

# REPORT ON MACHINERY.

No. 4994.

Received at London Office

MAR 15 1917

of writing Report March 12 1914 When handed in at Local Office March 14 1917 Port of DUNDEE  
 in Survey held at Dundee Date, First Survey 24<sup>th</sup> February 1916 Last Survey March 8<sup>th</sup> 1914  
 g. Book. 57 on the Steam Trawler "SERFIB" Tons } Gross  
 } Net  
 ister Built at Sely By whom built Macdonald & Sons When built  
 gines made at Dundee By whom made James Cooper & Co. Ltd (No 148) when made 1914  
 ilters made at Dundee By whom made " " " (No. 392) when made 1914  
 gistered Horse Power Owners T. Hudson Port belonging to Hull  
 m. Horse Power as per Section 28 574.70 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

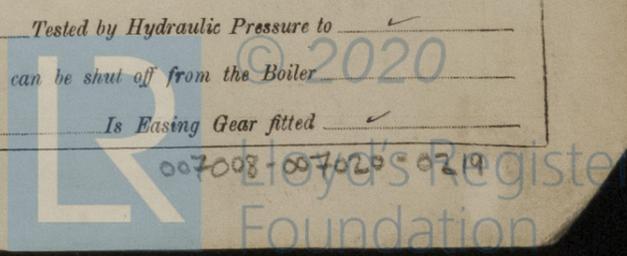
**GINES, &C.**—Description of Engines Triple Expansion, surface condensing No. of Cylinders 3 No. of Cranks 3  
 a. of Cylinders 12-21-34 Length of Stroke 24 Revs. per minute 111 Dia. of Screw shaft as per rule 7.0 Material of screw shaft Steel  
 the screw shaft fitted with a continuous liner the whole 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 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 Am fitting If two  
 ers are fitted, is the shaft lapped or protected between the liners Length of stern bush 3'-0"  
 ia. of Tunnel shaft as per rule 6.26 Dia. of Crank shaft journals as per rule 6.54 Dia. of Crank pin 6 3/4 Size of Crank webs 10 1/2 x 4 1/4 Dia. of thrust shaft under  
 lars 6 3/4 Dia. of screw 8'-6" Pitch of Screw 11'-3" No. of Blades 4 State whether moceable no Total surface 31.5  
 p. of Feed pumps 1 Diameter of ditto 2 1/2 Stroke 12 Can one be overhauled while the other is at work Yes  
 p. of Bilge pumps 1 Diameter of ditto 2 1/2 Stroke 12 Can one be overhauled while the other is at work Yes  
 p. of Donkey Engines one Sizes of Pumps 6" x 3" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps  
 Engine Room 2-2" fwd. 2-2" aft. In Holds, &c. Hold, 1-2" Fish room 1-2"  
 No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 2"  
 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 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 Yes Are the Blow Off Cocks fitted with a spigot and brass covering plate Yes  
 What pipes are carried through the bunkers None How are they protected Yes  
 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  
 the Screw Shaft Tunnel watertight None Is it fitted with a watertight door Yes worked from Yes

**BOILERS, &C.**—(Letter for record S.) Manufacturers of Steel D. GUILLE & SONS, J. SPENCER & SONS, BEADMORE & B., J. SPENCER & SONS.  
 Total Heating Surface of Boilers 1188.5 Is Forced Draft fitted no No. and Description of Boilers one, return tube  
 Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 22.2.14 No. of Certificate 965  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 32 No. and Description of Safety Valves to  
 each boiler Two, spring loaded Area of each valve 7.06 Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 10" Mean dia. of boilers 12'-8" Length 10'-0" Material of shell plates Steel  
 Thickness 1" Range of tensile strength 28-32 Are the shell plates welded or flanged Yes Descrip. of riveting: cir. seams D.R.  
 Long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1/16 Pitch of rivets 4 1/16 Lap of plates or width of butt straps 16 3/8  
 Percentages of strength of longitudinal joint rivets 93.3 Working pressure of shell by rules 181.5 Size of manhole in shell 16" x 12"  
 Size of compensating ring 7 1/4 x 1 1/8 No. and Description of Furnaces in each boiler 2- Plain Material Steel Outside diameter 3'-5 1/2"  
 Length of plain part top 64" bottom 60" Thickness of plates top 3/4" bottom 3/4" Description of longitudinal joint welded No. of strengthening rings Yes  
 Working pressure of furnace by the rules 188 Combustion chamber plates: Material Steel Thickness: Sides 5/8 Back 5/8 Top 2 1/32 Bottom 7/8  
 Pitch of stays to ditto: Sides 7 3/4 x 9 Back 8 3/4 x 8 Top 8 3/4 x 9 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 181 (Sides) 186 (Backs)  
 Material of stays Steel Area at smallest part 1.99 Area supported by each stay 40 Working pressure by rules 194 End plates in steam space:  
 Material Steel Thickness 1/8 Pitch of stays 1/4 x 1 1/2 How are stays secured D.N. Working pressure by rules 187.5 Material of stays Steel  
 Area at smallest part 5.49 Area supported by each stay 301 Working pressure by rules 199 Material of Front plates at bottom Steel  
 Thickness 3/8 Material of Lower back plate Steel Thickness 3/16 Greatest pitch of stays one stay 12" Working pressure of plate by rules 181  
 Diameter of tubes 3 1/2 Pitch of tubes 5 Material of tube plates Steel Thickness: Front 1/8 Back 3/4 Mean pitch of stays 16"  
 Pitch across wide water spaces 14 1/2 Working pressures by rules 183 Girders to Chamber tops: Material Steel Depth and  
 thickness of girder at centre 8 3/4 x 1 1/4 Length as per rule 3 1/4 Distance apart 8 3/4 Number and pitch of stays in each three - 9"  
 Working pressure by rules 198 Steam dome: description of joint to shell Yes % of strength of joint Yes  
 Diameter Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint Yes Diam. of rivet holes Yes  
 Pitch of rivets Yes Working pressure of shell by rules Yes Crown plates Yes Thickness Yes How stayed Yes

