

# REPORT ON BOILERS.

Date of writing Report 25<sup>th</sup> OCT 1929 When handed in at Local Office 19 Port of LENINGRAD

No. in Reg. Book 34553 Survey held at LENINGRAD Date, First Survey 11<sup>th</sup> Feb. 1927 Last Survey 30<sup>th</sup> SEP 1929  
on the M/S "SMOLNY" (Number of Visits 16) Gross 3787 Tons Net 2167

Built at LENINGRAD By whom built SEVERNEY SHIPBUILDING YARD Yard No. 306 When built 1929  
Engines made at LENINGRAD By whom made RUSSIAN DIESEL WORKS Engine No. 306 When made 1929  
WASTE HEAT Boilers made at LENINGRAD By whom made SEVERNEY SHIPBUILDING YARD Boiler No. 306 When made 1929  
Owners SOVTORGFLOT Port belonging to LENINGRAD

## VERTICAL ~~DONKEY~~ <sup>WASTE HEAT</sup> BOILER.

Made at LENINGRAD By whom made SEVERNEY SHIPBUILDING YARD Boiler No. 306 When made 1929 Where fixed ENGINE ROOM

Manufacturers of Steel JORSKY STATE STEEL WORKS, NEAR LENINGRAD

Total Heating Surface of Boiler 52.5 SQ MET Is forced draught fitted No Coal or Oil fired OIL

No. and Description of Boilers ONE VERTICAL TUBULAR WASTE HEAT BOILER Working pressure 5 kg/cm<sup>2</sup>

Tested by hydraulic pressure to 10 kg/cm<sup>2</sup> Date of test 22/4/28 No. of Certificate 1022

Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler TWO SPRING LOADED

Area of each set of valves per boiler per rule 6605/m<sup>2</sup> Pressure to which they are adjusted 5 kg/cm<sup>2</sup> Are they fitted with easing gear YES

State whether steam from main boilers can enter the donkey boiler ✓ Smallest distance between boiler or uptake and CASING bunkers

as woodwork 5" Is oil fuel carried in the double bottom under boiler ✓ Smallest distance between base of boiler and tank top plating

BOILER PLACED ON PLATFORM ABOVE MAIN ENGINE Is the base of the boiler insulated BACKS & ASBESTOS Largest internal dia. of boiler 1520 m/m Height 2538 m/m

Shell plates: Material STEEL Tensile strength 44/51 kg/mm<sup>2</sup> Thickness 10 m/m

Are the shell plates welded or flanged No Description of riveting: circ. seams end SINGLE long. seams D.R. LAP

Dia. of rivet holes in circ. seams 19 m/m Pitch of rivets 49.3 m/m Percentage of strength of circ. seams plate 61.3% of Longitudinal joint rivets 60.7%

Working pressure of shell by rules 7.17 kg/cm<sup>2</sup> Thickness of butt straps outer inner

Shell Crown: BOTTOM Whether complete hemisphere, dished partial spherical, or flat FLAT Material STEEL

Tensile strength 41/47 kg/mm<sup>2</sup> Thickness 19 m/m Radius ✓ Working pressure by rules 11.8 kg/cm<sup>2</sup>

Description of Furnace: Plain, spherical, or dished crown ✓ Material ✓ Tensile strength ✓

Thickness ✓ External diameter top bottom Length as per rule ✓ Working pressure by rules ✓

Pitch of support stays circumferentially ✓ and vertically ✓ Are stays fitted with nuts or riveted over ✓

Diameter of stays over thread ✓ Radius of spherical or dished furnace crown ✓ Working pressure by rule ✓

Thickness of Ogee Ring ✓ Diameter as per rule D d Working pressure by rule ✓

Combustion Chamber: Material ✓ Tensile strength ✓ Thickness of top plate ✓

Radius if dished ✓ Working pressure by rule ✓ Thickness of back plate ✓ Diameter if circular ✓

Length as per rule ✓ Pitch of stays ✓ Are stays fitted with nuts or riveted over ✓

Diameter of stays over thread ✓ Working pressure of back plate by rules ✓

Tube Plates: Material front back Tensile strength ✓ Thickness ✓ Mean pitch of stay tubes in nests ✓

If comprising shell, Dia. as per rule front back Pitch in outer vertical rows ✓ Dia. of tube holes FRONT stay plain BACK stay plain

Is each alternate tube in outer vertical rows a stay tube ✓ Working pressure by rules front back

Girders to combustion chamber tops: Material ✓ Tensile strength ✓

Depth and thickness of girder at centre ✓ Length as per rule ✓

Distance apart ✓ No. and pitch of stays in each ✓ Working pressure by rule ✓



**Crown stays:** Material  Tensile strength  Diameter  { at body of stay, or over threads.   
 No. of threads per inch  Area supported by each stay  Working pressure by rules    
**Screw stays:** Material  Tensile strength  Diameter  { at turned off part, or over threads. No. of threads per inch    
 Area supported by each stay  Working pressure by rules  Are the stays drilled at the outer ends    
**Tubes:** Material STEEL External diameter { plain 63.5 7/8 stay 63.5 7/8 Thickness { 3 7/8 5 7/8 UNDER THREAD   
 No. of threads per inch 19 <sup>APPROVED</sup> <sub>9/6/27</sub> <sup>LONDON LETTER</sup> Pitch of tubes 90 x 90 7/8 Working pressure by rules 9 kg/cm<sup>2</sup>   
**Manhole Compensation:** Size of openings in shell plate 300 x 400 7/8 Section of compensating ring 54 x 17 7/8 No. of rivets and diameter   
 of rivet holes 20 @ 18 7/8 Outer row rivet pitch at ends 62 7/8 Depth of flange if manhole flanged    
**Uptake:** External diameter  Thickness of uptake plate    
**Cross Tubes:** No.  External diameters {  Thickness of plates

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with



The foregoing is a correct description,

Manufacturer.

Dates of Survey { During progress of work in shops - - 11/2/27, 15/2/27, 18/2/27, 1928: 26/1, 16/2, 27/11, 13/2. Is the approved plan of boiler forwarded herewith 20/12/28 (If not state date of approval.) COPY AT LONDON OFFICE   
 while building { During erection on board vessel - - 1929: 19/2, 19/3, 16/4, 18/4, 16/5, 23/5, 4/6. Total No. of visits 16

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.)

This boiler has been constructed under special survey in accordance with the rules and approved plans. The materials and workmanship are sound and good. The boiler has been fitted on board the vessel in a satisfactory manner examined under steam and safety valves adjusted to  $5 \frac{1}{2} \text{ kg/cm}^2$ . It is in my opinion eligible to be included with the machinery for record of L.M.C. 10-29.

Survey Fee ... .. £ : : } When applied for, ..... 19 .....   
 Travelling Expenses (if any) £ : : } When received, ..... 19 .....

A. M. Crinick  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute  
 Assigned

TUE 5 NOV 1929  
 See Report attached

FRI 18 JUL 1930



Lloyd's Register Foundation