

REPORT OF SURVEY FOR REPAIRS, &c.

Date of writing Report 14th Dec. 1945 When handed in at Local Office 19 Port of PHILADELPHIA, PA.
No. in Reg. Book. Survey held at Philadelphia, Pa. Date, First Survey 11 July Last Survey 20 Nov. 1945
(No. of Visits 37)10822 on the Woody Iron Steel T.S.M.V. "FOZ DO DURO"
TONNAGE:— Built at Glasgow By whom C. Connell & Co. When 1892 2
GROSS Owners Julio Ribeiro Campos Owners' Address
UNDER DK. Managers (if not already recorded in Appendix to Register Book).
NET Port belonging to Oporto
Surveyed Afloat or in Dry Dock? Both Name of Dock Kensington Shipyard Destined Voyage LisbonCell DBor DBa feet; uE&B feet; f feet
Capacity tons. FPT 70 tons; APT 56 tons; MT tons.

Only alterations in the existing records of tanks should be inserted.

N.B.—All alterations in the existing records should be underlined.

st Report, No. 3974 Port Lis

Radical Surveys, when held, must be reported in detail and seriatim in the terms of the Rules and items remaining to complete the Surveys should be summarised. State clearly the cause of Repairs, if any, and, in detail, the nature and extent of Examinations and subsequent repairs. Repairs on account of Damage (the cause of which must be stated) shall be separated from Repairs due to other causes; and besides being detailed in the body of the report, should be entered in the form shown below. Whenever the replacement of Anchors or Chains is reported the particulars shall be clearly stated in the space provided on the back of this form. State also the dates and initials of any letters relating to this case.

In cases where the Surveyor has not made a special damage report he is required to state whether he has made his services for this purpose and to whom and why they were declined.

Particulars of Classification (which must be inserted precisely as in Register Book & Supplements)

CHARACTER * for Special Survey. Date of last Survey and of Periodical Surveys.	Machinery and Boiler Surveys (including date of N.B., if any).
*100A1 6-43 SSB 1.4 th No. 3-2.43	*NDB made 29 refitted 27 DBS 9-44

Society's Freeboard (if assigned) as 3 ft. 3-1/4"
painted on Ship and now verified

Was a damage report made by anyone else? if so, by whom?

OR EXAMINATION AS PER RULE, FOR Alterations consequent on installation of Twin Screw Diesel Engines.

Sailing vessel has been fitted with Twin Screw Fairbanks-Morse Diesel Engines, the sails have been retained. As a motor vessel additional steel bulkheads have been fitted at frames 67 & 77, the steel bulkhead forward of the chain locker has been made watertight and a steel top fitted over the forepeak space. An after peak tank has also been made by fitting a steel top and a gastight steel deck has been fitted over the engine room.

rectangular Diesel oil fuel tanks (capacity 90 tons) and 2 rectangular fresh water tanks, capacity 42 tons, have been fitted in the hold just abaft bulkhead 77. Engine foundations, web plates & the necessary stiffening have been fitted abaft bulkhead 34 and machinery casings ex-

OF DAMAGE REPAIRS:—	Shell Plates.	Frames.	R. Frames.	Floors and Bracket Floors	Beams.	Inner Bottom Plates.	Dk. Plates.	Other Items:—
ed								
ed and Faired or Repaired								
or Repaired in place								
CONDITION OF THE								
Good	Bulkheads	Good	Engine Room Skylights	Good	Copper, or Y.M. (State if on Felt.)			
Decks	Ceiling	"	Cool Bunkers, Openings, Covers, &c.	"	When fitted, Month	Year		
"	Cement or Asphalt	"	Oil Bunkers	"	Boats			
Openings	Rudder	"	Scuppers	"	Masts, Yards, &c.	Good		
"	Steering gear and its connections	"	Cargo Hatchways	"	Condition, how ascertained (State if wedges removed.)	From deck		
in way of sidelights	Windlass	"	Hatches	"	Equipment letter	NO		
Good	Have pumps been examined and found efficient?	Yes	Planking		Anchors, No. of	3.1.1.		
"	Have Sluice Valves been examined and found efficient?	-	Caulking		Cables (State if now ranged)	Yes		
-	Have Watertight Doors been examined and found efficient?	-	Treenails		" length 270 fms. mean diamr. 1-7/8"			
Good	Have Ventilators and their Coamings been examined and found efficient?	Yes	Breasthooks & Stemson		" Rule length 270 fms. size 2"			
"	Air and Sounding Pipes	Good	Transoms, Pointers & Crutches		Chain Locker	Good		
Plating	Doubling Plates under Sounding Pipes	Yes	Timbers of Frame at openings		Hawsers & Warps	"		
Decks been examined internally?			" " at other places		Standing and Running Rigging	Good		
Decks been tested?			Stringers, Clamps & Shelves		Sails			
			Saling					
			(State if examined.)					

