

REPORT ON MACHINERY.

No. 13357

Received at London Office

JUN 8 JUN 1911

Writing Report 5th June 1911 When handed in at Local Office 6th June 1911 Port of Leith

Survey 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 Kamase & Ferguson Tons { Gross 1948.2
Net 1049.1
When built 1911

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

Registered 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

Engines, &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 11.25 Material of screw shaft Steel
as fitted 12.8

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

as fitted 10.27 Dia. of screw 13.6 Pitch of Screw 14.0 No. of Blades 4 State whether moveable no Total surface 58.5

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

or hold with, one 3" in tunnel with.

Bilge Injections 1 sizes 6" Connected to condenser to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes 3"

Are 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

Are 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 no Are the Blow Off Cocks fitted with a spigot and brass covering plate no

Are pipes carried through the bunkers yes How are they protected —

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 there a record 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

Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from upper platform

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

Heating Surface of Boilers 4897.8 Is Forced Draft fitted yes No. and Description of Boilers Two simple ended

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

Can each boiler be worked separately yes 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" 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 bolts 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 Riv.

seams L.H. Riv. Diameter of rivet holes in long. seams 1 7/16" Pitch of rivets 9 7/8" 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 M. Rivets No. and Description of Furnaces in each boiler 3 Morrison's Material S Outside diameter 48 1/4"

Thickness of plain part top — bottom — Thickness of plates crown 3 1/8" bottom 3 3/8" 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 29/32"

No. 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 nuts 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 1/4" Pitch of tubes 4 3/8 x 4 3/8" Material of tube plates S Thickness: Front 3/4" Back 1/16" Mean pitch of stays 8 3/4"

Distance across wide water spaces 14" 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 —

Are they stiffened 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 —

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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 _____ Plates _____

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 fork 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 Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 1910 October 26, 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* Slides *9/12, 28/12* Covers *22/10, 23/11, 9/12* Pistons *9/12, 23/11, 9/12* Rods *4/11, 17/11, 29/11*
Connecting rods *4/11, 17/11, 29/11* Crank shaft *8/12, 23/12* Thrust shaft *5/11, 23/11* Tunnel shafts *23/11, 9/12* Screw shaft *28/12, 11/11* Propeller *14/3, 22/3, 11/4*
Stern tube *9/12, 19/11* Steam pipes tested *15/5* Engine and boiler seatings *18/4* Engines holding down bolts *21/4*
Completion of pumping arrangements *18/5* Boilers fixed *18/5* Engines tried under steam *1/6*
Main boiler safety valves adjusted *20/5* Thickness of adjusting washers *Star like 7.5/2, 5/16, Port like 7.5/2, 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"*

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 + L.M.C. 5.11.

J.W. 8/6/11

The amount of Entry Fee .. £ *2* : - :
Special .. £ *33* : 4 :
Donkey Boiler Fee .. £ : :
Travelling Expenses (if any) £ : :
When applied for, *6/6* 1911
When received, *8.6* 1911

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

Committee's Minute

Assigned

TUES. 13 JUN 1911

+ L.M.C. 5.11

MACHINERY CERTIFICATE
WRITTEN.



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Certificate (if required) to be sent to the Surveyors as requested not to certify on or below the space for Committee's Minute.