

REPORT ON MACHINERY.

No. 17871

Received at London Office WFO. 24 AUG. 1921

Date of writing Report 16 Aug 1921 When handed in at Local Office 19 Aug 1921 Port of Greenock
No. in Survey held at Greenock Date, First Survey 28th Dec 1920 Last Survey 18 Aug 1921
Reg. Book. on the Steel Screw Steamer Linnea (Number of Visits 76) Believed to be 5698
Master F. Kell Built at Londonderry By whom built H. J. Ireland & Co Ltd When built 1921
Engines made at Greenock By whom made John S. Kincaid & Co Ltd when made 1921
Boilers made at Greenock By whom made John S. Kincaid & Co Ltd when made 1921
Registered Horse Power 554 Owners Anglo Saxon Petroleum Coy Ltd Port belonging to London
Nom. Horse Power as per Section 28 554 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines

Triple CompoundNo. of Cylinders Three No. of Cranks ThreeDia. of Cylinders 24 1/2 - 42 1/2 - 74 Length of Stroke 48 Revs. per minute 74 Dia. of Screw shaft 1 1/2 Material of screw shaft SteelIs 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 Yes If two liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 64Dia. of Tunnel shaft 1 1/2 as per rule 15.76 Dia. of Crank shaft journals 1 1/2 as per rule 15.76 Dia. of Crank pin 1 1/2 Size of Crank webs 21 1/2 - 9 1/2 Dia. of thrust shaft under collars 1 1/2 Dia. of screw 15.0 Pitch of Screw 17.0 No. of Blades 4 State whether moveable No Total surface 102 sq ftNo. of Feed pumps 3 Diameter of ditto 4 Stroke 26 Can one be overhauled while the other is at work Yes No. of Bilge pumps 3 Diameter of ditto 4 Stroke 26 Can one be overhauled while the other is at work YesNo. of Donkey Engines 3 Sizes of Pumps 9 - 10 - 7 1/2 - 15 No. and size of Suctions connected to both Bilge and Donkey pumps 2 - 2 1/2 - 5 Oil Fuel Bunkers & 1 - 3 - 5 Coffee BunkersIn Engine Room 3 1/2 In Holds, &c. 2 - 2 1/2 - 5 Oil Fuel Bunkers & 1 - 3 - 5 Coffee BunkersNo. of Bilge Injections 3 sizes 10 Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size 5Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the sluices in Engine room bulkheads always accessible YesAre 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 BelowAre 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 Oil Fuel & Steam Heating Coils Are they protected Wood, (when coal is carried)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 YesIs the Screw Shaft Tunnel watertight No tunnel Is it fitted with a watertight door Yes worked from YesBOILERS, &c.—(Letter for record S) Manufacturers of Steel Whitehead & Sons GreenockTotal Heating Surface of Boilers 776 sq ft Is Forced Draft fitted Yes No. and Description of Boilers Three Single EndWorking Pressure 220 lb Tested by hydraulic pressure to 380 lb Date of test 24/6/21 No. of Certificate 1577Can each boiler be worked separately Yes Area of fire grate in each boiler 60.5 sq ft No. and Description of Safety Valves to each boiler Two Area of each valve 8.29 sq in Pressure to which they are adjusted 225 lb Are they fitted with easing gear YesSmallest distance between boilers or uptakes and bunkers or woodwork 26 in Mean dia. of boilers 15.6 Length 11.7 1/2 Material of shell plates Steel Thickness 1 1/2 Range of tensile strength 30 - 34 Are the shell plates welded or flanged Yes Descrip. of riveting: seams all wraplong. seams all wrap Diameter of rivet holes in long. seams 1 1/2 Pitch of rivets 10 1/2 Lap of plates or width of butt straps 22 1/2 Per centages of strength of longitudinal joint 86.25 Working pressure of shell by rules 223 lb Size of manhole in shell 16 - 12Size of compensating ring Hanged 1 1/2 No. and Description of Furnaces in each boiler Three Material Steel Outside diameter 48 1/2 Length of plain part 1 1/2 Thickness of plates 1 1/2 Description of longitudinal joint Welded No. of strengthening rings OneWorking pressure of furnace by the rules 222 lb Combustion chamber plates: Material Steel Thickness: Sides 25/32 Back 25/32 Top 25/32 Bottom 14/16 Pitch of stays to ditto: Sides 8 1/2 Back 8 1/2 Top 9 1/2 Bottom 9 1/2 If stays are fitted with nuts or riveted heads Yes Working pressure by rules 221 lbMaterial of stays Steel Area at smallest part 1.78 Area supported by each stay 65 Working pressure by rules 234 lb End plates in steam space: Material Steel Thickness 1 1/2 Pitch of stays 21 1/2 - 20 1/2 How are stays secured all nuts Working pressure by rules 220 lb Material of stays SteelArea at smallest part 9.14 Area supported by each stay 44.1 Working pressure by rules 232 lb Material of Front plates at bottom Steel Thickness 1 1/2 Material of Lower back plate Steel Thickness 5/16 Greatest pitch of stays 1 1/2 Working pressure of plate by rules 225 lbDiameter of tubes 2 1/2 Pitch of tubes 3 1/2 Material of tube plates Steel Thickness: Front 1 1/2 Back 1 1/2 Mean pitch of stays 9.08 Pitch across wide water spaces 13 1/2 Working pressures by rules 230 lb Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 9 1/2 - 1 1/2 Length as per rule 34.58 Distance apart 9 1/2 Number and pitch of stays in each Three 8 1/2Working pressure by rules 222 lb Steam dome: description of joint to shell Yes % of strength of joint Yes Diameter 1 1/2 Thickness of shell plates 1 1/2 Material Steel Description of longitudinal joint Welded Diam. of rivet holes 1 1/2Pitch of rivets 10 1/2 Working pressure of shell by rules 223 lb Crown plates 1 1/2 Thickness 1 1/2 How stayed Yes Tested by Hydraulic Pressure to 380 lbSUPERHEATER. Type Horizontal Date of Approval of Plan 24/6/21 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes Pressure to which each is adjusted 225 lb Is Easing Gear fitted Yes

