

No. 2029

TRANSFERRED TO:  
L. R. SYSTEM

THE BRITISH CORPORATION FOR THE SURVEY  
AND  
REGISTRY OF SHIPPING.

Report No.

1827

No. in Register Book

3137

BALLYARNOT

EX

S.S.

TAMNAMORE

Makers of Engines

JOHN LEWIS & SONS

Works No.

174

Makers of Main Boilers

JOHN LEWIS & SONS

Works No.

140

Makers of Donkey Boiler

Works No.

MACHINERY.



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No.

THE BRITISH CORPORATION FOR THE SURVEY

AND

REGISTRY OF SHIPPING.

Report No. No. in Register Book

Received at Head Office

12<sup>th</sup> March 1925

Surveyor's Report on the New Engines, Boilers, and Auxiliary  
Machinery of the <sup>Single Triple</sup> ~~Double~~ Screw STEAMER.

"TAMNAMORE"

Official No. 148143

Port of Registry

Belfast

Registered Owners

John Kelly & Son Belfast

Engines Built by

Messrs John Lewis & Son Aberdeen

at

Aberdeen

Main Boilers Built by

Messrs John Lewis & Son

at

Aberdeen

Donkey

at

None

Date of Completion

3-3-25

First Visit

27-3-24

Last Visit

3-3-25

Total Visits

62

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002013-002023-0139



## RECIPROCATING ENGINES.

Works No. 174 No. of Sets 1 Description Vertical, Triple  
expansion Surface Condensing

No. of Cylinders each Engine *Three* No. of Cranks *Three*  
Diars of Cylinders *11"-18"-30"* Stroke *21*  
Cubic feet in each L.P. Cylinder *8.585*  
Are Spring-loaded Relief Valves fitted to Top and Bottom of each Cylr? *yes.*  
" " " each Receiver? *yes.*  
Type of H.P. Valves *Piston Valve (L & C. Rings)*  
" 1st I.P. " *Martin Andrews Balance Slide*  
" 2nd I.P. "  
" L.P. " *Ordinary Slide Valve.*  
" Valve Gear *Open type*  
" Condenser *Cast Iron Box type* Cooling Surface *838* sq. ft.  
Diameter of Piston Rods (plain part) *3 1/4"* Screwed part (bottom of thread) *2.286"*  
Material " *Ignat Steel*  
Diar. of Connecting Rods (smallest part) *3 1/8"* Material *Ignat Steel*  
" Crosshead Gudgeons *3 1/4"* Length of Bearing *3 1/8"* Material *Ignat Steel*  
No. of Crosshead Bolts (each) *4* Diar. over Thrd. *1 1/8"* Thrds. per inch *6* Material *Steel*  
" Crank Pin " *2* " *1 3/4"* " *6* " *Steel*  
" Main Bearings *6* Lengths *6 1/2"*  
" Bolts in each *2* Diar. over Thread *1 5/8"* Threads per inch *6* Material *Steel*  
" Holding Down Bolts, each Engine *41* Diar. *1"* No. of Metal Chocks *41*  
Are the Engines bolted to the Tank Top or to a Built Seat? *Built Seat.*  
Are the Bolts tapped through the Tank Top and fitted with Nuts Inside?  
If not, how are they fitted?

Connecting Rods, Forged by *Messrs. Jas Carmichael Ltd Dundee.*  
Piston " " } *Forged from tested billets*  
Crossheads, " " }  
Connecting Rods, Finished by *Messrs. John Lewis & Sons Ltd Aberdeen.*  
Piston " " " " " "  
Crossheads, " " " " " "  
Date of Harbour Trial *25<sup>th</sup> February 1925.*  
" Trial Trip *31<sup>st</sup> March 1925.*  
Trials run at *Aberdeen*  
Were the Engines tested to full power under Sea-going conditions?  
If so, what was the I.H.P.? *380* Revols. per min. *114.*  
Pressure in 1st I.P. Receiver, *180* lbs., 2nd I.P., *76* lbs., L.P., *14* lbs., Vacuum, *26* ins.  
Speed on Trial *10.75 Knots.*  
If the Conditions on Trial were such that full power records were not obtained give the following estimated  
data:—  
Builders' estimated I.H.P. Revols. per min.  
Estimated Speed



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## TURBINE ENGINES.

