

REPORT ON MACHINERY.

No. 4173

Port of MIDDLESBROUGH-ON-TEES.

Received at London Office

13 JUL 1905

No. in Survey held at Middlesbrough Date, first Survey Jan 30th 05 Last Survey June 23rd 1905

Reg. Book.

Y1 Suppon the

S.S. "Ballockmyle"

(Number of Visits 4.8)

Tons

Gross 3289.97

Net 2105.34

When built 1905

Master Storey

Built at Thornaby

By whom built

Craig Taylor & Co

Engines made at Middlesbrough

By whom made

Richardsons Westgarth & Co. Ltd

when made 1905

Boilers made at Middlesbrough

By whom made

ditto

when made 1905

Registered Horse Power

Owners The Kyle Transport Co. Ltd

Port belonging to Liverpool

Nom. Horse Power as per Section 28 308

Is Refrigerating Machinery fitted for cargo purposes no

Is Electric Light fitted no

ENGINES, &c.—Description of Engines Triple expansion

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders 24"-40"-65" Length of Stroke 45" Revs. per minute

Dia. of Screw shaft

as per rule 13.9

Material of Ingot Steel

Is 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

in 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 fitting

If two

liners are fitted, is the shaft lapped or protected between the liners

Length of stern bush 4-8 1/2

Dia. of Tunnel shaft as per rule 12.09

as fitted 12.3

Dia. of Crank shaft journals as per rule 12.69

as fitted 13"

Dia. of Crank pin 13"

Size of Crank webs 8 1/2 x 2 1/4

Dia. of thrust shaft under

collars 13"

Dia. of screw 17.6"

Pitch of screw 17 feet

No. of blades 4

State whether moveable no

Total surface 85.09 sq ft

No. of Feed pumps 2

Diameter of ditto 3 1/4"

Stroke 25 1/2"

Can one be overhauled while the other is at work yes

No. of Bilge pumps 2

Diameter of ditto 4"

Stroke 25 1/2"

Can one be overhauled while the other is at work yes

No. of Donkey Engines 2 duplex

Sizes of Pumps 7 1/2 x 5 x 6"

Feed Ballast

7 x 8 x 8"

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Three of 3 1/2"

In Holds, &c. Two of 3 1/2" in Nos. 1, 2, 3 Holds

One of 3 1/2" in after hold well, one of 3 1/2" in tunnel well

No. of bilge injections 1 sizes 6"

Connected to condenser, or to circulating pump C.P.

Is a separate donkey suction fitted in Engine room & size yes 4"

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

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 see ship report

Is it fitted with a watertight door yes

worked from

Ghuda grating

BOILERS, &c.—

(Letter for record (P))

Total Heating Surface of Boilers

4750 sq ft

Is forced draft fitted no

No. and Description of Boilers Two single ended

Working Pressure 180 lb

Tested by hydraulic pressure to 360 lb

Date of test 22.5.05

Can each boiler be worked separately yes

Area of fire grate in each boiler 700 sq ft

No. and Description of safety valves to

each boiler Two direct spring

Area of each valve 962 sq"

Pressure to which they are adjusted 185 lb

Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 14"

Mean dia. of boilers 16'-0"

Length 10'-9"

Material of shell plates Steel

Thickness 1 1/2"

Range of tensile strength 29 3/32

Are they welded or flanged no

Descrip. of riveting: cir. seams DR Lap

long. seams DB Butt, Strap

Diameter of rivet holes in long. seams 1 5/16"

Pitch of rivets 8 1/4" row 4 1/2" rows

Top of plates or width of butt straps 1'-7 1/2" x 1 1/32" inner 1" outer

Per centages of strength of longitudinal joint rivets 89.7

plate 85

Working pressure of shell by rules 184 lb

Size of manhole in shell 12" x 16"

Size of compensating ring 7 1/2" x 1 1/32"

No. and Description of Furnaces in each boiler 3 Inversions

Material Steel

Outside diameter 4'-0 1/4"

Length of plain part top 7'-0"

Thickness of plates crown 9"

bottom 7 1/8"

Description of longitudinal joint Welded

No. of strengthening rings

Working pressure of furnace by the rules 180

Combustion chamber plates: Material Steel

Thickness: Sides 4"

Back 4"

Top 4"

Bottom 3 1/4"

Pitch of stays to ditto: Sides 8 x 10 1/4"

Back 9 1/2 x 9"

Top 7 1/2 x 11"

If stays are fitted with nuts or riveted heads nuts

Working pressure by rules 186

Material of stays J & S

Diameter at smallest part 2.09"

Area supported by each stay 825 sq"

Working pressure by rules 186 lb

End plates in steam space:

Material Steel

Thickness 1 1/8"

Pitch of stays 17 x 23

How are stays secured Dr. & W.

