

# REPORT ON OIL ENGINE MACHINERY.

No. 13308 <sup>16</sup>

Received at London Office

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Date of writing Report 20 Oct 1934 When handed in at Local Office 19 Port of Amsterdam

No. in Survey held at Hengelo & Amsterdam Date, First Survey 29 Sept 23 Last Survey 23 Oct 1934  
Reg. Book. 2334 Number of Visits 6

on the Single Twin Triple Quadruple Screw vessel "BLOEM FONTEIN" Tons { Gross 10075.49  
Net 6155.15

Built at Amsterdam By whom built N.V. Nederl. Scheepbouw M<sup>r</sup> Yard No. 228 When built 1934  
Engines made at Hengelo By whom made Gebro Stork & Co Engine No. 3640 When made 1934

Donkey Boilers made at Amman Schiedam By whom made Lochran & Co Boiler No. 12607 When made 1934  
Brake Horse Power 2 x 4150 Owners Konink Nederl. Scheepvaart M<sup>r</sup> Port belonging to is Grootenhage

Nom. Horse Power as per Rule 2334 Is Refrigerating Machinery fitted for cargo purposes yes Is Electric Light fitted yes  
Trade for which vessel is intended Holland - South Africa

OIL ENGINES, &c. Type of Engines Stroke-Hutchinson type 2 or 4 stroke cycle 2 Single or double acting double  
Maximum pressure in cylinders 45 kg/cm<sup>2</sup> Diameter of cylinders 600 mm Length of stroke 1100 mm No. of cylinders 6 x 2 No. of cranks 6

Mean Indicated Pressure 5.5 kg/cm<sup>2</sup> Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 845 mm Is there a bearing between each crank yes  
Revolutions per minute 122 Flywheel dia. 2400 mm Weight 5560 kg Means of ignition spark Kind of fuel used Crude oil

Crank Shaft, dia. of journals as per Rule approved Crank pin dia. 420 mm Crank Webs Mid. length breadth 1190 mm Thickness parallel to axis shrunk  
as fitted 420 mm Mid. length thickness 245/265 mm Thickness around eye-hole shrunk

Flywheel Shaft, diameter as per Rule approved Intermediate Shafts, diameter as per Rule approved Thrust Shaft, diameter at collars as per Rule approved  
as fitted as fitted 337 mm as fitted 354 mm

Tube Shaft, diameter as per Rule approved Screw Shaft, diameter as per Rule approved Is the tube shaft fitted with a continuous liner no  
as fitted as fitted 384 mm screw

Bronze Liners, thickness in way of bushes as per Rule approved Thickness between bushes as per Rule approved Is the after end of the liner made watertight in the  
as fitted as fitted propeller boss yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner 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 Is an approved Oil Gland or other appliance fitted at the after end of the tube no

Propeller, dia. 4250 Pitch 4450 mm No. of blades 3 Material Bronze whether Moveable no Total Developed Surface 5.35 M<sup>2</sup> sq. feet  
If so, state type Cedewall Length of Bearing in Stern Bush next to and supporting propeller 1550 mm

Method of reversing Engines By drumming Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication oil  
Thickness of cylinder liners 20 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with  
lagged non-conducting material lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine funnel

Cooling Water Pumps, No. 3 Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes  
3 fresh water pumps 175 l/h 3 oil cooling pumps 225 l/h Bilge Pumps worked from the Main Engines, No. 1 Diameter 200 mm Stroke 140 mm Can one be overhauled while the other is at work yes

Pumps connected to the Main Bilge Line { No. and Size 1-110 ton pump self-priming centrifugal pump 1-110 ton pump ballast pumps  
How driven Electric driven

the cooling water led to the bilges no If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping  
arrangements no

Ballast Pumps, No. and size One = 2 x 7" x 7 1/2" Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 3 20 ton pumps 40 l/h  
Are two independent means arranged for circulating water through the Oil Cooler yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge  
Pumps, No. and size: In Machinery Spaces 6-3" 4 direct 6" 1 cofferdam 3" 1 funnel 2-3" and 1-2" In Pump Room

Holds, &c. N<sup>o</sup> 1 = 1 x 3" N<sup>o</sup> 2 = 2 x 3" N<sup>o</sup> 3 = 2 x 3" N<sup>o</sup> 4 = 2 x 3" Hold N<sup>o</sup> 5 = 3 x 3" N<sup>o</sup> 6 = 2 x 3" Cofferdam 1 x 3"  
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 4-6"

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes Are the Bilge Suctions in the Machinery Spaces  
fitted from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges yes

Are all Sea Connections fitted direct on the skin of the ship yes Are they fitted with Valves or Cocks Valves & cocks  
Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates yes Are the Overboard Discharges above or below the deep water line no

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  
How are they protected no

Have pipes pass through the deep tanks none a pipe tunnel is fitted Have they been tested as per Rule yes  
Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes

Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one  
compartment to another yes Is the Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from main deck

On a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork  
Main Air Compressors, No. 1 No. of stages 1 Diameters 4 1/2 x 11" Stroke 8" Driven by Electric

