

No. 454

TRANSFERRED TO  
L. R. SYSTEM

BRITISH CORPORATION FOR THE SURVEY

AND

REGISTRY OF SHIPPING.

Report No. 438 No. in Register Book 954

CALGARIAN

S.S. Glenellah

Makers of Boilers Baledon S. + E. Co. Ltd.

Makers of Engines Baledon S. + E. Co. Ltd.

ENG. Works No. 323

MACHINERY.



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BRITISH CORPORATION FOR THE SURVEY AND  
REGISTRY OF SHIPPING.

Surveyor's Report on the New Machinery of the

No. in Register Book *8<sup>th</sup> September 1905*  
Report No. Received at Glasgow Office  
Surveyor's District *Dundee* Works No. *323*  
Survey held at *Dundee*  
First Visit *14<sup>th</sup> April* Last Visit *2<sup>nd</sup> Sept* Total Visits *50 including 10 years*  
Name of Steamer *Glenella* Gross Tons *2272.01* R.H.P. *1288*  
When Built *1905* Where Built *Dundee*  
Owners Port of Registry *Hamilton*  
Engines made by *The Calson 5 & E. Coy Ltd* in *Lilybank Engin*  
Where made *Dundee*  
Boilers made by *The Calson 5 & E. Coy Ltd* in *Dundee*  
Where made *Lilybank Foundry*  
Donkey Boiler made by in  
Where made

ENGINES.

Description *Triple expansion surface condensing*  
No. of Cyls. *3* Diameter *19 $\frac{1}{2}$ , 33, 54* Stroke *36*  
Cub. feet in L. P. Cylinder Revs. per minute *81*  
Diameter of Crank Shaft *10 $\frac{3}{4}$*  Thrust Shaft *10 $\frac{3}{4}$*  Propeller Shaft *12 $\frac{3}{4}$*   
and Length of Crank Pin *10 $\frac{3}{4}$  x 12 $\frac{1}{2}$*   
Shaft Journals *10 $\frac{3}{4}$  x 11*  
Size of Crank Webs *7 $\frac{1}{2}$  x 19 $\frac{1}{2}$*  Is Crank Shaft built? *Yes*  
Diameter of Propeller *15-0* Pitch *14-3* No. of Blades *4*  
Fitted or Solid *Solid* Material of Blades and Boss *Cast iron*



Total Surface

74.5 sq ft

No. of Feed Pumps or Engines

Two Woodson's

Diameter

8" 6"

Stroke

18"

Can one be overhauled while the other is at work?

Yes, fire deck, fire deck

Where do they pump from and to?

Hawell, Cond, Water, sea, fire deck, etc.

No. of Donkey Engines

2

Diameter of Pump and Stroke

see pages 9 &amp; 10

Where do they pump from and to?

No. of Bilge Pumps or Engines

2

Diameter

3"

Stroke

20"

Can one be overhauled while the other is at work?

Yes, Yes

Where do they pump from and to?

From Bilges &amp; Sloop overboard

No. and kind of Sluices on Engine Room Bulkheads

✓

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

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

Yes

Are Circulating and other Pumps worked by Main Engines?

Fire, Air &amp; Bilge

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

Yes

Are they Valves or Cocks?

Valves

Placed so as to be easily seen and accessible?

Yes

Are the Discharge Chests fitted above the Deep Load Line?

Yes, 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, Yes

Are all Blow-off Cocks fitted with Sigs 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?

None

Is the Shaft Tunnel fitted with an efficient Watertight Door?

From what Deck is it worked?

Are there any Doors in Stokehold Bulkheads?

From what Deck are they worked?

Are these Doors in good working condition?

## MAIN BOILERS.

Iron or Steel

Siemens Martin Steel

No. of Boilers

2

No. of Furnaces in each

3

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

Single ended

Diameter of Boilers

14'-6" Inside

Length

11'-0" over plates

Working Pressure

180 lbs

Hydraulic Test

360 lbs

Can Boilers be worked separately?

Yes

Can Superheater be shut off while Boiler is working?

Square feet of Grate Surface in each Boiler

60

Heating

1955.5

No. and kind of Safety Valves on each Boiler

One pair

Diameter and Area of each Safety Valve

2 3/4"

5.9 area

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

Are the Valves fitted with Easing Gear?

Yes

Thickness of Shell Plates

1 3/8"

Diameter of Rivets

1 3/8"

Holes Punched or Drilled

Drilled

Description of Riveting in Shell

Treble rivetted butt

Circumferential Seams

Double rivetted

Long Seams

treble rivetted butt

Pitch of Rivets

4 7/8"

Width of Overlap

6 7/8"

Percentage of Strength in Long Seams

Plate 85.1%

Rivet 86.4%

Working Pressure by Rules

208 lbs

Size of Manhole in Shell

16 x 12

Size of Compensating Rings

15 1/8 x 3 3/8

Calson Coys Standard door standard door



Description of Furnaces

*Morrison*Outside Diameter of Furnace  $3-8\frac{1}{4}"$  Inside ditto  $3-4"$  Length between Tube Plates  $4'-0"$ 

