

REPORT ON MACHINERY.

No. 11466

Received at London Office MON. 13 SEP. 1915

of writing Report 10. 9. 1915 When handed in at Local Office 10. 9. 1915 Port of Aberdeen
 in Survey held at Aberdeen Date, First Survey 12. 1. 1915 Last Survey 10. 9. 1915
 g. Book. on the S. S. "W. MORRISON" (Number of Visits 44) Gross 211.88
 Tons Net 48.11
 Built at Aberdeen By whom built A Hall & Co. Ltd. No 516 When built 1915
 Engines made at Aberdeen By whom made A Hall & Co. Ltd. No 216 when made 1915
 Silers made at do By whom made do do do do when made 1915
 Registered Horse Power 69 Owners Aberdeen Pioneer & Fishing Co. Ltd. Port belonging to Aberdeen
 m. Horse Power as per Section 28 47 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

GINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3
 as per rule 6.83 Material of Steel
 as fitted 4 1/2" screw shaft
 No. of Cylinders 12" 20" 34" Length of Stroke 23" Revs. per minute 110 Dia. of Screw shaft 6 1/2"
 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 length 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 no space If two
 liners are fitted, is the shaft lapped or protected between the liners yes Length of stern bush 2' 6"
 Dia. of Tunnel shaft 6 1/2" as per rule 6.23 Dia. of Crank shaft journals 6 1/2" as fitted 6 1/2" Dia. of Crank pin 6 3/4" Size of Crank webs 10 1/2" x 4 1/2" Dia. of thrust shaft under
 rollers 6 1/2" Dia. of screw 8' 3" Pitch of Screw 11' 3" No. of Blades 4 State whether moveable No Total surface 29.67
 No. of Feed pumps 1 Diameter of ditto 2 1/2" Stroke 11" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 1 Diameter of ditto 2 1/2" Stroke 11" Can one be overhauled while the other is at work yes
 No. of Donkey Engines one Sizes of Pumps 5 1/2" x 3 1/2" x 5" duplex No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room one of 2" In Holds, &c. Lishhold & Shishwell one each of 2"
 Also ejector drawing from all parts, and with separate suction to engine room 2" dia
 No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump C.P. 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 Suction from Lishhold, Shishwell, F. Wharke How are they protected strong 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 9. 8. 15 of Stern Tube 9. 8. 15 Screw shaft and Propeller 12. 8. 15

Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door worked from
 OILERS, &c.—(Letter for record (3)) Manufacturers of Steel Holls & Co. Ltd. The Lanarkshire S. Co. Ltd.

Total Heating Surface of Boilers 12304 Is Forced Draft fitted No No. and Description of Boilers One, cyl. mult. single ended
 Working Pressure 180 lbs. Tested by hydraulic pressure to 360 Date of test 25. 6. 15 No. of Certificate 844
 Can each boiler be worked separately yes Area of fire grate in each boiler 44.7 No. and Description of Safety Valves to
 each boiler 2: direct spring Area of each valve 4.91 Pressure to which they are adjusted 180 lbs. Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork about 4" Mean dia. of boilers 12' 6" Length 10' 3" Material of shell plates S
 Thickness 1 1/2" Range of tensile strength 28-32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams d. r. lap
 long. seams d. r. straps Diameter of rivet holes in long. seams 1 1/4 Pitch of rivets 8 1/4" 4 1/2" Lap of plates or width of butt straps 18" x 1 1/2"
 Per centages of strength of longitudinal joint rivets 85.2 Working pressure of shell by rules 180 Size of manhole in shell 16" x 12"
 Size of compensating ring McNeil 2R No. and Description of Furnaces in each boiler 3: plain Material S Outside diameter 40 1/2"
 Length of plain part top 45" Thickness of plates crown 5/16" Description of longitudinal joint weld No. of strengthening rings 3 1/2" x 3 1/2" x 3 1/2"
 bottom 45" Thickness of plates bottom 5/16" Back 11/16" Top 11/16" Bottom 3/16"
 Working pressure of furnace by the rules 180 Combustion chamber plates: Material S Thickness: Sides 3/16" Back 11/16" Top 11/16" Bottom 3/16"
 Pitch of stays to ditto: Sides 9' x 9" Back 9 1/2' x 9" Top 10' x 9" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 180 End plates in steam space:
 Material of stays S Diameter at smallest part 1 1/8" Area supported by each stay 84 1/2" Working pressure by rules 211 Material of stays S
 Material S Thickness 1 1/4" Pitch of stays 21 3/4" x 14" How are stays secured d. r. nuts Working pressure by rules 180 1/4 Material of stays S
 Diameter at smallest part 3 1/2" Area supported by each stay 340" Working pressure by rules 203 Material of Front plates at bottom S
 Thickness 1 1/2" Material of Lower back plate S Thickness 1 1/2" Greatest pitch of stays 14" x 1 1/2" Working pressure of plate by rules 180
 Diameter of tubes 3 1/2" Pitch of tubes 4 1/4" x 4 1/2" Material of tube plates S Thickness: Front 1 1/2" Back 3/4" Mean pitch of stays 9 3/8"
 Pitch across wide water spaces 14 1/2" Working pressures by rules B. 229 Girders to Chamber tops: Material S Depth and
 thickness of girder at centre 8 3/4" x 1 1/2" Length as per rule 30 1/2" Distance apart 10" Number and pitch of stays in each tier: 9"
 Working pressure by rules 180 Superheater or Steam chest: how connected to boiler None Can the superheater be shut off and the boiler worked
 separately yes Diameter yes Length yes Thickness of shell plates yes Material yes Description of longitudinal joint yes Diam. of rivet
 holes yes Pitch of rivets yes Working pressure of shell by rules yes Diameter of flue yes Material of flue plates yes Thickness yes
 If stiffened with rings yes Distance between rings yes Working pressure by rules yes End plates: Thickness yes How stayed yes
 Working pressure of end plates yes Area of safety valves to superheater yes Are they fitted with easing gear yes

