

## REPORT ON MACHINERY.

No. 31016  
FRI. 11 APR. 1919

Received at London Office

Date of writing Report

19

When handed in at Local Office

10/4 10.1 Port of

No. in Survey held at Hull.

Date, First Survey

15/5/18 Last Survey

4/4/1919

Reg. Book.

Number of Visits

61

Gross 290

Net 127

When built 1919

Master

Built at Beverley

By whom built

Cook Welton &amp; Gemmell

Engines made at Hull

By whom made

Amos &amp; Smith Ltd (No. 2964)

when made 1919

Boilers made at Hull

By whom made

Amos &amp; Smith Ltd (No. 2963)

when made 1919

Registered Horse Power

Owners

British Admiralty

Port belonging to

Nom. Horse Power as per Section 28

87.86

Is Refrigerating Machinery fitted for cargo purposes

No.

Is Electric Light fitted

No.

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

Triple Expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

12½"-21" &amp; 35"

Length of Stroke

26"

Revs. per minute

110

Dia. of Screw shaft

as per rule 7.57

Material of screw shaft

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

✓

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

✓

If two

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

✓

Length of stern bush

34"

Dia. of Tunnel shaft

as per rule

✓

Dia. of Crank shaft journals

as per rule

6.956.91

Dia. of Crank pin

7½"

Size of Crank webs

14" x 4½"

Dia. of thrust shaft under

collars

7½"

Dia. of screw

9'-6"

Pitch of Screw

11'-1½"

No. of Feed pumps

2

Diameter of ditto

2½"

Stroke

12"

Can one be overhauled while the other is at work

Yes.

No. of Bilge pumps

2

Diameter of ditto

2½"

Stroke

12"

Can one be overhauled while the other is at work

Yes.

No. of Donkey Engines

2 + ejector

Sizes of Pumps

6" x 3" x 6" &amp; 6" x 4" x 6"

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

In Engine Room One 2" engine room one 2" aft &amp; one 2" for In Holds, &amp;c. One 2" from forehold one 2" from

slush well also separate 2" ejector suction from slushwell.

No. of Bilge Injections

one size 3½"

Connected to condenser, or to circulating 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

✓

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

✓

Is it fitted with a watertight door

✓

worked from

✓

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

S)

Manufacturers of Steel

Port Talbot Steel Co. Ltd - Port Talbot.

Total Heating Surface of Boilers

1590 sq ft

Is Forced Draft fitted

no

No. and Description of Boilers

one single ended.

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

13/3/19

No. of Certificate

3344

Can each boiler be worked separately

✓

Area of fire grate in each boiler

48.75 sq ft

No. and Description of Safety Valves to

each boiler

two spring loaded area of each valve

4.90"

Pressure to which they are adjusted

185 lbs

Are they fitted with easing gear

Yes.

Smallest distance between boilers or uptakes and bunkers or woodwork

12"

INT

dia. of boilers

162"

Length

10'-6 15/16"

Material of shell plates

steel

Thickness

1 3/32"

Range of tensile strength

28/32 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 5/32"

Pitch of rivets

8"

Top of plates or width of butt straps

17"

Per centages of strength of longitudinal joint

rivets 89.3

plate 85.5

Working pressure of shell by rules

182 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

9" x 1 3/32"

No. and Description of Furnaces in each boiler

3 plain

Material

steel

Outside diameter

40 7/8"

Length of plain part

top 8 1/2"

bottom 7 6"

Thickness of plates

crown 2 5/32"

bottom 2 5/32"

Description of longitudinal joint

welded

No. of strengthening rings

—

Working pressure of furnace by the rules

188

Combustion chamber plates: Material

steel

Thickness: Sides

1/16"

Back

3/32"

Top

1/16"

Bottom

7/8"

Pitch of stays to ditto: Sides

9 1/2" x 9 3/8"

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

2.070"

Area supported by each stay

90.250"

Working pressure by rules

206

End plates in steam space:

—

Material of stays

steel

Material

steel

Thickness

1 1/16"

Pitch of stays

17 7/8" x 17"

How are stays secured

DN &amp; W

Working pressure by rules

181

Material of stays

steel

Area at smallest part

6.10"

Area supported by each stay

2950"

Working pressure by rules

215

Material of Front plates at bottom

steel

Thickness

3 1/2"

Material of Lower back plate

steel

Thickness

1 5/16"

Greatest pitch of stays

14" x 9"

Working pressure of plate by rules

219

Diameter of tubes

3 1/2"

Pitch of tubes

5" x 4 3/4"

Material of tube plates

steel

Thickness: Front

3 1/2"

Back

7/8"

Mean pitch of stays

10"

Pitch across wide water spaces

14"

Working pressures by rules

184

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

8 1/2" x 1 3/4"

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

Steam dome: description of joint to shell

✓

% of strength of joint

✓

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

✓

Diameter of Safety Valve

✓

Pressure to which each is adjusted

✓

Is Easing Gear fitted

✓

Is a Report also sent on the Hull of the Ship?

Yes.

If not, state whether, and when, one will be sent?

Yes.

Is a Report also sent on the Hull of the Ship?



4. 31016.

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 Reed & Bilge Pump Valves, one set piston studs & nuts, three condenser tubes, three boiler tubes, one escape valve spring of each size, 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.

*A. J. Rolman*  
Secretary Manufacturer.

Dates of Survey while building  
During progress of work in shops -- 1918. May 15. 22. Jun 7. 14. 18. 20. 25. 29. Jul 3. 8. 9. 11. 15. 19. 26. 30. Aug 3. 10. 15. 22. 26. 29. Sep. 2. 5. 10. 14. 17  
During erection on board vessel -- 30 Oct. 2. 8. Nov. 14. 29. Dec. 5. 11. 14. 18. 20. 24. 31. 1919 Jan 2. 3. 8. 13. 16. 17. 18. 20. 22. 24. 27. 28  
Total No. of visits 61

Is the approved plan of main boiler forwarded herewith *previously sent*

Dates of Examination of principal parts—Cylinders 11/12/18 Slides 24/12/18 Covers 24/12/18 Pistons 24/12/18 Rods 24/12/18  
Connecting rods 31/12/18 Crank shaft 8/1/19 Thrust shaft 14/1/19 Tunnel shafts ✓ Screw shaft 22/8/18 Propeller 22/8/18  
Stern tube 22/8/18 Steam pipes tested 24/3/19 Engine and boiler seatings 2/1/19 Engines holding down bolts 22/3/19  
Completion of pumping arrangements 2/4/19 Boilers fixed 22/3/19 Engines tried under steam 29/3/19  
Completion of fitting sea connections 2/9/18 Stern tube 2/9/18 Screw shaft and propeller 2/9/18  
Main boiler safety valves adjusted 29/3/19 Thickness of adjusting washers P 5/16" F S 1/32" F  
Material of Crank shaft *steel* Identification Mark on Do. *2206 WNS* Material of Thrust shaft *IRON* Identification Mark on Do. *2208 WNS*  
Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts *iron* Identification Marks on Do. *2218*  
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 *Griffith Griffith*

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 material & workmanship are good. The boiler & steam pipe 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 & accumulation did not exceed 8 lbs. In my opinion the vessel is eligible for the record + L.M.C. 4, 19.

It is submitted that  
this vessel is eligible for  
THE RECORD + L.M.C. 4-19

The amount of Entry Fee ... £ 2 : 0 :  
Special ... £ 26 : 2 :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, 7/4 1919  
When received, 9/4 1919

*W. Stone*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 15. APR. 1919

Assigned

+ L.M.C. 4.19

MACHINERY CERTIFICATE  
WRITTEN



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Foundation