

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

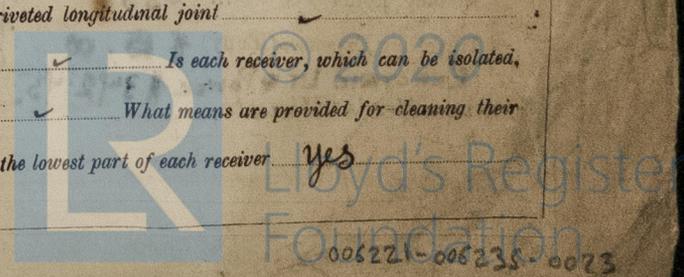
No. 4190

TUE JUL 26 1921

Date of writing Report: _____ When handed in at Local Office: _____ 19 _____ Port of Philadelphia
 No. in Survey held at Philadelphia Date, First Survey May 21/21 Last Survey June 13 1921
 Reg. Book. _____ Number of Visits _____
 on the Single Twin Screw vessel. "William Penn" Tons Gross 8168.10
 Master John A. Neech Built at Gloucester, N.S. By whom built Pusey & Jones Co. Yard No. 14 When built 1921
 Engines made at Copenhagen By whom made Burmeister & Wain Engine No. 96-7 When made 1918 & 21
 Donkey Boilers made at Philadelphia By whom made W. Cramp & S. S. & E. C. Co. Boiler No. _____ When made 1921
 Brake Horse Power 2 @ 1450 Owners Emergency Fleet Corp. Port belonging to Gloucester City, N.S.
 Nom. Horse Power as per Rule 2 @ 1478 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

OIL ENGINES, &c.—Type of Engines 2 off Vertical Diesel Oil Engrs 2 or 4 stroke cycle Single or double acting Single
 Maximum pressure in cylinders See Copenhagen Report No 15981 No. of cylinders _____ No. of cranks _____ Diameter of cylinders _____
 Length of stroke _____ Revolutions per minute 115 Means of ignition _____ Kind of fuel used Crude oil 89 above 150° F
 Is there a bearing between each crank _____ Span of bearings (Page 92, Section 2, par. 7 of Rules) _____
 Distance between centres of main bearings _____ Is a flywheel fitted _____ Diameter of crank shaft journals _____
 Diameter of crank pins _____ Breadth of crank webs _____ Thickness of ditto _____
 Diameter of flywheel shaft _____ Diameter of tunnel shaft 13.5 Diameter of thrust shaft _____
 Diameter of screw shaft _____ Is the screw shaft fitted with a continuous liner the whole length of the stern tube _____
 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 _____
 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 _____ If without liners, is the shaft arranged to run in oil _____
 Type of outer gland fitted to stern tube none Length of stern bush 5'-6" Diameter of propellers 13'-6"
 Pitch of propeller 11'-9" No. of blades four state whether moveable no Total surface 5435 square feet
 Method of reversing Direct Reversille a governor or other arrangement fitted to prevent racing of the engine when detached Thickness of cylinder liners _____
 Are the cylinders fitted with safety valves yes Means of lubrication grease Are the exhaust pipes and silencers water-cooled or lagged with non-conducting material yes
 If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine _____
 Exhaust pipes are led 25' above boat deck No. of cooling water pumps 3 for sea, 1 for fresh water Is the sea suction provided with an efficient strainer which can be cleared within the vessel _____
 No. of bilge pumps fitted to the main engines _____ Diameter of ditto _____ Stroke _____
 Can one be overhauled while the other is at work _____ No. of auxiliary pumps connected to the main bilge lines _____ How driven Electric motors
 Sizes of pumps 2 @ 3 1/2" x 11" stroke No. and sizes of suction connected to both main bilge pumps and auxiliary bilge pumps _____ In engine room _____
 and in holds, etc. 2 @ 3 1/2" dia in each hold & tunnel holds. No. of ballast pumps one How driven Electric motor Sizes of pumps _____
 Is the ballast pump fitted with a direct suction from the engine room bilges _____ State size 6" Is a separate auxiliary pump suction fitted in Engine Room and size yes 2 @ 4"
 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 they 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 all 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 _____
 worked from top platform 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 _____ No. of stages _____ Diameters _____ Stroke _____ Driven by _____
 No. of auxiliary air compressors _____ No. of stages _____ Diameters _____ Stroke _____ Driven by _____
 No. of small auxiliary air compressors _____ No. of stages _____ Diameters _____ Stroke _____ Driven by _____
 No. of scavenging air pumps _____ Diameter _____ Stroke _____ Driven by _____
 Diameter of auxiliary Diesel Engine crank shafts _____ Are the air compressors and their coolers made so as to be easy of access _____

AIR RECEIVERS:—No. of high pressure air receivers _____ Internal diameter _____ Cubic capacity of each _____
 Material _____ Seamless, lap welded or riveted longitudinal joint _____ Range of tensile strength _____
 thickness _____ working pressure by Rules _____ No. of starting air receivers _____ Internal diameter _____
 total cubic capacity _____ Material _____ Seamless, lap welded or riveted longitudinal joint _____
 range of tensile strength _____ thickness _____ Working pressure by rules _____ 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 _____ What means are provided for cleaning their inner surfaces _____ Is there a drain arrangement fitted at the lowest part of each receiver yes



IS A DONKEY BOILER FITTED? *yes.*

If so, is a report now forwarded? *yes.*

5b.

HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS					
" " COVERS					
" " JACKETS.....					
" " PISTON WATER PASSAGES.....					
MAIN COMPRESSORS—1st STAGE.....					
" " 2nd "					
" " 3rd "					
AIR RECEIVERS—STARTING					
" " INJECTION					
AIR PIPES					
FUEL PIPES					
FUEL PUMPS					
SILENCER					
" " WATER JACKET					
SEPARATE FUEL TANKS					

SEE COPENHAGEN REPORT No 3984 ATTACHED.

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

Receivers

Separate Tanks

SPARE GEAR

Spare gear supplied as per blue prints attached checked & found all in order.

The foregoing is a correct description.

THE WM CRAMP & SONS SHIP & ENGINE BUILDING CO.

J. F. Miller Chief Engineer

Manufacturer.

Dates of Survey while building
 During progress of work in shops --
 During erection on board vessel --
 Total No. of visits *41.*

Dates of Examination of principal parts—Cylinders *✓* Covers *✓* Pistons *✓* Rods *✓* Connecting rods *✓*
 Crank shaft *✓* Thrust shaft *✓* Tunnel shafts *5-8-20* Screw shaft *12-7-20* Propeller *1-7-20* Stern tube *2-6-20* Engine seatings *20-9-20*
 Engines holding down bolts *Jan 21st 20* Completion of pumping arrangements *April 1st 21* Engines tried under working conditions *May 16+17-21*
 Completion of fitting sea connections *20-9-20* Stern tube *20-9-20* Screw shaft and propeller *20-9-20*

Material of crank shaft *✓* Identification Mark on Do. *3215, 3327, 3328, 3329, 3330, 3331, 3332, 3333, 3334, 3335, 3336, 3337, 3338, 3339, 3340, 3341, 3342, 3343, 3344, 3345, 3346, 3347, 3348, 3349, 3350, 3351, 3352, 3353, 3354, 3355, 3356, 3357, 3358, 3359, 3360, 3361, 3362, 3363, 3364, 3365, 3366, 3367, 3368, 3369, 3370, 3371, 3372, 3373, 3374, 3375, 3376, 3377, 3378, 3379, 3380, 3381, 3382, 3383, 3384, 3385, 3386, 3387, 3388, 3389, 3390, 3391, 3392, 3393, 3394, 3395, 3396, 3397, 3398, 3399, 3400, 3401, 3402, 3403, 3404, 3405, 3406, 3407, 3408, 3409, 3410, 3411, 3412, 3413, 3414, 3415, 3416, 3417, 3418, 3419, 3420, 3421, 3422, 3423, 3424, 3425, 3426, 3427, 3428, 3429, 3430, 3431, 3432, 3433, 3434, 3435, 3436, 3437, 3438, 3439, 3440, 3441, 3442, 3443, 3444, 3445, 3446, 3447, 3448, 3449, 3450, 3451, 3452, 3453, 3454, 3455, 3456, 3457, 3458, 3459, 3460, 3461, 3462, 3463, 3464, 3465, 3466, 3467, 3468, 3469, 3470, 3471, 3472, 3473, 3474, 3475, 3476, 3477, 3478, 3479, 3480, 3481, 3482, 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3649, 3650, 3651, 3652, 3653, 3654, 3655, 3656, 3657, 3658, 3659, 3660, 3661, 3662, 3663, 3664, 3665, 3666, 3667, 3668, 3669, 3670, 3671, 3672, 3673, 3674, 3675, 3676, 3677, 3678, 3679, 3680, 3681, 3682, 3683, 3684, 3685, 3686, 3687, 3688, 3689, 3690, 3691, 3692, 3693, 3694, 3695, 3696, 3697, 3698, 3699, 3700, 3701, 3702, 3703, 3704, 3705, 3706, 3707, 3708, 3709, 3710, 3711, 3712, 3713, 3714, 3715, 3716, 3717, 3718, 3719, 3720, 3721, 3722, 3723, 3724, 3725, 3726, 3727, 3728, 3729, 3730, 3731, 3732, 3733, 3734, 3735, 3736, 3737, 3738, 3739, 3740, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3748, 3749, 3750, 3751, 3752, 3753, 3754, 3755, 3756, 3757, 3758, 3759, 3760, 3761, 3762, 3763, 3764, 3765, 3766, 3767, 3768, 3769, 3770, 3771, 3772, 3773, 3774, 3775, 3776, 3777, 3778, 3779, 3780, 3781, 3782, 3783, 3784, 3785, 3786, 3787, 3788, 3789, 3790, 3791, 3792, 3793, 3794, 3795, 3796, 3797, 3798, 3799, 3800, 3801, 3802, 3803, 3804, 3805, 3806, 3807, 3808, 3809, 3810, 3811, 3812, 3813, 3814, 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