Thickness of Plates

 $\frac{15}{16}"$ 

If Adamson Rings, state greatest distance between the Rings

Working Pressure by Rules

Combustion Chamber distance, front to back

 $3'-0"$  over plates

Thickness of Plating, Back

 $\frac{19}{32}"$ 

Sides

 $\frac{19}{32}"$ 

Bottom

 $\frac{7}{8}"$ 

Pitch of Stays

 $4\frac{1}{2}" \times 9"$ 

Back

 $4\frac{1}{2}" \times 8" \times 6" \times 8"$ 

Top

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

Top Girders, No. over each Chamber

5

Depth

 $10\frac{7}{8}"$ 

Thickness

 $\frac{3}{4}"$  double plates

Diameter of Screwed Stays

 $1\frac{1}{2}"$ If fitted with Nuts outside and inside? *Yes between center & wing  
between wing & shell riveted inside & riveted through  
nuts*

Working Pressure by Rules

Thickness of End Plates in Steam Space

 $\frac{15}{16}"$ 

Pitch of Stays on End Plates

 $1'-5\frac{1}{4}" \times 1'-4"$ 

Effective Diameter of Stays (smallest part)

3.034

How are Stays secured?

*Nutted outside & in*

Working Pressure by Rules

Thickness of Front end Plates at Bottom

 $\frac{13}{16}"$ 

Back

 $\frac{13}{16}"$ 

External Diameter and thickness of Tubes (Plain and Stay)

Plain  $3\frac{3}{4}" \times \frac{5}{16}"$  W.G. Stay  $3\frac{3}{4}" \times \frac{5}{16}"$  check

Pitch of Tubes

 $4\frac{7}{8}" \times 4\frac{7}{8}"$ 

No. of Plain Tubes in each Stack

47

Stay

*16 screws 11 in. wings & 18 in. cent nutted out & in*

How are they secured to Tube Plates?

*40 nutted out & 1 in. of stay end secured & riveted at back  
48 screwed & riveted at one end*

Thickness of Tube Plates, Front

 $\frac{15}{16}"$ 

Back

 $\frac{15}{16}"$ 

Spaces between Stacks of Tubes

11

Least distance between Side Stacks and Boiler Shell

10"

Distance between Top of Furnaces and Bottom Row of Tubes, Side Furnaces

9"

Centre Furnace

10"

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

Working Pressure

Hydraulic Test, and when applied

Square Feet of Grate Surface

Heating

Thickness of Shell Plating

Description of Riveting

Diameter of Rivets

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

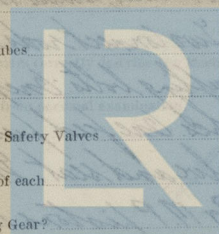
Diameter

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 in accordance with the Rules.

# DONKEY BOILER

## GENERAL CONSTRUCTION.

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

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

Four propeller blades, studs & nuts.  
Two piston rod top end bolts. Two connect rods bottom end bolts  
Two main bearing bolts. One set coupling bolts. One pair  
connect rod bottom end bushes. One feed pump valve  
and seat. One bilge pump valve and seat. Three spare  
Ram bottom rings for H. P. & M. P. pistons. 100 bolts & nuts.

Six cyl cover bolts. 6 gunk ring bolts. Two valves  
for main checks. One set of fire bars.  
One set metallic packing for pistons and valve spindles.

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

Hydraulic test of Main Boilers 15<sup>th</sup> July 1905  
Valve setting 2<sup>nd</sup> September 1905  
Trial trip in river 2<sup>nd</sup> September 1905

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

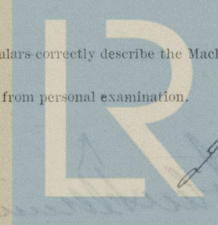
yes

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. Glenclash

as ascertained by me from personal examination.



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Glenclash

J. H. Macleod  
Engineer Surveyors to the British Corporation for the  
Survey and Registry of Shipping.



## Fees—

## MAIN BOILERS.

H.S. Sq. ft. 16 : 10 : 0

G.S. " : : "

## No. DONKEY BOILERS.

H.S. Sq. ft.

G.S. " "

£ 16 : 10 : 0

## ENGINES.

L. P. C. 47.7 Cub. ft. 13 : 0 : 0

£ : : "

Testing, &amp;c. ... ..

£ : : "

Expenses ... ..

Total ... £ 29 : 10 : 0

It is submitted that this Report be approved,

*John King*  
Chief Surveyor.

Approved by the Committee, *for the pleasure of M.B.N.\**  
*on the 18<sup>th</sup> October 1905.*

Fees applied for *5<sup>th</sup> Sept 1905*Fees paid *26<sup>th</sup> Sept 1905*

*Abraham King*  
Secretary.

## SKETCHES OF SPECIAL ARRANGEMENTS, &amp;c.

Clarke Chapman*ash ejector pump*

*8" dia steam cyl  
5" dia water cyl  
8" stroke*

*Pumps from sea, tanks, holdwell & bilges**" to ash ejector, main boilers, deck & overboard**Ballast Donkey Worthington. 12" x 15" x 15"**Pumps from sea, tanks, bilges & condensers**" to, condenser, tanks, deck & overboard.*

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