

# REPORT ON MACHINERY.

No. 1205

Received at London Office

Date of writing Report 16.2.1920 When handed in at Local Office

19 Port of *Newcastle* *of* *SW* MON APR 12 1920

No. in Survey held at *Newcastle* *of* *SW*  
Reg. Book.

Date, First Survey 12-3-19 Last Survey 12-2-1920

(Number of Visits)

on the *steam Steamer Dinoga*

Tons Gross 3597  
Net 2103

Master *Heslin* Built at *Newcastle* *of* *SW* By whom built *State Government Dockyard* When built 1920

Engines made at *Newcastle* *of* *SW* By whom made *State Government Dockyard* when made 1920

Boilers made at *Newcastle* By whom made *State Government Dockyard* when made 1920

Registered Horse Power 231 Owners *Commonwealth Government* Port belonging to *State Government*

Tom. Horse Power as per Section 28 320 Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *Yes*

ENGINES, &c.—Description of Engines *Triple Expansion Engines* No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 25, 41, 68 Length of Stroke 45 Revs. per minute 75 Dia. of Screw shaft as per rule 13.6 Material of screw shaft *Steel*

Is 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

the propeller boss *Yes* If the liner is in more than one length are the joints burned *Sweated* 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 *No* If two

boilers are fitted, is the shaft lapped or protected between the liners *Yes* Length of stern bush 5' 0"

Dia. of Tunnel shaft as per rule 12.4 Dia. of Crank shaft journals as per rule 12.5 Dia. of Crank pin 13 1/2 Size of Crank webs 27 1/2 x 5 1/2 Dia. of thrust shaft under

bars 13 1/2 Dia. of screw 16 1/2 Pitch of Screw 16 1/2 No. of Blades 4 State whether moveable *No* Total surface 85 1/2

No. of Feed pumps 2 Diameter of ditto 7 1/2 Stroke 21 Can one be overhauled while the other is at work *Yes*

No. of Bilge pumps 2 Diameter of ditto 3 1/2 Stroke 24 Can one be overhauled while the other is at work *Yes*

No. of Donkey Engines 1 Sizes of Pumps 12 1/2 x 21 1/2 No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room 3--3 1/2 Dia. One--4 1/2 Dia In Holds, &c. 6--3 1/2 Dia 16 Holds and 3 1/2 Dia 16 Tanks

No. of Bilge Injections 1 sizes 8" Dia Connected to condenser or to circulating pump *Yes* As a separate Donkey Suction fitted in Engine room & size *No*

Are all the bilge suction pipes fitted with roses *Yes* Are the roses in Engine room always accessible *Yes* Are the sluices on Engine room bulkheads always accessible *Yes*

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

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 *Below*

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

What pipes are carried through the bunkers *Water pipes* How are they protected *Wood casing*

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 the Screw Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from *Deck level as Engine Room*

BOILERS, &c.—(Letter for record 15) Manufacturers of Steel *James Stewart & Lloyd*

Total Heating Surface of Boilers 8289 1/2 Is Forced Draft fitted *Yes* No. and Description of Boilers 3 *Water-tube* *Water-tube*

Working Pressure 190 Tested by hydraulic pressure to 400 Date of test 30-10-19 No. of Certificate

Can each boiler be worked separately *Yes* Area of fire grate in each boiler 84.5 1/2 No. and Description of Safety Valves to

each boiler 2 *Spring loaded* Area of each valve 9.6 1/2 Pressure to which they are adjusted 190 Are they fitted with easing gear *Yes*

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

Thickness 1 1/2 Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams *S.R. Lap*

long. seams *T.R. Single butt* Diameter of rivet holes in long. seams 27/32 Pitch of rivets 3 1/4 Lap of plates or width of butt straps 7

Per centages of strength of longitudinal joint rivets 77.5 % plate 75.8 % Working pressure of shell by rules 210 Size of manhole in shell 11" x 15"

Size of compensating ring 22" x 25 1/4" x 7/8 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 Area at smallest part Area supported by each stay Working pressure by rules End plates in steam space:

Material *Steel* Thickness 1 1/2 Pitch of stays How are stays secured Working pressure by rules Material of stays

Area at smallest part Area supported by each stay Working pressure by rules 240 Material of Front plates at bottom

Thickness Material of Lower back plate *S. Headed* Thickness 1 1/2 Greatest pitch of stays Working pressure of plate by rules

Diameter of tubes 3 1/2 Pitch of tubes 2 1/2 x 2 3/4 Material of tube plates *Steel* Thickness: Front 1" Back Mean pitch of stays *Like 7"*

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 Thickness of shell plates *Headed* Material *Steel* Description of longitudinal joint *Welded* Diam. of rivet holes

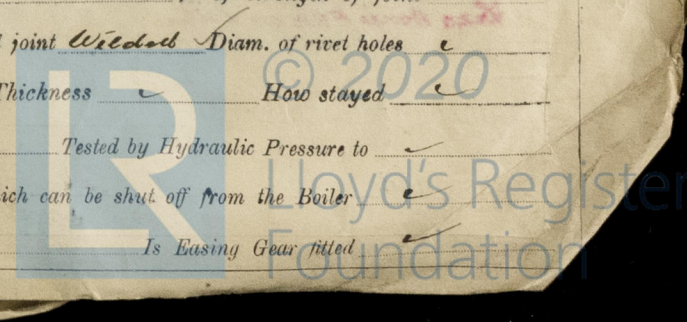
Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

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

9700-500500-166200





IS A DONKEY BOILER FITTED?

