

No. 565

TRANSFERRED TO:
L. R. SYSTEM

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. 538 No. in Register Book 1060

S. *Tugland* "*Terawhiti*"
salvage steamer

Makers of Engines *Pamager & Inguson Ltd.*

Works No. 210

Makers of Main Boilers *Pamager & Inguson Ltd.*

Works No. 210

Makers of Donkey Boiler { *None fitted* } *Maryweather*
salvage boiler fitted

Works No.

TRANSFERRED TO:
L. R. SYSTEM

MACHINERY.



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002127-002137-0022

No.

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. *538* No. in Register Book *1060*

Received at Head Office

Surveyor's Report on the New Engines, Boilers, and Auxiliary
Machinery of the *Steel screw towing and
salvage steamer "Serawatti"*

Port of Registry

Dunedin

Registered Owners

Union Steamship Co

Surveyor's District

Leith

Date of Completion of Engines

21st May 1904

" "

" Main Boilers

21st May 1904

" "

" Donkey "

No donkey Boiler

Trial Run at

Gullane (Firth of Forth)

Date *21st May 1904*

First Visit

14th

November 1906

Last Visit *21st May 1904*

Total Number of Visits

24



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ENGINES.

Made by *Ramage & Ferguson*
 " at *Leith* Works No. *210*
 Description *Triple Expansion*
 No. of Cylinders, each Engine *3* Diars. *16" 26" 42"* Stroke *24"*
 Cub. feet in each L.P. Cylr. *21.6* Revols. per Min. *124* I.H.P. *850*
 Pressure in I.P. Receiver at full Power *68* 2nd I.P. *<* L.P. *10.5*
 Thickness of Metal in H. P. Cylr. *1"* I.P. *1 1/4"* " *1 1/4"*
 " " " " Liner *1 1/4"* " " " *1"*
 " " " " Valve Chest *1"* " *1"* " *1"*
 Are Spring-loaded Relief Valves fitted to Top and Bottom of each Cylr.? *Yes*
 " " " " each Receiver? *Yes*
 Number of ^{Lets} Studs in H.P. Cylr. Cover *18* I.P. *16* 2nd I.P. *<* L.P. *18*
 Eff. Diar. " " " *942"* *942"* " *942"*
 Pitch " " " *39"* *5.78* " *7.9'*
 Type of H.P. Valves (Piston or Slide) *Piston* *Slide* " *Slide*
 " Valve Gear *Stephenson's Link*
 Diameter of Piston Rods (plain part) *4 1/4"* At Bottom of Thread *2 15/16"*
 Makers " *Life forge* Material *I. Steel*
 Diameter of Connecting Rods (smallest part) *4 1/8"* Material *Scrap Iron*
 Makers " *Life forge Kirkaldy*
 Diar. of Crosshead Gudgeons *4"* Length of Bearing *9 1/4"* Material *Steel*
 No. of Top End Bolts (each Rod) *4* Effective Diar. *159* Material *forged iron*
 " Bot. " " *2* " *2.18* " " "
 " Main Bearings *6* Lengths *509"* *1 @ 10 1/2"*
 " Bolts in each *2* Effective Diar. *1.41* Material *Iron*

No. of Holding Down Bolts, each Engine *70* No. of Metal ChecksEff. Diar. " " " *942* Average Pitch *21"*

Are the Engines bolted directly to the Tank Top?

No Tank top

Are the Bolts tapped through the Tank Top and fitted with Nuts inside?

