

REPORT ON MACHINERY.

No. 12511

Port of WEST HARTLEPOOL

Received at London Office JUL 10 JAN 10 1905

No. in Survey held at West Hartlepool
Reg. Book. on the Cochrane No 333

Date, first Survey 17th October 1904 Last Survey 7th Dec^r. 1904
(Number of Visits 33)

Master _____ Built at Selby By whom built Cochrane Son When built _____
 Engines made at _____ By whom made _____ when made _____
 Boilers made at West Hartlepool By whom made Central Marine Engine Works when made 1904
 Registered Horse Power _____ Owners _____ Port belonging to _____
 Nom. Horse Power as per Section 28 57 Is Refrigerating Machinery fitted _____ Is Electric Light fitted _____

ENGINES, &c.—Description of Engines

No. of Cylinders _____ No. of Cranks _____
 Dia. of Cylinders _____ Length of Stroke _____ Revs. per minute _____
 Dia. of Screw shaft _____ as per rule _____ as fitted _____ Material of screw shaft _____
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube _____
 Is the after end of the liner made water tight in the propeller boss _____
 If the liner is in more than one length are the joints burned _____
 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 _____
 If two liners are fitted, is the shaft lapped or protected between the liners _____ Length of stern bush _____
 Dia. of Tunnel shaft _____ as per rule _____ as fitted _____ Dia. of Crank shaft journals _____ as per rule _____ as fitted _____
 Dia. of Crank pin _____ Size of Crank webs _____ Dia. of thrust shaft under collars _____
 Dia. of screw _____ Pitch of screw _____ No. of blades _____ State whether moveable _____ Total surface _____
 No. of Feed pumps _____ Diameter of ditto _____ Stroke _____ Can one be overhauled while the other is at work _____
 No. of Bilge pumps _____ Diameter of ditto _____ Stroke _____ Can one be overhauled while the other is at work _____
 No. of Donkey Engines _____ Sizes of Pumps _____ No. and size of Suctions connected to both Bilge and Donkey pumps _____
 In Engine Room _____ In Holds, &c. _____

No. of bilge injections _____ sizes _____ Connected to condenser, or to circulating pump _____ Is a separate donkey suction fitted in Engine room & size _____
 Are all the bilge suction pipes fitted with roses _____ Are the roses in Engine room always accessible _____ Are the sluices on Engine room bulkheads always accessible _____
 Are all connections with the sea direct on the skin of the ship _____ Are they Valves or Cocks _____
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates _____ Are the discharge pipes above or below the deep water line _____
 Are they each fitted with a discharge valve always accessible on the plating of the vessel _____ Are the blow off cocks fitted with a spigot and brass covering plate _____
 What pipes are carried through the bunkers _____ How are they protected _____
 Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times _____
 Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges _____
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock _____ Is the screw shaft tunnel watertight _____
 Is it fitted with a watertight door _____ worked from _____

BOILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 1020 sq ft Is forced draft fitted no

No. and Description of Boilers One Cylindrical Working Pressure 180 lb Tested by hydraulic pressure to 360 lb
 Date of test 4/12/04 Can each boiler be worked separately ✓ Area of fire grate in each boiler 28 sq ft No. and Description of safety valves to each boiler 2 Spring loaded Area of each valve 3.98 sq in Pressure to which they are adjusted 185 Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 8 1/2 Mean dia. of boilers 11.6 Length 9.6 Material of shell plates Steel
 Thickness 1 Range of tensile strength 27.50 Are they welded or flanged both Descrip. of riveting: cir. seams _____ long. seams all shop
 Diameter of rivet holes in long. seams 1 1/32 Pitch of rivets 6 7/8 Lap of plates or width of butt straps 15
 Per centages of strength of longitudinal joint _____ rivets 90.37 Working pressure of shell by rules 181 lb Size of manhole in shell 16 x 12
 Size of compensating ring 32 x 28 x 1 1/8 No. and Description of Furnaces in each boiler two plain Material Steel Outside diameter 39
 Length of plain part _____ top 67 Thickness of plates _____ crown 2 1/32 Description of longitudinal joint welded No. of strengthening rings _____ bottom _____
 Working pressure of furnace by the rules 189 lb Combustion chamber plates: Material Steel Thickness: Sides 10 1/16 Back 10 1/16 Top 10 1/16 Bottom 12 1/16
 Pitch of stays to ditto: Sides 8 3/4 Back 9 Top 8 3/4 If stays are fitted with nuts or riveted heads none Working pressure by rules 181 lb
 Material of stays Steel Diameter at smallest part 1 5/8 Area supported by each stay 9 x 9 Working pressure by rules 253 lb End plates in steam space: Material Steel Thickness 1 Pitch of stays 17 x 15 1/4 How are stays secured all nut Working pressure by rules 182 lb Material of stays Steel
 Diameter at smallest part 2 1/2 Area supported by each stay 17 x 15 1/4 Working pressure by rules 214 lb Material of Front plates at bottom Steel
 Thickness 1 Material of Lower back plate Steel Thickness 1 Greatest pitch of stays 16 Working pressure of plate by rules 180 lb
 Diameter of tubes 5 1/4 Pitch of tubes 4 1/2 Material of tube plates Steel Thickness: Front 1 Back 2 1/32 Mean pitch of stays 9
 Pitch across wide water spaces 14 1/4 Working pressures by rules 189 lb Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 8 3/4 x 1 1/2 Length as per rule 30 Distance apart 8 Number and pitch of Stays in each two 8 3/4
 Working pressure by rules 186 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 _____

Cochrane R 119

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W1503-0172

DONKEY BOILER— No. _____ Description _____

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 _____

Dia. of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____ Range of tensile strength _____

Descrip. of riveting long. seams _____ Dia. 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,
W.B. Borrowman Manufacturer.

Dates of Survey while building { During progress of work in shops - - } 1904 Oct. 17, 18, 20, 21, 24, 26, 27, 28, 31. Nov. 1, 2, 3, 4, 5, 9, 10, 11, 14, 15, 17, 18, 21, 22, 23, 24, 25, 28, 29. Dec. 1, 2, 5, 6, 7.

{ During erection on board vessel - - } _____

Total No. of visits 33 *4pl.*

Is the approved plan of main boiler forwarded herewith *Yes*

“ “ “ donkey “ “ “ _____

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

This main boiler has been constructed under special survey in accordance with the approved Photo Stamp and has been satisfactorily tested by hydraulic pressure. It has now been forwarded to Grimsby where it will be placed on board a Steam Trawler built by Messrs Cochrane Sons of Selby.

Certificate (if required) to be sent to _____

The amount of Entry Fee.. £ : : _____

Special £ 2: 16 : : _____

Donkey Boiler Fee £ : : _____

Travelling Expenses (if any) £ : : _____

When applied for, 9. 12. 04

When received, 11. 1. 05

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

Committee's Minute _____ FRI. JAN 13 1905

Assigned _____

