

REPORT ON MACHINERY.

No. 28030

Received at London Office

TUE. OCT. 27. 1914

Date of writing Report *26-10-14* Port of *Hull*

in Survey held at *Hull* Date, First Survey *15-1-14* Last Survey *24-10-14* 19
 eg. Book. *33* on the *steel screw steamer Sea Searcher* (Number of Visits *31*)

Master *Lelby* Built at *Lelby* By whom built *Cochrane & Sons Ltd* Tons *Gross 263*
Net 103 When built *1914*

Engines made at *Hull* By whom made *Arnos & Smith Ltd (No 2500)* when made *1914-10*

Boilers made at *Hull* By whom made *Arnos & Smith Ltd* when made *1914-10*

Registered Horse Power *78* Owners *Humber Steam Trawling Co Ltd* Port belonging to *Hull*

Is Refrigerating Machinery fitted for cargo purposes *no* Is Electric Light fitted *no*

ENGINES, &c.—Description of Engines *Triple expansion* No. of Cylinders *Three* No. of Cranks *3*

Dia. of Cylinders *12 1/2 - 21 1/2 - 35 1/4* Length of Stroke *24* Revs. per minute *as per rule 7 1/2* Material of *Iron*
 as fitted *7 3/4* screw shaft

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 *yes*

Is 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 *yes* If two liners are fitted, is the shaft lapped or protected between the liners *yes* Length of stern bush *34*

Dia. of Tunnel shaft *6 6/4* as per rule *6 9/16* Dia. of Crank shaft journals *7 1/4* as per rule *7 1/4* Dia. of Crank pin *7 1/4* Size of Crank webs *4 3/4 x 4 3/8* Dia. of thrust shaft under rollers *7 1/4* Dia. of screw *9-0* Pitch of Screw *11-0* No. of Blades *4* State whether moveable *no* Total surface *29.5*

No. of Feed pumps *one* Diameter of ditto *2 3/4* Stroke *12* Can one be overhauled while the other is at work *yes*

No. of Bilge pumps *one* Diameter of ditto *2 3/4* Stroke *12* Can one be overhauled while the other is at work *yes*

No. of Donkey Engines *one* Sizes of Pumps *6 1/4 x 4 3/4 x 6 dup* No. and size of Suctions connected to both Bilge and Donkey pumps *one 2 1/2*

Engine Room *Two 2" dia* In Holds, &c. *one 2" in each compartment - all also connected to system*

No. of Bilge Injections *one* sizes *3"* Connected to condenser, or to circulating pump *yes* Is a separate Donkey Suction fitted in Engine room & size *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 *yes*

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 *Forward suction* How are they protected *wood casing*

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 *23-7-14* of Stern Tube *23-7-14* Screw shaft and Propeller *23-7-14*

Is the Screw Shaft Tunnel watertight *yes* Is it fitted with a watertight door *yes* worked from *yes*

BOILERS, &c.—(Letter for record *S*) Manufacturers of Steel *Phoenix & Holder & Co Ltd*

Total Heating Surface of Boilers *1320* Is Forced Draft fitted *no* No. and Description of Boilers *one single ended*

Working Pressure *200 lbs* Tested by hydraulic pressure to *400* Date of test *21-9-14* No. of Certificate *3023*

Can each boiler be worked separately *yes* Area of fire grate in each boiler *45* No. and Description of Safety Valves to each boiler *Two spring loaded* Area of each valve *4.9* Pressure to which they are adjusted *205* Are they fitted with easing gear *yes*

Smallest distance between boilers or uptakes and bunkers or woodwork *7"* Mean dia. of boilers *153"* Length *10-6"* Material of shell plates *steel*

Thickness *1 1/8"* Range of tensile strength *29-33 tons* Are the shell plates welded or flanged *no* Descrip. of riveting: cir. seams *double*

Long. seams *J.R.D.B.* Diameter of rivet holes in long. seams *1 5/32"* Pitch of rivets *7 3/4"* Lap of plates or width of butt straps *16 3/4"*

Per centages of strength of longitudinal joint: rivets *89.6* Working pressure of shell by rules *209* Size of manhole in shell *16" x 12"*

Size of compensating ring *9" x 1 1/8"* No. and Description of Furnaces in each boiler *3 plain* Material *S* Outside diameter *37 3/8"*

Length of plain part *80"* Thickness of plates *1 13/16"* Description of longitudinal joint *welded* No. of strengthening rings *yes*

Working pressure of furnace by the rules *223* Combustion chamber plates: Material *S* Thickness: Sides *1 1/16"* Back *2 3/32"* Top *1 1/16"* Bottom *1 3/16"*

Pitch of stays to ditto: Sides *9 1/2" x 8 1/2"* Back *9" x 9"* Top *9" x 8 1/2"* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *202*