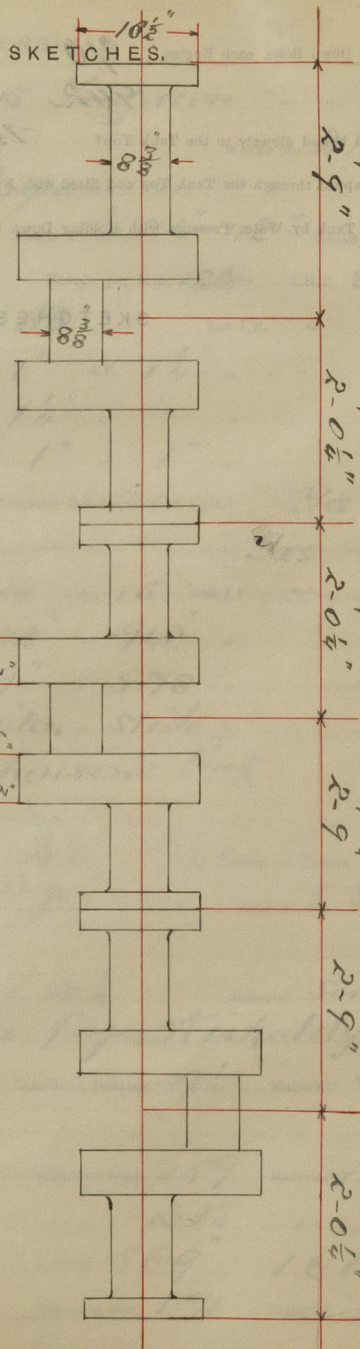
Date of Test of Tank by Water Pressure with Holding Down Bolts in place

SKETCHES.



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Want Shad ^{s.} Marchite

SHAFTING

Are Crank Shafts Built?	Yes	No. of Lengths in each	3	Angle of Cranks	120°
Diar. of Crank Shafts by Rule	7.95	Actual	8 $\frac{3}{8}$ "	Diar. in Way of Webs	9 $\frac{1}{4}$ "
Makers of	"	Fife forge Co.		Material	I. Steel
Diar. of Crank Pins	8 $\frac{3}{8}$ "			Diar. in Way of Web	8 $\frac{1}{2}$ "
Makers of	"	Fife forge Co.		Material	I. Steel
Width across Crank Webs at Centre of Shaft			14"	Thickness	5 $\frac{3}{4}$ "
"	"	Crank Pins	15 $\frac{1}{2}$ "	"	"
"	"	Narrowest part	12 $\frac{3}{4}$ "	"	"
Makers of Crank Webs				Material	I. Steel
Diar. or Breadth of Keys in Crank Webs			2 $\frac{1}{4}$ " Broad	Length	5 $\frac{3}{4}$ "
" of Dowel Pins in Crank Pins		1" Length	4"	Screwed or Plain	Plain
No. of Bolts in each Coupling	6	Diar. at Mid Length	2"	Diar. of Pitch Circle	12 $\frac{1}{2}$ "
Material of Coupling Bolts	Wrought Iron				
Crank Shafts Finished by	Ramsey & Ferguson L ^d				
Greatest Distance from edge of Main Bearing to Crank Web	4"				

Description of Thrust Blocks			
Number	"	"	Rings

Diar. of Thrust Shafts by Rule $7.95''$ Actual (at bot. of Collars) $8\frac{3}{8}''$ Over Collars $14\frac{3}{4}''$
 " " at Forward Coupling $8\frac{3}{8}''$ After Coupling $8\frac{3}{8}''$
 No. of Thrust Collars 4 Thickness $1\frac{1}{8}''$ Distance apart $3\frac{1}{2}''$
 Thrust Shafts Forged by *Life forge Co* Material *I. Steel*
 " Finished by *Barnes & Augustin Ltd*

Diar. of Intermediate	Shafting by Rule	$\frac{7}{8}$ 5 0"	Actual	8"
No. of Lengths, each	Engine		No. of Tunnel Bearings	
Diar. of Bearings	8"	Length	12"	Distance apart

No. of Bolts, each Coupling **6** **2"** **12 1/2"**
 Intermediate Shafts Forged by **Hifi Forge Co.** Material **Steel**
 " " Finished by **Ramage & Ferguson Ltd.**

Diar. of Propeller Shafts by Rule **8' 0 1/2"** Actual **8 7/8"** At Couplings **8 3/8"**

Are Propeller Shafts fitted with Continuous Brass Liners? **Yes**

Diar. over Liners **10 7/16" - 10 5/16"** Length of After Bearings **2' 9" x 11"**

Of what Material are the After Bearings composed? **Lignum-vitae & Gun-Metal**

Distance from After Bearing in Stern Tube to nearest Tunnel Bearing **13' 2"**

Are the After Bearings lubricated with Oil or Sea Water? **Sea-water**

What means are adopted to prevent Sea Water entering the Stern Tubes? **—**

Propeller Shafts Forged by **Hifi Forge** Material **Iron**
 " " Finished by **Ramage & Ferguson Ltd.**

