

## REPORT ON MACHINERY.

No. 20,166

Received at London Office

THUR 11 JUN 1908

Date of writing Report 6.6.1908 When handed in at Local Office

6-6-1908 Port of Hull

No. in Survey held at Reg. Book.

Date, First Survey

Jan. 10<sup>th</sup>

Last Survey

May 27<sup>th</sup> 1908

10 Suppl. on the

Hull. *XERXES*

(Number of Visits 45)

Gross 243

Net 96

When built 1908.

Master

Built at

Selby.

By whom built

Cochrane &amp; Sons

Engines made at

Hull.

By whom made

Geo. S. Holmes &amp; Co.

when made

L

Boilers made at

L

By whom made

L

when made

L

Registered Horse Power

Owners

Hector Steam Trawling Co. Ltd.

Port belonging to

Swansea

Nom. Horse Power as per Section 28

80.

Is Refrigerating Machinery fitted for cargo purposes

No.

Is Electric Light fitted

No.

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

*Marine Triple Expansion*

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

12½-21½x35

Length of Stroke

26

Revs. per minute

112

Dia. of Screw shaft

as per rule 7½

as fitted 7½

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

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

If two

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

Length of stern bush

36

Dia. of Tunnel shaft

as per rule 6½

Dia. of Crank shaft journals

as per rule 6½

Dia. of Crank pin

7½

Size of Crank webs

22x18

Dia. of thrust shaft under

collars

7½

Dia. of screw

9-0

Pitch of Screw

11-6

No. of Blades

4

State whether moveable

No

Total surface

33½

No. of Feed pumps

2

Diameter of ditto

2½

Stroke

26

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

2½

Stroke

26

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

1

Sizes of Pumps

2 ¾ x 5

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

In Engine Room

2-2

In Holds, &amp;c.

2-2

Shut ball. Ballast tank.

No. of Bilge Injections

1

sizes

3

Connected to condenser, or to circulating pump

Yes

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

2½

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

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

Hold suction

How are they protected

Wood casing

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

Dates of examination of completion of fitting of Sea Connections

4.3.08

of Stern Tube

4.3.08

Screw shaft and Propeller

4.3.08

Is the Screw Shaft Tunnel watertight

None

Is it fitted with a watertight door

Yes

worked from

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

Manufacturers of Steel

Firth &amp; Wigham &amp; Co. Ltd. Glasgow

Total Heating Surface of Boilers

1415

Is Forced Draft fitted

No.

No. and Description of Boilers

1 S.E. 9 M. 10 H. 10

Working Pressure

180 lb.

Tested by hydraulic pressure to

360 lb.

Date of test

12.5.08.

No. of Certificate

1645

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

43 ft.

No. and Description of Safety Valves to

each boiler

2 Spring loaded

Area of each valve

4.9

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

5

Mean dia. of boilers

3-6

Length

10-6

Material of shell plates

Steel

Thickness

1/2

Range of tensile strength

29-32

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

8R. Lap.

long. seams

2 1/2 S. seams

Diameter of rivet holes in long. seams

1 1/2

Pitch of rivets

8

Lap of plates or width of butt straps

16 1/2

Per centages of strength of longitudinal joint

rivets 89

plate 85.5

Working pressure of shell by rules

181

Size of manhole in shell

16 x 12

Size of compensating ring

7 x 1 1/2

No. and Description of Furnaces in each boiler

3 plain

Material

Steel

Outside diameter

37 1/2

Length of plain part

top 7 1/2

bottom 7 1/2

Thickness of plates

1 1/2

Description of longitudinal joint

Welded

No. of strengthening rings

Yes

Working pressure of furnace by the rules

190

Combustion chamber plates: Material

Steel

Thickness: Sides

1 1/2

Back

1 1/2

Top

1 1/2

Bottom

1 1/2

Pitch of stays to ditto: Sides

9 x 9 1/2

Back

9 1/2 x 9 1/2

Top

9 1/2 x 9 1/2

If stays are fitted with nuts or riveted heads

Yes

Working pressure by rules

197

Material of stays

Steel

Diameter at smallest part

1 1/2

Area supported by each stay

90

Working pressure by rules

207

End plates in steam space:

