

## REPORT ON MACHINERY.

No. 9269

Date of writing Report

19

When handed in at Local Office

24/12/13

Port of

Grimsby

MON. DEC. 29. 1913

No. in Survey held at

Grimsby

Date, First Survey 27/6/13

Last Survey 22/12/1913

Reg. Book.

on the SS. Helgiani (Cochrane &amp; Co. N° 589)

(Number of Visits 40)

Gross Tons

Net Tons

Master

Built at

By whom built

When built

Engines made at

Grimsby

By whom made

St. Central Co. op. E. S. R. C. H.

when made

1913

Boilers made at

do.

By whom made

do.

when made

1913

Registered Horse Power

Owners

St. Central Co. op. E. S. R. C. H.

Port belonging to

Grimsby

Nom. Horse Power as per Section 28

75

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

no

ENGINES, &amp;c.—Description of Engines

Triple Expansion Inverted

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

12-2 1/2-3 1/4

Length of Stroke

24

Revs. per minute

112

Dia. of Screw shaft

as per rule

7.05

Material of

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

yes

If two

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

yes

Length of stern bush

33

Dia. of Tunnel shaft

as per rule

6.3

Dia. of Crank shaft journals

as per rule

6.6

Dia. of Crank pin

4

Size of Crank webs

4 1/4 x 13

Dia. of thrust shaft under

collars

Dia. of screw

8-6

Pitch of Screw

10-9

No. of Blades

4

State whether moveable

no

Total surface

280

No. of Feed pumps

1

Diameter of ditto

2 1/8

Stroke

24

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

1

Diameter of ditto

2 1/8

Stroke

24

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

1

Sizes of Pumps

6 x 3 1/2 x 6

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

In Engine Room

2 sea Kohler &amp; Bilge

In Holds, &amp;c.

2 forehold &amp; stowroom

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

2 1/2

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

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

rich steam &amp; exhaust

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

Dates of examination of completion of fitting of Sea Connections

29.9.13

of Stern Tube

29.9.13

Screw shaft and Propeller

29.9.13

Is the Screw Shaft Tunnel watertight

yes

Is it fitted with a watertight door

yes

worked from

OILERS, &amp;c.—(Letter for record)

5

Manufacturers of Steel

Phoenix &amp; Co. Horder &amp; Co. Horder

Total Heating Surface of Boilers

1340

Is Forced Draft fitted

no

No. and Description of Boilers

one SE return tube

Working Pressure

180 lb.

Tested by hydraulic pressure to

360 lb.

Date of test

13.11.13

No. of Certificate

120

Can each boiler be worked separately

yes

Area of fire grate in each boiler

35.0

No. and Description of Safety Valves to

each boiler

2 direct spring

Area of each valve

3.98

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

8"

Mean dia. of boilers

12-6

Length

10-0

Material of shell plates

Thickness

1 3/32

Range of tensile strength

28/32

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

double

long. seams

tr. butt

Diameter of rivet holes in long. seams

1 1/8

Pitch of rivets

3/4

Gap of plates or width of butt straps

16 5/8

Per centages of strength of longitudinal joint

87.0

rivets

85.5

plate

Working pressure of shell by rules

194

Size of manhole in shell

12 x 16

Size of compensating ring

16 x 16 x 1 1/8

No. and Description of Furnaces in each boiler

2 plain

Material

S

Outside diameter

43

Length of plain part

top 3.70

Thickness of plates

crown 3/4

bottom 3/4

Description of longitudinal joint

welded

No. of strengthening rings

none

Working pressure of furnace by the rules

181

Combustion chamber plates: Material

S

Thickness: Sides

2/32

Back

2/32

Top

2/32

Bottom

13/16

Pitch of stays to ditto: Sides

9 1/4 x 8 3/4

Back

9 1/4 x 8 3/4

Top

9 1/4 x 8 3/4

stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

184

Material of stays

S

Diameter at smallest part

2.1

Area supported by each stay

81

Working pressure by rules

207

End plates in steam space:

