

REPORT ON MACHINERY.

No. 20448

Received at London Office

MUN. 24 AUG 1908

of writing Report 19.8.1008 When handed in at Local Office

22.8.1008 Port of Hull

in Survey held at Hull

Date, First Survey April 13th Last Survey Aug 10th 1908

Book.

10 on the S. Hauler VIVO.

(Number of Visits 33)

ster

Built at Selby.

By whom built Cochrane & Sons

Gross 270

Tons Net 103

When built 1908

gines made at Hull.

By whom made Amos Smith

when made 1908

ilers made at S.

By whom made S.

when made

gistered Horse Power 88.

Owners Morays, Kelly

Port belonging to Grimsby

m. Horse Power as per Section 28 90.

Is Refrigerating Machinery fitted for cargo purposes No.

Is Electric Light fitted No.

GINES, &c.—Description of Engines

Inverted Triple Expansion

No. of Cylinders 3.

No. of Cranks 3.

Dia. of Cylinders 13-22½-37

Length of Stroke 24

Revs. per minute 110

Dia. of Screw shaft as per rule 7½

Material of screw shaft Iron

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

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 Yes.

liners are fitted, is the shaft lapped or protected between the liners 6.9"

Length of stern bush 33

Dia. of Tunnel shaft as per rule 6.9"

Dia. of Crank shaft journals as per rule 7½

Dia. of Crank pin 7½

Size of Crank webs 8½

Dia. of thrust shaft under

collars 7½

Dia. of screw 9½

Pitch of Screw 10.9 (4mm)

No. of Blades 4

State whether moveable No.

Total surface 31½

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 1

Sizes of Pumps 6'x3'x6"

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

In Engine Room 2-2" (Friedl. app. 1).

In Holds, &c. 2-2" (Friedl. app. 1).

2" Expector suction from all holds with discharge in deck.

No. of Bilge Injections 1

sizes 3"

Connected to condenser, or to circulating pump pump

Is a separate Donkey Suction fitted in Engine room & size 2" Expector

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 plates Yes.

What pipes are carried through the bunkers Cold 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 1.5.08

of Stern Tube 1.5.08

Screw shaft and Propeller 1.5.08.

Is the Screw Shaft Tunnel watertight Yes.

Is it fitted with a watertight door

worked from

BOILERS, &c.—(Letter for record S.)

Manufacturers of Steel Phoenix & Co. & Horner

Total Heating Surface of Boilers 15750

Is Forced Draft fitted No.

No. and Description of Boilers 1. S.F. Mushmiller

Working Pressure 180 lbs.

Tested by hydraulic pressure to 350 lbs.

Date of test 17.7.08.

No. of Certificate 1653.

Can each boiler be worked separately

Area of fire grate in each boiler 47.5 sq. 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 lbs.

Are they fitted with easing gear Yes.

Smallest distance between boilers or uptakes and bunkers or woodwork 18"

Mean dia. of boilers 13'6"

Length 10'9"

Material of shell plates Steel.

Thickness 1½"

Range of tensile strength 28-32

Are the shell plates welded or flanged No.

Descrip. of riveting: cir. seams SR Lap.

long. seams SR Sine

Diameter of rivet holes in long. seams 1¾"

Pitch of rivets 8.23"

Lap of plates or width of butt straps 17½"

Per centages of strength of longitudinal joint rivets 90.6.

plate 85.5.

Working pressure of shell by rules 180.

Size of manhole in shell 16'x12"

Size of compensating ring 30'x40"

No. and Description of Furnaces in each boiler 3 plain

Material Steel. Outside diameter 3'3½"

Length of plain part top 6'2"

bottom 6'8"

Thickness of plates crown 7.49"

bottom 7.6"

Description of longitudinal joint welded.

No. of strengthening rings 14

Working pressure of furnace by the rules 187.

Combustion chamber plates: Material Steel.

Thickness: Sides 2½"

Back 7½"

Top 4½"

Bottom 2½"

Working pressure by rules 191.

Pitch of stays to ditto: Sides 9'x7½"

Back 9'x9"

Top 8'x7½"

If stays are fitted with nuts or riveted heads Yes.

