

REPORT ON OIL ENGINE MACHINERY

No. 86110

26 AUG 1930

Received at London Office

Date of writing Report 23.8.30 Port of NEWCASTLE-ON-TYNE
When handed in at Local Office
No. in Survey held at Newcastle-on-Tyne Date, First Survey 13 Nov 129 Last Survey 18 Aug. 1930
Reg. Book. Number of Visits 105

75554 on the ~~Triple~~ ^{Single} Screw vessel M.V. "KIM."
Built at Walker. By whom built Messrs S.W.G. Armstrong Whitworth & Co. Ltd. Yard No. 1062. When built 1930.
Engines made at Scottwood. By whom made Messrs S.W.G. Armstrong Whitworth & Co. Ltd. Engine No. 89. When made 1930.
Donkey Boilers made at Scottwood. By whom made Messrs S.W.G. Armstrong Whitworth & Co. Ltd. Boiler No. 89. When made 1930.
Brake Horse Power 2250 Owners SVERRE STURLUNG. Port belonging to BERGEN.
Nom. Horse Power as per Rule 583. Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.
Trade for which vessel is intended Ocean Going.

OIL ENGINES, &c. Type of Engines Armstrong Sulzer. 2 or 4 stroke cycle 2. Single or double acting Single.
Maximum pressure in cylinders 500 lb/sq. in. Diameter of cylinders 600 in. Length of stroke 1060 in. No. of cylinders 6. No. of cranks 6.
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 850 in. Is there a bearing between each crank Yes.
Revolutions per minute 114. Flywheel dia. 2100 in. Weight 8.25 tons. Means of ignition Compression. Kind of fuel used Crude oil.
Crank Shaft, dia. of journals as per Rule 398 in. Crank pin dia. 465 in. Crank Webs Mid. length breadth 550 in. Thickness parallel to axis 225 in. Thickness around eye hole Solid.
COMPRESSOR Shaft, diameter as per Rule 285 in. Intermediate Shafts, diameter as per Rule 12.75 in. Thrust Shaft, diameter at collars as per Rule 405 in.
Tube Shaft, diameter as fitted 13 in. Is the shaft fitted with a continuous liner Yes.
Bronze Liners, thickness in way of bushes as per Rule 1.687 in. Thickness between bushes as fitted 1.716 in. Is the after end of the liner made watertight in the 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 Continuous.
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 Yes.
If two liners are fitted, is the shaft lapped or protected between the liners Yes.
Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft No.
Length of Bearing in Stern Bush next to and supporting propeller 4'-7"
Propeller, dia. 13'-1 1/2" Pitch 11'-9" No. of blades 4. Material Bronze whether Movable Solid Total Developed Surface 70.5 sq. feet
Method of reversing Engines Sewo Motor Is a governor or other arrangement fitted to prevent racing of the engine when disconnected Yes Means of lubrication Forced.
Thickness of cylinder liners 20 in. Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Cooled.
If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine Exhaust Pipe in Funnel.
Cooling Water Pumps, No. Three Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes.
Bilge Pumps worked from the Main Engines, No. one Diameter 150 in. Stroke 300 in. Can one be overhauled while the other is at work Yes.
Pumps connected to the Main Bilge Line No. and Size 2 one @ 8"x10"x10" & one @ 6"x6" How driven Steam Electric Motor.
Ballast Pumps, No. and size one @ 8"x10"x10" Lubricating Oil Pumps, including Spare Pump, No. and size 2 one @ 150 in x 170 in & one @ 54 in x 55 in
Are two independent means arranged for circulating water through the Oil Cooler none fitted Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Machinery Spaces 2 @ 3" dia 2 @ 2 1/2" dia one @ 4" dia 2 @ 4 1/2" dia independent suction.
In Holds, &c. Fore Hold 2 @ 2 1/2" dia Fore Cofferdam 4" dia After Cofferdam 4" dia Fore Peak 3" dia After Peak 3" dia.
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2 @ 4 1/2" dia
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes.
Are the Bilge Suctions in the Machinery Spaces led 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 Both.
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 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 pass through the bunkers none.
How are they protected Yes.
What pipes pass through the deep tanks Yes.
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 Yes.
If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork Yes.

Main Air Compressors, No. one No. of stages 3. Diameters 17 1/2 in x 46 3/4 in x 150 in Stroke 400 in Driven by Main Engine.
Auxiliary Air Compressors, No. one 150 (c.ft.) No. of stages 2. Diameters 14 in x 7 1/2 in x 35 in Stroke 9 in Driven by Steam.
Small Auxiliary Air Compressors, No. one 50 (c.ft.) No. of stages 3. Diameters 2 in x 6 3/4 in x 7 1/4 in Stroke 5 1/2 in Driven by Electric Motor.
Scavenging Air Pumps, No. one Diameter 1400 in Stroke 510 in Driven by Main Engine.
Auxiliary Engines crank shafts, diameter as per Rule 164 in. as fitted 165 in.

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 Yes. What means are provided for cleaning their inner surfaces Manhole.
Is there a drain arrangement fitted at the lowest part of each receiver Yes.
High Pressure Air Receivers, No. 3 @ 1000 lb. Cubic capacity of each 10 c.ft. Internal diameter 470 in. thickness 22.5 in.
Seamless, lap welded or riveted longitudinal joint 1 @ 1600 lb. Material Steel Range of tensile strength 28-32 tons Working pressure by Rules 1360 lb/sq. in.
Starting Air Receivers, No. 2 @ 425 lb. Total cubic capacity 400 c.ft. Internal diameter 26 1/2 in. thickness 22 in. Working pressure by Rules 1430 lb/sq. in.
Seamless, lap welded or riveted longitudinal joint Riveted Material Steel Range of tensile strength 28-32 tons Working pressure by Rules 1430 lb/sq. in.

