

REPORT ON MACHINERY.

No. 15067

Received at London Office THU. FEB. 11. 1915

Date of writing Report 20/1/15 When handed in at Local Office 2 Feb 1915 Port of West Hartlepool

No. in Survey held at West Hartlepool Date, First Survey 15th July/14 Last Survey 2 Feb 1915

Reg. Book. on the Steel Steamer "Girfield" (Number of Visits 99) Tons Gross 4028.74
Net 2520.27

Master W Clarke Built at West Hartlepool By whom built W Gray & Co When built 1915

Engines made at West Hartlepool By whom made Central Marine & Work when made 1915

Boilers made at West Hartlepool By whom made Central Marine & Work when made 1915

Registered Horse Power _____ Owners Songhty Shipping Co Ltd Port belonging to West Hartlepool

Nom. Horse Power as per Section 28 401 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple Compound No. of Cylinders Three No. of Cranks Three

Dia. of Cylinders 25: 41: 68 Length of Stroke 48 Revs. per minute 65 Dia. of Screw shaft as per rule Material of Steel
 as fitted 1 1/2 screw shaft

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 No 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 59

Dia. of Tunnel shaft as per rule 12.69 Dia. of Crank shaft journals as per rule 13.32 Dia. of Crank pin 1 1/2 Size of Crank webs 18 1/2 x 8 Dia. of thrust shaft under collars 1 1/2 Dia. of screw 18.0 Pitch of Screw 16.9 No. of Blades 4 State whether moveable No Total surface 102 sq ft

No. of Feed pumps Two Diameter of ditto 3 1/2 Stroke 20 Can one be overhauled while the other is at work Yes

No. of Bilge pumps Two Diameter of ditto 4 Stroke 20 Can one be overhauled while the other is at work Yes

No. of Donkey Engines Three Sizes of Pumps 9.9-5.6-5 1/2-12 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Two 3 1/2 In Holds, &c. Eight 3 1/2 Tunnel 3 1/2

No. of Bilge Injections Five sizes 6 1/2 Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 3 1/2

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 Both

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 _____ How are they protected _____

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 2/12/14 of Stern Tube 23/12/14 Screw shaft and Propeller 8/1/15

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from 7th Stal from

BOILERS, &c.—(Letter for record R) Manufacturers of Steel J. Chapman & Sons

Total Heating Surface of Boilers 5701 Is Forced Draft fitted No No. and Description of Boilers Two Longitudinal

Working Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 28/11/14 No. of Certificate 3391

Can each boiler be worked separately Yes Area of fire grate in each boiler 66 sq ft No. and Description of Safety Valves to each boiler Two Churny Area of each valve 9.62 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 21 Mean dia. of boilers 17.0 Length 11.0 Material of shell plates Steel

Thickness 1 1/16 Range of tensile strength 29-32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams _____ long. seams all zig-zag Diameter of rivet holes in long. seams 1 1/16 Pitch of rivets 5 1/4 Lap of plates or width of butt straps 19 1/4

Per centages of strength of longitudinal joint rivets 87.6 Working pressure of shell by rules 180 lb Size of manhole in shell 16 x 12 plate 85.0

Size of compensating ring Flanged No. and Description of Furnaces in each boiler 4 Brighton Material Steel Outside diameter 46 1/8

Length of plain part top _____ bottom _____ Thickness of plates crown 9/16 Description of longitudinal joint Welded No. of strengthening rings Compound

Working pressure of furnace by the rules 191 lb Combustion chamber plates: Material Steel Thickness: Sides 10/16 Back 10/16 Top 10/16 Bottom 14/16

Pitch of stays to ditto: Sides 8 1/2 Back 8 1/2 Top 9 1/2 If stays are fitted with nuts or riveted heads Both Working pressure by rules 181 lb

Material of stays Steel Diameter at smallest part 1 1/8 Area supported by each stay 8 1/2 x 8 1/2 Working pressure by rules 211 lb End plates in steam space: Material Steel Thickness 1 1/8 Pitch of stays 23 1/2 x 19 How are stays secured All nuts Working pressure by rules 185 lb Material of stays Steel

Diameter at smallest part 3 1/4 Area supported by each stay 20 1/2 x 19 Working pressure by rules 183 lb Material of Front plates at bottom Steel

