

REPORT ON MACHINERY.

No. 30974
SAT. 22 MAR. 1919

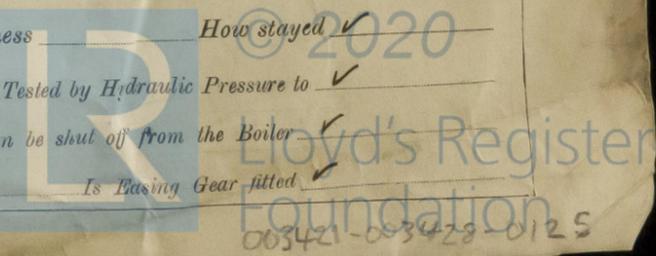
Received at London Office

Date of writing Report 19 When handed in at Local Office 19/3/19 Port of Hull
 No. in Survey held at Hull Date First Survey 27/6/18 Last Survey 13/3/1919
 Reg. Book. on the steel screw tug William Leech (Number of Visits 39) Gross 324 Tons Net 148
 Master Built at Leby By whom built Cochran & Sons Ltd When built 1919
 Engines made at Hull By whom made Chas. & Holmes & Co Ltd when made 1919
 Boilers made at Hull By whom made Chas. & Holmes & Co Ltd when made 1919
 Registered Horse Power Owners British Admiralty Port belonging to
 Nom. Horse Power as per Section 28 87 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders Three No. of Cranks 3
 Dia. of Cylinders 13"-23"-37" Length of Stroke 26" Revs. per minute 114 Dia. of Screw shaft as per rule 8.29" Material of steel
 as fitted 8.5" screw shaft
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube no Is the after end of the liner made water tight
 in the propeller boss L 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 on liner thicker gland fitted Length of stern bush 36"
 Dia. of Tunnel shaft as per rule 7.04" Dia. of Crank shaft journals as per rule 7.39" Dia. of Crank pin 7.2" Size of Crank webs 4.7" x 11" Dia. of thrust shaft under
 collars 7.2" Dia. of screw 9-7.2" Pitch of Screw 11-0" No. of Blades 4 State whether moveable no Total surface 33 sq ft
 No. of Feed pumps one Diameter of ditto 2.5" Stroke 14.3/4" Can one be overhauled while the other is at work ✓
 No. of Bilge pumps one Diameter of ditto 2.5" Stroke 14.3/4" Can one be overhauled while the other is at work ✓
 No. of Donkey Engines one 3" ejector Sizes of Pumps 6, 4.5 x 6" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room two 2" diam In Holds, &c. one 2" diam in each compartment
 all suction also connected to ejector
 No. of Bilge Injections one sizes 3.2" Connected to condenser, or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size 3" 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 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 & wind stem How are they protected strong 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 ✓ Is it fitted with a watertight door worked from ✓

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Port-Caltrot & J. Spencer & Sons
 Total Heating Surface of Boilers 1440 sq ft Is Forced Draft fitted no No. and Description of Boilers one single ended
 Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 8-11-18 No. of Certificate 3334
 Can each boiler be worked separately ✓ Area of fire grate in each boiler 48 sq ft No. and Description of Safety Valves to
 each boiler two spring loaded Area of each valve 4.9 sq ft Pressure to which they are adjusted 205 Are they fitted with easing gear yes
 Smallest distance between boilers and bunkers 8" dia. of boilers 165" Length 10'-8" Material of shell plates steel
 Thickness 1.57/64" Range of tensile strength 28-32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double
 long. seams R & B. Diameter of rivet holes in long. seams 1.25" Pitch of rivets 8.5/8" Lap of plates or width of butt straps 1"
 Per centages of strength of longitudinal joint rivets 85.9 plate 85.5 Working pressure of shell by rules 202 Size of manhole in shell 16" x 12"
 Size of compensating ring 7" x 1.57/64" No. and Description of Furnaces in each boiler three plain Material steel Outside diameter 40"
 Length of plain part top 7.85" bottom 7.9" Thickness of plates crown 2.13/16" Description of longitudinal joint welded No. of strengthening rings ✓
 Working pressure of furnace by the rules 206 Combustion chamber plates: Material steel Thickness: Sides 3/4" Back 2.3/32" Top 3/4" Bottom 3/4"
 Pitch of stays to ditto: Sides 10" x 8" Back 9.3/4" x 8.5/4" Top 11" x 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 208
 Material of stays steel Area at smallest part 2.07 sq ft Area supported by each stay 88 sq ft Working pressure by rules 211 En plates in steam space:
 Material steel Thickness 1.7/32" Pitch of stays 19" x 17.7/8" How are stays secured D.H. & W. Working pressure by rules 210 Material of stays steel
 Area at smallest part 7.6 sq ft Area supported by each stay 335 sq ft Working pressure by rules 233 Material of Front plate at bottom steel
 Thickness 1.5/16" Material of Lower back plate steel Thickness 1.6/16" Greatest pitch of stays 13.5/4" x 9.2/8" Working pressure of plate by rules 216
 Diameter of tubes 3.2" Pitch of tubes 4.7/8" Material of tube plates steel Thickness: Front 1.5/16" + 3/4" Back 7/8" Max pitch of stays 10"
 Pitch across wide water spaces 14" Working pressures by rules 275 Girders to Chamber tops: Material steel Depth and
 thickness of girder at centre 11" x 1.3/4" Length as per rule 36.218 Distance apart 11" Number and pitch of stays in each three 8"
 Working pressure by rules 201 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 ✓



IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— *Two top end bolts & nuts, two bottom end bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set of air feed slide pump valves, six pump ring studs & nuts, one main & one donkey chest valve two valves for donkey pump, one safety valve spring, 3 condenser tubes, one set of fire bars & a quantity of bolts & nuts of various size.*

The foregoing is a correct description,

J. W. Hurst & Sons Manufacturer.
Charles & Holmes & Co. Ltd.

Dates of Survey while building { During progress of work in shops -- 1918 Jun 24 Jul 10-18-25-26-28 Aug 13-15-19-22-26-30 Sep 3-7-11-12-16-19-24
During erection on board vessel --- 27 Oct 1-4-9-14-18-24-26-29- Nov 6-8-15-19-22 Dec 17-18 1919 Jan 4 Mar 25-11-13
Total No. of visits *39*

Is the approved plan of main boiler forwarded herewith *sent*
" " " donkey " " *forwarded*

Dates of Examination of principal parts—Cylinders *19-9-18* Slides *26-10-18* Covers *27-9-18* Pistons *1-10-18* Rods *6-11-18*
Connecting rods *9-10-18* Crank shaft *8-11-18* Thrust shaft *26-10-18* Tunnel shafts Screw shaft *30-8-18* Propeller *30-8-18*
Stern tube *30-8-18* Steam pipes tested *18-12-18* Engine and boiler seatings *11-9-18* Engines holding down bolts *18-12-18*
Completion of pumping arrangements *11/3/19* Boilers fixed *18-12-18* Engines tried under steam *11/3/19*
Completion of fitting sea connections *11-9-18* Stern tube *11-9-18* Screw shaft and propeller *11-9-18*
Main boiler safety valves adjusted *4-1-19* Thickness of adjusting washers *7/8 & 3/16*

Material of Crank shaft *steel* Identification Mark on Do. *21P1FLS* Material of Thrust shaft *steel* Identification Mark on Do. *217PFLS*
Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts *steel* Identification Marks on Do. *2154FLS*
Material of Steam Pipes *solid drawn copper* Test pressure *400*

Is an installation fitted for burning oil fuel 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 *Trinity class*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery of this vessel has been built under special survey, the materials & workmanship are good on completion the machinery was tried under full working conditions with satisfactory results.*

The machinery throughout is now in a good & efficient condition and eligible in our opinion to classed and to have the notation \otimes LMC.3-19 marked in the Society's Register Book.

It is submitted that this vessel is eligible for THE RECORD + LMC 3. 19.

J.W.D.
24/3/19
J.P.R.

The amount of Entry Fee ... £ *2* : 0 :
Special ... £ *26* : 2 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, *21/3 1919*
When received, *5.11. 1919*

Frank L. Sturgen
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE 25.MAR. 1919

Assigned *+ L.M.C. 3.19*