DONKEY BOILERS FITTED? Yes. If so, is a report now forwarded? Yes.
PLANS. Are approved plans forwarded herewith for Shafing No 19.2.30 Receivers No 19.12.29 & 17.4.30 Separate Tanks No 14.4.30,
(If not, state date of approval) No 1.1.30 Oil Fuel Burning Arrangements No 21.5.30.
Donkey Boilers No 10.1.30 General Pumping Arrangements

SPARE GEAR 1 cyl cover complete with all valves etc & one complete set of valves for one cylinder & rings etc, fuel valve needles for half the number of cylinders, 1 piston complete with all piston rings, studs & nuts, 1 set of piston rings for 1 piston, 2 telescopic cooling pipes for one piston, 1 set of skew wheels for the Cam Shaft drive, 1 set of studs & nuts for one cylinder cover, 2 crosshead bearing bolts & nuts, 2 crank pin bearing bolts, 1 set of bolts for crank shaft coupling, 1 set of bolts for intermediate shaft, 2 eye liners, 1 piston head & rod, 1 set of main bearing brasses. Main & Aux Compressor & Pumps 1 set of piston rings for each compressor piston, 1 half set of suet & del valves for each stage & 2 bottom end bolts for main compressor, 1 set of suet & del valves for each stage 2 bottom end & 2 top end bolts for scavenge air pump, 1 set of piston rings, valves & seats etc for each stage of aux compressor, all working parts for one fuel pump. Auxiliary Pumps 1 suet & one del valve for O.F. transfer pump, 1 suet & del valve for bilge pump, a quantity of assorted bolts & nuts, a length of pipe for each size used for the fuel del & injection air pipes & the air delivery from main & aux compressor to receiver with unions & flanges suitable for each, 1 screw shaft & other spare gear.

The foregoing is a correct description.

W. G. ANDERSON WHITEHEAD & COMPANY (ENGINEERS) LIMITED

Manufacturer.

Dates of Survey while building	During progress of work in shops --	During erection on board vessel --	1929		1930	
			Nov. 13.	Dec. 27. 31.	Jan. 6. 8. 13. 15. 17. 23. 24. 30.	Feb. 3. 10. 12. 18. 19. 26. Mar. 1. 3. 4. 5. 7. 8. 10. 11. 13. 14. 17. 19. 20.
			21. 25. 27. 28. 31.	Apr. 2. 3. 4. 7. 8. 10. 11. 14. 15. 16. 17. 22. 24. 25. 28. 29. 30.	May 1. 2. 5. 6. 8. 12. 13. 14. 15. 19. 20. 21. 22. 23. 24.	July 4. 7. 8. 9. 10. 11. 15. 16. 17. 18. 21. 23. 24. 29. 30. 31. Aug. 1. 5. 6. 8. 12.
			14. 15. 18.			
			105.			

Dates of Examination of principal parts—Cylinders												27.5.30	Covers	20.3.30	Pistons	13.5.30	Rods	24.5.30	Connecting rods	18.5.30
		COMPRESSOR		16.4.30	4 FLYWHEEL		21.3.30	Intermediate shafts		21.3.30	Tube shaft		✓							
Crank shaft		16.4.30	Flywheel shaft		16.4.30	Thrust shaft		21.3.30												
Share		11.6.30	Propeller		2.6.30.	Stern tube		23.5.30	Engine seatings		6.6.30	Engines holding down bolts		17.7.30.						
Screw shaft		working 23.5.30																		
Completion of fitting sea connections		6.6.30	Completion of pumping arrangements		14.8.30	Engines tried under working conditions		15.8.30.												
Crank shaft, Material		Steel	Identification Mark		3978	COMPRESSOR		Steel	Identification Mark		6967.									
4 FLYWHEEL		Steel	Identification Mark		1114	Flywheel shaft, Material		Steel	Identification Marks		1560.									
Thrust shaft, Material		✓	Identification Mark		✓	Intermediate shafts, Material		Steel	Identification Marks		Share 216									
Tube shaft, Material		✓	Identification Mark		✓	Screw shaft, Material		Steel	Identification Mark		working 305									

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 Oil Tanker If so, have the requirements of the Rules been complied with ✓
Is this machinery duplicate of a previous case Yes. If so, state name of vessel M.V. "Bisca".

General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery has been built under Special Survey and in accordance with the Society's Rules & approved plans. The materials and workmanship are sound and good. The machinery was efficiently installed on board, tested and manoeuvred on completion under working conditions and found satisfactory. The machinery of this vessel is eligible in my opinion to be classed and to have the notation of "Oil Engines" and records of T.M.C. 8,30 and T.S. Ch.

It is submitted that this vessel is eligible for THE RECORD. 7.11.28.30
oil engines 250
bay 2378 - 417
203/180th Ch.
26/8/30

The amount of Entry Fee ...	£ 6 : -	When applied for,	25 AUG 1930
Special ...	£ 104 : 3	When received,	10.9.30
Donkey Boiler Fee ...	£ 13 : 16		
AIR RECEIVERS	£ 6 : 6		
Committee's Minute			
Assigned	+ L.M.C. 8.30		

Oct. Eng. 203. 180th
C.L.
CERTIFICATE WRITTEN.