W559-0289

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—The top end bell. The bottom end bell. The main bearing bell. The set coupling bell. The set feed pump valve. The set bridge pump valve 1/3 crank shaft. The Sapeleer shaft. The valve spindle. The main crank pin lasher. The piston rod. The air pump rod. The set main check valve. The safety valve springs. Escape valve spring. The feed pump plunger. The bridge pump plunger. The Sapeleer. Bell's rule &c.

The foregoing is a correct description,
FOR JOHN G. KINCAID & COY., LIMITED.

Robert Green

Manufacturer.

Dates of Survey while building
During progress of work in shops -- 1920 Dec. 28. 1921 Jan. 20. 26. Feb. 1. 4. 7. 8. 10. 14. 16. 18. 22. 25. Mar. 1. 2. 3. 4. 7. 9. 11. 15. 18. 22. 30. 31. Apr. 5. 7. 8. 12. 15. 18. 20. 22. 26. 29. May. 2. 3. 4.
During erection on board vessel -- 6. 11. 13. 19. 20. 25. 26. 27. 30. June 2. 6. 8. 9. 14. 15. 16. 21. 22. 24. 27. 29. July 14. 15. 21. 25. 29. Aug. 1. 2. 3. 5. 8. 9. 10. 11. 12. 16. 18.
Total No. of visits 76. Belfast April 19. 5 Oct 2/11
22 Belfast

Is the approved plan of main boiler forwarded herewith? Yes

" " " donkey " " " "

Dates of Examination of principal parts—Cylinders 14/7/21 Slides 21/7/21 Covers 14/7/21 Pistons 18/9/21 Rods 14/7/21

Connecting rods 9/4/21 Crank shaft 9/4/21 Thrust shaft 9/4/21 Tunnel shafts — Screw shaft 22/6/21 Propeller 22/6/21

Stern tube 22/6/21 Steam pipes tested 29/12/21 19/2 Engine and boiler seatings 27-9-21 Engines holding down bolts 22-9-21

Completion of pumping arrangements 11-10-21 Boilers fixed 27-9-21 Engines tried under steam 11-10-21

Completion of fitting sea connections 16-8-21 Stern tube 30-8-21 Screw shaft and propeller 30-8-21

Main boiler safety valves adjusted 6-10-21 Thickness of adjusting washers 5-12/32

Material of Crank shaft I Unit Identification Mark on Do. 616 Material of Thrust shaft I Unit Identification Mark on Do. 616

Material of Tunnel shafts — Identification Marks on Do. — Material of Screw shafts I Unit Identification Marks on Do. 616

Material of Steam Pipes — Test pressure 660 lb

Is an installation fitted for burning oil fuel? Yes Is the flash point of the oil to be used over 150°F? Yes

Have the requirements of Section 49 of the Rules been complied with? Yes

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.) Workmanship good.

The machinery and boilers of this vessel have been constructed under special survey and have now been sent to London dock, where they will be fitted on board the above named steamer.

The machinery of this vessel has been securely fitted on board, and on trials in Lough Foyle, it worked satisfactorily. In my opinion, it is eligible for record + L.M.C. 10-21, with notation "Fixed Draft" "Electric Light", and "Fitted for oil fuel above 150°F."

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 10.21. F.D.C.L. Fitted for oil fuel 10.21 FP above 150°F

Roell 25/10/21

The amount of Entry Fee ... £ 6 : 0
Special ... £ 82 : 3
When applied for, 19/8/1921 5-9-21
Travelling Expenses (if any) £ 23 : 12-6
When applied for, 16.11.21 6/6

James James
Engineer Surveyor to Lloyd's Register of Shipping.
R. L. Brewin

Committee's Minute GLASGOW 23 AUG 1921
Deferred

FRI OCT 28 1921

MACHINERY CERT.
WRITTEN

+ L.M.C. 10.21
Fitted for oil fuel 10.21
FP above 150°F

Lloyd's Register Foundation