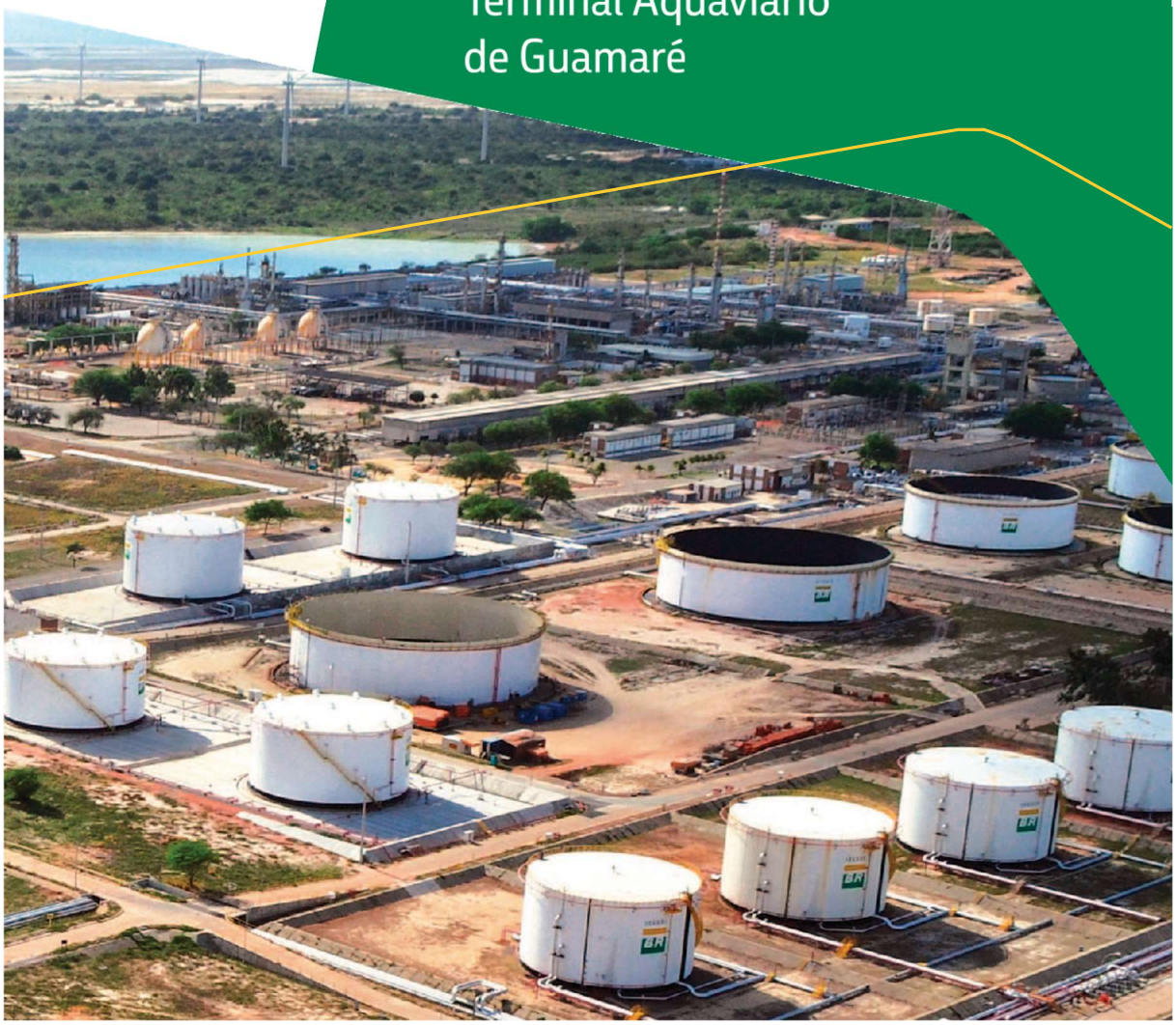
TRANSPETRO

INFORMAÇÕES PORTUÁRIAS

Port Information

GUAMARÉ

Terminal Aquaviário de Guamaré



REVISION CONTROL

Review	Date	Preparation	Verification	Approval
0	07/2006			
A	07/2021		Guilherme	Guilherme
B	12/2022	Santoro	Clauton	Guilherme

SUMÁRIO

INTRODUCTION

This *Port Information* document is prepared by Petrobras Transporte S.A. – Transpetro, which operates the Guamaré Waterway Terminal (TA GUAMARÉ) in the Ubarana de Escuros e Claros ocean multi-buoys in Rio Grande do Norte.

It presents essential information for ships operating at the terminal and is distributed internally in the organization, to interested parties, port authorities, maritime authorities, maritime agencies, tankers and other municipal, state and federal authorities.

Port Information is available in Portuguese and English versions.

The information contained in this publication is intended to supplement, never replace or alter any type of legislation, instructions, guidance, or official, national, or international publications. Therefore, it should not be taken into account what contravenes any item of the aforementioned documents.

The Terminal reserves the right to change any of its operational characteristics presented herein, without prior notice.

Transpetro will analyze any suggestions, recommendations or corrections to the matters addressed here, with a view to improving the information. If incorrect information is found which needs to be updated, please contact:

Sectorial Management of the Guamaré Waterway Terminal
Rodovia RN 221, km 25, S/N, Zona Rural
Zip Code 59598-000 – Guamaré – RN,
Tel: (+55 84) 3235-5504.
Fax:(+55 84) 3235-5327

Petrobras Transporte S.A. – Transpetro
Av. Presidente Vargas, 328 / 9th floor–
Centro 20091-060 – Rio de Janeiro – RJ
Tel.: (+55 21) 3211-9085
Fax: (+55 21) 3211-9067

Communication Advisory
Telephones (+55 21) 3211-9039 and (+55 21) 3211-9000.

The latest version of this document can be obtained at the following address:
www.transpetro.com.br

DEFINITIONS

BP – Bollard Pull - (Vessel longitudinal static traction).

Maneuver Captain – Professional certified and qualified according to STCW (Seafarers Training Certificate and Watchkeeping), to act as a pilot in the open sea.

CDA – Cento de Defesa Ambiental da Petrobras S.A.

COW - Crude Oil Washing (Cleaning of Load Tanks with Crude Oil).

DHN - Directorate of Hydrography and Navigation.

DWT - Dead Weight Tonnes

Squat effect – Increased draft of a ship as a result of increased travel speed, especially in restricted waters.

GIAONT – Generic designation of professional Operational Safety Inspectors. The name is derived from the Group for Inspection and Operational Monitoring of Ships and Terminals.

IMO - International Maritime Organization

ISGOTT - International Safety Guide for Oil Tankers and Terminals.

Drought tide – Condition in which the tide reaches the minimum amplitude at a certain time of the year.

Syzygy tide – Condition in which the tide reaches the maximum amplitude at a certain time of the year.

MBL – Minimum Brake Loading.

UTC – Universal Time Coordinated.

VTS – Vessel Traffic Service.

CHARTS AND DOCUMENTS

REFERENCE

3.1 Charts

Information regarding the Terminal can be obtained from the following related publications:

Area	Chart number
	Brazil (DHN)
From Ponta Maceió to Cabo Calcanhar	21900
From Areia Branca to Guamaré	720
Port of Guamaré	704

3.2 Other Publications

In addition to the information contained in the aforementioned Charts, other information and data about the Terminal can be obtained from the documents below:

Type/Subject	Editor or Source
	Brazil (DHN)
Normas e Procedimentos da Capitania dos Portos	NPCP
Apoio à navegação na Costa Leste	DH1-II
Lista de Faróis	DH-2
Lista Auxílio de Rádios	DH List 8-8

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DOCUMENTS AND INFORMATION EXCHANGE

The items listed below must be provided by the Terminal or the Ship, as indicated in the table.

Information	Elaborated by:			Delivered to:			Comments
	Terminal	Ship	Both	Terminal	Ship	Both	
Prior to Arrival							
Estimate Time of Arrival (ETA) and information about the vessel		X		X			According to APPENDIX P
Essential information about the Terminal	X				X		According to ANNEXES A to O
Prior to Load Transfer							
Loading Details/*slop* / ballast on board		X		X			According to specific documentation
Essential information for the operation (complete on site)	X				X		According to specific documentation
Ship / Shore Safety Checklist			X			X	According to Appendix A of Isgott

continues

Information	Elaborated by:			Delivered to:			Comments
	Terminal	Ship	Both	Terminal	Ship	Both	
During loading/unloading transfer							
Repeat the Ship/Shore Safety Checklist			X			X	According to Appendix A of Isgott
After loading transfer, prior to leaving							
Information required for unberthing the ship			X			X	Quantity of fuel and water on board
After unberthing, on leaving the port							
Information related to the port leaving data		X		X			Pilot disembarkation and departure time from the port

DESCRIPTION OF PORT OR ANCHORAGE

5.1 Terminal Overview

The TA Guamaré is located at Rodovia RN 221, km 25, S/N, Zona Rural of the municipality of Guamaré, State of Rio Grande do Norte, Zip Code 59598-000, approximately 170 km from the Natal Capital and 9 km from the city of Guamaré.

Its facilities are equipped with 13 (thirteen) atmospheric tanks, with a nominal storage capacity on the order of 260 thousand m^3. It also has 2 (two) multi-buoys, 2 (two) tank truck unloading platforms and 2 (two) subsea pipelines that connect the multi-buoys to the Terminal.

Its activities consist of receiving oil from offshore and onshore production fields through onshore pipelines, receiving oil from independent producers through truck unloading platform, storage in tanks and delivery of these oils through subsea pipeline and multi-buoy, receiving via formation water board and sending for treatment at E&P stations. And also operations with clear derivatives, receiving and sending naphtha and diesel by subsea pipeline and board, storage and internal transfers with customers. Making a monthly movement, between inputs and outputs, in about 700,000 m^3.

5.2 Location

5.2.1 General Geographic Location

The Waterway Terminal is located on the north coast (N) of the State of Rio Grande do Norte, in the so-called zone of the Costa Branca or Salineira. It can be reached by the federal highway BR-406, leaving Natal, the state capital, and taking the RN-401 after the district of Baixa do Meio towards the city of Guamaré.

5.2.2 Shore Base

The Guamaré Waterway Terminal (Administration and Tankage) TA-GUA is located about 9 km Southwest (SW) from the headquarters of the municipality of Guamaré, in Rio Grande do Norte.

5.2.3 Multi-buoy coordinates

Ubarana de Escuros Multi-buoy:

- ➔ Latitude: 04° 52’ 25” S
- ➔ Longitude: 036° 22’ 27” W

Ubarana de Claros Multi-buoy:

- ➔ Latitude: 04° 55´8 S
- ➔ Latitude: 33° 26’05 W

5.3 Terminal Approach

5.3.1 Overview

The two multi-buoys are in the open sea, both can be demanded by ships sailing from the south or north, however, the particularities of each multi-buoy specified below must be observed.

Ships sailing from the South, after Cabo Calcanhar, can obtain by radar positions of the production platform PAG II, which has Racon, and is at the following geographical coordinates: 04° 52’ 29” South latitude (S) and 036° 16’ 12” West longitude (W). This platform is located about 6 nautical miles to the East (E) of the Escuros Multi-buoy.

Ships sailing from the North (N) can approach in the same way, taking care to avoid the Urca do Tubarão, located approximately 5 nautical miles to the West (W) of the Escuros Multi-buoy and about 5.2 nautical miles to the Northwest (NW) of the Light Frame.

It is recommended not to approach the Escuros Multi-buoy on its South side (S), due to the existence of underwater channels not marked on the navigation charts.

In nocturnal approaches to the Escuros Multi-buoy, attention should be paid to the signaling buoy with radar reflector at coordinates: 04° 52' 03" South latitude (S) and 36° 22' 10" West longitude (W) with white light that presents a white flash with 0.3 s and concealment of 2.7 s with a range of 5 nautical miles.

While on the approaches to the Claros Multi-buoy, observe the isolated danger buoys at coordinates Lat 04° 55',65 S and Long 36° 27',25 W, Lat 04° 50',8 S Long 36° 27',44 W. These demarcate an 8-meter-high bottom, as well as Urca do Tubarão.

The Ubarana 1 platform (PUB 1), located at coordinates Lat 04° 54' 56" S and Long 36° 20' 22" W, must serve as a reference point for navigation of the Claros Multi-buoy. The approach must be carried out by the North, given the presence of a high bottom to the South of the table.

The Claros Multi-buoy has a waiting buoy at the coordinates: lat 04° 49' S long 036° 30' W, which marks the entrance of the navigation channel to it. This buoy can serve as a reference for starting navigation through the channel and ships in the anchorage area.

5.3.2 Anchorages

Almost the entire area to the North (N) and Northwest (NW) of the Escuros Multi-buoy is good for anchoring, since the bottom is good tense (sand and gravel).

From the signal buoy, it can anchor at any distance to the West (W) or Northwest (NW) of it; however, it is recommended to anchor as close as possible to the Multi-buoy. This recommendation aims to facilitate the mooring maneuvers and visit of authorities.

On the other hand, one should avoid anchoring to the South (S) of the two multi-buoys due to the subsea pipelines and high bottoms not demarcated in the navigation charts.

For the Clear Frame, the entire area to the North (N) is good to anchor, since the bottom is very tense (sand and gravel). The Urca do Tubarão to the northwest (NW) should be avoided.

Here are the suggested coordinates for the anchorage area:

Escuros Multi-buoy:
1) Lat 04° 50´ S and Long 36° 24´ W
2) Lat 04° 50´ S and Long 36° 20´
3) Lat 04° 51´ S and Long 36° 24´ W

4) Lat 04° 51´ S and Long 36° 20´ W

Claros Multi-buoy:
1) Lat 04° 48’ S and Long 36° 27’ W
2) Lat 04° 48’ S and Long 36° 29’ W
3) Lat 04° 49’ S and Long 36° 27’ W
4) Lat 04° 49' S and Long 36° 29' W

The Port Authority advises the commanders that, when anchoring their ships, they keep the crew in Travel Regime, with the objective of having on board qualified personnel and in sufficient numbers to carry out emergency maneuvers.

Place of embarkation of the maneuver captain

For mooring in any multi-buoy, the maneuver captain will embark, in daylight, in the anchorage area, with the ship producing shade on the side where the ladder is lowered. He will advise the commander on the ship's mooring and unmooring maneuvers, supervise the connection and disconnection tasks of the hose lines, as well as monitor the mooring conditions and environmental conditions during operations.

The maneuver captain will board together with an *offshore* team that will make the connection and disconnection of the hose lines.

The ship must provide adequate accommodation and meals for the personnel on board together with the maneuver captain, since they will remain on board until the end of the operation.

5.3.3 Aids to Navigation

In addition to the PAG II Platform and the signaling buoys of both multi-buoys, there are also the production platforms of Ubarana II, III and IV and POUB-1.

