

REPORT ON MACHINERY.

Port of Barrow in Furness

THUR, 7 APR 1898

Received at London Office

No. in Survey held at Barrow Date, first Survey Dec. 2/96 Last Survey Mar 28th 1898

Reg. Book. 13 on the Iron Screw Steamer Blandine Kenzie (Number of Visits 145)

Master Cowie Built at Leith By whom built Ramages & Ferguson Tons {Gross 2086.73 Net 1921.59

Engines made at Barrow By whom made Vickers Sons & Maxim when made 1898

Boilers made at No By whom made No when made 1898

Registered Horse Power 225 Owners Caymer & Co Port belonging to Glasgow

Nom. Horse Power as per Section 28 358 362

ENGINES, &c.—

Description of Engines Triple Expansion No. of Cylinders Three

Diameter of Cylinders 24 1/2 40 67 Length of Stroke 48 Revolutions per minute 132 Diameter of Screw shaft as per rule 14

Diameter of Tunnel shaft as fitted 13 1/2 Diameter of Crank shaft journals 14 Diameter of Crank pin 14 1/2 Size of Crank webs 25 x 10

Diameter of screw 16 1/2 Pitch of screw 20 1/2 No. of blades 4 State whether moveable yes Total surface 75 ft

No. of Feed pumps two Diameter of ditto 7 Stroke 21 Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work yes

No. of Donkey Engines two Sizes of Pumps 9 1/2 x 10 and centrifugal No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room two 3" In Holds, &c. no 1 hold two 3" no 2 hold two 3" no 3 hold two 3" no 4 hold tunnel well one 3"

No. of bilge injections / sizes 4 1/2 Connected to condenser, or to circulating pump yes Is a separate donkey suction fitted in Engine room & size ye 2 1/2"

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 —

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 4/12/97 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 4729.78 ft

No. and Description of Boilers Two Single Ended Working Pressure 180 Tested by hydraulic pressure to 360

Date of test 2.7.97 Can each boiler be worked separately yes Area of fire grate in each boiler 57.75 ft No. and Description of safety valves to each boiler Two Spring loaded

Area of each valve 9.62 Pressure to which they are adjusted 180 Are they fitted with easing gear yes

Smallest distance between boilers or uptakes, and bunkers or woodwork 12 Mean diameter of boilers 15.0

Length 11.9 Material of shell plates Steel Thickness 1 1/2 Description of riveting: circum. seams 3 double long. seams 10 Butts

Diameter of rivet holes in long. seams 1 1/8 Pitch of rivets 97/16 Lap of plates or width of butt straps 26 3/8, 35-20 3/8

Percentages of strength of longitudinal joint rivets 82.43 Working pressure of shell by rules 185 Size of manhole in shell 15 x 19 1/2

Size of compensating ring 2 7/8 x 5.6 x 1 1/2 No. and Description of Furnaces in each boiler 3 Purvis' Material Steel Outside diameter 37 1/2

Length of plain part top 10 bottom 9 Thickness of plates crown 9/16 bottom 9/16 Description of longitudinal joint Welded No. of strengthening rings 4

Working pressure of furnace by the rules 189 Combustion chamber plates: Material Steel Thickness: Sides 9/32 7/8 Back 9/32 Top 9/32 Bottom 5/8

Pitch of stays to ditto: Sides 8 1/4 x 7 1/4 Back 8 Top 7 1/4 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 190

Material of stays Steel Diameter at smallest part 1 1/2 3/4 Area supported by each stay 59.8 Working pressure by rules 182 End plates in steam space:

Material Steel Thickness 1 1/8 Pitch of stays 15 x 5 How are stays secured Welded Working pressure by rules 230 Material of stays Steel

Diameter at smallest part 2 1/2 Area supported by each stay 225 Working pressure by rules 193 Material of Front plates at bottom Steel

Thickness 7/8 Material of Lower back plate Steel Thickness 1 Greatest pitch of stays 15 1/2 Working pressure of plate by rules

