

Rpt. 4.

REPORT ON MACHINERY.

No. 33325

REC'D APR. 3 1922

Received at London Office

Date of writing Report 31-3-1922 When handed in at Local Office 31-3-1922 Port of Hull
 No. in Survey held at Reg. Book. Goole Date, First Survey 24.1-22 Last Survey 29.3-1922
 on the Steam Drifter "ARABIS" (Number of Visits 12)
 Master Built at Goole By whom built Webster & Bickerton. Ltd. Tons } Gross 95.26
 Engines made at Galt, Ontario, Canada By whom made The Goldie & McCulloch Co. Ltd. When built 1922 } Net 33.43
 Boilers made at _____ By whom made _____ when made 1917
 Registered Horse Power _____ Owners J. McCann. Port belonging to Hull when made 1917
 Nom. Horse Power as per Section 28 33 Is Refrigerating Machinery fitted for cargo purposes no. Is Electric Light fitted no

ENGINES, &c.—Description of Engines Compound. No. of Cylinders 2 No. of Cranks 2
 Dia. of Cylinders 12 & 24 Length of Stroke 16 Revs. per minute _____ Dia. of Screw shaft as per rule 5.4 Material of screw shaft iron
 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 yes 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 27
 Dia. of Tunnel shaft as per rule 5.4 Dia. of Crank shaft journals as per rule 5.4 Dia. of Crank pin 5.2 Size of Crank webs HP. 3 3/4 x 12 Dia. of thrust shaft under collars 5.2 Dia. of screw 6-3 Pitch of Screw 8-1 1/2 No. of Blades 4 State whether moveable no Total surface 18 sq.
 No. of Feed pumps one Diameter of ditto 2 1/4 Stroke 8 Can one be overhauled while the other is at work yes
 No. of Bilge pumps one Diameter of ditto 2 1/4 Stroke 8 Can one be overhauled while the other is at work yes
 No. of Donkey Engines 1 & 2 ejector Sizes of Pumps 6x4x6 duplex. No. and size of Suctions connected to both Bilge and Donkey pumps _____
 In Engine Room Two 2" In Holds, &c. One to fish room & one to slush well, both 2" dia.
 No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump pump. Is a separate Donkey Suction fitted in Engine room & size 2" ejector.
 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 _____
 Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks lock.
 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 forward suction How are they protected wood casings.
 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 yes Is it fitted with a watertight door _____ worked from _____

BOILERS, &c.—(Letter for record S) Manufacturers of Steel _____
 Total Heating Surface of Boilers 680 sq. Is Forced Draft fitted no No. and Description of Boilers one single ended.
 Working Pressure 140 lbs. Tested by hydraulic pressure to 210 lbs. Date of test 10-2-22 No. of Certificate _____
 Can each boiler be worked separately yes Area of fire grate in each boiler 24 sq. No. and Description of Safety Valves to each boiler two spring loaded Area of each valve 3-140 Pressure to which they are adjusted 140 lbs. Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork abt. 8" Mean dia. of boilers 9-6" Length 9-0" Material of shell plates S
 Thickness 11/16 Range of tensile strength 28/32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams DR.
 long. seams DR.D.B.S. Diameter of rivet holes in long. seams 29/32 Pitch of rivets 5 1/8 Lap of plates or width of butt straps 9 3/4
 Per centages of strength of longitudinal joint rivets 84.6 Working pressure of shell by rules 146.5 Size of manhole in shell 16 x 12.
 Size of compensating ring 4 3/4 dia x 11/16 No. and Description of Furnaces in each boiler 2 plain. Material S Outside diameter 37 1/4
 Length of plain part 69 Thickness of plates crown 9/8 Description of longitudinal joint S.R.D.B.S. No. of strengthening rings _____
 Working pressure of furnace by the rules 128 Combustion chamber plates: Material S Thickness: Sides 9/16 Back 9/16 Top 9/16 Bottom 13/16
 Pitch of stays to ditto: Sides 7x9 Back 8x8 1/2 Top 7x9 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 159
 Material of stays S Area at smallest part 1 3/8 Area supported by each stay 680 Working pressure by rules 148 End plates in steam space: Material S Thickness 13/16 Pitch of stays 15x13 How are stays secured D.N. Working pressure by rules 152 Material of stays S
 Area at smallest part 2 Area supported by each stay 1950 Working pressure by rules 127 Material of Front plates at bottom S
 Thickness 13/16 Material of Lower back plate S Thickness 13/16 Greatest pitch of stays 18" dia Working pressure of plate by rules 166
 Diameter of tubes 3" Pitch of tubes 4 1/4 x 4 1/4 Material of tube plates S Thickness: Front 13/16 Back 5/8 Mean pitch of stays 8 1/2
 Pitch across wide water spaces 13 Working pressures by rules 136 lbs Girders to Chamber tops: Material S Depth and thickness of girder at centre 6x3/4 double Length as per rule 23 13/16 Distance apart 9" Number and pitch of stays in each two 7"
 Working pressure by rules 178 Steam dome: description of joint to shell DR. % of strength of joint 67
 Diameter 30" Thickness of shell plates 5/8 Material S Description of longitudinal joint DR lap. Diam. of rivet holes 29/32
 Pitch of rivets 3" Working pressure of shell by rules 327.5 Crown plates S Thickness 5/8 How stayed domed

