

REPORT ON MACHINERY.

No. 17909

Received at London Office

Date of writing Report 5/11/21 19 When handed in at Local Office 15 Jan 1921 Port of Greenock

No. in Survey held at Greenock Date, First Survey 14th May, 1920. Last Survey 11th Jan 1921
Reg. Book. on the Old Steamer 'Langfjord' (LANGFJORD) (Number of Visits 79)

Master Built at Anderson By whom built Anderson & Co Ltd When built 1921

Engines made at Newbury By whom made Henry Horn when made 1921

Boilers made at Greenock By whom made John S Kincaid & Co Ltd when made 1921

Registered Horse Power Owners Norwegian American S.S. Co (Ltd) Port belonging to Christiania

Nom. Horse Power as per Section 28 142 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Compound No. of Cylinders Three No. of Cranks Three
Dia. of Cylinders 16 1/2 - 27 - 44 Length of Stroke 30 Revs. per minute 96 Dia. of Screw shaft as per rule 9 1/2 as fitted 9 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 partbetween 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 58Dia. of Tunnel shaft as per rule 8.209 as fitted 8 1/2 Dia. of Crank shaft journals as per rule 8.619 as fitted 8 7/8 Dia. of Crank pin Size of Crank webs Dia. of thrust shaft under
collars Dia. of screw 11.0 Pitch of Screw 15.0 No. of Blades 4 State whether moveable No Total surface 40 sq ftNo. of Feed pumps Two Diameter of ditto 3 Stroke 15 Can one be overhauled while the other is at work Yes
No. of Bilge pumps Two Diameter of ditto 3 1/2 Stroke 15 Can one be overhauled while the other is at work YesNo. of Donkey Engines Three Sizes of Pumps 4.6 - 7 1/2 - 8 - 6.6 No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room Three 2 1/2 In Holds, &c. Four 2 1/2

Bilge Injections two sizes 5 Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room of size 2 1/2

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

All connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both
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

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

Pipes are carried through the bunkers How are they protected
All Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times YesThe Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes
The Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from 1st Staircase

MATERIALS, &c.—(Letter for record S) Manufacturers of Steel Scandinavian, Christiania

Total Heating Surface of Boilers 2558 sq ft Is Forced Draft fitted No No. and Description of Boilers Two single Endless
Working Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 5/11/20 No. of Certificate 1508Each boiler be worked separately Yes Area of fire grate in each boiler 41 1/4 sq ft No. and Description of Safety Valves to
each boiler Two Spring Area of each valve 4.91 sq in Pressure to which they are adjusted 185 lb Are they fitted with easing gear YesSmallest distance between boilers or uptakes and bunkers or woodwork 20 Mean dia. of boilers 12.6 Length 10.8 Material of shell plates Steel
Thickness 1 1/2 Range of tensile strength 28-32 Are the shell plates welded or flanged Yes Descrip. of riveting: riv. seams all on buttg. seams all on butt Diameter of rivet holes in long. seams 1 1/16 Pitch of rivets 7 1/4 Lap of plates or width of butt straps 16
Percentage of strength of longitudinal joint rivets 87.5 Working pressure of shell by rules 181 lb Size of manhole in shell 16 x 12Size of compensating ring 7 1/2 x 1 1/2 No. and Description of Furnaces in each boiler Two baghouse Material Steel Outside diameter 49 1/4
Length of plain part top Thickness of plates crown 19/32 Description of longitudinal joint welded No. of strengthening rings GunnyWorking pressure of furnace by the rules 192 lb Combustion chamber plates: Material Steel Thickness: Sides 2 1/32 Back 19/32 Top 2 1/32 Bottom 15/16
Pitch of stays to ditto: Sides 9 1/4 x 8 Back 8 x 8 Top 9 1/4 x 8 If stays are fitted with nuts or riveted heads Both Working pressure by rules 187 lbMaterial of stays Steel Area at smallest part 1.45 sq ft Area supported by each stay 6.4 sq ft Working pressure by rules 181 lb End plates in steam space:
Material Steel Thickness 1 1/16 Pitch of stays 17 1/2 x 16 1/2 How are stays secured all on butt Working pressure by rules 187 lb Material of stays SteelArea at smallest part 5.05 sq ft Area supported by each stay 286 sq ft Working pressure by rules 184 lb Material of Front plates at bottom Steel
Thickness 19/16 Material of Lower back plate Steel Thickness 13/16 Greatest pitch of stays 13 1/2 Working pressure of plate by rules 190 lbDiameter of tubes 3 1/2 Pitch of tubes 4 1/2 x 4 1/2 Material of tube plates Steel Thickness: Front 13/16 Back 12/16 Mean pitch of stays 11 1/2 x 8 3/4
Pitch across wide water spaces 14 1/2 Working pressures by rules 188 lb Girders to Chamber tops: Material Steel Depth andThickness of girder at centre 8 1/2 x 1 1/2 Length as per rule 32 Distance apart 8 Number and pitch of stays in each Two 9 1/4
Working pressure by rules 191 lb Steam dome: description of joint to shell % of strength of jointDiameter 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 stayedSUPERHEATER. 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

W 451-0184

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—The top end bolts. The bottom end bolts. The main bearing bolts. One set of stuffing bolts. One set of end pump valves. One set of bridge pump valves. One set of back valve openings. Safety valve. One set of piston rings. One set of top end lugs. One set of crank pin lugs. Superheated shaft. Superheated. Bolts. Nuts, &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 May 14-20-21-24 June 6 Aug 17-18-19-25-30 Sept 2-6-7-8-9-10-11-14-17-22-23-27-30 Oct 1-6-8-11-13-19-21-27-28
During erection on board vessel -- 1921 Jan 13-18-21-23 Feb 1-4-18 Mar 1-3-13-29-30 Apr 1-4-6-7-8-13-14-15-19
Total No. of visits 79.

Is the approved plan of main boiler forwarded herewith?

Dates of Examination of principal parts—Cylinders 18/1/21 Slides Covers Pistons Rods

Connecting rods Crank shaft Thrust shaft Tunnel shafts 18/3/21 Screw shaft 23/12/20 Propeller 7/12/21

Stern tube 18/1/21 Steam pipes tested 19/4/21 & 26/4/21 Engine and boiler seatings Engines holding down bolts 14/4/21

Completion of pumping arrangements Boilers fixed 20/4/21 Engines tried under steam 3/5/21 & 11/11/21

Completion of fitting sea connections Stern tube Screw shaft and propeller

Main boiler safety valves adjusted 3/5/21 Thickness of adjusting washers Port 5 7/32 - Piston 5 1/16

Material of Crank shaft Steel Identification Mark on Do. A.P.C. Material of Thrust shaft Steel Identification Mark on Do. A.P.C.

Material of Tunnel shafts Steel Identification Marks on Do. 601 Material of Screw shafts Steel Identification Marks on Do. 601

Material of Steam Pipes Copper Test pressure 400 lb

Is an installation fitted for burning oil fuel? In 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? — If so, state name of vessel —

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

The Engines and Boilers of this vessel have been constructed under Special Survey and tested on land in accordance with The Lloyds' Rules. They are now in my opinion in safe working condition and the case is respectfully submitted for the Certification + L.M.C. 11-21 in The Register Book.

The amount of Entry Fee ... £ : :
Special ... £ 26 : 0 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, 17/11/1921.
When received, 4. 1. 22

James James,
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute GLASGOW 27 DEC 1921

Assigned + L.M.C. 11, 21.

MACHINEERY DEPT.
WRITTEN
27/5/22
(dated 1/1/22)



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Foundation