

REPORT ON MACHINERY.

No. 13357

Received at London Office

THUR. 8 JUN 1911

Writing Report 5th June 1911 When handed in at Local Office 6th June 1911 Port of LeithSurvey held at Leith Date, First Survey 25th October 1910 Last Survey 20th May 1911
on the S/s "Kanna" (Number of Visits)

Built at Leith By whom built Ramsay & Ferguson Tons Gross 1948.2 Net 1049.1 When built 1911

Made at Leith By whom made Ramsay & Ferguson Ltd when made 1911

Made at Leith By whom made Ramsay & Ferguson Ltd when made 1911

Horse Power Owners Union Steamship Co of New Zealand Port belonging to Dunedin

Horse Power as per Section 28 264 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

NES, &c.—Description of Engines Triple No. of Cylinders 3 No. of Cranks 3

Cylinders 21" 34" 56" Length of Stroke 36" Revs. per minute 80 Dia. of Screw shaft as per rule 11.29 11.5 Material of screw shaft as fitted 12.8 screw shaft) Steel

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

Propeller boss No If the liner is in more than one length are the joints burned Yes If the liner does not fit tightly at the part

The bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive No If two

Are fitted, is the shaft lapped or protected between the liners Length of stern bush 4.9"

Tunnel shaft as per rule 10.27 Dia. of Crank shaft journals as per rule 10.78 Dia. of Crank pin 1 1/4 Size of Crank webs 7 1/4 x 7 1/2 Dia. of thrust shaft under

11 1/4 Dia. of screw 13.6 Pitch of Screw 14.0 No. of Blades 4 State whether moveable No Total surface 58.8

Feed pumps 2 Diameter of ditto 4" Stroke 18" Can one be overhauled while the other is at work No

Bilge pumps 2 Diameter of ditto 4" Stroke 18" Can one be overhauled while the other is at work No

Donkey Engines 2 Sizes of Pumps 8" x 5 1/2" x 8; 10" x 10" x 10 No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room Four 2 3/4" In Holds, &c. Two 2 3/4" in each hold, one 3" in

In hold with, one 3" in tunnel with.

Bilge Injections 1 sizes 6" Connected to condenser, &c. to circulating pump No Is a separate Donkey Suction fitted in Engine room & size No 3"

The bilge suction pipes fitted with roses No Are the roses in Engine room always accessible No Are the sluices on Engine room bulkheads always accessible Yes

All connections with the sea direct on the skin of the ship No Are they Valves or Cocks Both

Key fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates No Are the Discharge Pipes above or below the deep water line Above

Key each fitted with a Discharge Valve always accessible on the plating of the vessel No Are the Blow Off Cocks fitted with a spigot and brass covering plate No

Pipes are carried through the bunkers Yes How are they protected

All Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times No

The Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges No

Of examination of completion of fitting of Sea Connections 12/4/11 of Stern Tube 12/4/11 Screw shaft and Propeller 12/4/11

Screw Shaft Tunnel watertight No Is it fitted with a watertight door No worked from upper platform

ERS, &c.—(Letter for record 5) Manufacturers of Steel Messrs D. Brown & Co.

Heating Surface of Boilers 4892.8 Is Forced Draft fitted No No. and Description of Boilers Two single ended

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 13/3/11 No. of Certificate 676

Each boiler be worked separately No Area of fire grate in each boiler 630 No. and Description of Safety Valves to

boiler Two spring valves Area of each valve 7.07 sq ft Pressure to which they are adjusted 185 lbs Are they fitted with easing gear No

Least distance between boilers or uptakes and bunkers or woodwork by rules No Mean dia. of boilers 15.6 Length 10.9 Material of shell plates S

Thickness 1 3/16 Range of tensile strength 28-32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap & b.

seams 1 1/2" Dia. of rivet holes in long. seams 1 3/16 Pitch of rivets 9 3/8 Lap of plates or width of butt straps 21"

Percentages of strength of longitudinal joint rivets 85 Working pressure of shell by rules 211 Size of manhole in shell 12 x 16

of compensating ring No. and Description of Furnaces in each boiler 3 Morrison's Material S Outside diameter 48 1/4"

Thickness of plain part top 19.32 Description of longitudinal joint welded No. of strengthening rings

Working pressure of furnace by the rules 195 Combustion chamber plates: Material S Thickness: Sides 1/16 Back 1/16 Top 5/8 Bottom 3/8

of stays to ditto: Sides 9 1/4 x 9 1/4 Back 8 3/4 x 9 1/4 Top 8 x 8 If stays are fitted with nuts or riveted heads No Working pressure by rules 191

Material of stays S Diameter at smallest part 2.03 Area supported by each stay 85.9 Working pressure by rules 213 End plates in steam space:

