Rpt. 4.

REPORT ON MACHINERY.

No. 56828

Port of Newcastle on Tyne Received at London Office SAT. 19 JUN 1909 19

No. in Reg. Book. Survey held at S. Shields Date, first Survey 8th July Last Survey 5th June 1909

(Number of Visits 27)

on the S.S. "WHEATFIELD" Tons Gross 515 Net 197

Master Built at S. Shields By whom built J. T. Eltringham & Co Ltd When built 1909.6

Engines made at S. Shields By whom made G. T. Gray when made 1909.

Boilers made at with By whom made J. T. Eltringham & Co Ltd. when made 1909.

Registered Horse Power — Owners Spillers & Bakers Ltd. Port belonging to Cardiff

Nom. Horse Power as per Section 28 981 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Compound. No. of Cylinders 2 No. of Cranks 2

Dia. of Cylinders 20 - 42 Length of Stroke 27 Revs. per minute 102. Dia. of Screw shaft as per rule 9.05 as fitted 9.25 Material of screw shaft Iron

Is the screw shaft fitted with a continuous liner the whole length of the stern tube No Liner 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 3'-2"

Dia. of Tunnel shaft as per rule Iron as fitted — Dia. of Crank shaft journals as per rule 8.46 as fitted 8 5/8 Dia. of Crank pin 8 5/8 Size of Crank webs 16 3/4 · 5 1/2 Dia. of thrust shaft under collars 8 5/8 Dia. of screw 10'-0" Pitch of Screw 12 - 0 No. of Blades 4 State whether moveable No Total surface 36 ft.

No. of Feed pumps 2 Diameter of ditto 2 1/2" Stroke 13 1/2" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 3" Stroke 13 1/2" Can one be overhauled while the other is at work Yes

No. of Donkey Engines Two. Sizes of Pumps 6 · 4 1/2 · 6 & 8 · 8 · 8 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 2 - 2 1/4" Bore In Holds, &c. 2 - 2" Bore

No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump C.P. 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 —

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 Iron 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.

Dates of examination of completion of fitting of Sea Connections 23 · 4 · 09 of Stern Tube 23 · 4 · 09 Screw shaft and Propeller 3 · 5 · 09

Is the Screw Shaft Tunnel watertight Iron Is it fitted with a watertight door — worked from —

BOILERS, &c.—(Letter for record) Manufacturers of Steel

Total Heating Surface of Boilers Is Forced Draft fitted No. and Description of Boilers

Working Pressure Tested by hydraulic pressure to Date of test No. of Certificate

Can each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to each boiler Area of each valve Pressure to which they are adjusted Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers Length Material of shell plates

Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams

long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps

Per centages of strength of longitudinal joint rivets plate Working pressure of shell by rules Size of manhole in shell

Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter

Length of plain part top bottom Thickness of plates crown bottom Description of longitudinal joint No. of strengthening rings

Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom

Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules

Material of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space:

Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays

Diameter at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom

Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays

Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and

thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each

Working pressure by rules 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

Is a Report also sent on the Hull of the Ship? Yes If not, state whether, and when, one will be sent

1m.4.6.—T.

VERTICAL DONKEY BOILER— *Manufacturers of Steel*

No. Description ~~Particulars given on the attached form~~

Made at By whom made When made Where fixed

Working pressure tested by hydraulic pressure to Date of test No. of Certificate Fire grate area Description of Safety Valves No. of Safety Valves Area of each Pressure to which they are adjusted Date of adjustment

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 Plates

Working pressure of shell by rules 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

Working pressure of furnace by rules Thickness of furnace crown plates Stayed by

Diameter of uptake Thickness of uptake plates Thickness of water tubes Dates of survey

SPARE GEAR. State the articles supplied :— Two. Top end bolts & nuts. Two bottom end ditto Two. main Bearing ditto. One set coupling bolts. One set air. Circulating Feed and Bilge Pump Valves. 6. Piston Bolts. One propeller. assorted bolts & iron.

The foregoing is a correct description, pp. Hawks, Crawshay & Sons Ltd? ... Grey ... Bell

Manufacturer. of Engines

Dates of Survey while building — During progress of work in shops— — 1909 Feb. 8.15.19.25. Mar. 3.10.16.18.26.30. Apr. 2.5.16.19.22.23.29. May 3.6.10.13.18.20.25.27. Jun. 2.5
During erection on board vessel — —

Total No. of visits 27

Is the approved plan of main boiler forwarded herewith Yes

" " " donkey " " Yes.

Dates of Examination of principal parts—Cylinders 5·4·09 Slides 16·4·09 Covers 22·4·09 Pistons 22·4·09 Rods 16·4·09

Connecting rods 16·4·09 Crank shaft (10·3·09) Thrust shaft (10·3·09) Tunnel shafts — Screw shaft 22·4·09 Propeller 22·4·09

Stern tube 16·4·09 Steam pipes tested 20·5·09 Engine and boiler seatings 19·4·09 Engines holding down bolts 13·5·09

Completion of pumping arrangements 25·5·09. Boilers fixed 13·5·09. Engines tried under steam 25·5·09

Main boiler safety valves adjusted 25·5·09. Thickness of adjusting washers P 13/32 S. 3/8 f.

Material of Crank shaft S.M. Steel. Identification Mark on Do. 1070 R. 4S. 3·09 Material of Thrust shaft S.M. Steel. Identification Mark on Do. 1071 R. 4S. 3·09

Material of Tunnel shafts — Identification Marks on Do. — Material of Screw shafts Scrap Iron. Identification Marks on Do. Lloyds WL 22·4·09

Material of Steam Pipes Copper. Test pressure 260 lb. □"

General Remarks (State quality of workmanship, opinions as to class, &c. The above Machinery has been constructed under Special Survey. The materials and workmanship employed in its manufacture are sound and good. It has been fitted on board the above Vessel in a satisfactory manner. The Vessel is eligible, in my opinion, for record. +LMC. 6·09.)

It is submitted that this vessel is eligible for THE RECORD. +LMC 6·09 Elec Light

ARK 15·6·09 JBM 15/6/09

W. Lane.

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

Certificate (if required) to be sent to Newcastle-on-Tyne

(The Surveyors are requested not to write on or below the space for Committee's Minute.)

The amount of Entry Fee..	£ 1	: 0	: 0	When applied for, 11 JUN 1909
Special	£ 14	: 14	: 0	
Donkey Boiler Fee	£ —	:	:	When received, 17/6/09
Travelling Expenses (if any)	£ —	:	:	

JB 19·6·09

Committee's Minute TUES. 15 JUN 1909

Assigned +LMC 6.09 Elec. light

MACHINERY CERTIFICATE WRITTEN.