

REPORT ON MACHINERY.

Received at London Office

Date of writing Report 6.1.1916. When handed in at Local Office 10.1.1916. Port of Lith THU. 13. JAN. 1916

No. in Survey held at Alma Date, First Survey 5th. March, 1915. Last Survey 3rd. January, 1916.
Reg. Book. on the 45 "Collin" (Number of Visits 16.)

Master R. Siken. Built at Alma By whom built A Jeffrey & Co Tons } Gross 283.80.
When built 1915 Net 99.69.

Engines made at Alma By whom made A Jeffrey & Co when made 1916

Boilers made at Glasgow By whom made A. L. Snylist when made 1915

Registered Horse Power Owners Messrs. Howden Bros., Larne. Port belonging to Belfast.

Nom. Horse Power as per Section 28 53 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Compound No. of Cylinders 2 No. of Cranks 2

Dia. of Cylinders 14" 30" Length of Stroke 22" Revs. per minute 110 Dia. of Screw shaft 6.66 as per rule 6.66 Material of screw shaft Iron
as fitted 6.7

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 no 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 — Length of stern bush 28"

Dia. of Tunnel shaft 6.17 as per rule 6.17 Dia. of Crank shaft journals 6.48 as per rule 6.48 Dia. of Crank pin 6.5 Size of Crank webs 4 1/2 x 12 Dia. of thrust shaft under collars 6.5 Dia. of screw 7-9 Pitch of Screw 9-3 No. of Blades 4 State whether moveable no Total surface 278

No. of Feed pumps 1 Diameter of ditto 2 1/4 Stroke 11" Can one be overhauled while the other is at work —

No. of Bilge pumps 1 Diameter of ditto 2 1/4 Stroke 11" Can one be overhauled while the other is at work —

No. of Donkey Engines 1 Sizes of Pumps 5 x 3 1/2 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Two 2 1/2 In Holds, &c. Two in main hold 2 1/2

No. of Bilge Injections 1 sizes 3 Connected to condenser or to circulating pump no Is a separate Donkey Suction fitted in Engine room & size no 2 1/2

Are all 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 no

Are all connections with the sea direct on the skin of the ship no Are they Valves or Cocks Both

Are they 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 both

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

What pipes are carried through the bunkers none How are they protected —

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

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

Dates of examination of completion of fitting of Sea Connections 8/11/15 of Stern Tube 8/11/15 Screw shaft and Propeller 8/11/15

Is the Screw Shaft Tunnel watertight none Is it fitted with a watertight door — worked from Engines aft

BOILERS, &c.—(Letter for record) Manufacturers of Steel in Glasgow Report attached.

Total Heating Surface of Boilers Is Forced Draft fitted No. and Description of Boilers

Working Pressure Tested by hydraulic pressure to Date of test No. of Certificate

Can each boiler be worked separately Area of fire grate in each boiler 35.5 sq ft No. and Description of Safety Valves to each boiler Two Spring Valves Area of each valve 5.94 Pressure to which they are adjusted 138 lbs Are they fitted with easing gear no

Smallest distance between boilers or uptakes and bunkers or woodwork 11" Mean dia. of boilers Length Material of shell plates

Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams

long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps

Per centages of strength of longitudinal joint rivets..... Working pressure of shell by rules Size of manhole in shell

Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter

Length of plain part top..... Thickness of plates crown..... Description of longitudinal joint No. of strengthening rings

Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom

Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules

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

Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays

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

Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays

Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and

thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each

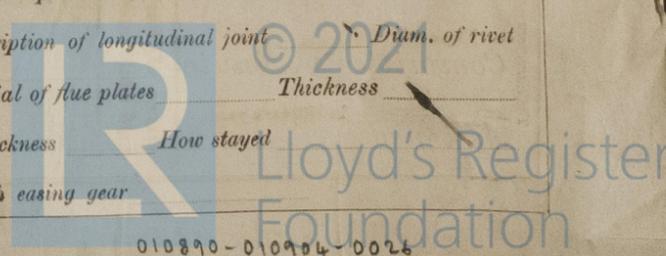
Working pressure by rules Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked

