

# THE BRAZILIAN SURVEYING VESSEL

## « RIO BRANCO »

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The following information has been supplied to the International Hydrographic Bureau by the Director General of Brazilian Navigation.

The plate showing the *Rio Branco* is a reproduction from Vol. II of the *Annaes Hydrograficos*, Rio de Janeiro, 1934.

The *Rio Branco* is an adaptation for hydrographic work of the late coast-guard vessel *Margaret*, built in 1914 by Messrs. J. I. THORNYCROFT & C<sup>o</sup> of Woolston, England, for the Dominion of Canada. The name given to the vessel is that of one of the greatest statesmen of the Republic, Baron RIO BRANCO, whose sympathy for the Navy and the prestige which he gave to it are well known.

The principal dimensions of the vessel are :—

Length between perps. . . . .	55.6 m. = 182 ft 5 ins.
Beam . . . . .	9.8 m. = 32 ft 2 ins.
Max. draught, forward. . . . .	4.2 m. = 13 ft 9 ins.
Max. draught, aft. . . . .	4.0 m. = 13 ft 1 1/2 ins.
Displacement . . . . .	756 tons.

Other characteristics :—

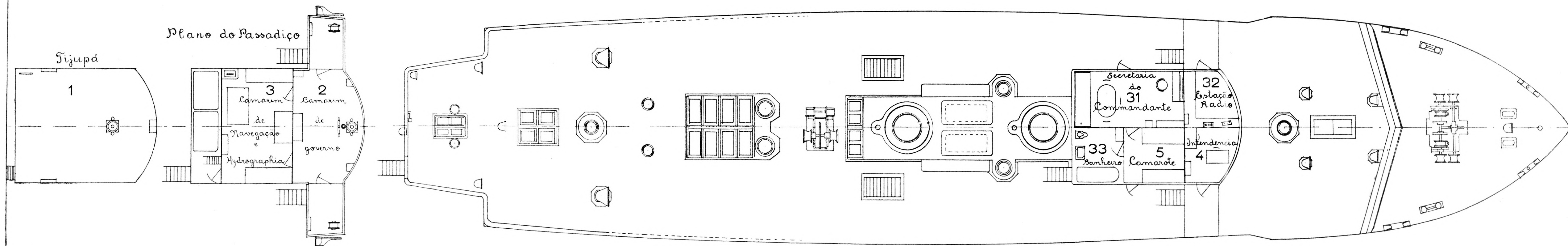
The vessel has two masts, the foremast rising 24.85 m. (81 ft. 6 ins.) above the W. L., the mainmast being merely to support the W. T. aerial. She has two Yarrow oil-burning boilers and two 3 cylinder vertical inverted engines each developing 1050 I.H.P.; she can reach and maintain a speed of 15 knots and, at that speed has a radius of about 3000 miles.

The adaptation was made with a view to hydrographic surveying on the coast of Brazil which extends over both the torrid and the temperate zones. It was necessary, therefore, to ensure the best conditions of habitability without prejudicing seagoing qualities and safety. Seeing that, for many years, the work will be carried out close to the coast, where a Brazilian port can be used as a base, the vessel was equipped accordingly.

For hydrographic purposes the bridge was enlarged to about 5 × 3 m. (16' — 6" × 10') and the rectangular chart-room to 5 × 3 m. (16' — 6" × 10'), lighted from 3 sides, so that it could be used also as a room for chart drawing. The upper bridge, with an ample rail, is 5 × 6 m. (16' — 6" × 19' — 9") provides plenty of room for any observations and, here, there is the standard compass and a Barr & Stroud range-finder of 1.2 m. (4') base.

The vessel has the usual cold-storage room, capacity 5.8 m<sup>3</sup> (205 cub. ft), with "Frigidaire" machine. Her electric supply is provided by two turbo-generators, of 14.5 and 18 kw. respectively, and one Kohler motor generating group of 5 kw. The fresh water and sanitary services are provided with electric pumps so that they can be used when the boilers are cold.

