

# REPORT ON MACHINERY.

Received at London Office

THU. SEP. 13 1917.

Date of writing Report 31-8-17 When handed in at Local Office 10/7 Port of Hull  
 No. in Survey held at Hull Date, First Survey Mar 15<sup>th</sup> Last Survey Sept 1<sup>st</sup> 1917  
 Reg. Book. on the steel screw tug James Berry (Number of Visits 43) Tons { Gross 269 Net 109  
 Master Beverley Built at Beverley By whom built Cook, Wilton & Gemmell When built 1917-9  
 Engines made at Hull By whom made Amos & Smith L<sup>td</sup> (2919) when made 1917-9  
 Boilers made at Hull By whom made Amos & Smith L<sup>td</sup> (2917) when made 1917-9  
 Registered Horse Power 83 Owners British Admiralty Port belonging to  
 Nom. Horse Power as per Section 28 83 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 742 Dia. of Screw shaft 7 1/2" Material of screw shaft 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 no 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 no If two  
 liners are fitted, is the shaft lapped or protected between the liners no Length of stern bush 33"  
 Dia. of Tunnel shaft 6 1/4" as per rule 6.65" Dia. of Crank shaft journals 6.97" as per rule 7 1/4" Dia. of Crank pin 7 1/4" Size of Crank webs 4 1/8" x 4 3/8" Dia. of thrust shaft under  
 collars 7 1/4" Dia. of screw 9-0" Pitch of Screw 11-3" No. of Blades 4 State whether moveable no Total surface 31.5 sq ft  
 No. of Feed pumps one Diameter of ditto 2 3/4" Stroke 12" Can one be overhauled while the other is at work no  
 No. of Bilge pumps one Diameter of ditto 2 3/4" Stroke 12" Can one be overhauled while the other is at work no  
 No. of Donkey Engines one & 2" ejector Sizes of Pumps 6 1/4", 4 3/4" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room Two 2" dia In Holds, &c. one 2" dia in each compartment  
all suction also connected to ejector.  
 No. of Bilge Injections one sizes 3" Connected to condenser, or to circulating pump no Is a separate Donkey Suction fitted in Engine room & size 2" ejector  
 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 no  
 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 strong 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  
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door no worked from no

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Stewarts & Lloyds  
 Total Heating Surface of Boilers 1450 sq ft Is Forced Draft fitted no No. and Description of Boilers one single ended  
 Working Pressure 210 Tested by hydraulic pressure to 400 Date of test 27-6-17 No. of Certificate 3221 G.A.  
 Can each boiler be worked separately yes Area of fire grate in each boiler 48 sq ft No. and Description of Safety Valves to  
 each boiler two spring loaded Area of each valve 4.9 sq in Pressure to which they are adjusted 205 Are they fitted with easing gear yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 8" Bl lagging dia. of boilers 156" Length 10'-6" Material of shell plates steel  
 Thickness 1 1/4" Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double  
 long. seams J.P.R.B.S Diameter of rivet holes in long. seams 1 3/16" Pitch of rivets 7.71" Lap of plates or width of butt straps 17 3/8"  
 Per centages of strength of longitudinal joint rivets 91.1 Working pressure of shell by rules 210 Size of manhole in shell 16" x 12"  
 plate 84.6  
 Size of compensating ring 9" x 1 1/4" No. and Description of Furnaces in each boiler 3 plain Material steel Outside diameter 38 1/2"  
 Length of plain part top 78" bottom 73" Thickness of plates crown 7 13/16" bottom 1 1/16" Description of longitudinal joint welded No. of strengthening rings no  
 Working pressure of furnace by the rules 217 Combustion chamber plates: Material steel Thickness: Sides 1 1/16" Back 1 1/16" Top 1 1/16" Bottom 1 1/16"  
 Pitch of stays to ditto: Sides 8" x 10" Back 8 3/4" x 9" Top 8" x 9 1/4" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 200  
 Material of stays steel Area at smallest part 2.4 sq in Area supported by each stay 97 sq in Working pressure by rules 222 End plates in steam space:  
 Material steel Thickness 1 1/8" Pitch of stays 16 1/2" x 17 1/2" How are stays secured 7.7 x 7.7 Working pressure by rules 207 Material of stays steel  
 Area at smallest part 6.10 sq in Area supported by each stay 289 sq in Working pressure by rules 219 Material of Front plates at bottom steel  
 Thickness 1 1/8" Material of Lower back plate steel Thickness 1 5/16" Greatest pitch of stays 14 3/4" x 9" Working pressure of plate by rules 203  
 Diameter of tubes 3 1/2" Pitch of tubes 4 1/2" Material of tube plates steel Thickness: Front 1 5/8" Back 3/8" Mean pitch of stays 10"  
 Pitch across wide water spaces 14" Working pressures by rules 202 Girders to Chamber tops: Material steel Depth and  
 thickness of girder at centre 9 1/2" x 1 3/4" Length as per rule 34" Distance apart 9 1/2" Number and pitch of stays in each Three 8"  
 Working pressure by rules 206 Steam dome: description of joint to shell no % of strength of joint no  
 Diameter no Thickness of shell plates no Material no Description of longitudinal joint no Diam. of rivet holes no  
 Pitch of rivets no Working pressure of shell by rules no Crown plates no Thickness no How stayed no