Working pressure by rules 182 lb

Material of stays Steel

Area at smallest part 706 sq"

Area supported by each stay 323 sq"

Working pressure by rules 218 lb

Material of Front plates at bottom Steel

Thickness 7/8"

Material of Lower back plate Steel

Thickness 7/8"

Greatest pitch of stays 15" x 8"

Working pressure of plate by rules 182 lb

Diameter of tubes 3 1/4"

Pitch of tubes 4 1/2" x 4 1/2"

Material of tube plates Steel

Thickness: Front 1 1/8"

Back 3 1/2"

Mean pitch of stays 11 1/4"

Pitch across wide water spaces 14 1/4"

Working pressures by rules 201 lb

Girders to Chamber tops: Material Steel

Depth and

thickness of girder at centre 10 1/2" x 1 3/4"

Length as per rule 2-108

Distance apart 11"

Number and pitch of Stays in each Three 7 1/2"

Working pressure by rules 181 lb

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— No. *One* Description *Cyl. Multitubular Two plain furnaces*
Made at *Stockton* By whom made *Riley Bros Ltd* When made *30.5.05* Where fixed *Stokehold*
Working pressure *100 lbs* tested by hydraulic pressure to *200 lbs* No. of Certificate *3457* Fire grate area Description of safety valves *Direct spring*
No. of safety valves *2* Area of each *7.07* Pressure to which they are adjusted *100 lbs* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Dia. of donkey boiler *9' 6"* Length *9' 6"* Material of shell plates *Steel* Thickness *5"* Range of tensile strength *28/32* Descrip. of riveting long. seams *Treb. riv lap* Dia. of rivet holes *15/16"* Whether punched or drilled *drilled* Pitch of rivets *3 3/4"*
Lap of plating *6 1/2"* Per centage of strength of joint Rivets *75* Thickness of ~~shell~~ *end* plates *27* **doub. strip top* Radius of do. *Pitch* No. of Stays to do. *16 x 17"*
Dia. of stays. *2 1/4"* Steel Diameter of furnace Top *2' 10"* Bottom — Length of furnace *8' 3"* Thickness of furnace plates *7/16"* Description of joint *welded* Thickness of ~~furnace~~ *Comb. Chomb. Back 9/16" 2 1/2" 1/2"* plates *1 1/2"* Stays by *1 1/4" S. Stays 10 x 9 pitch rivets* Working pressure of shell by rules *102.5 lb*
Working pressure of furnace by rules *101.5 lb* Diameter of ~~tubes~~ *tubes* *3 1/4"* Thickness of ~~uptake~~ *tube* plates *7 3/32"* Thickness of ~~stay~~ *stay* tubes *5/16"*

SPARE GEAR. State the articles supplied:— *2 Bolts & nuts for piston rods - connecting rods and main bearings, 1 set coupling bolts, 6 piston bolts 1 set feed & bilge pump valves 1/2 set air pump valves 2 feed check valves 1 set H.P. piston rings 1 P. piston rings & piston valve rings, 1 set L.P. piston springs 1 donkey pump valves Propeller.*
The foregoing is a correct description,
For RICHARDSONS, WESTGARTH & Co. Ltd. Manufacturer.

A. Jackson. 1905 Jan 30-31 Feb 2-14-20-24-28-29-30-14-17-21-22-23-25-28-29-31 April 5-7-12-18-24-29
Dates of Survey { During progress of work in shops - - }
while building { During erection on board vessel - - } *May 2-3-5-9-12-15-16-17-18-19-22-24-26-30 June 1-5-7-8-10-17-21-25*
Total No. of visits *Forty Eight* Is the approved plan of main boiler forwarded herewith *yes*
" " " donkey " " " *yes*

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

This vessels' machinery has been built under special survey and tested as required by the Rules. The materials and workmanship are good and efficient.

*After fitting and securing on board the engines and boilers have been tried under full steam with satisfactory results and are now in good order and safe working condition and eligible in my opinion to have the notation **LMC 6-05**.*

*It is submitted
this vessel is eligible for
THE RECORD*

+ LMC 6.05

*C. M.
13.7.05
Sd.
13.7.05*

The amount of Entry Fee. . . £ 3 : 0 : 0 When applied for, . . . 12.4.1905
Special £ 35 : 8 : 0
Donkey Boiler Fee £ : : :
Travelling Expenses (if any) £ : : : 12.4.1905

RWD

R. D. Shilston.

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

Committee's Minute

FRI. 14 JUL 1905

Assigned

+ LMC 6.05

MACHINERY CERTIFICATE
WRITTEN.



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Foundation