

REPORT ON MACHINERY.

Port of Bunderland

Received at London Office **SAT. 11 JUN 1899**

No. in Survey held at Bunderland Date, first Survey 20th Dec 1898 Last Survey June 3rd 1899
eg. Book. on the S/S "Gottfried" (Number of Visits 34)
Master C. Malin Built at Siland By whom built Strand Slipway Co. Tons } Gross 1629
Engines made at Siland By whom made H. E. M. Eng Co. Ltd Net 1023
Boilers made at " By whom made " When built 1899
Registered Horse Power " Owners E. Sjöberg when made 1899
Port belonging to Malmo
Tom. Horse Power as per Section 28 169 Is Electric Light fitted no

ENGINES, &c.—Description of Engines In C.D.R. No. of Cylinders 3 No. of Cranks 3
Diameter of Cylinders 19" 31" 51" Length of Stroke 33" Revolutions per minute 84 Diameter of Screw shaft as per rule 9.29"
Diameter of Tunnel shaft as fitted 8.4" Diameter of Crank shaft journals 9" Diameter of Crank pin 9" Size of Crank webs as fitted 10 1/4"
Diameter of screw 13'-0" Pitch of screw 13'-6" No. of blades 4 State whether moveable f Total surface 456
No. of Feed pumps 2 Diameter of ditto 2 1/4" Stroke 21" Can one be overhauled while the other is at work yes
No. of Bilge pumps 2 Diameter of ditto 3" Stroke 21" Can one be overhauled while the other is at work yes
No. of Donkey Engines 2 Sizes of Pumps 6" x 7" x 9" 1/2" x 3 1/2" x 5" No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room 3 of 2 1/2" In Holds, &c. No 1 - 2 of 3 1/2" No 2 - 2 of 2 1/2"
aft. well 1 - 2 1/2"
No. of bilge injections 1 sizes 3 1/2" Connected to condenser, or to circulating pump C.D. Is a separate donkey suction fitted in Engine room & size yes 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 new vessel Is the screw shaft tunnel watertight yes
Is it fitted with a watertight door yes worked from top platform