Diameter of tubes 2 1/2 Pitch of tubes 33/4 x 35/8 Material of tube plates Steel Thickness: Front 1 1/4 7/8 Back 3/4 Mean pitch of stays 11.0

Pitch across wide water spaces 14 Working pressures by rules 186 Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 2 7/8 x 15 1/8 Length as per rule 29 Distance apart 7 1/2 Number and pitch of Stays in each three 7 1/4

Working pressure by rules 198 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 rivets —

Pitch of rivets — Working pressure of shell by rules — Diameter of flue — Material of flue plates — Thickness —

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 *New 10 1/2 fitted in 1893*
 Made at _____ By whom made _____ When made _____ Where fixed *on Deck*
 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:—

The foregoing is a correct description,
VICKERS, SONS, & MAXIM, LIMITED.
 Manufacturer.

A. D. Campbell
 DIRECTOR

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

Dates of Survey while building
 During progress of work in shops: 1896. Dec. 2, 7, 9, 14, 16, 18, 21, 23. 1897. Jan. 6, 11, 15, 18, 21, 22, 25, 28. Feb. 1, 3, 5, 8, 9, 12, 15, 19, 22, 23, 26. March. 1, 3, 5, 8, 10, 12, 15, 19, 22, 24, 26, 29, 31.
 During erection on board vessel: April. 26, 28, 12, 13, 14, 15, 23, 26, 27, 28, 30. May. 3, 4, 6, 10, 13, 14, 19, 20, 21, 24, 26, 27, 28. June. 1, 2, 3, 6, 18, 21, 28. July. 12, 6, 9, 13, 22. Aug. 25. Sept. 28, 13, 17, 24, 27, 30. Oct. 5, 11, 14, 18, 22, 25.
 Total No. of visits: Novem. 2, 4, 7, 10, 11, 15, 19, 23, 26, 30. Dec. 2, 4, 6, 8, 11, 13, 14, 15, 16, 21, 22. 1898. Jan. 10, 11, 12, 14, 17, 19, 24, 26, 28. Feb. 7, 8, 10, 12, 14, 15, 17, 21, 23, 28. Mar. 1, 3, 22, 23, 24, 25, 28.

The Engines of this Vessel have been converted into triple expansion by Messrs Vickers Sons and Maxim Ltd Howdon:— New H.P. Engine fitted complete new Piston liners and Slide Valves fitted to D.P. Engines Piston Rods and Slide Spindles skinned up and new neck & gland bush fitted New cross head fitted to D.P. and new Piston Rod to L.P. New metal fitted to main bearing and new crankshaft fitted Condenser and all Pumps examined and overhauled Weir feed Pump, heater and evaporator fitted Vessel placed on depositing dock sea cocks and connections overhauled and Part renewed new screw shaft fitted.

New main Boilers with Howden's system of forced draught.
 Donkey Boiler examined found good, Safety Valves examined and adjusted.

The Machinery of this Vessel is now in good order and safe working condition eligible in my opinion to have the notation **+ NB 3.98 + LMC 3.98 and TPD 98** in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. **+ L.N. 6.3.98 + L.B. 3.98**

Certificate (if required) to be sent to _____
 The amount of Entry Fee £ _____
 Special 10% _____
 Donkey Boiler Fee £ 18 _____
 Travelling Expenses (if any) £ 17.2 _____

J. Asbathope
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute
 Assigned **+ LMC 3.98 + NB 3.98**
TUES. 12th APR 1898



*** These Signal Le
 Official
 859
 No., Date,
 Whether B Foreign
 Number of
 Number of
 Rigged
 Stern
 Build
 Galleries
 Head
 Framework vessel
 Number of
 Number of and thei
 Total to qu at side a
 No. of Engines
 One Trip Set
 Num Iron Press
 Under Ton Closed-in sp Space or Poop ... Forecast Round E Other cl excess Spaces
 Deductions
 Nam
 No. of O Name, Res
 Part tons New
 Dated 3

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

MACHINERY CERTIFICATE WRITTEN 1950