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

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

If 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



IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? *-*

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 fuel and bilge pump valves, assorted bolts and nuts, Iron of various sizes.*

The foregoing is a correct description,

A. Jeffrey & Co. Manufacturer.
Robert Jeffrey Partners

Dates of Survey while building { During progress of work in shops -- } 1915. March 5, 9, 12, 14, 29, May 5, June 10, 14, July 8, August 23, October 19, 22, 24, Nov. 8.
{ During erection on board vessel -- } 1915. December 15, 1916. January 3.
Total No. of visits *16.*

Is the approved plan of main boiler forwarded herewith *No*

" " " donkey " " " *✓*

Dates of Examination of principal parts—Cylinders *5/5 6 19/10/15* Slides *17/6 8/7/15* Covers *17/6 8/7/15* Pistons *17/6 8/7/15* Rods *6/5 17/6/15*
Connecting rods *6/5 17/6/15* Crank shaft *5/2 6/7/3/15* Thrust shaft *22/10, 27/10* Tunnel shafts *None* Screw shaft *9/8 19/10/15* Propeller *10/6/15*
Stern tube *19/10/15* Steam pipes tested *15/12/15* Engine and boiler seatings *17/6 15/12/15* Engines holding down bolts *15/12/15*
Completion of pumping arrangements *15/12/15 3/1/16* Boilers fixed *15/12/15* Engines tried under steam *3/1/16*
Main boiler safety valves adjusted *3/1/16* Thickness of adjusting washers *P 3 5 7/16*

Material of Crank shaft *Steel* Identification Mark on Do. *4032 GAH* Material of Thrust shaft *Steel* Identification Mark on Do. *4032 GAH*
Material of Tunnel shafts *None* Identification Marks on Do. *✓* Material of Screw shafts *Iron* Identification Marks on Do. *4407 GAH*
Material of Steam Pipes *Copper* Test pressure *270 lbs*

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 *✓* If so, state name of vessel *✓*

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

Sis letter E. March 22nd 1915

The machinery of this vessel has been built under special survey the materials and workmanship are sound and good and under the vessel stipth in my opinion to have work of 1/2-L.M.C. 1.16.

It is submitted that this vessel is eligible for THE RBOOD + LMC 1.16.

J.W.D. 13/1/16
A.R.R.

G.N.H.M.
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee ... £ 1 : - : -
Special *has* ... £ 8 : 10 : -
Donkey Boiler *paid by owner* ... £ 4 : 10 : -
Travelling Expenses (if any) £ 2 : 8 : -

Committee's Minute FRI. JAN. 14. 1916

Assigned *+ L.M.C. 1.16*

MACHINERY CERTIFICATE



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Lloyd's Register Foundation

Rpt. 5a.
Date of writing Report
No. in Survey Reg. Book.
on the
Master
Engines made at
Boilers made at
Registered Horse
MULTITUBULAR
Letter for record
Boilers / Sing
No. of Certificate
Safety valves to each
Are they fitted with
Smallest distance
Material of shell
Descrip. of riveting
Gap of plates or
rules 141 lb
boiler 2 plates
Description of long
plates: Material
Ton 2 x 7 1/2 li st
1739 Port
We
A. Jeffrey
Specially Surveyed
We hereby
For boilers
Horse Power,
above 200. The
than £2 2s.
MEM.—In
all cases where
to be defrayed
No. 666
This request is made
Foreign Shipping, w
While the Committee use
good that neither the Com
report or certificate issued
or for any error of judgm
LLOYD'S REGISTER OF SH
Secretary
Lloyd's Register
GLASGOW
Under
Survey Fee
Travelling Exp
Committee's
Assigned

Certificate (if required) to be sent to *Leith.*
The Surveyors are requested not to write on or below the space for Committee's Minute.