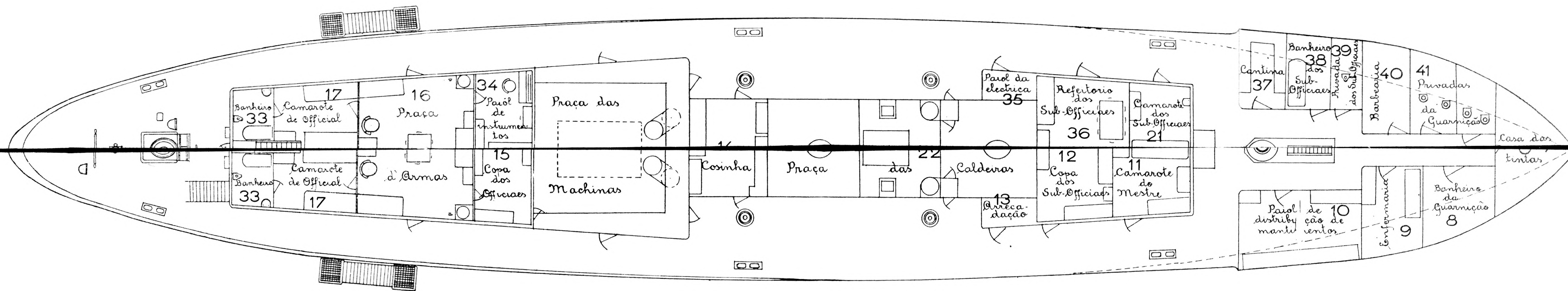
Plano da Solda



Navio Hydrographico  
"Rio Branco"

1934

Plano do Convéz



Other compartments required for hydrographic work are provided, e.g. a dark-room and a store for instruments and accessories for the field, close to the ward-room and accessible from either side of the ship.

Two special platforms for sounding by hand are provided under the bridge and visible therefrom.

The ship carries 8 officers and 77 men and thus the vessel provides comfortable accommodation for all.

The special navigational equipment consists of an Echometer of the Atlas Werke of Bremen, capable of sounding in the greatest depths of the ocean, and an Echograph to register depths down to 1500 m. (820 fms.).

A Telefunken D/F apparatus is fitted as well as electrical transmissions for the log and the repeaters to the bridge and the cabin.

The mechanical fittings for soundings consist of two Thompson machines, one on each side.

As wireless equipment there are a long wave receiver and transmitter of 100 w. and a short wave receiver and transmitter of 150 w.

The launches with which the ship is provided are described below in the article entitled : *Surveying Boats (Continued) — Brazil.*



## PROFILE.

- |   |                                |
|---|--------------------------------|
| 1. Top of wheelhouse and navigating and surveying room. | 16. Wardroom.                  |
| 2. Wheelhouse.  | 17. Officer's room.            |
| 3. Navigating and surveying room.                       | 18. Paint store.               |
| 4. Superintendence.                                     | 19. Mates' accommodation.      |
| 5. Captain's room.                                      | 20. Crew space.                |
| 6. Bathroom.  | 21. Petty officers' rooms.     |
| 7. Paint locker.  | 22. Stokehold.                 |
| 8. Crew's bathroom.                                     | 23. Engine room.               |
| 9. Infirmary.   | 24. Officers' rooms.           |
| 10. Steward's room.                                     | 25. Steering engine.           |
| 11. Boatswain's store.                                  | 26. Fore and after peak tanks. |
| 12. Petty officers' mess.                               | 27. Cable room.                |
| 13. Arrest.   | 28. Fresh water tank.          |
| 14. Galley.   | 29. Refrigerating plant.       |
| 15. Officers' pantry.                                   | 30. Provision store.           |

## UPPER DECK.

- |   |                         |
|---|-------------------------|
| 1. Top of wheelhouse and navigating and surveying room. | 5. Captain's room.      |
| 2. Wheelhouse.  | 31. Captain's office.   |
| 3. Navigating and surveying room.                       | 32. Radio room.         |
| 4. Superintendence.                                     | 33. Captain's bathroom. |

## LOWER DECK.

- |                            |                                |
|----------------------------|--------------------------------|
| 7. Paint locker.           | 22. Stokehold.                 |
| 8. Crew's bathroom.        | 23. Engine room.               |
| 9. Infirmary.              | 33. Bathrooms.                 |
| 10. Steward's room.        | 34. Instrument room.           |
| 11. Boatswain's store.     | 35. Electrician's room.        |
| 12. Petty officers' mess.  | 36. Petty officers' refectory. |
| 13. Arrest.                | 37. Canteen.                   |
| 14. Galley.                | 38. Petty officers' bathroom.  |
| 15. Officers' pantry.      | 39. Petty officers' lavatory.  |
| 16. Wardroom.              | 40. Barber.                    |
| 17. Officer's room.        | 41. Crew's toilet.             |
| 21. Petty officers' rooms. |                                |





Exhibit of Instruments in the Library  
of the International Hydrographic Bureau.