Material of stays *S* Diameter at smallest part *2.07* Area supported by each stay *81* Working pressure by rules *230* End plates in steam space: Material *S* Thickness *1 3/32"* Pitch of stays *16 1/2" x 17"* How are stays secured *nut & wash* Working pressure by rules *201* Material of stays *S*

Diameter at smallest part *6.1* Area supported by each stay *280* Working pressure by rules *226* Material of Front plates at bottom *S*

Thickness *1"* Material of Lower back plate *S* Thickness *1 1/16"* Greatest pitch of stays *13 3/4" x 10"* Working pressure of plate by rules *210*

Diameter of tubes *3 1/2"* Pitch of tubes *4 3/4" x 5"* Material of tube plates *S* Thickness: Front *1"* Back *7/8"* Mean pitch of stays *11"*

Pitch across wide water spaces *13 3/4"* Working pressures by rules *203* Girders to Chamber tops: Material *S* Depth and thickness of girder at centre *9 1/2" x 1 3/4"* Length as per rule *34"* Distance apart *9"* Number and pitch of stays in each *Three 8 1/2"*

Working pressure by rules *216* Superheater or Steam chest; how connected to boiler *yes* Can the superheater be shut off and the boiler worked separately *yes*

Diameter *yes* Length *yes* Thickness of shell plates *yes* Material *yes* Description of longitudinal joint *yes* Diam. of rivet holes *yes* Pitch of rivets *yes* Working pressure of shell by rules *yes* Diameter of flue *yes* Material of flue plates *yes* Thickness *yes*

If stiffened with rings *yes* Distance between rings *yes* Working pressure by rules *yes* End plates: Thickness *yes* How stayed *yes*

Working pressure of end plates *yes* Area of safety valves to superheater *yes* Are they fitted with easing gear *yes*

IS A DONKEY BOILER FITTED? *Yes*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: *Two top end bolts & nuts, two bottom end bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set of feed bridge pump valves, & a quantity of bolts & nuts sizes of various sizes*

The foregoing is a correct description,

FOR AMOS & SMITH LTD.

W. H. H. H. H.
Managing Director.

Manufacturer.

Dates of Survey while building: During progress of work in shops: *1914 - Jan 15, Jun 12, July 3, 15, 18, 23, 28, 31, Aug 20, 21, 26, 28, Sep 1, 4, 9, 10, 15*
During erection on board vessel: *18, 21, 23, 25, 26, 29, Oct 2, 12, 13, 15, 16, 21, 23, 24*
Total No. of visits: *31*

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

Dates of Examination of principal parts: Cylinders *23-9-14* Slides *29-9-14* Covers *23-9-14* Pistons *26-9-14* Rods *4-9-14*
Connecting rods *25-9-14* Crank shaft *23-9-14* Thrust shaft *23-9-14* Tunnel shafts Screw shaft *18-7-14* Propeller *18-7-14*
Stern tube *18-7-14* Steam pipes tested *12-10-14* Engine and boiler seatings *23-7-14* Engines holding down bolts *15-10-14*
Completion of pumping arrangements *24-10-14* Boilers fixed *15-10-14* Engines tried under steam *16-10-14*
Main boiler safety valves adjusted *16-10-14* Thickness of adjusting washers *P 7/16 S 3/8*

Material of Crank shaft *Steel* Identification Mark on Do. *1281 FLS* Material of Thrust shaft *Steel* Identification Mark on Do. *1283 FLS*
Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts *Iron* Identification Marks on Do. *1300 J.S.M.*

Material of Steam Pipes *solid drawn copper* Test pressure *450*

Is an installation fitted for burning oil fuel Is the flash point of the oil to be used over 150°F.

Have the requirements of Section 49 of the Rules been complied with

Is this machinery duplicate of a previous case *no* If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery of this vessel has been constructed under special survey in accordance with the approved plans & the rules of this society, the materials & workmanship are good. The boiler & steam pipes have been tested as above & found sound & good. The machinery has been properly fitted & secured on board & on completion was tried under steam & found satisfactory. The safety valves have been adjusted & tested for accumulation which did not exceed 210 lbs.*

In my opinion the vessel is eligible for the record + L.M.C. 10-14.

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 10. 14.

J.W.D.
28/10/14

Frank L. Sturgeon
Engineer-Surveyor to Lloyd's Register of British & Foreign Shipping

The amount of Entry Fee £ 1 : 0 :
Special ... £ 11 : 14 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : 4 : 2 :
When applied for, *26.10.1914*
When received, *31.10.1914*

Committee's Minute *FRI. OCT. 30. 1914*

Assigned *+ L.M.C. 10.14*



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