depending upon the state of the tide, to the level of the Pacific Ocean.

The channel from Miraflores Locks to the Pacific is 500 feet wide, 42.4 feet deep at mean low water springs, and 6.99 nautical miles long. The total length of the Canal from entrance to entrance is 44.42 nautical miles, and the limiting depth at mean low tide is 41.6 feet.

PORTS

There are two ports of entry in the Canal Zone - Cristobal on the Atlantic side and Balboa on the Pacific. Cristobal is part of the harbor of Colon but is under the jurisdiction of the United States. Both ports are equipped with piers, drydocks, and fueling facilities. A detailed description of these ports will be found elsewhere in this volume.

TIDES AND TIDAL CURRENTS

The tides at the Atlantic and Pacific terminals of the Panama Canal present decided contrast in both character and range. At Cristobal at the Atlantic

terminal, the tides are very irregular and of the mixed type, diurnal for part of each month and semidiurnal for the rest of the time, with a comparatively small range, averaging less than one foot and seldom exceeding two feet. At Balboa at the Pacific terminal, the tides are of the regular semidiurnal type, with a mean range of 12.8 feet and with extreme spring ranges occasionally exceeding 21 feet.

The contrast in tidal ranges is reflected in the strength of tidal currents in the sea level stretches of the Canal but, unless the normal tidal currents are reinforced by wind and storm influences, they are not strong enough to seriously interfere with navigation. At the Atlantic entrance, the tidal flow extends to Gatun Locks, but currents due to tidal influences alone are slight. Fresh northwest winds sometimes cause some current in Limon Bay setting toward the docks, and spilling at Gatun Locks causes strong currents in the channel immediately below the locks for a short time.

At the Pacific entrance, the tidal flow extends to Miraflores Locks and currents of one knot or more are frequently observed but as they usually parallel the Canal channel their importance in regard to navigation is minimized. The maximum current observed in the Pacific entrance channel has been near the entrance to Balboa Harbor with a velocity of one and one-half knots at mean tide for both the incoming and outgoing tides. Tidal currents are particularly troublesome to ships docking at Docks 4, 6, 7, and 8 on account of the outline of the channel and inner harbor basin. An outgoing or falling tide causes a steady set directly toward the face of these docks, which during the dry season months is reinforced by the effect of northerly trade winds. On the other hand, an incoming or rising tide causes a steady set away from the docks. A strong westerly set across the dredged channel to the southward of Flamenco Island, particularly at spring tide, is also a frequent occurrence. Spilling at Mira-

flores Locks produces a strong current in the channel immediately below the locks similar to the one experienced at Gatun.

Currents in the Gatun Lake section of the Panama Canal are not due to tidal influences but may be caused by winds and flood inflow. They are seldom strong enough to occasion any inconvenience to shipping. Currents in Gaillard Cut are produced by drawing water at Pedro Miguel Locks and may attain a strength of one and one-half knots. Minor currents are produced in Miraflores Lake by several influences, including spilling at Pedro Miguel Locks, drawing water at Miraflores Locks, and the operation of Miraflores spillway.

WEATHER CONDITIONS

The location of the Canal Zone less than 10 degrees from the Equator and surrounded by warm tropical seas insures a warm, moist climate throughout the year, with little variation in temperature. The northeast trades blow with great regularity for the four-month period from January to April, averaging 15 miles per hour on the Atlantic side of the Isthmus and 10 miles per hour on the Pacific side. This is the dry season with clear skies and only an occasional rain shower. The weather for the remaining eight months of the year from May to December is dominated by the Equatorial calms, with light variable winds averaging eight miles per hour on the Atlantic side and six miles per hour on the Pacific side. This is the rainy season with increased cloudiness and humidity and copious rains.

The only general storms in the Canal Zone area are the flooding rainstorms of the late rainy season and an occasional norther extending as far south as the north coast of the Isthmus of Panama. Northers were a menace to sailing vessels in Colon harbor for many years but, with the completion of the breakwaters protecting Limon Bay in 1915, damage by these storms in the Canal Zone has become negligible.

Climatological data covering annual values and including all available records up to the year 1945 for Cristobal at the Atlantic terminal of the Canal and for Balboa Heights at the Pacific terminal are given in the following tabulation:

CLIMATOLOGICAL DATA FOR THE CANAL ZONE

	Cristobal (Atlantic coast)	Balboa Heights (Pacific coast)
Air temperature (degrees Fahrenheit)		
Annual bihourly mean	80.1	78.8
Annual mean daily maximum	85.4	87.4
Annual mean daily minimum	76.2	73.2
Annual mean daily range	9.2	14.2
Absolute highest on record	95	97
Absolute lowest on record	66	63
Relative humidity (percent)		
Annual bihourly mean	82.3	83.1
Rainfall (inches)		
Annual average	130.42	69.82
Annual maximum for calendar year	183.41	91.42
Annual minimum for calendar year	86.54	45.58
Wind velocity (miles per hour)		
Annual average wind velocity	10.0	7.0
Maximum velocity on record (true)	38 - NW	46 - S
Average annual prevailing direction	North	Northwest
Sunshine (percentage of possible amount)		
Annual average sunshine	53	49
Number of days		
Annual average of days with rain	241	174
Annual average of clear days	39	31
Annual average of partly cloudy days	148	186
Annual average of cloudy days	179	148
Annual average of days with thunderstorms	96	84

