

REPORT ON OIL ENGINE MACHINERY.

No. 8030
23 AUG 1930

Received at London Office

Date of writing Report 9th Aug 1930 When handed in at Local Office 9th Aug 1930 Port of Gothenburg

No. in Survey held at Gothenburg Date, First Survey 16th Jan 1929 Last Survey 14 Aug 1930
Reg. Book. Number of Visits 61

87706 on the Single } Screw vessel "VELMA" Tons { Gross 9720
Twin }
Triple }
Quadruple }

Built at Gothenburg By whom built A.B. GÖTAVERKEN Yard No. 432 When built 1930

Engines made at Gothenburg By whom made A.B. GÖTAVERKEN Engine No. 887 When made 1930

Donkey Boilers made at Stockton By whom made RILEY BROS./BOILERMAKERS/LTD. Boiler No. 15944 When made 1930

Brake Horse Power 724 Owners SKIBS 'S NORDHEIM Port belonging to OSLO

Nom. Horse Power as per Rule 724 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted YES

Trade for which vessel is intended GENERAL.

II ENGINES, &c.—Type of Engines Two Diesel Oil Engines (B&W type) 2 or 4 stroke cycle 4 Single or double acting single

Maximum pressure in cylinders 35 kg/cm² Diameter of cylinders 550 mm (21 5/8") Length of stroke 1000 mm (39 3/8") No. of cylinders 16 No. of cranks 16

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 794 mm Is there a bearing between each crank yes

Revolutions per minute 155 Flywheel dia. None Weight ✓ Means of ignition Diesel system Kind of fuel used Diesel oil

Crank Shaft, dia. of journals as per Rule 347 mm Crank pin dia. 350 mm Crank Webs Mid. length breadth 690 mm Thickness parallel to axis 197-213 mm
as fitted 350 mm Mid. length thickness 213 mm Thickness around eyehole 191 mm

Flywheel Shaft, diameter as per Rule 255 mm Intermediate Shafts, diameter as per Rule 255 mm Thrust Shaft, diameter at collars as per Rule 300 mm
as fitted 255 mm as fitted 255 mm as fitted 300 mm

Tube Shaft, diameter as per Rule 288 mm Screw Shaft, diameter as per Rule 288 mm Is the tube shaft fitted with a continuous liner yes
as fitted None as fitted 288 mm as fitted 288 mm

Bronze Liners, thickness in way of bushes as per Rule 16.4 mm Thickness between bushes as per Rule 19.3 mm Is the after end of the liner made watertight in the
as fitted 17 & 19 mm as fitted 16 mm as fitted 16 mm

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 ✓

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

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 yes

propeller, dia. 3658 mm Pitch 2489 mm No. of blades 4 Material Bronze whether Moveable No Total Developed Surface 2466 = 9.3 sq. feet

Method of reversing Engines Direct reversal by means of compound cam Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication oil

Thickness of cylinder liners Bottom 38 mm Are the cylinders fitted with safety valves yes 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 led to a funnel

Cooling Water Pumps, No. 2 centrifugal pumps 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. 2 Diameter 150 mm Stroke 135 mm Can one be overhauled while the other is at work yes

Pumps connected to the Main Bilge Line { No. and Size Two direct driven pumps 22 tons each, 1 plunger bilge pump 20 tons, the after ballast pump 1 bilge & ballast pump
How driven Main engines, Electric, Electric, Steam

Ballast Pumps, No. and size One 100 tons rotary in each space. Lubricating Oil Pumps, including Spare Pump, No. and size Two, 70 tons rotary pumps.