IS A DONKEY BOILER FITTED? *No.*

If so, is a report now forwarded? ☒

SPARE GEAR. State the articles supplied:— *Two top & 2 bottom end bolts & nuts; 2 main bearing, and 1 set coupling bolts & nuts; 1 set each, Air, Circulating, Feed & Bilge pump valves; 1 each, main & donkey Check valve; bolts & nuts assorted, & iron of various sizes.*

The foregoing is a correct description,
FORN & CO. LTD

P. J. Emble SECRETARY

Manufacturers of main engines & Boilers.

1915
Dates of Survey while building { During progress of work in shops -- } *Jan. 12, Mar. 14, 24, 30, Apr. 1, 6, 13, 15, 19, 22, 28, 30, May 6, 11, 12, 14, 19, 25, 29, 31, June 3, 4, 9, 18, 21, 25*
{ During erection on board vessel -- } *July 2, 6, 7, 16, 23, 24, Aug. 4, 6, 9, 10, 11, 12, 16, 18, 24, 27, Sept. 6, 10*
Total No. of visits *44*

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

Dates of Examination of principal parts—Cylinders *13 24 26 28 30 31* Slides *25 26 27* Covers *26 27* Pistons *30 31 32 33* Rods *30 31 32 33*
Connecting rods *30 31 32 33* Crank shaft *24 25 26* Thrust shaft *24* Tunnel shafts *26 27* Screw shaft *26 27* Propeller *26 27*
Stern tube *26* Steam pipes tested *18 8 15* Engine and boiler seatings *18 12 18* Engines holding down bolts *16 18*
Completion of pumping arrangements *18 8 15* Boilers fired *16 8 15* Engines tried under steam *24 8 15*
Main boiler safety valves adjusted *24 8 15* Thickness of adjusting washers *PV 1/32 SV 1/32 full*
Material of Crank shaft *IS* Identification Mark on Do. *563M (DUN)* Material of Thrust shaft *S* Identification Mark on Do. *945A*
Material of Tunnel shafts *S* Identification Marks on Do. *954A* Material of Screw shafts *S* Identification Marks on Do. *4007 (LTH)*
Material of Steam Pipes *Copper, solid drawn 3 1/2" bore No 6 B, 108* Test pressure *360 lbs per sq in*
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 *yes* If so, state name of vessel *"Robert Smith" Rpl No 11453*

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

These engines, and the boiler, have been constructed under special survey, and in accordance with the Secretary's letter, the Rules, and approved plan. The materials and workmanship are good. When completed and properly fitted on board, they were tried under steam at Moorings, with satisfactory results, and are now in good working order, and in our opinion entitled to the record.
** L.M.C. 9.15 in the Register Book.*

It is submitted that
this vessel is eligible for
THE RECORD, + L.M.C. 9.15.

The amount of Entry Fee ... £ *1* : When applied for, *10.9.15*
Special ... £ *10* : *13*
Donkey Boiler Fee ... £ *1* :
Travelling Expenses (if any) £ *2* : When received, *21.10.15*

Committee's Minute *TUE. SEP. 14 1915*

Assigned

+ L.M.C. 9.15

MACHINERY CERTIFICATE
GRANTED



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Foundation