The coordinates of the platforms are as follows:

- ➔ PUB II (Fixed - Concrete): South latitude (S) 04° 55’ 46” and West longitude (W) 036° 20’ 21”.
- ➔ PUB III (Fixed - Concrete): South latitude (S) 04° 55’ 22” and West longitude (W) 036° 22’ 30”.
- ➔ PUB IV (Fixed - Jacket): South latitude (S) 04°54’ 31” and West longitude (W) 036° 24’ 42”.
- ➔ POUB-1 (Fixed – Jacket): South latitude (S) 04° 53’ 06’’ and West longitude (W) 036° 24’ 01’’.

As it is an oceanic Terminal with its own characteristics, the Terminal will be provided with the assistance of a maneuvering captain who will support the ship's berthing and unberthing maneuver to the Multi-buoy.

5.3.4 Limits of the Port

The Ubarana Multi-buoys of the Guamaré Waterway Terminal are outside the organized port area and in the open sea and, therefore, subject to the maritime authority, which obliges the Terminal to meet the relevant standards and lists.

When there are ships operating, it is considered a restricted area and, when there is not, a public area, in accordance with the Public Port Security Plan (PSPP) in compliance with the ISPS Code.

5.3.5 Port Control or VTS (Vessel Traffic Service)

As it is an ocean terminal, local control is exercised by Petrobras Transporte S.A., however external traffic control is exercised by the Brazilian Navy, through the 3rd Naval District, which in turn communicates with the Petrobras' internal security.

5.3.6 Pilotage

There are no pilots in the terminal. All maneuvers will be directed by the ship's commander with the assistance of a maneuver captain from the terminal itself. The maneuver captain will evaluate, together with the commander, the weather conditions and decide on what time the maneuver should be made.

The services provided by the maneuver captain are free of charge and under express consent and conditions that Transpetro will not be liable for any damages and losses resulting from such guidance, assistance or acts suggested or performed by the professional.

The NT Captain must communicate to the maneuver captain any special conditions of his NT, such as deficiency in navigation equipment, spies, windlass, winch or lack of other necessary equipment that may endanger the mooring, connection, etc. The NTs must be tied to the full satisfaction of the maneuver captain.

The maneuver captain will notify any unsatisfactory operating conditions to the terminal manager. That it may reject the NT for future loadings, unless the deficiencies pointed out are remedied.

5.3.7 Tugboats, launches and port services

The Terminal has a launch to assist with mooring, unmooring and emergencies procedures. The responsibility lies with the maneuver captain, with the assistance of a team of divers and moorers.

The launch can be used for emergencies, transport of provisions or any special need. These services must be requested from the maneuver captain who will decide with the Management in Guamaré.

The use of tugboats will be subject to the evaluation of the maneuver captain together with the ship's commander. These will decide according to the weather conditions.

The ship must have lines in good working order.

It is not feasible to supply drinking water, fuel, lubricants or foodstuffs while the ship is in the berth, as it is an ocean terminal.

For the same reason as the previous item, there are no facilities of any other types, such as:

- ➔ Shears or Lighters
- ➔ Laundry
- ➔ Naval repairs
- ➔ Tank cleaning
- ➔ Needle compensation or direction finder calibration

5.3.8 Risks to navigation

There are no major risks to navigation in the vicinity of the Ubarana Multi-buoys of the Guamaré Terminal.

For the Escuros multi-buoy the maximum draft recommended on arrival is 12 m and at the exit 14 m.

For Claros multi-buoy, the maximum draft is 10 m, for entry and exit.

Pay attention to the Urca do Tubarão about 5 nautical miles west (W) of the Escuros Multi-buoy and 5.2 nautical miles Northwest (NW) of the Claros Multi-buoy.

The average variation of the tide is 1.80 m between the high seas and the low seas of syzygia.

5.3.9 General Restrictions

Each multi-buoy only holds 1 (one) ship, if there is more than 1 (one) ship, the Terminal Management will decide which priority.

There is no night berthing, if the ship arrives at this time it must anchor and contact via VHF radio with the terminal to know at what time the maneuver captain will go with his team on board the next day.

Possible restrictions regarding weather conditions will be resolved by the maneuver captain and the ship's commander, who will jointly decide on the safest time to carry out the mooring maneuver on the multi-buoy.

5.4 Maneuvering Areas

The evolution basin is located around the multi-buoy.

Most approaches are made from the north of each frame, where there are no ducts or high-ends.

If there is a need to approach the Dark frame from the south, it is recommended that the jaws are always passed on the anchors, since the ship will pass over the 26” oil pipeline.

5.4.1 Aids to navigation and berthing

The Terminal does not have navigation aids for approaching.

The maneuver captain shall use the equipment to assist the navigation of the ship when the approach cannot be made visually.

The commander of the support boat will assist the maneuver captain whenever requested.

5.4.2 Escuros depth control:

The maximum draft suggested at the entrance is 12 meters and at the exit 14 meters.

The maximum depth in the Multi-buoy is 22 meters in the high

seas. The minimum depth is 17 meters in the low seas.

Commanders must exit the Multi-buoy with true heading between 000° and 030° where they will find greater depth.

Claros:

The maximum draft at the entrance and exit is 10 meters.

The maximum depth is 20 meters in the high seas.

The minimum depth in the center of the multi-buoy is 15 meters in the low seas.

5.4.3 Maximum dimensions

The maximum size of vessels for berthing in the Escuros Multi-buoy of Ubarana do TA Guamaré is 135,000 t of DWT.

The maximum size of vessels for berthing at the Claros Multi-buoy of TA Guamaré's Ubarana is 50,000 DWT.

5.5 Environmental Factors

The weather conditions in the Ubarana Multi-buoys throughout the year are good.

- ➔ Atmospheric pressure: The annual average is around 1014.0 mb.
- ➔ Atmospheric temperature: The average atmospheric temperature is 27°C, ranging from 22°C in winter (June/July/August) to 34°C in summer (December/January/February).
- ➔ Relative humidity: The relative humidity during the year is high, about 87%, mainly in the rainy months.

The other weather information of the area is described below.

5.5.1 Prevailing Winds

The prevailing winds in the area of the Ubarana Multi-buoy are SE, E and ENE.

From late March to early August, the prevailing wind is southeast (morning and night), 130° to 160°, from moderate to strong.

From August to mid-October, prevails the East (E) – 085° to 095° moderate, and the East/Northeast (E:NE) – 070° to 085° strong.

From October to March, the prevailing is the Northeast (NE) – 050° to 070°, strong in the afternoon until dawn, when it usually rounds South/Southeast (S:SE) and remains weak until the morning of the next day.

Operational limits

Daytime approach and mooring	Wind 25 knots
	Visibility 1.0 mile

Transfer step	DIRECTION	QBC/QBE
	NE 030 to 060	25 knots
	E 075 to 105	30 knots
	SE 120 to 150	25 knots
Pump interruption	DIRECTION	QBC/QBE
	NE 030 to 060	30 knots
	E 075 to 105	35 knots
	SE 120 to 150	30 knots
Disconnect	DIRECTION	QBC/QBE
	NE 030 to 060	35 knots
	E 075 to 105	40 knots
	SE 120 to 150	35 knots

5.5.2 Waves and wind seas

The waves in the Multi-buoy area are usually caused by the prevailing wind.

With the Southeast (SE) the wind seas have an average height of 1.5 m, with the East (E) and Northeast (NE) wind seas of up to 3 m.

Eventually, NE *swells* of up to 2.0 m in height occur.

5.5.3 Rainfall Precipitation

The period of greatest concentration of rainfall runs from January to June, considered the winter of the region.

At this time there are intense rains of short duration, with an average rainfall of 408 mm.

During the dry period, which runs from August to November, the level of precipitation decreases to a minimum of 10.5 mm/month, usually in November.

December is considered the transition month, but with little precipitation.

5.5.4 Lightning Storms

The Multi-buoy area does not have a significant history of Lightning Storms.

5.5.5 Visibility

Visibility considered good to excellent, usually 10 nautical miles in daylight, and may be reduced in the rainy season

The months with the highest percentage of cloudiness are between January and June.

5.5.6 Tidal streams and other streams

The stream that prevails in the multi-buoy is the tidal one, it can reach up to 3 knots of speed. Eventually strong surface streams are observed, which can make some maneuvers difficult. The tide table used is that of the city of Guamaré.

5.5.7 Variations in Tide Levels

In the tides of syzygy, the variation is 1.80 meters.

In the quadrature tides, the variation is 0.60 meters.

Further details refer to the ship's tidal tables.

5.5.8 Measurements

The TA Guamaré Multi-buoy does not have any instrument that makes measurements of the atmospheric or marine conditions of the area.

This information can be obtained through the website of the Brazilian Navy: http://www.mar.mil.br/ (Access the Navigators Information menu to Meteorology) and can be complemented with the information available on the website of the Center for Weather Forecasting and Climate Studies: http://www.cptec.inpe.br.

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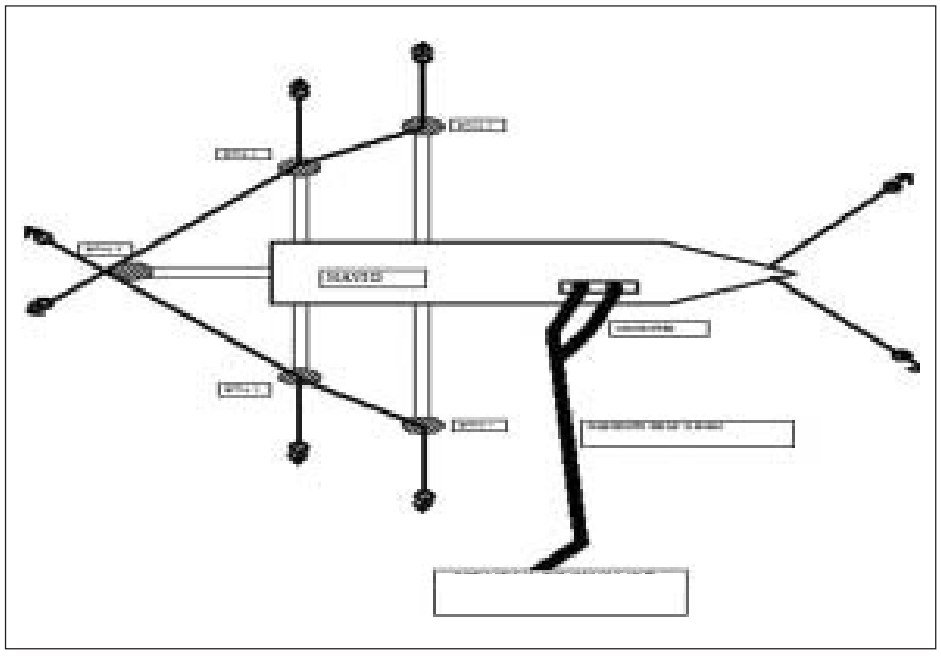
TERMINAL DESCRIPTION

6.1 Overview

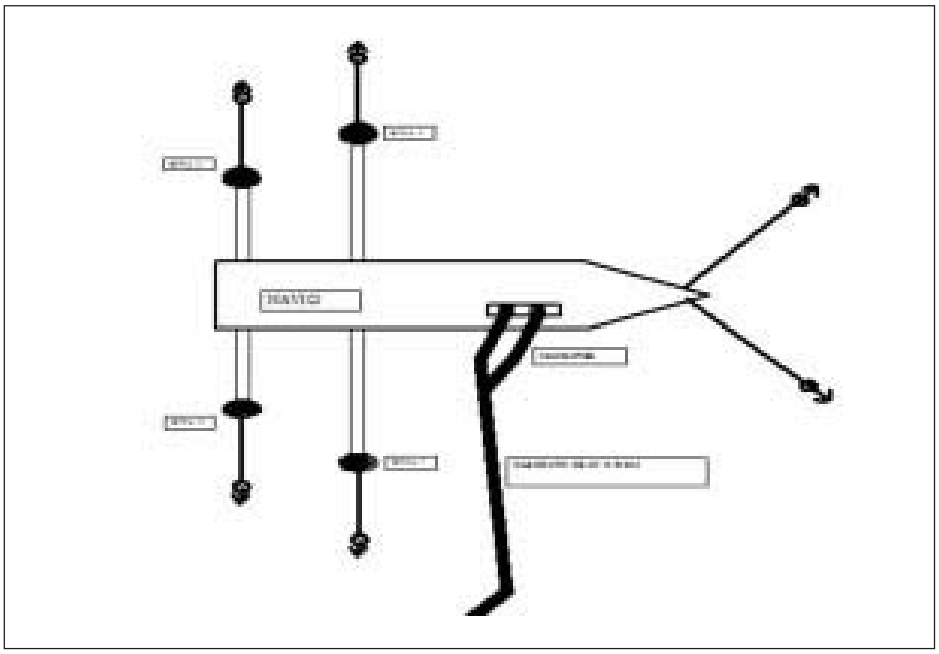
Escuros Multi-buoy: conventional multi-buoy with 5 circular mooring buoys of 20,000 N of thrust, forming a V-berth.



The following table presents flow rates, products, lines and movements.

Berth No.	Products	Lines	HOSES	Movements	Flow rate
Single	Oil	1 x 26”	2 x 10”- #300	Send / Receive	1,800 / 1,500
Single	Water	1 x 26”	2 x 10”- #300	Receive	1,300
Single	RAT	1 x 26”	2 x 10”- #300	Send	1,400
Single	Diesel	1 x 26”	2 x 10”- #300	Send / Receive	1,100 / 1,200
Single	Naphtha	1 x 26”	2 x 10”- #300	Send / Receive	1,100 / 1,200

Claros Multi-buoy: conventional multi-buoy with 4 circular 16,000 N thrust mooring buoys.



The following table presents flow rates, products, lines and movements.

Berth No.	Products	Lines	HOSES	Movements	Flow rate
Single	Diesel	1 x 26”	2 x 10”- #300	Send / Receive	1,100 / 1,200
Single	Naphtha	1 x 26”	2 x 10”- #300	Send / Receive	1,100 / 1,200

6.2 Physical Details of Multi-buoy

The Escuros Multi-buoy is the conventional type of multiple buoys. The ships are tied to two forward anchors and five buoys. In each buoy are passed two spies of fiber or steel. The ships are loaded through an Ø 26"subsea oil pipeline, which forks into two lines of hoses.

The Claros Multi-buoy is the conventional type of multiple buoys. The ships are tied to two forward anchors and five buoys. In each buoy are passed two spies of fiber or steel. The ships are loaded through an Ø 26"subsea oil pipeline, which forks into two lines of hoses.

One or both hose lines can be connected, always by BE.

Each of the hose lines is approximately 160 m in length, and the design pressure is 300 psi.

The ends of the lines are marked by shear buoys and have a ¾" diameter *pickup* cable 40 m long for rescue. The Ø 10"flanges are connected to the ship sockets through a quick disengagement device, the connection flanges being Ø10", ANSI standard, CLASS 300 PSI.

The longitudinal axis of the ship will have its orientation modified with respect to the azimuth of the frame axis according to the prevailing wind direction.

