

## REPORT ON MACHINERY.

No. 15,523.

Port of LeithReceived at London Office 16 JAN 1919No. in Survey held at AlloaDate, first Survey 21/3/18Last Survey 17/12/18

Reg. Book.

on the

St. Catherine Aida(Number of Visits 21)

Master

Built at AlloaBy whom built J. S. & Co. (Jefferies yard)Tons }  
Net }  
When built 1918Engines made at AlloaBy whom made John S. B. & Co. (Jefferies yard)when made 1918Boilers made at GlasgowBy whom made D. Roman & Co.when made 1918

Registered Horse Power

Owners J. Hecke & SonPort belonging to LondonNom. Horse Power as per Section 28 127Is Refrigerating Machinery fitted for cargo purposes noIs Electric Light fitted noENGINES, &c.—Description of Engines Triple InvertedNo. of Cylinders 3No. of Cranks 3Dia. of Cylinders 16. 76 1/2. 44Length of Stroke 30Revs. per minute 90

Dia. of Screw shaft

as per rule 9.2

Material of

as fitted 9.4screw shaft IIs 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

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 yesLength of stern bush 43 3/4

Dia. of Tunnel shaft

as per rule 8.05

Dia. of Crank shaft journals

as per rule 8.45Dia. of Crank pin 8 3/4Size of Crank webs 17x6

Dia. of thrust shaft under

collars 8 1/2Dia. of screw 11-6Pitch of Screw 12-6No. of Blades 4State whether moveable noTotal surface 450No. of Feed pumps 2Diameter of ditto 3Stroke 15Can one be overhauled while the other is at work yesNo. of Bilge pumps 2Diameter of ditto 3 1/4Stroke 15Can one be overhauled while the other is at work yesNo. of Donkey Engines 2Sizes of Pumps 6" x 4 1/2" x 6"7" x 7" x 8"

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 39 3/412 1/2In Holds, &c. 2 in mainhold2 1/2No. of Bilge Injections 1sizes 4"Connected to condenser, or to circulating pump yesIs a separate Donkey Suction fitted in Engine room & size yes, 3"Are all the bilge suction pipes fitted with roses yesAre the roses in Engine room always accessible yesAre the sluices on Engine room bulkheads always accessible noneAre all connections with the sea direct on the skin of the ship yesAre they Valves or Cocks BothAre they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yesAre the Discharge Pipes above or below the deep water line aboveAre they each fitted with a Discharge Valve always accessible on the plating of the vessel yesAre the Blow Off Cocks fitted with a spigot and brass covering plate yesWhat pipes are carried through the bunkers noneHow are they protected yesAre all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yesAre the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yesDates of examination of completion of fitting of Sea Connections 24/9/18of Stern Tube 24/9/18Screw shaft and Propeller 24/9/18Is the Screw Shaft Tunnel watertight noneIs it fitted with a watertight door yes

worked from

OILERS, &amp;c.—(Letter for record

Manufacturers of Steel

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

No. and Description of Safety Valves to

each boiler

Area of each valve

Pressure to which they are adjusted

Are they fitted with easing gear

12.6 Smallest distance between boilers or uptakes and bunkers or woodwork

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

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

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

002515-002521-0018

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# VERTICAL DONKEY BOILER—

Manufacturers of Steel

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 Safe \_\_\_\_\_

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 \_\_\_\_\_ Stayed by \_\_\_\_\_

Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_ Dates of survey \_\_\_\_\_

## SPARE GEAR. State the articles supplied:—

Two top and bottom end connecting rod bolts nuts; two main bearing bolts nuts; one set of coupling bolts nuts; one set of feed valve pump valves, assorted bolts nuts turn of various sizes.

The foregoing is a correct description,

Manufacturer.

Shipbuilding & Engineering Co.  
(JEFFREY'S YARD)

Robt J. Jeffrey & Co.

Dates of Survey while building { During progress of work in shops - - 1918 Mar 21 Apr 5 10 22 May 15 28 June 10 17 28 July 19 31 Aug 19 Sep 4 11 24 Oct 15.  
During erection on board vessel - - Oct 25 Nov 15 Dec 13 17  
Total No. of visits 21

Is the approved plan of main boiler forwarded herewith \_\_\_\_\_

Dates of Examination of principal parts—Cylinders 14/9/18 Slides 4/9/18 Covers 4/9/18 Pistons 4/9/18 Rods 31/7/18

Connecting rods 28/6/18 Crank shaft 25/4 Thrust shaft 1/10/18 Tunnel shafts ✓ Screw shaft 21/2/18 Propeller 31/7/18

Stern tube 31/7/18 Steam pipes tested at 96. Engine and boiler seatings 24/9/18 Engines holding down bolts 13/12/18

Completion of pumping arrangements 17/12/18 Boilers fixed 13/12/18 Engines tried under steam 17/12/18

Main boiler safety valves adjusted 13/12/18 Thickness of adjusting washers P 3/8 S 3/8 S 5/8 S 3/8

Material of Crank shaft S Identification Mark on Do. LLOYDS 4644 cm. Material of Thrust shaft S Identification Mark on Do. LLOYDS 4644 J.R.W. cm.

Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts I Identification Marks on Do. LLOYDS 4644 cm.

Material of Steam Pipes Steel Test pressure 5740 lb.

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

The machinery of this vessel has been built under special survey the material & workmanship are good, and in my opinion the vessel is eligible for record of + LMC 12.18.

It is submitted that this vessel is eligible for THE RECORD + LMC 12.18.

The amount of Entry Fee. £ : : When applied for, \_\_\_\_\_  
Special for Eng & 12.7 : :  
Donkey Boiler Fee £ : :  
Travelling Expenses (if any) £ : :  
When received, 11.6. 1919

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

Committee's Minute

Assigned

+ LMC 12.18.



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

MACHINERY CERTIFICATE  
ENTERED