BOILERS, &c.— (Letter for record 3) Total Heating Surface of Boilers 2535 Is forced draft fitted no
No. and Description of Boilers 1 cyl. d. Mal. 1 1/2" but Working Pressure 160 lb Tested by hydraulic pressure to 320 lb
Date of test 28/4/99 Can each boiler be worked separately — Area of fire grate in each boiler 66 f No. and Description of safety valves to
each boiler 2 Spring Area of each valve 8.29 Pressure to which they are adjusted 165 lb Are they fitted
with easing gear yes Smallest distance between boilers or uptakes and bunkers or woodwork 9" Mean diameter of boilers 15' 4 1/8"
Length 11'-0" Material of shell plates S. Thickness 1 1/2" Description of riveting: circum. seams 2 R. Lap. long. seams 2 R. Butt.
Diameter of rivet holes in long. seams 1 1/32" Pitch of rivets 8 1/8" Lap of plates on width of butt straps 1' 5 1/4"
Per centages of strength of longitudinal joint 87.87 Working pressure of shell by rules 162 lb Size of manhole in shell 16" x 12"
plate 85.76 Size of compensating ring flanged No. and Description of Furnaces in each boiler 4 plain Material S Outside diameter 36"
Length of plain part top 4'-0" bottom 7'-5" Thickness of plates crown 2 1/2" bottom 3 1/2" Description of longitudinal joint butt. S. S. R. No. of strengthening rings —
Working pressure of furnace by the rules 173 1/2 Combustion chamber plates: Material S. Thickness: Sides 3/8" Back 2 1/32" Top 1/8" Bottom 1"
Pitch of stays to ditto: Sides 9 1/4" x 9" Back 9 1/8" x 9 1/4" Top 9 1/4" x 9 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 162 1/2
Material of stays S. Diameter at smallest part 1.49 Area supported by each stay 83 1/4" Working pressure by rules 176 End plates in steam space:
Material S. Thickness 1 3/8" Pitch of stays 22 1/2" x 22 1/2" How are stays secured to hub Working pressure by rules 168 1/2 Material of stays S.
Diameter at smallest part 3.6 Area supported by each stay 535 Working pressure by rules 183 Material of Front plates at bottom S.
Thickness 3/4" Material of Lower back plate S. Thickness 2 1/32" Greatest pitch of stays 12 1/2" Working pressure of plate by rules 174 1/2
Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates S. Thickness: Front 3/4" Back 3/4" Mean pitch of stays 9"
Pitch across wide water spaces 14" Working pressures by rules 224 lb Girders to Chamber tops: Material S. Depth and
thickness of girder at centre 6 3/4" x 2" Length as per rule 29 1/8" Distance apart 7 1/2" Number and pitch of Stays in each 2 - 9 1/4"
Working pressure by rules 199 1/2 Superheater or Steam chest; how connected to boiler how 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 *Vertical with cross tubes*
 Made at *Stockton* By whom made *Riley Bros* When made *2/98* Where fixed *Stoke Newington*
 Working pressure *80 1/2* tested by hydraulic pressure to *160* No. of Certificate *1808* Fire grate area *22 1/2* Description of safety valves *Spring*
 No. of safety valves *2* Area of each *4 1/4* Pressure to which they are adjusted *80 1/2* If fitted with easing gear *yes* If steam from main
 enter the donkey boiler *no* Diameter of donkey boiler *7 1/4* Length *14 1/2* Material of shell plates *5* Thickness
 Description of riveting long. seams *d. r. lap* Diameter of rivet holes *5/16* Whether punched or drilled *dr* Pitch of
 Lap of plating *4 1/4* Per centage of strength of joint Rivets *82* Thickness of shell crown plates *9/16* Radius of do. *5 1/2* No. of Stays to
 Dia. of stays *1 1/2* Diameter of furnace Top *5 5/8* Bottom *6 0 1/4* Length of furnace *5 1* Thickness of furnace plates *3/8*
 joint *S.R. lap* Thickness of furnace crown plates *9/16* Stayed by *7 stays 1 1/2* Working pressure of shell by r
 Working pressure of furnace by rules *80 1/2* Diameter of uptake *1 1/4* Thickness of uptake plates *7/16* Thickness of water tubes

SPARE GEAR. State the articles supplied:— *1 set connecting rod bolts*
2 main bearing bolts and nuts. 1 set coupling bolts & nuts
1 set feed & bilge pump valves. propellers

The foregoing is a correct description.
 For the *Northern Marine Engineering Co. Ltd.*
J. H. Dunn— *Director* Manufacturer. *Main engines & boiler*

Dates of Survey while building
 During progress of work in shops— *1898 Dec 20, 22, 1899 Jan 27, Feb 21, March 8, 9, 10, 14, 15, 16, 21, 25, 28, 29,*
 During erection on board vessel— *April 7, 11, 12, 17, 18, 21, 25, 26, 27, 28, 29, May 1, 5, 8, 10, 16, 17, 20, 24, June 3,*
 Total No. of visits *34*

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

Redeemable
ENGINES—Length of stern bush *3' 6"* Diameter of crank shaft journals *8 9/32* as per rule *9 1/2* Diameter of thrust shaft under collars *9 1/2*
BOILERS—Range of tensile strength *29-32* Are they welded or flanged *yes* **DONKEY BOILERS**—No. *1* Range of tensile strength *27-32*
 Is the approved plan of main boiler forwarded herewith *no dup* Is the approved plan of donkey boiler forwarded herewith *no*

Machinery and boilers constructed under Special Survey materials and workmanship good
Boilers & main steam pipes tested to twice the working pressure. Engines & boiler examined under full steam & found satisfactory
In my opinion this vessel is eligible for the record of L.M.C 6/99.

It is submitted that
 this vessel is eligible for
 THE RECORD. *+ L.M.C 6, 99*

71
13/6/99

The amount of Entry Fee... £ *2* : :
 Special ... £ *23* : *14* :
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ : :
 When applied for, *9.6.99*
 When received, *12.5.99*

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

Committee's Minute

TUES. 13 JUN 1899 WRITTEN.

Assigned

+ L.M.C 6, 99



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