

REPORT ON MACHINERY.

No. 30799

Date of writing Report

19

When handed in at Local Office

16-11-

18

Port of

Received at London Office

MUN. 18. 1918

No. in Survey held at *Beverly & Hull*

Date, First Survey

Mar 31

Last Survey

1st November 1918

Reg. Book.

on the *Sub Patrol Quiboot "KILCHATTAN"*

(No. 3001)

(Number of Visits)

Gross 522

Net 224

When built 1918

Master

Built at *Beverly*

By whom built

Cook, Wilton & Gemmell

Engines made at

Hull

By whom made

Amos & Smith L^o

when made 1918

Boilers made at

Hull

By whom made

Amos & Smith L^o

when made 1918

Registered Horse Power

Owners

British Admiralty

Port belonging to

Nom. Horse Power as per Section 28

213

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

No

ENGINES, &c.—Description of Engines

Triple expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

16" x 26" x 44"

Length of Stroke

26"

Revs. per minute

140

Dia. of Screw shaft

8.5"

Material of

Steel

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

49"

Dia. of Tunnel shaft

as per rule 4.95"

Dia. of Crank shaft journals

as per rule 8.35"

Dia. of Crank pin

8.5"

Size of Crank webs

13x5 1/2"

Dia. of thrust shaft under

collars

collars

8 1/2"

Dia. of screw

9.6"

Pitch of Screw

8.6"

No. of Blades

four

State whether moveable

no

Total surface

36 sq ft

No. of Feed pumps

2

Diameter of ditto

4"

Stroke

18"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

two

Diameter of ditto

6"

Stroke

6"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

3

Sizes of Pumps

6.5 x 6 x 8" Bilge 6 x 6 x 6"

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

In Engine Room

Three 2" one 1 1/2" to crank pit one 2" in each boiler room

Holds one 2" dia in each compartment

Valves worked from deck

No. of Bilge Injections

one

sizes

6"

Connected to condenser, or to circulating pump

pumps

Is a separate Donkey Suction fitted in Engine room & size

4 x 2"

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

none

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

Yes

Are they Valves or Cocks

Both

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

ford suction

How are they protected

strong 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

Yes

OILERS, &c.—(Letter for record

S.)

Manufacturers of Steel

*Port Talbot Steel Co.**Port Talbot*

Total Heating Surface of Boilers

3664 sq ft

Is Forced Draft fitted

Yes

No. and Description of Boilers

Two single ended

Working Pressure

200 lbs

Tested by hydraulic pressure to

400 lbs

Date of test

22/8/18

No. of Certificates

3311

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

51.5 sq ft

No. and Description of Safety Valves to

each boiler

2 Spring loaded

Area of each valve

5.94 sq in

Pressure to which they are adjusted

205 lbs

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

9"

Mean dia. of boilers

15 1/2"

Length

11'6"

Material of shell plates

Steel

Thickness

1 1/4"

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 1/4"

Pitch of rivets

8 1/2"

Lap of plates or width of butt straps

18 3/8"

Per centage of strength of longitudinal joint

91.5

Working pressure of shell by rules

204 lbs

Size of manhole in shell

16" x 12"

No. of Certificates

3311

Size of compensating ring

1 1/4" x 9"

No. and Description of Furnaces in each boiler

3

Material

Steel

Outside diameter

44 1/8"

Length of plain part

top

Thickness of plates

9 1/16"

Description of longitudinal joint

Welded

No. of strengthening rings

Yes

Working pressure of furnace by the rules

212 1/4

Combustion chamber plates: Material

Steel

Thickness: Sides

1 1/16"

Back

1 1/16"

Top

1 1/16"

Bottom

1 1/16"

Pitch of stays to ditto: Sides

9" x 8 1/2"

Back

8 1/2" x 8 1/2"

Top

9" x 8 1/2"

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

209 1/4

Material of stays

Steel

Area at smallest part

2.4 sq ft

Area supported by each stay

94 sq ft

Working pressure by rules

230 1/4

End plates in steam space:

Steel

Material

Steel

Thickness

1 3/32"

Pitch of stays

14" x 16"

How are stays secured

D.N. & W.

