

REPORT ON MACHINERY.

No. 12280.

Received at London Office 26 SEP 1919

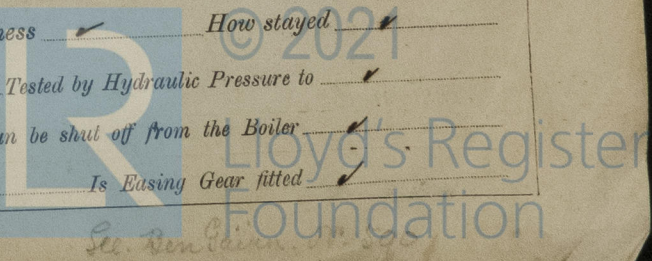
Date of writing Report 19 When handed in at Local Office 24. 9. 1919 Port of Aberdeen
 Date, First Survey 16. 1. 19 Last Survey 29. 8. 1919
 No. in Survey held at Aberdeen (Number of Visits 44.)
 Reg. Book. on the single pc. "BEN HEILEM." Tons Gross 224.09
 Master Wm Cowling Built at Aberdeen By whom built Hall Russell & Co Ltd. No. 600 When built 1919
 Engines made at Aberdeen By whom made Hall Russell & Co Ltd. No. 600 when made 1919
 Boilers made at do By whom made do do do when made 1919
 Registered Horse Power 48. Owners R. Irvin & 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 scrap
 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
 on 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 yes 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 10x12 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 moveable no Total surface 32.4
 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 2 1/2" x 3 1/2" x 5" duplex No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room one of 2" In Holds, &c. Reserve pumps one of 2" Slushwell in dishhold one of 2"
Also ejector, drawing from all parts, and with separate suction from 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 valves & cocks
 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 Suctions from Bunker, Slushwell & 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
 Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door yes worked from yes

BOILERS, &c.—(Letter for record (7)) Manufacturers of Steel W. Beardmore & Co Ltd.
 Total Heating Surface of Boilers 1429 sq ft 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 19. 6. 19 No. of Certificate 942
 Can each boiler be worked separately yes Area of fire grate in each boiler 48 sq ft No. and Description of Safety Valves to
 each boiler 2: direct spring Area of each valve 5.94 sq in 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 about 4" Inside Mean dia. of boilers 12' 9" Length 10' 9" 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. & lap
 long. seams double straps Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 8" 4" Lap of plates on width of butt straps 16 1/2" x 1 1/2"
 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 No. and Description of Furnaces in each boiler 3: plain Material S Outside diameter 40" 1 angle
 Length of plain part top 82 1/2" Thickness of plates crown 1 1/2" Description of longitudinal joint weld No. of strengthening rings 3 1/2 x 5 1/4"
 bottom 82 1/2" Thickness: Sides 5" Back 5" Top 5" Bottom 5"
 Working pressure of furnace by the rules 183.9 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 Area at smallest part 1.92 sq ft Area supported by each stay 42 sq ft Working pressure by rules 200. End plates in steam space:
 Material S Thickness 1 1/2" Pitch of stays 18' x 18" How are stays secured d. & riv Working pressure by rules 185. Material of stays S
 Area at smallest part 6.22 sq ft Area supported by each stay 324 sq ft Working pressure by rules 199. Material of Front plates at bottom S
 Thickness 1" Material of Lower back plate S Thickness 1 1/2" Greatest pitch of stays 14 1/2" x 9" Working pressure of plate by rules 215.
 Diameter of tubes 3 1/2" ext. Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates S Thickness: Front 1" Back 3/2" Mean pitch of stays 11 1/8"
 Pitch across wide water spaces 14 1/2" Working pressures by rules F. 182.6 B. 180.9 Girders to Chamber tops: Material S Depth and
 thickness of girder at centre 8 1/2" x 13 1/4" Length as per rule 32 1/2" Distance apart 9" Number and pitch of stays in each three: 8"
 Working pressure by rules 182.5 Steam dome: description of joint to shell Stone % of strength of joint yes
 Diameter 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 Crown plates yes Thickness yes How stayed yes
 Tested by Hydraulic Pressure to yes

SUPERHEATER. Type Stone Date of Approval of Plan yes Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler yes
 Date of Test yes Is Easing Gear fitted yes
 Diameter of Safety Valve yes Pressure to which each is adjusted yes

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IS A DONKEY BOILER FITTED? *No.*

If so, is a report now forwarded? *✓*

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

The foregoing is a correct description,

A. Hall Wilson

Manufacturers of Main Engines & Boilers.

Dates of Survey while building { During progress of work in shops -- *Jan 16, 23, 30 - Feb 5 - Mar 5, 6, 14, 21, 26, 28 - Apr 14, 16, 24, 30 - May 9, 14, 20, 22, 28, 29, 31 -*
During erection on board vessel -- *June 3, 5, 11, 14, 18, 19, 23, 25, 26 - July 3, 15, 28 - Aug 1, 6, 7, 11, 14, 15, 18, 20, 21, 24, 29 -*
Total No. of visits *14 1/2* Is the approved plan of main boiler forwarded herewith *yes*

Dates of Examination of principal parts—Cylinders *26.6.19* Slides *26.6.19* Covers *28.4.19* Pistons *28.4.19* Rods *28.4.19*
Connecting rods *28.4.19* Crank shaft *18.6.19* Thrust shaft *18.6.19* Tunnel shafts *18.6.19* Screw shaft *18.6.19* Propeller *25.6.19*
Stern tube *23.6.19* Steam pipes tested *4.8.19* Engine and boiler seatings *18.4.19* Engines holding down bolts *6.8.19*
Completion of pumping arrangements *14.8.19* Boilers fixed *6.8.19* Engines tried under steam *14.8.19*
Completion of fitting sea connections *3.4.19* Stern tube *26.6.19* Screw shaft and propeller *3.4.19*
Main boiler safety valves adjusted *14.8.19* Thickness of adjusting washers *Port 3/32" Starboard 3/4"*
Material of Crank shaft *Iron* Identification Mark on Do. *1261A* Material of Thrust shaft *Steel* Identification Mark on Do. *1262A*
Material of Tunnel shafts *Iron* Identification Marks on Do. *1263A* Material of Screw shafts *Iron* Identification Marks on Do. *1264A*
Material of Steam Pipes *Copper, solid drawn, 5 1/2" bore No. 4. 309* Test pressure *360 lbs per sq inch*
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 *"Ben Meidie" Abn St. Rpt No. 11921.*

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 letters, the Rules, and approved plans: 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 order, and in my opinion entitled to the record L.M.C. 8.19. in the Register Book.

It is submitted that this vessel is eligible for THE RECORD + LMC 8.19.

JWD. 30/9/19. JPR

Ridley Howell.
Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ *2* : : When applied for,
Special ... £ *11* : *14* : *23.9.1919*
Donkey Boiler Fee ... £ : : When received,
Travelling Expenses (if any) £ : : *3/10/19*

Committee's Minute

Assigned

FRI. 3-OCT-1919

+ LMC 8.19

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