

REPORT ON MACHINERY.

No. 22580

Port of SunderlandReceived at London Office FRI. 5 JAN 1906No. in Survey held at Sunderland
Reg. Book.Date, first Survey 19th April, 1905 Last Survey 3rd January 1906(Number of Visits 37)on the Steel Screw Steamer "NEEDWOOD"Gross 1984.63
Tons Net 1243.36
When built 1906Master David Jones Built at Sunderland By whom built Osburne, Gresham & Co.Engines made at Sunderland By whom made N.E. Marine Eng. Co. Ltd. when made 1906Boilers made at Sunderland By whom made N.E. Marine Eng. Co. Ltd. when made 1906Registered Horse Power Owners W. France Fenwick & Co. Ltd. Port belonging to LondonNom. Horse Power as per Section 28 194 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted noENGINES, &c.—Description of Engines Inverted, Triple Expansion No. of Cylinders Three No. of Cranks ThreeDia. of Cylinders 20 $\frac{1}{2}$ -33-54 Length of Stroke 39 Revs. per minute 66 Dia. of Screw shaft as per rule 12 $\frac{1}{2}$ Material of iron
as fitted 12 $\frac{1}{2}$ screw shaftIs 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 tightin the propeller boss yes If the liner is in more than one length are the joints burned — If the liner does not fit tightly at the partbetween the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive — If twoliners are fitted, is the shaft lapped or protected between the liners — Length of stern bush 4-3Dia. of Tunnel shaft as per rule 10 $\frac{3}{8}$ Dia. of Crank shaft journals as per rule 10 $\frac{3}{8}$ Dia. of Crank pin 10 $\frac{3}{8}$ Size of Crank webs 16 $\frac{3}{4}$ x 6 $\frac{3}{4}$ Dia. of thrust shaft undercollars 10 $\frac{3}{8}$ Dia. of screw 14-9 Pitch of screw 15-6 No. of blades four State whether moveable no Total surface 69 $\frac{1}{2}$ No. of Feed pumps Two Diameter of ditto 3 Stroke 18 Can one be overhauled while the other is at work yesNo. of Bilge pumps Two Diameter of ditto 3 $\frac{1}{2}$ Stroke 18 Can one be overhauled while the other is at work yesNo. of Donkey Engines Two Sizes of Pumps 4x9x9 + 6x4x6 No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room four 3" mps, one 3" centre In Holds, &c. many hold two 3" mps, perfect 2 $\frac{1}{2}$ "after hold two 2 $\frac{1}{2}$ " mps, one 3" centre. Tunnel well 2 $\frac{1}{2}$ "No. of bilge injections one size 4 Connected to condenser, or to circulating pump pump Is a separate donkey suction fitted in Engine room & size yes 3"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 noneAre all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks bothAre 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 aboveAre 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 yesWhat 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 yesAre the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges yesWhen were stern tube, propeller, screw shaft, and all connections examined in dry dock 10/11/05 Is the screw shaft tunnel watertight yesIs it fitted with a watertight door yes worked from top platformBOILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 2940 $\frac{1}{2}$ Is forced draft fitted noNo. and Description of Boilers Two single ended, chyl^d multi^l Working Pressure 180 $\frac{1}{2}$ Tested by hydraulic pressure to 360 $\frac{1}{2}$ Date of test 18/10/05 Can each boiler be worked separately yes Area of fire grate in each boiler 43 $\frac{1}{2}$ No. and Description of safety valves toeach boiler Two direct spring Area of each valve 4.91 $\frac{1}{2}$ Pressure to which they are adjusted 185 $\frac{1}{2}$ Are they fitted with easing gear yesSmallest distance between boilers or uptakes and bunkers or woodwork 24 Mean dia. of boilers 12-9 $\frac{1}{2}$ Length 10-0 Material of shell plates steelThickness 1 $\frac{1}{2}$ Range of tensile strength 28 $\frac{3}{4}$ Are they welded or flanged no Descrip. of riveting: cir. seams Lap DR long. seams DRS-TRDiameter of rivet holes in long. seams 1 $\frac{1}{8}$ Pitch of rivets 8 Lap of plates or width of butt straps 16 $\frac{3}{4}$ Per centages of strength of longitudinal joint 89.5 Working pressure of shell by rules 180.9 Size of manhole in shell 16x12Size of compensating ring flange No. and Description of Furnaces in each boiler Three, plain Material steel Outside diameter 35 $\frac{3}{4}$ Length of plain part top 11 $\frac{3}{4}$ Thickness of plates bottom 11 Description of longitudinal joint weld No. of strengthening rings —Working pressure of furnace by the rules 188 $\frac{1}{2}$ Combustion chamber plates: Material steel Thickness: Sides 1 $\frac{1}{8}$ Back 3 $\frac{1}{4}$ Top 1 $\frac{1}{8}$ Bottom 1 $\frac{1}{8}$ Pitch of stays to ditto: Sides 10 $\frac{1}{2}$ x 8 $\frac{3}{8}$ Back 11 $\frac{1}{8}$ x 8 $\frac{3}{8}$ Top 10 $\frac{1}{2}$ x 8 $\frac{3}{8}$ If stays are fitted with nuts or riveted heads nut Working pressure by rules 181.1Material of stays steel Diameter at smallest part 1 $\frac{1}{4}$ Area supported by each stay 484 $\frac{1}{2}$ Working pressure by rules 180.5 End plates in steam space:Material steel Thickness 1 $\frac{1}{8}$ Pitch of stays 23 $\frac{1}{2}$ x 18 $\frac{1}{2}$ How are stays secured DR x W Working pressure by rules 182.4 Material of stays steelDiameter at smallest part 3 $\frac{1}{4}$ Area supported by each stay 434 $\frac{1}{2}$ Working pressure by rules 195 $\frac{1}{2}$ Material of Front plates at bottom steelThickness 1 $\frac{3}{16}$ Material of Lower back plate steel Thickness 2 $\frac{1}{4}$ Greatest pitch of stays 14 $\frac{1}{8}$ x 8 $\frac{1}{2}$ Working pressure of plate by rules 181 $\frac{1}{2}$ Diameter of tubes 3 $\frac{1}{4}$ Pitch of tubes 4 $\frac{1}{8}$ x 4 $\frac{1}{2}$ Material of tube plates steel Thickness: Front 1 $\frac{3}{16}$ Back 1 $\frac{3}{16}$ Mean pitch of stays 9 $\frac{3}{16}$ Pitch across wide water spaces 14 $\frac{1}{2}$ Working pressures by rules 215.7 Girders to Chamber tops: Material steel Depth andthickness of girder at centre 8 x 2 $\frac{1}{8}$ Length as per rule 28 Distance apart 10 $\frac{1}{2}$ Number and pitch of Stays in each Two 8 $\frac{3}{8}$ Working pressure by rules 233.3 Superheater or Steam chest; how connected to boiler — Can the superheater be shut off and the boiler workedseparately — Diameter — Length — Thickness of shell plates — Material — Description of longitudinal joint — Diam. of rivetholes — 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 —