ANCHORAGES

Except at designated localities in Gatun Lake, no vessel is permitted to anchor in any part of the Canal except in an emergency. The following areas for merchant ship anchorage are designated:

Atlantic end.- Area immediately west of Canal channel line, bounded on the south by line joining gas buoy No. 4 and a point A, 1,600 yards due west of gas buoy No. 4; on the west by line extending 1,800 yards due north of point A to point B; and on the north by line extending from point B to Canal channel and parallel to west breakwater.

Gatun Lake anchorage basin.- Area immediately east of Canal channel

line, bounded by a line extending southeasterly from the east wing wall at south end of Gatun Locks to spar buoy A, thence to spar buoy No. 1 and to spar buoy No. 3, thence southwesterly to the Canal channel line at gas buoy No. 9.

Pacific end.- Area immediately northeast of Canal prism extension and southeast of a line joining gas buoy No. 4 to Flamenco Island Light.

A vessel under 150 feet in length when at anchor shall carry forward where it can best be seen a white light at a height not exceeding 20 feet above the hull; and a vessel of 150 feet or upwards in length shall carry forward at a height between 20 and 40 feet above the hull a white light and another at or near the stern of the vessel not less than 15 feet lower than the forward light. These white lights shall be of such power and so placed as to be visible all around the horizon for a distance of at least 1 mile. A self-propelled vessel at anchor must display by day, forward where it can best be seen, one black ball not less than 2 feet in diameter.

Anchorage for vessels carrying explosives.- Vessels carrying explosive cargoes, or highly volatile products, are required to anchor in the following areas, and there await instructions:

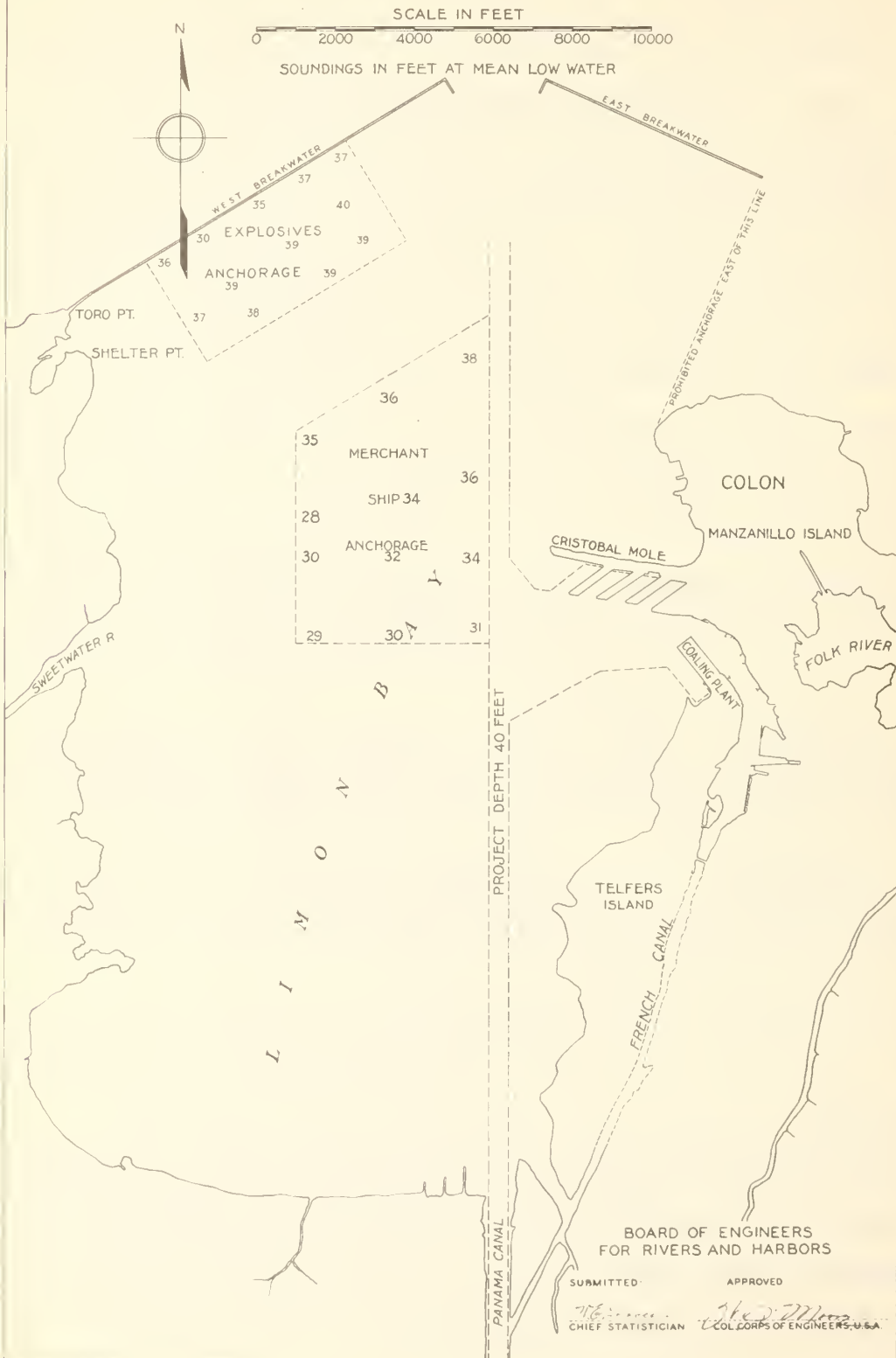
Atlantic end.- Area included in rectangle 1,000 yards wide immediately south of west breakwater, starting at a point on west breakwater 1,000 yards from west breakwater light and thence extending westward 2,000 yards along breakwater.

