

REPORT ON MACHINERY.

No. 28122

Date of writing Report 23-11-14 is When handed in at Local Office 23/11/14 Port of Hull Received at London Office WED. DEC. -9, 1914

No. in Survey held at Hull Date, First Survey 15-1-14 Last Survey 21-11-1914
Reg. Book. 403 on the steel screw trawler *Hornberg* (Number of Visits 48) Gross 275 Tons Net 147 Tons When built 1914-11

Master Built at *Leby* By whom built *Brothman & Sons Ltd*

Engines made at *Hull* By whom made *Arnold & Smith Ltd* when made 1914-11

Boilers made at *Hull* By whom made *Arnold & Smith Ltd* when made 1914-11

Registered Horse Power Owners *Lindsay Steam Fishing Co Ltd* Port belonging to *Grimsby*

Nom. Horse Power as per Section 28 79 Is Refrigerating Machinery fitted for cargo purposes *no* Is Electric Light fitted *yes*

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

Dia. of Cylinders *12½ - 21½ - 35½* Length of Stroke *24* Revs. per minute *72* Dia. of Screw shaft *7½* Material of *Iron*
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 in 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 *36"*

Dia. of Tunnel shaft *6.41"* Dia. of Crank shaft journals *6.73"* Dia. of Crank pin *7"* Size of Crank webs *3½ x 4½* Dia. of thrust shaft under collars *7"* Dia. of screw *8-9"* Pitch of Screw *11-0"* No. of Blades *4* State whether moveable *no* Total surface *29 ft*

No. of Feed pumps *one* Diameter of ditto *2½"* Stroke *12"* Can one be overhauled while the other is at work *yes*

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

No. of Donkey Engines *one* & 2" *2"* Sizes of Pumps *6½ x 4½ x 6"* No. and size of Suctions connected to both Bilge and Donkey pumps *one 2" in each compartment - all*

In Engine Room *two 2" dia* In Holds, &c. *one 2" in each compartment - all*

No. of Bilge Injections *one* sizes *3"* Connected to condenser, or to circulating pump *yes* Is a separate Donkey Suction fitted in Engine room of size *2" 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 casings*

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 *24-8-14* of Stern Tube *24-8-14* Screw shaft and Propeller *24-8-14*

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, Abt, Hinder, Verein, Hilde*

Total Heating Surface of Boilers *1400 ft* Is Forced Draft fitted *no* No. and Description of Boilers *one single ended*

Working Pressure *180 lbs* Tested by hydraulic pressure to *360 lbs* Date of test *29-10-14* No. of Certificate *3032*

Can each boiler be worked separately *yes* Area of fire grate in each boiler *45 ft* No. and Description of Safety Valves to each boiler *two spring loaded* Area of each valve *4.9 ft* Pressure to which they are adjusted *183* Are they fitted with easing gear *yes*

Smallest distance between boilers or uptakes and bunkers or woodwork *7" lagged* Mean dia. of boilers *13-0"* Length *10-2"* Material of shell plates *steel*

Thickness *1½"* Range of tensile strength *29-33 tons* Are the shell plates welded or flanged *no* Descrip. of riveting: cir. seams *double*

long. seams *7 R & B* Diameter of rivet holes in long. seams *1½"* Pitch of rivets *7-65"* Top of plates or width of butt straps *16½"*

Per centages of strength of longitudinal joint *94* Working pressure of shell by rules *180 lbs* Size of manhole in shell *12" x 16"*

Size of compensating ring *9" x 1½"* No. and Description of Furnaces in each boiler *three plain* Material *steel* Outside diameter *31½"*

Length of plain part *76"* Thickness of plates *3/4"* Description of longitudinal joint *welded* No. of strengthening rings *one pt*

Working pressure of furnace by the rules *196* Combustion chamber plates: Material *steel* Thickness: Sides *11/16"* Back *11/16"* Top *11/16"* Bottom *11/16"*

Pitch of stays to ditto: Sides *9½" x 7"* Back *9½" x 8½"* Top *9" x 7"* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *207*

Material of stays *steel* Diameter at smallest part *1.76"* Area supported by each stay *66.5"* Working pressure by rules *212* End plates in steam space: Material *steel* Thickness *1/32"* Pitch of stays *18" x 17½"* How are stays secured *7 x 4"* Working pressure by rules *180* Material of stays *steel*

Diameter at smallest part *6.10"* Area supported by each stay *315"* Working pressure by rules *201* Material of Front plates at bottom *steel*

