

No. 328

BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. 331. No. in Register Book 841.

s.s. "WAHCONDAN"

Makers of Boilers *North Eastern Marine Eng Co Ltd*

Makers of Engines *John S. Kincaid & Co*

Works No. 317
MAIN BOILERS, No 1467

MACHINERY.



Lloyd Register
Foundation

004426-00443-0081

BRITISH CORPORATION FOR THE SURVEY AND
REGISTRY OF SHIPPING.

Surveyor's Report on the New Machinery of the

No. in Register Book *841.*
 Report No. *331.* Received at Glasgow Office *24/4/03.*
 Surveyor's District *Lyne, & Glasgow* Works No. *317*
 Survey held at *Greenock* *Main Boilers, No. 1467*
 First Visit *3.9.1902* Last Visit *10.4.1903* Total Visits *Engo. 24*
 Name of Steamer *"WAHCONDAN"* " " *m. Boilers 18*
 Gross Tons *155 1/2* R.H.P. *148*
 When Built *March 1903* Where Built *Port Glasgow*
 Owners *New Ontario Steamship Co. Ltd.* Port of Registry
 Engines made by *John G. Kincaid & Co.* in *3/1903*
 Where made *Greenock*
 Boilers made by *North Eastern Marine Eng Co. Ltd.* in *3/1903*
 Where made *Wallsend on Lyne*
 Donkey Boiler made by in
 Where made

ENGINES.

Description *Triple expansion, Super condensing*
 No. of Cyls. *3* Diameter *18", 28", 47"* Stroke *33"*
 Cub. feet in L. P. Cylinder *33.13* Revs. per minute *80*
 Diameter of Crank Shaft *9 1/2"* Tunnel Shaft Propeller Shaft *10 1/8"*
 and Length of Crank Pin *9 1/2" diam. 10" long.*
 Shaft Journals *6 @ 9 1/2" diam. 10" long.*
 Size of Crank Webs  *6 1/2"* Is Crank Shaft built? *yes*
 Diameter of Propeller *12'-4"* Pitch *12'-9"* No. of Blades *4*
 Fitted or Solid *Fitted* Material of Blades and Boss *Blades Cast Steel
Boss Iron*

Total Surface

53 sq. ft.

No. of Feed Pumps or Engines

2

Diameter 22

Stroke 18"

Can one be overhauled while the other is at work?

Yes

Where do they pump from and to?

From Hotwell to Boilers

No. of Donkey Engines

see page 11

Diameter of Pump and Stroke

✓

Where do they pump from and to?

see page 11

No. of Bilge Pumps or Engines

2

Diameter 3"

Stroke 18"

Can one be overhauled while the other is at work?

Yes

Where do they pump from and to?

From Bilges, overboard.

No. and kind of Sluices on Engine Room Bulkheads

None

Are they always accessible?

✓

Are all the Bilge Suction Pipes fitted with Roses, and are these always accessible?

yes

No. and Size of Bilge Injections connected to Condenser

None

Has Circulating Pump a Bilge Suction with Non-return Valve?

Yes 4" diam. ✓

Are Circulating and other Pumps worked by Main Engines?

Yes

Are all Sea Connections fitted direct on to Vessel's plating?

Yes

Are they Valves or Cocks?

Both

Placed so as to be easily seen and accessible?

Yes

Are the Discharge Chests fitted above the Deep Load Line?

Yes

Are they fitted direct on Vessel's side with Non-return Valves, easily accessible?

Yes

Are all Valves, Cocks, or Pipes, in connection with the Machinery, accessible?

Yes

Are the Valves, Cocks, and Pipes so arranged as to absolutely prevent any unintentional connection between the

Sea and the Bilges?

Yes

Are all Blow-off Cocks fitted with Spigots passing through the Vessel's plating, and having Covering Plates or

Flanges on the outside?

Yes

Are efficient Rose Plates or Grids fitted to the Sea Suctions?

Yes

What Pipes are carried through Bunkers or Holds, and how are they protected?

Ballast Tank

Air Pipes only, in strong wood casing

Is the Shaft Tunnel fitted with an efficient Watertight Door?

No tunnel

From what Deck is it worked?

✓

Are there any Doors in Stokehold Bulkheads?

No

From what Deck are they worked?

✓

Are these Doors in good working condition?

✓

MAIN BOILERS.

