

REPORT ON MACHINERY

No. 11850.
MON. 14. AUG. 1916

Received at London Office

Date of writing Report 12. 8. 1916 When handed in at Local Office 12. 8. 1916 Port of Aberdeen

No. in Survey held at Aberdeen Date, First Survey 13. 12. 15. Last Survey 28. 4. 1916
 Reg. Book. _____ (Number of Voids 28.)

on the S.S. "BEN BREAC" Tons } Gross 234.69
 } Net 101.81

Master Built at Aberdeen By whom built Hall Russell & Co. Ltd. No. 584. When built 1916.

Engines made at Aberdeen By whom made Hall Russell & Co. Ltd. No. 584. when made 1916.

Boilers made at do. By whom made do do do. when made 1916.

Registered Horse Power 48. Owners R. Irwin & Sons Ltd. Port belonging to Aberdeen

Nom. Horse Power as per Section 28 48. Is Refrigerating Machinery fitted for cargo purposes no. Is Electric Light fitted no.

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3. No. of Cranks 3.

Dia. of Cylinders 12", 20", 34" Length of Stroke 24" Revs. per minute 115. Dia. of Screw shaft as per rule 6.911" Material of screw shaft as fitted 4 1/2" Occasion.

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 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 yes. If two liners are fitted, is the shaft lapped or protected between the liners _____ Length of stern bush 2' 6"

Dia. of Tunnel shaft as per rule 6.210" Dia. of Crank shaft journals as per rule 6.52" Dia. of Crank pin 6 3/4" Size of Crank webs 10" x 4 1/2" Dia. of thrust shaft under collars 6 3/4" Dia. of screw 8' 4" Pitch of Screw 11" 6" No. of Blades 4. State whether moceable no. Total surface 32.7"

No. of Feed pumps 2. Diameter of ditto 2 3/8" Stroke 12" Can one be overhauled while the other is at work yes.

No. of Bilge pumps 2. Diameter of ditto 2 3/8" Stroke 12" Can one be overhauled while the other is at work yes.

No. of Donkey Engines 2. Sizes of Pumps 1 1/2" x 3 1/2" x 6" duplex. No. and size of Suctions connected to both Bilge and Donkey pumps _____

In Engine Room one of 2" In Holds, &c. Flushwell in Fishhold one 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 Lines from Flushwell & F.W. Tank 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 10. 4. 16 of Stern Tube 10. 4. 16. Screw shaft and Propeller 10. 4. 16.

Is the Screw Shaft Tunnel watertight None. Is it fitted with a watertight door _____ worked from _____

BOILERS, &c.—(Letter for record (7).) Manufacturers of Steel W. Beardmore & Co. Ltd. - Stewarts & Lloyds Ltd.

Total Heating Surface of Boilers 14297 Is Forced Draft fitted no. No. and Description of Boilers one single ended.

Working Pressure 180 lbs. Tested by hydraulic pressure to 360. Date of test 18. 4. 16 No. of Certificate 880.

Can each boiler be worked separately Area of fire grate in each boiler 48.7 No. and Description of Safety Valves to each boiler 2: direct spring Area of each valve 5.94 Pressure to which they are adjusted 185. Are they fitted with easing gear yes.

Smallest distance between boilers or uptakes and bunkers or woodwork about 4" Mean dia. of boilers 12' 9" Length 10' 9" Material of shell plates S.

Thickness 1 1/8" Range of tensile strength 28-32 Are the shell plates welded or flanged no. Descrip. of riveting: cir. seams d. n. lap long. seams all straps Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 8" 4" Lap of plates or width of butt straps 16 3/8" x out 13"

Per centages of strength of longitudinal joint rivets 86.9 Working pressure of shell by rules 185. Size of manhole in shell 16" x 12" plate 85.9

Size of compensating ring 28" dia x 1 1/8" No. and Description of Furnaces in each boiler 3. plain Material S. Outside diameter 40"

Length of plain part top 82 1/2" Thickness of plates crown 1 1/4" bottom 5/8" Description of longitudinal joint weld. No. of strengthening rings 3 1/2" x 3 1/2"

Working pressure of furnace by the rules 188. Combustion chamber plates: Material S. Thickness: Sides 5" Back 5" Top 5" Bottom 5"

Pitch of stays to ditto: Sides 9' x 8" Back 9' x 8" Top 9' x 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 186.

Material of stays S. Diameter at smallest part 1 9/16" Area supported by each stay 42 Working pressure by rules 200. End plates in steam space: Material S. Thickness 1 1/8" Pitch of stays 18" x 18" How are stays secured d. n. l. w. Working pressure by rules 185. Material of stays S.

Diameter at smallest part 2 1/16" Area supported by each stay 324 Working pressure by rules 199. Material of Front plates at bottom S.

Thickness 1" Material of Lower back plate S. Thickness 1 1/8" Greatest pitch of stays 14 1/2" x 9" Working pressure of plate by rules 213.

Diameter of tubes 3 1/2" ex. Pitch of tubes 4 3/4" x 4 3/4" Material of tube plates S. Thickness: Front 1" Back 3/8" Mean pitch of stays 11 3/8"

Pitch across wide water spaces 14 1/2" Working pressures by rules B. 180.9 Girders to Chamber tops: Material S. Depth and thickness of girder at centre 8 3/8" x 1 3/4" Length as per rule 32 1/2" Distance apart 9" Number and pitch of stays in each three: 8"

Working pressure by rules 182.0 Superheater or Steam chest, how connected to boiler None. 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