Are two independent means arranged for circulating water through the Oil Cooler yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge pumps

Pumps, No. and size:—In Machinery Spaces Three 3 1/2" and two 3 1/2" [Two from effluents in way of main engine]

In Holds, &c. None

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size One 3/4" to bilge pump and one 5" to ballast pump

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes Are the Bilge Suctions in the Machinery Spaces yes

and 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 No bunkers How are they protected ✓

What pipes pass through the deep tanks Main cargo lines & heating coils 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 to tunnel Is it fitted with a watertight door ✓ worked from ✓

If 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. 2 No. of stages 3 Diameters 120, 540 & 600 mm Stroke 440 mm Driven by Main engines

Auxiliary Air Compressors, No. 2 No. of stages 3 Diameters 68, 225 & 318 mm Stroke 170 mm Driven by Aut. engines

Small Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 34 & 106 mm Stroke 80 mm Driven by Steam engines

Scavenging Air Pumps, No. None Diameter ✓ Stroke ✓ Driven by ✓

Auxiliary Engines crank shafts, diameter as per Rule 170 mm
as fitted 170 mm

IR 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 caustic soda & steam

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

High Pressure Air Receivers, No. 8 Cubic capacity of each 3 of 350 litres, 2 of 175, 3 of 34 Internal diameter 450 mm, 358, 197 thickness 9.5, 21, 2.5

Seamless, lap welded or riveted longitudinal joint 3 seamless Material S.M. Steel Range of tensile strength 28-32 tons/in² Working pressure by Rules 71.5 kg/cm²

Starting Air Receivers, No. 2 Total cubic capacity 2 x 15.5 = 31 cub. metres Internal diameter 1800 & 1850 mm thickness 25 & 25.5 mm

Seamless, lap welded or riveted longitudinal joint Riveted Material S.M. Steel Range of tensile strength 47.4-48.5 kg/cm² Working pressure by Rules 27.2 kg/cm²

IS A DONKEY BOILER FITTED? Yes, two boilers If so, is a report now forwarded? Yes
 PLANS. Are approved plans forwarded herewith for Shafting 6/6/29 1/7/29 16/1/30 Receivers 18/7/29 6/6/29 15/1/30 Separate Tanks 30/1/28
 (If not, state date of approval) 25/6/29 30/7/29 Oil Fuel Burning Arrangements ✓

Donkey Boilers 2/9/29 General Pumping Arrangements 25/6/29 30/7/29 Oil Fuel Burning Arrangements ✓

For the main engines with compressors & pumps:
 SPARE GEAR 1/cylinder cover, 1/complete set of all valves, valve casings, springs etc for one cylinder cover and, in addition, 15 complete sets of exhaust valves with 4 extra valves & seats for same, 1/complete set of air inlet valve with 1 extra valve for same, 1/complete set of starting air valve with 2 extra valves for same & 15 complete sets of fuel valves with 16 extra valves & seats for same, 1/cylinder liner, 1/cylinder cooling jacket, 1/piston complete with piston rings and, in addition, 10 sets of piston rings for one piston, telescopic cooling pipes for 2 pistons, 1/chain the cam shaft drive, 1/set of cylinder cover studs & nuts, 1/gudgeon pin, 4 halves of brasses for same, 4/crank pin bolts & nuts and 5 halves of crank pin brasses, 4/main bearing bolts & nuts and 2 halves of main bearings, 1/set of bolts & nuts for a crank shaft coupling, 1/set of bolts & nuts for an intermediate shaft coupling, 1/propeller shaft with nut, 2/cast iron propellers, 1/cam roller with pin of each size, 1/complete set of springs for a main engine compressor, 2 sets of piston rings of each size used in the air compressor, 1/set of suction & delivery valves of each size used in the compressor, 2/crank pin bolts & nuts & 2 halves of crank pin brasses for the compressor, 1/cam roller with pin of each size, 1/set of all working parts for a fuel pump for the compressor, 2 main bearing bolts & nuts and 2 halves of main bearings for the compressor, 1/set of all working parts for a fuel pump for the compressor, 2 main bearing bolts & nuts and 2 halves of main bearings for the compressor, 10 tubes for the 1/comp. air cooler, 20 tubes for the lubricating oil cooler, 3 bursting covers for the starting air piping, 1/set of valves & seats for the bilge pump.