Works No. Type of Turbines

No. of H.P. Turbines No. of I.P. No. of L.P. No. of Astern

Are the Propeller Shafts driven direct by the Turbines or through Gearing?

Is Single or Double Reduction Gear employed?

Diam. of 1st Reduction Pinion } Width Pitch of Teeth

" 1st " Wheel

Estimated Pressure per lineal inch

Diam. of 2nd Reduction Pinion } Width Pitch of Teeth

" 2nd " Wheel

Estimated Pressure per lineal inch

Revs. per min. of H.P. Turbines at Full Power S.H.P.

" " I.P. " "

" " L.P. " "

" " 1st Reduction Shaft

" " 2nd " "

" " Propeller Shaft

Total Shaft Horse Power

Date of Harbour Trial

" Trial Trip

Trials run at

Speed on Trial Knots. Propeller Revs. per min. S.H.P.

Turbine Spindles forged by

" Wheels forged or cast by

Reduction Gear Shafts forged by

" Wheels forged or cast by

## DESCRIPTION OF INSTALLATION.

No. of Turbo-Generating Sets Capacity of each

Type of Turbine employed

Description of Generators

No. of Motors driving Propeller Shafts

Are the Propeller Shafts driven direct by the Motors or through Gearing?

Is Single or Double Reduction Gear employed?

Description of Motors

Diam. of 1st Reduction Pinion } Width Pitch of Teeth

" 1st " Wheel

Estimated Pressure per lineal inch

Diam. of 2nd Reduction Pinion } Width Pitch of Teeth

" 2nd " Wheel

Estimated Pressure per lineal inch

Revs. per min. of Generators at Full Power

" Motors

" 1st Reduction Shaft

" 2nd " "

" Propeller at Full Power

Total Shaft Horse Power

Date of Harbour Trial

" Trial Trip

Trials run at

Speed on Trial Knots. Propeller Revs. per min. S.H.P.

Turbine Spindles forged by

" Wheels forged or cast by

Reduction Gear Shafts forged by

" Wheels forged or cast by



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## TURBO-ELECTRIC PROPELLING MACHINERY.

No. of Turbo-Generating Sets Capacity of each

Type of Turbines employed

Description of Generators

No. of Motors driving Propeller Shafting

Are the Propeller Shafts driven direct by the Motors or through Gearing?

Is Single or Double Reduction Gear employed?

Description of Motors

Diam. of 1st Reduction Pinion } Width Pitch of Teeth  
 „ 1st „ Wheel }

Estimated Pressure per lineal inch

Diam. of 2nd Reduction Pinion } Width Pitch of Teeth  
 „ 2nd „ Wheel }

Estimated Pressure per lineal inch

Revs. per min. of Generators at Full Power

„ Motors „

„ „ 1st Reduction Shaft

„ „ 2nd „

„ „ Propellers at Full Power

Total Shaft Horse Power

Date of Harbour Trial

„ Trial Trip

Trials run at

Speed on Trial Knots. Propeller Revs. per min. S.H.P.

## Makers of Turbines

Generators

Motors

Reduction Gear

Turbine Spindles forged by

Wheels forged or cast by

Reduction Gear Shafts forged by

Wheels forged or cast by

## DESCRIPTION OF INSTALLATION.



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No. of Blades each Propeller

4

Fitted or Solid?

Solid

Material of Blades

Cast Iron

Boss

Cast Iron

Diam. of Propellers

8'-0"

Pitch

11'-0"

Surface (each)

25

S. ft.

Coefficient of Displacement of Vessel at  $\frac{1}{2}$  Moulded Depth

70

Crank Shafts Forged by

Messrs J. Carmichael &amp; Co.

Material

Iron Steel

Pins

Webs

Thrust Shafts

Interned.,

Propeller

Finished by

Messrs J. Carmichael &amp; Co. Dundee, I. Steel

Thrust

Messrs John Lewis &amp; Son.

Interned.,

None.

