

REPORT ON MACHINERY.

Port of Barrow in Furness Received at London Office WED. MAY 6 1896

No. in Survey held at Barrow Date, first Survey Sept 10th 1895 Last Survey April 29th 1896
 Reg. Book. _____ (Number of Visits 83)
 on the Steel Screw Steamer "Clan Lindsay" Ton. { Gross 2668.4
 Net 1704.57
 Master Schofield Built at Barrow By whom built Royal Gunpowder & Ammunition Co. Ltd. When built 1896
 Engines made at Barrow By whom made Royal Gunpowder & Ammunition Co. Ltd. when made 1896
 Boilers made at Do By whom made Do when made 1896
 Registered Horse Power 300 Owners Baynes & Irwin & Co. Port belonging to Glasgow
 Nom. Horse Power as per Section 28 317

ENGINES, &c. — Description of Engine Triple Expansion (Three Cranks) No. of Cylinders Three
 Diameter of Cylinders 23" 38" 63" Length of Stroke 42" Revolutions per minute _____ Diameter of Screw shaft as per rule 11.9"
 as fitted 12.0" Diameter of Crank shaft journals 12.5" Diameter of Crank pin 3" Size of Crank webs 8x25"
 Diameter of screw 15.6" Pitch of screw 17.6" No. of blades 4 State whether moveable yes Total surface 640
 No. of Feed pumps 2 Diameter of ditto 7x9" Stroke 18" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 4" Stroke 22" Can one be overhauled while the other is at work yes
 No. of Donkey Engines Two Sizes of Pumps 9x8x10 9x4x6 x6 Duplex No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Two 3" One 3.5" 2.3" Stokeloid In Holds, &c. no, Two 3", No. 2 Two 3"
No 3 Two 3" after hold one 3.5" Tunnel well one 3.5"
 No. of bilge injections one sizes 7" Connected to condenser, or to circulating pump no Is a separate donkey suction fitted in Engine room & size yes 3.5"
 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 _____
 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
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock Before launch Is the screw shaft tunnel watertight yes
 Is it fitted with a watertight door yes worked from Upper Deck

BOILERS, &c. — (Letter for record S) Total Heating Surface of Boilers 4140.27
 No. and Description of Boilers Two Single Ended Working Pressure 200 lb Tested by hydraulic pressure to 400
 Date of test 31.1.96 Can each boiler be worked separately yes Area of fire grate in each boiler 47.34 No. and Description of safety valves to
 each boiler Two Spring Loaded Cocks Area of each valve 8.29" Pressure to which they are adjusted 200 lb Are they fitted
 with easing gear yes Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean diameter of boilers 13.6"
 Length 11.9" Material of shell plates Steel Thickness 1/8" Description of riveting: circum. seams lap tubed double long. seams Double strap
 Diameter of rivet holes in long. seams 1 1/32" Pitch of rivets 9/16" Lap of plates or width of butt straps 20/8"
 Per centages of strength of longitudinal joint rivets 86.5% Working pressure of shell by rules 209 Size of manhole in shell 15x9.3"
 plate 84.8% Size of compensating ring 27x3.6x1 1/8" No. and Description of Furnaces in each boiler 3 (Barrow) Material Steel Outside diameter 3.3"
 Length of plain part top 9" Thickness of plates crown 9/16" Description of longitudinal joint welded No. of strengthening rings _____
 bottom _____ bottom _____ Working pressure of furnace by the rules 208 Combustion chamber plates: Material Steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 1"
 Pitch of stays to ditto: Sides 8x7 1/2" Back 8x7 1/2" Top 7 1/2x7 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 210
 Material of stays Steel Diameter at smallest part 1.504 Area supported by each stay 58" Working pressure by rules 207 End plates in steam space:
 Material Steel Thickness 1 1/8" Pitch of stays 18x15" How are stays secured 10 nuts Working pressure by rules 235.4 Material of stays Steel
 Diameter at smallest part 2 1/2" Area supported by each stay 206.45 Working pressure by rules 211 Material of Front plates at bottom Steel
 Thickness 1 1/8" Material of Lower back plate Steel Thickness 7/8" Greatest pitch of stays 15" Working pressure of plate by rules _____
 Diameter of tubes 2 1/2" Pitch of tubes 3 3/4 x 3 5/8" Material of tube plates Steel Thickness: Front 1 1/8" Back 2 1/2" Mean pitch of stays 9 1/2"
 Pitch across wide water spaces 14" Working pressures by rules 206.5 Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 8x(1 1/2 x 2) Length as per rule 28.5" Distance apart 7 1/2" Number and pitch of Stays in each 3-9 1/2"
 Working pressure by rules 229 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
 holes 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 _____