For the auxiliary engines with compressors and pumps: 1/complete set of all valves, valve casings, springs etc for one cylinder cover and, in addition, 3 complete sets of exhaust valves with 6 extra valves for same, 3 complete sets of fuel valves with 6 extra valves & seats for same, 1/cylinder liner, 1/cylinder cooling jacket, 1/piston complete with piston rings and, in addition, 3 sets of piston rings for one piston, 1/cam roller with pin of each size, 1/set of compressed piston rings of each size, 1/set of suction & delivery valves of each size used in the air compressor, 1/set of all working parts for a fuel pump for the compressor, 1/HP compressor air cooling coil, 2 bursting covers for the cooling water jackets.

For the small steam driven compressor: 1/set of piston rings, 1/set of suction & delivery valves.

For the auxiliary pumps: 2/valves with guides for the rotary ballast pump, 1/set of suction & delivery valves for the bilge & sanitary, 1/rotary ballast and cargo oil pumps and the donkey boiler feed pump.

Donkey boilers: 2 check valves, 2 safety valve springs, 15 ordinary & 5 stay tubes, spare parts for oil burning arrangement.

General: A quantity of assorted bolts & nuts, a length of pipe of each size used for the fuel delivery and injection air pipes from the main and aux. power cylinders and delivery from main & all compressors to receivers with unions & flanges suitable for back.

The foregoing is a correct description,

ARTEBOLAGET GÖTAVENSKA

L. M. Steel

Manufacturer.