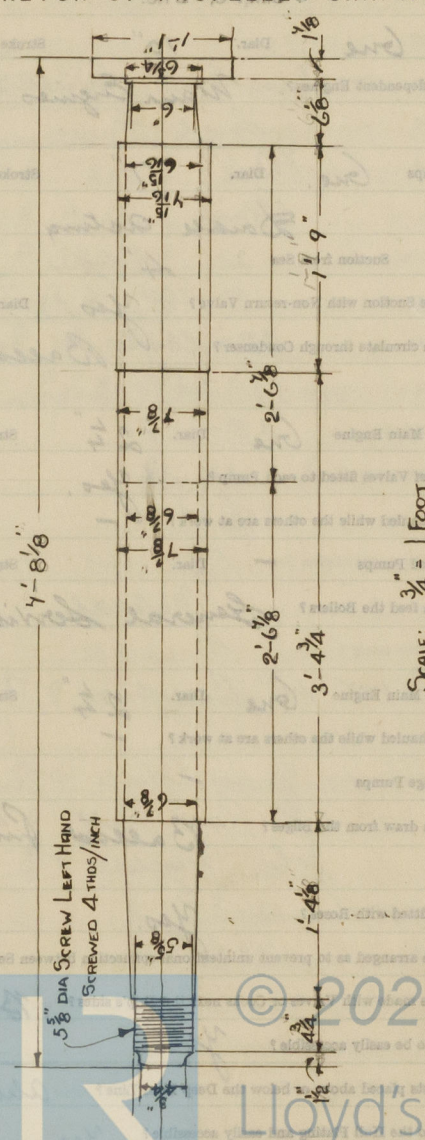
Propeller

Messrs John Lewis &amp; Son.

STAMP MARKS ON SHAFTS.

Thrust.  
&  
Propeller  
Shafts.B.C.  
N° 5632  
T.L.  
5-1-25B.C.  
N° 174  
J.F.  
13-9-24Banks,  
Shaft.

## SKETCH OF PROPELLER SHAFT.





Worked by Main or Independent Engines? *Main Engines*

Type of " *Donnell Acting*

Diar. of	"	Suction from Sea	14"
----------	---	------------------	-----

Has each Pump a Bilge Suction with Non-return Valve? *Yes* Diar. *4*

What other Pumps can circulate through Condenser ?

No. of Feed Pumps on Main Engine	5	Diar.	2 1/2"	Stroke	10 1/2"
----------------------------------	---	-------	--------	--------	---------

Are Spring-loaded Relief Valves fitted to each Pump?

Can one Pump be overhauled while the others are at work?

No. of Independent Feed Pumps	Diar.	Stroke
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
10	10	10
11	11	11
12	12	12
13	13	13
14	14	14
15	15	15
16	16	16
17	17	17
18	18	18
19	19	19
20	20	20
21	21	21
22	22	22
23	23	23
24	24	24
25	25	25
26	26	26
27	27	27
28	28	28
29	29	29
30	30	30
31	31	31
32	32	32
33	33	33
34	34	34
35	35	35
36	36	36
37	37	37
38	38	38
39	39	39
40	40	40
41	41	41
42	42	42
43	43	43
44	44	44
45	45	45
46	46	46
47	47	47
48	48	48
49	49	49
50	50	50
51	51	51
52	52	52
53	53	53
54	54	54
55	55	55
56	56	56
57	57	57
58	58	58
59	59	59
60	60	60
61	61	61
62	62	62
63	63	63
64	64	64
65	65	65
66	66	66
67	67	67
68	68	68
69	69	69
70	70	70
71	71	71
72	72	72
73	73	73
74	74	74
75	75	75
76	76	76
77	77	77
78	78	78
79	79	79
80	80	80
81	81	81
82	82	82
83	83	83
84	84	84
85	85	85
86	86	86
87	87	87
88	88	88
89	89	89
90	90	90
91	91	91
92	92	92
93	93	93
94	94	94
95	95	95
96	96	96
97	97	97
98	98	98
99	99	99
100	100	100

What other Pumps can feed the Boilers? *General Service Pumps.*

No. of Bilge Pumps on Main Engine	One	Diar.	2 1/2"	Stroke	10 1/2"
-----------------------------------	-----	-------	--------	--------	---------

Can one Pump be overhauled while the others are at work?

No. of Independent Bilge Pumps

What other Pumps can draw from the Bilges? *Ballast Pump.*

Are all Bilge Suctions fitted with Roses?

Are the Valves, etc., so arranged as to prevent unintentional connection between Sea and Bilges? *Yes*

Are all Sea Connections made with Valves or Cocks next the Ship's sides? *Both*

Are they placed so as to be easily accessible?