5.

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure _____ tested by hydraulic pressure to _____ No. of Certificate _____ Fire grate area _____ Description of safety valves _____

No. of safety valves _____ Area of each _____ Pressure to which they are adjusted _____ If fitted with easing gear _____ If steam from main boiler enters the donkey boiler _____

Dia. of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____ Range of 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 _____ Thickness of shell crown plates _____ Radius of do. _____ No. of Stays to do. _____

Plates _____

Dia. of stays _____ Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of _____

joint _____ Thickness of furnace crown plates _____ Stayed by _____ Working pressure of shell by rules _____

Working pressure of furnace by rules _____ Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied:— Two each top end, bottom end, & main bearing belts
one set of coupling belts & nuts, one set of feed & lift pump valves.
and assorted pins & bolts.

The foregoing is a correct description,

NORTH EASTERN MARINE ENGINEERING CO. LTD.
Walter Beattie & Co. Ltd. Manufacturers.


Dates of Survey while building { During progress of work in shops - - } 1905 - Apr: 14, 27, June 5, 15, 19, 21, 27, July 3, 10, 14, Aug: 1, 11, 15, 17, 23, 28, 30, 31, 0
 { During erection on board vessel - - } 2, 7, 8, 14, 27, Oct: 3, 5, 10, 12, 13, 18, 27, Nov: 10, 20, 22, 24, Dec: 12, 21 - 06 - Jan: 3
 Total No. of visits 37

Is the approved plan of main boiler forwarded herewith Yes

Is the approved plan of main boiler forwarded herewith Y
 " " " donkey " " " Y

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

The Machinery of the Vessel has been constructed under Special Survey, the Material & Workmanship sound & good, the Boilers & Steam pipes have been tested Hydraulic pressure to double the working pressure, the Machinery worked satisfactorily at the Moorings, & the Safety Valves of the Main & Donkey Boilers have been adjusted under steam to their working pressure & being gear fitted

This Vessel is Eligible in Our opinion to have the
Notation  L M C 1,06 in the Register Book.

It is submitted that
this vessel is eligible for
THE RECORD H.L.M.C. 1.06.

The amount of Entry Fee..	£	2	:	:	When applied for,
Special	£	29	:	2	4.1.19.06
Donkey Boiler Fee	£	:	:	:	When received,
Travelling Expenses (if any)	£	:	:	:	6/1/19.06

Committee's Minute TUES. 9 JAN 1906

Assigned + Lm 6 1. of

MACHINERY CERTIFICATE
WRITTEN

Form No. 1A.

© 2020
Lloyd's Register
Foundation