

pt. 4.

REPORT ON MACHINERY.

No. 69445

Received at London Office

THU. 21 DEC. 1916

Date of writing Report

When handed in at Local Office

30 DEC 1916

Port of Newcastle on Tyne

To. in Survey held at Newcastle on Tyne

Date, First Survey

1st Apr 1916

Last Survey

19th Dec 1916

Reg. Book.

(Number of Vessels)

on the TRIPLE SCREW STEAMER "KNIAZ POJARSKY"

Gross 2432

Tons Net 891

Laster

Built at Holland

By whom built Swan Hunter & Wigham Richardson When built 1916.

Engines made at Walker-on-Tyne By whom made Swan Hunter & Wigham Richardson when made 1916.

Boilers made at Walker-on-Tyne By whom made Swan Hunter & Wigham Richardson when made 1916.

Registered Horse Power Owners Russian Imperial Govt Port belonging to

Nom. Horse Power as per Section 28 900 ✓ Is Refrigerating Machinery fitted for cargo purposes No ✓ Is Electric Light fitted Yes ✓

MACHINES, &c.—Description of Engines Triple Expansion ✓ No. of Cylinders 3 ✓ No. of Cranks 3 ✓

No. of Cylinders 3 1/2 - 3 5/8 - 5 8/9 Length of Stroke 36" ✓ Revs. per minute 110 ✓ Dia. of Screw shaft as per rule 11 1/8" Material of Steel ✓

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

the propeller boss Yes ✓ 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 5' 3"

Dia. of Tunnel shaft as per rule 10 4/5" Dia. of Crank shaft journals as per rule 10 9/5" Dia. of Crank pin 12 1/2" Size of Crank webs 7 1/2" Dia. of thrust shaft under

collars 12 8/9" Dia. of screw 12 1/6" Pitch of Screw 16' 0" ✓ No. of Blades 4 ✓ State whether moveable Yes ✓ Total surface 53 59 ft. ✓

WHEELS
No. of Feed pumps 3 ✓ Diameter of ditto 10" ✓ Stroke 26" ✓ Can one be overhauled while the other is at work Yes ✓

No. of Bilge pumps 2 ✓ Diameter of ditto 6" ✓ Stroke 6" ✓ Can one be overhauled while the other is at work Yes ✓

No. of Donkey Engines 3 and 2 Bilge Pumps Sizes of Pumps 16 3/2 x 15 3/8 x 10 1/2" No. and size of Suctions connected to both Bilge and Donkey pumps

n/Engine Room 2 1/2" dia. IN AFTER ENGINE ROOM 2 1/2" dia. In Holds, &c. SIDE BUNKERS 4: one 2 1/2" dia in each. IN FORWARD

STOKEHOLD 2 1/2" dia. IN AFTER STOKEHOLD 3 1/2" dia. IN TUNNEL WELLS 1 - 2 1/2" dia in each.

No. of Bilge Injections 5 sizes ✓ Connected to condenser, or to circulating pump 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 Bilge suction pipes ✓ How are they protected By strong 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 ✓

Date of examination of completion of fitting of Sea Connections 1/12/16 ✓ of Stern Tube 1/12/16 ✓ Screw shaft and Propeller 1/12/16 ✓

the Screw Shaft Funnel watertight Yes ✓ Is it fitted with a watertight door Yes ✓ worked from TWEEN DECK LEVEL.

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Spencer & Sons Ltd. 6.S.B.

Total Heating Surface of Boilers 14478 ft. Is Forced Draft fitted Yes ✓ No. and Description of Boilers 3 cylindrical built in singles

Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 15/9/16 19/9/16 22/9/16 No. of Certificate 8896-8897-8899.

Can each boiler be worked separately Yes ✓ Area of fire grate in each boiler 58 1/2 ft. No. and Description of Safety Valves to

each boiler 2 1/2" crown loaded Area of each valve 9 62" Pressure to which they are adjusted 185 lbs. Are they fitted with easing gear Yes ✓

Smallest distance between boilers or uptakes and bunkers or woodwork about 1/4" Mean dia. of boilers 14 1/2" Length 11 1/2" Material of shell plates Steel

Thickness 1 1/2" Range of tensile strength 292 to 33 tons Are the shell plates welded or flanged No ✓ Descrip. of riveting: cir. seams Lap double

long. seams 1/2" Lap diameter 1/2" Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 1 1/8" Lap of plates or width of butt straps 16 7/8" ✓

Per centages of strength of longitudinal joint rivets 85.8% Working pressure of shell by rules 181 lbs. Size of manhole in shell 16" x 12" ✓

Size of compensating ring 1/2" No. and Description of Furnaces in each boiler 3 monolithic Material Steel Outside diameter 45 1/2" ✓

Length of plate top 1/2" Thickness of plate crown 1 1/2" Description of longitudinal joint Welded ✓ No. of strengthening rings None.

Length of plate bottom 1/2" Thickness of plate bottom 1/2" Working pressure of furnace by the rules 181 lbs Combustion chamber plates: Material Steel Thickness: Sides 1/8" Back 3/16" Top 1/16" Bottom 1/8" ✓

Pitch of stays to ditto: Sides 9 1/2" x 9 1/2" Back 9 1/2" x 8 1/2" Top 9 1/2" x 9" If stays are fitted with nuts or riveted heads Nuts ✓ Working pressure by rules 181 lbs.