Observations, Opinion as to Class, Recommendation, &c.:—

State clearly whether any and, if so, what alteration is suggested to be made in the existing classification and notification of the vessel in the Register Book consequent upon survey, thus, for example:— "to remain as classed in the Register Book without fresh record of Survey," "to remain as classed and to have record of survey, 1,38," or "to remain as classed and to have record of survey, 1,38, and the notations of ss No. 1-38."

vessel is eligible, in my opinion, to be now classed as a motor vessel and to have fresh record of survey 11-45 Phl.

Section 29) Conversion £ 1650.00
or Repair Fee (if any) £
29) Expenses 15.50
uses (if chargeable) £
r's Fee (if any) £

Fees applied for,
Nov. 16 1945
G.W.
Received by me,
Nov 21 1945

Surveyor to Lloyd's Register of Shipping.

FIL 19 DEC 1947

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Is Certificate required? If so, to be sent to

tending to the Poop Deck and supported in an efficient manner have also been fitted.

A forged steel strut to support the Twin Sc. Shafting has been incorporated in the afterpeak tank hull structure, which has been suitably stiffened. An electrically operated steering gear has been supplied although the original hand gear has been retained for emergency use.

The work has been carried out in accordance with, or equivalent to, the approved plans as follows:-

Forepeak Tank:- Existing forepeak space converted into a ballast tank - capacity 70 tons. Existing wood deck & stringer plate removed and new stringer plates & deck plating .36 fitted, shell frame reverse angles cut at and welded to stringer plating which was notched around frames and welded direct to shell. Intermediate 4" x 3" x 3/8" angle beams fitted between existing beams. Existing bulkhead on Frame 121 which forms forward bulkhead of chain locker made watertight by caulking and welding, present 4 angle stiffeners on afterside of bulkhead reinforced by reverse frames and 4 additional 7 x 3 angle stiffeners fitted on forward side of bulkhead. Steel casing fitted between tween deck and upper deck for chain pipes and thenecessary air, sounding & overflow pipes fitted. Tank tested on completion with satisfactory results. /

Bulkheads:- Additional steel bulkheads fitted at frames 34 and 77, dividing main Hold into two and forming bulkhead at forward end of enginespace. Bulkheads are carried through skeleton tween deck and extend to upper deck. Plating 3/8 and 5/16 - stiffeners 12 x 3-1/2 x 3-1/2 x .40 channels spaced 2'6" and 2'7" apart. Existing floors and shell frames at Frames 34 & 77 removed and new floors fitted and welded direct to shell. 2 substantial hinged steel W.T. doors fitted in bulkhead 34 just below upper

When Anchors or Cables are supplied, the particulars are to be reported in the following form:—

ANCHORS.

[illegible]

*When a bower anchor is supplied it must be clearly stated whether it is a 1st, 2nd or 3rd bower.

CHAIN CABLES.

[illegible]

deck for cargo access to tween deck space over engine room. Bulkheads hoses tested on completion of repairs with satisfactory results and bottom bulkheads flood tested and found or made tight.

After Peak Tank:- Existing after peak space converted into a ballast tank - capacity 56 tons. Stringer plate removed and new stringer plates and deck plating .36 fitted to form crown of tank. Shell frame reverse angles cut at and welded to stringer plating which was notched around frames and welded direct to shell. Intermediate 4" x 3" x 3/8" angle beams fitted between existing beams. New bulkhead fitted

on Frame 8 - plating 5/16", stiffeners 12" x 3-1/2" - 3-1/2" x .40. Necessary air, sounding & overflow pipes fitted & tank tested on completion with satisfactory results.

Tween Deck over Engine Room:- Existing portable wood decking over engine space removed and new gas-tight steel deck fitted between frames 8 and 34. Plating 3/8" welded to existing deck beams and stringer plates.