Thickness *31/32"* Material of Lower back plate *steel* Thickness *15/16"* Greatest pitch of stays *14" x 9"* Working pressure of plate by rules *220*

Diameter of tubes *3½"* Pitch of tubes *4 13/16" x 5"* Material of tube plates *steel* Thickness: Front *3/32"* Back *27/32"* Mean pitch of stays *9 13/16"*

Pitch across wide water spaces *14"* Working pressures by rules *184 lbs* Girders to Chamber tops: Material *steel* Depth and thickness of girder at centre *9" x 1 3/4"* Length as per rule *2-9"* Distance apart *9"* Number and pitch of stays in each *three 7"*

Working pressure by rules *196* 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*

WS07-0056

IS A DONKEY BOILER FITTED? *No* 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 valve & air pump valves & quantities of bolts & nuts & nuts of various sizes*

The foregoing is a correct description,

FOR AMOS & SMITH LTD.

W. J. Bide

Manufacturer.

Managing Director.

Dates of Survey while building: During progress of work in shops — *1914: Jan 15, Apr 27, May 18, Jan 12, 23, July 3, 26, 31, Aug 20, 21, 24, 25, Sep 1, 4*
 During erection on board vessel — *9, 10, 15, 18, 21, 23, 25, 29, Oct 1, 7, 9, 14, 20, 22, 23, 24, 27, 29, Nov 6, 9, 10, 14, 17, 20, 21*
 Total No. of visits *40*

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

Dates of Examination of principal parts—Cylinders *29-9-14* Slides *27-10-14* Covers *27-10-14* Pistons *23-10-14* Rods *23-10-14*
 Connecting rods *23-10-14* Crank shaft *23-10-14* Thrust shaft *20-9-14* Tunnel shafts *✓* Screw shaft *24-8-14* Propeller *24-8-14*
 Stern tube *20-8-14* Steam pipes tested *9-11-14* Engine and boiler seatings *24-9-14* Engines holding down bolts *14-11-14*
 Completion of pumping arrangements *21-11-14* Boilers fixed *14-11-14* Engines tried under steam *17-11-14*
 Main boiler safety valves adjusted *17-11-14* Thickness of adjusting washers *P 11/32 I. 5/16*
 Material of Crank shaft *Steel* Identification Mark on Do. *135 FLS* Material of Thrust shaft *Steel* Identification Mark on Do. *1257 FLS*
 Material of Tunnel shafts *✓* Identification Marks on Do. *✓* Material of Screw shafts *Iron* Identification Marks on Do. *1256 FLS*
 Material of Steam Pipes *Solid drawn copper* Test pressure *400 lbs*
 Is an installation fitted for burning oil fuel *no* 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 *yes* If so, state name of vessel *Orianda, Vienna*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery of this vessel has been constructed under special survey, 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 the vessel & on completion was tried under steam & found satisfactory. The safety valves have been adjusted under steam & tested for accumulation which did not exceed 192 lbs.*

In my opinion the vessel is eligible for the record + L.M.C. 1914-11

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 11.14.

The amount of Entry ... £ 1 0
 Special ... £ 11 17
 Donkey Boiler Fee ... £
 Travelling Expenses (if any) £ 8-2

When applied for, 8/12/14
 When received, 31/12/14

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

Committee's Minute

Assigned

FRI. DEC. 11. 1914

+ L.M.C. 11.14

MACHINERY CERTIFICATE

Port of *✓*
 No. in Reg. Book *403* on the *✓*
 Owners *Lindsay*
 Yard No. *612*

DESCRIPTION OF *✓*
Re-named 1
Engine 18
 Capacity of Dynamo
 Where is Dynamo fixed
 Position of Main Switch
 Positions of auxiliary *provided*

If fuses are fitted on circuits *yes*
 If vessel is wired on t
 Are the fuses of non-
 Are all fuses fitted in
 are permanent ins
 Are all switches and f
 Total number of lights
 A *Midship*
 B *Eng. Rm. & aft*
 C *Forecastle*
 D
 E
 3 Mast head lig
 2 Side lig
 1.

If arc lights, what prote
 Where are the switches
 DESCRIPTION OF CA
 Main cable carrying
 Branch cables carrying
 Branch cables carrying
 Leads to lamps carrying
 Cargo light cables carrying

DESCRIPTION OF INS
 600 *megohm*
 Steel *Tubes*

oints in cables, how mad
 re all the joints of cable
 positions, none being
 re there any joints in o
 ow are the cables led t