SUPERHEATER. Type no Date of Approval of Plan no Tested by Hydraulic Pressure to no  
 Date of Test no Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler no  
 diameter of Safety Valve no Pressure to which each is adjusted no Is Easing Gear fitted no



IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: - Four top end bolts & nuts, two bottom end bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set of air feed & helix pump valves, one safety valve spring, one main & one donkey check valve, one set of piston & nuts, 4 condenser tubes, 3 boiler tubes, one escape valve spring each size, two donkey pump suction & delivery valves, one impeller & shaft for circulating pumps, one propeller, 1/2 set of fire bars & quantity of bolts & nuts kind of various sizes.

The foregoing is a correct description,

FOR AMOS & SMITH LTD.

*A. J. Robinson* Manufacturer.

Secretary

Dates of Survey while building { During progress of work in shops - - } 1917: - Mar 15, 24, 28. Apr 2, 3, 11, 23, 31, May 5, 7, 9, 12, 14, 23, 25, Jun 2, 4, 8, 9, 13, 15, 22, 25, 27, Jul. 2, 3.  
{ During erection on board vessel - - - } 11, 13, 14, 16, 19, 25, 31, Aug 13, 17, 20, 22, 23, 24, 27, Sept 1.  
Total No. of visits 43

Is the approved plan of main boiler forwarded herewith *yes*  
" " " donkey " " *with Hull*

Dates of Examination of principal parts - Cylinders 14-5-17 Slides 4-7-17 Covers 14-5-17 Pistons 9-6-17 Rods 9-6-17  
Connecting rods 9-6-17 Crank shaft 13-6-17 Thrust shaft 25-6-17 Tunnel shafts ✓ Screw shaft 5-5-17 Propeller 5-5-17  
Stern tube 5-5-17 Steam pipes tested 13-8-17 Engine and boiler seatings 9-5-17 Engines holding down bolts 20-8-17  
Completion of pumping arrangements 27-5-17 Boilers fixed 20-8-17 Engines tried under steam 27-8-17  
Completion of fitting sea connections 9-5-17 Stern tube 9-5-17 Screw shaft and propeller 9-5-17  
Main boiler safety valves adjusted 22-8-17 Thickness of adjusting washers *p 5/16 1 13/32*  
Material of Crank shaft *Iron* Identification Mark on Do. *1818 G.A.* Material of Thrust shaft *Iron* Identification Mark on Do. *1822*  
Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts *Iron* Identification Marks on Do. *1808*  
Material of Steam Pipes *solid drawn copper* ✓ Test pressure *400* ✓  
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 *Yes Hugh Black* ✓

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 and steam pipes have been tested as above & found sound & tight. The machinery has been properly fitted & secured on board the vessel & on completion tested under full power for two hours as required by the Admiralty & found satisfactory. The safety valves have been adjusted under steam & tested for accumulation which did not exceed 207 lbs. In our opinion the vessel is eligible for the record + L.H.C. 9-17.*

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 9.17.

The amount of Entry Fee ... £ 1 : 0 :  
Special ... £ 24 : 18 :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, 12/9/17  
When received, 29/9/17

*Frank L. Sturgeon & J. Allan*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 14 SEP. 1917  
Assigned + L.H.C. 9.17



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