

REPORT ON MACHINERY.

No. 27071

Date of writing Report 2-1-1914 When handed in at Local Office 7-1-1914 Port of Hull Received at London Office 11-1-1914
 No. in Survey held at Hull Date, First Survey Apr 2/13. Last Survey Jan 2 1914
 Reg. Book. 35 on the steel screw steamer Dalegarth Force (Number of Visits 62) Gross 684
 Master Built at Dundee By whom built Dundee J B Co Ltd Tons Net 305
 Engines made at Hull By whom made Earle's Co Ltd when made 1914-1
 Boilers made at Hull By whom made Earle's Co Ltd when made 1914-1
 Registered Horse Power Owners W. J. Kennnagh Port belonging to Whitehaven
 Nom. Horse Power as per Section 28 104 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders Three No. of Cranks 3
 Dia. of Cylinders 14½"-24½"-40" Length of Stroke 27" Revs. per minute 90 Dia. of Screw shaft as per rule 8.4" Material of screw shaft steel
 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 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 If two
 liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 2-11½"
 Dia. of Tunnel shaft as per rule 7.38 Dia. of Crank shaft journals as per rule 7.69 Dia. of Crank pin 7½" Size of Crank webs 15½"x5½" Dia. of thrust shaft under
 collars 7½" Dia. of screw 10-6" Pitch of Screw 14-0" No. of Blades 4 State whether moveable no Total surface 406
 No. of Feed pumps two Diameter of ditto 2¼" Stroke 18" Can one be overhauled while the other is at work yes
 No. of Bilge pumps two Diameter of ditto 2¼" Stroke 18" Can one be overhauled while the other is at work yes
 No. of Donkey Engines Two dup. Sizes of Pumps 6.82 6.84 6.4 6.4 6.4 6.4 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Two 2" dia. In Holds, &c. Two 2" dia.

No. of Bilge Injections one sizes 3½" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size yes 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 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 Forward suction How are they protected with 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 9-12-13 of Stern Tube 9-12-13 Screw shaft and Propeller 9-12-13
 Is the Screw Shaft Tunnel watertight none Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Phoenix Abtts Hinder Verein Hinder
 Total Heating Surface of Boilers 1810 # Is Forced Draft fitted no No. and Description of Boilers one single ended
 Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 5-11-13 No. of Certificate 2031
 Can each boiler be worked separately Area of fire grate in each boiler 54 # No. and Description of Safety Valves to
 each boiler two spring loaded Area of each valve 5.94 # 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 4-0" Mean dia. of boilers 168" Length 10-6" Material of shell plates S
 Thickness 1½" Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double
 long. seams Y R & B Diameter of rivet holes in long. seams 1¼" Pitch of rivets 8½" Lap of plates or width of butt straps 18½"
 Per centages of strength of longitudinal joint rivets 91.6 Working pressure of shell by rules 180 Size of manhole in shell 12"x16"
 Size of compensating ring 8"x15/32 No. and Description of Furnaces in each boiler Three plain Material steel Outside diameter 40 9/16"
 Length of plain part top 8.1" Thickness of plates crown 7/32 Description of longitudinal joint welded No. of strengthening rings
 bottom 7.3" Working pressure of furnace by the rules 189 Combustion chamber plates: Material S Thickness: Sides 23/32 Back 23/32 Top 23/32 Bottom 23/32
 Pitch of stays to ditto: Sides 1¼"x7½" Back 10¾"x9" Top 10¼"x9½" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 182
 Material of stays S Area Diameter at smallest part 2.07" Area supported by each stay 97.8" Working pressure by rules 191 End plates in steam space:
 Material S Thickness 15/32 Pitch of stays 19"x17" How are stays secured 8.72 Working pressure by rules 184 Material of stays S
 Diameter at smallest part 6.23" Area supported by each stay 323 # Working pressure by rules 200 Material of Front plates at bottom S
 Thickness 15/16 Material of Lower back plate S Thickness 7/8 Greatest pitch of stays 13½"x9" Working pressure of plate by rules 201
 Diameter of tubes 3½" Pitch of tubes 4 7/8"x4 3/4" Material of tube plates S Thickness: Front 15/16 Back 13/16 Mean pitch of stays 9¾"
 Pitch across wide water spaces 13½" Working pressures by rules 185 lbs. Girders to Chamber tops: Material S Depth and
 thickness of girder at centre 9"x1½" Length as per rule 32 5/32 Distance apart 9½" Number and pitch of stays in each Two 10¼"
 Working pressure by rules 194 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? *yes*If so, is a report now forwarded? *yes*

