

## REPORT ON MACHINERY.

Port of NEWCASTLE-ON-TYNENo. in Survey held at Newcastle  
Reg. Book.Date, first Survey 29 June/97 Last Survey Aug. 15 1898  
(Number of Visits)on the % TrigoniaMaster Phillip Built at NewcastleBy whom built Sir W. G. Armstrong Whitworth & Co. When built 1898Engines made at NewcastleBy whom made Wallsend Slipway & Eng. Co. Ltd when made 1898Boilers made at NewcastleBy whom made Wallsend Slipway & Eng. Co. Ltd when made 1898

Registered Horse Power

Owners

M. Samuel & Co. (The Shell Transport & Trading Co. Ltd.)Port belonging to LondonNom. Horse Power as per Section 28 217Is Electric Light fitted yesENGINES, &c.—Description of Engines CompoundNo. of Cylinders Two No. of Cranks 2Diameter of Cylinders 30" - 60"Length of Stroke 39" Revolutions per minuteDiameter of Screw shaft as per rule 10.9Diameter of Tunnel shaft as per rule 10.4Diameter of Crank shaft journals 11 1/2"Diameter of Crank pin 12" Size of Crank webs 8 x 19Diameter of screw 14' 0"Pitch of screw 17' 0"No. of blades 4State whether moveable no Total surface 65 sq ftNo. of Feed pumps 2Diameter of ditto 3 3/4"Stroke 24"Can one be overhauled while the other is at work yesNo. of Bilge pumps 2Diameter of ditto 4"Stroke 24"Can one be overhauled while the other is at work yesNo. of Donkey Engines 2 duplexSizes of Pumps 6-4 x 66-5 1/2 x 6

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

In Engine Room 1 centre 2 wings 3" diaIn Holds, &c. Cargo hold forward 1 centre 5"No. of bilge injections 1 sizes 5"Connected to condenser, or to circulating pump C.P.Is a separate donkey suction fitted in Engine room & size yes 3"Are all the bilge suction pipes fitted with roses yesAre the roses in Engine room always accessible yesAre the sluices on Engine room bulkheads always accessible noneAre all connections with the sea direct on the skin of the ship yesAre they Valves or Cocks bothAre they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yesAre 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 yesAre the blow off cocks fitted with a spigot and brass covering plate yesWhat pipes are carried through the bunkers noneHow 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 before launch Is the screw shaft tunnel watertight noneIs it fitted with a watertight door ✓worked from ✓

## BOILERS, &amp;c.—

(Letter for record S)Total Heating Surface of Boilers 3734 sq ftIs forced draft fitted noNo. and Description of Boilers Two - single endedWorking Pressure 100 lbsTested by hydraulic pressure to 200Date of test 24.11.97 Can each boiler be worked separately yesArea of fire grate in each boiler 61.5 sq ft

No. and Description of safety valves to

each boiler 2 spring loadedArea of each valve 15.9 sq inPressure to which they are adjusted 100 lbs

Are they fitted

with easing gear yesSmallest distance between boilers or uptakes and bunkers or woodwork 15"Mean diameter of boilers 12' 9"Length 11' 3"Material of shell plates steelThickness 3/32Description of riveting: circum. seams DR laplong. seams lap 4 rowsDiameter of rivet holes in long. seams 31/32"Pitch of rivets 4 3/8"Lap of plates or width of butt straps 9 1/2"

Per centages of strength of longitudinal joint

rivets 80Working pressure of shell by rules 106Size of manhole in shell 16 x 12Size of compensating ring 7 x 23/32No. and Description of Furnaces in each boiler 3 plainMaterial steel Outside diameter 39"Length of plain part 7' 9"Thickness of plates 19/32"Description of longitudinal joint DBS - SRNo. of strengthening rings 1 on bothWorking pressure of furnace by the rules 104Combustion chamber plates: Material steelThickness: Sides 9/16Back 9/16Top 9/16Bottom 5/8Pitch of stays to ditto: Sides 8 x 10 1/4 Back 9 1/2 x 10 1/4 Top 8 x 10 1/4 If stays are fitted with nuts or riveted heads nutsWorking pressure by rules 104Material of stays steelDiameter at smallest part 1.35"Area supported by each stay 97 sq inWorking pressure by rules 110