Yes

Material

Steel

Thickness

1 1/2

Pitch of stays

19 1/2 x 19

How are stays secured

Shirker

Working pressure by rules

193

Material of stays

Steel

Diameter at smallest part

7 1/2

Area supported by each stay

365

Working pressure by rules

212

Material of Front plates at bottom

Steel

Thickness

1 1/2

Greatest pitch of stays

15 x 9 1/2

Working pressure of plate by rules

193

Material of Lower back plate

Steel

Thickness

1 1/2

Material of tube plates

Steel

Thickness: Front

7

Back

1 1/2

Mean pitch of stays

9 1/2

Diameter of tubes

3 1/2

Pitch of tubes

4 1/2

Working pressures by rules

233

Girders to Chamber tops: Material

Iron

Depth and

Pitch across wide water spaces

14

thickness of girder at centre

10 1/2 x 1 1/2

Length as per rule

35

Working pressure by rules

198

Superheater or Steam chest; how connected to boiler

Can the superheater be shut off and the boiler worked

separately

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

Thickness

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

If stiffened with rings

Distance between rings

Working pressure by rules

End plates: Thickness

How stayed

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Yes

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Yes

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Yes

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Yes



# VERTICAL DONKEY BOILER—Manufacturers of Steel

No.	Description				
Made at	By whom made	When made	Where fixed		
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area	Description of Safety
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment	
If fitted with easing gear	If steam from main boilers can enter the donkey boiler	Dia. of donkey boiler	Length		
Material of shell plates	Thickness	Range of tensile strength	Descrip. of riveting long. seams		
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating	Per centage of strength of joint	Rivets Plates
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.	Dia. of stays	
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates	Description of joint	
Working pressure of furnace by rules	Thickness of furnace crown plates	Stayed by			
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey		

SPARE GEAR. State the articles supplied:— *Ten top & two bottom end connecting rods & nuts, two main bearing bolts, one set of coupling bolts & nuts, one set of feed & high pump pulvers, air & air pump valves, assorted nuts & bolts etc.*

The foregoing is a correct description,

PER PRO CHARLES D. HOLMES & Co.

Manufacturer.

*H. Allon*

Dates of Survey while building { During progress of work in shops - 1908:—Jan 10. 14. 15. 18. 24. 28. Feb 3. 8. 12. 14. 18. 20. 26. 27. 29. Mar 3. 4. 5. 9. 12. 14.  
During erection on board vessel - Mar 18. 26. 28. 30. 31. Apr 1. 6. 8. 10. 13. 16. 24. 28. May 1. 2. 6. 9. 11. 12. 16. 18. 20. 23. 27.  
Total No. of visits 45

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

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 30.3.08 Slides 1.4.08 Covers 14.3.08 Pistons 1.4.08 Rods 30.3.08  
Connecting rods 30.3.08 Crank shaft 3.3.08 Thrust shaft 3.3.08 Tunnel shafts — Screw shaft 27.2.08 Propeller 27.2.08  
Stern tube 27.2.08 Steam pipes tested 18.5.08 Engine and boiler seatings 4.3.08 Engines holding down bolts 18.5.08  
Completion of pumping arrangements 27.5.08 Boilers fixed 18.5.08 Engines tried under steam 20.5.08  
Main boiler safety valves adjusted 20.5.08 Thickness of adjusting washers  $F \frac{3}{8}$   $A \frac{3}{8}$   
Material of Crank shaft *Iron* Identification Mark on Do. *410 J.W.G 8.4.08* Material of Thrust shaft *Iron* Identification Mark on Do. *410 J.W.G 8.4.08*  
Material of Tunnel shafts — Identification Marks on Do. — Material of Screw shafts *Iron* Identification Marks on Do. *410 J.W.G 27.2.08*  
Material of Steam Pipes *Solid drawn Copper* Test pressure 360 lbs

General Remarks (State quality of workmanship, opinions as to class, &c. *This machinery of this vessel has been constructed under Special Survey, all of good material & workmanship & has been fitted & secured in strict accordance with the Rules. They are now in good working condition & in my opinion to have record of L.M.C. 5-08 in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD. L.M.C. 5.08.

*J.L.* 11-6-08  
11.6.08

The amount of Entry Fee .. £ 1 : 00 When applied for, 9.6.08  
Special .. £ 12 : 00  
Donkey Boiler Fee .. £ : : When received, 30.6.08  
Travelling Expenses (if any) £ : 16 4

John. L. Gwynne  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRI 12 JUN 1908

Assigned

MACHINE  
WRITTEN



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Foundation