6.2.1 Mooring buoys characteristics (Escuros and Claros)

- ➔ Type: circular.
- ➔ Weight: 9,850 Kg/ 7,500 Kg
- ➔ Thrust: 196,153 N / 16,000 N
- ➔ Diameter: 3,200mm / 3,200mm

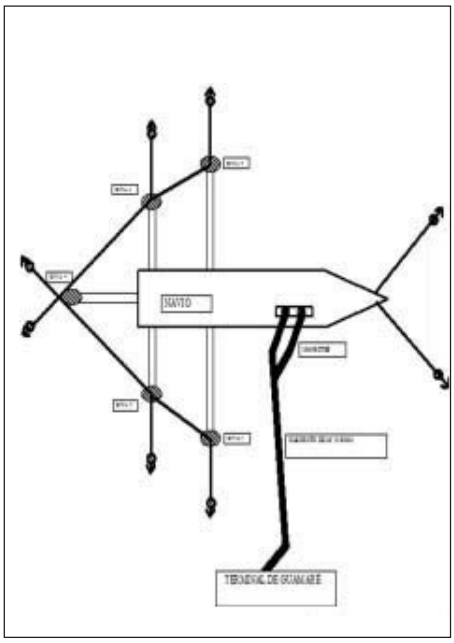
6.2.2 Features of the Escuros anchoring system:

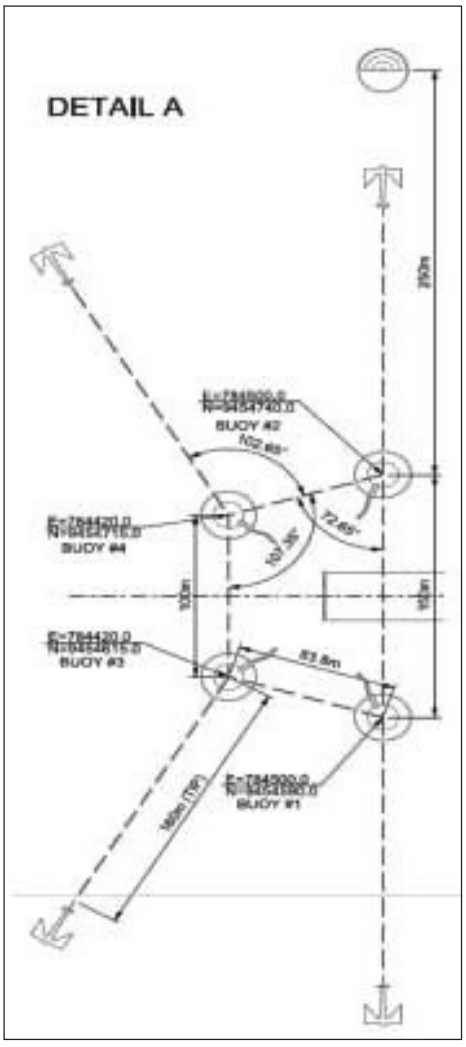
- ➔ 63.5 mm (2.1/2") moorings: 36 barracks (anchor shackle X anchor)
- ➔ 63.5 mm (2.1/2") moorings: 5 barracks (float pendant)
- ➔ Positioning pole 10 ton: 5 (trapezoidal shape)
- ➔ 12 ton main anchors: 6 Dunforth type

Claros:

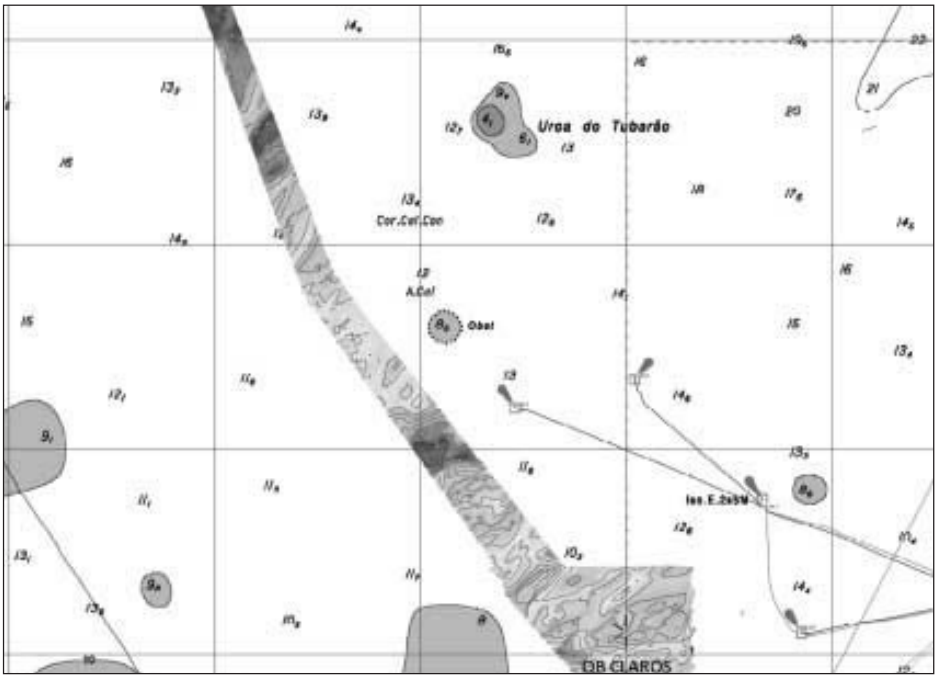
- ➔ 56 mm moorings: 160 meters (anchor / buoy)
- ➔ 56 mm moorings: 25 meters (float pendant)
- ➔ Positioning pole 16 ton: 5 (trapezoidal shape)
- ➔ Main anchors 4 ton: 6 Dunforth type

6.2 Mooring Arrangements





Location map of the Claros multi-buoy and access channel



6.2.1 Conditions for embarkation of the maneuver captain

Ships must have a ladder that is perfect and long enough to reach the terminal launch and placed next to the gangway ladder (combined), so that those who are boarding the ship can pass to the latter after climbing 2 or 3 meters.

6.2.2 Recommended mooring

Every ship destined for TA Guamaré must be able to perform the mooring below. Mooring safety is the responsibility of the ship's captain and will be assisted by a maneuver captain.

TA Guamaré may veto or interrupt an operation in which the mooring of the ship is considered unsatisfactory.

The ship is tied to the ESCUROS multi-buoy in the following configuration: two anchors with approximately 8 barracks and tied with 2 cables (steel or fiber) in each of the 5 buoys existing in the multi-buoy (see drawing above).

The ship is tied to the CLAROS multi-buoy in the following configuration: two anchors with approximately 7 barracks and tied with 2 cables (fiber) in each of the 4 floats existing in the multi-buoy (see drawing above).

Soon after the second anchor has been dropped, the first mooring lines may be delivered to the boat that will slingshot them to the windward mooring buoys, in the order dictated by the maneuvering captain.

Mooring will only occur in daylight.

6.3 Characteristics of the Berth for Loading and Unloading

The loading on the ESCUROS multi-buoy is carried out through a 26" subsea oil pipeline, 30 km long from the coast.

Loading into the CLAROS multi-buoy is carried out through a 20" subsea oil pipeline, 16 km long from the coast.

In both frames at the end of each rigid line there is a PLEM, from which two lines of flexible subsea hoses, approximately 160 meters long each, 300 PSI pressure class are forked.

The loading socket should preferably already be equipped with a 10"flange, ANSI 300 PSI standard. Flow rates and products vary according to the tables in item 6.1.

Midway through, a crane with a capacity of 10 T SWL must be able to lift and connect the specified hose, always by BE.

The ship's windlass (drums, brakes, jaws, etc.) must be in perfect working order so that the moorings and anchors can be released, turned or adjusted.

Miscellaneous connection and fastening equipment (slings, joints, quick-connect plugs, etc.) will be provided by the Terminal and shipped immediately after the NT arrives.

6.4 Berthing and Stay Management and Control

The Control Room of Transpetro's Guamaré Terminal is located in the tanking area of the Terminal, within the Guamaré Industrial Pole region of UN-RNCE of Petróleo Brasileiro S.A. – Petrobras.

In this center, the operator remains responsible for controlling all terminal operations, done through manual and automatic measurement systems.

Also in this room is the supervisor of the area that controls the documentation, communications and monitoring of the berthing and position of the ship.

During ship operations, hourly communications checks are made.

The communications are carried out with the ships by radio in VHF system in maritime frequency (channel 12), previously combined and registered.

A UHF radio, supplied by the Terminal, is maintained on a previously agreed channel in case there is any failure in the main system. In some situations it may work simultaneously with the main one.

The information exchange aimed at complying with the control of the operation, established by Petrobras Standard N-2689, is carried out by the representative of the Ship who is in charge of the operation and the Terminal Control Room. This communication is done through VHF radio on channel 12 and which is listening 24 hours a day.

6.5 Main Risks

The main risks associated with the stay of ships in the berth of the Guamaré Waterway Terminal are:

1 The ship that is moored in the berth is vulnerable when there is an incidence of winds greater than 30 knots.

2 In the months of February to June, a rainy period in which the winds decrease in intensity, there may be the formation of hydrocarbon clouds. For this reason, everyone involved in work on deck should wear gas masks if the ship is not inerted.

3 For both multi-buoys, the final bow is greater than 100° true with incidence of ENE winds with intensity that can reach above 30 knots.

4 When the cables passed to the buoys are made of different materials

5 When berthing ropes are broken.

6 When the Anchors claw from the position they were dropped.

PROCEDURES

During the stay of the vessels in the port, various actions are performed to enable a safe operation and manage the risks to minimize them. In all phases, as described in the sub-items below, measures are taken in order to facilitate operations and plan them properly.

7.1 Prior to Arrival

7.1.1. Conditions of refusal for operation of berthed vessels

When berthing, after the safety inspection carried out by the maneuver captain, based on the ISGOTT Safety Checklist, if there are pending issues that are not resolved by the crew, the ship will not have authorization from the Terminal to start the operation.

7.1.2 Cleaning and repairs on board

Onboard repairs and washing of the ship's load tanks should preferably be carried out in the anchorage area. To perform these services with the ship berthed, prior authorization from the Terminal will be required.

7.1.3 ETA Information

Ships destined for TA Guamaré facilities must indicate the estimated arrival date (ETA) 72 and 48 hours in advance, directly to the respective Agent (see item 7.2.4) and to the Terminal.

Change or confirmation of the arrival of the ship must be communicated a minimum of 24 hours in advance.

In the ETA information, it must be specified by the ship whether the time mentioned is local or UTC.

When ships are within 50 miles of the Terminal, contacts can be made by VHF, on channel 16 (156.80 MHz). The Terminal listens for 24 hours on this frequency.

7.2 Arrival

7.2.1 Communication with the port authority

The port authorities are engaged by the agents of the ships due to the arrival and plan for berthing. As a general rule, the visit takes place after berthing.

7.2.2 *Bunker* and water supply

The Terminal has no structure to supply bunker or water.

7.2.3 Communications with the Terminal before berthing

The terminal information for the ship and vice versa is described in appendices “P” and “Q”, respectively.

The official time of arrival is considered to be when the ship reaches the anchorage or when the maneuver captain embarks, whichever event occurs first. However, the time of issuing the notification of the ready to operate will not be that of arrival, unless the NT is really, in all respects, ready to operate.

The NT's will be loaded at a time, obeying the order of arrival, except when the manager, in special circumstances, gives priority to a ship out of line or when there is a change in Petrobras' supply schedule.

7.2.4 List of important telephones in port

Federal Revenue – (84) 3220-2297
Military Police - 190
Civil Defense - (84) 3232-1769
Ibama - (84) 3201-4230
Firefighters - 193

7.3 Berthing

7.3.1 Mooring of the ship

The mooring to be carried out for each ship must be considered satisfactory by the Commander and the maneuver captain who acts as a representative of the Terminal.

Mooring lines need permanent care in order to keep them always stiff with the ship berthed.

All cables must be kept under adequate tension during operation, with the winches under brake, the use of automatic tension winches is not allowed.

All mooring lines must necessarily be in good condition, be of the same type, gauge and material (fiber or wire) and, whenever possible, of the same length, and the use of mixed mooring is not allowed.

The first mooring cables must be long enough to reach the most distant buoys, around 400 meters.

The beams must be oriented as perpendicular as possible to the longitudinal axis of the ship and always passed astern.

The springs need to be oriented as parallel as possible to the longitudinal axis of the ship and passed astern.

The maximum voltage applied to cables should be 55% of their MBL.

If fiber harnesses are used on wire ropes, the harnesses must be of the same material type and length, with a breaking load 25% greater than the minimum breaking load of the wire rope (Meg).

The horizontal angle of the bow and stern springs in relation to the direction of a beam perpendicular to the longitudinal axis of the ship may not exceed 45°.

Redoubled care should be taken with the beams and springs in the period

Redoubled care should be taken with the beams and springs in the period of tidal changes.

Approach, berthing and unberthing maneuvers must be performed at low speed, always against the stream.

The loading plan and its sequence must be presented to the Terminal's maneuver captain immediately after berthing; as well as the control of loading operations, containing efforts and drafts for each passage.

If the ship does not have the number of cables, preferably steel, present cables and winches in poor condition or the crew is not in a position to maintain the mooring according to the recommendations, additional measures will be adopted by the maneuver captain, such as:

- ➔ Interrupt the operation and undock the ship.
- ➔ The costs arising from these additional measures are the sole responsibility of the commander and shipowner.
- ➔ While at berthed, ships must keep the machines on stand-by, ready to go into service.
- ➔ In principle, no repairs will be allowed while the ship remains at berth.
- ➔ Only in extreme cases the repair will be authorized, for these extra measures of safety precautions will be taken.
- ➔ Any expenses arising from the extra security precautionary measures shall be borne by the commander/shipowner.

7.3.2 Ship / launch access

All ships must provide means of safe access for the embarkation and disembarkation of personnel, and always keep their boards and ladders ready to be lowered.

Life buoys with fairleads must be available in the vicinity of the means of access.

The gangway ladder in conjunction with the Jacob's ladder must be used when it is necessary to access the ship (see item 6.3.1 above).

7.4 Prior to Load Transfer

7.4.1 Electrical Grounding

The hose line is composed of a section of discontinuous hose and the others are of the continuous type.

7.4.2 Connections and Reductions

The resources required for connection are agreed upon in the first contact between the ship and the Terminal.

The ship must arrange the outlets and install load reductions and connections in order to enable the coupling of the loading hoses.

The ground personnel make the connections and disconnections of the hoses, assisting by the on-board personnel, who handle the winches and loading poles, when necessary.

After connecting the loading hose, it will be tested for its tightness, using for this purpose the static pressure of the terminal column.

A board representative will monitor the entire operation, and must be near the load outlet of the ship.

7.4.3 Releases

Prior to start the Loading or Unloading operation, all tanks will be measured, as well as tanks containing product will be sampled. At the end of the operation, new measurement and sampling will be made in the tanks.

These measurements will be carried out by the ship's personnel, accompanied by the terminal representatives and other inspectors.

To avoid the risk of spark ignition of static electricity during measurement, the material used must be properly grounded, and the measuring accessories must be explosion-proof.

