

## REPORT ON MACHINERY.

No. 30819

Date of writing Report

19

When handed in at Local Office

26/11/18 Port of Hull

Received at London Office

WED 27 NOV 1918

No. in Survey held at  
Reg. Book.

Date, First Survey

4.6.18

Last Survey

18<sup>th</sup> Nov 1918

on the

William Caldwell (Cassidy) class

(Number of Visits 39)

Master

Built at

Beverley

By whom built

Cook Wilton &amp; Gummell

Tons Gross 290

Net 127

When built 1918

Engines made at

Hull

By whom made

Amos &amp; Smith &amp; Co (No 2957)

when made

1918

Boilers made at

Hull

By whom made

Eales &amp; Co Ltd

2957

when made

1918

Registered Horse Power

Owners

British Admiralty

Port belonging to

Nom. Horse Power as per Section 28

87

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

## ENGINES, &amp;c.—Description of Engines

Triple expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

12 1/2 x 21 x 35

Length of Stroke

26

Revs. per minute

Dia. of Screw shaft

as per rule 4.56

Material of

Iron

Is the screw shaft fitted with a continuous liner the whole length of the stern tube

Yes

Is the after end of the liner made water tight

in the propeller boss

Yes

If the liner is in more than one length are the joints burned

Yes

If the liner does not fit tightly at the part

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

Yes

If two liners are fitted, is the shaft lapped or protected between the liners

Yes

Length of stern bush

34

Dia. of Tunnel shaft

as per rule 6.57

Dia. of Crank shaft journals

as per rule 6.85

Dia. of Crank pin

4 1/8

Size of Crank webs

4 x 4 1/2

Dia. of thrust shaft under

collars

4 1/8

Dia. of screw

9.6

Pitch of Screw

11.12

No. of Blades

4

State whether moveable

No

Total surface

352

No. of Feed pumps

2

Diameter of ditto

2 1/2

Stroke

12

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

2 1/2

Stroke

12

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

2.5

Sizes of Pumps

6 x 3 x 6

6 x 4 x 6

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room One 2" bilge from 2" aft + one 2" fore

In Holds, &amp;c. one 2" fore hold one 2" stern well also

2" ejector suction from well

No. of Bilge Injections

one sizes 3/2

Connected to condenser, or to circulating pump

pump

Is a separate Donkey Suction fitted in Engine room &amp; size

2" ejector

Are all the bilge suction pipes fitted with roses

Yes

Are the roses in Engine room always accessible

Yes

Are the sluices on Engine room bulkheads always accessible

Yes

Are all connections with the sea direct on the skin of the ship

Yes

Are they Valves or Cocks

Valves &amp; cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates

Yes

Are the Discharge Pipes above or below the deep water line

above

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel

Yes

Are the Blow Off Cocks fitted with a spigot and brass covering plate

Yes

What pipes are carried through the bunkers

Forward suction

How are they protected

Wood casings

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Yes

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges

Yes

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from

## BOILERS, &amp;c.—(Letter for record

S)

Manufacturers of Steel

Port. Galbof Steel Co. Ltd. Port Galbof

Total Heating Surface of Boilers

1590

Is Forced Draft fitted

No

No. and Description of Boilers

one single ended

Working Pressure

180 lb

Tested by hydraulic pressure to

360 lb

Date of test

30/9/18

No. of Certificate

3324

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

448.75

No. and Description of Safety Valves to

each boiler

two spring loaded

Area of each valve

490

Pressure to which they are adjusted

185 lb

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

4 1/2

Mean dia. of boilers

162

Length

10.6

Material of shell plates

Steel

Thickness

1/32

Range of tensile strength

24/32 tons

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

double

long. seams

T.R.D.B.S.

Diameter of rivet holes in long. seams

1/32

Pitch of rivets

8

Lap of plates or width of butt straps

14

Per centages of strength of longitudinal joint

rivets 89.5

plate 85.5

Working pressure of shell by rules

182 lb

Size of manhole in shell

16 x 12

Size of compensating ring

9 x 1/32

No. and Description of Furnaces in each boiler

3 plain

Material

Steel

Outside diameter

40 1/2

Length of plain part

top 8 1/2

Thickness of plates

crown 23/32

bottom 25/32

Description of longitudinal joint

welded

No. of strengthening rings

40

Working pressure of furnace by the rules

180 lb

Combustion chamber plates: Material

Steel

Thickness: Sides

1/16

Back

21/32

Top

1/16

Bottom

Pitch of stays to ditto: Sides

9 1/2 x 9 1/2

Back

9 x 9

Top

9 1/2 x 9 1/2

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

182

Material of stays

Steel

Area at smallest part

2.07

Area supported by each stay

90.25

Working pressure by rules

206

End plates in steam space:

Material

Steel

Thickness

1/16

Pitch of stays

17 1/2 x 17

How are stays secured

D.N.W.

