

REPORT ON MACHINERY.

No. 12499a

Received at London Office FRI. 16 SEP. 1921

Date of writing Report 19 When handed in at Local Office 15.9.1921. Port of Aberdeen

No. in Survey held at Aberdeen Date, First Survey 24.1.20 Last Survey 14.9.1921
 Reg. Book. on the steel single "SCOTSTOUN HEAD". (Number of Visits 59.)

Master Built at Aberdeen By whom built A Hall & Co. Ld. No. 583. When built 1921. Tons { Gross 437.59
 Net 141.06

Engines made at Aberdeen By whom made A Hall & Co. Ld. No. 276 when made 1921.

Boilers made at do. By whom made A Hall & Co. Ld. No. 266. when made 1921.

Registered Horse Power 82. Owners A. V. Henry & Macgregor Ld. Port belonging to Leith

Nom. Horse Power as per Section 28 82. 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 13", 2 1/2", 35" Length of Stroke 24" Revs. per minute 105. Dia. of Screw shaft as per rule 4.194 Material of screw shaft as fitted 1/2" 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 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' 6 5/16"

Dia. of Tunnel shaft as per rule 6.574 Dia. of Crank shaft journals as per rule 6.843 Dia. of Crank pin 6 1/2" Size of Crank webs 10 3/4" x 4 1/2" Dia. of thrust shaft under collars 6 Dia. of screw 8" 1/2" Pitch of Screw 12" No. of Blades 4 State whether moveable no Total surface 28' 0"

No. of Feed pumps 2. Diameter of ditto 2 1/2" Stroke 11" Can one be overhauled while the other is at work yes.

No. of Bilge pumps 2. Diameter of ditto 2 1/2" Stroke 11" Can one be overhauled while the other is at work yes.

No. of Donkey Engines Two. Sizes of Pumps Feed 6" x 4" x 6" duplex. Ballast 6" x 6" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room one of 2" (aft) - Storehold. one each wing 2" In Holds, &c. one each wing 2"

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 yes.

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 below.

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 Sues from Ballast tanks & F.P.T. 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 worked from

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel David Colville & Sons Ld.

Total Heating Surface of Boilers 1510# Is Forced Draft fitted no. No. and Description of Boilers One Cyl. mult. single ended.

Working Pressure 180 lbs. Tested by hydraulic pressure to 320 lbs. Date of test 22.10.20. No. of Certificate 998.

Can each boiler be worked separately Area of fire grate in each boiler 46# 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 lbs. Are they fitted with easing gear yes.

Smallest distance between boilers or uptakes and bunkers or woodwork no side bunkers. Inside dia. of boilers 13' 0" Length 10' 8" Material of shell plates S.

Thickness 1 1/16" Range of tensile strength 28-32 Are the shell plates welded or flanged no. Descrip. of riveting: cir. seams d. n. lap long. seams dble straps Diameter of rivet holes in long. seams 1 3/16" Pitch of rivets 1 row 8 5/8" 2-4 1/2" Lap of plates or width of butt straps 18" x 1"

Per centages of strength of longitudinal joint rivets 89.8 plate 86.2 Working pressure of shell by rules 182.3 Size of manhole in shell 16" x 12"

Size of compensating ring McNeil. No. and Description of Furnaces in each boiler 3. plain Material S. Outside diameter 40 1/2"

Length of plain part top 44 1/2" Thickness of plates crown 3" Description of longitudinal joint weld. No. of strengthening rings 3 1/2" x 3 1/2" x 3 1/2" bottom 3" 1/4"

Working pressure of furnace by the rules 182. Combustion chamber plates: Material S. Thickness: Sides 7/16" Back 3/32" Top 3/4" Bottom 11/16"

Pitch of stays to ditto: Sides 10" x 9" Back 10" x 9 1/4" Top 10 3/4" x 10" If stays are fitted with nuts or riveted heads nuts. Working pressure by rules 183.

Material of stays S. Area at smallest part 2.04# Area supported by each stay 94.5# Working pressure by rules 191.2 End plates in steam space: Material S. Thickness 1 3/16" Pitch of stays 18 3/4" x 18" How are stays secured d. n. w. Working pressure by rules 184. Material of stays S.

Area at smallest part 6.04# Area supported by each stay 334.5# Working pressure by rules 186. Material of Front plates at bottom S.

Thickness 1 3/16" Material of Lower back plate S. Thickness 3/32" Greatest pitch of stays 14 1/2" x 4 1/2" Working pressure of plate by rules 184.