*Exposition d'instruments dans la Bibliothèque  
du Bureau Hydrographique International.*

**THE HYDROGRAPHIC REVIEW**

The Directing Committee of the INTERNATIONAL HYDROGRAPHIC BUREAU will be pleased to consider articles for insertion in the *Hydrographic Review*. Such articles should be addressed to

The Secretary-General  
INTERNATIONAL HYDROGRAPHIC BUREAU,  
Quai de Plaisance

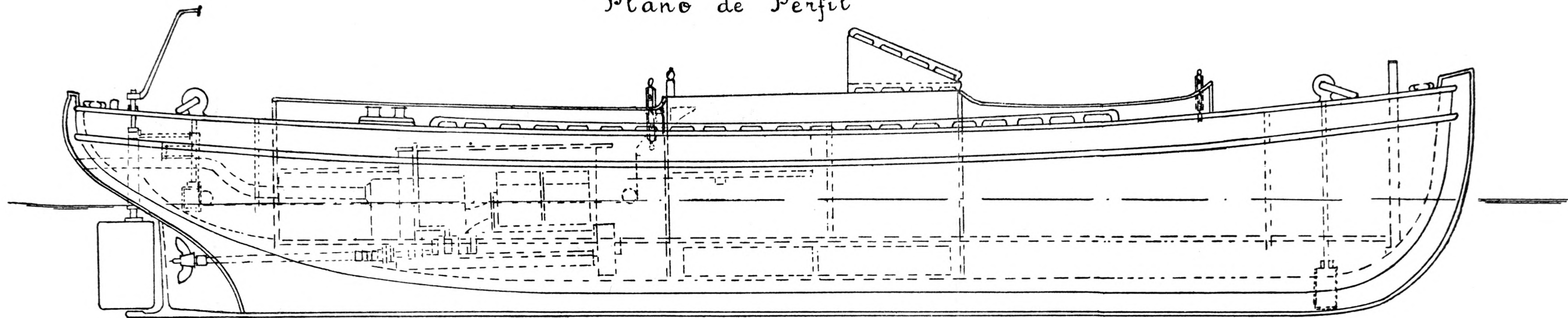
MONTE-CARLO  
(Principality of Monaco).

and should reach him not later than 1st February or 1st August for the May or November numbers respectively.

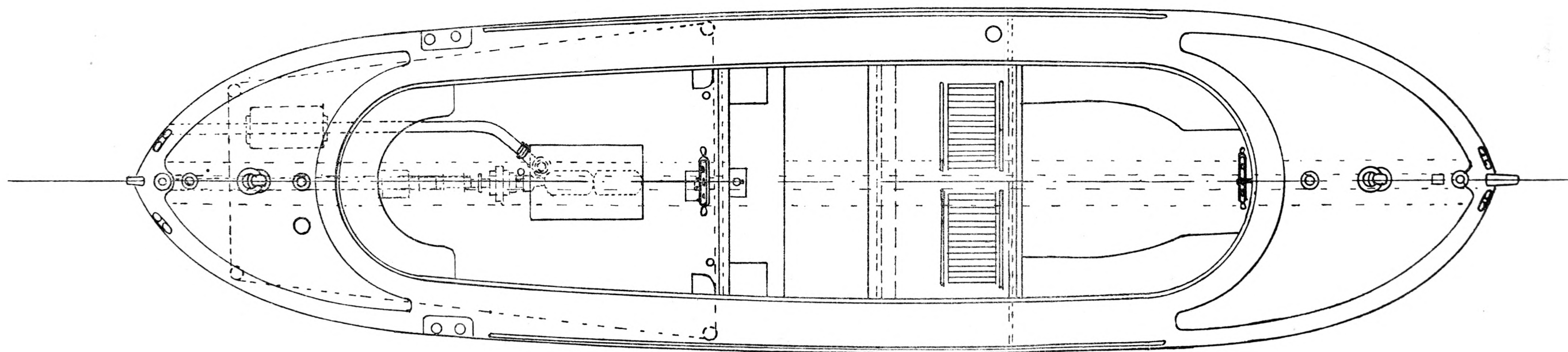
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Plano de Perfil



Plano Horizontal



Lancha para o serviço  
hydrographico

1934

IMPRESA NAVAL - RIO

Brazilian Surveying Boat.

PLAN N° 33.

Embarcation pour l'Hydrographie Brésilien.