Working pressure by rules 191.

Material of stays Steel.

Diameter at smallest part 2.39"

Area supported by each stay 119"

Working pressure by rules 181

End plates in steam space: 185 lbs.

Material Steel.

Thickness 1½"

Pitch of stays 16½x16½

How are stays secured Staggered

Working pressure by rules 185.

Material of stays Steel.

Diameter at smallest part 5.05"

Area supported by each stay 270.

Working pressure by rules 194

Material of Front plates at bottom Steel.

7.50 lbs. per sq. inch

Thickness 1½"

Material of Lower back plate Steel.

Thickness 7"

Greatest pitch of stays 14½x10

Working pressure of plate by rules 180

Mean pitch of stays 9½"

Diameter of tubes 3½"

Pitch of tubes 5'x4½"

Material of tube plates Steel

Thickness: Front 1½"

Back 2½"

Mean pitch of stays 9½"

Mean pitch of stays 9½"

Pitch across wide water spaces 14½"

Working pressures by rules 182.

Girders to Chamber tops: Material Iron

Depth and

thickness of girder at centre 9½x2"

Length as per rule 3'0"

Distance apart 8½"

Number and pitch of stays in each 20 7½"

Working pressure by rules 181

Superheater or Steam chest; how connected to boiler None

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

Lloyd's Register

Foundation

W5781-0097

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:— *Two top & two bottom end connecting rods & nuts, two main turning bolts, one set of coupling bolts & nuts, one main screw donkey feed check valve, one set of feed & bilge pump valves, one set of air pump valves, assorted bolts & nuts etc.*

The foregoing is a correct description, **FOR AMOS & SMITH**

Manufacturer.

Dates of Survey while building { During progress of work in shops— 1908—Apr 13. 16. 22. 28. May 1. 2. 6. 9. 11. May 12. 16. 19. 20. 23. 26. 29. 30. Jun 2. 6. }
 { During erection on board vessel— Jun 19. 27. July 2. 4. 8. 11. 13. 17. 18. 21. 27. 28. Aug 5. 10. }
 Total No. of visits 33

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

Dates of Examination of principal parts—Cylinders 4. 7. 08. Slides 11. 7. 08. Covers 27. 6. 08. Pistons 11. 7. 08. Rods 27. 6. 08.
 Connecting rods 6. 6. 08. Crank shaft 4. 7. 08. Thrust shaft 6. 6. 08. Tunnel shafts ✓ Screw shaft 28. 4. 08. Propeller 28. 4. 08.
 Stern tube 28. 4. 08. Steam pipes tested 28. 7. 08. Engine and boiler seatings 1. 5. 08. Engines holding down bolts 27. 7. 08.
 Completion of pumping arrangements 10. 8. 08. Boilers fixed 27. 7. 08. Engines tried under steam 5. 8. 08.
 Main boiler safety valves adjusted 5. 8. 08. Thickness of adjusting washers *P 4 1/2 S 3 3/8*
 Material of Crank shaft *Steel* Identification Mark on Do. *414 J.W.C.* Material of Thrust shaft *Steel* Identification Mark on Do. *414 J.W.C.*
 Material of Tunnel shafts ✓ Identification Marks on Do. *4. 7. 08.* Material of Screw shafts *Iron* Identification Marks on Do. *414 J.W.C.*
 Material of Steam Pipes *Solid drawn Copper* Test pressure *360 lbs.*

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery & tubes of this vessel have been constructed under Special Survey, and of good material & workmanship & have been found to be in accordance with the Rules. They are now in good working condition & eligible in my opinion to have record of T.L.M.C. 8-08 in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD. *L.M.C. 8-08.*

A.S.R.
24/8/08

R.R. 24. 8. 08

The amount of Entry Fee .. £ *13* : *10* : *0* When applied for, *22/8/08*
 Special .. £ *13* : *10* : *0*
 Donkey Boiler Fee .. £ : : :
 Travelling Expenses (if any) £ *8* : *2* : : When received, *31. 8. 08*

Committee's Minute

TUES, 25 AUG 1908

Assigned

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



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MACHINE WRITTEN