Diameter of tubes 5 1/2" ext Pitch of tubes 4 3/4" x 4 5/8" Material of tube plates S. Thickness: Front 13/16" x 9/16" Back 3/4" Mean pitch of stays 10 5/16"

Pitch across wide water spaces 14 1/4" Working pressures by rules B. 190. Girders to Chamber tops: Material S. Depth and thickness of girder at centre 8 3/4" x 1 5/8" Length as per rule 30 1/2" Distance apart 10 3/4" Number and pitch of stays in each Two 10"

Working pressure by rules 182. Steam dome: description of joint to shell None % of strength of joint

Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

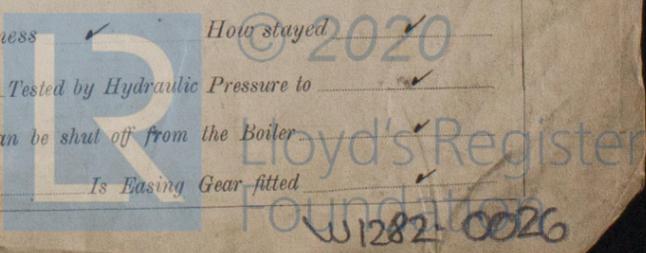
Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

SUPERHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to

Date of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Diameter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted

Is a Report also sent on the Hull of the Ship?



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; two main bearings and 1 set, coupling bolts & nuts; one set each, Air, Circulating, Feed & Bilge pump valves; one each, main & donkey check valve; bolts & nuts assorted, and iron of various sizes.*

The foregoing is a correct description,
FOR ALEXANDER HALL & CO., LTD.

A. Brown
SECRETARY.

Manufacturers of Main Engines & Boilers -

Dates of Survey while building	During progress of work in shops - - -	1920	Jan. 27 - Feb. 3, 10, 25, 28 - Mar. 4, 12, 18, 25, 31 - Apr. 8, 14, 19, 22, 29, 30 - May 8, 10, 11, 18, 19, 25, 31 - June 10, 14 - July 6 -	
		During erection on board vessel - - -	1921	Aug. 12 - Sept. 16 - Nov. 10 - Dec. 21 - Jan. 11, 15, 18, 24, 24, 25, 26, 31 - Feb. 2, 9, 11, 14, 18, 21 - Mar. 9, 21 - May 13, 20 - June 20, 29 -
			Total No. of visits	59

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

Dates of Examination of principal parts—Cylinders *8.5.20* Slides *19.5.20* Covers *8.5.20* Pistons *8.5.20* Rods *25.5.20*

Connecting rods *25.5.20* Crank shaft *14.6.20* Thrust shaft *18.1.21* Tunnel shafts Screw shaft *12.8.20* Propeller *18.1.21*

Stern tube *21.12.20* Steam pipes tested *21.3.21* Engine and boiler seatings *26.11.20* Engines holding down bolts *21.3.21*

Completion of pumping arrangements *20.6.21* Boilers fixed *9.2.21* Engines tried under steam *13.9.21*

Completion of fitting sea connections *24.1.21* Stern tube *20.1.21* Screw shaft and propeller *24.1.21*

Main boiler safety valves adjusted *13.9.21* Thickness of adjusting washers *Port. 9/16" Starboard. 7/16" full.*

Material of Crank shaft *Steel* Identification Mark on Do. *1322.A* Material of Thrust shaft *Steel* Identification Mark on Do. *1357.A*

Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts *Steel* Identification Marks on Do. *1335.A*

Material of Steam Pipes *Copper, solid drawn 3 1/2" bore, No. 6, S.W.G.* 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 *No.* If so, state name of vessel

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

The 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 with satisfactory results, and are now in good order, and in my opinion entitled to the record. L.M.C. 9.21. in the Register Book -

It is submitted that
this vessel is eligible for
THE RECORD. + L.M.C. 9.21 C.L.

Roell
19/9/21
Ans

The amount of Entry Fee ...	£	7 : 0	When applied for, <i>15.9.19.21.</i>
Special ...	£	20 : 10	
Donkey Boiler Fee ...	£	:	
Travelling Expenses (if any) £	£	:	

When received,
1/10/21

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

Committee's Minute

Assigned

FRI OCT 1 1921
+ L.M.C. 9.21
C.L.

MACHINERY DEPT
REGISTERED



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Lloyd's Register
Foundation

Abbeiden Office.

Certificate (if required) to be sent to
The Surveyors are requested not to write on or below the space for Committee's Minute.