End plates in steam space:

Material steelThickness 1/8Pitch of stays 18 x 18How are stays secured DN + WWorking pressure by rules 128Material of stays steelDiameter at smallest part 2.28Area supported by each stay 324 sq inWorking pressure by rules 114Material of Front plates at bottom steelThickness 3/4Material of Lower back plate steelThickness 1/16Greatest pitch of stays 12 1/2Working pressure of plate by rules 104Diameter of tubes 3"Pitch of tubes 4 1/2 x 4 1/2Material of tube plates steelThickness: Front 3/4Back 3/4Mean pitch of stays 12 7/8Pitch across wide water spaces 13 1/2Working pressures by rules 110 lbsGirders to Chamber tops: Material steel

Depth and

thickness of girder at centre 2 plates 6 1/4 x 3/4 Length as per rule 27"Distance apart 10 1/4Number and pitch of Stays in each 2 of 8"Working pressure by rules 176 lbs Superheater or Steam chest: how connected to boiler none

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

Boiler drawing wanted

NWCB58-01142



DONKEY BOILER— Description *None*

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 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:— 2 top end, 2 bottom end, 2 main bearing and set of coupling bolts and nuts. Set of feed & bilge pump valves. Propeller, Propeller shaft one throw crank shaft. Eccentric strap. 1 pair top and 1 pair bottom end brasses.

The foregoing is a correct description,

FOR THE WALLSEND SLIPWAY & ENGINEERING CO., LIMITED,

Manufacturer.

Sep 7/90 *W. Noth*

MANAGING DIRECTOR

Dates of Survey while building  
 During progress of work in shops—  
 During erection on board vessel—  
 Total No. of visits  
 1897. June 29 July 17. 14. 16. 22. 29 Aug 6. 13. 18. 27 Sep 21. 24. 30  
 1898. Oct 7. Nov 12. 16. 24 Jan 10. 18. Apr 18. 27 May 28 June 3. 18 July 24. 14. 19 Aug 7. 10. 15  
 31

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

ENGINES—Length of stern bush 4' 0" Diameter of crank shaft journals *as per rule 10.9* Diameter of thrust shaft under collars *as fitted 11 1/2*

BOILERS—Range of tensile strength 31-34 Are they welded or flanged ends DONKEY BOILERS—No. 0 Range of tensile strength ✓

Is the approved plan of main boiler forwarded herewith *yes* Is the approved plan of donkey boiler forwarded herewith ✓

The machinery of this vessel has been constructed under special survey in accordance with the rules and approved plans enclosed and has been seen working under steam satisfactorily.

Materials and workmanship are good.

The boilers have been fitted for burning either oil or coal and have been seen at work when burning oil.

It is now found that the owners propose to carry oil fuel in the cross bunker or waterballast tank immediately forward of stokehold and it has been arranged to have blind flanges fitted on the water ballast suction of oil bunkers on the vessel's arrival in Batoum. A plan of oil fuel storing and pumping arrangements is attached.

The machinery of this vessel is eligible in my opinion to be classed **HLMC 8.98** in the Register Book.

The amount of Entry Fee. £ 2 : 0 :

Special . . . . . £ 30 : 17 :

Donkey Boiler Fee . . . . . £ - : - :

Travelling Expenses (if any) £ - : - :

When applied for,

13.9.98

When received,

15.9.98

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

FRI 3 MAR 1899

Committee's Minute

FRI 16 SEP 1898

Assigned

+ LMC 8.98

*Glec. Light*

Lloyd's Register Foundation