No. of Propellers **1** **9' 4"** Pitch **12' 0"**

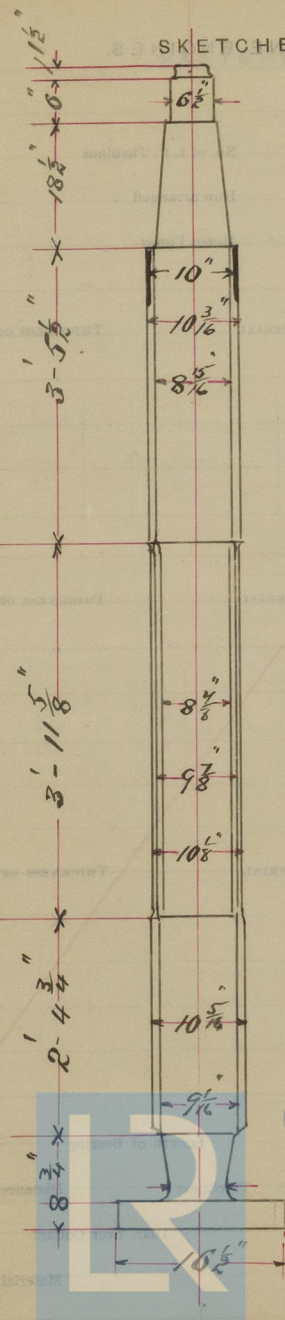
" Blades, each Propeller **4** Fitted or Solid **fitted**

Material of Blades **Brass** Boss **Cast Iron**

Surface, each Propeller **8 ft** **11 1/4' = 14' 0 3/4"**

Coefficient of Displacement of Vessel at 1/2 Moulded Depth **0.65**

SKETCHES.



" Propeller Shaft S/S. Ynaehiti "

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TURBINE ENGINES.

Type

No. of H.P. Turbines

No. of L.P. Turbines

No. of Astern "

How arranged

Revolvs. per Min.

Horse Power

Diar. of H.P. Turbine Drums

MATERIAL

THICKNESS OF METAL

Material of H.P. Turbine Casings

Lengths of Blades in H.P. Turbines

No. of Rows of Blades of each Length

Pitch of " " "

Diar. of L.P. Turbine Drums

MATERIAL

THICKNESS OF METAL

Material of L.P. Turbine Casings

Lengths of Blades in L.P. Turbines

No. of Rows of Blades of each Length

Pitch of " " "

Diar. of Astern Turbine Drums

MATERIAL

THICKNESS OF METAL

Material of Astern Turbine Casings

Lengths of Blades in Astern Turbines

No. of Rows of Blades of each Length

Pitch of " " "

Diar. of Turbine Spindles

Length of Bearing

No. of Thrust Collars on each Spindle

Thickness

Distance apart

Diar. of Spindles at Bottom of Collars

Diar. over Collars

Spindles Forged by

Material

" Finished by

SKETCHES.



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SKETCHES

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PUMPS, ETC

No. of Air Pumps *1* Diar. *13"* Stroke *15"*
 Type of *Edward's*

Diar. of Air Pump Rod *2"* Material *Delta Metal*

How are Air Pumps Worked? *off main engines*

No. of Centrifugal Circulating Pumps *1* Maker *Gwynnes Ltd.*

" Reciprocating " " " Diar. " Stroke "

Diar. of Circulating Pump Rods *2"* Material *Bronze*

How are Circulating Pumps Worked? *Separate engine (Circulating)*

Diar. of Circulating Pump Suction from Sea *4"*

Has each Circulating Pump a Bilge Suction with Non-return Valve? *Yes* Diar. *4½"*

No. of Feed Pumps on each Engine *2* Diar. *2¾"* Stroke *15"*

Where do they pump from? *Hotwell*

" " discharge to? *Main Boiler*

Are Spring-loaded Relief Valves fitted to each Pump? *Yes*

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

No. of Bilge Pumps on each Engine *2* Diar. *3½"* Stroke *15"*

Where do they pump from? *Eng. Room, Slopehold, P. Hold, & Tunnel.*

" " discharge to? *Overboard*

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

No. of Bilge Injections connected to Condensers *None* Diar. "