Auxiliary Air Compressors, No. 2 No. of stages 2 Diameters 3 1/8 x 1 3/8" Stroke 2 3/4" Driven by Diesel Motor  
Small Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 3 1/8 x 1 3/8" Stroke 2 3/4" Driven by Main engine

Scavenging Air Pumps, No. 1 for each engine Diameter 1450 mm Stroke 950 mm  
Auxiliary Engines crank shafts, diameter as per Rule as fitted 180 mm



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**AIR RECEIVERS:**—Is each receiver, which can be isolated, fitted with a safety valve as per Rule *Yes*

Can the internal surfaces of the receivers be examined and cleaned *Yes* Is a drain fitted at the lowest part of each receiver *Yes*

**High Pressure Air Receivers, No.** *Airless receiver* Cubic capacity of each *500 litres* Internal diameter *1600 mm* thickness *23 mm*

Seamless, lap welded or riveted longitudinal joint *Welded* Material *SMS* Range of tensile strength *28-22 ton* Working pressure *by Rules approved*

**Starting Air Receivers, No.** *2 for Air Cylinders* Total cubic capacity *204 each* Internal diameter *1600 mm* thickness *23 mm*

Seamless, lap welded or riveted longitudinal joint *Welded* Material *SMS* Range of tensile strength *28-22 ton* Working pressure *Actual 25 kg/cm<sup>2</sup>*

**IS A DONKEY BOILER FITTED?** *2* If so, is a report now forwarded? *Yes*

Is the donkey boiler intended to be used for domestic purposes only? *Yes*

**PLANS.** Are approved plans forwarded herewith for Shafting *11-9-34 2-7-24* Receivers *9-11-33* Separate Tanks *3-11-33*  
(If not, state date of approval)

Donkey Boilers *attached* General Pumping Arrangements *29-9-33* Oil Fuel Burning Arrangements *29-9-33*

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied *Yes*

State the principal additional spare gear supplied *as per attached list*

The foregoing is a correct description,  
**Machinefabriek GEBR. STORK & Co. N.V.** *G. Stork* Manufacturer.

Dates of Survey while building { During progress of work in shops -- *1933. Sept 29. Oct 12. Nov 3. 9. 16. 23. 30 Dec 4. 14. 21. 28 1934. Jan 5. 9. 11. 18. 26. 30. 31 Feb 2. 5. 8. 12. 15. 20. 28. March 2. 7. 9. 16. April 4. 6. 12. 16. 19. 23. 24. 27. May 3. 4. 28*  
 { During erection on board vessel -- *May 25. 28. June 2. 11. 16. 20. 21. July 6. 10. 16. 20. 23. 27. Aug 2. 8. 14. Sept 11. 22. Oct 9. 11. 15. 18. 23*  
 Total No. of visits *67*

Dates of Examination of principal parts—Cylinders *26-1-34, 23-2-34* Covers *23-2-34* Pistons *2-2-34* Rods *2-2-34* Connecting rods *2-2-34*

Crank shaft *1-1-34* Flywheel shaft *✓* Thrust shaft *21-11-33* Intermediate shafts *2-6-34* Tube shaft *✓*

Screw shaft *7-12-33, 2-10-34* Propellers *October 2* Stern tube *May 12. June 2* Engine seatings *July 6. 27* Engines holding down bolts *Aug. 2. 22*

Completion of fitting sea connections *11 June* Completion of pumping arrangements *22 Aug.* Engines tried under working conditions *9-10 October*

Crank shaft, Material *SMS* Identification Mark *1062-63 FB 14.12.33* Flywheel shaft, Material *✓* Identification Mark *10212-13 MB 5-1-34*

Thrust shaft, Material *SMS* Identification Mark *4040'S 754 FNB 21-11-33* Intermediate shafts, Material *SMS* Identification Marks *as per attached list*

Tube shaft, Material *✓* Identification Mark *760 FNB 6-12-33* Screw shaft, Material *SMS* Identification Mark *4040'S 769-70 FNB 7-12-33*

Is the flash point of the oil to be used over 150° F. *Yes*

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *Yes*

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *no* If so, have the requirements of the Rules been complied with *✓*

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with *✓*

Is this machinery duplicate of a previous case *Yes* If so, state name of vessel *MS "ALMKERK" tons up to 13156*

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

*The Machinery has been made in accordance with the rules. Secretary's letter and approved plans, workmanship throughout good*

*Period Machinery, pumps, Aux compressors and edge valves (fitted with mechanically operated distance controls) which on a trial trip on the North Sea found working good*

*Auxiliary compressor which does not require compressed air for starting up the first charging of the air receivers is placed aboard*

*She is eligible in my opinion, for the approval of the Committee to be classed*

*4 MC. 10-34*

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

The amount of Entry Fee .. £ 72 -  
 Special ... £ 1900 -  
 2 air receivers ... £ 75.60  
 Donkey Boiler Fee ... £ :  
 Travelling Expenses (if any) £ 205 -

When applied for, 19. *July*  
 When received, 3.12 19. *34 400 6/12*

*Burgdorff*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI, 16 NOV 1934*

Assigned *+ Linc 10.34 2 St. - 120 lb.*

*CERTIFICATE WRITTEN* *Oil. Eng. O.G.*