Dates of Survey while building	During progress of work in shops - - -	1929: Nov. 23, Dec. 13, 13	1930: Jan. 16, 20, Feb. 27, March 18, 15, 18, 22, 24, 26, 26, 28, 31, April 3, 4, 9, 11, 12, 17, 26
	During erection on board vessel - - -	1930: May 27, June 12, 17, 27, July 2, 15, 16, 17, 21, 23, 30, Aug. 1, 2, 4, 4, 7, 8, 11, 12, 14	May 2, 2, 5, 19, 21, 24, 27, 28, June 10, 10, 20, 30, July 2, 2, 7, 23, 25, 28, Aug. 6
Total No. of visits		61	
Dates of Examination of principal parts—Cylinders and Covers		15/3/30, 3/4/30, 19/5/30	Pistons 15, 18, 23/5/30
Crank shaft		27/2/30	Flywheel shaft ✓, Thrust shaft 2/5/30, Intermediate shafts 25/7/30, Tube shaft ✓
Screw shafts		26/2/30, 29/3/30	Propeller 7/8/30, Stern tube 2/5/30, Engine seatings 27/5/30, Engines holding down bolts 12/6/30
Completion of fitting sea connections		7/8/30	Completion of pumping arrangements 12/8/30, Engines tried under working conditions 14/8/30
Crank shaft, Material		S.M. Steel	Identification Mark LLOYDS 2336, 1337, 2769, 2770, EK. 18.12.29, 11/13/29
Thrust shaft, Material		S.M. Steel	Identification Mark LLOYDS 2677, 2678, 2679, 2680, 2681, 2682, 2683, 2684, 2685, 2686, 2687, 2688, 2689, 2690, 2691, 2692, 2693, 2694, 2695, 2696, 2697, 2698, 2699, 2700, 2701, 2702, 2703, 2704, 2705, 2706, 2707, 2708, 2709, 2710, 2711, 2712, 2713, 2714, 2715, 2716, 2717, 2718, 2719, 2720, 2721, 2722, 2723, 2724, 2725, 2726, 2727, 2728, 2729, 2730, 2731, 2732, 2733, 2734, 2735, 2736, 2737, 2738, 2739, 2740, 2741, 2742, 2743, 2744, 2745, 2746, 2747, 2748, 2749, 2750, 2751, 2752, 2753, 2754, 2755, 2756, 2757, 2758, 2759, 2760, 2761, 2762, 2763, 2764, 2765, 2766, 2767, 2768, 2769, 2770, 2771, 2772, 2773, 2774, 2775, 2776, 2777, 2778, 2779, 2780, 2781, 2782, 2783, 2784, 2785, 2786, 2787, 2788, 2789, 2790, 2791, 2792, 2793, 2794, 2795, 2796, 2797, 2798, 2799, 2800, 2801, 2802, 2803, 2804, 2805, 2806, 2807, 2808, 2809, 2810, 2811, 2812, 2813, 2814, 2815, 2816, 2817, 2818, 2819, 2820, 2821, 2822, 2823, 2824, 2825, 2826, 2827, 2828, 2829, 2830, 2831, 2832, 2833, 2834, 2835, 2836, 2837, 2838, 2839, 2840, 2841, 2842, 2843, 2844, 2845, 2846, 2847, 2848, 2849, 2850, 2851, 2852, 2853, 2854, 2855, 2856, 2857, 2858, 2859, 2860, 2861, 2862, 2863, 2864, 2865, 2866, 2867, 2868, 2869, 2870, 2871, 2872, 2873, 2874, 2875, 2876, 2877, 2878, 2879, 2880, 2881, 2882, 2883, 2884, 2885, 2886, 2887, 2888, 2889, 2890, 2891, 2892, 2893, 2894, 2895, 2896, 2897, 2898, 2899, 2900, 2901, 2902, 2903, 2904, 2905, 2906, 2907, 2908, 2909, 2910, 2911, 2912, 2913, 2914, 2915, 2916, 2917, 2918, 2919, 2920, 2921, 2922, 2923, 2924, 2925, 2926, 2927, 2928, 2929, 2930, 2931, 2932, 2933, 2934, 2935, 2936, 2937, 2938, 2939, 2940, 2941, 2942, 2943, 2944, 2945, 2946, 2947, 2948, 2949, 2950, 2951, 2952, 2953, 2954, 2955, 2956, 2957, 2958, 2959, 2960, 2961, 2962, 2963, 2964, 2965, 2966, 2967, 2968, 2969, 2970, 2971, 2972, 2973, 2974, 2975, 2976, 2977, 2978, 2979, 2980, 2981, 2982, 2983, 2984, 2985, 2986, 2987, 2988, 2989, 2990, 2991, 2992, 2993, 2994, 2995, 2996, 2997, 2998, 2999, 3000
Tube shaft, Material		✓	Identification Mark ✓
Screw shaft, Material		S.M. Steel	Identification Mark LLOYDS 2677, 2678, 2679, 2680, 2681, 2682, 2683, 2684, 2685, 2686, 2687, 2688, 2689, 2690, 2691, 2692, 2693, 2694, 2695, 2696, 2697, 2698, 2699, 2700, 2701, 2702, 2703, 2704, 2705, 2706, 2707, 2708, 2709, 2710, 2711, 2712, 2713, 2714, 2715, 2716, 2717, 2718, 2719, 2720, 2721, 2722, 2723, 2724, 2725, 2726, 2727, 2728, 2729, 2730, 2731, 2732, 2733, 2734, 2735, 2736, 2737, 2738, 2739, 2740, 2741, 2742, 2743, 2744, 2745, 2746, 2747, 2748, 2749, 2750, 2751, 2752, 2753, 2754, 2755, 2756, 2757, 2758, 2759, 2760, 2761, 2762, 2763, 2764, 2765, 2766, 2767, 2768, 2769, 2770, 2771, 2772, 2773, 2774, 2775, 2776, 2777, 2778, 2779, 2780, 2781, 2782, 2783, 2784, 2785, 2786, 2787, 2788, 2789, 2790, 2791, 2792, 2793, 2794, 2795, 2796, 2797, 2798, 2799, 2800, 2801, 2802, 2803, 2804, 2805, 2806, 2807, 2808, 2809, 2810, 2811, 2812, 2813, 2814, 2815, 2816, 2817, 2818, 2819, 2820, 2821, 2822, 2823, 2824, 2825, 2826, 2827, 2828, 2829, 2830, 2831, 2832, 2833, 2834, 2835, 2836, 2837, 2838, 2839, 2840, 2841, 2842, 2843, 2844, 2845, 2846, 2847, 2848, 2849, 2850, 2851, 2852, 2853, 2854, 2855, 2856, 2857, 2858, 2859, 2860, 2861, 2862, 2863, 2864, 2865, 2866, 2867, 2868, 2869, 2870, 2871, 2872, 2873, 2874, 2875, 2876, 2877, 2878, 2879, 2880, 2881, 2882, 2883, 2884, 2885, 2886, 2887, 2888, 2889, 2890, 2891, 2892, 2893, 2894, 2895, 2896, 2897, 2898, 2899, 2900, 2901, 2902, 2903, 2904, 2905, 2906, 2907, 2908, 2909, 2910, 2911, 2912, 2913, 2914, 2915, 2916, 2917, 2918, 2919, 2920, 2921, 2922, 2923, 2924, 2925, 2926, 2927, 2928, 2929, 2930, 2931, 2932, 2933, 2934, 2935, 2936, 2937, 2938, 2939, 2940, 2941, 2942, 2943, 2944, 2945, 2946, 2947, 2948, 2949, 2950, 2951, 2952, 2953, 2954, 2955, 2956, 2957, 2958, 2959, 2960, 2961, 2962, 2963, 2964, 2965, 2966, 2967, 2968, 2969, 2970, 2971, 2972, 2973, 2974, 2975, 2976, 2977, 2978, 2979, 2980, 2981, 2982, 2983, 2984, 2985, 2986, 2987, 2988, 2989, 2990, 2991, 2992, 2993, 2994, 2995, 2996, 2997, 2998, 2999, 3000

