

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name WILLEM BAARENDSZ	Official Number	Nationality and Port of Registry DUTCH AMSTERDAM	Gross Tonnage 10509	Date of Build 1931 12 MO.	Port of Survey AMSTERDAM
Moulded Dimensions: Length 487'-6" Breadth 64'-0" Depth 45'-9 1/4" 148.59M 19.507M 13.951M					Date of Survey DURING CONVERSION
Moulded displacement at moulded draught = 85 per cent. of moulded depth 19500 tons					Surveyor's Signature C. H. Meunier
Coefficient of fineness for use with Tables 0.802 - 832 estimated					Particulars of Classification +100 A1 WITH FREEBOARD. WHALING SERVICE CARRYING OIL FUEL IN BULK, F.P. ABOVE 150°F.

Depth for Freeboard (D). Moulded depth ... 31' 11 1/8" Stringer plate ... 0.22 Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) = \text{Not included}$ waterway 5'-0" wide 13.973 Depth for Freeboard (D) = 32' 3 1/4"	Depth correction. (a) Where D is greater than Table depth (D - Table depth) R = 8.33 (13.973 - 9.906) * 30 = +1016 mm 4.067 (b) Where D is less than Table depth (if allowed) (Table depth - D) R = ✓ If restricted by superstructures ✓	Round of Beam correction. FACTORY DECK (FREEBOARD DECK): NO ROUND OF BEAM. Moulded Breadth (B) 19.507M 64'-0" Standard Round of Beam = $\frac{B \times 12}{50} = 39.01536$ Ship's Round of Beam (PLAN DECK) = 39.015 Difference = 10 mm Restricted to 10 mm Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{10^2}{4} \times 0.7917 = -2 \text{ mm}$
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
POOP ENCLOSED (REMOVED)	110' 6"	—	AS PER SKETCH			Standard Height of Superstructure 2.290 m.
R.Q.D. enclosed						" " R.Q.D. —
" overhang						Deduction for complete superstructure 1067 mm.
Bridge enclosed						Percentage covered $\frac{S}{L} = 22.22$
" overhang aft						" " $\frac{S_1}{L} = 20.83$
" overhang forward						" " $\frac{E}{L} = 20.83$
Fore enclosed	28.890	28.890	2.44	—	28.890	Percentage from Table, Line A. 10.42
" overhang	4.125	2.063			2.063	(corrected for absence of forecastle (if required)) ✓
Trunk aft						Percentage from Table, Line B. ✓
" forward						(corrected for absence of forecastle (if required)) ✓
Tonnage opening aft of F.R. NO. IN SHELL						Interpolation for bridge less than 2L (if required) ✓
" forward						Deduction = 1067 x 10.42 = -111 mm
Total	33.015	30.953			30.953	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P.	1492	1		1492	1242	1242	1		1242	Mean actual sheer aft = 41
1/4 L from A.P.	663	4		2652	410	410	4		1640	Mean actual sheer forward = 41
1/2 L	166	2		332	0	0	2		—	Mean standard sheer aft = 41
Amidships	—	4		—	0	0	4		—	Length of enclosed superstructure forward of amidships = Deficient sheers.
3/4 L from F.P.	331	2		662	0	0	2		—	" " aft of " = Deficient sheers.
1/4 L	1326	4		5304	591	591	4		2364	
F.P.	2984	1		2984	2048	2048	1		2048	
Total				13426					7294	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{6132}{18} \left(\frac{75-1111}{2 \times 1111} \right) = +218 \text{ mm.}$
 If limited on account of midship superstructure. **✓**
 If limited to maximum allowance of 1 1/2 ins. per 100 ft. **✓**

