

## REPORT ON MACHINERY.

No. 24989

Received at London Office MAY 15 1912

Date of writing Report

10

When handed in at Local Office

1/5/12 Port of Hull

No. in Survey held at

Hull

Date, First Survey

Nov 24<sup>th</sup>

Last Survey

Apr 25<sup>th</sup> 1912

Reg. Book.

by ship on the *St. K. "EXMOUTH"*

(Number of Visits 28)

Tons { Gross 236  
Net 92

Master

Built at

Selby

By whom built Messrs. Cochran &amp; Sons

When built 1912

Engines made at

Hull

By whom made

Messrs. Charles R. Jones &amp; Co. Ltd.

when made 1912

Boilers made at

By whom made

when made 1912

Registered Horse Power

Owners *Western Steam Trawling Co. Ltd.*

Port belonging to

Dundee

Nom. Horse Power as per Section 28

66

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

12" - 21" - 34"

Length of Stroke

24

Revs. per minute

104

Dia. of Screw shaft

as per rule 4.04"

Material of screw shaft

S

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

Length of stern bush

36"

Dia. of Tunnel shaft

as per rule 6.26"

Dia. of Crank shaft journals

as per rule 6.54"

Dia. of Crank pin

6 7/8"

Size of Crank webs

33" x 4 1/2"

Dia. of thrust shaft under

collars

6 3/4"

Total surface

24 1/2 sq ft

No. of Feed pumps

1

Diameter of ditto

2 3/8"

Stroke

14 1/2"

Can one be overhauled while the other is at work

No. of Bilge pumps

1

Diameter of ditto

2 3/8"

Stroke

14 1/2"

Can one be overhauled while the other is at work

No. of Donkey Engines

1

Sizes of Pumps

5" x 3 1/2" x 6"

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

In Engine Room

Two 2", one 2 1/2", &amp; one 3"

In Holds, &amp;c.

One 2" in main hold

No. of Bilge Injections

1

sizes 3"

Connected to condenser, or to circulating pump

Pump

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

Yes 2 1/2" dia.

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

5.3.12

of Stern Tube

5.3.12

Screw shaft and Propeller

5.3.12

Is the Screw Shaft Tunnel watertight

None

Is it fitted with a watertight door

worked from

No

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

S.T.)

Manufacturers of Steel Messrs. *Blochmann & Schuler, Krefeld, A. G. of Essen*

Total Heating Surface of Boilers

1045 sq ft

Is Forced Draft fitted

No

No. and Description of Boilers

One large, multi-jacketed

single ended

Working Pressure

180 lbs.

Tested by hydraulic pressure to

360 lbs.

Date of test

10.4.12

No. of Certificate

1893

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

35 sq ft

No. and Description of Safety Valves to

each boiler

Two

Spring

Area of each valve

3.94 sq in

Pressure to which they are adjusted

185 lbs.

Smallest distance between boilers or uptakes and bunkers or woodwork

6"

Mean dia. of boilers

12.6"

Length

10.3"

Material of shell plates

S

Thickness

1"

Range of tensile strength

29 tons

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

2. B. R.

long. seams

D. B. S. T. R.

Diameter of rivet holes in long. seams

1 1/2"

Pitch of rivets

4 3/8"

Per centages of strength of longitudinal joint

rivets 86.4%

plate 85.6%

Working pressure of shell by rules

187 lbs.

Size of manhole in shell

16" x 12"

Size of compensating ring

4" x 1"

No. and Description of Furnaces in each boiler

Two plain

Material

S

Outside diameter

3.4"

Length of plain part

top 6.4"

Thickness of plates

crown 2 1/2"

Description of longitudinal joint

Welded

No. of strengthening rings

Yes

Working pressure of furnace by the rules

183 lbs.

Combustion chamber plates: Material

S

Thickness: Sides

7/16"

Back

7/16"

Top

7/16"

Bottom

1"

Pitch of stays to ditto: Sides

9" x 10"

Back

9" x 10"

Top

10" x 8 1/2"

If stays are fitted with nuts or riveted heads

Yes

Working pressure by rules

180 lbs.