Working pressure by rules

181 lb

Material of stays

Steel

Area at smallest part

6.10

Area supported by each stay

295.0

Working pressure by rules

206

Material of Front plates at bottom

Steel

Thickness

3/32

Material of Lower back plate

Steel

Thickness

1/16

Greatest pitch of stays

14 x 9

Working pressure of plate by rules

219 lb

Diameter of tubes

3 1/2

Pitch of tubes

5 x 4 1/2

Material of tube plates

Steel

Thickness: Front

3/32

Back

7/8

Mean pitch of stays

10

Pitch across wide water spaces

14

Working pressures by rules

186 lb

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

8 1/2 x 1 1/2

Length as per rule

32

Distance apart

9 1/2

Number and pitch of stays in each

two

9 1/2

Working pressure by rules

197 lb

Steam dome: description of joint to shell

Yes

% of strength of joint

2

Diameter

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet holes

Pitch of rivets

Working pressure of shell by rules

Crown plates

Thickness

How stayed

SUPERHEATER. Type

Date of Approval of Plan

Tested by Hydraulic Pressure to

Date of Test

Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Pressure to which each is adjusted

Is Easing Gear fitted

Lloyd's Register

Foundation

W1062-0211



IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

Two top & two bottom end bolts nuts one set coupling bolts & nuts two main bearing bolts & nuts one set each of air, feed & bilge pump valves, one set piston studs & nuts three condenser tubes three boiler tubes one each escape valve springs two donkey pump suction & delivery valves a quantity of assorted bolts & nuts & iron of assorted sizes

The foregoing is a correct description,

For AMOS & SMITH LTD.

J. J. P. 5

SECRETARY

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1917:-- Jun 4. 5. 6. 7. 14. 19 Jul 8. 9. 15. Aug 2. 12. 20. 22. 23. 27. 28. Sep 2. 9. 10. 12  
During erection on board vessel -- 14. 17. 19. 23. 25. 26. 27. 30. Oct. 4. 8. 14. 25. 29. Nov 1. 4. 7. 8. 12. 18.  
Total No. of visits 39

Is the approved plan of main boiler forwarded herewith No

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 4/10/18 Slides 4/10/18 Covers 4/10/18 Pistons 8/10/18 Rods 8/10/18  
Connecting rods 8/10/18 Crank shaft 4/10/18 Thrust shaft 4/10/18 Tunnel shafts ✓ Screw shaft 5/6/18 Propeller 6/6/18  
Stern tube 6/6/18 Steam pipes tested 29/10/18 Engine and boiler seatings 1/11/18 Engines holding down bolts 4/11/18  
Completion of pumping arrangements 12/11/18 Boilers fixed 1/11/18 Engines tried under steam 12/11/18  
Completion of fitting sea connections 6/6/18 Stern tube 6/6/18 Screw shaft and propeller 6/6/18  
Main boiler safety valves adjusted 8/11/18 Thickness of adjusting washers P 1/32 S. 1/32  
Material of Crank shaft Steel Identification Mark on Do. 2202 4/10/18 CPM  
Material of Thrust shaft Steel Identification Mark on Do. 2205 4/10/18 CPM  
Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Iron Identification Marks on Do. 1855 5/6/18 J.R.  
Material of Steam Pipes Copper (solid drawn) Test pressure 360 lbs.  
Is an installation fitted for burning oil fuel ✓ Is the flash point of the oil to be used over 150°F. ✓  
Have the requirements of Section 49 of the Rules been complied with ✓  
Is this machinery duplicate of a previous case Yes If so, state name of vessel "John Bateman"

General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery of this vessel has been constructed under special survey in accordance with the approved plans & the Rules of the Society.

The materials & workmanship are good. The Boilers & steam pipes have been tested as above & found sound & good. The machinery has been properly fitted & secured on board the vessel & on completion was tested at full power for two hours as required by the Admiralty & found satisfactory. The safety valves have been adjusted under steam & tested for accumulation which did not exceed 184 lbs.

In my opinion the vessel is eligible for the record + L.M.C. 11.18.

It is submitted that  
this vessel is eligible for  
THE RECORD + L.M.C. 11.18.

JWD  
29/11/18

JPR

The amount of Entry Fee ... £ 2 : 0 : 0 When applied for,  
Special ... £ 26 : 2 : 0 20/11/19 18  
Donkey Boiler Fee ... £ : : :  
Travelling Expenses (if any) £ : : : 22/11/19 18

When received, n.r.

Attest, John Pollock  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 3 DEC. 1918

Assigned

+ L.M.C. 11.18.

MACHINERY CERTIFICATE  
WRITTEN



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Foundation