Pacific end.- Area south of Naos Island bounded on the east by a line drawn south (true) from entrance gas buoy No. 1; on the south by a line drawn east (true) from Tortolita Island; and on the north and west by the curve of 30-foot depth.

Such vessels are allowed alongside wharves of the Canal Zone only as prescribed in regulations, and each case will be handled individually by the port captain concerned.

The merchant ship anchorage area in Gatun Lake is shown on the location map of the Panama Canal Zone facing page 1. The merchant ship anchorage areas and anchorages for vessels carrying explosives at the Atlantic and Pacific entrances to the Canal are shown on the following charts:

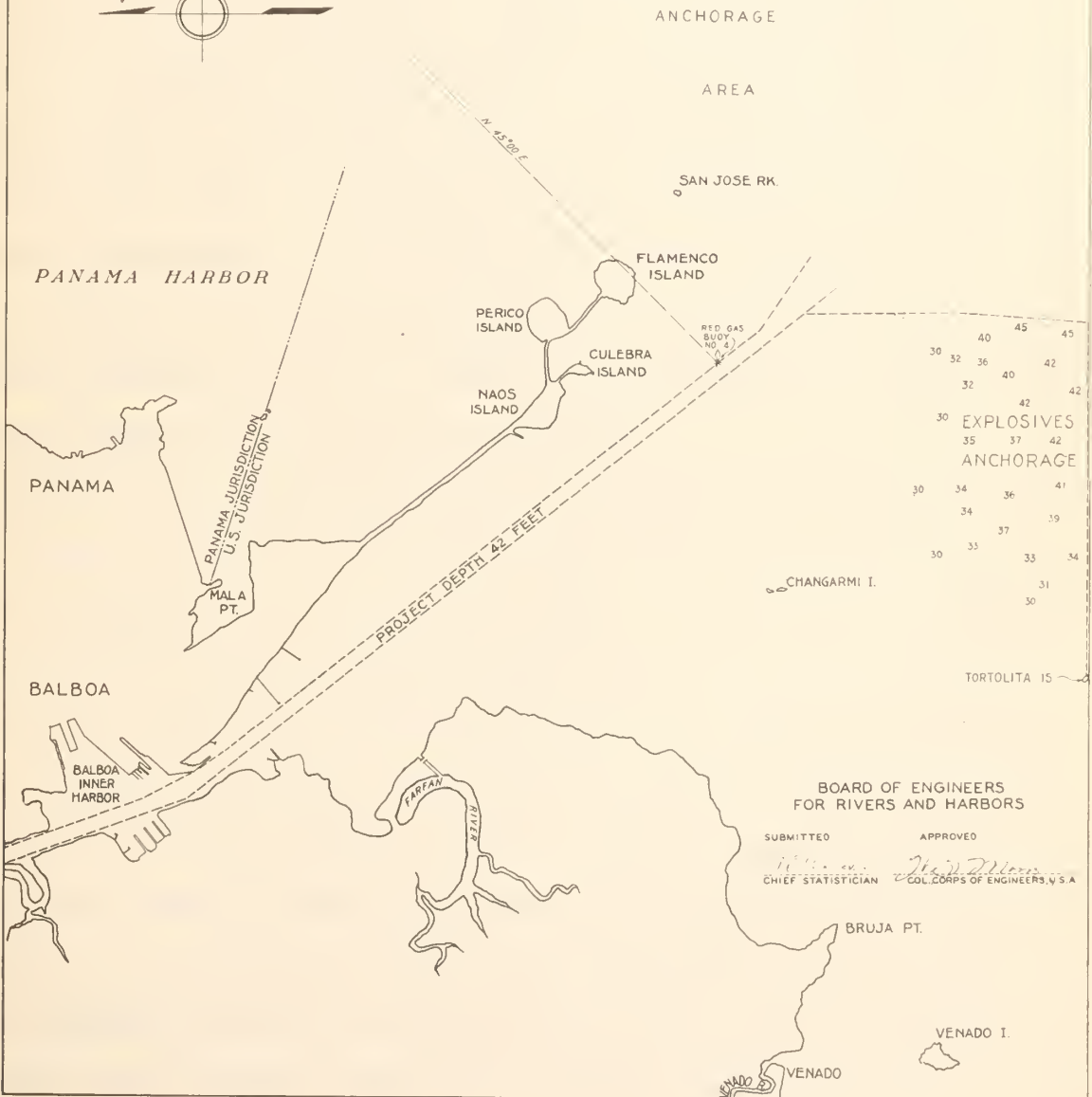
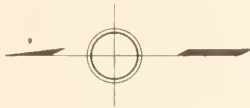
ANCHORAGE AREA AND ENTRANCE CHANNEL AT ATLANTIC ENTRANCE TO PANAMA CANAL