Material of stay Steel Area at smallest part 2 1/2" Area supported by each stay 90 1/2" Working pressure by rules 203 lbs End plates in steam space.

Material Steel Thickness 1 1/2" Pitch of stays 19 1/2" x 18 1/2" How are stays secured 8 1/2" nuts Working pressure by rules 184 lbs Material of stays Steel

Diameter at smallest part 6 1/2" Area supported by each stay 350 1/2" Working pressure by rules 183 lbs Material of Front plates at bottom Steel

Thickness 29" Material of Lower back plate Steel Thickness 29 1/2" Greatest pitch of stays 13 1/2" x 1/4" Working pressure of plate by rules 199 lbs

Diameter of tubes 2 1/2" Pitch of tubes 5 1/2" x 3 1/2" Material of tube plates Steel Thickness: Front 29 1/2" Back 3 1/2" Mean pitch of stays 9 1/2" ✓

Pitch across wide water spaces 13 1/2" Working pressures by rules 185 lbs 229 lbs Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 10" x 1 1/2" Length as per rule 21 1/2" Distance apart 9" Number and pitch of stays in each 2 1/2" x 9 1/2" ✓

Working pressure by rules 183 lbs Superheater or Steam chest; how connected to boiler None. 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

Lloyd's Register Foundation

006056-006063-0029

IS A DONKEY BOILER FITTED? No.

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: - 2-3 part crank shaft for after engines, 2 part crank shaft for forward engines, 1 propeller shaft, 18 blades, 16 shims and nuts for forward & after propellers, 2 propeller shafts, complete cylinder heads for forward engines, 10 plates, 10 stay bolts, eccentric strap brace for HP main forward and after engines, 3 piston rings of each size for 40 m.p., forward & after engines, 161 cylinder liner rings for 60 forward & after engines, 2 piston rods complete with nuts, 16 cylinder cover studs, one 1 impeller shaft for centrifugal pump, 16x2 cover rods, 2 piston rods, 2 eccentric strap rods, 16 cylinder cover rods for same pump, 3 Clevite gears, face plates, 2 plain main bearing bushes, 16 bearing bolts & nuts, 2 main conn. rod bottom end bushes, 2 plain rod top end bushes, 4 top end bolts & nuts, 4 bottom end bolts & nuts.

The foregoing is a correct description,

BWN, HUNTER & WILLIAM HICKS LTD.

G. J. Tweed

Manufacturer.

Dates of Survey while building	1916	During progress of work in shops - - -	Apr. 7-10-12, May 1-3-5-9-11-19, 20-22-24-30, Jun 1-2-6-7-16-23-30, Jul 3-5-6-8-10-11-12-13-14, 20-22-24-25-26-27-31, Aug 2-4-6-7-9-11-13-16-18-21-22-24-28-29-30-31, Sep 4-6-8-15-19-22-26-27, Oct 1-4-7-9-11-12-19.
Total No. of visits	87	During erection on board vessel - - -	29-6-8-12-13-16-19-20-23-24-27, Nov 20-21-22-24-25-27, Dec 1-4-7-9-11-12-19.

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts - Cylinders 21/7/16. Slides 27/9/16. Covers 29/9/16. Pistons 26/9/16. Rods 4/10/16. Connecting rods 9/16. Crank shaft 11/17/16. Thrust shaft 27/9/16. Tunnel shafts 27/9/16. Screw shaft 21/8/16. Propeller 27/9/16. Stern tube 28/8/16. Steam pipes tested 24/11/16. Engine and boiler seatings 29/9/16. Engines holding down bolts 27/11/16. Completion of pumping arrangements 9/12/16. Boilers fixed 15/12/16. Engines tried under steam 11/12/16. Main boiler safety valves adjusted 4/12/16. Thickness of adjusting washers 1/16". Material of Crank shaft steel Identification Mark on Do. 4262. Material of Thrust shaft steel Identification Mark on Do. 2031. Material of Tunnel shafts steel Identification Marks on Do. 2031. Material of Screw shafts steel Identification Marks on Do. 2031. Material of Steam Pipes Wilson Test pressure 520 lbs

Is an installation fitted for burning oil fuel No. Is the flash point of the oil to be used over 150°F. No.Have the requirements of Section 49 of the Rules been complied with Yes.Is this machinery duplicate of a previous case Yes. If so, state name of vessel T.S.S. Kosma Minin.

General Remarks (State quality of workmanship, opinions as to class, &c.)

Three engines and boilers were built under special survey and materials and workmanship are good. When completed they were tried at sea under full power conditions and worked satisfactorily. The machinery throughout is now in good and efficient condition and eligible in my opinion to have the record of XLM.C.12.16 marked in the Society's Register Book.

*It is submitted that
this vessel is eligible for
THE RECORD + LMC 12.16. FD.*

The amount of Entry Fee ... £ 3 : . When applied for, 20 DEC 1916
 Special ... £ 65 : 14 : . When received, 29/11/16
 Donkey Boiler Fee ... £ : .
 Travelling Expenses (if any) £ : .

Committee's Minute FRI. 22 DEC. 1916

Assigned + Lm 6 12 16

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