UPERHEATER. 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 DONKEY BOILER FITTED?

no

If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied:— Two connecting rod top end bolts & nuts, two bottom end bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts, one set each of feed, bilge, air & circulating pump valves, one set of HP & LP piston rings, one safety valve spring, & a quantity of bolts & nuts & iron of various sizes.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 1922:— Jan 24, 30, 31, Feb. 10, 21, 28, Mar 6, 9, 13, 16, 22, 29 { During erection on board vessel --- } Total No. of visits 12

Is the approved plan of main boiler forwarded herewith no

“ “ “ donkey “ “ “ ✓

Dates of Examination of principal parts—Cylinders 31-1-22 Slides 31-1-22 Covers 31-1-22 Pistons 31-1-22 Rods 31-1-22

Connecting rods 31-1-22 Crank shaft 31-1-22 Thrust shaft 31-1-22 Tunnel shafts 30-1-22 Screw shaft 28-1-22 Propeller 30-1-22

Stern tube 24-1-22 Steam pipes tested 6-3-22 Engine and boiler seatings 30-1-22 Engines holding down bolts 21-2-22

Completion of pumping arrangements 16-3-22 Boilers fixed 28-2-22 Engines tried under steam 16-3-22

Completion of fitting sea connections 31-1-22 Stern tube 31-1-22 Screw shaft and propeller 31-1-22

Main boiler safety valves adjusted 16-3-22 Thickness of adjusting washers F. 9/16 A 15/32

Material of Crank shaft ✓ Identification Mark on Do. ✓ Material of Thrust shaft ✓ Identification Mark on Do. ✓

Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Iron. Identification Marks on Do. 2717 28-1-22 W.C.

Material of Steam Pipes S.D. Copper. Test pressure 280 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 "Abelia" Hull Rept No. 33288.

General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery of this vessel was built at Galt, Ontario, Canada, by the Goldie & McCulloch Co. Ltd, for a Canadian built drifter, from which it has been taken & installed in the drifter "Arabis, built by Messrs Webster & Bickerton, Ltd, of Goole.

As far as could be ascertained the materials & workmanship are good.

The boiler & machinery have been properly fitted & secured on board, the steam & feed pipes tested by hydraulic pressure, & the safety valves adjusted under steam to 140 lbs pressure, & tested for accumulation. On completion the machinery was tried under steam & found satisfactory.

In my opinion the machinery is eligible for the record LMC 3.22.

The amount of Entry Fee ... £ : : When applied for, Special ... £ 11 : 11 : 1/4/1922 Donkey Boiler Fee ... £ : : Travelling Expenses (if any) £ : 16/4 : 17/6/22

P. Fitzgerald. Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 7 APR. 1922

Assigned