DONKEY BOILER—

Description *For Particulars of Donkey Boiler see separate Report*

Made at _____ By whom made _____ When made _____ Where fixed *Under Bridge*

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 boilers can enter the donkey boiler _____

Diameter of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____

Description of riveting long. seams _____ Diameter 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. _____

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. *In addition to the articles required by Rules*

1 set Brasses for connecting rod of circulating pump engine, 12 Junk Ring bolts, 2 Propeller blades, 1 set Rings for N & S P Cylinders, 2 donkey feed valves and a number of other articles

The foregoing is a correct description,

NAVAL CONSTRUCTION & ARMAMENTS Co., Ltd. Manufacturer.

Edmundson

General Remarks (State quality of workmanship, opinions as to class, &c.) *1895 Sept 10, 11, 12, 13, 18, 21, 23, 24, 25, 26, 27, 30 Oct 1, 3, 4, 7, 9, 10, 12, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25, 27, 28, 29, 30, 31, Nov 1, 2, 4, 6, 7, 8, 11, 13, 14, 15, 18, 19, 22, 25, 26, 27, 29, 30, Dec 2, 3, 4, 6, 9, 11, 1896 Jan 29, 31, Feb 3, 6, 11, 14, 17, 19, 21, 25, 28, Mar 2, 5, 9, 11, 16, 20, 23, 30, April 13, 14, 17, 20, 21, 24, 27, 28, 29, 30*

Dates of Survey while building	During progress of work in shops - -	<i>22, 25, 26, 27, 29, Dec 2, 3, 4, 6, 9, 11, 1896 Jan 29, 31, Feb 3, 6, 11, 14, 17, 19, 21, 25, 28, Mar 2, 5, 9, 11, 16, 20, 23, 30, April 13, 14, 17, 20, 21, 24, 27, 28, 29, 30</i>
	During erection on board vessel - -	<i>22, 25, 26, 27, 29, Dec 2, 3, 4, 6, 9, 11, 1896 Jan 29, 31, Feb 3, 6, 11, 14, 17, 19, 21, 25, 28, Mar 2, 5, 9, 11, 16, 20, 23, 30, April 13, 14, 17, 20, 21, 24, 27, 28, 29, 30</i>
	Total No. of visits	<i>83</i>

The machinery and Boilers of this Vessel have been constructed under special survey in accordance with the Rules, the material and workmanship employed are of the best description, and when fitted into the vessel the machinery was tried and worked satisfactorily

This Vessel is fitted with Howden's System of forced draught.

This is a sister Vessel to the SS "Blan Kenzie" Barrow Report No 706.

*The machinery of this Vessel is in good order and safe working condition eligible in my opinion to have the notation **L.M.C 4-96** in the Register Book*

It is submitted that this vessel is eligible for THE RECORD L.M.C 4.96 F.D.

Certificate (if required) to be sent to *6.5.96* *6.5.96.*

The amount of Entry Fee..	£ 3 : 0	When applied for,
Special	£ 35 : 17	<i>1st May 1896</i>
Donkey Boiler Fee .. .	£ .. .	When received,
Travelling Expenses (if any) £	.. .	<i>5th May 1896</i>

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

Committee's Minute **FRI, MAY 8 1896**

Assigned *+ L.M.C 4-96 F.D.*