Are all Bilge Suctions fitted with Roses? *Yes*

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

Are all Sea Connections made with Valves or Cocks fitted direct to the Hull Plating? *Yes*

Are they placed so as to be easily seen and accessible? *Yes*

Are the Discharge Chests placed above the Deep Load Line? *Yes*

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

Are all Blow-off Cocks or Valves fitted with Spigots through the Hull Plating and Covering Plates or Flanges on the outside? *Yes.*



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BOILER

Boilers made by *Messrs. Ramage & Ferguson*
 „ at *Leith*
 Works No. *210*
 Date when Plan approved *November 2nd 1906*
 Boiler Plates, Iron or Steel *Steel*
 Makers of Shell Plates *D. Colville & Son.*
 „ Internal Plates *do.*
 „ Furnaces *J. Piggott*
 „ Stay Bars *D. Colville & Son*
 „ Rivets *J. Miller & Co.*
 Material tested by (B.C., B.T., etc.) *B. C.*
 No. of Boilers *One*
 Single or Double-ended *Single-ended*
 No. of Furnaces, each Boiler *Three*
 Type of Furnaces *Morrison*
 Approved Working Pressure *180 lbs.*
 Hydraulic Test Pressure *360 lbs. pr. sq. in.*
 Date of Hydraulic Test *2nd April 1904*
 „ when Safety Valves set *14th May 1904*
 Pressure on Valves *180 lbs.*
 Date of Steam Accumulation Test *14th May 1904*
 Max. Pressure under Accumulation Test *184 lbs.*
 System of Draught *Natural*
 Can Boilers be worked separately?
 Greatest Inside Diam. of Boiler *15'-3"*
 „ „ Length „ *10'-6"*
 Square Feet of Heating Surface, ^{IN} each Boiler *2085.3*
 „ Grate „ „ *69 sq. ft.*



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No. of Safety Valves, each Boiler

Diar. " " "

Area " " "

Are the Valves fitted with Easing Gear?

No. of Pressure Gauges, each Boiler

" Water " "

" Test Cocks, " "

" Salinometer Cocks, " "

Are Water Gauge Pillars attached by Pipes to Steam and Water Spaces?

Are these Pipes connected to Boilers by Cocks or Valves?

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

No. of Strakes of Shell Plating in each Boiler

" Plates in each Strake

Thickness of Shell Plates by Rule

" " Approved

" " in Boilers

Are the Rivet Holes Punched or Drilled?

Are Rivets Iron or Steel?

Are the Longitudinal Seams Butt or Lap Joints?

Are the Double Butt Straps of equal width?

Thickness of outside Butt Straps

" inside "

Are Longitudinal Seams Hand or Machine Riveted?

Are they Single, Double, or Treble Riveted?

Diar. of Rivet Holes

Pitch "

Width of Overlap

Percentage of Strength in Longitudinal Seams

Two 3" valves

3"

14 10" Total

Yes

1

1

3

1

Yes
Cocks
Cocks

1

2

19.9"

16

"

22.25"

16

Drilled

Steel

Butt Joints

Yes

1 25"

1 25"

1 25"

Treble riveted

1 7/16"

9 3/4"

21 1/8"

85.3 = Plate - Rivet = 90%.



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No. of Rows of Rivets in Centre Circumferential Seams - *No centre seam*

Are these Seams Hand or Machine Riveted?

Diar. of Rivet Holes

Pitch

Width of Overlap

No. of Rows of Rivets in End Circumferential Seams

Are these Seams Hand or Machine Riveted?

Diar. of Rivet Holes

Pitch

Width of Overlap

Size of Manholes in Shell

Dimensions of Compensating Rings

Thickness of End Plates in Steam Space by Rule

" " " " " Approved

" " " " " in Boilers

Pitch of Steam Space Stays

Eff. Diar. " " " by Rule

" " " " " Approved

" " " " " in Boilers

Material of " " "

How are Stays Secured?