ANCHORAGE AREA AND ENTRANCE CHANNEL AT PACIFIC ENTRANCE TO PANAMA CANAL



SOUNDINGS IN FEET REDUCED TO MEAN LOW WATER SPRINGS



PORT CUSTOMS AND REGULATIONS

ADMINISTRATION

Responsibility and control of the Canal organization are centered in the Governor of The Panama Canal who is also President of the Panama Railroad Co., an adjunct of the Canal enterprise, organized as a Government-owned corporation. By Executive Order of 5 September 1939 the provisions of Section 13 of the Panama Canal Act, approved 24 August 1912, were invoked as an emergency measure, and since that date the Commanding General, Panama Canal Department, United States Army, has exercised final authority over the operation of The Panama Canal and all its adjuncts, appendants and appurtenances, including control and government of the Canal Zone; and the Governor of The Panama Canal has been subject to that authority and the orders issued under it.

The terminal ports of the Canal are administered for the Governor by the marine superintendent, who is an officer of the line, United States Navy. He is the chairman of the Board of Admeasurement, which consists of four members and one recorder and is also in charge of the subdivision responsible for the efficient functioning of all aids to navigation.

Under the marine superintendent are the captains of the ports of Cristobal and Balboa, both officers of the line, United States Navy. They have under their jurisdiction all pilots, crews of towboats, a harbor master, admeasurers, signalmen, and dispatchers and are charged with the enforcement of regulations relating to the navigation of the Canal, the terminal ports, and the waters adjacent thereto and of harbor regulations pertaining to the berthing, mooring, inspection, and admeasurement of vessels. They supervise the entrance and clearance of all vessels at the terminal ports of the Canal Zone, denying entrance or departure until all laws and regulations concerning quarantine, customs, immigration, navigation, tolls, and dues are complied with. They are required to keep on hand a set of charts, a light list, sailing directions, and other usual data

needed for navigation; to be prepared to give information to masters and others in relation to the navigation of the Canal waters and the usual steamship routes; to assist in protection against fire in the harbors and along the water fronts; to investigate all accidents or damages to vessels, floating equipment, wharves, aids to navigation, etc., and as members of the local board of inspectors, to report their findings to the Governor.

The Panama Railroad Co., through its receiving and forwarding agent, loads and discharges all vessels using the ports of Cristobal or Balboa, except the vessels of lines which have been granted permission to use their own stevedores for this purpose.

ARRIVING AND DEPARTING VESSELS

Incoming vessels are boarded inside the Atlantic breakwater or off the seaward edge of the dredged channel at the Pacific entrance by a boarding party consisting of the pilot, the quarantine officer, the customs officer, and the admeasurer. All members of the boarding party comply strictly with instructions from the quarantine officer until free pratique has been granted and pilots are not permitted to bring ships to the pier until this has been done.

Vessels arriving between sunrise and 10 p.m. will be boarded on arrival and those arriving after 10 p.m. will be boarded at sunrise the following morning. For a vessel boarded between sunset and 10 p.m. a charge will be made for quarantine inspection at rates fixed by the Governor, and such boarding and inspection will be made unless specific request to the contrary is made by the vessel or its agents prior to its being sighted. For a vessel which is arriving for the first time in Canal Zone waters the night boarding and inspection may be declined subsequently to its being sighted, provided such vessel has no designated agent in the Canal Zone or the Republic of Panama. The final disposition of vessels inspected after sunset may be deferred in the discretion of

the quarantine officer. A vessel from a port subject to yellow-fever quarantine will not be released from quarantine until the vessel and all persons on board have been inspected by daylight.