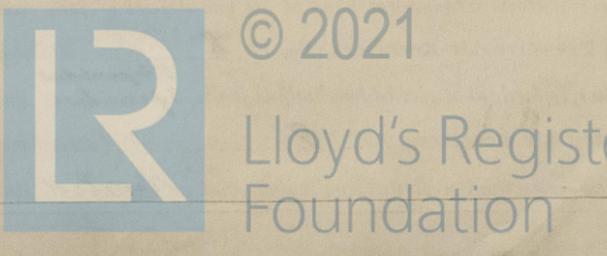
Is the flash point of the oil to be used over 150° F. Yes
 Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with Yes
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo ✓ If so, have the requirements of the Rules been complied with ✓
 Is this machinery duplicate of a previous case Yes If so, state name of vessel "NIKE" & "GLARONA"

General Remarks (State quality of workmanship, opinions as to class, &c.) The main & auxiliary engines of this vessel have been built under special survey and all the requirements of the Rules have been complied with. The workmanship is good and the material fulfils the requirements of the Rules. The shafting as per forging reports attached. Material of starting air receivers as per test sheets attached. The dimensions are as specified and in accordance with the Rules and approved plans. The auxiliary machinery of this vessel consists of one 1-cylinder and two 2-cylinder 4-stroke cycle, single acting Diesel oil engines with cyl diam 210 mm stroke 350 mm, manufactured by Messrs AB Götaverken of this port. The 1-cyl engine is working a dynamo of 33 kw and the 2-cyl engines a dynamo of 66 kw each. The main and auxiliary engines have been tested under full working power on a trial trip and found to work satisfactorily.

The machinery of this vessel is eligible in our opinion to be classed in the Register Book of this Society with notation of +LMC 8.30
 Working pressure of Donkey boilers 180 lbs/sq"

The amount of Entry Fee	... £r 109:20	When applied for,	21st Aug. 1930
Special	... £r 2083:84	When received,	15/9/1930
Donkey Boiler Fee	... £r 159:88		
Starting air receivers fee			
Travelling Expenses (if any)			
Committee's Minute			
Assigned			

E. Magnusson
 Engineer Surveyor to Lloyd's Register of Shipping.



Certificate (if required) to be sent to Surveyors Office, Gothenburg

+LMC 8.30
Oil Eng. 2 O.B. 180 lb.
C.L.