

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

| | | | | | |
|--|----------------------------------|--|---------------|---------------------------------|--|
| Ship's Name "ELIAN HILL" | Official Number 132894 | Nationality and Port of Registry British Liverpool | Gross Tonnage | Date of Build 1913-10 | Port of Survey |
| Moulded Dimensions: Length 192.33 Breadth 30.50 Depth 14.75 | | | | | Date of Survey 18.5.44 |
| Moulded displacement at moulded draught = 85 per cent. of moulded depth 1406 tons | | | | | Surveyor's Signature |
| Coefficient of fineness for use with Tables .68 (.669 actual) | | | | | Particulars of Classification + 10000 |

| | | | | | |
|---|-------|--|--|--|--|
| Depth for Freeboard (D). | | Depth correction. | | Round of Beam correction. | |
| Moulded depth | 14.75 | (a) Where D is greater than Table depth (D - Table depth) R = (14.75 - 12.82) × 1.48 = +2.92 | | Moulded Breadth (B) | 30.5 |
| Stringer plate | .04 | | | Standard Round of Beam = $\frac{B \times 12}{50}$ | 7.32 |
| Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ | | (b) Where D is less than Table depth (if allowed) (Table depth - D) R = | | Ship's Round of Beam | 7.50 |
| Depth for Freeboard (D) = | 14.79 | If restricted by superstructures | | Difference | .18 |
| | | | | Restricted to | |
| | | | | Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right)$ | $\frac{.18^2}{4} \times \frac{2133}{4} = -.01$ |

DEDUCTION FOR SUPERSTRUCTURES.

| | Mean Covered Length (S) | Equivalent Enclosed Length (S ₁) | Height | Height Correction | Effective Length (E) | |
|---------------------|-------------------------|--|--------|-------------------|----------------------|--|
| Poop enclosed | | | | | | Standard Height of Superstructure 6.0 |
| „ overhang | | | | | | „ „ R.Q.D. 3.615 |
| R.Q.D. enclosed | 114.75 | 114.75 | 4.0 | - | 114.75 | Deduction for complete superstructure 25.23 |
| „ overhang | | | | | | Percentage covered $\frac{S}{L} = 79.35$ |
| Bridge enclosed | 9.37 | 9.37 | 7.0 | - | 9.37 | „ „ $\frac{S_1}{L} = 78.67$ |
| „ overhang aft | | | | | | „ „ $\frac{E}{L} =$ |
| „ overhang forward | | | | | | Percentage from Table, Line A. 73.66 |
| F'cle enclosed | 25.98 | 25.98 | 7.5 | - | 25.98 | (corrected for absence of fore-castle (if required)) |
| „ overhang | 2.52 | 1.26 | | | 1.26 | Percentage from Table, Line B. |
| Trunk aft | | | | | | (corrected for absence of fore-castle (if required)) |
| „ forward | | | | | | Interpolation for bridge less than 2L (if required) |
| Tonnage opening aft | | | | | | Deduction = 25.23 × .7366 = -18.58 |
| „ „ forward | | | | | | |
| Total | 152.62 | 151.36 | | | 151.36 | |

SHEER CORRECTION.

| Station | Standard Ordinate | S | M | Product | Actual Ordinate | Effective Ordinate | S | M | Product | |
|---------------|-------------------|---|--------|---------|-----------------|--------------------|---|--------|---------|-------------------------------|
| A.P. | 29.23 | 1 | 29.23 | 42.00 | 46.62 | 46.62 | 1 | 46.62 | | Mean actual sheer aft = |
| 1/4 from A.P. | 13.01 | 4 | 52.04 | 18.56 | 20.74 | 20.74 | 4 | 82.96 | | Mean standard sheer aft = |
| 1/2 „ | 3.21 | 2 | 6.42 | 4.63 | 5.13 | 5.13 | 2 | 10.26 | | } means. |
| Amidships | - | 4 | - | - | - | - | 4 | - | | |
| 1/4 from F.P. | 6.43 | 2 | 12.86 | 8.37 | 8.37 | 8.37 | 2 | 16.74 | | Mean actual sheer forward = |
| 1/2 „ | 26.02 | 4 | 104.08 | 33.57 | 33.57 | 33.57 | 4 | 134.28 | | Mean standard sheer forward = |
| F.P. | 58.47 | 1 | 58.47 | 75.00 | 75.00 | 75.00 | 1 | 75.00 | | |
| Total | | | 263.10 | | | | | 365.86 | | |

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{102.76}{18} \left(.75 - \frac{39.67}{18} \right) = -2.02$

If limited on account of midship superstructure.