Tank Inspection

Whenever possible, inspection of a ship should be done without entering the tanks. If the load requires internal inspection of the tank, all safety precautions inherent in entering confined spaces must be taken.

In this case, the ship must arrive with the tanks degassed and in *free for man* condition. If TA Guamaré or the Inspectorate rejects the inspected tanks, the delay will be charged to the ship.

7.4.4 Agreement between Terminal and ship on minimum safety conditions for operation

Operational safety conditions are agreed upon during the initial release by completing the initial letter, by land and onboard representatives and other documents used by the Terminal to guarantee operational safety and compliance with standards.

Communications are carried out with the ships via VHF radios on a previously agreed and registered maritime frequency. A secondary medium, via mobile phone, is set to fail in the main system.

In case of failures in the radio communication system, the operation cannot be started or must be suspended if it is occurring, until the problem is solved.

The control room of TA Guamaré is located in the tank area of the Terminal, in its onshore facilities. In these rooms are the operators responsible for controlling all terminal operations.

The control room can be contacted by VHF radio maritime frequency, channel 16 (156.80 MHz) or by telephone (84) 3235-5216/3235-5401.

7.4.5 Safety inspection

Ship / Shore Safety Checklist. (Annex A of the "ISGOTT") is checked and completed by the Maneuver Captain on board and the ship's Chief Officer during the ship's initial release.

7.4.6 Soot blowing

It is prohibited to carry out branching or cleaning the boiler piping with the ship berthed.

Care must be taken to prevent sparks from escaping the chimney.

Failure to comply with this regulation will result in one or more of the following sanctions: immediate interruption of operations; fine from the competent authorities; compulsory unberthing of the ship from the pier; communication of the infraction to the shipowners; liability of the ship for fines, loss of time and all other related expenses arising from this fact.

7.4.7 Vessels on the side during the stay of the ship

The prohibition of unauthorized small boats to remain on the side or near the berthed ships must be strictly observed.

Only service vessels at the terminal or authorized ones may be in the vicinity or alongside, as long as they meet all safety conditions.

The transgression of this rule must be reported to the competent authority.

7.4.8 Propeller maintenance

The anchored ships must remain with their propulsion system in readiness, without moving the propeller, throughout the operation.

In the event of any urgency, the ship must be able to unmoore, clearing the berth, after disconnecting the hose.

7.4.9 Ballast Discharging

The Terminal does not have facilities for receiving any parcel of dirty ballast.

7.4.10 Protection against product return and overflow

The terminal does not have check valves to prevent the outflow of product to the ship when the shore manifold is aligned.

In unloading, it is up to the ship to monitor the level of the tanks in order to avoid overflows.

7.5 Loading Transfer

7.5.1 Monitoring of pressures and Flow rates

During loading transfer the pressure is recorded by the shipboard and shore representatives, being checked on the ship's *manifold* every hour.

The terminal controls the internal pressure and flow rate variables, which are verified in real time through the supervisory system available in the control rooms.

During loading operation, the pressure in the on-board *manifold* shall **not exceed 2.0 Kgf/** cm^2.

Operation flow rates, measured on the ship and at the terminal, and the total volume moved are compared hourly and compared between the parties, having, according to the system used, a limit parameter for operational control.

Any change in the conditions of operation must be communicated and documented between the parties.

> **It is strictly forbidden to close valves during operation that cause back pressure in the system.**

7.5.2 Special requirements for LPG

The Terminal does not operate LPG.

7.5.3 Ballast/deballasting requirements

The slop, ballast and deballast nets and tanks of ships must be used only for this purpose, being isolated from the other nets on board.

The water ballast to be discharged into the sea must be completely free of oil, any oily residue or other substance capable of causing pollution of sea water.

The Terminal does not have facilities for receiving ballast.

7.5.4 Conditions for receiving SLOP

The Terminal does not have facilities for receiving Slop.

7.5.5 Tank cleaning

Conventional tank cleaning operation is not normally accepted.

However, COW operation is allowed in unloading, provided there is prior request, authorization of the schedule for the ship's stay in the next port and the consent of the maneuver captain for operational safety purposes.

7.5.6 On board repairs

Repairs or maintenance work of any nature, involving or likely to involve, risk of sparks or other means of ignition may not be carried out while the ship is berthed at the terminal's multi-buoy.

In extreme cases, all safety standards should be observed and met.

7.5.7 Safety inspection

The intermediate inspections, according to ANNEX A of the "ISGOTT", will be carried out by the Maneuver Captain on board, during the operation of the ship every 6 hours.

7.5.8 Emergency Stop

The interruption of the loading or unloading of the ship must be requested, via radio or other means of communication, whenever it occurs in any situation that may pose a danger, whether for the ship or for the terminal.

Operations are also expected to be temporarily suspended during storms, thunderstorms and/or high winds.

The operator of the terminal is authorized to interrupt / suspend the operation in the case of non-compliance with any of the rules and regulations concerning safety, universally accepted and adopted in the maritime transport of oil.

The ship's commander has the right to stop the operation if he has reason to believe that shore operations are unsafe, provided he gives advance notice to the Terminal operators.

For any emergency situation, the Guamaré terminal interrupts the ongoing operations so that all resources are directed to mitigate the disaster.

7.5.9 Actions to be taken in emergencies

The actions and contacts for each type of emergency are described in the ERP (Emergency Response Plan) and the main telephone numbers are described in section 9.

7.6 Loading Measurement and Documentation

7.6.1 Loading hose drainage

After the end of the operation, the drainage of part of the loading hose used must be started in order to enable its disconnection.

The ship's representative must arrange for the drainage of the onboard section.

7.6.2 Final on board measurements

Measurements shall be carried out by the ship's personnel and accompanied by terminal representatives and other inspectors. The material used must be properly grounded, and the measurement accessories must be explosion-proof.

Final Release of the ship: it takes place after comparing the quantities handled and complementing the lay time documentation.

7.7 Unberthing and Departure from Port (Table)

7.7.1 During the unberthing and exit maneuver from the port (table), the draft and hazard limits reported in sub-item 5.3 and their correlates must be observed.

7.7.2 The maneuver captain disembarks just after the signal buoy, where the support boat will wait for him at the edge of the shadow.

7.8 Meeting the ISPS CODE

The Guamaré Waterway Terminal has implemented corporate security protection measures applicable to ships and port facilities, in accordance with the requirements of the International Maritime Organization - IMO, by adopting the ISPS code - International Ship and Port Facility.

In case of need, these security measures can be triggered by the Ship through the Port Facility Security Officer (PFSO) through the telephones: (55 84) 3235-5236 - Mobile: 9985-0295 (DDD 84).

The Guamaré Waterway Terminal operates normally at safety level 01. For further details, the Port Facility Security Officer (PFSO), who is trained in accordance with the requirements required by IMO.

PORT ORGANIZATION OR ANCHORAGE

8.1 Port Control or VTS

This section is not applicable to TA Guamaré.

8.2 Maritime Authority

8.2.1 The maritime authority to which the Terminal is subordinate is the Port Authority of the State of Rio Grande do Norte.

8.2.2 The captain of the ports of Rio Grande do Norte determines that the visit of the authorities be carried out before the ship is moored in the multi-buoy.

8.2.3 The official limits of the port are set out in sub-item 5.3.4.

8.2.4 The Port Authority is the maritime authority within the limits of the Ubarana Multi-buoy, and it is responsible for determining the actions and prosecuting those responsible for any incident on the spot.

8.3 Pilotage

8.2.1 For all ship maneuvers, pilotage is mandatory from the embarkation point of the maneuver captain (sub-item 5.3.6).

8.2.2 Regardless of nationality, type of vessel and destinations, the minimum for which the pilotage service is mandatory is from
2,000 TPB.

8.2.3 Maneuver captains are their own or hired by Transpetro.

8.2.4 For all situations, the pilotage service performed by the maneuver captain is triggered by the Terminal. In cases of emergencies, according to availability, the maneuver captain will be placed on the ship at the first possible time.

8.4 Tugboats and other Maritime Services

8.4.1 There are Tugboats available

The tugboats existing in the area of the Ubarana Multi-buoy of the Guamaré Waterway Terminal are part of the fleet to support the prospecting and production of oil in the Bacia Potiguar da Petróleo Brasileiro S.A.

The high seas tugboats can only be used in emergency cases.

8.4.2 Other relevant maritime services

For any other relevant maritime services, the maneuver captain may be called upon to seek, within the available possibilities and together with the Terminal, means to assist.

8.5 Other Tanker/Gas Carrier Terminals

8.5.1 There is no other oil terminal in the port of Guamaré

8.5.2 The multi-buoy and the Guamaré terminal are for Transpetro's exclusive use.

PLANNING OF EMERGENCY AND RESPONSE

9.1 Emergency Contacts

The table below indicates the essential contacts with the telephone number, fax, and radio channels/frequencies.

Organization	Operation hours	Identification acronym	Phone	Fax	Mobile	VHF/UHF Call	VHF/UHF Conversation
Port Authority	24 hours	CPMA	(84) 3201-9630	-	-	16	-
Tugboats	24 hours	-	(84) 3235-5079	-	-	16	-
Pilots	24 hours	-	(84) 3235-5236	-	(84) 9985-0295	16	-
TA - Guamaré Operations	07:30 am to 4:30 pm	TA-Natal	(84) 3235-5216	(84) 2235-5327	-	-	13
TA - Guamaré Supervision	07:30 am to 4:30 pm	TA-Natal	(84) 3235-5401	(84) 3235-5327	-	-	-
Firefighters	24 hours	CBM	193	-	-	-	-
Federal Revenue Office	8 am to 5 pm	PRF	(84) 3220-2297	-	-	-	-
Military Police	24 hours	PM	190	-	190	-	-
Civil Defense	24 hours	-	(84) 3232-1769	(84) 3232-1762	193	-	-
City Hall of Natal	8 am to 5 pm	-	(84) 3232-8718	(84) 3232-8737	-	-	-
IBAMA	24 hours	-	(84) 3201-4230	(84) 3201-4231	-	-	-
Port Security Supervisor	24 hours during the ship's stay	SSP	(84) 3235-5236	(084) 3235-5327	(084) 9974-7860	16	13

9.2 Sensitive Areas for the Environment

In the TA Guamaré Emergency Plan (ERP), the most sensitive areas to environmental impact are described, listed by sensitivity maps and showing, according to the selected area, the points that are subject to the greatest impact when this type of event occurs in the Terminal area.

9.3 Overview of the Emergency Combat Organization

Responsibilities for dealing with possible emergencies involving vessels arriving at the Terminal.

Incident type	Responsible Organization	Other organizations involved			
Collision in the Port	Port Authority	Civil Defense	Transpetro	-	-
Vessel beaching	Port Authority	Civil Defense	Transpetro	-	-
Collision in the Multi-buoy	Port Authority	Transpetro	Civil Defense	-	-
Sinking of vessel	Port authority	Civil defense	Fire Department	Transpetro	-
Fire in the Vessel	Ship	Transpetro	Fire Department	Civil defense	Port authority
Pollution	Transpetro or Ship	Port Authority	ERM	IBAMA	

9.4 Emergency Plans

9.4.1 The ERP (Emergency Response Plan) is the TA-GME plan for emergency combat in all its facilities.

This document is available in all the operational areas, on multi-buoys located at the entrances of the rooms for operation, maintenance, and administrative buildings. The party responsible for updating it is the local HSE (health, environment, and security activity).

9.4.2 Berthed ships must keep emergency towing lines available to be used in an emergency.

Emergency and firefighting equipment must be ready for use while the ship remains berthed.

The operating fire hoses must be extended, one forward and one aft of the load pump inlets.

A pollution combat *kit* (Sopep) – consisting of sawdust, rags, shovels, buckets, squeegees, transfer pumps etc. must be prepared to be used in the event of an oil spill.

There is in the terminal an Environmental Defense Center (CDA) equipped with modern equipment and various facilities, the center can be activated in emergencies of pollution combat.

Periodically there are trainings in various types of combating pollution.

9.4.3 There is a medical station in the terminal with an ambulance that can be activated according to the emergency response plan (ERP).

9.5 Public Resources for Emergency Combat

9.5.1 Port administrator

The Transpetro terminal is its own.

9.5.2 Maritime Authority

The Maritime Authority is the Port Authority of Rio Grande do Norte.

9.5.3 Local Emergency Services

The Fire Department, the Civil Defense, the Military Police and the hospital units in Guamaré are activated according to the table in section 9.1.

9.5.4 State and national combat organizations.

There is no national or state-level pollution control organization.

9.5.5 Mutual Assistance Plan

The institutions listed below participate in the PAM (Mutual Aid Plan) and their resources are available as previously agreed in this plan:

- ➔ Military Fire Department
- ➔ Transpetro/TA Guamaré
- ➔ City Hall of Guamaré (Civil Defense)
- ➔ CDA
- ➔ Petrobras/RPCC
- ➔ NGB North Butane Gas

9.6 Oil Spill Combat

The sub-items below describe the resources available to combat pollution in the areas adjacent to the terminal.

9.6.1 Terminal combat capacity

The resources available at the terminal for combating oil spill situations are listed in the ERP, which is available in all administrative, operational, and maintenance areas of TA Guamaré.

9.6.2 Combat capacity of the environmental agency

The environmental agency of the RN (Idema) does not have resources to combat oil spills at sea.

9.6.3 Resources available in the Mutual Support Plans of other Terminals

The resources available at other terminals for response to pollution emergencies which have occurred in the vicinity of the Terminal are listed in the PEL.

9.6.4 Medium-sized spills combat - Tier 2

Organization designated to combat significant pollution. In these events regional resources are requested from Transpetro and Petrobras. These resources, their readiness, and their form of engagement are described in the PEL.

9.6.5 Large-sized spills combat - Tier 3

Organization designated to combat major pollution. In these events, national resources from Transpetro and Petrobras are requested. These resources, their readiness, and their form of engagement are described in the PEL.

9.7 Other Large-Sized Emergencies Combat

The PEL of TA Guamaré lists the actions and responsible parties for each type of expected event, which may occur within its unit, pipeline range, or vessels, and involve third parties. For the events that are not foreseen in this document, Transpetro and Petrobras will make available all the national or international resources within their reach.

9.8 Pollution at Sea and Garbage Packaging

Preventing pollution is of paramount importance.

Brazilian laws are quite strict regarding water pollution along the coast. It is forbidden to throw any kind of material, debris, garbage, oil or polluting substances into the maritime area of TA Guamaré.

Heavy fines will be imposed on offenders by the maritime authorities, in addition to imprisonment provided for by law. It is the strict responsibility of ship commanders to ensure that no contaminated oil or water will be pumped or spilled from their ship.

All sea valves, both load tanks and bilges, must be properly closed prior to any operation. The loading transfer must be carried out with all care, in order to prevent mistakes or delays from causing spills.

All scuppers must be plugged, to avoid contamination of the waters in case of spillage due to overflows.

The objective is the complete elimination of operational pollution of the sea by oil and other harmful substances and the minimization of accidental spills.

It is forbidden to throw any type of sewage or discharge it directly into the sea while staying on the multi-buoy or even throughout the entire extension of the oceanic area where the various platforms are located.