Are the Discharge Chests placed above or below the Deep Load Line? *Above*

Are they fitted direct to the Hull Plating and easily accessible?

Are all Blow-off Cocks or Valves fitted with Spigots through the Hull Plating and Covering Plates or Flanges

on the Outside?

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## BOILERS.

Works No. *140*

No. of Boilers *One*. Type *Single Ended. Multitubular*

Single or Double-ended *Single Ended*

No. of Furnaces in each *Three*

Type of Furnaces *Plain*

Date when Plan approved *?*

Approved Working Pressure *180 lbs Per Sq Inch*

Hydraulic Test Pressure *320 lbs per Sq Inch*

Date of Hydraulic Test *10-2-25*

" when Safety Valves set *25-2-25*

Pressure at which Valves were set *180 lbs.*

Date of Accumulation Test *25-2-25*

Maximum Pressure under Accumulation Test *190 lbs. = 5%.*

System of Draught *Natural*

Can Boilers be worked separately? *—*

Makers of Plates *Messrs Wm Beardmore & Co Ltd Glasgow.*

" Stay Bars *Messrs David Colville & Sons Ltd*

" Rivets *" The Rivet Bolt & Nut Coy.*

" Furnaces *" John Marshall & Co. Wetherwell*

Greatest Internal Diam. of Boilers *12'-3<sup>15</sup>/<sub>16</sub>"*

" " Length *10'-0" Mean*

Square Feet of Heating Surface each Boiler *1479*

" " Grate *46*

No. of Safety Valves each Boiler *Two* Rule Diam. *2.46"* Actual *2<sup>1</sup>/<sub>2</sub>"*

Are the Safety Valves fitted with Easing Gear? *Yes.*

No. of Pressure Gauges, each Boiler *Two* No. of Water Gauges *One*

" Test Cocks *Three* " Salinometer Cocks *One*

## TEST MARK.

B.C. TEST.

W.P. 180 lbs.

T.P. 320 lbs.

10-2-25 T.L.

Sizes of Safety Valve Rings.

Port Value.

$\frac{11}{32}$

Starboard Value

$\frac{3}{8}$



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Are the Water Gauges fitted direct to the Boiler Shells or mounted on Pillars? *Pillars*

Are the Water Gauge Pillars fitted direct to the Boiler Shells or connected by Pipes? *Pipes*

Are these Pipes connected to Boilers by Cocks or Valves? *Cocks.*

Are Blow-off Cocks or Valves fitted on Boiler Shells? *Yes.*

No. of Strakes of Shell Plating in each Boiler *One*

Plates in each Strake *Two*

Thickness of Shell Plates Approved *1 3/32"*

in Boilers *1 1/16"*

Are the Rivets Iron or Steel? *Steel*

Are the Longitudinal Seams Butt or Lap Joints? *Butt*

Are the Butt Straps Single or Double? *Double*

Are the Double Butt Straps of equal width? *yes*

Thickness of outside Butt Straps *2 5/32"*

inside *2 9/32"*

Are Longitudinal Seams Hand or Machine Riveted? *Machine*

Are they Single, Double, or Treble Riveted? *Treble.*

No. of Rivets in a Pitch *5*

Diam. of Rivet Holes *1 1/16"*

Pitch *7 1/16"*

No. of Rows of Rivets in Centre Circumferential Seams *—*

Are these Seams Hand or Machine Riveted? *—*

Diam. of Rivet Holes *—*

Pitch *—*

No. of Rows of Rivets in Front End Circumferential Seams *2*

Are these Seams Hand or Machine riveted? *Hand.*

Diam. of Rivet Holes *1 1/16"*

Pitch *3"*

No. of Rows of Rivets in Back End Circumferential Seams *2*

Are these Seams Hand or Machine Riveted? *Machine*

Diam. of Rivet Holes *1 1/16"*

Pitch *3"*

Size of Manholes in Shell *15 3/4" x 19 3/4"*

Dimensions of Compensating Rings *2'-5 1/2" x 2'-9"*



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Thickness of End Plates in Steam Space Approved

 $\frac{1}{4}$ "  
 $\frac{1}{32}$ 

" " " " " in Boilers

Pitch of Steam Space Stays

 $1'-6" \times 1'-4"$ 

Diar. " " " " Approved

 $2\frac{3}{4}$  Threads per Inch 6

" " " " " in Boilers

 $2\frac{3}{4}$  " 6

Material of " " "

Steel

How are Stays Secured?