Length of enclosed superstructure forward of amidships = 7.1
aft of „ = 7.1

Actual Lt. R.Q.D. = 4.0
Standard „ „ = 3.615
Difference = .385
Correction = 4.62

Deduction for Tropical Freeboard.
Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **18.79** Ft.
Summer freeboard = **4.33**
Moulded draught (d) = **14.46**

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = **3.61 = 3 1/2**
Addition for Winter North Atlantic Freeboard (if required) = **5 1/2**

Deduction for Fresh Water.

Displacement in salt water at summer load water line
 $\Delta =$
Tons per inch immersion at summer load water line
T =
Deduction = $\frac{\Delta}{40T}$ inches
4 1/2 = 3 1/2

TABULAR FREEBOARD ~~corrected for Fresh Deck (if required)~~Correction for coefficient **Nil**

| | + | - | |
|--|-------|-------|--------------|
| Depth Correction | 2.92 | - | |
| Deduction for superstructures | - | 18.58 | |
| Sheer correction | - | 2.02 | |
| Round of Beam correction | - | .01 | |
| Correction for Thickness of Deck amidships | 48.00 | - | |
| Other corrections, scantlings, etc. | | | |
| | 50.92 | 20.61 | +30.31 |
| Summer Freeboard | | | 52.11 |

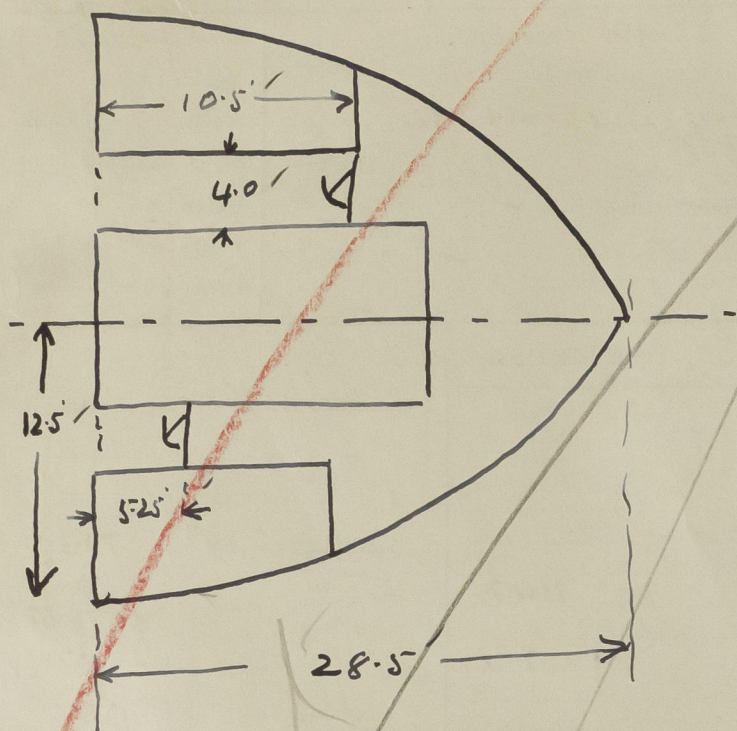
SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel Deck:

| | | | |
|--|-------|--------------------------------|-----------------|
| Tropical Fresh Water Line above Centre of Disc | 5 1/2 | Tropical Fresh Water Freeboard | 4'-4" |
| Fresh Water Line | 3 1/2 | Fresh Water | 3'-10 1/2" |
| Tropical Line | 2 | Tropical | 4'-2" (limited) |
| Winter Line below | 3 1/2 | Winter | 4'-7 1/2" |
| Winter North Atlantic Line | 5 1/2 | Winter North Atlantic | 4'-9 1/2" |

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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.



File.

28.50 ✓

Reasons
 $\frac{10.5 \times 4}{25} = 1.68$
 $\frac{5.25 \times 4}{25} = .84$

$- 2.52$
 $\frac{25.98}{25}$
 equals
 endorsed

Trade of ship

Names of sister ships

Builder's name and yard number

Owners

Flag



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