

# REPORT ON OIL ENGINE MACHINERY

No. 18413.

17 JUN 1925

Received at London Office

1925 Port of Greenock

Date, First Survey 11th September, 1924 Last Survey 11th June 1925

Number of Visits 69

Survey held at Greenock

on the Single Twin Triple Screw vessels MV "Athalchief"

Tons { Gross 1925 Net 1925

Built at Dundee By whom built Baldouin & Co Yard No. 294 When built 1925

Engines made at Greenock By whom made John & Thucard & Co Engine No. 46 When made 1925

Boilers made at ditto By whom made John & Thucard & Co Boiler No. 46 When made 1925

Indicated Horse Power 2895 Owners British Industral Co Ltd (Ings) Port belonging to Liverpool

Indicated Horse Power as per Rule (824) 709 Is Refrigerating Machinery fitted for cargo purposes - Is Electric Light fitted -

ENGINES, &c.—Type of Engines Burnmaster & Drain (2 sets) 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 500 No. of cylinders 12 No. of cranks 12 Diameter of cylinders 630 mm

Stroke 57 3/16 1300 mm Revolutions per minute 110 Means of ignition Compression Kind of fuel used Diesel

Is there a bearing between each crank yes Span of bearings (Page 92, Section 2, par. 7 of Rules) 892 mm

Distance between centres of main bearings 1250 Is a flywheel fitted yes Diameter of crank shaft journals as per Rule 403.3 as fitted 415 mm

Diameter of crank pins 415 mm Breadth of crank webs as per Rule 650 mm as fitted 650 mm Thickness of ditto as per Rule 270 mm as fitted 270 mm

Diameter of flywheel shaft as per Rule 115 mm as fitted 115 mm Diameter of tunnel shaft as per Rule 11.26 as fitted 113/4 Diameter of thrust shaft as per Rule 11.8 as fitted 12 3/8

Diameter of screw shaft as per Rule 12.386 as fitted 13 Is the screw shaft fitted with a continuous liner the whole length of the stern tube yes

Is the after end of the liner made watertight in the propeller boss - If the liner is in more than one length are the joints burned -

Does 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 -

Are liners are fitted, is the shaft lapped or protected between the liners - If without liners, is the shaft arranged to run in oil yes

Is the outer gland fitted to stern tube - Length of stern bush 52 Diameter of propeller 13.3

Diameter of propeller 11.0 No. of blades 4 state whether moveable no Total surface 52 square feet

Method of reversing air Is a governor or other arrangement fitted to prevent racing of the engine when disengaged yes Thickness of cylinder liners 46-36 mm

Are the cylinders fitted with safety valves yes Means of lubrication forced Are the exhaust pipes and silencers water cooled or lagged with insulating 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 -

No. of cooling water pumps 2 Is the sea suction provided with an efficient strainer which can be cleared -

No. of bilge pumps fitted to the main engines none Diameter of ditto - Stroke -

Can the pumps be overhauled while the other is at work yes No. of auxiliary pumps connected to the main bilge lines 2 How driven steam

No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room -

No. of ballast pumps one How driven steam Sizes of pumps 9' 8" x 12"

Is a ballast pump fitted with a direct suction from the engine room bilges - State size - Is a separate auxiliary pump suction fitted in -

Room and size - Are all the bilge suction pipes fitted with roses - Are the roses in Engine Room always accessible -

Are the sluices on Engine Room bulkheads always accessible - Are all connections with the sea direct on the skin of the ship -

Are the valves or cocks - Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates -

Are the discharge pipes above or below the deep water line - Are they each fitted with a discharge valve always accessible on the plating of the vessel -

Are the pipes, cocks, valves and pumps in connection with the machinery accessible at all times - Are the bilge suction pipes, cocks and valves arranged so as to prevent any communication between the sea and the bilges -

Is the screw shaft tunnel watertight - Is it fitted with a watertight door -

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork -

No. of main air compressors 2 No. of stages 3 Diameters 600-540-148 mm Stroke 180 mm Driven by main engine

No. of auxiliary air compressors one No. of stages 2 Diameters 400-350 mm Stroke 260 mm Driven by steam

No. of small auxiliary air compressors one No. of stages 2 Diameters 34-106 mm Stroke 80 Driven by steam

No. of scavenging air pumps - Diameter - Stroke - Driven by -

Diameter of auxiliary Diesel Engine crank shafts as per Rule as fitted yes Are the air compressors and their coolers made so as to be easy of access yes

RECEIVERS:—No. of high pressure air receivers 4 Internal diameter 2 at 342.2 at 295 Cubic capacity of each 2 at 200 litres 2 at 150 litres

Seamless, lap welded or riveted longitudinal joint Seamless Range of tensile strength 26-30

Working pressure by Rules 1000 No. of starting air receivers 2 Internal diameter 6-4 1/2

Cubic capacity 650 CF Material Steel Seamless, lap welded or riveted longitudinal joint TR. O. B. S.