Engine Foundations etc.:- All floor reverse frames in Engine Room renewed. Four longitudinal girders composed of fabricated I beam 29" deep fitted between bulkhead 34 and frame 18 - girders riveted to reverse frames. A row of intercostals fitted under each girder - welded to underside of girder and floors. Additional web frames 7/16" thick with 5/8" face plates fitted to side shell frames 18, 22, 26 & 30. Web frames extended down and connected to outboard longitudinal girders and from thence intercostal across vessel between girders, and fitted with necessary brackets etc. Longitudinal engine girders welded to bulkhead 34 and a 1/2" doubling plate 1/2" thick riveted to bulkhead in way of girder connection-ends. Additional brackets fitted on hold side of bulkhead in line with ends of girders and connected to floors.

Foundations for auxiliary machinery made & fitted as necessary.

Engine Casing etc.:- fitted between Frames 18 and 30 and extending from 18" below Tween deck over engine room to above Poop deck. Plating 1/4". Coaming plate 3/8". Stiffeners 3-1/2" x 2-1/2" x .30 spaced 24" apart. Bottom of casing formed by 18" [longitudinal girder, extended at forward end and connected to Bulkhead 34. At after end deck beam fitted with deep reverse frame connected to web frames at Ship's side and longitudinal Casing Girder. Deep bracket fitted to casing at center line and connected to mast. 2 - 6" extra heavy pipe stanchions fitted under casing at after end and 2 - 6" channel pillars under forward corners - these channels bracketed to longitudinal girders

Propeller Shaft Strut etc:- A forged steel propeller shaft strut 20" x 6" fitted between Frames 5 and 6, (forging report attached). This strut was originally made in 2 pieces which were electrically welded together and stress relieved before fitting in vessel. Strut supported inside by vertical bracket plates and Saddle plate and secured to same by 8 fitted bolts. As the strut fouled landing edge between B & C Strakes these two strakes were cropped and renewed in one vertical plate. Outside doubling plates fitted in way of strut with additional welded collar plates around strut welded to shell and strut. All new work in way of strut of welded construction. Internal structure inside peak stiffened by fitting deck floors above strut on Frames 4, 5, 6, 7 with intercostals on centre line. Middle side stringers above strut tied together at above frames by channel beams.

Stern Tubes:- Stern tubes enclosed in watertight steel boxes extending between Frames 11 and 15. Boxes tested under pressure with satisfactory results.

Steering Gear:- In lieu of the hand gear originally approved an electrically operated steering gear has been fitted. A fabricated quadrant, which was originally designed for 1-1/4" chains, has been fitted to the Rudder stock under the Poop deck. In lieu of chains wire ropes of 1" dia. tested to 93,000 lbs. have been fitted and one supplied as spare. In the event of failure of the motor the gear can be operated from the pilot house by hand by means of a system of rods and bevel wheels. In addition the original hand gear on the poop can still be used. The steering gear was tried out dur-

ing the trial and found to operate satisfactorily and within the rule requirements.

Oil Fuel Tanks:- 2 rectangular oil fuel tanks size 29'-0" x 13'-0" x 13'-0" were fitted in No. 2 Hold just abaft Bulkhead 77. Tanks placed on suitable stools and fitted with necessary collision & rolling chocks. Plating 3/8" Stiffeners 6" x 5/8" Flat bar and stiffened inside by necessary girders etc.
2 Rectangular Fresh water tanks 29'-0" x 13'-0" x 4'-0" also fitted in No. 2 Hold just abaft Bulkhead 77 between oil fuel tanks. Plating 3/8" stiffeners 6 x 5/8" Flat bar.
Tanks fitted with necessary air sounding & filling pipes and tested on completion with satisfactory results.
For protection of tanks from cargo a sparred bulkhead fitted across hold at after end of tanks. Sparring supported by channel bar uprights. Existing floor on frame 60 removed and a new oil tight floor fitted welded direct to shell thus making space between Bulkhead 77 and Frame 60 oil tight.
Minor repairs and alterations effected.
On completion of above alterations a satisfactory trial of 5 hours duration was run.
The following plans and sketches are enclosed:-

New W.T. Bulkheads on Frames 8, 24, 77
Engine Foundation & Webs
Engine Casing
Propeller Shaft Strut
Fuel Oil Tanks (Circular and amended rectangular)
Tween deck plating etc.
Stern Tube & Framing
Quadrant
Fresh water Tanks

New Tonnage will be assigned by the Portuguese Government Authorities on arrival at Lisbon.

Wear & Tear Repairs:- Anchors and Chain cables ranged and examined. Minor repairs effected.

H. R. G. 11/10

Insert in R.B. 4BH

FPT 90t APT 56t

Twin Sc.

1 Bk, 2nd dk in midgy space



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