Diar. and Thickness of Loose Washers on End Plates

" " Riveted " " "

Width " " Doubling Strips " " "

Thickness of Middle Back End Plate by Rule

" " " " " Approved

" " " " " in Boilers

Two
Hand
1 7/16"
3 7/8"
6 5/8"
16 x 12"
M. Nils' door & frame

16.16"
16
"
14.5"
16
16.5 x 15.5"
2.42"
"
2.66
Steel
Double nuts
None fitted

13.4"
16
"
15"
16

Thickness of Doublets in White Space between Doublets

Pitch of Stays at

Eff. Diar. of Stays by Rule

Approved

in Boilers

Material

Are stays fitted with keys outside?

Thickness of Back End Plates at Bottom by Rule

Approved

in Boilers

Pitch of Stays at White Space between Doublets

Thickness of Doublets in

Thickness of Front End Plates at Bottom by Rule

Approved

in Boilers

No. of Long Stays in Space between Doublets

Eff. Diar. of Stays by Rule

Approved

in Boilers

Material of

Thickness of Front Tube Plates by Rule

Approved

in Boilers

Pitch of Stays at White Space between Doublets

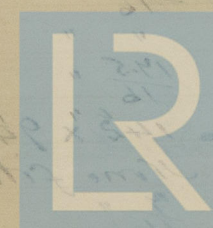
Thickness of Doublets in

Thickness of Middle Back End Plate by Rule

Approved

in Boilers

Material of



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Thickness of Doublings in Wide Spaces between Fireboxes *None fitted*

Pitch of Stays at " " " " *14 1/2" x 8 5/8"*

Eff. Diar. of Stays by Rule *1.22"*

" " " " Approved " "

" " " " in Boilers *1.73"*

Material *Steel*

Are Stays fitted with Nuts outside? *Yes*

Thickness of Back End Plates at Bottom by Rule *14.24"*

" " " " Approved *15"*

" " " " in Boilers *15"*

Pitch of Stays at Wide Spaces between Fireboxes *14 1/2" x 8 5/8"*

Thickness of Doublings in " " *None fitted*

Thickness of Front End Plates at Bottom by Rule *13.8"*

" " " " Approved *15"*

" " " " in Boilers *15"*

No. of Long. Stays in Spaces between Furnaces *Four*

Eff. Diar. of Stays by Rule *1.72"*

" " " " Approved *1.82"*

" " " " in Boilers *1.85"*

Material of *Steel*

Thickness of Front Tube Plates by Rule *15.5"*

" " " " Approved *14.5"*

" " " " in Boilers *14.5"*

Pitch of Stay Tubes at Spaces between Stacks of Tubes *14 1/2" x 9 1/4"*

Thickness of Doublings in " " " " *None fitted*

" Stay Tubes at " " " " *15"*

Thickness of Back End Plates at Bottom by Rule *14.24"*

" " " " Approved *15"*

" " " " in Boilers *15"*

Pitch of Stays at Wide Spaces between Fireboxes *14 1/2" x 8 5/8"*

Thickness of Doublings in " " *None fitted*

Thickness of Front End Plates at Bottom by Rule *13.8"*

" " " " Approved *15"*

" " " " in Boilers *15"*

No. of Long. Stays in Spaces between Furnaces *Four*

Eff. Diar. of Stays by Rule *1.72"*

" " " " Approved *1.82"*

" " " " in Boilers *1.85"*

Material of *Steel*

Thickness of Front Tube Plates by Rule *15.5"*

" " " " Approved *14.5"*

" " " " in Boilers *14.5"*

Pitch of Stay Tubes at Spaces between Stacks of Tubes *14 1/2" x 9 1/4"*

Thickness of Doublings in " " " " *None fitted*

" Stay Tubes at " " " " *15"*



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Are Stay Tubes fitted with Nuts at Front End?

No

Thickness of Back Tube Plates by Rule

$$\frac{9.33}{16} "$$

" " " Approved

" " " in Boilers

$$\frac{13.5}{16} "$$

Pitch of Stay Tubes in Back Tube Plates

$$45 \times 9 \frac{1}{4} "$$

" Plain "

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

Thickness of Stay Tubes

$$\frac{1}{16} "$$

" Plain "

No. 8 W.G.