SPARE GEAR. State the articles supplied:—

Two top end bolts & nuts; two bottom end bolts & nuts; two main bearing bolts & nuts; one set of coupling bolts & nuts; one set of air, circulating, feed & bilge pump valves; one set of donkey pump valves; one main & one donkey feed check valves; one safety valve spring; 6 boiler tubes; 6 junk ring studs & nuts; 3 condenser tubes & 20 ferrules; one spare propeller & a quantity of iron bolts & nuts of various sizes.

The foregoing is a correct description,

SHIPBUILDING & ENGINEERING CO. LIMITED.

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 1913: Apr 2, 11, 15, 24, May 2, 5, 8, 16, 20, 22, 23, 26, 27, Jun 5, 7, 10, 25, 28, Jul 4, 9, 14, 17, 21, 30, Aug 1, 18, 19, 28, 29, Sep 3, 4, 8, 10, 12, 17, 20, Oct 1, 4, 8, 15, 16, 21, 22, 24, 25, 29, Nov 1, 3, 5, 6, 11, 14, Dec 3, 4, 8, 9, 10, 12, 15, 17, 20, Jan 12.

During erection on board vessel -- } Total No. of visits *62*

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

" " " donkey " " " *SH Rpt 14129*

Dates of Examination of principal parts—Cylinders *20-9-13* Slides *1-11-13* Covers *20-9-13* Pistons *10-6-13* Rods *4-10-13*

Connecting rods *29-10-13* Crank shaft *7-6-13* Thrust shaft *21-10-13* Tunnel shafts ✓ Screw shaft *21-10-13* Propeller *21-10-13*

Stern tube *14-11-13* Steam pipes tested *15-12-13* Engine and boiler seatings *9-12-13* Engines holding down bolts *15-12-13*

Completion of pumping arrangements *20-12-13* Boilers fixed *15-12-13* Engines tried under steam *20-12-13*

Main boiler safety valves adjusted *20-12-13* Thickness of adjusting washers *10 7/16 S 9/32*

Material of Crank shaft *Steel* Identification Mark on Do. *1017 FLS* Material of Thrust shaft *steel* Identification Mark on Do. *1495 D F.C.*

Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts *steel* Identification Marks on Do. *1495 D F.C.*

Material of Steam Pipes *Solid drawn copper* ✓ Test pressure *400 lbs.* ✓

Is an installation fitted for burning oil fuel *no* Is the flash point of the oil to be used over 150° F. ✓

Have the requirements of Section 49 of the Rules been complied with? ✓

Is this machinery duplicate of a previous case? *no* If so, state name of vessel? ✓

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

The Machinery of this vessel has been constructed under special survey in accordance with the approved plans & the rules of this Society. The materials & workmanship are good. The Boiler & steam pipes have been tested as above & found sound & tight. The Engines & Boilers have been properly fitted & secured on board & on completion were tested under steam & found satisfactory. The Safety valves have been adjusted & tested for accumulation which did not exceed 190 lbs.

In my opinion the vessel is eligible for the record + L.M.C. 1.14

It is submitted that
this vessel is eligible for
THE RECORD + L.M.C. 1.14.

The amount of Entry Fee ... £ *2* : 0 :
Special ... £ *15* : 12 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, *7-1-1914*
When received, *12-1-1914*

FRI. JAN. 9 - 1914

Committee's Minute

Assigned

+ L.M.C. 1.14

MACHINERY CERTIFICATE
WRITTEN.

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



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Lloyd's Register
Foundation

Date of writing Report

No. in Survey
Reg. Book.
on the

Master

Boiler made at

Owners *W. J.*

VERTICAL

Made at *Swindon*

tested by hydraulic

No. of safety valves

enter the donkey b

strength *28-32*

Lap of plating

Radius of do. *4*

Thickness of jurr

plates *7*

Thickness of wa

Dates of Survey while building
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