

FRI. JUL. 23. 1915

Date of writing Report 21 July 1915. Ship's Name *SS Bearfront* at Lloyd's OfficePort of *NEWCASTLE-ON-TYNE*No. in Survey held at *Newcastle*
Reg. Book *121*Date, First Survey *Dec. 4, 1914* Last Survey *July 6, 1915*Machinery of the *SS Bearfront* (Number of Vents *35*) Gross *1720*
Tons *913*Master *Caalen* Built at *Newcastle* By whom built *W. Dobson & Co* When built *1915*Engines made at *Newcastle* By whom made *North Eastern Marine Eng. Co* When made *1915*Boilers made at *Newcastle* By whom made *North Eastern Marine Eng. Co* When made *1915*Registered Horse Power *287* Owners *J. Ridley Son & Co* Port belonging to *N. Shields*Nom. Horse Power as per Section 28 *287* Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *Yes*

ENGINES, &c.—Description of Engines

No. of Cylinders *3* No. of Cranks *3*Dia. of Cylinders *22", 36", 60"* Length of Stroke *39"* Revs. per minute *85* Dia. of Screw shaft *12.65"* Material of *Iron*
as per rule *12.65"* as fitted *12.65"* screw shaftsIs 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 *Yes* Length of stern bush *4'-5"*Dia. of Tunnel shaft *10.86"* Dia. of Crank shaft journals *11.43"* Dia. of Crank pin *11.42"* Size of Crank webs *3 1/4" x 7"* Dia. of thrust shaft under
collars *11 1/2"* Dia. of screw *14'-6"* Pitch of Screw *14'-6"* No. of Blades *4* State whether moveable *No* Total surface *63 sq ft*No. of Feed pumps *2* Diameter of ditto *3 1/4"* Stroke *24"* Can one be overhauled while the other is at work *Yes*No. of Bilge pumps *2* Diameter of ditto *3 1/4"* Stroke *24"* Can one be overhauled while the other is at work *Yes*No. of Donkey Engines *2* Sizes of Pumps *11 x 13 x 12" & 7 1/2 x 5 x 15"* No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room *3 of 2 1/2"* In Holds, &c. *2 of 2 1/2" in each hold**4 of 2 1/4" in tunnel well*No. of Bilge Injections *1* size *6"* Connected to condenser, or to circulating pump *Yes* Is a separate Donkey Suction fitted in Engine room & size *Yes 2 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 *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 *none* How are they protected *Yes*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 *31/3/15* of Stern Tube *31/3/15* Screw shaft and Propeller *7/4/15*Is the Screw Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from *Top platform*BOILERS, &c.—(Letter for record *S*) Manufacturers of Steel *J. & S. Spencer & Sons*Total Heating Surface of Boilers *5018* Is Forced Draft fitted *no* No. and Description of Boilers *2 Single-ended*Working Pressure *180 lbs* Tested by hydraulic pressure to *360 lbs* Date of test *29/3/15* No. of Certificate *8772*Can each boiler be worked separately *Yes* Area of fire grate in each boiler *66.6 sq ft* No. and Description of Safety Valves toeach boiler *2 direct spring* Area of each valve *8.29 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 *2'-3"* Mean dia. of boilers *16'-3 1/4"* Length *10'-6"* Material of shell plates *Steel*Thickness *1/32* Range of tensile strength *28 3/4 - 32 tons* Are the shell plates welded or flanged *no* Descrip. of riveting: cir. seams *d.r. lap*long. seams *2 r.d. butt* Diameter of rivet holes in long. seams *1 5/16"* Pitch of rivets *9 1/4"* Lap of plates or width of butt straps *19 1/4"*Per centages of strength of longitudinal joint: rivets *84.9* Working pressure of shell by rules *182 lbs* Size of manhole in shell *16" x 12"*Size of compensating ring *flanged* No. and Description of Furnaces in each boiler *4 plain* Material *Steel* Outside diameter *41 1/2"*Length of plain part: top *7 1/4"* Thickness of plates: crown *3/4"* Description of longitudinal joint *welded* No. of strengthening rings *15 1/2"*bottom *6 1/4"* bottom *3/4"* Working pressure of furnace by the rules *184 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *2 3/32"* Back *2 3/32"* Top *2 3/32"* Bottom *1 5/16"*Pitch of stays to ditto: Sides *10 1/2" x 9 3/8"* Back *10 1/4" x 9 3/8"* Top *10 1/2" x 9 3/8"* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *180.5 lbs*Material of stays *Steel* Diameter at smallest part *2.03"* Area supported by each stay *99.2* Working pressure by rules *184.5 lbs* and plates in steam space:Material *Steel* Thickness *1 1/2"* Pitch of stays *24" x 24 3/4"* How are stays secured *d.n.s.w.* Working pressure by rules *180 lbs* Material of stays *Steel*Diameter at smallest part *11.04"* Area supported by each stay *594* Working pressure by rules *194 lbs* Material of Front plates at bottom *Steel*Thickness *1"* Material of Lower back plate *Steel* Thickness *1 1/16"* Greatest pitch of stays *14 1/2" x 10 1/4"* Working pressure of plate by rules *193 lbs*Diameter of tubes *3 1/4"* Pitch of tubes *4 1/2" x 4 3/4"* Material of tube plates *Steel* Thickness: Front *1"* Back *3/4"* Mean pitch of stays *9 1/4"*Pitch across wide water spaces *14 1/2"* Working pressures by rules *182 lbs* Girders to Chamber tops: Material *Steel* Depth andthickness of girder at centre *8 3/4" x 1 1/2"* Length as per rule *32"* Distance apart *9 3/8"* Number and pitch of stays in each *2 of 10 1/2"*Working pressure by rules *190 lbs* Superheater or Steam chest; how connected to boiler *now* Can the superheater be shut off and the boiler workedseparately *Yes* Diameter *Yes* Length *Yes* Thickness of shell plates *Yes* Material *Yes* Description of longitudinal joint *Yes* Diam. of rivetholes *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?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