Every vessel must hoist its designation signal when approaching and entering a terminal port, and those arriving at night shall signal promptly their names by flashlight to the signal station. When a vessel is not boarded immediately on arrival it shall anchor and await the boarding party in the boarding area designated by the Governor.

Documents required.- Regulation 12.1 of the Rules and Regulations Governing Navigation of the Panama Canal requires ships to have the following documents ready for immediate delivery to the boarding party.

	Ships transiting Canal without taking on or discharging passengers or cargo.	Ships taking on or discharging passengers or cargo at Canal ports
(a) Ship's information sheet (Panama Canal Form)	1	1
(b) Clearance from last port	1 (1)	1 (1)
(d) Quarantine declaration (International Standard Form)	3	3
(e) All other certificates of a sanitary nature	1 (1)	1 (1)
(f) Passenger list (on Panama Canal Form)	4	4
(g) Chinese descriptive list, passengers and crew	1 (3)	2 (3)
(h) Crew list	2	2
(i) Store list	1 (4)	1
(j) Cargo declaration (Panama Canal Form)	1	1 (5)
(k) Manifest of local cargo	0	4
(l) Declaration of explosive cargo carried	1 (3)	1 (3)
(m) Declaration of inflammable or combustible liquids in bulk carried as cargo	1 (3)	1 (3)
(n) Statement of fuel account (for vessels in ballast only)	1	1 (5)
(o) Panama Canal tonnage certificate	1	1 (5)
(p) National register	1 (1)	1 (1)
(q) General arrangement plan of vessel	1 (6)	1 (5)
(r) Report of structural alterations and of changes in use of tanks or other spaces since last transit	1	1 (5)
(s) Information cards for disembarking passengers as provided in Regulation 12.3		

Footnotes and notes to preceding table:

- (1) For examination only.
- (3) Not required unless such persons or cargo are carried.
- (4) Required if ship during transit is laid up for repairs, regardless of whether passengers or cargo are taken on or discharged.
- (5) Not required unless ship transits Canal.
- (6) For taking up and subsequent return through agent or otherwise.

NOTE 1.- In case a vessel takes on or discharges passengers or cargo at only one Canal Zone port and does not transit the Canal, the documents to the number indicated in the second column are required. In case a ship docks or takes on or discharges passengers or cargo at both Cristobal and Balboa, or at a port other than the port of entry, all documents to the number indicated in the second column will be required at the first port and, in addition, four copies of document (f), three copies of document (h), and documents (g), (i), and (k) to the number indicated in the second column will be required at the second port.

NOTE 2.- Crew list: copy for American consular officer.- Under the regulations governing the control of persons entering and leaving the United States issued by the Secretary of State on November 19, 1941, pursuant to authority contained in the Act of May 22, 1918 (40 Stat. 559) as amended by the Act of June 21, 1941 (55 Stat. 252) and Proclamation No. 2523 issued by the President of the United States on November 14, 1941, no alien may enter the Canal Zone unless he is in possession of a valid unexpired "permit to enter," or is exempted under such regulations from presenting a "permit to enter," which term includes an immigration visa, a reentry permit, a passport visa, a transit certificate, a border crossing identification card, a crew list visa, or any other document which may be required under authority of law for entry into the United States. When it is contemplated that entrance of alien seamen into the Canal Zone is to be authorized by a crew list visa, an additional copy of the crew list should be prepared for retention by the consular officer by whom the crew list is visaed.

NOTE 3.- Crew list to include identification numbers of seamen.- For purposes of additional identification of crew members, all copies of the crew list required by Regulations 12.1 and 12.4 should include for each seaman to whom a certificate of identification or a continuous discharge book has been issued as provided by law (46 U.S.C. 643), the serial number of such certificate of identification ("Z" number) or continuous discharge book.

NOTE 4.- Entry of alien seamen into Canal Zone.- Executive Order No. 9352 of June 15, 1943 (8 F.R. 8209), the provisions of which are applicable to the entry of alien seamen into the Canal Zone, is here published for the information and guidance of all concerned.

Part I.- Requirements of Crew-List Visas and Seamen Documentation

Masters of maritime vessels (except government vessels and such other vessels as the Secretary of State, in his discretion, may indicate) of all nationalities sailing for a port of the United States must submit for visa a list of all the alien members of the vessels crew to the American consular

officer at the port from which the vessel commences its voyage. If there is no consular officer stationed at that port, but if there is one stationed at a nearby place to whom the list may be submitted by mail for visa without delaying the vessel's departure, the list must be so submitted for visa. If there is no American consular officer stationed nearby the list must be submitted for visa at the first port of call where an American consular officer is stationed, but if the vessel does not call at any such port, no visa of the crew list will be required. The visa of a shipping commissioner in the Canal Zone shall be equivalent to the visa of an American consular officer, but a consular agent is not authorized to visa crew lists. The visaed crew list must be delivered to the immigration authorities or, where there is no representative of the Immigration and Naturalization Service of the Department of Justice, to the appropriate officer of the boarding party at the vessel's first port of call in the United States.