**SUPERHEATER.** Type Yes Date of Approval of Plan Yes Tested by Hydraulic Pressure to Yes  
 Date of Test Yes Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes  
 Diameter of Safety Valves Yes Pressure to which each is adjusted Yes Is Easing Gear fitted Yes

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN

If Stocken, State Mechanical Test.



007008-007025-0219

IS A DONKEY BOILER FITTED? no ✓ If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied:— 2 Top end bolts & nuts ✓ 2 Bottom end bolts & nuts ✓ 2 Main bearing bolts & nuts ✓ One set of coupling bolts and nuts ✓ Values for air, feed & bilge pumps ✓ Assorted bolts and nuts ✓ Two condensers & three boiler tubes

The foregoing is a correct description, FOR COOPER & GREIG LIMITED.

*Thomas Cooper*  
DIRECTOR Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1916 FEB. 24, APR. 18, MAY 9, 24, JUNE 30, JULY 15, AUG. 1, 4, 9, 15, 21, 28, 31, SEP. 2, 8, OCT. 3, NOV. 1, 15, 18, 29, DEC. 1914 JAN. 8, 11, 24, 26, 31, FEB. 3, 12, 23, MAR. 5. During erection on board vessel -- 1914 JAN. 24, 25, 26, 27, FEB. 13, 23, 26, 28, MAR. 2, 4, 8. Total No. of visits 42. Is the approved plan of main boiler forwarded herewith Yes ✓ " " " donkey " " " ✓

Dates of Examination of principal parts—Cylinders 8.2.17 Slides 8.2.17 Covers 8.2.14 Pistons 8.2.14 Rods 8.2.14 Connecting rods 8.2.14 Crank shaft 2.12.16 Thrust shaft 2.12.16 Tunnel shafts ✓ Screw shaft 24.2.17 Propeller 24.2.14 Stern tube 24.2.14 Steam pipes tested 5.3.14 Engine and boiler seatings 25.2.14 Engines holding down bolts 25.2.14 Completion of pumping arrangements 8.3.14 Boilers fixed 26.2.14 Engines tried under steam 8.3.14 Completion of fitting sea connections 25.2.14 Stern tube 25.2.14 Screw shaft and propeller 26.2.14 Main boiler safety valves adjusted March 7<sup>th</sup> 1914. Thickness of adjusting washers Port 1/4" Starb 7/32" Material of Crank shaft Steel Identification Mark on Do. 4229 G.A.H. Material of Thrust shaft Steel Identification Mark on Do. 4229 J.A.M. Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Iron Identification Marks on Do. 4229 J.A.M. Material of Steam Pipes S.D. Copper, 3 3/4" Bore x 4 lbs. ✓ Test pressure 360 lbs per sq. in. ✓ 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 no ✓ If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c. The engines & boilers of this vessel have been built under special survey & in accordance with the approved plans. The materials & workmanship are good. The machinery has been examined under full working conditions & found in good order; and it is eligible in my opinion to have record of L.M.C. 3.17 in the Register Book

It is submitted that this vessel is eligible for THE RECORD. + LMC 3.17.

*J.W.D.*  
16/3/14

*John Mackenzie*  
Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ 1 : 0 :  
Special ... £ 10 : 10 :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, 14/3/1914  
When received, 23/3/1914

Committee's Minute FRI. 16 MAR. 1914  
Assigned + L.M.C. 3.17

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 WRITTEN

VESS

These particulars are ... Signal Letters (if any) ...

Official Number.

139313

No., Date, and Port of Prev.

Whether British or Foreign Built. Whether and if a

British

Number of Decks ... Number of Masts ... Rigged ... Stern ... Build ... Galleries ... Lead ... Framework and description of vessel ... Number of Bulkheads ... Number of water ballast tanks and their capacity in tons

Total to quarter the depth from weather to bottom of keel

Description of Engines.

Particulars of Boilers. Description, Number, Iron or Steel, Loaded Pressure

GROSS TONNAGE

Under Tonnage Deck ... Space or spaces between Deck ... Turret or Trunk ... Forecastle ... Bridge space ... Deep or Break ... Side Houses ... Deck Houses ... Chart House ... Spaces for machinery, and Section 78 (2) of the Merchant Shipping Act, 1894 ... Excess of Hatchways

Gross Tonnage Deductions, as per Contract Registered Tonnage

NOTE 1.—The tonnage of the engine Deck for propelling ... NOTE 2.—The undermentioned s

Name of Master

No. of Owners

Name, Residence, and Description of The Captain of St. ... Thungston ... Thomas ... designa

Dated 13th M

880) (71265) Wt. 40422/94 20