Material S Thickness 1" Pitch of stays 16 1/4 x 15 1/2 How are stays secured R.N. & L. Working pressure by rules 187 Material of stays S

Diameter at smallest part 5.05 Area supported by each stay 252.0 Working pressure by rules 208 Material of Front plates at bottom S

Thickness 7/8 Material of Lower back plate S Thickness 7/8 Greatest pitch of stays 14" Working pressure of plate by rules 188

Diameter of tubes 3 3/4 Pitch of tubes 4 3/8 x 4 3/8 Material of tube plates S Thickness: Front 3/4 Back 1/2 Mean pitch of stays 8 3/4

Girders across wide water spaces 14" at Working pressures by rules 203 Girders to Chamber tops: Material S Depth and

Thickness of girder at centre 7 1/4 x 1 1/2 Length as per rule 27 1/2 Distance apart 8" Number and pitch of stays in each 2.8"

Working pressure by rules 201 Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked

separately Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

Fitted with rings Distance between rings Working pressure by rules End plates: Thickness How stayed

Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

007506 - 007517 - 0305

VERTICAL DONKEY BOILER—

Manufacturers of Steel

None

No. Description
 Made at By whom made When made Where fixed
 Working pressure tested by hydraulic pressure to Date of test No. of Certificate Fire grate area Description of Safety
 Valves No. of Safety Valves Area of each Pressure to which they are adjusted Date of adjustment
 If fitted with easing gear If steam from main boilers can enter the donkey boiler Dia. of donkey boiler Length
 Material of shell plates Thickness Range of tensile strength Descrip. of riveting long. seams
 Dia. of rivet holes Whether punched or drilled Pitch of rivets Lap of plating Per centage of strength of joint Rivets
 Working pressure of shell by rules Thickness of shell crown plates Radius of do. No. of stays to do. Dia. of stays
 Diameter of furnace Top Bottom Length of furnace Thickness of furnace plates Description of joint
 Working pressure of furnace by rules Thickness of furnace crown plates Radius of do. Stayed by
 Diameter of uptake Thickness of uptake plates Thickness of water tubes Dates of survey

SPARE GEAR. State the articles supplied:—Two top end, two bottom end connecting rod bolts & nuts, two main bearing bolts, one set coupling bolts, one set for and bike pump valves, assorted bolts & nuts, iron of various sizes, one Propeller shaft, one Propeller.

The foregoing is a correct description,

Ramage & Ferguson Ltd
 Alex. Ferguson & Co. Manufacturer.

Dates of Survey while building During progress of work in shops -- 1910 October 25, 4.10.17, 29 Dec. 8.22, Jan'y. 5.23, Feb'y. 9.28, March 13.14.22 April 11.12
 During erection on board vessel -- April 18.21, May 8.15, 18, 19.20
 Total No. of visits 23

Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 5/11, 23/11, 24/12, 1/10 Slides 9/12, 28/12, 1/11 Covers 22/12, 10, 23/1, 9/2/11 Pistons 9/1, 23/1, 9/2/11 Rods 4/11, 17/11, 29/11
 Connecting rods 4/11, 17/11, 29/11 Crank shaft 8/12, 24/12, 1/10 Thrust shaft 5/11, 23/11, 1/11 Tunnel shafts 23/1, 9/2/11 Screw shaft 28/12, 1/11, 1/11 Propeller 14/3, 22/3, 11/4/11
 Stern tube 9/2, 19/3/11 Steam pipes tested 15/5 Engine and boiler seatings 18/4/11 Engines holding down bolts 21/4/11
 Completion of pumping arrangements 18/5/11 Boilers fixed 18/5/11 Engines tried under steam 1/6/11
 Main boiler safety valves adjusted 20/5/11 Thickness of adjusting washers Star liner 7.5/2 A. 5/16 Port liner 7.5/2 A. 5/16
 Material of Crank shaft Steel Identification Mark on Do. 223 GAH Material of Thrust shaft Steel Identification Mark on Do. 223 GAH
 Material of Tunnel shafts Steel Identification Marks on Do. 223 GAH Material of Screw shafts Steel Identification Marks on Do. 223 GAH
 Material of Steam Pipes Iron Test pressure 360 lbs per sq. in.

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

The Machinery of this vessel has been built under special survey. The materials and workmanship are sound and good and under the vessel elyph in my opinion to have used of L.M.C. 5.11.

It is submitted that this vessel is eligible for THE RECORD + LMC 5.11.

JAN. 8/6/11

The amount of Entry Fee .. £ 2 : - :
 Special .. £ 33 : 4 :
 Donkey Boiler Fee .. £ : :
 Travelling Expenses (if any) £ : :
 When applied for, 6/6/11
 When received, 8.6.11

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

Assigned

MASTERS CERTIFICATE
 DATED



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