Range of tensile strength 28-32 thickness 1 1/16 to 1 1/2 Working pressure by rules 376 Is each receiver, which can be isolated, yes

Is there a safety valve as per Rule yes Can the internal surfaces of the receivers be examined yes What means are provided for cleaning their internal surfaces manhole in ends

Is there a drain arrangement fitted at the lowest part of each receiver yes



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded? *Now*

HYDRAULIC TESTS:-

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS <i>main</i>	<i>untested</i>				
" " COVERS <i>jack</i>	<i>15. 12 24 4h</i>		<i>50</i>	<i>WGM</i>	<i>Safety factor</i>
" " JACKETS	<i>25. 2 25</i>		<i>50</i>	<i>WGM</i>	
" " PISTON WATER PASSAGES	<i>3 3 25</i>		<i>50</i>	<i>WGM</i>	
MAIN COMPRESSORS—1st STAGE	<i>15. 12 24 4h</i>		<i>2000</i>	<i>WGM</i>	
" 2nd "	<i>22. 12 24 4h</i>		<i>500</i>	<i>WGM</i>	
" 3rd "	<i>15. 12 24 4h</i>		<i>150</i>	<i>WGM</i>	
AIR RECEIVERS—STARTING	<i>10. 2. 25 4h</i>		<i>2000</i>	<i>WGM</i>	
" INJECTION	<i>10 2 25 4h</i>		<i>2000</i>	<i>WGM</i>	
AIR PIPES	<i>3 6. 25</i>		<i>2000</i>	<i>WGM</i>	
FUEL PIPES	<i>3. 6. 25</i>		<i>2000</i>	<i>WGM</i>	
FUEL PUMPS					
SILENCER					
" WATER JACKET					
SEPARATE FUEL TANKS	<i>27 15 25</i>		<i>9 lb.</i>	<i>WGM</i>	

PLANS. Are approved plans forwarded herewith for shafting  
(If not, state date of approval)

SPARE GEAR

The foregoing is a correct description,

For and on behalf of **JOHN G. KINCAID & COY., LIMITED.**

Manufacturer.

*Robert Green* Director

Dates of Survey while building  
During progress of work in shops - *(1924) Sept 11. Oct 6. 7. 16. 20. 22. 24. 29. Nov 3. 6. 12. 18. 24. Dec 1. 3. 9. 11. 12. 18. 22. (1925) Jan 9. 14. 16. 20. Feb 3. 4. 10. 11. 16. 25. 27. Mar 2. 9. 5. 9. 11.*  
During erection on board vessel - *16. 18. 24. 25. 31. Apr 1. 3. 9. 10. 13. 15. 20. 22. 27. 28. 29. 30. May 4. 13. 15. 19. 21. 22. 25. 27. 28. June 1. 2. 3. 8. 9. 10.*  
Total No. of visits *69.*

Dates of Examination of principal parts—Cylinders *8/4/25* Covers *9/1/25* Pistons *16/3/25* Rods *3/2/25* Connecting rods *13-4-25*

Crank shaft *16. 2. 25* Thrust shaft *1-6. 25* Tunnel shafts *1-6. 25* Screw shaft *22. 5. 25* Propeller *15. 5. 25* Stern tube *27. 5. 25* Engine seatings *see Dundee*

Engines holding down bolts *see Dundee* Completion of pumping arrangements *see Dundee* Engines tried under working conditions *see Dundee*

Completion of fitting sea connections *see Dundee* Stern tube *see Dundee* Screw shaft and propeller *see Dundee*

Material of crank shaft *S* Identification Mark on Do. *16. 5. 32/3* Material of thrust shaft *S* Identification Mark on Do. *13. 12. 799*

Material of tunnel shafts *S* Identification Marks on Do. *1208, 1013* Material of screw shafts *S* Identification Marks on Do. *940, 1208*

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

Is this machinery duplicate of a previous case *no* If so, state name of vessel

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

*These engines have been built under special survey in accordance with the approved plans. The workmanship is of good quality. The engines have been tried on the test bed & found satisfactory. They have not been shipped to Dundee at which Port they will be fitted on board.*

*The machinery when fitted on board & tried under working conditions will be entered in my opinion to the record of LMC with date*

The amount of Entry Fee £ *6* - - -  
Special £ *110* : *9* :  
Donkey Boiler Fee £ *16* : *2* :  
AIR RESERVOIRS £ *8* : *8* :  
Travelling Expenses (if any) £ : :  
When applied for, 20. 6. 1925  
When received, 20. 6. 1925  
PER SECRETARY'S

Committee's Minute **GLASGOW 16 JUN 1925**

Assigned *Deferred*

*W. Gordon-Mitchell*  
Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 11 SEP 1925

*See Duns J.E. 8538*



pt. 5a.

RE

Date of writing Report *24 Aug 1925*

No. in Survey held at *du*

Reg. Book. *1908 on the T. S. M. V.*

Master *Bu*

Engines made at *Greenock*

Boilers made at *Greenock*

Registered Horse Power

MULTITUBULAR BOILER

Letter for record *S* Total

Boilers *2 multitubular*

No. of Certificate *Can each*

Safety valves to each boiler *Two sp*

Are they fitted with easing gear *Yes*

Smallest distance between boilers *on*

Material of shell plates

Description of riveting: cir. seams

Gap of plates or width of butt straps

Rules Size of manhole in

Boiler Material

Description of longitudinal joint

Plates: Material Thickness:

Top If stays are fitted with

Smallest part Area supported by

Pitch of stays How are stays

Area supported by each stay

Lower back plate Thickness

Pitch of tubes Material of

Working pressure by rules

Separately Diameter

Pitch of rivets

Stiffened with rings Distance

Working pressure of end plates

GENERAL REMARKS

*These boilers have been*

*working conditions*

*They have been fitted*

*approved Plan, for a*

Survey Fee ... £ *Pa*

Travelling Expenses (if any) £

Assigned

Lloyd's Register

Foundation