Material of stays

Iron

Diameter at smallest part

1 1/2"

Area supported by each stay

90 sq in

Working pressure by rules

195 lbs.

End plates in steam space:

Material

S

Thickness

1/16"

Pitch of stays

4" x 14"

Diameter at smallest part

2 3/8"

Area supported by each stay

289 sq in

Working pressure by rules

208 lbs.

Material of Front plates at bottom

S

Thickness

3/8"

Material of Lower back plate

S

Thickness

3/8"

Greatest pitch of stays

4 1/2" x 9"

Working pressure of plate by rules

181 lbs.

Diameter of tubes

3 1/2"

Pitch of tubes

8" x 5"

Material of tube plates

S

Thickness: Front

3/8"

Back

3/8"

Mean pitch of stays

10" x 10"

Pitch across wide water spaces

15"

Working pressures by rules

249 lbs.

Girders to Chamber tops: Material

S

Depth and

thickness of girder at centre

8 1/2" x 1 3/4"

Length as per rule

2-9 1/2"

Distance apart

8 1/2"

Working pressure by rules

202 lbs.

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

holes

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

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

W1316-0116



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 casing 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	Radius of do.	Stayed by		
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey		

SPARE GEAR. State the articles supplied:—Two each top & bottom end connecting rod bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set each feed & lift pump valves, iron of various sizes, a quantity of assorted bolts, nuts etc.

The foregoing is a correct description,

pro CHARLES D. HOLMES & Co. 1<sup>th</sup>, Manufacturer.

*Arthur Holmes* DIRECTOR  
 Dates of Survey while building: During progress of work in shops -- 1911:—Nov 24. Dec 14. 1912:—Jan 9. 12. 23. 25. Feb 26. 21. 23. 27.  
 During erection on board vessel --- Mar 4. 5. 6. 12. 14. 19. 26. 27. Apr 1. 2. 3. 10. 16. 17. 22. 24. 25.  
 Total No. of visits 28

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

Dates of Examination of principal parts—Cylinders 12.3.12 Slides 1.4.12 Covers 27.3.12 Pistons 24.3.12 Rods 12.3.12  
 Connecting rods 24.3.12 Crank shaft 19.3.12 Thrust shaft 1.4.12 Tunnel shafts " Screw shaft 21.2.12 Propeller 12.1.12  
 Stern tube 21.2.12 Steam pipes tested 14.4.12 Engine and boiler seatings 5.3.12 Engines holding down bolts 14.4.12  
 Completion of pumping arrangements 24.4.12 Boilers fixed 24.4.12 Engines tried under steam 22.4.12  
 Main boiler safety valves adjusted 22.4.12 Thickness of adjusting washers Forward 3" 24.1.12 3" 24.1.12  
 Material of Crank shaft S. Identification Mark on Do. 19.3.12 Material of Thrust shaft S. Identification Mark on Do. 1.4.12  
 Material of Tunnel shafts " Identification Marks on Do. T.4.D. Material of Screw shafts S. Identification Marks on Do. 21.2.12 T.4.D.  
 Material of Steam Pipes Solid drawn copper Test pressure 360 lbs per sq. inch

General Remarks (State quality of workmanship, opinions as to class, &c. The engines & boiler of this vessel have been completed under special survey in accordance with the Rules. The materials & workmanship are sound & good. The boiler tested by hydraulic pressure, & with the engines secured on board & tested under steam they are now in good order & safe working condition & respectfully submitted as being eligible in my opinion to be classed with the notation of *T.L.M.C. 4.12* in the Register Book.

It is submitted that this vessel is eligible for THE RECORD + LMC 4.12.

*JWD*  
15/5/12

The amount of Entry Fee .. £ 1 : 0 :  
 Special .. £ 9 : 18 :  
 Donkey Boiler Fee .. £ : 8 : 2 :  
 Travelling Expenses (if any) £ : :  
 When applied for, 14.5.12  
 When received, 31.5.12

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

Committee's Minute FRI. MAY 17. 1912

Assigned *June 4.12*



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