Alien seamen whose names are not on a visaed crew list when a visaed crew list is required of the vessel on which they arrive at a port of the United States shall not be allowed to land without the permission of the Secretary of State, except that for such seamen arriving at a port in the Virgin Islands the Governor thereof is authorized to grant temporary landing privileges and for such seamen arriving at a port in the Canal Zone the Governor of The Panama Canal is authorized to grant temporary landing privileges.

An alien seaman who is not exempt from the passport and visa requirements under Part II hereof shall be required to present an identifying travel document in the nature of a passport, showing his nationality and identity and bearing his photograph, before he may be granted shore leave for any purpose, unless the possession of such an identifying travel document is waived by the Secretary of State, except that for such a seaman arriving at a port in the Virgin Islands the Governor thereof may grant such waiver and for such a seaman arriving at a port of the Canal Zone the Governor of The Panama Canal may grant such waiver. The disposition of such documents after presentation shall be subject to regulations.

Part II. - Seamen Entering Other than as Crew Members

Alien seamen whose occupational status as such is found to be bona fide, entering the United States as passengers or workaways solely in pursuit of their calling as seamen, shall be exempt from the crew-list visa or other non-immigrant visa requirements for such period and under such conditions as the Secretary of State, in his discretion, may prescribe if they arrive in the United States under the following circumstances:

(a) Shipwrecked or castaway seamen rescued by, or transferred at sea to, a vessel bound for an American port:

(b) Seamen who are American consular passengers or who are repatriated without expense to the Government of the United States following, and in accordance with the terms of their discharge in a foreign port before an American consular officer;

(c) Seamen who were members of the crew of an American vessel which has been sold or delivered abroad when the contract of their employment provides for the return of the crew or when the laws of the United States provide for their return to an American port.

Part III. - Returning Immigrant Seamen

Alien seamen who, previously, have been lawfully admitted into the United States for permanent residence, who are returning to an unrelinquished domicile in the United States and who are not inadmissible into the United States under the immigration laws, may be permitted to land as returning residents without re-entry permits or non-quota immigration visas issued under section 4 (b) of the Immigration Act of 1924, notwithstanding the fact that they may be included in crew-list visas.

Part IV. - Provisions for Additional Rules and Regulations

The Secretary of State and the Attorney General are hereby authorized to make such additional rules and regulations, not inconsistent with this order, as they may deem necessary for carrying out the provisions of this order and the statutes mentioned herein, within their respective jurisdictions.

Part V.

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As used in this order, the term "United States" includes all territory and waters, continental or insular, subject to the jurisdiction of the United States.

Regulation 12.2. - Incoming passenger list. - The four copies of the incoming passenger list, required by Regulation 12.1, shall be accurate and legible and shall be delivered to the customs officer in the boarding party. In the event that any passengers destined to local ports fail to disembark, or that passengers in transit do disembark at local ports, notice thereof shall be given promptly to the chief of customs and the quarantine officer at the port, and four copies of a supplementary passenger list showing the names of such passengers shall be furnished promptly to the chief of customs.

Regulation 12.3. - Information cards for disembarking passengers. - One copy of an information card (Panama Canal form) is required for each passenger proposing to disembark at a Canal Zone port, except that no such card is required for a Panamanian citizen. This card shall be filled in on the typewriter before arrival at the Canal, shall be signed by the passenger in the presence of the quarantine officer and be presented to that officer.

Outgoing vessels are cleared by the port captain, or by such other officer of The Panama Canal as may be designated by the Governor, after he has ascertained that all documents and statistical data required by the Canal authorities in regard to vessel, cargo, and passengers have been furnished; that all tolls and other bills for services and supplies furnished by The Panama Canal or the Panama Railroad Co. have been paid, or their payment has been secured;

and that the vessel has complied with the quarantine, customs and exclusion laws, rules, and regulations of the Canal, and the laws, rules, and regulations governing the shipping, discharging, and protection of seamen. In this connection, Regulation 13.1 is quoted below:

Regulation 13.1 - Outgoing passenger list.- Four accurate and legible copies of the outgoing passenger list must be furnished to the chief of customs before clearance will be issued. Four copies of a supplementary passenger list shall be furnished for passengers embarking at the second Canal port after a vessel has sailed from the other port. Notice shall be given promptly to the chief of customs of any outgoing passengers who fail to depart on the vessel, and a list of such passengers shall be furnished in quadruplicate. In the event the failure of a passenger or passengers to depart on the vessel is not discovered until the vessel has left port the notice provided for herein shall be given by radio if possible, and if it is impossible to give such notice by radio then it shall be given by mail from the first port of call.