Some Nuts &amp; Washers.

Diar. and Thickness of Loose Washers on End Plates

 $9\frac{5}{8}" \times \frac{3}{4}"$  Thickness

" " " Riveted " " "

Width " " Doubling Strips "

-

\* Thickness of Middle Back End Plates Approved

 $\frac{3}{4}"$   
 $\frac{3}{4}" + \frac{1}{32}"$ 

" " " " " in Boilers

Thickness of Doublings in Wide Spaces between Fireboxes

Pitch of Stays at

 $1'-1\frac{3}{8}" \times 8"$ 

Diar. of Stays Approved

 $1\frac{5}{8}"$  Threads per Inch 9

" " " in Boilers

 $1\frac{5}{8}"$  " 9

Material "

Steel

Are Stays fitted with Nuts outside?

yes.

\* Thickness of Back End Plates at Bottom Approved

 $\frac{3}{4}"$   
 $\frac{3}{4}" + \frac{1}{32}"$ 

" " " " " in Boilers

Pitch of Stays at Wide Spaces between Fireboxes

 $1'-1\frac{3}{8}" \times 8"$ 

Thickness of Doublings in " "

-

Thickness of Front End Plates at Bottom Approved

 $2\frac{7}{32}"$   
 $2\frac{9}{32}"$ 

" " " " " in Boilers

No. of Longitudinal Stays in Spaces between Furnaces

2

\* Some Reate.



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Diar. of Stays Approved  $2\frac{3}{8}$  Threads per Inch 6  
 " " in Boilers  $2\frac{3}{8}$  6

Material " *Steel*

Thickness of Front Tube Plates Approved  $\frac{27}{32}$

" " " in Boilers  $\frac{29}{32}$

Pitch of Stay Tubes at Spaces between Stacks of Tubes  $1'-1\frac{3}{8}"$

Thickness of Doublings in " " "

" Stay Tubes at " " "

Are Stay Tubes fitted with Nuts at Front End? *Only between wide water spaces.*

Thickness of Back Tube Plates Approved  $2\frac{3}{32}$

" " " in Boilers  $\frac{23}{32}$

Pitch of Stay Tubes in Back Tube Plates  $10" \text{ Mean}$

" Plain "  $4\frac{1}{2}" \times 4\frac{3}{8}"$

Thickness of Stay Tubes  $\frac{1}{4}" \text{ and } \frac{5}{16}"$

" Plain "  $10 \times 9 \times 6$

External Diar. of Tubes  $3\frac{1}{4}"$

Material " *Iron*

Thickness of Furnace Plates Approved  $\frac{45}{64}$

" " " in Boilers  $\frac{48}{64}$

Smallest outside Diar. of Furnaces  $3'-0\frac{1}{2}"$

Length between Tube Plates  $6'-10"$

Width of Combustion Chambers (Front to Back)  $2'-5\frac{1}{2}" \text{ over}$

Thickness of " " Tops Approved  $\frac{21}{32}$

" " " in Boilers  $\frac{16}{16}$

Pitch of Screwed Stays in C.O. Tops  $9"-9"$



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Diam. of Screwed Stays Approved  $1 \frac{5}{8}$ " Threads per Inch 9  
 " " " in Boilers  $1 \frac{5}{8}$ " 9  
 Material " " *Steel*

Thickness of Combustion Chamber Sides Approved  $\frac{21}{32}$ "  
 " " " in Boilers  $\frac{11}{16}$ "  
 Pitch of Screwed Stays in C.C. Sides  $9 \frac{1}{4}" \times 8 \frac{3}{4}"$   
 Diam. " " Approved  $1 \frac{5}{8}$ " Threads per Inch 9  
 " " " in Boilers  $1 \frac{5}{8}$ " 9  
 Material " " *Steel*

Thickness of Combustion Chamber Backs Approved  $\frac{21}{32}$ "  
 " " " in Boilers  $\frac{23}{32}$ "  
 Pitch of Screwed Stays in C.C. Backs  $7 \frac{5}{8}" \times 10 \frac{1}{4}"$   
 Diam. " " Approved  $1 \frac{5}{8}$ " Threads per Inch 9  
 " " " in Boilers  $1 \frac{5}{8}$ " 9  
 Material " " *Steel*

