

REPORT ON MACHINERY.

No. 83483

Received at London Office
LIVERPOOL.

SAT. 18 MAR 1922

Date of writing Report 19 When handed in at Local Office **17 MAR 1922** Port of **LIVERPOOL**

No. in Survey held at **Ellesmere Port,** Date, First Survey **19th Dec / 18** Last Survey **8th March 1922**
 Reg. Book. on the **S.S. Lizzie** (Number of Visits **38**)

Master Built at **Ellesmere Port.** By whom built **Manchester D.D.K. Co. Ltd.** When built
 Engines made at **Manchester.** By whom made **Manchester D.D.K. Co. Ltd.** when made
 Boilers made at **Birkenhead.** By whom made **Gammell Laird & Co. Ltd.** when made

Registered Horse Power Owners Port belonging to
 Nom. Horse Power as per Section 28 **52.** Is Refrigerating Machinery fitted for cargo purposes **no** Is Electric Light fitted **no.**

ENGINES, &c.—Description of Engines **See Manchester Report No. 4655.** 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 **one** ✓ Sizes of Pumps **5 1/2, 3 1/2 + 8 gals.** No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room **2-2"** ✓ In Holds, &c. **2-2" F.P. 1-2" A.P. 1-2"** ✓

No. of Bilge Injections **1** sizes **3"** Connected to condenser, or to circulating pump **Directly.** Is a separate Donkey Suction fitted in Engine room & size **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 **none.**
 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 **none.** 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.** ✓
 Is the Screw Shaft Tunnel watertight **none.** Is it fitted with a watertight door ✓ worked from ✓

OILERS, &c.—(Letter for record **S**) Manufacturers of Steel **See Liverpool Report No. 80563.**

Total Heating Surface of Boilers **952 sq ft** Is Forced Draft fitted **no.** No. and Description of Boilers **One cylindrical A.C. Boiler.**
 Working Pressure **130 lbs.** Tested by hydraulic pressure to **260 lbs.** Date of test **21-3-19.** No. of Certificate **2051.**

Can each boiler be worked separately ✓ Area of fire grate in each boiler **35 sq ft** ✓ No. and Description of Safety Valves to each boiler **2. Direct Spring.** Area of each valve **4.91 sq in** Pressure to which they are adjusted Are they fitted with easing gear **yes.**
 Smallest distance between boilers or uptakes and bunkers or woodwork **12"** 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
 ong. 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 Working pressure of shell by rules Size of manhole in shell
 plate Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter
 length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings
 bottom 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 Area 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
 Area 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 Steam dome: description of joint to shell % of strength of joint
 Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes
 Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

UPERHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to
 Date of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler
 Diameter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted



IS A DONKEY BOILER FITTED? *no.*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— *As per Manchester Report no 4655.*

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building	{ During progress of work in shops -- { During erection on board vessel -- -- Total No. of visits	¹⁹¹⁸ <i>Dec. 19.</i> ¹⁹¹⁹ <i>Jan. 6, 10, 14, 15, 20, 24, 29, 31, Dec. 4, 18, 26, Mar. 4, 7, 10, 16, 13, 17, 20, 26, 24.</i> ¹⁹²⁰ <i>Aug. 18, 19, Sept. 6, 28, Oct. 12.</i>	
		¹⁹²² <i>Nov. 4, Dec. 1, Jan. 17, 25, Apr. 15, 28, Oct. 6.</i> ¹⁹²² <i>Jan. 12, Mar. 8.</i>	
		<i>38.</i>	Is the approved plan of main boiler forwarded herewith <i>yes.</i>

Dates of Examination of principal parts—Cylinders	Slides	Covers	Pistons	Rods
Connecting rods	Crank shaft	Thrust shaft	Tunnel shafts	Screw shaft
Stern tube <i>19-8-20.</i>	Steam pipes tested <i>16/11/20.</i>	J.H. Engine and boiler seatings <i>19-8-20.</i>	Engines holding down bolts <i>28-9-20.</i>	Propeller <i>19-8-20.</i>
Completion of pumping arrangements <i>25-1-21.</i>	Boilers fixed <i>19-8-20.</i>	Engines tried under steam		
Completion of fitting sea connections <i>19-8-20.</i>	Stern tube <i>19-8-20.</i>	Screw shaft and propeller <i>19-8-20.</i>		
Main boiler safety valves adjusted	Thickness of adjusting washers			
Material of Crank shaft	Identification Mark on Do.	Material of Thrust shaft	Identification Mark on Do.	
Material of Tunnel shafts	Identification Marks on Do.	Material of Screw shafts	Identification Marks on Do.	
Material of Steam Pipes <i>Copper.</i>		Test pressure <i>260 lbs.</i>		

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 *S.S. Ben Sept. ex Devon (No. 7)*

General Remarks (State quality of workmanship, opinions as to class, &c. *The Boiler-Liverpool Rpt. no 80563.*

Engines - Manchester Report no 4655, have been securely fitted on board.

This machinery is in my opinion eligible to be classed with record of R.I. Club. with date, on completion.

This vessel has been laid up by the Builders for some time awaiting a purchaser. To complete the survey, the machinery requires to be seen under steam, the pumping arrangement tested and the safety valves adjusted.

The amount of Entry Fee ... £	<i>2 : 5</i>	When applied for, 17 MAR 1922
Special ... £		
Donkey Boiler Fee ... £		When received, <i>28/11/22</i>
Travelling Expenses (if any) £	<i>1 : 3/5</i>	

A. J. Bassett
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **LIVERPOOL. 17 MAR 1922**

Assigned *Deferred for completion.*