QUARANTINE REGULATIONS

The Division of Quarantine of the Health Department, which is administered by a chief quarantine officer and quarantine officers appointed by the Governor, is charged with the enforcement of quarantine rules and regulations in Canal Zone waters and in the harbors of Panama and Colon, Republic of Panama, and on vessels present in those waters and harbors. It is authorized to adopt such measures in regard to vessels, crews, passengers, and cargoes as may be necessary to protect the Canal Zone and the cities of Panama and Colon, Republic of Panama, from quarantinable diseases of men and animals, to grant pratique, to certify bills of health, to carry out at the request of the interest controlling a vessel any sanitary measures necessary to put the vessel in such condition that it may leave port with a clean bill of health, and to perform such other duties as may be assigned to it by proper authority.

Detailed rules and regulations governing quarantine are published by The Panama Canal in "Rules and Regulations Governing Navigation of the Canal and Adjacent Waters." A digest of some of the more important rules and regulations

is presented below:

All vessels and their passengers and crews arriving at the ports of the Canal Zone or of the cities of Panama and Colon, Republic of Panama, except those clearing from ports of the Republic of Panama which are known by the quarantine officers to be free from quarantinable disease, shall be in quarantine until released by the quarantine officer. A yellow flag shall be flown at the foremast of a vessel in quarantine until the quarantine officer gives permission to lower it. Any of the ship's records considered necessary, including cargo manifests, clinical records, certificates of a sanitary nature, crew and passenger lists, and the ship's log, may be examined by the quarantine officer. The crew and passengers may be inspected and checked with the lists.

Except with the permission of the quarantine officer, no floating craft may be brought within 200 yards of a vessel in quarantine, no vessel in quarantine shall be docked, no person or article shall be allowed to go aboard or leave a vessel in quarantine, and vessels in quarantine shall not be moved.

Masters of vessels shall arrange for inspection of the vessel, cargo, crew, and passengers by the quarantine officer and shall comply with instructions from him regarding detention of crew and passengers, disinfection, fumigation, and other sanitary matters.

When quarantine inspection has been completed, the quarantine officer shall grant either free pratique or provisional pratique, or shall detain the vessel in quarantine. Free pratique authorizes the vessel to transit the canal, to dock, to communicate with the shore, to take on and discharge passengers and cargo, and to do such other things as are legal and customary. Provisional pratique authorizes the vessel to do or requires it to abstain from doing certain specified things. Supplementary inspections are made by the quarantine officer or his assistant to see that instructions issued in the provisional pratique are carried out.

Every case of illness on any vessel in Canal Zone waters or in the ports of Panama or Colon, Republic of Panama, must be reported immediately to the quarantine officer whether the ship is in quarantine or not. The quarantine officer is authorized to place quarantine guards on any vessel in Canal Zone waters or in the ports of Panama or Colon. The master of a vessel is strictly responsible for the observation of quarantine rules and regulations affecting his vessel, cargo, crew, or passengers, even though there are quarantine officers or guards on board.

Vessels of the naval service of any nation may, at the discretion of the chief quarantine officer, be granted free pratique without quarantine inspection under conditions set forth in the published rules and regulations. Provisional pratique may be granted to vessels other than naval vessels, at the discretion of the quarantine officer, when a request therefor reaches him between the hours of 8 a.m. and 4 p.m. on the day before pratique is desired, giving the names of the ports visited in the last 10 days and containing a statement to the effect that there is no sickness on board and that the vessel intends to transit the Canal without

taking on or landing either cargo or passengers. Provisional pratique shall not be considered granted until reply to that effect has been received by the master from the chief quarantine officer.

Before a vessel is allowed to proceed through the Panama Canal or to leave a port of the Canal Zone, the quarantine officer shall furnish to the master a certificate of pratique or its equivalent in the form of a radio message.

A vessel may be detained in quarantine if there is or has been during the voyage a quarantinable disease on board; if the quarantine officer believes the vessel or its crew, passengers, or cargo to be infected with quarantinable disease; if the vessel has received on board any person or article from another vessel subject to quarantine; or if the quarantine officer considers that the conditions on the vessel in any other respects are such as to endanger the health of persons or animals in the Canal Zone or in the cities of Panama and Colon, Republic of Panama.

The quarantine officer is authorized to detain in quarantine any or all of the crew and passengers of a vessel, or any other person, considered to have been exposed to infection, and any or all cargo infected with a quarantinable disease. Persons in quarantine infected with a communicable disease not specified as quarantinable, and those exposed to infection from such persons, may be detained until disposition is directed by the chief health officer. The chief quarantine officer is authorized to remove persons sick in quarantine to any hospital and to direct that they be held in strict isolation. No one shall be released from detention until the prescribed period has expired, unless such release is directed by the chief quarantine officer.

Subsistence, lodging, and hospital care of crews or passengers detained in quarantine shall be at the interest of those controlling the vessel.

The quarantine officer is authorized to cause the removal of all cargo from a vessel to effect fumigation or disinfection of either the cargo or the vessel.

