

REPORT ON MACHINERY.

Received at London Office

Date of writing Report 15-12-1919 When handed in at Local Office 15-12-1919 Port of SHEFFIELD

No. in Survey held at SOWERBY BRIDGE Date, First Survey 29/2/19 Last Survey Nov 24 1920
Reg. Book. on the DRIFTER ENGINE for S.D. "RADIATION" (Number of Visits)Master Built at Gode By whom built J. S. S. B. Co. No. 68 Tons { Gross 95.97
Net 37.31
When built 1920

Engines made at SOWERBY BRIDGE By whom made Messrs. Pollitt & Niczelle Ltd. when made 1919.

Boilers made at Lincoln By whom made Ruston & Hornsby when made 1919.

Registered Horse Power 270 Owners Admiralty Port belonging to

Nom. Horse Power as per Section 28 42.4 13 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 9 1/2" x 15 1/2" x 26" Length of Stroke 18" Revs. per minute Dia. of Screw shaft as per rule 5 7/8" 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 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 24"

Dia. of Tunnel shaft as per rule 4 7/8" Dia. of Crank shaft journals as per rule 5 1/2" Dia. of Crank pin 5 1/2" Size of Crank webs 16 x 3 1/2" Dia. of thrust shaft under

collars 5 1/2" Dia. of screw 6 9/16" Pitch of Screw 8 1/2" No. of Blades 4 State whether moveable No Total surface 18 sq

No. of Feed pumps 2 Diameter of ditto 2 1/2" Stroke 9" Can one be overhauled while the other is at work

No. of Bilge pumps 2 Diameter of ditto 2 1/2" Stroke 9" Can one be overhauled while the other is at work

No. of Donkey Engines 1, 2 1/2" jets Sizes of Pumps 5 1/4 x 3 1/2 x 5 Duplex No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room two 2" dia. In Holds, &c. one 2" dia.

No. of Bilge Injections 1 sizes 2 1/2" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size 2" jets

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 forward suction How are they protected 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 Yes Is it fitted with a watertight door Yes worked from Yes

BOILERS, &c.—(Letter for record) Manufacturers of Steel

Total Heating Surface of Boilers Is Forced Draft fitted No. and Description of Boilers

Working Pressure Tested by hydraulic pressure to Date of test No. of Certificate

Can each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to

each boiler Area of each valve Pressure to which they are adjusted Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers Length Material of shell plates

Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams

long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps

Per centages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell

Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter

Length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings

Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Ton Bottom

Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules End plates in steam space:

Material of stays Area at smallest part Area supported by each stay Working pressure by rules Material of stays

Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of Front plates at bottom

Area at smallest part Area supported by each stay Working pressure by rules Working pressure of plate by rules

Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays

Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and

thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each

Working pressure by rules Steam dome: description of joint to shell % 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

005901-005913-02418

005913-005913-0249

IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

✓

SPARE GEAR. State the articles supplied:— Two top end bolts & nuts; 2 bottom end bolts & nuts, 2 main bearings bolts; 1 set coupling bolts, 1 set air, feed, bilge, & circulating pump valves, 6 condenser tubes & 12 ferrules, 6 cylinder cover studs & nuts; 6 junk ring bolts & nuts; a quantity of bolts & nuts & iron of various sizes; and other articles as per specification.

The foregoing is a correct description,

FOR POLLIT & WIGZELL, LIMITED.

E. Pollit

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 28/2-4/3-24/3-2/4-21/4-19/5-29/5-12/6-27/6-9/7-22/7-3/9-19/9-19/10-4/11-18/11-1/12-10/12/19
During erection on board vessel -- 19/9 Jan 12, July 1 Dec 30/19 Aug 30/20 Sep 6, 7 Oct 6, Nov 16, 18, 24
Total No. of visits 28.

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 4/36 1/12/19 Slides 4/36 4/12/19 Covers 4/36 4/12/19 Pistons 4/36 4/12/19 Rods 20/36 4/12/19

Connecting rods 20/36 4/12/19 Crank shaft 15/36 4/12/19 Thrust shaft 15/36 4/12/19 Tunnel shafts — Screw shaft 15/36 4/12/19 Propeller 15/36 4/12/19

Stern tube 15/36 4/12/19 Steam pipes tested 6-9-20 Engine and boiler seatings 30-12-19 Engines holding down bolts 12-1-20

Completion of pumping arrangements 18-11-20 Boilers fixed 12-1-20 Engines tried under steam 16-11-20

Completion of fitting sea connections 1-7-19 Stern tube 1-7-19 Screw shaft and propeller 1-7-19

Main boiler safety valves adjusted 16-11-20 Thickness of adjusting washers P. 1/2 S. 15/32

Material of Crank shaft Steel Identification Mark on Do. 4763 Material of Thrust shaft Steel Identification Mark on Do. 4703 E.M.

Material of Tunnel shafts — Identification Marks on Do. — Material of Screw shafts Iron Identification Marks on Do. 4708 J.F.W.

Material of Steam Pipes S.D. Copper. Test pressure 400 lb 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 Drifter Engine

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery of this vessel

has been built under special survey and in accordance with the

specification and the Society's Rules, materials and workmanship

are sound and good.

This machinery has been properly fitted & secured on board the

drifter "Radiation"; the steam pipe has been tested as above, & on

completion the machinery was tested under full power as required

by the Admiralty and found satisfactory.

In my opinion the vessel is eligible for the record + LMC 11, 20.

Certificate (if required) to be sent to

The amount of Entry Fee ... £ : : When applied for, Special ... £ 9-0-0: 15/24 1919 Donkey Boiler Fee ... £ : : When received, Travelling Expenses (if any) £ 4 : 10 : 9/6 1920 Committee's Minute TUE JAN. 4 1921

Assigned + LMC 11, 20

CERTIFICATE WRITTEN

P. F. Fitzgerald.
Bell
31/1/21

P. F. Morton
Engineer Surveyor to Lloyd's Register of Shipping.

Lloyd's Register Foundation

Rpt. 5a.
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