Commanders must inform the Port Authority of the occurrence of any spillage of polluting substances in the area of TA Aracaju or the port. As mentioned in item 2.17 of this manual, the Contingency Plan to combat pollution will be activated.

The terminal does not have the resources to collect and dispose of on-board garbage, and contact must be made with the agent when such a measure becomes necessary.

During the stay of the ships on the multi-buoy, the garbage must be contained in suitable and closed containers and places, thus being maintained. As already mentioned, there is no collection.

It is expressly forbidden to keep wagons or other garbage containers hanging from the edge, or near the edge, at risk of falling overboard.

The terminal has barriers, oil catcher, ferry, safety material and support vessel.

> IMPORTANT: Pollution can be qualified as a crime by Brazilian legislation, according to Law 9.605 of February 12, 1998, which provides for criminal and administrative penalties derived from conducts and activities that are harmful to the environment, both for those who pollute and for those who have failed to prevent them.

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CONTACTS

The table below indicates the Organization, Position, Telephone, and Channel/Radio Frequencies.

10.1 Terminal

Location	Contact	Phone	VHF/UHF Channels	
			Call	Conversation
Terminal Supervisor	Supervisor	(84) 3235-5440	-	-
Terminal Control Room	Operator	(84)3235-5216	16	12
Terminal Manager	Manager	(84) 3235-5276	-	-
Security (HSE)	Sec. Tec.	(84) 3235-5416	-	-

10.2 Port Services

There are no port services in Guamaré.

10.3 Navigation Agents and Selected Suppliers

Maritime agency services are provided by Petrobras/SC/RNNE. The person responsible 24 hours a day is Christiane Fassanaro Cortez de Carvalho, whose contact phone number is (84) 9984-4059.

10.4 Local Authorities, State and National Agencies

The table in section 9.1 lists these authorities and their respective contacts.

10.5 Emergency Response Organizations

The emergency response organizations available at the port are listed in section 9.1.

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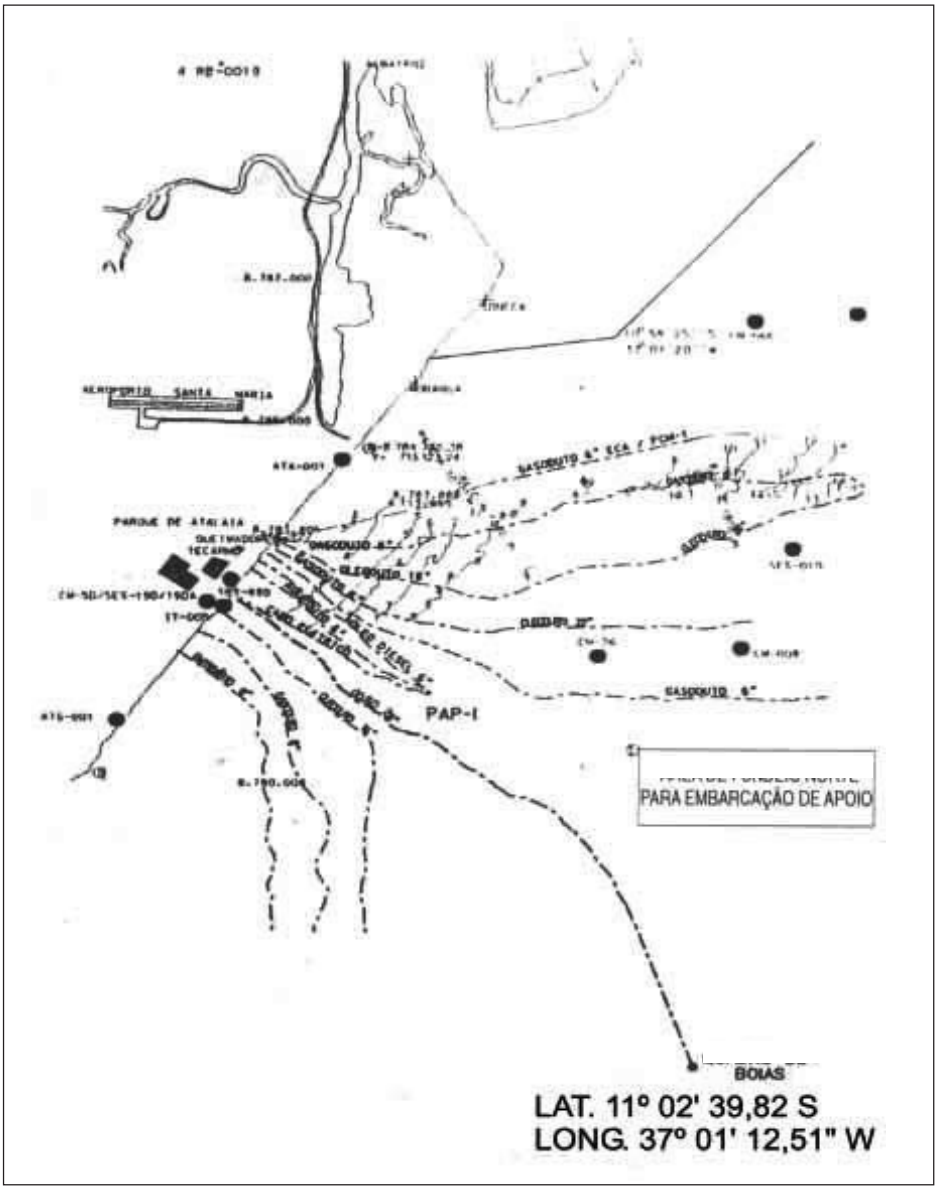
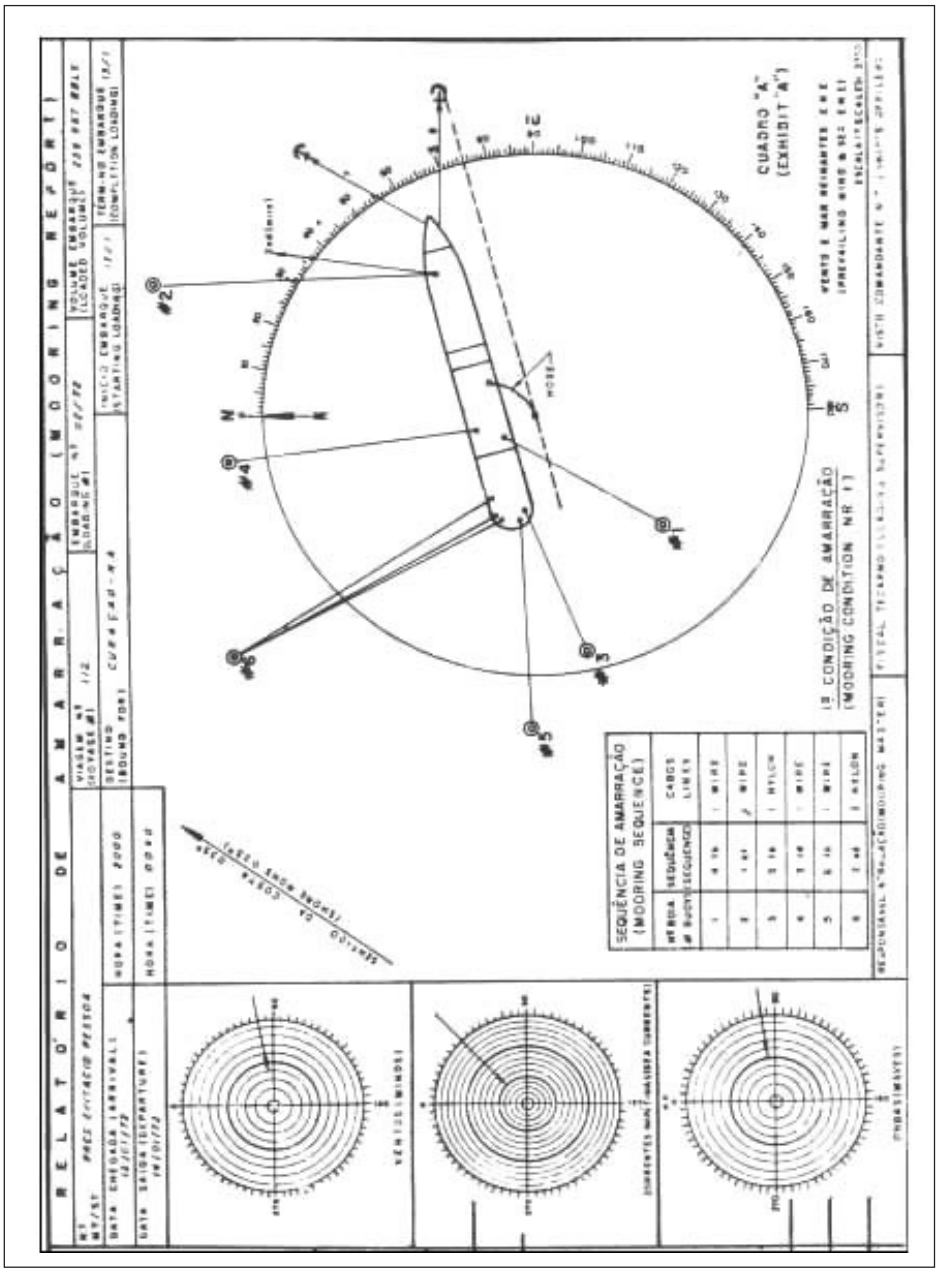
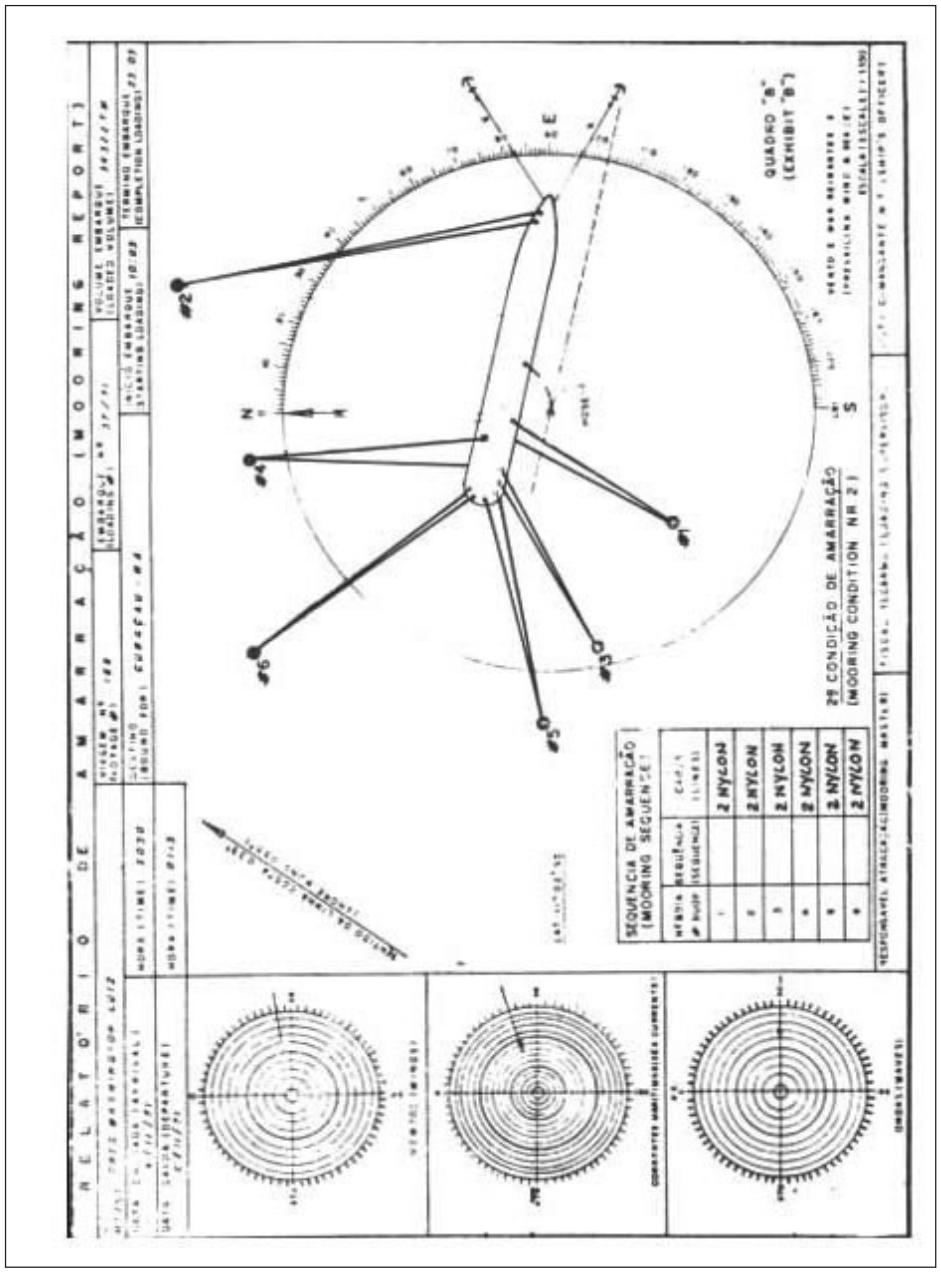
A - Location Map of the Escuros Multi-buoy