The quarantinable diseases of persons and the prescribed detention period for each are as follows: - Cholera, 5 days; yellow fever, 6 days; bubonic plague, 7 days; smallpox, 14 days; typhus fever, 12 days; leprosy and anthrax, indefinite. The quarantinable diseases of animals are glanders, anthrax, tuberculosis, foot-and-mouth disease, contagious plueropneumonia, rinderpest, and surra. Other diseases may be declared quarantinable by the Governor from time to time.

Detailed provisions regarding the vessels to be considered infected or free from infection of the quarantinable diseases of persons are published in "Rules and Regulations Governing the Navigation of the Canal and Adjacent Waters."

Vessels, except those from ports of the Republic of Panama which are known by the quarantine officer to be free from quarantinable disease, shall exercise precautions to prevent the coming ashore of rats or other rodents, as follows;— The vessel shall be breasted off in such manner that no part of it is nearer than 4 feet to the wharf or to any other vessel; immediately after docking, rat guards in good condition and of approved design shall be placed on all mooring lines and shall be secured so as to prevent rats from passing along the lines and shall be so located as not to overhang the wharf or another vessel or be nearer thereto than 3 feet. Such rat guards shall be maintained on the lines as long as the vessel remains at the wharf. All freight gangways, save-alls, catch-alls, cargo chutes, hose and other gear which might serve as a route of passage for rats from the vessel shall be hoisted when not in use to render passage of rats impossible. Such gear may remain unhoisted for short intervals during the daytime if watchmen are stationed to prevent rats from leaving along it. When it is necessary to leave gangways down after nightfall, they must be continuously guarded by watchmen.

Vessels will be fumigated for the destruction of rodents, as follows: (a) A vessel which calls at a plague-infected port and there takes on cargo and which has as its terminal port a port of the Canal Zone or the port of Panama or Colon, Republic of Panama, will be fumigated every trip. If no cargo is taken on at the plague-infected port, fumigation will not be required more than every three months. (b) A vessel which calls at a plague-infected port and which does not have as its terminal port a port of the Canal Zone or the port of Panama or Colon, and which takes on or discharges cargo in the Canal Zone or in the port of Panama or Colon, will be fumigated every 6 months unless the master produces a certificate showing that fumigation has been performed within 6 months. (c) A vessel, irrespective of ports of call, will be fumigated at least once a year unless the master produces a certificate showing that fumigation has been performed within a year. Unless the quarantine officer certifies that it is not necessary, no vessel shall be placed in a dry dock without a fumigation for the destruction of rodents subsequent to its arrival in Panama Canal waters.

The Governor is authorized to prescribe regulations concerning quarantine inspection and detention of aircraft entering the Canal Zone or the cities of Panama and Colon, Republic of Panama, and of persons carried thereon.

Aircraft arriving at the Canal Zone or the cities of Panama or Colon from territory beyond the borders of the Republic of Panama shall be considered to be in quarantine until given pratique by the quarantine officer. Such aircraft shall remain in the section of the landing field on which they alight until inspected, and no person or cargo shall be allowed to enter or leave the immediate area of landing until pratique has been granted.

IMMIGRATION

The port captains will deny the entrance or departure of vessels until all laws and regulations concerning immigration are complied with. Detailed rules and regulations governing the exclusion of undesirables and of Chinese are published in "Rules and Regulations Governing Navigation of the Canal" which should be consulted for complete information.

Exclusion of Undesirables

The rules and regulations governing the exclusion of undesirables are administered under the direction of the Chief Health Officer by the Division of Quarantine and Immigration of the Health Department. The rules and regulations governing deportation of persons are administered under the direction of the Executive Secretary by the Police and Fire Division. Some of the more important provisions are as follows:

The following classes of persons are forbidden to enter, remain upon or pass over any part of the Canal Zone, and the Governor is authorized to deport such persons found within the Zone:- Insane persons, idiots, feeble-minded persons, epileptics, those afflicted with a loathsome or contagious disease, persons convicted of or who admit having committed a felony, crime or misdemeanor involving moral turpitude, professional beggars, paupers, anarchists, persons who engage in strikes against the Government or in any strike which will interfere with or obstruct the operation or government of the Canal or Canal Zone, and any person whose presence would be a menace to the public health or to the welfare of the Canal Zone, or who would obstruct the operation, sanitation, government, or protection of the Panama Canal or the Canal Zone.

The owner or interest controlling a vessel bringing into the Canal Zone a person of any of the classes forbidden to enter shall return such person to his port of embarkation. The cost of excluding or deporting is a charge against the person or interest responsible for bringing the undesirable person into the Canal Zone. Such cost includes expenses incident to detention, maintenance, transportation, and transportation of baggage, as well as the actual cost of deportation. Clearance may be withheld from a vessel until such costs have been paid.

The master of a vessel owned or controlled by the same interests as a vessel which has brought to the Canal Zone a person subject to exclusion shall be required to receive such person on board at such time prior to the date of sailing of his vessel as may be decided by the Canal authorities.