External Diar. of Tubes

$$3 \frac{1}{2} "$$

Material " "

Iron

Thickness of Furnace Plates by Rule

$$\frac{9.33}{16} "$$

" " " Approved

" " " in Boilers

$$\frac{10}{16} "$$

Smallest outside Diar. of Furnaces

$$47.25 "$$

Length between Tube Plates

$$7' - 1 \frac{3}{8} "$$

Width of Combustion Chambers (Front to Back)

$$30 "$$

Thickness of " " " Tops, by Rule,

$$\frac{10.21}{16} "$$

" " " " Approved

" " " " in Boilers

$$\frac{10.5}{16} "$$

Pitch of Screwed Stays in C.C. Tops

$$2 \text{ wings } 9 \times 8 \frac{5}{8} \text{ Centre } 8 \frac{5}{8} \times 8 "$$

Eff. Diar. " " by Rule

$$1.42 "$$

" " " Approved

" " " in Boilers

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

Material " "

Steel

Thickness of Combustion Chamber Sides by Rule

$$\frac{10.21}{16} "$$

Thickness of Combustion Chamber Sides Approved

" " " " in Boilers

Pitch of Screwed Stays in C.C. Sides

Eff. Diar. " " by Rule

Approved " " " in Boilers

Material " " " in Boilers

Thickness of Combustion Chamber Sides by Rule

Approved " " " in Boilers

Pitch of Screwed Stays in C.C. Sides

Eff. Diar. " " by Rule

Approved " " " in Boilers

Material " " " in Boilers

Pitch of Screwed Stays in C.C. Sides

Eff. Diar. " " by Rule

Approved " " " in Boilers

Material " " " in Boilers

Pitch of Screwed Stays in C.C. Sides

Eff. Diar. " " by Rule

Approved " " " in Boilers

Material " " " in Boilers

Pitch of Screwed Stays in C.C. Sides

Eff. Diar. " " by Rule

Approved " " " in Boilers

Material " " " in Boilers

Pitch of Screwed Stays in C.C. Sides

Eff. Diar. " " by Rule

Approved " " " in Boilers

Material " " " in Boilers



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16 x 12"

VERTICAL DONKEY BOILERS.

If the Donkey Boilers are Vertical the following particulars should be stated in addition to those on

previous Pages applicable to such Boilers:—

Type of Boilers *Manxweather Boiler (patent)*
 Height of Boiler Crown above Fire Grate *for salvage purposes.*
 Are Boiler Crowns Flat or Dished? *Dia. of Boiler = 4'-0"*
 Internal Radius of Dished Ends *Height Thickness of Plates = 8-1 1/2"*
 Description of Seams in Boiler Crowns *Heating Surface = 256 sq*
 Dia. of Rivet Holes *Grate " = 17 sq*
 Height of Firebox Crowns above Fire Grate *Tubes 15' Dia.*
 Are Firebox Crowns Flat or Dished? *157 Tubes in Boiler*
 External Radius of Dished Crowns *Thickness of Plates*
 No. of Crown Stays *Effective Diam.* *Material*
 External Diam. of Firebox at Top *Bottom* *Thickness of Plates*
 No. of Water Tubes *Int. Diam.* *"* *"*
 Material of Water Tubes *Steel*
 No. of Screwed Stays in Firebox Sides *Eff. Diam.* *Material*
 Are they fitted with Nuts inside? *Outside?*

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 Superheaters

Diam.

Area

Are " " fitted with Lifting Gear?

Date of Hydraulic Test

Test Pressure

Date when Safety Valves set

Pressure on Valves

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MAIN STEAM PIPES.

No. of Lengths	4
Material	S. U. Copper
Brazed, Welded, or Seamless	Brazed
Internal Diam.	5"
Thickness	H. D. W. P.
How are Flanges Secured?	Brazed.
Date of Hydraulic Test	4/5/04
Test Pressure	400 lbs.

REFRIGERATORS.

No. of Machines	Makers
-----------------	--------

Description

When any part of the Vessel is to be used for the Carriage of Refrigerated Cargo the following particulars should be stated:—

Total Cubic Capacity of Refrigerated Spaces

Nature, Construction, Thickness, &c., of Insulation

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

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

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

Are Sluice Valves fitted on any of the Bulkheads of Insulated Spaces?