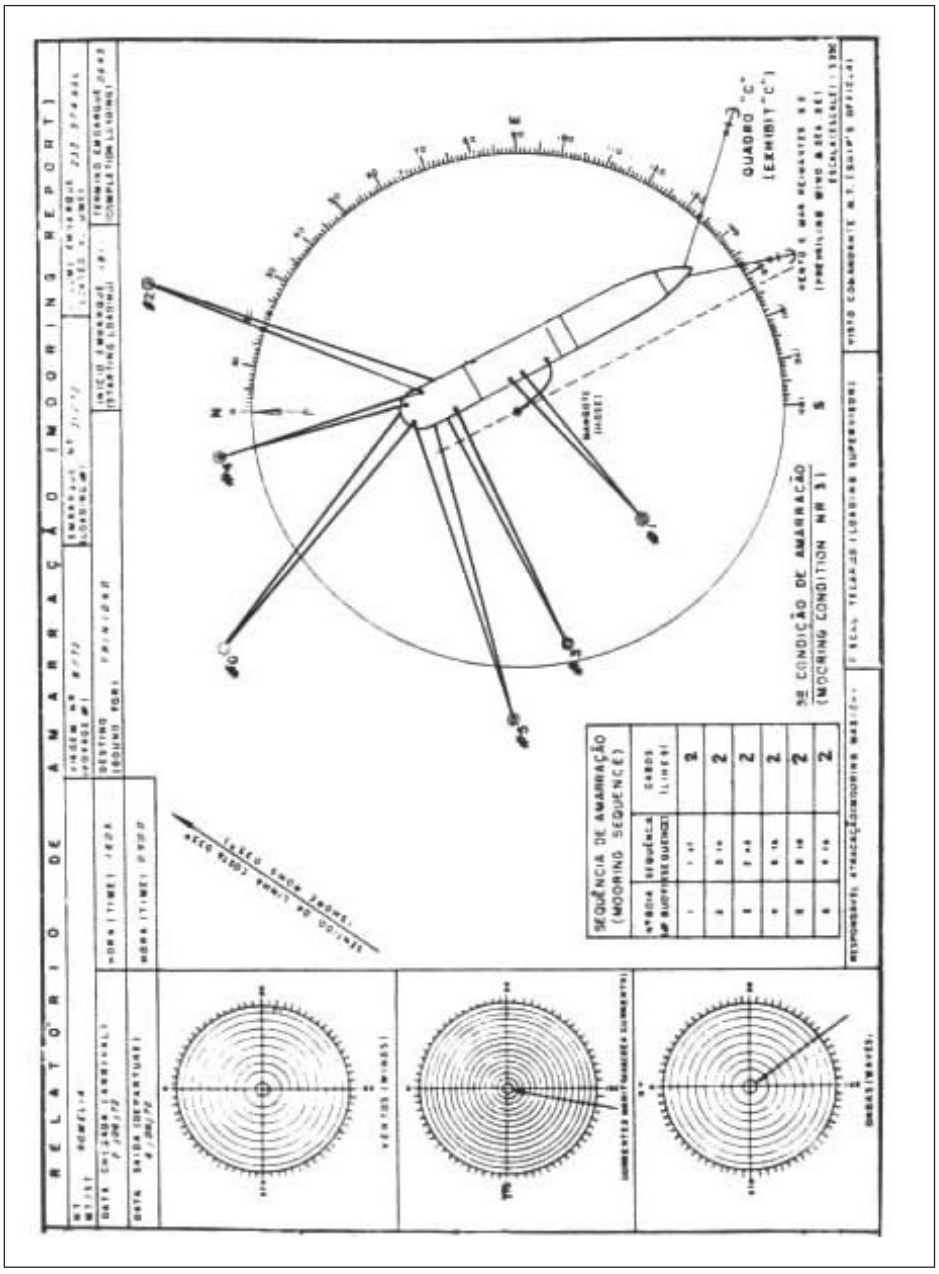
B – Mooring Report with Wind and Sea of ENE



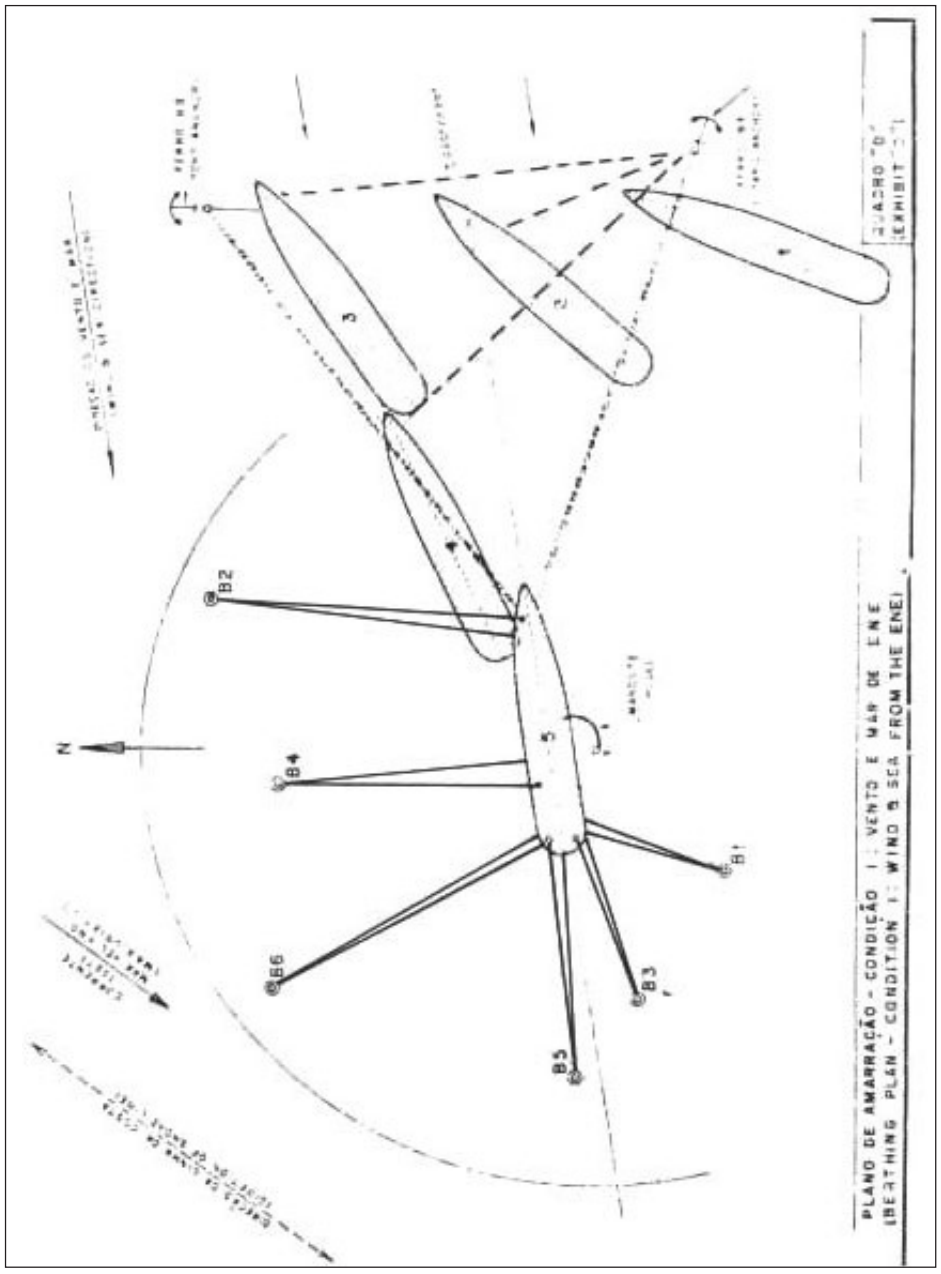
C – Mooring Report with Wind and Sea of E



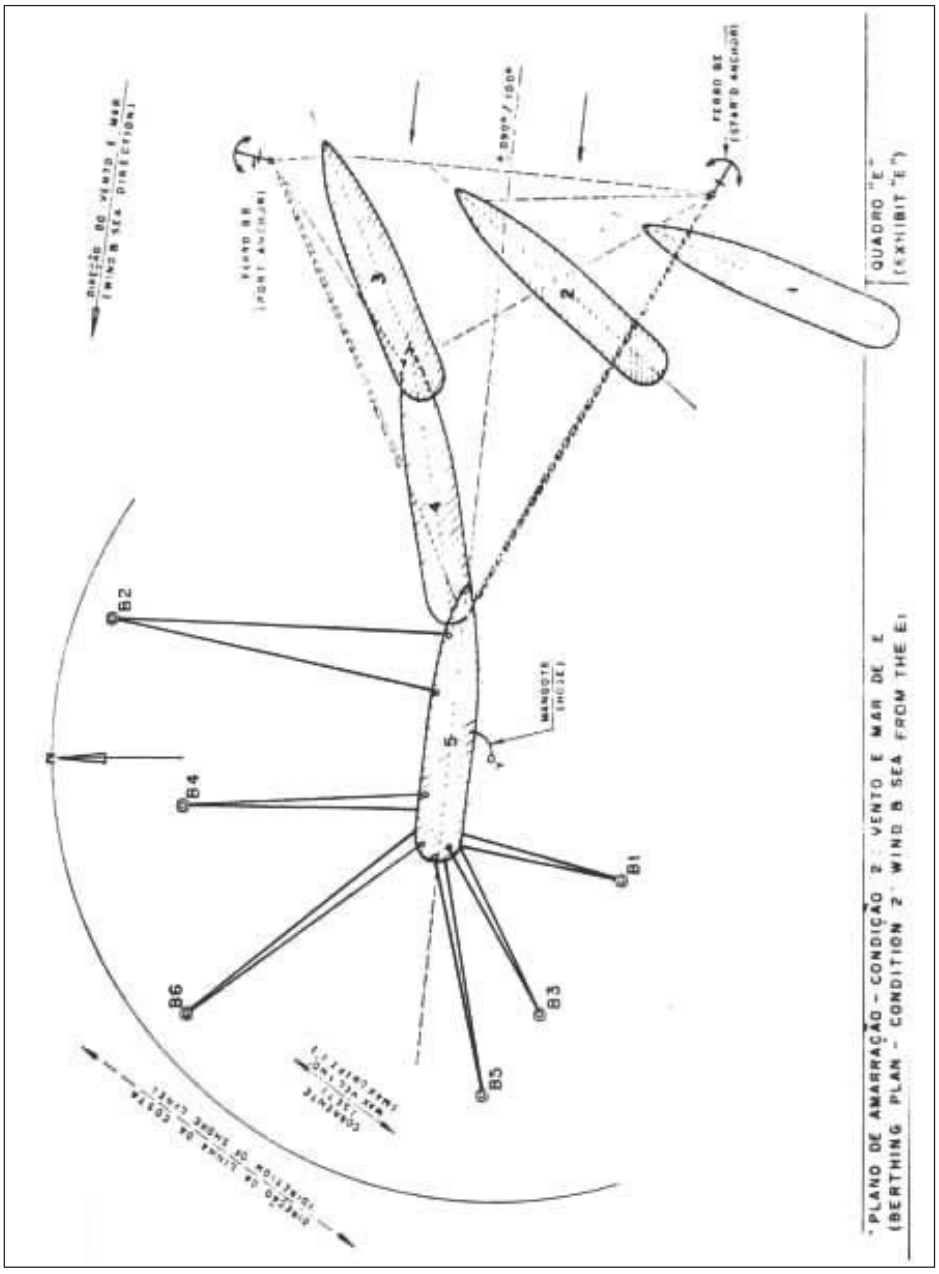
D – Mooring Report with Wind and Sea of SE



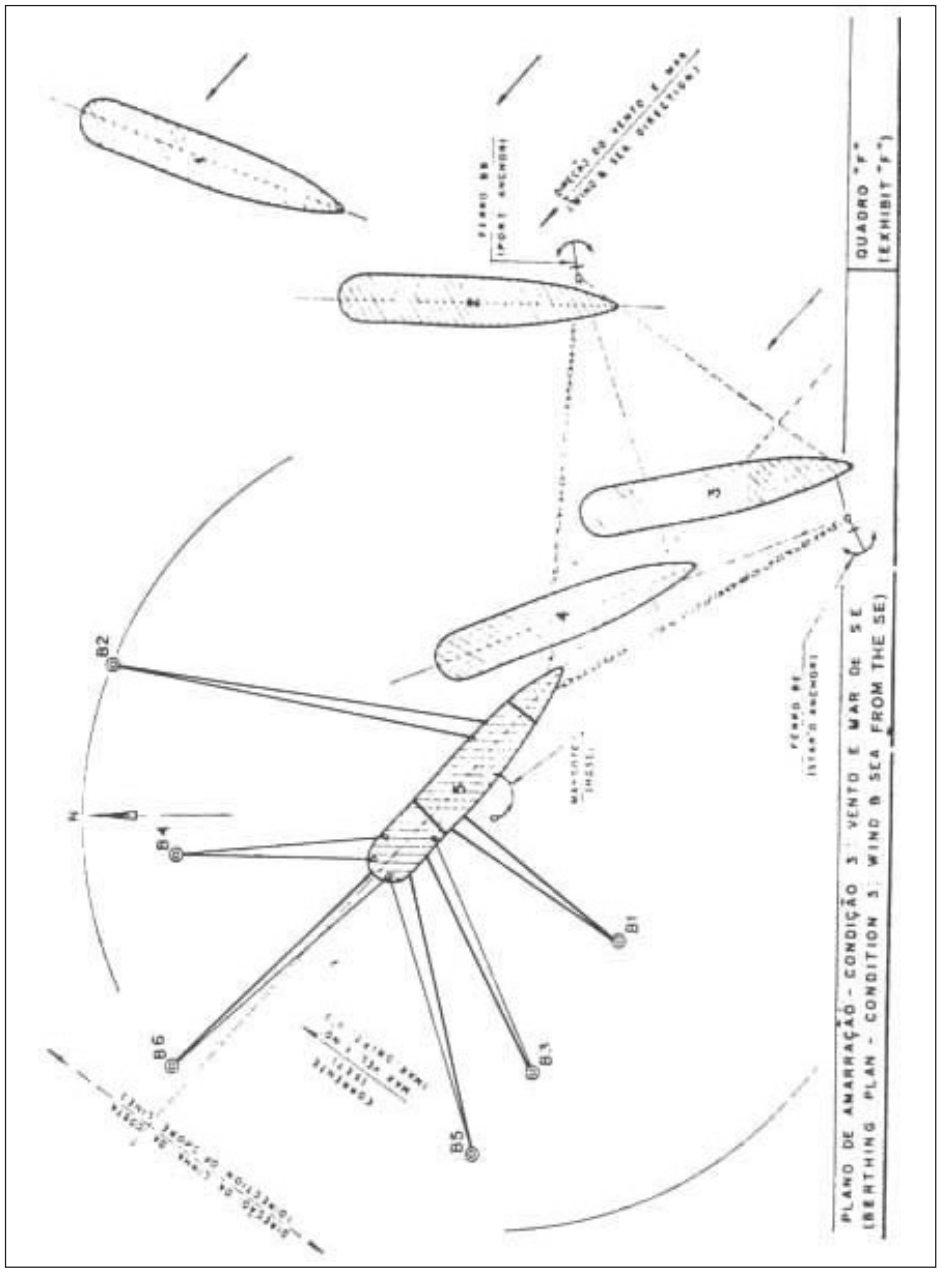
E - Mooring Plan with Wind and Sea of ENE