Material

S

Thickness

1 1/8

Pitch of stays

17 1/2 x 8

How are stays secured

d. nuts &amp; washers

Working pressure by rules

190

Material of stays

S

Diameter at smallest part

6.6

Area supported by each stay

320

Working pressure by rules

215

Material of Front plates at bottom

S

Thickness

1

Material of Lower back plate

S

Thickness

15/16

Mean pitch of stays

16

Working pressure of plate by rules

180

Diameter of tubes

3 1/4

Pitch of tubes

4 1/2

Material of tube plates

S

Thickness: Front

1

Back

3/4

Mean pitch of stays

9

Pitch across wide water spaces

14 1/4

Working pressures by rules

190

Girders to Chamber tops: Material

S

Depth and

Thickness of girder at centre

2 (9 x 3/4)

Length as per rule

31.5

Distance apart

8 1/4

Number and pitch of stays in each

2-9 1/4

Working pressure by rules

223

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

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

stiffened with rings

Distance between rings

# 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 \_\_\_\_\_ Rivets \_\_\_\_\_  
 Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ 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:— 2mo top and bottom end and main bearing bolts nuts, a set of coupling bolts nuts, feed circulating air pump, and relief valves, safety valves springs, studs and assorted bolts nuts.

The foregoing is a correct description, The Great Central Co. of Eng Ship Repairing Co. Ltd. — Mr W. P. Webb — Manufacturer.

Dates of Survey while building { During progress of work in shops - June 27-30 July 7-10-15-18-21-22-29 Aug 6-11-16-21-26-29 Sep 4-11-19-20-23-25-29-30 Oct 2-15-18-22-25-28-29 Nov 4-6-13  
 During erection on board vessel - Nov 6-11-13-17-19-22 Dec 4-22  
 Total No. of visits \_\_\_\_\_ Is the approved plan of main boiler forwarded herewith ☒ yes

Dates of Examination of principal parts—Cylinders HP 11.8.13 MP 11.8.13 LP 4.9.13 Slides HP 20.9.13 MP 20.9.13 LP 20.9.13 Covers 20.9.13 Pistons 16.8.13 Rods 11.8.13  
 Connecting rods 20.9.13 Crank shaft 22.10.13 Thrust shaft 3.11.13 Tunnel shafts ✓ Screw shaft 23.8.13 Propeller 11.9.13  
 Stern tube 4.9.13 Steam pipes tested 20/11/13 Engine and boiler seatings at Hull Engines holding down bolts 19.11.13  
 Completion of pumping arrangements 22.11.13 Boilers fixed 19.11.13 Engines tried under steam 22.11.13  
 Main boiler safety valves adjusted 22.11.13 Thickness of adjusting washers Both 1/32"  
 Material of Crank shaft journals - Identification Mark on Do. 22.10.13 Iron Identification Mark on Do. 10.5.13  
 Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Iron Identification Marks on Do. 23.8.13 THR.  
 Material of Steam Pipes solid drawn copper 6" Test pressure 360 lbs.

General Remarks (State quality of workmanship, opinions as to class, &c.) This machinery has been built under special survey, and the material and workmanship are good.

The boiler has been built in accordance with the approved plan of duly tested material.

The machinery seen fitted on board the vessel in an efficient manner, and is eligible in my opinion for record of + LMC 12.13.

This machinery is a duplicate of that fitted in the St. Glahan. Ins. report N° 9067 ✓

It is submitted that this vessel is eligible for THE RECORD. + LMC 12.13.

JWR 30/10/13

JWR

Charles

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

The amount of Entry Fee ... £ 1 : - :  
 Special ... £ 11 : 5 :  
 Donkey Boiler Fee ... £ : :  
 Travelling Expenses (if any) £ : :  
 When applied for, 24/12/13.  
 When received, 14/4/14.

Committee's Minute FRI. JAN. 30. 1914

Assigned

+ LMC 12.13

MACHINERY CERTIFICATE WRITTEN.



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Lloyd's Register Foundation

REI

date of writing

No. in Reg. Book.

27 Sep 0

TONNA

GROSS 2

UNDER DEK.

NET

Surveyed

WB=Cell

total capa

N.B.—All

If the re

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girders, and of

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REPAIRS, O