Working pressure by rules

208 1/4

Material of stays

Steel

Area at smallest part

6.33 sq ft

Area supported by each stay

212 sq ft

Working pressure by rules

242 1/4

Material of Front plates at bottom

Steel

Thickness

1"

Material of Lower back plate

Steel

Thickness

1"

Greatest pitch of stays

14 1/2" x 8 1/2"

Working pressure of plate by rules

240 1/4

Diameter of tubes

2 1/2"

Pitch of tubes

3 1/2" x 3 1/2"

Material of tube plates

Steel

Thickness: Front

1"

Back

1 3/16"

Mean pitch of stays

8 3/8"

Pitch across wide water spaces

13 1/4"

Working pressures by rules

204 lbs

Girders to Chamber tops: Material

Steel

Depth and

*thickness**8" x 1 1/2"*

Length as per rule

31 1/2"

Distance apart

8 1/2"

Working pressure by rules

202 1/4

Steam dome: description of joint to shell

Yes

% of strength of joint:

Yes

IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? *✓*

SPARE GEAR. State the articles supplied:—

Two top & bot end bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, three junk ring bolts & nuts 10 Condenser tubes & 40 Ferrules One pair main bearing braces, one pair each top & bottom end braces, one set each of requirements for piston rod & valve spindle including packing, 2 sets main regulating valve 6 cylinders & 6 valve cover studs, one set escape valve springs, Piston valve for reducing engine 6 plain & 2 stay tubes, 3 sets fittings, one safety valve spring, One main & one donkey Check valves 1 set air valve for fuelling one set of air, fuel bilge & dry pump valves packing rings for air pump, 1 set each top & bottom end ^{& main bearing} bracing for circulating pump also valve spindle & piston rings, Packing rings for steam & water end fuel pumps, 1 set evaporator coils, set main bearing, top & bottom bracing for each Haw engine also piston & valve rod, eccentric shaft & rod & set of packing rings, an assortment of bolts nuts
The foregoing is a correct description, *& accurate iron*

For AMOS & SMITH LTD.

G. H. Robinson

Manufacturer.

SECRETARY.

Dates of Survey while building { During progress of work in shops -- } *1918: Mar 31. Apr 2. 5. 12. 18. 23. 27. May 2. 8. 15. 22. 29. 30. Jun 5. 7. 11. 14. 18. 20. 22. 24. 25. 28*
{ During erection on board vessel -- } *29. Jun 2. 3. 4. 8. 9. 10. 16. 13. 15. 16. 19. 26. 27. 30. Aug 2. 3. 13. 15. 19. 20. 22. 26. 28. 29. Sep 2. 4. 5. 9. 10*
{ Total No. of visits } *63*

Is the approved plan of main boiler forwarded herewith *Yes*

" " " donkey " " " *✓*

Dates of Examination of principal parts—Cylinders *4/4/18* Slides *30/4/18* Covers *2/4/18* Pistons *2/4/18* Rods *30/4/18*
Connecting rods *20/6/18* Crank shaft *19/8/18* Thrust shaft *2/8/18* Tunnel shafts *2/8/18* Screw shaft *5/4/18* Propeller *5/4/18*
Stern tube *5/4/18* Steam pipes tested *7-10-18*. Engine and boiler seatings *12-4-18* Engines holding down bolts *28/9/18*
Completion of pumping arrangements *22/10/18* Boilers fixed *28/9/18* Engines tried under steam *16/10/18*
Completion of fitting sea connections *12-4-18* Stern tube *12-4-18* Screw shaft and propeller *12-4-18*
Main boiler safety valves adjusted *16th Oct/18* Thickness of adjusting washers *For B. aft 3/16 Aft B. aft 9/32*
Material of Crank shaft *Steel* Identification Mark on Do. *1908 JR.* Material of Thrust shaft *Steel* Identification Mark on Do. *1905 JR.*
Material of Tunnel shafts *Iron* Identification Marks on Do. *1906 JR.* Material of Screw shafts *Iron* Identification Marks on Do. *1866 P.F.*
Material of Steam Pipes *Steel (solid drawn)* Test pressure *600 lb.*

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 *Geo* If so, state name of vessel *"KILBOURNE"*

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, specifications & the Rules of this Society. The material & workmanship are good. The Boiler & steam pipes have been tested as required by hydraulic pressure & found sound & tight. The machinery has been properly fitted & secured on board the vessel & on completion tested under full power for two hours as required by the Admiralty & found satisfactory. The safety valves were tested for accumulation which did not exceed 215 lbs.*

In my opinion the vessel is eligible for the record & L.M.C. 11. 18.

Please return enclosed approved plan of Boilers for use in duplicate with other vessels
It is submitted that this vessel is eligible for THE RECORD & L.M.C. 11. 18. F.D.
Plan returned *18-11-1918*

The amount of Entry Fee ... £ *4 : 0 : 0* When applied for, *25/11/18*
Special ... £ *61 : 6 : 0*
Donkey Boiler Fee ... £ *— : — : —*
Travelling Expenses (if any) £ *— : — : —* When received, *1.3. 1919*

Committee's Minute

WED. 20 NOV 1918

Assigned

1 Dec 11. 18

FRI. JUL. 21 1920

John Wilson, P. Fitzgerald
Engineer Surveyor to Lloyd's Register of Shipping.



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