Thickness 1 1/16 Material of Lower back plate Steel Thickness 1 1/16 Greatest pitch of stays 15 Working pressure of plate by rules 180 lb

Diameter of tubes 3 1/4 Pitch of tubes 4 1/2 Material of tube plates Steel Thickness: Front 1 Back 12/16 Mean pitch of stays 9

Pitch across wide water spaces 14 1/4 Working pressures by rules 189 lb Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 8 1/4 x 1 1/4 Length as per rule 30 1/2 Distance apart 8 Number and pitch of stays in each Two 9 1/2

Working pressure by rules 180 lb 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 _____

IS A DONKEY BOILER FITTED? *Annul Boiler* If so, is a report now forwarded? *Yes*

SPARE GEAR. State the articles supplied: - *Two top end bolts. Two bottom end bolts. Two main bearing bolts. One set coupling bolts. One set dead pump valves. One set bridge pump valves. One set 150 part in springs. Propeller shaft. Propeller. Bolt nut &c.*

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

Maurice E. Eids Manufacturer.
DIRECTOR

Dates of Survey while building: During progress of work in shops - 1914 July 15-22-23-24 Aug 12-18-19-20-21-24-25-26-27-28-31 Sep 1-2-3-4-7-8-10-11-14-15-16-17-18-20-22-23-24-25-28-29-30 Oct 1-2-5-6-7-8-9-10-12-14-15-16-19-20-21-22-27-28-29-30 Nov 2-3-4-5-6-9-10-11-12-13-16-18-19-20-23-24 25-26-27-28-30 Dec 1-2-4-7-9-21-22-25-24-28-30-31 1915 Jan 4-8-12-18-25-27-28-29 Feb 1-2

Total No. of visits *99* Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts - Cylinders *24/11/14* Slides *24/11/14* Covers *24/11/14* Pistons *24/11/14* Rods *24/11/14*
Connecting rods *24/11/14* Crank shaft *20/11/14* Thrust shaft *20/11/14* Tunnel shafts *8/1/15* Screw shaft *20/11/14* Propeller *23/11/14*
Stern tube *24/11/14* Steam pipes tested *18/27/28/1/15* Engine and boiler seatings *23/12/14* Engines holding down bolts *27/1/15*
Completion of pumping arrangements *29/1/15* Boilers fixed *25/1/15* Engines tried under steam *29/1/15*
Main boiler safety valves adjusted *29/1/15* Thickness of adjusting washers *Annul Steel Bolt 29/1/15 - P23/12-5 4/14 - P14/16 5 10/16*

Material of Crank shaft *Steel* Identification Mark on Do. *5550* Material of Thrust shaft *Steel* Identification Mark on Do. *5550*
Material of Tunnel shafts *Steel* Identification Marks on Do. *5550* Material of Screw shafts *Steel* Identification Marks on Do. *5550*
Material of Steam Pipes *Main Steel Annul Copper* Test pressure *Main boiler Annul 450 lb*
Is an installation fitted for burning oil fuel *Yes* Is the flash point of the oil to be used over 150°F. *Yes*
Have the requirements of Section 49 of the Rules been complied with *Yes*
Is this machinery duplicate of a previous case *Yes* If so, state name of vessel *Yes*

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

Propeller bolts tested to 400 lbs and body to 50 lbs.

The Machinery and Boilers of this Steamer have been constructed under special survey and placed on board in accordance with the Societies Rules. They are now in my opinion in safe working condition and the case is respectfully submitted for the ratification + LMC 2-15 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD + LMC 2.15.

2SB & 1 Aux SB.

J.R.R. J.W.D. 10/5/15

The amount of Entry Fee ... £ 3 : 0 : When applied for, *4/2/15*
Special ... £ 40 : 1 : When received, *10/5/15*
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
Same name
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *FRI. FEB. 12. 1915*
Assigned *+ LMC 2 15*

MACHINERY CERTIFICATE WRITER



WEST HARTLEPOOL

The signatures are requested not to write on or below the space for the Committee's Minute.

Date of writing
No. in S
Reg. Book.
Master
Engines made
Boilers made
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Boilers
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safety valves
Are they fitte
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Lap of plate
rules 182
boiler 182
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plates: Mate
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