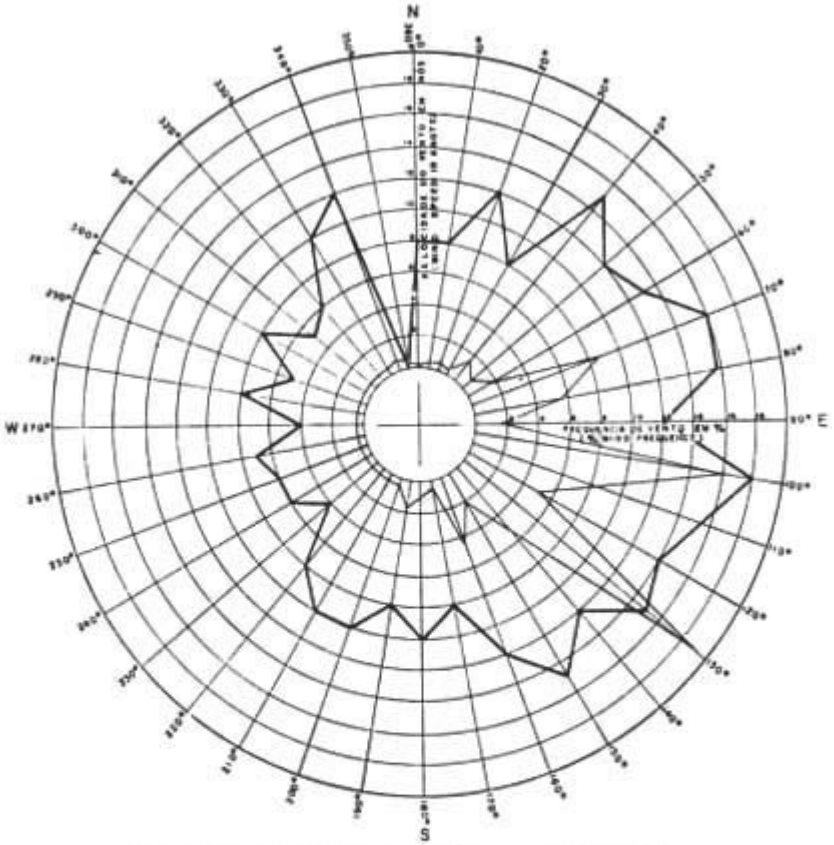
F - Mooring Plan with Wind and Sea of E



G – Mooring Plan with Wind and Sea of SE

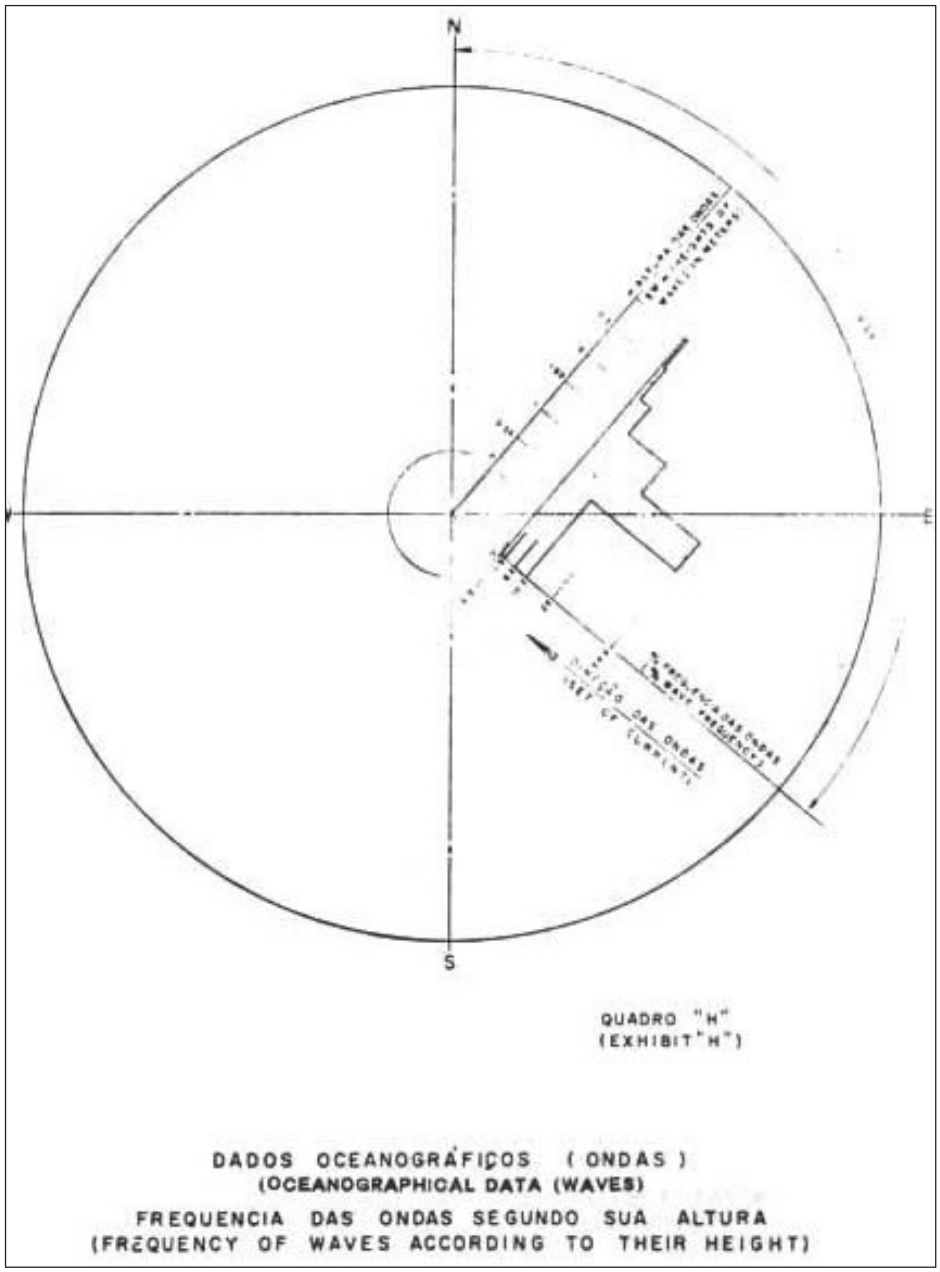


H - Wind Intensity and Frequency

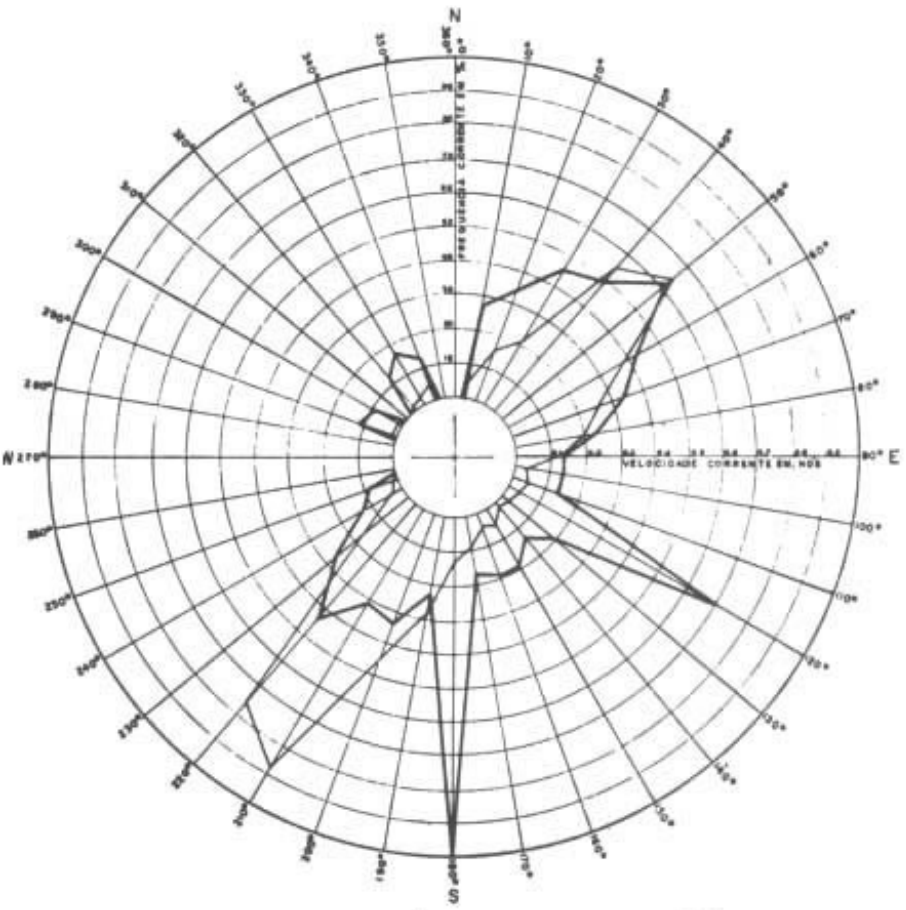


DADOS METEOROLÓGICOS (VENTOS)
(METEOROLOGICAL DATA WINDS)
INTENSIDADES E FREQUENCIA SEGUNDO DIVERSAS DIREÇÕES
(FREQUENCY & FORCE ACCORDING TO DIRECTION)

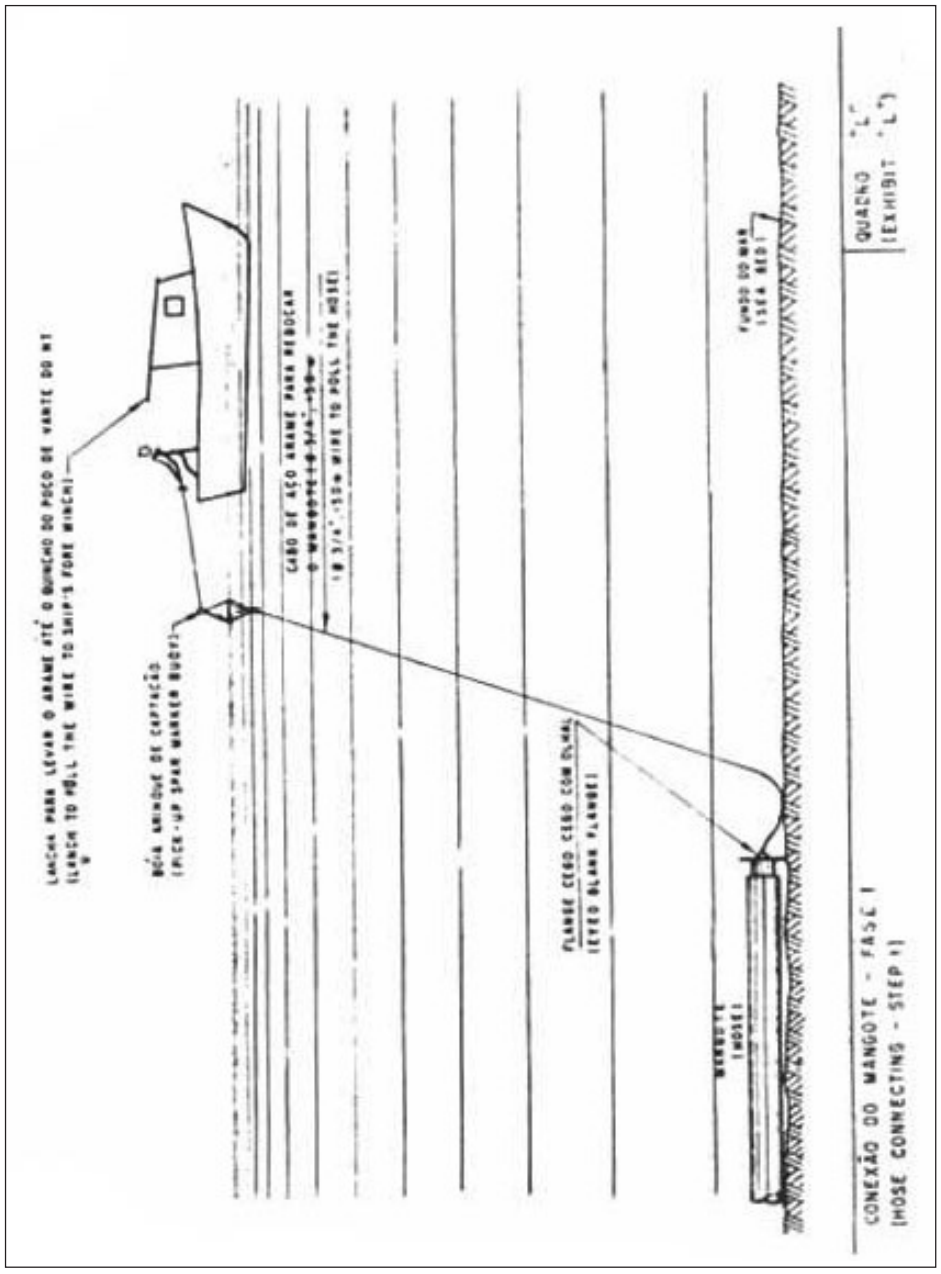
I - Frequency of Waves According to their Height



