Rpt. 4a.

REPORT ON MACHINERY.

No. 40754

Received at London Office THU JAN 6 1921

Date of writing Report 4. 1. 1921 When handed in at Local Office 4. 1. 1921 Port of Glasgow

No. in Reg. Book. Survey held at Clydebank Date, First Survey 26 9 1920 Last Survey 9 - 12 - 1920.

(Number of Visits 3)

on the Tons { Gross / Net

Master Built at By whom built The Kawasaki Dkd Co Ltd (481) When built

Engines made at Clydebank By whom made John Brown & Co Ltd (S.O. 33/20) when made 1920

Boilers made at — By whom made — when made

Registered Horse Power Owners Port belonging to

Shaft Horse Power at Full Power 5700 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

TURBINE ENGINES, &c.—Description of Engines — No. of Turbines —

Diameter of Rotor Shaft Journals, H.P. — L.P. — Diameter of Pinion Shaft 1st Red H.P. 8½" L.P. 7" 2nd Red H.P. 7" L.P. 15"

Diameter of Journals 5½" 7" 1st Red 15" 2nd Red Distance between Centres of Bearings H.P. to L.P. 3' - 2¼" L.P. 3' - 3¼" Diameter of Pitch Circle 1st Red H.P. 8·998" L.P. 73·711"

Diameter of Wheel Shaft 20" to 18" Distance between Centres of Bearings 8' - 8½" Diameter of Pitch Circle of Wheel 123·618"

Width of Face 50" Diameter of Thrust Shaft under Collars — Diameter of Tunnel Shaft as per rule — as fitted

No. of Screw Shafts — Diameter of same as per rule — as fitted — Diameter of Propeller — Pitch of Propeller —

No. of Blades — State whether Moveable — Total Surface — Diameter of Rotor Drum, H.P. — L.P. — astern —

Thickness at Bottom of Groove, H.P. — L.P. — Astern — Revs. per Minute at Full Power, Turbine H.P. to L.P. 3400 L.P. 1890 Propeller 85

PARTICULARS OF BLADING.

	H.P.			L.P.			ASTERN.		
	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
1ST EXPANSION									
2ND "									
3RD "									
4TH "									
5TH "									
6TH "									
7TH "									
8TH "									

No. and size of Feed pumps

No. and size of Bilge pumps

No. and size of Bilge suctions in Engine Room

In Holds, &c.

No. of Bilge Injections sizes Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine Room & size

Are all the bilge suction pipes fitted with roses Are the roses in Engine room always accessible

Are all connections with the sea direct on the skin of the ship Are they Valves or Cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the Discharge Pipes above or below the deep water line

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate

What pipes are carried through the bunkers How are they protected

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges

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

BOILERS, &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

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 plates 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 bottom Thickness of plates crown bottom 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 Steam dome: description of joint to shell % of strength of joint Diameter Diameter of rivet holes Pitch of rivets

Thickness of shell plates Material Description of longitudinal joint

Working pressure of shell by rules Crown plates: Thickness How stayed

SUPERHEATER. 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 ____

IS A DONKEY BOILER FITTED? ____ If so, is a report now forwarded? ____

SPARE GEAR. State the articles supplied:— ____

John Brown & Company, Limited.

The foregoing is a correct description,

J. B. Henderson

Clydebank Secretary. ____ Manufacturers.

Dates of Survey while building { During progress of work in shops - - } 1920 Sep 6 21 Nov 1 22 24 Dec 9
{ During erection on board vessel - - - }
{ Total No. of visits 6 }

Is the approved plan of main boiler forwarded herewith ____

" " " donkey " " " ____

Dates of Examination of principal parts—Casings ✓ Rotors ✓ Blading ✓ Gearing 9/12/20

Rotor shaft ✓ Thrust shaft ✓ Tunnel shafts ✓ Screw shaft ✓ Propeller ✓

Stern tube ✓ Steam pipes tested ✓ Engine and boiler seatings ✓ Engines holding down bolts ✓

Completion of pumping arrangements ✓ Boilers fixed ✓ Engines tried under steam ✓

Main boiler safety valves adjusted ✓ Thickness of adjusting washers ✓

Material and tensile strength of Rotor shaft ✓ Identification Mark on Do. ✓

Material and tensile strength of Pinion shaft Nickel Steel 40 Tons Minimum Identification Mark on Do. HP 3277 2nd 329 LP 3459 " 329

Material of Wheel shaft Steel Identification Mark on Do. 3428 Aimit 9/12/20 Material of Thrust shaft ✓ Identification Mark on Do. ✓

Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts ✓ Identification Marks on Do. ✓

Material of Steam Pipes ✓ Test pressure ____

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 a duplicate of a previous case ✓ If so, state name of vessel ✓

C. 2828 issued

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

This machinery has been built under special Survey the materials and Workmanship are of good descrip It has now been forwarded to Kobe, for the vessel mentio on the other side (C. 2818 issued.)

Certificate (if required) to be sent to ____

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

The amount of Entry Fee	£	:	:	When applied for,
Special	£ 10	:	:	5/1/1921
Donkey Boiler Fee ...	£	:	:	When received,
Travelling Expenses (if any)	£	:	:	29-1-21

A. McLeand

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW. 5-JAN1921

Assigned No action