Are these fitted with Brass Non-return Valves?

Are they always accessible?

Are the Bilges and Bilge Rose Boxes always accessible?

Are the Steam Suctions to Bilges fitted with Non-return Valves?

Is the Machine Room effectively separated from Insulated Spaces?

" " properly Ventilated and Drained?

No. of Steam Cylinders, each Machine

Diars.

" Compressors, " "

Diam. of Crank Shafts

No. of Cranks

Give particulars of Pumps in connection with Refrigerating Plant, and state whether worked by Refrigerating Machines or independently

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

Date of Test under Working Conditions

Fall of Temperature in Insulated Spaces

Time required to obtain this Result

Articles of Spare Gear for Refrigerating Plant carried on board



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SKETCHES.

ELECTRIC LIGHTING.

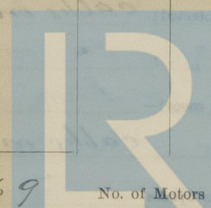
Installation Fitted by *Sundaland Forge & Eng. Co.*
 No. and Description of Dynamos *One Compound wound*
 Makers of Dynamos *Siemen's Dynamo (S. F. & L. Co. engine)*
 Capacity " *70* Amperes, at *100* Volts, *350* Revs. per Min.
 Current Alternating or Continuous *Continuous*
 Position of Dynamos *In engine room*
 " Main Switch Board *In engine room*
 No. of Circuits to which Switches are provided on Main Switch Board *3*

Particulars of these Circuits:—

No. of Circuit.	Name of Circuit.	Number of Lights.	Candle Power.	Current Required. Amps.	Size of Conductor.	Current Density.	Conductivity of Conductor.	Insulation Resistance per Mile.
1	<i>Aft</i>	16	16	9.6	$\frac{7}{16}$ "	950	12.7	mghs. 600
2	<i>E. Room</i>	15	16	9.0	$\frac{7}{16}$ "	900	12.7	600
3	<i>For^d } Deck.</i>	38	16	22.8	$\frac{7}{16}$ "	1000	22.5	600

Total No. of Lights *69* No. of Motors driving Fans, &c. *None* No. of Heaters *None*

Current required for Motors and Heaters *(None fitted)*



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

*1 in Gallery
having 4 switches for deck, and
one in chart room having switches for
side lights, masthead & compass lights.*

Are Cut-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

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 Cut-outs constructed of Non-inflammable Material?

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

Smallest Single Wire used, No. *18*. S.W.G., Largest, No. " S.W.G. "

How are Conductors in Engine and Boiler Spaces protected? *cables in iron pipes*

" " Saloons, State Rooms, &c., " ?

What special protection is provided in the following cases?—

(1) Conductors exposed to Heat or Damp

(2) " " passing through Bunkers or Cargo Spaces

(3) " " Deck Beams or Bulkheads

Are all Joints in Cables properly soldered and thoroughly Insulated so that the efficiency of the Cables is unimpaired? *No joints*

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

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

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*

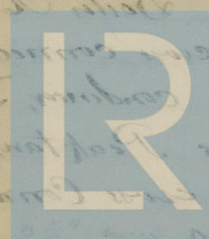
What does the Resistance amount to? *1.8 meg Ohms.*

Is the Installation supplied with a Voltmeter? *Yes.*

" " " an Ampere Meter? *No*

Date of Trial of complete Installation *21/5/07* Duration of Trial *8 hours.*

DONKEY



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EVAPORATORS.

No. *None fitted* Tons per Da *-*
 Makers *-*
 Working Pressure *-* Test Pressure *-* Date of Test *-*
 Date of Test of Safety Valves under Steam *-*

FEED WATER HEATERS.

