

LLOYD'S REGISTER OF SHIPPING

UNITED WITH THE BRITISH CORPORATION REGISTER

SURVEYS FOR FREEBOARD

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER)

For LONDON OFFICE ONLY

Received -3 DEC 1956

Index No.

Govt. Copy

Owners C11

Ship's Name BONFAZ	Official Number -	Nationality and Port of Registry SPANISH CADIZ	Gross Tonnage 1958	Date of Build 1958	Port of Survey CADIZ
Moulded Dimensions: Length 161.54 Breadth 21.64 Depth 11.90					Date of Survey DURING CONSTRUCTION
Freeboard Length 161.54					Surveyor's Signature <i>A. J. Smith</i>
Moulded displacement at moulded draught = 85 per cent. of moulded depth 28023 cu. mts.					Particulars of Classification PETROLEUM IN BULK
Coefficient of fineness for use with Tables .793					

DEPTH FOR FREEBOARD (D).

Moulded depth	11.900
Stringer plate0275
Wood Sheathing on exposed deck		
$T \left(\frac{L-S}{L} \right) =$		
Depth for Freeboard (D) =		11.928

DEPTH CORRECTION.

(a) Where D is greater than Table depth
(D-Table depth) R = $8.33 (11.928 - 10.769) 30 = 290$

(b) Where D is less than Table depth (if allowed)
(Table depth-D) R =

If restricted by superstructures

ROUND OF BEAM CORRECTION.

Moulded Breadth (B)	21.64
Standard Round of Beam = $\frac{B \times 12}{50}$	433
Ship's Round of Beam	435
Difference	2
Restricted to	
Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right)$	$\frac{2}{4} \times .5803 = .290$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	MTS SKETCH 33.066	33.066	2.360		33.066
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed	MTS SKETCH 13.711	13.711	2.360		13.711
" overhang aft					
" overhang forward	20.843				
F'cle enclosed	20.843	20.843	2.360		20.843
" overhang	362	.181			.181
Trunk aft					
" forward					
Tonnage opening aft					
" " forward					
Total	67.982	67.801			67.801

Standard Height of Superstructure	2.290
" " R.Q.D.	
Deduction for complete superstructure	1067
Percentage covered $\frac{S}{L} =$	42.08
" " $\frac{S_1}{L} =$	
" " $\frac{E}{L} =$	41.97
Percentage from Table, Line A. Tanker	32.97
(corrected for absence of forecastle (if required))	
Percentage from Table, Line B.	
(corrected for absence of forecastle (if required))	
Interpolation for bridge less than .2L (if required)	
Deduction =	1067 x .3297 = 352

SHEER CORRECTION.

Station	Standard Ordinate	S	Product	Actual Ordinate	Effective Ordinate	S	Product
A.P.	1600	1	1600	1.628	1698	1	1698
$\frac{1}{8}L$ from A.P.	711	4	2844	.200	202	4	808
$\frac{2}{8}L$ "	178	2	356	0	0	2	0
Amidships	0	4	0	0	0	4	0
$\frac{3}{8}L$ from F.P.	355	2	710	0	0	2	0
$\frac{4}{8}L$ "	1421	4	5684	.545	545	4	2180
F.P.	3199	1	3199	2.805	2805	1	2805
Total			14393				7491

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{6902}{18} \left(.75 - \frac{.2104}{.5396} \right) = + 207$

If limited on account of midship superstructure.

Mean actual sheer aft =

Mean standard sheer aft =

Mean actual sheer forward =

Mean standard sheer forward =

Length of enclosed superstructure forward of amidships =

" " aft of " =

If limited to maximum allowance of 1½ ins. per 100 ft.

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck	=	11.928
Summer freeboard	=	2.741
Moulded draught (d)	=	9.187
Keel allowance	=	
Extreme draught	=	
Deduction for Tropical freeboard and addition for	=	

Winter freeboard = $\frac{d}{48}$ inches = 191

Addition for Winter North Atlantic Freeboard (if required) = 191 + 135 = 326

Deduction for Fresh Water.

Displacement in salt water at summer load water line	$\Delta =$ SEE OVERLEAF
Tons per immersion at summer load water line	T = SEE OVERLEAF
Deduction = $\frac{\Delta}{40 T}$ inches	
	202

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

Depth Correction	...	290
Deduction for superstructures	...	352
Sheer correction	...	207
Round of Beam correction	...	
Correction for Thickness of Deck amidships	...	
Other corrections, scantlings, etc.	...	

