

REPORT ON MACHINERY

Bel No 2785
No. 1482

No. in Reg. Book. Survey held at Glasgow & Belfast Date, first Survey March 1881 Last Survey Aug 30th 1881
on the Screw Steamer "Othello" Tons 515.98
Master A. G. Walker Built at Belfast When built 1881
Engines made at Glasgow By whom made Muir & Houston when made 1881
Boilers made at " By whom made " when made 1881
Registered Horse Power 70 Owners Messrs Calcut, Lowden & Co Port belonging to Glasgow

ENGINES, &c.—

Description of Engines Compound Inverted Direct Acting
Diameter of Cylinders 22" & 40" Length of Stroke 30" No. of Rev. per minute 99 Point of Cut off, High Pressure 19" Low Pressure 16 1/2"
Diameter of Screw shaft 4 1/2" Diameter of Tunnel shaft 4" Diameter of Crank shaft journals 4 1/2" Diameter of Crank pin 4 1/2" size of Crank webs 25 1/2"
Diameter of screw 11 1/2" Pitch of screw 14 1/2" No. of blades 4 state whether moveable Yes total surface 36 sq feet
No. of Feed pumps One diameter of ditto 3 1/2" Stroke 18" Can one be overhauled while the other is at work Yes
No. of Bilge pumps One diameter of ditto 3 1/2" Stroke 18" Can one be overhauled while the other is at work Yes
Where do they pump from The Holds & Engine Room
No. of Donkey Engines One Size of Pumps Cyl 6 1/2" 4 x 8 Where do they pump from The Sea Bilge Hotwell Ballast Tanks
Are all the bilge suction pipes fitted with roses Yes Are the roses always accessible Yes Are the sluices on Engine room bulkheads always accessible Yes
No. of bilge injections One and sizes 3" Are they connected to condenser, or to circulating pumps Circulating pumps
How are the pumps worked By Levers
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
That pipes are carried through the bunkers None How are they protected Yes
Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times Yes
Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges Yes
Then were stern tube, propeller, screw shaft, and all connections examined in dry dock On Slip before launching
the screw shaft tunnel watertight Yes and fitted with a sluice door yes worked from Upper platform

BOILERS, &c.—

Number of Boilers One Description Round Horizontal
Working Pressure 80 lbs Tested by hydraulic pressure to 160 lbs Date of test 13th July 1881
Description of superheating apparatus or steam chest Round Longitudinal Receiver
Can each boiler be worked separately Yes Can the superheater be shut off and the boiler worked separately no
Area of square feet of fire grate surface in each boiler 46 sq ft Description of safety valves Direct Spring
to each boiler Two area of each valve 11.04" Are they fitted with easing gear Yes
Area of safety valves to superheater — area of each valve — are they fitted with easing gear —
Smallest distance between boilers and bunkers or woodwork 4"
Diameter of boilers 12 1/2" Length of boilers 10 ft Description of riveting of shell long. seams Double riveted circum. seams Double riveted
Thickness of shell plates 29/32" diameter of rivet holes 1 1/4" whether punched or drilled Drilled pitch of rivets 5 1/4"
Thickness of plating 8" percentage of strength of longitudinal joint 74.2% working pressure of shell by rules 49 lbs
Diameter of manholes in shell 16 1/2" x 11 1/2" size of compensating rings 5 1/2" x 7 1/8"
Number of Furnaces in each boiler Three outside diameter 2' 11" length, top 6' 6" bottom 9' 4"
Thickness of plates 3/32" crown 7/16" bottom description of joint Double Stapped rings are fitted Half ring fitted on the bottom side
Working pressure of furnace by the rules 83 lbs
Combustion chamber plating, thickness, sides 7/16" back 7/16" top 7/16"
Area of stays to ditto sides 8" x 7 1/2" back 8" x 8" top 9" x 8 1/2" into 1 1/2" dia
Are stays fitted with nuts or riveted heads Nuts working pressure of plating by rules 91 lbs
Diameter of stays at smallest part 1 1/4" & 1 1/2" working pressure of ditto by rules 106 lbs
Thickness of plates in steam space, thickness 7/16" pitch of stays to ditto 15" x 15" how stays are secured By double nuts
Working pressure by rules 89 lbs diameter of stays at smallest part 2 1/8" working pressure by rules 93 lbs
Thickness of plates at bottom, thickness 7/16" Back plates, thickness 7/16" greatest pitch of stays 12" x 8" working pressure by rules —

Workmanship.

Are the butts of plating planed or otherwise fitted? *plane*

Diameter of tubes *3 1/2"* pitch of tubes *4 3/4"* thickness of tube plates, front *1 1/16"* back *1 1/16"*
 How stayed *By Tubes* pitch of stays *9 1/2" x 9 1/2" x 1 1/4"* width of water spaces *5"*
 Diameter of ~~Superheater~~ or Steam chest *2' 6"* length *6' 6"*
 Thickness of plates *9/16"* description of longitudinal joint *Cap double* diameter of rivet holes *1 3/16"* pitch of rivets *3 1/4"*
 Working pressure of shell by rules *145 lbs* Diameter of flue *—* thickness of plates *—*
 If stiffened with rings *—* distance between rings *—* Working pressure by rules *—*
 End plates of ~~superheater~~, or steam chest; thickness *1 1/16"* How stayed *By one bar stay 2 1/2" dia*
~~Superheater~~ or steam chest; how connected to boiler *By one neck piece 12" dia x 1 1/16" thick*

DONKEY BOILER— Description *Round vertical*
 Made at *Glasgow* By whom made *Muir & Houston* when made *1881*
 Where fixed *in St. Andrew's* working pressure *60 lbs* Tested by hydraulic pressure to *120 lbs* No. of Certificate *569*
 Fire grate area *10 ft²* Description of safety valves *Direct Spring* No. of safety valves *One* area of each *7" area*
 If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No*
 Diameter of donkey boiler *4' 3"* length *9 ft high* description of riveting *Double & Single*
 thickness of shell plates *9/16"* diameter of rivet holes *1 3/16"* whether punched or drilled *punched & drilled*
 pitch of rivets *3 1/4"* lap of plating *4"* per centage of strength of joint *70%*
 thickness of crown plates *1 1/16"* stayed by *Uptake & Palm Stays*
 Diameter of furnace, top *3' 5"* bottom *3' 10"* length of furnace *4 ft*
 thickness of plates *9/16"* description of joint *Cap*
 thickness of furnace crown plates *9/16"* stayed by *Uptake*
 Working pressure of shell by rules *80 lbs* working pressure of furnace by rules *Stayed by two cross tubes*
 diameter of uptake *10"* thickness of plates *9/16"* thickness of water tubes *9/16" x 10" dia*

The foregoing is a correct description,
Muir & Houston Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c.) *These Engines & Boilers are of good workmanship and now in good order & safe working condition and eligible in our opinion to be noted in the Register Book.* **LLOYD'S**
M.C. 8. 81.

This submitted that this vessel is eligible to have the notification & Lloyd's M.C. recorded
Wm 9/9/81

The amount of Entry Fee *£ 2 : 0 : 0* received by me,

Special *£ 10 : 10 : 0*

Certificate (if required) *£ 4/6*

To be sent as per margin.

(Travelling Expenses, if any, £ *3 3 0*)

Committee's Minute

Friday, September, 9th 1881

+ Lloyd's Reg

James Morrison & Andrew L. Heron
 Engineer Surveyors to Lloyd's Register of British & Foreign Shipping.

Clyde District

Lloyd's Register
 Foundation