Are all Screwed Stays fitted with Nuts inside C.C.? *Yes.*  
 Thickness of Combustion Chamber Bottoms  $\frac{11}{32}$ "  
*2 Boilers*

No. of Girders over each Wing Chamber 3 *Double.*  
 " " " Centre " 2 *Double.*  
 Depth and Thickness of Girders  $8 \frac{1}{8}" \times \frac{9}{16}"$

Material of Girders *Steel*  
 No. of Stays in each 2

No. of Tubes, each Boiler 204  
 Size of Lower Manholes  $15' \times 11''$

## VERTICAL DONKEY BOILERS

No. of Boilers  
 Type  
 Greatest Lin. Diam.  
 Height  
 Height of Boiler Crown above Fire Grate  
 Are Boiler Crown Flats or Dished?  
 Internal Radius of Dished Ends  
 Thickness of Plates  
 Description of Seams in Boiler Crown  
 Diam. of Rivet Holes  
 Width of Overlap  
 Height of Rivet Crown above Fire Grate  
 Are Rivet Crown Flats or Dished?  
 Internal Radius of Dished Crown  
 Thickness of Plates  
 No. of Crown Stays  
 Material  
 Internal Diam. of Rivet at Top  
 Thickness of Plates  
 No. of Water Tubes  
 Material of Water Tubes  
 Size of Flange in Shell  
 Description of Connecting Pipe  
 Heating Surface, each Boiler  
 Gross Surface

## SUPERHEATERS



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## VERTICAL DONKEY BOILERS.

No. of Boilers	Type		
Greatest Int. Diar.	Height		
Height of Boiler Crown above Fire Grate			
Are Boiler Crowns Flat or Dished?			
Internal Radius of Dished Ends	Thickness of Plates		
Description of Seams in Boiler Crowns			
Diar. of Rivet Holes	Pitch	Width of Overlap	
Height of Firebox Crowns above Fire Grate			
Are Firebox Crowns Flat or Dished?			
External Radius of Dished Crowns	Thickness of Plates		
No. of Crown Stays	Diar.	Material	
External Diar. of Firebox at Top	Bottom	Thickness of Plates	
No. of Water Tubes	Ext. Diar.	Thickness	
Material of Water Tubes			
Size of Manhole in Shell			
Dimensions of Compensating Ring			
Heating Surface, each Boiler	Grate Surface		

## SUPERHEATERS.

Description of Superheaters	
Where situated?	
Which Boilers are connected to Superheaters?	
Can Superheaters be shut off while Boilers are working?	
No. of Safety Valves on each Superheater	Diar.
Are " " fitted with Basing Gear?	
Date of Hydraulic Test	Test Pressure
Date when Safety Valves set	Pressure on Valves

## MAIN STEAM PIPES



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## MAIN STEAM PIPES.

No. of Lengths	One
Material	Copper.
Brazed, Welded or Seamless	Seamless.
Internal Diam.	3"
Thickness	8 W.G.
How are Flanges secured?	Brazed.
Date of Hydraulic Test	17-2-25.
Test Pressure	360 lbs.

No. of Lengths	
Material	
Brazed, Welded or Seamless	
Internal Diam.	
Thickness	
How are Flanges secured?	
Date of Hydraulic Test	
Test Pressure	

## SUPERHEATERS

No. of Lengths	
Material	
Brazed, Welded or Seamless	
Internal Diam.	
Thickness	
How are Flanges secured?	
Date of Hydraulic Test	
Test Pressure	

## FEED WATER HEATERS

## FEED WATER FILTERS



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## EVAPORATORS.

No.	Type	Tons per Day
	<i>None</i>	
Makers	<i>Copp</i>	
Working Pressure	Test Pressure	Date of Test
Date of Test of Safety Valves under Steam		

## FEED WATER HEATERS.

No.	Type	
	<i>Fitted in Boiler</i>	
Makers	<i>Lyle McMaster &amp; Lyle</i>	
Working Pressure	Test Pressure	Date of Test

## FEED WATER FILTERS.

No.	Type	Size
	<i>—</i>	
Makers		
Working Pressure	Test Pressure	Date of Test

## LIST OF DONKEY PUMPS.

*Lamonts General Service Pump 5" x 3 1/2" x 6" Duplex*  
*" Ballast Pump 6" x 6" x 6" Duplex*



