

REPORT ON MACHINERY.

Port of WEST HARTLEPOOL

Received at London Office

MUN 24 OCT 1898

No. in Survey held at West HartlepoolDate, first Survey 5th April 1897Last Survey 21st October 1898

Reg. Book.

574 on the

Screw Steamer "Chicago"(Number of Visits 156)Master MarshallBuilt at West Hartlepool By whom built Furness Withy & Co Ltd.Tons { Gross 6408-18
Net 4125-97When built 1898Engines made at West HartlepoolBy whom made The Central Marine Engine Workswhen made 1898Boilers made at West HartlepoolBy whom made The Central Marine Engine Workswhen made 1898Registered Horse Power 830Owners Thos. Wilson & Co Ltd.Port belonging to HullNom. Horse Power as per Section 28 842Is Electric Light fitted yes

ENGINES, &c.—Description of Engines

See report attached.

No. of Cylinders

No. of Cranks

Diameter of Cylinders

Length of Stroke

Revolutions per minute

Diameter of Screw shaft as per rule

Diameter of Tunnel shaft as fitted

Diameter of Crank shaft journals

Diameter of Crank pin

Size of Crank webs

Diameter of screw

Pitch of screw

No. of blades

State whether moveable

Total surface

No. of Feed pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

No. of Bilge pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

No. of Donkey Engines

Sizes of Pumps

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

In Engine Room

In Holds, &c.

No. of bilge injections

sizes

Connected to condenser, or to circulating pump

Is a separate donkey suction fitted in Engine room & size

Are all the bilge suction pipes fitted with roses

Are the roses in Engine room always accessible

Are the sluices on Engine room bulkheads always accessible

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

Are they Valves or Cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates

Are the discharge pipes above or below the deep water line

Are they each fitted with a discharge valve always accessible on the plating of the vessel

Are the blow off cocks fitted with a spigot and brass covering plate

What pipes are carried through the bunkers

How are they protected

Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges

When were stern tube, propeller, screw shaft, and all connections examined in dry dock

Is the screw shaft tunnel watertight

Is it fitted with a watertight door

worked from

BOILERS, &c.—

(Letter for record B.)Total Heating Surface of Boilers 14110 Sq ftIs forced draft fitted No

No. and Description of Boilers

Two single ended.Working Pressure 200 lbsTested by hydraulic pressure to 400 lbs.Rate of test 29-3-98. Can each boiler be worked separately yes.Area of fire grate in each boiler 54 1/2

No. and Description of safety valves to

Each boiler Two spring directArea of each valve 12-56Pressure to which they are adjusted 205 lbs

Are they fitted

With easing gear yes.Smallest distance between boilers or uptakes and bunkers or woodwork 19"Mean diameter of boilers 15-3Length 11-0"Material of shell plates SteelThickness 1 9/16"Description of riveting: circum. seams Doublelong. seams DoubleDiameter of rivet holes in long. seams 1 9/16"Pitch of rivets 10"Lap of plates or width of butt straps 22 5/8"

Centages of strength of longitudinal joint

rivets 91-2Working pressure of shell by rules 222 lbs.Size of manhole in Back end 16 x 12"Type of compensating ring HangedNo. and Description of Furnaces in each boiler Three ribbedMaterial Steel Outside diameter 45"

Length of plain part

Thickness of plates

crown 2 1/2"Description of longitudinal joint Weld

No. of strengthening rings

Working pressure of furnace by the rules 219 lbs.Combustion chamber plates: Material SteelThickness: Sides 1/16"Back 1/16"Top 1/16"Bottom 1 1/16"Pitch of stays to ditto: Sides 8-2"Back 9 3/4 x 8 3/4"Top 5 3/4"If stays are fitted with nuts or riveted heads NutsWorking pressure by rules 213 lbsMaterial of stays SteelDiameter at smallest part 1 5/8"Area supported by each stay 71 sq inWorking pressure by rules 201 lbs

End plates in steam space:

Material SteelThickness 1 5/16"Pitch of stays 19 x 16 1/8"How are stays secured to T.W.Working pressure by rules 266 lbsMaterial of stays SteelDiameter at smallest part 3-08Area supported by each stay 306Working pressure by rules 207 lbsMaterial of Front plates at bottom SteelThickness 1 1/32"Material of Lower back plate SteelThickness 1 3/32"Greatest pitch of stays 14 1/4"Working pressure of plate by rules 203 lbs.Diameter of tubes 3 1/4"Pitch of tubes 4 1/2 x 4 3/8"Material of tube plates SteelThickness: Front 1 1/32"Back 1 1/16"Mean pitch of stays 9" x 8 3/4"Pitch across wide water spaces 14 1/4"Working pressures by rules 201 to 2500 lbs.Girders to Chamber tops: Material Steel Depth andThickness of girder at centre 8 1/2" x 1 1/2"Length as per rule 28"Distance apart 8 5/8"Number and pitch of Stays in each Two 8 3/4"Working pressure by rules 204 lbs.

Superheater or Steam chest; how connected to boiler

Can the superheater be shut off and the boiler worked

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

Pitch of 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

DONKEY BOILER— Description *No Donkey Boiler*
Made at _____ By whom made _____ When made _____ Where fixed _____
Working pressure _____ tested by hydraulic pressure to _____ No. of Certificate _____ Fire grate area _____ Description of safety valves _____
No. of safety valves _____ Area of each _____ Pressure to which they are adjusted _____ If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____
Diameter of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____
Description of riveting long. seams _____ Diameter of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____
Lap of plating _____ Per centage of strength of joint _____ Rivets _____ 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 _____ Thickness of furnace crown plates _____ Stayed by _____ Working pressure of shell by rules _____
Working pressure of furnace by rules _____ Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied :—

FOR THE CENTRAL MARINE ENGINE WORKS.
(W. Gray & Co. Ltd.)
The foregoing is a correct description,
Manufacturer. *William B. Borrowman*

Dates { During progress of work in shops - -
of Survey { During erection on board vessel - -
while building {
Total No. of visits

General Remarks (State quality of workmanship, opinions as to class, &c.)

ENGINES—Length of stern bush *6-3* Diameter of crank shaft journals *as per rule 17.37* Diameter of thrust shaft under collars *18 1/2"*
as fitted 19.35

BOILERS—Range of tensile strength *27/30 tons* Are they welded or flanged *Both* DONKEY BOILERS—No. *1* Range of tensile strength *1*

Is the approved plan of main boiler forwarded herewith *Yes* Is the approved plan of donkey boiler forwarded herewith *1*

WEST HARTLEPOOL

Certificate (if required) to be sent to

The amount of Entry Fee. . . £ : : When applied for,
Special £ : : 18
Donkey Boiler Fee £ : :
Travelling Expenses (if any) £ : : 18
When received,

John Pillock & Richard Stiles
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUES. 25 OCT 1898

Assigned