No 1487

Iron or Steel

Steel

No. of Boilers

2

No. of Furnaces in each

2

Description of Boilers, single or double ended, or any Superheating Arrangement

Single ended

Diameter of Boilers

12'6"

Length

10'6"

Working Pressure

180 lbs

Hydraulic Test

360 lbs

Can Boilers be worked separately?

Yes

Can Superheater be shut off while Boiler is working?

No Superheater

Square feet of Grate Surface in each Boiler

45

Heating

1284

No. and kind of Safety Valves on each Boiler

2 Spring loaded, Lockburton's

Diameter and Area of each Safety Valve

2 1/2" diam. 4.9 sq area

No., Diameter, and Area of Safety Valves on Superheater

✓

✓

Are the Valves fitted with Easing Gear?

Yes

Thickness of Shell Plates

1 3/32"

Diameter of Rivet Holes

1 5/8"

Holes Punched or Drilled

Drilled

Description of Riveting in Shell

Machine, front end hand

Circumferential Seams

double laps

Long Seams

double straps

Pitch of Rivets

circ 3 1/2" Long 7 1/4 x 3 1/8"

Width of Overlay

shell 5 9/8" Long 16 15/16"

Percentage of Strength in Long Seams

85.5%

Working Pressure by Rules

202 lbs

Size of Manhole in

16" x 12"

Size of Compensating Rings

Description of Furnaces *Deighton's patent corrugated*

Outside Diameter of Furnace *49 1/4"* Inside ditto *45 1/2"* Length between Tube Plates *4' 2"*

Thickness of Plates *5/8"*

If Adamson Rings, state greatest distance between the Rings

Working Pressure by Rules *198 lbs.*

Combustion Chamber distance, front to back *28"*

Thickness of Plating, Back *1/16"* Sides *1/16"* Bottom *1/16"*

Pitch of Stays, Sides *9 3/8" x 9"* Back *9 3/8" x 9"* Top *9 3/8" x 9"*

Top Girders, No. over each Chamber *5* Depth *8 1/4"* Thickness *3/4" double*

Diameter of Screwed Stays *2", 1 7/8" + 1 5/8"* If fitted with Nuts outside and inside? *nuts in & out*

Working Pressure by Rules *195 lbs.*

Thickness of End Plates in Steam Space *1 3/8"*

Pitch of Stays on End Plates *19 1/2" x 18 1/2"*

Effective Diameter of Stays (smallest part) *3.037*

How are Stays secured? *nuts and washers inside and out.*

Working Pressure by Rules *215 lbs.*

Thickness of Front and Plates at Bottom *7/8"*

Back *7/8"*

External Diameter and thickness of Tubes (Plain and Stay) *Plain 3 1/4", No 8 B.W.G. Stay 3/8" + 3/16"*

Pitch of Tubes *4 3/8" centres*

No. of Plain Tubes in each Stack *55*

.. Stay .. *26*

How are they secured to Tube Plates? *Plain tubes expanded, Stay tubes screwed.*

Thickness of Tube Plates, Front *7/8"* Back *3/4"*

Spaces between Stacks of Tubes *14 1/2" centres*

Least distance between Side Stacks and Boiler Shell *10 3/4"*

Distance between Top of Furnaces and Bottom Row of Tubes, Side Furnaces *9 1/4"*

Centre Furnace *9 1/4"*

Dimensions of Steam Chest or Superheater

Thickness of Plating of ditto Riveting

Is the Staying Longitudinal or otherwise?

How connected to Boiler?

Working Pressure by Rules

DONKEY BOILER.

Iron or Steel

Description of Boiler

Diameter Length *18 - 2 - 03*

Working Pressure Hydraulic Test, and when applied *24 - 5 - 1908*

Square Feet of Grate Surface

.. Heating ..

Thickness of Shell Plating

Description of Riveting

Diameter of Rivets *No* Pitch

Holes Punched or Drilled

Lap of Plating

Percentage of strength of Joint

Thickness of Crown Plates

.. Side ..

Description of Staying

Height of Furnace Crown above Fire Grate

Diameter of Uptake Tube

Material Thickness

Number of Water Tubes Material

Diameter Thickness

Number and kind of Safety Valves

Diameter and Area of each

If fitted with Easing Gear?



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If the Donkey Boiler is Tubular, the additional particulars as required for Main Boilers must be given.