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29MU9VY SPARE GEAR. 21J

No. of Top End Bolts.	No. of Bot. End Bolts.	No. of Cylinder Cover Studs
2	2	6
" Coupling Bolts 5	" Main Bearing Bolts 2	" Valve Chest " }
" Junk Ring Bolts 6	" Feed Pump Valves 1	" Bilge Pump Valves 1
" H.P. Piston Rings 1	" I.P. Piston Rings	" L.P. Piston Rings
" " Springs 1 Set.	" " Springs 2	" " Springs 2
" Safety Valve " 1	" Fire Bars 1/2 Set.	" Feed Check Valves 4
" Piston Rods	" Connecting Rods	" Valve Spindles
" Air Pump Rods	" Air Pump Buckets	" Air Pump Valves 1 Set
" Cir. "	" Cir. "	" Cir. " 1 Set
" Crank Shafts	" Crank Pin Bushes	" Crosshead Bushes
" Propeller Shafts	" Propellers	" Propeller Blades
" Boiler Tubes 3	" Condenser Tubes 3	" Condenser Ferrules 6

OTHER ARTICLES OF SPARE GEAR:—

\* Special type to be put on board on arrival of vessel at Belfast. Main & Feed Valve Chests supplied by the Gurners. Messrs Kelly & Sons, Belfast.

1. Spinning for each size filter (Escape Values).

2 Gauge Glasses & Washers.

Quantity of iron assorted

" " bolts & nuts Various sizes



## REFRIGERATORS.

No. of Machines Capacity of each

Makers

Description

No. of Steam Cylinders, each Machine No. of Compressors No. of Cranks

Particulars of Pumps in connection with Refrigerating Plant and whether worked by Refrigerating Machines or Independently

System of Refrigeration

Insulation

Are Brine and other Regulating Valves placed so as to be accessible without entering the Insulated Spaces?

Are all Pipes, Air Trunks, &c., well secured and protected from risk of damage?

Are all Bilge, Sounding, and Air Pipes in Insulated Spaces properly insulated?

Are Thermometer Tubes so arranged that Water cannot enter and freeze in them?

Date of Test under Working Conditions



## ELECTRIC LIGHTING.

## ELECTRIC LIGHTING.

Installation Fitted by *John Lewis & Sons Ltd. Aberdeen.*  
 No. and Description of Dynamos *1 Off. Compound Wound.*  
 Makers of Dynamos *Messrs. Electric Motors Ltd. Manchester (Rohy Engine)*  
 Capacity *1 K.W.* Amperes, at *10* Volts, *100* Revols. per Min. *700*

Current Alternating or Continuous *Continuous*

Single or Double Wire System *Double*

Position of Dynamos *Placed Fore & aft. in Engine Room Star-Side*

„ Main Switch Board *Immediately aft of Dynamos. Star Side Engine Room*

No. of Circuits to which Switches are provided on Main Switch Board *One Pair Dynamo Mains.*

Particulars of these Circuits:— *3 Circuits*

Circuit.	Number of Lights.	Candle Power.	Current Required. Amps.	Size of Conductor.	Current Density.	Conductivity of Conductor.	Insulation Resistance per Mile.
<i>One Pair</i> <i>Dynamo Mains</i>			<i>9</i>	<i>7/036</i>		<i>Copper.</i>	<i>1250 M.C.S.</i>
<i>2 Single to Mast Head</i>		<i>64</i>		<i>5044</i>			
<i>1 Side Lamp.</i>	<i>2</i>	<i>64</i>	<i>9 1/2</i>	<i>3/029</i>		<i>Copper.</i>	<i>1250 M.C.S.</i>
<i>1 Stern Lamp.</i>		<i>16</i>					
<i>Compass.</i>	<i>1</i>	<i>16</i>					
<i>Accommodation</i> <i>Bridge &amp; Foremast</i>							
<i>4 Cargo Clusters</i>	<i>19</i>	<i>16</i>	<i>4</i>	<i>3/029</i>		<i>Copper.</i>	<i>1250 M.C.S.</i>
<i>Machinery Space</i> <i>Accommodation aft.</i>	<i>11</i>	<i>16</i>	<i>3 1/2</i>	<i>3/029</i>		<i>Copper.</i>	<i>1250 M.C.S.</i>