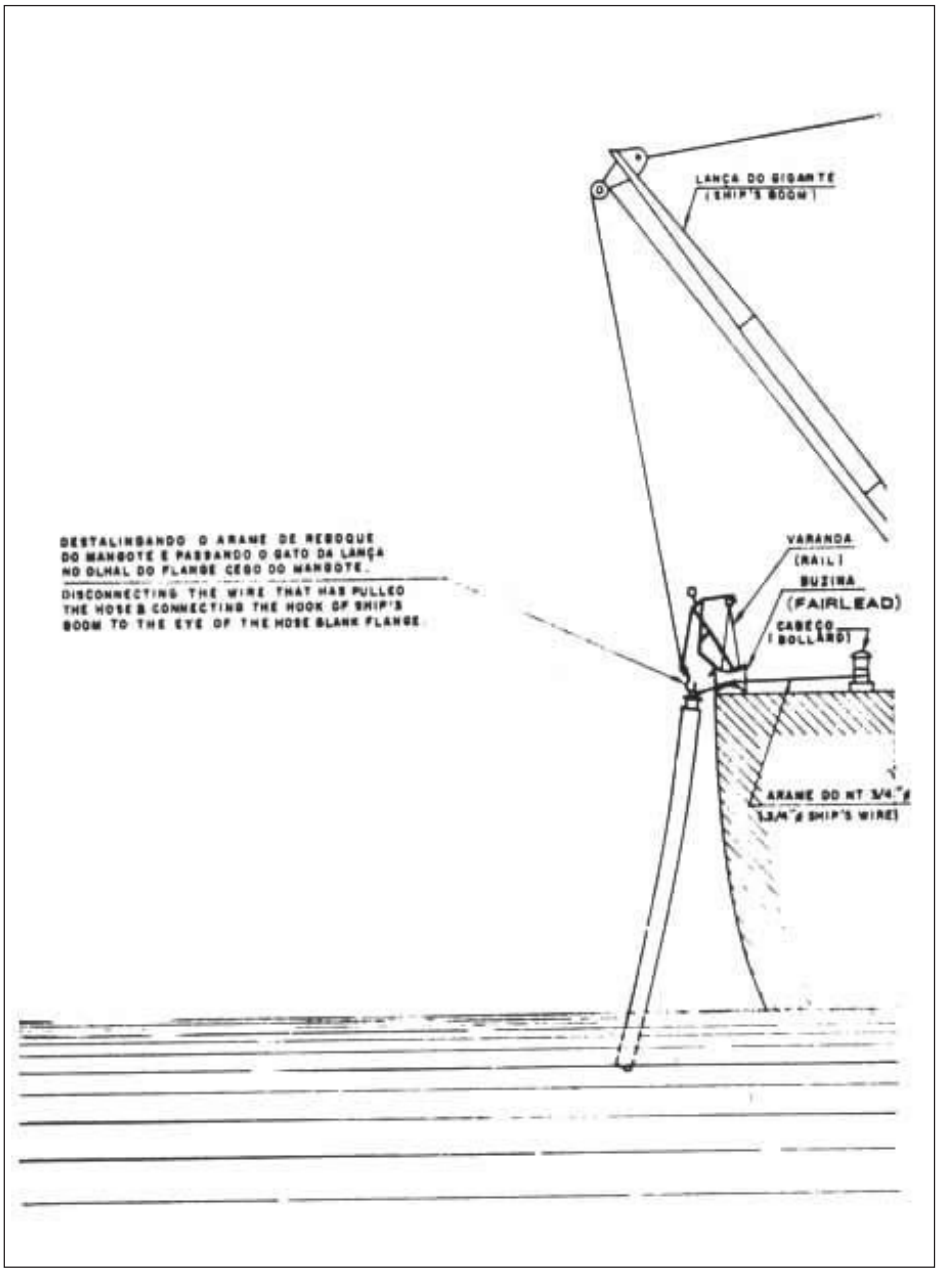
J - Stream Intensity and Frequency



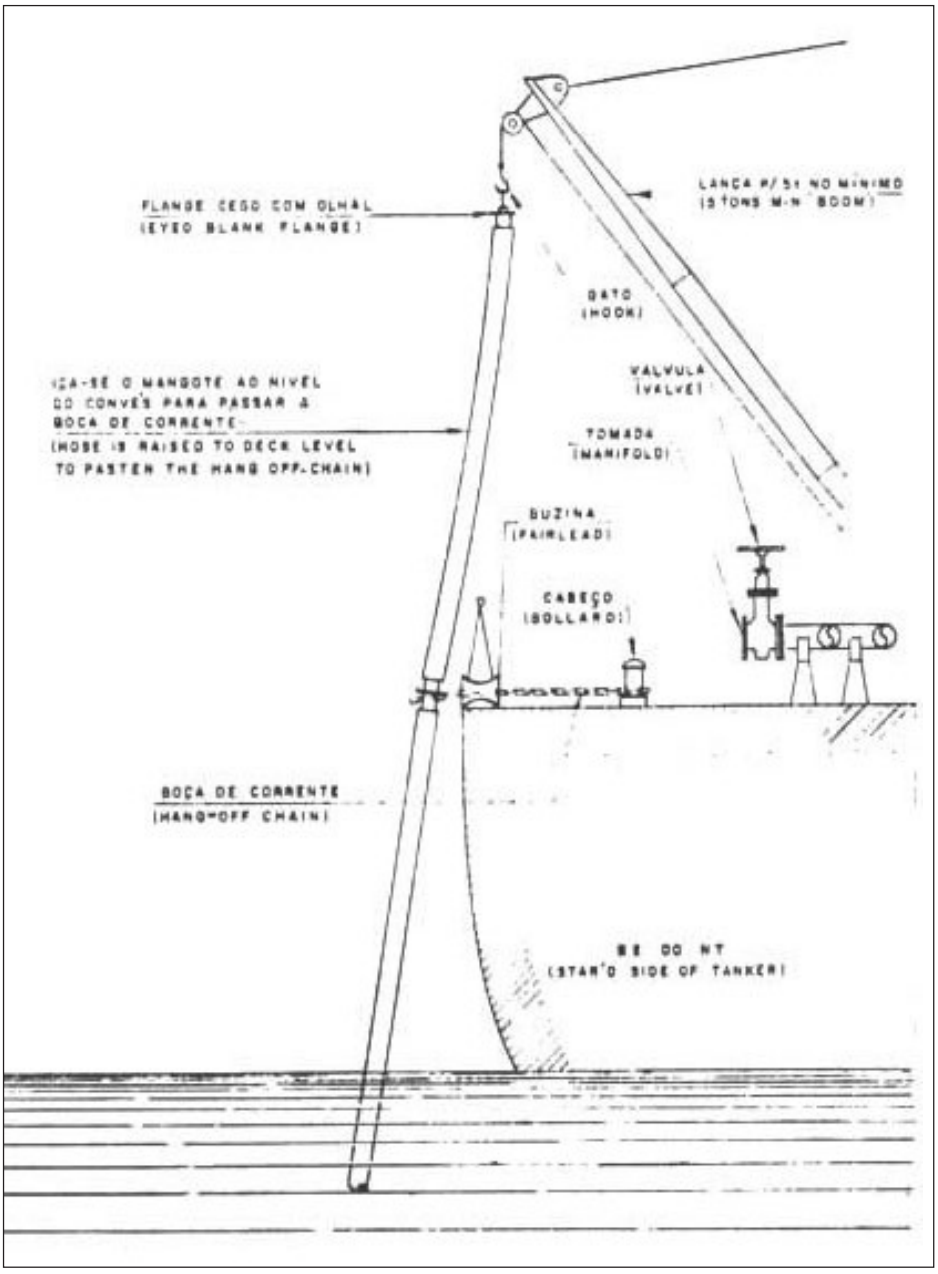
K - Hose Connection - PHASE 1



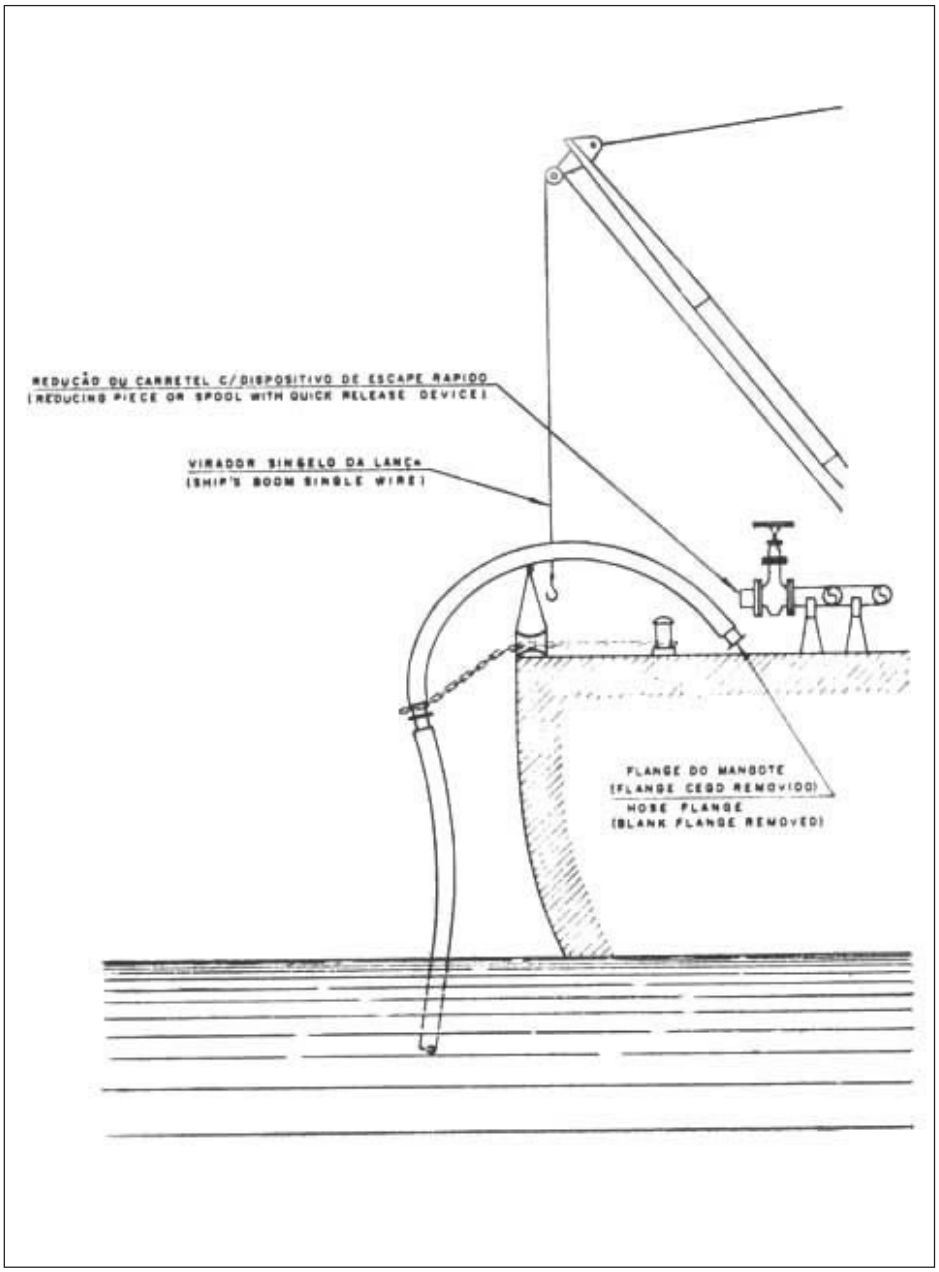
L - Hose Connection - PHASE 2



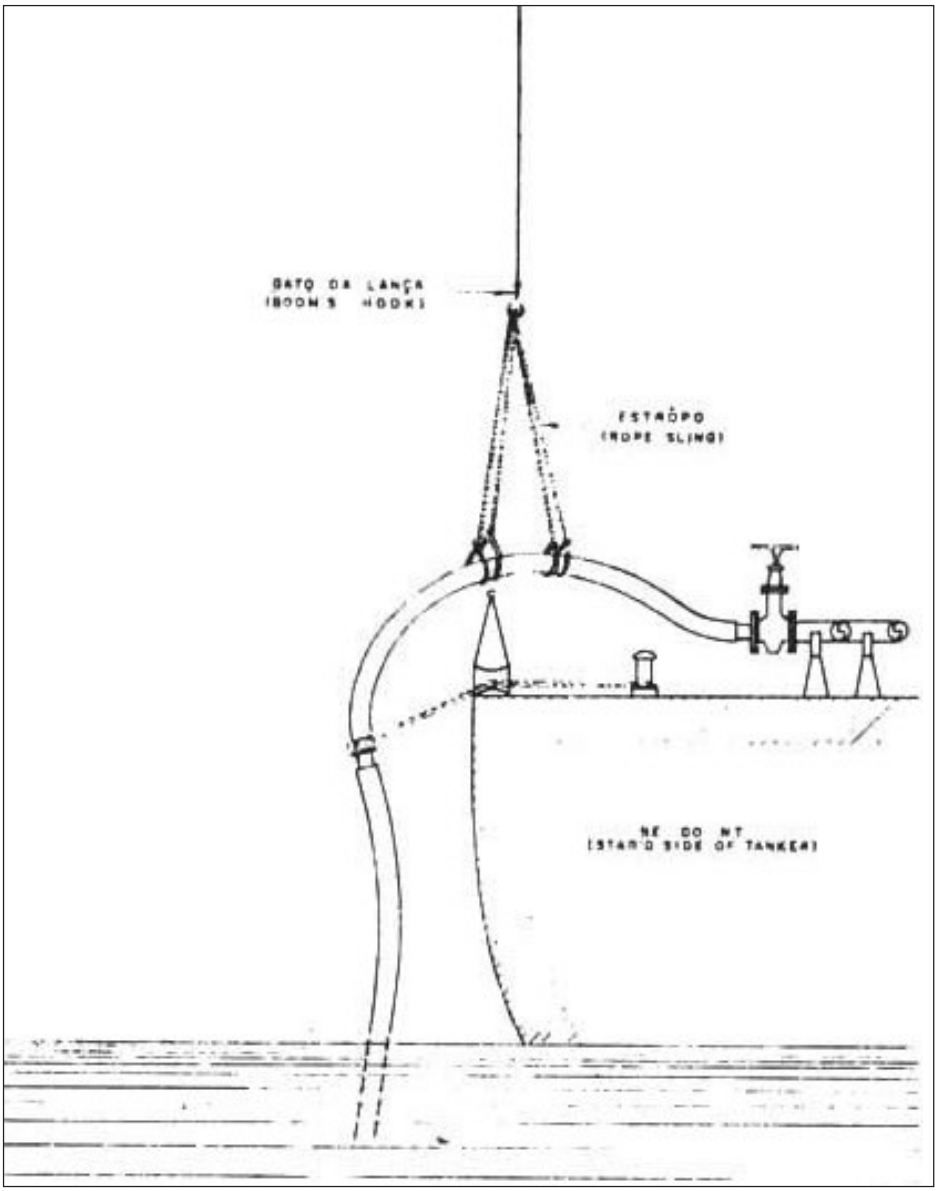
M – Hose Connection – PHASE 3



N - Hose Connection - PHASE 4



O – Hose Connection – PHASE 5



Note: method little used in TA Guamaré. Opt for the hose on the side to facilitate disconnection in case of emergency

P – Vessel Essential Information for Terminal

Requesting Information about the Vessel:	
Name of ship:	Estimated Time of Arrival (ETA):
Flag:	Last port:
Commander's name:	Next port:
Shipowners:	Agents:
Does the ship have an inert gas system? Oxygen Content:	
Length Overall (LOA): Length between perpendiculars? Breadth:	Arrival Draft: Maximum draft during transfer: Output draft:
Number of engines: Number of propellers:	Transverse propulsion: Bow (No. and power): Stern (No. and power):
Minimum required tugboats: No. and static traction *(bollard-pull)*:	
Number and size of *manifold* flanges: Loading: Ballast: Bunkers	Distances: Forward to manifold: Side to manifold: Height from manifold to main deck:
Loading programming (fill in what applies)	
Nomination: Type and quantity: Type and quantity:	 Type and quantity: Type and quantity:
Unloading of ballast overboard: Quantity:	 Estimated Time:
Slop / ballast unloading to shore: Quantity:	 Estimated Time:

Requested supplies (*bunkers*)
Type and quantity:
Type and quantity:
Type and quantity:
Type and quantity:
Additional information (if any):

Please fax or e-mail to the Terminal Supervisor.

Fax No.	E-mail

Q - Information to be Exchanged Prior to Load Transfer

(a)	Name of ship:
(b)	Travel Number:
(c)	Date of berthing:
(d)	Contract data: No. of pumps on board: Volumetric capacity 98%: Guaranteed pressure at unloading (when it is an unloading operation): Ballast/deballasting capacity simultaneous with loading/unloading:
(e)	Travel information: Type of charter (VCPTCPCOA, etc): Type of travel (Cabotage/Long stroke): Ports or places of origin and destination:
(f)	Ship requested supply?
(g)	Means of communication between ship and terminal:
(h)	Loading information: Product: Quantity: Temperatur e: API:

(i)	SLOP: Quantity: Temperature: API: Fluidity: Origin: Contaminants:

(j)	Ballast: Dirty Ballast: Quantity: Temperature: Segregated Ballast: Quantity:
(k)	Operation information:
	For unloadings: Ship will do special operation? (COW Inerting, etc.) Estimated time for the special operation: Time required to stop the pumps: For Loadings: Time in advance for TOP notice: Flow rate for the TOP period: Quantity of ballast to be discharged: Maximum flow rate allowed for deballast: Are there restrictions on electrostatic properties? Are there restrictions on the use of self-closing valves?
	Ship /Terminal conditions for loading/unloading operation by product: Ship: Pressure/Flow rate/Temperature (Max. and Min.) Terminal: Pressure/Flow rate/Temperature (Max. and Min)
	Sequence of operations by product:
	Quantity to be loaded/unloaded:
	Origin/destination tanks:
	Onboard/ground lines:
	Loading arms/hoses used:
	Forecast for start and end of operation:
(l)	Additional information about operation and safety: