

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office.

14 APR 1954

Date of writing Report 31-3-54 19 54 When handed in at Local Office 6th April 1954 Port of Aberdeen

No. in Survey held at Aberdeen Date, First Survey 5th Sept 1951 Last Survey 31st March 1954  
 Reg. Book 369 (Number of Visits 195)

on the Steam Twin Screw Tug "SAMSON" Tons (Gross 855 Net 184)

Built at Aberdeen By whom built A. Hall and Co. Ltd. Yard No. 741 When built 1954

Engines made at Aberdeen By whom made A. Hall and Co. Ltd. Engine No. 453, 454 When made 1954

Boilers made at Renfrew By whom made Babcock and Wilcox Ltd. Boiler No. 10/641 When made 1953

Registered Horse Power 3000 HP Owners The Admiralty Port belonging to ---

Nom. Horse Power as per Rule 540 MW Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended Towing Services.

ENGINES, &c.—Description of Engines Vertical triple expansion double acting Revs. per minute 145

Dia. of Cylinders 18", 30" and 47" Length of Stroke 28" No. of Cylinders Three No. of Cranks Three

Crank shaft, dia. of journals as per Rule as appd Crank pin dia. 10 1/8" Crank webs shrunk Mid. length breadth --- Thickness parallel to axis 6 3/4"

Intermediate Shafts, diameter as per Rule as appd Thrust shaft, diameter at collars as per Rule as appd

Tube Shafts, diameter as per Rule as appd Screw Shaft, diameter as per Rule as appd Is the tube shaft fitted with a continuous liner No

Bronze Liners, thickness in way of bushes as per Rule as appd Thickness between bushes as per Rule as appd Is the after end of the liner made watertight in the propeller boss ---

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner ---

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 --- Is an approved Oil Gland or other appliance fitted at the after end of the tube at yes If so, state type Newark Length of Bearing in Stern Bush next to and supporting propeller A Bkt. 48", Tube 28"

Propeller, dia. 10-6" Pitch --- No. of Blades Four Material Bronze whether Moveable No Total Developed Surface 40 sq. feet

Feed Pumps worked from the Main Engines, No. None Diameter --- Stroke --- Can one be overhauled while the other is at work ---

Bilge Pumps worked from the Main Engines, No. --- Diameter --- Stroke --- Can one be overhauled while the other is at work ---

Feed Pumps Two, each 7"x10"x18" Pumps connected to the Main Bilge Line Two, each 7"x7 1/2"x15" One 15 1/2"x10"x15"

Ballast Pumps, No. and size One 15 1/2"x10x15" duplex. Lubricating Oil Pumps, including Spare Pump, No. and size ---

Are two independent means arranged for circulating water through the Oil Cooler --- Suctions, connected both to Main Bilge Pumps and Auxiliary Bilge Pumps:—In Engine and Boiler Room Aft E.R. One 2 1/2", Blr Rm. One 2 1/2", Cofferdam One 2", Dry Tank One 2", W.T. Gland Compt., In Pump Room One 2". In Holds, &c. Central Store, One 2", Magazine, One 2", Gunners Store, One 2", Aft W.T. Compt., One 2".

Main Water Circulating Pump Direct Bilge Suctions, No. and size Two, 7 1/2" P. & S. ER. Independent Power Pump Direct Suctions to the Engine and/or Boiler Room Bilges, No. and size One 3 1/2" to aft E.R., One 2 1/2" Blr Rm. Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes yes

Are the Bilge Suctions in the Machinery Space 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 stokehold plates yes Are the Overboard Discharges above or below the deep water line Below

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 Various, through oil tight duct. How are they protected By oil tight duct.

What pipes pass through the deep tanks none 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 (W.T. gland compt) Is it fitted with a watertight door yes worked from above Freeboard deck

MAIN BOILERS, &c.—(Letter for record ---) Total Heating Surface of Boilers 6470 sq. ft.

Which Boilers are fitted with Forced Draft All Which Boilers are fitted with Superheaters none

No. and Description of Boilers Two Integral Furnace Type Babcock and Wilcox Working Pressure 270lbs

IS A REPORT ON MAIN BOILERS NOW FORWARDED? yes

IS A DONKEY BOILER FITTED? No If so, is a report now forwarded? ---

Can the donkey boiler be used for other than domestic purposes ---

PLANS. Are approved plans forwarded herewith for Shafting Yes Main Boilers No Auxiliary Boilers None Donkey Boilers None

Superheaters None General Pumping Arrangements Yes Oil fuel Burning Piping Arrangements Yes

### SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes

State the principal additional spare gear supplied ---

The foregoing is a correct description.  
 For ALEXANDER HALL & CO. LTD.  
W. J. Smith Managing Director

Manufacturer.



1951:- Sept. 5, 14, Oct. 1, 3, 12, 15, 19, 23, 26. Nov. 5, 8, 13, 21, 29. Dec. 13, 17, 31. 1952:- Jan. 10, 15, 31. Feb. 7, 22, 28. Mar. 4, 10, 11, 24, 28, 31. Apr. 14, 17, 22, 28, May. 6, 12, 19, 26. June, 2, 5, 9, 12, 16, 20, 30. July. 4, 7, 28, 31. Aug. 6, 20. Sept. 2, 8, 16, 25, 30. Oct. 14, 29, 30. Nov. 4, 10, 18, 24. Dec. 30. 1953:- Jan. 1, 8, 12, 13, 14, 18, 22, 25, 28, June 1953:- June 5, 9, 11, 16, 22, 23, 25, 26, 30. July. 3, 8, 9, 29. Aug. 3, 4, 7, 14, 18, Sept. 2, 8, 11, 14, 23, 24, Oct. 1, 5, 6, 9, 12, 14, 19, 20, 23, 26, 28, Nov. 2, 5, 9, 10, 13, 17, 19, 20, 25, 27, 30. Dec. 10, 11, 15, 16, 28, 30. 1954:- Jan. 5, 6, 12, 14, 18, 19, 20, 21, 25, 26, 27, 28, 29. Feb. 1, 2, 5, 10, 12, 15, 17, 19, 22, 23, 24, Mar. 8, 9, 10, 12, 13, 17, 18.

Dates of Survey while building: During progress of work in shops - - - - - 1951:- Sept. 5, 14, Oct. 1, 3, 12, 15, 19, 23, 26. Nov. 5, 8, 13, 21, 29. Dec. 13, 17, 31. 1952:- Jan. 10, 15, 31. Feb. 7, 22, 28. Mar. 4, 10, 11, 24, 28, 31. Apr. 14, 17, 22, 28, May. 6, 12, 19, 26. June, 2, 5, 9, 12, 16, 20, 30. July. 4, 7, 28, 31. Aug. 6, 20. Sept. 2, 8, 16, 25, 30. Oct. 14, 29, 30. Nov. 4, 10, 18, 24. Dec. 30. 1953:- Jan. 1, 8, 12, 13, 14, 18, 22, 25, 28, June 1953:- June 5, 9, 11, 16, 22, 23, 25, 26, 30. July. 3, 8, 9, 29. Aug. 3, 4, 7, 14, 18, Sept. 2, 8, 11, 14, 23, 24, Oct. 1, 5, 6, 9, 12, 14, 19, 20, 23, 26, 28, Nov. 2, 5, 9, 10, 13, 17, 19, 20, 25, 27, 30. Dec. 10, 11, 15, 16, 28, 30. 1954:- Jan. 5, 6, 12, 14, 18, 19, 20, 21, 25, 26, 27, 28, 29. Feb. 1, 2, 5, 10, 12, 15, 17, 19, 22, 23, 24, Mar. 8, 9, 10, 12, 13, 17, 18.

Total No. of visits. 195

Dates of Examination of principal parts—Cylinders P. HP. 31-7-52 MP13-8-52. LP14-4-52 S. HP 10-3-52 MP 4-3-52 Slides a s cyls Covers as cyls.

Pistons 16/1/53 17/12/52 Piston Rods 17/12/52 1/2/53 2/6/53 LP 20-8-52 Connecting rods 7/2/52 11/1/52

Crank shaft P. 18-5-53 S. 13-5-53 Thrust shaft 4-5-53 Intermediate shafts 4-5-53

Tube shaft ---- Screw shaft P. 6-5-53 S. 12-5-53 Propeller 6/12-5-53

Stern tube Oil tested 14-5-53 Engine and boiler seatings Blr 26/6/53 Eng. 27-4-53 Engines holding down bolts 14-8-53

Completion of fitting sea connections 12-5-53

Completion of pumping arrangements 25-3-54 Boilers fixed 3-7-53 Engines tried under steam 8-3-54

Main boiler safety valves adjusted 29-3-54 Thickness of adjusting washers for BL 9/16 aft BL 9/16 + 3/8 17/32

Crank shaft material steel Identification Mark L.R. 5365-68 Thrust shaft material steel Identification Mark L.R. 5374-5

Intermediate shafts, material Steel Identification Marks L.R. 5376-7 Tube shaft, material ---- Identification Mark ----

Screw shaft, material steel Identification Mark L.R. 5371-2 Steam Pipes, material Steel Test pressure 675lbs Date of Test 29/6-3/54

Is an installation fitted for burning oil fuel. yes Is the flash point of the oil to be used over 150° F. yes

Have the requirements of the Rules for the use of oil as fuel 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. similar If so, state name of vessel to H.M. Tugs Capable, Careful etc modified

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

The machinery of this vessel has been constructed and fitted under Special Survey, in accordance with the Rules and the approved plans.

The workmanship and materials are good.

The engines and boilers, together with auxiliary machinery have been securely fitted in the vessel, tried under working conditions and all found satisfactory. In my opinion this installation is eligible for classification with the Society, with record of +LMC 3-54, and TS og

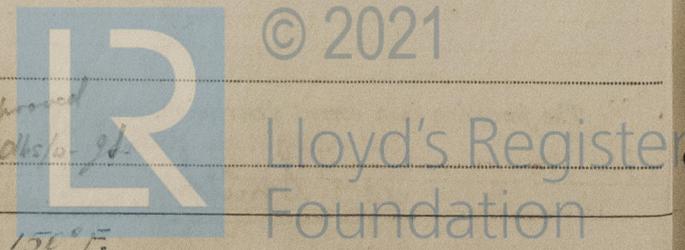
Fitted for O.F., F.P. above 150°F.

Certificate to be sent to  
282  
19/4/54

The amount of Entry Fee	£ 168 : 0	When applied for, 31: 3: 19 54.
Special <b>fication</b>	£ 200 : 0	
Donkey Boiler Fee	£ :	When received, 19
Travelling Expenses (if any)	£ 4 : 0	

John Douglas  
Engineer Surveyor to Lloyd's Register of Shipping.

Date GLASGOW 13 APR 1954



Committee's Minute + LMC. 3.54 250 - main engines approved for 250 lbs/sq. in. 2 WT.B. - 250 F.D. Fitted for oil fuel 3.54. F.P. above 150°F.