Total No. of Lights *43 @ 16 C.P.* No. of Motors driving Fans, &c. No. of Heaters

Current required for Motors and Heaters

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Positions of Auxiliary Switch Boards, with No. of Switches on each

Are Out-outs fitted as follows?—

On Main Switch Board, to Cables of Main Circuits

On Aux. " " each Auxiliary Circuit

Wherever a Cable is reduced in size 7/0.36 to 3/0.29 - two Single .044 to each Head Light

To each Lamp Circuit

To both Flow and Return Wires of all Circuits when the Double-Wire System is adopted

Are the Fuses of Standard Sizes?

Are all Switches and Out-outs constructed of Non-Inflammable Material?

Are they placed so as to be always and easily accessible?

Smallest Single Wire used, No. .044 (max) S.W.G., Largest, No. 7.036 S.W.G.

How are Conductors in Engine and Boiler Spaces protected? Armoured Cables

Saloons, State Rooms, &amp;c.,

What special protection is provided in the following cases?—

- (1) Conductors exposed to Heat or Damp Lead covered & armoured.
- (2) " " passing through Bunkers or Cargo Spaces Armoured & protected by Galv. Wrk - 2 in thick
- (3) " " Deck Beams or Bulkheads Deck tubes fitted

Are all Joints in Cables properly soldered and thoroughly Insulated so that the efficiency of the Cables

is unimpaired? yes

Are all Joints in accessible positions, none being made in Bunkers or Cargo Spaces? yes

Are all Hull Connections for Single-Wire Systems made with Screws of large Surface?

Are the Dynamos, Motors, Main and Branch Cables, so placed that the Compasses are not injuriously

affected by them? yes

Have Tests been made to prove that this condition has been satisfactorily fulfilled? yes

Has the Insulation Resistance over the whole system been tested? yes

What does the Resistance amount to?

Infinity

Ohms.

Is the Installation supplied with a Voltmeter?

yes

" " " an Ampere Meter?

yes

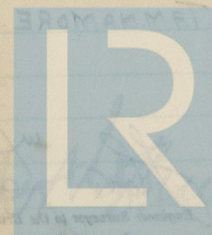
Date of Trial of complete Installation

3-3-25

Duration of Trial

4 hours.

Have all the requirements of Section 42 been satisfactorily carried out? yes



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## GENERAL CONSTRUCTION.

Have the Machinery and Boilers been constructed in accordance with the requirements of the Rules and the

Approved Plans? *yes*

If not, give details of the points of difference, and state when these were sanctioned by the Chief

Surveyor.

Have the Boilers been made of steel or iron, and if of iron, state the thickness of the plates?

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## Fees—

## MAIN BOILERS.

	Sq. ft.	£	s.	d.
H.S.				
G.S.				

G.S.				
------	--	--	--	--

## DONKEY BOILERS.

	Sq. ft.	£	s.	d.
H.S.				
G.S.				

G.S.				
------	--	--	--	--

£			
---	--	--	--

## ENGINES.

	Cub. ft.	£	s.	d.
L.P.O.				

£			
---	--	--	--

Testing, &c. ...				
------------------	--	--	--	--

£			
---	--	--	--

Expenses ...				
--------------	--	--	--	--

Total ...	£			
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It is submitted that this Report be approved,

*John King*

Chief Surveyor.

Approved by the Committee for the Class of M.B.S.\* on the

18<sup>th</sup> March 1915

The above correctly describes the Machinery of the S.S. *TAMNAMORE*

as ascertained by *me* from personal examination

What special provisions are provided in the following cases?

(1) Constructors exposed to heat or damp

(2) ...

(3) ...

*John Laurie*

Engineer Surveyor to the British Corporation for the  
Survey and Registry of Shipping.

Fees advised

Fees paid

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*In order to the*  
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Foundation  
Secretary.



## GENERAL CONSTRUCTION

and the main body of the building is to be constructed in accordance with the following specifications:

Approved by the Committee for the Office of the Chief of the Bureau of the Census, Washington, D.C., on the 10th day of January, 1940.

1. Foundation	2. Walls	3. Floor	4. Roof	5. Windows	6. Doors	7. Stairs	8. Elevators	9. Heating	10. Plumbing	11. Electrical	12. Mechanical	13. Other
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