2 top end & 2 bottom end bolts, 2 main bearing bolts, 1 set of coupling bolts, 1 set of feed & bilge pump valves, H.P. piston spring, a quantity of assorted bolts nuts & iron, spare propeller & minor details.

The foregoing is a correct description,
NORTH EASTERN MARINE ENGINEERING Co., LTD.

S. T. Harrison

Manufacturer.

Dates of Survey while building	During progress of work in shops - -	Dec. 4, 7, 18, 28, 29, Jan. 8, 12, 14, 18, 26, 27, 29, Feb. 3, 5, 22, 23, Mar. 5, 10, 11, 12, 16, 17, 19, 25, 29, 31, Apr. 2, 9
	During erection on board vessel - - -	May 31, Jun. 5, 17, 30, Jul. 1, 6
	Total No. of visits	35
	Is the approved plan of main boiler forwarded herewith	

Is the approved plan of main boiler forwarded herewith.

donkey

Dates of Examination of principal parts—Cylinders 12/3/15 Slides 31/3/15 Covers 12/3/15 Pistons 27/1/15 Rods 8/1/15
Connecting rods 8/1/15 Crank shaft 14/1/15 Thrust shaft 22/2/15 Tunnel shafts 28/12/14 Screw shaft 18/1/15 Propeller 13/2/15
Stern tube 17/3/15 Steam pipes tested 1/4/15 Engine and boiler seatings 31/3/15 Engines holding down bolts 30/6/15
Completion of pumping arrangements 6/7/15 Boilers fixed 30/6/15 Engines tried under steam 6/7/15
Main boiler safety valves adjusted 6/7/15 Thickness of adjusting washers P.F. $\frac{15}{32}$ " A $\frac{7}{16}$ " S.F. $\frac{1}{2}$ " A $\frac{9}{32}$ "
Material of Crank shaft Steel Identification Mark on Do. 22/2/15 Material of Thrust shaft Steel Identification Mark on Do. 22/2/15
Material of Tunnel shafts Iron Identification Marks on Do. 29/12/14 Material of Screw shafts Iron Identification Marks on Do. 5/2/15
Material of Steam Pipes Solid drawn copper Test pressure 360 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 built under special survey, the materials used are good and the workmanship is satisfactory, it has been properly fitted on board and secured and the engines have been tried under full power.

In my opinion this vessel is eligible for the record of L. M. C. 7, 15.

It is submitted that
this vessel is eligible for
THE RECORD + LMC 7. 15

The amount of Entry Fee	...	£	2	When applied for,
Special	...	£	34.11	JUL 19 1915
Donkey Boiler Fee	...	£		Then received,
Travelling Expenses (if any)	£		23/11	1915

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

Committee's Minute ~~TUE JUL 27 1915~~

Assigned

MACHINERY CENTER
UNITED

Lloyd's Register
Foundation