+	-
290	
352	
207	
497	352

Summer Freeboard = 2741

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :-

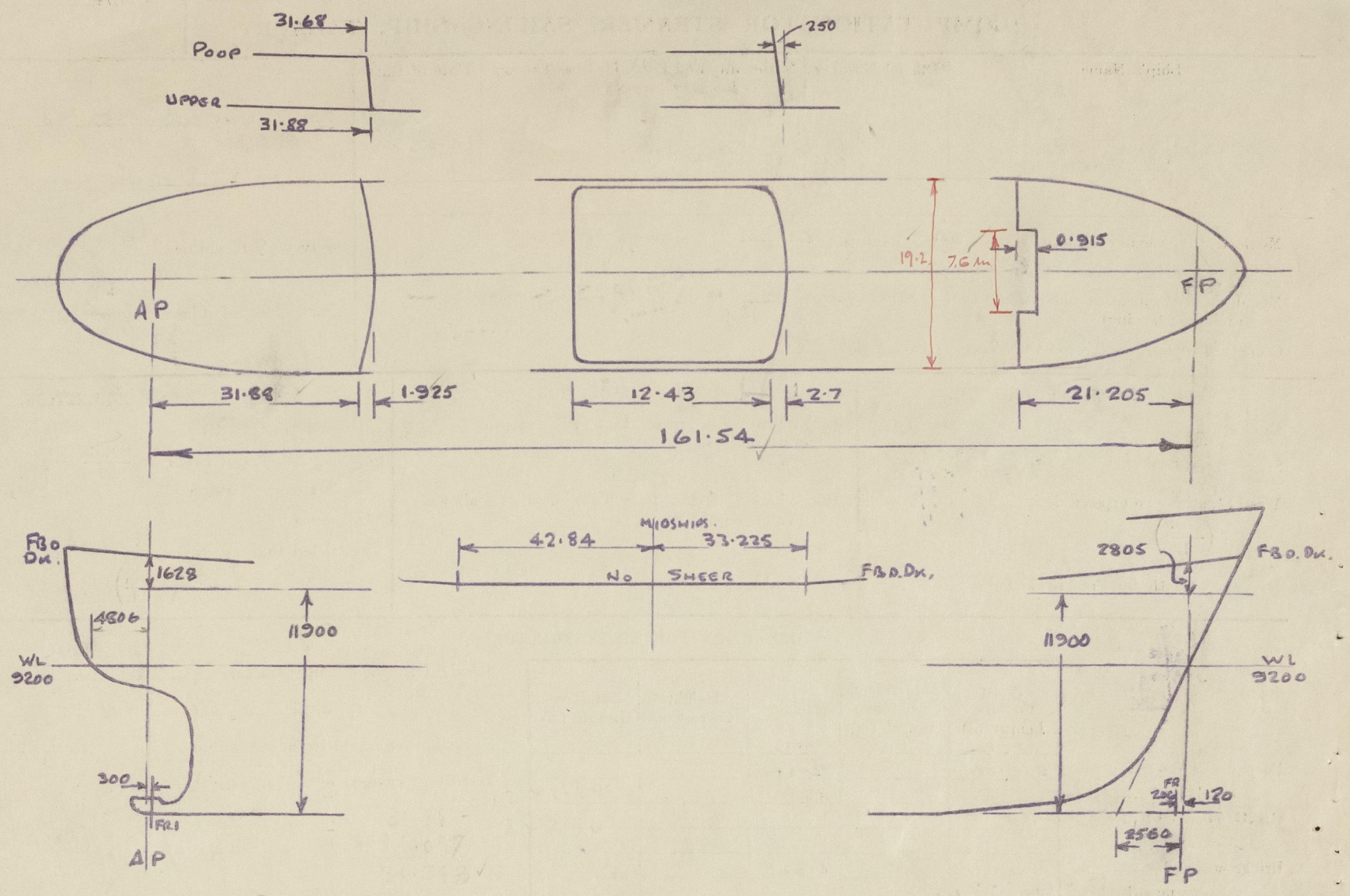
Tropical Fresh Water Line above Centre of Disc	15.47	393
Fresh Water Line	7.95	202
Tropical Line	7.52	191
Winter Line below	7.52	191
Winter North Atlantic Line	12.84	326

Tropical Fresh Water Freeboard	2348
Fresh Water	2539
Tropical	2550
Winter	2932
Winter North Atlantic	3067

2741	107.91
2348	92.44
2539	99.96
2550	100.39
2932	115.43
3067	120.75

Bonifaz

A new form should be prepared if any alterations that affect the freeboard have been made. If no such alterations have been made, the Surveyor should endorse the form on this side with his signature and the date.



DRAUGHT MLD	VOL. OF ΔT (M ³)	T.PCM.
9500	26150	31.4
9000	24630	31.1
8500	23105	30.8
8000	21590	30.5

Sheer aft
 At A.P.: $1628 + 70 = 1698$
 At $\frac{1}{6}$: $200 + 70 \left(\frac{4.757}{31.68} \right)^2 = 202$

Poep. Length.
 at side. (mean) 31.783
 $+ \frac{2}{3} \times 1.925$ 1.283
33.066

Fch. Length.
 at side 21.205
 $- \frac{9.15 \times 7.6}{19.2}$ 362
20.843

Bridg. Length.
 at side (mean) 12.309
 $+ \frac{2}{3} \times 2.7$ 1.80
14.109
 $\frac{21.03}{21.64} = 13.711$

O/H. 362

Poep. Wt. 2360
 Standard 2290
70

46239

Trade of ship INTERNATIONAL
 Names of sister ships HONG.
 Builder's name and yard number ASTILLEROS DE CADIZ, N° 47
 Owners ORDERED FOR "EMPRESA NACIONAL ELcano" SOLD TO "NAVIERIA DE CASTILLA"
 Fee £ CHARGED WITH FIRST ENTRY.

List of plans forwarded for reference. (See "Instructions to Surveyors, Part 4, 1950," paragraph 11.)

APPROVED COPIES OF MIDSHIP SECTION, UPPER DECK PLATING AND OPENINGS IN UPPER DECK.