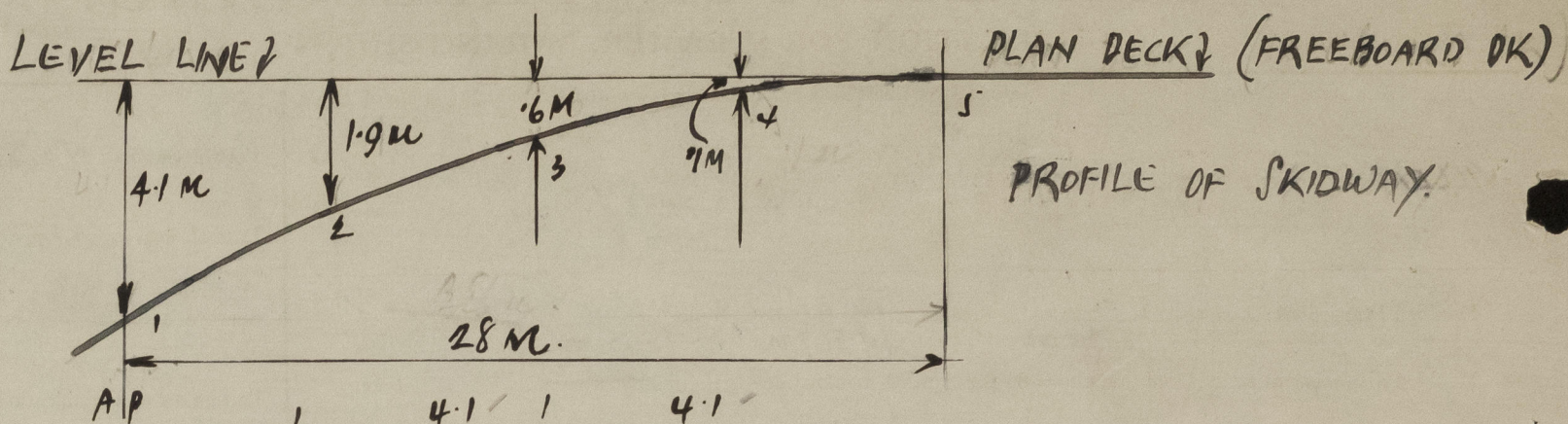
Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard. Depth to Freeboard Deck = 13.973 Summer freeboard = 4.440 Moulded draught (d) = 9.533 Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{48} \times M = \frac{9.533}{48} \times 199 = 20 \text{ cms}$ Addition for Winter North Atlantic Freeboard (if required) = —	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta = 22530 \text{ TONS}$ Tons per inch immersion at summer load water line $T = 65.5$ Deduction = $\frac{\Delta}{40T} \text{ inches} = \frac{22530}{40 \times 65.5} = 8.60 \text{ inches}$ 218 mm = 22 cms.	TABULAR FREEBOARD corrected for Fresh Deck (if required) Correction for coefficient $\frac{832 + 0.68}{1.36} = 1.512/36$ <table border="1"> <tr> <th></th> <th>+</th> <th>-</th> </tr> <tr> <td>Depth Correction</td> <td>1016</td> <td>—</td> </tr> <tr> <td>Deduction for superstructures</td> <td>—</td> <td>111</td> </tr> <tr> <td>Sheer correction</td> <td>218</td> <td>—</td> </tr> <tr> <td>Round of Beam correction</td> <td>76</td> <td>2</td> </tr> <tr> <td>Correction for Thickness of Deck amidships</td> <td>—</td> <td>—</td> </tr> <tr> <td>Other corrections, scantlings, etc.</td> <td>468</td> <td>—</td> </tr> <tr> <td>6 1/2 summer moulded draught of 11'-3"</td> <td>1768</td> <td>113</td> </tr> <tr> <td>Summer Freeboard =</td> <td>4440 mm</td> <td></td> </tr> </table>		+	-	Depth Correction	1016	—	Deduction for superstructures	—	111	Sheer correction	218	—	Round of Beam correction	76	2	Correction for Thickness of Deck amidships	—	—	Other corrections, scantlings, etc.	468	—	6 1/2 summer moulded draught of 11'-3"	1768	113	Summer Freeboard =	4440 mm	
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:

Tropical Fresh Water Line above Centre of Disc	42 cms	Tropical Fresh Water Freeboard	402
Fresh Water Line	22	Fresh Water	422
Tropical Line	20	Tropical	424
Winter Line below	20	Winter	464
Winter North Atlantic Line	—	Winter North Atlantic	—

Willem Barendsz.

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.



1	4.1	1	4.1
2	1.9	4	7.6
3	.6	2	1.2
4	.1	4	.4
5	0	1	0

$$13.3 \times \frac{1}{3} \times \frac{28}{4} = 31.03 \text{ M}^2$$

$$\text{Loss of Buoyancy} = \frac{31.03 \times 6.250}{148.59 \times 19.507 \times .85} = .066 \text{ M}$$

$$= \underline{66 \text{ mm/m.}}$$

Trade of ship WHALING SERVICE IN ANTARCTIC WATERS

Names of sister ships ✓

Builder's name and yard number GÖTAVERKEN YARD N° 459 (EX "PAN GOTHIA")

Owners N.V. NEDERLANDSCHE MAATSCHAPPIJ VOOR DE WALVISCHVAART, AMSTERDAM.

Fee fl. 360,-



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