GENERAL CONSTRUCTION.

Have all the requirements under Section 33 of the Rules, paragraphs 1 to 13, been complied with in every respect?

Yes.

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

State articles of Spare Gear supplied

- 2 Connecting Rod top end bolts & nuts
- 2 " " bot. " " "
- 2 Propeller blades
- 2 Main bearing bolts
- 1 Set coupling "

Full set of firebars
6 left. Cover & 6 Valve casing cover studs.
50 bolts & nuts assorted.
Bar & plate iron of various sizes

Give for each Main Boiler and for Donkey Boiler respectively the dates of Hydraulic Testing and Valve Setting and Trial of Machinery under Steam. If the Trial was conducted at the Wharf and not at Sea, the Surveyor should state how long he was in attendance.

Main Boilers tested	18-2-03
Main Steam Pipes "	24-3-1903
Feed Water Filter "	6-3-1903
Safety Valves set	2-4-1903
Steam trial at Wharf	2-4-1903
Trial trip	7-4-1903

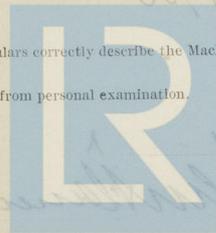
Are the Steam Pumping Arrangements in accordance with the approved Plan, and Section 34 of the Rules? If not, state in what respect they differ, and when such differences were sanctioned by the Chief Surveyor

The Bilge suction pipes to Holds are led inside the Ballast Tanks

Are the Materials used in the construction of Boilers and Engines sound and trustworthy? *Yes*

Is the workmanship throughout thoroughly satisfactory? *Yes*

The above particulars correctly describe the Machinery of the S.S. "WAHCONDAN" as ascertained by me from personal examination.



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Thos. S. Scorgie
James B. B. Register
Engineer Surveyors to the British Corporation for the
Survey and Registry of Shipping.

Fees—

MAIN BOILERS.

H.S. 2574 Sq. ft. £ 13 : 0 : 0

G.S. 90

DONKEY BOILERS.

H.S. Sq. ft. - - - - -

G.S.

ENGINES.

L. P. C. 33.13 Cub. ft. 9 : 0 : 0

Testing, &c.

Expenses B 1 1 0 M 1 1 0

Total ... £ 24 : 2 : 0

It is submitted that this Report be approved,

H. J. Comities-Dutton

Chief Surveyor.

1/5/1903.

Approved by the Committee,

for the class of M.B.S.*
on the 29th April 1903

Fees applied for 9/4/1903

Fees paid 9/4/1903.

John Manning Secretary.

Sketches of special arrangements, T & C.
Boiler, Donkey, Engines, etc.
Placed between the Pumps & Boilers



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Shafting etc.

Crank & Thrust Shafts of Ingot Steel, forged & finished by Messrs. Burmeister & Wain, Copenhagen.

Propeller Shaft of Scrap Iron forged & finished by. Life Forge Co., Kirkcaldy.

Piston & Connecting Rods of Ingot Steel, forged & finished by Burmeister & Wain, Copenhagen.

Service Donkey

Lamont's Duplex $7 \times 4\frac{1}{2} \times 8$ "
Pumps from Sea, Hotwell, Ballast Tanks,
Main Bilge & Boilers.
To Boilers, Ash ejector, Deck & overboard. ✓

Ballast Donkey

Kincaid's $9 \times 10 \times 10$ "
Pumps from Sea, Ballast Tanks, Main Bilge
& Engine Room Bilge.
To Condensers, Tanks & overboard. ✓

Boiler Donkey

Lamont's Duplex $5 \times 3\frac{1}{2} \times 6$ "
Pumps from Sea & Exhaust Tank
To Boilers

Feed Water Filter

Kincaid & Crockatt's
Placed between Feed Pumps & Boilers



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Lower Locks
 Canals of the River
 from the National Locks
 Main River & others
 to the West, East & South
 of London, viz. the
 River of the Thames

Upper Locks
 Canals of the River
 from the National Locks
 & others from the
 River of the Thames
 to the East, South & West

Other Locks
 Canals of the River
 from the National Locks
 & others from the
 River of the Thames
 to the North, East & West

Water Works
 Canals of the River
 from the National Locks
 & others from the
 River of the Thames
 to the North, East & West



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