40

If so, is a report now forwarded?

SPARE GEAR.

State the articles supplied:— 2 connecting rod top end bolts, 2 connecting rod bottom end bolts, 2 beam bearing bolts, 3 crank shaft coupling bolts, 3 thrust shaft coupling bolts, 1 large pump valve, 1 large pump discharge valve, 3 main chest valves, 3 donkey chest valves, 24 bolts as sorted, 6 cylinder cover slides & nuts, 6 steam chest studs & nuts, 13 piston rings & slide valves, 5 bars cast 3/8, 1/2, 3/4, 7/8, 1" round iron, 3 bars cast 1 1/4, 1 1/2, 2 1/2 flat iron, 1 Propeller cast iron, 1 High pressure piston valve, 1 Propeller shaft complete, 1 set air pump valves, 1 set feed & suction valves for donkey pump, 1 set of piston rings & 1 bucket, 1 set each suction & discharge valves for ballast pump & 1 set piston rings & 1 bucket, 1 set piston rings & slide valves for donkey engine, two set of piston rings & one plate and valve for donkey engine of cast steel engine, two safety valve springs for donkey boilers, 623 boiler tubes.

The foregoing is a correct description,

*A. C. Carter*

Manufacturer.

Dates of Survey while building  
During progress of work in shops -- 1919 Nov. 12, 23, 27, Dec. 10, 26, 30, May 8, 17, 24, 29, June 12, 19, 25, 28, July 9, 12, 17, 26, Aug 2, 9, 13, 20, 22  
During erection on board vessel -- Sept 3, 6, 12, 14, 20, 25, Oct 2, 4, 6, 7, 10, 17, 20, 23, 24, 29, 30, 31, Nov 4, 5, 9, 10, 16, 18, 19, 21, 28, Dec 2, 9, 15, 18  
Total No. of visits Jan 1920, 12, 15, 20, 23, 28, May 10, 13 = 63

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 12-3-19 Slides 12-3-19 Covers 22-3-19 Pistons 19-6-19 Rods 25-6-19

Connecting rods 12-7-19 Crank shaft 6-9-19 Thrust shaft 20-8-19 Tunnel shafts 4-10-19 Screw shaft 4-11-19 Propeller 3-9-19

Stern tube 25-9-19 Steam pipes tested ✓ Engine and boiler seatings 1-8-19 Engines holding down bolts 2-12-19

Completion of pumping arrangements 16-12-19 Boilers fixed 29-10-19 Engines tried under steam 14-1-20

Completion of fitting sea connections 12-8-19 Stern tube 10-11-19 Screw shaft and propeller 15-12-19

Main boiler safety valves adjusted 15-12-19 Thickness of adjusting washers 1 7/8" S.B. 3/2 + 3/8 C.B. 1 1/4 P.B.

Material of Crank shaft Steel ✓ Identification Mark on Do. LLOYD'S Material of Thrust shaft Steel ✓ Identification Mark on Do. LLOYD'S

Material of Tunnel shafts Steel ✓ Identification Marks on Do. LLOYD'S Material of Screw shafts Steel ✓ Identification Marks on Do. LLOYD'S

Material of Steam Pipes Steel ✓ Test pressure ✓

Is an installation fitted for burning oil fuel No ✓ 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 Yes ✓ If so, state name of vessel "Athens", "Diamond", "Crown"

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

The machinery and hull of this vessel have been constructed and fitted under special survey and the workmanship and material employed has been of the best class, and to the requirements of the Rules of Lloyd's Register. The machinery has been tested and run under steam at sea when it was found to work satisfactorily and in good order throughout.

This vessel eligible in my opinion to have record made in Register Book of L.M.C. 2-20

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 2-20 F.D. Subject to the Water Tube Boilers being surveyed annually. 16.4.20

The amount of Entry Fee ... £ 3 : 0 : When applied for, 23-2-1920  
Special ... £ 92 : 0 :  
Donkey Boiler Fee ... £ 8 : 8 : When received, 16.4.20  
Travelling Expenses (if any) £

Committee's Minute

Assigned

+ L.M.C. 2-20 F.D. (Water Tube Boilers)

Subject

FRI. NOV. 4 5 1920

TUE. MAR. 22 1921

FRI. APR. 15 1921

Lloyd's Register Foundation