No. *-* Type *None fitted*
 Makers *-*
 Working Pressure *-* Test Pressure *-* Date of Test *-*

DONKEY

No. of Donkeys *Two.*
 Type *Vertical duplex - Horizontal feed pump*
 Makers *Worthington & Co. Ltd.*
 Single or Duplex *Duplex Duplex*
 " Double-Acting *Double Double*
 Diam. of Steam Cylinders *5 1/4" 6"*
 " Pumps *3 1/2" 3 1/2"*
 Stroke of *5" 6"*
 Where do they pump from? *Bilges Peak Tanks F.W. Tanks*
Sea Boiler Hotwell

Both donkeys are cross connected

Where do they discharge to? *Overboard condenser, Boilers*

Sanitary tank, wash dirt pipes Peak tanks

Both donkeys are cross Connected

Capacity, Tons per Hour of Ballast Donkey *100*

Diam. of Pipe required by Rule for

FEED WATER FILTERS.

No. *1* Type *Sentinel patent* Size *2 1/2"*
 Makers *May & MacLellan Ltd.*
 Working Pressure *150 lbs.* Test Pressure *432* Date of Test *23/5/04*

FORCED DRAUGHT FANS.

No. of Fans *12* Diam. *18"* Revols. per min. *-*
 How are Fans driven? *-*

PUMPS.

Circulating pump
Gwynne's
draws from sea
detrmin overboard
thru. Condenser &
has bilge injection
connected to pump.

Circulating pump,
(for Sakiage purposes)
draws from sea
or from any source
outside vessel and
detrmin overboard
or thru outside
in case of fire.



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largest Ballast Tank

2 1/2"

Velocity of Water in Pipe

14/15

SPARE GEAR.

No. of Top End Bolts	2	No. of Bot. End Bolts	2
" Main Bearing Bolts	2	" Coupling Bolts	1 set
" Cylr. Cover Bolts Studs	6	" Valve Chest Cover Bolts Studs	6
" Feed Pump Valves	1 set	" Bilge Pump Valves	1 set
" Safety Valve Springs	1 set	" Fire Bars	1 full set
" Piston Rings 1 set for each Piston		" Junk Ring Bolts Studs	12
" Piston Rods	"	" Connecting Rods	"
" Valve Spindles	1	" Air Pump "	"
" Air Pump Valves	2 sets	" " Buckets	"
" Crank Pin Bushes	1 pair	" Crosshead Bushes	1 pair
" Crank Shafts	"	" Propeller Shafts	1
" Propellers	"	" " Blades	4 (Cast Steel)
" Boiler Tubes	"	" Condenser Tubes	"

OTHER ARTICLES OF SPARE GEAR:—

2 Boiler check valves
 100 assorted bolts & nuts
 1 Cwt. Assorted Iron
 6 manhole door rings (asbestos)
 6 Lubricator Glasses
 6 Sheets Tin
 1 sheet Muntz Metal $\frac{1}{16}$ "
 1 " " $\frac{1}{32}$ "
 4 Gland studs of each size
 Packing of each size & class to pack glands
 twice
 8 wing fire bars
 3 Centre bearing Bars
 2 Donkey pump valves

GENERAL CONSTRUCTION.

Have all the Requirements under Sections 31 and 32 of the Rules been complied with? *Yes.*

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

Surveyor

Are the Steam Pumping Arrangements in accordance with the approved Plan? *Yes*

If not, state in what respects they differ and when such differences were sanctioned by the Chief

Surveyor

Are the Materials used in the Construction of Engines and Boilers, so far as could be seen, sound and trustworthy? *Yes.*

Is the Workmanship throughout thoroughly satisfactory? *Yes.*

The above correctly describes the Machinery of the S.S. "Imahiti"

as ascertained by me from personal examination.

Lloyd's Register
 Hugh Mill
 Engineer-Surveyor to the British Corporation for the
 Survey and Registry of Shipping.

8/6/04.

Fees—

MAIN BOILER

H.S. 2085.3 Sq. ft.

G.S. 69.0 "

No DONKEY BOILER

H.S. ———— Sq. ft.

G.S. ———— "

£

ENGINES.

L.P.C. 21.64 Cub. ft.

£

Testing, &c.

£

Expenses ...

£

Total ... £

£

It is submitted that this Report be approved,

John King
Chief Surveyor.

Approved by the Committee,

Fees applied for

Fees paid

Secretary.



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Name of Donor

2055-2

69-0

No. of Donations

1/2

1/2

Amount

21.64

Section

Expense

Total

It is submitted that this Report is approved.



Approved by the Commission

For approval by

For file



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